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Hourly Solar Radiation Data for Vertical and Horizontal Surfaces on Average Days in the United States and Canada

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Hourly Solar Radiation Data for Vertical and Horizontal Surfaces on Average Days in the United States and Canada

by

Tamami Kusuda and Katsumi Ishii

ABSTRACT

The majority of the available solar radiation data for the United States and Canada are in the form of either monthly averages of daily total radiation on a horizontal surface or hourly values for cloudless days on horizontal, tilted, and vertical surfaces. Hourly solar radiation data for walls and roofs under "average" solar conditions were computed in order to be able to make estimates of the effect that incident solar radiation has on a building and/or its heating and air conditioning system over a heating and/or cooling season. Calculation procedures developed by Liu and Jordan were modified and hourly solar radiation data were compiled for 80 locations in the United States and Canada. Data were also computed and tabulated for a new parameter called "sol-air temperature for glass".

Key Words: Computer; energy; radiation; solar.

Hourly Solar Radiation Data for Vertical and Horizontal Surfaces on Average Days in the United States and Canada

by

Tamami Kusuda and Katsumi Ishii

1. Introduction

There are basically two ways that solar radiation data can be used for design purposes in the building profession. One way is to use past hourly data for the locality or similar locality in question, estimate through mathematical simulation what the performance factors of the building and for its components would have been under those conditions, and base future predictions for performance on that analysis. The second way is to use data that have been derived for specific types of days, either completely clear, "average", or statistically analyzed data for a particular solar process, to calculate the performance of the building and for its components for those types of days.

The first technique has the advantage of easily accounting for the detailed transient nature of the interaction between the solar radiation and the building, and the building and its heating and air conditioning system. This is particularly important when the heating and air conditioning system has been specifically designed to collect the solar energy and utilize it inside the building for heating and/or cooling. ASHRAE has been very active in the recent past in outlining recommended procedures to conduct such hourly calculations for computing heating and cooling loads on buildings [1]*. In the ASHRAE-recommended procedures [1], completely clear day data are predicted using theoretical equations and these data are in turn modified with actual hourly recorded cloud-cover data. Computer programs that have been written for predicting the performance of solar heating and/or cooling systems on an hourly basis use actual recorded hourly solar radiation data [2, 3].

The primary disadvantages of using this first technique are the cost and complexity associated with the use of the computer programs and the lack of good hourly data, particularly for the solar radiation itself.

The major source of solar radiation data in the United States is the National Weather Service and its network of stations. The data collection began in 1902 with the first measurements of the direct component of the solar radiation at normal incidence being made in Asheville, North Carolina. At the present time, there are 86 stations covering the U.S. and the West Indies. Reference 4 gives a complete history of the network. The majority of the present 86 stations record only the total radiation on a horizontal surface. At five of the stations, the direct component is also measured. Of the 86 stations, 67 have their data processed for daily total only, while hourly data are processed at the other 19. Reference 5 describes how the data can be made available either on tape or punched cards.

In addition to the relatively small amount of hourly solar radiation data generally available as described above, the quality of the data has been questioned. Jessup has reported [4] that estimated data errors range from $\pm$ 5 percent to $\pm$ 30 percent. This has been mainly due to insufficient resources in all but the recent past to properly maintain the network. A complete analysis of some of the specific problems with the network instrumentation is included in references 6 and 7.

There is evidence, with the increasing emphasis on the use of solar energy in buildings, that much of the past solar radiation data will be rehabilitated and additional data will be collected in the future; however, it is unlikely that the hourly data to be taken will be extended to cover surfaces other than the horizontal for the majority of the stations. For this and other reasons given above, emphasis will be placed in the foreseeable future on using solar radiation data for specific types of days and orientations for design purposes.

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* See references at end of text.

The 1977 ASHRAE Handbook of Fundamentals [8] will include tables of solar heat gain factors for all combinations of six different northern latitudes, sixteen primary compass orientations plus the horizontal, for the 21st day of each month of the year and for each hour of that day. This enables one to calculate the amount of solar energy passing through a unit area of reference glazing (single sheet of 0.3 cm (1/8 in.) thick double-strength window glass) on a completely clear day, and is based on a calculation procedure developed by Stephenson [9]. Recently Morrison and Farber [10] have extended this type of calculation and have produced tables of incident solar radiation for all combinations of six different northern latitudes, five different south-facing surfaces tilted up at angles ranging from latitude minus 10 degrees to the vertical plus the horizontal, for the 21st day of each month of the year and for each hour of that day. Both of these above sets of data can be used for design purposes to determine the maximum effect that the solar radiation is likely to have for a given condition or in a given situation. However, it is felt desirable to also have similar tables of data for "average" conditions so that estimates can be made for the long-term effect that incident solar radiation has on a building and for its heating and air conditioning system.

References 11 and 12 contain a series of 12 monthly maps showing isoclines of daily total radiation on a horizontal surface for the United States and the world, respectively. The data were gathered from a large number of sources and can be used to indicate general trends and to predict areas of potential solar energy applications.

Liu and Jordan [13, 14, 15] conducted extensive analyses during the early 1960's on the available solar radiation data and developed several empirical correlations that can be used to estimate the available solar radiation on "average" days for each month of the year and for a large number of locations in the United States and Canada. Using the correlations, it is possible to take the monthly average daily total radiation on a horizontal surface, divide the daily total into direct and diffuse components, convert each component into hourly values, and then compute the hourly value of either component on a surface of any orientation desired.

This report outlines the technique that was used to compute and tabulate the monthly "average" incident radiation on an hourly basis during the day for each month of the year, and each of eight different vertical orientations. The data was tabulated for 80 different locations in the United States and Canada. A minor modification was made to the basic technique recommended in the Liu, Jordan procedure [14, 15] in order to eliminate what was believed to be erroneous results near the sunrise and sunset hours. An additional parameter called "sol-air temperature for glass" was also computed and tabulated for each of the locations. An explanation of the meaning of this parameter is included in Section 7 of the report.

2. Calculation Procedure of Liu and Jordan

The pertinent correlations developed by Liu and Jordan [13, 14, 15] were for:

a. the monthly average daily diffuse radiation on a horizontal surface as a function of the monthly average daily total radiation on a horizontal surface,

b. the ratio of the hourly diffuse radiation to the daily diffuse radiation (both on a horizontal surface) as a function of the number of daylight hours, and

c. the ratio of the hourly total radiation to the daily total radiation (both on a horizontal surface) as a function of the number of daylight hours.

The correlations were based on available solar radiation data from Blue Hill, Massachusetts; Nice, France; Helsingfors, Finland; and Kew Observatory, London, England.

Liu and Jordan [15, 16] also compiled for each of twelve months at 80 different locations in the United States and Canada, the "average" daily total radiation on a horizontal surface ($\bar{H}$) and the ratio $\bar{K}_T = \bar{H}/H_o$, where H_o is the daily total extraterrestrial radiation on a horizontal surface calculated for the 15th or 16th of each month. The ratio $\bar{K}_T$ represents the fraction of extraterrestrial radiation that is transmitted through the atmosphere and thus provides a useful index for the solar climate of a particular location.

The correlations described in a, b, and c above are included herein as Table 2, Figure 1, and Figure 2, respectively. $\overline{K}_d$ in Table 2 is defined as $\overline{D}/H_o$, where $\overline{D}$ is the "average" daily diffuse radiation on a horizontal surface. The step-by-step technique for using the correlations to compute the "average" incident solar radiation on a horizontal or vertical surface is as follows:

a. Daily total extraterrestrial radiation on a horizontal surface for a given latitude and declination angle is calculated as follows:

$$H_o = \frac{24}{\pi} r I_{sc} (\cos L \cos S \sin W_s + W_s \sin L \sin S) \quad (1)$$

where

r = ratio of solar radiation intensity at normal incidence outside the earth's atmosphere to the solar constant (monthly average values are given in Table 1)

I_{sc} = solar constant, 1,393 W/m^2 (442 $Btu/(h \cdot ft^2)$)*

L = latitude, radians

S = solar declination angle, radians, monthly values are given in Table 1

W_s = sunrise hour angle, radians, obtained from:

$$\cos W_s = - \tan L \tan S \quad (2)$$

b. Obtain the monthly average daily total radiation on a horizontal surface, $\overline{H}$, from references 15 and 16 or other available sources.

c. Calculate $\overline{K}_T$ by:

$$\overline{K}_T = \frac{\overline{H}}{H_o} \quad (3)$$

or obtain the value from references 15 and 16 for any of 80 locations.

d. Determine the value of $\overline{K}_d$ from Table 2.

e. Calculate the monthly average daily diffuse radiation on a horizontal surface, $\overline{D}$, by:

$$\overline{D} = \overline{K}_d \cdot H_o \quad (4)$$

f. Calculate the value of a factor, r_d, from the following equation or determine from Figure 1:

$$r_d = \frac{\pi}{24} \frac{\cos W - \cos W_s}{\sin W_s - W_s \cos W_s} \quad (5)$$

where

W = hour angle corresponding to a given hour of the day (solar time), radians

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* This was the value used by Liu and Jordan. A value of 1,353 W/m^2 (428 $Btu/(h \cdot ft^2)$) is the value currently recommended by a number of governmental agencies and technical societies in the U.S. [17].

g. Calculate the average hourly diffuse radiation on a horizontal surface ($\overline{I}_{dh}$) by:

$$\overline{I}_{dh} = r_d \overline{D} \tag{6}$$

h. Determine the value of a factor, r_T, from Figure 2.

i. Calculate the average hourly total radiation on a horizontal surface ($\overline{I}_{Th}$) by:

$$\overline{I}_{Th} = r_T \overline{H} \tag{7}$$

j. Calculate the average hourly direct radiation on a horizontal surface ($\overline{I}_{Dh}$) by:

$$\overline{I}_{Dh} = \overline{I}_{Th} - \overline{I}_{dh} \tag{8}$$

k. Calculate the angle of incidence between the sun's direct beam and a horizontal (θ_H) or vertical surface (θ_v) by:

$$\cos \theta_H = \cos L \cos S \cos W + \sin L \sin S \tag{9}$$

or

$$\cos \theta_v = \cos ALT \cos SAZM \tag{10}$$

where

ALT = solar altitude angle, the angle between the sun's direct beam and the horizontal, radians

SAZM = the difference between the solar azimuth angle (AZM) and the wall azimuth angle (WAZ), radians

Figure 3 shows the relationship between the various angles.

l. Calculate the average hourly direct radiation on a given vertical surface ($\overline{I}_{Dv}$) by:

$$\overline{I}_{Dv} = \frac{\overline{I}_{Dh}}{\cos \theta_H} \cdot \cos \theta_v \tag{11}$$

m. Approximate the average hourly diffuse radiation on a given vertical surface ($\overline{I}_{dv}$) by:

$$\overline{I}_{dv} = \frac{\overline{I}_{dh}}{2} \tag{12}$$

n. Approximate the average hourly reflected radiation from the ground on a given vertical surface ($\overline{I}_{gv}$) by:

$$\overline{I}_{gv} = \frac{\rho_g \overline{I}_{Th}}{2} \tag{13}$$

where

ρ_g = ground reflectance

o. Calculate the average hourly total radiation incident on a given vertical surface by:

$$\overline{I}_{Tv} = \overline{I}_{Dv} + \overline{I}_{dv} + \overline{I}_{gv} \tag{14}$$

3. Anomalous Calculated Values Using the Liu and Jordan Calculation Procedure

The procedure described in the previous section was used to generate the hourly solar radiation values incident on vertical surfaces oriented in the eight primary directions (S, SW, W, NW, N, NE, E, and SE) as well as the horizontal surface. Upon analyzing the data, exceptionally large values of incident solar radiation were observed near the sunrise and sunset hours. A close examination of the calculation procedure revealed that the large peak resulted from the use of equation (11) where cos θ_H is very close to zero at the sunrise and sunset hours. This phenomenon is illustrated in Figure 3 where the value of the direct component of the solar radiation ($\overline{I}_{DN}$) is computed for a vertical surface oriented directly facing the sun (equation (11) with cos $\theta_v = 1$) on February 22 in Miami, Florida:

$$\overline{I}_{DN} = \overline{I}_{Dh}/\cos\ \theta_H \tag{15}$$

The inconsistency appeared to arise as a result of the sensitive empirical relationship between $\overline{K}_T$, r_T, $\overline{K}_d$, and r_d. Upon discussions with one of the authors of [15, 16]*, it is felt that the inconsistency is mainly due to the inaccuracy of the empirical relationship for r_T (Figure 2).

4. ASHRAE Methodology for the Computation of the Direct Component of the Solar Radiation

In order to circumvent the anomaly described in the previous section, it was decided to replace equation (15) with an equation similar to one used in reference 18:

$$\overline{I}_{DN} = \overline{A}\ e^{-\left[\frac{B}{\cos\ \theta_H}\right]} \tag{16}$$

The original equation was developed by Stephenson [9] for completely clear sky conditions. It has been assumed in this work that the same basic form of the equation is valid for "average" day solar radiation. A modified multiplying coefficient has been adapted, denoted in equation (16) as $\overline{A}$ (as opposed to A in reference 9).

The monthly values of B for equation (16) are given in Table 1. In order to develop appropriate values of $\overline{A}$, it was necessary to calculate the average daily direct radiation over a horizontal surface, $\overline{H}_{Dh}$ by:

$$\overline{H}_{Dh} = \int_{\text{sunrise}}^{\text{sunset}} \overline{I}_{DN} \cos\ \theta_H\ dt \tag{17}$$

where t denotes time. Combining equations (16) and (17):

---

* Private communication with Dr. Liu.

$$\overline{H}_{Dh} = \frac{24}{\pi}\,\overline{A}\int_{0}^{W_s} e^{-\left[\frac{B}{\cos\,\theta_H}\right]}\cos\,\theta_H\,dW \qquad (18)$$

By denoting the integral of the above equations by G, and by using $\overline{K}_T$ and $\overline{K}_d$ of the Liu and Jordan procedure, equation (18) can be written:

$$\overline{H}_{Dh} = \frac{24}{\pi}\,\overline{A}\cdot G = (\overline{K}_T - \overline{K}_d)\,H_o \qquad (19)$$

By substituting equation (1) into equation (19), the value of $\overline{A}$ can be calculated as follows:

$$\overline{A} = (\overline{K}_T - \overline{K}_d)\,f \qquad (20)$$

where

$$f = \frac{r\,I_{sc}}{G}\,(\cos L \cos S \sin W_s + W_s \sin L \sin S) \qquad (21)$$

Table 3 lists the values of f which were computed using the above equations. The values are tabulated for latitudes of 0 through 50 degrees in one-degree increments and for each of the 12 months. The monthly values are plotted in Figure 5.

The concept of f is convenient since its value is independent of the specific local climate. As an example, both Hatteras, North Carolina and Albuquerque, New Mexico are at a latitude of 35° N. Table 3 indicates the value of f in January to be 644.5 at this latitude. The Liu and Jordan tabulated data [15, 16] show the following values of $\overline{K}_T$ and $\overline{K}_d$ for these two cities.

	Hatteras	Albuquerque
$\overline{K}_T$	0.634	0.704
$\overline{K}_d$	0.166	0.147

Using these data, $\overline{A}$ for Hatteras and Albuquerque were determined as 302 and 359 respectively, whereas the cloudless sky value of A developed by Stephenson [9] was 390.

5. Modification of the Liu and Jordan Procedure to Eliminate the Anomalous Calculated Solar Radiation Values

With the relationship between equation (16), the constant $\overline{A}$, and the constants $\overline{K}_T$ and $\overline{K}_d$ established, a modified hourly calculation procedure was developed as follows:

a. Same as before.

b. Same as before.

c. Same as before.

d. Same as before.

e. Same as before.

f. Same as before.

g. Same as before.

h. Determine the value of f from Table 3 for a given month and latitude.

i. Calculate $\overline{A}$ using equation (20).

j. Calculate the hourly value of $\overline{I}_{DN}$ using equation (16).

k. Same as before.

l. Calculate the average hourly direct radiation on a horizontal surface by:

$$\overline{I}_{Dh} = \overline{I}_{DN} \cos \theta_H \tag{22}$$

m. Calculate the average hourly total radiation on a horizontal surface by:

$$\overline{I}_{Th} = \overline{I}_{Dh} + \overline{I}_{dh} \tag{23}$$

n. Calculate the average hourly direct radiation on a vertical surface by:

$$\overline{I}_{Dv} = \overline{I}_{DN} \cos \theta_v \tag{24}$$

o. Same as m. in Section 2.

p. Same as n. in Section 2.

q. Same as o. in Section 2.

6. Computation and Tabulation of Data for Eighty Locations

A computer program was written for carrying out the calculation procedure described in the previous section. A listing of the program is given at the end of this report. Complete tables of total solar radiation values are also included at the end of the report in Table 4 for 80 different locations in the United States and Canada [15, 16]. The tabulated solar radiation data are all in units of either Btu/(h · ft^2) (= 3.152 W/m^2) or Btu/ft^2 (= 11,348.9 J/m^2).

Sample results are shown in Figures 6 through 12 for the horizontal and different vertical orientations in February in Miami, Florida. Shown in these figures are the hourly radiation values calculated by Liu and Jordan, the authors' modification of the Liu and Jordan procedure, and the data for completely clear skies [10].

7. Calculation of "Sol-Air Temperature for Glass"

In general, energy is transferred through glazing both by transmitted solar radiation and by conduction and convection as a result of a temperature difference between the outside and the inside air. The governing equation for the net heat transfer, q (W), across the glazing into a building space is:

$$q = A \left[\overline{\tau} \, I + U \, (t_o - t_i) \right] \tag{25}$$

where

A = cross-sectional area of the glazing, m^2

$\bar{\tau}$ = effective transmittance of the glazing to short-wave radiation

I = incident total solar radiation on the glazing, W/m^2

U = overall heat transfer coefficient for the glazing, $(W/(m^2 \cdot °C))$

t_o = outside air temperature, °C

t_i = inside air temperature, °C

If the first term in equation (25) is multiplied and divided by U, the equation can be rearranged to:

$$Q = U\ A \left[\frac{\bar{\tau}\ I}{U} + t_o - t_i\right] \tag{26}$$

or

$$q = U\ A \left[SATG - t_i\right] \tag{27}$$

where

$$SATG = \frac{\bar{\tau}\ I + t_o}{U} = \text{sol-air temperature for glass, °C}$$

Values of SATG are useful in assessing the net heat transfer through glazing into the building. In other words, for those periods of time when SATG > t_i, there is a net heat gain into the building and when SATG < t_i, there is a net heat loss.

Equation (26) is written on an instantaneous basis and can be used for computing hourly values. The equation can also be written to be valid for a period covering a number of hours N:

$$Q = U\ A \left[\frac{\bar{\tau} \sum_{i=1}^{N} I}{U} + N\ (\bar{t}_o - t_i)\right] \tag{28}$$

where

Q = net heat transfer over the time period N, W

N = number of hours

$\bar{t}_o$ = average outdoor air temperature over the time period N, °C

The indoor air temperature, t_i, has been assumed to be constant for the time period N. Equation (28) can be rearranged as was done with equation (25):

$$Q = U\ A\ N \left[\frac{\bar{\tau} \sum_{i=1}^{N} I}{UN} + \bar{t}_o - t_i\right] \tag{29}$$

$$Q = U\ A\ N \left[SAG - t_i\right] \tag{30}$$

where

$$SAG = \frac{\bar{\tau} \sum_{i=1}^{N} I}{UN} + \bar{t}_o, \ ^\circ C \qquad (31)$$

The values of SAG were computed for each month of the year, for each of the eight primary vertical orientations and the horizontal, and for each of the 80 locations in the United States and Canada. The values are tabulated in Table 4 in units of °F along with the average hourly radiation values discussed previously.

Four different values of SAG were computed. Two values were for a 24-hour period (N = 24), one for single glazing (SATGS) and a second for double glazing (SATGD). The other two computations were also for single and double glazing, but the time period N was shortened to include only the daylight hours. In all cases, the radiation values $\sum_{i=1}^{N} I$ were the total incident radiation under "average" conditions discussed previously. The values of $\bar{\tau}$ used in the computations were 0.87 for single glazing and 0.78 for double glazing. The overall heat transfer coefficients were 6.4 W/(m^2 · °C) (1.13 Btu/(h · ft^2 · °F)) and 6.0 W/(m^2 · °C) (1.06 Btu/(h · ft^2 · °F) for single glazing and for winter and summer, respectively. The values used for double glazing were 3.1 W/(m^2 · °C) (0.55 Btu/(h · ft^2 · °F)) and 3.1 W/(m^2 · °C) (0.54 Btu/(h · ft^2 · °F), respectively. The value of $\bar{t}_o$ was either the average over the 24-hour period or daylight hours only, depending on the time period N.

The intent in calculating and compiling the data was to permit computation, for a given glazing size and orientation, of the net heat transfer into the space of a building for "average" solar conditions and for any period of months desired. By repeating the calculation for all the glazing in a given building, the total net effect for the entire building could be determined.

8. Summary

The Liu and Jordan method for calculating the incident hourly solar radiation on a surface of any tilt and orientation under "average" conditions was modified and used to compute the average hourly incident total radiation on the eight primary vertical orientations and the horizontal for each month of year and for each of 80 locations in the United States and Canada. In addition, a new parameter was introduced and computed for the 80 locations called "sol-air temperature for glass". The tabulated values enable one to easily compute the net heat transfer through single or double glazing under "average" solar conditions for any of the eight primary vertical orientations or on a horizontal surface.

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18. "Air-Conditioning Cooling Load", Chapter 22, ASHRAE Handbook of Fundamentals, American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE), 345 East 47th Street, New York, New York 10017, 1976.

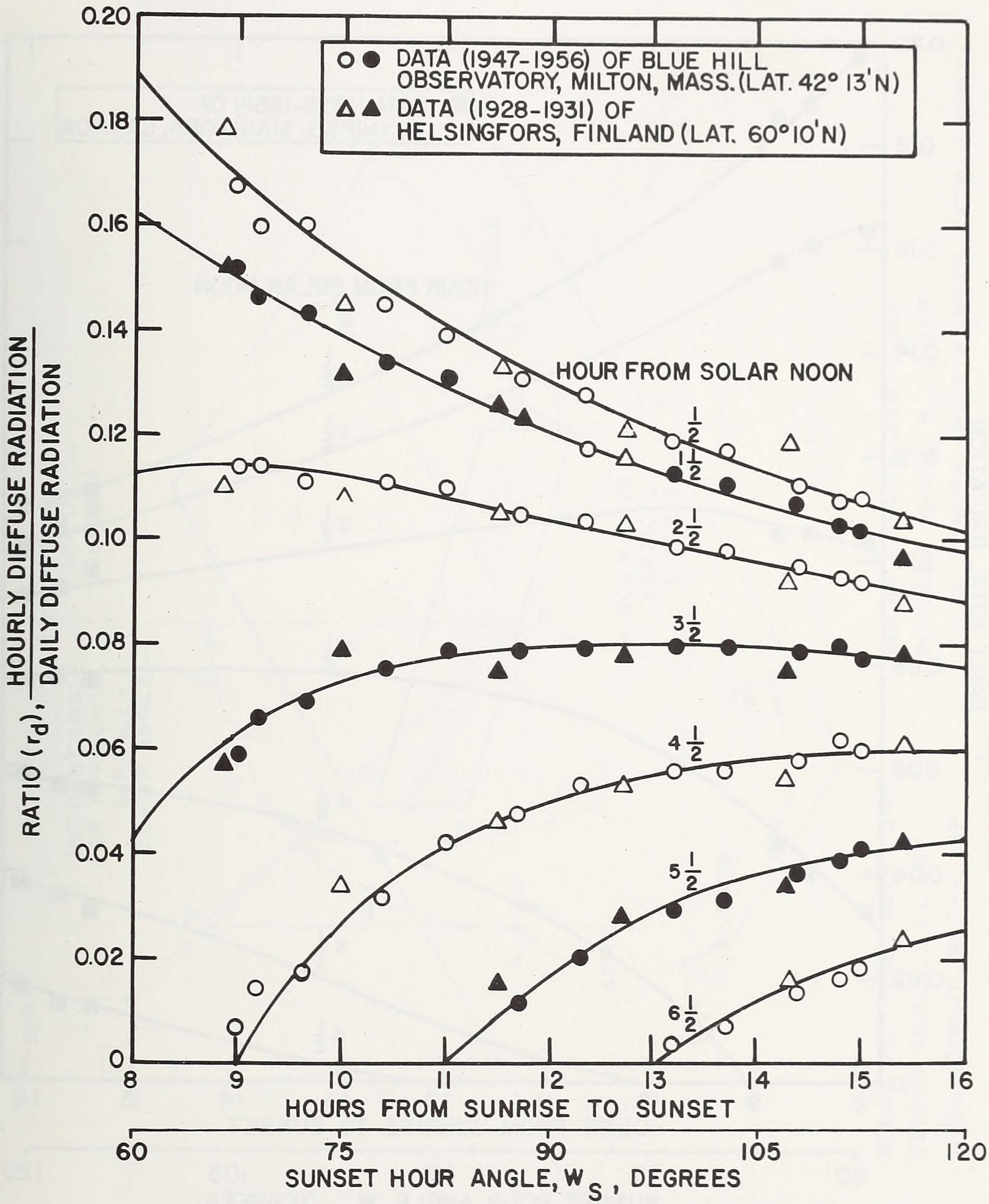


Figure 1 Ratio of Hourly Diffuse Radiation to Daily Diffuse Radiation as a Function of Time of Day [15, 16]

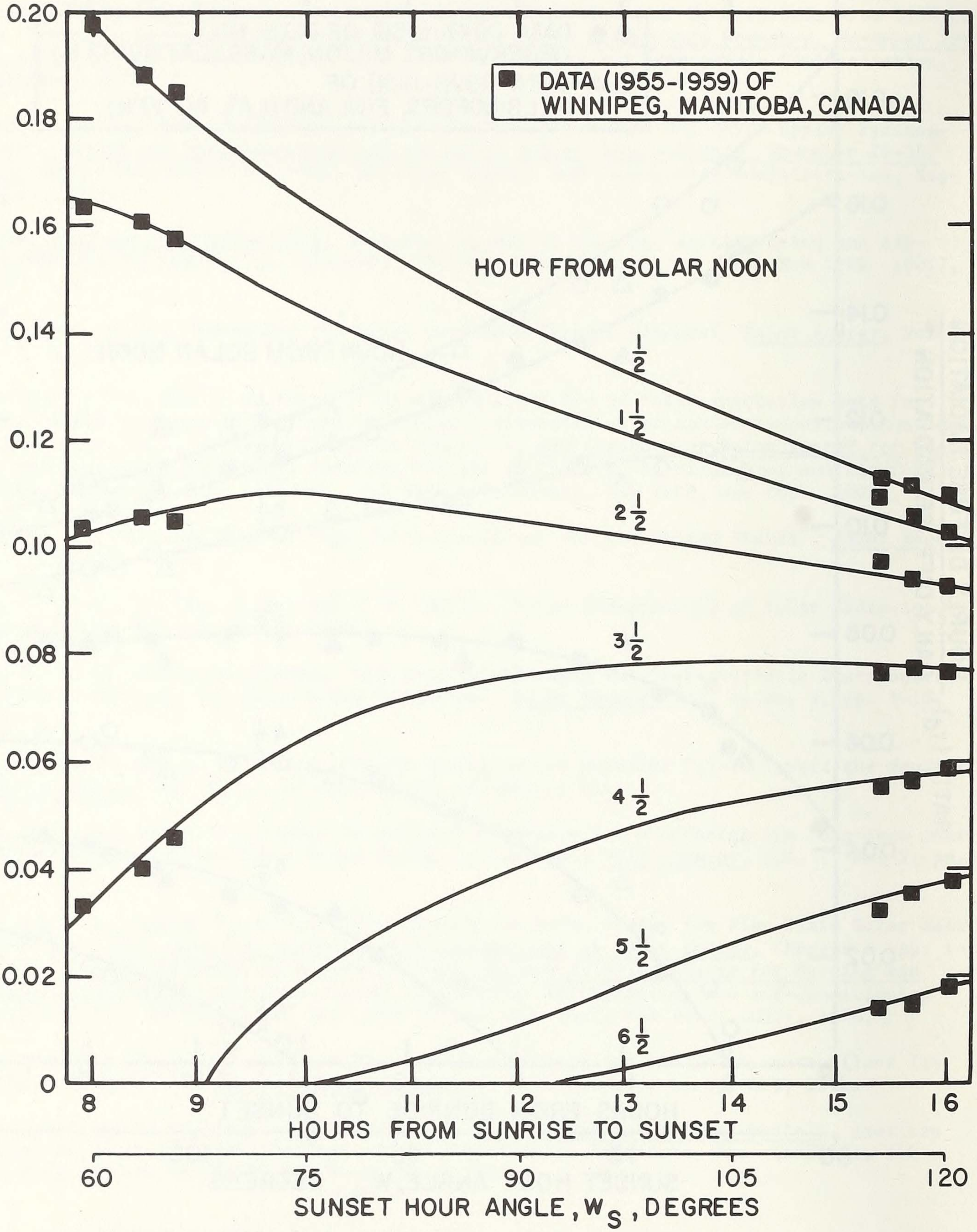
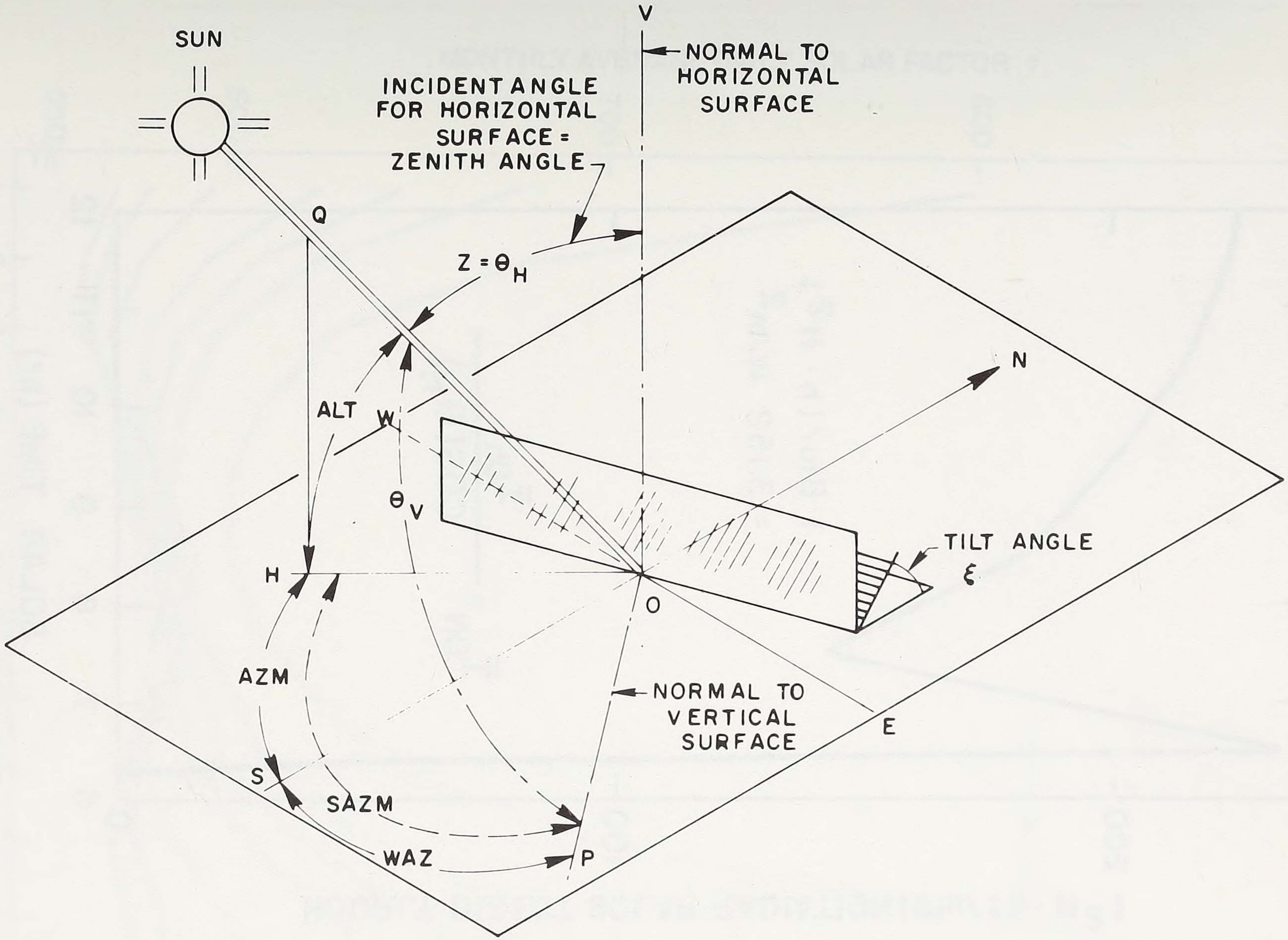


Figure 2 Ratio of Hourly Total Radiation to Daily Total Radiation as a Function of Time of Day [15, 16]



SOLAR ALTITUDE, ALT = ∠ QOH

ZENITH ANGLE, Z = ∠ QOV

WALL AZIMUTH, WAZ = ∠ SOP

SOLAR AZIMUTH, AZM = ∠ SOH

INCIDENT ANGLE, θ_V = ∠ QOP

SOLAR AZIMUTH - WALL AZIMUTH, SAZM = ∠ HOP

Figure 3 Solar Angles for Vertical and Horizontal Surfaces [18]

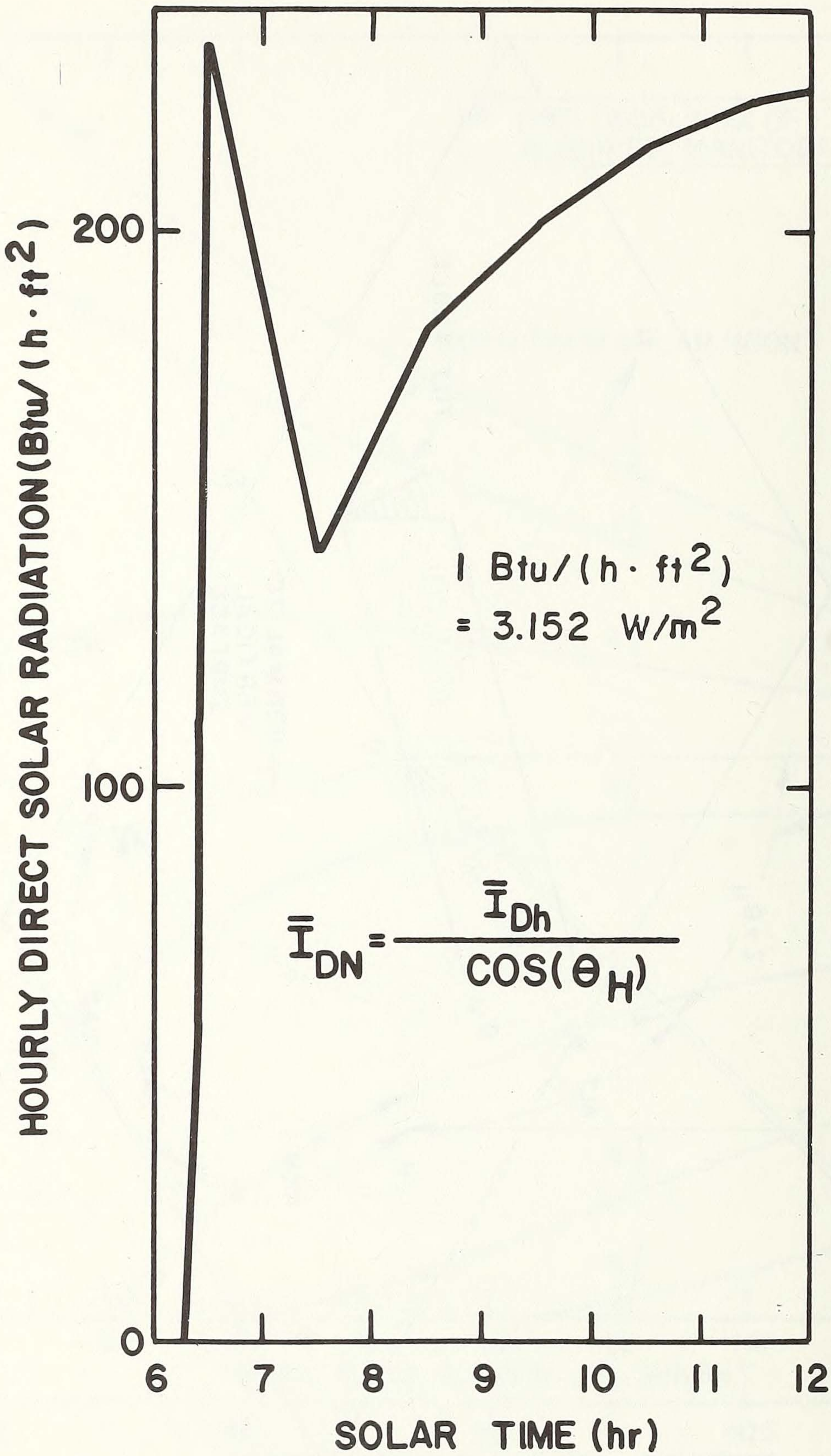


Figure 4 Anomalous Sunrise Hour Solar Radiation Generated by the Liu and Jordan Procedure for February 22 in Miami, Florida

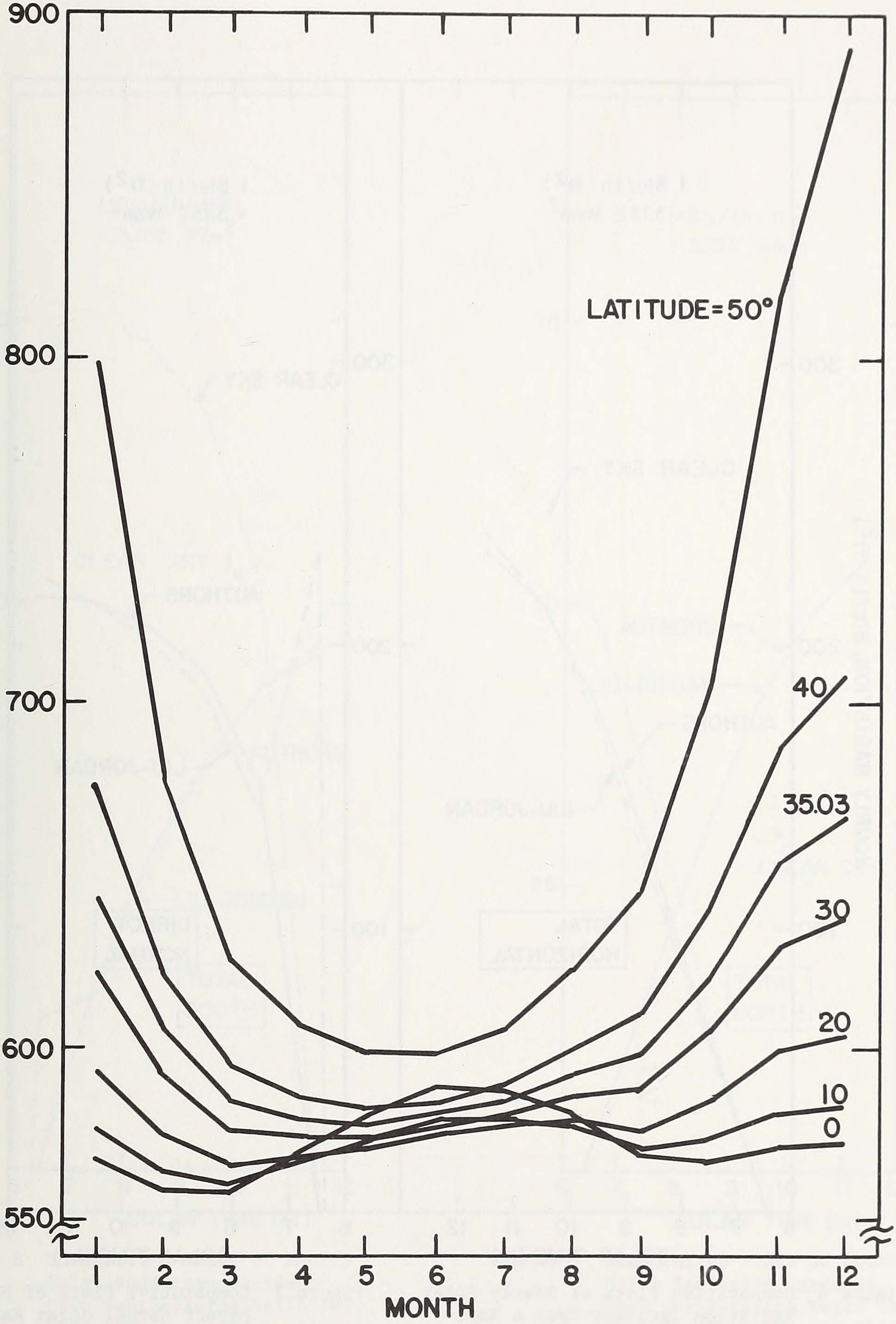


Figure 5 Values of Monthly Average Daily Solar Factor f for Various Latitudes

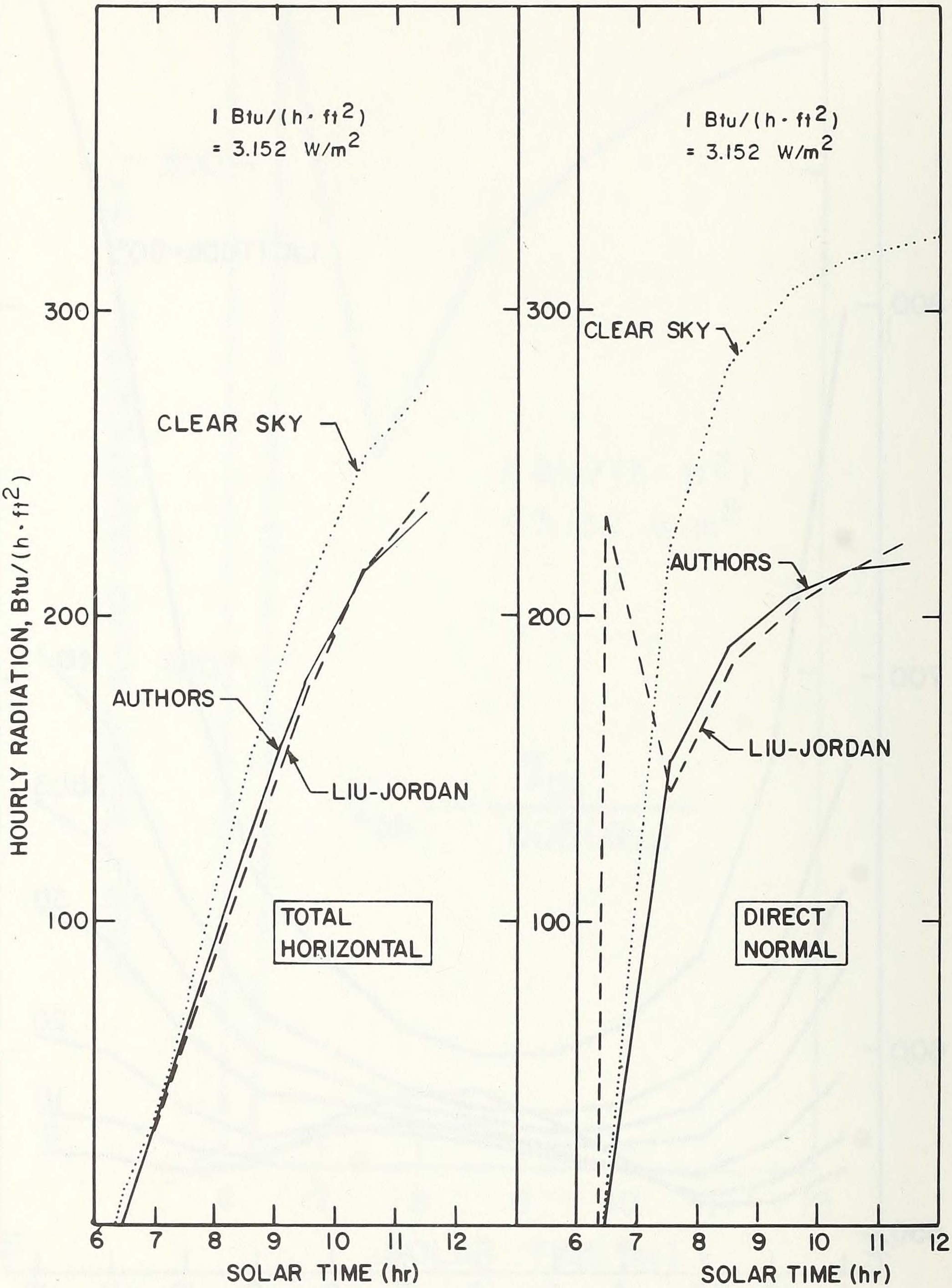


Figure 6 Comparative Plots of Hourly Solar Radiation Incident Upon a Horizontal Surface for February 22 in Miami, Florida

Figure 7 Comparative Plots of Hourly Direct Normal Solar Radiation for February 22 in Miami, Florida

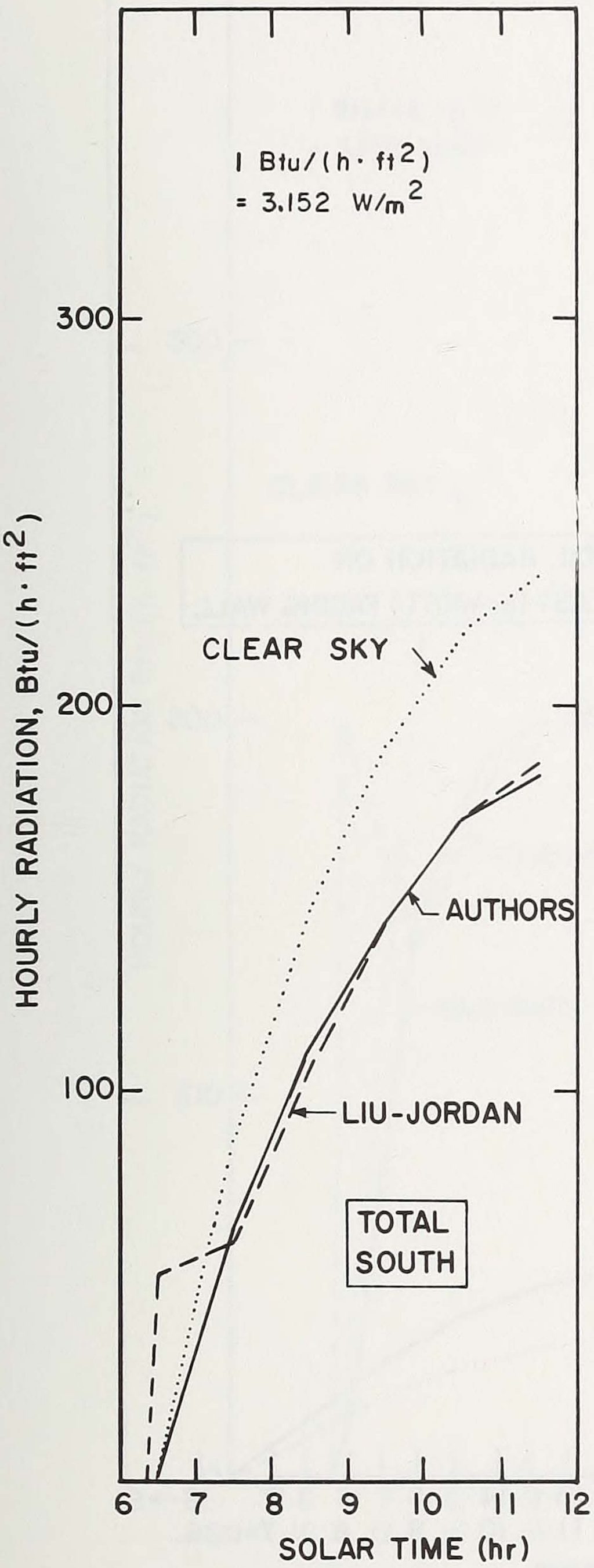


Figure 8 Comparative Plots of Hourly Solar Radiation Incident Upon South-facing Walls for February 22 in Miami, Florida

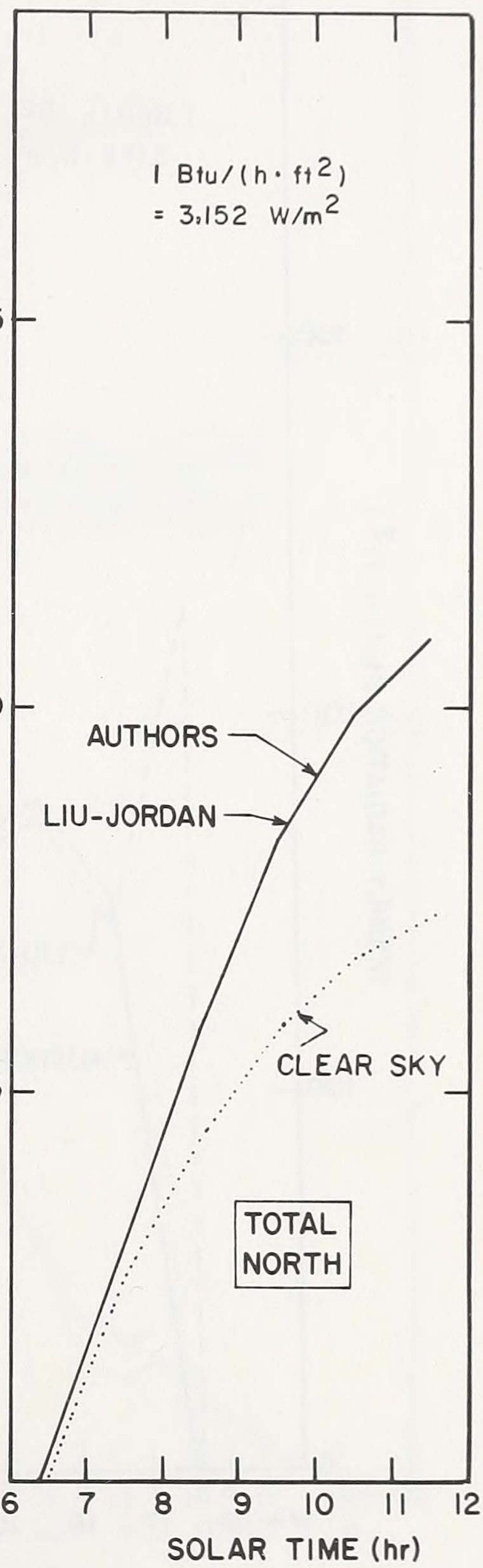


Figure 9 Comparative Plots of Hourly Solar Radiation Incident Upon North-facing Walls for February 22 in Miami, Florida

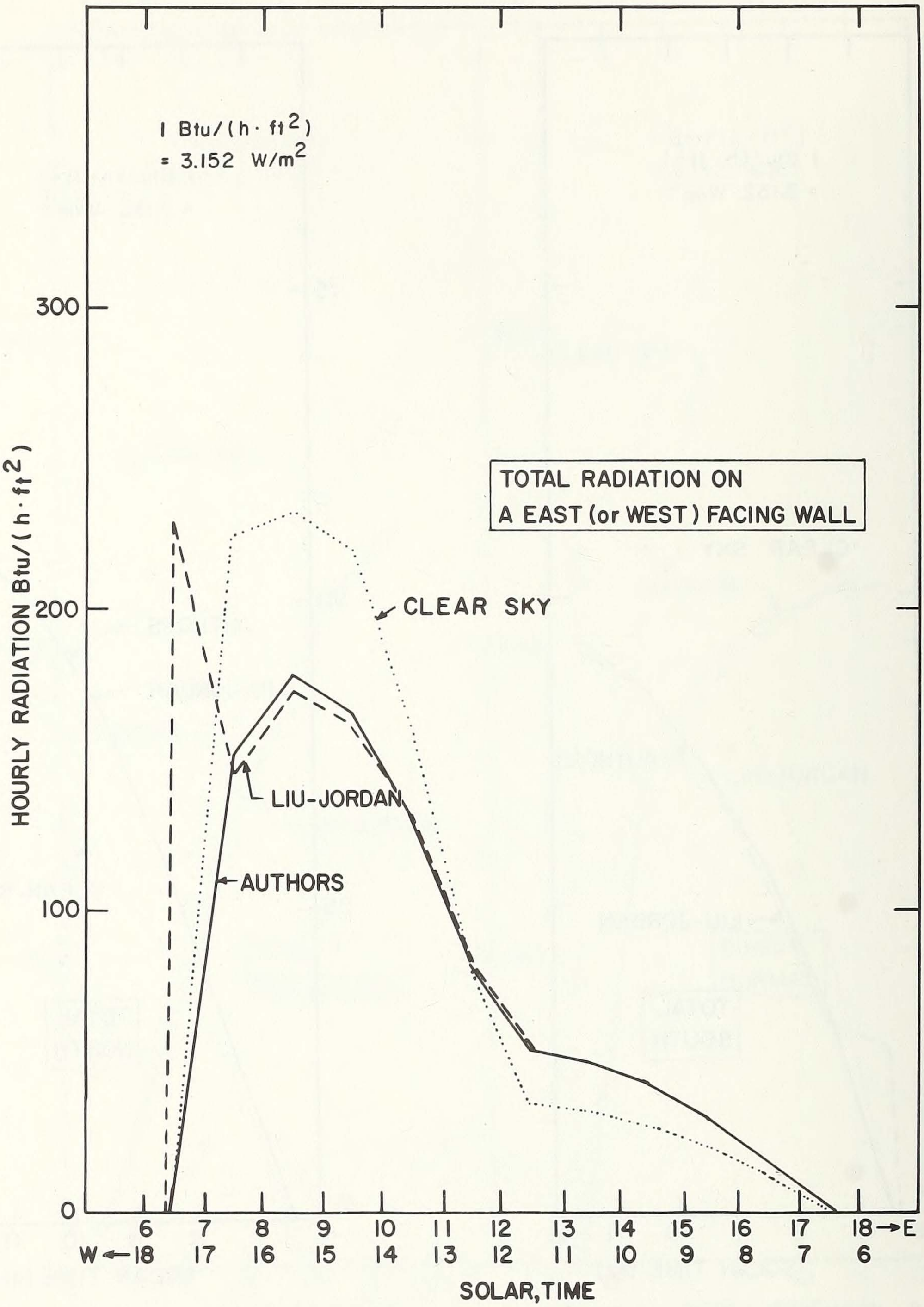


Figure 10 Comparative Plots of Hourly Solar Radiation Incident Upon East- (or West)-facing Walls for February 22 in Miami, Florida

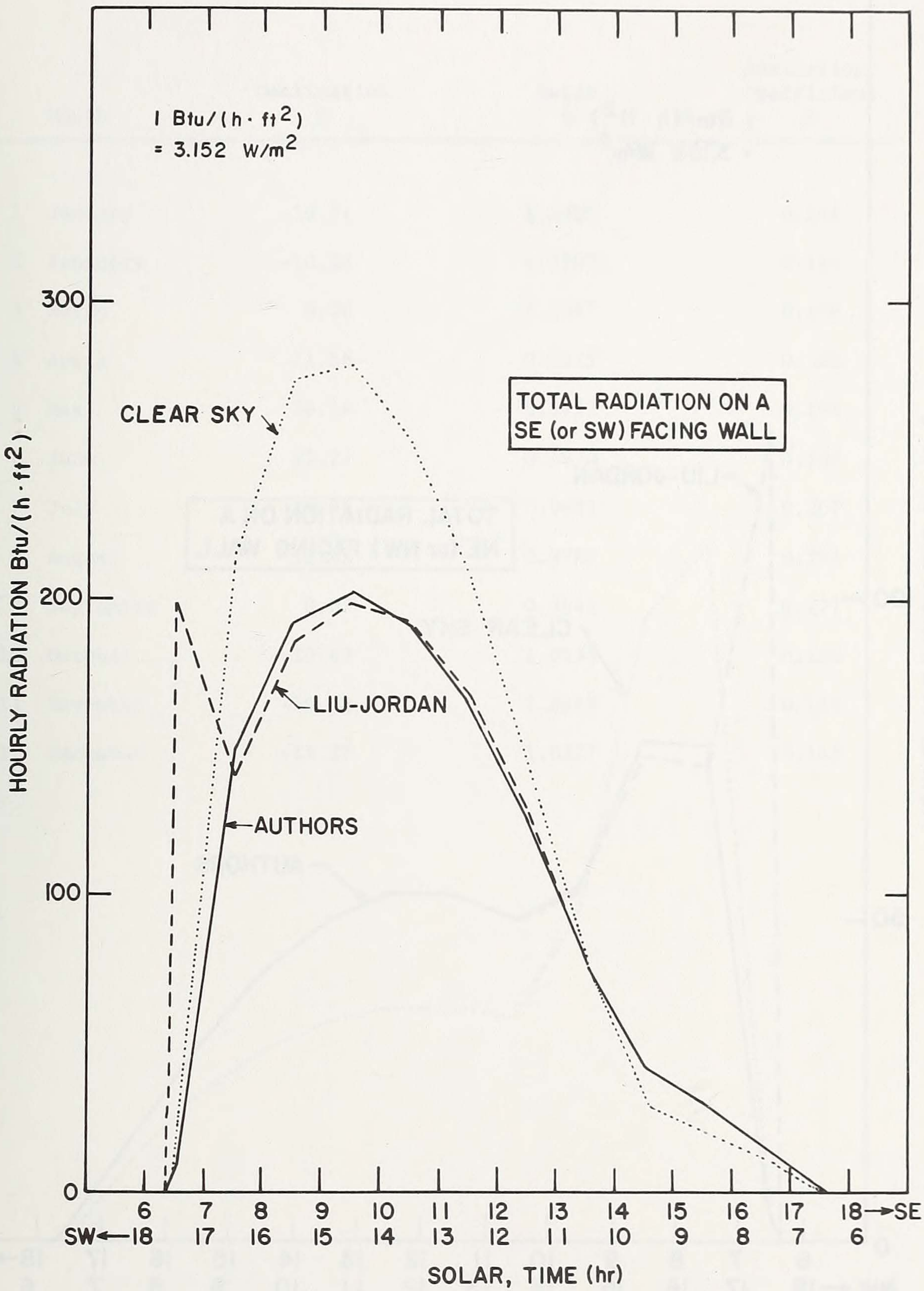


Figure 11 Comparative Plots of Hourly Solar Radiation Incident Upon Southeast- or Southwest-facing Walls for February 22 in Miami, Florida

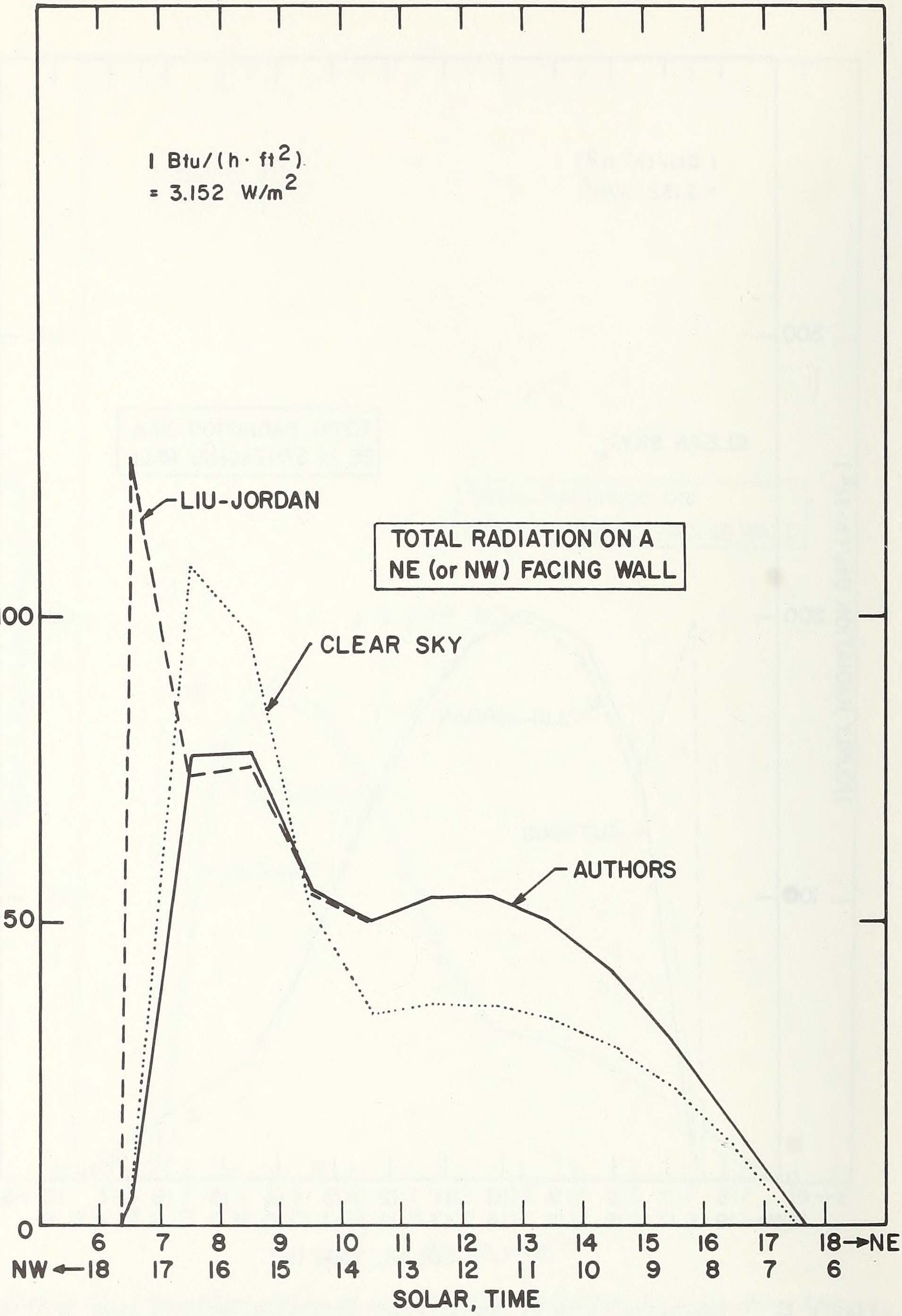


Figure 12 Comparative Plots of Hourly Solar Radiation Incident Upon Northwest- or Northeast-facing Walls for February 22 in Miami, Florida

Table 1 Solar Declination, S, the Ratio of Solar Radiation Intensity at Normal Incidence Outside Earth's Atmosphere to the Solar Constant (γ), and Atmospheric Extinction Coefficient B [18]

	Month	Declination S	Ratio γ	Extinction Coefficient B
1	January	-19.51	1.0300	0.142
2	February	-10.28	1.0207	0.144
3	March	0.20	1.0057	0.156
4	April	11.56	0.9875	0.180
5	May	20.14	0.9727	0.196
6	June	23.27	0.9670	0.205
7	July	20.26	0.9692	0.207
8	August	12.03	0.9785	0.201
9	September	0.37	0.9945	0.177
10	October	-10.47	1.0133	0.160
11	November	-19.58	1.0267	0.149
12	December	-23.27	1.0327	0.142

Table 2 The Relationship Between the Monthly Average Daily Diffuse and the Monthly Average Daily Total Radiation [15, 16]

K_T	0.3	0.4	0.5	0.6	0.7	0.75
K_d	0.179	0.183	0.188	0.174	0.149	0.125

Table 3 The Value of Factor $(\overline{A}/(\overline{K}_T - \overline{K}_d)$

LAT.	MONTH											
DEG	1	2	3	4	5	6	7	8	9	10	11	12
0.	567.	559.	558.	569.	580.	588.	587.	581.	568.	567.	571.	572.
1.	568.	559.	558.	569.	579.	587.	586.	580.	568.	568.	572.	573.
2.	569.	559.	558.	568.	578.	586.	585.	580.	568.	568.	573.	574.
3.	570.	560.	558.	568.	577.	585.	584.	579.	568.	569.	574.	575.
4.	570.	560.	558.	567.	576.	584.	584.	579.	568.	569.	575.	576.
5.	571.	561.	558.	567.	576.	583.	583.	579.	568.	570.	576.	577.
6.	572.	561.	558.	567.	575.	582.	582.	578.	568.	570.	577.	578.
7.	573.	562.	559.	567.	574.	581.	581.	578.	569.	571.	578.	579.
8.	575.	563.	559.	567.	574.	580.	581.	578.	569.	572.	579.	581.
9.	576.	563.	559.	566.	573.	579.	580.	578.	569.	573.	580.	582.
10.	577.	564.	559.	566.	573.	579.	580.	578.	570.	574.	582.	584.
11.	578.	565.	560.	566.	572.	578.	579.	578.	570.	574.	583.	585.
12.	580.	566.	560.	566.	572.	578.	579.	578.	570.	575.	584.	587.
13.	581.	567.	561.	566.	572.	577.	578.	578.	571.	576.	586.	588.
14.	583.	567.	561.	566.	571.	577.	578.	578.	572.	578.	588.	590.
15.	584.	568.	562.	567.	571.	576.	578.	578.	572.	579.	589.	592.
16.	586.	570.	562.	567.	571.	576.	578.	578.	573.	580.	591.	594.
17.	588.	571.	563.	567.	571.	576.	578.	578.	574.	581.	593.	596.
18.	589.	572.	564.	567.	571.	575.	578.	579.	574.	582.	595.	599.
19.	591.	573.	564.	568.	571.	575.	577.	579.	575.	584.	597.	601.
20.	594.	574.	565.	568.	571.	575.	577.	579.	576.	585.	599.	604.
21.	596.	576.	566.	568.	571.	575.	578.	580.	577.	587.	602.	606.
22.	598.	577.	567.	569.	571.	575.	578.	580.	578.	589.	604.	609.
23.	601.	579.	568.	569.	571.	575.	578.	581.	579.	590.	607.	612.
24.	603.	580.	569.	570.	571.	575.	578.	581.	580.	592.	609.	615.
25.	606.	582.	570.	570.	572.	575.	578.	582.	581.	594.	612.	619.
26.	609.	584.	571.	571.	572.	575.	579.	583.	583.	596.	615.	622.
27.	612.	586.	572.	572.	572.	576.	579.	584.	584.	598.	619.	626.
28.	615.	588.	573.	573.	573.	576.	579.	584.	585.	600.	622.	630.
29.	618.	590.	575.	573.	573.	576.	580.	585.	587.	603.	626.	634.
30.	622.	592.	576.	574.	574.	577.	580.	586.	588.	605.	630.	639.
31.	626.	594.	578.	575.	574.	577.	581.	587.	590.	608.	634.	644.
32.	630.	597.	579.	576.	575.	578.	582.	588.	592.	611.	638.	649.
33.	634.	599.	581.	577.	576.	578.	582.	590.	594.	614.	643.	655.
34.	639.	602.	582.	578.	576.	579.	583.	591.	596.	617.	648.	661.
35.	644.	605.	584.	579.	577.	579.	584.	592.	598.	620.	653.	667.
36.	650.	608.	586.	581.	578.	580.	585.	594.	600.	624.	659.	674.
37.	655.	611.	588.	582.	579.	581.	586.	595.	602.	627.	665.	682.
38.	662.	614.	590.	583.	580.	582.	587.	597.	604.	631.	672.	690.
39.	668.	618.	592.	585.	581.	583.	588.	598.	607.	636.	679.	699.
40.	675.	622.	595.	586.	582.	584.	589.	600.	609.	640.	687.	708.
41.	683.	626.	597.	588.	583.	585.	591.	602.	612.	645.	695.	719.
42.	692.	630.	600.	590.	585.	586.	592.	604.	615.	650.	704.	731.
43.	701.	635.	602.	591.	586.	587.	593.	606.	618.	655.	714.	744.
44.	711.	640.	605.	593.	587.	589.	595.	608.	622.	661.	725.	758.
45.	722.	645.	608.	595.	589.	590.	596.	610.	625.	667.	737.	774.
46.	734.	651.	612.	597.	591.	591.	598.	613.	629.	674.	750.	792.
47.	747.	657.	615.	600.	592.	593.	600.	615.	633.	681.	764.	812.
48.	762.	664.	619.	602.	594.	595.	602.	618.	637.	688.	780.	835.
49.	779.	671.	622.	605.	596.	596.	604.	621.	641.	697.	798.	861.
50.	798.	678.	626.	607.	598.	598.	606.	623.	646.	706.	819.	891.

Program for Generating Table 3

```
      DIMENSION DDEC(12)/-19.51,-10.28,0.2,11.56,20.14,23.27,20.26,12.03
     *,0.37,-10.47,-19.58,-23.27/,DLAT(51),FAC(12)
      DIMENSION B(12)/.142,.144,.156,.180,.196,.205,.207,.201,.177,.160,
     *.149,.142/
      DIMENSION R(12)/1.03,1.0207,1.0057,.9875,.9727,.967,.9692,.9785,
     *.9945,1.0133,1.0267,1.0327/
      PI=3.1416
      SC=442.1
      WRITE(6,60)
   60 FORMAT(/10X,10('*'),'  THE VALUE OF FACTOR ( A/(KT-KD) )  '10('*')
     *)
      WRITE(6,70)
   70 FORMAT(/5X,'LAT.'27X,'MONTH')
      WRITE(6,80)
   80 FORMAT(/5X,'DEG      1     2     3     4     5     6     7     8     9    10
     *    11    12')
      WRITE(6,81)
   81 FORMAT()
      DO 10 I=1,51
      DLAT(I)=I-1.
      XLAT=INT(DLAT(I))
      RLAT=(XLAT+(DLAT(I)-XLAT)/0.6)*PI/180.
      DO 20 J=1,12
      XDEC=INT(DDEC(J))
      RDEC=(XDEC+(DDEC(J)-XDEC)/0.6)*PI/180.
      COSWS=-TAN(RLAT)*TAN(RDEC)
      WS=ACOS(COSWS)
      DWS=WS*180./PI
      COSLD=COS(RLAT)*COS(RDEC)
      SINLD=SIN(RLAT)*SIN(RDEC)
      S=0.
      DO 30 N=1,39
      W=WS*N/40
      COSZ=COSLD*COS(W)+SINLD
      PAR=-B(J)/COSZ
      APA=ABS(PAR)
      IF(APA.GT.80) GO TO 40
      ANS=EXP(PAR)*COSZ
      GO TO 50
   40 ANS=0.
   50 S=ANS+S
   30 CONTINUE
      ANS0=EXP(-B(J)/(COSLD+SINLD))*(COSLD+SINLD)/2.
      AINT=WS/40.*(ANS0+S)
      THO=R(J)*SC*(COSLD*SIN(WS)+WS*SINLD)
      FAC(J)=THO/AINT
   20 CONTINUE
      WRITE(6,90) DLAT(I),FAC
   90 FORMAT(5X,F3.0,2X,12F5.0)
      DO 1 K=10,50,10
      IF(I.EQ.K) WRITE(6,81)
    1 CONTINUE
   10 CONTINUE
      STOP
      END
```

Program for the Average Day Hourly Solar Tables

```
P       MAIN PROGRAM


      DIMENSION H(12),ZKT(12),TO(12),TOT(12)
      DIMENSION TOWN(4)
      DO 1 K=1,81
      READ(5,4) TOWN
      READ(5,2) H,ZKT,TO,XLAT,CITY,TOT
      IG=1
      SC=0.9
      RHO=0.2
      CALL LIU(ZKT,H,TO,IG,SC,XLAT,RHO,TOWN,TOT)
    1 CONTINUE
    2 FORMAT(12F6.1/12F6.3/12F6.1,F5.2,A3/12F4.1)
    3 FORMAT(1H1)
    4 FORMAT(4A6)
      STOP
      END


      SUBROUTINE LIU(ZKT,H,TO,IG,SC,XLAT,RHO,TOWN,TOT)
C     THIS SUBROUTINE CALCULATES MONTHLY AVERAGE SOLAR HEAT GAIN THROUGH WINDOW2
C     OF FOUR DIFFERENT ORIENTATIONS.
C     ZKT...LIU/JORDAN FACTOR - DAILY TOTAL RADIATION ON A HORIZONTAL SURFACE /
C           THE SAME IN OUTER SPACE
C     H.....DAILY TOTAL RADIATION ON A HORIZONTAL SURFACE
C     TO....DAILY AVERAGE TEMPERATURE
C     XLAT..LATITUDE OF THE LOCATION
C     RHO...REFLECTIVITY OF THE GROUND AROUND THE WINDOW
C     IG....GLAZING INDEX
C           1. SINGLE GLAZE
C           2. DOUBLE GLAZE
C     SC....SHADING COEFFICIENT
```

```
      DIMENSION LDAY(12)/31,28,31,30,31,30,31,31,30,31,30,31/
      DIMENSION SMONTH(12,9),SYEAR( 9),SUMMER(9)
      DIMENSION XDEC(12)/-19.51,-10.28,.20,11.56,20.14,23.27,20.26,12.03
     *,.37,-10.47,-19.58,-23.27/
      DIMENSION R(12)/1.03,1.0207,1.0057,.9875,.9727,.967,.9692,.9785,
     *.9945,1.0133,1.0267,1.0327/
      REAL US(12)/1.13,1.13,1.13,1.13,1.06,1.06,1.06,1.06,1.06,1.13,1.13
     *,1.13/,SUM(9),H(12),ZKT(12),TO(12),TOT(12)
      DIMENSION WAZ(8)/0.,45.,90.,135.,180.,-135.,-90.,-45./
      REAL UD(12)/.65,.65,.65,.65,.61,.61,.61,.61,.61,.65,.65,.65/
      REAL ORIENT(2,9)/' SOUTH      ',' SOUTHWEST  ',' WEST       ',' NO
     *RTHWEST  ',' NORTH      ',' NORTHEAST  ',' EAST       ',' SOUTHEAS
     *T  ',                  ' HORIZ.     '/
      REAL TOWN(4),XSATGS(9),XSATGD(9),ZIT(24,9),DLITE(12),XSG(9),XDG(9)
      REAL RST/442.1/,PI/3.1415927/,LAT
      DIMENSION B(12)/.142,.144,.156,.18,.196,.205,.207,.201,.177,.16,.149,.142/
     *49,.142/
      REAL DNI(24),ASI(24,9),RSI(24,9),SUMD(9),SUMR(9)
      M=0
      XLAX=AINT(XLAT)
      LAT=(XLAX+(XLAT-XLAX)/0.6)*PI/180.
      LAX=INT(XLAT)
      MINUTE=(XLAT-XLAX)*100
   30 FORMAT(' LOCATION   '4A6,'   LATITUDE'I4,' DEGREES'I4,' MINUTES'/)
      CALL DIVOVF(0,0,0)
      DO 1 N=1,12
      RD=AINT(XDEC(N))
      DEC=(RD+(XDEC(N)-RD)/0.6)*PI/180.
      COSWS=-TAN(LAT)*TAN(DEC)
      IF(COSWS.GT.1..OR.COSWS.LT.-1.) RETURN
      IF(N.EQ.1) WRITE(6,41)
      IF(N.EQ.1) WRITE(6,30) TOWN,LAX,MINUTE
      WS=ACOS(COSWS)
      Y=COS(LAT)*COS(DEC)*SIN(WS)+WS*SIN(LAT)*SIN(DEC)
      HO=24.*R(N)*Y/PI*RST
      TWS=WS*12/PI
      SUNRIZ=12.-ABS(TWS)
      SUNSET=12.+ABS(TWS)
      COSLD=COS(LAT)*COS(DEC)
      SINLD=SIN(LAT)*SIN(DEC)
      S=0.
          DO 500 L=1,39
      WW=WS*L/40.
      CZE=COSLD*COS(WW)+SINLD
      PAR=-B(N)/CZE
      APA=ABS(PAR)
      IF(APA.GT.80.) GO TO 501
      ANS=EXP(PAR)*CZE
      GO TO 502
  501 ANS=0.
  502 S=ANS+S
  500 CONTINUE
      ANSO=EXP(-B(N)/(COSLD+SINLD))*(COSLD+SINLD)/2.
      AI=WS/ 40.*(ANSO+S)
      ZKD=ZD(ZKT(N))
      HO=24./PI*R(N)*RST*(COSLD*SIN(WS)+WS*SINLD)
      THH=HO*ZKT(N)
      DHH=HO*(ZKT(N)-ZKD)
```

```
      RHH=HO*ZKD
      A=DHH/(24./PI*AI)
      FAC=A/ZKT(N)
      DO 2 K=1,9
      DO 2 I=1,24
      DNI(I)=0.
      ASI(I,K)=0.
      RSI(I,K)=0.
    2 ZIT(I,K)=0.
      DLITE(N)=2.*ABS(TWS)
      DO 3 I=1,24
      TIME=I-1.
      WT=ABS(12.-TIME)
      W=WT*PI/12.
      IF(TIME-SUNRIZ) 3,3,4
    4 IF(TIME-SUNSET) 5,3,3
    5 COSZ=SINLD+COSLD*COS(W)
      COSW=COS(DEC)*SIN(W)
      COSS=SQRT(1.-COSW*COSW-COSZ*COSZ)
      V=TAN(DEC)/TAN(LAT)
      TEST=COS(W)-V
      IF(TEST) 9,9,8
    9 COSS=-COSS
    8 ALT=ASIN(COSZ)
      AZM=ASIN(COSW/COS(ALT))
      IF(COSS) 23,24,24
   23 AZM=PI-AZM
   24 IF(AZM.GT.PI) AZM=2.*PI-AZM
      IF(TIME.LT.12.) AZM=-AZM
      AZMP=AZM*180./PI
      DO 10 K=1,9
      IF(K.NE.9) GO TO 25
      COSTH=COSZ
      GO TO 26
   25 CONTINUE
      SAZM=AZM-WAZ(K)/180.*PI
      SAZMP=SAZM*180./PI
      ALTP=ALT*180./PI
      COSTH=COS(SAZM)*COS(ALT)
   26 CONTINUE
      IF(COSTH.LE.0.) COSTH=0.
      THP=ACOS(COSTH)*180./PI
      PAR2=-B(N)/COSZ
      AP2=ABS(PAR2)
      IF(AP2.GT.80.) GO TO 3
      DNI(I)=A*EXP(PAR2)
      IF(DNI(I).LE.0.) DNI(I)=0.
      DHI=DNI(I)*COSZ
      IF(DHI.LE.0.) DHI=0.
      ASI(I,K)=DNI(I)*COSTH
      IF(ASI(I,K).LE.0.) ASI(I,K)=0.
      RR=PI/24.*(COS(W)-COS(WS))/(SIN(WS)-WS*COS(WS))
      IF(RR.LT.0.) RR=0.
      RHI=RHH*RR
      RSI(I,K)=(RHI+(RHI+DHI)*RHO)/2.
      IF(K.EQ.9) RSI(I,K)=RHI
      ZIT(I,K)=ASI(I,K)+RSI(I,K)
   10 CONTINUE
```

```
  3 CONTINUE
    IF(M.EQ.1) GO TO 42
    DO 40 I=4,10,3
    IF(N.EQ.I) WRITE(6,41)
    IF(N.EQ.I) WRITE(6,30) TOWN,LAX,MINUTE
    IF(I.EQ.4) WRITE(6,101)
 40 CONTINUE
 42 IF(M.EQ.0) GO TO 43
    IF(N.EQ.1) GO TO 43
    WRITE(6,41)
    WRITE(6,30) TOWN,LAX,MINUTE
    WRITE(6,101)
 41 FORMAT(1H1)
101 FORMAT(5F10.3,I5,7F10.3)
 43 WRITE(6,31) N,HO,TO(N),TOT(N),ZKT(N),ZKD
 31 FORMAT(/' MONTH'I4,'     HO'F7.0,'    TOD'F7.0,'    TOT'F7.0,
   *'     KT'F10.3,
   *'     KD'F10.3//' ORIENTATION'31X,'HOURLY SOLAR RADIATION'31X,'DAI
   *LY TOTAL  SAG/DAYTIME SAG/ALL DAY'
   *                              /12X,'4    5    6    7    8    9   10   1
   *1   12   13   14   15   16   17   18   19   20    RADIATION   SATG
   *S SATGD SATGS SATGD'/11X,83('-'))
506 DO 12 K=1,9
    SUMN=0.
    SUMD(K)=0.
    SUMR(K)=0.
    SUM(K)=0.
    DO 14 I=1,24
    SUMN=SUMN+DNI(I)
    SUMD(K)=SUMD(K)+ASI(I,K)
    SUMR(K)=SUMR(K)+RSI(I,K)
 14 SUM(K)=SUM(K)+ZIT(I,K)
    IF(M.EQ.1.AND.K.EQ.1) WRITE(6,505)(DNI(I),I=5,21),SUMN
505 FORMAT    (' NORM.DIR.'F4.0,16F5.0,F10.0)
    SMONTH(N,K)=SUM(K)*.87*LDAY(N)/12000.
    SATGS=TO(N)+SUM(K)/DLITE(N)/US(N)*0.87
    SATGD=TO(N)+SUM(K)/DLITE(N)*SC/UD(N)*0.87
    XSATGS(K)=SATGS
    XSATGD(K)=SATGD
    XSG(K)=TOT(N)+SUM(K)/DLITE(N)/US(N)*0.87
    XDG(K)=TOT(N)+SUM(K)/DLITE(N)*SC/UD(N)*0.87
    IF(M.EQ.0)
   *WRITE(6,32)(ORIENT(J,K),J=1,2),(ZIT(I,K),I=5,21),SUM(K),XSATGS(K),
   *XSATGD(K),XSG(K),XDG(K)
    IF(M.EQ.1)
   *WRITE(6,35)(ORIENT(J,K),J=1,2),(ZIT(I,K),I=5,21),SUM(K),XSATGS(K),
   *XSATGD(K),XSG(K),XDG(K)
 32 FORMAT(A6,A4,F4.0,16F5.0,F10.0,4X,4F6.0)
 35 FORMAT(/2A6/3X,'TOTAL '17F5.0,F10.0,4X,4F6.0)
    IF(M.EQ.0) GO TO 12
    WRITE(6,503)(ASI(I,K),I=5,21),SUMD(K)
503 FORMAT(3X,'DIRECT'17F5.0,F10.0)
    WRITE(6,504)(RSI(I,K),I=5,21),SUMR(K)
504 FORMAT(3X,'DIFFUS'17F5.0,F10.0)
 12 CONTINUE
  1 CONTINUE
    RETURN
    END
```

```
      FUNCTION ZD(ZT)
      DIMENSION ZKT(6)/.3,.4,.5,.6,.7,.75/
      DIMENSION ZKD(6)/.179,.183,.188,.174,.149,.125/
      IF(ZT-0.3) 1,1,2
    1 ZD=.179
      GO TO 10
    2 IF(ZT-0.75) 3,3,4
    4 ZD=.125
      GO TO 10
    3 DO 20 J=2,6
      T1=ZT-ZKT(J-1)
      T2=ZT-ZKT(J)
      TEST=T1*T2
      IF(TEST) 5,6,20
    5 Y1=ZKD(J-1)
      Y2=ZKD(J)
      ZD=Y1+(Y2-Y1)*(ZT-ZKT(J-1))/(ZKT(J)-ZKT(J-1))
      GO TO 20
    6 IF(T1) 8,9,8
    9 ZD=ZKD(J-1)
      GO TO 20
    8 ZD=ZKD(J)
   20 CONTINUE
   10 RETURN
      END
```

THE EIGHTY LOCATIONS

Albuquerque
Annette Is.
Apalachiocola
Astoria, O
Atlanta
Bethel Alas
Bismark
Blue Hill Mas
Boise
Boston
Brownsville
Caribou
Charleston SC
Cleveland
Columbia Mo
Columbus O
Davis
Dodge City
E. Lansing
E. Warham
ElPaso
Ely
Fairbanks
Ft.Worth
Fresno
Gainsville
Glascow, Mont
Gnd Jnc
Gnd Lake, Col
Grt Falls, Mont
Greensboro NC
Griffin Geo
Hattaras NC
Indianop@lis
Inyokern
Ithaca, NY
Lake Charles
Lander Wyo
Las Vegas Nev
Lamont
Lexington
Lincoln, N
Little Rock
Los Angeles
Madison
Matanuska, Alk
Medford
Maimi
Midland
Nashville
Newport
New York
Oak Ridge
Ok City
Portland, Maine
Rapid City
Riverside
St. Cloud, Min
Salt Lake
San Antonio
Santa Maria
S. Ste. Marie Mich
Sayville, NY
Schenectady
Seabrook, NJersey
Seattle
Spokane
St. College, Pa
Stillwater
Tampa
Tuscon
Upton, NY
Washington

LOCATION ALBUQUERQUE, N.M. LATITUDE 35 DEGREES 3 MINUTES

MONTH 1 HO 1699. TOD 37. TOT 34. KT .704 KD .147

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	104.	180.	230.	259.	269.	259.	230.	180.	104.	0.	0.	0.	0.	1814.	176.	290.	92.	139.
SOUTHWEST	0.	0.	0.	0.	11.	22.	83.	146.	201.	242.	260.	246.	175.	0.	0.	0.	0.	1387.	144.	230.	78.	115.
WEST	0.	0.	0.	0.	11.	22.	31.	37.	39.	105.	156.	181.	149.	0.	0.	0.	0.	733.	94.	139.	57.	76.
NORTHWEST	0.	0.	0.	0.	11.	22.	31.	37.	39.	37.	31.	23.	43.	0.	0.	0.	0.	277.	58.	76.	43.	50.
NORTH	0.	0.	0.	0.	11.	22.	31.	37.	39.	37.	31.	22.	11.	0.	0.	0.	0.	244.	56.	71.	42.	48.
NORTHEAST	0.	0.	0.	0.	43.	23.	31.	37.	39.	37.	31.	22.	11.	0.	0.	0.	0.	277.	58.	76.	43.	50.
EAST	0.	0.	0.	0.	149.	181.	156.	105.	39.	37.	31.	22.	11.	0.	0.	0.	0.	733.	94.	139.	57.	76.
SOUTHEAST	0.	0.	0.	0.	175.	246.	260.	242.	201.	146.	83.	22.	11.	0.	0.	0.	0.	1387.	144.	230.	78.	115.
HORIZ.	0.	0.	0.	0.	45.	107.	157.	189.	200.	189.	157.	107.	45.	0.	0.	0.	0.	1196.	129.	204.	72.	103.

MONTH 2 HO 2234. TOD 43. TOT 39. KT .691 KD .151

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	29.	105.	161.	203.	228.	237.	228.	203.	161.	105.	29.	0.	0.	0.	1691.	162.	258.	94.	138.
SOUTHWEST	0.	0.	0.	5.	18.	30.	66.	127.	181.	222.	244.	241.	201.	77.	0.	0.	0.	1413.	142.	223.	85.	122.
WEST	0.	0.	0.	5.	18.	30.	39.	45.	47.	112.	165.	197.	190.	83.	0.	0.	0.	933.	109.	162.	69.	94.
NORTHWEST	0.	0.	0.	5.	18.	30.	39.	45.	47.	45.	39.	55.	78.	43.	0.	0.	0.	447.	75.	100.	54.	66.
NORTH	0.	0.	0.	5.	18.	30.	39.	45.	47.	45.	39.	30.	18.	5.	0.	0.	0.	324.	66.	84.	50.	58.
NORTHEAST	0.	0.	0.	43.	78.	55.	39.	45.	47.	45.	39.	30.	18.	5.	0.	0.	0.	447.	75.	100.	54.	66.
EAST	0.	0.	0.	83.	190.	197.	165.	112.	47.	45.	39.	30.	18.	5.	0.	0.	0.	933.	109.	162.	69.	94.
SOUTHEAST	0.	0.	0.	77.	201.	241.	244.	222.	181.	127.	66.	30.	18.	5.	0.	0.	0.	1413.	142.	223.	85.	122.
HORIZ.	0.	0.	0.	16.	80.	143.	192.	223.	234.	223.	192.	143.	80.	16.	0.	0.	0.	1544.	151.	239.	89.	129.

MONTH 3 HO 2798. TOD 50. TOT 46. KT .719 KD .140

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	35.	90.	141.	180.	205.	213.	205.	180.	141.	90.	35.	0.	0.	0.	1515.	147.	226.	95.	134.
SOUTHWEST	0.	0.	0.	12.	25.	37.	46.	109.	166.	211.	237.	240.	213.	140.	0.	0.	0.	1435.	142.	217.	92.	130.
WEST	0.	0.	0.	12.	25.	37.	46.	52.	54.	124.	182.	220.	226.	170.	0.	0.	0.	1146.	123.	183.	83.	113.
NORTHWEST	0.	0.	0.	12.	25.	37.	46.	52.	54.	52.	47.	93.	121.	107.	0.	0.	0.	644.	91.	125.	67.	84.
NORTH	0.	0.	0.	12.	25.	37.	46.	52.	54.	52.	46.	37.	25.	12.	0.	0.	0.	396.	75.	96.	59.	69.
NORTHEAST	0.	0.	0.	107.	121.	93.	47.	52.	54.	52.	46.	37.	25.	12.	0.	0.	0.	644.	91.	125.	67.	84.
EAST	0.	0.	0.	170.	226.	220.	182.	124.	54.	52.	46.	37.	25.	12.	0.	0.	0.	1146.	123.	183.	83.	113.
SOUTHEAST	0.	0.	0.	140.	213.	240.	237.	211.	166.	109.	46.	37.	25.	12.	0.	0.	0.	1435.	142.	217.	92.	130.
HORIZ.	0.	0.	0.	49.	121.	187.	238.	270.	281.	270.	238.	187.	121.	49.	0.	0.	0.	2012.	179.	284.	111.	163.

LOCATION ALBUQUERQUE, N.M. LATITUDE 35 DEGREES 3 MINUTES

MONTH 4 HO 3323. TOD 60. TOT 55. KT .722 KD .138

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	5.	18.	58.	102.	137.	160.	168.	160.	137.	102.	58.	18.	5.	0.	0.	1130.	126.	180.	92.	121.
SOUTHWEST	0.	0.	5.	18.	31.	43.	51.	81.	136.	180.	206.	212.	193.	145.	48.	0.	0.	1349.	139.	203.	99.	134.
WEST	0.	0.	5.	18.	31.	43.	51.	57.	59.	127.	184.	223.	234.	202.	78.	0.	0.	1312.	137.	199.	98.	132.
NORTHWEST	0.	0.	5.	18.	31.	43.	51.	57.	59.	57.	84.	128.	156.	152.	65.	0.	0.	907.	113.	156.	85.	108.
NORTH	0.	0.	18.	23.	31.	43.	51.	57.	59.	57.	51.	43.	31.	23.	18.	0.	0.	505.	89.	113.	72.	85.
NORTHEAST	0.	0.	65.	152.	156.	128.	84.	57.	59.	57.	51.	43.	31.	18.	5.	0.	0.	907.	113.	156.	85.	108.
EAST	0.	0.	78.	202.	234.	223.	184.	127.	59.	57.	51.	43.	31.	18.	5.	0.	0.	1312.	137.	199.	98.	132.
SOUTHEAST	0.	0.	48.	145.	193.	212.	206.	180.	136.	81.	51.	43.	31.	18.	5.	0.	0.	1349.	139.	203.	99.	134.
HORIZ.	0.	0.	16.	83.	156.	220.	269.	301.	311.	301.	269.	220.	156.	83.	16.	0.	0.	2399.	200.	315.	132.	195.

MONTH 5 HO 3633. TOD 69. TOT 65. KT .713 KD .143

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	10.	23.	35.	71.	103.	123.	130.	123.	103.	71.	35.	23.	10.	0.	0.	859.	120.	158.	95.	117.
SOUTHWEST	0.	0.	10.	23.	35.	46.	54.	60.	110.	151.	176.	182.	168.	131.	67.	0.	0.	1212.	140.	195.	107.	139.
WEST	0.	0.	10.	23.	35.	46.	54.	60.	62.	125.	178.	214.	226.	205.	125.	0.	0.	1361.	149.	210.	112.	148.
NORTHWEST	0.	0.	10.	23.	35.	46.	54.	60.	62.	61.	107.	147.	173.	172.	116.	0.	0.	1065.	132.	180.	102.	130.
NORTH	0.	0.	44.	52.	38.	46.	54.	60.	62.	60.	54.	46.	38.	52.	44.	0.	0.	651.	108.	137.	88.	105.
NORTHEAST	0.	0.	116.	172.	173.	147.	107.	61.	62.	60.	54.	46.	35.	23.	10.	0.	0.	1065.	132.	180.	102.	130.
EAST	0.	0.	125.	205.	226.	214.	178.	125.	62.	60.	54.	46.	35.	23.	10.	0.	0.	1361.	149.	210.	112.	148.
SOUTHEAST	0.	0.	67.	131.	168.	182.	176.	151.	110.	60.	54.	46.	35.	23.	10.	0.	0.	1212.	140.	195.	107.	139.
HORIZ.	0.	0.	37.	104.	173.	233.	280.	309.	319.	309.	280.	233.	173.	104.	37.	0.	0.	2590.	221.	338.	154.	222.

MONTH 6 HO 3740. TOD 79. TOT 75. KT .737 KD .131

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	1.	11.	23.	35.	58.	90.	111.	118.	111.	90.	58.	35.	23.	11.	1.	0.	780.	124.	158.	102.	122.
SOUTHWEST	0.	1.	11.	23.	35.	46.	54.	59.	101.	143.	170.	178.	165.	130.	71.	1.	0.	1189.	147.	199.	116.	147.
WEST	0.	1.	11.	23.	35.	46.	54.	59.	61.	126.	182.	220.	234.	215.	142.	2.	0.	1412.	160.	222.	123.	160.
NORTHWEST	0.	1.	11.	23.	35.	46.	54.	59.	61.	70.	119.	160.	187.	188.	137.	2.	0.	1153.	145.	196.	114.	145.
NORTH	0.	2.	58.	64.	51.	46.	54.	59.	61.	59.	54.	46.	51.	64.	58.	2.	0.	728.	121.	153.	100.	119.
NORTHEAST	0.	2.	137.	188.	187.	160.	119.	70.	61.	59.	54.	46.	35.	23.	11.	1.	0.	1153.	145.	196.	114.	145.
EAST	0.	2.	142.	215.	234.	220.	182.	126.	61.	59.	54.	46.	35.	23.	11.	1.	0.	1412.	160.	222.	123.	160.
SOUTHEAST	0.	1.	71.	130.	165.	178.	170.	143.	101.	59.	54.	46.	35.	23.	11.	1.	0.	1189.	147.	199.	116.	147.
HORIZ.	0.	2.	46.	115.	185.	246.	294.	324.	334.	324.	294.	246.	185.	115.	46.	2.	0.	2756.	237.	357.	169.	241.

LOCATION ALBUQUERQUE, N.M. LATITUDE 35 DEGREES 3 MINUTES

MONTH 7 HO 3628. TOD 83. TOT 79. KT .695 KD .150

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	10.	23.	36.	69.	100.	120.	127.	120.	100.	69.	36.	23.	10.	0.	0.	844.	132.	170.	108.	130.
SOUTHWEST	0.	0.	10.	23.	36.	47.	55.	60.	108.	146.	170.	176.	161.	125.	62.	0.	0.	1179.	152.	205.	119.	150.
WEST	0.	0.	10.	23.	36.	47.	55.	60.	62.	122.	172.	206.	217.	194.	116.	0.	0.	1321.	160.	219.	124.	159.
NORTHWEST	0.	0.	10.	23.	36.	47.	55.	60.	62.	62.	106.	143.	166.	164.	108.	0.	0.	1042.	144.	191.	115.	142.
NORTH	0.	0.	42.	51.	39.	47.	55.	60.	62.	60.	55.	47.	39.	51.	42.	0.	0.	651.	121.	150.	101.	118.
NORTHEAST	0.	0.	108.	164.	166.	143.	106.	62.	62.	60.	55.	47.	36.	23.	10.	0.	0.	1042.	144.	191.	115.	142.
EAST	0.	0.	116.	194.	217.	206.	172.	122.	62.	60.	55.	47.	36.	23.	10.	0.	0.	1321.	160.	219.	124.	159.
SOUTHEAST	0.	0.	62.	125.	161.	176.	170.	146.	108.	60.	55.	47.	36.	23.	10.	0.	0.	1179.	152.	205.	119.	150.
HORIZ.	0.	0.	36.	101.	168.	227.	272.	301.	311.	301.	272.	227.	168.	101.	36.	0.	0.	2521.	230.	344.	165.	231.

MONTH 8 HO 3298. TOD 81. TOT 77. KT .708 KD .145

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	5.	18.	56.	99.	134.	156.	164.	156.	134.	99.	56.	18.	5.	0.	0.	1103.	149.	202.	115.	144.
SOUTHWEST	0.	0.	5.	18.	31.	43.	52.	80.	133.	175.	200.	204.	185.	135.	41.	0.	0.	1303.	162.	224.	121.	156.
WEST	0.	0.	5.	18.	31.	43.	52.	57.	59.	125.	179.	215.	223.	189.	66.	0.	0.	1263.	159.	220.	120.	153.
NORTHWEST	0.	0.	5.	18.	31.	43.	52.	57.	59.	57.	84.	125.	149.	142.	56.	0.	0.	880.	136.	178.	107.	130.
NORTH	0.	0.	16.	23.	31.	43.	52.	57.	59.	57.	52.	43.	31.	23.	16.	0.	0.	504.	112.	136.	94.	107.
NORTHEAST	0.	0.	56.	142.	149.	125.	84.	57.	59.	57.	52.	43.	31.	18.	5.	0.	0.	880.	136.	178.	107.	130.
EAST	0.	0.	66.	189.	223.	215.	179.	125.	59.	57.	52.	43.	31.	18.	5.	0.	0.	1263.	159.	220.	120.	153.
SOUTHEAST	0.	0.	41.	135.	185.	204.	200.	175.	133.	80.	52.	43.	31.	18.	5.	0.	0.	1303.	162.	224.	121.	156.
HORIZ.	0.	0.	15.	80.	150.	214.	263.	294.	304.	294.	263.	214.	150.	80.	15.	0.	0.	2335.	226.	338.	157.	218.

MONTH 9 HO 2782. TOD 74. TOT 70. KT .728 KD .136

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	33.	89.	140.	180.	206.	215.	206.	180.	140.	89.	33.	0.	0.	0.	1512.	177.	255.	122.	161.
SOUTHWEST	0.	0.	0.	11.	24.	36.	45.	109.	167.	212.	239.	241.	212.	134.	0.	0.	0.	1431.	171.	246.	119.	156.
WEST	0.	0.	0.	11.	24.	36.	45.	51.	53.	124.	184.	221.	225.	163.	0.	0.	0.	1139.	151.	211.	109.	139.
NORTHWEST	0.	0.	0.	11.	24.	36.	45.	51.	53.	51.	48.	94.	121.	103.	0.	0.	0.	638.	117.	150.	92.	108.
NORTH	0.	0.	0.	11.	24.	36.	45.	51.	53.	51.	45.	36.	24.	11.	0.	0.	0.	390.	100.	121.	83.	93.
NORTHEAST	0.	0.	0.	103.	121.	94.	48.	51.	53.	51.	45.	36.	24.	11.	0.	0.	0.	638.	117.	150.	92.	108.
EAST	0.	0.	0.	163.	225.	221.	184.	124.	53.	51.	45.	36.	24.	11.	0.	0.	0.	1139.	151.	211.	109.	139.
SOUTHEAST	0.	0.	0.	134.	212.	241.	239.	212.	167.	109.	45.	36.	24.	11.	0.	0.	0.	1431.	171.	246.	119.	156.
HORIZ.	0.	0.	0.	47.	121.	188.	240.	273.	285.	273.	240.	188.	121.	47.	0.	0.	0.	2025.	211.	317.	139.	192.

LOCATION ALBUQUERQUE, N.M. LATITUDE 35 DEGREES 3 MINUTES

MONTH 10 HO 2199. TOD 62. TOT 58. KT .711 KD .144

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	26.	106.	167.	211.	238.	247.	238.	211.	167.	106.	26.	0.	0.	0.	1742.	184.	284.	114.	160.
SOUTHWEST	0.	0.	0.	5.	17.	29.	67.	131.	188.	231.	253.	249.	203.	68.	0.	0.	0.	1442.	163.	246.	104.	142.
WEST	0.	0.	0.	5.	17.	29.	39.	44.	46.	115.	170.	202.	191.	73.	0.	0.	0.	932.	127.	181.	88.	112.
NORTHWEST	0.	0.	0.	5.	17.	29.	39.	44.	46.	44.	39.	54.	77.	38.	0.	0.	0.	433.	92.	117.	72.	83.
NORTH	0.	0.	0.	5.	17.	29.	39.	44.	46.	44.	39.	29.	17.	5.	0.	0.	0.	315.	84.	102.	68.	77.
NORTHEAST	0.	0.	0.	38.	77.	54.	39.	44.	46.	44.	39.	29.	17.	5.	0.	0.	0.	433.	92.	117.	72.	83.
EAST	0.	0.	0.	73.	191.	202.	170.	115.	46.	44.	39.	29.	17.	5.	0.	0.	0.	932.	127.	181.	88.	112.
SOUTHEAST	0.	0.	0.	68.	203.	249.	253.	231.	188.	131.	67.	29.	17.	5.	0.	0.	0.	1442.	163.	246.	104.	142.
HORIZ.	0.	0.	0.	14.	79.	144.	196.	229.	240.	229.	196.	144.	79.	14.	0.	0.	0.	1563.	172.	261.	108.	149.

MONTH 11 HO 1687. TOD 48. TOT 44. KT .684 KD .153

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	97.	172.	220.	249.	258.	249.	220.	172.	97.	0.	0.	0.	0.	1736.	181.	290.	100.	145.
SOUTHWEST	0.	0.	0.	0.	11.	22.	81.	141.	194.	232.	249.	234.	163.	0.	0.	0.	0.	1329.	150.	233.	87.	121.
WEST	0.	0.	0.	0.	11.	22.	31.	37.	39.	102.	150.	173.	139.	0.	0.	0.	0.	705.	102.	146.	67.	85.
NORTHWEST	0.	0.	0.	0.	11.	22.	31.	37.	39.	37.	31.	23.	40.	0.	0.	0.	0.	273.	69.	86.	53.	60.
NORTH	0.	0.	0.	0.	11.	22.	31.	37.	39.	37.	31.	22.	11.	0.	0.	0.	0.	243.	66.	82.	52.	58.
NORTHEAST	0.	0.	0.	0.	40.	23.	31.	37.	39.	37.	31.	22.	11.	0.	0.	0.	0.	273.	69.	86.	53.	60.
EAST	0.	0.	0.	0.	139.	173.	150.	102.	39.	37.	31.	22.	11.	0.	0.	0.	0.	705.	102.	146.	67.	85.
SOUTHEAST	0.	0.	0.	0.	163.	234.	249.	232.	194.	141.	81.	22.	11.	0.	0.	0.	0.	1329.	150.	233.	87.	121.
HORIZ.	0.	0.	0.	0.	43.	103.	152.	183.	193.	183.	152.	103.	43.	0.	0.	0.	0.	1153.	136.	209.	81.	111.

MONTH 12 HO 1490. TOD 39. TOT 36. KT .704 KD .147

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	91.	182.	236.	267.	277.	267.	236.	182.	91.	0.	0.	0.	0.	1829.	185.	305.	95.	143.
SOUTHWEST	0.	0.	0.	0.	8.	27.	89.	152.	207.	246.	261.	241.	146.	0.	0.	0.	0.	1377.	149.	239.	80.	116.
WEST	0.	0.	0.	0.	8.	19.	28.	34.	36.	100.	150.	170.	120.	0.	0.	0.	0.	666.	93.	136.	57.	75.
NORTHWEST	0.	0.	0.	0.	8.	19.	28.	34.	36.	34.	28.	19.	29.	0.	0.	0.	0.	235.	58.	73.	44.	50.
NORTH	0.	0.	0.	0.	8.	19.	28.	34.	36.	34.	28.	19.	8.	0.	0.	0.	0.	214.	57.	71.	43.	48.
NORTHEAST	0.	0.	0.	0.	29.	19.	28.	34.	36.	34.	28.	19.	8.	0.	0.	0.	0.	235.	58.	73.	44.	50.
EAST	0.	0.	0.	0.	120.	170.	150.	100.	36.	34.	28.	19.	8.	0.	0.	0.	0.	666.	93.	136.	57.	75.
SOUTHEAST	0.	0.	0.	0.	146.	241.	261.	246.	207.	152.	89.	27.	8.	0.	0.	0.	0.	1377.	149.	239.	80.	116.
HORIZ.	0.	0.	0.	0.	31.	91.	140.	172.	183.	172.	140.	91.	31.	0.	0.	0.	0.	1051.	123.	192.	70.	97.

LOCATION ALBUQUERQUE, N.M. LATITUDE 35 DEGREES 3 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	176.	162.	147.	126.	120.	124.	132.	149.	177.	184.	181.	185.	155.
SOUTHWEST	144.	142.	142.	139.	140.	147.	152.	162.	171.	163.	150.	149.	150.
WEST	94.	109.	123.	137.	149.	160.	160.	159.	151.	127.	102.	93.	130.
NORTHWEST	58.	75.	91.	113.	132.	145.	144.	136.	117.	92.	69.	58.	102.
NORTH	56.	66.	75.	89.	108.	121.	121.	112.	100.	84.	66.	57.	88.
NORTHEAST	58.	75.	91.	113.	132.	145.	144.	136.	117.	92.	69.	58.	102.
EAST	94.	109.	123.	137.	149.	160.	160.	159.	151.	127.	102.	93.	130.
SOUTHEAST	144.	142.	142.	139.	140.	147.	152.	162.	171.	163.	150.	149.	150.
HORIZ.	129.	151.	179.	200.	221.	237.	230.	226.	211.	172.	136.	123.	185.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	290.	258.	226.	180.	158.	158.	170.	202.	255.	284.	290.	305.	231.
SOUTHWEST	230.	223.	217.	203.	195.	199.	205.	224.	246.	246.	233.	239.	222.
WEST	139.	162.	183.	199.	210.	222.	219.	220.	211.	181.	146.	136.	186.
NORTHWEST	76.	100.	125.	156.	180.	196.	191.	178.	150.	117.	86.	73.	136.
NORTH	71.	84.	96.	113.	137.	153.	150.	136.	121.	102.	82.	71.	110.
NORTHEAST	76.	100.	125.	156.	180.	196.	191.	178.	150.	117.	86.	73.	136.
EAST	139.	162.	183.	199.	210.	222.	219.	220.	211.	181.	146.	136.	186.
SOUTHEAST	230.	223.	217.	203.	195.	199.	205.	224.	246.	246.	233.	239.	222.
HORIZ.	204.	239.	284.	315.	338.	357.	344.	338.	317.	261.	209.	192.	283.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	92.	94.	95.	92.	95.	102.	108.	115.	122.	114.	100.	95.	102.
SOUTHWEST	78.	85.	92.	99.	107.	116.	119.	121.	119.	104.	87.	80.	101.
WEST	57.	69.	83.	98.	112.	123.	124.	120.	109.	88.	67.	57.	92.
NORTHWEST	43.	54.	67.	85.	102.	114.	115.	107.	92.	72.	53.	44.	79.
NORTH	42.	50.	59.	72.	88.	100.	101.	94.	83.	68.	52.	43.	71.
NORTHEAST	43.	54.	67.	85.	102.	114.	115.	107.	92.	72.	53.	44.	79.
EAST	57.	69.	83.	98.	112.	123.	124.	120.	109.	88.	67.	57.	92.
SOUTHEAST	78.	85.	92.	99.	107.	116.	119.	121.	119.	104.	87.	80.	101.
HORIZ.	72.	89.	111.	132.	154.	169.	165.	157.	139.	108.	81.	70.	121.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	139.	138.	134.	121.	117.	122.	130.	144.	161.	160.	145.	143.	138.
SOUTHWEST	115.	122.	130.	134.	139.	147.	150.	156.	156.	142.	121.	116.	136.
WEST	76.	94.	113.	132.	148.	160.	159.	153.	139.	112.	85.	75.	120.
NORTHWEST	50.	66.	84.	108.	130.	145.	142.	130.	108.	83.	60.	50.	96.
NORTH	48.	58.	69.	85.	105.	119.	118.	107.	93.	77.	58.	48.	82.
NORTHEAST	50.	66.	84.	108.	130.	145.	142.	130.	108.	83.	60.	50.	96.
EAST	76.	94.	113.	132.	148.	160.	159.	153.	139.	112.	85.	75.	120.
SOUTHEAST	115.	122.	130.	134.	139.	147.	150.	156.	156.	142.	121.	116.	136.
HORIZ.	103.	129.	163.	195.	222.	241.	231.	218.	192.	149.	111.	97.	171.

LOCATION ANNETTE IS., ALASKA LATITUDE 55 DEGREES 1 MINUTES

MONTH 1 HO 611. TOD 36. TOT 35. KT .427 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	0.	48.	104.	135.	145.	135.	104.	48.	0.	0.	0.	0.	0.	719.	106.	164.	5[illegible].	77.
SOUTHWEST	0.	0.	0.	0.	0.	9.	41.	78.	107.	122.	113.	63.	0.	0.	0.	0.	0.	533.	88.	131.	52.	66.
WEST	0.	0.	0.	0.	0.	6.	12.	15.	17.	46.	62.	44.	0.	0.	0.	0.	0.	202.	56.	72.	41.	46.
NORTHWEST	0.	0.	0.	0.	0.	6.	12.	15.	17.	15.	12.	6.	0.	0.	0.	0.	0.	82.	44.	50.	37.	39.
NORTH	0.	0.	0.	0.	0.	6.	12.	15.	17.	15.	12.	6.	0.	0.	0.	0.	0.	82.	44.	50.	37.	39.
NORTHEAST	0.	0.	0.	0.	0.	6.	12.	15.	17.	15.	12.	6.	0.	0.	0.	0.	0.	82.	44.	50.	37.	39.
EAST	0.	0.	0.	0.	0.	44.	62.	46.	17.	15.	12.	6.	0.	0.	0.	0.	0.	202.	56.	72.	41.	46.
SOUTHEAST	0.	0.	0.	0.	0.	63.	113.	122.	107.	78.	41.	9.	0.	0.	0.	0.	0.	533.	88.	131.	52.	66.
HORIZ.	0.	0.	0.	0.	0.	15.	36.	51.	56.	51.	36.	15.	0.	0.	0.	0.	0.	260.	61.	82.	43.	50.

MONTH 2 HO 1205. TOD 38. TOT 36. KT .415 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	36.	79.	109.	128.	134.	128.	109.	79.	36.	0.	0.	0.	0.	837.	102.	155.	63.	85.
SOUTHWEST	0.	0.	0.	0.	7.	15.	45.	76.	102.	118.	121.	106.	62.	0.	0.	0.	0.	654.	88.	129.	57.	74.
WEST	0.	0.	0.	0.	7.	15.	21.	24.	26.	54.	75.	81.	56.	0.	0.	0.	0.	358.	65.	88.	48.	57.
NORTHWEST	0.	0.	0.	0.	7.	15.	21.	24.	26.	24.	21.	16.	21.	0.	0.	0.	0.	175.	51.	62.	42.	46.
NORTH	0.	0.	0.	0.	7.	15.	21.	24.	26.	24.	21.	15.	7.	0.	0.	0.	0.	160.	50.	60.	41.	45.
NORTHEAST	0.	0.	0.	0.	21.	16.	21.	24.	26.	24.	21.	15.	7.	0.	0.	0.	0.	175.	51.	62.	42.	46.
EAST	0.	0.	0.	0.	56.	81.	75.	54.	26.	24.	21.	15.	7.	0.	0.	0.	0.	358.	65.	88.	48.	57.
SOUTHEAST	0.	0.	0.	0.	62.	106.	121.	118.	102.	76.	45.	15.	7.	0.	0.	0.	0.	654.	88.	129.	5[illegible].	74.
HORIZ.	0.	0.	0.	0.	19.	44.	66.	79.	84.	79.	66.	44.	19.	0.	0.	0.	0.	499.	76.	108.	52.	65.

MONTH 3 HO 1972. TOD 40. TOT 38. KT .492 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	24.	65.	104.	135.	154.	161.	154.	135.	104.	65.	24.	0.	0.	0.	1126.	112.	170.	74.	104.
SOUTHWEST	0.	0.	0.	9.	18.	26.	54.	92.	125.	147.	156.	149.	122.	68.	0.	0.	0.	967.	101.	152.	69.	94.
WEST	0.	0.	0.	9.	18.	26.	32.	36.	38.	75.	105.	122.	118.	78.	0.	0.	0.	658.	82.	116.	59.	76.
NORTHWEST	0.	0.	0.	9.	18.	26.	32.	36.	38.	36.	32.	39.	56.	47.	0.	0.	0.	370.	63.	83.	50.	60.
NORTH	0.	0.	0.	9.	18.	26.	32.	36.	38.	36.	32.	26.	18.	9.	0.	0.	0.	281.	58.	72.	47.	54.
NORTHEAST	0.	0.	0.	47.	56.	39.	32.	36.	38.	36.	32.	26.	18.	9.	0.	0.	0.	370.	63.	83.	50.	60.
EAST	0.	0.	0.	78.	118.	122.	105.	75.	38.	36.	32.	26.	18.	9.	0.	0.	0.	658.	82.	116.	59.	76.
SOUTHEAST	0.	0.	0.	68.	122.	149.	156.	147.	125.	92.	54.	26.	18.	9.	0.	0.	0.	967.	101.	152.	69.	94.
HORIZ.	0.	0.	0.	24.	58.	90.	115.	130.	136.	130.	115.	90.	58.	24.	0.	0.	0.	969.	102.	152.	69.	95.

LOCATION ANNETTE IS., ALASKA LATITUDE 55 DEGREES 1 MINUTES

MONTH 4 HO 2844. TOD 44. TOT 43. KT .507 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	1.	9.	29.	66.	101.	129.	147.	154.	147.	129.	101.	66.	29.	9.	1.	0.	1119.	104.	153.	78.	108.
SOUTHWEST	0.	1.	9.	19.	28.	36.	51.	90.	122.	145.	156.	153.	135.	101.	51.	1.	0.	1100.	103.	152.	78.	107.
WEST	0.	1.	9.	19.	28.	36.	42.	46.	47.	85.	116.	136.	141.	125.	77.	1.	0.	910.	93.	133.	72.	96.
NORTHWEST	0.	1.	9.	19.	28.	36.	42.	46.	47.	46.	42.	61.	81.	87.	63.	1.	0.	610.	77.	104.	62.	78.
NORTH	0.	1.	18.	19.	28.	36.	42.	46.	47.	46.	42.	36.	28.	19.	18.	1.	0.	426.	67.	86.	56.	67.
NORTHEAST	0.	1.	63.	87.	81.	61.	42.	46.	47.	46.	42.	36.	28.	19.	9.	1.	0.	610.	77.	104.	62.	78.
EAST	0.	1.	77.	125.	141.	136.	116.	85.	47.	46.	42.	36.	28.	19.	9.	1.	0.	910.	93.	133.	72.	96.
SOUTHEAST	0.	1.	51.	101.	135.	153.	156.	145.	122.	90.	51.	36.	28.	19.	9.	1.	0.	1100.	103.	152.	78.	107.
HORIZ.	0.	2.	26.	61.	97.	128.	153.	168.	173.	168.	153.	128.	97.	61.	26.	2.	0.	1442.	122.	185.	89.	127.

MONTH 5 HO 3481. TOD 51. TOT 49. KT .484 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	1.	8.	16.	25.	57.	88.	112.	127.	133.	127.	112.	88.	57.	25.	16.	8.	1.	1001.	102.	140.	83.	109.
SOUTHWEST	1.	8.	16.	25.	34.	41.	47.	80.	109.	129.	139.	137.	123.	98.	64.	24.	1.	1076.	105.	147.	86.	114.
WEST	1.	8.	16.	25.	34.	41.	47.	50.	51.	85.	112.	130.	137.	128.	101.	50.	1.	1017.	102.	142.	84.	110.
NORTHWEST	1.	8.	16.	25.	34.	41.	47.	50.	51.	50.	47.	71.	90.	98.	89.	51.	1.	769.	90.	120.	75.	95.
NORTH	1.	26.	34.	25.	34.	41.	47.	50.	51.	50.	47.	41.	34.	25.	34.	26.	1.	567.	80.	102.	68.	83.
NORTHEAST	1.	51.	89.	98.	90.	71.	47.	50.	51.	50.	47.	41.	34.	25.	16.	8.	1.	769.	90.	120.	75.	95.
EAST	1.	50.	101.	128.	137.	130.	112.	85.	51.	50.	47.	41.	34.	25.	16.	8.	1.	1017.	102.	142.	84.	110.
SOUTHEAST	1.	24.	64.	98.	123.	137.	139.	129.	109.	80.	47.	41.	34.	25.	16.	8.	1.	1076.	105.	147.	86.	114.
HORIZ.	1.	18.	49.	82.	115.	143.	165.	178.	183.	178.	165.	143.	115.	82.	49.	18.	1.	1684.	136.	201.	10-.	151.

MONTH 6 HO 3733. TOD 56. TOT 54. KT .441 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	3.	10.	18.	27.	51.	77.	97.	111.	115.	111.	97.	77.	51.	27.	18.	10.	3.	901.	99.	133.	85.	109.
SOUTHWEST	3.	10.	18.	27.	34.	41.	46.	72.	96.	113.	121.	120.	108.	87.	59.	27.	4.	987.	104.	140.	88.	114.
WEST	3.	10.	18.	27.	34.	41.	46.	50.	51.	79.	102.	117.	122.	115.	95.	57.	8.	974.	103.	139.	88.	113.
NORTHWEST	3.	10.	18.	27.	34.	41.	46.	50.	51.	50.	49.	70.	85.	92.	86.	59.	9.	780.	94.	122.	81.	101.
NORTH	7.	32.	37.	30.	34.	41.	46.	50.	51.	50.	46.	41.	34.	30.	37.	32.	7.	607.	85.	108.	75.	91.
NORTHEAST	9.	59.	86.	92.	85.	70.	49.	50.	51.	50.	46.	41.	34.	27.	18.	10.	3.	780.	94.	122.	81.	101.
EAST	8.	57.	95.	115.	122.	117.	102.	79.	51.	50.	46.	41.	34.	27.	18.	10.	3.	974.	103.	139.	88.	113.
SOUTHEAST	4.	27.	59.	87.	108.	120.	121.	113.	96.	72.	46.	41.	34.	27.	18.	10.	3.	987.	104.	140.	88.	114.
HORIZ.	5.	25.	53.	83.	111.	136.	156.	168.	172.	168.	156.	136.	111.	83.	53.	25.	5.	1647.	135.	196.	111.	154.

LOCATION ANNETTE IS., ALASKA LATITUDE 55 DEGREES 1 MINUTES

MONTH 7 HO 3485. TOD 59. TOT 57. KT .454 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	1.	8.	16.	25.	54.	82.	104.	118.	123.	118.	104.	82.	54.	25.	16.	8.	1.	936.	106.	142.	89.	113.
SOUTHWEST	1.	8.	16.	25.	33.	40.	45.	76.	102.	120.	128.	126.	113.	90.	58.	22.	1.	1003.	109.	148.	91.	117.
WEST	1.	8.	16	25.	33.	40.	45.	49.	50.	80.	104.	120.	126.	117.	91.	44.	1.	949.	106.	143.	89.	114.
NORTHWEST	1.	8.	16.	25.	33.	40.	45.	49.	50.	49.	46.	67.	84.	90.	81.	45.	1.	728.	95.	123.	82.	101.
NORTH	1.	24.	32.	25.	33.	40.	45.	49.	50.	49.	45.	40.	33.	25.	32.	24.	1.	546.	86.	107.	75.	90.
NORTHEAST	1.	45.	81.	90.	84.	67.	46.	49.	50.	49.	45.	40.	33.	25.	16.	8.	1.	728.	95.	123.	82.	101.
EAST	1.	44.	91.	117.	126.	120.	104.	80.	50.	49.	45.	40.	33.	25.	16.	8.	1.	949.	106.	143.	89.	114.
SOUTHEAST	1.	22.	58.	90.	113.	126.	128.	120.	102.	76.	45.	40.	33.	25.	16.	8.	1.	1003.	109.	148.	91.	117.
HORIZ.	1.	18.	46.	77.	107.	134.	154.	167.	172.	167.	154.	134.	107.	77.	46.	18.	1.	1582.	138.	199.	111.	152.

MONTH 8 HO 2827. TOD 60. TOT 58. KT .427 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	1.	9.	25.	54.	82.	105.	119.	124.	119.	105.	82.	54.	25.	9.	1.	0.	915.	112.	152.	89.	113.
SOUTHWEST	0.	1.	9.	18.	26.	33.	46.	76.	101.	118.	125.	121.	106.	78.	38.	1.	0.	896.	111.	150.	89.	112.
WEST	0.	1.	9.	18.	26.	33.	39.	42.	44.	72.	95.	109.	110.	96.	56.	1.	0.	752.	103.	136.	84.	103.
NORTHWEST	0.	1.	9.	18.	26.	33.	39.	42.	44.	42.	39.	52.	66.	68.	46.	1.	0.	527.	90.	113.	76.	90.
NORTH	0.	1.	15.	18.	26.	33.	39.	42.	44.	42.	39.	33.	26.	18.	15.	1.	0.	393.	82.	99.	71.	82.
NORTHEAST	0.	1.	46.	68.	66.	52.	39.	42.	44.	42.	39.	33.	26.	18.	9.	1.	0.	527.	90.	113.	76.	90.
EAST	0.	1.	56.	96.	110.	109.	95.	72.	44.	42.	39.	33.	26.	18.	9.	1.	0.	752.	103.	136.	84.	103.
SOUTHEAST	0.	1.	38.	78.	106.	121.	125.	118.	101.	76.	46.	33.	26.	18.	9.	1.	0.	896.	111.	150.	89.	112.
HORIZ.	0.	2.	22.	51.	81.	107.	128.	140.	145.	140.	128.	107.	81.	51.	22.	2.	0.	1207.	129.	182.	99.	131.

MONTH 9 HO 1972. TOD 55. TOT 53. KT .449 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	20.	57.	91.	119.	137.	143.	137.	119.	91.	57.	20.	0.	0.	0.	992.	122.	174.	87.	113.
SOUTHWEST	0.	0.	0.	9.	17.	25.	49.	83.	111.	131.	138.	130.	105.	56.	0.	0.	0.	855.	113.	157.	82.	105.
WEST	0.	0.	0.	9.	17.	25.	31.	35.	36.	68.	94.	107.	102.	64.	0.	0.	0.	589.	95.	125.	73.	89.
NORTHWEST	0.	0.	0.	9.	17.	25.	31.	35.	36.	35.	31.	36.	49.	40.	0.	0.	0.	344.	78.	96.	65.	74.
NORTH	0.	0.	0.	9.	17.	25.	31.	35.	36.	35.	31.	25.	17.	9.	0.	0.	0.	271.	73.	87.	62.	69.
NORTHEAST	0.	0.	0.	40.	49.	36.	31.	35.	36.	35.	31.	25.	17.	9.	0.	0.	0.	344.	78.	96.	65.	74.
EAST	0.	0.	0.	64.	102.	107.	94.	68.	36.	35.	31.	25.	17.	9.	0.	0.	0.	589.	95.	125.	73.	89.
SOUTHEAST	0.	0.	0.	56.	105.	130.	138.	131.	111.	83.	49.	25.	17.	9.	0.	0.	0.	855.	113.	157.	82.	105.
HORIZ.	0.	0.	1.	22.	53.	82.	104.	119.	124.	119.	104.	82.	53.	22.	1.	0.	0.	884.	115.	161.	83.	107.

LOCATION ANNETTE IS., ALASKA LATITUDE 55 DEGREES 1 MINUTES

MONTH 10 HO 1174. TOD 48. TOT 47. KT .347 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	25.	58.	82.	97.	102.	97.	82.	58.	25.	0.	0.	0.	0.	627.	97.	137.	67.	83.
SOUTHWEST	0.	0.	0.	0.	7.	14.	36.	60.	79.	90.	91.	78.	42.	0.	0.	0.	0.	496.	87.	118.	63.	76.
WEST	0.	0.	0.	0.	7.	14.	19.	22.	23.	44.	58.	59.	38.	0.	0.	0.	0.	283.	70.	88.	56.	63.
NORTHWEST	0.	0.	0.	0.	7.	14.	19.	22.	23.	22.	19.	14.	15.	0.	0.	0.	0.	156.	60.	70.	52.	56.
NORTH	0.	0.	0.	0.	7.	14.	19.	22.	23.	22.	19.	14.	7.	0.	0.	0.	0.	146.	60.	69.	52.	55.
NORTHEAST	0.	0.	0.	0.	15.	14.	19.	22.	23.	22.	19.	14.	7.	0.	0.	0.	0.	156.	60.	70.	52.	56.
EAST	0.	0.	0.	0.	38.	59.	58.	44.	23.	22.	19.	14.	7.	0.	0.	0.	0.	283.	70.	88.	56.	63.
SOUTHEAST	0.	0.	0.	0.	42.	78.	91.	90.	79.	60.	36.	14.	7.	0.	0.	0.	0.	496.	87.	118.	63.	76.
HORIZ.	0.	0.	0.	0.	15.	36.	53.	65.	68.	65.	53.	36.	15.	0.	0.	0.	0.	407.	80.	106.	60.	71.

MONTH 11 HO 602. TOD 42. TOT 41. KT .304 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	0.	26.	57.	75.	81.	75.	57.	26.	0.	0.	0.	0.	0.	397.	81.	113.	53.	64.
SOUTHWEST	0.	0.	0.	0.	0.	7.	25.	46.	61.	68.	62.	33.	0.	0.	0.	0.	0.	302.	72.	96.	50.	58.
WEST	0.	0.	0.	0.	0.	5.	10.	13.	14.	29.	36.	24.	0.	0.	0.	0.	0.	132.	55.	65.	45.	48.
NORTHWEST	0.	0.	0.	0.	0.	5.	10.	13.	14.	13.	10.	5.	0.	0.	0.	0.	0.	72.	49.	55.	43.	45.
NORTH	0.	0.	0.	0.	0.	5.	10.	13.	14.	13.	10.	5.	0.	0.	0.	0.	0.	72.	49.	55.	43.	45.
NORTHEAST	0.	0.	0.	0.	0.	5.	10.	13.	14.	13.	10.	5.	0.	0.	0.	0.	0.	72.	49.	55.	43.	45.
EAST	0.	0.	0.	0.	0.	24.	36.	29.	14.	13.	10.	5.	0.	0.	0.	0.	0.	132.	55.	65.	45.	48.
SOUTHEAST	0.	0.	0.	0.	0.	33.	62.	68.	61.	46.	25.	7.	0.	0.	0.	0.	0.	302.	72.	96.	50.	58.
HORIZ.	0.	0.	0.	0.	0.	11.	25.	35.	39.	35.	25.	11.	0.	0.	0.	0.	0.	182.	60.	74.	47.	51.

MONTH 12 HO 413. TOD 37. TOT 36. KT .361 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	0.	9.	68.	102.	112.	102.	68.	9.	0.	0.	0.	0.	0.	470.	90.	133.	51.	64.
SOUTHWEST	0.	0.	0.	0.	0.	3.	28.	59.	83.	91.	73.	12.	0.	0.	0.	0.	0.	348.	76.	108.	47.	56.
WEST	0.	0.	0.	0.	0.	2.	7.	11.	12.	33.	39.	8.	0.	0.	0.	0.	0.	113.	50.	60.	40.	43.
NORTHWEST	0.	0.	0.	0.	0.	2.	7.	11.	12.	11.	7.	2.	0.	0.	0.	0.	0.	53.	43.	48.	38.	39.
NORTH	0.	0.	0.	0.	0.	2.	7.	11.	12.	11.	7.	2.	0.	0.	0.	0.	0.	53.	43.	48.	38.	39.
NORTHEAST	0.	0.	0.	0.	0.	2.	7.	11.	12.	11.	7.	2.	0.	0.	0.	0.	0.	53.	43.	48.	38.	39.
EAST	0.	0.	0.	0.	0.	8.	39.	33.	12.	11.	7.	2.	0.	0.	0.	0.	0.	113.	50.	60.	40.	43.
SOUTHEAST	0.	0.	0.	0.	0.	12.	73.	91.	83.	59.	28.	3.	0.	0.	0.	0.	0.	348.	76.	108.	47.	56.
HORIZ.	0.	0.	0.	0.	0.	4.	20.	32.	37.	32.	20.	4.	0.	0.	0.	0.	0.	149.	54.	68.	41.	45.

LOCATION ANNETTE IS., ALASKA LATITUDE 55 DEGREES 1 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	106.	102.	112.	104.	102.	99.	106.	112.	122.	97.	81.	90.	103.
SOUTHWEST	88.	88.	101.	103.	105.	104.	109.	111.	113.	87.	72.	76.	96.
WEST	56.	65.	82.	93.	102.	103.	106.	103.	95.	70.	55.	50.	82.
NORTHWEST	44.	51.	63.	77.	90.	94.	95.	90.	78.	60.	49.	43.	70.
NORTH	44.	50.	58.	67.	80.	85.	86.	82.	73.	60.	49.	43.	65.
NORTHEAST	44.	51.	63.	77.	90.	94.	95.	90.	78.	60.	49.	43.	70.
EAST	56.	65.	82.	93.	102.	103.	106.	103.	95.	70.	55.	50.	82.
SOUTHEAST	88.	88.	101.	103.	105.	104.	109.	111.	113.	87.	72.	76.	96.
HORIZ.	61.	76.	102.	122.	136.	135.	138.	129.	115.	80.	60.	54.	101.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	164.	155.	170.	153.	140.	133.	142.	152.	174.	137.	113.	133.	147.
SOUTHWEST	131.	129.	152.	152.	147.	140.	148.	150.	157.	118.	96.	108.	136.
WEST	72.	88.	116.	133.	142.	139.	143.	136.	125.	88.	65.	60.	109.
NORTHWEST	50.	62.	83.	104.	120.	122.	123.	113.	96.	70.	55.	48.	87.
NORTH	50.	60.	72.	86.	102.	108.	107.	99.	87.	69.	55.	48.	79.
NORTHEAST	50.	62.	83.	104.	120.	122.	123.	113.	96.	70.	55.	48.	87.
EAST	72.	88.	116.	133.	142.	139.	143.	136.	125.	88.	65.	60.	109.
SOUTHEAST	131.	129.	152.	152.	147.	140.	148.	150.	157.	118.	96.	108.	136.
HORIZ.	82.	108.	152.	185.	201.	196.	199.	182.	161.	106.	74.	68.	143.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	58.	63.	74.	78.	83.	85.	89.	89.	87.	67.	53.	51.	73.
SOUTHWEST	52.	57.	69.	78.	86.	88.	91.	89.	82.	63.	50.	47.	71.
WEST	41.	48.	59.	72.	84.	88.	89.	84.	73.	56.	45.	40.	65.
NORTHWEST	37.	42.	50.	62.	75.	81.	82.	76.	65.	52.	43.	38.	59.
NORTH	37.	41.	47.	56.	68.	75.	75.	71.	62.	52.	43.	38.	56.
NORTHEAST	37.	42.	50.	62.	75.	81.	82.	76.	65.	52.	43.	38.	59.
EAST	41.	48.	59.	72.	84.	88.	89.	84.	73.	56.	45.	40.	65.
SOUTHEAST	52.	57.	69.	78.	86.	88.	91.	89.	82.	63.	50.	47.	71.
HORIZ.	43.	52.	69.	89.	107.	111.	111.	99.	83.	60.	47.	41.	76.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	77.	85.	104.	108.	109.	109.	113.	113.	113.	83.	64.	64.	95.
SOUTHWEST	66.	74.	94.	107.	114.	114.	117.	112.	105.	76.	58.	56.	91.
WEST	46.	57.	76.	96.	110.	113.	114.	103.	89.	63.	48.	43.	80.
NORTHWEST	39.	46.	60.	78.	95.	101.	101.	90.	74.	56.	45.	39.	69.
NORTH	39.	45.	54.	67.	83.	91.	90.	82.	69.	55.	45.	39.	63.
NORTHEAST	39.	46.	60.	78.	95.	101.	101.	90.	74.	56.	45.	39.	69.
EAST	46.	57.	76.	96.	110.	113.	114.	103.	89.	63.	48.	43.	80.
SOUTHEAST	66.	74.	94.	107.	114.	114.	117.	112.	105.	76.	58.	56.	91.
HORIZ.	50.	65.	95.	127.	151.	154.	152.	131.	107.	71.	51.	45.	100.

LOCATION APALACHICOLA, FLORIDA LATITUDE 29 DEGREES 45 MINUTES

MONTH 1 HO 1981. TOD 57. TOT 55. KT .577 KD .177

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	6.	87.	137.	170.	190.	196.	190.	170.	137.	87.	6.	0.	0.	0.	1375.	159.	242.	9[illegible].	135.
SOUTHWEST	0.	0.	0.	2.	15.	27.	67.	112.	152.	180.	194.	187.	145.	11.	0.	0.	0.	1093.	138.	204.	90.	119.
WEST	0.	0.	0.	2.	15.	27.	36.	42.	44.	90.	126.	144.	127.	10.	0.	0.	0.	664.	106.	146.	77.	94.
NORTHWEST	0.	0.	0.	2.	15.	27.	36.	42.	44.	42.	36.	32.	43.	5.	0.	0.	0.	326.	81.	101.	66.	74.
NORTH	0.	0.	0.	2.	15.	27.	36.	42.	44.	42.	36.	27.	15.	2.	0.	0.	0.	290.	79.	96.	64.	72.
NORTHEAST	0.	0.	0.	5.	43.	32.	36.	42.	44.	42.	36.	27.	15.	2.	0.	0.	0.	326.	81.	101.	66.	74.
EAST	0.	0.	0.	10.	127.	144.	126.	90.	44.	42.	36.	27.	15.	2.	0.	0.	0.	664.	106.	146.	77.	94.
SOUTHEAST	0.	0.	0.	11.	145.	187.	194.	180.	152.	112.	67.	27.	15.	2.	0.	0.	0.	1093.	138.	204.	90.	119.
HORIZ.	0.	0.	0.	4.	52.	105.	146.	173.	182.	173.	146.	105.	52.	4.	0.	0.	0.	1141.	142.	211.	92.	122.

MONTH 2 HO 2471. TOD 59. TOT 57. KT .584 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	30.	85.	125.	156.	174.	181.	174.	156.	125.	85.	30.	0.	0.	0.	1320.	150.	224.	99.	134.
SOUTHWEST	0.	0.	0.	7.	21.	34.	56.	102.	143.	173.	190.	188.	161.	77.	0.	0.	0.	1153.	138.	203.	94.	124.
WEST	0.	0.	0.	7.	21.	34.	44.	50.	52.	100.	138.	161.	155.	83.	0.	0.	0.	845.	117.	165.	84.	106.
NORTHWEST	0.	0.	0.	7.	21.	34.	44.	50.	52.	50.	44.	59.	71.	45.	0.	0.	0.	476.	92.	118.	72.	85.
NORTH	0.	0.	0.	7.	21.	34.	44.	50.	52.	50.	44.	34.	21.	7.	0.	0.	0.	363.	84.	104.	69.	78.
NORTHEAST	0.	0.	0.	45.	71.	59.	44.	50.	52.	50.	44.	34.	21.	7.	0.	0.	0.	476.	92.	118.	72.	85.
EAST	0.	0.	0.	83.	155.	161.	138.	100.	52.	50.	44.	34.	21.	7.	0.	0.	0.	845.	117.	165.	84.	106.
SOUTHEAST	0.	0.	0.	77.	161.	188.	190.	173.	143.	102.	56.	34.	21.	7.	0.	0.	0.	1153.	138.	203.	94.	124.
HORIZ.	0.	0.	0.	21.	80.	134.	177.	204.	213.	204.	177.	134.	80.	21.	0.	0.	0.	1445.	158.	240.	103.	141.

MONTH 3 HO 2964. TOD 63. TOT 61. KT .576 KD .177

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	28.	67.	102.	129.	146.	152.	146.	129.	102.	67.	28.	0.	0.	0.	1096.	133.	190.	96.	125.
SOUTHWEST	0.	0.	0.	13.	28.	40.	50.	85.	125.	155.	172.	173.	154.	102.	0.	0.	0.	1096.	133.	190.	96.	125.
WEST	0.	0.	0.	13.	28.	40.	50.	56.	58.	105.	143.	166.	167.	125.	0.	0.	0.	952.	124.	174.	91.	116.
NORTHWEST	0.	0.	0.	13.	28.	40.	50.	56.	58.	56.	60.	86.	98.	82.	0.	0.	0.	627.	103.	136.	81.	97.
NORTH	0.	0.	0.	13.	28.	40.	50.	56.	58.	56.	50.	40.	28.	13.	0.	0.	0.	432.	91.	113.	75.	86.
NORTHEAST	0.	0.	0.	82.	98.	86.	60.	56.	58.	56.	50.	40.	28.	13.	0.	0.	0.	627.	103.	136.	81.	97.
EAST	0.	0.	0.	125.	167.	166.	143.	105.	58.	56.	50.	40.	28.	13.	0.	0.	0.	952.	124.	174.	91.	116.
SOUTHEAST	0.	0.	0.	102.	154.	173.	172.	155.	125.	85.	50.	40.	28.	13.	0.	0.	0.	1096.	133.	190.	96.	125.
HORIZ.	0.	0.	0.	44.	105.	159.	200.	227.	236.	227.	200.	159.	105.	44.	0.	0.	0.	1706.	172.	261.	116.	160.

LOCATION APALACHICOLA, FLORIDA LATITUDE 29 DEGREES 45 MINUTES

MONTH 4 HO 3391. TOD 69. TOT 67. KT .612 KD .171

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	5.	19.	44.	77.	104.	121.	127.	121.	104.	77.	44.	19.	5.	0.	0.	868.	121.	163.	95.	118.
SOUTHWEST	0.	0.	5.	19.	33.	45.	55.	66.	108.	140.	160.	164.	149.	110.	30.	0.	0.	1085.	134.	187.	102.	131.
WEST	0.	0.	5.	19.	33.	45.	55.	61.	63.	113.	155.	181.	186.	156.	48.	0.	0.	1119.	136.	191.	103.	133.
NORTHWEST	0.	0.	5.	19.	33.	45.	55.	61.	63.	61.	91.	118.	133.	121.	41.	0.	0.	845.	120.	161.	95.	117.
NORTH	0.	0.	13.	27.	33.	45.	55.	61.	63.	61.	55.	45.	33.	27.	13.	0.	0.	529.	101.	127.	84.	98.
NORTHEAST	0.	0.	41.	121.	133.	118.	91.	61.	63.	61.	55.	45.	33.	19.	5.	0.	0.	845.	120.	161.	95.	117.
EAST	0.	0.	48.	156.	186.	181.	155.	113.	63.	61.	55.	45.	33.	19.	5.	0.	0.	1119.	136.	191.	103.	133.
SOUTHEAST	0.	0.	30.	110.	149.	164.	160.	140.	108.	66.	55.	45.	33.	19.	5.	0.	0.	1085.	134.	187.	102.	131.
HORIZ.	0.	0.	12.	71.	134.	190.	234.	261.	271.	261.	234.	190.	134.	71.	12.	0.	0.	2075.	193.	294.	134.	188.

MONTH 5 HO 3621. TOD 76. TOT 74. KT .630 KD .167

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	9.	23.	36.	53.	78.	94.	100.	94.	78.	53.	36.	23.	9.	0.	0.	686.	118.	149.	98.	116.
SOUTHWEST	0.	0.	9.	23.	36.	47.	56.	62.	89.	122.	142.	148.	136.	104.	47.	0.	0.	1021.	138.	185.	109.	136.
WEST	0.	0.	9.	23.	36.	47.	56.	62.	64.	115.	156.	183.	190.	167.	88.	0.	0.	1196.	148.	204.	115.	147.
NORTHWEST	0.	0.	9.	23.	36.	47.	56.	62.	64.	76.	111.	139.	154.	145.	83.	0.	0.	1005.	137.	183.	109.	135.
NORTH	0.	0.	34.	51.	49.	47.	56.	62.	64.	62.	56.	47.	49.	51.	34.	0.	0.	663.	116.	147.	97.	114.
NORTHEAST	0.	0.	83.	145.	154.	139.	111.	76.	64.	62.	56.	47.	36.	23.	9.	0.	0.	1005.	137.	183.	109.	135.
EAST	0.	0.	88.	167.	190.	183.	156.	115.	64.	62.	56.	47.	36.	23.	9.	0.	0.	1196.	148.	204.	115.	147.
SOUTHEAST	0.	0.	47.	104.	136.	148.	142.	122.	89.	62.	56.	47.	36.	23.	9.	0.	0.	1021.	138.	185.	109.	136.
HORIZ.	0.	0.	27.	88.	151.	206.	249.	276.	286.	276.	249.	206.	151.	88.	27.	0.	0.	2283.	214.	319.	152.	212.

MONTH 6 HO 3695. TOD 82. TOT 80. KT .594 KD .175

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	11.	24.	37.	48.	66.	81.	86.	81.	66.	48.	37.	24.	11.	0.	0.	619.	118.	146.	101.	117.
SOUTHWEST	0.	0.	11.	24.	37.	48.	57.	62.	79.	108.	126.	130.	119.	92.	45.	0.	0.	937.	137.	179.	112.	137.
WEST	0.	0.	11.	24.	37.	48.	57.	62.	64.	109.	145.	168.	173.	153.	89.	0.	0.	1139.	149.	201.	119.	149.
NORTHWEST	0.	0.	11.	24.	37.	48.	57.	62.	64.	82.	112.	136.	147.	139.	87.	0.	0.	1006.	141.	187.	114.	141.
NORTH	0.	0.	40.	57.	57.	53.	57.	62.	64.	62.	57.	53.	57.	57.	40.	0.	0.	716.	124.	156.	104.	123.
NORTHEAST	0.	0.	87.	139.	147.	136.	112.	82.	64.	62.	57.	48.	37.	24.	11.	0.	0.	1006.	141.	187.	114.	141.
EAST	0.	0.	89.	153.	173.	168.	145.	109.	64.	62.	57.	48.	37.	24.	11.	0.	0.	1139.	149.	201.	119.	149.
SOUTHEAST	0.	0.	45.	92.	119.	130.	126.	108.	79.	62.	57.	48.	37.	24.	11.	0.	0.	937.	137.	179.	112.	137.
HORIZ.	0.	0.	32.	89.	147.	197.	237.	261.	270.	261.	237.	197.	147.	89.	32.	0.	0.	2194.	211.	310.	155.	212.

LOCATION APALACHICOLA, FLORIDA LATITUDE 29 DEGREES 45 MINUTES

MONTH 7 HO 3614. TOD 83. TOT 81. KT .542 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	9.	23.	36.	51.	72.	86.	90.	86.	72.	51.	36.	23.	9.	0.	0.	643.	122.	151.	103.	120.
SOUTHWEST	0.	0.	9.	23.	36.	47.	56.	61.	82.	107.	122.	124.	112.	85.	38.	0.	0.	901.	137.	179.	112.	136.
WEST	0.	0.	9.	23.	36.	47.	56.	61.	63.	102.	133.	152.	154.	133.	68.	0.	0.	1036.	145.	193.	117.	144.
NORTHWEST	0.	0.	9.	23.	36.	47.	56.	61.	63.	73.	99.	118.	127.	116.	65.	0.	0.	891.	137.	178.	112.	135.
NORTH	0.	0.	28.	45.	46.	47.	56.	61.	63.	61.	56.	47.	46.	45.	28.	0.	0.	628.	121.	150.	103.	119.
NORTHEAST	0.	0.	65.	116.	127.	118.	99.	73.	63.	61.	56.	47.	36.	23.	9.	0.	0.	891.	137.	178.	112.	135.
EAST	0.	0.	68.	133.	154.	152.	133.	102.	63.	61.	56.	47.	36.	23.	9.	0.	0.	1036.	145.	193.	117.	144.
SOUTHEAST	0.	0.	38.	85.	112.	124.	122.	107.	82.	61.	56.	47.	36.	23.	9.	0.	0.	901.	137.	179.	112.	136.
HORIZ.	0.	0.	24.	77.	130.	177.	213.	236.	244.	236.	213.	177.	130.	77.	24.	0.	0.	1960.	201.	291.	148.	200.

MONTH 8 HO 3365. TOD 83. TOT 81. KT .558 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	5.	19.	42.	72.	95.	111.	116.	111.	95.	72.	42.	19.	5.	0.	0.	804.	134.	173.	109.	130.
SOUTHWEST	0.	0.	5.	19.	33.	45.	54.	64.	100.	128.	144.	145.	130.	94.	23.	0.	0.	982.	145.	193.	115.	141.
WEST	0.	0.	5.	19.	33.	45.	54.	60.	62.	105.	139.	160.	161.	131.	36.	0.	0.	1009.	147.	196.	116.	142.
NORTHWEST	0.	0.	5.	19.	33.	45.	54.	60.	62.	60.	85.	107.	117.	103.	31.	0.	0.	779.	133.	170.	108.	128.
NORTH	0.	0.	11.	26.	33.	45.	54.	60.	62.	60.	54.	45.	33.	26.	11.	0.	0.	516.	116.	141.	99.	112.
NORTHEAST	0.	0.	31.	103.	117.	107.	85.	60.	62.	60.	54.	45.	33.	19.	5.	0.	0.	779.	133.	170.	108.	128.
EAST	0.	0.	36.	131.	161.	160.	139.	105.	62.	60.	54.	45.	33.	19.	5.	0.	0.	1009.	147.	196.	116.	142.
SOUTHEAST	0.	0.	23.	94.	130.	145.	144.	128.	100.	64.	54.	45.	33.	19.	5.	0.	0.	982.	145.	193.	115.	141.
HORIZ.	0.	0.	11.	64.	121.	172.	212.	237.	245.	237.	212.	172.	121.	64.	11.	0.	0.	1878.	202.	294.	146.	195.

MONTH 9 HO 2944. TOD 81. TOT 79. KT .559 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	26.	63.	97.	123.	140.	146.	140.	123.	97.	63.	26.	0.	0.	0.	1045.	152.	206.	115.	142.
SOUTHWEST	0.	0.	0.	13.	27.	40.	49.	82.	120.	148.	164.	164.	144.	93.	0.	0.	0.	1045.	152.	206.	115.	142.
WEST	0.	0.	0.	13.	27.	40.	49.	55.	57.	102.	138.	158.	156.	113.	0.	0.	0.	910.	143.	190.	110.	134.
NORTHWEST	0.	0.	0.	13.	27.	40.	49.	55.	57.	55.	59.	83.	94.	75.	0.	0.	0.	609.	122.	154.	100.	116.
NORTH	0.	0.	0.	13.	27.	40.	49.	55.	57.	55.	49.	40.	27.	13.	0.	0.	0.	428.	110.	132.	94.	105.
NORTHEAST	0.	0.	0.	75.	94.	83.	59.	55.	57.	55.	49.	40.	27.	13.	0.	0.	0.	609.	122.	154.	100.	116.
EAST	0.	0.	0.	113.	156.	158.	138.	102.	57.	55.	49.	40.	27.	13.	0.	0.	0.	910.	143.	190.	110.	134.
SOUTHEAST	0.	0.	0.	93.	144.	164.	164.	148.	120.	82.	49.	40.	27.	13.	0.	0.	0.	1045.	152.	206.	115.	142.
HORIZ.	0.	0.	0.	42.	100.	153.	193.	219.	228.	219.	193.	153.	100.	42.	0.	0.	0.	1644.	193.	279.	135.	178.

LOCATION APALACHICOLA, FLORIDA LATITUDE 29 DEGREES 45 MINUTES

MONTH 10 HO 2437. TOD 73. TOT 71. KT .608 KD .172

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	29.	87.	131.	163.	183.	190.	183.	163.	131.	87.	29.	0.	0.	0.	1378.	168.	246.	115.	151.
SOUTHWEST	0.	0.	0.	7.	21.	33.	57.	106.	150.	182.	200.	197.	166.	73.	0.	0.	0.	1191.	155.	222.	109.	140.
WEST	0.	0.	0.	7.	21.	33.	43.	49.	51.	103.	144.	167.	160.	78.	0.	0.	0.	858.	132.	181.	99.	121.
NORTHWEST	0.	0.	0.	7.	21.	33.	43.	49.	51.	49.	43.	59.	72.	42.	0.	0.	0.	471.	106.	132.	86.	98.
NORTH	0.	0.	0.	7.	21.	33.	43.	49.	51.	49.	43.	33.	21.	7.	0.	0.	0.	359.	98.	118.	83.	92.
NORTHEAST	0.	0.	0.	42.	72.	59.	43.	49.	51.	49.	43.	33.	21.	7.	0.	0.	0.	471.	106.	132.	86.	98.
EAST	0.	0.	0.	78.	160.	167.	144.	103.	51.	49.	43.	33.	21.	7.	0.	0.	0.	858.	132.	181.	99.	121.
SOUTHEAST	0.	0.	0.	73.	166.	197.	200.	182.	150.	106.	57.	33.	21.	7.	0.	0.	0.	1191.	155.	222.	109.	140.
HORIZ.	0.	0.	0.	20.	80.	138.	183.	211.	221.	211.	183.	138.	80.	20.	0.	0.	0.	1483.	175.	259.	119.	157.

MONTH 11 HO 1968. TOD 64. TOT 61. KT .574 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	5.	85.	135.	168.	188.	195.	188.	168.	135.	85.	5.	0.	0.	0.	1359.	164.	246.	105.	141.
SOUTHWEST	0.	0.	0.	2.	15.	27.	67.	112.	151.	179.	192.	185.	142.	9.	0.	0.	0.	1079.	144.	209.	96.	124.
WEST	0.	0.	0.	2.	15.	27.	36.	42.	44.	90.	125.	142.	123.	8.	0.	0.	0.	654.	112.	152.	82.	99.
NORTHWEST	0.	0.	0.	2.	15.	27.	36.	42.	44.	42.	36.	31.	42.	4.	0.	0.	0.	321.	87.	107.	72.	80.
NORTH	0.	0.	0.	2.	15.	27.	36.	42.	44.	42.	36.	27.	15.	2.	0.	0.	0.	288.	85.	102.	71.	78.
NORTHEAST	0.	0.	0.	4.	42.	31.	36.	42.	44.	42.	36.	27.	15.	2.	0.	0.	0.	321.	87.	107.	72.	80.
EAST	0.	0.	0.	8.	123.	142.	125.	90.	44.	42.	36.	27.	15.	2.	0.	0.	0.	654.	112.	152.	82.	99.
SOUTHEAST	0.	0.	0.	9.	142.	185.	192.	179.	151.	112.	67.	27.	15.	2.	0.	0.	0.	1079.	144.	209.	96.	124.
HORIZ.	0.	0.	0.	4.	51.	103.	145.	171.	180.	171.	145.	103.	51.	4.	0.	0.	0.	1128.	147.	215.	98.	127.

MONTH 12 HO 1782. TOD 59. TOT 56. KT .543 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	77.	128.	161.	180.	186.	180.	161.	128.	77.	0.	0.	0.	0.	1279.	156.	236.	97.	131.
SOUTHWEST	0.	0.	0.	0.	12.	26.	67.	108.	144.	169.	179.	169.	122.	0.	0.	0.	0.	998.	135.	197.	8 .	114.
WEST	0.	0.	0.	0.	12.	24.	33.	39.	41.	81.	112.	125.	102.	0.	0.	0.	0.	571.	102.	138.	75.	90.
NORTHWEST	0.	0.	0.	0.	12.	24.	33.	39.	41.	39.	33.	24.	30.	0.	0.	0.	0.	275.	80.	97.	65.	72.
NORTH	0.	0.	0.	0.	12.	24.	33.	39.	41.	39.	33.	24.	12.	0.	0.	0.	0.	258.	78.	94.	65.	71.
NORTHEAST	0.	0.	0.	0.	30.	24.	33.	39.	41.	39.	33.	24.	12.	0.	0.	0.	0.	275.	80.	97.	65.	72.
EAST	0.	0.	0.	0.	102.	125.	112.	81.	41.	39.	33.	24.	12.	0.	0.	0.	0.	571.	102.	138.	75.	90.
SOUTHEAST	0.	0.	0.	0.	122.	169.	179.	169.	144.	108.	67.	26.	12.	0.	0.	0.	0.	998.	135.	197.	88.	114.
HORIZ.	0.	0.	0.	1.	39.	87.	126.	150.	159.	150.	126.	87.	39.	1.	0.	0.	0.	966.	132.	192.	87.	113.

LOCATION APALACHICOLA, FLORIDA LATITUDE 29 DEGREES 45 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	159.	150.	133.	121.	118.	118.	122.	134.	152.	168.	164.	156.	141.
SOUTHWEST	138.	138.	133.	134.	138.	137.	137.	145.	152.	155.	144.	135.	141.
WEST	106.	117.	124.	136.	148.	149.	145.	147.	143.	132.	112.	102.	130.
NORTHWEST	81.	92.	103.	120.	137.	141.	137.	133.	122.	106.	87.	80.	112.
NORTH	79.	84.	91.	101.	116.	124.	121.	116.	110.	98.	85.	78.	100.
NORTHEAST	81.	92.	103.	120.	137.	141.	137.	133.	122.	106.	87.	80.	112.
EAST	106.	117.	124.	136.	148.	149.	145.	147.	143.	132.	112.	102.	130.
SOUTHEAST	138.	138.	133.	134.	138.	137.	137.	145.	152.	155.	144.	135.	141.
HORIZ.	142.	158.	172.	193.	214.	211.	201.	202.	193.	175.	147.	132.	178.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	242.	224.	190.	163.	149.	146.	151.	173.	206.	246.	246.	236.	198.
SOUTHWEST	204.	203.	190.	187.	185.	179.	179.	193.	206.	222.	209.	197.	196.
WEST	146.	165.	174.	191.	204.	201.	193.	196.	190.	181.	152.	138.	177.
NORTHWEST	101.	118.	136.	161.	183.	187.	178.	170.	154.	132.	107.	97.	144.
NORTH	96.	104.	113.	127.	147.	156.	150.	141.	132.	118.	102.	94.	123.
NORTHEAST	101.	118.	136.	161.	183.	187.	178.	170.	154.	132.	107.	97.	144.
EAST	146.	165.	174.	191.	204.	201.	193.	196.	190.	181.	152.	138.	177.
SOUTHEAST	204.	203.	190.	187.	185.	179.	179.	193.	206.	222.	209.	197.	196.
HORIZ.	211.	240.	261.	294.	319.	310.	291.	294.	279.	259.	215.	192.	264.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	99.	99.	96.	95.	98.	101.	103.	109.	115.	115.	105.	97.	103.
SOUTHWEST	90.	94.	96.	102.	109.	112.	112.	115.	115.	109.	96.	88.	103.
WEST	77.	84.	91.	103.	115.	119.	117.	116.	110.	99.	82.	75.	99.
NORTHWEST	66.	72.	81.	95.	109.	114.	112.	108.	100.	86.	72.	65.	90.
NORTH	64.	69.	75.	84.	97.	104.	103.	99.	94.	83.	71.	65.	84.
NORTHEAST	66.	72.	81.	95.	109.	114.	112.	108.	100.	86.	72.	65.	90.
EAST	77.	84.	91.	103.	115.	119.	117.	116.	110.	99.	82.	75.	99.
SOUTHEAST	90.	94.	96.	102.	109.	112.	112.	115.	115.	109.	96.	88.	103.
HORIZ.	92.	103.	116.	134.	152.	155.	148.	146.	135.	119.	98.	87.	124.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	135.	134.	125.	118.	116.	117.	120.	130.	142.	151.	141.	131.	130.
SOUTHWEST	119.	124.	125.	131.	136.	137.	136.	141.	142.	140.	124.	114.	131.
WEST	94.	106.	116.	133.	147.	149.	144.	142.	134.	121.	99.	90.	123.
NORTHWEST	74.	85.	97.	117.	135.	141.	135.	128.	116.	98.	80.	72.	107.
NORTH	72.	78.	86.	98.	114.	123.	119.	112.	105.	92.	78.	71.	96.
NORTHEAST	74.	85.	97.	117.	135.	141.	135.	128.	116.	98.	80.	72.	107.
EAST	94.	106.	116.	133.	147.	149.	144.	142.	134.	121.	99.	90.	123.
SOUTHEAST	119.	124.	125.	131.	136.	137.	136.	141.	142.	140.	124.	114.	131.
HORIZ.	122.	141.	160.	188.	212.	212.	200.	195.	178.	157.	127.	113.	167.

LOCATION ASTORIA, OREGON LATITUDE 46 DEGREES 11 MINUTES

MONTH 1 HO 1088. TOD 41. TOT 40. KT .330 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	15.	53.	76.	90.	94.	90.	76.	53.	15.	0.	0.	0.	0.	561.	89.	128.	58.	73.
SOUTHWEST	0.	0.	0.	0.	4.	14.	36.	57.	73.	83.	83.	68.	23.	0.	0.	0.	0.	439.	79.	109.	54.	66.
WEST	0.	0.	0.	0.	4.	12.	18.	22.	23.	40.	51.	50.	19.	0.	0.	0.	0.	240.	62.	78.	48.	54.
NORTHWEST	0.	0.	0.	0.	4.	12.	18.	22.	23.	22.	18.	12.	7.	0.	0.	0.	0.	138.	53.	63.	45.	48.
NORTH	0.	0.	0.	0.	4.	12.	18.	22.	23.	22.	18.	12.	4.	0.	0.	0.	0.	135.	53.	62.	44.	48.
NORTHEAST	0.	0.	0.	0.	7.	12.	18.	22.	23.	22.	18.	12.	4.	0.	0.	0.	0.	138.	53.	63.	45.	48.
EAST	0.	0.	0.	0.	19.	50.	51.	40.	23.	22.	18.	12.	4.	0.	0.	0.	0.	240.	62.	78.	48.	54.
SOUTHEAST	0.	0.	0.	0.	23.	68.	83.	83.	73.	57.	36.	14.	4.	0.	0.	0.	0.	439.	79.	109.	54.	66.
HORIZ.	0.	0.	0.	0.	8.	30.	49.	61.	65.	61.	49.	30.	8.	0.	0.	0.	0.	360.	72.	97.	52.	61.

MONTH 2 HO 1680. TOD 45. TOT 43. KT .397 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	4.	46.	79.	103.	118.	123.	118.	103.	79.	46.	4.	0.	0.	0.	821.	105.	154.	69.	91.
SOUTHWEST	0.	0.	0.	2.	12.	21.	45.	73.	97.	112.	116.	107.	78.	7.	0.	0.	0.	670.	94.	134.	65.	82.
WEST	0.	0.	0.	2.	12.	21.	27.	32.	33.	59.	78.	85.	72.	8.	0.	0.	0.	427.	76.	101.	57.	68.
NORTHWEST	0.	0.	0.	2.	12.	21.	27.	32.	33.	32.	27.	25.	30.	5.	0.	0.	0.	246.	63.	77.	51.	57.
NORTH	0.	0.	0.	2.	12.	21.	27.	32.	33.	32.	27.	21.	12.	2.	0.	0.	0.	220.	61.	74.	50.	56.
NORTHEAST	0.	0.	0.	5.	30.	25.	27.	32.	33.	32.	27.	21.	12.	2.	0.	0.	0.	246.	63.	77.	51.	57.
EAST	0.	0.	0.	8.	72.	85.	78.	59.	33.	32.	27.	21.	12.	2.	0.	0.	0.	427.	76.	101.	57.	68.
SOUTHEAST	0.	0.	0.	7.	78.	107.	116.	112.	97.	73.	45.	21.	12.	2.	0.	0.	0.	670.	94.	134.	65.	82.
HORIZ.	0.	0.	0.	4.	32.	61.	85.	99.	104.	99.	85.	61.	32.	4.	0.	0.	0.	667.	93.	133.	64.	82.

MONTH 3 HO 2373. TOD 47. TOT 45. KT .454 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	23.	59.	91.	116.	132.	138.	132.	116.	91.	59.	23.	0.	0.	0.	981.	110.	161.	77.	102.
SOUTHWEST	0.	0.	0.	10.	21.	30.	48.	82.	110.	130.	138.	133.	112.	67.	0.	0.	0.	883.	103.	149.	74.	97.
WEST	0.	0.	0.	10.	21.	30.	38.	42.	44.	76.	101.	115.	112.	78.	0.	0.	0.	668.	90.	124.	67.	84.
NORTHWEST	0.	0.	0.	10.	21.	30.	38.	42.	44.	42.	38.	47.	59.	49.	0.	0.	0.	421.	74.	96.	59.	70.
NORTH	0.	0.	0.	10.	21.	30.	38.	42.	44.	42.	38.	30.	21.	10.	0.	0.	0.	327.	68.	85.	56.	64.
NORTHEAST	0.	0.	0.	49.	59.	47.	38.	42.	44.	42.	38.	30.	21.	10.	0.	0.	0.	421.	74.	96.	59.	70.
EAST	0.	0.	0.	78.	112.	115.	101.	76.	44.	42.	38.	30.	21.	10.	0.	0.	0.	668.	90.	124.	67.	84.
SOUTHEAST	0.	0.	0.	67.	112.	133.	138.	130.	110.	82.	48.	30.	21.	10.	0.	0.	0.	883.	103.	149.	74.	97.
HORIZ.	0.	0.	0.	28.	66.	100.	126.	143.	149.	143.	126.	100.	66.	28.	0.	0.	0.	1076.	116.	172.	80.	108.

LOCATION ASTORIA, OREGON LATITUDE 46 DEGREES 11 MINUTES

MONTH 4 HO 3095. TOD 51. TOT 50. KT .471 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	8.	23.	54.	84.	108.	123.	129.	123.	108.	84.	54.	23.	8.	0.	0.	931.	104.	146.	80.	104.
SOUTHWEST	0.	0.	8.	19.	30.	39.	46.	78.	106.	126.	136.	133.	117.	87.	38.	0.	0.	963.	105.	150.	81.	106.
WEST	0.	0.	8.	19.	30.	39.	46.	50.	52.	85.	111.	127.	129.	111.	58.	0.	0.	864.	100.	139.	77.	100.
NORTHWEST	0.	0.	8.	19.	30.	39.	46.	50.	52.	50.	48.	69.	83.	82.	48.	0.	0.	622.	86.	115.	70.	86.
NORTH	0.	0.	15.	19.	30.	39.	46.	50.	52.	50.	46.	39.	30.	19.	15.	0.	0.	449.	77.	97.	64.	76.
NORTHEAST	0.	0.	48.	82.	83.	69.	48.	50.	52.	50.	46.	39.	30.	19.	8.	0.	0.	622.	86.	115.	70.	86.
EAST	0.	0.	58.	111.	129.	127.	111.	85.	52.	50.	46.	39.	30.	19.	8.	0.	0.	864.	100.	139.	77.	100.
SOUTHEAST	0.	0.	38.	87.	117.	133.	136.	126.	106.	78.	46.	39.	30.	19.	8.	0.	0.	963.	105.	150.	81.	106.
HORIZ.	0.	0.	20.	58.	97.	131.	158.	175.	180.	175.	158.	131.	97.	58.	20.	0.	0.	1458.	133.	200.	96.	135.

MONTH 5 HO 3581. TOD 55. TOT 53. KT .524 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	4.	14.	25.	50.	81.	106.	122.	128.	122.	106.	81.	50.	25.	14.	4.	0.	933.	106.	145.	85.	110.
SOUTHWEST	0.	4.	14.	25.	36.	45.	51.	75.	107.	130.	142.	142.	127.	100.	59.	10.	0.	1069.	113.	158.	90.	118.
WEST	0.	4.	14.	25.	36.	45.	51.	56.	57.	95.	125.	145.	151.	139.	100.	20.	0.	1064.	113.	158.	90.	118.
NORTHWEST	0.	4.	14.	25.	36.	45.	51.	56.	57.	56.	65.	90.	107.	111.	90.	21.	0.	829.	100.	135.	82.	104.
NORTH	0.	12.	36.	33.	36.	45.	51.	56.	57.	56.	51.	45.	36.	33.	36.	12.	0.	594.	87.	112.	74.	89.
NORTHEAST	0.	21.	90.	111.	107.	90.	65.	56.	57.	56.	51.	45.	36.	25.	14.	4.	0.	829.	100.	135.	82.	104.
EAST	0.	20.	100.	139.	151.	145.	125.	95.	57.	56.	51.	45.	36.	25.	14.	4.	0.	1064.	113.	158.	90.	118.
SOUTHEAST	0.	10.	59.	100.	127.	142.	142.	130.	107.	75.	51.	45.	36.	25.	14.	4.	0.	1069.	113.	158.	90.	118.
HORIZ.	0.	8.	43.	86.	127.	164.	192.	210.	216.	210.	192.	164.	127.	86.	43.	8.	0.	1877.	158.	236.	118.	167.

MONTH 6 HO 3763. TOD 59. TOT 58. KT .466 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	6.	16.	26.	43.	69.	89.	103.	108.	103.	89.	69.	43.	26.	16.	6.	0.	812.	102.	135.	85.	107.
SOUTHWEST	0.	6.	16.	26.	36.	44.	51.	67.	93.	111.	120.	119.	107.	84.	53.	16.	0.	949.	109.	148.	90.	115.
WEST	0.	6.	16.	26.	36.	44.	51.	55.	56.	86.	110.	126.	130.	119.	90.	34.	0.	987.	111.	151.	91.	117.
NORTHWEST	0.	6.	16.	26.	36.	44.	51.	55.	56.	55.	66.	85.	98.	100.	84.	36.	0.	814.	102.	135.	85.	107.
NORTH	0.	20.	38.	37.	36.	44.	51.	55.	56.	55.	51.	44.	36.	37.	38.	20.	0.	620.	92.	117.	79.	95.
NORTHEAST	0.	36.	84.	100.	98.	85.	66.	55.	56.	55.	51.	44.	36.	26.	16.	6.	0.	814.	102.	135.	85.	107.
EAST	0.	34.	90.	119.	130.	126.	110.	86.	56.	55.	51.	44.	36.	26.	16.	6.	0.	987.	111.	151.	91.	117.
SOUTHEAST	0.	16.	53.	84.	107.	119.	120.	111.	93.	67.	51.	44.	36.	26.	16.	6.	0.	949.	109.	148.	90.	115.
HORIZ.	0.	14.	46.	83.	119.	151.	175.	190.	196.	190.	175.	151.	119.	83.	46.	14.	0.	1754.	152.	222.	118.	164.

LOCATION ASTORIA, OREGON LATITUDE 46 DEGREES 11 MINUTES

MONTH 7 HO 3581. TOD 63. TOT 61. KT .551 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	4.	14.	25.	51.	84.	111.	128.	134.	128.	111.	84.	51.	25.	14.	4.	0.	969.	115.	156.	94.	119.
SOUTHWEST	0.	4.	14.	25.	36.	45.	52.	77.	112.	137.	150.	150.	135.	105.	62.	11.	0.	1116.	123.	170.	99.	128.
WEST	0.	4.	14.	25.	36.	45.	52.	56.	58.	99.	132.	154.	161.	148.	105.	21.	0.	1111.	123.	170.	99.	128.
NORTHWEST	0.	4.	14.	25.	36.	45.	52.	56.	58.	56.	67.	95.	114.	118.	95.	22.	0.	857.	109.	145.	90.	113.
NORTH	0.	12.	38.	34.	36.	45.	52.	56.	58.	56.	52.	45.	36.	34.	38.	12.	0.	603.	95.	121.	81.	97.
NORTHEAST	0.	22.	95.	118.	114.	95.	67.	56.	58.	56.	52.	45.	36.	25.	14.	4.	0.	857.	109.	145.	90.	113.
EAST	0.	21.	105.	148.	161.	154.	132.	99.	58.	56.	52.	45.	36.	25.	14.	4.	0.	1111.	123.	170.	99.	128.
SOUTHEAST	0.	11.	62.	105.	135.	150.	150.	137.	112.	77.	52.	45.	36.	25.	14.	4.	0.	1116.	123.	170.	99.	128.
HORIZ.	0.	8.	44.	89.	134.	173.	203.	222.	228.	222.	203.	173.	134.	89.	44.	8.	0.	1973.	170.	253.	128.	180.

MONTH 8 HO 3075. TOD 64. TOT 62. KT .538 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	8.	24.	60.	96.	125.	143.	149.	143.	125.	96.	60.	24.	8.	0.	0.	1060.	127.	176.	98.	126.
SOUTHWEST	0.	0.	8.	19.	30.	40.	47.	86.	121.	147.	159.	157.	138.	101.	42.	0.	0.	1095.	129.	179.	99.	128.
WEST	0.	0.	8.	19.	30.	40.	47.	52.	53.	95.	128.	149.	153.	130.	64.	0.	0.	969.	122.	166.	95.	120.
NORTHWEST	0.	0.	8.	19.	30.	40.	47.	52.	53.	52.	50.	78.	95.	95.	54.	0.	0.	672.	104.	135.	85.	102.
NORTH	0.	0.	16.	19.	30.	40.	47.	52.	53.	52.	47.	40.	30.	19.	16.	0.	0.	463.	91.	113.	78.	90.
NORTHEAST	0.	0.	54.	95.	95.	78.	50.	52.	53.	52.	47.	40.	30.	19.	8.	0.	0.	672.	104.	135.	85.	102.
EAST	0.	0.	64.	130.	153.	149.	128.	95.	53.	52.	47.	40.	30.	19.	8.	0.	0.	969.	122.	166.	95.	120.
SOUTHEAST	0.	0.	42.	101.	138.	157.	159.	147.	121.	86.	47.	40.	30.	19.	8.	0.	0.	1095.	129.	179.	99.	128.
HORIZ.	0.	0.	21.	64.	109.	149.	180.	200.	207.	200.	180.	149.	109.	64.	21.	0.	0.	1654.	163.	239.	118.	162.

MONTH 9 HO 2366. TOD 62. TOT 60. KT .526 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	26.	68.	107.	139.	158.	165.	158.	139.	107.	68.	26.	0.	0.	0.	1161.	141.	202.	100.	130.
SOUTHWEST	0.	0.	0.	11.	22.	32.	53.	95.	130.	155.	166.	161.	134.	78.	0.	0.	0.	1036.	133.	187.	96.	123.
WEST	0.	0.	0.	11.	22.	32.	39.	44.	46.	87.	120.	138.	135.	91.	0.	0.	0.	765.	114.	154.	86.	106.
NORTHWEST	0.	0.	0.	11.	22.	32.	39.	44.	46.	44.	39.	53.	69.	57.	0.	0.	0.	457.	93.	117.	76.	88.
NORTH	0.	0.	0.	11.	22.	32.	39.	44.	46.	44.	39.	32.	22.	11.	0.	0.	0.	341.	85.	103.	72.	81.
NORTHEAST	0.	0.	0.	57.	69.	53.	39.	44.	46.	44.	39.	32.	22.	11.	0.	0.	0.	457.	93.	117.	76.	88.
EAST	0.	0.	0.	91.	135.	138.	120.	87.	46.	44.	39.	32.	22.	11.	0.	0.	0.	765.	114.	154.	86.	106.
SOUTHEAST	0.	0.	0.	78.	134.	161.	166.	155.	130.	95.	53.	32.	22.	11.	0.	0.	0.	1036.	133.	187.	96.	123.
HORIZ.	0.	0.	1.	31.	75.	115.	147.	167.	174.	167.	147.	115.	75.	31.	1.	0.	0.	1243.	147.	211.	103.	135.

LOCATION ASTORIA, OREGON LATITUDE 46 DEGREES 11 MINUTES

MONTH 10 HO 1647. TOD 56. TOT 54. KT .435 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	3.	49.	88.	116.	134.	140.	134.	116.	88.	49.	3.	0.	0.	0.	920.	123.	178.	84.	108.
SOUTHWEST	0.	0.	0.	2.	12.	21.	49.	82.	109.	126.	132.	121.	85.	5.	0.	0.	0.	742.	110.	155.	78.	97.
WEST	0.	0.	0.	2.	12.	21.	28.	32.	34.	64.	86.	95.	78.	5.	0.	0.	0.	457.	89.	117.	69.	81.
NORTHWEST	0.	0.	0.	2.	12.	21.	28.	32.	34.	32.	28.	26.	32.	4.	0.	0.	0.	250.	74.	89.	62.	69.
NORTH	0.	0.	0.	2.	12.	21.	28.	32.	34.	32.	28.	21.	12.	2.	0.	0.	0.	224.	72.	86.	61.	67.
NORTHEAST	0.	0.	0.	4.	32.	26.	28.	32.	34.	32.	28.	21.	12.	2.	0.	0.	0.	250.	74.	89.	62.	69.
EAST	0.	0.	0.	5.	78.	95.	86.	64.	34.	32.	28.	21.	12.	2.	0.	0.	0.	457.	89.	117.	69.	81.
SOUTHEAST	0.	0.	0.	5.	85.	121.	132.	126.	109.	82.	49.	21.	12.	2.	0.	0.	0.	742.	110.	155.	78.	97.
HORIZ.	0.	0.	0.	4.	33.	65.	91.	108.	114.	108.	91.	65.	33.	4.	0.	0.	0.	716.	108.	151.	77.	96.

MONTH 11 HO 1077. TOD 48. TOT 47. KT .336 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	14.	53.	78.	92.	97.	92.	78.	53.	14.	0.	0.	0.	0.	574.	97.	137.	66.	81.
SOUTHWEST	0.	0.	0.	0.	4.	14.	36.	58.	75.	85.	85.	69.	21.	0.	0.	0.	0.	448.	87.	118.	61.	73.
WEST	0.	0.	0.	0.	4.	12.	18.	22.	23.	41.	52.	50.	18.	0.	0.	0.	0.	241.	69.	86.	55.	61.
NORTHWEST	0.	0.	0.	0.	4.	12.	18.	22.	23.	22.	18.	12.	7.	0.	0.	0.	0.	137.	60.	70.	51.	55.
NORTH	0.	0.	0.	0.	4.	12.	18.	22.	23.	22.	18.	12.	4.	0.	0.	0.	0.	134.	60.	69.	51.	55.
NORTHEAST	0.	0.	0.	0.	7.	12.	18.	22.	23.	22.	18.	12.	4.	0.	0.	0.	0.	137.	60.	70.	51.	55.
EAST	0.	0.	0.	0.	18.	50.	52.	41.	23.	22.	18.	12.	4.	0.	0.	0.	0.	241.	69.	86.	55.	61.
SOUTHEAST	0.	0.	0.	0.	21.	69.	85.	85.	75.	58.	36.	14.	4.	0.	0.	0.	0.	448.	87.	118.	61.	73.
HORIZ.	0.	0.	0.	0.	8.	30.	49.	62.	66.	62.	49.	30.	8.	0.	0.	0.	0.	363.	79.	105.	59.	68.

MONTH 12 HO 872. TOD 44. TOT 43. KT .332 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	2.	46.	74.	90.	95.	90.	74.	46.	2.	0.	0.	0.	0.	521.	92.	130.	59.	73.
SOUTHWEST	0.	0.	0.	0.	1.	12.	34.	56.	73.	82.	80.	58.	3.	0.	0.	0.	0.	400.	81.	110.	56.	66.
WEST	0.	0.	0.	0.	1.	9.	15.	19.	20.	37.	47.	41.	2.	0.	0.	0.	0.	192.	61.	76.	49.	54.
NORTHWEST	0.	0.	0.	0.	1.	9.	15.	19.	20.	19.	15.	9.	2.	0.	0.	0.	0.	108.	54.	62.	46.	49.
NORTH	0.	0.	0.	0.	1.	9.	15.	19.	20.	19.	15.	9.	1.	0.	0.	0.	0.	108.	54.	62.	46.	49.
NORTHEAST	0.	0.	0.	0.	2.	9.	15.	19.	20.	19.	15.	9.	1.	0.	0.	0.	0.	108.	54.	62.	46.	49.
EAST	0.	0.	0.	0.	2.	41.	47.	37.	20.	19.	15.	9.	1.	0.	0.	0.	0.	192.	61.	76.	49.	54.
SOUTHEAST	0.	0.	0.	0.	3.	58.	80.	82.	73.	56.	34.	12.	1.	0.	0.	0.	0.	400.	81.	110.	56.	66.
HORIZ.	0.	0.	0.	0.	3.	21.	40.	52.	57.	52.	40.	21.	3.	0.	0.	0.	0.	289.	70.	92.	52.	60.

LOCATION ASTORIA, OREGON LATITUDE 46 DEGREES 11 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	89.	105.	110.	104.	106.	102.	115.	127.	141.	123.	97.	92.	109.
SOUTHWEST	79.	94.	103.	105.	113.	109.	123.	129.	133.	110.	87.	81.	106.
WEST	62.	76.	90.	100.	113.	111.	123.	122.	114.	89.	69.	61.	94.
NORTHWEST	53.	63.	74.	86.	100.	102.	109.	104.	93.	74.	60.	54.	81.
NORTH	53.	61.	68.	77.	87.	92.	95.	91.	85.	72.	60.	54.	75.
NORTHEAST	53.	63.	74.	86.	100.	102.	109.	104.	93.	74.	60.	54.	81.
EAST	62.	76.	90.	100.	113.	111.	123.	122.	114.	89.	69.	61.	94.
SOUTHEAST	79.	94.	103.	105.	113.	109.	123.	129.	133.	110.	87.	81.	106.
HORIZ.	72.	93.	116.	133.	158.	152.	170.	163.	147.	108.	79.	70.	122.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	128.	154.	161.	146.	145.	135.	156.	176.	202.	178.	137.	130.	154.
SOUTHWEST	109.	134.	149.	150.	158.	148.	170.	179.	187.	155.	118.	110.	147.
WEST	78.	101.	124.	139.	158.	151.	170.	166.	154.	117.	86.	76.	127.
NORTHWEST	63.	77.	96.	115.	135.	135.	145.	135.	117.	89.	70.	62.	103.
NORTH	62.	74.	85.	97.	112.	117.	121.	113.	103.	86.	69.	62.	92.
NORTHEAST	63.	77.	96.	115.	135.	135.	145.	135.	117.	89.	70.	62.	103.
EAST	78.	101.	124.	139.	158.	151.	170.	166.	154.	117.	86.	76.	127.
SOUTHEAST	109.	134.	149.	150.	158.	148.	170.	179.	187.	155.	118.	110.	147.
HORIZ.	97.	133.	172.	200.	236.	222.	253.	239.	211.	151.	105.	92.	176.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	58.	69.	77.	80.	85.	85.	94.	98.	100.	84.	66.	59.	80.
SOUTHWEST	54.	65.	74.	81.	90.	90.	99.	99.	96.	78.	61.	56.	79.
WEST	48.	57.	67.	77.	90.	91.	99.	95.	86.	69.	55.	49.	74.
NORTHWEST	45.	51.	59.	70.	82.	85.	90.	85.	76.	62.	51.	46.	67.
NORTH	44.	50.	56.	64.	74.	79.	81.	78.	72.	61.	51.	46.	63.
NORTHEAST	45.	51.	59.	70.	82.	85.	90.	85.	76.	62.	51.	46.	67.
EAST	48.	57.	67.	77.	90.	91.	99.	95.	86.	69.	55.	49.	74.
SOUTHEAST	54.	65.	74.	81.	90.	90.	99.	99.	96.	78.	61.	56.	79.
HORIZ.	52.	64.	80.	96.	118.	118.	128.	118.	103.	77.	59.	52.	89.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	73.	91.	102.	104.	110.	107.	119.	126.	130.	108.	81.	73.	102.
SOUTHWEST	66.	82.	97.	106.	118.	115.	128.	128.	123.	97.	73.	66.	100.
WEST	54.	68.	84.	100.	118.	117.	128.	120.	106.	81.	61.	54.	91.
NORTHWEST	48.	57.	70.	86.	104.	107.	113.	102.	88.	69.	55.	49.	79.
NORTH	48.	56.	64.	76.	89.	95.	97.	90.	81.	67.	55.	49.	72.
NORTHEAST	48.	57.	70.	86.	104.	107.	113.	102.	88.	69.	55.	49.	79.
EAST	54.	68.	84.	100.	118.	117.	128.	120.	106.	81.	61.	54.	91.
SOUTHEAST	66.	82.	97.	106.	118.	115.	128.	128.	123.	97.	73.	66.	100.
HORIZ.	61.	82.	108.	135.	167.	164.	180.	162.	135.	96.	68.	60.	118.

LOCATION ATLANTA, GEORGIA LATITUDE 33 DEGREES 38 MINUTES

MONTH 1 HO 1775. TOD 47. TOT 45. KT .493 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	1.	65.	110.	139.	157.	163.	157.	139.	110.	65.	1.	0.	0.	0.	1106.	131.	200.	80.	109.
SOUTHWEST	0.	0.	0.	1.	12.	24.	59.	96.	127.	148.	156.	146.	105.	1.	0.	0.	0.	876.	114.	168.	73.	96.
WEST	0.	0.	0.	1.	12.	24.	32.	38.	40.	75.	101.	111.	91.	1.	0.	0.	0.	525.	87.	120.	61.	75.
NORTHWEST	0.	0.	0.	1.	12.	24.	32.	38.	40.	38.	32.	25.	31.	1.	0.	0.	0.	273.	68.	85.	53.	60.
NORTH	0.	0.	0.	1.	12.	24.	32.	38.	40.	38.	32.	24.	12.	1.	0.	0.	0.	253.	66.	82.	53.	59.
NORTHEAST	0.	0.	0.	1.	31.	25.	32.	38.	40.	38.	32.	24.	12.	1.	0.	0.	0.	273.	68.	85.	53.	60.
EAST	0.	0.	0.	1.	91.	111.	101.	75.	40.	38.	32.	24.	12.	1.	0.	0.	0.	525.	87.	120.	61.	75.
SOUTHEAST	0.	0.	0.	1.	105.	146.	156.	148.	127.	96.	59.	24.	12.	1.	0.	0.	0.	876.	114.	168.	73.	96.
HORIZ.	0.	0.	0.	1.	37.	79.	113.	135.	142.	135.	113.	79.	37.	1.	0.	0.	0.	873.	113.	168.	73.	95.

MONTH 2 HO 2298. TOD 50. TOT 47. KT .496 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	21.	68.	104.	131.	147.	153.	147.	131.	104.	68.	21.	0.	0.	0.	1097.	126.	188.	82.	111.
SOUTHWEST	0.	0.	0.	6.	19.	31.	53.	90.	122.	145.	155.	150.	124.	51.	0.	0.	0.	947.	116.	169.	77.	102.
WEST	0.	0.	0.	6.	19.	31.	40.	45.	47.	84.	112.	126.	118.	54.	0.	0.	0.	683.	97.	136.	69.	87.
NORTHWEST	0.	0.	0.	6.	19.	31.	40.	45.	47.	45.	40.	46.	54.	30.	0.	0.	0.	405.	78.	101.	60.	70.
NORTH	0.	0.	0.	6.	19.	31.	40.	45.	47.	45.	40.	31.	19.	6.	0.	0.	0.	331.	73.	91.	57.	66.
NORTHEAST	0.	0.	0.	30.	54.	46.	40.	45.	47.	45.	40.	31.	19.	6.	0.	0.	0.	405.	78.	101.	60.	70.
EAST	0.	0.	0.	54.	118.	126.	112.	84.	47.	45.	40.	31.	19.	6.	0.	0.	0.	683.	97.	136.	69.	87.
SOUTHEAST	0.	0.	0.	51.	124.	150.	155.	145.	122.	90.	53.	31.	19.	6.	0.	0.	0.	947.	116.	169.	77.	102.
HORIZ.	0.	0.	0.	15.	62.	106.	140.	162.	170.	162.	140.	106.	62.	15.	0.	0.	0.	1141.	129.	194.	83.	113.

MONTH 3 HO 2845. TOD 56. TOT 53. KT .522 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	26.	63.	96.	122.	139.	144.	139.	122.	96.	63.	26.	0.	0.	0.	1038.	122.	177.	86.	113.
SOUTHWEST	0.	0.	0.	13.	26.	38.	47.	84.	118.	143.	156.	155.	135.	88.	0.	0.	0.	1004.	120.	173.	85.	111.
WEST	0.	0.	0.	13.	26.	38.	47.	53.	55.	95.	126.	145.	143.	106.	0.	0.	0.	847.	110.	154.	80.	102.
NORTHWEST	0.	0.	0.	13.	26.	38.	47.	53.	55.	53.	50.	72.	83.	69.	0.	0.	0.	560.	92.	121.	71.	85.
NORTH	0.	0.	0.	13.	26.	38.	47.	53.	55.	53.	47.	38.	26.	13.	0.	0.	0.	410.	82.	104.	66.	77.
NORTHEAST	0.	0.	0.	69.	83.	72.	50.	53.	55.	53.	47.	38.	26.	13.	0.	0.	0.	560.	92.	121.	71.	85.
EAST	0.	0.	0.	106.	143.	145.	126.	95.	55.	53.	47.	38.	26.	13.	0.	0.	0.	847.	110.	154.	80.	102.
SOUTHEAST	0.	0.	0.	88.	135.	155.	156.	143.	118.	84.	47.	38.	26.	13.	0.	0.	0.	1004.	120.	173.	85.	111.
HORIZ.	0.	0.	0.	39.	91.	138.	174.	197.	205.	197.	174.	138.	91.	39.	0.	0.	0.	1483.	151.	228.	100.	139.

LOCATION ATLANTA, GEORGIA LATITUDE 33 DEGREES 38 MINUTES

MONTH 4 HO 3344. TOD 65. TOT 62. KT .551 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	6.	19.	48.	79.	104.	120.	126.	120.	104.	79.	48.	19.	6.	0.	0.	877.	117.	159.	90.	113.
SOUTHWEST	0.	0.	6.	19.	33.	44.	53.	71.	106.	133.	148.	149.	134.	99.	31.	0.	0.	1027.	125.	175.	95.	122.
WEST	0.	0.	6.	19.	33.	44.	53.	58.	60.	103.	137.	158.	161.	136.	49.	0.	0.	1018.	125.	174.	94.	121.
NORTHWEST	0.	0.	6.	19.	33.	44.	53.	58.	60.	58.	76.	100.	113.	104.	42.	0.	0.	768.	110.	147.	86.	106.
NORTH	0.	0.	14.	23.	33.	44.	53.	58.	60.	58.	53.	44.	33.	23.	14.	0.	0.	510.	95.	120.	78.	91.
NORTHEAST	0.	0.	42.	104.	113.	100.	76.	58.	60.	58.	53.	44.	33.	19.	6.	0.	0.	768.	110.	147.	86.	106.
EAST	0.	0.	49.	136.	161.	158.	137.	103.	60.	58.	53.	44.	33.	19.	6.	0.	0.	1018.	125.	174.	94.	121.
SOUTHEAST	0.	0.	31.	99.	134.	149.	148.	133.	106.	71.	53.	44.	33.	19.	6.	0.	0.	1027.	125.	175.	95.	122.
HORIZ.	0.	0.	14.	66.	120.	168.	206.	229.	237.	229.	206.	168.	120.	66.	14.	0.	0.	1843.	173.	262.	121.	169.

MONTH 5 HO 3633. TOD 73. TOT 70. KT .561 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	10.	23.	36.	60.	84.	99.	104.	99.	84.	60.	36.	23.	10.	0.	0.	731.	116.	149.	95.	114.
SOUTHWEST	0.	0.	10.	23.	36.	47.	55.	61.	92.	118.	134.	136.	123.	95.	47.	0.	0.	978.	131.	175.	103.	129.
WEST	0.	0.	10.	23.	36.	47.	55.	61.	63.	104.	138.	159.	164.	145.	85.	0.	0.	1089.	138.	187.	107.	136.
NORTHWEST	0.	0.	10.	23.	36.	47.	55.	61.	63.	64.	93.	117.	129.	124.	79.	0.	0.	902.	126.	167.	101.	125.
NORTH	0.	0.	33.	44.	40.	47.	55.	61.	63.	61.	55.	47.	40.	44.	33.	0.	0.	624.	110.	138.	91.	108.
NORTHEAST	0.	0.	79.	124.	129.	117.	93.	64.	63.	61.	55.	47.	36.	23.	10.	0.	0.	902.	126.	167.	101.	125.
EAST	0.	0.	85.	145.	164.	159.	138.	104.	63.	61.	55.	47.	36.	23.	10.	0.	0.	1089.	138.	187.	107.	136.
SOUTHEAST	0.	0.	47.	95.	123.	136.	134.	118.	92.	61.	55.	47.	36.	23.	10.	0.	0.	978.	131.	175.	103.	129.
HORIZ.	0.	0.	30.	83.	136.	183.	219.	242.	250.	242.	219.	183.	136.	83.	30.	0.	0.	2037.	194.	286.	140.	193.

MONTH 6 HO 3730. TOD 81. TOT 78. KT .564 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	1.	12.	25.	37.	53.	75.	90.	95.	90.	75.	53.	37.	25.	12.	1.	0.	681.	120.	150.	101.	119.
SOUTHWEST	0.	1.	12.	25.	37.	48.	56.	61.	86.	112.	127.	129.	118.	91.	49.	1.	0.	952.	136.	178.	110.	135.
WEST	0.	1.	12.	25.	37.	48.	56.	61.	63.	104.	137.	158.	163.	146.	93.	1.	0.	1105.	145.	193.	115.	144.
NORTHWEST	0.	1.	12.	25.	37.	48.	56.	61.	63.	71.	100.	122.	135.	130.	90.	1.	0.	952.	136.	178.	110.	135.
NORTH	0.	1.	41.	52.	49.	48.	56.	61.	63.	61.	56.	48.	49.	52.	41.	1.	0.	681.	120.	150.	101.	119.
NORTHEAST	0.	1.	90.	130.	135.	122.	100.	71.	63.	61.	56.	48.	37.	25.	12.	1.	0.	952.	136.	178.	110.	135.
EAST	0.	1.	93.	146.	163.	158.	137.	104.	63.	61.	56.	48.	37.	25.	12.	1.	0.	1105.	145.	193.	115.	144.
SOUTHEAST	0.	1.	49.	91.	118.	129.	127.	112.	86.	61.	56.	48.	37.	25.	12.	1.	0.	952.	136.	178.	110.	135.
HORIZ.	0.	2.	36.	89.	142.	188.	223.	246.	253.	246.	223.	188.	142.	89.	36.	2.	0.	2103.	202.	295.	150.	205.

LOCATION ATLANTA, GEORGIA LATITUDE 33 DEGREES 38 MINUTES

MONTH 7 HO 3627. TOD 82. TOT 79. KT .545 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	10.	23.	36.	59.	82.	96.	101.	96.	82.	59.	36.	23.	10.	0.	0.	715.	125.	157.	104.	123.
SOUTHWEST	0.	0.	10.	23.	36.	47.	55.	60.	90.	115.	129.	131.	118.	90.	44.	0.	0.	948.	138.	181.	112.	137.
WEST	0.	0.	10.	23.	36.	47.	55.	60.	62.	102.	133.	153.	156.	137.	79.	0.	0.	1054.	145.	192.	116.	143.
NORTHWEST	0.	0.	10.	23.	36.	47.	55.	60.	62.	64.	92.	113.	124.	118.	74.	0.	0.	879.	134.	174.	110.	133.
NORTH	0.	0.	32.	43.	41.	47.	55.	60.	62.	60.	55.	47.	41.	43.	32.	0.	0.	617.	119.	147.	101.	117.
NORTHEAST	0.	0.	74.	118.	124.	113.	92.	64.	62.	60.	55.	47.	36.	23.	10.	0.	0.	879.	134.	174.	110.	133.
EAST	0.	0.	79.	137.	156.	153.	133.	102.	62.	60.	55.	47.	36.	23.	10.	0.	0.	1054.	145.	192.	116.	143.
SOUTHEAST	0.	0.	44.	90.	118.	131.	129.	115.	90.	60.	55.	47.	36.	23.	10.	0.	0.	948.	138.	181.	112.	137.
HORIZ.	0.	0.	29.	80.	132.	178.	213.	235.	242.	235.	213.	178.	132.	80.	29.	0.	0.	1976.	199.	288.	147.	199.

MONTH 8 HO 3318. TOD 82. TOT 79. KT .559 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	47.	79.	104.	121.	127.	121.	104.	79.	47.	19.	6.	0.	0.	879.	137.	179.	109.	132.
SOUTHWEST	0.	0.	6.	19.	32.	44.	53.	70.	107.	135.	150.	150.	134.	97.	28.	0.	0.	1026.	146.	195.	114.	141.
WEST	0.	0.	6.	19.	32.	44.	53.	58.	60.	104.	138.	160.	161.	133.	44.	0.	0.	1013.	145.	194.	113.	140.
NORTHWEST	0.	0.	6.	19.	32.	44.	53.	58.	60.	58.	77.	101.	113.	103.	38.	0.	0.	762.	129.	166.	105.	125.
NORTH	0.	0.	13.	23.	32.	44.	53.	58.	60.	58.	53.	44.	32.	23.	13.	0.	0.	506.	113.	138.	96.	109.
NORTHEAST	0.	0.	38.	103.	113.	101.	77.	58.	60.	58.	53.	44.	32.	19.	6.	0.	0.	762.	129.	166.	105.	125.
EAST	0.	0.	44.	133.	161.	160.	138.	104.	60.	58.	53.	44.	32.	19.	6.	0.	0.	1013.	145.	194.	113.	140.
SOUTHEAST	0.	0.	28.	97.	134.	150.	150.	135.	107.	70.	53.	44.	32.	19.	6.	0.	0.	1026.	146.	195.	114.	141.
HORIZ.	0.	0.	14.	65.	120.	170.	208.	232.	240.	232.	208.	170.	120.	65.	14.	0.	0.	1855.	198.	287.	142.	191.

MONTH 9 HO 2827. TOD 77. TOT 74. KT .515 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	25.	61.	93.	119.	135.	141.	135.	119.	93.	61.	25.	0.	0.	0.	1008.	146.	199.	109.	135.
SOUTHWEST	0.	0.	0.	13.	26.	38.	47.	82.	116.	140.	152.	150.	129.	81.	0.	0.	0.	974.	144.	195.	108.	133.
WEST	0.	0.	0.	13.	26.	38.	47.	52.	54.	93.	124.	141.	138.	98.	0.	0.	0.	824.	133.	176.	103.	124.
NORTHWEST	0.	0.	0.	13.	26.	38.	47.	52.	54.	52.	50.	71.	81.	65.	0.	0.	0.	550.	115.	144.	93.	108.
NORTH	0.	0.	0.	13.	26.	38.	47.	52.	54.	52.	47.	38.	26.	13.	0.	0.	0.	407.	105.	126.	88.	99.
NORTHEAST	0.	0.	0.	65.	81.	71.	50.	52.	54.	52.	47.	38.	26.	13.	0.	0.	0.	550.	115.	144.	93.	108.
EAST	0.	0.	0.	98.	138.	141.	124.	93.	54.	52.	47.	38.	26.	13.	0.	0.	0.	824.	133.	176.	103.	124.
SOUTHEAST	0.	0.	0.	81.	129.	150.	152.	140.	116.	82.	47.	38.	26.	13.	0.	0.	0.	974.	144.	195.	108.	133.
HORIZ.	0.	0.	0.	38.	89.	135.	171.	194.	201.	194.	171.	135.	89.	38.	0.	0.	0.	1454.	176.	252.	124.	162.

LOCATION ATLANTA, GEORGIA LATITUDE 33 DEGREES 38 MINUTES

MONTH 10 HO 2264. TOD 66. TOT 63. KT .543 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	21.	75.	117.	147.	166.	172.	166.	147.	117.	75.	21.	0.	0.	0.	1222.	152.	221.	103.	135.
SOUTHWEST	0.	0.	0.	6.	19.	31.	56.	99.	136.	162.	175.	169.	138.	50.	0.	0.	0.	1041.	139.	198.	97.	124.
WEST	0.	0.	0.	6.	19.	31.	40.	46.	48.	90.	124.	141.	131.	54.	0.	0.	0.	728.	117.	159.	87.	106.
NORTHWEST	0.	0.	0.	6.	19.	31.	40.	46.	48.	46.	40.	48.	58.	29.	0.	0.	0.	410.	95.	118.	77.	87.
NORTH	0.	0.	0.	6.	19.	31.	40.	46.	48.	46.	40.	31.	19.	6.	0.	0.	0.	330.	90.	108.	74.	83.
NORTHEAST	0.	0.	0.	29.	58.	48.	40.	46.	48.	46.	40.	31.	19.	6.	0.	0.	0.	410.	95.	118.	77.	87.
EAST	0.	0.	0.	54.	131.	141.	124.	90.	48.	46.	40.	31.	19.	6.	0.	0.	0.	728.	117.	159.	87.	106.
SOUTHEAST	0.	0.	0.	50.	138.	169.	175.	162.	136.	99.	56.	31.	19.	6.	0.	0.	0.	1041.	139.	198.	97.	124.
HORIZ.	0.	0.	0.	14.	65.	114.	152.	177.	185.	177.	152.	114.	65.	14.	0.	0.	0.	1230.	152.	222.	103.	135.

MONTH 11 HO 1762. TOD 55. TOT 52. KT .510 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	1.	67.	114.	146.	164.	171.	164.	146.	114.	67.	1.	0.	0.	0.	1153.	142.	214.	89.	119.
SOUTHWEST	0.	0.	0.	1.	12.	24.	61.	100.	132.	155.	164.	153.	108.	1.	0.	0.	0.	910.	124.	180.	81.	105.
WEST	0.	0.	0.	1.	12.	24.	32.	38.	40.	77.	105.	116.	94.	1.	0.	0.	0.	538.	96.	129.	69.	83.
NORTHWEST	0.	0.	0.	1.	12.	24.	32.	38.	40.	38.	32.	25.	31.	1.	0.	0.	0.	273.	76.	93.	61.	68.
NORTH	0.	0.	0.	1.	12.	24.	32.	38.	40.	38.	32.	24.	12.	1.	0.	0.	0.	253.	74.	90.	60.	67.
NORTHEAST	0.	0.	0.	1.	31.	25.	32.	38.	40.	38.	32.	24.	12.	1.	0.	0.	0.	273.	76.	93.	61.	68.
EAST	0.	0.	0.	1.	94.	116.	105.	77.	40.	38.	32.	24.	12.	1.	0.	0.	0.	538.	96.	129.	69.	83.
SOUTHEAST	0.	0.	0.	1.	108.	153.	164.	155.	132.	100.	61.	24.	12.	1.	0.	0.	0.	910.	124.	180.	81.	105.
HORIZ.	0.	0.	0.	1.	37.	81.	117.	139.	147.	139.	117.	81.	37.	1.	0.	0.	0.	897.	123.	179.	81.	104.

MONTH 12 HO 1567. TOD 48. TOT 45. KT .474 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	55.	104.	134.	152.	158.	152.	134.	104.	55.	0.	0.	0.	0.	1050.	130.	198.	79.	106.
SOUTHWEST	0.	0.	0.	0.	10.	24.	59.	93.	122.	142.	148.	135.	86.	0.	0.	0.	0.	818.	112.	165.	71.	93.
WEST	0.	0.	0.	0.	10.	20.	29.	34.	36.	68.	91.	99.	72.	0.	0.	0.	0.	458.	84.	113.	60.	72.
NORTHWEST	0.	0.	0.	0.	10.	20.	29.	34.	36.	34.	29.	20.	21.	0.	0.	0.	0.	232.	66.	81.	53.	59.
NORTH	0.	0.	0.	0.	10.	20.	29.	34.	36.	34.	29.	20.	10.	0.	0.	0.	0.	220.	65.	79.	52.	58.
NORTHEAST	0.	0.	0.	0.	21.	20.	29.	34.	36.	34.	29.	20.	10.	0.	0.	0.	0.	232.	66.	81.	53.	59.
EAST	0.	0.	0.	0.	72.	99.	91.	68.	36.	34.	29.	20.	10.	0.	0.	0.	0.	458.	84.	113.	60.	72.
SOUTHEAST	0.	0.	0.	0.	86.	135.	148.	142.	122.	93.	59.	24.	10.	0.	0.	0.	0.	818.	112.	165.	71.	93.
HORIZ.	0.	0.	0.	0.	26.	66.	98.	118.	125.	118.	98.	66.	26.	0.	0.	0.	0.	743.	106.	154.	69.	88.

LOCATION ATLANTA, GEORGIA LATITUDE 33 DEGREES 38 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	131.	126.	122.	117.	116.	120.	125.	137.	146.	152.	142.	130.	130.
SOUTHWEST	114.	116.	120.	125.	131.	136.	138.	146.	144.	139.	124.	112.	129.
WEST	87.	97.	110.	125.	138.	145.	145.	145.	133.	117.	96.	84.	118.
NORTHWEST	68.	78.	92.	110.	126.	136.	134.	129.	115.	95.	76.	66.	102.
NORTH	66.	73.	82.	95.	110.	120.	119.	113.	105.	90.	74.	65.	93.
NORTHEAST	68.	78.	92.	110.	126.	136.	134.	129.	115.	95.	76.	66.	102.
EAST	87.	97.	110.	125.	138.	145.	145.	145.	133.	117.	96.	84.	118.
SOUTHEAST	114.	116.	120.	125.	131.	136.	138.	146.	144.	139.	124.	112.	129.
HORIZ.	113.	129.	151.	173.	194.	202.	199.	198.	176.	152.	123.	106.	160.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	200.	188.	177.	159.	149.	150.	157.	179.	199.	221.	214.	198.	183.
SOUTHWEST	168.	169.	173.	175.	175.	178.	181.	195.	195.	198.	180.	165.	179.
WEST	120.	136.	154.	174.	187.	193.	192.	194.	176.	159.	129.	113.	161.
NORTHWEST	85.	101.	121.	147.	167.	178.	174.	166.	144.	118.	93.	81.	131.
NORTH	82.	91.	104.	120.	138.	150.	147.	138.	126.	108.	90.	79.	114.
NORTHEAST	85.	101.	121.	147.	167.	178.	174.	166.	144.	118.	93.	81.	131.
EAST	120.	136.	154.	174.	187.	193.	192.	194.	176.	159.	129.	113.	161.
SOUTHEAST	168.	169.	173.	175.	175.	178.	181.	195.	195.	198.	180.	165.	179.
HORIZ.	168.	194.	228.	262.	286.	295.	288.	287.	252.	222.	179.	154.	235.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	80.	82.	86.	90.	95.	101.	104.	109.	109.	103.	89.	79.	94.
SOUTHWEST	73.	77.	85.	95.	103.	110.	112.	114.	108.	97.	81.	71.	94.
WEST	61.	69.	80.	94.	107.	115.	116.	113.	103.	87.	69.	60.	90.
NORTHWEST	53.	60.	71.	86.	101.	110.	110.	105.	93.	77.	61.	53.	82.
NORTH	53.	57.	66.	78.	91.	101.	101.	96.	88.	74.	60.	52.	76.
NORTHEAST	53.	60.	71.	86.	101.	110.	110.	105.	93.	77.	61.	53.	82.
EAST	61.	69.	80.	94.	107.	115.	116.	113.	103.	87.	69.	60.	90.
SOUTHEAST	73.	77.	85.	95.	103.	110.	112.	114.	108.	97.	81.	71.	94.
HORIZ.	73.	83.	100.	121.	140.	150.	147.	142.	124.	103.	81.	69.	111.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	109.	111.	113.	113.	114.	119.	123.	132.	135.	135.	119.	106.	119.
SOUTHWEST	96.	102.	111.	122.	129.	135.	137.	141.	133.	124.	105.	93.	119.
WEST	75.	87.	102.	121.	136.	144.	143.	140.	124.	106.	83.	72.	111.
NORTHWEST	60.	70.	85.	106.	125.	135.	133.	125.	108.	87.	68.	59.	97.
NORTH	59.	66.	77.	91.	108.	119.	117.	109.	99.	83.	67.	58.	88.
NORTHEAST	60.	70.	85.	106.	125.	135.	133.	125.	108.	87.	68.	59.	97.
EAST	75.	87.	102.	121.	136.	144.	143.	140.	124.	106.	83.	72.	111.
SOUTHEAST	96.	102.	111.	122.	129.	135.	137.	141.	133.	124.	105.	93.	119.
HORIZ.	95.	113.	139.	169.	193.	205.	199.	191.	162.	135.	104.	88.	150.

LOCATION BETHEL, ALASKA LATITUDE 60 DEGREES 46 MINUTES

MONTH 1 HO 324. TOD 9. TOT 7. KT .536 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	0.	4.	113.	191.	216.	191.	113.	4.	0.	0.	0.	0.	0.	832.	106.	184.	34.	55.
SOUTHWEST	0.	0.	0.	0.	0.	2.	41.	106.	156.	171.	122.	5.	0.	0.	0.	0.	0.	602.	79.	136.	26.	42.
WEST	0.	0.	0.	0.	0.	1.	6.	10.	12.	56.	64.	4.	0.	0.	0.	0.	0.	153.	27.	41.	12.	16.
NORTHWEST	0.	0.	0.	0.	0.	1.	6.	10.	12.	10.	6.	1.	0.	0.	0.	0.	0.	47.	15.	19.	8.	10.
NORTH	0.	0.	0.	0.	0.	1.	6.	10.	12.	10.	6.	1.	0.	0.	0.	0.	0.	47.	15.	19.	8.	10.
NORTHEAST	0.	0.	0.	0.	0.	1.	6.	10.	12.	10.	6.	1.	0.	0.	0.	0.	0.	47.	15.	19.	8.	10.
EAST	0.	0.	0.	0.	0.	4.	64.	56.	12.	10.	6.	1.	0.	0.	0.	0.	0.	153.	27.	41.	12.	16.
SOUTHEAST	0.	0.	0.	0.	0.	5.	122.	171.	156.	106.	41.	2.	0.	0.	0.	0.	0.	602.	79.	136.	26.	42.
HORIZ.	0.	0.	0.	0.	0.	2.	21.	40.	47.	40.	21.	2.	0.	0.	0.	0.	0.	174.	29.	46.	12.	17.

MONTH 2 HO 887. TOD 12. TOT 9. KT .557 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	32.	109.	166.	200.	211.	200.	166.	109.	32.	0.	0.	0.	0.	1224.	112.	193.	48.	80.
SOUTHWEST	0.	0.	0.	0.	4.	11.	60.	112.	156.	182.	184.	150.	56.	0.	0.	0.	0.	916.	86.	147.	38.	62.
WEST	0.	0.	0.	0.	4.	11.	17.	21.	22.	70.	105.	109.	50.	0.	0.	0.	0.	410.	45.	72.	22.	33.
NORTHWEST	0.	0.	0.	0.	4.	11.	17.	21.	22.	21.	17.	11.	17.	0.	0.	0.	0.	142.	23.	33.	14.	17.
NORTH	0.	0.	0.	0.	4.	11.	17.	21.	22.	21.	17.	11.	4.	0.	0.	0.	0.	129.	22.	31.	13.	17.
NORTHEAST	0.	0.	0.	0.	17.	11.	17.	21.	22.	21.	17.	11.	4.	0.	0.	0.	0.	142.	23.	33.	14.	17.
EAST	0.	0.	0.	0.	50.	109.	105.	70.	22.	21.	17.	11.	4.	0.	0.	0.	0.	410.	45.	72.	22.	33.
SOUTHEAST	0.	0.	0.	0.	56.	150.	184.	182.	156.	112.	60.	11.	4.	0.	0.	0.	0.	916.	86.	147.	38.	62.
HORIZ.	0.	0.	0.	0.	11.	40.	67.	84.	90.	84.	67.	40.	11.	0.	0.	0.	0.	495.	52.	85.	25.	38.

MONTH 3 HO 1685. TOD 14. TOT 11. KT .704 KD .147

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	33.	104.	174.	230.	266.	278.	266.	230.	174.	104.	33.	0.	0.	0.	1892.	135.	233.	72.	122.
SOUTHWEST	0.	0.	0.	7.	15.	22.	76.	146.	206.	248.	266.	253.	204.	106.	0.	0.	0.	1550.	113.	194.	61.	102.
WEST	0.	0.	0.	7.	15.	22.	28.	32.	33.	104.	162.	197.	193.	120.	0.	0.	0.	915.	73.	120.	41.	65.
NORTHWEST	0.	0.	0.	7.	15.	22.	28.	32.	33.	32.	28.	39.	78.	69.	0.	0.	0.	383.	39.	59.	24.	34.
NORTH	0.	0.	0.	7.	15.	22.	28.	32.	33.	32.	28.	22.	15.	7.	0.	0.	0.	242.	30.	42.	19.	26.
NORTHEAST	0.	0.	0.	69.	78.	39.	28.	32.	33.	32.	28.	22.	15.	7.	0.	0.	0.	383.	39.	59.	24.	34.
EAST	0.	0.	0.	120.	193.	197.	162.	104.	33.	32.	28.	22.	15.	7.	0.	0.	0.	915.	73.	120.	41.	65.
SOUTHEAST	0.	0.	0.	106.	204.	253.	266.	248.	206.	146.	76.	22.	15.	7.	0.	0.	0.	1550.	113.	194.	61.	102.
HORIZ.	0.	0.	0.	24.	68.	109.	143.	164.	171.	164.	143.	109.	68.	24.	0.	0.	0.	1186.	90.	152.	50.	81.

LOCATION BETHEL, ALASKA LATITUDE 60 DEGREES 46 MINUTES

MONTH 4 HO 2653. TOD 29. TOT 27. KT .675 KD .155

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	2.	10.	40.	98.	153.	197.	226.	236.	226.	197.	153.	98.	40.	10.	2.	0.	1689.	116.	187.	81.	125.
SOUTHWEST	0.	2.	10.	18.	26.	33.	65.	127.	180.	218.	237.	234.	208.	158.	87.	9.	0.	1611.	112.	180.	78.	121.
WEST	0.	2.	10.	18.	26.	33.	39.	42.	44.	107.	160.	198.	212.	194.	131.	16.	0.	1231.	93.	144.	66.	99.
NORTHWEST	0.	2.	10.	18.	26.	33.	39.	42.	44.	42.	39.	65.	107.	127.	104.	15.	0.	714.	66.	96.	50.	68.
NORTH	0.	7.	22.	18.	26.	33.	39.	42.	44.	42.	39.	33.	26.	18.	22.	7.	0.	420.	51.	69.	40.	51.
NORTHEAST	0.	15.	104.	127.	107.	65.	39.	42.	44.	42.	39.	33.	26.	18.	10.	2.	0.	714.	66.	96.	50.	68.
EAST	0.	16.	131.	194.	212.	198.	160.	107.	44.	42.	39.	33.	26.	18.	10.	2.	0.	1231.	93.	144.	66.	99.
SOUTHEAST	0.	9.	87.	158.	208.	234.	237.	218.	180.	127.	65.	33.	26.	18.	10.	2.	0.	1611.	112.	180.	78.	121.
HORIZ.	0.	5.	35.	77.	120.	158.	188.	206.	213.	206.	188.	158.	120.	77.	35.	5.	0.	1791.	122.	197.	84.	131.

MONTH 5 HO 3403. TOD 43. TOT 40. KT .519 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	4.	10.	18.	31.	68.	102.	130.	148.	154.	148.	130.	102.	68.	31.	18.	10.	4.	1176.	98.	140.	80.	111.
SOUTHWEST	4.	10.	18.	26.	33.	40.	52.	91.	123.	146.	158.	156.	141.	114.	77.	37.	6.	1231.	100.	145.	82.	114.
WEST	4.	10.	18.	26.	33.	40.	44.	48.	49.	87.	119.	141.	151.	145.	121.	75.	15.	1124.	95.	136.	78.	108.
NORTHWEST	4.	10.	18.	26.	33.	40.	44.	48.	49.	48.	44.	67.	92.	106.	103.	76.	18.	824.	81.	111.	68.	90.
NORTH	12.	37.	36.	26.	33.	40.	44.	48.	49.	48.	44.	40.	33.	26.	36.	37.	12.	600.	71.	92.	61.	76.
NORTHEAST	18.	76.	103.	106.	92.	67.	44.	48.	49.	48.	44.	40.	33.	26.	18.	10.	4.	824.	81.	111.	68.	90.
EAST	15.	75.	121.	145.	151.	141.	119.	87.	49.	48.	44.	40.	33.	26.	18.	10.	4.	1124.	95.	136.	78.	108.
SOUTHEAST	6.	37.	77.	114.	141.	156.	158.	146.	123.	91.	52.	40.	33.	26.	18.	10.	4.	1231.	100.	145.	82.	114.
HORIZ.	7.	28.	57.	89.	119.	146.	166.	179.	184.	179.	166.	146.	119.	89.	57.	28.	7.	1766.	126.	189.	100.	147.

MONTH 6 HO 3712. TOD 55. TOT 53. KT .458 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	6.	13.	20.	29.	59.	87.	109.	123.	128.	123.	109.	87.	59.	29.	20.	13.	6.	1021.	100.	134.	88.	114.
SOUTHWEST	6.	13.	20.	27.	34.	40.	48.	79.	105.	123.	132.	130.	118.	97.	68.	37.	11.	1092.	103.	140.	90.	119.
WEST	6.	13.	20.	27.	34.	40.	45.	47.	48.	79.	104.	121.	129.	124.	107.	75.	32.	1054.	102.	137.	89.	116.
NORTHWEST	6.	13.	20.	27.	34.	40.	45.	47.	48.	47.	45.	65.	84.	95.	94.	77.	38.	828.	92.	119.	81.	103.
NORTH	26.	41.	38.	27.	34.	40.	45.	47.	48.	47.	45.	40.	34.	27.	38.	41.	26.	647.	84.	105.	75.	92.
NORTHEAST	38.	77.	94.	95.	84.	65.	45.	47.	48.	47.	45.	40.	34.	27.	20.	13.	6.	828.	92.	119.	81.	103.
EAST	32.	75.	107.	124.	129.	121.	104.	79.	48.	47.	45.	40.	34.	27.	20.	13.	6.	1054.	102.	137.	89.	116.
SOUTHEAST	11.	37.	68.	97.	118.	130.	132.	123.	105.	79.	48.	40.	34.	27.	20.	13.	6.	1092.	103.	140.	90.	119.
HORIZ.	14.	35.	60.	88.	114.	136.	153.	164.	168.	164.	153.	136.	114.	88.	60.	35.	14.	1701.	130.	187.	111.	155.

LOCATION BETHEL, ALASKA LATITUDE 60 DEGREES 46 MINUTES

MONTH 7 HO 3411. TOD 57. TOT 54. KT .398 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	4.	10.	16.	27.	52.	76.	95.	107.	112.	107.	95.	76.	52.	27.	16.	10.	4.	886.	98.	130.	85.	108.
SOUTHWEST	4.	10.	16.	23.	30.	36.	45.	71.	92.	106.	113.	110.	99.	80.	54.	26.	5.	921.	100.	133.	86.	110.
WEST	4.	10.	16.	23.	30.	36.	40.	43.	44.	68.	88.	101.	106.	100.	82.	51.	11.	851.	97.	127.	84.	106.
NORTHWEST	4.	10.	16.	23.	30.	36.	40.	43.	44.	43.	40.	54.	68.	75.	71.	51.	13.	659.	88.	111.	77.	94.
NORTH	9.	27.	28.	23.	30.	36.	40.	43.	44.	43.	40.	36.	30.	23.	28.	27.	9.	516.	81.	100.	72.	86.
NORTHEAST	13.	51.	71.	75.	68.	54.	40.	43.	44.	43.	40.	36.	30.	23.	16.	10.	4.	659.	88.	111.	77.	94.
EAST	11.	51.	82.	100.	106.	101.	88.	68.	44.	43.	40.	36.	30.	23.	16.	10.	4.	851.	97.	127.	84.	106.
SOUTHEAST	5.	26.	54.	80.	99.	110.	113.	106.	92.	71.	45.	36.	30.	23.	16.	10.	4.	921.	100.	133.	86.	110.
HORIZ.	7.	23.	45.	69.	91.	111.	127.	136.	139.	136.	127.	111.	91.	69.	45.	23.	7.	1357.	120.	169.	101.	137.

MONTH 8 HO 2640. TOD 55. TOT 53. KT .336 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	3.	9.	22.	43.	63.	80.	90.	94.	90.	80.	63.	43.	22.	9.	3.	0.	715.	94.	124.	77.	96.
SOUTHWEST	0.	3.	9.	16.	22.	28.	40.	60.	77.	88.	91.	88.	76.	56.	31.	4.	0.	689.	93.	121.	76.	94.
WEST	0.	3.	9.	16.	22.	28.	32.	35.	36.	54.	69.	77.	77.	67.	43.	6.	0.	574.	86.	110.	72.	87.
NORTHWEST	0.	3.	9.	16.	22.	28.	32.	35.	36.	35.	32.	37.	46.	47.	36.	6.	0.	421.	78.	96.	67.	78.
NORTH	0.	4.	13.	16.	22.	28.	32.	35.	36.	35.	32.	28.	22.	16.	13.	4.	0.	337.	73.	87.	64.	73.
NORTHEAST	0.	6.	36.	47.	46.	37.	32.	35.	36.	35.	32.	28.	22.	16.	9.	3.	0.	421.	78.	96.	67.	78.
EAST	0.	6.	43.	67.	77.	77.	69.	54.	36.	35.	32.	28.	22.	16.	9.	3.	0.	574.	86.	110.	72.	87.
SOUTHEAST	0.	4.	31.	56.	76.	88.	91.	88.	77.	60.	40.	28.	22.	16.	9.	3.	0.	689.	93.	121.	76.	94.
HORIZ.	0.	5.	21.	40.	60.	77.	91.	99.	102.	99.	91.	77.	60.	40.	21.	5.	0.	888.	103.	141.	83.	106.

MONTH 9 HO 1689. TOD 47. TOT 45. KT .406 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	17.	49.	80.	106.	122.	127.	122.	106.	80.	49.	17.	0.	0.	0.	874.	106.	152.	75.	98.
SOUTHWEST	0.	0.	0.	7.	14.	21.	44.	74.	99.	115.	120.	112.	88.	44.	0.	0.	0.	738.	97.	135.	71.	90.
WEST	0.	0.	0.	7.	14.	21.	26.	29.	30.	57.	79.	90.	83.	49.	0.	0.	0.	485.	80.	105.	62.	75.
NORTHWEST	0.	0.	0.	7.	14.	21.	26.	29.	30.	29.	26.	27.	39.	30.	0.	0.	0.	277.	66.	80.	55.	62.
NORTH	0.	0.	0.	7.	14.	21.	26.	29.	30.	29.	26.	21.	14.	7.	0.	0.	0.	223.	62.	74.	53.	59.
NORTHEAST	0.	0.	0.	30.	39.	27.	26.	29.	30.	29.	26.	21.	14.	7.	0.	0.	0.	277.	66.	80.	55.	62.
EAST	0.	0.	0.	49.	83.	90.	79.	57.	30.	29.	26.	21.	14.	7.	0.	0.	0.	485.	80.	105.	62.	75.
SOUTHEAST	0.	0.	0.	44.	88.	112.	120.	115.	99.	74.	44.	21.	14.	7.	0.	0.	0.	738.	97.	135.	71.	90.
HORIZ.	0.	0.	1.	17.	41.	63.	81.	92.	96.	92.	81.	63.	41.	17.	1.	0.	0.	685.	94.	129.	69.	87.

LOCATION BETHEL, ALASKA LATITUDE 60 DEGREES 46 MINUTES

MONTH 10 HO 859. TOD 34. TOT 32. KT .432 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	18.	72.	112.	137.	145.	137.	112.	72.	18.	0.	0.	0.	0.	823.	101.	157.	58.	80.
SOUTHWEST	0.	0.	0.	0.	4.	10.	44.	79.	108.	125.	124.	97.	30.	0.	0.	0.	0.	622.	85.	127.	52.	68.
WEST	0.	0.	0.	0.	4.	10.	15.	19.	20.	51.	72.	71.	27.	0.	0.	0.	0.	291.	58.	77.	41.	49.
NORTHWEST	0.	0.	0.	0.	4.	10.	15.	19.	20.	19.	15.	10.	10.	0.	0.	0.	0.	123.	44.	52.	36.	39.
NORTH	0.	0.	0.	0.	4.	10.	15.	19.	20.	19.	15.	10.	4.	0.	0.	0.	0.	117.	43.	51.	36.	39.
NORTHEAST	0.	0.	0.	0.	10.	10.	15.	19.	20.	19.	15.	10.	4.	0.	0.	0.	0.	123.	44.	52.	36.	39.
EAST	0.	0.	0.	0.	27.	71.	72.	51.	20.	19.	15.	10.	4.	0.	0.	0.	0.	291.	58.	77.	41.	49.
SOUTHEAST	0.	0.	0.	0.	30.	97.	124.	125.	108.	79.	44.	10.	4.	0.	0.	0.	0.	622.	85.	127.	52.	68.
HORIZ.	0.	0.	0.	0.	8.	30.	50.	63.	68.	63.	50.	30.	8.	0.	0.	0.	0.	372.	64.	89.	44.	53.

MONTH 11 HO 317. TOD 19. TOT 17. KT .399 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	0.	2.	69.	120.	136.	120.	69.	2.	0.	0.	0.	0.	0.	518.	79.	129.	34.	47.
SOUTHWEST	0.	0.	0.	0.	0.	1.	26.	67.	99.	107.	74.	2.	0.	0.	0.	0.	0.	378.	63.	99.	29.	39.
WEST	0.	0.	0.	0.	0.	1.	6.	9.	10.	37.	39.	2.	0.	0.	0.	0.	0.	105.	31.	41.	20.	23.
NORTHWEST	0.	0.	0.	0.	0.	1.	6.	9.	10.	9.	6.	1.	0.	0.	0.	0.	0.	42.	24.	28.	18.	19.
NORTH	0.	0.	0.	0.	0.	1.	6.	9.	10.	9.	6.	1.	0.	0.	0.	0.	0.	42.	24.	28.	18.	19.
NORTHEAST	0.	0.	0.	0.	0.	1.	6.	9.	10.	9.	6.	1.	0.	0.	0.	0.	0.	42.	24.	28.	18.	19.
EAST	0.	0.	0.	0.	0.	2.	39.	37.	10.	9.	6.	1.	0.	0.	0.	0.	0.	105.	31.	41.	20.	23.
SOUTHEAST	0.	0.	0.	0.	0.	2.	74.	107.	99.	67.	26.	1.	0.	0.	0.	0.	0.	378.	63.	99.	29.	39.
HORIZ.	0.	0.	0.	0.	0.	2.	15.	29.	34.	29.	15.	2.	0.	0.	0.	0.	0.	127.	34.	46.	21.	24.

MONTH 12 HO 158. TOD 9. TOT 7. KT .459 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	0.	0.	21.	138.	183.	138.	21.	0.	0.	0.	0.	0.	0.	502.	83.	144.	23.	36.
SOUTHWEST	0.	0.	0.	0.	0.	0.	9.	76.	131.	122.	23.	0.	0.	0.	0.	0.	0.	361.	63.	106.	19.	28.
WEST	0.	0.	0.	0.	0.	0.	2.	6.	7.	38.	12.	0.	0.	0.	0.	0.	0.	65.	19.	27.	9.	11.
NORTHWEST	0.	0.	0.	0.	0.	0.	2.	6.	7.	6.	2.	0.	0.	0.	0.	0.	0.	22.	13.	15.	8.	8.
NORTH	0.	0.	0.	0.	0.	0.	2.	6.	7.	6.	2.	0.	0.	0.	0.	0.	0.	22.	13.	15.	8.	8.
NORTHEAST	0.	0.	0.	0.	0.	0.	2.	6.	7.	6.	2.	0.	0.	0.	0.	0.	0.	22.	13.	15.	8.	8.
EAST	0.	0.	0.	0.	0.	0.	12.	38.	7.	6.	2.	0.	0.	0.	0.	0.	0.	65.	19.	27.	9.	11.
SOUTHEAST	0.	0.	0.	0.	0.	0.	23.	122.	131.	76.	9.	0.	0.	0.	0.	0.	0.	361.	63.	106.	19.	28.
HORIZ.	0.	0.	0.	0.	0.	0.	4.	19.	26.	19.	4.	0.	0.	0.	0.	0.	0.	73.	20.	29.	10.	11.

LOCATION BETHEL, ALASKA LATITUDE 60 DEGREES 46 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	106.	112.	135.	116.	98.	100.	98.	94.	106.	101.	79.	83.	102.
SOUTHWEST	79.	86.	113.	112.	100.	103.	100.	93.	97.	85.	63.	63.	91.
WEST	27.	45.	73.	93.	95.	102.	97.	86.	80.	58.	31.	19.	67.
NORTHWEST	15.	23.	39.	66.	81.	92.	88.	78.	66.	44.	24.	13.	52.
NORTH	15.	22.	30.	51.	71.	84.	81.	73.	62.	43.	24.	13.	47.
NORTHEAST	15.	23.	39.	66.	81.	92.	88.	78.	66.	44.	24.	13.	52.
EAST	27.	45.	73.	93.	95.	102.	97.	86.	80.	58.	31.	19.	67.
SOUTHEAST	79.	86.	113.	112.	100.	103.	100.	93.	97.	85.	63.	63.	91.
HORIZ.	29.	52.	90.	122.	126.	130.	120.	103.	94.	64.	34.	20.	82.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	184.	193.	233.	187.	140.	134.	130.	124.	152.	157.	129.	144.	159.
SOUTHWEST	136.	147.	194.	180.	145.	140.	133.	121.	135.	127.	99.	106.	139.
WEST	41.	72.	120.	144.	136.	137.	127.	110.	105.	77.	41.	27.	95.
NORTHWEST	19.	33.	59.	96.	111.	119.	111.	96.	80.	52.	28.	15.	68.
NORTH	19.	31.	42.	69.	92.	105.	100.	87.	74.	51.	28.	15.	59.
NORTHEAST	19.	33.	59.	96.	111.	119.	111.	96.	80.	52.	28.	15.	68.
EAST	41.	72.	120.	144.	136.	137.	127.	110.	105.	77.	41.	27.	95.
SOUTHEAST	136.	147.	194.	180.	145.	140.	133.	121.	135.	127.	99.	106.	139.
HORIZ.	46.	85.	152.	197.	189.	187.	169.	141.	129.	89.	46.	29.	121.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	34.	48.	72.	81.	80.	88.	85.	77.	75.	58.	34.	23.	63.
SOUTHWEST	26.	38.	61.	78.	82.	90.	86.	76.	71.	52.	29.	19.	59.
WEST	12.	22.	41.	66.	78.	89.	84.	72.	62.	41.	20.	9.	50.
NORTHWEST	8.	14.	24.	50.	68.	81.	77.	67.	55.	36.	18.	8.	42.
NORTH	8.	13.	19.	40.	61.	75.	72.	64.	53.	36.	18.	8.	39.
NORTHEAST	8.	14.	24.	50.	68.	81.	77.	67.	55.	36.	18.	8.	42.
EAST	12.	22.	41.	66.	78.	89.	84.	72.	62.	41.	20.	9.	50.
SOUTHEAST	26.	38.	61.	78.	82.	90.	86.	76.	71.	52.	29.	19.	59.
HORIZ.	12.	25.	50.	84.	100.	111.	101.	83.	69.	44.	21.	10.	59.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	55.	80.	122.	125.	111.	114.	108.	96.	98.	80.	47.	36.	89.
SOUTHWEST	42.	62.	102.	121.	114.	119.	110.	94.	90.	68.	39.	28.	82.
WEST	16.	33.	65.	99.	108.	116.	106.	87.	75.	49.	23.	11.	66.
NORTHWEST	10.	17.	34.	68.	90.	103.	94.	78.	62.	39.	19.	8.	52.
NORTH	10.	17.	26.	51.	76.	92.	86.	73.	59.	39.	19.	8.	46.
NORTHEAST	10.	17.	34.	68.	90.	103.	94.	78.	62.	39.	19.	8.	52.
EAST	16.	33.	65.	99.	108.	116.	106.	87.	75.	49.	23.	11.	66.
SOUTHEAST	42.	62.	102.	121.	114.	119.	110.	94.	90.	68.	39.	28.	82.
HORIZ.	17.	38.	81.	131.	147.	155.	137.	106.	87.	53.	24.	11.	82.

LOCATION BISMARCK, NORTH DAKOTA LATITUDE 46 DEGREES 46 MINUTES

MONTH 1 HO 1056. TOD 12. TOT 9. KT .594 KD .175

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	31.	126.	184.	217.	228.	217.	184.	126.	31.	0.	0.	0.	0.	1344.	128.	221.	52.	87.
SOUTHWEST	0.	0.	0.	0.	4.	19.	71.	124.	169.	198.	202.	167.	50.	0.	0.	0.	0.	1004.	98.	169.	41.	68.
WEST	0.	0.	0.	0.	4.	13.	21.	26.	28.	78.	114.	118.	42.	0.	0.	0.	0.	443.	50.	81.	23.	35.
NORTHWEST	0.	0.	0.	0.	4.	13.	21.	26.	28.	26.	21.	13.	12.	0.	0.	0.	0.	163.	26.	38.	14.	19.
NORTH	0.	0.	0.	0.	4.	13.	21.	26.	28.	26.	21.	13.	4.	0.	0.	0.	0.	156.	26.	37.	14.	18.
NORTHEAST	0.	0.	0.	0.	12.	13.	21.	26.	28.	26.	21.	13.	4.	0.	0.	0.	0.	163.	26.	38.	14.	19.
EAST	0.	0.	0.	0.	42.	118.	114.	78.	28.	26.	21.	13.	4.	0.	0.	0.	0.	443.	50.	81.	23.	35.
SOUTHEAST	0.	0.	0.	0.	50.	167.	202.	198.	169.	124.	71.	19.	4.	0.	0.	0.	0.	1004.	98.	169.	41.	68.
HORIZ.	0.	0.	0.	0.	9.	49.	86.	110.	118.	110.	86.	49.	9.	0.	0.	0.	0.	627.	66.	110.	29.	46.

MONTH 2 HO 1649. TOD 16. TOT 13. KT .628 KD .167

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	5.	84.	148.	194.	222.	232.	222.	194.	148.	84.	5.	0.	0.	0.	1538.	129.	221.	62.	102.
SOUTHWEST	0.	0.	0.	2.	12.	22.	70.	126.	175.	209.	222.	209.	153.	11.	0.	0.	0.	1211.	105.	177.	52.	83.
WEST	0.	0.	0.	2.	12.	22.	30.	35.	37.	94.	138.	161.	139.	11.	0.	0.	0.	682.	66.	107.	35.	52.
NORTHWEST	0.	0.	0.	2.	12.	22.	30.	35.	37.	35.	30.	31.	51.	6.	0.	0.	0.	294.	37.	55.	22.	30.
NORTH	0.	0.	0.	2.	12.	22.	30.	35.	37.	35.	30.	22.	12.	2.	0.	0.	0.	241.	34.	48.	20.	27.
NORTHEAST	0.	0.	0.	6.	51.	31.	30.	35.	37.	35.	30.	22.	12.	2.	0.	0.	0.	294.	37.	55.	22.	30.
EAST	0.	0.	0.	11.	139.	161.	138.	94.	37.	35.	30.	22.	12.	2.	0.	0.	0.	682.	66.	107.	35.	52.
SOUTHEAST	0.	0.	0.	11.	153.	209.	222.	209.	175.	126.	70.	22.	12.	2.	0.	0.	0.	1211.	105.	177.	52.	83.
HORIZ.	0.	0.	0.	4.	46.	94.	133.	158.	166.	158.	133.	94.	46.	4.	0.	0.	0.	1035.	92.	154.	46.	73.

MONTH 3 HO 2349. TOD 30. TOT 27. KT .605 KD .173

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	31.	83.	131.	168.	192.	200.	192.	168.	131.	83.	31.	0.	0.	0.	1408.	120.	193.	72.	109.
SOUTHWEST	0.	0.	0.	10.	22.	32.	58.	110.	155.	187.	203.	198.	169.	102.	0.	0.	0.	1246.	109.	174.	67.	99.
WEST	0.	0.	0.	10.	22.	32.	40.	45.	46.	99.	142.	168.	168.	119.	0.	0.	0.	892.	87.	133.	55.	79.
NORTHWEST	0.	0.	0.	10.	22.	32.	40.	45.	46.	45.	40.	59.	82.	72.	0.	0.	0.	493.	61.	87.	43.	55.
NORTH	0.	0.	0.	10.	22.	32.	40.	45.	46.	45.	40.	32.	22.	10.	0.	0.	0.	344.	52.	70.	38.	47.
NORTHEAST	0.	0.	0.	72.	82.	59.	40.	45.	46.	45.	40.	32.	22.	10.	0.	0.	0.	493.	61.	87.	43.	55.
EAST	0.	0.	0.	119.	168.	168.	142.	99.	46.	45.	40.	32.	22.	10.	0.	0.	0.	892.	87.	133.	55.	79.
SOUTHEAST	0.	0.	0.	102.	169.	198.	203.	187.	155.	110.	58.	32.	22.	10.	0.	0.	0.	1246.	109.	174.	67.	99.
HORIZ.	0.	0.	0.	34.	85.	132.	168.	191.	199.	191.	168.	132.	85.	34.	0.	0.	0.	1420.	120.	194.	72.	109.

LOCATION BISMARCK, NORTH DAKOTA LATITUDE 46 DEGREES 46 MINUTES

MONTH 4 HO 3081. TOD 47. TOT 43. KT .565 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	8.	25.	65.	103.	134.	153.	160.	153.	134.	103.	65.	25.	8.	0.	0.	1135.	110.	162.	80.	109.
SOUTHWEST	0.	0.	8.	19.	31.	40.	47.	90.	129.	157.	171.	169.	150.	112.	50.	0.	0.	1174.	112.	166.	81.	112.
WEST	0.	0.	8.	19.	31.	40.	47.	52.	54.	99.	136.	160.	166.	145.	77.	0.	0.	1034.	105.	152.	76.	103.
NORTHWEST	0.	0.	8.	19.	31.	40.	47.	52.	54.	52.	49.	80.	102.	104.	64.	0.	0.	703.	86.	118.	66.	84.
NORTH	0.	0.	18.	19.	31.	40.	47.	52.	54.	52.	47.	40.	31.	19.	18.	0.	0.	469.	73.	94.	58.	70.
NORTHEAST	0.	0.	64.	104.	102.	80.	49.	52.	54.	52.	47.	40.	31.	19.	8.	0.	0.	703.	86.	118.	66.	84.
EAST	0.	0.	77.	145.	166.	160.	136.	99.	54.	52.	47.	40.	31.	19.	8.	0.	0.	1034.	105.	152.	76.	103.
SOUTHEAST	0.	0.	50.	112.	150.	169.	171.	157.	129.	90.	47.	40.	31.	19.	8.	0.	0.	1174.	112.	166.	81.	112.
HORIZ.	0.	0.	22.	68.	115.	157.	189.	210.	217.	210.	189.	157.	115.	68.	22.	0.	0.	1741.	144.	224.	99.	145.

MONTH 5 HO 3576. TOD 59. TOT 55. KT .588 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	4.	14.	25.	54.	91.	120.	139.	146.	139.	120.	91.	54.	25.	14.	4.	0.	1041.	115.	159.	90.	118.
SOUTHWEST	0.	4.	14.	25.	36.	45.	52.	81.	120.	148.	164.	164.	148.	117.	70.	13.	0.	1202.	124.	174.	96.	127.
WEST	0.	4.	14.	25.	36.	45.	52.	57.	58.	104.	142.	168.	177.	164.	119.	27.	0.	1192.	123.	173.	96.	127.
NORTHWEST	0.	4.	14.	25.	36.	45.	52.	57.	58.	57.	68.	100.	123.	130.	107.	27.	0.	902.	108.	145.	86.	109.
NORTH	0.	14.	41.	34.	36.	45.	52.	57.	58.	57.	52.	45.	36.	34.	41.	14.	0.	617.	92.	118.	76.	92.
NORTHEAST	0.	27.	107.	130.	123.	100.	68.	57.	58.	57.	52.	45.	36.	25.	14.	4.	0.	902.	108.	145.	86.	109.
EAST	0.	27.	119.	164.	177.	168.	142.	104.	58.	57.	52.	45.	36.	25.	14.	4.	0.	1192.	123.	173.	96.	127.
SOUTHEAST	0.	13.	70.	117.	148.	164.	164.	148.	120.	81.	52.	45.	36.	25.	14.	4.	0.	1202.	124.	174.	96.	127.
HORIZ.	0.	9.	47.	95.	143.	184.	216.	236.	243.	236.	216.	184.	143.	95.	47.	9.	0.	2103.	173.	261.	127.	182.

MONTH 6 HO 3762. TOD 68. TOT 64. KT .579 KD .177

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	6.	17.	27.	48.	83.	111.	128.	135.	128.	111.	83.	48.	27.	17.	6.	0.	975.	119.	158.	98.	123.
SOUTHWEST	0.	6.	17.	27.	38.	47.	53.	76.	113.	140.	154.	155.	140.	112.	70.	21.	0.	1168.	129.	176.	104.	135.
WEST	0.	6.	17.	27.	38.	47.	53.	58.	59.	103.	139.	163.	172.	162.	124.	49.	0.	1217.	132.	181.	106.	138.
NORTHWEST	0.	6.	17.	27.	38.	47.	53.	58.	59.	58.	73.	104.	126.	133.	115.	51.	0.	965.	118.	157.	97.	123.
NORTH	0.	28.	49.	42.	38.	47.	53.	58.	59.	58.	53.	47.	38.	42.	49.	28.	0.	687.	104.	132.	88.	106.
NORTHEAST	0.	51.	115.	133.	126.	104.	73.	58.	59.	58.	53.	47.	38.	27.	17.	6.	0.	965.	118.	157.	97.	123.
EAST	0.	49.	124.	162.	172.	163.	139.	103.	59.	58.	53.	47.	38.	27.	17.	6.	0.	1217.	132.	181.	106.	138.
SOUTHEAST	0.	21.	70.	112.	140.	155.	154.	140.	113.	76.	53.	47.	38.	27.	17.	6.	0.	1168.	129.	176.	104.	135.
HORIZ.	0.	16.	56.	103.	148.	188.	219.	238.	244.	238.	219.	188.	148.	103.	56.	16.	0.	2178.	182.	270.	139.	196.

LOCATION BISMARCK, NORTH DAKOTA LATITUDE 46 DEGREES 46 MINUTES

MONTH 7 HO 3576. TOD 76. TOT 72. KT .634 KD .166

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	4.	14.	25.	56.	96.	129.	150.	157.	150.	129.	96.	56.	25.	14.	4.	0.	1104.	136.	182.	110.	139.
SOUTHWEST	0.	4.	14.	25.	36.	45.	52.	84.	128.	160.	178.	179.	162.	127.	75.	13.	0.	1285.	146.	199.	116.	150.
WEST	0.	4.	14.	25.	36.	45.	52.	57.	58.	110.	154.	184.	195.	180.	131.	28.	0.	1273.	145.	198.	116.	149.
NORTHWEST	0.	4.	14.	25.	36.	45.	52.	57.	58.	57.	70.	107.	134.	143.	118.	29.	0.	947.	128.	167.	105.	129.
NORTH	0.	15.	44.	36.	36.	45.	52.	57.	58.	57.	52.	45.	36.	36.	44.	15.	0.	626.	110.	136.	94.	110.
NORTHEAST	0.	29.	118.	143.	134.	107.	70.	57.	58.	57.	52.	45.	36.	25.	14.	4.	0.	947.	128.	167.	105.	129.
EAST	0.	28.	131.	180.	195.	184.	154.	110.	58.	57.	52.	45.	36.	25.	14.	4.	0.	1273.	145.	198.	116.	149.
SOUTHEAST	0.	13.	75.	127.	162.	179.	178.	160.	128.	84.	52.	45.	36.	25.	14.	4.	0.	1285.	146.	199.	116.	150.
HORIZ.	0.	9.	50.	102.	154.	199.	234.	256.	263.	256.	234.	199.	154.	102.	50.	9.	0.	2267.	199.	294.	150.	209.

MONTH 8 HO 3060. TOD 73. TOT 69. KT .606 KD .173

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	8.	25.	68.	110.	144.	165.	173.	165.	144.	110.	68.	25.	8.	0.	0.	1213.	146.	201.	111.	143.
SOUTHWEST	0.	0.	8.	19.	30.	40.	48.	95.	138.	169.	185.	184.	163.	119.	50.	0.	0.	1249.	148.	205.	112.	145.
WEST	0.	0.	8.	19.	30.	40.	48.	52.	54.	105.	147.	174.	180.	155.	77.	0.	0.	1089.	138.	188.	107.	135.
NORTHWEST	0.	0.	8.	19.	30.	40.	48.	52.	54.	52.	50.	85.	109.	111.	64.	0.	0.	723.	117.	150.	94.	113.
NORTH	0.	0.	18.	19.	30.	40.	48.	52.	54.	52.	48.	40.	30.	19.	18.	0.	0.	469.	102.	123.	85.	98.
NORTHEAST	0.	0.	64.	111.	109.	85.	50.	52.	54.	52.	48.	40.	30.	19.	8.	0.	0.	723.	117.	150.	94.	113.
EAST	0.	0.	77.	155.	180.	174.	147.	105.	54.	52.	48.	40.	30.	19.	8.	0.	0.	1089.	138.	188.	107.	135.
SOUTHEAST	0.	0.	50.	119.	163.	184.	185.	169.	138.	95.	48.	40.	30.	19.	8.	0.	0.	1249.	148.	205.	112.	145.
HORIZ.	0.	0.	22.	71.	122.	168.	203.	225.	233.	225.	203.	168.	122.	71.	22.	0.	0.	1855.	184.	269.	133.	181.

MONTH 9 HO 2341. TOD 62. TOT 58. KT .581 KD .177

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	28.	77.	122.	158.	181.	189.	181.	158.	122.	77.	28.	0.	0.	0.	1322.	151.	220.	104.	138.
SOUTHWEST	0.	0.	0.	10.	22.	32.	56.	105.	147.	177.	191.	185.	155.	90.	0.	0.	0.	1170.	141.	202.	99.	129.
WEST	0.	0.	0.	10.	22.	32.	39.	44.	46.	95.	135.	158.	155.	105.	0.	0.	0.	842.	119.	163.	87.	109.
NORTHWEST	0.	0.	0.	10.	22.	32.	39.	44.	46.	44.	39.	57.	77.	65.	0.	0.	0.	477.	94.	119.	75.	87.
NORTH	0.	0.	0.	10.	22.	32.	39.	44.	46.	44.	39.	32.	22.	10.	0.	0.	0.	342.	85.	103.	70.	79.
NORTHEAST	0.	0.	0.	65.	77.	57.	39.	44.	46.	44.	39.	32.	22.	10.	0.	0.	0.	477.	94.	119.	75.	87.
EAST	0.	0.	0.	105.	155.	158.	135.	95.	46.	44.	39.	32.	22.	10.	0.	0.	0.	842.	119.	163.	87.	109.
SOUTHEAST	0.	0.	0.	90.	155.	185.	191.	177.	147.	105.	56.	32.	22.	10.	0.	0.	0.	1170.	141.	202.	99.	129.
HORIZ.	0.	0.	1.	33.	81.	126.	161.	183.	191.	183.	161.	126.	81.	33.	1.	0.	0.	1360.	154.	225.	105.	141.

LOCATION BISMARCK, NORTH DAKOTA LATITUDE 46 DEGREES 46 MINUTES

MONTH 10 HO 1617. TOD 50. TOT 46. KT .584 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	3.	72.	132.	175.	201.	210.	201.	175.	132.	72.	3.	0.	0.	0.	1375.	151.	234.	90.	126.
SOUTHWEST	0.	0.	0.	2.	12.	22.	65.	116.	159.	189.	199.	184.	130.	5.	0.	0.	0.	1083.	129.	195.	80.	109.
WEST	0.	0.	0.	2.	12.	22.	30.	35.	36.	86.	125.	142.	118.	6.	0.	0.	0.	613.	95.	132.	65.	81.
NORTHWEST	0.	0.	0.	2.	12.	22.	30.	35.	36.	35.	30.	29.	44.	4.	0.	0.	0.	278.	70.	87.	55.	62.
NORTH	0.	0.	0.	2.	12.	22.	30.	35.	36.	35.	30.	22.	12.	2.	0.	0.	0.	237.	67.	81.	53.	59.
NORTHEAST	0.	0.	0.	4.	44.	29.	30.	35.	36.	35.	30.	22.	12.	2.	0.	0.	0.	278.	70.	87.	55.	62.
EAST	0.	0.	0.	6.	118.	142.	125.	86.	36.	35.	30.	22.	12.	2.	0.	0.	0.	613.	95.	132.	65.	81.
SOUTHEAST	0.	0.	0.	5.	130.	184.	199.	189.	159.	116.	65.	22.	12.	2.	0.	0.	0.	1083.	129.	195.	80.	109.
HORIZ.	0.	0.	0.	3.	41.	85.	122.	145.	153.	145.	122.	85.	41.	3.	0.	0.	0.	943.	119.	176.	76.	101.

MONTH 11 HO 1045. TOD 31. TOT 28. KT .510 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	22.	99.	146.	173.	182.	173.	146.	99.	22.	0.	0.	0.	0.	1061.	123.	197.	62.	90.
SOUTHWEST	0.	0.	0.	0.	4.	17.	59.	101.	136.	158.	160.	130.	35.	0.	0.	0.	0.	800.	100.	156.	54.	75.
WEST	0.	0.	0.	0.	4.	13.	20.	25.	27.	65.	92.	92.	30.	0.	0.	0.	0.	368.	63.	89.	40.	50.
NORTHWEST	0.	0.	0.	0.	4.	13.	20.	25.	27.	25.	20.	13.	9.	0.	0.	0.	0.	157.	45.	56.	33.	38.
NORTH	0.	0.	0.	0.	4.	13.	20.	25.	27.	25.	20.	13.	4.	0.	0.	0.	0.	151.	44.	55.	33.	37.
NORTHEAST	0.	0.	0.	0.	9.	13.	20.	25.	27.	25.	20.	13.	4.	0.	0.	0.	0.	157.	45.	56.	33.	38.
EAST	0.	0.	0.	0.	30.	92.	92.	65.	27.	25.	20.	13.	4.	0.	0.	0.	0.	368.	63.	89.	40.	50.
SOUTHEAST	0.	0.	0.	0.	35.	130.	160.	158.	136.	101.	59.	17.	4.	0.	0.	0.	0.	800.	100.	156.	54.	75.
HORIZ.	0.	0.	0.	0.	9.	42.	73.	93.	100.	93.	73.	42.	9.	0.	0.	0.	0.	533.	77.	115.	46.	59.

MONTH 12 HO 840. TOD 18. TOT 15. KT .547 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	2.	97.	161.	195.	206.	195.	161.	97.	2.	0.	0.	0.	0.	1114.	121.	205.	51.	80.
SOUTHWEST	0.	0.	0.	0.	1.	17.	64.	112.	152.	176.	173.	125.	2.	0.	0.	0.	0.	824.	94.	157.	42.	63.
WEST	0.	0.	0.	0.	1.	9.	17.	22.	23.	66.	94.	86.	2.	0.	0.	0.	0.	321.	48.	72.	26.	34.
NORTHWEST	0.	0.	0.	0.	1.	9.	17.	22.	23.	22.	17.	9.	1.	0.	0.	0.	0.	122.	30.	39.	19.	23.
NORTH	0.	0.	0.	0.	1.	9.	17.	22.	23.	22.	17.	9.	1.	0.	0.	0.	0.	122.	30.	39.	19.	23.
NORTHEAST	0.	0.	0.	0.	1.	9.	17.	22.	23.	22.	17.	9.	1.	0.	0.	0.	0.	122.	30.	39.	19.	23.
EAST	0.	0.	0.	0.	2.	86.	94.	66.	23.	22.	17.	9.	1.	0.	0.	0.	0.	321.	48.	72.	26.	34.
SOUTHEAST	0.	0.	0.	0.	2.	125.	173.	176.	152.	112.	64.	17.	1.	0.	0.	0.	0.	824.	94.	157.	42.	63.
HORIZ.	0.	0.	0.	0.	2.	31.	64.	86.	94.	86.	64.	31.	2.	0.	0.	0.	0.	459.	61.	95.	30.	42.

LOCATION BISMARCK, NORTH DAKOTA LATITUDE 46 DEGREES 46 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	128.	129.	120.	110.	115.	119.	136.	146.	151.	151.	123.	121.	129.
SOUTHWEST	98.	105.	109.	112.	124.	129.	146.	148.	141.	129.	100.	94.	120.
WEST	50.	66.	87.	105.	123.	132.	145.	138.	119.	95.	63.	48.	98.
NORTHWEST	26.	37.	61.	86.	108.	118.	128.	117.	94.	70.	45.	30.	77.
NORTH	26.	34.	52.	73.	92.	104.	110.	102.	85.	67.	44.	30.	68.
NORTHEAST	26.	37.	61.	86.	108.	118.	128.	117.	94.	70.	45.	30.	77.
EAST	50.	66.	87.	105.	123.	132.	145.	138.	119.	95.	63.	48.	98.
SOUTHEAST	98.	105.	109.	112.	124.	129.	146.	148.	141.	129.	100.	94.	120.
HORIZ.	66.	92.	120.	144.	173.	182.	199.	184.	154.	119.	77.	61.	131.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	221.	221.	193.	162.	159.	158.	182.	201.	220.	234.	197.	205.	196.
SOUTHWEST	169.	177.	174.	166.	174.	176.	199.	205.	202.	195.	156.	157.	179.
WEST	81.	107.	133.	152.	173.	181.	198.	188.	163.	132.	89.	72.	139.
NORTHWEST	38.	55.	87.	118.	145.	157.	167.	150.	119.	87.	56.	39.	101.
NORTH	37.	48.	70.	94.	118.	132.	136.	123.	103.	81.	55.	39.	86.
NORTHEAST	38.	55.	87.	118.	145.	157.	167.	150.	119.	87.	56.	39.	101.
EAST	81.	107.	133.	152.	173.	181.	198.	188.	163.	132.	89.	72.	139.
SOUTHEAST	169.	177.	174.	166.	174.	176.	199.	205.	202.	195.	156.	157.	179.
HORIZ.	110.	154.	194.	224.	261.	270.	294.	269.	225.	176.	115.	95.	199.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	52.	62.	72.	80.	90.	98.	110.	111.	104.	90.	62.	51.	82.
SOUTHWEST	41.	52.	67.	81.	96.	104.	116.	112.	99.	80.	54.	42.	79.
WEST	23.	35.	55.	76.	96.	106.	116.	107.	87.	65.	40.	26.	69.
NORTHWEST	14.	22.	43.	66.	86.	97.	105.	94.	75.	55.	33.	19.	59.
NORTH	14.	20.	38.	58.	76.	88.	94.	85.	70.	53.	33.	19.	54.
NORTHEAST	14.	22.	43.	66.	86.	97.	105.	94.	75.	55.	33.	19.	59.
EAST	23.	35.	55.	76.	96.	106.	116.	107.	87.	65.	40.	26.	69.
SOUTHEAST	41.	52.	67.	81.	96.	104.	116.	112.	99.	80.	54.	42.	79.
HORIZ.	29.	46.	72.	99.	127.	139.	150.	133.	105.	76.	46.	30.	88.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	87.	102.	109.	109.	118.	123.	139.	143.	138.	126.	90.	80.	114.
SOUTHWEST	68.	83.	99.	112.	127.	135.	150.	145.	129.	109.	75.	63.	108.
WEST	35.	52.	79.	103.	127.	138.	149.	135.	109.	81.	50.	34.	91.
NORTHWEST	19.	30.	55.	84.	109.	123.	129.	113.	87.	62.	38.	23.	73.
NORTH	18.	27.	47.	70.	92.	106.	110.	98.	79.	59.	37.	23.	64.
NORTHEAST	19.	30.	55.	84.	109.	123.	129.	113.	87.	62.	38.	23.	73.
EAST	35.	52.	79.	103.	127.	138.	149.	135.	109.	81.	50.	34.	91.
SOUTHEAST	68.	83.	99.	112.	127.	135.	150.	145.	129.	109.	75.	63.	108.
HORIZ.	46.	73.	109.	145.	182.	196.	209.	181.	141.	101.	59.	42.	124.

LOCATION BLUE HILL, MASS. LATITUDE 42 DEGREES 13 MINUTES

MONTH 1 HO 1308. TOD 28. TOT 24. KT .445 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	38.	90.	122.	141.	147.	141.	122.	90.	38.	0.	0.	0.	0.	930.	104.	166.	54.	78.
SOUTHWEST	0.	0.	0.	0.	7.	19.	52.	86.	113.	131.	134.	118.	61.	0.	0.	0.	0.	720.	87.	135.	47.	66.
WEST	0.	0.	0.	0.	7.	16.	24.	28.	30.	60.	82.	86.	52.	0.	0.	0.	0.	385.	60.	85.	36.	46.
NORTHWEST	0.	0.	0.	0.	7.	16.	24.	28.	30.	28.	24.	16.	16.	0.	0.	0.	0.	189.	44.	56.	30.	35.
NORTH	0.	0.	0.	0.	7.	16.	24.	28.	30.	28.	24.	16.	7.	0.	0.	0.	0.	180.	43.	55.	30.	34.
NORTHEAST	0.	0.	0.	0.	16.	16.	24.	28.	30.	28.	24.	16.	7.	0.	0.	0.	0.	189.	44.	56.	30.	35.
EAST	0.	0.	0.	0.	52.	86.	82.	60.	30.	28.	24.	16.	7.	0.	0.	0.	0.	385.	60.	85.	36.	46.
SOUTHEAST	0.	0.	0.	0.	61.	118.	134.	131.	113.	86.	52.	19.	7.	0.	0.	0.	0.	720.	87.	135.	47.	66.
HORIZ.	0.	0.	0.	0.	17.	50.	78.	96.	102.	96.	78.	50.	17.	0.	0.	0.	0.	583.	76.	115.	43.	58.

MONTH 2 HO 1885. TOD 28. TOT 24. KT .458 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	9.	59.	96.	124.	141.	146.	141.	124.	96.	59.	9.	0.	0.	0.	1003.	100.	159.	56.	83.
SOUTHWEST	0.	0.	0.	3.	14.	24.	52.	86.	115.	134.	142.	134.	103.	21.	0.	0.	0.	829.	88.	136.	51.	72.
WEST	0.	0.	0.	3.	14.	24.	32.	37.	39.	71.	96.	107.	95.	22.	0.	0.	0.	542.	67.	99.	41.	56.
NORTHWEST	0.	0.	0.	3.	14.	24.	32.	37.	39.	37.	32.	32.	40.	12.	0.	0.	0.	305.	50.	68.	34.	42.
NORTH	0.	0.	0.	3.	14.	24.	32.	37.	39.	37.	32.	24.	14.	3.	0.	0.	0.	262.	47.	62.	33.	39.
NORTHEAST	0.	0.	0.	12.	40.	32.	32.	37.	39.	37.	32.	24.	14.	3.	0.	0.	0.	305.	50.	68.	34.	42.
EAST	0.	0.	0.	22.	95.	107.	96.	71.	39.	37.	32.	24.	14.	3.	0.	0.	0.	542.	67.	99.	41.	56.
SOUTHEAST	0.	0.	0.	21.	103.	134.	142.	134.	115.	86.	52.	24.	14.	3.	0.	0.	0.	829.	88.	136.	51.	72.
HORIZ.	0.	0.	0.	7.	43.	80.	109.	127.	133.	127.	109.	80.	43.	7.	0.	0.	0.	863.	90.	141.	52.	74.

MONTH 3 HO 2536. TOD 37. TOT 33. KT .477 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	25.	61.	94.	120.	136.	142.	136.	120.	94.	61.	25.	0.	0.	0.	1014.	102.	155.	66.	92.
SOUTHWEST	0.	0.	0.	11.	23.	33.	48.	84.	114.	136.	145.	141.	120.	74.	0.	0.	0.	931.	96.	145.	63.	87.
WEST	0.	0.	0.	11.	23.	33.	41.	46.	48.	82.	109.	125.	122.	87.	0.	0.	0.	728.	83.	121.	57.	76.
NORTHWEST	0.	0.	0.	11.	23.	33.	41.	46.	48.	46.	41.	55.	66.	55.	0.	0.	0.	466.	67.	91.	48.	60.
NORTH	0.	0.	0.	11.	23.	33.	41.	46.	48.	46.	41.	33.	23.	11.	0.	0.	0.	357.	60.	78.	45.	54.
NORTHEAST	0.	0.	0.	55.	66.	55.	41.	46.	48.	46.	41.	33.	23.	11.	0.	0.	0.	466.	67.	91.	48.	60.
EAST	0.	0.	0.	87.	122.	125.	109.	82.	48.	46.	41.	33.	23.	11.	0.	0.	0.	728.	83.	121.	57.	76.
SOUTHEAST	0.	0.	0.	74.	120.	141.	145.	136.	114.	84.	48.	33.	23.	11.	0.	0.	0.	931.	96.	145.	63.	87.
HORIZ.	0.	0.	0.	32.	74.	112.	142.	161.	167.	161.	142.	112.	74.	32.	0.	0.	0.	1208.	114.	177.	72.	104.

LOCATION BLUE HILL, MASS. LATITUDE 42 DEGREES 13 MINUTES

MONTH 4 HO 3189. TOD 47. TOT 44. KT .464 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	7.	21.	50.	79.	101.	116.	121.	116.	101.	79.	50.	21.	7.	0.	0.	869.	97.	137.	72.	94.
SOUTHWEST	0.	0.	7.	19.	30.	40.	47.	73.	101.	121.	130.	128.	113.	83.	34.	0.	0.	927.	100.	143.	74.	98.
WEST	0.	0.	7.	19.	30.	40.	47.	52.	54.	86.	111.	126.	127.	108.	51.	0.	0.	858.	96.	136.	71.	94.
NORTHWEST	0.	0.	7.	19.	30.	40.	47.	52.	54.	52.	54.	73.	85.	81.	43.	0.	0.	638.	83.	113.	64.	81.
NORTH	0.	0.	14.	19.	30.	40.	47.	52.	54.	52.	47.	40.	30.	19.	14.	0.	0.	459.	73.	95.	59.	71.
NORTHEAST	0.	0.	43.	81.	85.	73.	54.	52.	54.	52.	47.	40.	30.	19.	7.	0.	0.	638.	83.	113.	64.	81.
EAST	0.	0.	51.	108.	127.	126.	111.	86.	54.	52.	47.	40.	30.	19.	7.	0.	0.	858.	96.	136.	71.	94.
SOUTHEAST	0.	0.	34.	83.	113.	128.	130.	121.	101.	73.	47.	40.	30.	19.	7.	0.	0.	927.	100.	143.	74.	98.
HORIZ.	0.	0.	18.	57.	98.	134.	162.	179.	185.	179.	162.	134.	98.	57.	18.	0.	0.	1481.	132.	201.	91.	130.

MONTH 5 HO 3611. TOD 58. TOT 56. KT .501 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	3.	13.	25.	43.	72.	94.	109.	114.	109.	94.	72.	43.	25.	13.	3.	0.	832.	105.	141.	84.	106.
SOUTHWEST	0.	3.	13.	25.	36.	45.	53.	69.	98.	119.	130.	129.	116.	90.	51.	4.	0.	981.	114.	156.	90.	115.
WEST	0.	3.	13.	25.	36.	45.	53.	57.	59.	93.	120.	138.	142.	128.	87.	7.	0.	1004.	115.	158.	90.	117.
NORTHWEST	0.	3.	13.	25.	36.	45.	53.	57.	59.	57.	71.	92.	105.	105.	80.	7.	0.	806.	104.	139.	84.	105.
NORTH	0.	4.	33.	35.	36.	45.	53.	57.	59.	57.	53.	45.	36.	35.	33.	4.	0.	586.	91.	117.	76.	91.
NORTHEAST	0.	7.	80.	105.	105.	92.	71.	57.	59.	57.	53.	45.	36.	25.	13.	3.	0.	806.	104.	139.	84.	105.
EAST	0.	7.	87.	128.	142.	138.	120.	93.	59.	57.	53.	45.	36.	25.	13.	3.	0.	1004.	115.	158.	90.	117.
SOUTHEAST	0.	4.	51.	90.	116.	129.	130.	119.	98.	69.	53.	45.	36.	25.	13.	3.	0.	981.	114.	156.	90.	115.
HORIZ.	0.	4.	37.	80.	123.	160.	188.	206.	212.	206.	188.	160.	123.	80.	37.	4.	0.	1809.	160.	238.	118.	165.

MONTH 6 HO 3765. TOD 67. TOT 65. KT .516 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	5.	15.	27.	39.	67.	90.	105.	110.	105.	90.	67.	39.	27.	15.	5.	0.	806.	111.	145.	93.	114.
SOUTHWEST	0.	5.	15.	27.	37.	47.	54.	65.	95.	117.	129.	129.	116.	91.	55.	11.	0.	993.	121.	163.	99.	125.
WEST	0.	5.	15.	27.	37.	47.	54.	58.	60.	95.	124.	142.	147.	135.	98.	23.	0.	1065.	125.	170.	102.	130.
NORTHWEST	0.	5.	15.	27.	37.	47.	54.	58.	60.	58.	77.	99.	114.	115.	92.	24.	0.	882.	115.	152.	96.	119.
NORTH	0.	14.	42.	43.	37.	47.	54.	58.	60.	58.	54.	47.	37.	43.	42.	14.	0.	649.	103.	130.	88.	105.
NORTHEAST	0.	24.	92.	115.	114.	99.	77.	58.	60.	58.	54.	47.	37.	27.	15.	5.	0.	882.	115.	152.	96.	119.
EAST	0.	23.	98.	135.	147.	142.	124.	95.	60.	58.	54.	47.	37.	27.	15.	5.	0.	1065.	125.	170.	102.	130.
SOUTHEAST	0.	11.	55.	91.	116.	129.	129.	117.	95.	65.	54.	47.	37.	27.	15.	5.	0.	993.	121.	163.	99.	125.
HORIZ.	0.	9.	45.	89.	132.	169.	198.	217.	223.	217.	198.	169.	132.	89.	45.	9.	0.	1943.	173.	254.	132.	183.

LOCATION BLUE HILL, MASS. LATITUDE 42 DEGREES 13 MINUTES

MONTH 7 HO 3609. TOD 72. TOT 70. KT .513 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	3.	13.	25.	43.	72.	96.	111.	116.	111.	96.	72.	43.	25.	13.	3.	0.	843.	120.	156.	99.	121.
SOUTHWEST	0.	3.	13.	25.	36.	45.	53.	69.	99.	122.	133.	133.	119.	92.	52.	4.	0.	997.	128.	171.	104.	130.
WEST	0.	3.	13.	25.	36.	45.	53.	57.	59.	95.	123.	142.	146.	131.	88.	7.	0.	1021.	130.	174.	105.	132.
NORTHWEST	0.	3.	13.	25.	36.	45.	53.	57.	59.	57.	72.	94.	108.	108.	81.	7.	0.	817.	118.	153.	98.	120.
NORTH	0.	5.	34.	36.	36.	45.	53.	57.	59.	57.	53.	45.	36.	36.	34.	5.	0.	589.	105.	131.	90.	106.
NORTHEAST	0.	7.	81.	108.	108.	94.	72.	57.	59.	57.	53.	45.	36.	25.	13.	3.	0.	817.	118.	153.	98.	120.
EAST	0.	7.	88.	131.	146.	142.	123.	95.	59.	57.	53.	45.	36.	25.	13.	3.	0.	1021.	130.	174.	105.	132.
SOUTHEAST	0.	4.	52.	92.	119.	133.	133.	122.	99.	69.	53.	45.	36.	25.	13.	3.	0.	997.	128.	171.	104.	130.
HORIZ.	0.	5.	37.	82.	125.	163.	193.	212.	218.	212.	193.	163.	125.	82.	37.	5.	0.	1852.	176.	256.	134.	182.

MONTH 8 HO 3167. TOD 71. TOT 68. KT .495 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	7.	21.	52.	83.	108.	123.	129.	123.	108.	83.	52.	21.	7.	0.	0.	918.	126.	169.	99.	124.
SOUTHWEST	0.	0.	7.	19.	31.	41.	48.	77.	107.	129.	140.	137.	121.	88.	33.	0.	0.	978.	130.	176.	102.	127.
WEST	0.	0.	7.	19.	31.	41.	48.	53.	55.	90.	118.	135.	136.	114.	51.	0.	0.	899.	125.	167.	99.	122.
NORTHWEST	0.	0.	7.	19.	31.	41.	48.	53.	55.	53.	56.	77.	90.	85.	43.	0.	0.	659.	111.	141.	91.	108.
NORTH	0.	0.	14.	19.	31.	41.	48.	53.	55.	53.	48.	41.	31.	19.	14.	0.	0.	468.	99.	121.	84.	96.
NORTHEAST	0.	0.	43.	85.	90.	77.	56.	53.	55.	53.	48.	41.	31.	19.	7.	0.	0.	659.	111.	141.	91.	108.
EAST	0.	0.	51.	114.	136.	135.	118.	90.	55.	53.	48.	41.	31.	19.	7.	0.	0.	899.	125.	167.	99.	122.
SOUTHEAST	0.	0.	33.	88.	121.	137.	140.	129.	107.	77.	48.	41.	31.	19.	7.	0.	0.	978.	130.	176.	102.	127.
HORIZ.	0.	0.	18.	60.	103.	142.	172.	191.	197.	191.	172.	142.	103.	60.	18.	0.	0.	1568.	166.	239.	122.	163.

MONTH 9 HO 2526. TOD 64. TOT 61. KT .492 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	24.	62.	96.	123.	140.	146.	140.	123.	96.	62.	24.	0.	0.	0.	1038.	135.	189.	97.	124.
SOUTHWEST	0.	0.	0.	11.	23.	33.	49.	86.	118.	140.	150.	145.	122.	73.	0.	0.	0.	950.	129.	178.	94.	119.
WEST	0.	0.	0.	11.	23.	33.	41.	46.	48.	84.	113.	128.	125.	86.	0.	0.	0.	740.	115.	153.	86.	106.
NORTHWEST	0.	0.	0.	11.	23.	33.	41.	46.	48.	46.	41.	56.	68.	55.	0.	0.	0.	471.	96.	121.	77.	90.
NORTH	0.	0.	0.	11.	23.	33.	41.	46.	48.	46.	41.	33.	23.	11.	0.	0.	0.	360.	89.	107.	73.	83.
NORTHEAST	0.	0.	0.	55.	68.	56.	41.	46.	48.	46.	41.	33.	23.	11.	0.	0.	0.	471.	96.	121.	77.	90.
EAST	0.	0.	0.	86.	125.	128.	113.	84.	48.	46.	41.	33.	23.	11.	0.	0.	0.	740.	115.	153.	86.	106.
SOUTHEAST	0.	0.	0.	73.	122.	145.	150.	140.	118.	86.	49.	33.	23.	11.	0.	0.	0.	950.	129.	178.	94.	119.
HORIZ.	0.	0.	1.	32.	75.	115.	146.	166.	172.	166.	146.	115.	75.	32.	1.	0.	0.	1241.	149.	213.	104.	136.

LOCATION BLUE HILL, MASS. LATITUDE 42 DEGREES 13 MINUTES

MONTH 10 HO 1851. TOD 54. TOT 51. KT .472 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	8.	59.	99.	128.	146.	152.	146.	128.	99.	59.	8.	0.	0.	0.	1032.	129.	189.	84.	111.
SOUTHWEST	0.	0.	0.	3.	14.	24.	53.	89.	119.	140.	147.	137.	103.	16.	0.	0.	0.	846.	115.	165.	78.	100.
WEST	0.	0.	0.	3.	14.	24.	32.	37.	39.	73.	99.	110.	95.	17.	0.	0.	0.	543.	93.	125.	68.	82.
NORTHWEST	0.	0.	0.	3.	14.	24.	32.	37.	39.	37.	32.	32.	40.	10.	0.	0.	0.	300.	76.	93.	60.	68.
NORTH	0.	0.	0.	3.	14.	24.	32.	37.	39.	37.	32.	24.	14.	3.	0.	0.	0.	261.	73.	88.	59.	66.
NORTHEAST	0.	0.	0.	10.	40.	32.	32.	37.	39.	37.	32.	24.	14.	3.	0.	0.	0.	300.	76.	93.	60.	68.
EAST	0.	0.	0.	17.	95.	110.	99.	73.	39.	37.	32.	24.	14.	3.	0.	0.	0.	543.	93.	125.	68.	82.
SOUTHEAST	0.	0.	0.	16.	103.	137.	147.	140.	119.	89.	53.	24.	14.	3.	0.	0.	0.	846.	115.	165.	78.	100.
HORIZ.	0.	0.	0.	6.	42.	80.	110.	129.	136.	129.	110.	80.	42.	6.	0.	0.	0.	874.	117.	169.	79.	101.

MONTH 11 HO 1296. TOD 43. TOT 40. KT .406 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	32.	78.	107.	124.	130.	124.	107.	78.	32.	0.	0.	0.	0.	811.	110.	164.	66.	87.
SOUTHWEST	0.	0.	0.	0.	6.	18.	47.	76.	100.	115.	117.	101.	50.	0.	0.	0.	0.	632.	95.	137.	60.	76.
WEST	0.	0.	0.	0.	6.	15.	23.	27.	29.	54.	72.	75.	43.	0.	0.	0.	0.	344.	71.	94.	51.	60.
NORTHWEST	0.	0.	0.	0.	6.	15.	23.	27.	29.	27.	23.	15.	14.	0.	0.	0.	0.	180.	58.	70.	45.	50.
NORTH	0.	0.	0.	0.	6.	15.	23.	27.	29.	27.	23.	15.	6.	0.	0.	0.	0.	172.	57.	69.	45.	50.
NORTHEAST	0.	0.	0.	0.	14.	15.	23.	27.	29.	27.	23.	15.	6.	0.	0.	0.	0.	180.	58.	70.	45.	50.
EAST	0.	0.	0.	0.	43.	75.	72.	54.	29.	27.	23.	15.	6.	0.	0.	0.	0.	344.	71.	94.	51.	60.
SOUTHEAST	0.	0.	0.	0.	50.	101.	117.	115.	100.	76.	47.	18.	6.	0.	0.	0.	0.	632.	95.	137.	60.	76.
HORIZ.	0.	0.	0.	0.	15.	45.	70.	87.	92.	87.	70.	45.	15.	0.	0.	0.	0.	527.	86.	121.	57.	70.

MONTH 12 HO 1091. TOD 31. TOT 27. KT .436 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	19.	82.	118.	138.	145.	138.	118.	82.	19.	0.	0.	0.	0.	861.	106.	167.	55.	78.
SOUTHWEST	0.	0.	0.	0.	4.	18.	51.	84.	110.	127.	128.	105.	29.	0.	0.	0.	0.	656.	88.	134.	48.	66.
WEST	0.	0.	0.	0.	4.	13.	20.	25.	26.	55.	74.	74.	24.	0.	0.	0.	0.	316.	59.	81.	38.	46.
NORTHWEST	0.	0.	0.	0.	4.	13.	20.	25.	26.	25.	20.	13.	7.	0.	0.	0.	0.	152.	45.	55.	32.	36.
NORTH	0.	0.	0.	0.	4.	13.	20.	25.	26.	25.	20.	13.	4.	0.	0.	0.	0.	149.	44.	55.	32.	36.
NORTHEAST	0.	0.	0.	0.	7.	13.	20.	25.	26.	25.	20.	13.	4.	0.	0.	0.	0.	152.	45.	55.	32.	36.
EAST	0.	0.	0.	0.	24.	74.	74.	55.	26.	25.	20.	13.	4.	0.	0.	0.	0.	316.	59.	81.	38.	46.
SOUTHEAST	0.	0.	0.	0.	29.	105.	128.	127.	110.	84.	51.	18.	4.	0.	0.	0.	0.	656.	88.	134.	48.	66.
HORIZ.	0.	0.	0.	0.	8.	38.	65.	83.	89.	83.	65.	38.	8.	0.	0.	0.	0.	476.	73.	106.	43.	55.

LOCATION BLUE HILL, MASS. LATITUDE 42 DEGREES 13 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	104.	100.	102.	97.	105.	111.	120.	126.	135.	129.	110.	106.	112.
SOUTHWEST	87.	88.	96.	100.	114.	121.	128.	130.	129.	115.	95.	88.	108.
WEST	60.	67.	83.	96.	115.	125.	130.	125.	115.	93.	71.	59.	95.
NORTHWEST	44.	50.	67.	83.	104.	115.	118.	111.	96.	76.	58.	45.	81.
NORTH	43.	47.	60.	73.	91.	103.	105.	99.	89.	73.	57.	44.	74.
NORTHEAST	44.	50.	67.	83.	104.	115.	118.	111.	96.	76.	58.	45.	81.
EAST	60.	67.	83.	96.	115.	125.	130.	125.	115.	93.	71.	59.	95.
SOUTHEAST	87.	88.	96.	100.	114.	121.	128.	130.	129.	115.	95.	88.	108.
HORIZ.	76.	90.	114.	132.	160.	173.	176.	166.	149.	117.	86.	73.	126.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	166.	159.	155.	137.	141.	145.	156.	169.	189.	189.	164.	167.	161.
SOUTHWEST	135.	136.	145.	143.	156.	163.	171.	176.	178.	165.	137.	134.	153.
WEST	85.	99.	121.	136.	158.	170.	174.	167.	153.	125.	94.	81.	130.
NORTHWEST	56.	68.	91.	113.	139.	152.	153.	141.	121.	93.	70.	55.	104.
NORTH	55.	62.	78.	95.	117.	130.	131.	121.	107.	88.	69.	55.	92.
NORTHEAST	56.	68.	91.	113.	139.	152.	153.	141.	121.	93.	70.	55.	104.
EAST	85.	99.	121.	136.	158.	170.	174.	167.	153.	125.	94.	81.	130.
SOUTHEAST	135.	136.	145.	143.	156.	163.	171.	176.	178.	165.	137.	134.	153.
HORIZ.	115.	141.	177.	201.	238.	254.	256.	239.	213.	169.	121.	106.	186.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	54.	56.	66.	72.	84.	93.	99.	99.	97.	84.	66.	55.	77.
SOUTHWEST	47.	51.	63.	74.	90.	99.	104.	102.	94.	78.	60.	48.	76.
WEST	36.	41.	57.	71.	90.	102.	105.	99.	86.	68.	51.	38.	70.
NORTHWEST	30.	34.	48.	64.	84.	96.	98.	91.	77.	60.	45.	32.	63.
NORTH	30.	33.	45.	59.	76.	88.	90.	84.	73.	59.	45.	32.	59.
NORTHEAST	30.	34.	48.	64.	84.	96.	98.	91.	77.	60.	45.	32.	63.
EAST	36.	41.	57.	71.	90.	102.	105.	99.	86.	68.	51.	38.	70.
SOUTHEAST	47.	51.	63.	74.	90.	99.	104.	102.	94.	78.	60.	48.	76.
HORIZ.	43.	52.	72.	91.	118.	132.	134.	122.	104.	79.	57.	43.	87.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	78.	83.	92.	94.	106.	114.	121.	124.	124.	111.	87.	78.	101.
SOUTHWEST	66.	72.	87.	98.	115.	125.	130.	127.	119.	100.	76.	66.	99.
WEST	46.	56.	76.	94.	117.	130.	132.	122.	106.	82.	60.	46.	89.
NORTHWEST	35.	42.	60.	81.	105.	119.	120.	108.	90.	68.	50.	36.	76.
NORTH	34.	39.	54.	71.	91.	105.	106.	96.	83.	66.	50.	36.	69.
NORTHEAST	35.	42.	60.	81.	105.	119.	120.	108.	90.	68.	50.	36.	76.
EAST	46.	56.	76.	94.	117.	130.	132.	122.	106.	82.	60.	46.	89.
SOUTHEAST	66.	72.	87.	98.	115.	125.	130.	127.	119.	100.	76.	66.	99.
HORIZ.	58.	74.	104.	130.	165.	183.	182.	163.	136.	101.	70.	55.	119.

LOCATION BOISE, IDAHO LATITUDE 43 DEGREES 34 MINUTES

MONTH 1 HO 1233. TOD 29. TOT 27. KT .446 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	34.	88.	122.	142.	149.	142.	122.	88.	34.	0.	0.	0.	0.	921.	106.	168.	57.	81.
SOUTHWEST	0.	0.	0.	0.	6.	18.	52.	86.	113.	131.	134.	116.	54.	0.	0.	0.	0.	709.	88.	136.	50.	69.
WEST	0.	0.	0.	0.	6.	15.	22.	27.	29.	59.	81.	84.	46.	0.	0.	0.	0.	369.	60.	85.	39.	49.
NORTHWEST	0.	0.	0.	0.	6.	15.	22.	27.	29.	27.	22.	15.	14.	0.	0.	0.	0.	178.	44.	56.	33.	38.
NORTH	0.	0.	0.	0.	6.	15.	22.	27.	29.	27.	22.	15.	6.	0.	0.	0.	0.	170.	44.	55.	33.	37.
NORTHEAST	0.	0.	0.	0.	14.	15.	22.	27.	29.	27.	22.	15.	6.	0.	0.	0.	0.	178.	44.	56.	33.	38.
EAST	0.	0.	0.	0.	46.	84.	81.	59.	29.	27.	22.	15.	6.	0.	0.	0.	0.	369.	60.	85.	39.	49.
SOUTHEAST	0.	0.	0.	0.	54.	116.	134.	131.	113.	86.	52.	18.	6.	0.	0.	0.	0.	709.	88.	136.	50.	69.
HORIZ.	0.	0.	0.	0.	14.	47.	74.	92.	98.	92.	74.	47.	14.	0.	0.	0.	0.	551.	75.	112.	45.	59.

MONTH 2 HO 1816. TOD 36. TOT 34. KT .533 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	9.	70.	118.	152.	173.	181.	173.	152.	118.	70.	9.	0.	0.	0.	1226.	125.	197.	73.	105.
SOUTHWEST	0.	0.	0.	3.	14.	25.	59.	103.	139.	165.	175.	165.	126.	20.	0.	0.	0.	995.	108.	167.	66.	92.
WEST	0.	0.	0.	3.	14.	25.	33.	38.	39.	82.	114.	131.	116.	22.	0.	0.	0.	616.	81.	117.	54.	70.
NORTHWEST	0.	0.	0.	3.	14.	25.	33.	38.	39.	38.	33.	34.	46.	12.	0.	0.	0.	314.	59.	78.	44.	52.
NORTH	0.	0.	0.	3.	14.	25.	33.	38.	39.	38.	33.	25.	14.	3.	0.	0.	0.	264.	56.	71.	42.	49.
NORTHEAST	0.	0.	0.	12.	46.	34.	33.	38.	39.	38.	33.	25.	14.	3.	0.	0.	0.	314.	59.	78.	44.	52.
EAST	0.	0.	0.	22.	116.	131.	114.	82.	39.	38.	33.	25.	14.	3.	0.	0.	0.	616.	81.	117.	54.	70.
SOUTHEAST	0.	0.	0.	20.	126.	165.	175.	165.	139.	103.	59.	25.	14.	3.	0.	0.	0.	995.	108.	167.	66.	92.
HORIZ.	0.	0.	0.	6.	47.	89.	123.	144.	151.	144.	123.	89.	47.	6.	0.	0.	0.	967.	106.	164.	65.	90.

MONTH 3 HO 2483. TOD 45. TOT 42. KT .548 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	28.	72.	113.	144.	164.	171.	164.	144.	113.	72.	28.	0.	0.	0.	1213.	123.	186.	81.	112.
SOUTHWEST	0.	0.	0.	11.	23.	33.	53.	97.	135.	162.	175.	171.	146.	90.	0.	0.	0.	1098.	115.	172.	77.	106.
WEST	0.	0.	0.	11.	23.	33.	41.	47.	48.	92.	128.	149.	148.	106.	0.	0.	0.	828.	98.	141.	68.	90.
NORTHWEST	0.	0.	0.	11.	23.	33.	41.	47.	48.	47.	41.	59.	77.	66.	0.	0.	0.	494.	77.	102.	58.	71.
NORTH	0.	0.	0.	11.	23.	33.	41.	47.	48.	47.	41.	33.	23.	11.	0.	0.	0.	360.	68.	87.	53.	63.
NORTHEAST	0.	0.	0.	66.	77.	59.	41.	47.	48.	47.	41.	33.	23.	11.	0.	0.	0.	494.	77.	102.	58.	71.
EAST	0.	0.	0.	106.	148.	149.	128.	92.	48.	47.	41.	33.	23.	11.	0.	0.	0.	828.	98.	141.	68.	90.
SOUTHEAST	0.	0.	0.	90.	146.	171.	175.	162.	135.	97.	53.	33.	23.	11.	0.	0.	0.	1098.	115.	172.	77.	106.
HORIZ.	0.	0.	0.	34.	83.	126.	160.	182.	189.	182.	160.	126.	83.	34.	0.	0.	0.	1359.	132.	203.	85.	121.

LOCATION BOISE, IDAHO LATITUDE 43 DEGREES 34 MINUTES

MONTH 4 HO 3159. TOD 53. TOT 50. KT .594 KD .175

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	8.	23.	64.	103.	134.	155.	162.	155.	134.	103.	64.	23.	8.	0.	0.	1134.	118.	171.	86.	116.
SOUTHWEST	0.	0.	8.	20.	31.	42.	49.	89.	131.	161.	177.	177.	158.	118.	49.	0.	0.	1209.	122.	178.	89.	120.
WEST	0.	0.	8.	20.	31.	42.	49.	54.	56.	105.	145.	171.	178.	155.	76.	0.	0.	1091.	115.	166.	85.	113.
NORTHWEST	0.	0.	8.	20.	31.	42.	49.	54.	56.	54.	57.	90.	112.	113.	64.	0.	0.	750.	96.	131.	74.	94.
NORTH	0.	0.	18.	20.	31.	42.	49.	54.	56.	54.	49.	42.	31.	20.	18.	0.	0.	485.	81.	104.	65.	78.
NORTHEAST	0.	0.	64.	113.	112.	90.	57.	54.	56.	54.	49.	42.	31.	20.	8.	0.	0.	750.	96.	131.	74.	94.
EAST	0.	0.	76.	155.	178.	171.	145.	105.	56.	54.	49.	42.	31.	20.	8.	0.	0.	1091.	115.	166.	85.	113.
SOUTHEAST	0.	0.	49.	118.	158.	177.	177.	161.	131.	89.	49.	42.	31.	20.	8.	0.	0.	1209.	122.	178.	89.	120.
HORIZ.	0.	0.	21.	71.	124.	170.	206.	228.	236.	228.	206.	170.	124.	71.	21.	0.	0.	1877.	160.	247.	110.	159.

MONTH 5 HO 3602. TOD 62. TOT 58. KT .619 KD .169

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	3.	13.	25.	50.	87.	118.	137.	144.	137.	118.	87.	50.	25.	13.	3.	0.	1011.	118.	162.	93.	119.
SOUTHWEST	0.	3.	13.	25.	36.	46.	53.	78.	119.	151.	168.	169.	154.	121.	70.	7.	0.	1212.	130.	181.	100.	131.
WEST	0.	3.	13.	25.	36.	46.	53.	58.	60.	110.	151.	179.	189.	174.	122.	13.	0.	1232.	131.	183.	100.	133.
NORTHWEST	0.	3.	13.	25.	36.	46.	53.	58.	60.	58.	77.	111.	134.	140.	111.	13.	0.	938.	114.	154.	90.	115.
NORTH	0.	8.	42.	39.	36.	46.	53.	58.	60.	58.	53.	46.	36.	39.	42.	8.	0.	623.	97.	123.	79.	96.
NORTHEAST	0.	13.	111.	140.	134.	111.	77.	58.	60.	58.	53.	46.	36.	25.	13.	3.	0.	938.	114.	154.	90.	115.
EAST	0.	13.	122.	174.	189.	179.	151.	110.	60.	58.	53.	46.	36.	25.	13.	3.	0.	1232.	131.	183.	100.	133.
SOUTHEAST	0.	7.	70.	121.	154.	169.	168.	151.	119.	78.	53.	46.	36.	25.	13.	3.	0.	1212.	130.	181.	100.	131.
HORIZ.	0.	5.	45.	98.	151.	197.	232.	255.	263.	255.	232.	197.	151.	98.	45.	5.	0.	2230.	186.	281.	134.	193.

MONTH 6 HO 3766. TOD 69. TOT 65. KT .631 KD .166

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	5.	15.	27.	43.	80.	110.	130.	136.	130.	110.	80.	43.	27.	15.	5.	0.	955.	121.	160.	98.	123.
SOUTHWEST	0.	5.	15.	27.	38.	47.	54.	72.	114.	146.	163.	166.	151.	120.	73.	16.	0.	1207.	134.	184.	106.	138.
WEST	0.	5.	15.	27.	38.	47.	54.	59.	61.	111.	153.	182.	193.	180.	134.	37.	0.	1295.	139.	192.	109.	143.
NORTHWEST	0.	5.	15.	27.	38.	47.	54.	59.	61.	59.	85.	119.	143.	150.	126.	40.	0.	1027.	125.	167.	100.	127.
NORTH	0.	21.	53.	48.	38.	47.	54.	59.	61.	59.	54.	47.	38.	48.	53.	21.	0.	702.	107.	136.	89.	108.
NORTHEAST	0.	40.	126.	150.	143.	119.	85.	59.	61.	59.	54.	47.	38.	27.	15.	5.	0.	1027.	125.	167.	100.	127.
EAST	0.	37.	134.	180.	193.	182.	153.	111.	61.	59.	54.	47.	38.	27.	15.	5.	0.	1295.	139.	192.	109.	143.
SOUTHEAST	0.	16.	73.	120.	151.	166.	163.	146.	114.	72.	54.	47.	38.	27.	15.	5.	0.	1207.	134.	184.	106.	138.
HORIZ.	0.	11.	55.	109.	161.	207.	243.	265.	273.	265.	243.	207.	161.	109.	55.	11.	0.	2376.	197.	295.	146.	209.

LOCATION BOISE, IDAHO LATITUDE 43 DEGREES 34 MINUTES

MONTH 7 HO 3601. TOD 80. TOT 75. KT .684 KD .153

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	3.	13.	24.	51.	94.	128.	151.	158.	151.	128.	94.	51.	24.	13.	3.	0.	1085.	140.	186.	112.	140.
SOUTHWEST	0.	3.	13.	24.	36.	45.	53.	80.	129.	166.	188.	190.	173.	136.	77.	7.	0.	1321.	153.	209.	120.	155.
WEST	0.	3.	13.	24.	36.	45.	53.	58.	59.	118.	168.	202.	215.	198.	138.	14.	0.	1345.	154.	212.	121.	156.
NORTHWEST	0.	3.	13.	24.	36.	45.	53.	58.	59.	58.	81.	122.	151.	159.	125.	15.	0.	1002.	135.	178.	109.	135.
NORTH	0.	8.	46.	41.	36.	45.	53.	58.	59.	58.	53.	45.	36.	41.	46.	8.	0.	633.	115.	142.	96.	113.
NORTHEAST	0.	15.	125.	159.	151.	122.	81.	58.	59.	58.	53.	45.	36.	24.	13.	3.	0.	1002.	135.	178.	109.	135.
EAST	0.	14.	138.	198.	215.	202.	168.	118.	59.	58.	53.	45.	36.	24.	13.	3.	0.	1345.	154.	212.	121.	156.
SOUTHEAST	0.	7.	77.	136.	173.	190.	188.	166.	129.	80.	53.	45.	36.	24.	13.	3.	0.	1321.	153.	209.	120.	155.
HORIZ.	0.	5.	48.	107.	166.	218.	258.	283.	292.	283.	258.	218.	166.	107.	48.	5.	0.	2463.	216.	321.	159.	224.

MONTH 8 HO 3137. TOD 77. TOT 72. KT .660 KD .159

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	23.	68.	113.	150.	173.	181.	173.	150.	113.	68.	23.	7.	0.	0.	1250.	153.	211.	115.	148.
SOUTHWEST	0.	0.	7.	19.	31.	41.	49.	96.	144.	181.	201.	201.	179.	132.	51.	0.	0.	1331.	158.	220.	118.	153.
WEST	0.	0.	7.	19.	31.	41.	49.	54.	56.	114.	163.	195.	203.	174.	81.	0.	0.	1186.	149.	204.	113.	144.
NORTHWEST	0.	0.	7.	19.	31.	41.	49.	54.	56.	54.	58.	99.	126.	126.	67.	0.	0.	786.	125.	161.	99.	120.
NORTH	0.	0.	18.	19.	31.	41.	49.	54.	56.	54.	49.	41.	31.	19.	18.	0.	0.	479.	106.	128.	89.	101.
NORTHEAST	0.	0.	67.	126.	126.	99.	58.	54.	56.	54.	49.	41.	31.	19.	7.	0.	0.	786.	125.	161.	99.	120.
EAST	0.	0.	81.	174.	203.	195.	163.	114.	56.	54.	49.	41.	31.	19.	7.	0.	0.	1186.	149.	204.	113.	144.
SOUTHEAST	0.	0.	51.	132.	179.	201.	201.	181.	144.	96.	49.	41.	31.	19.	7.	0.	0.	1331.	158.	220.	118.	153.
HORIZ.	0.	0.	21.	76.	135.	188.	229.	255.	263.	255.	229.	188.	135.	76.	21.	0.	0.	2071.	203.	299.	143.	198.

MONTH 9 HO 2473. TOD 67. TOT 62. KT .656 KD .160

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	32.	87.	138.	179.	204.	213.	204.	179.	138.	87.	32.	0.	0.	0.	1493.	168.	246.	113.	153.
SOUTHWEST	0.	0.	0.	11.	23.	33.	56.	114.	165.	202.	221.	217.	185.	110.	0.	0.	0.	1337.	158.	227.	108.	143.
WEST	0.	0.	0.	11.	23.	33.	42.	47.	49.	109.	158.	188.	188.	130.	0.	0.	0.	977.	133.	184.	96.	121.
NORTHWEST	0.	0.	0.	11.	23.	33.	42.	47.	49.	47.	42.	69.	94.	80.	0.	0.	0.	535.	103.	131.	81.	95.
NORTH	0.	0.	0.	11.	23.	33.	42.	47.	49.	47.	42.	33.	23.	11.	0.	0.	0.	359.	91.	110.	75.	84.
NORTHEAST	0.	0.	0.	80.	94.	69.	42.	47.	49.	47.	42.	33.	23.	11.	0.	0.	0.	535.	103.	131.	81.	95.
EAST	0.	0.	0.	130.	188.	188.	158.	109.	49.	47.	42.	33.	23.	11.	0.	0.	0.	977.	133.	184.	96.	121.
SOUTHEAST	0.	0.	0.	110.	185.	217.	221.	202.	165.	114.	56.	33.	23.	11.	0.	0.	0.	1337.	158.	227.	108.	143.
HORIZ.	0.	0.	1.	38.	96.	150.	192.	219.	228.	219.	192.	150.	96.	38.	1.	0.	0.	1622.	177.	261.	118.	160.

LOCATION BOISE, IDAHO LATITUDE 43 DEGREES 34 MINUTES

MONTH 10 HO 1783. TOD 56. TOT 53. KT .588 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	7.	77.	133.	174.	199.	207.	199.	174.	133.	77.	7.	0.	0.	0.	1387.	157.	239.	97.	133.
SOUTHWEST	0.	0.	0.	3.	14.	24.	64.	115.	158.	188.	200.	188.	139.	16.	0.	0.	0.	1110.	137.	203.	88.	117.
WEST	0.	0.	0.	3.	14.	24.	33.	38.	40.	90.	129.	147.	128.	17.	0.	0.	0.	661.	104.	143.	74.	91.
NORTHWEST	0.	0.	0.	3.	14.	24.	33.	38.	40.	38.	33.	34.	49.	9.	0.	0.	0.	314.	79.	98.	63.	71.
NORTH	0.	0.	0.	3.	14.	24.	33.	38.	40.	38.	33.	24.	14.	3.	0.	0.	0.	262.	75.	91.	61.	68.
NORTHEAST	0.	0.	0.	9.	49.	34.	33.	38.	40.	38.	33.	24.	14.	3.	0.	0.	0.	314.	79.	98.	63.	71.
EAST	0.	0.	0.	17.	128.	147.	129.	90.	40.	38.	33.	24.	14.	3.	0.	0.	0.	661.	104.	143.	74.	91.
SOUTHEAST	0.	0.	0.	16.	139.	188.	200.	188.	158.	115.	64.	24.	14.	3.	0.	0.	0.	1110.	137.	203.	88.	117.
HORIZ.	0.	0.	0.	5.	48.	96.	134.	158.	166.	158.	134.	96.	48.	5.	0.	0.	0.	1047.	132.	194.	86.	114.

MONTH 11 HO 1222. TOD 42. TOT 40. KT .494 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	36.	100.	140.	163.	171.	163.	140.	100.	36.	0.	0.	0.	0.	1053.	129.	200.	73.	101.
SOUTHWEST	0.	0.	0.	0.	6.	19.	58.	97.	130.	150.	154.	132.	58.	0.	0.	0.	0.	805.	109.	163.	65.	86.
WEST	0.	0.	0.	0.	6.	16.	23.	28.	30.	66.	91.	96.	49.	0.	0.	0.	0.	405.	76.	103.	53.	63.
NORTHWEST	0.	0.	0.	0.	6.	16.	23.	28.	30.	28.	23.	16.	15.	0.	0.	0.	0.	185.	58.	70.	46.	50.
NORTH	0.	0.	0.	0.	6.	16.	23.	28.	30.	28.	23.	16.	6.	0.	0.	0.	0.	176.	57.	69.	45.	50.
NORTHEAST	0.	0.	0.	0.	15.	16.	23.	28.	30.	28.	23.	16.	6.	0.	0.	0.	0.	185.	58.	70.	46.	50.
EAST	0.	0.	0.	0.	49.	96.	91.	66.	30.	28.	23.	16.	6.	0.	0.	0.	0.	405.	76.	103.	53.	63.
SOUTHEAST	0.	0.	0.	0.	58.	132.	154.	150.	130.	97.	58.	19.	6.	0.	0.	0.	0.	805.	109.	163.	65.	86.
HORIZ.	0.	0.	0.	0.	15.	51.	82.	101.	108.	101.	82.	51.	15.	0.	0.	0.	0.	605.	92.	133.	59.	75.

MONTH 12 HO 1016. TOD 33. TOT 31. KT .442 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	13.	81.	120.	141.	149.	141.	120.	81.	13.	0.	0.	0.	0.	858.	109.	170.	59.	81.
SOUTHWEST	0.	0.	0.	0.	3.	17.	51.	85.	112.	129.	129.	103.	20.	0.	0.	0.	0.	650.	90.	137.	52.	69.
WEST	0.	0.	0.	0.	3.	12.	19.	23.	25.	55.	74.	72.	16.	0.	0.	0.	0.	300.	59.	81.	41.	48.
NORTHWEST	0.	0.	0.	0.	3.	12.	19.	23.	25.	23.	19.	12.	5.	0.	0.	0.	0.	142.	46.	56.	36.	39.
NORTH	0.	0.	0.	0.	3.	12.	19.	23.	25.	23.	19.	12.	3.	0.	0.	0.	0.	139.	45.	55.	35.	39.
NORTHEAST	0.	0.	0.	0.	5.	12.	19.	23.	25.	23.	19.	12.	3.	0.	0.	0.	0.	142.	46.	56.	36.	39.
EAST	0.	0.	0.	0.	16.	72.	74.	55.	25.	23.	19.	12.	3.	0.	0.	0.	0.	300.	59.	81.	41.	48.
SOUTHEAST	0.	0.	0.	0.	20.	103.	129.	129.	112.	85.	51.	17.	3.	0.	0.	0.	0.	650.	90.	137.	52.	69.
HORIZ.	0.	0.	0.	0.	6.	35.	62.	79.	85.	79.	62.	35.	6.	0.	0.	0.	0.	449.	73.	105.	45.	57.

LOCATION BOISE, IDAHO LATITUDE 43 DEGREES 34 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	106.	125.	123.	118.	118.	121.	140.	153.	168.	157.	129.	109.	131.
SOUTHWEST	88.	108.	115.	122.	130.	134.	153.	158.	158.	137.	109.	90.	125.
WEST	60.	81.	98.	115.	131.	139.	154.	149.	133.	104.	76.	59.	108.
NORTHWEST	44.	59.	77.	96.	114.	125.	135.	125.	103.	79.	58.	46.	88.
NORTH	44.	56.	68.	81.	97.	107.	115.	106.	91.	75.	57.	45.	78.
NORTHEAST	44.	59.	77.	96.	114.	125.	135.	125.	103.	79.	58.	46.	88.
EAST	60.	81.	98.	115.	131.	139.	154.	149.	133.	104.	76.	59.	108.
SOUTHEAST	88.	108.	115.	122.	130.	134.	153.	158.	158.	137.	109.	90.	125.
HORIZ.	75.	106.	132.	160.	186.	197.	216.	203.	177.	132.	92.	73.	146.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	168.	197.	186.	171.	162.	160.	186.	211.	246.	239.	200.	170.	191.
SOUTHWEST	136.	167.	172.	178.	181.	184.	209.	220.	227.	203.	163.	137.	182.
WEST	85.	117.	141.	166.	183.	192.	212.	204.	184.	143.	103.	81.	151.
NORTHWEST	56.	78.	102.	131.	154.	167.	178.	161.	131.	98.	70.	56.	115.
NORTH	55.	71.	87.	104.	123.	136.	142.	128.	110.	91.	69.	55.	98.
NORTHEAST	56.	78.	102.	131.	154.	167.	178.	161.	131.	98.	70.	56.	115.
EAST	85.	117.	141.	166.	183.	192.	212.	204.	184.	143.	103.	81.	151.
SOUTHEAST	136.	167.	172.	178.	181.	184.	209.	220.	227.	203.	163.	137.	182.
HORIZ.	112.	164.	203.	247.	281.	295.	321.	299.	261.	194.	133.	105.	218.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	57.	73.	81.	86.	93.	98.	112.	115.	113.	97.	73.	59.	88.
SOUTHWEST	50.	66.	77.	89.	100.	106.	120.	118.	108.	88.	65.	52.	87.
WEST	39.	54.	68.	85.	100.	109.	121.	113.	96.	74.	53.	41.	79.
NORTHWEST	33.	44.	58.	74.	90.	100.	109.	99.	81.	63.	46.	36.	69.
NORTH	33.	42.	53.	65.	79.	89.	96.	89.	75.	61.	45.	35.	64.
NORTHEAST	33.	44.	58.	74.	90.	100.	109.	99.	81.	63.	46.	36.	69.
EAST	39.	54.	68.	85.	100.	109.	121.	113.	96.	74.	53.	41.	79.
SOUTHEAST	50.	66.	77.	89.	100.	106.	120.	118.	108.	88.	65.	52.	87.
HORIZ.	45.	65.	85.	110.	134.	146.	159.	143.	118.	86.	59.	45.	100.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	81.	105.	112.	116.	119.	123.	140.	148.	153.	133.	101.	81.	118.
SOUTHWEST	69.	92.	106.	120.	131.	138.	155.	153.	143.	117.	86.	69.	115.
WEST	49.	70.	90.	113.	133.	143.	156.	144.	121.	91.	63.	48.	102.
NORTHWEST	38.	52.	71.	94.	115.	127.	135.	120.	95.	71.	50.	39.	84.
NORTH	37.	49.	63.	78.	96.	108.	113.	101.	84.	68.	50.	39.	74.
NORTHEAST	38.	52.	71.	94.	115.	127.	135.	120.	95.	71.	50.	39.	84.
EAST	49.	70.	90.	113.	133.	143.	156.	144.	121.	91.	63.	48.	102.
SOUTHEAST	69.	92.	106.	120.	131.	138.	155.	153.	143.	117.	86.	69.	115.
HORIZ.	59.	90.	121.	159.	193.	209.	224.	198.	160.	114.	75.	57.	138.

LOCATION BOSTON, MASSACHUSETTS LATITUDE 42 DEGREES 21 MINUTES

MONTH 1 HO 1299. TOD 31. TOT 29. KT .410 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	34.	80.	109.	126.	131.	126.	109.	80.	34.	0.	0.	0.	0.	827.	99.	154.	56.	77.
SOUTHWEST	0.	0.	0.	0.	7.	18.	48.	77.	101.	117.	119.	104.	53.	0.	0.	0.	0.	644.	84.	127.	50.	67.
WEST	0.	0.	0.	0.	7.	16.	23.	27.	29.	55.	73.	77.	45.	0.	0.	0.	0.	351.	60.	83.	40.	50.
NORTHWEST	0.	0.	0.	0.	7.	16.	23.	27.	29.	27.	23.	16.	15.	0.	0.	0.	0.	181.	46.	58.	35.	40.
NORTH	0.	0.	0.	0.	7.	16.	23.	27.	29.	27.	23.	16.	7.	0.	0.	0.	0.	173.	46.	57.	35.	39.
NORTHEAST	0.	0.	0.	0.	15.	16.	23.	27.	29.	27.	23.	16.	7.	0.	0.	0.	0.	181.	46.	58.	35.	40.
EAST	0.	0.	0.	0.	45.	77.	73.	55.	29.	27.	23.	16.	7.	0.	0.	0.	0.	351.	60.	83.	40.	50.
SOUTHEAST	0.	0.	0.	0.	53.	104.	119.	117.	101.	77.	48.	18.	7.	0.	0.	0.	0.	644.	84.	127.	50.	67.
HORIZ.	0.	0.	0.	0.	16.	46.	71.	87.	93.	87.	71.	46.	16.	0.	0.	0.	0.	534.	75.	110.	46.	60.

MONTH 2 HO 1877. TOD 31. TOT 29. KT .426 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	9.	53.	87.	113.	128.	133.	128.	113.	87.	53.	9.	0.	0.	0.	913.	97.	151.	58.	82.
SOUTHWEST	0.	0.	0.	3.	14.	24.	49.	80.	105.	122.	129.	121.	92.	19.	0.	0.	0.	757.	86.	130.	53.	73.
WEST	0.	0.	0.	3.	14.	24.	31.	36.	37.	66.	88.	97.	86.	20.	0.	0.	0.	502.	67.	97.	45.	58.
NORTHWEST	0.	0.	0.	3.	14.	24.	31.	36.	37.	36.	31.	31.	37.	11.	0.	0.	0.	291.	52.	69.	39.	46.
NORTH	0.	0.	0.	3.	14.	24.	31.	36.	37.	36.	31.	24.	14.	3.	0.	0.	0.	253.	50.	65.	37.	44.
NORTHEAST	0.	0.	0.	11.	37.	31.	31.	36.	37.	36.	31.	24.	14.	3.	0.	0.	0.	291.	52.	69.	39.	46.
EAST	0.	0.	0.	20.	86.	97.	88.	66.	37.	36.	31.	24.	14.	3.	0.	0.	0.	502.	67.	97.	45.	58.
SOUTHEAST	0.	0.	0.	19.	92.	121.	129.	122.	105.	80.	49.	24.	14.	3.	0.	0.	0.	757.	86.	130.	53.	73.
HORIZ.	0.	0.	0.	7.	40.	74.	100.	117.	123.	117.	100.	74.	40.	7.	0.	0.	0.	800.	89.	136.	55.	76.

MONTH 3 HO 2531. TOD 40. TOT 38. KT .445 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	23.	56.	87.	111.	126.	131.	126.	111.	87.	56.	23.	0.	0.	0.	936.	100.	149.	68.	92.
SOUTHWEST	0.	0.	0.	11.	22.	32.	47.	79.	106.	125.	133.	129.	109.	67.	0.	0.	0.	861.	95.	140.	65.	88.
WEST	0.	0.	0.	11.	22.	32.	40.	44.	46.	77.	101.	114.	111.	79.	0.	0.	0.	678.	83.	119.	59.	77.
NORTHWEST	0.	0.	0.	11.	22.	32.	40.	44.	46.	44.	40.	51.	61.	50.	0.	0.	0.	443.	68.	91.	52.	63.
NORTH	0.	0.	0.	11.	22.	32.	40.	44.	46.	44.	40.	32.	22.	11.	0.	0.	0.	346.	62.	80.	49.	58.
NORTHEAST	0.	0.	0.	50.	61.	51.	40.	44.	46.	44.	40.	32.	22.	11.	0.	0.	0.	443.	68.	91.	52.	63.
EAST	0.	0.	0.	79.	111.	114.	101.	77.	46.	44.	40.	32.	22.	11.	0.	0.	0.	678.	83.	119.	59.	77.
SOUTHEAST	0.	0.	0.	67.	109.	129.	133.	125.	106.	79.	47.	32.	22.	11.	0.	0.	0.	861.	95.	140.	65.	88.
HORIZ.	0.	0.	0.	30.	69.	104.	132.	149.	155.	149.	132.	104.	69.	30.	0.	0.	0.	1124.	112.	170.	74.	103.

LOCATION BOSTON, MASSACHUSETTS LATITUDE 42 DEGREES 21 MINUTES

MONTH 4 HO 3186. TOD 49. TOT 47. KT .438 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	7.	20.	48.	74.	95.	109.	114.	109.	95.	74.	48.	20.	7.	0.	0.	822.	96.	135.	74.	95.
SOUTHWEST	0.	0.	7.	19.	29.	39.	46.	70.	96.	113.	122.	119.	105.	77.	31.	0.	0.	875.	99.	140.	75.	98.
WEST	0.	0.	7.	19.	29.	39.	46.	51.	52.	81.	104.	117.	118.	100.	47.	0.	0.	811.	96.	134.	73.	94.
NORTHWEST	0.	0.	7.	19.	29.	39.	46.	51.	52.	51.	52.	69.	79.	75.	40.	0.	0.	609.	84.	113.	67.	83.
NORTH	0.	0.	14.	19.	29.	39.	46.	51.	52.	51.	46.	39.	29.	19.	14.	0.	0.	447.	75.	96.	62.	73.
NORTHEAST	0.	0.	40.	75.	79.	69.	52.	51.	52.	51.	46.	39.	29.	19.	7.	0.	0.	609.	84.	113.	67.	83.
EAST	0.	0.	47.	100.	118.	117.	104.	81.	52.	51.	46.	39.	29.	19.	7.	0.	0.	811.	96.	134.	73.	94.
SOUTHEAST	0.	0.	31.	77.	105.	119.	122.	113.	96.	70.	46.	39.	29.	19.	7.	0.	0.	875.	99.	140.	75.	98.
HORIZ.	0.	0.	17.	54.	93.	126.	152.	169.	174.	169.	152.	126.	93.	54.	17.	0.	0.	1396.	129.	194.	92.	129.

MONTH 5 HO 3610. TOD 60. TOT 58. KT .499 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	3.	13.	25.	44.	72.	94.	109.	114.	109.	94.	72.	44.	25.	13.	3.	0.	832.	107.	143.	86.	108.
SOUTHWEST	0.	3.	13.	25.	36.	45.	52.	69.	98.	119.	130.	129.	116.	90.	51.	4.	0.	979.	115.	157.	91.	117.
WEST	0.	3.	13.	25.	36.	45.	52.	57.	59.	93.	120.	137.	141.	127.	87.	7.	0.	1001.	117.	160.	92.	118.
NORTHWEST	0.	3.	13.	25.	36.	45.	52.	57.	59.	57.	70.	91.	105.	105.	79.	7.	0.	804.	106.	140.	85.	106.
NORTH	0.	5.	33.	35.	36.	45.	52.	57.	59.	57.	52.	45.	36.	35.	33.	5.	0.	585.	93.	118.	78.	93.
NORTHEAST	0.	7.	79.	105.	105.	91.	70.	57.	59.	57.	52.	45.	36.	25.	13.	3.	0.	804.	106.	140.	85.	106.
EAST	0.	7.	87.	127.	141.	137.	120.	93.	59.	57.	52.	45.	36.	25.	13.	3.	0.	1001.	117.	160.	92.	118.
SOUTHEAST	0.	4.	51.	90.	116.	129.	130.	119.	98.	69.	52.	45.	36.	25.	13.	3.	0.	979.	115.	157.	91.	117.
HORIZ.	0.	5.	37.	80.	122.	159.	187.	205.	211.	205.	187.	159.	122.	80.	37.	5.	0.	1802.	162.	239.	119.	167.

MONTH 6 HO 3765. TOD 70. TOT 67. KT .495 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	5.	15.	26.	39.	66.	88.	102.	106.	102.	88.	66.	39.	26.	15.	5.	0.	786.	113.	145.	94.	115.
SOUTHWEST	0.	5.	15.	26.	37.	46.	53.	64.	93.	113.	123.	123.	111.	87.	52.	11.	0.	959.	122.	162.	100.	125.
WEST	0.	5.	15.	26.	37.	46.	53.	58.	59.	92.	118.	135.	139.	127.	92.	22.	0.	1026.	126.	168.	102.	129.
NORTHWEST	0.	5.	15.	26.	37.	46.	53.	58.	59.	58.	75.	95.	108.	108.	87.	23.	0.	854.	116.	152.	96.	119.
NORTH	0.	14.	40.	42.	37.	46.	53.	58.	59.	58.	53.	46.	37.	42.	40.	14.	0.	638.	104.	131.	89.	106.
NORTHEAST	0.	23.	87.	108.	108.	95.	75.	58.	59.	58.	53.	46.	37.	26.	15.	5.	0.	854.	116.	152.	96.	119.
EAST	0.	22.	92.	127.	139.	135.	118.	92.	59.	58.	53.	46.	37.	26.	15.	5.	0.	1026.	126.	168.	102.	129.
SOUTHEAST	0.	11.	52.	87.	111.	123.	123.	113.	93.	64.	53.	46.	37.	26.	15.	5.	0.	959.	122.	162.	100.	125.
HORIZ.	0.	9.	44.	86.	127.	162.	190.	207.	213.	207.	190.	162.	127.	86.	44.	9.	0.	1864.	171.	249.	131.	180.

LOCATION BOSTON, MASSACHUSETTS LATITUDE 42 DEGREES 21 MINUTES

MONTH 7 HO 3608. TOD 74. TOT 72. KT .507 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	3.	13.	25.	43.	72.	95.	110.	115.	110.	95.	72.	43.	25.	13.	3.	0.	838.	121.	157.	101.	123.
SOUTHWEST	0.	3.	13.	25.	36.	45.	52.	69.	99.	120.	132.	131.	117.	91.	51.	4.	0.	988.	130.	172.	106.	132.
WEST	0.	3.	13.	25.	36.	45.	52.	57.	59.	94.	122.	140.	143.	129.	87.	7.	0.	1011.	131.	175.	107.	133.
NORTHWEST	0.	3.	13.	25.	36.	45.	52.	57.	59.	57.	71.	93.	106.	106.	80.	7.	0.	810.	120.	155.	100.	121.
NORTH	0.	5.	33.	36.	36.	45.	52.	57.	59.	57.	52.	45.	36.	36.	33.	5.	0.	587.	107.	133.	92.	108.
NORTHEAST	0.	7.	80.	106.	106.	93.	71.	57.	59.	57.	52.	45.	36.	25.	13.	3.	0.	810.	120.	155.	100.	121.
EAST	0.	7.	87.	129.	143.	140.	122.	94.	59.	57.	52.	45.	36.	25.	13.	3.	0.	1011.	131.	175.	107.	133.
SOUTHEAST	0.	4.	51.	91.	117.	131.	132.	120.	99.	69.	52.	45.	36.	25.	13.	3.	0.	988.	130.	172.	106.	132.
HORIZ.	0.	5.	37.	81.	124.	161.	190.	209.	215.	209.	190.	161.	124.	81.	37.	5.	0.	1830.	177.	256.	135.	183.

MONTH 8 HO 3164. TOD 74. TOT 71. KT .480 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	21.	51.	81.	104.	120.	125.	120.	104.	81.	51.	21.	7.	0.	0.	893.	128.	170.	102.	125.
SOUTHWEST	0.	0.	7.	19.	30.	40.	48.	75.	104.	125.	135.	132.	116.	84.	32.	0.	0.	948.	131.	176.	104.	129.
WEST	0.	0.	7.	19.	30.	40.	48.	52.	54.	88.	114.	130.	131.	110.	49.	0.	0.	872.	127.	168.	101.	124.
NORTHWEST	0.	0.	7.	19.	30.	40.	48.	52.	54.	52.	55.	75.	87.	82.	41.	0.	0.	643.	113.	143.	93.	110.
NORTH	0.	0.	14.	19.	30.	40.	48.	52.	54.	52.	48.	40.	30.	19.	14.	0.	0.	461.	102.	123.	87.	99.
NORTHEAST	0.	0.	41.	82.	87.	75.	55.	52.	54.	52.	48.	40.	30.	19.	7.	0.	0.	643.	113.	143.	93.	110.
EAST	0.	0.	49.	110.	131.	130.	114.	88.	54.	52.	48.	40.	30.	19.	7.	0.	0.	872.	127.	168.	101.	124.
SOUTHEAST	0.	0.	32.	84.	116.	132.	135.	125.	104.	75.	48.	40.	30.	19.	7.	0.	0.	948.	131.	176.	104.	129.
HORIZ.	0.	0.	17.	58.	100.	137.	166.	185.	191.	185.	166.	137.	100.	58.	17.	0.	0.	1519.	166.	237.	123.	163.

MONTH 9 HO 2520. TOD 67. TOT 64. KT .477 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	23.	60.	93.	119.	136.	141.	136.	119.	93.	60.	23.	0.	0.	0.	1003.	135.	187.	99.	125.
SOUTHWEST	0.	0.	0.	11.	23.	33.	48.	84.	114.	135.	144.	139.	117.	70.	0.	0.	0.	918.	129.	177.	96.	120.
WEST	0.	0.	0.	11.	23.	33.	41.	46.	47.	82.	109.	123.	120.	82.	0.	0.	0.	717.	116.	153.	89.	108.
NORTHWEST	0.	0.	0.	11.	23.	33.	41.	46.	47.	46.	41.	54.	65.	53.	0.	0.	0.	460.	98.	122.	80.	92.
NORTH	0.	0.	0.	11.	23.	33.	41.	46.	47.	46.	41.	33.	23.	11.	0.	0.	0.	354.	91.	109.	76.	86.
NORTHEAST	0.	0.	0.	53.	65.	54.	41.	46.	47.	46.	41.	33.	23.	11.	0.	0.	0.	460.	98.	122.	80.	92.
EAST	0.	0.	0.	82.	120.	123.	109.	82.	47.	46.	41.	33.	23.	11.	0.	0.	0.	717.	116.	153.	89.	108.
SOUTHEAST	0.	0.	0.	70.	117.	139.	144.	135.	114.	84.	48.	33.	23.	11.	0.	0.	0.	918.	129.	177.	96.	120.
HORIZ.	0.	0.	1.	31.	73.	111.	141.	160.	167.	160.	141.	111.	73.	31.	1.	0.	0.	1201.	148.	211.	105.	137.

LOCATION BOSTON, MASSACHUSETTS LATITUDE 42 DEGREES 21 MINUTES

MONTH 10 HO 1844. TOD 57. TOT 55. KT .453 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	7.	56.	94.	122.	139.	145.	139.	122.	94.	56.	7.	0.	0.	0.	978.	128.	186.	86.	112.
SOUTHWEST	0.	0.	0.	3.	14.	24.	51.	85.	113.	133.	139.	130.	97.	15.	0.	0.	0.	804.	115.	163.	81.	102.
WEST	0.	0.	0.	3.	14.	24.	31.	36.	38.	70.	94.	104.	89.	16.	0.	0.	0.	519.	95.	125.	72.	85.
NORTHWEST	0.	0.	0.	3.	14.	24.	31.	36.	38.	36.	31.	31.	38.	9.	0.	0.	0.	292.	78.	96.	64.	72.
NORTH	0.	0.	0.	3.	14.	24.	31.	36.	38.	36.	31.	24.	14.	3.	0.	0.	0.	255.	76.	91.	63.	70.
NORTHEAST	0.	0.	0.	9.	38.	31.	31.	36.	38.	36.	31.	24.	14.	3.	0.	0.	0.	292.	78.	96.	64.	72.
EAST	0.	0.	0.	16.	89.	104.	94.	70.	38.	36.	31.	24.	14.	3.	0.	0.	0.	519.	95.	125.	72.	85.
SOUTHEAST	0.	0.	0.	15.	97.	130.	139.	133.	113.	85.	51.	24.	14.	3.	0.	0.	0.	804.	115.	163.	81.	102.
HORIZ.	0.	0.	0.	6.	41.	77.	105.	124.	130.	124.	105.	77.	41.	6.	0.	0.	0.	835.	118.	167.	82.	104.

MONTH 11 HO 1288. TOD 47. TOT 44. KT .372 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	28.	68.	94.	109.	114.	109.	94.	68.	28.	0.	0.	0.	0.	711.	105.	152.	67.	86.
SOUTHWEST	0.	0.	0.	0.	6.	17.	43.	68.	89.	101.	103.	88.	43.	0.	0.	0.	0.	558.	92.	129.	62.	77.
WEST	0.	0.	0.	0.	6.	15.	22.	26.	28.	49.	64.	65.	37.	0.	0.	0.	0.	312.	72.	93.	54.	63.
NORTHWEST	0.	0.	0.	0.	6.	15.	22.	26.	28.	26.	22.	15.	13.	0.	0.	0.	0.	172.	61.	72.	50.	54.
NORTH	0.	0.	0.	0.	6.	15.	22.	26.	28.	26.	22.	15.	6.	0.	0.	0.	0.	165.	60.	71.	50.	54.
NORTHEAST	0.	0.	0.	0.	13.	15.	22.	26.	28.	26.	22.	15.	6.	0.	0.	0.	0.	172.	61.	72.	50.	54.
EAST	0.	0.	0.	0.	37.	65.	64.	49.	28.	26.	22.	15.	6.	0.	0.	0.	0.	312.	72.	93.	54.	63.
SOUTHEAST	0.	0.	0.	0.	43.	88.	103.	101.	89.	68.	43.	17.	6.	0.	0.	0.	0.	558.	92.	129.	62.	77.
HORIZ.	0.	0.	0.	0.	14.	41.	64.	79.	84.	79.	64.	41.	14.	0.	0.	0.	0.	480.	86.	118.	60.	72.

MONTH 12 HO 1082. TOD 35. TOT 33. KT .400 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	17.	72.	104.	122.	128.	122.	104.	72.	17.	0.	0.	0.	0.	757.	100.	154.	57.	77.
SOUTHWEST	0.	0.	0.	0.	4.	17.	46.	75.	98.	112.	112.	92.	25.	0.	0.	0.	0.	580.	85.	126.	51.	67.
WEST	0.	0.	0.	0.	4.	12.	19.	24.	25.	50.	66.	65.	21.	0.	0.	0.	0.	286.	60.	80.	42.	49.
NORTHWEST	0.	0.	0.	0.	4.	12.	19.	24.	25.	24.	19.	12.	7.	0.	0.	0.	0.	146.	48.	58.	37.	41.
NORTH	0.	0.	0.	0.	4.	12.	19.	24.	25.	24.	19.	12.	4.	0.	0.	0.	0.	143.	47.	57.	37.	41.
NORTHEAST	0.	0.	0.	0.	7.	12.	19.	24.	25.	24.	19.	12.	4.	0.	0.	0.	0.	146.	48.	58.	37.	41.
EAST	0.	0.	0.	0.	21.	65.	66.	50.	25.	24.	19.	12.	4.	0.	0.	0.	0.	286.	60.	80.	42.	49.
SOUTHEAST	0.	0.	0.	0.	25.	92.	112.	112.	98.	75.	46.	17.	4.	0.	0.	0.	0.	580.	85.	126.	51.	67.
HORIZ.	0.	0.	0.	0.	7.	35.	59.	75.	80.	75.	59.	35.	7.	0.	0.	0.	0.	433.	72.	103.	47.	58.

LOCATION BOSTON, MASSACHUSETTS LATITUDE 42 DEGREES 21 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	99.	97.	100.	96.	107.	113.	121.	128.	135.	128.	105.	100.	111.
SOUTHWEST	84.	86.	95.	99.	115.	122.	130.	131.	129.	115.	92.	85.	107.
WEST	60.	67.	83.	96.	117.	126.	131.	127.	116.	95.	72.	60.	96.
NORTHWEST	46.	52.	68.	84.	106.	116.	120.	113.	98.	78.	61.	48.	83.
NORTH	46.	50.	62.	75.	93.	104.	107.	102.	91.	76.	60.	47.	76.
NORTHEAST	46.	52.	68.	84.	106.	116.	120.	113.	98.	78.	61.	48.	83.
EAST	60.	67.	83.	96.	117.	126.	131.	127.	116.	95.	72.	60.	96.
SOUTHEAST	84.	86.	95.	99.	115.	122.	130.	131.	129.	115.	92.	85.	107.
HORIZ.	75.	89.	112.	129.	162.	171.	177.	166.	148.	118.	86.	72.	125.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	154.	151.	149.	135.	143.	145.	157.	170.	187.	186.	152.	154.	157.
SOUTHWEST	127.	130.	140.	140.	157.	162.	172.	176.	177.	163.	129.	126.	150.
WEST	83.	97.	119.	134.	160.	168.	175.	168.	153.	125.	93.	80.	129.
NORTHWEST	58.	69.	91.	113.	140.	152.	155.	143.	122.	96.	72.	58.	106.
NORTH	57.	65.	80.	96.	118.	131.	133.	123.	109.	91.	71.	57.	94.
NORTHEAST	58.	69.	91.	113.	140.	152.	155.	143.	122.	96.	72.	58.	106.
EAST	83.	97.	119.	134.	160.	168.	175.	168.	153.	125.	93.	80.	129.
SOUTHEAST	127.	130.	140.	140.	157.	162.	172.	176.	177.	163.	129.	126.	150.
HORIZ.	110.	136.	170.	194.	239.	249.	256.	237.	211.	167.	118.	103.	183.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	56.	58.	68.	74.	86.	94.	101.	102.	99.	86.	67.	57.	79.
SOUTHWEST	50.	53.	65.	75.	91.	100.	106.	104.	96.	81.	62.	51.	78.
WEST	40.	45.	59.	73.	92.	102.	107.	101.	89.	72.	54.	42.	73.
NORTHWEST	35.	39.	52.	67.	85.	96.	100.	93.	80.	64.	50.	37.	67.
NORTH	35.	37.	49.	62.	78.	89.	92.	87.	76.	63.	50.	37.	63.
NORTHEAST	35.	39.	52.	67.	85.	96.	100.	93.	80.	64.	50.	37.	67.
EAST	40.	45.	59.	73.	92.	102.	107.	101.	89.	72.	54.	42.	73.
SOUTHEAST	50.	53.	65.	75.	91.	100.	106.	104.	96.	81.	62.	51.	78.
HORIZ.	46.	55.	74.	92.	119.	131.	135.	123.	105.	82.	60.	47.	89.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	77.	82.	92.	95.	108.	115.	123.	125.	125.	112.	86.	77.	101.
SOUTHWEST	67.	73.	88.	98.	117.	125.	132.	129.	120.	102.	77.	67.	99.
WEST	50.	58.	77.	94.	118.	129.	133.	124.	108.	85.	63.	49.	91.
NORTHWEST	40.	46.	63.	83.	106.	119.	121.	110.	92.	72.	54.	41.	79.
NORTH	39.	44.	58.	73.	93.	106.	108.	99.	86.	70.	54.	41.	73.
NORTHEAST	40.	46.	63.	83.	106.	119.	121.	110.	92.	72.	54.	41.	79.
EAST	50.	58.	77.	94.	118.	129.	133.	124.	108.	85.	63.	49.	91.
SOUTHEAST	67.	73.	88.	98.	117.	125.	132.	129.	120.	102.	77.	67.	99.
HORIZ.	60.	76.	103.	129.	167.	180.	183.	163.	137.	104.	72.	58.	119.

LOCATION BROWNSVILLE, TEXAS LATITUDE 25 DEGREES 54 MINUTES

MONTH 1 HO 2177. TOD 63. TOT 60. KT .517 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	15.	79.	117.	143.	159.	165.	159.	143.	117.	79.	15.	0.	0.	0.	1192.	149.	220.	99.	130.
SOUTHWEST	0.	0.	0.	4.	17.	29.	60.	98.	130.	154.	165.	161.	130.	29.	0.	0.	0.	977.	134.	192.	92.	117.
WEST	0.	0.	0.	4.	17.	29.	39.	45.	47.	85.	113.	127.	115.	28.	0.	0.	0.	649.	110.	149.	81.	98.
NORTHWEST	0.	0.	0.	4.	17.	29.	39.	45.	47.	45.	39.	37.	43.	13.	0.	0.	0.	358.	89.	110.	72.	81.
NORTH	0.	0.	0.	4.	17.	29.	39.	45.	47.	45.	39.	29.	17.	4.	0.	0.	0.	315.	86.	105.	71.	79.
NORTHEAST	0.	0.	0.	13.	43.	37.	39.	45.	47.	45.	39.	29.	17.	4.	0.	0.	0.	358.	89.	110.	72.	81.
EAST	0.	0.	0.	28.	115.	127.	113.	85.	47.	45.	39.	29.	17.	4.	0.	0.	0.	649.	110.	149.	81.	98.
SOUTHEAST	0.	0.	0.	29.	130.	161.	165.	154.	130.	98.	60.	29.	17.	4.	0.	0.	0.	977.	134.	192.	92.	117.
HORIZ.	0.	0.	0.	8.	56.	104.	142.	166.	174.	166.	142.	104.	56.	8.	0.	0.	0.	1125.	145.	211.	97.	126.

MONTH 2 HO 2631. TOD 67. TOT 64. KT .500 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	28.	69.	101.	124.	139.	144.	139.	124.	101.	69.	28.	0.	0.	0.	1065.	139.	198.	98.	126.
SOUTHWEST	0.	0.	0.	9.	23.	35.	50.	86.	117.	140.	152.	150.	129.	69.	0.	0.	0.	961.	132.	185.	95.	120.
WEST	0.	0.	0.	9.	23.	35.	45.	51.	53.	90.	118.	133.	127.	75.	0.	0.	0.	758.	118.	160.	88.	108.
NORTHWEST	0.	0.	0.	9.	23.	35.	45.	51.	53.	51.	45.	58.	64.	42.	0.	0.	0.	476.	99.	126.	79.	92.
NORTH	0.	0.	0.	9.	23.	35.	45.	51.	53.	51.	45.	35.	23.	9.	0.	0.	0.	380.	93.	114.	76.	86.
NORTHEAST	0.	0.	0.	42.	64.	58.	45.	51.	53.	51.	45.	35.	23.	9.	0.	0.	0.	476.	99.	126.	79.	92.
EAST	0.	0.	0.	75.	127.	133.	118.	90.	53.	51.	45.	35.	23.	9.	0.	0.	0.	758.	118.	160.	88.	108.
SOUTHEAST	0.	0.	0.	69.	129.	150.	152.	140.	117.	86.	50.	35.	23.	9.	0.	0.	0.	961.	132.	185.	95.	120.
HORIZ.	0.	0.	0.	23.	75.	123.	160.	183.	191.	183.	160.	123.	75.	23.	0.	0.	0.	1318.	156.	230.	106.	141.

MONTH 3 HO 3069. TOD 71. TOT 68. KT .505 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	24.	56.	84.	106.	120.	125.	120.	106.	84.	56.	24.	0.	0.	0.	905.	129.	176.	97.	121.
SOUTHWEST	0.	0.	0.	14.	28.	41.	51.	74.	105.	129.	142.	143.	126.	85.	0.	0.	0.	939.	131.	180.	98.	123.
WEST	0.	0.	0.	14.	28.	41.	51.	57.	59.	96.	125.	141.	140.	104.	0.	0.	0.	856.	126.	170.	96.	118.
NORTHWEST	0.	0.	0.	14.	28.	41.	51.	57.	59.	57.	64.	81.	88.	71.	0.	0.	0.	610.	110.	142.	88.	104.
NORTH	0.	0.	0.	14.	28.	41.	51.	57.	59.	57.	51.	41.	28.	14.	0.	0.	0.	441.	99.	122.	82.	94.
NORTHEAST	0.	0.	0.	71.	88.	81.	64.	57.	59.	57.	51.	41.	28.	14.	0.	0.	0.	610.	110.	142.	88.	104.
EAST	0.	0.	0.	104.	140.	141.	125.	96.	59.	57.	51.	41.	28.	14.	0.	0.	0.	856.	126.	170.	96.	118.
SOUTHEAST	0.	0.	0.	85.	126.	143.	142.	129.	105.	74.	51.	41.	28.	14.	0.	0.	0.	939.	131.	180.	98.	123.
HORIZ.	0.	0.	0.	42.	96.	144.	181.	205.	213.	205.	181.	144.	96.	42.	0.	0.	0.	1547.	170.	251.	118.	158.

LOCATION BROWNSVILLE, TEXAS LATITUDE 25 DEGREES 54 MINUTES

MONTH 4 HO 3424. TOD 76. TOT 74. KT .509 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	5.	19.	37.	62.	82.	95.	99.	95.	82.	62.	37.	19.	5.	0.	0.	696.	118.	152.	96.	114.
SOUTHWEST	0.	0.	5.	19.	33.	45.	54.	60.	88.	112.	125.	127.	114.	83.	19.	0.	0.	884.	129.	173.	102.	125.
WEST	0.	0.	5.	19.	33.	45.	54.	60.	62.	99.	127.	144.	144.	118.	29.	0.	0.	939.	133.	179.	104.	128.
NORTHWEST	0.	0.	5.	19.	33.	45.	54.	60.	62.	63.	87.	103.	109.	94.	25.	0.	0.	760.	122.	159.	98.	118.
NORTH	0.	0.	9.	27.	33.	45.	54.	60.	62.	60.	54.	45.	33.	27.	9.	0.	0.	520.	107.	133.	90.	104.
NORTHEAST	0.	0.	25.	94.	109.	103.	87.	63.	62.	60.	54.	45.	33.	19.	5.	0.	0.	760.	122.	159.	98.	118.
EAST	0.	0.	29.	118.	144.	144.	127.	99.	62.	60.	54.	45.	33.	19.	5.	0.	0.	939.	133.	179.	104.	128.
SOUTHEAST	0.	0.	19.	83.	114.	127.	125.	112.	88.	60.	54.	45.	33.	19.	5.	0.	0.	884.	129.	173.	102.	125.
HORIZ.	0.	0.	10.	59.	113.	160.	197.	220.	227.	220.	197.	160.	113.	59.	10.	0.	0.	1743.	181.	267.	130.	175.

MONTH 5 HO 3597. TOD 81. TOT 79. KT .584 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	8.	22.	36.	47.	65.	79.	83.	79.	65.	47.	36.	22.	8.	0.	0.	595.	118.	146.	99.	115.
SOUTHWEST	0.	0.	8.	22.	36.	47.	57.	62.	78.	106.	124.	129.	118.	90.	36.	0.	0.	914.	137.	180.	110.	134.
WEST	0.	0.	8.	22.	36.	47.	57.	62.	64.	109.	144.	167.	170.	146.	68.	0.	0.	1099.	149.	201.	116.	145.
NORTHWEST	0.	0.	8.	22.	36.	47.	57.	62.	64.	84.	113.	134.	143.	130.	64.	0.	0.	964.	141.	186.	112.	137.
NORTH	0.	0.	28.	50.	53.	51.	57.	62.	64.	62.	57.	51.	53.	50.	28.	0.	0.	666.	122.	154.	102.	119.
NORTHEAST	0.	0.	64.	130.	143.	134.	113.	84.	64.	62.	57.	47.	36.	22.	8.	0.	0.	964.	141.	186.	112.	137.
EAST	0.	0.	68.	146.	170.	167.	144.	109.	64.	62.	57.	47.	36.	22.	8.	0.	0.	1099.	149.	201.	116.	145.
SOUTHEAST	0.	0.	36.	90.	118.	129.	124.	106.	78.	62.	57.	47.	36.	22.	8.	0.	0.	914.	137.	180.	110.	134.
HORIZ.	0.	0.	21.	79.	138.	191.	232.	257.	266.	257.	232.	191.	138.	79.	21.	0.	0.	2102.	210.	309.	151.	206.

MONTH 6 HO 3647. TOD 85. TOT 83. KT .627 KD .167

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	9.	23.	36.	48.	57.	69.	74.	69.	57.	48.	36.	23.	9.	0.	0.	556.	119.	144.	102.	116.
SOUTHWEST	0.	0.	9.	23.	36.	48.	57.	62.	71.	103.	123.	130.	120.	92.	41.	0.	0.	915.	140.	182.	114.	138.
WEST	0.	0.	9.	23.	36.	48.	57.	62.	64.	113.	153.	179.	184.	161.	84.	0.	0.	1173.	156.	210.	123.	153.
NORTHWEST	0.	0.	9.	23.	36.	48.	57.	62.	64.	94.	126.	151.	162.	148.	82.	0.	0.	1063.	149.	198.	119.	147.
NORTH	0.	0.	38.	62.	65.	63.	59.	62.	64.	62.	59.	63.	65.	62.	38.	0.	0.	764.	131.	166.	109.	129.
NORTHEAST	0.	0.	82.	148.	162.	151.	126.	94.	64.	62.	57.	48.	36.	23.	9.	0.	0.	1063.	149.	198.	119.	147.
EAST	0.	0.	84.	161.	184.	179.	153.	113.	64.	62.	57.	48.	36.	23.	9.	0.	0.	1173.	156.	210.	123.	153.
SOUTHEAST	0.	0.	41.	92.	120.	130.	123.	103.	71.	62.	57.	48.	36.	23.	9.	0.	0.	915.	140.	182.	114.	138.
HORIZ.	0.	0.	27.	88.	151.	207.	250.	277.	287.	277.	250.	207.	151.	88.	27.	0.	0.	2288.	223.	329.	161.	221.

LOCATION BROWNSVILLE, TEXAS LATITUDE 25 DEGREES 54 MINUTES

MONTH 7 HO 3589. TOD 86. TOT 84. KT .650 KD .162

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	7.	21.	35.	47.	65.	81.	86.	81.	65.	47.	35.	21.	7.	0.	0.	601.	123.	152.	104.	120.
SOUTHWEST	0.	0.	7.	21.	35.	47.	56.	62.	80.	114.	137.	144.	133.	101.	40.	0.	0.	978.	146.	192.	117.	143.
WEST	0.	0.	7.	21.	35.	47.	56.	62.	64.	118.	161.	189.	195.	168.	76.	0.	0.	1200.	160.	216.	125.	156.
NORTHWEST	0.	0.	7.	21.	35.	47.	56.	62.	64.	88.	124.	151.	163.	149.	72.	0.	0.	1041.	150.	199.	119.	147.
NORTH	0.	0.	30.	55.	57.	52.	56.	62.	64.	62.	56.	52.	57.	55.	30.	0.	0.	690.	129.	161.	107.	125.
NORTHEAST	0.	0.	72.	149.	163.	151.	124.	88.	64.	62.	56.	47.	35.	21.	7.	0.	0.	1041.	150.	199.	119.	147.
EAST	0.	0.	76.	168.	195.	189.	161.	118.	64.	62.	56.	47.	35.	21.	7.	0.	0.	1200.	160.	216.	125.	156.
SOUTHEAST	0.	0.	40.	101.	133.	144.	137.	114.	80.	62.	56.	47.	35.	21.	7.	0.	0.	978.	146.	192.	117.	143.
HORIZ.	0.	0.	22.	86.	153.	212.	258.	287.	297.	287.	258.	212.	153.	86.	22.	0.	0.	2334.	230.	339.	164.	225.

MONTH 8 HO 3396. TOD 87. TOT 84. KT .617 KD .170

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	4.	18.	38.	68.	93.	109.	114.	109.	93.	68.	38.	18.	4.	0.	0.	773.	137.	175.	111.	131.
SOUTHWEST	0.	0.	4.	18.	33.	45.	55.	61.	99.	132.	153.	158.	143.	104.	20.	0.	0.	1027.	153.	203.	119.	146.
WEST	0.	0.	4.	18.	33.	45.	55.	61.	63.	115.	156.	181.	184.	150.	32.	0.	0.	1099.	157.	211.	122.	150.
NORTHWEST	0.	0.	4.	18.	33.	45.	55.	61.	63.	65.	100.	126.	137.	119.	28.	0.	0.	855.	142.	184.	113.	136.
NORTH	0.	0.	10.	29.	33.	45.	55.	61.	63.	61.	55.	45.	33.	29.	10.	0.	0.	531.	121.	147.	102.	116.
NORTHEAST	0.	0.	28.	119.	137.	126.	100.	65.	63.	61.	55.	45.	33.	18.	4.	0.	0.	855.	142.	184.	113.	136.
EAST	0.	0.	32.	150.	184.	181.	156.	115.	63.	61.	55.	45.	33.	18.	4.	0.	0.	1099.	157.	211.	122.	150.
SOUTHEAST	0.	0.	20.	104.	143.	158.	153.	132.	99.	61.	55.	45.	33.	18.	4.	0.	0.	1027.	153.	203.	119.	146.
HORIZ.	0.	0.	9.	68.	134.	193.	238.	267.	277.	267.	238.	193.	134.	68.	9.	0.	0.	2095.	221.	324.	156.	211.

MONTH 9 HO 3046. TOD 84. TOT 81. KT .566 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	25.	60.	92.	117.	133.	139.	133.	117.	92.	60.	25.	0.	0.	0.	995.	152.	204.	115.	142.
SOUTHWEST	0.	0.	0.	14.	28.	41.	51.	77.	115.	145.	162.	163.	145.	95.	0.	0.	0.	1036.	155.	209.	117.	144.
WEST	0.	0.	0.	14.	28.	41.	51.	57.	59.	105.	141.	162.	161.	117.	0.	0.	0.	937.	148.	197.	113.	138.
NORTHWEST	0.	0.	0.	14.	28.	41.	51.	57.	59.	57.	68.	91.	99.	79.	0.	0.	0.	645.	128.	162.	103.	120.
NORTH	0.	0.	0.	14.	28.	41.	51.	57.	59.	57.	51.	41.	28.	14.	0.	0.	0.	443.	114.	137.	97.	108.
NORTHEAST	0.	0.	0.	79.	99.	91.	68.	57.	59.	57.	51.	41.	28.	14.	0.	0.	0.	645.	128.	162.	103.	120.
EAST	0.	0.	0.	117.	161.	162.	141.	105.	59.	57.	51.	41.	28.	14.	0.	0.	0.	937.	148.	197.	113.	138.
SOUTHEAST	0.	0.	0.	95.	145.	163.	162.	145.	115.	77.	51.	41.	28.	14.	0.	0.	0.	1036.	155.	209.	117.	144.
HORIZ.	0.	0.	0.	44.	105.	160.	203.	230.	239.	230.	203.	160.	105.	44.	0.	0.	0.	1722.	202.	292.	140.	185.

LOCATION BROWNSVILLE, TEXAS LATITUDE 25 DEGREES 54 MINUTES

MONTH 10 HO 2597. TOD 79. TOT 76. KT .570 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	30.	80.	118.	145.	162.	168.	162.	145.	118.	80.	30.	0.	0.	0.	1238.	163.	232.	116.	148.
SOUTHWEST	0.	0.	0.	8.	23.	35.	52.	96.	135.	164.	180.	179.	153.	76.	0.	0.	0.	1101.	154.	215.	111.	140.
WEST	0.	0.	0.	8.	23.	35.	45.	52.	54.	100.	136.	156.	150.	83.	0.	0.	0.	842.	136.	183.	103.	125.
NORTHWEST	0.	0.	0.	8.	23.	35.	45.	52.	54.	52.	45.	63.	72.	45.	0.	0.	0.	494.	113.	140.	92.	105.
NORTH	0.	0.	0.	8.	23.	35.	45.	52.	54.	52.	45.	35.	23.	8.	0.	0.	0.	380.	105.	126.	88.	98.
NORTHEAST	0.	0.	0.	45.	72.	63.	45.	52.	54.	52.	45.	35.	23.	8.	0.	0.	0.	494.	113.	140.	92.	105.
EAST	0.	0.	0.	83.	150.	156.	136.	100.	54.	52.	45.	35.	23.	8.	0.	0.	0.	842.	136.	183.	103.	125.
SOUTHEAST	0.	0.	0.	76.	153.	179.	180.	164.	135.	96.	52.	35.	23.	8.	0.	0.	0.	1101.	154.	215.	111.	140.
HORIZ.	0.	0.	0.	23.	83.	138.	181.	208.	217.	208.	181.	138.	83.	23.	0.	0.	0.	1482.	180.	262.	124.	162.

MONTH 11 HO 2164. TOD 71. TOT 68. KT .468 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	12.	68.	103.	126.	141.	145.	141.	126.	103.	68.	12.	0.	0.	0.	1045.	146.	208.	101.	129.
SOUTHWEST	0.	0.	0.	4.	17.	28.	56.	88.	116.	136.	145.	139.	111.	23.	0.	0.	0.	862.	133.	184.	95.	118.
WEST	0.	0.	0.	4.	17.	28.	37.	43.	45.	77.	100.	111.	98.	22.	0.	0.	0.	583.	113.	147.	87.	102.
NORTHWEST	0.	0.	0.	4.	17.	28.	37.	43.	45.	43.	37.	34.	38.	11.	0.	0.	0.	338.	95.	115.	79.	87.
NORTH	0.	0.	0.	4.	17.	28.	37.	43.	45.	43.	37.	28.	17.	4.	0.	0.	0.	303.	93.	111.	78.	85.
NORTHEAST	0.	0.	0.	11.	38.	34.	37.	43.	45.	43.	37.	28.	17.	4.	0.	0.	0.	338.	95.	115.	79.	87.
EAST	0.	0.	0.	22.	98.	111.	100.	77.	45.	43.	37.	28.	17.	4.	0.	0.	0.	583.	113.	147.	87.	102.
SOUTHEAST	0.	0.	0.	23.	111.	139.	145.	136.	116.	88.	56.	28.	17.	4.	0.	0.	0.	862.	133.	184.	95.	118.
HORIZ.	0.	0.	0.	7.	51.	94.	128.	149.	156.	149.	128.	94.	51.	7.	0.	0.	0.	1012.	144.	204.	100.	127.

MONTH 12 HO 1989. TOD 65. TOT 62. KT .488 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	4.	72.	111.	137.	152.	157.	152.	137.	111.	72.	4.	0.	0.	0.	1111.	148.	215.	98.	127.
SOUTHWEST	0.	0.	0.	2.	15.	26.	61.	95.	124.	145.	154.	147.	113.	7.	0.	0.	0.	888.	131.	185.	91.	114.
WEST	0.	0.	0.	2.	15.	26.	36.	41.	43.	77.	101.	112.	97.	7.	0.	0.	0.	557.	107.	140.	80.	95.
NORTHWEST	0.	0.	0.	2.	15.	26.	36.	41.	43.	41.	36.	27.	32.	4.	0.	0.	0.	303.	88.	106.	72.	80.
NORTH	0.	0.	0.	2.	15.	26.	36.	41.	43.	41.	36.	26.	15.	2.	0.	0.	0.	283.	86.	103.	71.	79.
NORTHEAST	0.	0.	0.	4.	32.	27.	36.	41.	43.	41.	36.	26.	15.	2.	0.	0.	0.	303.	88.	106.	72.	80.
EAST	0.	0.	0.	7.	97.	112.	101.	77.	43.	41.	36.	26.	15.	2.	0.	0.	0.	557.	107.	140.	80.	95.
SOUTHEAST	0.	0.	0.	7.	113.	147.	154.	145.	124.	95.	61.	26.	15.	2.	0.	0.	0.	888.	131.	185.	91.	114.
HORIZ.	0.	0.	0.	4.	45.	89.	124.	146.	154.	146.	124.	89.	45.	4.	0.	0.	0.	969.	137.	196.	93.	119.

LOCATION BROWNSVILLE, TEXAS LATITUDE 25 DEGREES 54 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	149.	139.	129.	118.	118.	119.	123.	137.	152.	163.	146.	148.	137.
SOUTHWEST	134.	132.	131.	129.	137.	140.	146.	153.	155.	154.	133.	131.	140.
WEST	110.	118.	126.	133.	149.	156.	160.	157.	148.	136.	113.	107.	134.
NORTHWEST	89.	99.	110.	122.	141.	149.	150.	142.	128.	113.	95.	88.	119.
NORTH	86.	93.	99.	107.	122.	131.	129.	121.	114.	105.	93.	86.	107.
NORTHEAST	89.	99.	110.	122.	141.	149.	150.	142.	128.	113.	95.	88.	119.
EAST	110.	118.	126.	133.	149.	156.	160.	157.	148.	136.	113.	107.	134.
SOUTHEAST	134.	132.	131.	129.	137.	140.	146.	153.	155.	154.	133.	131.	140.
HORIZ.	145.	156.	170.	181.	210.	223.	230.	221.	202.	180.	144.	137.	183.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	220.	198.	176.	152.	146.	144.	152.	175.	204.	232.	208.	215.	185.
SOUTHWEST	192.	185.	180.	173.	180.	182.	192.	203.	209.	215.	184.	185.	190.
WEST	149.	160.	170.	179.	201.	210.	216.	211.	197.	183.	147.	140.	180.
NORTHWEST	110.	126.	142.	159.	186.	198.	199.	184.	162.	140.	115.	106.	152.
NORTH	105.	114.	122.	133.	154.	166.	161.	147.	137.	126.	111.	103.	132.
NORTHEAST	110.	126.	142.	159.	186.	198.	199.	184.	162.	140.	115.	106.	152.
EAST	149.	160.	170.	179.	201.	210.	216.	211.	197.	183.	147.	140.	180.
SOUTHEAST	192.	185.	180.	173.	180.	182.	192.	203.	209.	215.	184.	185.	190.
HORIZ.	211.	230.	251.	267.	309.	329.	339.	324.	292.	262.	204.	196.	268.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	99.	98.	97.	96.	99.	102.	104.	111.	115.	116.	101.	98.	103.
SOUTHWEST	92.	95.	98.	102.	110.	114.	117.	119.	117.	111.	95.	91.	105.
WEST	81.	88.	96.	104.	116.	123.	125.	122.	113.	103.	87.	80.	103.
NORTHWEST	72.	79.	88.	98.	112.	119.	119.	113.	103.	92.	79.	72.	96.
NORTH	71.	76.	82.	90.	102.	109.	107.	102.	97.	88.	78.	71.	89.
NORTHEAST	72.	79.	88.	98.	112.	119.	119.	113.	103.	92.	79.	72.	96.
EAST	81.	88.	96.	104.	116.	123.	125.	122.	113.	103.	87.	80.	103.
SOUTHEAST	92.	95.	98.	102.	110.	114.	117.	119.	117.	111.	95.	91.	105.
HORIZ.	97.	106.	118.	130.	151.	161.	164.	156.	140.	124.	100.	93.	128.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	130.	126.	121.	114.	115.	116.	120.	131.	142.	148.	129.	127.	127.
SOUTHWEST	117.	120.	123.	125.	134.	138.	143.	146.	144.	140.	118.	114.	130.
WEST	98.	108.	118.	128.	145.	153.	156.	150.	138.	125.	102.	95.	127.
NORTHWEST	81.	92.	104.	118.	137.	147.	147.	136.	120.	105.	87.	80.	113.
NORTH	79.	86.	94.	104.	119.	129.	125.	116.	108.	98.	85.	79.	102.
NORTHEAST	81.	92.	104.	118.	137.	147.	147.	136.	120.	105.	87.	80.	113.
EAST	98.	108.	118.	128.	145.	153.	156.	150.	138.	125.	102.	95.	127.
SOUTHEAST	117.	120.	123.	125.	134.	138.	143.	146.	144.	140.	118.	114.	130.
HORIZ.	126.	141.	158.	175.	206.	221.	225.	211.	185.	162.	127.	119.	171.

LOCATION CARIBOU, MAINE LATITUDE 46 DEGREES 51 MINUTES

MONTH 1 HO 1051. TOD 11. TOT 9. KT .504 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	24.	98.	144.	170.	178.	170.	144.	98.	24.	0.	0.	0.	0.	1049.	101.	175.	42.	70.
SOUTHWEST	0.	0.	0.	0.	4.	17.	58.	100.	134.	155.	157.	129.	38.	0.	0.	0.	0.	792.	79.	135.	34.	55.
WEST	0.	0.	0.	0.	4.	13.	20.	25.	27.	64.	91.	92.	32.	0.	0.	0.	0.	369.	43.	69.	21.	30.
NORTHWEST	0.	0.	0.	0.	4.	13.	20.	25.	27.	25.	20.	13.	10.	0.	0.	0.	0.	158.	25.	36.	14.	18.
NORTH	0.	0.	0.	0.	4.	13.	20.	25.	27.	25.	20.	13.	4.	0.	0.	0.	0.	152.	25.	35.	14.	18.
NORTHEAST	0.	0.	0.	0.	10.	13.	20.	25.	27.	25.	20.	13.	4.	0.	0.	0.	0.	158.	25.	36.	14.	18.
EAST	0.	0.	0.	0.	32.	92.	91.	64.	27.	25.	20.	13.	4.	0.	0.	0.	0.	369.	43.	69.	21.	30.
SOUTHEAST	0.	0.	0.	0.	38.	129.	157.	155.	134.	100.	58.	17.	4.	0.	0.	0.	0.	792.	79.	135.	34.	55.
HORIZ.	0.	0.	0.	0.	9.	42.	72.	92.	99.	92.	72.	42.	9.	0.	0.	0.	0.	530.	57.	94.	26.	40.

MONTH 2 HO 1645. TOD 13. TOT 10. KT .579 KD .177

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	5.	75.	132.	173.	198.	207.	198.	173.	132.	75.	5.	0.	0.	0.	1373.	114.	196.	54.	90.
SOUTHWEST	0.	0.	0.	2.	12.	22.	65.	115.	157.	186.	198.	185.	135.	9.	0.	0.	0.	1087.	93.	158.	45.	73.
WEST	0.	0.	0.	2.	12.	22.	30.	35.	37.	86.	124.	143.	123.	10.	0.	0.	0.	625.	59.	96.	30.	46.
NORTHWEST	0.	0.	0.	2.	12.	22.	30.	35.	37.	35.	30.	30.	46.	6.	0.	0.	0.	286.	34.	51.	19.	26.
NORTH	0.	0.	0.	2.	12.	22.	30.	35.	37.	35.	30.	22.	12.	2.	0.	0.	0.	241.	30.	45.	18.	24.
NORTHEAST	0.	0.	0.	6.	46.	30.	30.	35.	37.	35.	30.	22.	12.	2.	0.	0.	0.	286.	34.	51.	19.	26.
EAST	0.	0.	0.	10.	123.	143.	124.	86.	37.	35.	30.	22.	12.	2.	0.	0.	0.	625.	59.	96.	30.	46.
SOUTHEAST	0.	0.	0.	9.	135.	185.	198.	186.	157.	115.	65.	22.	12.	2.	0.	0.	0.	1087.	93.	158.	45.	73.
HORIZ.	0.	0.	0.	4.	43.	87.	122.	144.	152.	144.	122.	87.	43.	4.	0.	0.	0.	952.	83.	140.	40.	65.

MONTH 3 HO 2345. TOD 24. TOT 22. KT .619 KD .169

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	32.	85.	135.	173.	198.	206.	198.	173.	135.	85.	32.	0.	0.	0.	1452.	117.	193.	68.	106.
SOUTHWEST	0.	0.	0.	10.	22.	32.	59.	113.	159.	193.	209.	205.	174.	105.	0.	0.	0.	1282.	106.	173.	63.	96.
WEST	0.	0.	0.	10.	22.	32.	40.	45.	46.	101.	146.	174.	174.	123.	0.	0.	0.	913.	83.	130.	51.	75.
NORTHWEST	0.	0.	0.	10.	22.	32.	40.	45.	46.	45.	40.	59.	85.	75.	0.	0.	0.	498.	56.	82.	38.	51.
NORTH	0.	0.	0.	10.	22.	32.	40.	45.	46.	45.	40.	32.	22.	10.	0.	0.	0.	343.	46.	64.	33.	42.
NORTHEAST	0.	0.	0.	75.	85.	59.	40.	45.	46.	45.	40.	32.	22.	10.	0.	0.	0.	498.	56.	82.	38.	51.
EAST	0.	0.	0.	123.	174.	174.	146.	101.	46.	45.	40.	32.	22.	10.	0.	0.	0.	913.	83.	130.	51.	75.
SOUTHEAST	0.	0.	0.	105.	174.	205.	209.	193.	159.	113.	59.	32.	22.	10.	0.	0.	0.	1282.	106.	173.	63.	96.
HORIZ.	0.	0.	0.	35.	87.	135.	172.	195.	203.	195.	172.	135.	87.	35.	0.	0.	0.	1451.	117.	193.	68.	106.

LOCATION CARIBOU, MAINE LATITUDE 46 DEGREES 51 MINUTES

MONTH 4 HO 3079. TOD 37. TOT 35. KT .507 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	8.	24.	59.	92.	118.	135.	141.	135.	118.	92.	59.	24.	8.	0.	0.	1014.	94.	140.	67.	94.
SOUTHWEST	0.	0.	8.	19.	30.	40.	47.	83.	115.	138.	149.	147.	130.	96.	43.	0.	0.	1045.	96.	144.	68.	96.
WEST	0.	0.	8.	19.	30.	40.	47.	51.	53.	90.	120.	139.	142.	123.	65.	0.	0.	928.	89.	132.	64.	89.
NORTHWEST	0.	0.	8.	19.	30.	40.	47.	51.	53.	51.	48.	73.	89.	90.	54.	0.	0.	654.	74.	104.	56.	73.
NORTH	0.	0.	16.	19.	30.	40.	47.	51.	53.	51.	47.	40.	30.	19.	16.	0.	0.	460.	63.	84.	49.	62.
NORTHEAST	0.	0.	54.	90.	89.	73.	48.	51.	53.	51.	47.	40.	30.	19.	8.	0.	0.	654.	74.	104.	56.	73.
EAST	0.	0.	65.	123.	142.	139.	120.	90.	53.	51.	47.	40.	30.	19.	8.	0.	0.	928.	89.	132.	64.	89.
SOUTHEAST	0.	0.	43.	96.	130.	147.	149.	138.	115.	83.	47.	40.	30.	19.	8.	0.	0.	1045.	96.	144.	68.	96.
HORIZ.	0.	0.	21.	62.	104.	141.	169.	187.	193.	187.	169.	141.	104.	62.	21.	0.	0.	1561.	125.	196.	85.	126.

MONTH 5 HO 3575. TOD 52. TOT 48. KT .509 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	4.	14.	25.	50.	80.	104.	120.	125.	120.	104.	80.	50.	25.	14.	4.	0.	922.	102.	140.	80.	104.
SOUTHWEST	0.	4.	14.	25.	35.	44.	51.	75.	105.	127.	138.	137.	123.	97.	58.	11.	0.	1047.	109.	152.	84.	112.
WEST	0.	4.	14.	25.	35.	44.	51.	55.	57.	92.	121.	140.	145.	133.	97.	22.	0.	1038.	108.	152.	84.	111.
NORTHWEST	0.	4.	14.	25.	35.	44.	51.	55.	57.	55.	63.	87.	103.	107.	87.	23.	0.	811.	96.	130.	76.	98.
NORTH	0.	12.	35.	32.	35.	44.	51.	55.	57.	55.	51.	44.	35.	32.	35.	12.	0.	588.	84.	108.	69.	84.
NORTHEAST	0.	23.	87.	107.	103.	87.	63.	55.	57.	55.	51.	44.	35.	25.	14.	4.	0.	811.	96.	130.	76.	98.
EAST	0.	22.	97.	133.	145.	140.	121.	92.	57.	55.	51.	44.	35.	25.	14.	4.	0.	1038.	108.	152.	84.	111.
SOUTHEAST	0.	11.	58.	97.	123.	137.	138.	127.	105.	75.	51.	44.	35.	25.	14.	4.	0.	1047.	109.	152.	84.	112.
HORIZ.	0.	9.	42.	84.	124.	159.	186.	203.	209.	203.	186.	159.	124.	84.	42.	9.	0.	1820.	151.	227.	111.	158.

MONTH 6 HO 3762. TOD 62. TOT 58. KT .473 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	7.	16.	27.	44.	70.	92.	106.	110.	106.	92.	70.	44.	27.	16.	7.	0.	832.	105.	139.	87.	109.
SOUTHWEST	0.	7.	16.	27.	36.	45.	51.	68.	95.	113.	123.	122.	109.	87.	55.	17.	0.	970.	112.	151.	92.	117.
WEST	0.	7.	16.	27.	36.	45.	51.	55.	56.	87.	112.	128.	132.	122.	93.	37.	0.	1004.	114.	154.	93.	119.
NORTHWEST	0.	7.	16.	27.	36.	45.	51.	55.	56.	55.	65.	85.	99.	102.	87.	39.	0.	824.	105.	138.	87.	108.
NORTH	0.	22.	39.	37.	36.	45.	51.	55.	56.	55.	51.	45.	36.	37.	39.	22.	0.	626.	94.	120.	80.	96.
NORTHEAST	0.	39.	87.	102.	99.	85.	65.	55.	56.	55.	51.	45.	36.	27.	16.	7.	0.	824.	105.	138.	87.	108.
EAST	0.	37.	93.	122.	132.	128.	112.	87.	56.	55.	51.	45.	36.	27.	16.	7.	0.	1004.	114.	154.	93.	119.
SOUTHEAST	0.	17.	55.	87.	109.	122.	123.	113.	95.	68.	51.	45.	36.	27.	16.	7.	0.	970.	112.	151.	92.	117.
HORIZ.	0.	15.	48.	85.	121.	153.	177.	193.	198.	193.	177.	153.	121.	85.	48.	15.	0.	1779.	155.	226.	119.	166.

LOCATION CARIBOU, MAINE LATITUDE 46 DEGREES 51 MINUTES

MONTH 7 HO 3575. TOD 67. TOT 64. KT .522 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	4.	14.	25.	50.	81.	106.	123.	128.	123.	106.	81.	50.	25.	14.	4.	0.	937.	118.	157.	96.	121.
SOUTHWEST	0.	4.	14.	25.	35.	44.	51.	76.	107.	130.	142.	141.	127.	99.	59.	11.	0.	1067.	125.	170.	100.	128.
WEST	0.	4.	14.	25.	35.	44.	51.	55.	57.	94.	124.	144.	150.	137.	98.	22.	0.	1058.	125.	169.	100.	128.
NORTHWEST	0.	4.	14.	25.	35.	44.	51.	55.	57.	55.	64.	89.	106.	110.	89.	23.	0.	823.	112.	146.	92.	114.
NORTH	0.	13.	36.	33.	35.	44.	51.	55.	57.	55.	51.	44.	35.	33.	36.	13.	0.	592.	99.	124.	84.	100.
NORTHEAST	0.	23.	89.	110.	106.	89.	64.	55.	57.	55.	51.	44.	35.	25.	14.	4.	0.	823.	112.	146.	92.	114.
EAST	0.	22.	98.	137.	150.	144.	124.	94.	57.	55.	51.	44.	35.	25.	14.	4.	0.	1058.	125.	169.	100.	128.
SOUTHEAST	0.	11.	59.	99.	127.	141.	142.	130.	107.	76.	51.	44.	35.	25.	14.	4.	0.	1067.	125.	170.	100.	128.
HORIZ.	0.	9.	43.	85.	127.	163.	191.	209.	215.	209.	191.	163.	127.	85.	43.	9.	0.	1867.	169.	246.	128.	177.

MONTH 8 HO 3058. TOD 65. TOT 62. KT .527 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	8.	24.	60.	95.	123.	141.	147.	141.	123.	95.	60.	24.	8.	0.	0.	1048.	128.	175.	98.	125.
SOUTHWEST	0.	0.	8.	19.	30.	39.	47.	85.	119.	144.	156.	153.	135.	99.	41.	0.	0.	1076.	129.	178.	99.	127.
WEST	0.	0.	8.	19.	30.	39.	47.	51.	53.	93.	125.	145.	148.	127.	63.	0.	0.	948.	122.	165.	94.	119.
NORTHWEST	0.	0.	8.	19.	30.	39.	47.	51.	53.	51.	48.	75.	92.	92.	53.	0.	0.	659.	104.	134.	84.	102.
NORTH	0.	0.	16.	19.	30.	39.	47.	51.	53.	51.	47.	39.	30.	19.	16.	0.	0.	459.	92.	113.	77.	90.
NORTHEAST	0.	0.	53.	92.	92.	75.	48.	51.	53.	51.	47.	39.	30.	19.	8.	0.	0.	659.	104.	134.	84.	102.
EAST	0.	0.	63.	127.	148.	145.	125.	93.	53.	51.	47.	39.	30.	19.	8.	0.	0.	948.	122.	165.	94.	119.
SOUTHEAST	0.	0.	41.	99.	135.	153.	156.	144.	119.	85.	47.	39.	30.	19.	8.	0.	0.	1076.	129.	178.	99.	127.
HORIZ.	0.	0.	21.	63.	107.	145.	175.	194.	201.	194.	175.	145.	107.	63.	21.	0.	0.	1612.	161.	235.	117.	159.

MONTH 9 HO 2338. TOD 56. TOT 53. KT .506 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	25.	65.	103.	132.	151.	158.	151.	132.	103.	65.	25.	0.	0.	0.	1110.	132.	189.	91.	120.
SOUTHWEST	0.	0.	0.	11.	22.	31.	52.	91.	125.	148.	158.	152.	127.	73.	0.	0.	0.	989.	123.	175.	87.	113.
WEST	0.	0.	0.	11.	22.	31.	39.	43.	45.	83.	114.	131.	127.	85.	0.	0.	0.	730.	106.	144.	78.	97.
NORTHWEST	0.	0.	0.	11.	22.	31.	39.	43.	45.	43.	39.	51.	65.	53.	0.	0.	0.	442.	86.	109.	68.	80.
NORTH	0.	0.	0.	11.	22.	31.	39.	43.	45.	43.	39.	31.	22.	11.	0.	0.	0.	336.	79.	97.	65.	74.
NORTHEAST	0.	0.	0.	53.	65.	51.	39.	43.	45.	43.	39.	31.	22.	11.	0.	0.	0.	442.	86.	109.	68.	80.
EAST	0.	0.	0.	85.	127.	131.	114.	83.	45.	43.	39.	31.	22.	11.	0.	0.	0.	730.	106.	144.	78.	97.
SOUTHEAST	0.	0.	0.	73.	127.	152.	158.	148.	125.	91.	52.	31.	22.	11.	0.	0.	0.	989.	123.	175.	87.	113.
HORIZ.	0.	0.	1.	29.	71.	109.	139.	158.	165.	158.	139.	109.	71.	29.	1.	0.	0.	1182.	136.	198.	94.	125.

LOCATION CARIBOU, MAINE LATITUDE 46 DEGREES 51 MINUTES

MONTH 10 HO 1612. TOD 45. TOT 42. KT .455 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	3.	51.	93.	124.	142.	149.	142.	124.	93.	51.	3.	0.	0.	0.	975.	117.	175.	73.	99.
SOUTHWEST	0.	0.	0.	2.	12.	21.	51.	86.	115.	134.	140.	128.	89.	4.	0.	0.	0.	782.	102.	149.	67.	88.
WEST	0.	0.	0.	2.	12.	21.	28.	32.	34.	66.	91.	100.	81.	4.	0.	0.	0.	471.	79.	108.	57.	70.
NORTHWEST	0.	0.	0.	2.	12.	21.	28.	32.	34.	32.	28.	26.	33.	3.	0.	0.	0.	250.	63.	78.	50.	57.
NORTH	0.	0.	0.	2.	12.	21.	28.	32.	34.	32.	28.	21.	12.	2.	0.	0.	0.	223.	61.	75.	49.	55.
NORTHEAST	0.	0.	0.	3.	33.	26.	28.	32.	34.	32.	28.	21.	12.	2.	0.	0.	0.	250.	63.	78.	50.	57.
EAST	0.	0.	0.	4.	81.	100.	91.	66.	34.	32.	28.	21.	12.	2.	0.	0.	0.	471.	79.	108.	57.	70.
SOUTHEAST	0.	0.	0.	4.	89.	128.	140.	134.	115.	86.	51.	21.	12.	2.	0.	0.	0.	782.	102.	149.	67.	88.
HORIZ.	0.	0.	0.	3.	33.	67.	94.	111.	117.	111.	94.	67.	33.	3.	0.	0.	0.	733.	99.	143.	66.	85.

MONTH 11 HO 1041. TOD 31. TOT 29. KT .352 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	13.	57.	84.	100.	105.	100.	84.	57.	13.	0.	0.	0.	0.	612.	84.	127.	49.	65.
SOUTHWEST	0.	0.	0.	0.	4.	14.	38.	62.	81.	92.	91.	73.	20.	0.	0.	0.	0.	474.	72.	105.	44.	57.
WEST	0.	0.	0.	0.	4.	11.	18.	22.	23.	43.	55.	53.	17.	0.	0.	0.	0.	246.	52.	70.	37.	44.
NORTHWEST	0.	0.	0.	0.	4.	11.	18.	22.	23.	22.	18.	11.	6.	0.	0.	0.	0.	134.	43.	52.	34.	37.
NORTH	0.	0.	0.	0.	4.	11.	18.	22.	23.	22.	18.	11.	4.	0.	0.	0.	0.	131.	43.	52.	33.	37.
NORTHEAST	0.	0.	0.	0.	6.	11.	18.	22.	23.	22.	18.	11.	4.	0.	0.	0.	0.	134.	43.	52.	34.	37.
EAST	0.	0.	0.	0.	17.	53.	55.	43.	23.	22.	18.	11.	4.	0.	0.	0.	0.	246.	52.	70.	37.	44.
SOUTHEAST	0.	0.	0.	0.	20.	73.	91.	92.	81.	62.	38.	14.	4.	0.	0.	0.	0.	474.	72.	105.	44.	57.
HORIZ.	0.	0.	0.	0.	7.	30.	50.	63.	67.	63.	50.	30.	7.	0.	0.	0.	0.	367.	63.	89.	41.	51.

MONTH 12 HO 836. TOD 17. TOT 15. KT .470 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	1.	77.	128.	155.	164.	155.	128.	77.	1.	0.	0.	0.	0.	886.	99.	166.	43.	66.
SOUTHWEST	0.	0.	0.	0.	1.	15.	53.	91.	122.	140.	137.	99.	2.	0.	0.	0.	0.	661.	78.	128.	36.	53.
WEST	0.	0.	0.	0.	1.	9.	16.	21.	22.	55.	76.	68.	2.	0.	0.	0.	0.	271.	42.	62.	23.	30.
NORTHWEST	0.	0.	0.	0.	1.	9.	16.	21.	22.	21.	16.	9.	1.	0.	0.	0.	0.	117.	28.	36.	18.	21.
NORTH	0.	0.	0.	0.	1.	9.	16.	21.	22.	21.	16.	9.	1.	0.	0.	0.	0.	117.	28.	36.	18.	21.
NORTHEAST	0.	0.	0.	0.	1.	9.	16.	21.	22.	21.	16.	9.	1.	0.	0.	0.	0.	117.	28.	36.	18.	21.
EAST	0.	0.	0.	0.	2.	68.	76.	55.	22.	21.	16.	9.	1.	0.	0.	0.	0.	271.	42.	62.	23.	30.
SOUTHEAST	0.	0.	0.	0.	2.	99.	137.	140.	122.	91.	53.	15.	1.	0.	0.	0.	0.	661.	78.	128.	36.	53.
HORIZ.	0.	0.	0.	0.	2.	27.	55.	73.	79.	73.	55.	27.	2.	0.	0.	0.	0.	392.	53.	83.	27.	37.

LOCATION CARIBOU, MAINE LATITUDE 46 DEGREES 51 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	101.	114.	117.	94.	102.	105.	118.	128.	132.	117.	84.	99.	109.
SOUTHWEST	79.	93.	106.	96.	109.	112.	125.	129.	123.	102.	72.	78.	102.
WEST	43.	59.	83.	89.	108.	114.	125.	122.	106.	79.	52.	42.	85.
NORTHWEST	25.	34.	56.	74.	96.	105.	112.	104.	86.	63.	43.	28.	69.
NORTH	25.	30.	46.	63.	84.	94.	99.	92.	79.	61.	43.	28.	62.
NORTHEAST	25.	34.	56.	74.	96.	105.	112.	104.	86.	63.	43.	28.	69.
EAST	43.	59.	83.	89.	108.	114.	125.	122.	106.	79.	52.	42.	85.
SOUTHEAST	79.	93.	106.	96.	109.	112.	125.	129.	123.	102.	72.	78.	102.
HORIZ.	57.	83.	117.	125.	151.	155.	169.	161.	136.	99.	63.	53.	114.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	175.	196.	193.	140.	140.	139.	157.	175.	189.	175.	127.	166.	164.
SOUTHWEST	135.	158.	173.	144.	152.	151.	170.	178.	175.	149.	105.	128.	152.
WEST	69.	96.	130.	132.	152.	154.	169.	165.	144.	108.	70.	62.	121.
NORTHWEST	36.	51.	82.	104.	130.	138.	146.	134.	109.	78.	52.	36.	91.
NORTH	35.	45.	64.	84.	108.	120.	124.	113.	97.	75.	52.	36.	79.
NORTHEAST	36.	51.	82.	104.	130.	138.	146.	134.	109.	78.	52.	36.	91.
EAST	69.	96.	130.	132.	152.	154.	169.	165.	144.	108.	70.	62.	121.
SOUTHEAST	135.	158.	173.	144.	152.	151.	170.	178.	175.	149.	105.	128.	152.
HORIZ.	94.	140.	193.	196.	227.	226.	246.	235.	198.	143.	89.	83.	172.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	42.	54.	68.	67.	80.	87.	96.	98.	91.	73.	49.	43.	71.
SOUTHWEST	34.	45.	63.	68.	84.	92.	100.	99.	87.	67.	44.	36.	68.
WEST	21.	30.	51.	64.	84.	93.	100.	94.	78.	57.	37.	23.	61.
NORTHWEST	14.	19.	38.	56.	76.	87.	92.	84.	68.	50.	34.	18.	53.
NORTH	14.	18.	33.	49.	69.	80.	84.	77.	65.	49.	33.	18.	49.
NORTHEAST	14.	19.	38.	56.	76.	87.	92.	84.	68.	50.	34.	18.	53.
EAST	21.	30.	51.	64.	84.	93.	100.	94.	78.	57.	37.	23.	61.
SOUTHEAST	34.	45.	63.	68.	84.	92.	100.	99.	87.	67.	44.	36.	68.
HORIZ.	26.	40.	68.	85.	111.	119.	128.	117.	94.	66.	41.	27.	77.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	70.	90.	106.	94.	104.	109.	121.	125.	120.	99.	65.	66.	97.
SOUTHWEST	55.	73.	96.	96.	112.	117.	128.	127.	113.	88.	57.	53.	93.
WEST	30.	46.	75.	89.	111.	119.	128.	119.	97.	70.	44.	30.	80.
NORTHWEST	18.	26.	51.	73.	98.	108.	114.	102.	80.	57.	37.	21.	65.
NORTH	18.	24.	42.	62.	84.	96.	100.	90.	74.	55.	37.	21.	58.
NORTHEAST	18.	26.	51.	73.	98.	108.	114.	102.	80.	57.	37.	21.	65.
EAST	30.	46.	75.	89.	111.	119.	128.	119.	97.	70.	44.	30.	80.
SOUTHEAST	55.	73.	96.	96.	112.	117.	128.	127.	113.	88.	57.	53.	93.
HORIZ.	40.	65.	106.	126.	158.	166.	177.	159.	125.	85.	51.	37.	108.

LOCATION CHARLESTON, S.C. LATITUDE 32 DEGREES 53 MINUTES

MONTH 1 HO 1815. TOD 54. TOT 50. KT .541 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	1.	76.	125.	158.	178.	184.	178.	158.	125.	76.	1.	0.	0.	0.	1259.	149.	226.	91.	124.
SOUTHWEST	0.	0.	0.	1.	13.	24.	65.	106.	142.	168.	178.	169.	124.	1.	0.	0.	0.	992.	128.	190.	82.	108.
WEST	0.	0.	0.	1.	13.	24.	33.	39.	41.	82.	114.	128.	107.	1.	0.	0.	0.	585.	98.	134.	69.	84.
NORTHWEST	0.	0.	0.	1.	13.	24.	33.	39.	41.	39.	33.	27.	35.	1.	0.	0.	0.	287.	75.	93.	60.	67.
NORTH	0.	0.	0.	1.	13.	24.	33.	39.	41.	39.	33.	24.	13.	1.	0.	0.	0.	263.	73.	90.	59.	66.
NORTHEAST	0.	0.	0.	1.	35.	27.	33.	39.	41.	39.	33.	24.	13.	1.	0.	0.	0.	287.	75.	93.	60.	67.
EAST	0.	0.	0.	1.	107.	128.	114.	82.	41.	39.	33.	24.	13.	1.	0.	0.	0.	585.	98.	134.	69.	84.
SOUTHEAST	0.	0.	0.	1.	124.	169.	178.	168.	142.	106.	65.	24.	13.	1.	0.	0.	0.	992.	128.	190.	82.	108.
HORIZ.	0.	0.	0.	2.	42.	89.	127.	151.	159.	151.	127.	89.	42.	2.	0.	0.	0.	980.	128.	188.	82.	107.

MONTH 2 HO 2332. TOD 55. TOT 52. KT .521 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	23.	73.	111.	139.	156.	162.	156.	139.	111.	73.	23.	0.	0.	0.	1165.	136.	202.	89.	120.
SOUTHWEST	0.	0.	0.	6.	20.	32.	55.	94.	129.	153.	165.	161.	134.	57.	0.	0.	0.	1006.	125.	182.	84.	111.
WEST	0.	0.	0.	6.	20.	32.	41.	46.	48.	88.	119.	136.	128.	61.	0.	0.	0.	725.	106.	147.	75.	94.
NORTHWEST	0.	0.	0.	6.	20.	32.	41.	46.	48.	46.	41.	49.	59.	33.	0.	0.	0.	421.	84.	108.	65.	76.
NORTH	0.	0.	0.	6.	20.	32.	41.	46.	48.	46.	41.	32.	20.	6.	0.	0.	0.	338.	79.	98.	63.	72.
NORTHEAST	0.	0.	0.	33.	59.	49.	41.	46.	48.	46.	41.	32.	20.	6.	0.	0.	0.	421.	84.	108.	65.	76.
EAST	0.	0.	0.	61.	128.	136.	119.	88.	48.	46.	41.	32.	20.	6.	0.	0.	0.	725.	106.	147.	75.	94.
SOUTHEAST	0.	0.	0.	57.	134.	161.	165.	153.	129.	94.	55.	32.	20.	6.	0.	0.	0.	1006.	125.	182.	84.	111.
HORIZ.	0.	0.	0.	16.	66.	113.	150.	173.	181.	173.	150.	113.	66.	16.	0.	0.	0.	1216.	140.	209.	91.	123.

MONTH 3 HO 2869. TOD 61. TOT 57. KT .491 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	25.	59.	89.	113.	128.	133.	128.	113.	89.	59.	25.	0.	0.	0.	962.	122.	172.	88.	113.
SOUTHWEST	0.	0.	0.	13.	26.	38.	47.	79.	110.	133.	144.	142.	124.	81.	0.	0.	0.	937.	121.	170.	87.	112.
WEST	0.	0.	0.	13.	26.	38.	47.	53.	55.	90.	118.	134.	132.	97.	0.	0.	0.	802.	112.	154.	83.	104.
NORTHWEST	0.	0.	0.	13.	26.	38.	47.	53.	55.	53.	50.	69.	78.	64.	0.	0.	0.	546.	96.	124.	75.	89.
NORTH	0.	0.	0.	13.	26.	38.	47.	53.	55.	53.	47.	38.	26.	13.	0.	0.	0.	408.	87.	108.	70.	81.
NORTHEAST	0.	0.	0.	64.	78.	69.	50.	53.	55.	53.	47.	38.	26.	13.	0.	0.	0.	546.	96.	124.	75.	89.
EAST	0.	0.	0.	97.	132.	134.	118.	90.	55.	53.	47.	38.	26.	13.	0.	0.	0.	802.	112.	154.	83.	104.
SOUTHEAST	0.	0.	0.	81.	124.	142.	144.	133.	110.	79.	47.	38.	26.	13.	0.	0.	0.	937.	121.	170.	87.	112.
HORIZ.	0.	0.	0.	38.	87.	131.	165.	186.	194.	186.	165.	131.	87.	38.	0.	0.	0.	1407.	151.	224.	102.	139.

LOCATION CHARLESTON, S.C. LATITUDE 32 DEGREES 53 MINUTES

MONTH 4 HO 3354. TOD 68. TOT 64. KT .584 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	6.	19.	48.	81.	108.	125.	131.	125.	108.	81.	48.	19.	6.	0.	0.	905.	121.	165.	93.	117.
SOUTHWEST	0.	0.	6.	19.	33.	45.	54.	71.	110.	140.	157.	159.	144.	106.	33.	0.	0.	1077.	131.	183.	99.	127.
WEST	0.	0.	6.	19.	33.	45.	54.	59.	61.	108.	146.	170.	174.	147.	52.	0.	0.	1075.	131.	183.	99.	127.
NORTHWEST	0.	0.	6.	19.	33.	45.	54.	59.	61.	59.	81.	107.	122.	113.	44.	0.	0.	804.	115.	154.	90.	111.
NORTH	0.	0.	14.	24.	33.	45.	54.	59.	61.	59.	54.	45.	33.	24.	14.	0.	0.	518.	98.	123.	81.	94.
NORTHEAST	0.	0.	44.	113.	122.	107.	81.	59.	61.	59.	54.	45.	33.	19.	6.	0.	0.	804.	115.	154.	90.	111.
EAST	0.	0.	52.	147.	174.	170.	146.	108.	61.	59.	54.	45.	33.	19.	6.	0.	0.	1075.	131.	183.	99.	127.
SOUTHEAST	0.	0.	33.	106.	144.	159.	157.	140.	110.	71.	54.	45.	33.	19.	6.	0.	0.	1077.	131.	183.	99.	127.
HORIZ.	0.	0.	14.	69.	127.	179.	219.	244.	253.	244.	219.	179.	127.	69.	14.	0.	0.	1959.	183.	278.	127.	178.

MONTH 5 HO 3631. TOD 75. TOT 71. KT .574 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	10.	23.	36.	59.	83.	99.	104.	99.	83.	59.	36.	23.	10.	0.	0.	726.	118.	151.	96.	115.
SOUTHWEST	0.	0.	10.	23.	36.	47.	56.	61.	92.	119.	136.	138.	126.	97.	47.	0.	0.	988.	133.	178.	105.	131.
WEST	0.	0.	10.	23.	36.	47.	56.	61.	63.	106.	141.	164.	169.	149.	86.	0.	0.	1110.	141.	191.	109.	138.
NORTHWEST	0.	0.	10.	23.	36.	47.	56.	61.	63.	66.	97.	121.	134.	128.	80.	0.	0.	922.	129.	171.	103.	127.
NORTH	0.	0.	33.	45.	42.	47.	56.	61.	63.	61.	56.	47.	42.	45.	33.	0.	0.	632.	112.	141.	93.	110.
NORTHEAST	0.	0.	80.	128.	134.	121.	97.	66.	63.	61.	56.	47.	36.	23.	10.	0.	0.	922.	129.	171.	103.	127.
EAST	0.	0.	86.	149.	169.	164.	141.	106.	63.	61.	56.	47.	36.	23.	10.	0.	0.	1110.	141.	191.	109.	138.
SOUTHEAST	0.	0.	47.	97.	126.	138.	136.	119.	92.	61.	56.	47.	36.	23.	10.	0.	0.	988.	133.	178.	105.	131.
HORIZ.	0.	0.	29.	84.	139.	188.	225.	249.	257.	249.	225.	188.	139.	84.	29.	0.	0.	2084.	198.	293.	143.	197.

MONTH 6 HO 3724. TOD 81. TOT 78. KT .567 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	1.	12.	25.	37.	51.	74.	88.	93.	88.	74.	51.	37.	25.	12.	1.	0.	667.	120.	149.	101.	118.
SOUTHWEST	0.	1.	12.	25.	37.	48.	56.	61.	84.	111.	126.	129.	117.	91.	48.	1.	0.	946.	136.	178.	110.	135.
WEST	0.	1.	12.	25.	37.	48.	56.	61.	63.	104.	138.	159.	164.	146.	92.	1.	0.	1107.	145.	194.	116.	145.
NORTHWEST	0.	1.	12.	25.	37.	48.	56.	61.	63.	73.	102.	124.	136.	131.	89.	1.	0.	959.	136.	179.	111.	136.
NORTH	0.	1.	41.	53.	51.	48.	56.	61.	63.	61.	56.	48.	51.	53.	41.	1.	0.	685.	121.	151.	101.	119.
NORTHEAST	0.	1.	89.	131.	136.	124.	102.	73.	63.	61.	56.	48.	37.	25.	12.	1.	0.	959.	136.	179.	111.	136.
EAST	0.	1.	92.	146.	164.	159.	138.	104.	63.	61.	56.	48.	37.	25.	12.	1.	0.	1107.	145.	194.	116.	145.
SOUTHEAST	0.	1.	48.	91.	117.	129.	126.	111.	84.	61.	56.	48.	37.	25.	12.	1.	0.	946.	136.	178.	110.	135.
HORIZ.	0.	1.	35.	89.	142.	189.	225.	247.	255.	247.	225.	189.	142.	89.	35.	1.	0.	2111.	203.	297.	150.	205.

LOCATION CHARLESTON, S.C. LATITUDE 32 DEGREES 53 MINUTES

MONTH 7 HO 3626. TOD 83. TOT 80. KT .454 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	10.	22.	34.	52.	71.	82.	86.	82.	71.	52.	34.	22.	10.	0.	0.	630.	120.	149.	102.	118.
SOUTHWEST	0.	0.	10.	22.	34.	44.	52.	57.	78.	96.	106.	106.	94.	71.	34.	0.	0.	806.	131.	167.	108.	129.
WEST	0.	0.	10.	22.	34.	44.	52.	57.	59.	88.	110.	123.	123.	106.	59.	0.	0.	889.	136.	176.	110.	134.
NORTHWEST	0.	0.	10.	22.	34.	44.	52.	57.	59.	61.	80.	94.	100.	92.	56.	0.	0.	763.	128.	163.	106.	126.
NORTH	0.	0.	25.	37.	38.	44.	52.	57.	59.	57.	52.	44.	38.	37.	25.	0.	0.	569.	117.	142.	100.	114.
NORTHEAST	0.	0.	56.	92.	100.	94.	80.	61.	59.	57.	52.	44.	34.	22.	10.	0.	0.	763.	128.	163.	106.	126.
EAST	0.	0.	59.	106.	123.	123.	110.	88.	59.	57.	52.	44.	34.	22.	10.	0.	0.	889.	136.	176.	110.	134.
SOUTHEAST	0.	0.	34.	71.	94.	106.	106.	96.	78.	57.	52.	44.	34.	22.	10.	0.	0.	806.	131.	167.	108.	129.
HORIZ.	0.	0.	25.	68.	110.	148.	177.	195.	201.	195.	177.	148.	110.	68.	25.	0.	0.	1645.	180.	255.	136.	180.

MONTH 8 HO 3328. TOD 82. TOT 80. KT .569 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	47.	79.	104.	121.	127.	121.	104.	79.	47.	19.	6.	0.	0.	878.	137.	180.	110.	133.
SOUTHWEST	0.	0.	6.	19.	32.	44.	53.	70.	107.	136.	152.	153.	136.	99.	28.	0.	0.	1035.	147.	197.	115.	142.
WEST	0.	0.	6.	19.	32.	44.	53.	59.	61.	105.	141.	163.	165.	137.	44.	0.	0.	1030.	147.	197.	115.	142.
NORTHWEST	0.	0.	6.	19.	32.	44.	53.	59.	61.	59.	79.	104.	116.	105.	38.	0.	0.	775.	131.	168.	106.	126.
NORTH	0.	0.	13.	24.	32.	44.	53.	59.	61.	59.	53.	44.	32.	24.	13.	0.	0.	510.	114.	139.	97.	110.
NORTHEAST	0.	0.	38.	105.	116.	104.	79.	59.	61.	59.	53.	44.	32.	19.	6.	0.	0.	775.	131.	168.	106.	126.
EAST	0.	0.	44.	137.	165.	163.	141.	105.	61.	59.	53.	44.	32.	19.	6.	0.	0.	1030.	147.	197.	115.	142.
SOUTHEAST	0.	0.	28.	99.	136.	153.	152.	136.	107.	70.	53.	44.	32.	19.	6.	0.	0.	1035.	147.	197.	115.	142.
HORIZ.	0.	0.	13.	66.	123.	173.	212.	237.	246.	237.	212.	173.	123.	66.	13.	0.	0.	1894.	201.	293.	144.	194.

MONTH 9 HO 2851. TOD 79. TOT 76. KT .525 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	25.	61.	95.	121.	137.	143.	137.	121.	95.	61.	25.	0.	0.	0.	1020.	149.	202.	111.	138.
SOUTHWEST	0.	0.	0.	13.	26.	38.	47.	83.	117.	142.	155.	153.	133.	84.	0.	0.	0.	992.	147.	198.	110.	136.
WEST	0.	0.	0.	13.	26.	38.	47.	53.	55.	95.	127.	145.	142.	101.	0.	0.	0.	843.	136.	180.	105.	127.
NORTHWEST	0.	0.	0.	13.	26.	38.	47.	53.	55.	53.	52.	74.	83.	67.	0.	0.	0.	562.	117.	147.	96.	110.
NORTH	0.	0.	0.	13.	26.	38.	47.	53.	55.	53.	47.	38.	26.	13.	0.	0.	0.	411.	107.	129.	90.	101.
NORTHEAST	0.	0.	0.	67.	83.	74.	52.	53.	55.	53.	47.	38.	26.	13.	0.	0.	0.	562.	117.	147.	96.	110.
EAST	0.	0.	0.	101.	142.	145.	127.	95.	55.	53.	47.	38.	26.	13.	0.	0.	0.	843.	136.	180.	105.	127.
SOUTHEAST	0.	0.	0.	84.	133.	153.	155.	142.	117.	83.	47.	38.	26.	13.	0.	0.	0.	992.	147.	198.	110.	136.
HORIZ.	0.	0.	0.	38.	91.	139.	176.	199.	207.	199.	176.	139.	91.	38.	0.	0.	0.	1495.	181.	259.	127.	167.

LOCATION CHARLESTON, S.C. LATITUDE 32 DEGREES 53 MINUTES

MONTH 10 HO 2298. TOD 70. TOT 66. KT .554 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	22.	77.	119.	150.	169.	175.	169.	150.	119.	77.	22.	0.	0.	0.	1250.	157.	228.	107.	139.
SOUTHWEST	0.	0.	0.	6.	19.	31.	57.	100.	138.	166.	179.	174.	143.	54.	0.	0.	0.	1067.	144.	205.	101.	129.
WEST	0.	0.	0.	6.	19.	31.	41.	46.	48.	93.	127.	145.	136.	58.	0.	0.	0.	751.	122.	165.	91.	110.
NORTHWEST	0.	0.	0.	6.	19.	31.	41.	46.	48.	46.	41.	50.	61.	31.	0.	0.	0.	421.	99.	123.	80.	91.
NORTH	0.	0.	0.	6.	19.	31.	41.	46.	48.	46.	41.	31.	19.	6.	0.	0.	0.	335.	93.	112.	77.	86.
NORTHEAST	0.	0.	0.	31.	61.	50.	41.	46.	48.	46.	41.	31.	19.	6.	0.	0.	0.	421.	99.	123.	80.	91.
EAST	0.	0.	0.	58.	136.	145.	127.	93.	48.	46.	41.	31.	19.	6.	0.	0.	0.	751.	122.	165.	91.	110.
SOUTHEAST	0.	0.	0.	54.	143.	174.	179.	166.	138.	100.	57.	31.	19.	6.	0.	0.	0.	1067.	144.	205.	101.	129.
HORIZ.	0.	0.	0.	15.	68.	118.	158.	183.	191.	183.	158.	118.	68.	15.	0.	0.	0.	1274.	159.	231.	107.	141.

MONTH 11 HO 1802. TOD 60. TOT 56. KT .539 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	1.	74.	124.	157.	177.	183.	177.	157.	124.	74.	1.	0.	0.	0.	1247.	154.	231.	96.	129.
SOUTHWEST	0.	0.	0.	1.	13.	24.	64.	106.	142.	167.	177.	167.	120.	1.	0.	0.	0.	982.	134.	195.	88.	114.
WEST	0.	0.	0.	1.	13.	24.	33.	39.	41.	82.	113.	126.	104.	1.	0.	0.	0.	577.	103.	139.	75.	90.
NORTHWEST	0.	0.	0.	1.	13.	24.	33.	39.	41.	39.	33.	26.	34.	1.	0.	0.	0.	284.	81.	99.	65.	73.
NORTH	0.	0.	0.	1.	13.	24.	33.	39.	41.	39.	33.	24.	13.	1.	0.	0.	0.	261.	80.	96.	65.	71.
NORTHEAST	0.	0.	0.	1.	34.	26.	33.	39.	41.	39.	33.	24.	13.	1.	0.	0.	0.	284.	81.	99.	65.	73.
EAST	0.	0.	0.	1.	104.	126.	113.	82.	41.	39.	33.	24.	13.	1.	0.	0.	0.	577.	103.	139.	75.	90.
SOUTHEAST	0.	0.	0.	1.	120.	167.	177.	167.	142.	106.	64.	24.	13.	1.	0.	0.	0.	982.	134.	195.	88.	114.
HORIZ.	0.	0.	0.	2.	41.	88.	126.	150.	158.	150.	126.	88.	41.	2.	0.	0.	0.	970.	133.	193.	87.	113.

MONTH 12 HO 1609. TOD 54. TOT 50. KT .586 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	78.	141.	180.	203.	211.	203.	180.	141.	78.	0.	0.	0.	0.	1416.	165.	255.	96.	133.
SOUTHWEST	0.	0.	0.	0.	10.	26.	73.	120.	160.	189.	200.	186.	123.	0.	0.	0.	0.	1087.	139.	209.	85.	114.
WEST	0.	0.	0.	0.	10.	22.	31.	36.	38.	85.	120.	134.	102.	0.	0.	0.	0.	578.	99.	136.	69.	84.
NORTHWEST	0.	0.	0.	0.	10.	22.	31.	36.	38.	36.	31.	22.	27.	0.	0.	0.	0.	252.	74.	90.	59.	65.
NORTH	0.	0.	0.	0.	10.	22.	31.	36.	38.	36.	31.	22.	10.	0.	0.	0.	0.	235.	72.	87.	58.	64.
NORTHEAST	0.	0.	0.	0.	27.	22.	31.	36.	38.	36.	31.	22.	10.	0.	0.	0.	0.	252.	74.	90.	59.	65.
EAST	0.	0.	0.	0.	102.	134.	120.	85.	38.	36.	31.	22.	10.	0.	0.	0.	0.	578.	99.	136.	69.	84.
SOUTHEAST	0.	0.	0.	0.	123.	186.	200.	189.	160.	120.	73.	26.	10.	0.	0.	0.	0.	1087.	139.	209.	85.	114.
HORIZ.	0.	0.	0.	0.	33.	84.	124.	151.	160.	151.	124.	84.	33.	0.	0.	0.	0.	943.	128.	188.	81.	105.

LOCATION CHARLESTON, S.C. LATITUDE 32 DEGREES 53 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	149.	136.	122.	121.	118.	120.	120.	137.	149.	157.	154.	165.	137.
SOUTHWEST	128.	125.	121.	131.	133.	136.	131.	147.	147.	144.	134.	139.	135.
WEST	98.	106.	112.	131.	141.	145.	136.	147.	136.	122.	103.	99.	123.
NORTHWEST	75.	84.	96.	115.	129.	136.	128.	131.	117.	99.	81.	74.	106.
NORTH	73.	79.	87.	98.	112.	121.	117.	114.	107.	93.	80.	72.	96.
NORTHEAST	75.	84.	96.	115.	129.	136.	128.	131.	117.	99.	81.	74.	106.
EAST	98.	106.	112.	131.	141.	145.	136.	147.	136.	122.	103.	99.	123.
SOUTHEAST	128.	125.	121.	131.	133.	136.	131.	147.	147.	144.	134.	139.	135.
HORIZ.	128.	140.	151.	183.	198.	203.	180.	201.	181.	159.	133.	128.	165.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	226.	202.	172.	165.	151.	149.	149.	180.	202.	228.	231.	255.	193.
SOUTHWEST	190.	182.	170.	183.	178.	178.	167.	197.	198.	205.	195.	209.	188.
WEST	134.	147.	154.	183.	191.	194.	176.	197.	180.	165.	139.	136.	166.
NORTHWEST	93.	108.	124.	154.	171.	179.	163.	168.	147.	123.	99.	90.	135.
NORTH	90.	98.	108.	123.	141.	151.	142.	139.	129.	112.	96.	87.	118.
NORTHEAST	93.	108.	124.	154.	171.	179.	163.	168.	147.	123.	99.	90.	135.
EAST	134.	147.	154.	183.	191.	194.	176.	197.	180.	165.	139.	136.	166.
SOUTHEAST	190.	182.	170.	183.	178.	178.	167.	197.	198.	205.	195.	209.	188.
HORIZ.	188.	209.	224.	278.	293.	297.	255.	293.	259.	231.	193.	188.	242.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	91.	89.	88.	93.	96.	101.	102.	110.	111.	107.	96.	96.	98.
SOUTHWEST	82.	84.	87.	99.	105.	110.	108.	115.	110.	101.	88.	85.	98.
WEST	69.	75.	83.	99.	109.	116.	110.	115.	105.	91.	75.	69.	93.
NORTHWEST	60.	65.	75.	90.	103.	111.	106.	106.	96.	80.	65.	59.	85.
NORTH	59.	63.	70.	81.	93.	101.	100.	97.	90.	77.	65.	58.	79.
NORTHEAST	60.	65.	75.	90.	103.	111.	106.	106.	96.	80.	65.	59.	85.
EAST	69.	75.	83.	99.	109.	116.	110.	115.	105.	91.	75.	69.	93.
SOUTHEAST	82.	84.	87.	99.	105.	110.	108.	115.	110.	101.	88.	85.	98.
HORIZ.	82.	91.	102.	127.	143.	150.	136.	144.	127.	107.	87.	81.	115.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	124.	120.	113.	117.	115.	118.	118.	133.	138.	139.	129.	133.	125.
SOUTHWEST	108.	111.	112.	127.	131.	135.	129.	142.	136.	129.	114.	114.	124.
WEST	84.	94.	104.	127.	138.	145.	134.	142.	127.	110.	90.	84.	115.
NORTHWEST	67.	76.	89.	111.	127.	136.	126.	126.	110.	91.	73.	65.	100.
NORTH	66.	72.	81.	94.	110.	119.	114.	110.	101.	86.	71.	64.	91.
NORTHEAST	67.	76.	89.	111.	127.	136.	126.	126.	110.	91.	73.	65.	100.
EAST	84.	94.	104.	127.	138.	145.	134.	142.	127.	110.	90.	84.	115.
SOUTHEAST	108.	111.	112.	127.	131.	135.	129.	142.	136.	129.	114.	114.	124.
HORIZ.	107.	123.	139.	178.	197.	205.	180.	194.	167.	141.	113.	105.	154.

LOCATION CLEVELAND, OHIO LATITUDE 41 DEGREES 23 MINUTES

MONTH 1 HO 1353. TOD 31. TOT 28. KT .361 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	30.	67.	90.	104.	109.	104.	90.	67.	30.	0.	0.	0.	0.	690.	87.	132.	51.	69.
SOUTHWEST	0.	0.	0.	0.	7.	17.	42.	66.	85.	97.	99.	86.	47.	0.	0.	0.	0.	546.	75.	111.	46.	60.
WEST	0.	0.	0.	0.	7.	16.	22.	27.	28.	49.	63.	64.	40.	0.	0.	0.	0.	316.	56.	77.	39.	47.
NORTHWEST	0.	0.	0.	0.	7.	16.	22.	27.	28.	27.	22.	16.	14.	0.	0.	0.	0.	179.	45.	57.	34.	39.
NORTH	0.	0.	0.	0.	7.	16.	22.	27.	28.	27.	22.	16.	7.	0.	0.	0.	0.	172.	45.	56.	34.	39.
NORTHEAST	0.	0.	0.	0.	14.	16.	22.	27.	28.	27.	22.	16.	7.	0.	0.	0.	0.	179.	45.	57.	34.	39.
EAST	0.	0.	0.	0.	40.	64.	63.	49.	28.	27.	22.	16.	7.	0.	0.	0.	0.	316.	56.	77.	39.	47.
SOUTHEAST	0.	0.	0.	0.	47.	86.	99.	97.	85.	66.	42.	17.	7.	0.	0.	0.	0.	546.	75.	111.	46.	60.
HORIZ.	0.	0.	0.	0.	16.	43.	65.	79.	84.	79.	65.	43.	16.	0.	0.	0.	0.	489.	70.	103.	44.	57.

MONTH 2 HO 1926. TOD 31. TOT 29. KT .383 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	9.	47.	76.	97.	111.	115.	111.	97.	76.	47.	9.	0.	0.	0.	793.	88.	134.	54.	75.
SOUTHWEST	0.	0.	0.	4.	14.	23.	45.	71.	92.	106.	111.	104.	80.	18.	0.	0.	0.	667.	79.	118.	50.	67.
WEST	0.	0.	0.	4.	14.	23.	31.	35.	37.	60.	77.	85.	74.	19.	0.	0.	0.	459.	64.	91.	43.	55.
NORTHWEST	0.	0.	0.	4.	14.	23.	31.	35.	37.	35.	31.	30.	34.	11.	0.	0.	0.	283.	51.	68.	38.	45.
NORTH	0.	0.	0.	4.	14.	23.	31.	35.	37.	35.	31.	23.	14.	4.	0.	0.	0.	250.	49.	63.	37.	43.
NORTHEAST	0.	0.	0.	11.	34.	30.	31.	35.	37.	35.	31.	23.	14.	4.	0.	0.	0.	283.	51.	68.	38.	45.
EAST	0.	0.	0.	19.	74.	85.	77.	60.	37.	35.	31.	23.	14.	4.	0.	0.	0.	459.	64.	91.	43.	55.
SOUTHEAST	0.	0.	0.	18.	80.	104.	111.	106.	92.	71.	45.	23.	14.	4.	0.	0.	0.	667.	79.	118.	50.	67.
HORIZ.	0.	0.	0.	7.	38.	68.	92.	107.	112.	107.	92.	68.	38.	7.	0.	0.	0.	738.	84.	127.	52.	72.

MONTH 3 HO 2568. TOD 39. TOT 37. KT .497 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	26.	64.	98.	125.	142.	148.	142.	125.	98.	64.	26.	0.	0.	0.	1057.	107.	162.	71.	98.
SOUTHWEST	0.	0.	0.	12.	24.	34.	49.	87.	119.	142.	152.	148.	127.	79.	0.	0.	0.	973.	102.	152.	68.	93.
WEST	0.	0.	0.	12.	24.	34.	42.	47.	49.	86.	115.	132.	130.	93.	0.	0.	0.	764.	88.	128.	61.	81.
NORTHWEST	0.	0.	0.	12.	24.	34.	42.	47.	49.	47.	42.	58.	70.	59.	0.	0.	0.	486.	70.	96.	52.	65.
NORTH	0.	0.	0.	12.	24.	34.	42.	47.	49.	47.	42.	34.	24.	12.	0.	0.	0.	368.	63.	82.	49.	58.
NORTHEAST	0.	0.	0.	59.	70.	58.	42.	47.	49.	47.	42.	34.	24.	12.	0.	0.	0.	486.	70.	96.	52.	65.
EAST	0.	0.	0.	93.	130.	132.	115.	86.	49.	47.	42.	34.	24.	12.	0.	0.	0.	764.	88.	128.	61.	81.
SOUTHEAST	0.	0.	0.	79.	127.	148.	152.	142.	119.	87.	49.	34.	24.	12.	0.	0.	0.	973.	102.	152.	68.	93.
HORIZ.	0.	0.	0.	33.	78.	118.	150.	170.	176.	170.	150.	118.	78.	33.	0.	0.	0.	1275.	121.	187.	78.	111.

LOCATION CLEVELAND, OHIO LATITUDE 41 DEGREES 23 MINUTES

MONTH 4 HO 3207. TOD 50. TOT 47. KT .464 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	20.	50.	78.	100.	115.	119.	115.	100.	78.	50.	20.	7.	0.	0.	858.	99.	140.	75.	97.
SOUTHWEST	0.	0.	7.	19.	30.	40.	48.	73.	100.	120.	130.	127.	112.	83.	33.	0.	0.	923.	103.	146.	77.	101.
WEST	0.	0.	7.	19.	30.	40.	48.	52.	54.	86.	111.	126.	127.	108.	50.	0.	0.	859.	99.	140.	75.	97.
NORTHWEST	0.	0.	7.	19.	30.	40.	48.	52.	54.	52.	55.	74.	85.	81.	42.	0.	0.	642.	87.	117.	68.	85.
NORTH	0.	0.	14.	19.	30.	40.	48.	52.	54.	52.	48.	40.	30.	19.	14.	0.	0.	461.	77.	98.	62.	74.
NORTHEAST	0.	0.	42.	81.	85.	74.	55.	52.	54.	52.	48.	40.	30.	19.	7.	0.	0.	642.	87.	117.	68.	85.
EAST	0.	0.	50.	108.	127.	126.	111.	86.	54.	52.	48.	40.	30.	19.	7.	0.	0.	859.	99.	140.	75.	97.
SOUTHEAST	0.	0.	33.	83.	112.	127.	130.	120.	100.	73.	48.	40.	30.	19.	7.	0.	0.	923.	103.	146.	77.	101.
HORIZ.	0.	0.	17.	57.	99.	135.	163.	181.	187.	181.	163.	135.	99.	57.	17.	0.	0.	1489.	136.	205.	95.	134.

MONTH 5 HO 3616. TOD 62. TOT 59. KT .543 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	2.	13.	25.	44.	75.	100.	116.	121.	116.	100.	75.	44.	25.	13.	2.	0.	868.	111.	149.	89.	112.
SOUTHWEST	0.	2.	13.	25.	36.	46.	53.	70.	103.	128.	141.	142.	128.	99.	56.	3.	0.	1045.	121.	167.	95.	122.
WEST	0.	2.	13.	25.	36.	46.	53.	58.	60.	99.	132.	153.	158.	143.	97.	5.	0.	1079.	123.	170.	96.	124.
NORTHWEST	0.	2.	13.	25.	36.	46.	53.	58.	60.	58.	76.	101.	117.	118.	89.	5.	0.	856.	111.	148.	88.	111.
NORTH	0.	4.	36.	38.	36.	46.	53.	58.	60.	58.	53.	46.	36.	38.	36.	4.	0.	600.	96.	122.	80.	95.
NORTHEAST	0.	5.	89.	118.	117.	101.	76.	58.	60.	58.	53.	46.	36.	25.	13.	2.	0.	856.	111.	148.	88.	111.
EAST	0.	5.	97.	143.	158.	153.	132.	99.	60.	58.	53.	46.	36.	25.	13.	2.	0.	1079.	123.	170.	96.	124.
SOUTHEAST	0.	3.	56.	99.	128.	142.	141.	128.	103.	70.	53.	46.	36.	25.	13.	2.	0.	1045.	121.	167.	95.	122.
HORIZ.	0.	4.	38.	86.	133.	174.	205.	225.	232.	225.	205.	174.	133.	86.	38.	4.	0.	1963.	173.	258.	126.	178.

MONTH 6 HO 3764. TOD 73. TOT 69. KT .559 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	4.	15.	27.	38.	69.	94.	110.	116.	110.	94.	69.	38.	27.	15.	4.	0.	832.	118.	153.	98.	120.
SOUTHWEST	0.	4.	15.	27.	38.	47.	55.	66.	100.	125.	139.	140.	127.	100.	59.	10.	0.	1052.	130.	174.	105.	133.
WEST	0.	4.	15.	27.	38.	47.	55.	59.	61.	102.	135.	157.	163.	150.	108.	22.	0.	1142.	135.	183.	108.	138.
NORTHWEST	0.	4.	15.	27.	38.	47.	55.	59.	61.	59.	83.	109.	126.	128.	102.	23.	0.	936.	124.	163.	101.	126.
NORTH	0.	13.	45.	46.	38.	47.	55.	59.	61.	59.	55.	47.	38.	46.	45.	13.	0.	668.	109.	137.	92.	110.
NORTHEAST	0.	23.	102.	128.	126.	109.	83.	59.	61.	59.	55.	47.	38.	27.	15.	4.	0.	936.	124.	163.	101.	126.
EAST	0.	22.	108.	150.	163.	157.	135.	102.	61.	59.	55.	47.	38.	27.	15.	4.	0.	1142.	135.	183.	108.	138.
SOUTHEAST	0.	10.	59.	100.	127.	140.	139.	125.	100.	66.	55.	47.	38.	27.	15.	4.	0.	1052.	130.	174.	105.	133.
HORIZ.	0.	8.	47.	95.	143.	184.	216.	236.	243.	236.	216.	184.	143.	95.	47.	8.	0.	2104.	188.	276.	141.	197.

LOCATION CLEVELAND, OHIO LATITUDE 41 DEGREES 23 MINUTES

MONTH 7 HO 3613. TOD 77. TOT 74. KT .571 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	2.	13.	25.	44.	77.	104.	121.	127.	121.	104.	77.	44.	25.	13.	2.	0.	896.	128.	166.	104.	128.
SOUTHWEST	0.	2.	13.	25.	36.	46.	54.	71.	107.	134.	149.	150.	135.	105.	58.	3.	0.	1088.	138.	185.	111.	139.
WEST	0.	2.	13.	25.	36.	46.	54.	58.	60.	103.	139.	162.	168.	152.	102.	5.	0.	1125.	140.	189.	112.	142.
NORTHWEST	0.	2.	13.	25.	36.	46.	54.	58.	60.	58.	79.	106.	124.	125.	93.	5.	0.	885.	127.	165.	104.	127.
NORTH	0.	4.	38.	39.	36.	46.	54.	58.	60.	58.	54.	46.	36.	39.	38.	4.	0.	609.	111.	138.	95.	111.
NORTHEAST	0.	5.	93.	125.	124.	106.	79.	58.	60.	58.	54.	46.	36.	25.	13.	2.	0.	885.	127.	165.	104.	127.
EAST	0.	5.	102.	152.	168.	162.	139.	103.	60.	58.	54.	46.	36.	25.	13.	2.	0.	1125.	140.	189.	112.	142.
SOUTHEAST	0.	3.	58.	105.	135.	150.	149.	134.	107.	71.	54.	46.	36.	25.	13.	2.	0.	1088.	138.	185.	111.	139.
HORIZ.	0.	4.	39.	90.	139.	183.	216.	238.	245.	238.	216.	183.	139.	90.	39.	4.	0.	2063.	193.	283.	144.	198.

MONTH 8 HO 3184. TOD 75. TOT 72. KT .559 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	21.	57.	92.	121.	139.	145.	139.	121.	92.	57.	21.	7.	0.	0.	1019.	137.	185.	107.	133.
SOUTHWEST	0.	0.	7.	19.	31.	42.	50.	82.	119.	147.	161.	160.	141.	103.	38.	0.	0.	1101.	142.	194.	110.	138.
WEST	0.	0.	7.	19.	31.	42.	50.	55.	56.	100.	136.	158.	161.	136.	59.	0.	0.	1012.	137.	184.	106.	133.
NORTHWEST	0.	0.	7.	19.	31.	42.	50.	55.	56.	55.	60.	88.	105.	101.	50.	0.	0.	720.	119.	153.	97.	115.
NORTH	0.	0.	16.	19.	31.	42.	50.	55.	56.	55.	50.	42.	31.	19.	16.	0.	0.	481.	104.	127.	88.	101.
NORTHEAST	0.	0.	50.	101.	105.	88.	60.	55.	56.	55.	50.	42.	31.	19.	7.	0.	0.	720.	119.	153.	97.	115.
EAST	0.	0.	59.	136.	161.	158.	136.	100.	56.	55.	50.	42.	31.	19.	7.	0.	0.	1012.	137.	184.	106.	133.
SOUTHEAST	0.	0.	38.	103.	141.	160.	161.	147.	119.	82.	50.	42.	31.	19.	7.	0.	0.	1101.	142.	194.	110.	138.
HORIZ.	0.	0.	18.	66.	117.	162.	196.	218.	226.	218.	196.	162.	117.	66.	18.	0.	0.	1781.	184.	267.	133.	179.

MONTH 9 HO 2557. TOD 68. TOT 65. KT .524 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6'	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	26.	66.	103.	132.	151.	157.	151.	132.	103.	66.	26.	0.	0.	0.	1112.	144.	202.	104.	133.
SOUTHWEST	0.	0.	0.	12.	24.	34.	50.	91.	125.	150.	162.	158.	134.	81.	0.	0.	0.	1020.	138.	191.	100.	127.
WEST	0.	0.	0.	12.	24.	34.	42.	48.	49.	90.	122.	140.	137.	95.	0.	0.	0.	793.	122.	164.	93.	113.
NORTHWEST	0.	0.	0.	12.	24.	34.	42.	48.	49.	48.	42.	60.	74.	61.	0.	0.	0.	494.	102.	128.	82.	95.
NORTH	0.	0.	0.	12.	24.	34.	42.	48.	49.	48.	42.	34.	24.	12.	0.	0.	0.	369.	94.	113.	78.	88.
NORTHEAST	0.	0.	0.	61.	74.	60.	42.	48.	49.	48.	42.	34.	24.	12.	0.	0.	0.	494.	102.	128.	82.	95.
EAST	0.	0.	0.	95.	137.	140.	122.	90.	49.	48.	42.	34.	24.	12.	0.	0.	0.	793.	122.	164.	93.	113.
SOUTHEAST	0.	0.	0.	81.	134.	158.	162.	150.	125.	91.	50.	34.	24.	12.	0.	0.	0.	1020.	138.	191.	100.	127.
HORIZ.	0.	0.	1.	34.	81.	124.	158.	179.	186.	179.	158.	124.	81.	34.	1.	0.	0.	1339.	160.	229.	111.	146.

LOCATION CLEVELAND, OHIO LATITUDE 41 DEGREES 23 MINUTES

MONTH 10 HO 1892. TOD 57. TOT 54. KT .491 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	9.	62.	104.	134.	153.	160.	153.	134.	104.	62.	9.	0.	0.	0.	1085.	135.	199.	89.	118.
SOUTHWEST	0.	0.	0.	3.	15.	25.	55.	93.	125.	146.	155.	145.	110.	20.	0.	0.	0.	892.	121.	174.	83.	106.
WEST	0.	0.	0.	3.	15.	25.	33.	38.	40.	76.	104.	116.	102.	21.	0.	0.	0.	574.	99.	132.	73.	88.
NORTHWEST	0.	0.	0.	3.	15.	25.	33.	38.	40.	38.	33.	34.	43.	12.	0.	0.	0.	316.	80.	99.	65.	73.
NORTH	0.	0.	0.	3.	15.	25.	33.	38.	40.	38.	33.	25.	15.	3.	0.	0.	0.	271.	77.	93.	63.	70.
NORTHEAST	0.	0.	0.	12.	43.	34.	33.	38.	40.	38.	33.	25.	15.	3.	0.	0.	0.	316.	80.	99.	65.	73.
EAST	0.	0.	0.	21.	102.	116.	104.	76.	40.	38.	33.	25.	15.	3.	0.	0.	0.	574.	99.	132.	73.	88.
SOUTHEAST	0.	0.	0.	20.	110.	145.	155.	146.	125.	93.	55.	25.	15.	3.	0.	0.	0.	892.	121.	174.	83.	106.
HORIZ.	0.	0.	0.	7.	46.	86.	117.	137.	144.	137.	117.	86.	46.	7.	0.	0.	0.	929.	124.	179.	84.	109.

MONTH 11 HO 1341. TOD 44. TOT 42. KT .351 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	27.	63.	86.	100.	104.	100.	86.	63.	27.	0.	0.	0.	0.	657.	97.	141.	63.	80.
SOUTHWEST	0.	0.	0.	0.	7.	17.	41.	63.	82.	93.	94.	81.	42.	0.	0.	0.	0.	520.	86.	120.	58.	72.
WEST	0.	0.	0.	0.	7.	15.	22.	26.	28.	47.	60.	61.	37.	0.	0.	0.	0.	303.	69.	89.	51.	59.
NORTHWEST	0.	0.	0.	0.	7.	15.	22.	26.	28.	26.	22.	15.	13.	0.	0.	0.	0.	175.	58.	70.	47.	52.
NORTH	0.	0.	0.	0.	7.	15.	22.	26.	28.	26.	22.	15.	7.	0.	0.	0.	0.	169.	58.	69.	47.	52.
NORTHEAST	0.	0.	0.	0.	13.	15.	22.	26.	28.	26.	22.	15.	7.	0.	0.	0.	0.	175.	58.	70.	47.	52.
EAST	0.	0.	0.	0.	37.	61.	60.	47.	28.	26.	22.	15.	7.	0.	0.	0.	0.	303.	69.	89.	51.	59.
SOUTHEAST	0.	0.	0.	0.	42.	81.	94.	93.	82.	63.	41.	17.	7.	0.	0.	0.	0.	520.	86.	120.	58.	72.
HORIZ.	0.	0.	0.	0.	15.	41.	63.	76.	81.	76.	63.	41.	15.	0.	0.	0.	0.	471.	82.	113.	57.	69.

MONTH 12 HO 1136. TOD 33. TOT 31. KT .371 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	18.	65.	93.	109.	114.	109.	93.	65.	18.	0.	0.	0.	0.	686.	91.	139.	53.	71.
SOUTHWEST	0.	0.	0.	0.	4.	17.	43.	68.	88.	100.	101.	83.	28.	0.	0.	0.	0.	531.	78.	115.	48.	62.
WEST	0.	0.	0.	0.	4.	13.	20.	24.	25.	47.	61.	60.	23.	0.	0.	0.	0.	276.	56.	76.	40.	47.
NORTHWEST	0.	0.	0.	0.	4.	13.	20.	24.	25.	24.	20.	13.	7.	0.	0.	0.	0.	149.	46.	56.	36.	40.
NORTH	0.	0.	0.	0.	4.	13.	20.	24.	25.	24.	20.	13.	4.	0.	0.	0.	0.	146.	45.	55.	36.	39.
NORTHEAST	0.	0.	0.	0.	7.	13.	20.	24.	25.	24.	20.	13.	4.	0.	0.	0.	0.	149.	46.	56.	36.	40.
EAST	0.	0.	0.	0.	23.	60.	61.	47.	25.	24.	20.	13.	4.	0.	0.	0.	0.	276.	56.	76.	40.	47.
SOUTHEAST	0.	0.	0.	0.	28.	83.	101.	100.	88.	68.	43.	17.	4.	0.	0.	0.	0.	531.	78.	115.	48.	62.
HORIZ.	0.	0.	0.	0.	9.	35.	57.	72.	77.	72.	57.	35.	9.	0.	0.	0.	0.	422.	69.	98.	44.	56.

LOCATION CLEVELAND, OHIO LATITUDE 41 DEGREES 23 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	87.	88.	107.	99.	111.	118.	128.	137.	144.	135.	97.	91.	112.
SOUTHWEST	75.	79.	102.	103.	121.	130.	138.	142.	138.	121.	86.	78.	110.
WEST	56.	64.	88.	99.	123.	135.	140.	137.	122.	99.	69.	56.	99.
NORTHWEST	45.	51.	70.	87.	111.	124.	127.	119.	102.	80.	58.	46.	85.
NORTH	45.	49.	63.	77.	96.	109.	111.	104.	94.	77.	58.	45.	77.
NORTHEAST	45.	51.	70.	87.	111.	124.	127.	119.	102.	80.	58.	46.	85.
EAST	56.	64.	88.	99.	123.	135.	140.	137.	122.	99.	69.	56.	99.
SOUTHEAST	75.	79.	102.	103.	121.	130.	138.	142.	138.	121.	86.	78.	110.
HORIZ.	70.	84.	121.	136.	173.	188.	193.	184.	160.	124.	82.	69.	132.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	132.	134.	162.	140.	149.	153.	166.	185.	202.	199.	141.	139.	159.
SOUTHWEST	111.	118.	152.	146.	167.	174.	185.	194.	191.	174.	120.	115.	154.
WEST	77.	91.	128.	140.	170.	183.	189.	184.	164.	132.	89.	76.	135.
NORTHWEST	57.	68.	96.	117.	148.	163.	165.	153.	128.	99.	70.	56.	110.
NORTH	56.	63.	82.	98.	122.	137.	138.	127.	113.	93.	69.	55.	96.
NORTHEAST	57.	68.	96.	117.	148.	163.	165.	153.	128.	99.	70.	56.	110.
EAST	77.	91.	128.	140.	170.	183.	189.	184.	164.	132.	89.	76.	135.
SOUTHEAST	111.	118.	152.	146.	167.	174.	185.	194.	191.	174.	120.	115.	154.
HORIZ.	103.	127.	187.	205.	258.	276.	283.	267.	229.	179.	113.	98.	194.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	51.	54.	71.	75.	89.	98.	104.	107.	104.	89.	63.	53.	80.
SOUTHWEST	46.	50.	68.	77.	95.	105.	111.	110.	100.	83.	58.	48.	79.
WEST	39.	43.	61.	75.	96.	108.	112.	106.	93.	73.	51.	40.	75.
NORTHWEST	34.	38.	52.	68.	88.	101.	104.	97.	82.	65.	47.	36.	68.
NORTH	34.	37.	49.	62.	80.	92.	95.	88.	78.	63.	47.	36.	63.
NORTHEAST	34.	38.	52.	68.	88.	101.	104.	97.	82.	65.	47.	36.	68.
EAST	39.	43.	61.	75.	96.	108.	112.	106.	93.	73.	51.	40.	75.
SOUTHEAST	46.	50.	68.	77.	95.	105.	111.	110.	100.	83.	58.	48.	79.
HORIZ.	44.	52.	78.	95.	126.	141.	144.	133.	111.	84.	57.	44.	93.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	69.	75.	98.	97.	112.	120.	128.	133.	133.	118.	80.	71.	103.
SOUTHWEST	60.	67.	93.	101.	122.	133.	139.	138.	127.	106.	72.	62.	102.
WEST	47.	55.	81.	97.	124.	138.	142.	133.	113.	88.	59.	47.	94.
NORTHWEST	39.	45.	65.	85.	111.	126.	127.	115.	95.	73.	52.	40.	81.
NORTH	39.	43.	58.	74.	95.	110.	111.	101.	88.	70.	52.	39.	73.
NORTHEAST	39.	45.	65.	85.	111.	126.	127.	115.	95.	73.	52.	40.	81.
EAST	47.	55.	81.	97.	124.	138.	142.	133.	113.	88.	59.	47.	94.
SOUTHEAST	60.	67.	93.	101.	122.	133.	139.	138.	127.	106.	72.	62.	102.
HORIZ.	57.	72.	111.	134.	178.	197.	198.	179.	146.	109.	69.	56.	125.

LOCATION COLUMBIA, MISSOURI LATITUDE 38 DEGREES 57 MINUTES

MONTH 1 HO 1486. TOD 32. TOT 30. KT .458 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	49.	97.	127.	146.	152.	146.	127.	97.	49.	0.	0.	0.	0.	988.	111.	174.	62.	87.
SOUTHWEST	0.	0.	0.	0.	9.	20.	55.	89.	117.	136.	141.	127.	78.	0.	0.	0.	0.	772.	94.	143.	55.	75.
WEST	0.	0.	0.	0.	9.	19.	27.	32.	33.	65.	88.	95.	67.	0.	0.	0.	0.	434.	67.	95.	44.	55.
NORTHWEST	0.	0.	0.	0.	9.	19.	27.	32.	33.	32.	27.	19.	22.	0.	0.	0.	0.	219.	50.	64.	37.	43.
NORTH	0.	0.	0.	0.	9.	19.	27.	32.	33.	32.	27.	19.	9.	0.	0.	0.	0.	206.	49.	62.	36.	42.
NORTHEAST	0.	0.	0.	0.	22.	19.	27.	32.	33.	32.	27.	19.	9.	0.	0.	0.	0.	219.	50.	64.	37.	43.
EAST	0.	0.	0.	0.	67.	95.	88.	65.	33.	32.	27.	19.	9.	0.	0.	0.	0.	434.	67.	95.	44.	55.
SOUTHEAST	0.	0.	0.	0.	78.	127.	141.	136.	117.	89.	55.	20.	9.	0.	0.	0.	0.	772.	94.	143.	55.	75.
HORIZ.	0.	0.	0.	0.	24.	60.	90.	109.	115.	109.	90.	60.	24.	0.	0.	0.	0.	681.	86.	130.	52.	69.

MONTH 2 HO 2047. TOD 36. TOT 34. KT .492 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	15.	66.	105.	134.	151.	157.	151.	134.	105.	66.	15.	0.	0.	0.	1099.	114.	178.	69.	98.
SOUTHWEST	0.	0.	0.	5.	17.	27.	55.	92.	124.	146.	155.	148.	118.	34.	0.	0.	0.	921.	102.	155.	63.	87.
WEST	0.	0.	0.	5.	17.	27.	36.	41.	43.	79.	107.	121.	110.	36.	0.	0.	0.	621.	81.	117.	54.	70.
NORTHWEST	0.	0.	0.	5.	17.	27.	36.	41.	43.	41.	36.	38.	48.	20.	0.	0.	0.	351.	61.	82.	45.	54.
NORTH	0.	0.	0.	5.	17.	27.	36.	41.	43.	41.	36.	27.	17.	5.	0.	0.	0.	293.	57.	74.	43.	51.
NORTHEAST	0.	0.	0.	20.	48.	38.	36.	41.	43.	41.	36.	27.	17.	5.	0.	0.	0.	351.	61.	82.	45.	54.
EAST	0.	0.	0.	36.	110.	121.	107.	79.	43.	41.	36.	27.	17.	5.	0.	0.	0.	621.	81.	117.	54.	70.
SOUTHEAST	0.	0.	0.	34.	118.	148.	155.	146.	124.	92.	55.	27.	17.	5.	0.	0.	0.	921.	102.	155.	63.	87.
HORIZ.	0.	0.	0.	10.	52.	93.	126.	146.	153.	146.	126.	93.	52.	10.	0.	0.	0.	1007.	108.	166.	66.	92.

MONTH 3 HO 2660. TOD 46. TOT 43. KT .520 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	27.	66.	101.	129.	147.	153.	147.	129.	101.	66.	27.	0.	0.	0.	1093.	116.	173.	78.	106.
SOUTHWEST	0.	0.	0.	12.	25.	36.	49.	89.	123.	148.	160.	157.	135.	86.	0.	0.	0.	1018.	111.	164.	75.	102.
WEST	0.	0.	0.	12.	25.	36.	44.	49.	51.	91.	123.	141.	140.	101.	0.	0.	0.	814.	98.	141.	69.	90.
NORTHWEST	0.	0.	0.	12.	25.	36.	44.	49.	51.	49.	44.	64.	77.	65.	0.	0.	0.	517.	79.	106.	59.	73.
NORTH	0.	0.	0.	12.	25.	36.	44.	49.	51.	49.	44.	36.	25.	12.	0.	0.	0.	383.	70.	90.	55.	65.
NORTHEAST	0.	0.	0.	65.	77.	64.	44.	49.	51.	49.	44.	36.	25.	12.	0.	0.	0.	517.	79.	106.	59.	73.
EAST	0.	0.	0.	101.	140.	141.	123.	91.	51.	49.	44.	36.	25.	12.	0.	0.	0.	814.	98.	141.	69.	90.
SOUTHEAST	0.	0.	0.	86.	135.	157.	160.	148.	123.	89.	49.	36.	25.	12.	0.	0.	0.	1018.	111.	164.	75.	102.
HORIZ.	0.	0.	0.	36.	85.	128.	162.	184.	191.	184.	162.	128.	85.	36.	0.	0.	0.	1382.	134.	206.	87.	123.

LOCATION COLUMBIA, MISSOURI LATITUDE 38 DEGREES 57 MINUTES

MONTH 4 HO 3255. TOD 58. TOT 54. KT .514 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	20.	52.	83.	107.	123.	129.	123.	107.	83.	52.	20.	7.	0.	0.	911.	110.	153.	84.	108.
SOUTHWEST	0.	0.	7.	20.	32.	42.	50.	75.	108.	131.	143.	142.	126.	93.	35.	0.	0.	1006.	116.	163.	87.	113.
WEST	0.	0.	7.	20.	32.	42.	50.	56.	57.	95.	125.	144.	146.	124.	54.	0.	0.	952.	113.	158.	85.	110.
NORTHWEST	0.	0.	7.	20.	32.	42.	50.	56.	57.	56.	63.	86.	99.	94.	46.	0.	0.	706.	99.	132.	77.	96.
NORTH	0.	0.	15.	20.	32.	42.	50.	56.	57.	56.	50.	42.	32.	20.	15.	0.	0.	487.	86.	109.	70.	83.
NORTHEAST	0.	0.	46.	94.	99.	86.	63.	56.	57.	56.	50.	42.	32.	20.	7.	0.	0.	706.	99.	132.	77.	96.
EAST	0.	0.	54.	124.	146.	144.	125.	95.	57.	56.	50.	42.	32.	20.	7.	0.	0.	952.	113.	158.	8 .	110.
SOUTHEAST	0.	0.	35.	93.	126.	142.	143.	131.	108.	75.	50.	42.	32.	20.	7.	0.	0.	1006.	116.	163.	87.	113.
HORIZ.	0.	0.	17.	63.	110.	152.	184.	205.	212.	205.	184.	152.	110.	63.	17.	0.	0.	1674.	155.	234.	108.	152.

MONTH 5 HO 3626. TOD 67. TOT 64. KT .559 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	1.	12.	24.	40.	71.	97.	113.	118.	113.	97.	71.	40.	24.	12.	1.	0.	836.	115.	151.	92.	114.
SOUTHWEST	0.	1.	12.	24.	36.	46.	54.	67.	102.	128.	142.	143.	129.	100.	54.	1.	0.	1041.	126.	172.	99.	127.
WEST	0.	1.	12.	24.	36.	46.	54.	59.	61.	102.	136.	158.	164.	148.	96.	2.	0.	1101.	130.	178.	101.	130.
NORTHWEST	0.	1.	12.	24.	36.	46.	54.	59.	61.	59.	82.	108.	124.	123.	88.	2.	0.	880.	117.	156.	94.	117.
NORTH	0.	1.	36.	40.	36.	46.	54.	59.	61.	59.	54.	46.	36.	40.	36.	1.	0.	608.	102.	128.	84.	100.
NORTHEAST	0.	2.	88.	123.	124.	108.	82.	59.	61.	59.	54.	46.	36.	24.	12.	1.	0.	880.	117.	156.	94.	117.
EAST	0.	2.	96.	148.	164.	158.	136.	102.	61.	59.	54.	46.	36.	24.	12.	1.	0.	1101.	130.	178.	101.	130.
SOUTHEAST	0.	1.	54.	100.	129.	143.	142.	128.	102.	67.	54.	46.	36.	24.	12.	1.	0.	1041.	126.	172.	99.	127.
HORIZ.	0.	2.	36.	87.	137.	180.	214.	236.	243.	236.	214.	180.	137.	87.	36.	2.	0.	2027.	183.	272.	133.	186.

MONTH 6 HO 3758. TOD 76. TOT 73. KT .566 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	3.	14.	26.	38.	65.	89.	105.	111.	105.	89.	65.	38.	26.	14.	3.	0.	790.	120.	154.	100.	121.
SOUTHWEST	0.	3.	14.	26.	38.	48.	55.	61.	96.	122.	137.	138.	126.	98.	57.	6.	0.	1026.	133.	177.	108.	135.
WEST	0.	3.	14.	26.	38.	48.	55.	60.	62.	103.	137.	159.	166.	151.	105.	12.	0.	1138.	139.	188.	112.	142.
NORTHWEST	0.	3.	14.	26.	38.	48.	55.	60.	62.	60.	89.	114.	130.	130.	100.	13.	0.	943.	128.	169.	105.	130.
NORTH	0.	8.	45.	49.	41.	48.	55.	60.	62.	60.	55.	48.	41.	49.	45.	8.	0.	672.	113.	142.	96.	113.
NORTHEAST	0.	13.	100.	130.	130.	114.	89.	60.	62.	60.	55.	48.	38.	26.	14.	3.	0.	943.	128.	169.	105.	130.
EAST	0.	12.	105.	151.	166.	159.	137.	103.	62.	60.	55.	48.	38.	26.	14.	3.	0.	1138.	139.	188.	112.	142.
SOUTHEAST	0.	6.	57.	98.	126.	138.	137.	122.	96.	61.	55.	48.	38.	26.	14.	3.	0.	1026.	133.	177.	108.	135.
HORIZ.	0.	6.	44.	94.	144.	187.	221.	242.	249.	242.	221.	187.	144.	94.	44.	6.	0.	2127.	194.	285.	146.	201.

LOCATION COLUMBIA, MISSOURI LATITUDE 38 DEGREES 57 MINUTES

MONTH 7 HO 3623. TOD 81. TOT 78. KT .585 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	1.	12.	24.	40.	73.	100.	117.	123.	117.	100.	73.	40.	24.	12.	1.	0.	857.	130.	168.	107.	130.
SOUTHWEST	0.	1.	12.	24.	36.	47.	55.	67.	105.	133.	149.	150.	136.	105.	56.	2.	0.	1077.	143.	190.	115.	143.
WEST	0.	1.	12.	24.	36.	47.	55.	60.	61.	106.	143.	167.	173.	155.	100.	2.	0.	1142.	146.	197.	117.	147.
NORTHWEST	0.	1.	12.	24.	36.	47.	55.	60.	61.	60.	85.	113.	130.	129.	92.	2.	0.	907.	133.	173.	109.	133.
NORTH	0.	2.	37.	42.	36.	47.	55.	60.	61.	60.	55.	47.	36.	42.	37.	2.	0.	616.	116.	143.	99.	115.
NORTHEAST	0.	2.	92.	129.	130.	113.	85.	60.	61.	60.	55.	47.	36.	24.	12.	1.	0.	907.	133.	173.	109.	133.
EAST	0.	2.	100.	155.	173.	167.	143.	106.	61.	60.	55.	47.	36.	24.	12.	1.	0.	1142.	146.	197.	117.	147.
SOUTHEAST	0.	2.	56.	105.	136.	150.	149.	133.	105.	67.	55.	47.	36.	24.	12.	1.	0.	1077.	143.	190.	115.	143.
HORIZ.	0.	2.	37.	90.	143.	189.	225.	247.	255.	247.	225.	189.	143.	90.	37.	2.	0.	2119.	202.	295.	150.	206.

MONTH 8 HO 3232. TOD 79. TOT 76. KT .588 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	19.	56.	93.	122.	141.	147.	141.	122.	93.	56.	19.	7.	0.	0.	1022.	142.	191.	111.	138.
SOUTHWEST	0.	0.	7.	19.	32.	43.	51.	81.	121.	151.	167.	167.	149.	108.	37.	0.	0.	1134.	149.	203.	115.	145.
WEST	0.	0.	7.	19.	32.	43.	51.	56.	58.	106.	145.	169.	173.	146.	59.	0.	0.	1063.	145.	195.	113.	140.
NORTHWEST	0.	0.	7.	19.	32.	43.	51.	56.	58.	56.	67.	97.	114.	109.	50.	0.	0.	760.	126.	162.	102.	122.
NORTH	0.	0.	15.	20.	32.	43.	51.	56.	58.	56.	51.	43.	32.	20.	15.	0.	0.	493.	110.	133.	93.	106.
NORTHEAST	0.	0.	50.	109.	114.	97.	67.	56.	58.	56.	51.	43.	32.	19.	7.	0.	0.	760.	126.	162.	102.	122.
EAST	0.	0.	59.	146.	173.	169.	145.	106.	58.	56.	51.	43.	32.	19.	7.	0.	0.	1063.	145.	195.	113.	140.
SOUTHEAST	0.	0.	37.	108.	149.	167.	167.	151.	121.	81.	51.	43.	32.	19.	7.	0.	0.	1134.	149.	203.	115.	145.
HORIZ.	0.	0.	17.	69.	124.	173.	211.	235.	243.	235.	211.	173.	124.	69.	17.	0.	0.	1901.	197.	286.	141.	191.

MONTH 9 HO 2647. TOD 72. TOT 69. KT .606 KD .173

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	29.	76.	119.	153.	175.	182.	175.	153.	119.	76.	29.	0.	0.	0.	1289.	160.	227.	113.	147.
SOUTHWEST	0.	0.	0.	12.	25.	36.	50.	100.	144.	177.	193.	191.	164.	101.	0.	0.	0.	1193.	153.	215.	109.	141.
WEST	0.	0.	0.	12.	25.	36.	45.	50.	52.	104.	146.	171.	170.	120.	0.	0.	0.	932.	135.	184.	101.	125.
NORTHWEST	0.	0.	0.	12.	25.	36.	45.	50.	52.	50.	45.	73.	91.	76.	0.	0.	0.	555.	110.	139.	88.	102.
NORTH	0.	0.	0.	12.	25.	36.	45.	50.	52.	50.	45.	36.	25.	12.	0.	0.	0.	388.	98.	118.	82.	92.
NORTHEAST	0.	0.	0.	76.	91.	73.	45.	50.	52.	50.	45.	36.	25.	12.	0.	0.	0.	555.	110.	139.	88.	102.
EAST	0.	0.	0.	120.	170.	171.	146.	104.	52.	50.	45.	36.	25.	12.	0.	0.	0.	932.	135.	184.	101.	125.
SOUTHEAST	0.	0.	0.	101.	164.	191.	193.	177.	144.	100.	50.	36.	25.	12.	0.	0.	0.	1193.	153.	215.	109.	141.
HORIZ.	0.	0.	1.	39.	96.	149.	189.	215.	224.	215.	189.	149.	96.	39.	1.	0.	0.	1603.	181.	265.	124.	166.

LOCATION COLUMBIA, MISSOURI LATITUDE 38 DEGREES 57 MINUTES

MONTH 10 HO 2012. TOD 61. TOT 58. KT .562 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	14.	77.	124.	159.	181.	188.	181.	159.	124.	77.	14.	0.	0.	0.	1299.	154.	229.	100.	134.
SOUTHWEST	0.	0.	0.	4.	16.	27.	60.	106.	146.	174.	186.	178.	139.	33.	0.	0.	0.	1070.	138.	200.	92.	120.
WEST	0.	0.	0.	4.	16.	27.	36.	42.	43.	89.	125.	143.	129.	35.	0.	0.	0.	691.	111.	151.	80.	98.
NORTHWEST	0.	0.	0.	4.	16.	27.	36.	42.	43.	42.	36.	41.	53.	19.	0.	0.	0.	360.	87.	108.	70.	79.
NORTH	0.	0.	0.	4.	16.	27.	36.	42.	43.	42.	36.	27.	16.	4.	0.	0.	0.	294.	82.	99.	68.	75.
NORTHEAST	0.	0.	0.	19.	53.	41.	36.	42.	43.	42.	36.	27.	16.	4.	0.	0.	0.	360.	87.	108.	70.	79.
EAST	0.	0.	0.	35.	129.	143.	125.	89.	43.	42.	36.	27.	16.	4.	0.	0.	0.	691.	111.	151.	80.	98.
SOUTHEAST	0.	0.	0.	33.	139.	178.	186.	174.	146.	106.	60.	27.	16.	4.	0.	0.	0.	1070.	138.	200.	92.	120.
HORIZ.	0.	0.	0.	9.	56.	104.	142.	166.	175.	166.	142.	104.	56.	9.	0.	0.	0.	1131.	142.	208.	94.	124.

MONTH 11 HO 1475. TOD 46. TOT 43. KT .510 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	55.	111.	147.	168.	176.	168.	147.	111.	55.	0.	0.	0.	0.	1138.	136.	210.	80.	110.
SOUTHWEST	0.	0.	0.	0.	9.	21.	61.	101.	134.	157.	163.	147.	88.	0.	0.	0.	0.	882.	116.	173.	71.	95.
WEST	0.	0.	0.	0.	9.	19.	28.	33.	35.	72.	100.	108.	75.	0.	0.	0.	0.	480.	84.	115.	59.	71.
NORTHWEST	0.	0.	0.	0.	9.	19.	28.	33.	35.	33.	28.	19.	23.	0.	0.	0.	0.	227.	64.	79.	50.	56.
NORTH	0.	0.	0.	0.	9.	19.	28.	33.	35.	33.	28.	19.	9.	0.	0.	0.	0.	212.	63.	77.	50.	56.
NORTHEAST	0.	0.	0.	0.	23.	19.	28.	33.	35.	33.	28.	19.	9.	0.	0.	0.	0.	227.	64.	79.	50.	56.
EAST	0.	0.	0.	0.	75.	108.	100.	72.	35.	33.	28.	19.	9.	0.	0.	0.	0.	480.	84.	115.	59.	71.
SOUTHEAST	0.	0.	0.	0.	88.	147.	163.	157.	134.	101.	61.	21.	9.	0.	0.	0.	0.	882.	116.	173.	71.	95.
HORIZ.	0.	0.	0.	0.	25.	66.	100.	121.	129.	121.	100.	66.	25.	0.	0.	0.	0.	752.	106.	154.	67.	87.

MONTH 12 HO 1272. TOD 36. TOT 33. KT .457 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	36.	93.	128.	147.	154.	147.	128.	93.	36.	0.	0.	0.	0.	961.	116.	181.	64.	89.
SOUTHWEST	0.	0.	0.	0.	6.	21.	55.	89.	117.	135.	139.	120.	55.	0.	0.	0.	0.	738.	97.	147.	57.	76.
WEST	0.	0.	0.	0.	6.	16.	23.	28.	30.	61.	82.	86.	46.	0.	0.	0.	0.	378.	67.	93.	45.	55.
NORTHWEST	0.	0.	0.	0.	6.	16.	23.	28.	30.	28.	23.	16.	13.	0.	0.	0.	0.	184.	51.	64.	39.	44.
NORTH	0.	0.	0.	0.	6.	16.	23.	28.	30.	28.	23.	16.	6.	0.	0.	0.	0.	177.	51.	63.	39.	43.
NORTHEAST	0.	0.	0.	0.	13.	16.	23.	28.	30.	28.	23.	16.	6.	0.	0.	0.	0.	184.	51.	64.	39.	44.
EAST	0.	0.	0.	0.	46.	86.	82.	61.	30.	28.	23.	16.	6.	0.	0.	0.	0.	378.	67.	93.	45.	55.
SOUTHEAST	0.	0.	0.	0.	55.	120.	139.	135.	117.	89.	55.	21.	6.	0.	0.	0.	0.	738.	97.	147.	57.	76.
HORIZ.	0.	0.	0.	0.	14.	49.	78.	97.	104.	97.	78.	49.	14.	0.	0.	0.	0.	582.	84.	124.	52.	67.

LOCATION COLUMBIA, MISSOURI LATITUDE 38 DEGREES 57 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	111.	114.	116.	110.	115.	120.	130.	142.	160.	154.	136.	116.	127.
SOUTHWEST	94.	102.	111.	116.	126.	133.	143.	149.	153.	138.	116.	97.	123.
WEST	67.	81.	98.	113.	130.	139.	146.	145.	135.	111.	84.	67.	110.
NORTHWEST	50.	61.	79.	99.	117.	128.	133.	126.	110.	87.	64.	51.	92.
NORTH	49.	57.	70.	86.	102.	113.	116.	110.	98.	82.	63.	51.	83.
NORTHEAST	50.	61.	79.	99.	117.	128.	133.	126.	110.	87.	64.	51.	92.
EAST	67.	81.	98.	113.	130.	139.	146.	145.	135.	111.	84.	67.	110.
SOUTHEAST	94.	102.	111.	116.	126.	133.	143.	149.	153.	138.	116.	97.	123.
HORIZ.	86.	108.	134.	155.	183.	194.	202.	197.	181.	142.	106.	84.	148.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	174.	178.	173.	153.	151.	154.	168.	191.	227.	229.	210.	181.	182.
SOUTHWEST	143.	155.	164.	163.	172.	177.	190.	203.	215.	200.	173.	147.	175.
WEST	95.	117.	141.	158.	178.	188.	197.	195.	184.	151.	115.	93.	151.
NORTHWEST	64.	82.	106.	132.	156.	169.	173.	162.	139.	108.	79.	64.	119.
NORTH	62.	74.	90.	109.	128.	142.	143.	133.	118.	99.	77.	63.	103.
NORTHEAST	64.	82.	106.	132.	156.	169.	173.	162.	139.	108.	79.	64.	119.
EAST	95.	117.	141.	158.	178.	188.	197.	195.	184.	151.	115.	93.	151.
SOUTHEAST	143.	155.	164.	163.	172.	177.	190.	203.	215.	200.	173.	147.	175.
HORIZ.	130.	166.	206.	234.	272.	285.	295.	286.	265.	208.	154.	124.	219.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	62.	69.	78.	84.	92.	100.	107.	111.	113.	100.	80.	64.	88.
SOUTHWEST	55.	63.	75.	87.	99.	108.	115.	115.	109.	92.	71.	57.	87.
WEST	44.	54.	69.	85.	101.	112.	117.	113.	101.	80.	59.	45.	82.
NORTHWEST	37.	45.	59.	77.	94.	105.	109.	102.	88.	70.	50.	39.	73.
NORTH	36.	43.	55.	70.	84.	96.	99.	93.	82.	68.	50.	39.	68.
NORTHEAST	37.	45.	59.	77.	94.	105.	109.	102.	88.	70.	50.	39.	73.
EAST	44.	54.	69.	85.	101.	112.	117.	113.	101.	80.	59.	45.	82.
SOUTHEAST	55.	63.	75.	87.	99.	108.	115.	115.	109.	92.	71.	57.	87.
HORIZ.	52.	66.	87.	108.	133.	146.	150.	141.	124.	94.	67.	52.	102.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	87.	98.	106.	108.	114.	121.	130.	138.	147.	134.	110.	89.	115.
SOUTHWEST	75.	87.	102.	113.	127.	135.	143.	145.	141.	120.	95.	76.	113.
WEST	55.	70.	90.	110.	130.	142.	147.	140.	125.	98.	71.	55.	103.
NORTHWEST	43.	54.	73.	96.	117.	130.	133.	122.	102.	79.	56.	44.	87.
NORTH	42.	51.	65.	83.	100.	113.	115.	106.	92.	75.	56.	43.	78.
NORTHEAST	43.	54.	73.	96.	117.	130.	133.	122.	102.	79.	56.	44.	87.
EAST	55.	70.	90.	110.	130.	142.	147.	140.	125.	98.	71.	55.	103.
SOUTHEAST	75.	87.	102.	113.	127.	135.	143.	145.	141.	120.	95.	76.	113.
HORIZ.	69.	92.	123.	152.	186.	201.	206.	191.	166.	124.	87.	67.	139.

LOCATION COLUMBUS, OHIO LATITUDE 40 DEGREES 0 MINUTES

MONTH 1 HO 1430. TOD 32. TOT 30. KT .356 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	32.	66.	89.	102.	106.	102.	89.	66.	32.	0.	0.	0.	0.	684.	87.	131.	52.	70.
SOUTHWEST	0.	0.	0.	0.	8.	18.	42.	65.	84.	95.	97.	86.	50.	0.	0.	0.	0.	544.	76.	111.	47.	61.
WEST	0.	0.	0.	0.	8.	17.	23.	28.	29.	49.	63.	65.	43.	0.	0.	0.	0.	324.	58.	79.	40.	49.
NORTHWEST	0.	0.	0.	0.	8.	17.	23.	28.	29.	28.	23.	17.	15.	0.	0.	0.	0.	188.	47.	59.	36.	41.
NORTH	0.	0.	0.	0.	8.	17.	23.	28.	29.	28.	23.	17.	8.	0.	0.	0.	0.	180.	46.	58.	35.	40.
NORTHEAST	0.	0.	0.	0.	15.	17.	23.	28.	29.	28.	23.	17.	8.	0.	0.	0.	0.	188.	47.	59.	36.	41.
EAST	0.	0.	0.	0.	43.	65.	63.	49.	29.	28.	23.	17.	8.	0.	0.	0.	0.	324.	58.	79.	40.	49.
SOUTHEAST	0.	0.	0.	0.	50.	86.	97.	95.	84.	65.	42.	18.	8.	0.	0.	0.	0.	544.	76.	111.	47.	61.
HORIZ.	0.	0.	0.	0.	18.	45.	67.	81.	86.	81.	67.	45.	18.	0.	0.	0.	0.	509.	73.	106.	46.	59.

MONTH 2 HO 1996. TOD 34. TOT 31. KT .401 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	11.	50.	81.	103.	117.	122.	117.	103.	81.	50.	11.	0.	0.	0.	846.	94.	143.	58.	80.
SOUTHWEST	0.	0.	0.	4.	15.	25.	46.	74.	97.	113.	118.	111.	87.	23.	0.	0.	0.	714.	85.	126.	54.	73.
WEST	0.	0.	0.	4.	15.	25.	32.	37.	38.	64.	83.	91.	81.	24.	0.	0.	0.	495.	69.	98.	47.	60.
NORTHWEST	0.	0.	0.	4.	15.	25.	32.	37.	38.	37.	32.	32.	37.	14.	0.	0.	0.	302.	55.	73.	41.	49.
NORTH	0.	0.	0.	4.	15.	25.	32.	37.	38.	37.	32.	25.	15.	4.	0.	0.	0.	263.	52.	68.	40.	47.
NORTHEAST	0.	0.	0.	14.	37.	32.	32.	37.	38.	37.	32.	25.	15.	4.	0.	0.	0.	302.	55.	73.	41.	49.
EAST	0.	0.	0.	24.	81.	91.	83.	64.	38.	37.	32.	25.	15.	4.	0.	0.	0.	495.	69.	98.	47.	60.
SOUTHEAST	0.	0.	0.	23.	87.	111.	118.	113.	97.	74.	46.	25.	15.	4.	0.	0.	0.	714.	85.	126.	54.	73.
HORIZ.	0.	0.	0.	8.	42.	74.	100.	116.	121.	116.	100.	74.	42.	8.	0.	0.	0.	801.	91.	137.	57.	78.

MONTH 3 HO 2622. TOD 43. TOT 40. KT .447 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	23.	56.	86.	109.	124.	129.	124.	109.	86.	56.	23.	0.	0.	0.	926.	102.	150.	69.	94.
SOUTHWEST	0.	0.	0.	11.	23.	33.	46.	78.	105.	124.	133.	129.	110.	69.	0.	0.	0.	862.	98.	143.	67.	90.
WEST	0.	0.	0.	11.	23.	33.	41.	46.	48.	79.	103.	116.	113.	81.	0.	0.	0.	695.	87.	123.	62.	80.
NORTHWEST	0.	0.	0.	11.	23.	33.	41.	46.	48.	46.	41.	55.	64.	52.	0.	0.	0.	461.	72.	96.	55.	67.
NORTH	0.	0.	0.	11.	23.	33.	41.	46.	48.	46.	41.	33.	23.	11.	0.	0.	0.	359.	66.	84.	51.	61.
NORTHEAST	0.	0.	0.	52.	64.	55.	41.	46.	48.	46.	41.	33.	23.	11.	0.	0.	0.	461.	72.	96.	55.	67.
EAST	0.	0.	0.	81.	113.	116.	103.	79.	48.	46.	41.	33.	23.	11.	0.	0.	0.	695.	87.	123.	62.	80.
SOUTHEAST	0.	0.	0.	69.	110.	129.	133.	124.	105.	78.	46.	33.	23.	11.	0.	0.	0.	862.	98.	143.	67.	90.
HORIZ.	0.	0.	0.	31.	72.	109.	137.	155.	161.	155.	137.	109.	72.	31.	0.	0.	0.	1170.	118.	179.	77.	108.

LOCATION COLUMBUS, OHIO LATITUDE 40 DEGREES 0 MINUTES

MONTH 4 HO 3235. TOD 53. TOT 50. KT .470 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	20.	49.	77.	100.	114.	119.	114.	100.	77.	49.	20.	7.	0.	0.	851.	103.	143.	77.	100.
SOUTHWEST	0.	0.	7.	19.	31.	41.	49.	72.	100.	120.	130.	128.	113.	83.	32.	0.	0.	926.	107.	150.	80.	104.
WEST	0.	0.	7.	19.	31.	41.	49.	53.	55.	88.	113.	128.	130.	110.	49.	0.	0.	872.	104.	145.	78.	101.
NORTHWEST	0.	0.	7.	19.	31.	41.	49.	53.	55.	53.	58.	77.	88.	83.	42.	0.	0.	655.	91.	122.	71.	88.
NORTH	0.	0.	14.	19.	31.	41.	49.	53.	55.	53.	49.	41.	31.	19.	14.	0.	0.	468.	80.	102.	65.	77.
NORTHEAST	0.	0.	42.	83.	88.	77.	58.	53.	55.	53.	49.	41.	31.	19.	7.	0.	0.	655.	91.	122.	71.	88.
EAST	0.	0.	49.	110.	130.	128.	113.	88.	55.	53.	49.	41.	31.	19.	7.	0.	0.	872.	104.	145.	78.	101.
SOUTHEAST	0.	0.	32.	83.	113.	128.	130.	120.	100.	72.	49.	41.	31.	19.	7.	0.	0.	926.	107.	150.	80.	104.
HORIZ.	0.	0.	17.	58.	101.	138.	167.	185.	191.	185.	167.	138.	101.	58.	17.	0.	0.	1522.	141.	213.	99.	139.

MONTH 5 HO 3622. TOD 64. TOT 61. KT .515 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	2.	12.	24.	41.	69.	92.	107.	112.	107.	92.	69.	41.	24.	12.	2.	0.	810.	111.	146.	88.	110.
SOUTHWEST	0.	2.	12.	24.	36.	46.	53.	66.	97.	119.	131.	131.	118.	91.	50.	2.	0.	980.	120.	163.	94.	120.
WEST	0.	2.	12.	24.	36.	46.	53.	58.	60.	96.	125.	143.	147.	132.	87.	3.	0.	1023.	123.	167.	96.	123.
NORTHWEST	0.	2.	12.	24.	36.	46.	53.	58.	60.	58.	76.	98.	111.	110.	80.	3.	0.	826.	111.	148.	89.	111.
NORTH	0.	2.	33.	37.	36.	46.	53.	58.	60.	58.	53.	46.	36.	37.	33.	2.	0.	592.	98.	124.	81.	97.
NORTHEAST	0.	3.	80.	110.	111.	98.	76.	58.	60.	58.	53.	46.	36.	24.	12.	2.	0.	826.	111.	148.	89.	111.
EAST	0.	3.	87.	132.	147.	143.	125.	96.	60.	58.	53.	46.	36.	24.	12.	2.	0.	1023.	123.	167.	96.	123.
SOUTHEAST	0.	2.	50.	91.	118.	131.	131.	119.	97.	66.	53.	46.	36.	24.	12.	2.	0.	980.	120.	163.	94.	120.
HORIZ.	0.	3.	35.	81.	126.	165.	196.	215.	222.	215.	196.	165.	126.	81.	35.	3.	0.	1865.	171.	252.	125.	173.

MONTH 6 HO 3761. TOD 74. TOT 71. KT .561 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	4.	14.	26.	38.	66.	91.	107.	113.	107.	91.	66.	38.	26.	14.	4.	0.	805.	119.	153.	98.	119.
SOUTHWEST	0.	4.	14.	26.	38.	47.	55.	63.	98.	123.	138.	139.	126.	99.	58.	8.	0.	1034.	131.	175.	106.	133.
WEST	0.	4.	14.	26.	38.	47.	55.	60.	61.	102.	136.	157.	164.	150.	106.	16.	0.	1136.	137.	185.	110.	139.
NORTHWEST	0.	4.	14.	26.	38.	47.	55.	60.	61.	60.	86.	112.	128.	129.	101.	17.	0.	937.	126.	166.	103.	127.
NORTH	0.	10.	45.	47.	39.	47.	55.	60.	61.	60.	55.	47.	39.	47.	45.	10.	0.	668.	111.	139.	94.	111.
NORTHEAST	0.	17.	101.	129.	128.	112.	86.	60.	61.	60.	55.	47.	38.	26.	14.	4.	0.	937.	126.	166.	103.	127.
EAST	0.	16.	106.	150.	164.	157.	136.	102.	61.	60.	55.	47.	38.	26.	14.	4.	0.	1136.	137.	185.	110.	139.
SOUTHEAST	0.	8.	58.	99.	126.	139.	138.	123.	98.	63.	55.	47.	38.	26.	14.	4.	0.	1034.	131.	175.	106.	133.
HORIZ.	0.	7.	45.	95.	143.	185.	218.	239.	246.	239.	218.	185.	143.	95.	45.	7.	0.	2110.	191.	280.	143.	198.

LOCATION COLUMBUS, OHIO LATITUDE 40 DEGREES 0 MINUTES

MONTH 7 HO 3619. TOD 78. TOT 74. KT .555 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	2.	12.	24.	41.	72.	98.	114.	120.	114.	98.	72.	41.	24.	12.	2.	0.	848.	126.	163.	103.	126.
SOUTHWEST	0.	2.	12.	24.	36.	46.	54.	68.	102.	128.	142.	143.	129.	99.	54.	2.	0.	1042.	137.	183.	110.	137.
WEST	0.	2.	12.	24.	36.	46.	54.	59.	60.	101.	135.	156.	162.	145.	95.	3.	0.	1091.	140.	188.	112.	140.
NORTHWEST	0.	2.	12.	24.	36.	46.	54.	59.	60.	59.	80.	105.	121.	120.	87.	3.	0.	869.	127.	165.	104.	127.
NORTH	0.	2.	36.	39.	36.	46.	54.	59.	60.	59.	54.	46.	36.	39.	36.	2.	0.	605.	112.	139.	95.	111.
NORTHEAST	0.	3.	87.	120.	121.	105.	80.	59.	60.	59.	54.	46.	36.	24.	12.	2.	0.	869.	127.	165.	104.	127.
EAST	0.	3.	95.	145.	162.	156.	135.	101.	60.	59.	54.	46.	36.	24.	12.	2.	0.	1091.	140.	188.	112.	140.
SOUTHEAST	0.	2.	54.	99.	129.	143.	142.	128.	102.	68.	54.	46.	36.	24.	12.	2.	0.	1042.	137.	183.	110.	137.
HORIZ.	0.	3.	37.	86.	135.	178.	212.	233.	240.	233.	212.	178.	135.	86.	37.	3.	0.	2009.	192.	280.	143.	196.

MONTH 8 HO 3212. TOD 76. TOT 72. KT .475 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	19.	49.	77.	100.	115.	120.	115.	100.	77.	49.	19.	7.	0.	0.	852.	128.	168.	102.	124.
SOUTHWEST	0.	0.	7.	19.	31.	41.	48.	72.	101.	121.	131.	129.	113.	82.	29.	0.	0.	924.	133.	176.	104.	128.
WEST	0.	0.	7.	19.	31.	41.	48.	53.	55.	88.	114.	129.	129.	108.	45.	0.	0.	866.	129.	170.	102.	125.
NORTHWEST	0.	0.	7.	19.	31.	41.	48.	53.	55.	53.	58.	77.	88.	81.	38.	0.	0.	650.	116.	146.	95.	112.
NORTH	0.	0.	13.	19.	31.	41.	48.	53.	55.	53.	48.	41.	31.	19.	13.	0.	0.	465.	104.	126.	88.	101.
NORTHEAST	0.	0.	38.	81.	88.	77.	58.	53.	55.	53.	48.	41.	31.	19.	7.	0.	0.	650.	116.	146.	95.	112.
EAST	0.	0.	45.	108.	129.	129.	114.	88.	55.	53.	48.	41.	31.	19.	7.	0.	0.	866.	129.	170.	102.	125.
SOUTHEAST	0.	0.	29.	82.	113.	129.	131.	121.	101.	72.	48.	41.	31.	19.	7.	0.	0.	924.	133.	176.	104.	128.
HORIZ.	0.	0.	16.	57.	100.	138.	168.	187.	193.	187.	168.	138.	100.	57.	16.	0.	0.	1527.	170.	241.	125.	165.

MONTH 9 HO 2609. TOD 70. TOT 66. KT .433 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	21.	53.	82.	104.	118.	123.	118.	104.	82.	53.	21.	0.	0.	0.	881.	130.	176.	97.	120.
SOUTHWEST	0.	0.	0.	11.	23.	33.	44.	75.	101.	119.	127.	122.	103.	62.	0.	0.	0.	821.	126.	169.	95.	116.
WEST	0.	0.	0.	11.	23.	33.	40.	45.	47.	76.	99.	110.	106.	73.	0.	0.	0.	664.	115.	150.	89.	107.
NORTHWEST	0.	0.	0.	11.	23.	33.	40.	45.	47.	45.	40.	53.	60.	48.	0.	0.	0.	447.	100.	124.	82.	94.
NORTH	0.	0.	0.	11.	23.	33.	40.	45.	47.	45.	40.	33.	23.	11.	0.	0.	0.	353.	94.	112.	79.	88.
NORTHEAST	0.	0.	0.	48.	60.	53.	40.	45.	47.	45.	40.	33.	23.	11.	0.	0.	0.	447.	100.	124.	82.	94.
EAST	0.	0.	0.	73.	106.	110.	99.	76.	47.	45.	40.	33.	23.	11.	0.	0.	0.	664.	115.	150.	89.	107.
SOUTHEAST	0.	0.	0.	62.	103.	122.	127.	119.	101.	75.	44.	33.	23.	11.	0.	0.	0.	821.	126.	169.	95.	116.
HORIZ.	0.	0.	1.	30.	69.	105.	132.	150.	156.	150.	132.	105.	69.	30.	1.	0.	0.	1128.	147.	206.	105.	135.

LOCATION COLUMBUS, OHIO LATITUDE 40 DEGREES 0 MINUTES

MONTH 10 HO 1962. TOD 58. TOT 54. KT .441 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	10.	55.	91.	117.	133.	138.	133.	117.	91.	55.	10.	0.	0.	0.	947.	126.	181.	85.	110.
SOUTHWEST	0.	0.	0.	4.	15.	25.	50.	82.	109.	127.	134.	126.	96.	21.	0.	0.	0.	790.	114.	160.	80.	101.
WEST	0.	0.	0.	4.	15.	25.	33.	38.	39.	70.	92.	102.	90.	22.	0.	0.	0.	530.	96.	127.	72.	85.
NORTHWEST	0.	0.	0.	4.	15.	25.	33.	38.	39.	38.	33.	33.	39.	13.	0.	0.	0.	310.	80.	98.	64.	73.
NORTH	0.	0.	0.	4.	15.	25.	33.	38.	39.	38.	33.	25.	15.	4.	0.	0.	0.	269.	77.	93.	63.	70.
NORTHEAST	0.	0.	0.	13.	39.	33.	33.	38.	39.	38.	33.	25.	15.	4.	0.	0.	0.	310.	80.	98.	64.	73.
EAST	0.	0.	0.	22.	90.	102.	92.	70.	39.	38.	33.	25.	15.	4.	0.	0.	0.	530.	96.	127.	72.	85.
SOUTHEAST	0.	0.	0.	21.	96.	126.	134.	127.	109.	82.	50.	25.	15.	4.	0.	0.	0.	790.	114.	160.	80.	101.
HORIZ.	0.	0.	0.	8.	44.	80.	108.	127.	133.	127.	108.	80.	44.	8.	0.	0.	0.	865.	120.	170.	82.	105.

MONTH 11 HO 1418. TOD 44. TOT 42. KT .302 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	24.	50.	68.	78.	82.	78.	68.	50.	24.	0.	0.	0.	0.	522.	86.	120.	59.	72.
SOUTHWEST	0.	0.	0.	0.	7.	16.	35.	52.	66.	74.	74.	64.	36.	0.	0.	0.	0.	424.	78.	106.	56.	67.
WEST	0.	0.	0.	0.	7.	16.	22.	26.	28.	41.	49.	49.	31.	0.	0.	0.	0.	269.	66.	84.	51.	58.
NORTHWEST	0.	0.	0.	0.	7.	16.	22.	26.	28.	26.	22.	16.	12.	0.	0.	0.	0.	175.	58.	70.	48.	52.
NORTH	0.	0.	0.	0.	7.	16.	22.	26.	28.	26.	22.	16.	7.	0.	0.	0.	0.	170.	58.	69.	47.	52.
NORTHEAST	0.	0.	0.	0.	12.	16.	22.	26.	28.	26.	22.	16.	7.	0.	0.	0.	0.	175.	58.	70.	48.	52.
EAST	0.	0.	0.	0.	31.	49.	49.	41.	28.	26.	22.	16.	7.	0.	0.	0.	0.	269.	66.	84.	51.	58.
SOUTHEAST	0.	0.	0.	0.	36.	64.	74.	74.	66.	52.	35.	16.	7.	0.	0.	0.	0.	424.	78.	106.	56.	67.
HORIZ.	0.	0.	0.	0.	16.	38.	56.	68.	72.	68.	56.	38.	16.	0.	0.	0.	0.	428.	79.	107.	56.	67.

MONTH 12 HO 1214. TOD 34. TOT 32. KT .351 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	21.	62.	86.	100.	104.	100.	86.	62.	21.	0.	0.	0.	0.	643.	88.	132.	52.	69.
SOUTHWEST	0.	0.	0.	0.	5.	17.	41.	63.	82.	92.	93.	78.	32.	0.	0.	0.	0.	503.	76.	111.	48.	61.
WEST	0.	0.	0.	0.	5.	14.	20.	25.	26.	45.	57.	57.	27.	0.	0.	0.	0.	276.	57.	76.	41.	48.
NORTHWEST	0.	0.	0.	0.	5.	14.	20.	25.	26.	25.	20.	14.	9.	0.	0.	0.	0.	157.	47.	58.	37.	41.
NORTH	0.	0.	0.	0.	5.	14.	20.	25.	26.	25.	20.	14.	5.	0.	0.	0.	0.	153.	47.	57.	37.	41.
NORTHEAST	0.	0.	0.	0.	9.	14.	20.	25.	26.	25.	20.	14.	5.	0.	0.	0.	0.	157.	47.	58.	37.	41.
EAST	0.	0.	0.	0.	27.	57.	57.	45.	26.	25.	20.	14.	5.	0.	0.	0.	0.	276.	57.	76.	41.	48.
SOUTHEAST	0.	0.	0.	0.	32.	78.	93.	92.	82.	63.	41.	17.	5.	0.	0.	0.	0.	503.	76.	111.	48.	61.
HORIZ.	0.	0.	0.	0.	11.	36.	58.	71.	76.	71.	58.	36.	11.	0.	0.	0.	0.	427.	70.	99.	45.	57.

LOCATION COLUMBUS, OHIO LATITUDE 40 DEGREES 0 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	87.	94.	102.	103.	111.	119.	126.	128.	130.	126.	86.	88.	108.
SOUTHWEST	76.	85.	98.	107.	120.	131.	137.	133.	126.	114.	78.	76.	107.
WEST	58.	69.	87.	104.	123.	137.	140.	129.	115.	96.	66.	57.	98.
NORTHWEST	47.	55.	72.	91.	111.	126.	127.	116.	100.	80.	58.	47.	86.
NORTH	46.	52.	66.	80.	98.	111.	112.	104.	94.	77.	58.	47.	79.
NORTHEAST	47.	55.	72.	91.	111.	126.	127.	116.	100.	80.	58.	47.	86.
EAST	58.	69.	87.	104.	123.	137.	140.	129.	115.	96.	66.	57.	98.
SOUTHEAST	76.	85.	98.	107.	120.	131.	137.	133.	126.	114.	78.	76.	107.
HORIZ.	73.	91.	118.	141.	171.	191.	192.	170.	147.	120.	79.	70.	130.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	131.	143.	150.	143.	146.	153.	163.	168.	176.	181.	120.	132.	151.
SOUTHWEST	111.	126.	143.	150.	163.	175.	183.	176.	169.	160.	106.	111.	148.
WEST	79.	98.	123.	145.	167.	185.	188.	170.	150.	127.	84.	76.	133.
NORTHWEST	59.	73.	96.	122.	148.	166.	165.	146.	124.	98.	70.	58.	110.
NORTH	58.	68.	84.	102.	124.	139.	139.	126.	112.	93.	69.	57.	98.
NORTHEAST	59.	73.	96.	122.	148.	166.	165.	146.	124.	98.	70.	58.	110.
EAST	79.	98.	123.	145.	167.	185.	188.	170.	150.	127.	84.	76.	133.
SOUTHEAST	111.	126.	143.	150.	163.	175.	183.	176.	169.	160.	106.	111.	148.
HORIZ.	106.	137.	179.	213.	252.	280.	280.	241.	206.	170.	107.	99.	189.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	52.	58.	69.	77.	88.	98.	103.	102.	97.	85.	59.	52.	78.
SOUTHWEST	47.	54.	67.	80.	94.	106.	110.	104.	95.	80.	56.	48.	78.
WEST	40.	47.	62.	78.	96.	110.	112.	102.	89.	72.	51.	41.	75.
NORTHWEST	36.	41.	55.	71.	89.	103.	104.	95.	82.	64.	48.	37.	69.
NORTH	35.	40.	51.	65.	81.	94.	95.	88.	79.	63.	47.	37.	65.
NORTHEAST	36.	41.	55.	71.	89.	103.	104.	95.	82.	64.	48.	37.	69.
EAST	40.	47.	62.	78.	96.	110.	112.	102.	89.	72.	51.	41.	75.
SOUTHEAST	47.	54.	67.	80.	94.	106.	110.	104.	95.	80.	56.	48.	78.
HORIZ.	46.	57.	77.	99.	125.	143.	143.	125.	105.	82.	56.	45.	92.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	70.	80.	94.	100.	110.	119.	126.	124.	120.	110.	72.	69.	99.
SOUTHWEST	61.	73.	90.	104.	120.	133.	137.	128.	116.	101.	67.	61.	99.
WEST	49.	60.	80.	101.	123.	139.	140.	125.	107.	85.	58.	48.	93.
NORTHWEST	41.	49.	67.	88.	111.	127.	127.	112.	94.	73.	52.	41.	82.
NORTH	40.	47.	61.	77.	97.	111.	111.	101.	88.	70.	52.	41.	75.
NORTHEAST	41.	49.	67.	88.	111.	127.	127.	112.	94.	73.	52.	41.	82.
EAST	49.	60.	80.	101.	123.	139.	140.	125.	107.	85.	58.	48.	93.
SOUTHEAST	61.	73.	90.	104.	120.	133.	137.	128.	116.	101.	67.	61.	99.
HORIZ.	59.	78.	108.	139.	173.	198.	196.	165.	135.	105.	67.	57.	123.

LOCATION DAVIS, CALIFORNIA LATITUDE 38 DEGREES 32 MINUTES

MONTH 1 HO 1509. TOD 48. TOT 44. KT .416 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	44.	85.	112.	127.	133.	127.	112.	85.	44.	0.	0.	0.	0.	868.	116.	172.	72.	95.
SOUTHWEST	0.	0.	0.	0.	9.	20.	50.	79.	103.	119.	123.	111.	69.	0.	0.	0.	0.	684.	101.	145.	66.	84.
WEST	0.	0.	0.	0.	9.	19.	26.	31.	32.	59.	78.	83.	59.	0.	0.	0.	0.	397.	79.	104.	57.	67.
NORTHWEST	0.	0.	0.	0.	9.	19.	26.	31.	32.	31.	26.	19.	20.	0.	0.	0.	0.	212.	64.	78.	51.	57.
NORTH	0.	0.	0.	0.	9.	19.	26.	31.	32.	31.	26.	19.	9.	0.	0.	0.	0.	201.	63.	76.	51.	56.
NORTHEAST	0.	0.	0.	0.	20.	19.	26.	31.	32.	31.	26.	19.	9.	0.	0.	0.	0.	212.	64.	78.	51.	57.
EAST	0.	0.	0.	0.	59.	83.	78.	59.	32.	31.	26.	19.	9.	0.	0.	0.	0.	397.	79.	104.	57.	67.
SOUTHEAST	0.	0.	0.	0.	69.	111.	123.	119.	103.	79.	50.	20.	9.	0.	0.	0.	0.	684.	101.	145.	66.	84.
HORIZ.	0.	0.	0.	0.	23.	56.	83.	100.	106.	100.	83.	56.	23.	0.	0.	0.	0.	628.	97.	137.	64.	81.

MONTH 2 HO 2067. TOD 52. TOT 50. KT .490 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	15.	66.	104.	133.	150.	156.	150.	133.	104.	66.	15.	0.	0.	0.	1093.	129.	193.	85.	113.
SOUTHWEST	0.	0.	0.	5.	17.	28.	54.	92.	123.	145.	154.	148.	118.	35.	0.	0.	0.	918.	117.	170.	79.	103.
WEST	0.	0.	0.	5.	17.	28.	36.	41.	43.	79.	107.	120.	110.	38.	0.	0.	0.	623.	96.	132.	70.	86.
NORTHWEST	0.	0.	0.	5.	17.	28.	36.	41.	43.	41.	36.	39.	48.	21.	0.	0.	0.	354.	77.	98.	61.	70.
NORTH	0.	0.	0.	5.	17.	28.	36.	41.	43.	41.	36.	28.	17.	5.	0.	0.	0.	296.	73.	90.	59.	67.
NORTHEAST	0.	0.	0.	21.	48.	39.	36.	41.	43.	41.	36.	28.	17.	5.	0.	0.	0.	354.	77.	98.	61.	70.
EAST	0.	0.	0.	38.	110.	120.	107.	79.	43.	41.	36.	28.	17.	5.	0.	0.	0.	623.	96.	132.	70.	86.
SOUTHEAST	0.	0.	0.	35.	118.	148.	154.	145.	123.	92.	54.	28.	17.	5.	0.	0.	0.	918.	117.	170.	79.	103.
HORIZ.	0.	0.	0.	10.	53.	94.	126.	147.	154.	147.	126.	94.	53.	10.	0.	0.	0.	1013.	124.	182.	82.	109.

MONTH 3 HO 2676. TOD 57. TOT 54. KT .591 KD .175

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	30.	76.	117.	150.	170.	177.	170.	150.	117.	76.	30.	0.	0.	0.	1264.	138.	204.	94.	128.
SOUTHWEST	0.	0.	0.	12.	25.	36.	50.	99.	141.	172.	188.	187.	162.	104.	0.	0.	0.	1176.	132.	193.	92.	122.
WEST	0.	0.	0.	12.	25.	36.	45.	51.	53.	102.	143.	168.	168.	123.	0.	0.	0.	927.	116.	164.	84.	108.
NORTHWEST	0.	0.	0.	12.	25.	36.	45.	51.	53.	51.	45.	72.	90.	78.	0.	0.	0.	558.	93.	122.	72.	86.
NORTH	0.	0.	0.	12.	25.	36.	45.	51.	53.	51.	45.	36.	25.	12.	0.	0.	0.	391.	82.	102.	66.	77.
NORTHEAST	0.	0.	0.	78.	90.	72.	45.	51.	53.	51.	45.	36.	25.	12.	0.	0.	0.	558.	93.	122.	72.	86.
EAST	0.	0.	0.	123.	168.	168.	143.	102.	53.	51.	45.	36.	25.	12.	0.	0.	0.	927.	116.	164.	84.	108.
SOUTHEAST	0.	0.	0.	104.	162.	187.	188.	172.	141.	99.	50.	36.	25.	12.	0.	0.	0.	1176.	132.	193.	92.	122.
HORIZ.	0.	0.	0.	40.	96.	147.	186.	211.	220.	211.	186.	147.	96.	40.	0.	0.	0.	1580.	158.	240.	105.	146.

LOCATION DAVIS, CALIFORNIA LATITUDE 38 DEGREES 32 MINUTES

MONTH 4 HO 3263. TOD 63. TOT 58. KT .617 KD .170

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	7.	19.	58.	97.	128.	148.	155.	148.	128.	97.	58.	19.	7.	0.	0.	1069.	125.	176.	92.	120.
SOUTHWEST	0.	0.	7.	19.	32.	43.	52.	83.	127.	159.	178.	179.	161.	120.	44.	0.	0.	1203.	133.	190.	97.	128.
WEST	0.	0.	7.	19.	32.	43.	52.	57.	59.	111.	153.	181.	188.	162.	70.	0.	0.	1134.	129.	182.	95.	124.
NORTHWEST	0.	0.	7.	19.	32.	43.	52.	57.	59.	57.	70.	103.	124.	121.	59.	0.	0.	801.	110.	147.	84.	105.
NORTH	0.	0.	17.	20.	32.	43.	52.	57.	59.	57.	52.	43.	32.	20.	17.	0.	0.	501.	92.	116.	74.	87.
NORTHEAST	0.	0.	59.	121.	124.	103.	70.	57.	59.	57.	52.	43.	32.	19.	7.	0.	0.	801.	110.	147.	84.	105.
EAST	0.	0.	70.	162.	188.	181.	153.	111.	59.	57.	52.	43.	32.	19.	7.	0.	0.	1134.	129.	182.	95.	124.
SOUTHEAST	0.	0.	44.	120.	161.	179.	178.	159.	127.	83.	52.	43.	32.	19.	7.	0.	0.	1203.	133.	190.	97.	128.
HORIZ.	0.	0.	18.	73.	132.	183.	223.	249.	257.	249.	223.	183.	132.	73.	18.	0.	0.	2014.	180.	275.	123.	176.

MONTH 5 HO 3628. TOD 70. TOT 64. KT .662 KD .159

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	1.	11.	24.	41.	78.	109.	129.	136.	129.	109.	78.	41.	24.	11.	1.	0.	924.	123.	163.	96.	120.
SOUTHWEST	0.	1.	11.	24.	36.	46.	55.	68.	114.	149.	170.	174.	159.	124.	67.	1.	0.	1201.	139.	192.	105.	137.
WEST	0.	1.	11.	24.	36.	46.	55.	60.	61.	117.	163.	195.	206.	187.	122.	1.	0.	1286.	144.	200.	108.	142.
NORTHWEST	0.	1.	11.	24.	36.	46.	55.	60.	61.	60.	93.	129.	153.	155.	112.	1.	0.	996.	127.	171.	98.	124.
NORTH	0.	1.	43.	45.	36.	46.	55.	60.	61.	60.	55.	46.	36.	45.	43.	1.	0.	634.	106.	134.	86.	102.
NORTHEAST	0.	1.	112.	155.	153.	129.	93.	60.	61.	60.	55.	46.	36.	24.	11.	1.	0.	996.	127.	171.	98.	124.
EAST	0.	1.	122.	187.	206.	195.	163.	117.	61.	60.	55.	46.	36.	24.	11.	1.	0.	1286.	144.	200.	108.	142.
SOUTHEAST	0.	1.	67.	124.	159.	174.	170.	149.	114.	68.	55.	46.	36.	24.	11.	1.	0.	1201.	139.	192.	105.	137.
HORIZ.	0.	2.	40.	101.	161.	214.	256.	282.	290.	282.	256.	214.	161.	101.	40.	2.	0.	2401.	208.	313.	146.	209.

MONTH 6 HO 3757. TOD 76. TOT 70. KT .697 KD .150

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	2.	13.	25.	37.	70.	102.	122.	129.	122.	102.	70.	37.	25.	13.	2.	0.	872.	124.	162.	100.	123.
SOUTHWEST	0.	2.	13.	25.	37.	47.	55.	61.	109.	147.	170.	175.	161.	127.	73.	6.	0.	1209.	143.	195.	112.	143.
WEST	0.	2.	13.	25.	37.	47.	55.	60.	62.	121.	171.	205.	218.	201.	141.	13.	0.	1372.	152.	211.	117.	153.
NORTHWEST	0.	2.	13.	25.	37.	47.	55.	60.	62.	60.	104.	143.	169.	173.	134.	14.	0.	1099.	137.	184.	108.	137.
NORTH	0.	8.	56.	58.	43.	47.	55.	60.	62.	60.	55.	47.	43.	58.	56.	8.	0.	718.	116.	146.	95.	114.
NORTHEAST	0.	14.	134.	173.	169.	143.	104.	60.	62.	60.	55.	47.	37.	25.	13.	2.	0.	1099.	137.	184.	108.	137.
EAST	0.	13.	141.	201.	218.	205.	171.	121.	62.	60.	55.	47.	37.	25.	13.	2.	0.	1372.	152.	211.	117.	153.
SOUTHEAST	0.	6.	73.	127.	161.	175.	170.	147.	109.	61.	55.	47.	37.	25.	13.	2.	0.	1209.	143.	195.	112.	143.
HORIZ.	0.	5.	50.	114.	177.	232.	275.	301.	311.	301.	275.	232.	177.	114.	50.	5.	0.	2618.	222.	334.	160.	228.

LOCATION DAVIS, CALIFORNIA LATITUDE 38 DEGREES 32 MINUTES

MONTH 7 HO 3624. TOD 81. TOT 75. KT .697 KD .150

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	1.	11.	24.	40.	80.	113.	134.	142.	134.	113.	80.	40.	24.	11.	1.	0.	948.	135.	177.	107.	132.
SOUTHWEST	0.	1.	11.	24.	36.	46.	54.	68.	118.	156.	179.	184.	168.	131.	69.	1.	0.	1247.	153.	207.	117.	150.
WEST	0.	1.	11.	24.	36.	46.	54.	59.	61.	122.	172.	207.	219.	199.	127.	1.	0.	1340.	158.	217.	120.	156.
NORTHWEST	0.	1.	11.	24.	36.	46.	54.	59.	61.	59.	96.	136.	162.	164.	117.	1.	0.	1029.	140.	185.	110.	137.
NORTH	0.	1.	45.	47.	36.	46.	54.	59.	61.	59.	54.	46.	36.	47.	45.	1.	0.	639.	118.	146.	96.	113.
NORTHEAST	0.	1.	117.	164.	162.	136.	96.	59.	61.	59.	54.	46.	36.	24.	11.	1.	0.	1029.	140.	185.	110.	137.
EAST	0.	1.	127.	199.	219.	207.	172.	122.	61.	59.	54.	46.	36.	24.	11.	1.	0.	1340.	158.	217.	120.	156.
SOUTHEAST	0.	1.	69.	131.	168.	184.	179.	156.	118.	68.	54.	46.	36.	24.	11.	1.	0.	1247.	153.	207.	117.	150.
HORIZ.	0.	2.	41.	105.	169.	226.	270.	297.	307.	297.	270.	226.	169.	105.	41.	2.	0.	2526.	226.	337.	161.	227.

MONTH 8 HO 3240. TOD 79. TOT 73. KT .687 KD .152

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	62.	106.	141.	164.	172.	164.	141.	106.	62.	19.	6.	0.	0.	1168.	151.	207.	113.	144.
SOUTHWEST	0.	0.	6.	19.	31.	42.	51.	87.	139.	178.	201.	203.	182.	134.	45.	0.	0.	1318.	161.	223.	118.	153.
WEST	0.	0.	6.	19.	31.	42.	51.	56.	58.	121.	172.	206.	214.	182.	73.	0.	0.	1232.	155.	214.	115.	148.
NORTHWEST	0.	0.	6.	19.	31.	42.	51.	56.	58.	56.	73.	113.	139.	135.	61.	0.	0.	841.	131.	171.	102.	124.
NORTH	0.	0.	17.	20.	31.	42.	51.	56.	58.	56.	51.	42.	31.	20.	17.	0.	0.	494.	110.	133.	90.	103.
NORTHEAST	0.	0.	61.	135.	139.	113.	73.	56.	58.	56.	51.	42.	31.	19.	6.	0.	0.	841.	131.	171.	102.	124.
EAST	0.	0.	73.	182.	214.	206.	172.	121.	58.	56.	51.	42.	31.	19.	6.	0.	0.	1232.	155.	214.	115.	148.
SOUTHEAST	0.	0.	45.	134.	182.	203.	201.	178.	139.	87.	51.	42.	31.	19.	6.	0.	0.	1318.	161.	223.	11 .	153.
HORIZ.	0.	0.	17.	78.	144.	203.	249.	278.	287.	278.	249.	203.	144.	78.	17.	0.	0.	2226.	217.	322.	149.	208.

MONTH 9 HO 2662. TOD 77. TOT 70. KT .664 KD .158

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	32.	84.	132.	170.	194.	203.	194.	170.	132.	84.	32.	0.	0.	0.	1429.	174.	248.	119.	157.
SOUTHWEST	0.	0.	0.	11.	24.	36.	50.	108.	159.	197.	217.	216.	187.	115.	0.	0.	0.	1320.	167.	235.	115.	150.
WEST	0.	0.	0.	11.	24.	36.	45.	50.	52.	113.	163.	194.	194.	138.	0.	0.	0.	1022.	146.	200.	105.	132.
NORTHWEST	0.	0.	0.	11.	24.	36.	45.	50.	52.	50.	45.	79.	103.	87.	0.	0.	0.	583.	116.	147.	90.	106.
NORTH	0.	0.	0.	11.	24.	36.	45.	50.	52.	50.	45.	36.	24.	11.	0.	0.	0.	386.	103.	123.	84.	94.
NORTHEAST	0.	0.	0.	87.	103.	79.	45.	50.	52.	50.	45.	36.	24.	11.	0.	0.	0.	583.	116.	147.	90.	106.
EAST	0.	0.	0.	138.	194.	194.	163.	113.	52.	50.	45.	36.	24.	11.	0.	0.	0.	1022.	146.	200.	105.	132.
SOUTHEAST	0.	0.	0.	115.	187.	216.	217.	197.	159.	108.	50.	36.	24.	11.	0.	0.	0.	1320.	167.	235.	115.	150.
HORIZ.	0.	0.	0.	42.	106.	164.	209.	238.	248.	238.	209.	164.	106.	42.	0.	0.	0.	1767.	197.	289.	131.	177.

LOCATION DAVIS, CALIFORNIA LATITUDE 38 DEGREES 32 MINUTES

MONTH 10 HO 2033. TOD 68. TOT 63. KT .598 KD .174

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	16.	83.	135.	172.	196.	204.	196.	172.	135.	83.	16.	0.	0.	0.	1407.	168.	249.	108.	145.
SOUTHWEST	0.	0.	0.	4.	16.	28.	63.	113.	157.	188.	202.	194.	153.	38.	0.	0.	0.	1157.	150.	217.	100.	130.
WEST	0.	0.	0.	4.	16.	28.	37.	42.	44.	95.	135.	156.	142.	41.	0.	0.	0.	741.	120.	163.	86.	106.
NORTHWEST	0.	0.	0.	4.	16.	28.	37.	42.	44.	42.	37.	43.	58.	22.	0.	0.	0.	373.	94.	116.	75.	84.
NORTH	0.	0.	0.	4.	16.	28.	37.	42.	44.	42.	37.	28.	16.	4.	0.	0.	0.	299.	89.	106.	72.	80.
NORTHEAST	0.	0.	0.	22.	58.	43.	37.	42.	44.	42.	37.	28.	16.	4.	0.	0.	0.	373.	94.	116.	75.	84.
EAST	0.	0.	0.	41.	142.	156.	135.	95.	44.	42.	37.	28.	16.	4.	0.	0.	0.	741.	120.	163.	86.	106.
SOUTHEAST	0.	0.	0.	38.	153.	194.	202.	188.	157.	113.	63.	28.	16.	4.	0.	0.	0.	1157.	150.	217.	100.	130.
HORIZ.	0.	0.	0.	10.	60.	112.	153.	179.	188.	179.	153.	112.	60.	10.	0.	0.	0.	1215.	154.	225.	102.	133.

MONTH 11 HO 1497. TOD 57. TOT 53. KT .477 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	51.	102.	134.	154.	160.	154.	134.	102.	51.	0.	0.	0.	0.	1040.	139.	206.	86.	114.
SOUTHWEST	0.	0.	0.	0.	9.	21.	57.	93.	123.	143.	149.	134.	82.	0.	0.	0.	0.	811.	121.	173.	79.	100.
WEST	0.	0.	0.	0.	9.	19.	27.	33.	34.	68.	92.	100.	70.	0.	0.	0.	0.	452.	93.	122.	68.	79.
NORTHWEST	0.	0.	0.	0.	9.	19.	27.	33.	34.	33.	27.	19.	22.	0.	0.	0.	0.	224.	75.	89.	60.	66.
NORTH	0.	0.	0.	0.	9.	19.	27.	33.	34.	33.	27.	19.	9.	0.	0.	0.	0.	211.	74.	87.	60.	65.
NORTHEAST	0.	0.	0.	0.	22.	19.	27.	33.	34.	33.	27.	19.	9.	0.	0.	0.	0.	224.	75.	89.	60.	66.
EAST	0.	0.	0.	0.	70.	100.	92.	68.	34.	33.	27.	19.	9.	0.	0.	0.	0.	452.	93.	122.	68.	79.
SOUTHEAST	0.	0.	0.	0.	82.	134.	149.	143.	123.	93.	57.	21.	9.	0.	0.	0.	0.	811.	121.	173.	79.	100.
HORIZ.	0.	0.	0.	0.	25.	63.	94.	114.	121.	114.	94.	63.	25.	0.	0.	0.	0.	714.	113.	159.	76.	95.

MONTH 12 HO 1295. TOD 49. TOT 46. KT .421 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	33.	84.	114.	131.	137.	131.	114.	84.	33.	0.	0.	0.	0.	860.	120.	178.	73.	96.
SOUTHWEST	0.	0.	0.	0.	6.	20.	51.	81.	105.	121.	124.	107.	51.	0.	0.	0.	0.	666.	104.	149.	67.	85.
WEST	0.	0.	0.	0.	6.	16.	23.	28.	29.	56.	75.	77.	42.	0.	0.	0.	0.	352.	78.	102.	57.	66.
NORTHWEST	0.	0.	0.	0.	6.	16.	23.	28.	29.	28.	23.	16.	12.	0.	0.	0.	0.	181.	64.	76.	52.	56.
NORTH	0.	0.	0.	0.	6.	16.	23.	28.	29.	28.	23.	16.	6.	0.	0.	0.	0.	174.	63.	75.	51.	56.
NORTHEAST	0.	0.	0.	0.	12.	16.	23.	28.	29.	28.	23.	16.	6.	0.	0.	0.	0.	181.	64.	76.	52.	56.
EAST	0.	0.	0.	0.	42.	77.	75.	56.	29.	28.	23.	16.	6.	0.	0.	0.	0.	352.	78.	102.	57.	66.
SOUTHEAST	0.	0.	0.	0.	51.	107.	124.	121.	105.	81.	51.	20.	6.	0.	0.	0.	0.	666.	104.	149.	67.	85.
HORIZ.	0.	0.	0.	0.	14.	46.	73.	91.	97.	91.	73.	46.	14.	0.	0.	0.	0.	546.	94.	131.	63.	78.

LOCATION DAVIS, CALIFORNIA LATITUDE 38 DEGREES 32 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	116.	129.	138.	125.	123.	124.	135.	151.	174.	168.	139.	120.	137.
SOUTHWEST	101.	117.	132.	133.	139.	143.	153.	161.	167.	150.	121.	104.	135.
WEST	79.	96.	116.	129.	144.	152.	158.	155.	146.	120.	93.	78.	122.
NORTHWEST	64.	77.	93.	110.	127.	137.	140.	131.	116.	94.	75.	64.	102.
NORTH	63.	73.	82.	92.	106.	116.	118.	110.	103.	89.	74.	63.	91.
NORTHEAST	64.	77.	93.	110.	127.	137.	140.	131.	116.	94.	75.	64.	102.
EAST	79.	96.	116.	129.	144.	152.	158.	155.	146.	120.	93.	78.	122.
SOUTHEAST	101.	117.	132.	133.	139.	143.	153.	161.	167.	150.	121.	104.	135.
HORIZ.	97.	124.	158.	180.	208.	222.	226.	217.	197.	154.	113.	94.	166.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	172.	193.	204.	176.	163.	162.	177.	207.	248.	249.	206.	178.	195.
SOUTHWEST	145.	170.	193.	190.	192.	195.	207.	223.	235.	217.	173.	149.	191.
WEST	104.	132.	164.	182.	200.	211.	217.	214.	200.	163.	122.	102.	168.
NORTHWEST	78.	98.	122.	147.	171.	184.	185.	171.	147.	116.	89.	76.	132.
NORTH	76.	90.	102.	116.	134.	146.	146.	133.	123.	106.	87.	75.	111.
NORTHEAST	78.	98.	122.	147.	171.	184.	185.	171.	147.	116.	89.	76.	132.
EAST	104.	132.	164.	182.	200.	211.	217.	214.	200.	163.	122.	102.	168.
SOUTHEAST	145.	170.	193.	190.	192.	195.	207.	223.	235.	217.	173.	149.	191.
HORIZ.	137.	182.	240.	275.	313.	334.	337.	322.	289.	225.	159.	131.	245.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	72.	85.	94.	92.	96.	100.	107.	113.	119.	108.	86.	73.	96.
SOUTHWEST	66.	79.	92.	97.	105.	112.	117.	118.	115.	100.	79.	67.	96.
WEST	57.	70.	84.	95.	108.	117.	120.	115.	105.	86.	68.	57.	90.
NORTHWEST	51.	61.	72.	84.	98.	108.	110.	102.	90.	75.	60.	52.	80.
NORTH	51.	59.	66.	74.	86.	95.	96.	90.	84.	72.	60.	51.	74.
NORTHEAST	51.	61.	72.	84.	98.	108.	110.	102.	90.	75.	60.	52.	80.
EAST	57.	70.	84.	95.	108.	117.	120.	115.	105.	86.	68.	57.	90.
SOUTHEAST	66.	79.	92.	97.	105.	112.	117.	118.	115.	100.	79.	67.	96.
HORIZ.	64.	82.	105.	123.	146.	160.	161.	149.	131.	102.	76.	63.	114.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	95.	113.	128.	120.	120.	123.	132.	144.	157.	145.	114.	96.	124.
SOUTHWEST	84.	103.	122.	128.	137.	143.	150.	153.	150.	130.	100.	85.	124.
WEST	67.	86.	108.	124.	142.	153.	156.	148.	132.	106.	79.	66.	114.
NORTHWEST	57.	70.	86.	105.	124.	137.	137.	124.	106.	84.	66.	56.	96.
NORTH	56.	67.	77.	87.	102.	114.	113.	103.	94.	80.	65.	56.	85.
NORTHEAST	57.	70.	86.	105.	124.	137.	137.	124.	106.	84.	66.	56.	96.
EAST	67.	86.	108.	124.	142.	153.	156.	148.	132.	106.	79.	66.	114.
SOUTHEAST	84.	103.	122.	128.	137.	143.	150.	153.	150.	130.	100.	85.	124.
HORIZ.	81.	109.	146.	176.	209.	228.	227.	208.	177.	133.	95.	78.	156.

LOCATION DODGE CITY, KANSAS LATITUDE 37 DEGREES 46 MINUTES

MONTH 1 HO 1552. TOD 34. TOT 30. KT .639 KD .164

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	83.	156.	203.	231.	240.	231.	203.	156.	83.	0.	0.	0.	0.	1585.	158.	259.	81.	123.
SOUTHWEST	0.	0.	0.	0.	10.	22.	77.	133.	180.	214.	227.	211.	137.	0.	0.	0.	0.	1211.	129.	206.	69.	101.
WEST	0.	0.	0.	0.	10.	21.	29.	35.	37.	93.	136.	154.	117.	0.	0.	0.	0.	631.	83.	123.	51.	67.
NORTHWEST	0.	0.	0.	0.	10.	21.	29.	35.	37.	35.	29.	21.	34.	0.	0.	0.	0.	250.	53.	69.	38.	45.
NORTH	0.	0.	0.	0.	10.	21.	29.	35.	37.	35.	29.	21.	10.	0.	0.	0.	0.	226.	51.	66.	38.	43.
NORTHEAST	0.	0.	0.	0.	34.	21.	29.	35.	37.	35.	29.	21.	10.	0.	0.	0.	0.	250.	53.	69.	38.	45.
EAST	0.	0.	0.	0.	117.	154.	136.	93.	37.	35.	29.	21.	10.	0.	0.	0.	0.	631.	83.	123.	51.	67.
SOUTHEAST	0.	0.	0.	0.	137.	211.	227.	214.	180.	133.	77.	22.	10.	0.	0.	0.	0.	1211.	129.	206.	69.	101.
HORIZ.	0.	0.	0.	0.	34.	87.	131.	159.	169.	159.	131.	87.	34.	0.	0.	0.	0.	992.	111.	175.	62.	88.

MONTH 2 HO 2105. TOD 39. TOT 35. KT .598 KD .174

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	20.	86.	136.	172.	194.	202.	194.	172.	136.	86.	20.	0.	0.	0.	1417.	139.	220.	80.	118.
SOUTHWEST	0.	0.	0.	5.	17.	29.	63.	113.	156.	187.	202.	196.	159.	51.	0.	0.	0.	1178.	122.	190.	73.	104.
WEST	0.	0.	0.	5.	17.	29.	38.	43.	45.	96.	137.	159.	149.	55.	0.	0.	0.	773.	93.	138.	60.	80.
NORTHWEST	0.	0.	0.	5.	17.	29.	38.	43.	45.	43.	38.	46.	62.	29.	0.	0.	0.	395.	67.	89.	48.	58.
NORTH	0.	0.	0.	5.	17.	29.	38.	43.	45.	43.	38.	29.	17.	5.	0.	0.	0.	310.	61.	78.	45.	53.
NORTHEAST	0.	0.	0.	29.	62.	46.	38.	43.	45.	43.	38.	29.	17.	5.	0.	0.	0.	395.	67.	89.	48.	58.
EAST	0.	0.	0.	55.	149.	159.	137.	96.	45.	43.	38.	29.	17.	5.	0.	0.	0.	773.	93.	138.	60.	80.
SOUTHEAST	0.	0.	0.	51.	159.	196.	202.	187.	156.	113.	63.	29.	17.	5.	0.	0.	0.	1178.	122.	190.	73.	104.
HORIZ.	0.	0.	0.	12.	65.	117.	157.	183.	192.	183.	157.	117.	65.	12.	0.	0.	0.	1259.	128.	200.	75.	108.

MONTH 3 HO 2704. TOD 46. TOT 43. KT .606 KD .173

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	31.	77.	120.	153.	174.	181.	174.	153.	120.	77.	31.	0.	0.	0.	1290.	129.	196.	84.	118.
SOUTHWEST	0.	0.	0.	12.	25.	37.	49.	100.	143.	176.	193.	192.	168.	108.	0.	0.	0.	1205.	124.	186.	81.	113.
WEST	0.	0.	0.	12.	25.	37.	46.	51.	53.	105.	148.	174.	175.	129.	0.	0.	0.	955.	108.	157.	73.	98.
NORTHWEST	0.	0.	0.	12.	25.	37.	46.	51.	53.	51.	46.	75.	94.	81.	0.	0.	0.	572.	83.	113.	61.	76.
NORTH	0.	0.	0.	12.	25.	37.	46.	51.	53.	51.	46.	37.	25.	12.	0.	0.	0.	396.	72.	92.	55.	66.
NORTHEAST	0.	0.	0.	81.	94.	75.	46.	51.	53.	51.	46.	37.	25.	12.	0.	0.	0.	572.	83.	113.	61.	76.
EAST	0.	0.	0.	129.	175.	174.	148.	105.	53.	51.	46.	37.	25.	12.	0.	0.	0.	955.	108.	157.	73.	98.
SOUTHEAST	0.	0.	0.	108.	168.	192.	193.	176.	143.	100.	49.	37.	25.	12.	0.	0.	0.	1205.	124.	186.	81.	113.
HORIZ.	0.	0.	0.	41.	100.	152.	193.	219.	228.	219.	193.	152.	100.	41.	0.	0.	0.	1637.	151.	237.	95.	138.

LOCATION DODGE CITY, KANSAS LATITUDE 37 DEGREES 46 MINUTES

MONTH 4 HO 3278. TOD 58. TOT 54. KT .618 KD .170

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	6.	19.	57.	95.	126.	146.	153.	146.	126.	95.	57.	19.	6.	0.	0.	1054.	119.	169.	88.	115.
SOUTHWEST	0.	0.	6.	19.	32.	43.	52.	82.	125.	158.	177.	178.	160.	119.	43.	0.	0.	1195.	127.	184.	92.	123.
WEST	0.	0.	6.	19.	32.	43.	52.	57.	59.	111.	154.	182.	188.	162.	68.	0.	0.	1136.	124.	177.	90.	120.
NORTHWEST	0.	0.	6.	19.	32.	43.	52.	57.	59.	57.	72.	104.	125.	121.	57.	0.	0.	807.	105.	143.	80.	101.
NORTH	0.	0.	17.	21.	32.	43.	52.	57.	59.	57.	52.	43.	32.	21.	17.	0.	0.	504.	87.	111.	70.	83.
NORTHEAST	0.	0.	57.	121.	125.	104.	72.	57.	59.	57.	52.	43.	32.	19.	6.	0.	0.	807.	105.	143.	80.	101.
EAST	0.	0.	68.	162.	188.	182.	154.	111.	59.	57.	52.	43.	32.	19.	6.	0.	0.	1136.	124.	177.	90.	120.
SOUTHEAST	0.	0.	43.	119.	160.	178.	177.	158.	125.	82.	52.	43.	32.	19.	6.	0.	0.	1195.	127.	184.	92.	123.
HORIZ.	0.	0.	17.	73.	133.	185.	225.	251.	259.	251.	225.	185.	133.	73.	17.	0.	0.	2027.	175.	271.	119.	172.

MONTH 5 HO 3630. TOD 67. TOT 63. KT .594 KD .175

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	1.	12.	24.	39.	72.	98.	116.	121.	116.	98.	72.	39.	24.	12.	1.	0.	844.	115.	153.	92.	114.
SOUTHWEST	0.	1.	12.	24.	36.	47.	55.	66.	104.	133.	150.	152.	138.	107.	57.	1.	0.	1082.	129.	177.	100.	128.
WEST	0.	1.	12.	24.	36.	47.	55.	60.	62.	108.	146.	170.	177.	160.	102.	1.	0.	1161.	134.	185.	103.	133.
NORTHWEST	0.	1.	12.	24.	36.	47.	55.	60.	62.	60.	88.	117.	134.	133.	94.	1.	0.	925.	120.	161.	95.	119.
NORTH	0.	1.	38.	43.	36.	47.	55.	60.	62.	60.	55.	47.	36.	43.	38.	1.	0.	622.	103.	130.	84.	101.
NORTHEAST	0.	1.	94.	133.	134.	117.	88.	60.	62.	60.	55.	47.	36.	24.	12.	1.	0.	925.	120.	161.	95.	119.
EAST	0.	1.	102.	160.	177.	170.	146.	108.	62.	60.	55.	47.	36.	24.	12.	1.	0.	1161.	134.	185.	103.	133.
SOUTHEAST	0.	1.	57.	107.	138.	152.	150.	133.	104.	66.	55.	47.	36.	24.	12.	1.	0.	1082.	129.	177.	100.	128.
HORIZ.	0.	1.	36.	91.	145.	192.	229.	252.	260.	252.	229.	192.	145.	91.	36.	1.	0.	2156.	191.	287.	137.	193.

MONTH 6 HO 3754. TOD 77. TOT 73. KT .655 KD .160

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	2.	13.	25.	37.	66.	95.	114.	120.	114.	95.	66.	37.	25.	13.	2.	0.	825.	124.	159.	102.	123.
SOUTHWEST	0.	2.	13.	25.	37.	48.	56.	61.	103.	137.	157.	161.	148.	116.	66.	5.	0.	1135.	141.	190.	112.	142.
WEST	0.	2.	13.	25.	37.	48.	56.	61.	62.	116.	160.	190.	200.	184.	127.	9.	0.	1291.	150.	205.	118.	151.
NORTHWEST	0.	2.	13.	25.	37.	48.	56.	61.	62.	62.	102.	136.	158.	159.	121.	9.	0.	1051.	136.	181.	109.	137.
NORTH	0.	6.	52.	56.	44.	48.	56.	61.	62.	61.	56.	48.	44.	56.	52.	6.	0.	706.	117.	147.	98.	116.
NORTHEAST	0.	9.	121.	159.	158.	136.	102.	62.	62.	61.	56.	48.	37.	25.	13.	2.	0.	1051.	136.	181.	109.	137.
EAST	0.	9.	127.	184.	200.	190.	160.	116.	62.	61.	56.	48.	37.	25.	13.	2.	0.	1291.	150.	205.	118.	151.
SOUTHEAST	0.	5.	66.	116.	148.	161.	157.	137.	103.	61.	56.	48.	37.	25.	13.	2.	0.	1135.	141.	190.	112.	142.
HORIZ.	0.	4.	47.	107.	166.	218.	258.	283.	292.	283.	258.	218.	166.	107.	47.	4.	0.	2458.	215.	321.	158.	222.

LOCATION DODGE CITY, KANSAS LATITUDE 37 DEGREES 46 MINUTES

MONTH 7 HO 3626. TOD 84. TOT 80. KT .652 KD .161

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	1.	11.	24.	38.	75.	105.	124.	131.	124.	105.	75.	38.	24.	11.	1.	0.	886.	135.	174.	110.	133.
SOUTHWEST	0.	1.	11.	24.	36.	47.	55.	66.	111.	145.	165.	169.	154.	119.	62.	1.	0.	1164.	151.	202.	120.	150.
WEST	0.	1.	11.	24.	36.	47.	55.	60.	62.	116.	161.	191.	200.	180.	114.	1.	0.	1257.	156.	212.	123.	156.
NORTHWEST	0.	1.	11.	24.	36.	47.	55.	60.	62.	60.	94.	129.	150.	150.	105.	1.	0.	984.	141.	184.	114.	139.
NORTH	0.	1.	41.	46.	36.	47.	55.	60.	62.	60.	55.	47.	36.	46.	41.	1.	0.	632.	120.	148.	102.	118.
NORTHEAST	0.	1.	105.	150.	150.	129.	94.	60.	62.	60.	55.	47.	36.	24.	11.	1.	0.	984.	141.	184.	114.	139.
EAST	0.	1.	114.	180.	200.	191.	161.	116.	62.	60.	55.	47.	36.	24.	11.	1.	0.	1257.	156.	212.	123.	156.
SOUTHEAST	0.	1.	62.	119.	154.	169.	165.	145.	111.	66.	55.	47.	36.	24.	11.	1.	0.	1164.	151.	202.	120.	150.
HORIZ.	0.	2.	38.	98.	158.	211.	252.	278.	287.	278.	252.	211.	158.	98.	38.	2.	0.	2364.	220.	325.	161.	223.

MONTH 8 HO 3254. TOD 82. TOT 79. KT .663 KD .158

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	59.	101.	134.	156.	163.	156.	134.	101.	59.	19.	6.	0.	0.	1112.	151.	204.	117.	146.
SOUTHWEST	0.	0.	6.	19.	32.	43.	51.	84.	133.	170.	191.	193.	173.	127.	42.	0.	0.	1262.	160.	220.	122.	155.
WEST	0.	0.	6.	19.	32.	43.	51.	57.	59.	117.	166.	197.	204.	173.	67.	0.	0.	1191.	156.	213.	119.	151.
NORTHWEST	0.	0.	6.	19.	32.	43.	51.	57.	59.	57.	74.	111.	134.	129.	57.	0.	0.	828.	134.	173.	107.	129.
NORTH	0.	0.	16.	20.	32.	43.	51.	57.	59.	57.	51.	43.	32.	20.	16.	0.	0.	498.	113.	137.	96.	109.
NORTHEAST	0.	0.	57.	129.	134.	111.	74.	57.	59.	57.	51.	43.	32.	19.	6.	0.	0.	828.	134.	173.	107.	129.
EAST	0.	0.	67.	173.	204.	197.	166.	117.	59.	57.	51.	43.	32.	19.	6.	0.	0.	1191.	156.	213.	119.	151.
SOUTHEAST	0.	0.	42.	127.	173.	193.	191.	170.	133.	84.	51.	43.	32.	19.	6.	0.	0.	1262.	160.	220.	122.	155.
HORIZ.	0.	0.	17.	76.	140.	197.	241.	269.	279.	269.	241.	197.	140.	76.	17.	0.	0.	2158.	216.	318.	152.	209.

MONTH 9 HO 2690. TOD 74. TOT 70. KT .654 KD .161

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	31.	82.	129.	166.	189.	197.	189.	166.	129.	82.	31.	0.	0.	0.	1390.	168.	241.	117.	154.
SOUTHWEST	0.	0.	0.	12.	25.	36.	49.	105.	155.	192.	212.	211.	183.	113.	0.	0.	0.	1292.	162.	229.	114.	148.
WEST	0.	0.	0.	12.	25.	36.	45.	51.	53.	112.	161.	190.	191.	136.	0.	0.	0.	1012.	143.	195.	105.	131.
NORTHWEST	0.	0.	0.	12.	25.	36.	45.	51.	53.	51.	45.	80.	102.	86.	0.	0.	0.	586.	114.	144.	90.	105.
NORTH	0.	0.	0.	12.	25.	36.	45.	51.	53.	51.	45.	36.	25.	12.	0.	0.	0.	391.	100.	121.	83.	94.
NORTHEAST	0.	0.	0.	86.	102.	80.	45.	51.	53.	51.	45.	36.	25.	12.	0.	0.	0.	586.	114.	144.	90.	105.
EAST	0.	0.	0.	136.	191.	190.	161.	112.	53.	51.	45.	36.	25.	12.	0.	0.	0.	1012.	143.	195.	105.	131.
SOUTHEAST	0.	0.	0.	113.	183.	211.	212.	192.	155.	105.	49.	36.	25.	12.	0.	0.	0.	1292.	162.	229.	11 .	148.
HORIZ.	0.	0.	0.	42.	105.	163.	208.	237.	246.	237.	208.	163.	105.	42.	0.	0.	0.	1758.	193.	285.	130.	176.

LOCATION DODGE CITY, KANSAS LATITUDE 37 DEGREES 46 MINUTES

MONTH 10 HO 2071. TOD 62. TOT 58. KT .650 KD .162

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	19.	94.	150.	192.	217.	226.	217.	192.	150.	94.	19.	0.	0.	0.	1570.	173.	264.	108.	149.
SOUTHWEST	0.	0.	0.	4.	17.	28.	66.	123.	173.	209.	227.	219.	174.	47.	0.	0.	0.	1288.	153.	227.	99.	133.
WEST	0.	0.	0.	4.	17.	28.	37.	43.	45.	104.	151.	176.	163.	50.	0.	0.	0.	817.	120.	167.	84.	105.
NORTHWEST	0.	0.	0.	4.	17.	28.	37.	43.	45.	43.	37.	46.	65.	26.	0.	0.	0.	391.	89.	112.	70.	81.
NORTH	0.	0.	0.	4.	17.	28.	37.	43.	45.	43.	37.	28.	17.	4.	0.	0.	0.	302.	83.	101.	67.	75.
NORTHEAST	0.	0.	0.	26.	65.	46.	37.	43.	45.	43.	37.	28.	17.	4.	0.	0.	0.	391.	89.	112.	70.	81.
EAST	0.	0.	0.	50.	163.	176.	151.	104.	45.	43.	37.	28.	17.	4.	0.	0.	0.	817.	120.	167.	84.	105.
SOUTHEAST	0.	0.	0.	47.	174.	219.	227.	209.	173.	123.	66.	28.	17.	4.	0.	0.	0.	1288.	153.	227.	99.	133.
HORIZ.	0.	0.	0.	10.	67.	124.	169.	198.	208.	198.	169.	124.	67.	10.	0.	0.	0.	1345.	157.	235.	101.	136.

MONTH 11 HO 1540. TOD 46. TOT 43. KT .625 KD .168

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	78.	150.	196.	224.	233.	224.	196.	150.	78.	0.	0.	0.	0.	1528.	166.	264.	92.	132.
SOUTHWEST	0.	0.	0.	0.	9.	22.	75.	129.	175.	208.	220.	202.	128.	0.	0.	0.	0.	1169.	138.	213.	80.	111.
WEST	0.	0.	0.	0.	9.	20.	29.	35.	37.	90.	131.	148.	109.	0.	0.	0.	0.	609.	94.	133.	62.	78.
NORTHWEST	0.	0.	0.	0.	9.	20.	29.	35.	37.	35.	29.	20.	32.	0.	0.	0.	0.	247.	66.	82.	51.	57.
NORTH	0.	0.	0.	0.	9.	20.	29.	35.	37.	35.	29.	20.	9.	0.	0.	0.	0.	225.	64.	79.	50.	56.
NORTHEAST	0.	0.	0.	0.	32.	20.	29.	35.	37.	35.	29.	20.	9.	0.	0.	0.	0.	247.	66.	82.	51.	57.
EAST	0.	0.	0.	0.	109.	148.	131.	90.	37.	35.	29.	20.	9.	0.	0.	0.	0.	609.	94.	133.	62.	78.
SOUTHEAST	0.	0.	0.	0.	128.	202.	220.	208.	175.	129.	75.	22.	9.	0.	0.	0.	0.	1169.	138.	213.	80.	111.
HORIZ.	0.	0.	0.	0.	32.	85.	128.	155.	164.	155.	128.	85.	32.	0.	0.	0.	0.	963.	122.	184.	74.	99.

MONTH 12 HO 1338. TOD 37. TOT 33. KT .652 KD .161

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	67.	159.	213.	244.	254.	244.	213.	159.	67.	0.	0.	0.	0.	1620.	170.	278.	85.	128.
SOUTHWEST	0.	0.	0.	0.	6.	26.	82.	140.	189.	223.	234.	209.	107.	0.	0.	0.	0.	1217.	137.	218.	72.	104.
WEST	0.	0.	0.	0.	6.	17.	26.	31.	33.	90.	133.	146.	88.	0.	0.	0.	0.	572.	84.	122.	52.	67.
NORTHWEST	0.	0.	0.	0.	6.	17.	26.	31.	33.	31.	26.	17.	21.	0.	0.	0.	0.	210.	54.	68.	40.	46.
NORTH	0.	0.	0.	0.	6.	17.	26.	31.	33.	31.	26.	17.	6.	0.	0.	0.	0.	195.	53.	66.	40.	45.
NORTHEAST	0.	0.	0.	0.	21.	17.	26.	31.	33.	31.	26.	17.	6.	0.	0.	0.	0.	210.	54.	68.	40.	46.
EAST	0.	0.	0.	0.	88.	146.	133.	90.	33.	31.	26.	17.	6.	0.	0.	0.	0.	572.	84.	122.	52.	67.
SOUTHEAST	0.	0.	0.	0.	107.	209.	234.	223.	189.	140.	82.	26.	6.	0.	0.	0.	0.	1217.	137.	218.	72.	104.
HORIZ.	0.	0.	0.	0.	21.	73.	118.	147.	156.	147.	118.	73.	21.	0.	0.	0.	0.	874.	109.	167.	61.	84.

LOCATION DODGE CITY, KANSAS LATITUDE 37 DEGREES 46 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	158.	139.	129.	119.	115.	124.	135.	151.	168.	173.	166.	170.	146.
SOUTHWEST	129.	122.	124.	127.	129.	141.	151.	160.	162.	153.	138.	137.	139.
WEST	83.	93.	108.	124.	134.	150.	156.	156.	143.	120.	94.	84.	120.
NORTHWEST	53.	67.	83.	105.	120.	136.	141.	134.	114.	89.	66.	54.	97.
NORTH	51.	61.	72.	87.	103.	117.	120.	113.	100.	83.	64.	53.	85.
NORTHEAST	53.	67.	83.	105.	120.	136.	141.	134.	114.	89.	66.	54.	97.
EAST	83.	93.	108.	124.	134.	150.	156.	156.	143.	120.	94.	84.	120.
SOUTHEAST	129.	122.	124.	127.	129.	141.	151.	160.	162.	153.	138.	137.	139.
HORIZ.	111.	128.	151.	175.	191.	215.	220.	216.	193.	157.	122.	109.	166.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	259.	220.	196.	169.	153.	159.	174.	204.	241.	264.	264.	278.	215.
SOUTHWEST	206.	190.	186.	184.	177.	190.	202.	220.	229.	227.	213.	218.	204.
WEST	123.	138.	157.	177.	185.	205.	212.	213.	195.	167.	133.	122.	169.
NORTHWEST	69.	89.	113.	143.	161.	181.	184.	173.	144.	112.	82.	68.	127.
NORTH	66.	78.	92.	111.	130.	147.	148.	137.	121.	101.	79.	66.	106.
NORTHEAST	69.	89.	113.	143.	161.	181.	184.	173.	144.	112.	82.	68.	127.
EAST	123.	138.	157.	177.	185.	205.	212.	213.	195.	167.	133.	122.	169.
SOUTHEAST	206.	190.	186.	184.	177.	190.	202.	220.	229.	227.	213.	218.	204.
HORIZ.	175.	200.	237.	271.	287.	321.	325.	318.	285.	235.	184.	167.	250.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	81.	80.	84.	88.	92.	102.	110.	117.	117.	108.	92.	85.	96.
SOUTHWEST	69.	73.	81.	92.	100.	112.	120.	122.	114.	99.	80.	72.	95.
WEST	51.	60.	73.	90.	103.	118.	123.	119.	105.	84.	62.	52.	87.
NORTHWEST	38.	48.	61.	80.	95.	109.	114.	107.	90.	70.	51.	40.	75.
NORTH	38.	45.	55.	70.	84.	98.	102.	96.	83.	67.	50.	40.	69.
NORTHEAST	38.	48.	61.	80.	95.	109.	114.	107.	90.	70.	51.	40.	75.
EAST	51.	60.	73.	90.	103.	118.	123.	119.	105.	84.	62.	52.	87.
SOUTHEAST	69.	73.	81.	92.	100.	112.	120.	122.	114.	99.	80.	72.	95.
HORIZ.	62.	75.	95.	119.	137.	158.	161.	152.	130.	101.	74.	61.	110.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	123.	118.	118.	115.	114.	123.	133.	146.	154.	149.	132.	128.	129.
SOUTHWEST	101.	104.	113.	123.	128.	142.	150.	155.	148.	133.	111.	104.	126.
WEST	67.	80.	98.	120.	133.	151.	156.	151.	131.	105.	78.	67.	111.
NORTHWEST	45.	58.	76.	101.	119.	137.	139.	129.	105.	81.	57.	46.	91.
NORTH	43.	53.	66.	83.	101.	116.	118.	109.	94.	75.	56.	45.	80.
NORTHEAST	45.	58.	76.	101.	119.	137.	139.	129.	105.	81.	57.	46.	91.
EAST	67.	80.	98.	120.	133.	151.	156.	151.	131.	105.	78.	67.	111.
SOUTHEAST	101.	104.	113.	123.	128.	142.	150.	155.	148.	133.	111.	104.	126.
HORIZ.	88.	108.	138.	172.	193.	222.	223.	209.	176.	136.	99.	84.	154.

LOCATION EAST LANSING, MICHIGAN LATITUDE 42 DEGREES 44 MINUTES

MONTH 1 HO 1279. TOD 26. TOT 24. KT .350 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	26.	62.	85.	99.	104.	99.	85.	62.	26.	0.	0.	0.	0.	649.	79.	122.	45.	62.
SOUTHWEST	0.	0.	0.	0.	6.	16.	40.	63.	81.	92.	93.	80.	40.	0.	0.	0.	0.	512.	68.	102.	40.	54.
WEST	0.	0.	0.	0.	6.	15.	21.	25.	27.	46.	59.	60.	34.	0.	0.	0.	0.	293.	50.	70.	3 .	41.
NORTHWEST	0.	0.	0.	0.	6.	15.	21.	25.	27.	25.	21.	15.	12.	0.	0.	0.	0.	167.	40.	51.	29.	34.
NORTH	0.	0.	0.	0.	6.	15.	21.	25.	27.	25.	21.	15.	6.	0.	0.	0.	0.	161.	39.	50.	29.	33.
NORTHEAST	0.	0.	0.	0.	12.	15.	21.	25.	27.	25.	21.	15.	6.	0.	0.	0.	0.	167.	40.	51.	29.	34.
EAST	0.	0.	0.	0.	34.	60.	59.	46.	27.	25.	21.	15.	6.	0.	0.	0.	0.	293.	50.	70.	33.	41.
SOUTHEAST	0.	0.	0.	0.	40.	80.	93.	92.	81.	63.	40.	16.	6.	0.	0.	0.	0.	512.	68.	102.	40.	54.
HORIZ.	0.	0.	0.	0.	13.	39.	60.	73.	78.	73.	60.	39.	13.	0.	0.	0.	0.	449.	63.	93.	38.	50.

MONTH 2 HO 1859. TOD 26. TOT 24. KT .431 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	8.	54.	89.	114.	130.	136.	130.	114.	89.	54.	8.	0.	0.	0.	926.	93.	148.	54.	78.
SOUTHWEST	0.	0.	0.	3.	14.	24.	49.	81.	107.	124.	131.	123.	93.	18.	0.	0.	0.	766.	82.	127.	49.	69.
WEST	0.	0.	0.	3.	14.	24.	31.	36.	37.	67.	89.	98.	87.	19.	0.	0.	0.	504.	63.	92.	40.	54.
NORTHWEST	0.	0.	0.	3.	14.	24.	31.	36.	37.	36.	31.	30.	37.	11.	0.	0.	0.	290.	47.	64.	33.	41.
NORTH	0.	0.	0.	3.	14.	24.	31.	36.	37.	36.	31.	24.	14.	3.	0.	0.	0.	252.	45.	59.	32.	39.
NORTHEAST	0.	0.	0.	11.	37.	30.	31.	36.	37.	36.	31.	24.	14.	3.	0.	0.	0.	290.	47.	64.	33.	41.
EAST	0.	0.	0.	19.	87.	98.	89.	67.	37.	36.	31.	24.	14.	3.	0.	0.	0.	504.	63.	92.	40.	54.
SOUTHEAST	0.	0.	0.	18.	93.	123.	131.	124.	107.	81.	49.	24.	14.	3.	0.	0.	0.	766.	82.	127.	49.	69.
HORIZ.	0.	0.	0.	6.	40.	74.	101.	118.	123.	118.	101.	74.	40.	6.	0.	0.	0.	801.	84.	131.	50.	71.

MONTH 3 HO 2516. TOD 36. TOT 33. KT .456 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	23.	58.	90.	114.	130.	135.	130.	114.	90.	58.	23.	0.	0.	0.	966.	97.	148.	64.	89.
SOUTHWEST	0.	0.	0.	11.	22.	32.	47.	81.	109.	129.	137.	133.	113.	70.	0.	0.	0.	885.	92.	139.	62.	85.
WEST	0.	0.	0.	11.	22.	32.	40.	45.	46.	78.	104.	118.	115.	81.	0.	0.	0.	693.	80.	116.	55.	74.
NORTHWEST	0.	0.	0.	11.	22.	32.	40.	45.	46.	45.	40.	52.	62.	52.	0.	0.	0.	448.	64.	88.	48.	59.
NORTH	0.	0.	0.	11.	22.	32.	40.	45.	46.	45.	40.	32.	22.	11.	0.	0.	0.	347.	58.	76.	44.	53.
NORTHEAST	0.	0.	0.	52.	62.	52.	40.	45.	46.	45.	40.	32.	22.	11.	0.	0.	0.	448.	64.	88.	48.	59.
EAST	0.	0.	0.	81.	115.	118.	104.	78.	46.	45.	40.	32.	22.	11.	0.	0.	0.	693.	80.	116.	55.	74.
SOUTHEAST	0.	0.	0.	70.	113.	133.	137.	129.	109.	81.	47.	32.	22.	11.	0.	0.	0.	885.	92.	139.	62.	85.
HORIZ.	0.	0.	0.	30.	70.	106.	134.	152.	158.	152.	134.	106.	70.	30.	0.	0.	0.	1146.	109.	169.	70.	100.

LOCATION EAST LANSING, MICHIGAN LATITUDE 42 DEGREES 44 MINUTES

MONTH 4 HO 3178. TOD 48. TOT 45. KT .406 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	20.	45.	69.	89.	101.	105.	101.	89.	69.	45.	20.	7.	0.	0.	766.	92.	128.	70.	90.
SOUTHWEST	0.	0.	7.	18.	29.	38.	45.	67.	89.	105.	112.	109.	95.	70.	29.	0.	0.	811.	95.	132.	71.	93.
WEST	0.	0.	7.	18.	29.	38.	45.	49.	50.	76.	95.	107.	106.	90.	43.	0.	0.	752.	91.	126.	69.	89.
NORTHWEST	0.	0.	7.	18.	29.	38.	45.	49.	50.	49.	49.	64.	72.	68.	36.	0.	0.	574.	81.	108.	64.	79.
NORTH	0.	0.	13.	18.	29.	38.	45.	49.	50.	49.	45.	38.	29.	18.	13.	0.	0.	432.	73.	93.	59.	70.
NORTHEAST	0.	0.	36.	68.	72.	64.	49.	49.	50.	49.	45.	38.	29.	18.	7.	0.	0.	574.	81.	108.	64.	79.
EAST	0.	0.	43.	90.	106.	107.	95.	76.	50.	49.	45.	38.	29.	18.	7.	0.	0.	752.	91.	126.	69.	89.
SOUTHEAST	0.	0.	29.	70.	95.	109.	112.	105.	89.	67.	45.	38.	29.	18.	7.	0.	0.	811.	95.	132.	71.	93.
HORIZ.	0.	0.	16.	51.	86.	117.	140.	155.	160.	155.	140.	117.	86.	51.	16.	0.	0.	1291.	122.	182.	87.	121.

MONTH 5 HO 3608. TOD 60. TOT 56. KT .489 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	3.	13.	25.	43.	71.	93.	108.	113.	108.	93.	71.	43.	25.	13.	3.	0.	824.	106.	141.	85.	106.
SOUTHWEST	0.	3.	13.	25.	35.	45.	52.	68.	97.	117.	127.	126.	113.	88.	50.	5.	0.	964.	114.	155.	89.	115.
WEST	0.	3.	13.	25.	35.	45.	52.	56.	58.	91.	117.	134.	138.	124.	85.	8.	0.	983.	115.	157.	90.	116.
NORTHWEST	0.	3.	13.	25.	35.	45.	52.	56.	58.	56.	69.	89.	102.	102.	78.	8.	0.	790.	104.	138.	84.	104.
NORTH	0.	5.	33.	34.	35.	45.	52.	56.	58.	56.	52.	45.	35.	34.	33.	5.	0.	578.	92.	117.	76.	91.
NORTHEAST	0.	8.	78.	102.	102.	89.	69.	56.	58.	56.	52.	45.	35.	25.	13.	3.	0.	790.	104.	138.	84.	104.
EAST	0.	8.	85.	124.	138.	134.	117.	91.	58.	56.	52.	45.	35.	25.	13.	3.	0.	983.	115.	157.	90.	116.
SOUTHEAST	0.	5.	50.	88.	113.	126.	127.	117.	97.	68.	52.	45.	35.	25.	13.	3.	0.	964.	114.	155.	89.	115.
HORIZ.	0.	5.	37.	79.	120.	155.	183.	200.	206.	200.	183.	155.	120.	79.	37.	5.	0.	1764.	159.	234.	117.	163.

MONTH 6 HO 3765. TOD 70. TOT 67. KT .508 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	5.	15.	27.	40.	68.	90.	105.	110.	105.	90.	68.	40.	27.	15.	5.	0.	808.	114.	148.	95.	116.
SOUTHWEST	0.	5.	15.	27.	37.	46.	54.	66.	95.	116.	128.	127.	115.	90.	54.	12.	0.	986.	124.	165.	101.	127.
WEST	0.	5.	15.	27.	37.	46.	54.	58.	60.	94.	122.	139.	144.	132.	96.	24.	0.	1053.	127.	171.	103.	131.
NORTHWEST	0.	5.	15.	27.	37.	46.	54.	58.	60.	58.	76.	97.	111.	112.	91.	26.	0.	872.	118.	154.	97.	120.
NORTH	0.	15.	41.	42.	37.	46.	54.	58.	60.	58.	54.	46.	37.	42.	41.	15.	0.	646.	105.	132.	90.	106.
NORTHEAST	0.	26.	91.	112.	111.	97.	76.	58.	60.	58.	54.	46.	37.	27.	15.	5.	0.	872.	118.	154.	97.	120.
EAST	0.	24.	96.	132.	144.	139.	122.	94.	60.	58.	54.	46.	37.	27.	15.	5.	0.	1053.	127.	171.	103.	131.
SOUTHEAST	0.	12.	54.	90.	115.	127.	128.	116.	95.	66.	54.	46.	37.	27.	15.	5.	0.	986.	124.	165.	101.	127.
HORIZ.	0.	10.	45.	88.	130.	167.	195.	213.	219.	213.	195.	167.	130.	88.	45.	10.	0.	1913.	174.	253.	133.	183.

LOCATION EAST LANSING, MICHIGAN LATITUDE 42 DEGREES 44 MINUTES

MONTH 7 HO 3606. TOD 74. TOT 71. KT .514 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	3.	13.	25.	44.	73.	97.	112.	118.	112.	97.	73.	44.	25.	13.	3.	0.	853.	122.	159.	100.	123.
SOUTHWEST	0.	3.	13.	25.	36.	45.	52.	70.	100.	123.	134.	134.	120.	93.	52.	5.	0.	1004.	131.	174.	105.	132.
WEST	0.	3.	13.	25.	36.	45.	52.	57.	59.	95.	124.	142.	146.	132.	89.	8.	0.	1025.	132.	176.	106.	133.
NORTHWEST	0.	3.	13.	25.	36.	45.	52.	57.	59.	57.	71.	94.	108.	108.	82.	8.	0.	818.	120.	155.	99.	121.
NORTH	0.	5.	34.	36.	36.	45.	52.	57.	59.	57.	52.	45.	36.	36.	34.	5.	0.	589.	107.	133.	91.	107.
NORTHEAST	0.	8.	82.	108.	108.	94.	71.	57.	59.	57.	52.	45.	36.	25.	13.	3.	0.	818.	120.	155.	99.	121.
EAST	0.	8.	89.	132.	146.	142.	124.	95.	59.	57.	52.	45.	36.	25.	13.	3.	0.	1025.	132.	176.	106.	133.
SOUTHEAST	0.	5.	52.	93.	120.	134.	134.	123.	100.	70.	52.	45.	36.	25.	13.	3.	0.	1004.	131.	174.	105.	132.
HORIZ.	0.	5.	38.	82.	125.	163.	193.	211.	218.	211.	193.	163.	125.	82.	38.	5.	0.	1854.	178.	258.	134.	183.

MONTH 8 HO 3156. TOD 72. TOT 69. KT .498 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	8.	21.	53.	84.	109.	125.	131.	125.	109.	84.	53.	21.	8.	0.	0.	931.	129.	172.	101.	125.
SOUTHWEST	0.	0.	8.	19.	31.	41.	48.	78.	108.	130.	141.	139.	122.	89.	34.	0.	0.	987.	132.	178.	103.	129.
WEST	0.	0.	8.	19.	31.	41.	48.	53.	55.	90.	119.	136.	137.	115.	52.	0.	0.	904.	127.	169.	100.	124.
NORTHWEST	0.	0.	8.	19.	31.	41.	48.	53.	55.	53.	55.	77.	90.	86.	44.	0.	0.	660.	112.	143.	92.	109.
NORTH	0.	0.	15.	19.	31.	41.	48.	53.	55.	53.	48.	41.	31.	19.	15.	0.	0.	468.	101.	123.	85.	97.
NORTHEAST	0.	0.	44.	86.	90.	77.	55.	53.	55.	53.	48.	41.	31.	19.	8.	0.	0.	660.	112.	143.	92.	109.
EAST	0.	0.	52.	115.	137.	136.	119.	90.	55.	53.	48.	41.	31.	19.	8.	0.	0.	904.	127.	169.	100.	124.
SOUTHEAST	0.	0.	34.	89.	122.	139.	141.	130.	108.	78.	48.	41.	31.	19.	8.	0.	0.	987.	132.	178.	103.	129.
HORIZ.	0.	0.	18.	60.	104.	142.	172.	191.	198.	191.	172.	142.	104.	60.	18.	0.	0.	1572.	168.	241.	123.	164.

MONTH 9 HO 2506. TOD 65. TOT 62. KT .493 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	24.	62.	97.	124.	141.	147.	141.	124.	97.	62.	24.	0.	0.	0.	1045.	136.	190.	98.	125.
SOUTHWEST	0.	0.	0.	11.	23.	33.	49.	87.	118.	140.	150.	145.	122.	73.	0.	0.	0.	954.	130.	180.	94.	119.
WEST	0.	0.	0.	11.	23.	33.	41.	46.	48.	84.	113.	128.	125.	86.	0.	0.	0.	738.	115.	154.	87.	106.
NORTHWEST	0.	0.	0.	11.	23.	33.	41.	46.	48.	46.	41.	56.	67.	55.	0.	0.	0.	468.	97.	121.	78.	90.
NORTH	0.	0.	0.	11.	23.	33.	41.	46.	48.	46.	41.	33.	23.	11.	0.	0.	0.	357.	89.	108.	74.	83.
NORTHEAST	0.	0.	0.	55.	67.	56.	41.	46.	48.	46.	41.	33.	23.	11.	0.	0.	0.	468.	97.	121.	78.	90.
EAST	0.	0.	0.	86.	125.	128.	113.	84.	48.	46.	41.	33.	23.	11.	0.	0.	0.	738.	115.	154.	87.	106.
SOUTHEAST	0.	0.	0.	73.	122.	145.	150.	140.	118.	87.	49.	33.	23.	11.	0.	0.	0.	954.	130.	180.	94.	119.
HORIZ.	0.	0.	1.	31.	75.	114.	145.	165.	171.	165.	145.	114.	75.	31.	1.	0.	0.	1234.	149.	213.	104.	136.

LOCATION EAST LANSING, MICHIGAN LATITUDE 42 DEGREES 44 MINUTES

MONTH 10 HO 1825. TOD 53. TOT 50. KT .456 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	7.	56.	94.	123.	140.	146.	140.	123.	94.	56.	7.	0.	0.	0.	986.	125.	183.	82.	108.
SOUTHWEST	0.	0.	0.	3.	14.	24.	51.	86.	114.	134.	140.	131.	97.	14.	0.	0.	0.	808.	112.	160.	76.	98.
WEST	0.	0.	0.	3.	14.	24.	31.	36.	38.	70.	94.	104.	90.	15.	0.	0.	0.	518.	91.	122.	67.	81.
NORTHWEST	0.	0.	0.	3.	14.	24.	31.	36.	38.	36.	31.	31.	38.	9.	0.	0.	0.	290.	74.	92.	60.	67.
NORTH	0.	0.	0.	3.	14.	24.	31.	36.	38.	36.	31.	24.	14.	3.	0.	0.	0.	253.	72.	87.	59.	65.
NORTHEAST	0.	0.	0.	9.	38.	31.	31.	36.	38.	36.	31.	24.	14.	3.	0.	0.	0.	290.	74.	92.	60.	67.
EAST	0.	0.	0.	15.	90.	104.	94.	70.	38.	36.	31.	24.	14.	3.	0.	0.	0.	518.	91.	122.	67.	81.
SOUTHEAST	0.	0.	0.	14.	97.	131.	140.	134.	114.	86.	51.	24.	14.	3.	0.	0.	0.	808.	112.	160.	76.	98.
HORIZ.	0.	0.	0.	6.	40.	76.	105.	123.	130.	123.	105.	76.	40.	6.	0.	0.	0.	832.	114.	163.	77.	99.

MONTH 11 HO 1268. TOD 40. TOT 38. KT .333 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	23.	57.	79.	92.	96.	92.	79.	57.	23.	0.	0.	0.	0.	595.	89.	129.	57.	73.
SOUTHWEST	0.	0.	0.	0.	6.	16.	38.	59.	75.	85.	86.	73.	34.	0.	0.	0.	0.	472.	79.	110.	53.	65.
WEST	0.	0.	0.	0.	6.	14.	21.	25.	26.	43.	55.	55.	30.	0.	0.	0.	0.	274.	62.	81.	47.	54.
NORTHWEST	0.	0.	0.	0.	6.	14.	21.	25.	26.	25.	21.	14.	11.	0.	0.	0.	0.	162.	53.	64.	43.	47.
NORTH	0.	0.	0.	0.	6.	14.	21.	25.	26.	25.	21.	14.	6.	0.	0.	0.	0.	157.	53.	63.	43.	47.
NORTHEAST	0.	0.	0.	0.	11.	14.	21.	25.	26.	25.	21.	14.	6.	0.	0.	0.	0.	162.	53.	64.	43.	47.
EAST	0.	0.	0.	0.	30.	55.	55.	43.	26.	25.	21.	14.	6.	0.	0.	0.	0.	274.	62.	81.	47.	54.
SOUTHEAST	0.	0.	0.	0.	34.	73.	86.	85.	75.	59.	38.	16.	6.	0.	0.	0.	0.	472.	79.	110.	53.	65.
HORIZ.	0.	0.	0.	0.	13.	37.	56.	69.	74.	69.	56.	37.	13.	0.	0.	0.	0.	423.	75.	103.	51.	63.

MONTH 12 HO 1062. TOD 29. TOT 27. KT .349 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	12.	57.	84.	99.	104.	99.	84.	57.	12.	0.	0.	0.	0.	608.	82.	125.	47.	63.
SOUTHWEST	0.	0.	0.	0.	3.	15.	39.	62.	80.	91.	90.	73.	18.	0.	0.	0.	0.	471.	70.	103.	42.	55.
WEST	0.	0.	0.	0.	3.	12.	18.	22.	24.	42.	54.	52.	15.	0.	0.	0.	0.	243.	50.	67.	35.	41.
NORTHWEST	0.	0.	0.	0.	3.	12.	18.	22.	24.	22.	18.	12.	5.	0.	0.	0.	0.	136.	41.	50.	31.	35.
NORTH	0.	0.	0.	0.	3.	12.	18.	22.	24.	22.	18.	12.	3.	0.	0.	0.	0.	134.	41.	50.	31.	35.
NORTHEAST	0.	0.	0.	0.	5.	12.	18.	22.	24.	22.	18.	12.	3.	0.	0.	0.	0.	136.	41.	50.	31.	35.
EAST	0.	0.	0.	0.	15.	52.	54.	42.	24.	22.	18.	12.	3.	0.	0.	0.	0.	243.	50.	67.	35.	41.
SOUTHEAST	0.	0.	0.	0.	18.	73.	90.	91.	80.	62.	39.	15.	3.	0.	0.	0.	0.	471.	70.	103.	42.	55.
HORIZ.	0.	0.	0.	0.	7.	30.	51.	64.	69.	64.	51.	30.	7.	0.	0.	0.	0.	371.	61.	88.	39.	49.

LOCATION EAST LANSING, MICHIGAN LATITUDE 42 DEGREES 44 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	79.	93.	97.	92.	106.	114.	122.	129.	136.	125.	89.	82.	105.
SOUTHWEST	68.	82.	92.	95.	114.	124.	131.	132.	130.	112.	79.	70.	102.
WEST	50.	63.	80.	91.	115.	127.	132.	127.	115.	91.	62.	50.	92.
NORTHWEST	40.	47.	64.	81.	104.	118.	120.	112.	97.	74.	53.	41.	79.
NORTH	39.	45.	58.	73.	92.	105.	107.	101.	89.	72.	53.	41.	73.
NORTHEAST	40.	47.	64.	81.	104.	118.	120.	112.	97.	74.	53.	41.	79.
EAST	50.	63.	80.	91.	115.	127.	132.	127.	115.	91.	62.	50.	92.
SOUTHEAST	68.	82.	92.	95.	114.	124.	131.	132.	130.	112.	79.	70.	102.
HORIZ.	63.	84.	109.	122.	159.	174.	178.	168.	149.	114.	75.	61.	121.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	122.	148.	148.	128.	141.	148.	159.	172.	190.	183.	129.	125.	149.
SOUTHWEST	102.	127.	139.	132.	155.	165.	174.	178.	180.	160.	110.	103.	144.
WEST	70.	92.	116.	126.	157.	171.	176.	169.	154.	122.	81.	67.	125.
NORTHWEST	51.	64.	88.	108.	138.	154.	155.	143.	121.	92.	64.	50.	102.
NORTH	50.	59.	76.	93.	117.	132.	133.	123.	108.	87.	63.	50.	91.
NORTHEAST	51.	64.	88.	108.	138.	154.	155.	143.	121.	92.	64.	50.	102.
EAST	70.	92.	116.	126.	157.	171.	176.	169.	154.	122.	81.	67.	125.
SOUTHEAST	102.	127.	139.	132.	155.	165.	174.	178.	180.	160.	110.	103.	144.
HORIZ.	93.	131.	169.	182.	234.	253.	258.	241.	213.	163.	103.	88.	177.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	45.	54.	64.	70.	85.	95.	100.	101.	98.	82.	57.	47.	75.
SOUTHWEST	40.	49.	62.	71.	89.	101.	105.	103.	94.	76.	53.	42.	74.
WEST	33.	40.	55.	69.	90.	103.	106.	100.	87.	67.	47.	35.	69.
NORTHWEST	29.	33.	48.	64.	84.	97.	99.	92.	78.	60.	43.	31.	63.
NORTH	29.	32.	44.	59.	76.	90.	91.	85.	74.	59.	43.	31.	59.
NORTHEAST	29.	33.	48.	64.	84.	97.	99.	92.	78.	60.	43.	31.	63.
EAST	33.	40.	55.	69.	90.	103.	106.	100.	87.	67.	47.	35.	69.
SOUTHEAST	40.	49.	62.	71.	89.	101.	105.	103.	94.	76.	53.	42.	74.
HORIZ.	38.	50.	70.	87.	117.	133.	134.	123.	104.	77.	51.	39.	85.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	62.	78.	89.	90.	106.	116.	123.	125.	125.	108.	73.	63.	96.
SOUTHWEST	54.	69.	85.	93.	115.	127.	132.	129.	119.	98.	65.	55.	95.
WEST	41.	54.	74.	89.	116.	131.	133.	124.	106.	81.	54.	41.	87.
NORTHWEST	34.	41.	59.	79.	104.	120.	121.	109.	90.	67.	47.	35.	76.
NORTH	33.	39.	53.	70.	91.	106.	107.	97.	83.	65.	47.	35.	69.
NORTHEAST	34.	41.	59.	79.	104.	120.	121.	109.	90.	67.	47.	35.	76.
EAST	41.	54.	74.	89.	116.	131.	133.	124.	106.	81.	54.	41.	87.
SOUTHEAST	54.	69.	85.	93.	115.	127.	132.	129.	119.	98.	65.	55.	95.
HORIZ.	50.	71.	100.	121.	163.	183.	183.	164.	136.	99.	63.	49.	115.

LOCATION EAST WAREHAM, MASS. LATITUDE 41 DEGREES 46 MINUTES

MONTH 1 HO 1333. TOD 32. TOT 32. KT .398 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	34.	77.	104.	120.	126.	120.	104.	77.	34.	0.	0.	0.	0.	796.	97.	150.	58.	78.
SOUTHWEST	0.	0.	0.	0.	7.	18.	46.	75.	97.	112.	114.	100.	53.	0.	0.	0.	0.	623.	83.	124.	52.	68.
WEST	0.	0.	0.	0.	7.	16.	23.	27.	29.	54.	71.	74.	45.	0.	0.	0.	0.	347.	60.	83.	43.	52.
NORTHWEST	0.	0.	0.	0.	7.	16.	23.	27.	29.	27.	23.	16.	15.	0.	0.	0.	0.	183.	47.	59.	38.	43.
NORTH	0.	0.	0.	0.	7.	16.	23.	27.	29.	27.	23.	16.	7.	0.	0.	0.	0.	175.	46.	58.	38.	42.
NORTHEAST	0.	0.	0.	0.	15.	16.	23.	27.	29.	27.	23.	16.	7.	0.	0.	0.	0.	183.	47.	59.	38.	43.
EAST	0.	0.	0.	0.	45.	74.	71.	54.	29.	27.	23.	16.	7.	0.	0.	0.	0.	347.	60.	83.	43.	52.
SOUTHEAST	0.	0.	0.	0.	53.	100.	114.	112.	97.	75.	46.	18.	7.	0.	0.	0.	0.	623.	83.	124.	52.	68.
HORIZ.	0.	0.	0.	0.	16.	46.	71.	86.	92.	86.	71.	46.	16.	0.	0.	0.	0.	531.	75.	110.	49.	63.

MONTH 2 HO 1908. TOD 32. TOT 31. KT .431 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	9.	54.	89.	114.	130.	135.	130.	114.	89.	54.	9.	0.	0.	0.	928.	98.	152.	61.	85.
SOUTHWEST	0.	0.	0.	4.	14.	24.	49.	81.	107.	124.	131.	123.	95.	21.	0.	0.	0.	772.	87.	132.	56.	76.
WEST	0.	0.	0.	4.	14.	24.	32.	36.	38.	67.	89.	99.	88.	22.	0.	0.	0.	514.	68.	99.	48.	61.
NORTHWEST	0.	0.	0.	4.	14.	24.	32.	36.	38.	36.	32.	32.	38.	12.	0.	0.	0.	299.	53.	70.	41.	48.
NORTH	0.	0.	0.	4.	14.	24.	32.	36.	38.	36.	32.	24.	14.	4.	0.	0.	0.	259.	50.	65.	39.	46.
NORTHEAST	0.	0.	0.	12.	38.	32.	32.	36.	38.	36.	32.	24.	14.	4.	0.	0.	0.	299.	53.	70.	41.	48.
EAST	0.	0.	0.	22.	88.	99.	89.	67.	38.	36.	32.	24.	14.	4.	0.	0.	0.	514.	68.	99.	48.	61.
SOUTHEAST	0.	0.	0.	21.	95.	123.	131.	124.	107.	81.	49.	24.	14.	4.	0.	0.	0.	772.	87.	132.	56.	76.
HORIZ.	0.	0.	0.	7.	42.	76.	103.	120.	126.	120.	103.	76.	42.	7.	0.	0.	0.	822.	91.	139.	57.	79.

MONTH 3 HO 2554. TOD 39. TOT 37. KT .469 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	24.	60.	92.	117.	133.	139.	133.	117.	92.	60.	24.	0.	0.	0.	991.	102.	154.	68.	94.
SOUTHWEST	0.	0.	0.	11.	23.	33.	48.	83.	112.	133.	142.	138.	117.	73.	0.	0.	0.	913.	97.	145.	66.	90.
WEST	0.	0.	0.	11.	23.	33.	41.	46.	48.	81.	108.	122.	120.	85.	0.	0.	0.	719.	85.	122.	60.	78.
NORTHWEST	0.	0.	0.	11.	23.	33.	41.	46.	48.	46.	41.	55.	65.	55.	0.	0.	0.	464.	69.	93.	51.	64.
NORTH	0.	0.	0.	11.	23.	33.	41.	46.	48.	46.	41.	33.	23.	11.	0.	0.	0.	357.	62.	80.	48.	57.
NORTHEAST	0.	0.	0.	55.	65.	55.	41.	46.	48.	46.	41.	33.	23.	11.	0.	0.	0.	464.	69.	93.	51.	64.
EAST	0.	0.	0.	85.	120.	122.	108.	81.	48.	46.	41.	33.	23.	11.	0.	0.	0.	719.	85.	122.	60.	78.
SOUTHEAST	0.	0.	0.	73.	117.	138.	142.	133.	112.	83.	48.	33.	23.	11.	0.	0.	0.	913.	97.	145.	66.	90.
HORIZ.	0.	0.	0.	31.	73.	111.	140.	159.	165.	159.	140.	111.	73.	31.	0.	0.	0.	1196.	115.	178.	75.	106.

LOCATION EAST WAREHAM, MASS. LATITUDE 41 DEGREES 46 MINUTES

MONTH 4 HO 3199. TOD 48. TOT 44. KT .449 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	7.	20.	49.	76.	97.	111.	116.	111.	97.	76.	49.	20.	7.	0.	0.	836.	96.	135.	70.	92.
SOUTHWEST	0.	0.	7.	19.	30.	39.	47.	71.	97.	116.	125.	123.	108.	80.	32.	0.	0.	894.	99.	141.	72.	96.
WEST	0.	0.	7.	19.	30.	39.	47.	52.	53.	83.	107.	121.	122.	103.	48.	0.	0.	832.	96.	135.	70.	92.
NORTHWEST	0.	0.	7.	19.	30.	39.	47.	52.	53.	52.	54.	72.	82.	78.	41.	0.	0.	624.	84.	113.	64.	80.
NORTH	0.	0.	14.	19.	30.	39.	47.	52.	53.	52.	47.	39.	30.	19.	14.	0.	0.	454.	74.	95.	58.	70.
NORTHEAST	0.	0.	41.	78.	82.	72.	54.	52.	53.	52.	47.	39.	30.	19.	7.	0.	0.	624.	84.	113.	64.	80.
EAST	0.	0.	48.	103.	122.	121.	107.	83.	53.	52.	47.	39.	30.	19.	7.	0.	0.	832.	96.	135.	70.	92.
SOUTHEAST	0.	0.	32.	80.	108.	123.	125.	116.	97.	71.	47.	39.	30.	19.	7.	0.	0.	894.	99.	141.	72.	96.
HORIZ.	0.	0.	17.	56.	95.	130.	157.	174.	180.	174.	157.	130.	95.	56.	17.	0.	0.	1437.	131.	198.	90.	127.

MONTH 5 HO 3614. TOD 59. TOT 52. KT .480 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	2.	13.	24.	42.	69.	90.	104.	109.	104.	90.	69.	42.	24.	13.	2.	0.	796.	104.	138.	80.	100.
SOUTHWEST	0.	2.	13.	24.	35.	44.	52.	66.	94.	114.	124.	123.	110.	85.	48.	3.	0.	937.	112.	152.	84.	109.
WEST	0.	2.	13.	24.	35.	44.	52.	56.	58.	90.	115.	131.	134.	121.	81.	5.	0.	962.	113.	155.	85.	110.
NORTHWEST	0.	2.	13.	24.	35.	44.	52.	56.	58.	56.	69.	89.	101.	100.	75.	5.	0.	779.	103.	137.	79.	99.
NORTH	0.	4.	32.	34.	35.	44.	52.	56.	58.	56.	52.	44.	35.	34.	32.	4.	0.	572.	91.	116.	72.	87.
NORTHEAST	0.	5.	75.	100.	101.	89.	69.	56.	58.	56.	52.	44.	35.	24.	13.	2.	0.	779.	103.	137.	79.	99.
EAST	0.	5.	81.	121.	134.	131.	115.	90.	58.	56.	52.	44.	35.	24.	13.	2.	0.	962.	113.	155.	85.	110.
SOUTHEAST	0.	3.	48.	85.	110.	123.	124.	114.	94.	66.	52.	44.	35.	24.	13.	2.	0.	937.	112.	152.	84.	109.
HORIZ.	0.	4.	35.	77.	118.	153.	181.	198.	204.	198.	181.	153.	118.	77.	35.	4.	0.	1735.	157.	232.	112.	157.

MONTH 6 HO 3764. TOD 67. TOT 61. KT .520 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	4.	15.	26.	39.	67.	90.	105.	110.	105.	90.	67.	39.	26.	15.	4.	0.	801.	111.	145.	88.	109.
SOUTHWEST	0.	4.	15.	26.	37.	47.	54.	65.	95.	118.	129.	129.	117.	92.	55.	10.	0.	994.	122.	163.	95.	121.
WEST	0.	4.	15.	26.	37.	47.	54.	59.	60.	96.	125.	143.	149.	136.	98.	21.	0.	1070.	126.	171.	97.	126.
NORTHWEST	0.	4.	15.	26.	37.	47.	54.	59.	60.	59.	79.	101.	115.	116.	93.	22.	0.	887.	116.	153.	91.	114.
NORTH	0.	13.	42.	44.	37.	47.	54.	59.	60.	59.	54.	47.	37.	44.	42.	13.	0.	650.	103.	130.	83.	100.
NORTHEAST	0.	22.	93.	116.	115.	101.	79.	59.	60.	59.	54.	47.	37.	26.	15.	4.	0.	887.	116.	153.	91.	114.
EAST	0.	21.	98.	136.	149.	143.	125.	96.	60.	59.	54.	47.	37.	26.	15.	4.	0.	1070.	126.	171.	97.	126.
SOUTHEAST	0.	10.	55.	92.	117.	129.	129.	118.	95.	65.	54.	47.	37.	26.	15.	4.	0.	994.	122.	163.	95.	121.
HORIZ.	0.	9.	45.	90.	133.	171.	200.	219.	225.	219.	200.	171.	133.	90.	45.	9.	0.	1958.	174.	256.	128.	179.

LOCATION EAST WAREHAM, MASS. LATITUDE 41 DEGREES 46 MINUTES

MONTH 7 HO 3611. TOD 74. TOT 67. KT .511 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	2.	13.	25.	43.	71.	95.	110.	115.	110.	95.	71.	43.	25.	13.	2.	0.	832.	121.	157.	96.	117.
SOUTHWEST	0.	2.	13.	25.	36.	45.	53.	68.	99.	121.	132.	131.	118.	91.	51.	4.	0.	988.	130.	172.	101.	127.
WEST	0.	2.	13.	25.	36.	45.	53.	57.	59.	94.	123.	141.	145.	130.	87.	6.	0.	1016.	131.	175.	102.	128.
NORTHWEST	0.	2.	13.	25.	36.	45.	53.	57.	59.	57.	73.	95.	108.	107.	80.	6.	0.	816.	120.	155.	95.	116.
NORTH	0.	4.	34.	36.	36.	45.	53.	57.	59.	57.	53.	45.	36.	36.	34.	4.	0.	589.	107.	133.	87.	103.
NORTHEAST	0.	6.	80.	107.	108.	95.	73.	57.	59.	57.	53.	45.	36.	25.	13.	2.	0.	816.	120.	155.	95.	116.
EAST	0.	6.	87.	130.	145.	141.	123.	94.	59.	57.	53.	45.	36.	25.	13.	2.	0.	1016.	131.	175.	102.	128.
SOUTHEAST	0.	4.	51.	91.	118.	131.	132.	121.	99.	68.	53.	45.	36.	25.	13.	2.	0.	988.	130.	172.	101.	127.
HORIZ.	0.	4.	37.	81.	125.	163.	193.	211.	218.	211.	193.	163.	125.	81.	37.	4.	0.	1846.	178.	258.	130.	179.

MONTH 8 HO 3176. TOD 73. TOT 67. KT .489 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	7.	20.	51.	81.	106.	121.	126.	121.	106.	81.	51.	20.	7.	0.	0.	901.	128.	170.	98.	122.
SOUTHWEST	0.	0.	7.	19.	31.	41.	48.	75.	105.	127.	137.	135.	118.	86.	32.	0.	0.	963.	131.	176.	100.	125.
WEST	0.	0.	7.	19.	31.	41.	48.	53.	55.	89.	117.	133.	134.	112.	49.	0.	0.	889.	127.	169.	98.	121.
NORTHWEST	0.	0.	7.	19.	31.	41.	48.	53.	55.	53.	56.	77.	89.	84.	42.	0.	0.	656.	113.	143.	90.	107.
NORTH	0.	0.	14.	19.	31.	41.	48.	53.	55.	53.	48.	41.	31.	19.	14.	0.	0.	467.	101.	123.	83.	95.
NORTHEAST	0.	0.	42.	84.	89.	77.	56.	53.	55.	53.	48.	41.	31.	19.	7.	0.	0.	656.	113.	143.	90.	107.
EAST	0.	0.	49.	112.	134.	133.	117.	89.	55.	53.	48.	41.	31.	19.	7.	0.	0.	889.	127.	169.	98.	121.
SOUTHEAST	0.	0.	32.	86.	118.	135.	137.	127.	105.	75.	48.	41.	31.	19.	7.	0.	0.	963.	131.	176.	100.	125.
HORIZ.	0.	0.	17.	59.	102.	141.	171.	189.	196.	189.	171.	141.	102.	59.	17.	0.	0.	1554.	168.	240.	120.	161.

MONTH 9 HO 2543. TOD 66. TOT 62. KT .508 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	25.	64.	100.	128.	145.	152.	145.	128.	100.	64.	25.	0.	0.	0.	1075.	139.	195.	99.	127.
SOUTHWEST	0.	0.	0.	12.	23.	34.	49.	88.	121.	145.	156.	151.	128.	77.	0.	0.	0.	985.	133.	184.	96.	122.
WEST	0.	0.	0.	12.	23.	34.	42.	47.	49.	87.	117.	134.	131.	90.	0.	0.	0.	767.	118.	158.	88.	108.
NORTHWEST	0.	0.	0.	12.	23.	34.	42.	47.	49.	47.	42.	58.	71.	58.	0.	0.	0.	484.	99.	124.	79.	91.
NORTH	0.	0.	0.	12.	23.	34.	42.	47.	49.	47.	42.	34.	23.	12.	0.	0.	0.	366.	91.	110.	75.	84.
NORTHEAST	0.	0.	0.	58.	71.	58.	42.	47.	49.	47.	42.	34.	23.	12.	0.	0.	0.	484.	99.	124.	79.	91.
EAST	0.	0.	0.	90.	131.	134.	117.	87.	49.	47.	42.	34.	23.	12.	0.	0.	0.	767.	118.	158.	88.	108.
SOUTHEAST	0.	0.	0.	77.	128.	151.	156.	145.	121.	88.	49.	34.	23.	12.	0.	0.	0.	985.	133.	184.	96.	122.
HORIZ.	0.	0.	1.	33.	78.	120.	152.	172.	179.	172.	152.	120.	78.	33.	1.	0.	0.	1291.	154.	221.	106.	140.

LOCATION EAST WAREHAM, MASS. LATITUDE 41 DEGREES 46 MINUTES

MONTH 10 HO 1874. TOD 56. TOT 53. KT .496 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	9.	63.	105.	136.	156.	162.	156.	136.	105.	63.	9.	0.	0.	0.	1099.	135.	200.	88.	117.
SOUTHWEST	0.	0.	0.	3.	15.	25.	55.	94.	126.	148.	157.	147.	111.	19.	0.	0.	0.	900.	121.	174.	82.	105.
WEST	0.	0.	0.	3.	15.	25.	33.	38.	40.	77.	105.	118.	102.	20.	0.	0.	0.	576.	97.	131.	71.	87.
NORTHWEST	0.	0.	0.	3.	15.	25.	33.	38.	40.	38.	33.	34.	43.	11.	0.	0.	0.	314.	79.	97.	63.	71.
NORTH	0.	0.	0.	3.	15.	25.	33.	38.	40.	38.	33.	25.	15.	3.	0.	0.	0.	269.	75.	91.	62.	69.
NORTHEAST	0.	0.	0.	11.	43.	34.	33.	38.	40.	38.	33.	25.	15.	3.	0.	0.	0.	314.	79.	97.	63.	71.
EAST	0.	0.	0.	20.	102.	118.	105.	77.	40.	38.	33.	25.	15.	3.	0.	0.	0.	576.	97.	131.	71.	87.
SOUTHEAST	0.	0.	0.	19.	111.	147.	157.	148.	126.	94.	55.	25.	15.	3.	0.	0.	0.	900.	121.	174.	82.	105.
HORIZ.	0.	0.	0.	7.	45.	85.	117.	138.	145.	138.	117.	85.	45.	7.	0.	0.	0.	929.	123.	177.	83.	107.

MONTH 11 HO 1321. TOD 46. TOT 44. KT .431 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	36.	85.	117.	135.	141.	135.	117.	85.	36.	0.	0.	0.	0.	887.	118.	177.	73.	96.
SOUTHWEST	0.	0.	0.	0.	7.	18.	51.	82.	108.	125.	128.	112.	57.	0.	0.	0.	0.	689.	102.	148.	67.	85.
WEST	0.	0.	0.	0.	7.	16.	24.	28.	30.	58.	78.	82.	49.	0.	0.	0.	0.	372.	76.	101.	56.	66.
NORTHWEST	0.	0.	0.	0.	7.	16.	24.	28.	30.	28.	24.	16.	16.	0.	0.	0.	0.	188.	61.	74.	51.	55.
NORTH	0.	0.	0.	0.	7.	16.	24.	28.	30.	28.	24.	16.	7.	0.	0.	0.	0.	179.	61.	72.	50.	55.
NORTHEAST	0.	0.	0.	0.	16.	16.	24.	28.	30.	28.	24.	16.	7.	0.	0.	0.	0.	188.	61.	74.	51.	55.
EAST	0.	0.	0.	0.	49.	82.	78.	58.	30.	28.	24.	16.	7.	0.	0.	0.	0.	372.	76.	101.	56.	66.
SOUTHEAST	0.	0.	0.	0.	57.	112.	128.	125.	108.	82.	51.	18.	7.	0.	0.	0.	0.	689.	102.	148.	67.	85.
HORIZ.	0.	0.	0.	0.	17.	49.	76.	94.	99.	94.	76.	49.	17.	0.	0.	0.	0.	570.	92.	130.	63.	78.

MONTH 12 HO 1116. TOD 35. TOT 35. KT .461 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	23.	90.	128.	150.	157.	150.	128.	90.	23.	0.	0.	0.	0.	938.	115.	181.	65.	90.
SOUTHWEST	0.	0.	0.	0.	4.	19.	55.	90.	119.	137.	139.	115.	35.	0.	0.	0.	0.	713.	96.	146.	58.	77.
WEST	0.	0.	0.	0.	4.	13.	21.	26.	27.	59.	80.	81.	29.	0.	0.	0.	0.	342.	64.	88.	46.	55.
NORTHWEST	0.	0.	0.	0.	4.	13.	21.	26.	27.	26.	21.	13.	8.	0.	0.	0.	0.	160.	49.	60.	40.	45.
NORTH	0.	0.	0.	0.	4.	13.	21.	26.	27.	26.	21.	13.	4.	0.	0.	0.	0.	156.	48.	59.	40.	44.
NORTHEAST	0.	0.	0.	0.	8.	13.	21.	26.	27.	26.	21.	13.	4.	0.	0.	0.	0.	160.	49.	60.	40.	45.
EAST	0.	0.	0.	0.	29.	81.	80.	59.	27.	26.	21.	13.	4.	0.	0.	0.	0.	342.	64.	88.	46.	55.
SOUTHEAST	0.	0.	0.	0.	35.	115.	139.	137.	119.	90.	55.	19.	4.	0.	0.	0.	0.	713.	96.	146.	58.	77.
HORIZ.	0.	0.	0.	0.	9.	41.	70.	89.	95.	89.	70.	41.	9.	0.	0.	0.	0.	515.	79.	115.	52.	65.

LOCATION EAST WAREHAM, MASS. LATITUDE 41 DEGREES 46 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	97.	98.	102.	96.	104.	111.	121.	128.	139.	135.	118.	115.	114.
SOUTHWEST	83.	87.	97.	99.	112.	122.	130.	131.	133.	121.	102.	96.	109.
WEST	60.	68.	85.	96.	113.	126.	131.	127.	118.	97.	76.	64.	97.
NORTHWEST	47.	53.	69.	84.	103.	116.	120.	113.	99.	79.	61.	49.	83.
NORTH	46.	50.	62.	74.	91.	103.	107.	101.	91.	75.	61.	48.	76.
NORTHEAST	47.	53.	69.	84.	103.	116.	120.	113.	99.	79.	61.	49.	83.
EAST	60.	68.	85.	96.	113.	126.	131.	127.	118.	97.	76.	64.	97.
SOUTHEAST	83.	87.	97.	99.	112.	122.	130.	131.	133.	121.	102.	96.	109.
HORIZ.	75.	91.	115.	131.	157.	174.	178.	168.	154.	123.	92.	79.	128.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	150.	152.	154.	135.	138.	145.	157.	170.	195.	200.	177.	181.	163.
SOUTHWEST	124.	132.	145.	141.	152.	163.	172.	176.	184.	174.	148.	146.	155.
WEST	83.	99.	122.	135.	155.	171.	175.	169.	158.	131.	101.	88.	132.
NORTHWEST	59.	70.	93.	113.	137.	153.	155.	143.	124.	97.	74.	60.	107.
NORTH	58.	65.	80.	95.	116.	130.	133.	123.	110.	91.	72.	59.	94.
NORTHEAST	59.	70.	93.	113.	137.	153.	155.	143.	124.	97.	74.	60.	107.
EAST	83.	99.	122.	135.	155.	171.	175.	169.	158.	131.	101.	88.	132.
SOUTHEAST	124.	132.	145.	141.	152.	163.	172.	176.	184.	174.	148.	146.	155.
HORIZ.	110.	139.	178.	198.	232.	256.	258.	240.	221.	177.	130.	115.	188.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	58.	61.	68.	70.	80.	88.	96.	98.	99.	88.	73.	65.	79.
SOUTHWEST	52.	56.	66.	72.	84.	95.	101.	100.	96.	82.	67.	58.	77.
WEST	43.	48.	60.	70.	85.	97.	102.	98.	88.	71.	56.	46.	72.
NORTHWEST	38.	41.	51.	64.	79.	91.	95.	90.	79.	63.	51.	40.	65.
NORTH	38.	39.	48.	58.	72.	83.	87.	83.	75.	62.	50.	40.	61.
NORTHEAST	38.	41.	51.	64.	79.	91.	95.	90.	79.	63.	51.	40.	65.
EAST	43.	48.	60.	70.	85.	97.	102.	98.	88.	71.	56.	46.	72.
SOUTHEAST	52.	56.	66.	72.	84.	95.	101.	100.	96.	82.	67.	58.	77.
HORIZ.	49.	57.	75.	90.	112.	128.	130.	120.	106.	83.	63.	52.	89.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	78.	85.	94.	92.	100.	109.	117.	122.	127.	117.	96.	90.	102.
SOUTHWEST	68.	76.	90.	96.	109.	121.	127.	125.	122.	105.	85.	77.	100.
WEST	52.	61.	78.	92.	110.	126.	128.	121.	108.	87.	66.	55.	90.
NORTHWEST	43.	48.	64.	80.	99.	114.	116.	107.	91.	71.	55.	45.	78.
NORTH	42.	46.	57.	70.	87.	100.	103.	95.	84.	69.	55.	44.	71.
NORTHEAST	43.	48.	64.	80.	99.	114.	116.	107.	91.	71.	55.	45.	78.
EAST	52.	61.	78.	92.	110.	126.	128.	121.	108.	87.	66.	55.	90.
SOUTHEAST	68.	76.	90.	96.	109.	121.	127.	125.	122.	105.	85.	77.	100.
HORIZ.	63.	79.	106.	127.	157.	179.	179.	161.	140.	107.	78.	65.	120.

LOCATION EL PASO, TEXAS LATITUDE 31 DEGREES 48 MINUTES

MONTH 1 HO 1873. TOD 47. TOT 43. KT .686 KD .153

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	2.	108.	174.	217.	243.	252.	243.	217.	174.	108.	2.	0.	0.	0.	1739.	177.	284.	99.	145.
SOUTHWEST	0.	0.	0.	1.	13.	25.	79.	138.	191.	229.	248.	239.	182.	3.	0.	0.	0.	1349.	148.	231.	87.	122.
WEST	0.	0.	0.	1.	13.	25.	34.	40.	42.	105.	154.	180.	157.	3.	0.	0.	0.	755.	104.	150.	68.	87.
NORTHWEST	0.	0.	0.	1.	13.	25.	34.	40.	42.	40.	34.	29.	48.	2.	0.	0.	0.	311.	70.	89.	53.	61.
NORTH	0.	0.	0.	1.	13.	25.	34.	40.	42.	40.	34.	25.	13.	1.	0.	0.	0.	271.	67.	84.	52.	59.
NORTHEAST	0.	0.	0.	2.	48.	29.	34.	40.	42.	40.	34.	25.	13.	1.	0.	0.	0.	311.	70.	89.	53.	61.
EAST	0.	0.	0.	3.	157.	180.	154.	105.	42.	40.	34.	25.	13.	1.	0.	0.	0.	755.	104.	150.	68.	87.
SOUTHEAST	0.	0.	0.	3.	182.	239.	248.	229.	191.	138.	79.	25.	13.	1.	0.	0.	0.	1349.	148.	231.	87.	122.
HORIZ.	0.	0.	0.	2.	54.	117.	166.	198.	209.	198.	166.	117.	54.	2.	0.	0.	0.	1283.	143.	222.	85.	118.

MONTH 2 HO 2382. TOD 53. TOT 49. KT .714 KD .142

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	36.	110.	164.	205.	230.	238.	230.	205.	164.	110.	36.	0.	0.	0.	1726.	173.	270.	104.	150.
SOUTHWEST	0.	0.	0.	6.	19.	32.	63.	126.	183.	226.	251.	251.	214.	96.	0.	0.	0.	1467.	155.	238.	96.	135.
WEST	0.	0.	0.	6.	19.	32.	41.	47.	49.	118.	174.	209.	205.	104.	0.	0.	0.	1005.	123.	179.	81.	108.
NORTHWEST	0.	0.	0.	6.	19.	32.	41.	47.	49.	47.	41.	63.	87.	54.	0.	0.	0.	487.	87.	114.	65.	77.
NORTH	0.	0.	0.	6.	19.	32.	41.	47.	49.	47.	41.	32.	19.	6.	0.	0.	0.	340.	77.	96.	60.	69.
NORTHEAST	0.	0.	0.	54.	87.	63.	41.	47.	49.	47.	41.	32.	19.	6.	0.	0.	0.	487.	87.	114.	65.	77.
EAST	0.	0.	0.	104.	205.	209.	174.	118.	49.	47.	41.	32.	19.	6.	0.	0.	0.	1005.	123.	179.	81.	108.
SOUTHEAST	0.	0.	0.	96.	214.	251.	251.	226.	183.	126.	63.	32.	19.	6.	0.	0.	0.	1467.	155.	238.	96.	135.
HORIZ.	0.	0.	0.	20.	91.	158.	211.	244.	255.	244.	211.	158.	91.	20.	0.	0.	0.	1702.	171.	267.	104.	148.

MONTH 3 HO 2903. TOD 59. TOT 54. KT .730 KD .135

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	34.	87.	136.	173.	197.	205.	197.	173.	136.	87.	34.	0.	0.	0.	1460.	152.	228.	101.	140.
SOUTHWEST	0.	0.	0.	12.	26.	38.	47.	103.	161.	207.	235.	240.	216.	145.	0.	0.	0.	1429.	150.	225.	100.	138.
WEST	0.	0.	0.	12.	26.	38.	47.	53.	55.	127.	187.	226.	233.	177.	0.	0.	0.	1180.	134.	196.	92.	123.
NORTHWEST	0.	0.	0.	12.	26.	38.	47.	53.	55.	53.	57.	102.	128.	113.	0.	0.	0.	684.	102.	138.	76.	94.
NORTH	0.	0.	0.	12.	26.	38.	47.	53.	55.	53.	47.	38.	26.	12.	0.	0.	0.	406.	85.	106.	68.	78.
NORTHEAST	0.	0.	0.	113.	128.	102.	57.	53.	55.	53.	47.	38.	26.	12.	0.	0.	0.	684.	102.	138.	76.	94.
EAST	0.	0.	0.	177.	233.	226.	187.	127.	55.	53.	47.	38.	26.	12.	0.	0.	0.	1180.	134.	196.	92.	123.
SOUTHEAST	0.	0.	0.	145.	216.	240.	235.	207.	161.	103.	47.	38.	26.	12.	0.	0.	0.	1429.	150.	225.	100.	138.
HORIZ.	0.	0.	0.	52.	128.	197.	250.	284.	296.	284.	250.	197.	128.	52.	0.	0.	0.	2119.	194.	305.	122.	178.

LOCATION EL PASO, TEXAS LATITUDE 31 DEGREES 48 MINUTES

MONTH 4 HO 3368. TOD 67. TOT 63. KT .741 KD .129

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	4.	18.	51.	94.	128.	150.	158.	150.	128.	94.	51.	18.	4.	0.	0.	1050.	129.	180.	97.	124.
SOUTHWEST	0.	0.	4.	18.	31.	43.	52.	71.	129.	175.	204.	212.	195.	147.	43.	0.	0.	1323.	146.	210.	106.	140.
WEST	0.	0.	4.	18.	31.	43.	52.	57.	59.	131.	190.	231.	243.	209.	70.	0.	0.	1337.	146.	211.	106.	141.
NORTHWEST	0.	0.	4.	18.	31.	43.	52.	57.	59.	57.	95.	139.	166.	159.	60.	0.	0.	940.	123.	168.	93.	118.
NORTH	0.	0.	16.	26.	31.	43.	52.	57.	59.	57.	52.	43.	31.	26.	16.	0.	0.	509.	97.	122.	79.	93.
NORTHEAST	0.	0.	60.	159.	166.	139.	95.	57.	59.	57.	52.	43.	31.	18.	4.	0.	0.	940.	123.	168.	93.	118.
EAST	0.	0.	70.	209.	243.	231.	190.	131.	59.	57.	52.	43.	31.	18.	4.	0.	0.	1337.	146.	211.	106.	141.
SOUTHEAST	0.	0.	43.	147.	195.	212.	204.	175.	129.	71.	52.	43.	31.	18.	4.	0.	0.	1323.	146.	210.	106.	140.
HORIZ.	0.	0.	14.	84.	161.	229.	282.	315.	327.	315.	282.	229.	161.	84.	14.	0.	0.	2495.	215.	336.	143.	208.

MONTH 5 HO 3629. TOD 76. TOT 72. KT .743 KD .128

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	8.	21.	34.	60.	91.	112.	119.	112.	91.	60.	34.	21.	8.	0.	0.	772.	122.	157.	98.	118.
SOUTHWEST	0.	0.	8.	21.	34.	45.	54.	59.	102.	146.	174.	183.	170.	133.	63.	0.	0.	1192.	147.	201.	112.	144.
WEST	0.	0.	8.	21.	34.	45.	54.	59.	61.	129.	186.	225.	239.	215.	121.	0.	0.	1396.	159.	223.	119.	156.
NORTHWEST	0.	0.	8.	21.	34.	45.	54.	59.	61.	71.	120.	162.	187.	183.	113.	0.	0.	1118.	142.	194.	110.	139.
NORTH	0.	0.	44.	57.	46.	45.	54.	59.	61.	59.	54.	45.	46.	57.	44.	0.	0.	668.	116.	146.	94.	112.
NORTHEAST	0.	0.	113.	183.	187.	162.	120.	71.	61.	59.	54.	45.	34.	21.	8.	0.	0.	1118.	142.	194.	110.	139.
EAST	0.	0.	121.	215.	239.	225.	186.	129.	61.	59.	54.	45.	34.	21.	8.	0.	0.	1396.	159.	223.	119.	156.
SOUTHEAST	0.	0.	63.	133.	170.	183.	174.	146.	102.	59.	54.	45.	34.	21.	8.	0.	0.	1192.	147.	201.	112.	144.
HORIZ.	0.	0.	32.	104.	179.	244.	295.	327.	337.	327.	295.	244.	179.	104.	32.	0.	0.	2698.	237.	360.	164.	235.

MONTH 6 HO 3715. TOD 84. TOT 80. KT .733 KD .133

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	10.	23.	35.	47.	77.	96.	103.	96.	77.	47.	35.	23.	10.	0.	0.	678.	124.	154.	103.	121.
SOUTHWEST	0.	0.	10.	23.	35.	46.	55.	60.	91.	132.	159.	168.	157.	123.	63.	0.	0.	1122.	150.	200.	119.	148.
WEST	0.	0.	10.	23.	35.	46.	55.	60.	62.	126.	181.	218.	231.	209.	129.	0.	0.	1385.	165.	227.	128.	164.
NORTHWEST	0.	0.	10.	23.	35.	46.	55.	60.	62.	81.	128.	167.	190.	186.	126.	0.	0.	1169.	152.	205.	120.	151.
NORTH	0.	0.	54.	68.	59.	46.	55.	60.	62.	60.	55.	46.	59.	68.	54.	0.	0.	744.	128.	161.	106.	125.
NORTHEAST	0.	0.	126.	186.	190.	167.	128.	81.	62.	60.	55.	46.	35.	23.	10.	0.	0.	1169.	152.	205.	120.	151.
EAST	0.	0.	129.	209.	231.	218.	181.	126.	62.	60.	55.	46.	35.	23.	10.	0.	0.	1385.	165.	227.	128.	164.
SOUTHEAST	0.	0.	63.	123.	157.	168.	159.	132.	91.	60.	55.	46.	35.	23.	10.	0.	0.	1122.	150.	200.	119.	148.
HORIZ.	0.	0.	39.	110.	182.	245.	294.	324.	335.	324.	294.	245.	182.	110.	39.	0.	0.	2723.	243.	365.	173.	245.

LOCATION EL PASO, TEXAS LATITUDE 31 DEGREES 48 MINUTES

MONTH 7 HO 3623. TOD 85. TOT 81. KT .652 KD .161

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	9.	23.	36.	58.	85.	103.	109.	103.	85.	58.	36.	23.	9.	0.	0.	738.	129.	163.	107.	126.
SOUTHWEST	0.	0.	9.	23.	36.	47.	56.	61.	95.	130.	151.	157.	144.	110.	51.	0.	0.	1071.	149.	198.	118.	146.
WEST	0.	0.	9.	23.	36.	47.	56.	61.	63.	117.	161.	191.	198.	175.	96.	0.	0.	1233.	158.	215.	123.	156.
NORTHWEST	0.	0.	9.	23.	36.	47.	56.	61.	63.	71.	110.	140.	158.	150.	90.	0.	0.	1015.	145.	192.	116.	143.
NORTH	0.	0.	37.	51.	46.	47.	56.	61.	63.	61.	56.	47.	46.	51.	37.	0.	0.	659.	124.	154.	104.	121.
NORTHEAST	0.	0.	90.	150.	158.	140.	110.	71.	63.	61.	56.	47.	36.	23.	9.	0.	0.	1015.	145.	192.	116.	143.
EAST	0.	0.	96.	175.	198.	191.	161.	117.	63.	61.	56.	47.	36.	23.	9.	0.	0.	1233.	158.	215.	123.	156.
SOUTHEAST	0.	0.	51.	110.	144.	157.	151.	130.	95.	61.	56.	47.	36.	23.	9.	0.	0.	1071.	149.	198.	118.	146.
HORIZ.	0.	0.	30.	92.	157.	213.	257.	285.	294.	285.	257.	213.	157.	92.	30.	0.	0.	2363.	226.	333.	162.	224.

MONTH 8 HO 3342. TOD 83. TOT 80. KT .669 KD .157

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	5.	19.	49.	86.	117.	137.	143.	137.	117.	86.	49.	19.	5.	0.	0.	968.	144.	191.	113.	138.
SOUTHWEST	0.	0.	5.	19.	32.	44.	53.	71.	119.	157.	180.	184.	167.	122.	32.	0.	0.	1187.	158.	216.	120.	151.
WEST	0.	0.	5.	19.	32.	44.	53.	59.	61.	120.	169.	200.	206.	172.	52.	0.	0.	1194.	159.	216.	121.	152.
NORTHWEST	0.	0.	5.	19.	32.	44.	53.	59.	61.	59.	90.	125.	144.	132.	45.	0.	0.	868.	138.	180.	109.	132.
NORTH	0.	0.	14.	26.	32.	44.	53.	59.	61.	59.	53.	44.	32.	26.	14.	0.	0.	518.	116.	141.	98.	111.
NORTHEAST	0.	0.	45.	132.	144.	125.	90.	59.	61.	59.	53.	44.	32.	19.	5.	0.	0.	868.	138.	180.	109.	132.
EAST	0.	0.	52.	172.	206.	200.	169.	120.	61.	59.	53.	44.	32.	19.	5.	0.	0.	1194.	159.	216.	121.	152.
SOUTHEAST	0.	0.	32.	122.	167.	184.	180.	157.	119.	71.	53.	44.	32.	19.	5.	0.	0.	1187.	158.	216.	120.	151.
HORIZ.	0.	0.	13.	75.	144.	205.	253.	283.	293.	283.	253.	205.	144.	75.	13.	0.	0.	2236.	224.	332.	156.	215.

MONTH 9 HO 2884. TOD 78. TOT 75. KT .693 KD .151

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	31.	80.	126.	161.	184.	191.	184.	161.	126.	80.	31.	0.	0.	0.	1355.	171.	242.	121.	157.
SOUTHWEST	0.	0.	0.	12.	26.	39.	48.	98.	152.	193.	217.	220.	195.	125.	0.	0.	0.	1327.	169.	238.	120.	155.
WEST	0.	0.	0.	12.	26.	39.	48.	54.	56.	121.	175.	208.	210.	154.	0.	0.	0.	1104.	154.	211.	113.	142.
NORTHWEST	0.	0.	0.	12.	26.	39.	48.	54.	56.	54.	58.	97.	118.	99.	0.	0.	0.	663.	124.	158.	98.	115.
NORTH	0.	0.	0.	12.	26.	39.	48.	54.	56.	54.	48.	39.	26.	12.	0.	0.	0.	416.	107.	129.	89.	100.
NORTHEAST	0.	0.	0.	99.	118.	97.	58.	54.	56.	54.	48.	39.	26.	12.	0.	0.	0.	663.	124.	158.	98.	115.
EAST	0.	0.	0.	154.	210.	208.	175.	121.	56.	54.	48.	39.	26.	12.	0.	0.	0.	1104.	154.	211.	113.	142.
SOUTHEAST	0.	0.	0.	125.	195.	220.	217.	193.	152.	98.	48.	39.	26.	12.	0.	0.	0.	1327.	169.	238.	120.	155.
HORIZ.	0.	0.	0.	48.	120.	186.	237.	269.	280.	269.	237.	186.	120.	48.	0.	0.	0.	1998.	215.	319.	143.	196.

LOCATION EL PASO, TEXAS LATITUDE 31 DEGREES 48 MINUTES

MONTH 10 HO 2347. TOD 69. TOT 65. KT .695 KD .150

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	31.	103.	158.	198.	222.	230.	222.	198.	158.	103.	31.	0.	0.	0.	1653.	184.	277.	118.	162.
SOUTHWEST	0.	0.	0.	6.	19.	32.	62.	123.	177.	219.	241.	239.	200.	81.	0.	0.	0.	1399.	166.	245.	110.	147.
WEST	0.	0.	0.	6.	19.	32.	41.	47.	49.	115.	168.	198.	191.	87.	0.	0.	0.	953.	135.	189.	96.	121.
NORTHWEST	0.	0.	0.	6.	19.	32.	41.	47.	49.	47.	41.	60.	81.	45.	0.	0.	0.	470.	102.	128.	80.	93.
NORTH	0.	0.	0.	6.	19.	32.	41.	47.	49.	47.	41.	32.	19.	6.	0.	0.	0.	340.	93.	112.	76.	85.
NORTHEAST	0.	0.	0.	45.	81.	60.	41.	47.	49.	47.	41.	32.	19.	6.	0.	0.	0.	470.	102.	128.	80.	93.
EAST	0.	0.	0.	87.	191.	198.	168.	115.	49.	47.	41.	32.	19.	6.	0.	0.	0.	953.	135.	189.	96.	121.
SOUTHEAST	0.	0.	0.	81.	200.	239.	241.	219.	177.	123.	62.	32.	19.	6.	0.	0.	0.	1399.	166.	245.	110.	147.
HORIZ.	0.	0.	0.	18.	86.	151.	203.	235.	247.	235.	203.	151.	86.	18.	0.	0.	0.	1632.	182.	275.	118.	160.

MONTH 11 HO 1860. TOD 56. TOT 52. KT .647 KD .162

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	2.	97.	159.	200.	225.	233.	225.	200.	159.	97.	2.	0.	0.	0.	1601.	176.	274.	103.	145.
SOUTHWEST	0.	0.	0.	1.	13.	25.	75.	130.	177.	212.	229.	219.	163.	2.	0.	0.	0.	1246.	149.	226.	92.	125.
WEST	0.	0.	0.	1.	13.	25.	34.	40.	42.	99.	143.	164.	141.	2.	0.	0.	0.	706.	109.	152.	75.	93.
NORTHWEST	0.	0.	0.	1.	13.	25.	34.	40.	42.	40.	34.	29.	44.	2.	0.	0.	0.	305.	79.	98.	62.	70.
NORTH	0.	0.	0.	1.	13.	25.	34.	40.	42.	40.	34.	25.	13.	1.	0.	0.	0.	271.	76.	93.	61.	68.
NORTHEAST	0.	0.	0.	2.	44.	29.	34.	40.	42.	40.	34.	25.	13.	1.	0.	0.	0.	305.	79.	98.	62.	70.
EAST	0.	0.	0.	2.	141.	164.	143.	99.	42.	40.	34.	25.	13.	1.	0.	0.	0.	706.	109.	152.	75.	93.
SOUTHEAST	0.	0.	0.	2.	163.	219.	229.	212.	177.	130.	75.	25.	13.	1.	0.	0.	0.	1246.	149.	226.	92.	125.
HORIZ.	0.	0.	0.	2.	51.	109.	156.	186.	196.	186.	156.	109.	51.	2.	0.	0.	0.	1202.	146.	220.	91.	122.

MONTH 12 HO 1670. TOD 48. TOT 45. KT .626 KD .168

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	89.	156.	197.	222.	230.	222.	197.	156.	89.	0.	0.	0.	0.	1557.	169.	268.	95.	135.
SOUTHWEST	0.	0.	0.	0.	11.	27.	78.	129.	174.	206.	220.	207.	142.	0.	0.	0.	0.	1193.	141.	217.	83.	114.
WEST	0.	0.	0.	0.	11.	22.	32.	37.	39.	92.	132.	150.	118.	0.	0.	0.	0.	633.	98.	138.	65.	82.
NORTHWEST	0.	0.	0.	0.	11.	22.	32.	37.	39.	37.	32.	22.	31.	0.	0.	0.	0.	264.	69.	86.	53.	60.
NORTH	0.	0.	0.	0.	11.	22.	32.	37.	39.	37.	32.	22.	11.	0.	0.	0.	0.	243.	67.	83.	53.	59.
NORTHEAST	0.	0.	0.	0.	31.	22.	32.	37.	39.	37.	32.	22.	11.	0.	0.	0.	0.	264.	69.	86.	53.	60.
EAST	0.	0.	0.	0.	118.	150.	132.	92.	39.	37.	32.	22.	11.	0.	0.	0.	0.	633.	98.	138.	65.	82.
SOUTHEAST	0.	0.	0.	0.	142.	207.	220.	206.	174.	129.	78.	27.	11.	0.	0.	0.	0.	1193.	141.	217.	83.	114.
HORIZ.	0.	0.	0.	0.	38.	93.	138.	166.	176.	166.	138.	93.	38.	0.	0.	0.	0.	1045.	130.	196.	78.	106.

LOCATION EL PASO, TEXAS LATITUDE 31 DEGREES 48 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	177.	173.	152.	129.	122.	124.	129.	144.	171.	184.	176.	169.	154.
SOUTHWEST	148.	155.	150.	146.	147.	150.	149.	158.	169.	166.	149.	141.	152.
WEST	104.	123.	134.	146.	159.	165.	158.	159.	154.	135.	109.	98.	137.
NORTHWEST	70.	87.	102.	123.	142.	152.	145.	138.	124.	102.	79.	69.	111.
NORTH	67.	77.	85.	97.	116.	128.	124.	116.	107.	93.	76.	67.	96.
NORTHEAST	70.	87.	102.	123.	142.	152.	145.	138.	124.	102.	79.	69.	111.
EAST	104.	123.	134.	146.	159.	165.	158.	159.	154.	135.	109.	98.	137.
SOUTHEAST	148.	155.	150.	146.	147.	150.	149.	158.	169.	166.	149.	141.	152.
HORIZ.	143.	171.	194.	215.	237.	243.	226.	224.	215.	182.	146.	130.	194.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	284.	270.	228.	180.	157.	154.	163.	191.	242.	277.	274.	268.	224.
SOUTHWEST	231.	238.	225.	210.	201.	200.	198.	216.	238.	245.	226.	217.	220.
WEST	150.	179.	196.	211.	223.	227.	215.	216.	211.	189.	152.	138.	192.
NORTHWEST	89.	114.	138.	168.	194.	205.	192.	180.	158.	128.	98.	86.	146.
NORTH	84.	96.	106.	122.	146.	161.	154.	141.	129.	112.	93.	83.	119.
NORTHEAST	89.	114.	138.	168.	194.	205.	192.	180.	158.	128.	98.	86.	146.
EAST	150.	179.	196.	211.	223.	227.	215.	216.	211.	189.	152.	138.	192.
SOUTHEAST	231.	238.	225.	210.	201.	200.	198.	216.	238.	245.	226.	217.	220.
HORIZ.	222.	267.	305.	336.	360.	365.	333.	332.	319.	275.	220.	196.	294.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	99.	104.	101.	97.	98.	103.	107.	113.	121.	118.	103.	95.	105.
SOUTHWEST	87.	96.	100.	106.	112.	119.	118.	120.	120.	110.	92.	83.	105.
WEST	68.	81.	92.	106.	119.	128.	123.	121.	113.	96.	75.	65.	99.
NORTHWEST	53.	65.	76.	93.	110.	120.	116.	109.	98.	80.	62.	53.	86.
NORTH	52.	60.	68.	79.	94.	106.	104.	98.	89.	76.	61.	53.	78.
NORTHEAST	53.	65.	76.	93.	110.	120.	116.	109.	98.	80.	62.	53.	86.
EAST	68.	81.	92.	106.	119.	128.	123.	121.	113.	96.	75.	65.	99.
SOUTHEAST	87.	96.	100.	106.	112.	119.	118.	120.	120.	110.	92.	83.	105.
HORIZ.	85.	104.	122.	143.	164.	173.	162.	156.	143.	118.	91.	78.	128.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	145.	150.	140.	124.	118.	121.	126.	138.	157.	162.	145.	135.	138.
SOUTHWEST	122.	135.	138.	140.	144.	148.	146.	151.	155.	147.	125.	114.	139.
WEST	87.	108.	123.	141.	156.	164.	156.	152.	142.	121.	93.	82.	127.
NORTHWEST	61.	77.	94.	118.	139.	151.	143.	132.	115.	93.	70.	60.	104.
NORTH	59.	69.	78.	93.	112.	125.	121.	111.	100.	85.	68.	59.	90.
NORTHEAST	61.	77.	94.	118.	139.	151.	143.	132.	115.	93.	70.	60.	104.
EAST	87.	108.	123.	141.	156.	164.	156.	152.	142.	121.	93.	82.	127.
SOUTHEAST	122.	135.	138.	140.	144.	148.	146.	151.	155.	147.	125.	114.	139.
HORIZ.	118.	148.	178.	208.	235.	245.	224.	215.	196.	160.	122.	106.	180.

LOCATION ELY, NEVADA LATITUDE 39 DEGREES 17 MINUTES

MONTH 1 HO 1469. TOD 27. TOT 23. KT .618 KD .170

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	74.	148.	194.	222.	231.	222.	194.	148.	74.	0.	0.	0.	0.	1506.	147.	244.	71.	111.
SOUTHWEST	0.	0.	0.	0.	9.	22.	75.	128.	174.	205.	217.	198.	121.	0.	0.	0.	0.	1149.	118.	193.	60.	90.
WEST	0.	0.	0.	0.	9.	19.	28.	34.	35.	88.	129.	144.	103.	0.	0.	0.	0.	589.	74.	112.	42.	57.
NORTHWEST	0.	0.	0.	0.	9.	19.	28.	34.	35.	34.	28.	19.	29.	0.	0.	0.	0.	236.	46.	61.	31.	37.
NORTH	0.	0.	0.	0.	9.	19.	28.	34.	35.	34.	28.	19.	9.	0.	0.	0.	0.	215.	44.	58.	30.	36.
NORTHEAST	0.	0.	0.	0.	29.	19.	28.	34.	35.	34.	28.	19.	9.	0.	0.	0.	0.	236.	46.	61.	31.	37.
EAST	0.	0.	0.	0.	103.	144.	129.	88.	35.	34.	28.	19.	9.	0.	0.	0.	0.	589.	74.	112.	42.	57.
SOUTHEAST	0.	0.	0.	0.	121.	198.	217.	205.	174.	128.	75.	22.	9.	0.	0.	0.	0.	1149.	118.	193.	60.	90.
HORIZ.	0.	0.	0.	0.	29.	79.	121.	147.	157.	147.	121.	79.	29.	0.	0.	0.	0.	909.	99.	158.	52.	76.

MONTH 2 HO 2031. TOD 32. TOT 28. KT .660 KD .159

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	20.	98.	156.	198.	224.	233.	224.	198.	156.	98.	20.	0.	0.	0.	1626.	148.	242.	80.	123.
SOUTHWEST	0.	0.	0.	4.	16.	28.	68.	127.	178.	215.	234.	227.	182.	51.	0.	0.	0.	1330.	127.	204.	71.	106.
WEST	0.	0.	0.	4.	16.	28.	36.	42.	44.	105.	153.	181.	170.	55.	0.	0.	0.	834.	91.	140.	55.	77.
NORTHWEST	0.	0.	0.	4.	16.	28.	36.	42.	44.	42.	36.	45.	67.	29.	0.	0.	0.	389.	60.	82.	41.	51.
NORTH	0.	0.	0.	4.	16.	28.	36.	42.	44.	42.	36.	28.	16.	4.	0.	0.	0.	296.	53.	70.	38.	45.
NORTHEAST	0.	0.	0.	29.	67.	45.	36.	42.	44.	42.	36.	28.	16.	4.	0.	0.	0.	389.	60.	82.	41.	51.
EAST	0.	0.	0.	55.	170.	181.	153.	105.	44.	42.	36.	28.	16.	4.	0.	0.	0.	834.	91.	140.	55.	77.
SOUTHEAST	0.	0.	0.	51.	182.	227.	234.	215.	178.	127.	68.	28.	16.	4.	0.	0.	0.	1330.	127.	204.	71.	106.
HORIZ.	0.	0.	0.	10.	67.	124.	169.	197.	207.	197.	169.	124.	67.	10.	0.	0.	0.	1340.	127.	205.	71.	106.

MONTH 3 HO 2649. TOD 39. TOT 35. KT .692 KD .151

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	35.	91.	143.	183.	208.	217.	208.	183.	143.	91.	35.	0.	0.	0.	1537.	138.	218.	85.	125.
SOUTHWEST	0.	0.	0.	11.	24.	36.	52.	114.	168.	209.	232.	232.	203.	130.	0.	0.	0.	1413.	130.	204.	81.	118.
WEST	0.	0.	0.	11.	24.	36.	44.	50.	52.	117.	172.	206.	211.	156.	0.	0.	0.	1078.	108.	165.	70.	98.
NORTHWEST	0.	0.	0.	11.	24.	36.	44.	50.	52.	50.	44.	81.	108.	96.	0.	0.	0.	597.	78.	109.	54.	70.
NORTH	0.	0.	0.	11.	24.	36.	44.	50.	52.	50.	44.	36.	24.	11.	0.	0.	0.	382.	64.	84.	48.	58.
NORTHEAST	0.	0.	0.	96.	108.	81.	44.	50.	52.	50.	44.	36.	24.	11.	0.	0.	0.	597.	78.	109.	54.	70.
EAST	0.	0.	0.	156.	211.	206.	172.	117.	52.	50.	44.	36.	24.	11.	0.	0.	0.	1078.	108.	165.	70.	98.
SOUTHEAST	0.	0.	0.	130.	203.	232.	232.	209.	168.	114.	52.	36.	24.	11.	0.	0.	0.	1413.	130.	204.	81.	118.
HORIZ.	0.	0.	0.	44.	110.	170.	217.	246.	256.	246.	217.	170.	110.	44.	0.	0.	0.	1832.	157.	252.	94.	142.

LOCATION ELY, NEVADA LATITUDE 39 DEGREES 17 MINUTES

MONTH 4 HO 3249. TOD 48. TOT 44. KT .664 KD .158

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	63.	105.	140.	162.	169.	162.	140.	105.	63.	19.	6.	0.	0.	1160.	115.	170.	81.	111.
SOUTHWEST	0.	0.	6.	19.	32.	43.	51.	88.	137.	174.	195.	198.	178.	133.	50.	0.	0.	1304.	124.	185.	86.	120.
WEST	0.	0.	6.	19.	32.	43.	51.	56.	58.	117.	166.	199.	208.	180.	80.	0.	0.	1216.	119.	176.	83.	115.
NORTHWEST	0.	0.	6.	19.	32.	43.	51.	56.	58.	56.	70.	109.	134.	133.	67.	0.	0.	835.	97.	136.	70.	92.
NORTH	0.	0.	18.	19.	32.	43.	51.	56.	58.	56.	51.	43.	32.	19.	18.	0.	0.	497.	77.	100.	60.	73.
NORTHEAST	0.	0.	67.	133.	134.	109.	70.	56.	58.	56.	51.	43.	32.	19.	6.	0.	0.	835.	97.	136.	70.	92.
EAST	0.	0.	80.	180.	208.	199.	166.	117.	58.	56.	51.	43.	32.	19.	6.	0.	0.	1216.	119.	176.	83.	115.
SOUTHEAST	0.	0.	50.	133.	178.	198.	195.	174.	137.	88.	51.	43.	32.	19.	6.	0.	0.	1304.	124.	185.	86.	120.
HORIZ.	0.	0.	19.	78.	141.	197.	240.	267.	276.	267.	240.	197.	141.	78.	19.	0.	0.	2159.	173.	275.	113.	169.

MONTH 5 HO 3625. TOD 57. TOT 52. KT .649 KD .162

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	1.	12.	24.	42.	79.	110.	130.	136.	130.	110.	79.	42.	24.	12.	1.	0.	933.	110.	151.	84.	108.
SOUTHWEST	0.	1.	12.	24.	36.	46.	54.	70.	114.	148.	168.	172.	156.	122.	67.	1.	0.	1193.	125.	178.	92.	124.
WEST	0.	1.	12.	24.	36.	46.	54.	59.	61.	115.	160.	190.	200.	183.	120.	2.	0.	1265.	129.	185.	95.	128.
NORTHWEST	0.	1.	12.	24.	36.	46.	54.	59.	61.	59.	90.	125.	148.	150.	110.	2.	0.	979.	113.	156.	85.	111.
NORTH	0.	2.	43.	44.	36.	46.	54.	59.	61.	59.	54.	46.	36.	44.	43.	2.	0.	631.	93.	121.	73.	90.
NORTHEAST	0.	2.	110.	150.	148.	125.	90.	59.	61.	59.	54.	46.	36.	24.	12.	1.	0.	979.	113.	156.	85.	111.
EAST	0.	2.	120.	183.	200.	190.	160.	115.	61.	59.	54.	46.	36.	24.	12.	1.	0.	1265.	129.	185.	95.	128.
SOUTHEAST	0.	1.	67.	122.	156.	172.	168.	148.	114.	70.	54.	46.	36.	24.	12.	1.	0.	1193.	125.	178.	92.	124.
HORIZ.	0.	2.	41.	100.	158.	210.	250.	275.	283.	275.	250.	210.	158.	100.	41.	2.	0.	2353.	192.	295.	132.	194.

MONTH 6 HO 3759. TOD 65. TOT 60. KT .704 KD .147

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	3.	13.	25.	37.	73.	105.	126.	133.	126.	105.	73.	37.	25.	13.	3.	0.	896.	115.	153.	90.	114.
SOUTHWEST	0.	3.	13.	25.	37.	47.	55.	63.	112.	150.	173.	179.	164.	130.	75.	8.	0.	1234.	134.	187.	102.	134.
WEST	0.	3.	13.	25.	37.	47.	55.	60.	62.	122.	173.	208.	221.	205.	145.	17.	0.	1392.	143.	202.	107.	144.
NORTHWEST	0.	3.	13.	25.	37.	47.	55.	60.	62.	60.	103.	143.	170.	175.	138.	18.	0.	1108.	127.	174.	97.	127.
NORTH	0.	10.	57.	57.	41.	47.	55.	60.	62.	60.	55.	47.	41.	57.	57.	10.	0.	717.	105.	136.	84.	103.
NORTHEAST	0.	18.	138.	175.	170.	143.	103.	60.	62.	60.	55.	47.	37.	25.	13.	3.	0.	1108.	127.	174.	97.	127.
EAST	0.	17.	145.	205.	221.	208.	173.	122.	62.	60.	55.	47.	37.	25.	13.	3.	0.	1392.	143.	202.	107.	144.
SOUTHEAST	0.	8.	75.	130.	164.	179.	173.	150.	112.	63.	55.	47.	37.	25.	13.	3.	0.	1234.	134.	187.	102.	134.
HORIZ.	0.	5.	52.	116.	179.	234.	277.	304.	313.	304.	277.	234.	179.	116.	52.	5.	0.	2646.	212.	325.	150.	219.

LOCATION ELY, NEVADA LATITUDE 39 DEGREES 17 MINUTES

MONTH 7 HO 3622. TOD 74. TOT 68. KT .656 KD .160

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	1.	12.	24.	41.	79.	110.	130.	137.	130.	110.	79.	41.	24.	12.	1.	0.	932.	128.	169.	100.	125.
SOUTHWEST	0.	1.	12.	24.	36.	46.	54.	69.	115.	149.	170.	173.	157.	122.	66.	2.	0.	1196.	143.	195.	109.	141.
WEST	0.	1.	12.	24.	36.	46.	54.	59.	61.	116.	162.	192.	202.	183.	119.	2.	0.	1270.	147.	203.	112.	145.
NORTHWEST	0.	1.	12.	24.	36.	46.	54.	59.	61.	59.	91.	126.	150.	151.	109.	2.	0.	982.	131.	174.	102.	128.
NORTH	0.	2.	43.	45.	36.	46.	54.	59.	61.	59.	54.	46.	36.	45.	43.	2.	0.	631.	111.	138.	90.	106.
NORTHEAST	0.	2.	109.	151.	150.	126.	91.	59.	61.	59.	54.	46.	36.	24.	12.	1.	0.	982.	131.	174.	102.	128.
EAST	0.	2.	119.	183.	202.	192.	162.	116.	61.	59.	54.	46.	36.	24.	12.	1.	0.	1270.	147.	203.	112.	145.
SOUTHEAST	0.	2.	66.	122.	157.	173.	170.	149.	115.	69.	54.	46.	36.	24.	12.	1.	0.	1196.	143.	195.	109.	141.
HORIZ.	0.	2.	40.	100.	160.	212.	252.	278.	287.	278.	252.	212.	160.	100.	40.	2.	0.	2376.	210.	314.	150.	212.

MONTH 8 HO 3226. TOD 72. TOT 66. KT .695 KD .150

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	64.	109.	145.	169.	177.	169.	145.	109.	64.	19.	6.	0.	0.	1199.	146.	203.	107.	139.
SOUTHWEST	0.	0.	6.	19.	31.	42.	51.	89.	142.	182.	205.	207.	186.	136.	47.	0.	0.	1344.	155.	218.	112.	148.
WEST	0.	0.	6.	19.	31.	42.	51.	56.	58.	121.	174.	209.	218.	186.	76.	0.	0.	1246.	149.	208.	109.	142.
NORTHWEST	0.	0.	6.	19.	31.	42.	51.	56.	58.	56.	71.	113.	140.	137.	64.	0.	0.	843.	124.	164.	95.	117.
NORTH	0.	0.	18.	19.	31.	42.	51.	56.	58.	56.	51.	42.	31.	19.	18.	0.	0.	490.	102.	126.	83.	96.
NORTHEAST	0.	0.	64.	137.	140.	113.	71.	56.	58.	56.	51.	42.	31.	19.	6.	0.	0.	843.	124.	164.	95.	117.
EAST	0.	0.	76.	186.	218.	209.	174.	121.	58.	56.	51.	42.	31.	19.	6.	0.	0.	1246.	149.	208.	109.	142.
SOUTHEAST	0.	0.	47.	136.	186.	207.	205.	182.	142.	89.	51.	42.	31.	19.	6.	0.	0.	1344.	155.	218.	112.	148.
HORIZ.	0.	0.	18.	79.	146.	204.	250.	279.	289.	279.	250.	204.	146.	79.	18.	0.	0.	2243.	210.	316.	143.	202.

MONTH 9 HO 2636. TOD 64. TOT 58. KT .696 KD .150

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	33.	89.	141.	182.	208.	217.	208.	182.	141.	89.	33.	0.	0.	0.	1524.	167.	247.	110.	150.
SOUTHWEST	0.	0.	0.	11.	24.	35.	51.	114.	168.	210.	232.	231.	200.	123.	0.	0.	0.	1399.	159.	232.	106.	142.
WEST	0.	0.	0.	11.	24.	35.	44.	50.	52.	118.	172.	206.	207.	147.	0.	0.	0.	1066.	136.	192.	94.	122.
NORTHWEST	0.	0.	0.	11.	24.	35.	44.	50.	52.	50.	44.	81.	107.	92.	0.	0.	0.	590.	104.	135.	78.	93.
NORTH	0.	0.	0.	11.	24.	35.	44.	50.	52.	50.	44.	35.	24.	11.	0.	0.	0.	380.	90.	109.	71.	81.
NORTHEAST	0.	0.	0.	92.	107.	81.	44.	50.	52.	50.	44.	35.	24.	11.	0.	0.	0.	590.	104.	135.	78.	93.
EAST	0.	0.	0.	147.	207.	206.	172.	118.	52.	50.	44.	35.	24.	11.	0.	0.	0.	1066.	136.	192.	94.	122.
SOUTHEAST	0.	0.	0.	123.	200.	231.	232.	210.	168.	114.	51.	35.	24.	11.	0.	0.	0.	1399.	159.	232.	106.	142.
HORIZ.	0.	0.	0.	43.	109.	170.	218.	248.	258.	248.	218.	170.	109.	43.	0.	0.	0.	1834.	188.	284.	121.	169.

LOCATION ELY, NEVADA LATITUDE 39 DEGREES 17 MINUTES

MONTH 10 HO 1997. TOD 52. TOT 47. KT .691 KD .151

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	17.	101.	164.	210.	239.	249.	239.	210.	164.	101.	17.	0.	0.	0.	1711.	174.	274.	102.	147.
SOUTHWEST	0.	0.	0.	4.	16.	27.	71.	133.	189.	229.	248.	239.	188.	43.	0.	0.	0.	1385.	151.	231.	91.	128.
WEST	0.	0.	0.	4.	16.	27.	36.	41.	43.	109.	161.	190.	174.	46.	0.	0.	0.	846.	112.	162.	74.	96.
NORTHWEST	0.	0.	0.	4.	16.	27.	36.	41.	43.	41.	36.	45.	68.	24.	0.	0.	0.	380.	79.	101.	59.	69.
NORTH	0.	0.	0.	4.	16.	27.	36.	41.	43.	41.	36.	27.	16.	4.	0.	0.	0.	289.	73.	90.	56.	64.
NORTHEAST	0.	0.	0.	24.	68.	45.	36.	41.	43.	41.	36.	27.	16.	4.	0.	0.	0.	380.	79.	101.	59.	69.
EAST	0.	0.	0.	46.	174.	190.	161.	109.	43.	41.	36.	27.	16.	4.	0.	0.	0.	846.	112.	162.	74.	96.
SOUTHEAST	0.	0.	0.	43.	188.	239.	248.	229.	189.	133.	71.	27.	16.	4.	0.	0.	0.	1385.	151.	231.	91.	128.
HORIZ.	0.	0.	0.	9.	67.	127.	175.	205.	215.	205.	175.	127.	67.	9.	0.	0.	0.	1379.	150.	231.	91.	127.

MONTH 11 HO 1457. TOD 40. TOT 35. KT .658 KD .160

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	78.	160.	212.	243.	253.	243.	212.	160.	78.	0.	0.	0.	0.	1640.	170.	276.	88.	131.
SOUTHWEST	0.	0.	0.	0.	8.	22.	80.	139.	189.	225.	237.	216.	129.	0.	0.	0.	0.	1244.	139.	219.	75.	108.
WEST	0.	0.	0.	0.	8.	19.	28.	33.	35.	94.	139.	156.	109.	0.	0.	0.	0.	622.	89.	130.	55.	71.
NORTHWEST	0.	0.	0.	0.	8.	19.	28.	33.	35.	33.	28.	19.	30.	0.	0.	0.	0.	234.	58.	74.	43.	49.
NORTH	0.	0.	0.	0.	8.	19.	28.	33.	35.	33.	28.	19.	8.	0.	0.	0.	0.	212.	57.	70.	42.	48.
NORTHEAST	0.	0.	0.	0.	30.	19.	28.	33.	35.	33.	28.	19.	8.	0.	0.	0.	0.	234.	58.	74.	43.	49.
EAST	0.	0.	0.	0.	109.	156.	139.	94.	35.	33.	28.	19.	8.	0.	0.	0.	0.	622.	89.	130.	55.	71.
SOUTHEAST	0.	0.	0.	0.	129.	216.	237.	225.	189.	139.	80.	22.	8.	0.	0.	0.	0.	1244.	139.	219.	75.	108.
HORIZ.	0.	0.	0.	0.	29.	83.	128.	157.	167.	157.	128.	83.	29.	0.	0.	0.	0.	960.	116.	178.	66.	91.

MONTH 12 HO 1254. TOD 31. TOT 27. KT .640 KD .164

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	56.	152.	208.	239.	249.	239.	208.	152.	56.	0.	0.	0.	0.	1559.	161.	267.	77.	118.
SOUTHWEST	0.	0.	0.	0.	5.	25.	81.	137.	186.	218.	227.	199.	88.	0.	0.	0.	0.	1168.	129.	208.	64.	95.
WEST	0.	0.	0.	0.	5.	16.	25.	30.	32.	87.	128.	139.	72.	0.	0.	0.	0.	534.	76.	112.	44.	58.
NORTHWEST	0.	0.	0.	0.	5.	16.	25.	30.	32.	30.	25.	16.	17.	0.	0.	0.	0.	195.	47.	61.	33.	38.
NORTH	0.	0.	0.	0.	5.	16.	25.	30.	32.	30.	25.	16.	5.	0.	0.	0.	0.	184.	46.	59.	33.	38.
NORTHEAST	0.	0.	0.	0.	17.	16.	25.	30.	32.	30.	25.	16.	5.	0.	0.	0.	0.	195.	47.	61.	33.	38.
EAST	0.	0.	0.	0.	72.	139.	128.	87.	32.	30.	25.	16.	5.	0.	0.	0.	0.	534.	76.	112.	44.	58.
SOUTHEAST	0.	0.	0.	0.	88.	199.	227.	218.	186.	137.	81.	25.	5.	0.	0.	0.	0.	1168.	129.	208.	64.	95.
HORIZ.	0.	0.	0.	0.	16.	66.	109.	137.	146.	137.	109.	66.	16.	0.	0.	0.	0.	804.	98.	153.	53.	74.

LOCATION ELY, NEVADA LATITUDE 39 DEGREES 17 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	147.	148.	138.	115.	110.	115.	128.	146.	167.	174.	170.	161.	143.
SOUTHWEST	118.	127.	130.	124.	125.	134.	143.	155.	159.	151.	139.	129.	136.
WEST	74.	91.	108.	119.	129.	143.	147.	149.	136.	112.	89.	76.	115.
NORTHWEST	46.	60.	78.	97.	113.	127.	131.	124.	104.	79.	58.	47.	89.
NORTH	44.	53.	64.	77.	93.	105.	111.	102.	90.	73.	57.	46.	76.
NORTHEAST	46.	60.	78.	97.	113.	127.	131.	124.	104.	79.	58.	47.	89.
EAST	74.	91.	108.	119.	129.	143.	147.	149.	136.	112.	89.	76.	115.
SOUTHEAST	118.	127.	130.	124.	125.	134.	143.	155.	159.	151.	139.	129.	136.
HORIZ.	99.	127.	157.	173.	192.	212.	210.	210.	188.	150.	116.	98.	161.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	244.	242.	218.	170.	151.	153.	169.	203.	247.	274.	276.	267.	218.
SOUTHWEST	193.	204.	204.	185.	178.	187.	195.	218.	232.	231.	219.	208.	204.
WEST	112.	140.	165.	176.	185.	202.	203.	208.	192.	162.	130.	112.	165.
NORTHWEST	61.	82.	109.	136.	156.	174.	174.	164.	135.	101.	74.	61.	119.
NORTH	58.	70.	84.	100.	121.	136.	138.	126.	109.	90.	70.	59.	97.
NORTHEAST	61.	82.	109.	136.	156.	174.	174.	164.	135.	101.	74.	61.	119.
EAST	112.	140.	165.	176.	185.	202.	203.	208.	192.	162.	130.	112.	165.
SOUTHEAST	193.	204.	204.	185.	178.	187.	195.	218.	232.	231.	219.	208.	204.
HORIZ.	158.	205.	252.	275.	295.	325.	314.	316.	284.	231.	178.	153.	249.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	71.	80.	85.	81.	84.	90.	100.	107.	110.	102.	88.	77.	90.
SOUTHWEST	60.	71.	81.	86.	92.	102.	109.	112.	106.	91.	75.	64.	87.
WEST	42.	55.	70.	83.	95.	107.	112.	109.	94.	74.	55.	44.	78.
NORTHWEST	31.	41.	54.	70.	85.	97.	102.	95.	78.	59.	43.	33.	66.
NORTH	30.	38.	48.	60.	73.	84.	90.	83.	71.	56.	42.	33.	59.
NORTHEAST	31.	41.	54.	70.	85.	97.	102.	95.	78.	59.	43.	33.	66.
EAST	42.	55.	70.	83.	95.	107.	112.	109.	94.	74.	55.	44.	78.
SOUTHEAST	60.	71.	81.	86.	92.	102.	109.	112.	106.	91.	75.	64.	87.
HORIZ.	52.	71.	94.	113.	132.	150.	150.	143.	121.	91.	66.	53.	103.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	111.	123.	125.	111.	108.	114.	125.	139.	150.	147.	131.	118.	125.
SOUTHWEST	90.	106.	118.	120.	124.	134.	141.	148.	142.	128.	108.	95.	121.
WEST	57.	77.	98.	115.	128.	144.	145.	142.	122.	96.	71.	58.	104.
NORTHWEST	37.	51.	70.	92.	111.	127.	128.	117.	93.	69.	49.	38.	82.
NORTH	36.	45.	58.	73.	90.	103.	106.	96.	81.	64.	48.	38.	70.
NORTHEAST	37.	51.	70.	92.	111.	127.	128.	117.	93.	69.	49.	38.	82.
EAST	57.	77.	98.	115.	128.	144.	145.	142.	122.	96.	71.	58.	104.
SOUTHEAST	90.	106.	118.	120.	124.	134.	141.	148.	142.	128.	108.	95.	121.
HORIZ.	76.	106.	142.	169.	194.	219.	212.	202.	169.	127.	91.	74.	148.

LOCATION FAIRBANKS, ALASKA LATITUDE 64 DEGREES 48 MINUTES

MONTH 1 HO 149. TOD -7. TOT -10. KT .639 KD .164

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	0.	0.	36.	237.	317.	237.	36.	0.	0.	0.	0.	0.	0.	864.	118.	220.	18.	41.
SOUTHWEST	0.	0.	0.	0.	0.	0.	13.	128.	227.	211.	39.	0.	0.	0.	0.	0.	0.	617.	82.	155.	10.	26.
WEST	0.	0.	0.	0.	0.	0.	2.	5.	7.	64.	20.	0.	0.	0.	0.	0.	0.	98.	7.	19.	-7.	-4.
NORTHWEST	0.	0.	0.	0.	0.	0.	2.	5.	7.	5.	2.	0.	0.	0.	0.	0.	0.	22.	-4.	-1.	-9.	-9.
NORTH	0.	0.	0.	0.	0.	0.	2.	5.	7.	5.	2.	0.	0.	0.	0.	0.	0.	22.	-4.	-1.	-9.	-9.
NORTHEAST	0.	0.	0.	0.	0.	0.	2.	5.	7.	5.	2.	0.	0.	0.	0.	0.	0.	22.	-4.	-1.	-9.	-9.
EAST	0.	0.	0.	0.	0.	0.	20.	64.	7.	5.	2.	0.	0.	0.	0.	0.	0.	98.	7.	19.	-7.	-4.
SOUTHEAST	0.	0.	0.	0.	0.	0.	39.	211.	227.	128.	13.	0.	0.	0.	0.	0.	0.	617.	82.	155.	10.	26.
HORIZ.	0.	0.	0.	0.	0.	0.	4.	25.	36.	25.	4.	0.	0.	0.	0.	0.	0.	95.	7.	18.	-7.	-4.

MONTH 2 HO 665. TOD 0. TOT -3. KT .556 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	10.	93.	161.	202.	216.	202.	161.	93.	10.	0.	0.	0.	0.	1149.	100.	181.	34.	64.
SOUTHWEST	0.	0.	0.	0.	2.	9.	57.	112.	158.	183.	179.	128.	16.	0.	0.	0.	0.	845.	73.	133.	24.	46.
WEST	0.	0.	0.	0.	2.	8.	13.	16.	18.	67.	99.	92.	15.	0.	0.	0.	0.	330.	29.	52.	7.	16.
NORTHWEST	0.	0.	0.	0.	2.	8.	13.	16.	18.	16.	13.	8.	6.	0.	0.	0.	0.	101.	9.	16.	0.	3.
NORTH	0.	0.	0.	0.	2.	8.	13.	16.	18.	16.	13.	8.	2.	0.	0.	0.	0.	97.	9.	16.	0.	3.
NORTHEAST	0.	0.	0.	0.	6.	8.	13.	16.	18.	16.	13.	8.	2.	0.	0.	0.	0.	101.	9.	16.	0.	3.
EAST	0.	0.	0.	0.	15.	92.	99.	67.	18.	16.	13.	8.	2.	0.	0.	0.	0.	330.	29.	52.	7.	16.
SOUTHEAST	0.	0.	0.	0.	16.	128.	179.	183.	158.	112.	57.	9.	2.	0.	0.	0.	0.	845.	73.	133.	24.	46.
HORIZ.	0.	0.	0.	0.	4.	27.	51.	67.	73.	67.	51.	27.	4.	0.	0.	0.	0.	370.	32.	58.	9.	18.

MONTH 3 HO 1474. TOD 13. TOT 9. KT .674 KD .156

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	29.	97.	166.	221.	257.	269.	257.	221.	166.	97.	29.	0.	0.	0.	1808.	128.	222.	67.	114.
SOUTHWEST	0.	0.	0.	6.	13.	20.	75.	142.	199.	238.	252.	238.	187.	89.	0.	0.	0.	1458.	106.	182.	56.	94.
WEST	0.	0.	0.	6.	13.	20.	25.	28.	29.	96.	150.	182.	175.	101.	0.	0.	0.	826.	66.	108.	35.	57.
NORTHWEST	0.	0.	0.	6.	13.	20.	25.	28.	29.	28.	25.	31.	68.	57.	0.	0.	0.	331.	34.	51.	20.	28.
NORTH	0.	0.	0.	6.	13.	20.	25.	28.	29.	28.	25.	20.	13.	6.	0.	0.	0.	213.	27.	38.	16.	21.
NORTHEAST	0.	0.	0.	57.	68.	31.	25.	28.	29.	28.	25.	20.	13.	6.	0.	0.	0.	331.	34.	51.	20.	28.
EAST	0.	0.	0.	101.	175.	182.	150.	96.	29.	28.	25.	20.	13.	6.	0.	0.	0.	826.	66.	108.	35.	57.
SOUTHEAST	0.	0.	0.	89.	187.	238.	252.	238.	199.	142.	75.	20.	13.	6.	0.	0.	0.	1458.	106.	182.	56.	94.
HORIZ.	0.	0.	0.	19.	56.	91.	120.	138.	144.	138.	120.	91.	56.	19.	0.	0.	0.	993.	76.	128.	41.	67.

LOCATION FAIRBANKS, ALASKA LATITUDE 64 DEGREES 48 MINUTES

MONTH 4 HO 2512. TOD 32. TOT 29. KT .647 KD .162

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	4.	10.	43.	98.	151.	195.	223.	232.	223.	195.	151.	98.	43.	10.	4.	0.	1679.	115.	183.	83.	127.
SOUTHWEST	0.	4.	10.	18.	25.	31.	67.	126.	176.	212.	229.	226.	200.	153.	88.	19.	0.	1584.	111.	175.	80.	121.
WEST	0.	4.	10.	18.	25.	31.	36.	39.	40.	100.	150.	186.	199.	184.	132.	35.	0.	1190.	91.	139.	67.	98.
NORTHWEST	0.	4.	10.	18.	25.	31.	36.	39.	40.	39.	36.	56.	97.	118.	104.	34.	0.	686.	66.	94.	51.	69.
NORTH	0.	14.	21.	18.	25.	31.	36.	39.	40.	39.	36.	31.	25.	18.	21.	14.	0.	409.	52.	69.	42.	53.
NORTHEAST	0.	34.	104.	118.	97.	56.	36.	39.	40.	39.	36.	31.	25.	18.	10.	4.	0.	686.	66.	94.	51.	69.
EAST	0.	35.	132.	184.	199.	186.	150.	100.	40.	39.	36.	31.	25.	18.	10.	4.	0.	1190.	91.	139.	67.	98.
SOUTHEAST	0.	19.	88.	153.	200.	226.	229.	212.	176.	126.	67.	31.	25.	18.	10.	4.	0.	1584.	111.	175.	80.	121.
HORIZ.	0.	8.	36.	73.	109.	142.	167.	183.	188.	183.	167.	142.	109.	73.	36.	8.	0.	1625.	113.	178.	81.	124.

MONTH 5 HO 3356. TOD 50. TOT 47. KT .546 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	6.	12.	19.	36.	77.	115.	145.	165.	172.	165.	145.	115.	77.	36.	19.	12.	6.	1323.	108.	152.	93.	127.
SOUTHWEST	6.	12.	19.	26.	32.	38.	57.	99.	135.	160.	173.	172.	156.	127.	89.	47.	13.	1364.	110.	155.	94.	130.
WEST	6.	12.	19.	26.	32.	38.	42.	45.	46.	88.	124.	150.	163.	159.	137.	96.	40.	1226.	104.	145.	89.	121.
NORTHWEST	6.	12.	19.	26.	32.	38.	42.	45.	46.	45.	42.	63.	93.	112.	115.	95.	47.	882.	89.	118.	78.	101.
NORTH	30.	46.	37.	26.	32.	38.	42.	45.	46.	45.	42.	38.	32.	26.	37.	46.	30.	641.	78.	100.	69.	86.
NORTHEAST	47.	95.	115.	112.	93.	63.	42.	45.	46.	45.	42.	38.	32.	26.	19.	12.	6.	882.	89.	118.	78.	101.
EAST	40.	96.	137.	159.	163.	150.	124.	88.	46.	45.	42.	38.	32.	26.	19.	12.	6.	1226.	104.	145.	89.	121.
SOUTHEAST	13.	47.	89.	127.	156.	172.	173.	160.	135.	99.	57.	38.	32.	26.	19.	12.	6.	1364.	110.	155.	94.	130.
HORIZ.	14.	36.	64.	94.	122.	147.	167.	179.	183.	179.	167.	147.	122.	94.	64.	36.	14.	1833.	130.	191.	110.	158.

MONTH 6 HO 3721. TOD 62. TOT 59. KT .529 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	9.	15.	22.	35.	73.	108.	136.	154.	160.	154.	136.	108.	73.	35.	22.	15.	9.	1271.	112.	150.	103.	136.
SOUTHWEST	9.	15.	22.	28.	35.	40.	55.	94.	127.	151.	163.	162.	148.	122.	88.	51.	18.	1340.	115.	155.	105.	140.
WEST	9.	15.	22.	28.	35.	40.	45.	47.	48.	87.	121.	145.	157.	155.	137.	104.	60.	1278.	112.	151.	103.	137.
NORTHWEST	9.	15.	22.	28.	35.	40.	45.	47.	48.	47.	45.	67.	95.	113.	118.	106.	72.	981.	101.	130.	93.	119.
NORTH	46.	54.	43.	28.	35.	40.	45.	47.	48.	47.	45.	40.	35.	28.	43.	54.	46.	764.	92.	115.	85.	105.
NORTHEAST	72.	106.	118.	113.	95.	67.	45.	47.	48.	47.	45.	40.	35.	28.	22.	15.	9.	981.	101.	130.	93.	119.
EAST	60.	104.	137.	155.	157.	145.	121.	87.	48.	47.	45.	40.	35.	28.	22.	15.	9.	1278.	112.	151.	103.	137.
SOUTHEAST	18.	51.	88.	122.	148.	162.	163.	151.	127.	94.	55.	40.	35.	28.	22.	15.	9.	1340.	115.	155.	105.	140.
HORIZ.	24.	47.	74.	102.	129.	153.	171.	182.	186.	182.	171.	153.	129.	102.	74.	47.	24.	1969.	139.	199.	127.	178.

LOCATION FAIRBANKS, ALASKA LATITUDE 64 DEGREES 48 MINUTES

MONTH 7 HO 3367. TOD 64. TOT 61. KT .485 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	6.	12.	18.	34.	68.	100.	125.	142.	147.	142.	125.	100.	68.	34.	18.	12.	6.	1158.	114.	152.	101.	131.
SOUTHWEST	6.	12.	18.	25.	32.	37.	53.	88.	117.	138.	148.	146.	132.	108.	75.	40.	12.	1191.	115.	155.	102.	133.
WEST	6.	12.	18.	25.	32.	37.	41.	44.	45.	79.	108.	129.	138.	133.	114.	79.	33.	1077.	110.	146.	98.	126.
NORTHWEST	6.	12.	18.	25.	32.	37.	41.	44.	45.	44.	41.	58.	81.	96.	96.	78.	38.	797.	98.	125.	88.	109.
NORTH	25.	39.	34.	25.	32.	37.	41.	44.	45.	44.	41.	37.	32.	25.	34.	39.	25.	602.	90.	110.	81.	97.
NORTHEAST	38.	78.	96.	96.	81.	58.	41.	44.	45.	44.	41.	37.	32.	25.	18.	12.	6.	797.	98.	125.	88.	109.
EAST	33.	79.	114.	133.	138.	129.	108.	79.	45.	44.	41.	37.	32.	25.	18.	12.	6.	1077.	110.	146.	98.	126.
SOUTHEAST	12.	40.	75.	108.	132.	146.	148.	138.	117.	88.	53.	37.	32.	25.	18.	12.	6.	1191.	115.	155.	102.	133.
HORIZ.	13.	33.	57.	84.	109.	131.	148.	158.	162.	158.	148.	131.	109.	84.	57.	33.	13.	1633.	134.	189.	117.	160.

MONTH 8 HO 2500. TOD 58. TOT 56. KT .463 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	4.	10.	31.	65.	98.	124.	141.	147.	141.	124.	98.	65.	31.	10.	4.	0.	1094.	116.	160.	93.	122.
SOUTHWEST	0.	4.	10.	17.	24.	29.	52.	86.	115.	135.	144.	140.	122.	92.	52.	11.	0.	1035.	113.	154.	91.	118.
WEST	0.	4.	10.	17.	24.	29.	34.	37.	38.	71.	99.	117.	122.	109.	75.	19.	0.	807.	101.	133.	83.	104.
NORTHWEST	0.	4.	10.	17.	24.	29.	34.	37.	38.	37.	34.	43.	64.	73.	60.	19.	0.	523.	86.	107.	73.	87.
NORTH	0.	9.	16.	17.	24.	29.	34.	37.	38.	37.	34.	29.	24.	17.	16.	9.	0.	371.	78.	93.	68.	78.
NORTHEAST	0.	19.	60.	73.	64.	43.	34.	37.	38.	37.	34.	29.	24.	17.	10.	4.	0.	523.	86.	107.	73.	87.
EAST	0.	19.	75.	109.	122.	117.	99.	71.	38.	37.	34.	29.	24.	17.	10.	4.	0.	807.	101.	133.	83.	104.
SOUTHEAST	0.	11.	52.	92.	122.	140.	144.	135.	115.	86.	52.	29.	24.	17.	10.	4.	0.	1035.	113.	154.	91.	118.
HORIZ.	0.	8.	28.	53.	78.	100.	118.	128.	132.	128.	118.	100.	78.	53.	28.	8.	0.	1157.	119.	166.	95.	126.

MONTH 9 HO 1481. TOD 47. TOT 45. KT .419 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	16.	49.	83.	111.	129.	135.	129.	111.	83.	49.	16.	0.	0.	0.	912.	109.	156.	76.	100.
SOUTHWEST	0.	0.	0.	6.	13.	18.	45.	77.	103.	120.	125.	116.	89.	41.	0.	0.	0.	754.	98.	137.	70.	90.
WEST	0.	0.	0.	6.	13.	18.	23.	25.	26.	56.	79.	91.	83.	46.	0.	0.	0.	469.	79.	103.	61.	73.
NORTHWEST	0.	0.	0.	6.	13.	18.	23.	25.	26.	25.	23.	23.	37.	28.	0.	0.	0.	249.	64.	77.	53.	60.
NORTH	0.	0.	0.	6.	13.	18.	23.	25.	26.	25.	23.	18.	13.	6.	0.	0.	0.	198.	60.	71.	51.	57.
NORTHEAST	0.	0.	0.	28.	37.	23.	23.	25.	26.	25.	23.	18.	13.	6.	0.	0.	0.	249.	64.	77.	53.	60.
EAST	0.	0.	0.	46.	83.	91.	79.	56.	26.	25.	23.	18.	13.	6.	0.	0.	0.	469.	79.	103.	61.	73.
SOUTHEAST	0.	0.	0.	41.	89.	116.	125.	120.	103.	77.	45.	18.	13.	6.	0.	0.	0.	754.	98.	137.	70.	90.
HORIZ.	0.	0.	1.	15.	36.	57.	74.	84.	88.	84.	74.	57.	36.	15.	1.	0.	0.	620.	89.	121.	66.	82.

LOCATION FAIRBANKS, ALASKA LATITUDE 64 DEGREES 48 MINUTES

MONTH 10 HO 639. TOD 30. TOT 27. KT .416 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	4.	56.	102.	130.	140.	130.	102.	56.	4.	0.	0.	0.	0.	723.	93.	144.	51.	70.
SOUTHWEST	0.	0.	0.	0.	2.	8.	38.	74.	103.	118.	112.	75.	6.	0.	0.	0.	0.	538.	77.	115.	45.	59.
WEST	0.	0.	0.	0.	2.	7.	12.	14.	15.	46.	64.	55.	6.	0.	0.	0.	0.	221.	49.	65.	35.	40.
NORTHWEST	0.	0.	0.	0.	2.	7.	12.	14.	15.	14.	12.	7.	3.	0.	0.	0.	0.	87.	37.	43.	30.	33.
NORTH	0.	0.	0.	0.	2.	7.	12.	14.	15.	14.	12.	7.	2.	0.	0.	0.	0.	86.	37.	43.	30.	32.
NORTHEAST	0.	0.	0.	0.	3.	7.	12.	14.	15.	14.	12.	7.	2.	0.	0.	0.	0.	87.	37.	43.	30.	33.
EAST	0.	0.	0.	0.	6.	55.	64.	46.	15.	14.	12.	7.	2.	0.	0.	0.	0.	221.	49.	65.	35.	40.
SOUTHEAST	0.	0.	0.	0.	6.	75.	112.	118.	103.	74.	38.	8.	2.	0.	0.	0.	0.	538.	77.	115.	45.	59.
HORIZ.	0.	0.	0.	0.	3.	19.	36.	48.	52.	48.	36.	19.	3.	0.	0.	0.	0.	266.	53.	72.	36.	43.

MONTH 11 HO 143. TOD 5. TOT 3. KT .470 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	0.	0.	18.	142.	194.	142.	18.	0.	0.	0.	0.	0.	0.	513.	81.	142.	20.	33.
SOUTHWEST	0.	0.	0.	0.	0.	0.	7.	77.	139.	126.	19.	0.	0.	0.	0.	0.	0.	369.	60.	104.	15.	25.
WEST	0.	0.	0.	0.	0.	0.	2.	5.	6.	39.	10.	0.	0.	0.	0.	0.	0.	63.	15.	22.	5.	7.
NORTHWEST	0.	0.	0.	0.	0.	0.	2.	5.	6.	5.	2.	0.	0.	0.	0.	0.	0.	20.	8.	11.	4.	4.
NORTH	0.	0.	0.	0.	0.	0.	2.	5.	6.	5.	2.	0.	0.	0.	0.	0.	0.	20.	8.	11.	4.	4.
NORTHEAST	0.	0.	0.	0.	0.	0.	2.	5.	6.	5.	2.	0.	0.	0.	0.	0.	0.	20.	8.	11.	4.	4.
EAST	0.	0.	0.	0.	0.	0.	10.	39.	6.	5.	2.	0.	0.	0.	0.	0.	0.	63.	15.	22.	5.	7.
SOUTHEAST	0.	0.	0.	0.	0.	0.	19.	126.	139.	77.	7.	0.	0.	0.	0.	0.	0.	369.	60.	104.	15.	25.
HORIZ.	0.	0.	0.	0.	0.	0.	4.	17.	25.	17.	4.	0.	0.	0.	0.	0.	0.	67.	15.	23.	5.	7.

MONTH 12 HO 28. TOD -7. TOT -9. KT .458 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	0.	0.	0.	7.	250.	7.	0.	0.	0.	0.	0.	0.	0.	263.	60.	115.	-1.	6.
SOUTHWEST	0.	0.	0.	0.	0.	0.	0.	4.	177.	6.	0.	0.	0.	0.	0.	0.	0.	187.	41.	80.	-3.	2.
WEST	0.	0.	0.	0.	0.	0.	0.	1.	2.	2.	0.	0.	0.	0.	0.	0.	0.	6.	-5.	-4.	-9.	-9.
NORTHWEST	0.	0.	0.	0.	0.	0.	0.	1.	2.	1.	0.	0.	0.	0.	0.	0.	0.	4.	-6.	-5.	-9.	-9.
NORTH	0.	0.	0.	0.	0.	0.	0.	1.	2.	1.	0.	0.	0.	0.	0.	0.	0.	4.	-6.	-5.	-9.	-9.
NORTHEAST	0.	0.	0.	0.	0.	0.	0.	1.	2.	1.	0.	0.	0.	0.	0.	0.	0.	4.	-6.	-5.	-9.	-9.
EAST	0.	0.	0.	0.	0.	0.	0.	2.	2.	1.	0.	0.	0.	0.	0.	0.	0.	6.	-5.	-4.	-9.	-9.
SOUTHEAST	0.	0.	0.	0.	0.	0.	0.	6.	177.	4.	0.	0.	0.	0.	0.	0.	0.	187.	41.	80.	-3.	2.
HORIZ.	0.	0.	0.	0.	0.	0.	0.	2.	10.	2.	0.	0.	0.	0.	0.	0.	0.	13.	-3.	-1.	-9.	-8.

LOCATION FAIRBANKS, ALASKA LATITUDE 64 DEGREES 48 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	118.	100.	128.	115.	108.	112.	114.	116.	109.	93.	81.	60.	104.
SOUTHWEST	82.	73.	106.	111.	110.	115.	115.	113.	98.	77.	60.	41.	92.
WEST	7.	29.	66.	91.	104.	112.	110.	101.	79.	49.	15.	-5.	63.
NORTHWEST	-4.	9.	34.	66.	89.	101.	98.	86.	64.	37.	8.	-6.	49.
NORTH	-4.	9.	27.	52.	78.	92.	90.	78.	60.	37.	8.	-6.	44.
NORTHEAST	-4.	9.	34.	66.	89.	101.	98.	86.	64.	37.	8.	-6.	49.
EAST	7.	29.	66.	91.	104.	112.	110.	101.	79.	49.	15.	-5.	63.
SOUTHEAST	82.	73.	106.	111.	110.	115.	115.	113.	98.	77.	60.	41.	92.
HORIZ.	7.	32.	76.	113.	130.	139.	134.	119.	89.	53.	15.	-3.	75.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	220.	181.	222.	183.	152.	150.	152.	160.	156.	144.	142.	115.	165.
SOUTHWEST	155.	133.	182.	175.	155.	155.	155.	154.	137.	115.	104.	80.	142.
WEST	19.	52.	108.	139.	145.	151.	146.	133.	103.	65.	22.	-4.	90.
NORTHWEST	-1.	16.	51.	94.	118.	130.	125.	107.	77.	43.	11.	-5.	64.
NORTH	-1.	16.	38.	69.	100.	115.	110.	93.	71.	43.	11.	-5.	55.
NORTHEAST	-1.	16.	51.	94.	118.	130.	125.	107.	77.	43.	11.	-5.	64.
EAST	19.	52.	108.	139.	145.	151.	146.	133.	103.	65.	22.	-4.	90.
SOUTHEAST	155.	133.	182.	175.	155.	155.	155.	154.	137.	115.	104.	80.	142.
HORIZ.	18.	58.	128.	178.	191.	199.	189.	166.	121.	72.	23.	-1.	112.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	18.	34.	67.	83.	93.	103.	101.	93.	76.	51.	20.	-1.	61.
SOUTHWEST	10.	24.	56.	80.	94.	105.	102.	91.	70.	45.	15.	-3.	57.
WEST	-7.	7.	35.	67.	89.	103.	98.	83.	61.	35.	5.	-9.	47.
NORTHWEST	-9.	0.	20.	51.	78.	93.	88.	73.	53.	30.	4.	-9.	39.
NORTH	-9.	0.	16.	42.	69.	85.	81.	68.	51.	30.	4.	-9.	36.
NORTHEAST	-9.	0.	20.	51.	78.	93.	88.	73.	53.	30.	4.	-9.	39.
EAST	-7.	7.	35.	67.	89.	103.	98.	83.	61.	35.	5.	-9.	47.
SOUTHEAST	10.	24.	56.	80.	94.	105.	102.	91.	70.	45.	15.	-3.	57.
HORIZ.	-7.	9.	41.	81.	110.	127.	117.	95.	66.	36.	5.	-9.	56.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	41.	64.	114.	127.	127.	136.	131.	122.	100.	70.	33.	6.	89.
SOUTHWEST	26.	46.	94.	121.	130.	140.	133.	118.	90.	59.	25.	2.	82.
WEST	-4.	16.	57.	98.	121.	137.	126.	104.	73.	40.	7.	-9.	64.
NORTHWEST	-9.	3.	28.	69.	101.	119.	109.	87.	60.	33.	4.	-9.	50.
NORTH	-9.	3.	21.	53.	86.	105.	97.	78.	57.	32.	4.	-9.	43.
NORTHEAST	-9.	3.	28.	69.	101.	119.	109.	87.	60.	33.	4.	-9.	50.
EAST	-4.	16.	57.	98.	121.	137.	126.	104.	73.	40.	7.	-9.	64.
SOUTHEAST	26.	46.	94.	121.	130.	140.	133.	118.	90.	59.	25.	2.	82.
HORIZ.	-4.	18.	67.	124.	158.	178.	160.	126.	82.	43.	7.	-8.	79.

LOCATION FORT WORTH, TEXAS LATITUDE 32 DEGREES 50 MINUTES

MONTH 1 HO 1818. TOD 48. TOT 45. KT .530 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	1.	73.	121.	153.	173.	179.	173.	153.	121.	73.	1.	0.	0.	0.	1223.	140.	216.	84.	116.
SOUTHWEST	0.	0.	0.	1.	13.	24.	63.	104.	139.	163.	173.	164.	120.	1.	0.	0.	0.	966.	121.	180.	76.	101.
WEST	0.	0.	0.	1.	13.	24.	33.	39.	41.	81.	111.	124.	104.	1.	0.	0.	0.	573.	91.	127.	64.	79.
NORTHWEST	0.	0.	0.	1.	13.	24.	33.	39.	41.	39.	33.	26.	35.	1.	0.	0.	0.	287.	70.	87.	54.	62.
NORTH	0.	0.	0.	1.	13.	24.	33.	39.	41.	39.	33.	24.	13.	1.	0.	0.	0.	263.	68.	84.	54.	61.
NORTHEAST	0.	0.	0.	1.	35.	26.	33.	39.	41.	39.	33.	24.	13.	1.	0.	0.	0.	287.	70.	87.	54.	62.
EAST	0.	0.	0.	1.	104.	124.	111.	81.	41.	39.	33.	24.	13.	1.	0.	0.	0.	573.	91.	127.	64.	79.
SOUTHEAST	0.	0.	0.	1.	120.	164.	173.	163.	139.	104.	63.	24.	13.	1.	0.	0.	0.	966.	121.	180.	76.	101.
HORIZ.	0.	0.	0.	2.	41.	88.	125.	148.	156.	148.	125.	88.	41.	2.	0.	0.	0.	962.	121.	180.	76.	101.

MONTH 2 HO 2335. TOD 52. TOT 49. KT .541 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	24.	77.	116.	145.	163.	170.	163.	145.	116.	77.	24.	0.	0.	0.	1222.	137.	206.	89.	121.
SOUTHWEST	0.	0.	0.	6.	20.	32.	56.	98.	134.	161.	174.	170.	142.	60.	0.	0.	0.	1053.	125.	185.	83.	111.
WEST	0.	0.	0.	6.	20.	32.	41.	47.	49.	91.	125.	143.	136.	65.	0.	0.	0.	753.	105.	147.	73.	93.
NORTHWEST	0.	0.	0.	6.	20.	32.	41.	47.	49.	47.	41.	50.	61.	35.	0.	0.	0.	429.	82.	106.	63.	74.
NORTH	0.	0.	0.	6.	20.	32.	41.	47.	49.	47.	41.	32.	20.	6.	0.	0.	0.	340.	76.	95.	60.	69.
NORTHEAST	0.	0.	0.	35.	61.	50.	41.	47.	49.	47.	41.	32.	20.	6.	0.	0.	0.	429.	82.	106.	63.	74.
EAST	0.	0.	0.	65.	136.	143.	125.	91.	49.	47.	41.	32.	20.	6.	0.	0.	0.	753.	105.	147.	73.	93.
SOUTHEAST	0.	0.	0.	60.	142.	170.	174.	161.	134.	98.	56.	32.	20.	6.	0.	0.	0.	1053.	125.	185.	83.	111.
HORIZ.	0.	0.	0.	17.	69.	118.	156.	180.	188.	180.	156.	118.	69.	17.	0.	0.	0.	1265.	140.	212.	90.	123.

MONTH 3 HO 2871. TOD 60. TOT 56. KT .577 KD .177

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	28.	70.	107.	135.	154.	160.	154.	135.	107.	70.	28.	0.	0.	0.	1147.	133.	193.	93.	123.
SOUTHWEST	0.	0.	0.	13.	27.	39.	48.	89.	129.	159.	176.	176.	155.	102.	0.	0.	0.	1115.	131.	189.	92.	121.
WEST	0.	0.	0.	13.	27.	39.	48.	54.	56.	104.	142.	165.	166.	123.	0.	0.	0.	938.	120.	169.	87.	111.
NORTHWEST	0.	0.	0.	13.	27.	39.	48.	54.	56.	54.	53.	80.	95.	80.	0.	0.	0.	600.	98.	130.	76.	91.
NORTH	0.	0.	0.	13.	27.	39.	48.	54.	56.	54.	48.	39.	27.	13.	0.	0.	0.	419.	87.	108.	70.	81.
NORTHEAST	0.	0.	0.	80.	95.	80.	53.	54.	56.	54.	48.	39.	27.	13.	0.	0.	0.	600.	98.	130.	76.	91.
EAST	0.	0.	0.	123.	166.	165.	142.	104.	56.	54.	48.	39.	27.	13.	0.	0.	0.	938.	120.	169.	87.	111.
SOUTHEAST	0.	0.	0.	102.	155.	176.	176.	159.	129.	89.	48.	39.	27.	13.	0.	0.	0.	1115.	131.	189.	92.	121.
HORIZ.	0.	0.	0.	43.	101.	154.	195.	220.	229.	220.	195.	154.	101.	43.	0.	0.	0.	1655.	166.	252.	110.	153.

LOCATION FORT WORTH, TEXAS LATITUDE 32 DEGREES 50 MINUTES

MONTH 4 HO 3355. TOD 69. TOT 66. KT .556 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	47.	78.	103.	119.	125.	119.	103.	78.	47.	19.	6.	0.	0.	869.	120.	162.	93.	116.
SOUTHWEST	0.	0.	6.	19.	33.	44.	53.	70.	106.	133.	149.	150.	135.	99.	31.	0.	0.	1028.	129.	179.	99.	125.
WEST	0.	0.	6.	19.	33.	44.	53.	59.	61.	104.	139.	160.	163.	137.	48.	0.	0.	1026.	129.	179.	99.	125.
NORTHWEST	0.	0.	6.	19.	33.	44.	53.	59.	61.	59.	78.	102.	115.	106.	41.	0.	0.	777.	115.	152.	91.	111.
NORTH	0.	0.	13.	24.	33.	44.	53.	59.	61.	59.	53.	44.	33.	24.	13.	0.	0.	514.	99.	124.	82.	96.
NORTHEAST	0.	0.	41.	106.	115.	102.	78.	59.	61.	59.	53.	44.	33.	19.	6.	0.	0.	777.	115.	152.	91.	111.
EAST	0.	0.	48.	137.	163.	160.	139.	104.	61.	59.	53.	44.	33.	19.	6.	0.	0.	1026.	129.	179.	99.	125.
SOUTHEAST	0.	0.	31.	99.	135.	150.	149.	133.	106.	70.	53.	44.	33.	19.	6.	0.	0.	1028.	129.	179.	99.	125.
HORIZ.	0.	0.	14.	66.	122.	171.	208.	232.	241.	232.	208.	171.	122.	66.	14.	0.	0.	1866.	179.	269.	125.	174.

MONTH 5 HO 3631. TOD 76. TOT 73. KT .585 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	10.	23.	36.	60.	84.	100.	105.	100.	84.	60.	36.	23.	10.	0.	0.	732.	119.	153.	98.	117.
SOUTHWEST	0.	0.	10.	23.	36.	47.	56.	61.	93.	121.	138.	141.	128.	99.	48.	0.	0.	1003.	135.	181.	107.	133.
WEST	0.	0.	10.	23.	36.	47.	56.	61.	63.	108.	144.	167.	173.	153.	88.	0.	0.	1130.	143.	194.	112.	141.
NORTHWEST	0.	0.	10.	23.	36.	47.	56.	61.	63.	67.	98.	123.	137.	131.	82.	0.	0.	936.	131.	174.	105.	129.
NORTH	0.	0.	34.	46.	42.	47.	56.	61.	63.	61.	56.	47.	42.	46.	34.	0.	0.	637.	114.	143.	95.	111.
NORTHEAST	0.	0.	82.	131.	137.	123.	98.	67.	63.	61.	56.	47.	36.	23.	10.	0.	0.	936.	131.	174.	105.	129.
EAST	0.	0.	88.	153.	173.	167.	144.	108.	63.	61.	56.	47.	36.	23.	10.	0.	0.	1130.	143.	194.	112.	141.
SOUTHEAST	0.	0.	48.	99.	128.	141.	138.	121.	93.	61.	56.	47.	36.	23.	10.	0.	0.	1003.	135.	181.	107.	133.
HORIZ.	0.	0.	30.	86.	142.	191.	229.	254.	262.	254.	229.	191.	142.	86.	30.	0.	0.	2124.	202.	299.	146.	201.

MONTH 6 HO 3724. TOD 84. TOT 81. KT .654 KD .161

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	1.	11.	24.	37.	52.	78.	95.	101.	95.	78.	52.	37.	24.	11.	1.	0.	698.	124.	155.	105.	123.
SOUTHWEST	0.	1.	11.	24.	37.	48.	56.	62.	90.	124.	145.	151.	139.	108.	57.	1.	0.	1053.	145.	192.	117.	145.
WEST	0.	1.	11.	24.	37.	48.	56.	62.	63.	116.	160.	189.	198.	179.	112.	1.	0.	1258.	157.	213.	124.	157.
NORTHWEST	0.	1.	11.	24.	37.	48.	56.	62.	63.	77.	114.	145.	163.	159.	109.	1.	0.	1070.	146.	194.	118.	146.
NORTH	0.	1.	48.	60.	54.	48.	56.	62.	63.	62.	56.	48.	54.	60.	48.	1.	0.	722.	126.	158.	106.	125.
NORTHEAST	0.	1.	109.	159.	163.	145.	114.	77.	63.	62.	56.	48.	37.	24.	11.	1.	0.	1070.	146.	194.	118.	146.
EAST	0.	1.	112.	179.	198.	189.	160.	116.	63.	62.	56.	48.	37.	24.	11.	1.	0.	1258.	157.	213.	124.	157.
SOUTHEAST	0.	1.	57.	108.	139.	151.	145.	124.	90.	62.	56.	48.	37.	24.	11.	1.	0.	1053.	145.	192.	117.	145.
HORIZ.	0.	1.	39.	101.	163.	218.	260.	287.	296.	287.	260.	218.	163.	101.	39.	1.	0.	2435.	225.	333.	164.	228.

LOCATION FORT WORTH, TEXAS LATITUDE 32 DEGREES 50 MINUTES

MONTH 7 HO 3626. TOD 88. TOT 85. KT .624 KD .168

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	10.	23.	36.	60.	87.	103.	109.	103.	87.	60.	36.	23.	10.	0.	0.	748.	132.	166.	110.	130.
SOUTHWEST	0.	0.	10.	23.	36.	47.	56.	61.	96.	128.	147.	151.	138.	106.	50.	0.	0.	1048.	150.	197.	120.	148.
WEST	0.	0.	10.	23.	36.	47.	56.	61.	63.	113.	154.	181.	187.	165.	93.	0.	0.	1190.	158.	212.	125.	156.
NORTHWEST	0.	0.	10.	23.	36.	47.	56.	61.	63.	68.	104.	132.	148.	141.	87.	0.	0.	977.	146.	190.	118.	144.
NORTH	0.	0.	36.	49.	43.	47.	56.	61.	63.	61.	56.	47.	43.	49.	36.	0.	0.	648.	126.	155.	107.	124.
NORTHEAST	0.	0.	87.	141.	148.	132.	104.	68.	63.	61.	56.	47.	36.	23.	10.	0.	0.	977.	146.	190.	118.	144.
EAST	0.	0.	93.	165.	187.	181.	154.	113.	63.	61.	56.	47.	36.	23.	10.	0.	0.	1190.	158.	212.	125.	156.
SOUTHEAST	0.	0.	50.	106.	138.	151.	147.	128.	96.	61.	56.	47.	36.	23.	10.	0.	0.	1048.	150.	197.	120.	148.
HORIZ.	0.	0.	30.	90.	151.	204.	245.	271.	280.	271.	245.	204.	151.	90.	30.	0.	0.	2262.	222.	324.	162.	221.

MONTH 8 HO 3329. TOD 89. TOT 85. KT .653 KD .161

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	5.	19.	50.	87.	118.	137.	144.	137.	118.	87.	50.	19.	5.	0.	0.	976.	150.	197.	119.	144.
SOUTHWEST	0.	0.	5.	19.	32.	44.	53.	73.	120.	156.	177.	181.	163.	119.	33.	0.	0.	1175.	162.	219.	125.	156.
WEST	0.	0.	5.	19.	32.	44.	53.	59.	61.	118.	164.	194.	200.	167.	53.	0.	0.	1169.	162.	218.	125.	156.
NORTHWEST	0.	0.	5.	19.	32.	44.	53.	59.	61.	59.	86.	120.	138.	128.	45.	0.	0.	849.	142.	183.	114.	137.
NORTH	0.	0.	14.	25.	32.	44.	53.	59.	61.	59.	53.	44.	32.	25.	14.	0.	0.	515.	121.	146.	103.	116.
NORTHEAST	0.	0.	45.	128.	138.	120.	86.	59.	61.	59.	53.	44.	32.	19.	5.	0.	0.	849.	142.	183.	114.	137.
EAST	0.	0.	53.	167.	200.	194.	164.	118.	61.	59.	53.	44.	32.	19.	5.	0.	0.	1169.	162.	218.	125.	156.
SOUTHEAST	0.	0.	33.	119.	163.	181.	177.	156.	120.	73.	53.	44.	32.	19.	5.	0.	0.	1175.	162.	219.	125.	156.
HORIZ.	0.	0.	13.	74.	140.	199.	245.	274.	284.	274.	245.	199.	140.	74.	13.	0.	0.	2174.	225.	330.	160.	217.

MONTH 9 HO 2853. TOD 81. TOT 78. KT .634 KD .166

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	29.	74.	116.	149.	169.	176.	169.	149.	116.	74.	29.	0.	0.	0.	1252.	167.	232.	121.	154.
SOUTHWEST	0.	0.	0.	13.	26.	39.	48.	94.	141.	176.	196.	197.	173.	110.	0.	0.	0.	1214.	164.	227.	120.	152.
WEST	0.	0.	0.	13.	26.	39.	48.	54.	56.	112.	157.	185.	185.	134.	0.	0.	0.	1010.	150.	203.	113.	139.
NORTHWEST	0.	0.	0.	13.	26.	39.	48.	54.	56.	54.	54.	87.	105.	87.	0.	0.	0.	623.	124.	156.	100.	116.
NORTH	0.	0.	0.	13.	26.	39.	48.	54.	56.	54.	48.	39.	26.	13.	0.	0.	0.	416.	110.	131.	92.	103.
NORTHEAST	0.	0.	0.	87.	105.	87.	54.	54.	56.	54.	48.	39.	26.	13.	0.	0.	0.	623.	124.	156.	100.	116.
EAST	0.	0.	0.	134.	185.	185.	157.	112.	56.	54.	48.	39.	26.	13.	0.	0.	0.	1010.	150.	203.	113.	139.
SOUTHEAST	0.	0.	0.	110.	173.	197.	196.	176.	141.	94.	48.	39.	26.	13.	0.	0.	0.	1214.	164.	227.	120.	152.
HORIZ.	0.	0.	0.	44.	109.	168.	214.	242.	252.	242.	214.	168.	109.	44.	0.	0.	0.	1808.	204.	299.	140.	187.

LOCATION FORT WORTH, TEXAS LATITUDE 32 DEGREES 50 MINUTES

MONTH 10 HO 2301. TOD 71. TOT 68. KT .612 KD .171

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	25.	88.	135.	170.	191.	199.	191.	170.	135.	88.	25.	0.	0.	0.	1417.	170.	251.	114.	151.
SOUTHWEST	0.	0.	0.	6.	19.	32.	60.	110.	155.	188.	204.	200.	165.	63.	0.	0.	0.	1202.	155.	223.	107.	138.
WEST	0.	0.	0.	6.	19.	32.	41.	47.	49.	102.	143.	166.	157.	68.	0.	0.	0.	829.	129.	176.	95.	117.
NORTHWEST	0.	0.	0.	6.	19.	32.	41.	47.	49.	47.	41.	54.	68.	36.	0.	0.	0.	439.	102.	127.	82.	94.
NORTH	0.	0.	0.	6.	19.	32.	41.	47.	49.	47.	41.	32.	19.	6.	0.	0.	0.	338.	95.	114.	79.	88.
NORTHEAST	0.	0.	0.	36.	68.	54.	41.	47.	49.	47.	41.	32.	19.	6.	0.	0.	0.	439.	102.	127.	82.	94.
EAST	0.	0.	0.	68.	157.	166.	143.	102.	49.	47.	41.	32.	19.	6.	0.	0.	0.	829.	129.	176.	95.	117.
SOUTHEAST	0.	0.	0.	63.	165.	200.	204.	188.	155.	110.	60.	32.	19.	6.	0.	0.	0.	1202.	155.	223.	107.	138.
HORIZ.	0.	0.	0.	16.	74.	131.	175.	203.	212.	203.	175.	131.	74.	16.	0.	0.	0.	1409.	170.	250.	113.	150.

MONTH 11 HO 1806. TOD 59. TOT 56. KT .576 KD .177

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	1.	81.	136.	172.	193.	201.	193.	172.	136.	81.	1.	0.	0.	0.	1366.	162.	246.	99.	135.
SOUTHWEST	0.	0.	0.	1.	13.	24.	68.	114.	154.	182.	194.	184.	133.	1.	0.	0.	0.	1070.	140.	206.	90.	118.
WEST	0.	0.	0.	1.	13.	24.	34.	39.	41.	87.	123.	139.	115.	1.	0.	0.	0.	617.	105.	143.	75.	92.
NORTHWEST	0.	0.	0.	1.	13.	24.	34.	39.	41.	39.	34.	27.	37.	1.	0.	0.	0.	290.	81.	99.	65.	72.
NORTH	0.	0.	0.	1.	13.	24.	34.	39.	41.	39.	34.	24.	13.	1.	0.	0.	0.	263.	79.	95.	64.	71.
NORTHEAST	0.	0.	0.	1.	37.	27.	34.	39.	41.	39.	34.	24.	13.	1.	0.	0.	0.	290.	81.	99.	65.	72.
EAST	0.	0.	0.	1.	115.	139.	123.	87.	41.	39.	34.	24.	13.	1.	0.	0.	0.	617.	105.	143.	75.	92.
SOUTHEAST	0.	0.	0.	1.	133.	184.	194.	182.	154.	114.	68.	24.	13.	1.	0.	0.	0.	1070.	140.	206.	90.	118.
HORIZ.	0.	0.	0.	2.	43.	94.	135.	161.	170.	161.	135.	94.	43.	2.	0.	0.	0.	1039.	137.	201.	89.	116.

MONTH 12 HO 1613. TOD 51. TOT 48. KT .563 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	74.	133.	171.	192.	200.	192.	171.	133.	74.	0.	0.	0.	0.	1339.	156.	241.	91.	126.
SOUTHWEST	0.	0.	0.	0.	10.	26.	70.	114.	152.	179.	189.	175.	116.	0.	0.	0.	0.	1032.	132.	198.	81.	108.
WEST	0.	0.	0.	0.	10.	22.	30.	36.	38.	82.	114.	127.	96.	0.	0.	0.	0.	556.	94.	130.	66.	80.
NORTHWEST	0.	0.	0.	0.	10.	22.	30.	36.	38.	36.	30.	22.	26.	0.	0.	0.	0.	251.	70.	86.	56.	62.
NORTH	0.	0.	0.	0.	10.	22.	30.	36.	38.	36.	30.	22.	10.	0.	0.	0.	0.	235.	69.	84.	55.	61.
NORTHEAST	0.	0.	0.	0.	26.	22.	30.	36.	38.	36.	30.	22.	10.	0.	0.	0.	0.	251.	70.	86.	56.	62.
EAST	0.	0.	0.	0.	96.	127.	114.	82.	38.	36.	30.	22.	10.	0.	0.	0.	0.	556.	94.	130.	66.	80.
SOUTHEAST	0.	0.	0.	0.	116.	175.	189.	179.	152.	114.	70.	26.	10.	0.	0.	0.	0.	1032.	132.	198.	81.	108.
HORIZ.	0.	0.	0.	0.	32.	81.	120.	145.	153.	145.	120.	81.	32.	0.	0.	0.	0.	908.	122.	180.	77.	101.

LOCATION FORT WORTH, TEXAS LATITUDE 32 DEGREES 50 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	140.	137.	133.	120.	119.	124.	132.	150.	167.	170.	162.	156.	143.
SOUTHWEST	121.	125.	131.	129.	135.	145.	150.	162.	164.	155.	140.	132.	141.
WEST	91.	105.	120.	129.	143.	157.	158.	162.	150.	129.	105.	94.	129.
NORTHWEST	70.	82.	98.	115.	131.	146.	146.	142.	124.	102.	81.	70.	109.
NORTH	68.	76.	87.	99.	114.	126.	126.	121.	110.	95.	79.	69.	97.
NORTHEAST	70.	82.	98.	115.	131.	146.	146.	142.	124.	102.	81.	70.	109.
EAST	91.	105.	120.	129.	143.	157.	158.	162.	150.	129.	105.	94.	129.
SOUTHEAST	121.	125.	131.	129.	135.	145.	150.	162.	164.	155.	140.	132.	141.
HORIZ.	121.	140.	166.	179.	202.	225.	222.	225.	204.	170.	137.	122.	176.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	216.	206.	193.	162.	153.	155.	166.	197.	232.	251.	246.	241.	202.
SOUTHWEST	180.	185.	189.	179.	181.	192.	197.	219.	227.	223.	206.	198.	198.
WEST	127.	147.	169.	179.	194.	213.	212.	218.	203.	176.	143.	130.	176.
NORTHWEST	87.	106.	130.	152.	174.	194.	190.	183.	156.	127.	99.	86.	140.
NORTH	84.	95.	108.	124.	143.	158.	155.	146.	131.	114.	95.	84.	120.
NORTHEAST	87.	106.	130.	152.	174.	194.	190.	183.	156.	127.	99.	86.	140.
EAST	127.	147.	169.	179.	194.	213.	212.	218.	203.	176.	143.	130.	176.
SOUTHEAST	180.	185.	189.	179.	181.	192.	197.	219.	227.	223.	206.	198.	198.
HORIZ.	180.	212.	252.	269.	299.	333.	324.	330.	299.	250.	201.	180.	261.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	84.	89.	93.	93.	98.	105.	110.	119.	121.	114.	99.	91.	101.
SOUTHWEST	76.	83.	92.	99.	107.	117.	120.	125.	120.	107.	90.	81.	101.
WEST	64.	73.	87.	99.	112.	124.	125.	125.	113.	95.	75.	66.	96.
NORTHWEST	54.	63.	76.	91.	105.	118.	118.	114.	100.	82.	65.	56.	87.
NORTH	54.	60.	70.	82.	95.	106.	107.	103.	92.	79.	64.	55.	81.
NORTHEAST	54.	63.	76.	91.	105.	118.	118.	114.	100.	82.	65.	56.	87.
EAST	64.	73.	87.	99.	112.	124.	125.	125.	113.	95.	75.	66.	96.
SOUTHEAST	76.	83.	92.	99.	107.	117.	120.	125.	120.	107.	90.	81.	101.
HORIZ.	76.	90.	110.	125.	146.	164.	162.	160.	140.	113.	89.	77.	121.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	116.	121.	123.	116.	117.	123.	130.	144.	154.	151.	135.	126.	130.
SOUTHWEST	101.	111.	121.	125.	133.	145.	148.	156.	152.	138.	118.	108.	130.
WEST	79.	93.	111.	125.	141.	157.	156.	156.	139.	117.	92.	80.	121.
NORTHWEST	62.	74.	91.	111.	129.	146.	144.	137.	116.	94.	72.	62.	103.
NORTH	61.	69.	81.	96.	111.	125.	124.	116.	103.	88.	71.	61.	92.
NORTHEAST	62.	74.	91.	111.	129.	146.	144.	137.	116.	94.	72.	62.	103.
EAST	79.	93.	111.	125.	141.	157.	156.	156.	139.	117.	92.	80.	121.
SOUTHEAST	101.	111.	121.	125.	133.	145.	148.	156.	152.	138.	118.	108.	130.
HORIZ.	101.	123.	153.	174.	201.	228.	221.	217.	187.	150.	116.	101.	164.

LOCATION FRESNO, CALIFORNIA LATITUDE 36 DEGREES 46 MINUTES

MONTH 1 HO 1606. TOD 47. TOT 45. KT .462 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	54.	99.	129.	146.	152.	146.	129.	99.	54.	0.	0.	0.	0.	1009.	126.	190.	77.	103.
SOUTHWEST	0.	0.	0.	0.	10.	21.	56.	90.	118.	137.	143.	131.	87.	0.	0.	0.	0.	793.	109.	159.	70.	91.
WEST	0.	0.	0.	0.	10.	21.	29.	34.	36.	67.	91.	99.	75.	0.	0.	0.	0.	461.	83.	112.	59.	72.
NORTHWEST	0.	0.	0.	0.	10.	21.	29.	34.	36.	34.	29.	21.	25.	0.	0.	0.	0.	237.	66.	81.	52.	59.
NORTH	0.	0.	0.	0.	10.	21.	29.	34.	36.	34.	29.	21.	10.	0.	0.	0.	0.	223.	65.	79.	52.	58.
NORTHEAST	0.	0.	0.	0.	25.	21.	29.	34.	36.	34.	29.	21.	10.	0.	0.	0.	0.	237.	66.	81.	52.	59.
EAST	0.	0.	0.	0.	75.	99.	91.	67.	36.	34.	29.	21.	10.	0.	0.	0.	0.	461.	83.	112.	59.	72.
SOUTHEAST	0.	0.	0.	0.	87.	131.	143.	137.	118.	90.	56.	21.	10.	0.	0.	0.	0.	793.	109.	159.	70.	91.
HORIZ.	0.	0.	0.	0.	29.	67.	97.	117.	123.	117.	97.	67.	29.	0.	0.	0.	0.	741.	105.	152.	68.	88.

MONTH 2 HO 2153. TOD 54. TOT 51. KT .551 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	20.	78.	121.	153.	173.	180.	173.	153.	121.	78.	20.	0.	0.	0.	1271.	143.	216.	91.	125.
SOUTHWEST	0.	0.	0.	5.	18.	29.	58.	103.	141.	168.	181.	175.	142.	49.	0.	0.	0.	1069.	129.	190.	85.	113.
WEST	0.	0.	0.	5.	18.	29.	38.	44.	46.	90.	125.	143.	134.	52.	0.	0.	0.	724.	105.	146.	74.	93.
NORTHWEST	0.	0.	0.	5.	18.	29.	38.	44.	46.	44.	38.	45.	58.	28.	0.	0.	0.	392.	81.	104.	63.	74.
NORTH	0.	0.	0.	5.	18.	29.	38.	44.	46.	44.	38.	29.	18.	5.	0.	0.	0.	314.	76.	94.	61.	69.
NORTHEAST	0.	0.	0.	28.	58.	45.	38.	44.	46.	44.	38.	29.	18.	5.	0.	0.	0.	392.	81.	104.	63.	74.
EAST	0.	0.	0.	52.	134.	143.	125.	90.	46.	44.	38.	29.	18.	5.	0.	0.	0.	724.	105.	146.	74.	93.
SOUTHEAST	0.	0.	0.	49.	142.	175.	181.	168.	141.	103.	58.	29.	18.	5.	0.	0.	0.	1069.	129.	190.	85.	113.
HORIZ.	0.	0.	0.	12.	62.	110.	148.	171.	179.	171.	148.	110.	62.	12.	0.	0.	0.	1187.	137.	206.	89.	120.

MONTH 3 HO 2740. TOD 59. TOT 55. KT .632 KD .166

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	32.	80.	124.	159.	180.	188.	180.	159.	124.	80.	32.	0.	0.	0.	1338.	145.	215.	98.	133.
SOUTHWEST	0.	0.	0.	12.	25.	37.	48.	102.	148.	184.	203.	203.	178.	115.	0.	0.	0.	1256.	139.	205.	96.	129.
WEST	0.	0.	0.	12.	25.	37.	46.	52.	54.	110.	156.	184.	187.	138.	0.	0.	0.	1001.	123.	175.	88.	114.
NORTHWEST	0.	0.	0.	12.	25.	37.	46.	52.	54.	52.	46.	80.	101.	87.	0.	0.	0.	592.	97.	128.	74.	90.
NORTH	0.	0.	0.	12.	25.	37.	46.	52.	54.	52.	46.	37.	25.	12.	0.	0.	0.	399.	85.	105.	68.	79.
NORTHEAST	0.	0.	0.	87.	101.	80.	46.	52.	54.	52.	46.	37.	25.	12.	0.	0.	0.	592.	97.	128.	74.	90.
EAST	0.	0.	0.	138.	187.	184.	156.	110.	54.	52.	46.	37.	25.	12.	0.	0.	0.	1001.	123.	175.	88.	114.
SOUTHEAST	0.	0.	0.	115.	178.	203.	203.	184.	148.	102.	48.	37.	25.	12.	0.	0.	0.	1256.	139.	205.	96.	129.
HORIZ.	0.	0.	0.	43.	105.	161.	204.	231.	241.	231.	204.	161.	105.	43.	0.	0.	0.	1730.	170.	260.	111.	156.

LOCATION FRESNO, CALIFORNIA LATITUDE 36 DEGREES 46 MINUTES

MONTH 4 HO 3295. TOD 65. TOT 61. KT .638 KD .165

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	57.	96.	127.	148.	154.	148.	127.	96.	57.	19.	6.	0.	0.	1061.	127.	178.	96.	123.
SOUTHWEST	0.	0.	6.	19.	32.	44.	52.	81.	127.	161.	182.	184.	166.	124.	43.	0.	0.	1221.	137.	195.	101.	133.
WEST	0.	0.	6.	19.	32.	44.	52.	58.	60.	115.	160.	190.	197.	169.	69.	0.	0.	1170.	134.	189.	99.	130.
NORTHWEST	0.	0.	6.	19.	32.	44.	52.	58.	60.	58.	75.	110.	131.	127.	58.	0.	0.	830.	114.	153.	88.	110.
NORTH	0.	0.	17.	21.	32.	44.	52.	58.	60.	58.	52.	44.	32.	21.	17.	0.	0.	508.	95.	119.	78.	91.
NORTHEAST	0.	0.	58.	127.	131.	110.	75.	58.	60.	58.	52.	44.	32.	19.	6.	0.	0.	830.	114.	153.	88.	110.
EAST	0.	0.	69.	169.	197.	190.	160.	115.	60.	58.	52.	44.	32.	19.	6.	0.	0.	1170.	134.	189.	99.	130.
SOUTHEAST	0.	0.	43.	124.	166.	184.	182.	161.	127.	81.	52.	44.	32.	19.	6.	0.	0.	1221.	137.	195.	101.	133.
HORIZ.	0.	0.	17.	75.	137.	192.	234.	261.	270.	261.	234.	192.	137.	75.	17.	0.	0.	2103.	188.	288.	129.	184.

MONTH 5 HO 3632. TOD 73. TOT 69. KT .672 KD .156

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	1.	11.	24.	37.	74.	105.	124.	131.	124.	105.	74.	37.	24.	11.	1.	0.	881.	125.	164.	99.	122.
SOUTHWEST	0.	1.	11.	24.	36.	47.	55.	64.	111.	147.	169.	174.	159.	124.	65.	1.	0.	1185.	142.	195.	109.	141.
WEST	0.	1.	11.	24.	36.	47.	55.	60.	62.	119.	166.	199.	209.	190.	119.	1.	0.	1297.	149.	207.	113.	147.
NORTHWEST	0.	1.	11.	24.	36.	47.	55.	60.	62.	60.	99.	135.	158.	158.	110.	1.	0.	1014.	132.	178.	104.	130.
NORTH	0.	1.	43.	48.	36.	47.	55.	60.	62.	60.	55.	47.	36.	48.	43.	1.	0.	639.	111.	139.	91.	108.
NORTHEAST	0.	1.	110.	158.	158.	135.	99.	60.	62.	60.	55.	47.	36.	24.	11.	1.	0.	1014.	132.	178.	104.	130.
EAST	0.	1.	119.	190.	209.	199.	166.	119.	62.	60.	55.	47.	36.	24.	11.	1.	0.	1297.	149.	207.	113.	147.
SOUTHEAST	0.	1.	65.	124.	159.	174.	169.	147.	111.	64.	55.	47.	36.	24.	11.	1.	0.	1185.	142.	195.	109.	141.
HORIZ.	0.	1.	38.	101.	163.	219.	261.	288.	298.	288.	261.	219.	163.	101.	38.	1.	0.	2440.	215.	324.	152.	216.

MONTH 6 HO 3749. TOD 81. TOT 76. KT .703 KD .148

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	2.	12.	25.	37.	64.	95.	116.	122.	116.	95.	64.	37.	25.	12.	2.	0.	825.	127.	163.	104.	126.
SOUTHWEST	0.	2.	12.	25.	37.	47.	55.	61.	105.	143.	166.	172.	159.	125.	70.	3.	0.	1183.	148.	199.	116.	147.
WEST	0.	2.	12.	25.	37.	47.	55.	61.	62.	122.	172.	207.	220.	202.	137.	6.	0.	1368.	158.	217.	122.	158.
NORTHWEST	0.	2.	12.	25.	37.	47.	55.	61.	62.	65.	110.	148.	173.	175.	132.	6.	0.	1111.	143.	192.	114.	143.
NORTH	0.	4.	56.	60.	47.	47.	55.	61.	62.	61.	55.	47.	47.	60.	56.	4.	0.	722.	122.	153.	100.	119.
NORTHEAST	0.	6.	132.	175.	173.	148.	110.	65.	62.	61.	55.	47.	37.	25.	12.	2.	0.	1111.	143.	192.	114.	143.
EAST	0.	6.	137.	202.	220.	207.	172.	122.	62.	61.	55.	47.	37.	25.	12.	2.	0.	1368.	158.	217.	122.	158.
SOUTHEAST	0.	3.	70.	125.	159.	172.	166.	143.	105.	61.	55.	47.	37.	25.	12.	2.	0.	1183.	148.	199.	116.	147.
HORIZ.	0.	3.	48.	113.	177.	234.	278.	306.	316.	306.	278.	234.	177.	113.	48.	3.	0.	2635.	230.	344.	166.	235.

LOCATION FRESNO, CALIFORNIA LATITUDE 36 DEGREES 46 MINUTES

MONTH 7 HO 3628. TOD 88. TOT 82. KT .682 KD .154

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	1.	11.	23.	36.	74.	105.	125.	132.	125.	105.	74.	36.	23.	11.	1.	0.	881.	139.	178.	112.	135.
SOUTHWEST	0.	1.	11.	23.	36.	47.	55.	63.	111.	149.	171.	175.	161.	124.	64.	1.	0.	1191.	157.	209.	123.	154.
WEST	0.	1.	11.	23.	36.	47.	55.	60.	62.	120.	169.	202.	212.	191.	118.	1.	0.	1306.	163.	221.	127.	161.
NORTHWEST	0.	1.	11.	23.	36.	47.	55.	60.	62.	60.	100.	137.	160.	160.	110.	1.	0.	1020.	147.	192.	117.	144.
NORTH	0.	1.	43.	48.	36.	47.	55.	60.	62.	60.	55.	47.	36.	48.	43.	1.	0.	639.	125.	153.	104.	121.
NORTHEAST	0.	1.	110.	160.	160.	137.	100.	60.	62.	60.	55.	47.	36.	23.	11.	1.	0.	1020.	147.	192.	117.	144.
EAST	0.	1.	118.	191.	212.	202.	169.	120.	62.	60.	55.	47.	36.	23.	11.	1.	0.	1306.	163.	221.	127.	161.
SOUTHEAST	0.	1.	64.	124.	161.	175.	171.	149.	111.	63.	55.	47.	36.	23.	11.	1.	0.	1191.	157.	209.	123.	154.
HORIZ.	0.	1.	38.	101.	165.	222.	265.	293.	303.	293.	265.	222.	165.	101.	38.	1.	0.	2474.	231.	341.	167.	232.

MONTH 8 HO 3271. TOD 85. TOT 79. KT .686 KD .153

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	59.	101.	136.	158.	165.	158.	136.	101.	59.	19.	6.	0.	0.	1120.	154.	208.	118.	147.
SOUTHWEST	0.	0.	6.	19.	32.	43.	52.	83.	134.	174.	196.	199.	179.	131.	42.	0.	0.	1290.	165.	226.	124.	157.
WEST	0.	0.	6.	19.	32.	43.	52.	57.	59.	121.	172.	206.	214.	181.	68.	0.	0.	1229.	161.	220.	122.	154.
NORTHWEST	0.	0.	6.	19.	32.	43.	52.	57.	59.	57.	78.	117.	141.	135.	57.	0.	0.	852.	138.	178.	109.	131.
NORTH	0.	0.	16.	21.	32.	43.	52.	57.	59.	57.	52.	43.	32.	21.	16.	0.	0.	501.	116.	140.	97.	110.
NORTHEAST	0.	0.	57.	135.	141.	117.	78.	57.	59.	57.	52.	43.	32.	19.	6.	0.	0.	852.	138.	178.	109.	131.
EAST	0.	0.	68.	181.	214.	206.	172.	121.	59.	57.	52.	43.	32.	19.	6.	0.	0.	1229.	161.	220.	122.	154.
SOUTHEAST	0.	0.	42.	131.	179.	199.	196.	174.	134.	83.	52.	43.	32.	19.	6.	0.	0.	1290.	165.	226.	124.	157.
HORIZ.	0.	0.	16.	78.	145.	205.	251.	281.	291.	281.	251.	205.	145.	78.	16.	0.	0.	2244.	224.	331.	156.	215.

MONTH 9 HO 2725. TOD 79. TOT 73. KT .665 KD .158

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	31.	82.	130.	166.	190.	198.	190.	166.	130.	82.	31.	0.	0.	0.	1398.	174.	247.	121.	158.
SOUTHWEST	0.	0.	0.	12.	25.	37.	47.	105.	156.	194.	215.	214.	186.	117.	0.	0.	0.	1308.	168.	236.	118.	153.
WEST	0.	0.	0.	12.	25.	37.	46.	51.	53.	114.	164.	195.	196.	140.	0.	0.	0.	1035.	149.	203.	109.	136.
NORTHWEST	0.	0.	0.	12.	25.	37.	46.	51.	53.	51.	46.	83.	105.	89.	0.	0.	0.	599.	119.	151.	94.	110.
NORTH	0.	0.	0.	12.	25.	37.	46.	51.	53.	51.	46.	37.	25.	12.	0.	0.	0.	395.	105.	126.	87.	97.
NORTHEAST	0.	0.	0.	89.	105.	83.	46.	51.	53.	51.	46.	37.	25.	12.	0.	0.	0.	599.	119.	151.	94.	110.
EAST	0.	0.	0.	140.	196.	195.	164.	114.	53.	51.	46.	37.	25.	12.	0.	0.	0.	1035.	149.	203.	109.	136.
SOUTHEAST	0.	0.	0.	117.	186.	214.	215.	194.	156.	105.	47.	37.	25.	12.	0.	0.	0.	1308.	168.	236.	118.	153.
HORIZ.	0.	0.	0.	43.	109.	168.	214.	244.	254.	244.	214.	168.	109.	43.	0.	0.	0.	1811.	202.	296.	135.	183.

LOCATION FRESNO, CALIFORNIA LATITUDE 36 DEGREES 46 MINUTES

MONTH 10 HO 2118. TOD 69. TOT 64. KT .635 KD .165

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	20.	91.	145.	184.	209.	217.	209.	184.	145.	91.	20.	0.	0.	0.	1516.	176.	263.	113.	152.
SOUTHWEST	0.	0.	0.	5.	17.	29.	64.	119.	167.	202.	219.	212.	170.	50.	0.	0.	0.	1253.	157.	229.	104.	137.
WEST	0.	0.	0.	5.	17.	29.	38.	44.	46.	102.	147.	171.	159.	53.	0.	0.	0.	811.	126.	173.	90.	111.
NORTHWEST	0.	0.	0.	5.	17.	29.	38.	44.	46.	44.	38.	48.	65.	28.	0.	0.	0.	400.	97.	120.	77.	87.
NORTH	0.	0.	0.	5.	17.	29.	38.	44.	46.	44.	38.	29.	17.	5.	0.	0.	0.	310.	91.	108.	74.	82.
NORTHEAST	0.	0.	0.	28.	65.	48.	38.	44.	46.	44.	38.	29.	17.	5.	0.	0.	0.	400.	97.	120.	77.	87.
EAST	0.	0.	0.	53.	159.	171.	147.	102.	46.	44.	38.	29.	17.	5.	0.	0.	0.	811.	126.	173.	90.	111.
SOUTHEAST	0.	0.	0.	50.	170.	212.	219.	202.	167.	119.	64.	29.	17.	5.	0.	0.	0.	1253.	157.	229.	104.	137.
HORIZ.	0.	0.	0.	11.	68.	124.	169.	197.	207.	197.	169.	124.	68.	11.	0.	0.	0.	1345.	164.	241.	107.	142.

MONTH 11 HO 1594. TOD 57. TOT 53. KT .512 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	61.	113.	148.	168.	175.	168.	148.	113.	61.	0.	0.	0.	0.	1153.	147.	220.	90.	121.
SOUTHWEST	0.	0.	0.	0.	10.	22.	62.	101.	134.	157.	164.	151.	98.	0.	0.	0.	0.	899.	127.	184.	82.	106.
WEST	0.	0.	0.	0.	10.	21.	30.	35.	37.	75.	102.	112.	84.	0.	0.	0.	0.	507.	97.	129.	70.	83.
NORTHWEST	0.	0.	0.	0.	10.	21.	30.	35.	37.	35.	30.	21.	27.	0.	0.	0.	0.	246.	76.	92.	61.	68.
NORTH	0.	0.	0.	0.	10.	21.	30.	35.	37.	35.	30.	21.	10.	0.	0.	0.	0.	229.	75.	90.	61.	67.
NORTHEAST	0.	0.	0.	0.	27.	21.	30.	35.	37.	35.	30.	21.	10.	0.	0.	0.	0.	246.	76.	92.	61.	68.
EAST	0.	0.	0.	0.	84.	112.	102.	75.	37.	35.	30.	21.	10.	0.	0.	0.	0.	507.	97.	129.	70.	83.
SOUTHEAST	0.	0.	0.	0.	98.	151.	164.	157.	134.	101.	62.	22.	10.	0.	0.	0.	0.	899.	127.	184.	82.	106.
HORIZ.	0.	0.	0.	0.	30.	73.	107.	129.	137.	129.	107.	73.	30.	0.	0.	0.	0.	816.	121.	172.	80.	101.

MONTH 12 HO 1394. TOD 49. TOT 46. KT .440 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	42.	91.	121.	139.	145.	139.	121.	91.	42.	0.	0.	0.	0.	931.	125.	186.	76.	101.
SOUTHWEST	0.	0.	0.	0.	7.	22.	54.	85.	112.	129.	133.	118.	64.	0.	0.	0.	0.	722.	108.	155.	69.	88.
WEST	0.	0.	0.	0.	7.	17.	25.	30.	32.	60.	81.	85.	53.	0.	0.	0.	0.	391.	81.	107.	59.	69.
NORTHWEST	0.	0.	0.	0.	7.	17.	25.	30.	32.	30.	25.	17.	16.	0.	0.	0.	0.	199.	65.	78.	53.	58.
NORTH	0.	0.	0.	0.	7.	17.	25.	30.	32.	30.	25.	17.	7.	0.	0.	0.	0.	191.	64.	77.	52.	57.
NORTHEAST	0.	0.	0.	0.	16.	17.	25.	30.	32.	30.	25.	17.	7.	0.	0.	0.	0.	199.	65.	78.	53.	58.
EAST	0.	0.	0.	0.	53.	85.	81.	60.	32.	30.	25.	17.	7.	0.	0.	0.	0.	391.	81.	107.	59.	69.
SOUTHEAST	0.	0.	0.	0.	64.	118.	133.	129.	112.	85.	54.	22.	7.	0.	0.	0.	0.	722.	108.	155.	69.	88.
HORIZ.	0.	0.	0.	0.	18.	53.	82.	100.	107.	100.	82.	53.	18.	0.	0.	0.	0.	615.	99.	140.	66.	82.

LOCATION FRESNO, CALIFORNIA LATITUDE 36 DEGREES 46 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	126.	143.	145.	127.	125.	127.	139.	154.	174.	176.	147.	125.	142.
SOUTHWEST	109.	129.	139.	137.	142.	148.	157.	165.	168.	157.	127.	108.	140.
WEST	83.	105.	123.	134.	149.	158.	163.	161.	149.	126.	97.	81.	127.
NORTHWEST	66.	81.	97.	114.	132.	143.	147.	138.	119.	97.	76.	65.	106.
NORTH	65.	76.	85.	95.	111.	122.	125.	116.	105.	91.	75.	64.	94.
NORTHEAST	66.	81.	97.	114.	132.	143.	147.	138.	119.	97.	76.	65.	106.
EAST	83.	105.	123.	134.	149.	158.	163.	161.	149.	126.	97.	81.	127.
SOUTHEAST	109.	129.	139.	137.	142.	148.	157.	165.	168.	157.	127.	108.	140.
HORIZ.	105.	137.	170.	188.	215.	230.	231.	224.	202.	164.	121.	99.	174.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	190.	216.	215.	178.	164.	163.	178.	208.	247.	263.	220.	186.	202.
SOUTHWEST	159.	190.	205.	195.	195.	199.	209.	226.	236.	229.	184.	155.	199.
WEST	112.	146.	175.	189.	207.	217.	221.	220.	203.	173.	129.	107.	175.
NORTHWEST	81.	104.	128.	153.	178.	192.	192.	178.	151.	120.	92.	78.	137.
NORTH	79.	94.	105.	119.	139.	153.	153.	140.	126.	108.	90.	77.	115.
NORTHEAST	81.	104.	128.	153.	178.	192.	192.	178.	151.	120.	92.	78.	137.
EAST	112.	146.	175.	189.	207.	217.	221.	220.	203.	173.	129.	107.	175.
SOUTHEAST	159.	190.	205.	195.	195.	199.	209.	226.	236.	229.	184.	155.	199.
HORIZ.	152.	206.	260.	288.	324.	344.	341.	331.	296.	241.	172.	140.	258.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	77.	91.	98.	96.	99.	104.	112.	118.	121.	113.	90.	76.	100.
SOUTHWEST	70.	85.	96.	101.	109.	116.	123.	124.	118.	104.	82.	69.	100.
WEST	59.	74.	88.	99.	113.	122.	127.	122.	109.	90.	70.	59.	94.
NORTHWEST	52.	63.	74.	88.	104.	114.	117.	109.	94.	77.	61.	53.	84.
NORTH	52.	61.	68.	78.	91.	100.	104.	97.	87.	74.	61.	52.	77.
NORTHEAST	52.	63.	74.	88.	104.	114.	117.	109.	94.	77.	61.	53.	84.
EAST	59.	74.	88.	99.	113.	122.	127.	122.	109.	90.	70.	59.	94.
SOUTHEAST	70.	85.	96.	101.	109.	116.	123.	124.	118.	104.	82.	69.	100.
HORIZ.	68.	89.	111.	129.	152.	166.	167.	156.	135.	107.	80.	66.	119.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	103.	125.	133.	123.	122.	126.	135.	147.	158.	152.	121.	101.	129.
SOUTHWEST	91.	113.	129.	133.	141.	147.	154.	157.	153.	137.	106.	88.	129.
WEST	72.	93.	114.	130.	147.	158.	161.	154.	136.	111.	83.	69.	119.
NORTHWEST	59.	74.	90.	110.	130.	143.	144.	131.	110.	87.	68.	58.	100.
NORTH	58.	69.	79.	91.	108.	119.	121.	110.	97.	82.	67.	57.	88.
NORTHEAST	59.	74.	90.	110.	130.	143.	144.	131.	110.	87.	68.	58.	100.
EAST	72.	93.	114.	130.	147.	158.	161.	154.	136.	111.	83.	69.	119.
SOUTHEAST	91.	113.	129.	133.	141.	147.	154.	157.	153.	137.	106.	88.	129.
HORIZ.	88.	120.	156.	184.	216.	235.	232.	215.	183.	142.	101.	82.	163.

LOCATION GAINESVILLE, FLORIDA LATITUDE 29 DEGREES 39 MINUTES

MONTH 1 HO 1986. TOD 62. TOT 59. KT .535 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	6.	79.	123.	153.	171.	177.	171.	153.	123.	79.	6.	0.	0.	0.	1242.	154.	229.	99.	132.
SOUTHWEST	0.	0.	0.	2.	15.	27.	63.	104.	138.	163.	175.	168.	130.	10.	0.	0.	0.	995.	136.	196.	91.	117.
WEST	0.	0.	0.	2.	15.	27.	36.	42.	44.	84.	115.	130.	114.	10.	0.	0.	0.	618.	108.	145.	79.	96.
NORTHWEST	0.	0.	0.	2.	15.	27.	36.	42.	44.	42.	36.	31.	40.	5.	0.	0.	0.	320.	86.	105.	70.	78.
NORTH	0.	0.	0.	2.	15.	27.	36.	42.	44.	42.	36.	27.	15.	2.	0.	0.	0.	288.	83.	101.	69.	76.
NORTHEAST	0.	0.	0.	5.	40.	31.	36.	42.	44.	42.	36.	27.	15.	2.	0.	0.	0.	320.	86.	105.	70.	78.
EAST	0.	0.	0.	10.	114.	130.	115.	84.	44.	42.	36.	27.	15.	2.	0.	0.	0.	618.	108.	145.	79.	96.
SOUTHEAST	0.	0.	0.	10.	130.	168.	175.	163.	138.	104.	63.	27.	15.	2.	0.	0.	0.	995.	136.	196.	91.	117.
HORIZ.	0.	0.	0.	4.	49.	98.	136.	160.	168.	160.	136.	98.	49.	4.	0.	0.	0.	1061.	140.	204.	94.	121.

MONTH 2 HO 2476. TOD 63. TOT 60. KT .560 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	29.	80.	119.	148.	165.	171.	165.	148.	119.	80.	29.	0.	0.	0.	1254.	149.	220.	101.	134.
SOUTHWEST	0.	0.	0.	7.	21.	34.	54.	98.	136.	165.	180.	178.	151.	73.	0.	0.	0.	1098.	139.	200.	96.	124.
WEST	0.	0.	0.	7.	21.	34.	43.	49.	51.	96.	132.	152.	146.	79.	0.	0.	0.	812.	119.	165.	87.	108.
NORTHWEST	0.	0.	0.	7.	21.	34.	43.	49.	51.	49.	43.	57.	68.	43.	0.	0.	0.	467.	95.	121.	75.	88.
NORTH	0.	0.	0.	7.	21.	34.	43.	49.	51.	49.	43.	34.	21.	7.	0.	0.	0.	362.	88.	108.	72.	82.
NORTHEAST	0.	0.	0.	43.	68.	57.	43.	49.	51.	49.	43.	34.	21.	7.	0.	0.	0.	467.	95.	121.	75.	88.
EAST	0.	0.	0.	79.	146.	152.	132.	96.	51.	49.	43.	34.	21.	7.	0.	0.	0.	812.	119.	165.	87.	108.
SOUTHEAST	0.	0.	0.	73.	151.	178.	180.	165.	136.	98.	54.	34.	21.	7.	0.	0.	0.	1098.	139.	200.	96.	124.
HORIZ.	0.	0.	0.	21.	77.	129.	170.	196.	204.	196.	170.	129.	77.	21.	0.	0.	0.	1388.	159.	236.	105.	141.

MONTH 3 HO 2967. TOD 67. TOT 64. KT .568 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	27.	66.	100.	127.	144.	150.	144.	127.	100.	66.	27.	0.	0.	0.	1078.	137.	193.	98.	127.
SOUTHWEST	0.	0.	0.	13.	28.	40.	50.	84.	123.	152.	169.	170.	151.	100.	0.	0.	0.	1080.	137.	193.	98.	127.
WEST	0.	0.	0.	13.	28.	40.	50.	56.	58.	104.	141.	163.	164.	123.	0.	0.	0.	939.	128.	177.	94.	118.
NORTHWEST	0.	0.	0.	13.	28.	40.	50.	56.	58.	56.	60.	85.	97.	81.	0.	0.	0.	623.	107.	140.	84.	100.
NORTH	0.	0.	0.	13.	28.	40.	50.	56.	58.	56.	50.	40.	28.	13.	0.	0.	0.	432.	95.	118.	78.	89.
NORTHEAST	0.	0.	0.	81.	97.	85.	60.	56.	58.	56.	50.	40.	28.	13.	0.	0.	0.	623.	107.	140.	84.	100.
EAST	0.	0.	0.	123.	164.	163.	141.	104.	58.	56.	50.	40.	28.	13.	0.	0.	0.	939.	128.	177.	94.	118.
SOUTHEAST	0.	0.	0.	100.	151.	170.	169.	152.	123.	84.	50.	40.	28.	13.	0.	0.	0.	1080.	137.	193.	98.	127.
HORIZ.	0.	0.	0.	44.	103.	157.	198.	224.	233.	224.	198.	157.	103.	44.	0.	0.	0.	1684.	175.	263.	118.	162.

LOCATION GAINESVILLE, FLORIDA LATITUDE 29 DEGREES 39 MINUTES

MONTH 4 HO 3392. TOD 73. TOT 69. KT .587 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	5.	19.	44.	75.	100.	116.	122.	116.	100.	75.	44.	19.	5.	0.	0.	841.	123.	164.	96.	118.
SOUTHWEST	0.	0.	5.	19.	33.	45.	55.	65.	105.	135.	153.	156.	141.	104.	28.	0.	0.	1043.	135.	186.	102.	130.
WEST	0.	0.	5.	19.	33.	45.	55.	60.	62.	110.	148.	172.	175.	147.	45.	0.	0.	1076.	137.	189.	104.	132.
NORTHWEST	0.	0.	5.	19.	33.	45.	55.	60.	62.	60.	88.	114.	126.	115.	38.	0.	0.	822.	122.	162.	95.	117.
NORTH	0.	0.	12.	27.	33.	45.	55.	60.	62.	60.	55.	45.	33.	27.	12.	0.	0.	527.	104.	130.	86.	100.
NORTHEAST	0.	0.	38.	115.	126.	114.	88.	60.	62.	60.	55.	45.	33.	19.	5.	0.	0.	822.	122.	162.	95.	117.
EAST	0.	0.	45.	147.	175.	172.	148.	110.	62.	60.	55.	45.	33.	19.	5.	0.	0.	1076.	137.	189.	104.	132.
SOUTHEAST	0.	0.	28.	104.	141.	156.	153.	135.	105.	65.	55.	45.	33.	19.	5.	0.	0.	1043.	135.	186.	102.	130.
HORIZ.	0.	0.	12.	68.	129.	183.	224.	250.	259.	250.	224.	183.	129.	8.	12.	0.	0.	1991.	191.	288.	133.	185.

MONTH 5 HO 3621. TOD 79. TOT 74. KT .538 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	9.	23.	36.	51.	72.	86.	90.	86.	72.	51.	36.	23.	9.	0.	0.	644.	118.	148.	96.	113.
SOUTHWEST	0.	0.	9.	23.	36.	47.	56.	61.	82.	107.	121.	124.	112.	85.	38.	0.	0.	901.	134.	175.	105.	129.
WEST	0.	0.	9.	23.	36.	47.	56.	61.	63.	101.	132.	151.	154.	133.	70.	0.	0.	1036.	142.	190.	110.	137.
NORTHWEST	0.	0.	9.	23.	36.	47.	56.	61.	63.	72.	98.	117.	126.	116.	66.	0.	0.	891.	133.	174.	105.	128.
NORTH	0.	0.	29.	45.	46.	47.	56.	61.	63.	61.	56.	47.	46.	45.	29.	0.	0.	628.	117.	146.	96.	112.
NORTHEAST	0.	0.	66.	116.	126.	117.	98.	72.	63.	61.	56.	47.	36.	23.	9.	0.	0.	891.	133.	174.	105.	128.
EAST	0.	0.	70.	133.	154.	151.	132.	101.	63.	61.	56.	47.	36.	23.	9.	0.	0.	1036.	142.	190.	110.	137.
SOUTHEAST	0.	0.	38.	85.	112.	124.	121.	107.	82.	61.	56.	47.	36.	23.	9.	0.	0.	901.	134.	175.	105.	129.
HORIZ.	0.	0.	25.	77.	130.	176.	212.	235.	242.	235.	212.	176.	130.	77.	25.	0.	0.	1949.	197.	287.	141.	192.

MONTH 6 HO 3694. TOD 83. TOT 79. KT .531 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	11.	24.	37.	47.	63.	76.	81.	76.	63.	47.	37.	24.	11.	0.	0.	597.	119.	146.	100.	115.
SOUTHWEST	0.	0.	11.	24.	37.	47.	56.	61.	75.	99.	113.	115.	104.	80.	39.	0.	0.	861.	134.	173.	109.	131.
WEST	0.	0.	11.	24.	37.	47.	56.	61.	63.	100.	129.	147.	149.	131.	76.	0.	0.	1029.	144.	191.	114.	141.
NORTHWEST	0.	0.	11.	24.	37.	47.	56.	61.	63.	78.	102.	120.	128.	119.	74.	0.	0.	920.	138.	179.	111.	135.
NORTH	0.	0.	35.	51.	53.	51.	56.	61.	63.	61.	56.	51.	53.	51.	35.	0.	0.	680.	124.	154.	102.	120.
NORTHEAST	0.	0.	74.	119.	128.	120.	102.	78.	63.	61.	56.	47.	37.	24.	11.	0.	0.	920.	138.	179.	111.	135.
EAST	0.	0.	76.	131.	149.	147.	129.	100.	63.	61.	56.	47.	37.	24.	11.	0.	0.	1029.	144.	191.	114.	141.
SOUTHEAST	0.	0.	39.	80.	104.	115.	113.	99.	75.	61.	56.	47.	37.	24.	11.	0.	0	861.	134.	173.	109.	131.
HORIZ.	0.	0.	29.	80.	131.	176.	211.	233.	240.	233.	211.	176.	131.	80.	29.	0.	0.	1960.	199.	288.	146.	198.

LOCATION GAINESVILLE, FLORIDA LATITUDE 29 DEGREES 39 MINUTES

MONTH 7 HO 3614. TOD 84. TOT 81. KT .519 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	9.	23.	35.	50.	70.	83.	88.	83.	70.	50.	35.	23.	9.	0.	0.	630.	122.	151.	102.	119.
SOUTHWEST	0.	0.	9.	23.	35.	47.	55.	61.	80.	103.	117.	118.	106.	80.	35.	0.	0.	870.	136.	176.	111.	133.
WEST	0.	0.	9.	23.	35.	47.	55.	61.	63.	99.	127.	144.	145.	125.	64.	0.	0.	996.	144.	190.	115.	141.
NORTHWEST	0.	0.	9.	23.	35.	47.	55.	61.	63.	72.	95.	113.	120.	109.	60.	0.	0.	862.	136.	176.	110.	133.
NORTH	0.	0.	27.	43.	45.	47.	55.	61.	63.	61.	55.	47.	45.	43.	27.	0.	0.	619.	121.	150.	102.	118.
NORTHEAST	0.	0.	60.	109.	120.	113.	95.	72.	63.	61.	55.	47.	35.	23.	9.	0.	0.	862.	136.	176.	110.	133.
EAST	0.	0.	64.	125.	145.	144.	127.	99.	63.	61.	55.	47.	35.	23.	9.	0.	0.	996.	144.	190.	115.	141.
SOUTHEAST	0.	0.	35.	80.	106.	118.	117.	103.	80.	61.	55.	47.	35.	23.	9.	0.	0.	870.	136.	176.	111.	133.
HORIZ.	0.	0.	24.	74.	125.	169.	204.	226.	233.	226.	204.	169.	125.	74.	24.	0.	0.	1876.	197.	283.	145.	194.

MONTH 8 HO 3366. TOD 84. TOT 81. KT .547 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	5.	19.	41.	70.	94.	109.	114.	109.	94.	70.	41.	19.	5.	0.	0.	791.	134.	173.	108.	129.
SOUTHWEST	0.	0.	5.	19.	33.	45.	54.	63.	99.	125.	140.	142.	127.	91.	22.	0.	0.	964.	145.	192.	114.	139.
WEST	0.	0.	5.	19.	33.	45.	54.	59.	61.	103.	136.	156.	157.	128.	35.	0.	0.	990.	147.	195.	115.	141.
NORTHWEST	0.	0.	5.	19.	33.	45.	54.	59.	61.	59.	84.	105.	114.	100.	30.	0.	0.	768.	133.	170.	107.	127.
NORTH	0.	0.	11.	25.	33.	45.	54.	59.	61.	59.	54.	45.	33.	25.	11.	0.	0.	514.	117.	142.	98.	112.
NORTHEAST	0.	0.	30.	100.	114.	105.	84.	59.	61.	59.	54.	45.	33.	19.	5.	0.	0.	768.	133.	170.	107.	127.
EAST	0.	0.	35.	128.	157.	156.	136.	103.	61.	59.	54.	45.	33.	19.	5.	0.	0.	990.	147.	195.	115.	141.
SOUTHEAST	0.	0.	22.	91.	127.	142.	140.	125.	99.	63.	54.	45.	33.	19.	5.	0.	0.	964.	145.	192.	114.	139.
HORIZ.	0.	0.	11.	63.	119.	169.	207.	232.	240.	232.	207.	169.	119.	63.	11.	0.	0.	1841.	201.	291.	144.	192.

MONTH 9 HO 2947. TOD 82. TOT 79. KT .529 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	24.	60.	91.	116.	132.	137.	132.	116.	91.	60.	24.	0.	0.	0.	985.	149.	201.	113.	139.
SOUTHWEST	0.	0.	0.	13.	27.	40.	49.	79.	114.	139.	153.	152.	133.	85.	0.	0.	0.	987.	149.	201.	113.	139.
WEST	0.	0.	0.	13.	27.	40.	49.	55.	57.	97.	129.	147.	145.	104.	0.	0.	0.	864.	141.	186.	109.	132.
NORTHWEST	0.	0.	0.	13.	27.	40.	49.	55.	57.	55.	58.	79.	88.	70.	0.	0.	0.	591.	122.	153.	100.	115.
NORTH	0.	0.	0.	13.	27.	40.	49.	55.	57.	55.	49.	40.	27.	13.	0.	0.	0.	425.	111.	133.	94.	105.
NORTHEAST	0.	0.	0.	70.	88.	79.	58.	55.	57.	55.	49.	40.	27.	13.	0.	0.	0.	591.	122.	153.	100.	115.
EAST	0.	0.	0.	104.	145.	147.	129.	97.	57.	55.	49.	40.	27.	13.	0.	0.	0.	864.	141.	186.	109.	132.
SOUTHEAST	0.	0.	0.	85.	133.	152.	153.	139.	114.	79.	49.	40.	27.	13.	0.	0.	0.	987.	149.	201.	113.	139.
HORIZ.	0.	0.	0.	40.	95.	145.	183.	207.	216.	207.	183.	145.	95.	40.	0.	0.	0.	1557.	188.	269.	133.	173.

LOCATION GAINESVILLE, FLORIDA LATITUDE 29 DEGREES 39 MINUTES

MONTH 10 HO 2441. TOD 76. TOT 73. KT .515 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	24.	71.	107.	133.	149.	155.	149.	133.	107.	71.	24.	0.	0.	0.	1122.	153.	216.	109.	139.
SOUTHWEST	0.	0.	0.	7.	21.	33.	53.	91.	124.	148.	160.	156.	130.	57.	0.	0.	0.	982.	143.	199.	105.	131.
WEST	0.	0.	0.	7.	21.	33.	42.	48.	50.	89.	119.	134.	126.	61.	0.	0.	0.	731.	126.	167.	97.	116.
NORTHWEST	0.	0.	0.	7.	21.	33.	42.	48.	50.	48.	42.	52.	60.	34.	0.	0.	0.	438.	106.	131.	87.	99.
NORTH	0.	0.	0.	7.	21.	33.	42.	48.	50.	48.	42.	33.	21.	7.	0.	0.	0.	354.	100.	120.	85.	94.
NORTHEAST	0.	0.	0.	34.	60.	52.	42.	48.	50.	48.	42.	33.	21.	7.	0.	0.	0.	438.	106.	131.	87.	99.
EAST	0.	0.	0.	61.	126.	134.	119.	89.	50.	48.	42.	33.	21.	7.	0.	0.	0.	731.	126.	167.	97.	116.
SOUTHEAST	0.	0.	0.	57.	130.	156.	160.	148.	124.	91.	53.	33.	21.	7.	0.	0.	0.	982.	143.	199.	105.	131.
HORIZ.	0.	0.	0.	18.	69.	117.	154.	178.	186.	178.	154.	117.	69.	18.	0.	0.	0.	1259.	162.	233.	114.	147.

MONTH 11 HO 1973. TOD 67. TOT 65. KT .537 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	5.	78.	123.	154.	172.	178.	172.	154.	123.	78.	5.	0.	0.	0.	1243.	159.	234.	105.	138.
SOUTHWEST	0.	0.	0.	2.	15.	27.	63.	104.	139.	164.	175.	168.	128.	8.	0.	0.	0.	994.	141.	201.	97.	123.
WEST	0.	0.	0.	2.	15.	27.	36.	42.	44.	84.	115.	129.	112.	8.	0.	0.	0.	614.	113.	150.	85.	101.
NORTHWEST	0.	0.	0.	2.	15.	27.	36.	42.	44.	42.	36.	31.	39.	4.	0.	0.	0.	317.	91.	110.	75.	84.
NORTH	0.	0.	0.	2.	15.	27.	36.	42.	44.	42.	36.	27.	15.	2.	0.	0.	0.	286.	88.	106.	74.	82.
NORTHEAST	0.	0.	0.	4.	39.	31.	36.	42.	44.	42.	36.	27.	15.	2.	0.	0.	0.	317.	91.	110.	75.	84.
EAST	0.	0.	0.	8.	112.	129.	115.	84.	44.	42.	36.	27.	15.	2.	0.	0.	0.	614.	113.	150.	85.	101.
SOUTHEAST	0.	0.	0.	8.	128.	168.	175.	164.	139.	104.	63.	27.	15.	2.	0.	0.	0.	994.	141.	201.	97.	123.
HORIZ.	0.	0.	0.	4.	48.	97.	136.	160.	168.	160.	136.	97.	48.	4.	0.	0.	0.	1058.	145.	209.	99.	127.

MONTH 12 HO 1787. TOD 62. TOT 60. KT .508 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	70.	117.	146.	164.	170.	164.	146.	117.	70.	0.	0.	0.	0.	1164.	151.	224.	98.	128.
SOUTHWEST	0.	0.	0.	0.	12.	26.	63.	100.	132.	154.	163.	153.	110.	0.	0.	0.	0.	914.	132.	189.	90.	114.
WEST	0.	0.	0.	0.	12.	24.	33.	39.	40.	76.	103.	114.	93.	0.	0.	0.	0.	536.	103.	137.	78.	92.
NORTHWEST	0.	0.	0.	0.	12.	24.	33.	39.	40.	39.	33.	24.	28.	0.	0.	0.	0.	272.	83.	100.	69.	76.
NORTH	0.	0.	0.	0.	12.	24.	33.	39.	40.	39.	33.	24.	12.	0.	0.	0.	0.	257.	82.	98.	69.	75.
NORTHEAST	0.	0.	0.	0.	28.	24.	33.	39.	40.	39.	33.	24.	12.	0.	0.	0.	0.	272.	83.	100.	69.	76.
EAST	0.	0.	0.	0.	93.	114.	103.	76.	40.	39.	33.	24.	12.	0.	0.	0.	0.	536.	103.	137.	78.	92.
SOUTHEAST	0.	0.	0.	0.	110.	153.	163.	154.	132.	100.	63.	26.	12.	0.	0.	0.	0.	914.	132.	189.	90.	114.
HORIZ.	0.	0.	0.	1.	38.	82.	118.	140.	148.	140.	118.	82.	38.	1.	0.	0.	0.	906.	132.	188.	90.	113.

LOCATION GAINESVILLE, FLORIDA LATITUDE 29 DEGREES 39 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	154.	149.	137.	123.	118.	119.	122.	134.	149.	153.	159.	151.	139.
SOUTHWEST	136.	139.	137.	135.	134.	134.	136.	145.	149.	143.	141.	132.	138.
WEST	108.	119.	128.	137.	142.	144.	144.	147.	141.	126.	113.	103.	129.
NORTHWEST	86.	95.	107.	122.	133.	138.	136.	133.	122.	106.	91.	83.	113.
NORTH	83.	88.	95.	104.	117.	124.	121.	117.	111.	100.	88.	82.	103.
NORTHEAST	86.	95.	107.	122.	133.	138.	136.	133.	122.	106.	91.	83.	113.
EAST	108.	119.	128.	137.	142.	144.	144.	147.	141.	126.	113.	103.	129.
SOUTHEAST	136.	139.	137.	135.	134.	134.	136.	145.	149.	143.	141.	132.	138.
HORIZ.	140.	159.	175.	191.	197.	199.	197.	201.	188.	162.	145.	132.	174.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	229.	220.	193.	164.	148.	146.	151.	173.	201.	216.	234.	224.	191.
SOUTHWEST	196.	200.	193.	186.	175.	173.	176.	192.	201.	199.	201.	189.	190.
WEST	145.	165.	177.	189.	190.	191.	190.	195.	186.	167.	150.	137.	173.
NORTHWEST	105.	121.	140.	162.	174.	179.	176.	170.	153.	131.	110.	100.	143.
NORTH	101.	108.	118.	130.	146.	154.	150.	142.	133.	120.	106.	98.	125.
NORTHEAST	105.	121.	140.	162.	174.	179.	176.	170.	153.	131.	110.	100.	143.
EAST	145.	165.	177.	189.	190.	191.	190.	195.	186.	167.	150.	137.	173.
SOUTHEAST	196.	200.	193.	186.	175.	173.	176.	192.	201.	199.	201.	189.	190.
HORIZ.	204.	236.	263.	288.	287.	288.	283.	291.	269.	233.	209.	188.	253.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	99.	101.	98.	96.	96.	100.	102.	108.	113.	109.	105.	98.	102.
SOUTHWEST	91.	96.	98.	102.	105.	109.	111.	114.	113.	105.	97.	90.	103.
WEST	79.	87.	94.	104.	110.	114.	115.	115.	109.	97.	85.	78.	99.
NORTHWEST	70.	75.	84.	95.	105.	111.	110.	107.	100.	87.	75.	69.	91.
NORTH	69.	72.	78.	86.	96.	102.	102.	98.	94.	85.	74.	69.	85.
NORTHEAST	70.	75.	84.	95.	105.	111.	110.	107.	100.	87.	75.	69.	91.
EAST	79.	87.	94.	104.	110.	114.	115.	115.	109.	97.	85.	78.	99.
SOUTHEAST	91.	96.	98.	102.	105.	109.	111.	114.	113.	105.	97.	90.	103.
HORIZ.	94.	105.	118.	133.	141.	146.	145.	144.	133.	114.	99.	90.	122.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	132.	134.	127.	118.	113.	115.	119.	129.	139.	139.	138.	128.	127.
SOUTHWEST	117.	124.	127.	130.	129.	131.	133.	139.	139.	131.	123.	114.	128.
WEST	96.	108.	118.	132.	137.	141.	141.	141.	132.	116.	101.	92.	121.
NORTHWEST	78.	88.	100.	117.	128.	135.	133.	127.	115.	99.	84.	76.	107.
NORTH	76.	82.	89.	100.	112.	120.	118.	112.	105.	94.	82.	75.	97.
NORTHEAST	78.	88.	100.	117.	128.	135.	133.	127.	115.	99.	84.	76.	107.
EAST	96.	108.	118.	132.	137.	141.	141.	141.	132.	116.	101.	92.	121.
SOUTHEAST	117.	124.	127.	130.	129.	131.	133.	139.	139.	131.	123.	114.	128.
HORIZ.	121.	141.	162.	185.	192.	198.	194.	192.	173.	147.	127.	113.	162.

LOCATION GLASGOW, MONTANA LATITUDE 48 DEGREES 13 MINUTES

MONTH 1 HO 977. TOD 13. TOT 10. KT .621 KD .169

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	22.	130.	196.	234.	246.	234.	196.	130.	22.	0.	0.	0.	0.	1410.	136.	237.	56.	93.
SOUTHWEST	0.	0.	0.	0.	3.	18.	74.	132.	181.	212.	215.	173.	35.	0.	0.	0.	0.	1044.	104.	179.	44.	71.
WEST	0.	0.	0.	0.	3.	12.	19.	24.	26.	81.	119.	121.	30.	0.	0.	0.	0.	435.	51.	82.	24.	36.
NORTHWEST	0.	0.	0.	0.	3.	12.	19.	24.	26.	24.	19.	12.	8.	0.	0.	0.	0.	149.	26.	37.	15.	19.
NORTH	0.	0.	0.	0.	3.	12.	19.	24.	26.	24.	19.	12.	3.	0.	0.	0.	0.	144.	26.	36.	15.	19.
NORTHEAST	0.	0.	0.	0.	8.	12.	19.	24.	26.	24.	19.	12.	3.	0.	0.	0.	0.	149.	26.	37.	15.	19.
EAST	0.	0.	0.	0.	30.	121.	119.	81.	26.	24.	19.	12.	3.	0.	0.	0.	0.	435.	51.	82.	24.	36.
SOUTHEAST	0.	0.	0.	0.	35.	173.	215.	212.	181.	132.	74.	18.	3.	0.	0.	0.	0.	1044.	104.	179.	44.	71.
HORIZ.	0.	0.	0.	0.	7.	46.	84.	109.	117.	109.	84.	46.	7.	0.	0.	0.	0.	606.	66.	109.	30.	46.

MONTH 2 HO 1574. TOD 17. TOT 14. KT .678 KD .155

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	3.	91.	165.	217.	250.	261.	250.	217.	165.	91.	3.	0.	0.	0.	1714.	144.	248.	69.	114.
SOUTHWEST	0.	0.	0.	1.	11.	21.	75.	140.	195.	234.	249.	233.	167.	6.	0.	0.	0.	1332.	116.	196.	57.	92.
WEST	0.	0.	0.	1.	11.	21.	29.	34.	35.	100.	152.	177.	151.	6.	0.	0.	0.	718.	70.	114.	38.	56.
NORTHWEST	0.	0.	0.	1.	11.	21.	29.	34.	35.	34.	29.	30.	54.	4.	0.	0.	0.	282.	38.	55.	24.	31.
NORTH	0.	0.	0.	1.	11.	21.	29.	34.	35.	34.	29.	21.	11.	1.	0.	0.	0.	228.	34.	48.	22.	28.
NORTHEAST	0.	0.	0.	4.	54.	30.	29.	34.	35.	34.	29.	21.	11.	1.	0.	0.	0.	282.	38.	55.	24.	31.
EAST	0.	0.	0.	6.	151.	177.	152.	100.	35.	34.	29.	21.	11.	1.	0.	0.	0.	718.	70.	114.	38.	56.
SOUTHEAST	0.	0.	0.	6.	167.	233.	249.	234.	195.	140.	75.	21.	11.	1.	0.	0.	0.	1332.	116.	196.	57.	92.
HORIZ.	0.	0.	0.	3.	45.	96.	138.	164.	173.	164.	138.	96.	45.	3.	0.	0.	0.	1066.	96.	160.	49.	77.

MONTH 3 HO 2286. TOD 31. TOT 28. KT .672 KD .156

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	35.	95.	151.	195.	223.	233.	223.	195.	151.	95.	35.	0.	0.	0.	1632.	135.	220.	81.	123.
SOUTHWEST	0.	0.	0.	10.	21.	31.	63.	125.	178.	216.	236.	231.	197.	118.	0.	0.	0.	1424.	122.	196.	74.	111.
WEST	0.	0.	0.	10.	21.	31.	38.	43.	45.	108.	161.	193.	195.	137.	0.	0.	0.	983.	94.	145.	60.	86.
NORTHWEST	0.	0.	0.	10.	21.	31.	38.	43.	45.	43.	38.	61.	92.	82.	0.	0.	0.	504.	63.	90.	45.	58.
NORTH	0.	0.	0.	10.	21.	31.	38.	43.	45.	43.	38.	31.	21.	10.	0.	0.	0.	331.	52.	70.	39.	48.
NORTHEAST	0.	0.	0.	82.	92.	61.	38.	43.	45.	43.	38.	31.	21.	10.	0.	0.	0.	504.	63.	90.	45.	58.
EAST	0.	0.	0.	137.	195.	193.	161.	108.	45.	43.	38.	31.	21.	10.	0.	0.	0.	983.	94.	145.	60.	86.
SOUTHEAST	0.	0.	0.	118.	197.	231.	236.	216.	178.	125.	63.	31.	21.	10.	0.	0.	0.	1424.	122.	196.	74.	111.
HORIZ.	0.	0.	0.	36.	91.	142.	182.	208.	216.	208.	182.	142.	91.	36.	0.	0.	0.	1536.	129.	209.	78.	118.

LOCATION GLASGOW, MONTANA LATITUDE 48 DEGREES 13 MINUTES

MONTH 4 HO 3043. TOD 48. TOT 44. KT .597 KD .174

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	8.	27.	70.	112.	145.	166.	174.	166.	145.	112.	70.	27.	8.	0.	0.	1230.	116.	172.	84.	116.
SOUTHWEST	0.	0.	8.	19.	30.	40.	48.	97.	138.	169.	185.	184.	163.	122.	55.	0.	0.	1259.	118.	175.	85.	118.
WEST	0.	0.	8.	19.	30.	40.	47.	52.	53.	103.	144.	171.	179.	157.	86.	0.	0.	1090.	108.	158.	79.	108.
NORTHWEST	0.	0.	8.	19.	30.	40.	47.	52.	53.	52.	47.	82.	107.	112.	71.	0.	0.	720.	88.	121.	68.	86.
NORTH	0.	0.	19.	19.	30.	40.	47.	52.	53.	52.	47.	40.	30.	19.	19.	0.	0.	468.	74.	95.	59.	72.
NORTHEAST	0.	0.	71.	112.	107.	82.	47.	52.	53.	52.	47.	40.	30.	19.	8.	0.	0.	720.	88.	121.	68.	86.
EAST	0.	0.	86.	157.	179.	171.	144.	103.	53.	52.	47.	40.	30.	19.	8.	0.	0.	1090.	108.	158.	79.	108.
SOUTHEAST	0.	0.	55.	122.	163.	184.	185.	169.	138.	97.	48.	40.	30.	19.	8.	0.	0.	1259.	118.	175.	85.	118.
HORIZ.	0.	0.	24.	72.	121.	164.	197.	218.	226.	218.	197.	164.	121.	72.	24.	0.	0.	1817.	149.	232.	103.	150.

MONTH 5 HO 3562. TOD 59. TOT 55. KT .611 KD .171

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	5.	15.	25.	58.	97.	128.	149.	156.	149.	128.	97.	58.	25.	15.	5.	0.	1109.	119.	165.	93.	123.
SOUTHWEST	0.	5.	15.	25.	36.	45.	52.	86.	127.	157.	174.	174.	158.	125.	76.	16.	0.	1270.	128.	180.	99.	132.
WEST	0.	5.	15.	25.	36.	45.	52.	56.	58.	107.	148.	176.	186.	174.	129.	35.	0.	1245.	126.	178.	98.	131.
NORTHWEST	0.	5.	15.	25.	36.	45.	52.	56.	58.	56.	65.	101.	127.	136.	116.	36.	0.	927.	109.	147.	87.	111.
NORTH	0.	19.	43.	34.	36.	45.	52.	56.	58.	56.	52.	45.	36.	34.	43.	19.	0.	624.	93.	119.	77.	93.
NORTHEAST	0.	36.	116.	136.	127.	101.	65.	56.	58.	56.	52.	45.	36.	25.	15.	5.	0.	927.	109.	147.	87.	111.
EAST	0.	35.	129.	174.	186.	176.	148.	107.	58.	56.	52.	45.	36.	25.	15.	5.	0.	1245.	126.	178.	98.	131.
SOUTHEAST	0.	16.	76.	125.	158.	174.	174.	157.	127.	86.	52.	45.	36.	25.	15.	5.	0.	1270.	128.	180.	99.	132.
HORIZ.	0.	10.	51.	100.	148.	190.	222.	243.	250.	243.	222.	190.	148.	100.	51.	10.	0.	2177.	176.	266.	130.	187.

MONTH 6 HO 3759. TOD 67. TOT 64. KT .602 KD .174

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	7.	17.	28.	52.	89.	118.	137.	144.	137.	118.	89.	52.	28.	17.	7.	0.	1039.	121.	162.	99.	126.
SOUTHWEST	0.	7.	17.	28.	38.	46.	53.	80.	119.	148.	164.	164.	150.	119.	76.	25.	0.	1234.	131.	180.	106.	138.
WEST	0.	7.	17.	28.	38.	46.	53.	57.	59.	105.	144.	171.	182.	172.	134.	58.	0.	1273.	133.	184.	107.	140.
NORTHWEST	0.	7.	17.	28.	38.	46.	53.	57.	59.	57.	72.	105.	130.	140.	124.	61.	0.	994.	119.	158.	98.	124.
NORTH	0.	33.	51.	42.	38.	46.	53.	57.	59.	57.	53.	46.	38.	42.	51.	33.	0.	699.	103.	131.	88.	106.
NORTHEAST	0.	61.	124.	140.	130.	105.	72.	57.	59.	57.	53.	46.	38.	28.	17.	7.	0.	994.	119.	158.	98.	124.
EAST	0.	58.	134.	172.	182.	171.	144.	105.	59.	57.	53.	46.	38.	28.	17.	7.	0.	1273.	133.	184.	107.	140.
SOUTHEAST	0.	25.	76.	119.	150.	164.	164.	148.	119.	80.	53.	46.	38.	28.	17.	7.	0.	1234.	131.	180.	106.	138.
HORIZ.	0.	18.	60.	108.	154.	194.	226.	245.	252.	245.	226.	194.	154.	108.	60.	18.	0.	2262.	184.	274.	141.	200.

LOCATION GLASGOW, MONTANA LATITUDE 48 DEGREES 13 MINUTES

MONTH 7 HO 3563. TOD 76. TOT 72. KT .666 KD .158

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	4.	14.	25.	60.	104.	139.	162.	170.	162.	139.	104.	60.	25.	14.	4.	0.	1189.	140.	189.	113.	144.
SOUTHWEST	0.	4.	14.	25.	35.	44.	51.	90.	137.	172.	192.	193.	175.	138.	83.	17.	0.	1373.	150.	206.	119.	155.
WEST	0.	4.	14.	25.	35.	44.	51.	56.	57.	114.	162.	195.	208.	195.	144.	38.	0.	1345.	148.	204.	118.	153.
NORTHWEST	0.	4.	14.	25.	35.	44.	51.	56.	57.	56.	67.	109.	140.	152.	128.	39.	0.	980.	129.	169.	106.	131.
NORTH	0.	20.	46.	35.	35.	44.	51.	56.	57.	56.	51.	44.	35.	35.	46.	20.	0.	633.	110.	136.	94.	110.
NORTHEAST	0.	39.	128.	152.	140.	109.	67.	56.	57.	56.	51.	44.	35.	25.	14.	4.	0.	980.	129.	169.	106.	131.
EAST	0.	38.	144.	195.	208.	195.	162.	114.	57.	56.	51.	44.	35.	25.	14.	4.	0.	1345.	148.	204.	118.	153.
SOUTHEAST	0.	17.	83.	138.	175.	193.	192.	172.	137.	90.	51.	44.	35.	25.	14.	4.	0.	1373.	150.	206.	119.	155.
HORIZ.	0.	10.	54.	108.	161.	207.	243.	266.	274.	266.	243.	207.	161.	108.	54.	10.	0.	2373.	203.	301.	153.	216.

MONTH 8 HO 3023. TOD 73. TOT 69. KT .630 KD .167

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	8.	27.	72.	117.	153.	177.	185.	177.	153.	117.	72.	27.	8.	0.	0.	1294.	150.	209.	113.	147.
SOUTHWEST	0.	0.	8.	19.	30.	39.	47.	100.	146.	180.	197.	196.	173.	127.	55.	0.	0.	1318.	151.	211.	114.	149.
WEST	0.	0.	8.	19.	30.	39.	47.	51.	53.	108.	153.	182.	190.	165.	85.	0.	0.	1129.	140.	192.	108.	137.
NORTHWEST	0.	0.	8.	19.	30.	39.	47.	51.	53.	51.	47.	85.	113.	117.	70.	0.	0.	730.	117.	150.	94.	113.
NORTH	0.	0.	19.	19.	30.	39.	47.	51.	53.	51.	47.	39.	30.	19.	19.	0.	0.	464.	101.	122.	85.	97.
NORTHEAST	0.	0.	70.	117.	113.	85.	47.	51.	53.	51.	47.	39.	30.	19.	8.	0.	0.	730.	117.	150.	94.	113.
EAST	0.	0.	85.	165.	190.	182.	153.	108.	53.	51.	47.	39.	30.	19.	8.	0.	0.	1129.	140.	192.	108.	137.
SOUTHEAST	0.	0.	55.	127.	173.	196.	197.	180.	146.	100.	47.	39.	30.	19.	8.	0.	0.	1318.	151.	211.	114.	149.
HORIZ.	0.	0.	23.	73.	126.	172.	208.	231.	239.	231.	208.	172.	126.	73.	23.	0.	0.	1905.	186.	273.	134.	184.

MONTH 9 HO 2280. TOD 61. TOT 57. KT .629 KD .167

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	30.	85.	137.	178.	203.	212.	203.	178.	137.	85.	30.	0.	0.	0.	1480.	162.	239.	108.	147.
SOUTHWEST	0.	0.	0.	10.	21.	31.	60.	115.	163.	198.	214.	208.	174.	100.	0.	0.	0.	1294.	149.	216.	101.	135.
WEST	0.	0.	0.	10.	21.	31.	38.	43.	45.	101.	147.	175.	173.	117.	0.	0.	0.	902.	122.	169.	88.	112.
NORTHWEST	0.	0.	0.	10.	21.	31.	38.	43.	45.	43.	38.	58.	83.	71.	0.	0.	0.	483.	94.	119.	74.	86.
NORTH	0.	0.	0.	10.	21.	31.	38.	43.	45.	43.	38.	31.	21.	10.	0.	0.	0.	333.	84.	101.	69.	77.
NORTHEAST	0.	0.	0.	71.	83.	58.	38.	43.	45.	43.	38.	31.	21.	10.	0.	0.	0.	483.	94.	119.	74.	86.
EAST	0.	0.	0.	117.	173.	175.	147.	101.	45.	43.	38.	31.	21.	10.	0.	0.	0.	902.	122.	169.	88.	112.
SOUTHEAST	0.	0.	0.	100.	174.	208.	214.	198.	163.	115.	60.	31.	21.	10.	0.	0.	0.	1294.	149.	216.	101.	135.
HORIZ.	0.	0.	1.	33.	85.	133.	170.	194.	202.	194.	170.	133.	85.	33.	1.	0.	0.	1434.	159.	233.	106.	144.

LOCATION GLASGOW, MONTANA LATITUDE 48 DEGREES 13 MINUTES

MONTH 10 HO 1541. TOD 49. TOT 45. KT .593 KD .175

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	2.	72.	134.	179.	207.	216.	207.	179.	134.	72.	2.	0.	0.	0.	1403.	153.	239.	91.	127.
SOUTHWEST	0.	0.	0.	1.	11.	21.	66.	119.	163.	194.	204.	187.	128.	3.	0.	0.	0.	1097.	131.	197.	81.	109.
WEST	0.	0.	0.	1.	11.	21.	29.	33.	35.	86.	126.	143.	116.	3.	0.	0.	0.	605.	94.	131.	65.	81.
NORTHWEST	0.	0.	0.	1.	11.	21.	29.	33.	35.	33.	29.	27.	42.	2.	0.	0.	0.	264.	69.	85.	54.	61.
NORTH	0.	0.	0.	1.	11.	21.	29.	33.	35.	33.	29.	21.	11.	1.	0.	0.	0.	226.	66.	80.	53.	59.
NORTHEAST	0.	0.	0.	2.	42.	27.	29.	33.	35.	33.	29.	21.	11.	1.	0.	0.	0.	264.	69.	85.	54.	61.
EAST	0.	0.	0.	3.	116.	143.	126.	86.	35.	33.	29.	21.	11.	1.	0.	0.	0.	605.	94.	131.	65.	81.
SOUTHEAST	0.	0.	0.	3.	128.	187.	204.	194.	163.	119.	66.	21.	11.	1.	0.	0.	0.	1097.	131.	197.	81.	109.
HORIZ.	0.	0.	0.	2.	38.	82.	118.	141.	149.	141.	118.	82.	38.	2.	0.	0.	0.	913.	117.	172.	75.	99.

MONTH 11 HO 967. TOD 31. TOT 28. KT .516 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	15.	97.	148.	177.	186.	177.	148.	97.	15.	0.	0.	0.	0.	1058.	124.	199.	62.	90.
SOUTHWEST	0.	0.	0.	0.	3.	17.	59.	103.	139.	161.	161.	127.	23.	0.	0.	0.	0.	792.	100.	157.	53.	74.
WEST	0.	0.	0.	0.	3.	12.	19.	24.	25.	65.	91.	90.	20.	0.	0.	0.	0.	348.	61.	86.	39.	48.
NORTHWEST	0.	0.	0.	0.	3.	12.	19.	24.	25.	24.	19.	12.	6.	0.	0.	0.	0.	144.	44.	54.	33.	36.
NORTH	0.	0.	0.	0.	3.	12.	19.	24.	25.	24.	19.	12.	3.	0.	0.	0.	0.	140.	43.	53.	32.	36.
NORTHEAST	0.	0.	0.	0.	6.	12.	19.	24.	25.	24.	19.	12.	3.	0.	0.	0.	0.	144.	44.	54.	33.	36.
EAST	0.	0.	0.	0.	20.	90.	91.	65.	25.	24.	19.	12.	3.	0.	0.	0.	0.	348.	61.	86.	39.	48.
SOUTHEAST	0.	0.	0.	0.	23.	127.	161.	161.	139.	103.	59.	17.	3.	0.	0.	0.	0.	792.	100.	157.	53.	74.
HORIZ.	0.	0.	0.	0.	6.	38.	69.	89.	96.	89.	69.	38.	6.	0.	0.	0.	0.	499.	75.	110.	44.	57.

MONTH 12 HO 763. TOD 19. TOT 16. KT .548 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	0.	89.	159.	196.	208.	196.	159.	89.	0.	0.	0.	0.	0.	1097.	123.	207.	51.	80.
SOUTHWEST	0.	0.	0.	0.	0.	16.	63.	113.	153.	176.	171.	115.	0.	0.	0.	0.	0.	808.	95.	158.	42.	63.
WEST	0.	0.	0.	0.	0.	8.	15.	20.	22.	65.	92.	78.	0.	0.	0.	0.	0.	302.	47.	71.	25.	33.
NORTHWEST	0.	0.	0.	0.	0.	8.	15.	20.	22.	20.	15.	8.	0.	0.	0.	0.	0.	110.	29.	38.	19.	22.
NORTH	0.	0.	0.	0.	0.	8.	15.	20.	22.	20.	15.	8.	0.	0.	0.	0.	0.	110.	29.	38.	19.	22.
NORTHEAST	0.	0.	0.	0.	0.	8.	15.	20.	22.	20.	15.	8.	0.	0.	0.	0.	0.	110.	29.	38.	19.	22.
EAST	0.	0.	0.	0.	0.	78.	92.	65.	22.	20.	15.	8.	0.	0.	0.	0.	0.	302.	47.	71.	25.	33.
SOUTHEAST	0.	0.	0.	0.	0.	115.	171.	176.	153.	113.	63.	16.	0.	0.	0.	0.	0.	808.	95.	158.	42.	63.
HORIZ.	0.	0.	0.	0.	1.	26.	58.	80.	88.	80.	58.	26.	1.	0.	0.	0.	0.	418.	58.	90.	29.	40.

LOCATION GLASGOW, MONTANA. LATITUDE 48 DEGREES 13 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	136.	144.	135.	116.	119.	121.	140.	150.	162.	153.	124.	123.	135.
SOUTHWEST	104.	116.	122.	118.	128.	131.	150.	151.	149.	131.	100.	95.	125.
WEST	51.	70.	94.	108.	126.	133.	148.	140.	122.	94.	61.	47.	100.
NORTHWEST	26.	38.	63.	88.	109.	119.	129.	117.	94.	69.	44.	29.	77.
NORTH	26.	34.	52.	74.	93.	103.	110.	101.	84.	66.	43.	29.	68.
NORTHEAST	26.	38.	63.	88.	109.	119.	129.	117.	94.	69.	44.	29.	77.
EAST	51.	70.	94.	108.	126.	133.	148.	140.	122.	94.	61.	47.	100.
SOUTHEAST	104.	116.	122.	118.	128.	131.	150.	151.	149.	131.	100.	95.	125.
HORIZ.	66.	96.	129.	149.	176.	184.	203.	186.	159.	117.	75.	58.	133.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	237.	248.	220.	172.	165.	162.	189.	209.	239.	239.	199.	207.	207.
SOUTHWEST	179.	196.	196.	175.	180.	180.	206.	211.	216.	197.	157.	158.	188.
WEST	82.	114.	145.	158.	178.	184.	204.	192.	169.	131.	86.	71.	143.
NORTHWEST	37.	55.	90.	121.	147.	158.	169.	150.	119.	85.	54.	38.	102.
NORTH	36.	48.	70.	95.	119.	131.	136.	122.	101.	80.	53.	38.	86.
NORTHEAST	37.	55.	90.	121.	147.	158.	169.	150.	119.	85.	54.	38.	102.
EAST	82.	114.	145.	158.	178.	184.	204.	192.	169.	131.	86.	71.	143.
SOUTHEAST	179.	196.	196.	175.	180.	180.	206.	211.	216.	197.	157.	158.	188.
HORIZ.	109.	160.	209.	232.	266.	274.	301.	273.	233.	172.	110.	90.	203.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	56.	69.	81.	84.	93.	99.	113.	113.	108.	91.	62.	51.	85.
SOUTHWEST	44.	57.	74.	85.	99.	106.	119.	114.	101.	81.	53.	42.	81.
WEST	24.	38.	60.	79.	98.	107.	118.	108.	88.	65.	39.	25.	71.
NORTHWEST	15.	24.	45.	68.	87.	98.	106.	94.	74.	54.	33.	19.	60.
NORTH	15.	22.	39.	59.	77.	88.	94.	85.	69.	53.	32.	19.	54.
NORTHEAST	15.	24.	45.	68.	87.	98.	106.	94.	74.	54.	33.	19.	60.
EAST	24.	38.	60.	79.	98.	107.	118.	108.	88.	65.	39.	25.	71.
SOUTHEAST	44.	57.	74.	85.	99.	106.	119.	114.	101.	81.	53.	42.	81.
HORIZ.	30.	49.	78.	103.	130.	141.	153.	134.	106.	75.	44.	29.	89.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	93.	114.	123.	116.	123.	126.	144.	147.	147.	127.	90.	80.	119.
SOUTHWEST	71.	92.	111.	118.	132.	138.	155.	149.	135.	109.	74.	63.	112.
WEST	36.	56.	86.	108.	131.	140.	153.	137.	112.	81.	48.	33.	93.
NORTHWEST	19.	31.	58.	86.	111.	124.	131.	113.	86.	61.	36.	22.	73.
NORTH	19.	28.	48.	72.	93.	106.	110.	97.	77.	59.	36.	22.	64.
NORTHEAST	19.	31.	58.	86.	111.	124.	131.	113.	86.	61.	36.	22.	73.
EAST	36.	56.	86.	108.	131.	140.	153.	137.	112.	81.	48.	33.	93.
SOUTHEAST	71.	92.	111.	118.	132.	138.	155.	149.	135.	109.	74.	63.	112.
HORIZ.	46.	77.	118.	150.	187.	200.	216.	184.	144.	99.	57.	40.	126.

LOCATION GRAND JUNCTION, COLO. LATITUDE 39 DEGREES 7 MINUTES

MONTH 1 HO 1478. TOD 27. TOT 24. KT .597 KD .174

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	71.	140.	185.	211.	220.	211.	185.	140.	71.	0.	0.	0.	0.	1433.	140.	233.	70.	107.
SOUTHWEST	0.	0.	0.	0.	9.	22.	72.	123.	166.	195.	206.	188.	116.	0.	0.	0.	0.	1096.	114.	185.	59.	88.
WEST	0.	0.	0.	0.	9.	20.	28.	34.	36.	85.	123.	137.	99.	0.	0.	0.	0.	570.	72.	109.	42.	57.
NORTHWEST	0.	0.	0.	0.	9.	20.	28.	34.	36.	34.	28.	20.	29.	0.	0.	0.	0.	237.	46.	61.	32.	38.
NORTH	0.	0.	0.	0.	9.	20.	28.	34.	36.	34.	28.	20.	9.	0.	0.	0.	0.	217.	44.	58.	31.	37.
NORTHEAST	0.	0.	0.	0.	29.	20.	28.	34.	36.	34.	28.	20.	9.	0.	0.	0.	0.	237.	46.	61.	32.	38.
EAST	0.	0.	0.	0.	99.	137.	123.	85.	36.	34.	28.	20.	9.	0.	0.	0.	0.	570.	72.	109.	42.	57.
SOUTHEAST	0.	0.	0.	0.	116.	188.	206.	195.	166.	123.	72.	22.	9.	0.	0.	0.	0.	1096.	114.	185.	59.	88.
HORIZ.	0.	0.	0.	0.	29.	77.	117.	143.	152.	143.	117.	77.	29.	0.	0.	0.	0.	883.	97.	154.	52.	75.

MONTH 2 HO 2039. TOD 35. TOT 32. KT .633 KD .166

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	19.	92.	147.	187.	212.	220.	212.	187.	147.	92.	19.	0.	0.	0.	1537.	144.	233.	81.	122.
SOUTHWEST	0.	0.	0.	4.	16.	28.	66.	121.	169.	203.	220.	213.	172.	49.	0.	0.	0.	1262.	125.	198.	72.	106.
WEST	0.	0.	0.	4.	16.	28.	37.	42.	44.	101.	146.	171.	160.	52.	0.	0.	0.	801.	92.	138.	58.	79.
NORTHWEST	0.	0.	0.	4.	16.	28.	37.	42.	44.	42.	37.	45.	64.	27.	0.	0.	0.	386.	62.	85.	44.	55.
NORTH	0.	0.	0.	4.	16.	28.	37.	42.	44.	42.	37.	28.	16.	4.	0.	0.	0.	299.	56.	73.	42.	49.
NORTHEAST	0.	0.	0.	27.	64.	45.	37.	42.	44.	42.	37.	28.	16.	4.	0.	0.	0.	386.	62.	85.	44.	55.
EAST	0.	0.	0.	52.	160.	171.	146.	101.	44.	42.	37.	28.	16.	4.	0.	0.	0.	801.	92.	138.	58.	79.
SOUTHEAST	0.	0.	0.	49.	172.	213.	220.	203.	169.	121.	66.	28.	16.	4.	0.	0.	0.	1262.	125.	198.	72.	106.
HORIZ.	0.	0.	0.	10.	65.	119.	162.	189.	199.	189.	162.	119.	65.	10.	0.	0.	0.	1290.	127.	201.	73.	107.

MONTH 3 HO 2655. TOD 45. TOT 41. KT .643 KD .163

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	33.	84.	131.	167.	190.	198.	190.	167.	131.	84.	33.	0.	0.	0.	1406.	135.	208.	86.	123.
SOUTHWEST	0.	0.	0.	12.	25.	36.	51.	107.	155.	191.	211.	210.	183.	117.	0.	0.	0.	1298.	128.	195.	83.	117.
WEST	0.	0.	0.	12.	25.	36.	45.	50.	52.	110.	158.	187.	190.	140.	0.	0.	0.	1004.	109.	161.	73.	100.
NORTHWEST	0.	0.	0.	12.	25.	36.	45.	50.	52.	50.	45.	76.	99.	87.	0.	0.	0.	577.	82.	112.	60.	75.
NORTH	0.	0.	0.	12.	25.	36.	45.	50.	52.	50.	45.	36.	25.	12.	0.	0.	0.	386.	69.	89.	54.	64.
NORTHEAST	0.	0.	0.	87.	99.	76.	45.	50.	52.	50.	45.	36.	25.	12.	0.	0.	0.	577.	82.	112.	60.	75.
EAST	0.	0.	0.	140.	190.	187.	158.	110.	52.	50.	45.	36.	25.	12.	0.	0.	0.	1004.	109.	161.	73.	100.
SOUTHEAST	0.	0.	0.	117.	183.	210.	211.	191.	155.	107.	51.	36.	25.	12.	0.	0.	0.	1298.	128.	195.	83.	117.
HORIZ.	0.	0.	0.	42.	103.	158.	201.	229.	238.	229.	201.	158.	103.	42.	0.	0.	0.	1706.	154.	243.	96.	141.

LOCATION GRAND JUNCTION, COLO. LATITUDE 39 DEGREES 7 MINUTES

MONTH 4 HO 3253. TOD 56. TOT 52. KT .632 KD .166

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	19.	60.	100.	133.	153.	160.	153.	133.	100.	60.	19.	7.	0.	0.	1105.	120.	172.	87.	116.
SOUTHWEST	0.	0.	7.	19.	32.	43.	51.	85.	130.	164.	184.	185.	167.	124.	46.	0.	0.	1239.	127.	186.	92.	124.
WEST	0.	0.	7.	19.	32.	43.	51.	57.	58.	113.	157.	187.	194.	168.	74.	0.	0.	1160.	123.	178.	89.	119.
NORTHWEST	0.	0.	7.	19.	32.	43.	51.	57.	58.	57.	69.	104.	127.	124.	62.	0.	0.	810.	103.	141.	78.	99.
NORTH	0.	0.	18.	19.	32.	43.	51.	57.	58.	57.	51.	43.	32.	19.	18.	0.	0.	498.	85.	108.	68.	81.
NORTHEAST	0.	0.	62.	124.	127.	104.	69.	57.	58.	57.	51.	43.	32.	19.	7.	0.	0.	810.	103.	141.	78.	99.
EAST	0.	0.	74.	168.	194.	187.	157.	113.	58.	57.	51.	43.	32.	19.	7.	0.	0.	1160.	123.	178.	89.	119.
SOUTHEAST	0.	0.	46.	124.	167.	185.	184.	164.	130.	85.	51.	43.	32.	19.	7.	0.	0.	1239.	127.	186.	92.	124.
HORIZ.	0.	0.	18.	75.	135.	187.	228.	254.	263.	254.	228.	187.	135.	75.	18.	0.	0.	2057.	175.	272.	118.	172.

MONTH 5 HO 3626. TOD 66. TOT 62. KT .643 KD .163

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	1.	12.	24.	42.	79.	109.	128.	135.	128.	109.	79.	42.	24.	12.	1.	0.	922.	119.	160.	94.	118.
SOUTHWEST	0.	1.	12.	24.	36.	47.	55.	69.	113.	147.	166.	169.	154.	120.	65.	1.	0.	1180.	134.	186.	102.	133.
WEST	0.	1.	12.	24.	36.	47.	55.	60.	61.	114.	158.	188.	198.	180.	118.	2.	0.	1254.	138.	193.	105.	138.
NORTHWEST	0.	1.	12.	24.	36.	47.	55.	60.	61.	60.	90.	124.	147.	148.	109.	2.	0.	974.	122.	165.	95.	121.
NORTH	0.	1.	42.	44.	36.	47.	55.	60.	61.	60.	55.	47.	36.	44.	42.	1.	0.	630.	102.	130.	84.	100.
NORTHEAST	0.	2.	109.	148.	147.	124.	90.	60.	61.	60.	55.	47.	36.	24.	12.	1.	0.	974.	122.	165.	9 .	121.
EAST	0.	2.	118.	180.	198.	188.	158.	114.	61.	60.	55.	47.	36.	24.	12.	1.	0.	1254.	138.	193.	105.	138.
SOUTHEAST	0.	1.	65.	120.	154.	169.	166.	147.	113.	69.	55.	47.	36.	24.	12.	1.	0.	1180.	134.	186.	102.	133.
HORIZ.	0.	2.	40.	99.	157.	208.	247.	272.	281.	272.	247.	208.	157.	99.	40.	2.	0.	2331.	200.	302.	142.	203.

MONTH 6 HO 3759. TOD 76. TOT 71. KT .704 KD .147

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	3.	13.	25.	37.	72.	104.	125.	132.	125.	104.	72.	37.	25.	13.	3.	0.	891.	125.	163.	102.	125.
SOUTHWEST	0.	3.	13.	25.	37.	47.	55.	62.	112.	150.	173.	178.	164.	129.	75.	7.	0.	1230.	144.	197.	113.	146.
WEST	0.	3.	13.	25.	37.	47.	55.	60.	62.	122.	173.	208.	221.	205.	145.	16.	0.	1390.	153.	212.	119.	155.
NORTHWEST	0.	3.	13.	25.	37.	47.	55.	60.	62.	60.	103.	143.	170.	175.	137.	17.	0.	1107.	137.	185.	109.	138.
NORTH	0.	10.	57.	57.	41.	47.	55.	60.	62.	60.	55.	47.	41.	57.	57.	10.	0.	717.	116.	146.	96.	115.
NORTHEAST	0.	17.	137.	175.	170.	143.	103.	60.	62.	60.	55.	47.	37.	25.	13.	3.	0.	1107.	137.	185.	109.	138.
EAST	0.	16.	145.	205.	221.	208.	173.	122.	62.	60.	55.	47.	37.	25.	13.	3.	0.	1390.	153.	212.	119.	155.
SOUTHEAST	0.	7.	75.	129.	164.	178.	173.	150.	112.	62.	55.	47.	37.	25.	13.	3.	0.	1230.	144.	197.	113.	146.
HORIZ.	0.	5.	52.	116.	179.	234.	277.	304.	313.	304.	277.	234.	179.	116.	52.	5.	0.	2646.	223.	336.	162.	231.

LOCATION GRAND JUNCTION, COLO. LATITUDE 39 DEGREES 7 MINUTES

MONTH 7 HO 3622. TOD 82. TOT 78. KT .690 KD .152

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	1.	11.	24.	41.	81.	114.	135.	143.	135.	114.	81.	41.	24.	11.	1.	0.	959.	137.	179.	111.	136.
SOUTHWEST	0.	1.	11.	24.	36.	46.	54.	70.	119.	156.	179.	183.	167.	130.	70.	1.	0.	1247.	154.	208.	121.	154.
WEST	0.	1.	11.	24.	36.	46.	54.	59.	61.	121.	171.	204.	216.	196.	127.	2.	0.	1330.	159.	217.	124.	159.
NORTHWEST	0.	1.	11.	24.	36.	46.	54.	59.	61.	59.	94.	133.	159.	162.	117.	2.	0.	1019.	141.	185.	113.	140.
NORTH	0.	1.	45.	46.	36.	46.	54.	59.	61.	59.	54.	46.	36.	46.	45.	1.	0.	637.	119.	147.	100.	117.
NORTHEAST	0.	2.	117.	162.	159.	133.	94.	59.	61.	59.	54.	46.	36.	24.	11.	1.	0.	1019.	141.	185.	113.	140.
EAST	0.	2.	127.	196.	216.	204.	171.	121.	61.	59.	54.	46.	36.	24.	11.	1.	0.	1330.	159.	217.	124.	159.
SOUTHEAST	0.	1.	70.	130.	167.	183.	179.	156.	119.	70.	54.	46.	36.	24.	11.	1.	0.	1247.	154.	208.	121.	154.
HORIZ.	0.	2.	42.	104.	168.	223.	266.	293.	303.	293.	266.	223.	168.	104.	42.	2.	0.	2500.	225.	335.	164.	229.

MONTH 8 HO 3229. TOD 80. TOT 76. KT .650 KD .162

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	60.	102.	135.	157.	164.	157.	135.	102.	60.	19.	6.	0.	0.	1124.	149.	202.	114.	143.
SOUTHWEST	0.	0.	6.	19.	32.	42.	51.	86.	133.	169.	189.	190.	170.	125.	43.	0.	0.	1255.	157.	216.	119.	151.
WEST	0.	0.	6.	19.	32.	42.	51.	56.	58.	115.	162.	192.	199.	169.	69.	0.	0.	1169.	152.	207.	116.	146.
NORTHWEST	0.	0.	6.	19.	32.	42.	51.	56.	58.	56.	70.	106.	129.	125.	58.	0.	0.	809.	129.	168.	103.	124.
NORTH	0.	0.	17.	19.	32.	42.	51.	56.	58.	56.	51.	42.	32.	19.	17.	0.	0.	492.	110.	133.	92.	105.
NORTHEAST	0.	0.	58.	125.	129.	106.	70.	56.	58.	56.	51.	42.	32.	19.	6.	0.	0.	809.	129.	168.	103.	124.
EAST	0.	0.	69.	169.	199.	192.	162.	115.	58.	56.	51.	42.	32.	19.	6.	0.	0.	1169.	152.	207.	116.	146.
SOUTHEAST	0.	0.	43.	125.	170.	190.	189.	169.	133.	86.	51.	42.	32.	19.	6.	0.	0.	1255.	157.	216.	119.	151.
HORIZ.	0.	0.	18.	75.	137.	191.	234.	261.	270.	261.	234.	191.	137.	75.	18.	0.	0.	2100.	209.	308.	147.	202.

MONTH 9 HO 2642. TOD 71. TOT 67. KT .705 KD .147

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	33.	90.	143.	184.	211.	220.	211.	184.	143.	90.	33.	0.	0.	0.	1544.	176.	257.	120.	161.
SOUTHWEST	0.	0.	0.	11.	24.	35.	51.	114.	170.	213.	236.	235.	203.	126.	0.	0.	0.	1418.	168.	242.	116.	153.
WEST	0.	0.	0.	11.	24.	35.	44.	50.	51.	119.	175.	209.	211.	151.	0.	0.	0.	1080.	145.	201.	104.	133.
NORTHWEST	0.	0.	0.	11.	24.	35.	44.	50.	51.	50.	44.	82.	109.	94.	0.	0.	0.	594.	112.	143.	88.	103.
NORTH	0.	0.	0.	11.	24.	35.	44.	50.	51.	50.	44.	35.	24.	11.	0.	0.	0.	379.	97.	117.	80.	90.
NORTHEAST	0.	0.	0.	94.	109.	82.	44.	50.	51.	50.	44.	35.	24.	11.	0.	0.	0.	594.	112.	143.	88.	103.
EAST	0.	0.	0.	151.	211.	209.	175.	119.	51.	50.	44.	35.	24.	11.	0.	0.	0.	1080.	145.	201.	104.	133.
SOUTHEAST	0.	0.	0.	126.	203.	235.	236.	213.	170.	114.	51.	35.	24.	11.	0.	0.	0.	1418.	168.	242.	116.	153.
HORIZ.	0.	0.	0.	43.	111.	173.	221.	252.	262.	252.	221.	173.	111.	43.	0.	0.	0.	1862.	198.	295.	131.	180.

LOCATION GRAND JUNCTION, COLO. LATITUDE 39 DEGREES 7 MINUTES

MONTH 10 HO 2005. TOD 58. TOT 54. KT .654 KD .161

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	16.	94.	152.	195.	222.	231.	222.	195.	152.	94.	16.	0.	0.	0.	1590.	172.	264.	105.	147.
SOUTHWEST	0.	0.	0.	4.	16.	27.	68.	126.	176.	213.	230.	221.	174.	41.	0.	0.	0.	1294.	150.	226.	96.	130.
WEST	0.	0.	0.	4.	16.	27.	36.	42.	44.	103.	151.	176.	161.	43.	0.	0.	0.	803.	115.	162.	80.	101.
NORTHWEST	0.	0.	0.	4.	16.	27.	36.	42.	44.	42.	36.	44.	64.	23.	0.	0.	0.	376.	85.	107.	66.	76.
NORTH	0.	0.	0.	4.	16.	27.	36.	42.	44.	42.	36.	27.	16.	4.	0.	0.	0.	292.	79.	96.	64.	71.
NORTHEAST	0.	0.	0.	23.	64.	44.	36.	42.	44.	42.	36.	27.	16.	4.	0.	0.	0.	376.	85.	107.	66.	76.
EAST	0.	0.	0.	43.	161.	176.	151.	103.	44.	42.	36.	27.	16.	4.	0.	0.	0.	803.	115.	162.	80.	101.
SOUTHEAST	0.	0.	0.	41.	174.	221.	230.	213.	176.	126.	68.	27.	16.	4.	0.	0.	0.	1294.	150.	226.	96.	130.
HORIZ.	0.	0.	0.	9.	64.	121.	166.	194.	204.	194.	166.	121.	64.	9.	0.	0.	0.	1311.	152.	228.	96.	131.

MONTH 11 HO 1466. TOD 42. TOT 39. KT .590 KD .175

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	67.	137.	181.	208.	216.	208.	181.	137.	67.	0.	0.	0.	0.	1402.	153.	244.	84.	120.
SOUTHWEST	0.	0.	0.	0.	9.	22.	71.	121.	163.	192.	202.	183.	110.	0.	0.	0.	0.	1073.	127.	197.	73.	101.
WEST	0.	0.	0.	0.	9.	19.	28.	34.	35.	84.	121.	134.	93.	0.	0.	0.	0.	557.	86.	122.	56.	71.
NORTHWEST	0.	0.	0.	0.	9.	19.	28.	34.	35.	34.	28.	19.	27.	0.	0.	0.	0.	233.	61.	76.	46.	52.
NORTH	0.	0.	0.	0.	9.	19.	28.	34.	35.	34.	28.	19.	9.	0.	0.	0.	0.	215.	59.	73.	45.	51.
NORTHEAST	0.	0.	0.	0.	27.	19.	28.	34.	35.	34.	28.	19.	9.	0.	0.	0.	0.	233.	61.	76.	46.	52.
EAST	0.	0.	0.	0.	93.	134.	121.	84.	35.	34.	28.	19.	9.	0.	0.	0.	0.	557.	86.	122.	56.	71.
SOUTHEAST	0.	0.	0.	0.	110.	183.	202.	192.	163.	121.	71.	22.	9.	0.	0.	0.	0.	1073.	127.	197.	73.	101.
HORIZ.	0.	0.	0.	0.	27.	75.	115.	141.	149.	141.	115.	75.	27.	0.	0.	0.	0.	866.	111.	167.	66.	89.

MONTH 12 HO 1263. TOD 31. TOT 28. KT .621 KD .169

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	55.	146.	199.	229.	238.	229.	199.	146.	55.	0.	0.	0.	0.	1493.	156.	257.	76.	115.
SOUTHWEST	0.	0.	0.	0.	6.	25.	78.	132.	178.	209.	217.	190.	86.	0.	0.	0.	0.	1121.	125.	201.	64.	94.
WEST	0.	0.	0.	0.	6.	16.	25.	30.	32.	84.	123.	133.	71.	0.	0.	0.	0.	520.	75.	110.	45.	59.
NORTHWEST	0.	0.	0.	0.	6.	16.	25.	30.	32.	30.	25.	16.	17.	0.	0.	0.	0.	197.	48.	61.	35.	40.
NORTH	0.	0.	0.	0.	6.	16.	25.	30.	32.	30.	25.	16.	6.	0.	0.	0.	0.	186.	47.	59.	34.	39.
NORTHEAST	0.	0.	0.	0.	17.	16.	25.	30.	32.	30.	25.	16.	6.	0.	0.	0.	0.	197.	48.	61.	35.	40.
EAST	0.	0.	0.	0.	71.	133.	123.	84.	32.	30.	25.	16.	6.	0.	0.	0.	0.	520.	75.	110.	45.	59.
SOUTHEAST	0.	0.	0.	0.	86.	190.	217.	209.	178.	132.	78.	25.	6.	0.	0.	0.	0.	1121.	125.	201.	64.	94.
HORIZ.	0.	0.	0.	0.	17.	65.	107.	133.	143.	133.	107.	65.	17.	0.	0.	0.	0.	786.	97.	150.	54.	74.

LOCATION GRAND JUNCTION, COLO. LATITUDE 39 DEGREES 7 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	140.	144.	135.	120.	119.	125.	137.	149.	176.	172.	153.	156.	144.
SOUTHWEST	114.	125.	128.	127.	134.	144.	154.	157.	168.	150.	127.	125.	138.
WEST	72.	92.	109.	123.	138.	153.	159.	152.	145.	115.	86.	75.	118.
NORTHWEST	46.	62.	82.	103.	122.	137.	141.	129.	112.	85.	61.	48.	94.
NORTH	44.	56.	69.	85.	102.	116.	119.	110.	97.	79.	59.	47.	82.
NORTHEAST	46.	62.	82.	103.	122.	137.	141.	129.	112.	85.	61.	48.	94.
EAST	72.	92.	109.	123.	138.	153.	159.	152.	145.	115.	86.	75.	118.
SOUTHEAST	114.	125.	128.	127.	134.	144.	154.	157.	168.	150.	127.	125.	138.
HORIZ.	97.	127.	154.	175.	200.	223.	225.	209.	198.	152.	111.	97.	164.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	233.	233.	208.	172.	160.	163.	179.	202.	257.	264.	244.	257.	214.
SOUTHWEST	185.	198.	195.	186.	186.	197.	208.	216.	242.	226.	197.	201.	203.
WEST	109.	138.	161.	178.	193.	212.	217.	207.	201.	162.	122.	110.	168.
NORTHWEST	61.	85.	112.	141.	165.	185.	185.	168.	143.	107.	76.	61.	124.
NORTH	58.	73.	89.	108.	130.	146.	147.	133.	117.	96.	73.	59.	103.
NORTHEAST	61.	85.	112.	141.	165.	185.	185.	168.	143.	107.	76.	61.	124.
EAST	109.	138.	161.	178.	193.	212.	217.	207.	201.	162.	122.	110.	168.
SOUTHEAST	185.	198.	195.	186.	186.	197.	208.	216.	242.	226.	197.	201.	203.
HORIZ.	154.	201.	243.	272.	302.	336.	335.	308.	295.	228.	167.	150.	249.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	70.	81.	86.	87.	94.	102.	111.	114.	120.	105.	84.	76.	94.
SOUTHWEST	59.	72.	83.	92.	102.	113.	121.	119.	116.	96.	73.	64.	93.
WEST	42.	58.	73.	89.	105.	119.	124.	116.	104.	80.	56.	45.	84.
NORTHWEST	32.	44.	60.	78.	95.	109.	113.	103.	88.	66.	46.	35.	72.
NORTH	31.	42.	54.	68.	84.	96.	100.	92.	80.	64.	45.	34.	66.
NORTHEAST	32.	44.	60.	78.	95.	109.	113.	103.	88.	66.	46.	35.	72.
EAST	42.	58.	73.	89.	105.	119.	124.	116.	104.	80.	56.	45.	84.
SOUTHEAST	59.	72.	83.	92.	102.	113.	121.	119.	116.	96.	73.	64.	93.
HORIZ.	52.	73.	96.	118.	142.	162.	164.	147.	131.	96.	66.	54.	108.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	107.	122.	123.	116.	118.	125.	136.	143.	161.	147.	120.	115.	128.
SOUTHWEST	88.	106.	117.	124.	133.	146.	154.	151.	153.	130.	101.	94.	125.
WEST	57.	79.	100.	119.	138.	155.	159.	146.	133.	101.	71.	59.	110.
NORTHWEST	38.	55.	75.	99.	121.	138.	140.	124.	103.	76.	52.	40.	88.
NORTH	37.	49.	64.	81.	100.	115.	117.	105.	90.	71.	51.	39.	77.
NORTHEAST	38.	55.	75.	99.	121.	138.	140.	124.	103.	76.	52.	40.	88.
EAST	57.	79.	100.	119.	138.	155.	159.	146.	133.	101.	71.	59.	110.
SOUTHEAST	88.	106.	117.	124.	133.	146.	154.	151.	153.	130.	101.	94.	125.
HORIZ.	75.	107.	141.	172.	203.	231.	229.	202.	180.	131.	89.	74.	153.

LOCATION GRAND LAKE, COLORADO LATITUDE 40 DEGREES 15 MINUTES

MONTH 1 HO 1416. TOD 18. TOT 17. KT .541 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	58.	121.	161.	185.	192.	185.	161.	121.	58.	0.	0.	0.	0.	1240.	118.	199.	57.	89.
SOUTHWEST	0.	0.	0.	0.	8.	21.	65.	109.	146.	171.	178.	161.	94.	0.	0.	0.	0.	953.	95.	157.	47.	72.
WEST	0.	0.	0.	0.	8.	19.	27.	32.	34.	76.	107.	117.	80.	0.	0.	0.	0.	500.	58.	91.	33.	46.
NORTHWEST	0.	0.	0.	0.	8.	19.	27.	32.	34.	32.	27.	19.	24.	0.	0.	0.	0.	221.	36.	51.	24.	30.
NORTH	0.	0.	0.	0.	8.	19.	27.	32.	34.	32.	27.	19.	8.	0.	0.	0.	0.	206.	35.	48.	23.	29.
NORTHEAST	0.	0.	0.	0.	24.	19.	27.	32.	34.	32.	27.	19.	8.	0.	0.	0.	0.	221.	36.	51.	24.	30.
EAST	0.	0.	0.	0.	80.	117.	107.	76.	34.	32.	27.	19.	8.	0.	0.	0.	0.	500.	58.	91.	33.	46.
SOUTHEAST	0.	0.	0.	0.	94.	161.	178.	171.	146.	109.	65.	21.	8.	0.	0.	0.	0.	953.	95.	157.	47.	72.
HORIZ.	0.	0.	0.	0.	24.	67.	102.	125.	132.	125.	102.	67.	24.	0.	0.	0.	0.	767.	80.	130.	42.	62.

MONTH 2 HO 1983. TOD 23. TOT 23. KT .615 KD .170

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	17.	88.	142.	181.	206.	214.	206.	181.	142.	88.	17.	0.	0.	0.	1483.	129.	215.	71.	109.
SOUTHWEST	0.	0.	0.	4.	16.	27.	65.	118.	164.	197.	212.	205.	163.	42.	0.	0.	0.	1212.	110.	180.	62.	94.
WEST	0.	0.	0.	4.	16.	27.	36.	41.	43.	97.	140.	163.	151.	44.	0.	0.	0.	762.	77.	122.	47.	67.
NORTHWEST	0.	0.	0.	4.	16.	27.	36.	41.	43.	41.	36.	42.	60.	23.	0.	0.	0.	370.	49.	71.	35.	45.
NORTH	0.	0.	0.	4.	16.	27.	36.	41.	43.	41.	36.	27.	16.	4.	0.	0.	0.	291.	44.	61.	32.	40.
NORTHEAST	0.	0.	0.	23.	60.	42.	36.	41.	43.	41.	36.	27.	16.	4.	0.	0.	0.	370.	49.	71.	35.	45.
EAST	0.	0.	0.	44.	151.	163.	140.	97.	43.	41.	36.	27.	16.	4.	0.	0.	0.	762.	77.	122.	47.	67.
SOUTHEAST	0.	0.	0.	42.	163.	205.	212.	197.	164.	118.	65.	27.	16.	4.	0.	0.	0.	1212.	110.	180.	62.	94.
HORIZ.	0.	0.	0.	9.	61.	113.	154.	179.	188.	179.	154.	113.	61.	9.	0.	0.	0.	1219.	110.	181.	62.	94.

MONTH 3 HO 2612. TOD 28. TOT 32. KT .637 KD .165

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	33.	84.	131.	167.	191.	198.	191.	167.	131.	84.	33.	0.	0.	0.	1409.	119.	192.	77.	114.
SOUTHWEST	0.	0.	0.	11.	24.	35.	53.	108.	155.	191.	210.	208.	181.	115.	0.	0.	0.	1292.	111.	179.	73.	107.
WEST	0.	0.	0.	11.	24.	35.	44.	49.	51.	108.	155.	185.	187.	137.	0.	0.	0.	987.	92.	143.	63.	89.
NORTHWEST	0.	0.	0.	11.	24.	35.	44.	49.	51.	49.	44.	73.	97.	85.	0.	0.	0.	565.	65.	94.	50.	65.
NORTH	0.	0.	0.	11.	24.	35.	44.	49.	51.	49.	44.	35.	24.	11.	0.	0.	0.	380.	53.	73.	44.	54.
NORTHEAST	0.	0.	0.	85.	97.	73.	44.	49.	51.	49.	44.	35.	24.	11.	0.	0.	0.	565.	65.	94.	50.	65.
EAST	0.	0.	0.	137.	187.	185.	155.	108.	51.	49.	44.	35.	24.	11.	0.	0.	0.	987.	92.	143.	63.	89.
SOUTHEAST	0.	0.	0.	115.	181.	208.	210.	191.	155.	108.	53.	35.	24.	11.	0.	0.	0.	1292.	111.	179.	73.	107.
HORIZ.	0.	0.	0.	41.	100.	154.	196.	223.	232.	223.	196.	154.	100.	41.	0.	0.	0.	1663.	135.	222.	85.	129.

LOCATION GRAND LAKE, COLORADO LATITUDE 40 DEGREES 15 MINUTES

MONTH 4 HO 3230. TOD 39. TOT 42. KT .597 KD .174

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	20.	59.	97.	128.	147.	154.	147.	128.	97.	59.	20.	7.	0.	0.	1072.	101.	151.	76.	104.
SOUTHWEST	0.	0.	7.	20.	32.	43.	51.	85.	126.	157.	173.	174.	156.	116.	44.	0.	0.	1182.	107.	163.	80.	111.
WEST	0.	0.	7.	20.	32.	43.	51.	56.	58.	107.	147.	173.	179.	155.	70.	0.	0.	1098.	102.	154.	77.	106.
NORTHWEST	0.	0.	7.	20.	32.	43.	51.	56.	58.	56.	65.	97.	117.	115.	59.	0.	0.	774.	84.	120.	67.	87.
NORTH	0.	0.	17.	20.	32.	43.	51.	56.	58.	56.	51.	43.	32.	20.	17.	0.	0.	495.	68.	91.	58.	71.
NORTHEAST	0.	0.	59.	115.	117.	97.	65.	56.	58.	56.	51.	43.	32.	20.	7.	0.	0.	774.	84.	120.	67.	87.
EAST	0.	0.	70.	155.	179.	173.	147.	107.	58.	56.	51.	43.	32.	20.	7.	0.	0.	1098.	102.	154.	77.	106.
SOUTHEAST	0.	0.	44.	116.	156.	174.	173.	157.	126.	85.	51.	43.	32.	20.	7.	0.	0.	1182.	107.	163.	80.	111.
HORIZ.	0.	0.	19.	72.	127.	175.	213.	237.	245.	237.	213.	175.	127.	72.	19.	0.	0.	1930.	150.	241.	104.	154.

MONTH 5 HO 3621. TOD 49. TOT 51. KT .553 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	2.	12.	25.	42.	73.	99.	115.	121.	115.	99.	73.	42.	25.	12.	2.	0.	857.	97.	135.	80.	103.
SOUTHWEST	0.	2.	12.	25.	36.	46.	54.	68.	103.	129.	143.	143.	129.	100.	55.	2.	0.	1048.	108.	154.	87.	114.
WEST	0.	2.	12.	25.	36.	46.	54.	59.	60.	101.	134.	156.	162.	146.	97.	3.	0.	1094.	111.	159.	88.	117.
NORTHWEST	0.	2.	12.	25.	36.	46.	54.	59.	60.	59.	79.	105.	121.	121.	89.	3.	0.	870.	98.	136.	81.	103.
NORTH	0.	2.	36.	39.	36.	46.	54.	59.	60.	59.	54.	46.	36.	39.	36.	2.	0.	605.	83.	109.	71.	87.
NORTHEAST	0.	3.	89.	121.	121.	105.	79.	59.	60.	59.	54.	46.	36.	25.	12.	2.	0.	870.	98.	136.	81.	103.
EAST	0.	3.	97.	146.	162.	156.	134.	101.	60.	59.	54.	46.	36.	25.	12.	2.	0.	1094.	111.	159.	88.	117.
SOUTHEAST	0.	2.	55.	100.	129.	143.	143.	129.	103.	68.	54.	46.	36.	25.	12.	2.	0.	1048.	108.	154.	87.	114.
HORIZ.	0.	3.	38.	87.	135.	178.	211.	231.	238.	231.	211.	178.	135.	87.	38.	3.	0.	2002.	163.	250.	119.	172.

MONTH 6 HO 3762. TOD 57. TOT 59. KT .630 KD .167

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	3.	14.	26.	38.	71.	100.	119.	125.	119.	100.	71.	38.	26.	14.	3.	0.	868.	104.	141.	88.	111.
SOUTHWEST	0.	3.	14.	26.	38.	48.	55.	65.	106.	138.	156.	159.	145.	114.	67.	9.	0.	1144.	120.	168.	98.	128.
WEST	0.	3.	14.	26.	38.	48.	55.	60.	62.	112.	153.	181.	191.	176.	126.	19.	0.	1266.	126.	180.	102.	135.
NORTHWEST	0.	3.	14.	26.	38.	48.	55.	60.	62.	60.	93.	125.	147.	150.	119.	21.	0.	1022.	113.	156.	94.	120.
NORTH	0.	12.	51.	52.	39.	48.	55.	60.	62.	60.	55.	48.	39.	52.	51.	12.	0.	695.	95.	124.	82.	101.
NORTHEAST	0.	21.	119.	150.	147.	125.	93.	60.	62.	60.	55.	48.	38.	26.	14.	3.	0.	1022.	113.	156.	94.	120.
EAST	0.	19.	126.	176.	191.	181.	153.	112.	62.	60.	55.	48.	38.	26.	14.	3.	0.	1266.	126.	180.	102.	135.
SOUTHEAST	0.	9.	67.	114.	145.	159.	156.	138.	106.	65.	55.	48.	38.	26.	14.	3.	0.	1144.	120.	168.	98.	128.
HORIZ.	0.	7.	50.	106.	161.	209.	246.	269.	277.	269.	246.	209.	161.	106.	50.	7.	0.	2370.	187.	288.	140.	202.

LOCATION GRAND LAKE, COLORADO LATITUDE 40 DEGREES 15 MINUTES

MONTH - 7 HO 3618. TOD 63. TOT 64. KT .572 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	2.	12.	25.	42.	75.	101.	118.	124.	118.	101.	75.	42.	25.	12.	2.	0.	872.	112.	150.	94.	117.
SOUTHWEST	0.	2.	12.	25.	36.	46.	54.	69.	105.	132.	147.	148.	134.	103.	56.	2.	0.	1074.	124.	171.	101.	129.
WEST	0.	2.	12.	25.	36.	46.	54.	59.	61.	104.	139.	162.	168.	152.	99.	3.	0.	1123.	127.	175.	102.	132.
NORTHWEST	0.	2.	12.	25.	36.	46.	54.	59.	61.	59.	81.	108.	125.	125.	91.	3.	0.	888.	113.	152.	94.	118.
NORTH	0.	2.	37.	40.	36.	46.	54.	59.	61.	59.	54.	46.	36.	40.	37.	2.	0.	610.	97.	124.	85.	101.
NORTHEAST	0.	3.	91.	125.	125.	108.	81.	59.	61.	59.	54.	46.	36.	25.	12.	2.	0.	888.	113.	152.	94.	118.
EAST	0.	3.	99.	152.	168.	162.	139.	104.	61.	59.	54.	46.	36.	25.	12.	2.	0.	1123.	127.	175.	102.	132.
SOUTHEAST	0.	2.	56.	103.	134.	148.	147.	132.	105.	69.	54.	46.	36.	25.	12.	2.	0.	1074.	124.	171.	101.	129.
HORIZ.	0.	3.	38.	89.	139.	184.	218.	240.	247.	240.	218.	184.	139.	89.	38.	3.	0.	2070.	180.	270.	135.	189.

MONTH 8 HO 3207. TOD 61. TOT 62. KT .516 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	7.	20.	52.	84.	109.	125.	131.	125.	109.	84.	52.	20.	7.	0.	0.	926.	118.	162.	93.	118.
SOUTHWEST	0.	0.	7.	19.	31.	42.	50.	77.	109.	133.	145.	143.	126.	91.	33.	0.	0.	1006.	123.	170.	96.	123.
WEST	0.	0.	7.	19.	31.	42.	50.	55.	56.	94.	125.	143.	144.	121.	51.	0.	0.	938.	119.	163.	94.	118.
NORTHWEST	0.	0.	7.	19.	31.	42.	50.	55.	56.	55.	61.	83.	96.	91.	43.	0.	0.	689.	104.	136.	85.	103.
NORTH	0.	0.	14.	19.	31.	42.	50.	55.	56.	55.	50.	42.	31.	19.	14.	0.	0.	478.	91.	113.	78.	91.
NORTHEAST	0.	0.	43.	91.	96.	83.	61.	55.	56.	55.	50.	42.	31.	19.	7.	0.	0.	689.	104.	136.	85.	103.
EAST	0.	0.	51.	121.	144.	143.	125.	94.	56.	55.	50.	42.	31.	19.	7.	0.	0.	938.	119.	163.	94.	118.
SOUTHEAST	0.	0.	33.	91.	126.	143.	145.	133.	109.	77.	50.	42.	31.	19.	7.	0.	0.	1006.	123.	170.	96.	123.
HORIZ.	0.	0.	17.	62.	109.	150.	183.	203.	210.	203.	183.	150.	109.	62.	17.	0.	0.	1656.	163.	241.	118.	162.

MONTH 9 HO 2600. TOD 55. TOT 55. KT .626 KD .168

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	30.	80.	126.	162.	185.	193.	185.	162.	126.	80.	30.	0.	0.	0.	1360.	148.	219.	101.	137.
SOUTHWEST	0.	0.	0.	14.	24.	35.	52.	105.	151.	186.	203.	201.	172.	105.	0.	0.	0.	1246.	140.	205.	97.	130.
WEST	0.	0.	0.	11.	24.	35.	44.	49.	51.	106.	151.	178.	178.	125.	0.	0.	0.	954.	120.	170.	87.	112.
NORTHWEST	0.	0.	0.	11.	24.	35.	44.	49.	51.	49.	44.	72.	93.	79.	0.	0.	0.	553.	93.	122.	74.	88.
NORTH	0.	0.	0.	11.	24.	35.	44.	49.	51.	49.	44.	35.	24.	11.	0.	0.	0.	379.	81.	101.	68.	78.
NORTHEAST	0.	0.	0.	79.	93.	72.	44.	49.	51.	49.	44.	35.	24.	11.	0.	0.	0.	553.	93.	122.	74.	88.
EAST	0.	0.	0.	125.	178.	178.	151.	106.	51.	49.	44.	35.	24.	11.	0.	0.	0.	954.	120.	170.	87.	112.
SOUTHEAST	0.	0.	0.	105.	172.	201.	203.	186.	151.	105.	52.	35.	24.	11.	0.	0.	0.	1246.	140.	205.	97.	130.
HORIZ.	0.	0.	1.	39.	98.	151.	193.	219.	228.	219.	193.	151.	98.	39.	1.	0.	0.	1627.	166.	251.	110.	153.

LOCATION GRAND LAKE, COLORADO LATITUDE 40 DEGREES 15 MINUTES

MONTH 10 HO 1949. TOD 45. TOT 44. KT .583 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	13.	79.	131.	169.	192.	200.	192.	169.	131.	79.	13.	0.	0.	0.	1367.	143.	223.	88.	124.
SOUTHWEST	0.	0.	0.	4.	16.	27.	63.	112.	154.	183.	196.	187.	144.	30.	0.	0.	0.	1115.	125.	190.	80.	109.
WEST	0.	0.	0.	4.	16.	27.	35.	41.	43.	92.	130.	149.	134.	31.	0.	0.	0.	700.	95.	136.	67.	85.
NORTHWEST	0.	0.	0.	4.	16.	27.	35.	41.	43.	41.	35.	39.	54.	17.	0.	0.	0.	351.	70.	91.	55.	65.
NORTH	0.	0.	0.	4.	16.	27.	35.	41.	43.	41.	35.	27.	16.	4.	0.	0.	0.	286.	66.	82.	53.	61.
NORTHEAST	0.	0.	0.	17.	54.	39.	35.	41.	43.	41.	35.	27.	16.	4.	0.	0.	0.	351.	70.	91.	55.	65.
EAST	0.	0.	0.	31.	134.	149.	130.	92.	43.	41.	35.	27.	16.	4.	0.	0.	0.	700.	95.	136.	67.	85.
SOUTHEAST	0.	0.	0.	30.	144.	187.	196.	183.	154.	112.	63.	27.	16.	4.	0.	0.	0.	1115.	125.	190.	80.	109.
HORIZ.	0.	0.	0.	8.	55.	105.	144.	168.	177.	168.	144.	105.	55.	8.	0.	0.	0.	1136.	126.	193.	81.	110.

MONTH 11 HO 1404. TOD 30. TOT 29. KT .494 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	48.	105.	141.	162.	169.	162.	141.	105.	48.	0.	0.	0.	0.	1080.	117.	187.	64.	92.
SOUTHWEST	0.	0.	0.	0.	8.	21.	59.	97.	129.	150.	156.	138.	78.	0.	0.	0.	0.	835.	97.	152.	56.	78.
WEST	0.	0.	0.	0.	8.	18.	26.	31.	33.	69.	95.	102.	66.	0.	0.	0.	0.	449.	66.	96.	44.	56.
NORTHWEST	0.	0.	0.	0.	8.	18.	26.	31.	33.	31.	26.	18.	21.	0.	0.	0.	0.	214.	47.	61.	36.	42.
NORTH	0.	0.	0.	0.	8.	18.	26.	31.	33.	31.	26.	18.	8.	0.	0.	0.	0.	201.	46.	60.	36.	41.
NORTHEAST	0.	0.	0.	0.	21.	18.	26.	31.	33.	31.	26.	18.	8.	0.	0.	0.	0.	214.	47.	61.	36.	42.
EAST	0.	0.	0.	0.	66.	102.	95.	69.	33.	31.	26.	18.	8.	0.	0.	0.	0.	449.	66.	96.	44.	56.
SOUTHEAST	0.	0.	0.	0.	78.	138.	156.	150.	129.	97.	59.	21.	8.	0.	0.	0.	0.	835.	97.	152.	56.	78.
HORIZ.	0.	0.	0.	0.	22.	60.	92.	113.	120.	113.	92.	60.	22.	0.	0.	0.	0.	695.	86.	131.	52.	70.

MONTH 12 HO 1200. TOD 23. TOT 19. KT .542 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	38.	117.	163.	188.	197.	188.	163.	117.	38.	0.	0.	0.	0.	1210.	125.	208.	58.	90.
SOUTHWEST	0.	0.	0.	0.	5.	23.	67.	111.	148.	172.	177.	152.	60.	0.	0.	0.	0.	914.	100.	163.	49.	73.
WEST	0.	0.	0.	0.	5.	15.	23.	29.	30.	72.	102.	107.	49.	0.	0.	0.	0.	432.	59.	89.	33.	45.
NORTHWEST	0.	0.	0.	0.	5.	15.	23.	29.	30.	29.	23.	15.	13.	0.	0.	0.	0.	183.	38.	51.	25.	30.
NORTH	0.	0.	0.	0.	5.	15.	23.	29.	30.	29.	23.	15.	5.	0.	0.	0.	0.	175.	37.	49.	25.	30.
NORTHEAST	0.	0.	0.	0.	13.	15.	23.	29.	30.	29.	23.	15.	5.	0.	0.	0.	0.	183.	38.	51.	25.	30.
EAST	0.	0.	0.	0.	49.	107.	102.	72.	30.	29.	23.	15.	5.	0.	0.	0.	0.	432.	59.	89.	33.	45.
SOUTHEAST	0.	0.	0.	0.	60.	152.	177.	172.	148.	111.	67.	23.	5.	0.	0.	0.	0.	914.	100.	163.	49.	73.
HORIZ.	0.	0.	0.	0.	13.	53.	89.	111.	119.	111.	89.	53.	13.	0.	0.	0.	0.	651.	78.	122.	40.	57.

LOCATION GRAND LAKE, COLORADO LATITUDE 40 DEGREES 15 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	118.	129.	119.	101.	97.	104.	112.	118.	148.	143.	117.	125.	119.
SOUTHWEST	95.	110.	111.	107.	108.	120.	124.	123.	140.	125.	97.	100.	113.
WEST	58.	77.	92.	102.	111.	126.	127.	119.	120.	95.	66.	59.	96.
NORTHWEST	36.	49.	65.	84.	98.	113.	113.	104.	93.	70.	47.	38.	76.
NORTH	35.	44.	53.	68.	83.	95.	97.	91.	81.	66.	46.	37.	66.
NORTHEAST	36.	49.	65.	84.	98.	113.	113.	104.	93.	70.	47.	38.	76.
EAST	58.	77.	92.	102.	111.	126.	127.	119.	120.	95.	66.	59.	96.
SOUTHEAST	95.	110.	111.	107.	108.	120.	124.	123.	140.	125.	97.	100.	113.
HORIZ.	80.	110.	135.	150.	163.	187.	180.	163.	166.	126.	86.	78.	135.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	199.	215.	192.	151.	135.	141.	150.	162.	219.	223.	187.	208.	182.
SOUTHWEST	157.	180.	179.	163.	154.	168.	171.	170.	205.	190.	152.	163.	171.
WEST	91.	122.	143.	154.	159.	180.	175.	163.	170.	136.	96.	89.	140.
NORTHWEST	51.	71.	94.	120.	136.	156.	152.	136.	122.	91.	61.	51.	103.
NORTH	48.	61.	73.	91.	109.	124.	124.	113.	101.	82.	60.	49.	86.
NORTHEAST	51.	71.	94.	120.	136.	156.	152.	136.	122.	91.	61.	51.	103.
EAST	91.	122.	143.	154.	159.	180.	175.	163.	170.	136.	96.	89.	140.
SOUTHEAST	157.	180.	179.	163.	154.	168.	171.	170.	205.	190.	152.	163.	171.
HORIZ.	130.	181.	222.	241.	250.	288.	270.	241.	251.	193.	131.	122.	210.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	57.	71.	77.	76.	80.	88.	94.	93.	101.	88.	64.	58.	79.
SOUTHWEST	47.	62.	73.	80.	87.	98.	101.	96.	97.	80.	56.	49.	77.
WEST	33.	47.	63.	77.	88.	102.	102.	94.	87.	67.	44.	33.	70.
NORTHWEST	24.	35.	50.	67.	81.	94.	94.	85.	74.	55.	36.	25.	60.
NORTH	23.	32.	44.	58.	71.	82.	85.	78.	68.	53.	36.	25.	55.
NORTHEAST	24.	35.	50.	67.	81.	94.	94.	85.	74.	55.	36.	25.	60.
EAST	33.	47.	63.	77.	88.	102.	102.	94.	87.	67.	44.	33.	70.
SOUTHEAST	47.	62.	73.	80.	87.	98.	101.	96.	97.	80.	56.	49.	77.
HORIZ.	42.	62.	85.	104.	119.	140.	135.	118.	110.	81.	52.	40.	91.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	89.	109.	114.	104.	103.	111.	117.	118.	137.	124.	92.	90.	109.
SOUTHWEST	72.	94.	107.	111.	114.	128.	129.	123.	130.	109.	78.	73.	106.
WEST	46.	67.	89.	106.	117.	135.	132.	118.	112.	85.	56.	45.	92.
NORTHWEST	30.	45.	65.	87.	103.	120.	118.	103.	88.	65.	42.	30.	75.
NORTH	29.	40.	54.	71.	87.	101.	101.	91.	78.	61.	41.	30.	65.
NORTHEAST	30.	45.	65.	87.	103.	120.	118.	103.	88.	65.	42.	30.	75.
EAST	46.	67.	89.	106.	117.	135.	132.	118.	112.	85.	56.	45.	92.
SOUTHEAST	72.	94.	107.	111.	114.	128.	129.	123.	130.	109.	78.	73.	106.
HORIZ.	62.	94.	129.	154.	172.	202.	189.	162.	153.	110.	70.	57.	129.

LOCATION GREAT FALLS, MONTANA LATITUDE 47 DEGREES 28 MINUTES

MONTH 1 HO 1017. TOD 25. TOT 23. KT .552 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	23.	111.	165.	195.	205.	195.	165.	111.	23.	0.	0.	0.	0.	1195.	129.	213.	61.	92.
SOUTHWEST	0.	0.	0.	0.	4.	18.	64.	113.	153.	178.	181.	147.	37.	0.	0.	0.	0.	894.	103.	166.	51.	75.
WEST	0.	0.	0.	0.	4.	13.	20.	25.	26.	71.	102.	104.	31.	0.	0.	0.	0.	396.	60.	88.	35.	46.
NORTHWEST	0.	0.	0.	0.	4.	13.	20.	25.	26.	25.	20.	13.	9.	0.	0.	0.	0.	154.	39.	50.	28.	32.
NORTH	0.	0.	0.	0.	4.	13.	20.	25.	26.	25.	20.	13.	4.	0.	0.	0.	0.	149.	38.	49.	27.	31.
NORTHEAST	0.	0.	0.	0.	9.	13.	20.	25.	26.	25.	20.	13.	4.	0.	0.	0.	0.	154.	39.	50.	28.	32.
EAST	0.	0.	0.	0.	31.	104.	102.	71.	26.	25.	20.	13.	4.	0.	0.	0.	0.	396.	60.	88.	35.	46.
SOUTHEAST	0.	0.	0.	0.	37.	147.	181.	178.	153.	113.	64.	18.	4.	0.	0.	0.	0.	894.	103.	166.	51.	75.
HORIZ.	0.	0.	0.	0.	8.	44.	77.	99.	106.	99.	77.	44.	8.	0.	0.	0.	0.	562.	74.	114.	41.	55.

MONTH 2 HO 1613. TOD 28. TOT 25. KT .596 KD .175

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	4.	77.	137.	180.	207.	216.	207.	180.	137.	77.	4.	0.	0.	0.	1428.	133.	219.	70.	108.
SOUTHWEST	0.	0.	0.	2.	12.	22.	66.	119.	163.	194.	206.	193.	139.	7.	0.	0.	0.	1124.	110.	178.	61.	90.
WEST	0.	0.	0.	2.	12.	22.	30.	35.	36.	88.	128.	148.	127.	8.	0.	0.	0.	636.	74.	113.	45.	62.
NORTHWEST	0.	0.	0.	2.	12.	22.	30.	35.	36.	35.	30.	30.	47.	5.	0.	0.	0.	282.	48.	65.	34.	41.
NORTH	0.	0.	0.	2.	12.	22.	30.	35.	36.	35.	30.	22.	12.	2.	0.	0.	0.	237.	45.	59.	32.	38.
NORTHEAST	0.	0.	0.	5.	47.	30.	30.	35.	36.	35.	30.	22.	12.	2.	0.	0.	0.	282.	48.	65.	34.	41.
EAST	0.	0.	0.	8.	127.	148.	128.	88.	36.	35.	30.	22.	12.	2.	0.	0.	0.	636.	74.	113.	45.	62.
SOUTHEAST	0.	0.	0.	7.	139.	193.	206.	194.	163.	119.	66.	22.	12.	2.	0.	0.	0.	1124.	110.	178.	61.	90.
HORIZ.	0.	0.	0.	3.	42.	87.	123.	146.	154.	146.	123.	87.	42.	3.	0.	0.	0.	960.	98.	156.	55.	81.

MONTH 3 HO 2318. TOD 36. TOT 32. KT .631 KD .166

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	33.	88.	139.	179.	204.	213.	204.	179.	139.	88.	33.	0.	0.	0.	1496.	131.	209.	80.	120.
SOUTHWEST	0.	0.	0.	10.	21.	31.	60.	116.	164.	199.	216.	211.	179.	108.	0.	0.	0.	1315.	120.	188.	75.	109.
WEST	0.	0.	0.	10.	21.	31.	39.	44.	46.	102.	149.	178.	179.	126.	0.	0.	0.	926.	95.	143.	62.	86.
NORTHWEST	0.	0.	0.	10.	21.	31.	39.	44.	46.	44.	39.	59.	86.	76.	0.	0.	0.	496.	67.	93.	48.	61.
NORTH	0.	0.	0.	10.	21.	31.	39.	44.	46.	44.	39.	31.	21.	10.	0.	0.	0.	338.	57.	75.	43.	52.
NORTHEAST	0.	0.	0.	76.	86.	59.	39.	44.	46.	44.	39.	31.	21.	10.	0.	0.	0.	496.	67.	93.	48.	61.
EAST	0.	0.	0.	126.	179.	178.	149.	102.	46.	44.	39.	31.	21.	10.	0.	0.	0.	926.	95.	143.	62.	86.
SOUTHEAST	0.	0.	0.	108.	179.	211.	216.	199.	164.	116.	60.	31.	21.	10.	0.	0.	0.	1315.	120.	188.	75.	109.
HORIZ.	0.	0.	0.	35.	87.	136.	173.	197.	205.	197.	173.	136.	87.	35.	0.	0.	0.	1462.	129.	205.	79.	118.

LOCATION GREAT FALLS, MONTANA LATITUDE 47 DEGREES 28 MINUTES

MONTH 4 HO 3063. TOD 48. TOT 44. KT .551 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	8.	25.	64.	101.	131.	150.	157.	150.	131.	101.	64.	25.	8.	0.	0.	1117.	110.	161.	80.	109.
SOUTHWEST	0.	0.	8.	19.	30.	40.	47.	90.	126.	153.	166.	165.	146.	109.	49.	0.	0.	1148.	112.	164.	81.	111.
WEST	0.	0.	8.	19.	30.	40.	47.	51.	53.	96.	132.	155.	160.	140.	75.	0.	0.	1007.	104.	150.	77.	103.
NORTHWEST	0.	0.	8.	19.	30.	40.	47.	51.	53.	51.	47.	78.	98.	100.	62.	0.	0.	686.	86.	117.	66.	84.
NORTH	0.	0.	18.	19.	30.	40.	47.	51.	53.	51.	47.	40.	30.	19.	18.	0.	0.	464.	74.	95.	59.	71.
NORTHEAST	0.	0.	62.	100.	98.	78.	47.	51.	53.	51.	47.	40.	30.	19.	8.	0.	0.	686.	86.	117.	66.	84.
EAST	0.	0.	75.	140.	160.	155.	132.	96.	53.	51.	47.	40.	30.	19.	8.	0.	0.	1007.	104.	150.	77.	103.
SOUTHEAST	0.	0.	49.	109.	146.	165.	166.	153.	126.	90.	47.	40.	30.	19.	8.	0.	0.	1148.	112.	164.	81.	111.
HORIZ.	0.	0.	22.	67.	112.	152.	183.	203.	209.	203.	183.	152.	112.	67.	22.	0.	0.	1687.	142.	219.	98.	143.

MONTH 5 HO 3569. TOD 57. TOT 54. KT .565 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	4.	14.	25.	54.	89.	117.	135.	141.	135.	117.	89.	54.	25.	14.	4.	0.	1020.	113.	155.	89.	115.
SOUTHWEST	0.	4.	14.	25.	36.	45.	52.	81.	117.	143.	157.	157.	142.	112.	67.	14.	0.	1166.	121.	169.	94.	124.
WEST	0.	4.	14.	25.	36.	45.	52.	56.	57.	100.	136.	160.	168.	155.	114.	28.	0.	1151.	120.	168.	93.	123.
NORTHWEST	0.	4.	14.	25.	36.	45.	52.	56.	57.	56.	65.	95.	116.	123.	102.	29.	0.	875.	105.	141.	84.	107.
NORTH	0.	15.	39.	33.	36.	45.	52.	56.	57.	56.	52.	45.	36.	33.	39.	15.	0.	609.	90.	116.	75.	91.
NORTHEAST	0.	29.	102.	123.	116.	95.	65.	56.	57.	56.	52.	45.	36.	25.	14.	4.	0.	875.	105.	141.	84.	107.
EAST	0.	28.	114.	155.	168.	160.	136.	100.	57.	56.	52.	45.	36.	25.	14.	4.	0.	1151.	120.	168.	93.	123.
SOUTHEAST	0.	14.	67.	112.	142.	157.	157.	143.	117.	81.	52.	45.	36.	25.	14.	4.	0.	1166.	121.	169.	94.	124.
HORIZ.	0.	9.	47.	92.	137.	176.	206.	225.	232.	225.	206.	176.	137.	92.	47.	9.	0.	2017.	167.	250.	123.	176.

MONTH 6 HO 3761. TOD 64. TOT 61. KT .580 KD .177

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	7.	17.	27.	49.	84.	112.	131.	137.	131.	112.	84.	49.	27.	17.	7.	0.	992.	116.	156.	95.	121.
SOUTHWEST	0.	7.	17.	27.	38.	46.	53.	77.	114.	141.	156.	156.	142.	113.	71.	23.	0.	1181.	126.	173.	101.	132.
WEST	0.	7.	17.	27.	38.	46.	53.	57.	59.	103.	139.	164.	173.	163.	126.	52.	0.	1223.	128.	177.	103.	135.
NORTHWEST	0.	7.	17.	27.	38.	46.	53.	57.	59.	57.	72.	103.	125.	133.	117.	55.	0.	966.	115.	153.	94.	119.
NORTH	0.	29.	49.	42.	38.	46.	53.	57.	59.	57.	53.	46.	38.	42.	49.	29.	0.	688.	100.	128.	84.	102.
NORTHEAST	0.	55.	117.	133.	125.	103.	72.	57.	59.	57.	53.	46.	38.	27.	17.	7.	0.	966.	115.	153.	94.	119.
EAST	0.	52.	126.	163.	173.	164.	139.	103.	59.	57.	53.	46.	38.	27.	17.	7.	0.	1223.	128.	177.	103.	135.
SOUTHEAST	0.	23.	71.	113.	142.	156.	156.	141.	114.	77.	53.	46.	38.	27.	17.	7.	0.	1181.	126.	173.	101.	132.
HORIZ.	0.	17.	57.	103.	148.	188.	218.	237.	244.	237.	218.	188.	148.	103.	57.	17.	0.	2181.	178.	265.	135.	192.

LOCATION GREAT FALLS, MONTANA LATITUDE 47 DEGREES 28 MINUTES

MONTH 7 HO 3570. TOD 74. TOT 70. KT .656 KD .160

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	4.	14.	25.	58.	101.	135.	157.	165.	157.	135.	101.	58.	25.	14.	4.	0.	1155.	136.	184.	109.	139.
SOUTHWEST	0.	4.	14.	25.	36.	45.	52.	87.	134.	168.	187.	188.	171.	134.	80.	15.	0.	1340.	146.	202.	115.	151.
WEST	0.	4.	14.	25.	36.	45.	52.	56.	58.	113.	160.	192.	204.	190.	139.	34.	0.	1320.	145.	200.	115.	149.
NORTHWEST	0.	4.	14.	25.	36.	45.	52.	56.	58.	56.	69.	109.	139.	149.	125.	34.	0.	970.	126.	166.	103.	128.
NORTH	0.	18.	45.	35.	36.	45.	52.	56.	58.	56.	52.	45.	36.	35.	45.	18.	0.	631.	108.	134.	91.	108.
NORTHEAST	0.	34.	125.	149.	139.	109.	69.	56.	58.	56.	52.	45.	36.	25.	14.	4.	0.	970.	126.	166.	103.	128.
EAST	0.	34.	139.	190.	204.	192.	160.	113.	58.	56.	52.	45.	36.	25.	14.	4.	0.	1320.	145.	200.	115.	149.
SOUTHEAST	0.	15.	80.	134.	171.	188.	187.	168.	134.	87.	52.	45.	36.	25.	14.	4.	0.	1340.	146.	202.	115.	151.
HORIZ.	0.	9.	52.	106.	159.	205.	241.	264.	271.	264.	241.	205.	159.	106.	52.	9.	0.	2342.	200.	297.	150.	211.

MONTH 8 HO 3042. TOD 71. TOT 67. KT .627 KD .167

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	8.	26.	71.	115.	151.	174.	182.	174.	151.	115.	71.	26.	8.	0.	0.	1272.	147.	205.	111.	144.
SOUTHWEST	0.	0.	8.	19.	30.	40.	47.	99.	144.	177.	195.	193.	171.	126.	53.	0.	0.	1303.	149.	208.	112.	146.
WEST	0.	0.	8.	19.	30.	40.	47.	52.	53.	107.	152.	181.	189.	163.	83.	0.	0.	1125.	138.	190.	106.	135.
NORTHWEST	0.	0.	8.	19.	30.	40.	47.	52.	53.	52.	48.	87.	113.	116.	69.	0.	0.	733.	115.	148.	92.	111.
NORTH	0.	0.	19.	19.	30.	40.	47.	52.	53.	52.	47.	40.	30.	19.	19.	0.	0.	466.	99.	120.	83.	95.
NORTHEAST	0.	0.	69.	116.	113.	87.	48.	52.	53.	52.	47.	40.	30.	19.	8.	0.	0.	733.	115.	148.	92.	111.
EAST	0.	0.	83.	163.	189.	181.	152.	107.	53.	52.	47.	40.	30.	19.	8.	0.	0.	1125.	138.	190.	106.	135.
SOUTHEAST	0.	0.	53.	126.	171.	193.	195.	177.	144.	99.	47.	40.	30.	19.	8.	0.	0.	1303.	149.	208.	112.	146.
HORIZ.	0.	0.	23.	73.	126.	172.	209.	232.	239.	232.	209.	172.	126.	73.	23.	0.	0.	1908.	185.	272.	132.	182.

MONTH 9 HO 2312. TOD 61. TOT 57. KT .626 KD .168

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	30.	84.	135.	175.	201.	209.	201.	175.	135.	84.	30.	0.	0.	0.	1462.	160.	236.	107.	145.
SOUTHWEST	0.	0.	0.	10.	21.	31.	59.	114.	161.	196.	212.	206.	173.	100.	0.	0.	0.	1283.	148.	215.	101.	134.
WEST	0.	0.	0.	10.	21.	31.	39.	44.	46.	101.	147.	174.	172.	117.	0.	0.	0.	904.	122.	169.	88.	111.
NORTHWEST	0.	0.	0.	10.	21.	31.	39.	44.	46.	44.	39.	59.	84.	71.	0.	0.	0.	488.	94.	119.	74.	86.
NORTH	0.	0.	0.	10.	21.	31.	39.	44.	46.	44.	39.	31.	21.	10.	0.	0.	0.	337.	84.	101.	68.	77.
NORTHEAST	0.	0.	0.	71.	84.	59.	39.	44.	46.	44.	39.	31.	21.	10.	0.	0.	0.	488.	94.	119.	74.	86.
EAST	0.	0.	0.	117.	172.	174.	147.	101.	46.	44.	39.	31.	21.	10.	0.	0.	0.	904.	122.	169.	88.	111.
SOUTHEAST	0.	0.	0.	100.	173.	206.	212.	196.	161.	114.	59.	31.	21.	10.	0.	0.	0.	1283.	148.	215.	101.	134.
HORIZ.	0.	0.	1.	34.	86.	134.	172.	196.	204.	196.	172.	134.	86.	34.	1.	0.	0.	1447.	159.	234.	106.	144.

LOCATION GREAT FALLS, MONTANA LATITUDE 47 DEGREES 28 MINUTES

MONTH 10 HO 1580. TOD 51. TOT 48. KT .574 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	2.	70.	128.	171.	197.	206.	197.	171.	128.	70.	2.	0.	0.	0.	1342.	151.	232.	91.	126.
SOUTHWEST	0.	0.	0.	2.	12.	21.	64.	114.	156.	185.	195.	179.	124.	4.	0.	0.	0.	1055.	129.	193.	82.	110.
WEST	0.	0.	0.	2.	12.	21.	29.	34.	36.	84.	121.	138.	113.	4.	0.	0.	0.	593.	95.	131.	67.	83.
NORTHWEST	0.	0.	0.	2.	12.	21.	29.	34.	36.	34.	29.	28.	42.	3.	0.	0.	0.	269.	71.	88.	57.	64.
NORTH	0.	0.	0.	2.	12.	21.	29.	34.	36.	34.	29.	21.	12.	2.	0.	0.	0.	231.	68.	82.	56.	62.
NORTHEAST	0.	0.	0.	3.	42.	28.	29.	34.	36.	34.	29.	21.	12.	2.	0.	0.	0.	269.	71.	88.	57.	64.
EAST	0.	0.	0.	4.	113.	138.	121.	84.	36.	34.	29.	21.	12.	2.	0.	0.	0.	593.	95.	131.	67.	83.
SOUTHEAST	0.	0.	0.	4.	124.	179.	195.	185.	156.	114.	64.	21.	12.	2.	0.	0.	0.	1055.	129.	193.	82.	110.
HORIZ.	0.	0.	0.	3.	39.	82.	117.	139.	147.	139.	117.	82.	39.	3.	0.	0.	0.	906.	118.	173.	77.	101.

MONTH 11 HO 1007. TOD 38. TOT 35. KT .503 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	18.	95.	142.	169.	178.	169.	142.	95.	18.	0.	0.	0.	0.	1028.	127.	200.	68.	95.
SOUTHWEST	0.	0.	0.	0.	4.	17.	57.	99.	134.	155.	156.	124.	28.	0.	0.	0.	0.	774.	105.	160.	60.	80.
WEST	0.	0.	0.	0.	4.	12.	20.	24.	26.	64.	89.	88.	24.	0.	0.	0.	0.	351.	68.	93.	46.	56.
NORTHWEST	0.	0.	0.	0.	4.	12.	20.	24.	26.	24.	20.	12.	8.	0.	0.	0.	0.	150.	51.	62.	40.	44.
NORTH	0.	0.	0.	0.	4.	12.	20.	24.	26.	24.	20.	12.	4.	0.	0.	0.	0.	146.	51.	61.	40.	44.
NORTHEAST	0.	0.	0.	0.	8.	12.	20.	24.	26.	24.	20.	12.	4.	0.	0.	0.	0.	150.	51.	62.	40.	44.
EAST	0.	0.	0.	0.	24.	88.	89.	64.	26.	24.	20.	12.	4.	0.	0.	0.	0.	351.	68.	93.	46.	56.
SOUTHEAST	0.	0.	0.	0.	28.	124.	156.	155.	134.	99.	57.	17.	4.	0.	0.	0.	0.	774.	105.	160.	60.	80.
HORIZ.	0.	0.	0.	0.	7.	39.	69.	89.	96.	89.	69.	39.	7.	0.	0.	0.	0.	507.	82.	118.	51.	65.

MONTH 12 HO 802. TOD 29. TOT 26. KT .518 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	1.	86.	147.	179.	190.	179.	147.	86.	1.	0.	0.	0.	0.	1014.	124.	201.	59.	86.
SOUTHWEST	0.	0.	0.	0.	1.	16.	59.	104.	141.	162.	158.	110.	1.	0.	0.	0.	0.	751.	99.	157.	51.	70.
WEST	0.	0.	0.	0.	1.	9.	16.	21.	22.	62.	86.	76.	1.	0.	0.	0.	0.	293.	57.	79.	36.	44.
NORTHWEST	0.	0.	0.	0.	1.	9.	16.	21.	22.	21.	16.	9.	1.	0.	0.	0.	0.	116.	40.	49.	30.	33.
NORTH	0.	0.	0.	0.	1.	9.	16.	21.	22.	21.	16.	9.	1.	0.	0.	0.	0.	116.	40.	49.	30.	33.
NORTHEAST	0.	0.	0.	0.	1.	9.	16.	21.	22.	21.	16.	9.	1.	0.	0.	0.	0.	116.	40.	49.	30.	33.
EAST	0.	0.	0.	0.	1.	76.	86.	62.	22.	21.	16.	9.	1.	0.	0.	0.	0.	293.	57.	79.	36.	44.
SOUTHEAST	0.	0.	0.	0.	1.	110.	158.	162.	141.	104.	59.	16.	1.	0.	0.	0.	0.	751.	99.	157.	51.	70.
HORIZ.	0.	0.	0.	0.	1.	27.	58.	78.	86.	78.	58.	27.	1.	0.	0.	0.	0.	415.	68.	100.	40.	51.

LOCATION GREAT FALLS, MONTANA LATITUDE 47 DEGREES 28 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	129.	133.	131.	110.	113.	116.	136.	147.	160.	151.	127.	124.	131.
SOUTHWEST	103.	110.	120.	112.	121.	126.	146.	149.	148.	129.	105.	99.	122.
WEST	60.	74.	95.	104.	120.	128.	145.	138.	122.	95.	68.	57.	101.
NORTHWEST	39.	48.	67.	86.	105.	115.	126.	115.	94.	71.	51.	40.	80.
NORTH	38.	45.	57.	74.	90.	100.	108.	99.	84.	68.	51.	40.	71.
NORTHEAST	39.	48.	67.	86.	105.	115.	126.	115.	94.	71.	51.	40.	80.
EAST	60.	74.	95.	104.	120.	128.	145.	138.	122.	95.	68.	57.	101.
SOUTHEAST	103.	110.	120.	112.	121.	126.	146.	149.	148.	129.	105.	99.	122.
HORIZ.	74.	98.	129.	142.	167.	178.	200.	185.	159.	118.	82.	68.	133.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	213.	219.	209.	161.	155.	156.	184.	205.	236.	232.	200.	201.	198.
SOUTHWEST	166.	178.	188.	164.	169.	173.	202.	208.	215.	193.	160.	157.	181.
WEST	88.	113.	143.	150.	168.	177.	200.	190.	169.	131.	93.	79.	142.
NORTHWEST	50.	65.	93.	117.	141.	153.	166.	148.	119.	88.	62.	49.	104.
NORTH	49.	59.	75.	95.	116.	128.	134.	120.	101.	82.	61.	49.	89.
NORTHEAST	50.	65.	93.	117.	141.	153.	166.	148.	119.	88.	62.	49.	104.
EAST	88.	113.	143.	150.	168.	177.	200.	190.	169.	131.	93.	79.	142.
SOUTHEAST	166.	178.	188.	164.	169.	173.	202.	208.	215.	193.	160.	157.	181.
HORIZ.	114.	156.	205.	219.	250.	265.	297.	272.	234.	173.	118.	100.	200.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	61.	70.	80.	80.	89.	95.	109.	111.	107.	91.	68.	59.	85.
SOUTHWEST	51.	61.	75.	81.	94.	101.	115.	112.	101.	82.	60.	51.	82.
WEST	35.	45.	62.	77.	93.	103.	115.	106.	88.	67.	46.	36.	73.
NORTHWEST	28.	34.	48.	66.	84.	94.	103.	92.	74.	57.	40.	30.	62.
NORTH	27.	32.	43.	59.	75.	84.	91.	83.	68.	56.	40.	30.	57.
NORTHEAST	28.	34.	48.	66.	84.	94.	103.	92.	74.	57.	40.	30.	62.
EAST	35.	45.	62.	77.	93.	103.	115.	106.	88.	67.	46.	36.	73.
SOUTHEAST	51.	61.	75.	81.	94.	101.	115.	112.	101.	82.	60.	51.	82.
HORIZ.	41.	55.	79.	98.	123.	135.	150.	132.	106.	77.	51.	40.	91.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	92.	108.	120.	109.	115.	121.	139.	144.	145.	126.	95.	86.	117.
SOUTHWEST	75.	90.	109.	111.	124.	132.	151.	146.	134.	110.	80.	70.	111.
WEST	46.	62.	86.	103.	123.	135.	149.	135.	111.	83.	56.	44.	94.
NORTHWEST	32.	41.	61.	84.	107.	119.	128.	111.	86.	64.	44.	33.	76.
NORTH	31.	38.	52.	71.	91.	102.	108.	95.	77.	62.	44.	33.	67.
NORTHEAST	32.	41.	61.	84.	107.	119.	128.	111.	86.	64.	44.	33.	76.
EAST	46.	62.	86.	103.	123.	135.	149.	135.	111.	83.	56.	44.	94.
SOUTHEAST	75.	90.	109.	111.	124.	132.	151.	146.	134.	110.	80.	70.	111.
HORIZ.	55.	81.	118.	143.	176.	192.	211.	182.	144.	101.	65.	51.	127.

LOCATION GREENSBORO, N.C. LATITUDE 36 DEGREES 5 MINUTES

MONTH 1 HO 1644. TOD 42. TOT 39. KT .469 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	57.	102.	131.	149.	155.	149.	131.	102.	57.	0.	0.	0.	0.	1031.	122.	187.	72.	99.
SOUTHWEST	0.	0.	0.	0.	11.	21.	57.	91.	120.	140.	146.	135.	91.	0.	0.	0.	0.	812.	105.	156.	65.	86.
WEST	0.	0.	0.	0.	11.	21.	30.	35.	37.	69.	93.	101.	79.	0.	0.	0.	0.	475.	79.	109.	54.	67.
NORTHWEST	0.	0.	0.	0.	11.	21.	30.	35.	37.	35.	30.	21.	26.	0.	0.	0.	0.	244.	61.	76.	47.	53.
NORTH	0.	0.	0.	0.	11.	21.	30.	35.	37.	35.	30.	21.	11.	0.	0.	0.	0.	229.	60.	74.	46.	52.
NORTHEAST	0.	0.	0.	0.	26.	21.	30.	35.	37.	35.	30.	21.	11.	0.	0.	0.	0.	244.	61.	76.	47.	53.
EAST	0.	0.	0.	0.	79.	101.	93.	69.	37.	35.	30.	21.	11.	0.	0.	0.	0.	475.	79.	109.	54.	67.
SOUTHEAST	0.	0.	0.	0.	91.	135.	146.	140.	120.	91.	57.	21.	11.	0.	0.	0.	0.	812.	105.	156.	65.	86.
HORIZ.	0.	0.	0.	0.	30.	69.	101.	121.	137.	121.	101.	69.	30.	0.	0.	0.	0.	769.	101.	150.	64.	84.

MONTH 2 HO 2185. TOD 44. TOT 41. KT .499 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	19.	68.	106.	134.	151.	157.	151.	134.	106.	68.	19.	0.	0.	0.	1113.	122.	186.	77.	106.
SOUTHWEST	0.	0.	0.	5.	18.	29.	55.	92.	124.	147.	157.	151.	123.	44.	0.	0.	0.	947.	111.	165.	71.	96.
WEST	0.	0.	0.	5.	18.	29.	38.	44.	46.	82.	111.	125.	116.	47.	0.	0.	0.	662.	91.	129.	62.	80.
NORTHWEST	0.	0.	0.	5.	18.	29.	38.	44.	46.	44.	38.	43.	52.	26.	0.	0.	0.	383.	71.	93.	53.	63.
NORTH	0.	0.	0.	5.	18.	29.	38.	44.	46.	44.	38.	29.	18.	5.	0.	0.	0.	315.	66.	84.	51.	59.
NORTHEAST	0.	0.	0.	26.	52.	43.	38.	44.	46.	44.	38.	29.	18.	5.	0.	0.	0.	383.	71.	93.	53.	63.
EAST	0.	0.	0.	47.	116.	125.	111.	82.	46.	44.	38.	29.	18.	5.	0.	0.	0.	662.	91.	129.	62.	80.
SOUTHEAST	0.	0.	0.	44.	123.	151.	157.	147.	124.	92.	55.	29.	18.	5.	0.	0.	0.	947.	111.	165.	71.	96.
HORIZ.	0.	0.	0.	13.	58.	101.	135.	157.	164.	157.	135.	101.	58.	13.	0.	0.	0.	1091.	121.	183.	76.	105.

MONTH 3 HO 2763. TOD 52. TOT 48. KT .499 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	25.	62.	94.	119.	135.	141.	135.	119.	94.	62.	25.	0.	0.	0.	1013.	116.	169.	81.	107.
SOUTHWEST	0.	0.	0.	13.	25.	37.	46.	83.	115.	138.	149.	147.	127.	81.	0.	0.	0.	962.	113.	164.	79.	104.
WEST	0.	0.	0.	13.	25.	37.	46.	51.	53.	90.	119.	135.	133.	97.	0.	0.	0.	798.	103.	144.	74.	95.
NORTHWEST	0.	0.	0.	13.	25.	37.	46.	51.	53.	51.	46.	66.	76.	63.	0.	0.	0.	526.	85.	113.	65.	79.
NORTH	0.	0.	0.	13.	25.	37.	46.	51.	53.	51.	46.	37.	25.	13.	0.	0.	0.	396.	77.	98.	61.	71.
NORTHEAST	0.	0.	0.	63.	76.	66.	46.	51.	53.	51.	46.	37.	25.	13.	0.	0.	0.	526.	85.	113.	65.	79.
EAST	0.	0.	0.	97.	133.	135.	119.	90.	53.	51.	46.	37.	25.	13.	0.	0.	0.	798.	103.	144.	74.	95.
SOUTHEAST	0.	0.	0.	81.	127.	147.	149.	138.	115.	83.	46.	37.	25.	13.	0.	0.	0.	962.	113.	164.	79.	104.
HORIZ.	0.	0.	0.	36.	85.	128.	162.	183.	190.	183.	162.	128.	85.	36.	0.	0.	0.	1377.	140.	212.	92.	128.

LOCATION GREENSBORO, N.C. LATITUDE 36 DEGREES 5 MINUTES

MONTH 4 HO 3306. TOD 61. TOT 57. KT .543 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	6.	20.	50.	82.	108.	124.	130.	124.	108.	82.	50.	20.	6.	0.	0.	909.	114.	157.	86.	110.
SOUTHWEST	0.	0.	6.	20.	32.	43.	52.	74.	109.	135.	149.	150.	134.	99.	34.	0.	0.	1037.	121.	171.	90.	117.
WEST	0.	0.	6.	20.	32.	43.	52.	57.	59.	101.	134.	155.	158.	134.	53.	0.	0.	1004.	119.	167.	89.	116.
NORTHWEST	0.	0.	6.	20.	32.	43.	52.	57.	59.	57.	71.	95.	108.	102.	45.	0.	0.	748.	104.	140.	81.	101.
NORTH	0.	0.	14.	22.	32.	43.	52.	57.	59.	57.	52.	43.	32.	22.	14.	0.	0.	501.	90.	114.	73.	86.
NORTHEAST	0.	0.	45.	102.	108.	95.	71.	57.	59.	57.	52.	43.	32.	20.	6.	0.	0.	748.	104.	140.	81.	101.
EAST	0.	0.	53.	134.	158.	155.	134.	101.	59.	57.	52.	43.	32.	20.	6.	0.	0.	1004.	119.	167.	89.	116.
SOUTHEAST	0.	0.	34.	99.	134.	150.	149.	135.	109.	74.	52.	43.	32.	20.	6.	0.	0.	1037.	121.	171.	90.	117.
HORIZ.	0.	0.	15.	65.	118.	164.	199.	222.	230.	222.	199.	164.	118.	65.	15.	0.	0.	1796.	166.	251.	115.	162.

MONTH 5 HO 3633. TOD 70. TOT 66. KT .554 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	11.	24.	36.	65.	89.	105.	110.	105.	89.	65.	36.	24.	11.	0.	0.	770.	115.	149.	93.	113.
SOUTHWEST	0.	0.	11.	24.	36.	47.	55.	61.	96.	122.	136.	137.	124.	96.	50.	0.	0.	996.	128.	172.	100.	126.
WEST	0.	0.	11.	24.	36.	47.	55.	60.	62.	103.	136.	157.	162.	144.	89.	0.	0.	1084.	133.	182.	103.	132.
NORTHWEST	0.	0.	11.	24.	36.	47.	55.	60.	62.	60.	88.	111.	125.	121.	82.	0.	0.	883.	121.	161.	97.	120.
NORTH	0.	0.	34.	42.	37.	47.	55.	60.	62.	60.	55.	47.	37.	42.	34.	0.	0.	611.	106.	133.	87.	103.
NORTHEAST	0.	0.	82.	121.	125.	111.	88.	60.	62.	60.	55.	47.	36.	24.	11.	0.	0.	883.	121.	161.	97.	120.
EAST	0.	0.	89.	144.	162.	157.	136.	103.	62.	60.	55.	47.	36.	24.	11.	0.	0.	1084.	133.	182.	103.	132.
SOUTHEAST	0.	0.	50.	96.	124.	137.	136.	122.	96.	61.	55.	47.	36.	24.	11.	0.	0.	996.	128.	172.	100.	126.
HORIZ.	0.	1.	33.	84.	135.	180.	215.	237.	244.	237.	215.	180.	135.	84.	33.	1.	0.	2011.	187.	277.	135.	188.

MONTH 6 HO 3746. TOD 78. TOT 75. KT .563 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	2.	13.	25.	37.	58.	82.	97.	102.	97.	82.	58.	37.	25.	13.	2.	0.	730.	119.	151.	100.	119.
SOUTHWEST	0.	2.	13.	25.	37.	48.	56.	61.	90.	116.	131.	133.	121.	94.	52.	2.	0.	982.	134.	177.	108.	134.
WEST	0.	2.	13.	25.	37.	48.	56.	61.	62.	103.	137.	158.	164.	147.	98.	4.	0.	1115.	141.	190.	113.	142.
NORTHWEST	0.	2.	13.	25.	37.	48.	56.	61.	62.	65.	95.	118.	132.	129.	94.	4.	0.	943.	132.	173.	107.	132.
NORTH	0.	3.	43.	50.	46.	48.	56.	61.	62.	61.	56.	48.	46.	50.	43.	3.	0.	674.	116.	146.	98.	115.
NORTHEAST	0.	4.	94.	129.	132.	118.	95.	65.	62.	61.	56.	48.	37.	25.	13.	2.	0.	943.	132.	173.	107.	132.
EAST	0.	4.	98.	147.	164.	158.	137.	103.	62.	61.	56.	48.	37.	25.	13.	2.	0.	1115.	141.	190.	113.	142.
SOUTHEAST	0.	2.	52.	94.	121.	133.	131.	116.	90.	61.	56.	48.	37.	25.	13.	2.	0.	982.	134.	177.	108.	134.
HORIZ.	0.	3.	40.	91.	142.	187.	222.	243.	251.	243.	222.	187.	142.	91.	40.	3.	0.	2109.	198.	290.	147.	202.

LOCATION GREENSBORO, N.C. LATITUDE 36 DEGREES 5 MINUTES

MONTH 7 HO 3628. TOD 80. TOT 77. KT .552 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	11.	24.	36.	64.	88.	104.	109.	104.	88.	64.	36.	24.	11.	0.	0.	764.	125.	159.	103.	123.
SOUTHWEST	0.	0.	11.	24.	36.	47.	55.	61.	95.	121.	135.	136.	123.	94.	48.	0.	0.	986.	138.	182.	111.	137.
WEST	0.	0.	11.	24.	36.	47.	55.	60.	62.	102.	135.	155.	160.	141.	86.	0.	0.	1074.	143.	191.	114.	142.
NORTHWEST	0.	0.	11.	24.	36.	47.	55.	60.	62.	60.	88.	111.	124.	120.	80.	0.	0.	877.	131.	170.	107.	130.
NORTH	0.	0.	34.	42.	37.	47.	55.	60.	62.	60.	55.	47.	37.	42.	34.	0.	0.	610.	116.	143.	98.	114.
NORTHEAST	0.	0.	80.	120.	124.	111.	88.	60.	62.	60.	55.	47.	36.	24.	11.	0.	0.	877.	131.	170.	107.	130.
EAST	0.	0.	86.	141.	160.	155.	135.	102.	62.	60.	55.	47.	36.	24.	11.	0.	0.	1074.	143.	191.	114.	142.
SOUTHEAST	0.	0.	48.	94.	123.	136.	135.	121.	95.	61.	55.	47.	36.	24.	11.	0.	0.	986.	138.	182.	111.	137.
HORIZ.	0.	1.	32.	83.	134.	179.	214.	236.	243.	236.	214.	179.	134.	83.	32.	1.	0.	2002.	197.	286.	146.	198.

MONTH 8 HO 3282. TOD 79. TOT 76. KT .538 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	6.	19.	49.	81.	106.	122.	128.	122.	106.	81.	49.	19.	6.	0.	0.	894.	135.	177.	106.	130.
SOUTHWEST	0.	0.	6.	19.	32.	43.	52.	73.	108.	133.	147.	146.	130.	94.	30.	0.	0.	1013.	142.	190.	110.	137.
WEST	0.	0.	6.	19.	32.	43.	52.	57.	59.	99.	132.	152.	153.	127.	47.	0.	0.	978.	140.	186.	109.	135.
NORTHWEST	0.	0.	6.	19.	32.	43.	52.	57.	59.	57.	70.	93.	106.	97.	40.	0.	0.	731.	124.	159.	101.	120.
NORTH	0.	0.	13.	22.	32.	43.	52.	57.	59.	57.	52.	43.	32.	22.	13.	0.	0.	495.	110.	133.	93.	106.
NORTHEAST	0.	0.	40.	97.	106.	93.	70.	57.	59.	57.	52.	43.	32.	19.	6.	0.	0.	731.	124.	159.	101.	120.
EAST	0.	0.	47.	127.	153.	152.	132.	99.	59.	57.	52.	43.	32.	19.	6.	0.	0.	978.	140.	186.	109.	135.
SOUTHEAST	0.	0.	30.	94.	130.	146.	147.	133.	108.	73.	52.	43.	32.	19.	6.	0.	0.	1013.	142.	190.	110.	137.
HORIZ.	0.	0.	15.	63.	115.	161.	197.	219.	227.	219.	197.	161.	115.	63.	15.	0.	0.	1766.	189.	273.	136.	183.

MONTH 9 HO 2748. TOD 74. TOT 71. KT .527 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	25.	64.	99.	126.	143.	149.	143.	126.	99.	64.	25.	0.	0.	0.	1063.	146.	202.	107.	135.
SOUTHWEST	0.	0.	0.	12.	25.	37.	46.	86.	121.	146.	159.	156.	134.	83.	0.	0.	0.	1007.	142.	195.	105.	132.
WEST	0.	0.	0.	12.	25.	37.	46.	51.	53.	94.	126.	144.	141.	100.	0.	0.	0.	829.	130.	174.	99.	121.
NORTHWEST	0.	0.	0.	12.	25.	37.	46.	51.	53.	51.	46.	69.	80.	65.	0.	0.	0.	536.	110.	138.	89.	103.
NORTH	0.	0.	0.	12.	25.	37.	46.	51.	53.	51.	46.	37.	25.	12.	0.	0.	0.	397.	101.	122.	84.	95.
NORTHEAST	0.	0.	0.	65.	80.	69.	46.	51.	53.	51.	46.	37.	25.	12.	0.	0.	0.	536.	110.	138.	89.	103.
EAST	0.	0.	0.	100.	141.	144.	126.	94.	53.	51.	46.	37.	25.	12.	0.	0.	0.	829.	130.	174.	99.	121.
SOUTHEAST	0.	0.	0.	83.	134.	156.	159.	146.	121.	86.	46.	37.	25.	12.	0.	0.	0.	1007.	142.	195.	105.	132.
HORIZ.	0.	0.	1.	37.	88.	134.	170.	193.	201.	193.	170.	134.	88.	37.	1.	0.	0.	1447.	172.	248.	120.	158.

LOCATION GREENSBORO, N.C. LATITUDE 36 DEGREES 5 MINUTES

MONTH 10 HO 2151. TOD 63. TOT 59. KT .531 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	17.	72.	114.	145.	164.	171.	164.	145.	114.	72.	17.	0.	0.	0.	1197.	147.	216.	97.	129.
SOUTHWEST	0.	0.	0.	5.	18.	29.	57.	98.	134.	159.	171.	164.	131.	41.	0.	0.	0.	1007.	134.	191.	91.	118.
WEST	0.	0.	0.	5.	18.	29.	38.	44.	45.	87.	119.	135.	123.	43.	0.	0.	0.	686.	111.	150.	81.	99.
NORTHWEST	0.	0.	0.	5.	18.	29.	38.	44.	45.	44.	38.	44.	54.	24.	0.	0.	0.	381.	90.	111.	71.	81.
NORTH	0.	0.	0.	5.	18.	29.	38.	44.	45.	44.	38.	29.	18.	5.	0.	0.	0.	312.	85.	103.	69.	77.
NORTHEAST	0.	0.	0.	24.	54.	44.	38.	44.	45.	44.	38.	29.	18.	5.	0.	0.	0.	381.	90.	111.	71.	81.
EAST	0.	0.	0.	43.	123.	135.	119.	87.	45.	44.	38.	29.	18.	5.	0.	0.	0.	686.	111.	150.	81.	99.
SOUTHEAST	0.	0.	0.	41.	131.	164.	171.	159.	134.	98.	57.	29.	18.	5.	0.	0.	0.	1007.	134.	191.	91.	118.
HORIZ.	0.	0.	0.	12.	59.	106.	142.	166.	174.	166.	142.	106.	59.	12.	0.	0.	0.	1142.	143.	209.	96.	126.

MONTH 11 HO 1631. TOD 51. TOT 48. KT .501 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	60.	110.	143.	162.	169.	162.	143.	110.	60.	0.	0.	0.	0.	1119.	138.	209.	84.	113.
SOUTHWEST	0.	0.	0.	0.	11.	22.	60.	98.	130.	152.	159.	146.	97.	0.	0.	0.	0.	876.	119.	175.	76.	99.
WEST	0.	0.	0.	0.	11.	22.	30.	36.	37.	74.	100.	110.	84.	0.	0.	0.	0.	503.	90.	122.	64.	77.
NORTHWEST	0.	0.	0.	0.	11.	22.	30.	36.	37.	36.	30.	22.	27.	0.	0.	0.	0.	250.	71.	87.	56.	63.
NORTH	0.	0.	0.	0.	11.	22.	30.	36.	37.	36.	30.	22.	11.	0.	0.	0.	0.	234.	70.	84.	55.	62.
NORTHEAST	0.	0.	0.	0.	27.	22.	30.	36.	37.	36.	30.	22.	11.	0.	0.	0.	0.	250.	71.	87.	56.	63.
EAST	0.	0.	0.	0.	84.	110.	100.	74.	37.	36.	30.	22.	11.	0.	0.	0.	0.	503.	90.	122.	64.	77.
SOUTHEAST	0.	0.	0.	0.	97.	146.	159.	152.	130.	98.	60.	22.	11.	0.	0.	0.	0.	876.	119.	175.	76.	99.
HORIZ.	0.	0.	0.	0.	31.	73.	107.	129.	136.	129.	107.	73.	31.	0.	0.	0.	0.	816.	115.	166.	74.	96.

MONTH 12 HO 1432. TOD 43. TOT 40. KT .479 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	49.	103.	136.	156.	162.	156.	136.	103.	49.	0.	0.	0.	0.	1050.	128.	197.	74.	101.
SOUTHWEST	0.	0.	0.	0.	8.	23.	59.	95.	124.	144.	149.	134.	76.	0.	0.	0.	0.	812.	109.	162.	66.	87.
WEST	0.	0.	0.	0.	8.	18.	27.	32.	34.	67.	90.	97.	63.	0.	0.	0.	0.	435.	78.	107.	54.	65.
NORTHWEST	0.	0.	0.	0.	8.	18.	27.	32.	34.	32.	27.	18.	18.	0.	0.	0.	0.	213.	60.	74.	47.	52.
NORTH	0.	0.	0.	0.	8.	18.	27.	32.	34.	32.	27.	18.	8.	0.	0.	0.	0.	203.	60.	73.	47.	52.
NORTHEAST	0.	0.	0.	0.	18.	18.	27.	32.	34.	32.	27.	18.	8.	0.	0.	0.	0.	213.	60.	74.	47.	52.
EAST	0.	0.	0.	0.	63.	97.	90.	67.	34.	32.	27.	18.	8.	0.	0.	0.	0.	435.	78.	107.	54.	65.
SOUTHEAST	0.	0.	0.	0.	76.	134.	149.	144.	124.	95.	59.	23.	8.	0.	0.	0.	0.	812.	109.	162.	66.	87.
HORIZ.	0.	0.	0.	0.	21.	60.	92.	112.	119.	112.	92.	60.	21.	0.	0.	0.	0.	687.	99.	144.	62.	80.

LOCATION GREENSBORO, N.C. LATITUDE 36 DEGREES 5 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	122.	122.	116.	114.	115.	119.	125.	135.	146.	147.	138.	128.	127.
SOUTHWEST	105.	111.	113.	121.	128.	134.	138.	142.	142.	134.	119.	109.	125.
WEST	79.	91.	103.	119.	133.	141.	143.	140.	130.	111.	90.	78.	113.
NORTHWEST	61.	71.	85.	104.	121.	132.	131.	124.	110.	90.	71.	60.	97.
NORTH	60.	66.	77.	90.	106.	116.	116.	110.	101.	85.	70.	60.	88.
NORTHEAST	61.	71.	85.	104.	121.	132.	131.	124.	110.	90.	71.	60.	97.
EAST	79.	91.	103.	119.	133.	141.	143.	140.	130.	111.	90.	78.	113.
SOUTHEAST	105.	111.	113.	121.	128.	134.	138.	142.	142.	134.	119.	109.	125.
HORIZ.	101.	121.	140.	166.	187.	198.	197.	189.	172.	143.	115.	99.	152.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	187.	186.	169.	157.	149.	151.	159.	177.	202.	216.	209.	197.	180.
SOUTHWEST	156.	165.	164.	171.	172.	177.	182.	190.	195.	191.	175.	162.	175.
WEST	109.	129.	144.	167.	182.	190.	191.	186.	174.	150.	122.	107.	154.
NORTHWEST	76.	93.	113.	140.	161.	173.	170.	159.	138.	111.	87.	74.	125.
NORTH	74.	84.	98.	114.	133.	146.	143.	133.	122.	103.	84.	73.	109.
NORTHEAST	76.	93.	113.	140.	161.	173.	170.	159.	138.	111.	87.	74.	125.
EAST	109.	129.	144.	167.	182.	190.	191.	186.	174.	150.	122.	107.	154.
SOUTHEAST	156.	165.	164.	171.	172.	177.	182.	190.	195.	191.	175.	162.	175.
HORIZ.	150.	183.	212.	251.	277.	290.	286.	273.	248.	209.	166.	144.	224.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	72.	77.	81.	86.	93.	100.	103.	106.	107.	97.	84.	74.	90.
SOUTHWEST	65.	71.	79.	90.	100.	108.	111.	110.	105.	91.	76.	66.	90.
WEST	54.	62.	74.	89.	103.	113.	114.	109.	99.	81.	64.	54.	85.
NORTHWEST	47.	53.	65.	81.	97.	107.	107.	101.	89.	71.	56.	47.	77.
NORTH	46.	51.	61.	73.	87.	98.	98.	93.	84.	69.	55.	47.	72.
NORTHEAST	47.	53.	65.	81.	97.	107.	107.	101.	89.	71.	56.	47.	77.
EAST	54.	62.	74.	89.	103.	113.	114.	109.	99.	81.	64.	54.	85.
SOUTHEAST	65.	71.	79.	90.	100.	108.	111.	110.	105.	91.	76.	66.	90.
HORIZ.	64.	76.	92.	115.	135.	147.	146.	136.	120.	96.	74.	62.	105.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	99.	106.	107.	110.	113.	119.	123.	130.	135.	129.	113.	101.	115.
SOUTHWEST	86.	96.	104.	117.	126.	134.	137.	137.	132.	118.	99.	87.	115.
WEST	67.	80.	95.	116.	132.	142.	142.	135.	121.	99.	77.	65.	106.
NORTHWEST	53.	63.	79.	101.	120.	132.	130.	120.	103.	81.	63.	52.	91.
NORTH	52.	59.	71.	86.	103.	115.	114.	106.	95.	77.	62.	52.	83.
NORTHEAST	53.	63.	79.	101.	120.	132.	130.	120.	103.	81.	63.	52.	91.
EAST	67.	80.	95.	116.	132.	142.	142.	135.	121.	99.	77.	65.	106.
SOUTHEAST	86.	96.	104.	117.	126.	134.	137.	137.	132.	118.	99.	87.	115.
HORIZ.	84.	105.	128.	162.	188.	202.	198.	183.	158.	126.	96.	80.	142.

LOCATION GRIFFIN, GEORGIA LATITUDE 33 DEGREES 15 MINUTES

MONTH 1 HO 1796. TOD 49. TOT 47. KT .513 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	1.	69.	116.	147.	165.	172.	165.	147.	116.	69.	1.	0.	0.	0.	1168.	137.	209.	85.	115.
SOUTHWEST	0.	0.	0.	1.	13.	24.	62.	100.	133.	156.	165.	156.	113.	1.	0.	0.	0.	924.	119.	176.	77.	101.
WEST	0.	0.	0.	1.	13.	24.	33.	38.	40.	78.	106.	118.	98.	1.	0.	0.	0.	551.	91.	125.	65.	79.
NORTHWEST	0.	0.	0.	1.	13.	24.	33.	38.	40.	38.	33.	26.	33.	1.	0.	0.	0.	280.	70.	87.	56.	64.
NORTH	0.	0.	0.	1.	13.	24.	33.	38.	40.	38.	33.	24.	13.	1.	0.	0.	0.	258.	68.	84.	56.	62.
NORTHEAST	0.	0.	0.	1.	33.	26.	33.	38.	40.	38.	33.	24.	13.	1.	0.	0.	0.	280.	70.	87.	56.	64.
EAST	0.	0.	0.	1.	98.	118.	106.	78.	40.	38.	33.	24.	13.	1.	0.	0.	0.	551.	91.	125.	65.	79.
SOUTHEAST	0.	0.	0.	1.	113.	156.	165.	156.	133.	100.	62.	24.	13.	1.	0.	0.	0.	924.	119.	176.	77.	101.
HORIZ.	0.	0.	0.	1.	39.	84.	119.	142.	149.	142.	119.	84.	39.	1.	0.	0.	0.	920.	119.	175.	77.	101.

MONTH 2 HO 2316. TOD 51. TOT 49. KT .517 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	23.	72.	110.	138.	155.	161.	155.	138.	110.	72.	23.	0.	0.	0.	1155.	131.	197.	86.	116.
SOUTHWEST	0.	0.	0.	6.	20.	31.	55.	94.	128.	152.	164.	159.	132.	55.	0.	0.	0.	996.	120.	177.	81.	107.
WEST	0.	0.	0.	6.	20.	31.	40.	46.	48.	87.	118.	134.	126.	59.	0.	0.	0.	716.	101.	141.	72.	91.
NORTHWEST	0.	0.	0.	6.	20.	31.	40.	46.	48.	46.	40.	48.	58.	32.	0.	0.	0.	417.	80.	104.	62.	73.
NORTH	0.	0.	0.	6.	20.	31.	40.	46.	48.	46.	40.	31.	20.	6.	0.	0.	0.	336.	74.	93.	60.	68.
NORTHEAST	0.	0.	0.	32.	58.	48.	40.	46.	48.	46.	40.	31.	20.	6.	0.	0.	0.	417.	80.	104.	62.	73.
EAST	0.	0.	0.	59.	126.	134.	118.	87.	48.	46.	40.	31.	20.	6.	0.	0.	0.	716.	101.	141.	72.	91.
SOUTHEAST	0.	0.	0.	55.	132.	159.	164.	152.	128.	94.	55.	31.	20.	6.	0.	0.	0.	996.	120.	177.	81.	107.
HORIZ.	0.	0.	0.	16.	65.	111.	148.	170.	178.	170.	148.	111.	65.	16.	0.	0.	0.	1199.	134.	202.	87.	119.

MONTH 3 HO 2858. TOD 59. TOT 55. KT .528 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	26.	64.	97.	123.	140.	145.	140.	123.	97.	64.	26.	0.	0.	0.	1046.	126.	181.	89.	116.
SOUTHWEST	0.	0.	0.	13.	27.	38.	47.	84.	119.	145.	158.	157.	137.	90.	0.	0.	0.	1015.	124.	177.	88.	115.
WEST	0.	0.	0.	13.	27.	38.	47.	53.	55.	96.	128.	147.	146.	108.	0.	0.	0.	859.	114.	159.	83.	106.
NORTHWEST	0.	0.	0.	13.	27.	38.	47.	53.	55.	53.	51.	74.	85.	71.	0.	0.	0.	567.	95.	125.	74.	89.
NORTH	0.	0.	0.	13.	27.	38.	47.	53.	55.	53.	47.	38.	27.	13.	0.	0.	0.	412.	85.	107.	69.	80.
NORTHEAST	0.	0.	0.	71.	85.	74.	51.	53.	55.	53.	47.	38.	27.	13.	0.	0.	0.	567.	95.	125.	74.	89.
EAST	0.	0.	0.	108.	146.	147.	128.	96.	55.	53.	47.	38.	27.	13.	0.	0.	0.	859.	114.	159.	83.	106.
SOUTHEAST	0.	0.	0.	90.	137.	157.	158.	145.	119.	84.	47.	38.	27.	13.	0.	0.	0.	1015.	124.	177.	88.	115.
HORIZ.	0.	0.	0.	40.	93.	140.	177.	200.	208.	200.	177.	140.	93.	40.	0.	0.	0.	1507.	156.	234.	104.	143.

LOCATION GRIFFIN, GEORGIA LATITUDE 33 DEGREES 15 MINUTES

MONTH 4 HO 3349. TOD 67. TOT 63. KT .586 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	49.	82.	109.	126.	132.	126.	109.	82.	49.	19.	6.	0.	0.	915.	121.	165.	93.	116.
SOUTHWEST	0.	0.	6.	19.	33.	45.	54.	72.	111.	141.	159.	160.	145.	107.	33.	0.	0.	1085.	131.	183.	98.	126.
WEST	0.	0.	6.	19.	33.	45.	54.	59.	61.	108.	147.	171.	175.	148.	53.	0.	0.	1078.	130.	182.	98.	126.
NORTHWEST	0.	0.	6.	19.	33.	45.	54.	59.	61.	59.	80.	107.	122.	114.	45.	0.	0.	804.	114.	153.	89.	110.
NORTH	0.	0.	14.	24.	33.	45.	54.	59.	61.	59.	54.	45.	33.	24.	14.	0.	0.	518.	97.	122.	80.	93.
NORTHEAST	0.	0.	45.	114.	122.	107.	80.	59.	61.	59.	54.	45.	33.	19.	6.	0.	0.	804.	114.	153.	89.	110.
EAST	0.	0.	53.	148.	175.	171.	147.	108.	61.	59.	54.	45.	33.	19.	6.	0.	0.	1078.	130.	182.	98.	126.
SOUTHEAST	0.	0.	33.	107.	145.	160.	159.	141.	111.	72.	54.	45.	33.	19.	6.	0.	0.	1085.	131.	183.	98.	126.
HORIZ.	0.	0.	14.	69.	128.	179.	219.	245.	253.	245.	219.	179.	128.	69.	14.	0.	0.	1963.	182.	277.	126.	178.

MONTH 5 HO 3632. TOD 75. TOT 71. KT .601 KD .174

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	10.	23.	36.	62.	87.	103.	109.	103.	87.	62.	36.	23.	10.	0.	0.	751.	119.	153.	97.	117.
SOUTHWEST	0.	0.	10.	23.	36.	47.	56.	61.	95.	125.	143.	146.	133.	103.	50.	0.	0.	1031.	136.	182.	107.	134.
WEST	0.	0.	10.	23.	36.	47.	56.	61.	63.	110.	148.	173.	179.	159.	92.	0.	0.	1159.	143.	196.	111.	142.
NORTHWEST	0.	0.	10.	23.	36.	47.	56.	61.	63.	66.	99.	126.	141.	136.	86.	0.	0.	953.	131.	174.	104.	129.
NORTH	0.	0.	35.	47.	42.	47.	56.	61.	63.	61.	56.	47.	42.	47.	35.	0.	0.	642.	113.	142.	93.	110.
NORTHEAST	0.	0.	86.	136.	141.	126.	99.	66.	63.	61.	56.	47.	36.	23.	10.	0.	0.	953.	131.	174.	104.	129.
EAST	0.	0.	92.	159.	179.	173.	148.	110.	63.	61.	56.	47.	36.	23.	10.	0.	0.	1159.	143.	196.	111.	142.
SOUTHEAST	0.	0.	50.	103.	133.	146.	143.	125.	95.	61.	56.	47.	36.	23.	10.	0.	0.	1031.	136.	182.	107.	134.
HORIZ.	0.	0.	31.	88.	146.	196.	236.	260.	269.	260.	236.	196.	146.	88.	31.	0.	0.	2183.	204.	303.	146.	203.

MONTH 6 HO 3727. TOD 81. TOT 79. KT .583 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	1.	12.	25.	37.	52.	76.	91.	96.	91.	76.	52.	37.	25.	12.	1.	0.	683.	121.	151.	103.	120.
SOUTHWEST	0.	1.	12.	25.	37.	48.	56.	62.	86.	114.	130.	133.	122.	94.	50.	1.	0.	972.	137.	180.	112.	138.
WEST	0.	1.	12.	25.	37.	48.	56.	62.	63.	107.	142.	165.	170.	152.	96.	1.	0.	1137.	147.	197.	118.	148.
NORTHWEST	0.	1.	12.	25.	37.	48.	56.	62.	63.	73.	103.	128.	141.	136.	93.	1.	0.	979.	138.	181.	113.	138.
NORTH	0.	1.	42.	54.	51.	48.	56.	62.	63.	62.	56.	48.	51.	54.	42.	1.	0.	692.	121.	152.	103.	121.
NORTHEAST	0.	1.	93.	136.	141.	128.	103.	73.	63.	62.	56.	48.	37.	25.	12.	1.	0.	979.	138.	181.	113.	138.
EAST	0.	1.	96.	152.	170.	165.	142.	107.	63.	62.	56.	48.	37.	25.	12.	1.	0.	1137.	147.	197.	118.	148.
SOUTHEAST	0.	1.	50.	94.	122.	133.	130.	114.	86.	62.	56.	48.	37.	25.	12.	1.	0.	972.	137.	180.	112.	138.
HORIZ.	0.	1.	37.	91.	146.	194.	231.	255.	263.	255.	231.	194.	146.	91.	37.	1.	0.	2172.	207.	303.	153.	210.

LOCATION GRIFFIN, GEORGIA LATITUDE 33 DEGREES 15 MINUTES

MONTH 7 HO 3626. TOD 83. TOT 81. KT .562 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	10.	23.	36.	59.	82.	97.	103.	97.	82.	59.	36.	23.	10.	0.	0.	719.	126.	158.	106.	124.
SOUTHWEST	0.	0.	10.	23.	36.	47.	55.	61.	91.	117.	133.	135.	122.	93.	45.	0.	0.	968.	140.	184.	114.	139.
WEST	0.	0.	10.	23.	36.	47.	55.	61.	63.	104.	138.	159.	163.	143.	81.	0.	0.	1083.	147.	196.	118.	146.
NORTHWEST	0.	0.	10.	23.	36.	47.	55.	61.	63.	66.	95.	118.	130.	123.	76.	0.	0.	901.	136.	177.	112.	135.
NORTH	0.	0.	32.	44.	41.	47.	55.	61.	63.	61.	55.	47.	41.	44.	32.	0.	0.	625.	120.	148.	102.	119.
NORTHEAST	0.	0.	76.	123.	130.	118.	95.	66.	63.	61.	55.	47.	36.	23.	10.	0.	0.	901.	136.	177.	112.	135.
EAST	0.	0.	81.	143.	163.	159.	138.	104.	63.	61.	55.	47.	36.	23.	10.	0.	0.	1083.	147.	196.	118.	146.
SOUTHEAST	0.	0.	45.	93.	122.	135.	133.	117.	91.	61.	55.	47.	36.	23.	10.	0.	0.	968.	140.	184.	114.	139.
HORIZ.	0.	0.	29.	82.	136.	183.	220.	243.	251.	243.	220.	183.	136.	82.	29.	0.	0.	2037.	203.	296.	151.	204.

MONTH 8 HO 3324. TOD 82. TOT 80. KT .578 KD .177

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	48.	80.	107.	124.	130.	124.	107.	80.	48.	19.	6.	0.	0.	896.	138.	182.	110.	134.
SOUTHWEST	0.	0.	6.	19.	32.	44.	53.	71.	109.	139.	155.	156.	140.	101.	29.	0.	0.	1054.	148.	199.	116.	144.
WEST	0.	0.	6.	19.	32.	44.	53.	59.	61.	107.	144.	166.	169.	140.	46.	0.	0.	1045.	148.	198.	116.	143.
NORTHWEST	0.	0.	6.	19.	32.	44.	53.	59.	61.	59.	79.	105.	118.	108.	39.	0.	0.	782.	131.	169.	107.	127.
NORTH	0.	0.	13.	24.	32.	44.	53.	59.	61.	59.	53.	44.	32.	24.	13.	0.	0.	510.	114.	139.	97.	111.
NORTHEAST	0.	0.	39.	108.	118.	105.	79.	59.	61.	59.	53.	44.	32.	19.	6.	0.	0.	782.	131.	169.	107.	127.
EAST	0.	0.	46.	140.	169.	166.	144.	107.	61.	59.	53.	44.	32.	19.	6.	0.	0.	1045.	148.	198.	116.	143.
SOUTHEAST	0.	0.	29.	101.	140.	156.	155.	139.	109.	71.	53.	44.	32.	19.	6.	0.	0.	1054.	148.	199.	116.	144.
HORIZ.	0.	0.	13.	67.	124.	176.	215.	241.	249.	241.	215.	176.	124.	67.	13.	0.	0.	1922.	203.	295.	146.	196.

MONTH 9 HO 2840. TOD 78. TOT 76. KT .543 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	26.	64.	99.	126.	143.	149.	143.	126.	99.	64.	26.	0.	0.	0.	1063.	151.	206.	112.	140.
SOUTHWEST	0.	0.	0.	13.	26.	38.	47.	85.	121.	148.	162.	161.	139.	88.	0.	0.	0.	1030.	149.	202.	111.	138.
WEST	0.	0.	0.	13.	26.	38.	47.	53.	55.	98.	131.	151.	149.	106.	0.	0.	0.	869.	138.	183.	106.	128.
NORTHWEST	0.	0.	0.	13.	26.	38.	47.	53.	55.	53.	51.	75.	86.	70.	0.	0.	0.	569.	117.	147.	95.	110.
NORTH	0.	0.	0.	13.	26.	38.	47.	53.	55.	53.	47.	38.	26.	13.	0.	0.	0.	411.	106.	128.	90.	101.
NORTHEAST	0.	0.	0.	70.	86.	75.	51.	53.	55.	53.	47.	38.	26.	13.	0.	0.	0.	569.	117.	147.	95.	110.
EAST	0.	0.	0.	106.	149.	151.	131.	98.	55.	53.	47.	38.	26.	13.	0.	0.	0.	869.	138.	183.	106.	128.
SOUTHEAST	0.	0.	0.	88.	139.	161.	162.	148.	121.	85.	47.	38.	26.	13.	0.	0.	0.	1030.	149.	202.	111.	138.
HORIZ.	0.	0.	0.	39.	94.	143.	181.	205.	214.	205.	181.	143.	94.	39.	0.	0.	0.	1541.	183.	264.	128.	169.

LOCATION GRIFFIN, GEORGIA LATITUDE 33 DEGREES 15 MINUTES

MONTH 10 HO 2282. TOD 68. TOT 65. KT .565 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	22.	79.	122.	154.	174.	180.	174.	154.	122.	79.	22.	0.	0.	0.	1283.	157.	230.	106.	139.
SOUTHWEST	0.	0.	0.	6.	19.	31.	57.	102.	142.	170.	184.	179.	147.	55.	0.	0.	0.	1092.	144.	206.	100.	128.
WEST	0.	0.	0.	6.	19.	31.	40.	46.	48.	94.	130.	149.	139.	59.	0.	0.	0.	762.	121.	164.	89.	109.
NORTHWEST	0.	0.	0.	6.	19.	31.	40.	46.	48.	46.	40.	50.	62.	31.	0.	0.	0.	421.	97.	121.	78.	89.
NORTH	0.	0.	0.	6.	19.	31.	40.	46.	48.	46.	40.	31.	19.	6.	0.	0.	0.	334.	91.	110.	75.	84.
NORTHEAST	0.	0.	0.	31.	62.	50.	40.	46.	48.	46.	40.	31.	19.	6.	0.	0.	0.	421.	97.	121.	78.	89.
EAST	0.	0.	0.	59.	139.	149.	130.	94.	48.	46.	40.	31.	19.	6.	0.	0.	0.	762.	121.	164.	89.	109.
SOUTHEAST	0.	0.	0.	55.	147.	179.	184.	170.	142.	102.	57.	31.	19.	6.	0.	0.	0.	1092.	144.	206.	100.	128.
HORIZ.	0.	0.	0.	15.	68.	120.	160.	185.	194.	185.	160.	120.	68.	15.	0.	0.	0.	1290.	158.	231.	106.	140.

MONTH 11 HO 1783. TOD 57. TOT 54. KT .545 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	1.	74.	126.	160.	180.	187.	180.	160.	126.	74.	1.	0.	0.	0.	1267.	153.	232.	94.	128.
SOUTHWEST	0.	0.	0.	1.	13.	24.	65.	107.	144.	170.	180.	169.	121.	1.	0.	0.	0.	995.	133.	194.	86.	112.
WEST	0.	0.	0.	1.	13.	24.	33.	39.	41.	82.	114.	128.	105.	1.	0.	0.	0.	580.	101.	137.	72.	88.
NORTHWEST	0.	0.	0.	1.	13.	24.	33.	39.	41.	39.	33.	26.	34.	1.	0.	0.	0.	282.	79.	96.	63.	70.
NORTH	0.	0.	0.	1.	13.	24.	33.	39.	41.	39.	33.	24.	13.	1.	0.	0.	0.	258.	77.	93.	62.	69.
NORTHEAST	0.	0.	0.	1.	34.	26.	33.	39.	41.	39.	33.	24.	13.	1.	0.	0.	0.	282.	79.	96.	63.	70.
EAST	0.	0.	0.	1.	105.	128.	114.	82.	41.	39.	33.	24.	13.	1.	0.	0.	0.	580.	101.	137.	72.	88.
SOUTHEAST	0.	0.	0.	1.	121.	169.	180.	170.	144.	107.	65.	24.	13.	1.	0.	0.	0.	995.	133.	194.	86.	112.
HORIZ.	0.	0.	0.	1.	40.	88.	126.	150.	159.	150.	126.	88.	40.	1.	0.	0.	0.	971.	131.	191.	85.	110.

MONTH 12 HO 1589. TOD 49. TOT 47. KT .487 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	59.	108.	139.	157.	163.	157.	139.	108.	59.	0.	0.	0.	0.	1090.	135.	205.	82.	111.
SOUTHWEST	0.	0.	0.	0.	10.	24.	61.	96.	126.	147.	153.	141.	91.	0.	0.	0.	0.	849.	116.	171.	75.	97.
WEST	0.	0.	0.	0.	10.	21.	29.	35.	37.	70.	95.	103.	76.	0.	0.	0.	0.	475.	87.	117.	63.	75.
NORTHWEST	0.	0.	0.	0.	10.	21.	29.	35.	37.	35.	29.	21.	22.	0.	0.	0.	0.	238.	68.	83.	55.	61.
NORTH	0.	0.	0.	0.	10.	21.	29.	35.	37.	35.	29.	21.	10.	0.	0.	0.	0.	226.	67.	82.	55.	61.
NORTHEAST	0.	0.	0.	0.	22.	21.	29.	35.	37.	35.	29.	21.	10.	0.	0.	0.	0.	238.	68.	83.	55.	61.
EAST	0.	0.	0.	0.	76.	103.	95.	70.	37.	35.	29.	21.	10.	0.	0.	0.	0.	475.	87.	117.	63.	75.
SOUTHEAST	0.	0.	0.	0.	91.	141.	153.	147.	126.	96.	61.	24.	10.	0.	0.	0.	0.	849.	116.	171.	75.	97.
HORIZ.	0.	0.	0.	0.	28.	69.	102.	123.	130.	123.	102.	69.	28.	0.	0.	0.	0.	774.	110.	160.	72.	93.

LOCATION GRIFFIN, GEORGIA LATITUDE 33 DEGREES 15 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	137.	131.	126.	121.	119.	121.	126.	138.	151.	157.	153.	135.	135.
SOUTHWEST	119.	120.	124.	131.	136.	137.	140.	148.	149.	144.	133.	116.	133.
WEST	91.	101.	114.	130.	143.	147.	147.	148.	138.	121.	101.	87.	122.
NORTHWEST	70.	80.	95.	114.	131.	138.	136.	131.	117.	97.	79.	68.	105.
NORTH	68.	74.	85.	97.	113.	121.	120.	114.	106.	91.	77.	67.	95.
NORTHEAST	70.	80.	95.	114.	131.	138.	136.	131.	117.	97.	79.	68.	105.
EAST	91.	101.	114.	130.	143.	147.	147.	148.	138.	121.	101.	87.	122.
SOUTHEAST	119.	120.	124.	131.	136.	137.	140.	148.	149.	144.	133.	116.	133.
HORIZ.	119.	134.	156.	182.	204.	207.	203.	203.	183.	158.	131.	110.	166.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	209.	197.	181.	165.	153.	151.	158.	182.	206.	230.	232.	205.	189.
SOUTHWEST	176.	177.	177.	183.	182.	180.	184.	199.	202.	206.	194.	171.	186.
WEST	125.	141.	159.	182.	196.	197.	196.	198.	183.	164.	137.	117.	166.
NORTHWEST	87.	104.	125.	153.	174.	181.	177.	169.	147.	121.	96.	83.	135.
NORTH	84.	93.	107.	122.	142.	152.	148.	139.	128.	110.	93.	82.	117.
NORTHEAST	87.	104.	125.	153.	174.	181.	177.	169.	147.	121.	96.	83.	135.
EAST	125.	141.	159.	182.	196.	197.	196.	198.	183.	164.	137.	117.	166.
SOUTHEAST	176.	177.	177.	183.	182.	180.	184.	199.	202.	206.	194.	171.	186.
HORIZ.	175.	202.	234.	277.	303.	303.	296.	295.	264.	231.	191.	160.	244.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	85.	86.	89.	93.	97.	103.	106.	110.	112.	106.	94.	82.	97.
SOUTHWEST	77.	81.	88.	98.	107.	112.	114.	116.	111.	100.	86.	75.	97.
WEST	65.	72.	83.	98.	111.	118.	118.	116.	106.	89.	72.	63.	93.
NORTHWEST	56.	62.	74.	89.	104.	113.	112.	107.	95.	78.	63.	55.	84.
NORTH	56.	60.	69.	80.	93.	103.	102.	97.	90.	75.	62.	55.	78.
NORTHEAST	56.	62.	74.	89.	104.	113.	112.	107.	95.	78.	63.	55.	84.
EAST	65.	72.	83.	98.	111.	118.	118.	116.	106.	89.	72.	63.	93.
SOUTHEAST	77.	81.	88.	98.	107.	112.	114.	116.	111.	100.	86.	75.	97.
HORIZ.	77.	87.	104.	126.	146.	153.	151.	146.	128.	106.	85.	72.	115.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	115.	116.	116.	116.	117.	120.	124.	134.	140.	139.	128.	111.	123.
SOUTHWEST	101.	107.	115.	126.	134.	138.	139.	144.	138.	128.	112.	97.	123.
WEST	79.	91.	106.	126.	142.	148.	146.	143.	128.	109.	88.	75.	115.
NORTHWEST	64.	73.	89.	110.	129.	138.	135.	127.	110.	89.	70.	61.	100.
NORTH	62.	68.	80.	93.	110.	121.	119.	111.	101.	84.	69.	61.	90.
NORTHEAST	64.	73.	89.	110.	129.	138.	135.	127.	110.	89.	70.	61.	100.
EAST	79.	91.	106.	126.	142.	148.	146.	143.	128.	109.	88.	75.	115.
SOUTHEAST	101.	107.	115.	126.	134.	138.	139.	144.	138.	128.	112.	97.	123.
HORIZ.	101.	119.	143.	178.	203.	210.	204.	196.	169.	140.	110.	93.	156.

LOCATION HATTERAS, N.C. LATITUDE 35 DEGREES 13 MINUTES

MONTH 1 HO 1690. TOD 50. TOT 48. KT .546 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	72.	126.	161.	182.	189.	182.	161.	126.	72.	0.	0.	0.	0.	1273.	148.	227.	89.	122.
SOUTHWEST	0.	0.	0.	0.	11.	23.	65.	109.	145.	171.	181.	169.	118.	0.	0.	0.	0.	993.	126.	188.	80.	106.
WEST	0.	0.	0.	0.	11.	23.	31.	37.	39.	81.	113.	127.	102.	0.	0.	0.	0.	564.	93.	129.	66.	81.
NORTHWEST	0.	0.	0.	0.	11.	23.	31.	37.	39.	37.	31.	23.	32.	0.	0.	0.	0.	266.	70.	87.	57.	63.
NORTH	0.	0.	0.	0.	11.	23.	31.	37.	39.	37.	31.	23.	11.	0.	0.	0.	0.	244.	69.	84.	56.	62.
NORTHEAST	0.	0.	0.	0.	32.	23.	31.	37.	39.	37.	31.	23.	11.	0.	0.	0.	0.	266.	70.	87.	57.	63.
EAST	0.	0.	0.	0.	102.	127.	113.	81.	39.	37.	31.	23.	11.	0.	0.	0.	0.	564.	93.	129.	66.	81.
SOUTHEAST	0.	0.	0.	0.	118.	169.	181.	171.	145.	109.	65.	23.	11.	0.	0.	0.	0.	993.	126.	188.	80.	106.
HORIZ.	0.	0.	0.	0.	36.	83.	120.	144.	152.	144.	120.	83.	36.	0.	0.	0.	0.	921.	121.	178.	78.	102.

MONTH 2 HO 2226. TOD 49. TOT 48. KT .563 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	23.	80.	124.	156.	176.	182.	176.	156.	124.	80.	23.	0.	0.	0.	1299.	140.	215.	89.	123.
SOUTHWEST	0.	0.	0.	6.	19.	30.	58.	104.	143.	171.	185.	180.	149.	56.	0.	0.	0.	1101.	127.	189.	83.	112.
WEST	0.	0.	0.	6.	19.	30.	39.	45.	47.	93.	129.	149.	140.	60.	0.	0.	0.	758.	103.	146.	72.	92.
NORTHWEST	0.	0.	0.	6.	19.	30.	39.	45.	47.	45.	39.	48.	61.	32.	0.	0.	0.	412.	78.	102.	61.	72.
NORTH	0.	0.	0.	6.	19.	30.	39.	45.	47.	45.	39.	30.	19.	6.	0.	0.	0.	326.	72.	91.	58.	67.
NORTHEAST	0.	0.	0.	32.	61.	48.	39.	45.	47.	45.	39.	30.	19.	6.	0.	0.	0.	412.	78.	102.	61.	72.
EAST	0.	0.	0.	60.	140.	149.	129.	93.	47.	45.	39.	30.	19.	6.	0.	0.	0.	758.	103.	146.	72.	92.
SOUTHEAST	0.	0.	0.	56.	149.	180.	185.	171.	143.	104.	58.	30.	19.	6.	0.	0.	0.	1101.	127.	189.	83.	112.
HORIZ.	0.	0.	0.	14.	66.	116.	155.	180.	189.	180.	155.	116.	66.	14.	0.	0.	0.	1254.	137.	209.	88.	121.

MONTH 3 HO 2793. TOD 55. TOT 53. KT .593 KD .175

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	30.	74.	113.	144.	164.	170.	164.	144.	113.	74.	30.	0.	0.	0.	1220.	133.	196.	92.	124.
SOUTHWEST	0.	0.	0.	13.	26.	38.	47.	95.	137.	168.	185.	185.	162.	105.	0.	0.	0.	1160.	129.	190.	90.	120.
WEST	0.	0.	0.	13.	26.	38.	47.	53.	55.	105.	145.	170.	171.	127.	0.	0.	0.	950.	115.	165.	83.	108.
NORTHWEST	0.	0.	0.	13.	26.	38.	47.	53.	55.	53.	48.	78.	95.	81.	0.	0.	0.	587.	92.	123.	72.	87.
NORTH	0.	0.	0.	13.	26.	38.	47.	53.	55.	53.	47.	38.	26.	13.	0.	0.	0.	409.	81.	102.	66.	77.
NORTHEAST	0.	0.	0.	81.	95.	78.	48.	53.	55.	53.	47.	38.	26.	13.	0.	0.	0.	587.	92.	123.	72.	87.
EAST	0.	0.	0.	127.	171.	170.	145.	105.	55.	53.	47.	38.	26.	13.	0.	0.	0.	950.	115.	165.	83.	108.
SOUTHEAST	0.	0.	0.	105.	162.	185.	185.	168.	137.	95.	47.	38.	26.	13.	0.	0.	0.	1160.	129.	190.	90.	120.
HORIZ.	0.	0.	0.	42.	101.	154.	195.	221.	230.	221.	195.	154.	101.	42.	0.	0.	0.	1655.	161.	247.	106.	149.

LOCATION HATTERAS, N.C. LATITUDE 35 DEGREES 13 MINUTES

MONTH 4 HO 3320. TOD 61. TOT 60. KT .655 KD .160

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	55.	95.	126.	146.	153.	146.	126.	95.	55.	19.	6.	0.	0.	1048.	123.	173.	93.	121.
SOUTHWEST	0.	0.	6.	19.	32.	44.	53.	79.	126.	163.	184.	188.	170.	127.	42.	0.	0.	1231.	134.	192.	99.	131.
WEST	0.	0.	6.	19.	32.	44.	53.	58.	60.	118.	165.	196.	204.	175.	68.	0.	0.	1198.	132.	189.	98.	129.
NORTHWEST	0.	0.	6.	19.	32.	44.	53.	58.	60.	58.	80.	116.	138.	132.	57.	0.	0.	853.	111.	152.	87.	109.
NORTH	0.	0.	16.	23.	32.	44.	53.	58.	60.	58.	53.	44.	32.	23.	16.	0.	0.	513.	92.	116.	76.	89.
NORTHEAST	0.	0.	57.	132.	138.	116.	80.	58.	60.	58.	53.	44.	32.	19.	6.	0.	0.	853.	111.	152.	87.	109.
EAST	0.	0.	68.	175.	204.	196.	165.	118.	60.	58.	53.	44.	32.	19.	6.	0.	0.	1198.	132.	189.	98.	129.
SOUTHEAST	0.	0.	42.	127.	170.	188.	184.	163.	126.	79.	53.	44.	32.	19.	6.	0.	0.	1231.	134.	192.	99.	131.
HORIZ.	0.	0.	16.	77.	141.	199.	243.	271.	281.	271.	243.	199.	141.	77.	16.	0.	0.	2175.	189.	293.	129.	186.

MONTH 5 HO 3633. TOD 70. TOT 68. KT .661 KD .159

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	10.	23.	36.	69.	98.	117.	124.	117.	98.	69.	36.	23.	10.	0.	0.	832.	119.	156.	97.	118.
SOUTHWEST	0.	0.	10.	23.	36.	47.	55.	61.	106.	141.	162.	167.	153.	119.	61.	0.	0.	1142.	137.	188.	107.	137.
WEST	0.	0.	10.	23.	36.	47.	55.	61.	62.	118.	164.	195.	204.	184.	112.	0.	0.	1271.	144.	201.	112.	145.
NORTHWEST	0.	0.	10.	23.	36.	47.	55.	61.	62.	61.	102.	136.	157.	155.	104.	0.	0.	1009.	129.	174.	103.	129.
NORTH	0.	0.	41.	49.	38.	47.	55.	61.	62.	61.	55.	47.	38.	49.	41.	0.	0.	644.	108.	137.	90.	107.
NORTHEAST	0.	0.	104.	155.	157.	136.	102.	61.	62.	61.	55.	47.	36.	23.	10.	0.	0.	1009.	129.	174.	103.	129.
EAST	0.	0.	112.	184.	204.	195.	164.	118.	62.	61.	55.	47.	36.	23.	10.	0.	0.	1271.	144.	201.	112.	145.
SOUTHEAST	0.	0.	61.	119.	153.	167.	162.	141.	106.	61.	55.	47.	36.	23.	10.	0.	0.	1142.	137.	188.	107.	137.
HORIZ.	0.	0.	35.	98.	161.	216.	258.	285.	295.	285.	258.	216.	161.	98.	35.	0.	0.	2401.	211.	318.	150.	213.

MONTH 6 HO 3741. TOD 77. TOT 76. KT .652 KD .161

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	1.	12.	25.	37.	59.	86.	104.	110.	104.	86.	59.	37.	25.	12.	1.	0.	759.	121.	154.	102.	121.
SOUTHWEST	0.	1.	12.	25.	37.	48.	56.	61.	96.	130.	150.	155.	142.	111.	61.	2.	0.	1089.	139.	187.	113.	141.
WEST	0.	1.	12.	25.	37.	48.	56.	61.	63.	116.	159.	189.	198.	180.	119.	2.	0.	1268.	150.	205.	119.	152.
NORTHWEST	0.	1.	12.	25.	37.	48.	56.	61.	63.	70.	108.	140.	160.	158.	114.	2.	0.	1056.	138.	184.	112.	139.
NORTH	0.	2.	50.	58.	49.	48.	56.	61.	63.	61.	56.	48.	49.	58.	50.	2.	0.	712.	118.	149.	100.	119.
NORTHEAST	0.	2.	114.	158.	160.	140.	108.	70.	63.	61.	56.	48.	37.	25.	12.	1.	0.	1056.	138.	184.	112.	139.
EAST	0.	2.	119.	180.	198.	189.	159.	116.	63.	61.	56.	48.	37.	25.	12.	1.	0.	1268.	150.	205.	119.	152.
SOUTHEAST	0.	2.	61.	111.	142.	155.	150.	130.	96.	61.	56.	48.	37.	25.	12.	1.	0.	1089.	139.	187.	113.	141.
HORIZ.	0.	2.	43.	103.	164.	217.	258.	284.	293.	284.	258.	217.	164.	103.	43.	2.	0.	2439.	216.	323.	159.	223.

LOCATION HATTERAS, N.C. LATITUDE 35 DEGREES 13 MINUTES

MONTH 7 HO 3628. TOD 80. TOT 78. KT .634 KD .166

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	11.	24.	36.	67.	95.	113.	119.	113.	95.	67.	36.	24.	11.	0.	0.	808.	127.	164.	106.	127.
SOUTHWEST	0.	0.	11.	24.	36.	47.	55.	61.	102.	135.	155.	158.	144.	111.	56.	0.	0.	1095.	144.	193.	116.	145.
WEST	0.	0.	11.	24.	36.	47.	55.	61.	63.	114.	156.	184.	192.	171.	102.	0.	0.	1216.	151.	206.	120.	152.
NORTHWEST	0.	0.	11.	24.	36.	47.	55.	61.	63.	62.	99.	130.	148.	145.	95.	0.	0.	974.	137.	181.	112.	137.
NORTH	0.	0.	38.	47.	39.	47.	55.	61.	63.	61.	55.	47.	39.	47.	38.	0.	0.	638.	117.	146.	100.	117.
NORTHEAST	0.	0.	95.	145.	148.	130.	99.	62.	63.	61.	55.	47.	36.	24.	11.	0.	0.	974.	137.	181.	112.	137.
EAST	0.	0.	102.	171.	192.	184.	156.	114.	63.	61.	55.	47.	36.	24.	11.	0.	0.	1216.	151.	206.	120.	152.
SOUTHEAST	0.	0.	56.	111.	144.	158.	155.	135.	102.	61.	55.	47.	36.	24.	11.	0.	0.	1095.	144.	193.	116.	145.
HORIZ.	0.	0.	34.	93.	154.	207.	247.	273.	282.	273.	247.	207.	154.	93.	34.	0.	0.	2300.	214.	318.	157.	217.

MONTH 8 HO 3295. TOD 80. TOT 78. KT .619 KD .169

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	52.	89.	119.	138.	144.	138.	119.	89.	52.	19.	6.	0.	0.	990.	142.	189.	112.	138.
SOUTHWEST	0.	0.	6.	19.	32.	44.	53.	76.	120.	153.	171.	173.	155.	113.	35.	0.	0.	1149.	151.	206.	118.	148.
WEST	0.	0.	6.	19.	32.	44.	53.	58.	60.	112.	154.	181.	186.	155.	55.	0.	0.	1115.	149.	203.	116.	146.
NORTHWEST	0.	0.	6.	19.	32.	44.	53.	58.	60.	58.	78.	109.	126.	118.	47.	0.	0.	807.	130.	169.	106.	127.
NORTH	0.	0.	14.	23.	32.	44.	53.	58.	60.	58.	53.	44.	32.	23.	14.	0.	0.	508.	111.	136.	96.	109.
NORTHEAST	0.	0.	47.	118.	126.	109.	78.	58.	60.	58.	53.	44.	32.	19.	6.	0.	0.	807.	130.	169.	106.	127.
EAST	0.	0.	55.	155.	186.	181.	154.	112.	60.	58.	53.	44.	32.	19.	6.	0.	0.	1115.	149.	203.	116.	146.
SOUTHEAST	0.	0.	35.	113.	155.	173.	171.	153.	120.	76.	53.	44.	32.	19.	6.	0.	0.	1149.	151.	206.	118.	148.
HORIZ.	0.	0.	15.	71.	132.	186.	228.	255.	264.	255.	228.	186.	132.	71.	15.	0.	0.	2040.	207.	305.	148.	202.

MONTH 9 HO 2777. TOD 77. TOT 75. KT .605 KD .173

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	29.	73.	114.	146.	166.	173.	166.	146.	114.	73.	29.	0.	0.	0.	1229.	160.	224.	117.	150.
SOUTHWEST	0.	0.	0.	12.	26.	38.	47.	95.	138.	171.	188.	187.	163.	102.	0.	0.	0.	1168.	156.	217.	115.	146.
WEST	0.	0.	0.	12.	26.	38.	47.	53.	55.	106.	148.	173.	172.	123.	0.	0.	0.	953.	142.	191.	108.	133.
NORTHWEST	0.	0.	0.	12.	26.	38.	47.	53.	55.	53.	48.	79.	96.	79.	0.	0.	0.	586.	117.	147.	95.	111.
NORTH	0.	0.	0.	12.	26.	38.	47.	53.	55.	53.	47.	38.	26.	12.	0.	0.	0.	407.	104.	126.	89.	100.
NORTHEAST	0.	0.	0.	79.	96.	79.	48.	53.	55.	53.	47.	38.	26.	12.	0.	0.	0.	586.	117.	147.	95.	111.
EAST	0.	0.	0.	123.	172.	173.	148.	106.	55.	53.	47.	38.	26.	12.	0.	0.	0.	953.	142.	191.	108.	133.
SOUTHEAST	0.	0.	0.	102.	163.	187.	188.	171.	138.	95.	47.	38.	26.	12.	0.	0.	0.	1168.	156.	217.	115.	146.
HORIZ.	0.	0.	0.	41.	101.	156.	198.	225.	234.	225.	198.	156.	101.	41.	0.	0.	0.	1679.	191.	279.	133.	177.

LOCATION HATTERAS, N.C. LATITUDE 35 DEGREES 13 MINUTES

MONTH 10 HO 2191. TOD 68. TOT 66. KT .580 KD .177

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	20.	81.	128.	162.	183.	190.	183.	162.	128.	81.	20.	0.	0.	0.	1338.	162.	238.	109.	144.
SOUTHWEST	0.	0.	0.	5.	18.	30.	60.	107.	148.	178.	192.	186.	150.	50.	0.	0.	0.	1124.	147.	211.	102.	132.
WEST	0.	0.	0.	5.	18.	30.	39.	45.	47.	95.	133.	153.	142.	53.	0.	0.	0.	759.	121.	165.	91.	111.
NORTHWEST	0.	0.	0.	5.	18.	30.	39.	45.	47.	45.	39.	48.	61.	28.	0.	0.	0.	405.	96.	120.	79.	90.
NORTH	0.	0.	0.	5.	18.	30.	39.	45.	47.	45.	39.	30.	18.	5.	0.	0.	0.	322.	90.	109.	77.	85.
NORTHEAST	0.	0.	0.	28.	61.	48.	39.	45.	47.	45.	39.	30.	18.	5.	0.	0.	0.	405.	96.	120.	79.	90.
EAST	0.	0.	0.	53.	142.	153.	133.	95.	47.	45.	39.	30.	18.	5.	0.	0.	0.	759.	121.	165.	91.	111.
SOUTHEAST	0.	0.	0.	50.	150.	186.	192.	178.	148.	107.	60.	30.	18.	5.	0.	0.	0.	1124.	147.	211.	102.	132.
HORIZ.	0.	0.	0.	13.	66.	118.	158.	184.	193.	184.	158.	118.	66.	13.	0.	0.	0.	1271.	157.	230.	107.	140.

MONTH 11 HO 1678. TOD 59. TOT 57. KT .566 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	74.	132.	169.	192.	199.	192.	169.	132.	74.	0.	0.	0.	0.	1333.	162.	245.	100.	135.
SOUTHWEST	0.	0.	0.	0.	11.	23.	68.	113.	152.	180.	190.	177.	121.	0.	0.	0.	0.	1035.	139.	204.	91.	118.
WEST	0.	0.	0.	0.	11.	23.	31.	37.	39.	84.	118.	132.	104.	0.	0.	0.	0.	579.	104.	140.	76.	91.
NORTHWEST	0.	0.	0.	0.	11.	23.	31.	37.	39.	37.	31.	23.	33.	0.	0.	0.	0.	265.	79.	96.	66.	73.
NORTH	0.	0.	0.	0.	11.	23.	31.	37.	39.	37.	31.	23.	11.	0.	0.	0.	0.	243.	78.	93.	65.	71.
NORTHEAST	0.	0.	0.	0.	33.	23.	31.	37.	39.	37.	31.	23.	11.	0.	0.	0.	0.	265.	79.	96.	66.	73.
EAST	0.	0.	0.	0.	104.	132.	118.	84.	39.	37.	31.	23.	11.	0.	0.	0.	0.	579.	104.	140.	76.	91.
SOUTHEAST	0.	0.	0.	0.	121.	177.	190.	180.	152.	113.	68.	23.	11.	0.	0.	0.	0.	1035.	139.	204.	91.	118.
HORIZ.	0.	0.	0.	0.	37.	85.	124.	149.	158.	149.	124.	85.	37.	0.	0.	0.	0.	948.	132.	191.	88.	113.

MONTH 12 HO 1480. TOD 51. TOT 49. KT .535 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	61.	122.	159.	181.	188.	181.	159.	122.	61.	0.	0.	0.	0.	1235.	150.	231.	89.	121.
SOUTHWEST	0.	0.	0.	0.	9.	25.	67.	108.	144.	168.	175.	159.	95.	0.	0.	0.	0.	949.	127.	189.	80.	105.
WEST	0.	0.	0.	0.	9.	19.	28.	34.	35.	75.	105.	115.	79.	0.	0.	0.	0.	499.	91.	124.	66.	79.
NORTHWEST	0.	0.	0.	0.	9.	19.	28.	34.	35.	34.	28.	19.	21.	0.	0.	0.	0.	228.	70.	84.	57.	63.
NORTH	0.	0.	0.	0.	9.	19.	28.	34.	35.	34.	28.	19.	9.	0.	0.	0.	0.	215.	68.	82.	56.	62.
NORTHEAST	0.	0.	0.	0.	21.	19.	28.	34.	35.	34.	28.	19.	9.	0.	0.	0.	0.	228.	70.	84.	57.	63.
EAST	0.	0.	0.	0.	79.	115.	105.	75.	35.	34.	28.	19.	9.	0.	0.	0.	0.	499.	91.	124.	66.	79.
SOUTHEAST	0.	0.	0.	0.	95.	159.	175.	168.	144.	108.	67.	25.	9.	0.	0.	0.	0.	949.	127.	189.	80.	105.
HORIZ.	0.	0.	0.	0.	25.	69.	105.	129.	137.	129.	105.	69.	25.	0.	0.	0.	0.	793.	115.	167.	75.	96.

LOCATION HATTERAS, N.C. LATITUDE 35 DEGREES 13 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	148.	140.	133.	123.	119.	121.	127.	142.	160.	162.	162.	150.	140.
SOUTHWEST	126.	127.	129.	134.	137.	139.	144.	151.	156.	147.	139.	127.	138.
WEST	93.	103.	115.	132.	144.	150.	151.	149.	142.	121.	104.	91.	125.
NORTHWEST	70.	78.	92.	111.	129.	138.	137.	130.	117.	96.	79.	70.	104.
NORTH	69.	72.	81.	92.	108.	118.	117.	111.	104.	90.	78.	68.	92.
NORTHEAST	70.	78.	92.	111.	129.	138.	137.	130.	117.	96.	79.	70.	104.
EAST	93.	103.	115.	132.	144.	150.	151.	149.	142.	121.	104.	91.	125.
SOUTHEAST	126.	127.	129.	134.	137.	139.	144.	151.	156.	147.	139.	127.	138.
HORIZ.	121.	137.	161.	189.	211.	216.	214.	207.	191.	157.	132.	115.	171.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	227.	215.	196.	173.	156.	154.	164.	189.	224.	238.	245.	231.	201.
SOUTHWEST	188.	189.	190.	192.	188.	187.	193.	206.	217.	211.	204.	189.	196.
WEST	129.	146.	165.	189.	201.	205.	206.	203.	191.	165.	140.	124.	172.
NORTHWEST	87.	102.	123.	152.	174.	184.	181.	169.	147.	120.	96.	84.	135.
NORTH	84.	91.	102.	116.	137.	149.	146.	136.	126.	109.	93.	82.	114.
NORTHEAST	87.	102.	123.	152.	174.	184.	181.	169.	147.	120.	96.	84.	135.
EAST	129.	146.	165.	189.	201.	205.	206.	203.	191.	165.	140.	124.	172.
SOUTHEAST	188.	189.	190.	192.	188.	187.	193.	206.	217.	211.	204.	189.	196.
HORIZ.	178.	209.	247.	293.	318.	323.	318.	305.	279.	230.	191.	167.	255.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	89.	89.	92.	93.	97.	102.	106.	112.	117.	109.	100.	89.	100.
SOUTHWEST	80.	83.	90.	99.	107.	113.	116.	118.	115.	102.	91.	80.	99.
WEST	66.	72.	83.	98.	112.	119.	120.	116.	108.	91.	76.	66.	94.
NORTHWEST	57.	61.	72.	87.	103.	112.	112.	106.	95.	79.	66.	57.	84.
NORTH	56.	58.	66.	76.	90.	100.	100.	96.	89.	77.	65.	56.	77.
NORTHEAST	57.	61.	72.	87.	103.	112.	112.	106.	95.	79.	66.	57.	84.
EAST	66.	72.	83.	98.	112.	119.	120.	116.	108.	91.	76.	66.	94.
SOUTHEAST	80.	83.	90.	99.	107.	113.	116.	118.	115.	102.	91.	80.	99.
HORIZ.	78.	88.	106.	129.	150.	159.	157.	148.	133.	107.	88.	75.	118.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	122.	123.	124.	121.	118.	121.	127.	138.	150.	144.	135.	121.	129.
SOUTHWEST	106.	112.	120.	131.	137.	141.	145.	148.	146.	132.	118.	105.	128.
WEST	81.	92.	108.	129.	145.	152.	152.	146.	133.	111.	91.	79.	118.
NORTHWEST	63.	72.	87.	109.	129.	139.	137.	127.	111.	90.	73.	63.	100.
NORTH	62.	67.	77.	89.	107.	119.	117.	109.	100.	85.	71.	62.	89.
NORTHEAST	63.	72.	87.	109.	129.	139.	137.	127.	111.	90.	73.	63.	100.
EAST	81.	92.	108.	129.	145.	152.	152.	146.	133.	111.	91.	79.	118.
SOUTHEAST	106.	112.	120.	131.	137.	141.	145.	148.	146.	132.	118.	105.	128.
HORIZ.	102.	121.	149.	186.	213.	223.	217.	202.	177.	140.	113.	96.	162.

LOCATION INDIANAPOLIS, INDIANA LATITUDE 39 DEGREES 44 MINUTES

MONTH 1 HO 1444. TOD 31. TOT 29. KT .380 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	36.	74.	98.	112.	117.	112.	98.	74.	36.	0.	0.	0.	0.	756.	91.	141.	53.	73.
SOUTHWEST	0.	0.	0.	0.	8.	18.	45.	71.	92.	105.	108.	96.	56.	0.	0.	0.	0.	598.	79.	118.	48.	64.
WEST	0.	0.	0.	0.	8.	17.	24.	29.	30.	53.	69.	72.	49.	0.	0.	0.	0.	350.	59.	82.	40.	49.
NORTHWEST	0.	0.	0.	0.	8.	17.	24.	29.	30.	29.	24.	17.	17.	0.	0.	0.	0.	195.	47.	60.	35.	40.
NORTH	0.	0.	0.	0.	8.	17.	24.	29.	30.	29.	24.	17.	8.	0.	0.	0.	0.	186.	46.	58.	35.	40.
NORTHEAST	0.	0.	0.	0.	17.	17.	24.	29.	30.	29.	24.	17.	8.	0.	0.	0.	0.	195.	47.	60.	35.	40.
EAST	0.	0.	0.	0.	49.	72.	69.	53.	30.	29.	24.	17.	8.	0.	0.	0.	0.	350.	59.	82.	40.	49.
SOUTHEAST	0.	0.	0.	0.	56.	96.	108.	105.	92.	71.	45.	18.	8.	0.	0.	0.	0.	598.	79.	118.	48.	64.
HORIZ.	0.	0.	0.	0.	19.	49.	73.	88.	93.	88.	73.	49.	19.	0.	0.	0.	0.	549.	75.	111.	46.	61.

MONTH 2 HO 2009. TOD 34. TOT 31. KT .424 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	12.	54.	87.	111.	126.	131.	126.	111.	87.	54.	12.	0.	0.	0.	910.	99.	151.	61.	85.
SOUTHWEST	0.	0.	0.	4.	15.	25.	49.	79.	104.	121.	128.	121.	95.	26.	0.	0.	0.	766.	88.	133.	56.	76.
WEST	0.	0.	0.	4.	15.	25.	33.	38.	40.	68.	89.	99.	88.	27.	0.	0.	0.	527.	71.	102.	48.	62.
NORTHWEST	0.	0.	0.	4.	15.	25.	33.	38.	40.	38.	33.	34.	39.	15.	0.	0.	0.	314.	56.	75.	42.	50.
NORTH	0.	0.	0.	4.	15.	25.	33.	38.	40.	38.	33.	25.	15.	4.	0.	0.	0.	271.	53.	69.	40.	47.
NORTHEAST	0.	0.	0.	15.	39.	34.	33.	38.	40.	38.	33.	25.	15.	4.	0.	0.	0.	314.	56.	75.	42.	50.
EAST	0.	0.	0.	27.	88.	99.	89.	68.	40.	38.	33.	25.	15.	4.	0.	0.	0.	527.	71.	102.	48.	62.
SOUTHEAST	0.	0.	0.	26.	95.	121.	128.	121.	104.	79.	49.	25.	15.	4.	0.	0.	0.	766.	88.	133.	56.	76.
HORIZ.	0.	0.	0.	9.	44.	79.	106.	123.	129.	123.	106.	79.	44.	9.	0.	0.	0.	852.	95.	144.	59.	81.

MONTH 3 HO 2632. TOD 43. TOT 40. KT .472 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	24.	59.	91.	116.	132.	137.	132.	116.	91.	59.	24.	0.	0.	0.	983.	106.	157.	72.	97.
SOUTHWEST	0.	0.	0.	12.	24.	34.	47.	82.	111.	132.	142.	138.	118.	74.	0.	0.	0.	916.	102.	149.	69.	93.
WEST	0.	0.	0.	12.	24.	34.	42.	47.	49.	83.	109.	124.	122.	88.	0.	0.	0.	735.	90.	128.	64.	83.
NORTHWEST	0.	0.	0.	12.	24.	34.	42.	47.	49.	47.	42.	58.	68.	56.	0.	0.	0.	481.	74.	99.	56.	68.
NORTH	0.	0.	0.	12.	24.	34.	42.	47.	49.	47.	42.	34.	24.	12.	0.	0.	0.	368.	67.	86.	52.	62.
NORTHEAST	0.	0.	0.	56.	68.	58.	42.	47.	49.	47.	42.	34.	24.	12.	0.	0.	0.	481.	74.	99.	56.	68.
EAST	0.	0.	0.	88.	122.	124.	109.	83.	49.	47.	42.	34.	24.	12.	0.	0.	0.	735.	90.	128.	64.	83.
SOUTHEAST	0.	0.	0.	74.	118.	138.	142.	132.	111.	82.	47.	34.	24.	12.	0.	0.	0.	916.	102.	149.	69.	93.
HORIZ.	0.	0.	0.	33.	76.	115.	146.	165.	171.	165.	146.	115.	76.	33.	0.	0.	0.	1241.	122.	187.	80.	112.

LOCATION INDIANAPOLIS, INDIANA LATITUDE 39 DEGREES 44 MINUTES

MONTH 4 HO 3241. TOD 54. TOT 51. KT .470 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	7.	19.	49.	77.	99.	113.	118.	113.	99.	77.	49.	19.	7.	0.	0.	847.	103.	143.	78.	100.
SOUTHWEST	0.	0.	7.	19.	31.	41.	49.	72.	100.	120.	130.	128.	113.	83.	32.	0.	0.	925.	107.	151.	80.	105.
WEST	0.	0.	7.	19.	31.	41.	49.	54.	55.	88.	113.	128.	130.	110.	49.	0.	0.	872.	104.	145.	79.	102.
NORTHWEST	0.	0.	7.	19.	31.	41.	49.	54.	55.	54.	59.	77.	88.	83.	41.	0.	0.	657.	92.	123.	72.	89.
NORTH	0.	0.	14.	19.	31.	41.	49.	54.	55.	54.	49.	41.	31.	19.	14.	0.	0.	469.	81.	103.	66.	78.
NORTHEAST	0.	0.	41.	83.	88.	77.	59.	54.	55.	54.	49.	41.	31.	19.	7.	0.	0.	657.	92.	123.	72.	89.
EAST	0.	0.	49.	110.	130.	128.	113.	88.	55.	54.	49.	41.	31.	19.	7.	0.	0.	872.	104.	145.	79.	102.
SOUTHEAST	0.	0.	32.	83.	113.	128.	130.	120.	100.	72.	49.	41.	31.	19.	7.	0.	0.	925.	107.	151.	80.	105.
HORIZ.	0.	0.	16.	58.	101.	138.	167.	186.	192.	186.	167.	138.	101.	58.	16.	0.	0.	1524.	142.	214.	100.	140.

MONTH 5 HO 3623. TOD 65. TOT 61. KT .511 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	2.	12.	24.	40.	69.	91.	106.	111.	106.	91.	69.	40.	24.	12.	2.	0.	800.	111.	146.	89.	110.
SOUTHWEST	0.	2.	12.	24.	36.	46.	53.	66.	96.	118.	130.	130.	117.	90.	49.	2.	0.	971.	120.	163.	95.	120.
WEST	0.	2.	12.	24.	36.	46.	53.	58.	60.	95.	124.	142.	145.	130.	85.	2.	0.	1015.	123.	167.	96.	123.
NORTHWEST	0.	2.	12.	24.	36.	46.	53.	58.	60.	58.	76.	97.	110.	108.	79.	2.	0.	822.	112.	148.	90.	111.
NORTH	0.	2.	33.	37.	36.	46.	53.	58.	60.	58.	53.	46.	36.	37.	33.	2.	0.	591.	99.	124.	82.	97.
NORTHEAST	0.	2.	79.	108.	110.	97.	76.	58.	60.	58.	53.	46.	36.	24.	12.	2.	0.	822.	112.	148.	90.	111.
EAST	0.	2.	85.	130.	145.	142.	124.	95.	60.	58.	53.	46.	36.	24.	12.	2.	0.	1015.	123.	167.	96.	123.
SOUTHEAST	0.	2.	49.	90.	117.	130.	130.	118.	96.	66.	53.	46.	36.	24.	12.	2.	0.	971.	120.	163.	95.	120.
HORIZ.	0.	3.	35.	80.	125.	164.	195.	214.	220.	214.	195.	164.	125.	80.	35.	3.	0.	1851.	171.	252.	125.	173.

MONTH 6 HO 3761. TOD 75. TOT 71. KT .543 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	3.	14.	26.	37.	65.	88.	104.	109.	104.	88.	65.	37.	26.	14.	3.	0.	785.	118.	152.	98.	119.
SOUTHWEST	0.	3.	14.	26.	37.	47.	55.	62.	95.	119.	132.	133.	121.	94.	55.	7.	0.	1002.	130.	173.	106.	132.
WEST	0.	3.	14.	26.	37.	47.	55.	60.	61.	100.	131.	151.	157.	143.	101.	14.	0.	1101.	136.	183.	109.	138.
NORTHWEST	0.	3.	14.	26.	37.	47.	55.	60.	61.	60.	85.	109.	123.	123.	96.	15.	0.	914.	125.	164.	103.	127.
NORTH	0.	9.	43.	46.	39.	47.	55.	60.	61.	60.	55.	47.	39.	46.	43.	9.	0.	660.	111.	139.	94.	111.
NORTHEAST	0.	15.	96.	123.	123.	109.	85.	60.	61.	60.	55.	47.	37.	26.	14.	3.	0.	914.	125.	164.	103.	127.
EAST	0.	14.	101.	143.	157.	151.	131.	100.	61.	60.	55.	47.	37.	26.	14.	3.	0.	1101.	136.	183.	109.	138.
SOUTHEAST	0.	7.	55.	94.	121.	133.	132.	119.	95.	62.	55.	47.	37.	26.	14.	3.	0.	1002.	130.	173.	106.	132.
HORIZ.	0.	6.	44.	92.	138.	179.	211.	231.	238.	231.	211.	179.	138.	92.	44.	6.	0.	2042.	188.	275.	141.	195.

LOCATION INDIANAPOLIS, INDIANA LATITUDE 39 DEGREES 44 MINUTES

MONTH 7 HO 3620. TOD 80. TOT 76. KT .554 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	2.	12.	24.	41.	72.	97.	113.	119.	113.	97.	72.	41.	24.	12.	2.	0.	842.	128.	164.	105.	127.
SOUTHWEST	0.	2.	12.	24.	36.	46.	54.	67.	102.	127.	141.	142.	128.	99.	53.	2.	0.	1037.	139.	184.	111.	139.
WEST	0.	2.	12.	24.	36.	46.	54.	59.	60.	101.	135.	156.	161.	145.	94.	2.	0.	1088.	142.	189.	113.	142.
NORTHWEST	0.	2.	12.	24.	36.	46.	54.	59.	60.	59.	81.	106.	121.	120.	86.	2.	0.	869.	129.	167.	106.	128.
NORTH	0.	2.	36.	40.	36.	46.	54.	59.	60.	59.	54.	46.	36.	40.	36.	2.	0.	605.	114.	140.	97.	113.
NORTHEAST	0.	2.	86.	120.	121.	106.	81.	59.	60.	59.	54.	46.	36.	24.	12.	2.	0.	869.	129.	167.	106.	128.
EAST	0.	2.	94.	145.	161.	156.	135.	101.	60.	59.	54.	46.	36.	24.	12.	2.	0.	1088.	142.	189.	113.	142.
SOUTHEAST	0.	2.	53.	99.	128.	142.	141.	127.	102.	67.	54.	46.	36.	24.	12.	2.	0.	1037.	139.	184.	111.	139.
HORIZ.	0.	3.	37.	86.	135.	178.	212.	233.	240.	233.	212.	178.	135.	86.	37.	3.	0.	2006.	194.	281.	145.	197.

MONTH 8 HO 3217. TOD 77. TOT 74. KT .552 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	7.	19.	54.	88.	116.	134.	140.	134.	116.	88.	54.	19.	7.	0.	0.	977.	137.	183.	107.	133.
SOUTHWEST	0.	0.	7.	19.	32.	42.	50.	79.	116.	142.	156.	155.	138.	100.	35.	0.	0.	1072.	143.	194.	111.	139.
WEST	0.	0.	7.	19.	32.	42.	50.	55.	57.	100.	135.	156.	159.	133.	55.	0.	0.	1001.	139.	186.	108.	134.
NORTHWEST	0.	0.	7.	19.	32.	42.	50.	55.	57.	55.	64.	90.	105.	100.	47.	0.	0.	724.	122.	156.	99.	118.
NORTH	0.	0.	15.	19.	32.	42.	50.	55.	57.	55.	50.	42.	32.	19.	15.	0.	0.	485.	107.	130.	91.	103.
NORTHEAST	0.	0.	47.	100.	105.	90.	64.	55.	57.	55.	50.	42.	32.	19.	7.	0.	0.	724.	122.	156.	99.	118.
EAST	0.	0.	55.	133.	159.	156.	135.	100.	57.	55.	50.	42.	32.	19.	7.	0.	0.	1001.	139.	186.	108.	134.
SOUTHEAST	0.	0.	35.	100.	138.	155.	156.	142.	116.	79.	50.	42.	32.	19.	7.	0.	0.	1072.	143.	194.	111.	139.
HORIZ.	0.	0.	17.	65.	116.	161.	197.	219.	226.	219.	197.	161.	116.	65.	17.	0.	0.	1777.	187.	270.	135.	181.

MONTH 9 HO 2619. TOD 71. TOT 67. KT .549 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	27.	69.	107.	138.	157.	163.	157.	138.	107.	69.	27.	0.	0.	0.	1158.	149.	210.	107.	137.
SOUTHWEST	0.	0.	0.	12.	24.	35.	49.	93.	130.	158.	171.	167.	143.	87.	0.	0.	0.	1070.	143.	199.	104.	132.
WEST	0.	0.	0.	12.	24.	35.	44.	49.	51.	95.	130.	150.	148.	103.	0.	0.	0.	841.	128.	172.	96.	118.
NORTHWEST	0.	0.	0.	12.	24.	35.	44.	49.	51.	49.	44.	65.	80.	66.	0.	0.	0.	520.	106.	133.	85.	99.
NORTH	0.	0.	0.	12.	24.	35.	44.	49.	51.	49.	44.	35.	24.	12.	0.	0.	0.	380.	96.	116.	80.	90.
NORTHEAST	0.	0.	0.	66.	80.	65.	44.	49.	51.	49.	44.	35.	24.	12.	0.	0.	0.	520.	106.	133.	85.	99.
EAST	0.	0.	0.	103.	148.	150.	130.	95.	51.	49.	44.	35.	24.	12.	0.	0.	0.	841.	128.	172.	96.	118.
SOUTHEAST	0.	0.	0.	87.	143.	167.	171.	158.	130.	93.	49.	35.	24.	12.	0.	0.	0.	1070.	143.	199.	104.	132.
HORIZ.	0.	0.	1.	36.	87.	133.	169.	192.	200.	192.	169.	133.	87.	36.	1.	0.	0.	1437.	168.	243.	116.	154.

LOCATION INDIANAPOLIS, INDIANA LATITUDE 39 DEGREES 44 MINUTES

MONTH 10 HO 1975. TOD 59. TOT 56. KT .520 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	12.	68.	112.	144.	164.	171.	164.	144.	112.	68.	12.	0.	0.	0.	1172.	143.	211.	93.	124.
SOUTHWEST	0.	0.	0.	4.	16.	27.	57.	98.	133.	157.	167.	159.	122.	27.	0.	0.	0.	967.	128.	185.	87.	112.
WEST	0.	0.	0.	4.	16.	27.	35.	40.	42.	82.	113.	128.	114.	29.	0.	0.	0.	629.	104.	141.	76.	93.
NORTHWEST	0.	0.	0.	4.	16.	27.	35.	40.	42.	40.	35.	38.	48.	16.	0.	0.	0.	341.	84.	103.	67.	76.
NORTH	0.	0.	0.	4.	16.	27.	35.	40.	42.	40.	35.	27.	16.	4.	0.	0.	0.	286.	80.	96.	65.	73.
NORTHEAST	0.	0.	0.	16.	48.	38.	35.	40.	42.	40.	35.	27.	16.	4.	0.	0.	0.	341.	84.	103.	67.	76.
EAST	0.	0.	0.	29.	114.	128.	113.	82.	42.	40.	35.	27.	16.	4.	0.	0.	0.	629.	104.	141.	76.	93.
SOUTHEAST	0.	0.	0.	27.	122.	159.	167.	157.	133.	98.	57.	27.	16.	4.	0.	0.	0.	967.	128.	185.	87.	112.
HORIZ.	0.	0.	0.	8.	51.	95.	129.	151.	158.	151.	129.	95.	51.	8.	0.	0.	0.	1027.	133.	192.	89.	116.

MONTH 11 HO 1433. TOD 44. TOT 41. KT .413 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	39.	82.	110.	127.	132.	127.	110.	82.	39.	0.	0.	0.	0.	848.	112.	167.	69.	91.
SOUTHWEST	0.	0.	0.	0.	8.	19.	49.	78.	102.	118.	121.	108.	62.	0.	0.	0.	0.	665.	97.	141.	63.	80.
WEST	0.	0.	0.	0.	8.	17.	25.	30.	31.	58.	76.	80.	53.	0.	0.	0.	0.	378.	74.	99.	54.	63.
NORTHWEST	0.	0.	0.	0.	8.	17.	25.	30.	31.	30.	25.	17.	18.	0.	0.	0.	0.	200.	60.	73.	48.	53.
NORTH	0.	0.	0.	0.	8.	17.	25.	30.	31.	30.	25.	17.	8.	0.	0.	0.	0.	191.	59.	72.	48.	53.
NORTHEAST	0.	0.	0.	0.	18.	17.	25.	30.	31.	30.	25.	17.	8.	0.	0.	0.	0.	200.	60.	73.	48.	53.
EAST	0.	0.	0.	0.	53.	80.	76.	58.	31.	30.	25.	17.	8.	0.	0.	0.	0.	378.	74.	99.	54.	63.
SOUTHEAST	0.	0.	0.	0.	62.	108.	121.	118.	102.	78.	49.	19.	8.	0.	0.	0.	0.	665.	97.	141.	63.	80.
HORIZ.	0.	0.	0.	0.	20.	52.	78.	95.	101.	95.	78.	52.	20.	0.	0.	0.	0.	592.	91.	130.	60.	76.

MONTH 12 HO 1229. TOD 33. TOT 31. KT .391 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	26.	74.	102.	118.	123.	118.	102.	74.	26.	0.	0.	0.	0.	762.	97.	149.	56.	75.
SOUTHWEST	0.	0.	0.	0.	5.	18.	46.	73.	95.	109.	110.	94.	39.	0.	0.	0.	0.	590.	83.	123.	50.	66.
WEST	0.	0.	0.	0.	5.	14.	21.	26.	27.	51.	67.	68.	33.	0.	0.	0.	0.	312.	60.	81.	41.	49.
NORTHWEST	0.	0.	0.	0.	5.	14.	21.	26.	27.	26.	21.	14.	10.	0.	0.	0.	0.	166.	47.	59.	36.	41.
NORTH	0.	0.	0.	0.	5.	14.	21.	26.	27.	26.	21.	14.	5.	0.	0.	0.	0.	161.	47.	58.	36.	40.
NORTHEAST	0.	0.	0.	0.	10.	14.	21.	26.	27.	26.	21.	14.	5.	0.	0.	0.	0.	166.	47.	59.	36.	41.
EAST	0.	0.	0.	0.	33.	68.	67.	51.	27.	26.	21.	14.	5.	0.	0.	0.	0.	312.	60.	81.	41.	49.
SOUTHEAST	0.	0.	0.	0.	39.	94.	110.	109.	95.	73.	46.	18.	5.	0.	0.	0.	0.	590.	83.	123.	50.	66.
HORIZ.	0.	0.	0.	0.	12.	41.	65.	81.	86.	81.	65.	41.	12.	0.	0.	0.	0.	481.	74.	107.	47.	59.

LOCATION INDIANAPOLIS, INDIANA LATITUDE 39 DEGREES 44 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	91.	99.	106.	103.	111.	118.	128.	137.	149.	143.	112.	97.	116.
SOUTHWEST	79.	88.	102.	107.	120.	130.	139.	143.	143.	128.	97.	83.	113.
WEST	59.	71.	90.	104.	123.	136.	142.	139.	128.	104.	74.	60.	102.
NORTHWEST	47.	56.	74.	92.	112.	125.	129.	122.	106.	84.	60.	47.	88.
NORTH	46.	53.	67.	81.	99.	111.	114.	107.	96.	80.	59.	47.	80.
NORTHEAST	47.	56.	74.	92.	112.	125.	129.	122.	106.	84.	60.	47.	88.
EAST	59.	71.	90.	104.	123.	136.	142.	139.	128.	104.	74.	60.	102.
SOUTHEAST	79.	88.	102.	107.	120.	130.	139.	143.	143.	128.	97.	83.	113.
HORIZ.	75.	95.	122.	142.	171.	188.	194.	187.	168.	133.	91.	74.	137.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	141.	151.	157.	143.	146.	152.	164.	183.	210.	211.	167.	149.	165.
SOUTHWEST	118.	133.	149.	151.	163.	173.	184.	194.	199.	185.	141.	123.	159.
WEST	82.	102.	128.	145.	167.	183.	189.	186.	172.	141.	99.	81.	140.
NORTHWEST	60.	75.	99.	123.	148.	164.	167.	156.	133.	103.	73.	59.	113.
NORTH	58.	69.	86.	103.	124.	139.	140.	130.	116.	96.	72.	58.	99.
NORTHEAST	60.	75.	99.	123.	148.	164.	167.	156.	133.	103.	73.	59.	113.
EAST	82.	102.	128.	145.	167.	183.	189.	186.	172.	141.	99.	81.	140.
SOUTHEAST	118.	133.	149.	151.	163.	173.	184.	194.	199.	185.	141.	123.	159.
HORIZ.	111.	144.	187.	214.	252.	275.	281.	270.	243.	192.	130.	107.	200.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	53.	61.	72.	78.	89.	98.	105.	107.	107.	93.	69.	56.	82.
SOUTHWEST	48.	56.	69.	80.	95.	106.	111.	111.	104.	87.	63.	50.	82.
WEST	40.	48.	64.	79.	96.	109.	113.	108.	96.	76.	54.	41.	77.
NORTHWEST	35.	42.	56.	72.	90.	103.	106.	99.	85.	67.	48.	36.	70.
NORTH	35.	40.	52.	66.	82.	94.	97.	91.	80.	65.	48.	36.	65.
NORTHEAST	35.	42.	56.	72.	90.	103.	106.	99.	85.	67.	48.	36.	70.
EAST	40.	48.	64.	79.	96.	109.	113.	108.	96.	76.	54.	41.	77.
SOUTHEAST	48.	56.	69.	80.	95.	106.	111.	111.	104.	87.	63.	50.	82.
HORIZ.	46.	59.	80.	100.	125.	141.	145.	135.	116.	89.	60.	47.	95.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	73.	85.	97.	100.	110.	119.	127.	133.	137.	124.	91.	75.	106.
SOUTHWEST	64.	76.	93.	105.	120.	132.	139.	139.	132.	112.	80.	66.	105.
WEST	49.	62.	83.	102.	123.	138.	142.	134.	118.	93.	63.	49.	96.
NORTHWEST	40.	50.	68.	89.	111.	127.	128.	118.	99.	76.	53.	41.	83.
NORTH	40.	47.	62.	78.	97.	111.	113.	103.	90.	73.	53.	40.	76.
NORTHEAST	40.	50.	68.	89.	111.	127.	128.	118.	99.	76.	53.	41.	83.
EAST	49.	62.	83.	102.	123.	138.	142.	134.	118.	93.	63.	49.	96.
SOUTHEAST	64.	76.	93.	105.	120.	132.	139.	139.	132.	112.	80.	66.	105.
HORIZ.	61.	81.	112.	140.	173.	195.	197.	181.	154.	116.	76.	59.	129.

LOCATION INYOKERN, CALIFORNIA LATITUDE 35 DEGREES 38 MINUTES

MONTH 1 HO 1667. TOD 47. TOT 47. KT .716 KD .141

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	105.	185.	236.	267.	277.	267.	236.	185.	105.	0.	0.	0.	0.	1863.	191.	308.	107.	155.
SOUTHWEST	0.	0.	0.	0.	10.	22.	85.	150.	207.	249.	267.	253.	176.	0.	0.	0.	0.	1419.	157.	246.	92.	130.
WEST	0.	0.	0.	0.	10.	22.	31.	36.	38.	106.	160.	185.	151.	0.	0.	0.	0.	738.	104.	151.	71.	90.
NORTHWEST	0.	0.	0.	0.	10.	22.	31.	36.	38.	36.	31.	22.	43.	0.	0.	0.	0.	269.	68.	85.	56.	63.
NORTH	0.	0.	0.	0.	10.	22.	31.	36.	38.	36.	31.	22.	10.	0.	0.	0.	0.	236.	65.	80.	54.	61.
NORTHEAST	0.	0.	0.	0.	43.	22.	31.	36.	38.	36.	31.	22.	10.	0.	0.	0.	0.	269.	68.	85.	56.	63.
EAST	0.	0.	0.	0.	151.	185.	160.	106.	38.	36.	31.	22.	10.	0.	0.	0.	0.	738.	104.	151.	71.	90.
SOUTHEAST	0.	0.	0.	0.	176.	253.	267.	249.	207.	150.	85.	22.	10.	0.	0.	0.	0.	1419.	157.	246.	92.	130.
HORIZ.	0.	0.	0.	0.	44.	106.	157.	189.	201.	189.	157.	106.	44.	0.	0.	0.	0.	1193.	139.	214.	85.	116.

MONTH 2 HO 2206. TOD 54. TOT 52. KT .745 KD .127

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	31.	116.	180.	226.	255.	264.	255.	226.	180.	116.	31.	0.	0.	0.	1881.	186.	293.	113.	162.
SOUTHWEST	0.	0.	0.	4.	17.	28.	69.	138.	200.	247.	273.	270.	225.	84.	0.	0.	0.	1556.	163.	252.	102.	143.
WEST	0.	0.	0.	4.	17.	28.	37.	43.	45.	120.	181.	219.	212.	90.	0.	0.	0.	997.	124.	181.	84.	111.
NORTHWEST	0.	0.	0.	4.	17.	28.	37.	43.	45.	43.	37.	56.	85.	46.	0.	0.	0.	442.	85.	110.	67.	78.
NORTH	0.	0.	0.	4.	17.	28.	37.	43.	45.	43.	37.	28.	17.	4.	0.	0.	0.	305.	75.	93.	62.	70.
NORTHEAST	0.	0.	0.	46.	85.	56.	37.	43.	45.	43.	37.	28.	17.	4.	0.	0.	0.	442.	85.	110.	67.	78.
EAST	0.	0.	0.	90.	212.	219.	181.	120.	45.	43.	37.	28.	17.	4.	0.	0.	0.	997.	124.	181.	84.	111.
SOUTHEAST	0.	0.	0.	84.	225.	270.	273.	247.	200.	138.	69.	28.	17.	4.	0.	0.	0.	1556.	163.	252.	102.	143.
HORIZ.	0.	0.	0.	15.	84.	152.	205.	239.	251.	239.	205.	152.	84.	15.	0.	0.	0.	1643.	169.	263.	105.	148.

MONTH 3 HO 2778. TOD 59. TOT 57. KT .803 KD .125

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	39.	103.	160.	205.	234.	243.	234.	205.	160.	103.	39.	0.	0.	0.	1726.	170.	260.	112.	158.
SOUTHWEST	0.	0.	0.	11.	25.	37.	46.	121.	188.	240.	271.	276.	246.	162.	0.	0.	0.	1622.	163.	248.	109.	152.
WEST	0.	0.	0.	11.	25.	37.	46.	52.	54.	136.	205.	251.	260.	196.	0.	0.	0.	1273.	141.	207.	98.	131.
NORTHWEST	0.	0.	0.	11.	25.	37.	46.	52.	54.	52.	46.	101.	136.	122.	0.	0.	0.	682.	103.	138.	7e.	97.
NORTH	0.	0.	0.	11.	25.	37.	46.	52.	54.	52.	46.	37.	25.	11.	0.	0.	0.	396.	84.	105.	70.	80.
NORTHEAST	0.	0.	0.	122.	136.	101.	46.	52.	54.	52.	46.	37.	25.	11.	0.	0.	0.	682.	103.	138.	79.	97.
EAST	0.	0.	0.	196.	260.	251.	205.	136.	54.	52.	46.	37.	25.	11.	0.	0.	0.	1273.	141.	207.	98.	131.
SOUTHEAST	0.	0.	0.	162.	246.	276.	271.	240.	188.	121.	46.	37.	25.	11.	0.	0.	0.	1622.	163.	248.	109.	152.
HORIZ.	0.	0.	0.	53.	134.	207.	264.	301.	313.	301.	264.	207.	134.	53.	0.	0.	0.	2231.	202.	318.	129.	187.

LOCATION INYOKERN, CALIFORNIA LATITUDE 35 DEGREES 38 MINUTES

MONTH 4 HO 3313. TOD 66. TOT 63. KT .800 KD .125

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	5.	18.	64.	114.	154.	180.	189.	180.	154.	114.	64.	18.	5.	0.	0.	1258.	139.	199.	103.	136.
SOUTHWEST	0.	0.	5.	18.	31.	43.	52.	87.	151.	201.	233.	240.	220.	166.	55.	0.	0.	1502.	153.	225.	111.	150.
WEST	0.	0.	5.	18.	31.	43.	52.	58.	59.	138.	205.	251.	266.	231.	91.	0.	0.	1449.	150.	220.	109.	147.
NORTHWEST	0.	0.	5.	18.	31.	43.	52.	58.	59.	58.	88.	140.	174.	172.	76.	0.	0.	974.	123.	169.	94.	120.
NORTH	0.	0.	20.	23.	31.	43.	52.	58.	59.	58.	52.	43.	31.	23.	20.	0.	0.	511.	96.	120.	79.	93.
NORTHEAST	0.	0.	76.	172.	174.	140.	88.	58.	59.	58.	52.	43.	31.	18.	5.	0.	0.	974.	123.	169.	94.	120.
EAST	0.	0.	91.	231.	266.	251.	205.	138.	59.	58.	52.	43.	31.	18.	5.	0.	0.	1449.	150.	220.	109.	147.
SOUTHEAST	0.	0.	55.	166.	220.	240.	233.	201.	151.	87.	52.	43.	31.	18.	5.	0.	0.	1502.	153.	225.	111.	150.
HORIZ.	0.	0.	17.	91.	172.	243.	298.	333.	345.	333.	298.	243.	172.	91.	17.	0.	0.	2651.	221.	347.	148.	217.

MONTH 5 HO 3633. TOD 73. TOT 70. KT .815 KD .125

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	10.	23.	35.	79.	116.	141.	149.	141.	116.	79.	35.	23.	10.	0.	0.	956.	129.	172.	103.	128.
SOUTHWEST	0.	0.	10.	23.	35.	47.	55.	62.	124.	173.	204.	213.	198.	155.	80.	0.	0.	1376.	154.	216.	117.	153.
WEST	0.	0.	10.	23.	35.	47.	55.	61.	62.	139.	204.	250.	267.	244.	151.	0.	0.	1547.	164.	233.	123.	164.
NORTHWEST	0.	0.	10.	23.	35.	47.	55.	61.	62.	61.	117.	167.	201.	203.	140.	0.	0.	1181.	143.	195.	111.	142.
NORTH	0.	0.	52.	57.	38.	47.	55.	61.	62.	61.	55.	47.	38.	57.	52.	0.	0.	680.	113.	144.	93.	111.
NORTHEAST	0.	0.	140.	203.	201.	167.	117.	61.	62.	61.	55.	47.	35.	23.	10.	0.	0.	1181.	143.	195.	111.	142.
EAST	0.	0.	151.	244.	267.	250.	204.	139.	62.	61.	55.	47.	35.	23.	10.	0.	0.	1547.	164.	233.	123.	164.
SOUTHEAST	0.	0.	80.	155.	198.	213.	204.	173.	124.	62.	55.	47.	35.	23.	10.	0.	0.	1376.	154.	216.	117.	153.
HORIZ.	0.	0.	41.	119.	197.	266.	320.	354.	365.	354.	320.	266.	197.	119.	41.	0.	0.	2961.	247.	379.	171.	249.

MONTH 6 HO 3743. TOD 81. TOT 77. KT .830 KD .125

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	1.	11.	24.	37.	65.	102.	126.	134.	126.	102.	65.	37.	24.	11.	1.	0.	867.	130.	168.	107.	129.
SOUTHWEST	0.	1.	11.	24.	37.	48.	57.	62.	113.	162.	194.	203.	189.	149.	82.	2.	0.	1336.	157.	215.	123.	158.
WEST	0.	1.	11.	24.	37.	48.	57.	62.	64.	140.	205.	250.	268.	248.	166.	3.	0.	1586.	171.	240.	131.	173.
NORTHWEST	0.	1.	11.	24.	37.	48.	57.	62.	64.	72.	130.	179.	212.	215.	160.	3.	0.	1276.	153.	209.	121.	154.
NORTH	0.	2.	66.	71.	53.	48.	57.	62.	64.	62.	57.	48.	53.	71.	66.	2.	0.	782.	125.	159.	104.	124.
NORTHEAST	0.	3.	160.	215.	212.	179.	130.	72.	64.	62.	57.	48.	37.	24.	11.	1.	0.	1276.	153.	209.	121.	154.
EAST	0.	3.	166.	248.	268.	250.	205.	140.	64.	62.	57.	48.	37.	24.	11.	1.	0.	1586.	171.	240.	131.	173.
SOUTHEAST	0.	2.	82.	149.	189.	203.	194.	162.	113.	62.	57.	48.	37.	24.	11.	1.	0.	1336.	157.	215.	123.	158.
HORIZ.	0.	2.	52.	130.	208.	277.	331.	365.	376.	365.	331.	277.	208.	130.	52.	2.	0.	3107.	258.	393.	183.	265.

LOCATION INYOKERN, CALIFORNIA LATITUDE 35 DEGREES 38 MINUTES

MONTH 7 HO 3628. TOD 88. TOT 84. KT .790 KD .125

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	9.	22.	35.	76.	112.	136.	144.	136.	112.	76.	35.	22.	9.	0.	0.	923.	141.	183.	116.	140.
SOUTHWEST	0.	0.	9.	22.	35.	46.	54.	60.	120.	167.	196.	205.	189.	147.	74.	0.	0.	1324.	165.	224.	129.	164.
WEST	0.	0.	9.	22.	35.	46.	54.	59.	61.	135.	197.	241.	256.	232.	141.	0.	0.	1490.	174.	241.	135.	174.
NORTHWEST	0.	0.	9.	22.	35.	46.	54.	59.	61.	59.	115.	162.	193.	194.	131.	0.	0.	1141.	154.	205.	123.	153.
NORTH	0.	0.	49.	55.	38.	46.	54.	59.	61.	59.	54.	46.	38.	55.	49.	0.	0.	664.	126.	156.	107.	124.
NORTHEAST	0.	0.	131.	194.	193.	162.	115.	59.	61.	59.	54.	46.	35.	22.	9.	0.	0.	1141.	154.	205.	123.	153.
EAST	0.	0.	141.	232.	256.	241.	197.	135.	61.	59.	54.	46.	35.	22.	9.	0.	0.	1490.	174.	241.	135.	174.
SOUTHEAST	0.	0.	74.	147.	189.	205.	196.	167.	120.	60.	54.	46.	35.	22.	9.	0.	0.	1324.	165.	224.	129.	164.
HORIZ.	0.	0.	40.	114.	191.	258.	310.	343.	354.	343.	310.	258.	191.	114.	40.	0.	0.	2867.	255.	383.	182.	257.

MONTH 8 HO 3289. TOD 85. TOT 82. KT .820 KD .125

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	5.	18.	64.	115.	157.	183.	193.	183.	157.	115.	64.	18.	5.	0.	0.	1275.	164.	225.	125.	159.
SOUTHWEST	0.	0.	5.	18.	31.	43.	52.	88.	154.	206.	237.	244.	222.	163.	50.	0.	0.	1513.	179.	251.	134.	173.
WEST	0.	0.	5.	18.	31.	43.	52.	58.	60.	141.	210.	256.	268.	229.	82.	0.	0.	1454.	175.	245.	132.	170.
NORTHWEST	0.	0.	5.	18.	31.	43.	52.	58.	60.	58.	90.	143.	176.	170.	69.	0.	0.	974.	146.	192.	115.	141.
NORTH	0.	0.	18.	23.	31.	43.	52.	58.	60.	58.	52.	43.	31.	23.	18.	0.	0.	512.	117.	141.	99.	113.
NORTHEAST	0.	0.	69.	170.	176.	143.	90.	58.	60.	58.	52.	43.	31.	18.	5.	0.	0.	974.	146.	192.	115.	141.
EAST	0.	0.	82.	229.	268.	256.	210.	141.	60.	58.	52.	43.	31.	18.	5.	0.	0.	1454.	175.	245.	132.	170.
SOUTHEAST	0.	0.	50.	163.	222.	244.	237.	206.	154.	88.	52.	43.	31.	18.	5.	0.	0.	1513.	179.	251.	134.	173.
HORIZ.	0.	0.	16.	91.	173.	247.	304.	340.	353.	340.	304.	247.	173.	91.	16.	0.	0.	2697.	253.	382.	174.	245.

MONTH 9 HO 2762. TOD 79. TOT 76. KT .834 KD .125

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	38.	103.	164.	211.	241.	251.	241.	211.	164.	103.	38.	0.	0.	0.	1765.	199.	291.	136.	182.
SOUTHWEST	0.	0.	0.	11.	25.	37.	47.	124.	194.	248.	280.	283.	250.	158.	0.	0.	0.	1658.	191.	278.	132.	176.
WEST	0.	0.	0.	11.	25.	37.	47.	53.	55.	141.	212.	259.	264.	192.	0.	0.	0.	1298.	167.	235.	120.	154.
NORTHWEST	0.	0.	0.	11.	25.	37.	47.	53.	55.	53.	48.	105.	139.	120.	0.	0.	0.	694.	126.	162.	99.	118.
NORTH	0.	0.	0.	11.	25.	37.	47.	53.	55.	53.	47.	37.	25.	11.	0.	0.	0.	402.	106.	127.	89.	100.
NORTHEAST	0.	0.	0.	120.	139.	105.	48.	53.	55.	53.	47.	37.	25.	11.	0.	0.	0.	694.	126.	162.	99.	118.
EAST	0.	0.	0.	192.	264.	259.	212.	141.	55.	53.	47.	37.	25.	11.	0.	0.	0.	1298.	167.	235.	120.	154.
SOUTHEAST	0.	0.	0.	158.	250.	283.	280.	248.	194.	124.	47.	37.	25.	11.	0.	0.	0.	1658.	191.	278.	132.	176.
HORIZ.	0.	0.	0.	53.	137.	214.	274.	312.	325.	312.	274.	214.	137.	53.	0.	0.	0.	2304.	235.	356.	154.	215.

LOCATION INYOKERN, CALIFORNIA LATITUDE 35 DEGREES 38 MINUTES

MONTH 10 HO 2171. TOD 69. TOT 66. KT .795 KD .125

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	28.	122.	192.	243.	275.	286.	275.	243.	192.	122.	28.	0.	0.	0.	2007.	210.	325.	131.	183.
SOUTHWEST	0.	0.	0.	4.	17.	29.	73.	148.	215.	266.	293.	288.	236.	76.	0.	0.	0.	1645.	184.	279.	119.	162.
WEST	0.	0.	0.	4.	17.	29.	38.	44.	46.	127.	194.	233.	221.	81.	0.	0.	0.	1033.	141.	201.	100.	127.
NORTHWEST	0.	0.	0.	4.	17.	29.	38.	44.	46.	44.	38.	57.	87.	41.	0.	0.	0.	444.	100.	125.	81.	92.
NORTH	0.	0.	0.	4.	17.	29.	38.	44.	46.	44.	38.	29.	17.	4.	0.	0.	0.	309.	90.	108.	76.	84.
NORTHEAST	0.	0.	0.	41.	87.	57.	38.	44.	46.	44.	38.	29.	17.	4.	0.	0.	0.	444.	100.	125.	81.	92.
EAST	0.	0.	0.	81.	221.	233.	194.	127.	46.	44.	38.	29.	17.	4.	0.	0.	0.	1033.	141.	201.	100.	127.
SOUTHEAST	0.	0.	0.	76.	236.	288.	293.	266.	215.	148.	73.	29.	17.	4.	0.	0.	0.	1645.	184.	279.	119.	162.
HORIZ.	0.	0.	0.	13.	86.	159.	217.	254.	266.	254.	217.	159.	86.	13.	0.	0.	0.	1725.	190.	289.	122.	167.

MONTH 11 HO 1655. TOD 57. TOT 56. KT .743 KD .128

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	108.	194.	250.	282.	293.	282.	250.	194.	108.	0.	0.	0.	0.	1962.	209.	332.	119.	171.
SOUTHWEST	0.	0.	0.	0.	10.	21.	88.	157.	218.	263.	282.	266.	182.	0.	0.	0.	0.	1487.	172.	266.	104.	143.
WEST	0.	0.	0.	0.	10.	21.	30.	35.	37.	110.	167.	194.	155.	0.	0.	0.	0.	759.	116.	164.	81.	100.
NORTHWEST	0.	0.	0.	0.	10.	21.	30.	35.	37.	35.	30.	21.	43.	0.	0.	0.	0.	261.	77.	94.	65.	71.
NORTH	0.	0.	0.	0.	10.	21.	30.	35.	37.	35.	30.	21.	10.	0.	0.	0.	0.	228.	75.	89.	64.	69.
NORTHEAST	0.	0.	0.	0.	43.	21.	30.	35.	37.	35.	30.	21.	10.	0.	0.	0.	0.	261.	77.	94.	65.	71.
EAST	0.	0.	0.	0.	155.	194.	167.	110.	37.	35.	30.	21.	10.	0.	0.	0.	0.	759.	116.	164.	81.	100.
SOUTHEAST	0.	0.	0.	0.	182.	266.	282.	263.	218.	157.	88.	21.	10.	0.	0.	0.	0.	1487.	172.	266.	104.	143.
HORIZ.	0.	0.	0.	0.	43.	109.	162.	196.	208.	196.	162.	109.	43.	0.	0.	0.	0.	1230.	152.	229.	96.	128.

MONTH 12 HO 1456. TOD 49. TOT 49. KT .742 KD .129

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	96.	196.	256.	291.	302.	291.	256.	196.	96.	0.	0.	0.	0.	1981.	208.	338.	112.	164.
SOUTHWEST	0.	0.	0.	0.	7.	27.	94.	163.	224.	267.	284.	261.	154.	0.	0.	0.	0.	1482.	168.	265.	96.	135.
WEST	0.	0.	0.	0.	7.	18.	27.	32.	34.	105.	161.	183.	126.	0.	0.	0.	0.	694.	105.	150.	71.	89.
NORTHWEST	0.	0.	0.	0.	7.	18.	27.	32.	34.	32.	27.	18.	29.	0.	0.	0.	0.	224.	67.	82.	56.	62.
NORTH	0.	0.	0.	0.	7.	18.	27.	32.	34.	32.	27.	18.	7.	0.	0.	0.	0.	202.	65.	78.	55.	60.
NORTHEAST	0.	0.	0.	0.	29.	18.	27.	32.	34.	32.	27.	18.	7.	0.	0.	0.	0.	224.	67.	82.	56.	62.
EAST	0.	0.	0.	0.	126.	183.	161.	105.	34.	32.	27.	18.	7.	0.	0.	0.	0.	694.	105.	150.	71.	89.
SOUTHEAST	0.	0.	0.	0.	154.	261.	284.	267.	224.	163.	94.	27.	7.	0.	0.	0.	0.	1482.	168.	265.	96.	135.
HORIZ.	0.	0.	0.	0.	29.	93.	145.	179.	191.	179.	145.	93.	29.	0.	0.	0.	0.	1083.	136.	207.	83.	112.

LOCATION INYOKERN, CALIFORNIA LATITUDE 35 DEGREES 38 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	191.	186.	170.	139.	129.	130.	141.	164.	199.	210.	209.	208.	173.
SOUTHWEST	157.	163.	163.	153.	154.	157.	165.	179.	191.	184.	172.	168.	167.
WEST	104.	124.	141.	150.	164.	171.	174.	175.	167.	141.	116.	105.	144.
NORTHWEST	68.	85.	103.	123.	143.	153.	154.	146.	126.	100.	77.	67.	112.
NORTH	65.	75.	84.	96.	113.	125.	126.	117.	106.	90.	75.	65.	95.
NORTHEAST	68.	85.	103.	123.	143.	153.	154.	146.	126.	100.	77.	67.	112.
EAST	104.	124.	141.	150.	164.	171.	174.	175.	167.	141.	116.	105.	144.
SOUTHEAST	157.	163.	163.	153.	154.	157.	165.	179.	191.	184.	172.	168.	167.
HORIZ.	139.	169.	202.	221.	247.	258.	255.	253.	235.	190.	152.	136.	205.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	308.	293.	260.	199.	172.	168.	183.	225.	291.	325.	332.	338.	258.
SOUTHWEST	246.	252.	248.	225.	216.	215.	224.	251.	278.	279.	266.	265.	247.
WEST	151.	181.	207.	220.	233.	240.	241.	245.	235.	201.	164.	150.	206.
NORTHWEST	85.	110.	138.	169.	195.	209.	205.	192.	162.	125.	94.	82.	147.
NORTH	80.	93.	105.	120.	144.	159.	156.	141.	127.	108.	89.	78.	117.
NORTHEAST	85.	110.	138.	169.	195.	209.	205.	192.	162.	125.	94.	82.	147.
EAST	151.	181.	207.	220.	233.	240.	241.	245.	235.	201.	164.	150.	206.
SOUTHEAST	246.	252.	248.	225.	216.	215.	224.	251.	278.	279.	266.	265.	247.
HORIZ.	214.	263.	318.	347.	379.	393.	383.	382.	356.	289.	229.	207.	313.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	107.	113.	112.	103.	103.	107.	116.	125.	136.	131.	119.	112.	115.
SOUTHWEST	92.	102.	109.	111.	117.	123.	129.	134.	132.	119.	104.	96.	114.
WEST	71.	84.	98.	109.	123.	131.	135.	132.	120.	100.	81.	71.	105.
NORTHWEST	56.	67.	79.	94.	111.	121.	123.	115.	99.	81.	65.	56.	89.
NORTH	54.	62.	70.	79.	93.	104.	107.	99.	89.	76.	64.	55.	79.
NORTHEAST	56.	67.	79.	94.	111.	121.	123.	115.	99.	81.	65.	56.	89.
EAST	71.	84.	98.	109.	123.	131.	135.	132.	120.	100.	81.	71.	105.
SOUTHEAST	92.	102.	109.	111.	117.	123.	129.	134.	132.	119.	104.	96.	114.
HORIZ.	85.	105.	129.	148.	171.	183.	182.	174.	154.	122.	96.	83.	136.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	155.	162.	158.	136.	128.	129.	140.	159.	182.	183.	171.	164.	156.
SOUTHWEST	130.	143.	152.	150.	153.	158.	164.	173.	176.	162.	143.	135.	153.
WEST	90.	111.	131.	147.	164.	173.	174.	170.	154.	127.	100.	89.	136.
NORTHWEST	63.	78.	97.	120.	142.	154.	153.	141.	118.	92.	71.	62.	107.
NORTH	61.	70.	80.	93.	111.	124.	124.	113.	100.	84.	69.	60.	91.
NORTHEAST	63.	78.	97.	120.	142.	154.	153.	141.	118.	92.	71.	62.	107.
EAST	90.	111.	131.	147.	164.	173.	174.	170.	154.	127.	100.	89.	136.
SOUTHEAST	130.	143.	152.	150.	153.	158.	164.	173.	176.	162.	143.	135.	153.
HORIZ.	116.	148.	187.	217.	249.	265.	257.	245.	215.	167.	128.	112.	192.

LOCATION ITHACA, NEW YORK LATITUDE 42 DEGREES 26 MINUTES

MONTH 1 HO 1295. TOD 27. TOT 26. KT .351 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	26.	63.	86.	100.	104.	100.	86.	63.	26.	0.	0.	0.	0.	654.	81.	124.	47.	64.
SOUTHWEST	0.	0.	0.	0.	6.	16.	40.	63.	82.	93.	94.	81.	41.	0.	0.	0.	0.	516.	69.	104.	42.	56.
WEST	0.	0.	0.	0.	6.	15.	21.	26.	27.	46.	59.	60.	35.	0.	0.	0.	0.	296.	51.	71.	35.	43.
NORTHWEST	0.	0.	0.	0.	6.	15.	21.	26.	27.	26.	21.	15.	12.	0.	0.	0.	0.	169.	41.	52.	31.	36.
NORTH	0.	0.	0.	0.	6.	15.	21.	26.	27.	26.	21.	15.	6.	0.	0.	0.	0.	163.	41.	51.	31.	35.
NORTHEAST	0.	0.	0.	0.	12.	15.	21.	26.	27.	26.	21.	15.	6.	0.	0.	0.	0.	169.	41.	52.	31.	36.
EAST	0.	0.	0.	0.	35.	60.	59.	46.	27.	26.	21.	15.	6.	0.	0.	0.	0.	296.	51.	71.	35.	43.
SOUTHEAST	0.	0.	0.	0.	41.	81.	94.	93.	82.	63.	40.	16.	6.	0.	0.	0.	0.	516.	69.	104.	42.	56.
HORIZ.	0.	0.	0.	0.	14.	40.	61.	74.	79.	74.	61.	40.	14.	0.	0.	0.	0.	455.	64.	95.	40.	52.

MONTH 2 HO 1873. TOD 26. TOT 26. KT .435 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	9.	55.	90.	116.	132.	137.	132.	116.	90.	55.	9.	0.	0.	0.	938.	94.	149.	56.	80.
SOUTHWEST	0.	0.	0.	3.	14.	24.	50.	81.	108.	126.	132.	124.	95.	19.	0.	0.	0.	777.	82.	128.	51.	71.
WEST	0.	0.	0.	3.	14.	24.	31.	36.	38.	67.	90.	100.	88.	20.	0.	0.	0.	512.	63.	93.	42.	56.
NORTHWEST	0.	0.	0.	3.	14.	24.	31.	36.	38.	36.	31.	31.	38.	11.	0.	0.	0.	294.	48.	65.	35.	43.
NORTH	0.	0.	0.	3.	14.	24.	31.	36.	38.	36.	31.	24.	14.	3.	0.	0.	0.	255.	45.	60.	34.	41.
NORTHEAST	0.	0.	0.	11.	38.	31.	31.	36.	38.	36.	31.	24.	14.	3.	0.	0.	0.	294.	48.	65.	35.	43.
EAST	0.	0.	0.	20.	88.	100.	90.	67.	38.	36.	31.	24.	14.	3.	0.	0.	0.	512.	63.	93.	42.	56.
SOUTHEAST	0.	0.	0.	19.	95.	124.	132.	126.	108.	81.	50.	24.	14.	3.	0.	0.	0.	777.	82.	128.	51.	71.
HORIZ.	0.	0.	0.	7.	41.	75.	102.	120.	125.	120.	102.	75.	41.	7.	0.	0.	0.	815.	85.	133.	52.	73.

MONTH 3 HO 2527. TOD 36. TOT 35. KT .450 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	23.	57.	88.	112.	127.	133.	127.	112.	88.	57.	23.	0.	0.	0.	949.	97.	146.	66.	90.
SOUTHWEST	0.	0.	0.	11.	22.	32.	47.	80.	107.	127.	135.	131.	111.	68.	0.	0.	0.	872.	92.	137.	63.	86.
WEST	0.	0.	0.	11.	22.	32.	40.	45.	46.	78.	102.	116.	113.	80.	0.	0.	0.	685.	80.	116.	57.	75.
NORTHWEST	0.	0.	0.	11.	22.	32.	40.	45.	46.	45.	40.	52.	62.	51.	0.	0.	0.	446.	65.	88.	49.	61.
NORTH	0.	0.	0.	11.	22.	32.	40.	45.	46.	45.	40.	32.	22.	11.	0.	0.	0.	347.	58.	76.	46.	55.
NORTHEAST	0.	0.	0.	51.	62.	52.	40.	45.	46.	45.	40.	32.	22.	11.	0.	0.	0.	446.	65.	88.	49.	61.
EAST	0.	0.	0.	80.	113.	116.	102.	78.	46.	45.	40.	32.	22.	11.	0.	0.	0.	685.	80.	116.	57.	75.
SOUTHEAST	0.	0.	0.	68.	111.	131.	135.	127.	107.	80.	47.	32.	22.	11.	0.	0.	0.	872.	92.	137.	63.	86.
HORIZ.	0.	0.	0.	30.	70.	105.	133.	151.	157.	151.	133.	105.	70.	30.	0.	0.	0.	1136.	109.	168.	72.	101.

LOCATION ITHACA, NEW YORK LATITUDE 42 DEGREES 26 MINUTES

MONTH 4 HO 3184. TOD 48. TOT 46. KT .428 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	7.	20.	47.	73.	93.	106.	111.	106.	93.	73.	47.	20.	7.	0.	0.	805.	94.	132.	72.	93.
SOUTHWEST	0.	0.	7.	18.	29.	38.	46.	69.	94.	111.	119.	116.	102.	75.	30.	0.	0.	855.	97.	137.	73.	96.
WEST	0.	0.	7.	18.	29.	38.	46.	50.	52.	80.	101.	114.	114.	97.	46.	0.	0.	793.	94.	131.	71.	92.
NORTHWEST	0.	0.	7.	18.	29.	38.	46.	50.	52.	50.	51.	68.	77.	73.	39.	0.	0.	598.	83.	110.	65.	81.
NORTH	0.	0.	13.	18.	29.	38.	46.	50.	52.	50.	46.	38.	29.	18.	13.	0.	0.	442.	74.	94.	60.	72.
NORTHEAST	0.	0.	39.	73.	77.	68.	51.	50.	52.	50.	46.	38.	29.	18.	7.	0.	0.	598.	83.	110.	65.	81.
EAST	0.	0.	46.	97.	114.	114.	101.	80.	52.	50.	46.	38.	29.	18.	7.	0.	0.	793.	94.	131.	71.	92.
SOUTHEAST	0.	0.	30.	75.	102.	116.	119.	111.	94.	69.	46.	38.	29.	18.	7.	0.	0.	855.	97.	137.	73.	96.
HORIZ.	0.	0.	17.	53.	91.	123.	148.	164.	170.	164.	148.	123.	91.	53.	17.	0.	0.	1363.	126.	190.	90.	125.

MONTH 5 HO 3610. TOD 60. TOT 58. KT .502 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	3.	13.	25.	44.	72.	95.	110.	115.	110.	95.	72.	44.	25.	13.	3.	0.	838.	107.	143.	86.	108.
SOUTHWEST	0.	3.	13.	25.	36.	45.	52.	69.	98.	120.	131.	130.	117.	91.	52.	4.	0.	985.	115.	157.	91.	117.
WEST	0.	3.	13.	25.	36.	45.	52.	57.	59.	93.	121.	138.	142.	128.	88.	7.	0.	1007.	116.	159.	92.	119.
NORTHWEST	0.	3.	13.	25.	36.	45.	52.	57.	59.	57.	71.	92.	105.	105.	80.	7.	0.	807.	105.	140.	85.	106.
NORTH	0.	5.	33.	35.	36.	45.	52.	57.	59.	57.	52.	45.	36.	35.	33.	5.	0.	586.	92.	118.	78.	93.
NORTHEAST	0.	7.	80.	105.	105.	92.	71.	57.	59.	57.	52.	45.	36.	25.	13.	3.	0.	807.	105.	140.	85.	106.
EAST	0.	7.	88.	128.	142.	138.	121.	93.	59.	57.	52.	45.	36.	25.	13.	3.	0.	1007.	116.	159.	92.	119.
SOUTHEAST	0.	4.	52.	91.	117.	130.	131.	120.	98.	69.	52.	45.	36.	25.	13.	3.	0.	985.	115.	157.	91.	117.
HORIZ.	0.	5.	37.	81.	123.	160.	188.	206.	213.	206.	188.	160.	123.	81.	37.	5.	0.	1812.	161.	239.	120.	167.

MONTH 6 HO 3765. TOD 69. TOT 67. KT .538 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	5.	15.	27.	40.	70.	94.	109.	115.	109.	94.	70.	40.	27.	15.	5.	0.	833.	114.	149.	95.	117.
SOUTHWEST	0.	5.	15.	27.	37.	47.	54.	67.	99.	123.	135.	136.	123.	97.	58.	12.	0.	1033.	125.	168.	102.	129.
WEST	0.	5.	15.	27.	37.	47.	54.	59.	60.	98.	129.	150.	156.	143.	104.	25.	0.	1109.	129.	175.	105.	134.
NORTHWEST	0.	5.	15.	27.	37.	47.	54.	59.	60.	59.	79.	103.	119.	121.	98.	27.	0.	910.	118.	156.	98.	122.
NORTH	0.	15.	44.	44.	37.	47.	54.	59.	60.	59.	54.	47.	37.	44.	44.	15.	0.	660.	105.	132.	89.	107.
NORTHEAST	0.	27.	98.	121.	119.	103.	79.	59.	60.	59.	54.	47.	37.	27.	15.	5.	0.	910.	118.	156.	98.	122.
EAST	0.	25.	104.	143.	156.	150.	129.	98.	60.	59.	54.	47.	37.	27.	15.	5.	0.	1109.	129.	175.	105.	134.
SOUTHEAST	0.	12.	58.	97.	123.	136.	135.	123.	99.	67.	54.	47.	37.	27.	15.	5.	0.	1033.	125.	168.	102.	129.
HORIZ.	0.	9.	47.	93.	138.	177.	207.	226.	232.	226.	207.	177.	138.	93.	47.	9.	0.	2026.	179.	263.	136.	189.

LOCATION ITHACA, NEW YORK LATITUDE 42 DEGREES 26 MINUTES

MONTH 7 HO 3608. TOD 74. TOT 71. KT .554 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	3.	13.	25.	45.	77.	103.	120.	126.	120.	103.	77.	45.	25.	13.	3.	0.	898.	124.	163.	102.	126.
SOUTHWEST	0.	3.	13.	25.	36.	46.	53.	72.	106.	132.	146.	146.	131.	102.	57.	5.	0.	1072.	134.	180.	108.	136.
WEST	0.	3.	13.	25.	36.	46.	53.	58.	59.	101.	134.	156.	162.	146.	99.	8.	0.	1098.	135.	183.	109.	138.
NORTHWEST	0.	3.	13.	25.	36.	46.	53.	58.	59.	58.	75.	101.	119.	120.	91.	8.	0.	864.	122.	159.	101.	124.
NORTH	0.	5.	37.	37.	36.	46.	53.	58.	59.	58.	53.	46.	36.	37.	37.	5.	0.	603.	108.	134.	92.	108.
NORTHEAST	0.	8.	91.	120.	119.	101.	75.	58.	59.	58.	53.	46.	36.	25.	13.	3.	0.	864.	122.	159.	101.	124.
EAST	0.	8.	99.	146.	162.	156.	134.	101.	59.	58.	53.	46.	36.	25.	13.	3.	0.	1098.	135.	183.	109.	138.
SOUTHEAST	0.	5.	57.	102.	131.	146.	146.	132.	106.	72.	53.	46.	36.	25.	13.	3.	0.	1072.	134.	180.	108.	136.
HORIZ.	0.	5.	40.	88.	135.	177.	209.	229.	236.	229.	209.	177.	135.	88.	40.	5.	0.	1999.	186.	272.	140.	192.

MONTH 8 HO 3162. TOD 72. TOT 69. KT .530 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	21.	56.	89.	116.	133.	139.	133.	116.	89.	56.	21.	7.	0.	0.	985.	132.	178.	103.	129.
SOUTHWEST	0.	0.	7.	19.	31.	41.	49.	81.	115.	140.	152.	150.	132.	96.	37.	0.	0.	1050.	136.	185.	105.	133.
WEST	0.	0.	7.	19.	31.	41.	49.	54.	55.	95.	128.	147.	150.	126.	57.	0.	0.	960.	130.	175.	102.	127.
NORTHWEST	0.	0.	7.	19.	31.	41.	49.	54.	55.	54.	57.	82.	97.	94.	48.	0.	0.	689.	114.	146.	93.	111.
NORTH	0.	0.	15.	19.	31.	41.	49.	54.	55.	54.	49.	41.	31.	19.	15.	0.	0.	474.	101.	123.	85.	98.
NORTHEAST	0.	0.	48.	94.	97.	82.	57.	54.	55.	54.	49.	41.	31.	19.	7.	0.	0.	689.	114.	146.	93.	111.
EAST	0.	0.	57.	126.	150.	147.	128.	95.	55.	54.	49.	41.	31.	19.	7.	0.	0.	960.	130.	175.	102.	127.
SOUTHEAST	0.	0.	37.	96.	132.	150.	152.	140.	115.	81.	49.	41.	31.	19.	7.	0.	0.	1050.	136.	185.	105.	133.
HORIZ.	0.	0.	18.	63.	110.	152.	184.	205.	212.	205.	184.	152.	110.	63.	18.	0.	0.	1676.	174.	252.	127.	170.

MONTH 9 HO 2517. TOD 64. TOT 63. KT .497 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	24.	62.	97.	125.	142.	148.	142.	125.	97.	62.	24.	0.	0.	0.	1052.	136.	191.	98.	126.
SOUTHWEST	0.	0.	0.	11.	23.	33.	49.	87.	119.	142.	152.	147.	124.	74.	0.	0.	0.	962.	130.	180.	95.	121.
WEST	0.	0.	0.	11.	23.	33.	41.	46.	48.	85.	114.	130.	126.	87.	0.	0.	0.	746.	115.	154.	88.	108.
NORTHWEST	0.	0.	0.	11.	23.	33.	41.	46.	48.	46.	41.	56.	68.	55.	0.	0.	0.	472.	96.	121.	79.	91.
NORTH	0.	0.	0.	11.	23.	33.	41.	46.	48.	46.	41.	33.	23.	11.	0.	0.	0.	360.	89.	107.	75.	84.
NORTHEAST	0.	0.	0.	55.	68.	56.	41.	46.	48.	46.	41.	33.	23.	11.	0.	0.	0.	472.	96.	121.	79.	91.
EAST	0.	0.	0.	87.	126.	130.	114.	85.	48.	46.	41.	33.	23.	11.	0.	0.	0.	746.	115.	154.	88.	108.
SOUTHEAST	0.	0.	0.	74.	124.	147.	152.	142.	119.	87.	49.	33.	23.	11.	0.	0.	0.	962.	130.	180.	95.	121.
HORIZ.	0.	0.	1.	32.	76.	116.	147.	167.	174.	167.	147.	116.	76.	32.	1.	0.	0.	1249.	149.	214.	105.	138.

LOCATION ITHACA, NEW YORK LATITUDE 42 DEGREES 26 MINUTES

MONTH 10 HO 1840. TOD 54. TOT 51. KT .465 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	7.	57.	97.	126.	144.	150.	144.	126.	97.	57.	7.	0.	0.	0.	1012.	127.	186.	84.	110.
SOUTHWEST	0.	0.	0.	3.	14.	24.	52.	88.	117.	137.	144.	135.	100.	15.	0.	0.	0.	829.	113.	162.	78.	100.
WEST	0.	0.	0.	3.	14.	24.	32.	37.	38.	72.	97.	107.	93.	16.	0.	0.	0.	532.	92.	123.	68.	82.
NORTHWEST	0.	0.	0.	3.	14.	24.	32.	37.	38.	37.	32.	31.	39.	9.	0.	0.	0.	296.	75.	92.	61.	68.
NORTH	0.	0.	0.	3.	14.	24.	32.	37.	38.	37.	32.	24.	14.	3.	0.	0.	0.	257.	72.	87.	59.	66.
NORTHEAST	0.	0.	0.	9.	39.	31.	32.	37.	38.	37.	32.	24.	14.	3.	0.	0.	0.	296.	75.	92.	61.	68.
EAST	0.	0.	0.	16.	93.	107.	97.	72.	38.	37.	32.	24.	14.	3.	0.	0.	0.	532.	92.	123.	68.	82.
SOUTHEAST	0.	0.	0.	15.	100.	135.	144.	137.	117.	88.	52.	24.	14.	3.	0.	0.	0.	829.	113.	162.	78.	100.
HORIZ.	0.	0.	0.	6.	42.	79.	108.	127.	133.	127.	108.	79.	42.	6.	0.	0.	0.	855.	115.	166.	79.	101.

MONTH 11 HO 1284. TOD 41. TOT 40. KT .324 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	22.	55.	75.	88.	92.	88.	75.	55.	22.	0.	0.	0.	0.	571.	88.	126.	59.	74.
SOUTHWEST	0.	0.	0.	0.	6.	16.	37.	57.	72.	82.	82.	70.	34.	0.	0.	0.	0.	455.	79.	109.	55.	67.
WEST	0.	0.	0.	0.	6.	14.	21.	25.	26.	42.	53.	52.	29.	0.	0.	0.	0.	268.	63.	81.	49.	56.
NORTHWEST	0.	0.	0.	0.	6.	14.	21.	25.	26.	25.	21.	14.	11.	0.	0.	0.	0.	162.	55.	66.	46.	50.
NORTH	0.	0.	0.	0.	6.	14.	21.	25.	26.	25.	21.	14.	6.	0.	0.	0.	0.	157.	54.	65.	46.	50.
NORTHEAST	0.	0.	0.	0.	11.	14.	21.	25.	26.	25.	21.	14.	6.	0.	0.	0.	0.	162.	55.	66.	46.	50.
EAST	0.	0.	0.	0.	29.	52.	53.	42.	26.	25.	21.	14.	6.	0.	0.	0.	0.	268.	63.	81.	49.	56.
SOUTHEAST	0.	0.	0.	0.	34.	70.	82.	82.	72.	57.	37.	16.	6.	0.	0.	0.	0.	455.	79.	109.	55.	67.
HORIZ.	0.	0.	0.	0.	13.	36.	55.	68.	72.	68.	55.	36.	13.	0.	0.	0.	0.	417.	76.	103.	54.	65.

MONTH 12 HO 1078. TOD 30. TOT 29. KT .337 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	13.	55.	79.	93.	98.	93.	79.	55.	13.	0.	0.	0.	0.	577.	80.	120.	48.	63.
SOUTHWEST	0.	0.	0.	0.	4.	15.	37.	59.	76.	86.	85.	69.	18.	0.	0.	0.	0.	449.	69.	100.	44.	55.
WEST	0.	0.	0.	0.	4.	12.	18.	22.	24.	41.	52.	50.	16.	0.	0.	0.	0.	237.	50.	67.	37.	43.
NORTHWEST	0.	0.	0.	0.	4.	12.	18.	22.	24.	22.	18.	12.	6.	0.	0.	0.	0.	136.	41.	51.	33.	37.
NORTH	0.	0.	0.	0.	4.	12.	18.	22.	24.	22.	18.	12.	4.	0.	0.	0.	0.	134.	41.	51.	33.	37.
NORTHEAST	0.	0.	0.	0.	6.	12.	18.	22.	24.	22.	18.	12.	4.	0.	0.	0.	0.	136.	41.	51.	33.	37.
EAST	0.	0.	0.	0.	16.	50.	52.	41.	24.	22.	18.	12.	4.	0.	0.	0.	0.	237.	50.	67.	37.	43.
SOUTHEAST	0.	0.	0.	0.	18.	69.	85.	86.	76.	59.	37.	15.	4.	0.	0.	0.	0.	449.	69.	100.	44.	55.
HORIZ.	0.	0.	0.	0.	7.	30.	50.	62.	67.	62.	50.	30.	7.	0.	0.	0.	0.	364.	61.	87.	41.	50.

LOCATION ITHACA, NEW YORK LATITUDE 42 DEGREES 26 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	81.	94.	97.	94.	107.	114.	124.	132.	136.	127.	88.	80.	106.
SOUTHWEST	69.	82.	92.	97.	115.	125.	134.	136.	130.	113.	79.	69.	103.
WEST	51.	63.	80.	94.	116.	129.	135.	130.	115.	92.	63.	50.	93.
NORTHWEST	41.	48.	65.	83.	105.	118.	122.	114.	96.	75.	55.	41.	80.
NORTH	41.	45.	58.	74.	92.	105.	108.	101.	89.	72.	54.	41.	73.
NORTHEAST	41.	48.	65.	83.	105.	118.	122.	114.	96.	75.	55.	41.	80.
EAST	51.	63.	80.	94.	116.	129.	135.	130.	115.	92.	63.	50.	93.
SOUTHEAST	69.	82.	92.	97.	115.	125.	134.	136.	130.	113.	79.	69.	103.
HORIZ.	64.	85.	109.	126.	161.	179.	186.	174.	149.	115.	76.	61.	124.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	124.	149.	146.	132.	143.	149.	163.	178.	191.	186.	126.	120.	151.
SOUTHWEST	104.	128.	137.	137.	157.	168.	180.	185.	180.	162.	109.	100.	146.
WEST	71.	93.	116.	131.	159.	175.	183.	175.	154.	123.	81.	67.	127.
NORTHWEST	52.	65.	88.	110.	140.	156.	159.	146.	121.	92.	66.	51.	104.
NORTH	51.	60.	76.	94.	118.	132.	134.	123.	107.	87.	65.	51.	92.
NORTHEAST	52.	65.	88.	110.	140.	156.	159.	146.	121.	92.	66.	51.	104.
EAST	71.	93.	116.	131.	159.	175.	183.	175.	154.	123.	81.	67.	127.
SOUTHEAST	104.	128.	137.	137.	157.	168.	180.	185.	180.	162.	109.	100.	146.
HORIZ.	95.	133.	168.	190.	239.	263.	272.	252.	214.	166.	103.	87.	182.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	47.	56.	66.	72.	86.	95.	102.	103.	98.	84.	59.	48.	76.
SOUTHWEST	42.	51.	63.	73.	91.	102.	108.	105.	95.	78.	55.	44.	76.
WEST	35.	42.	57.	71.	92.	105.	109.	102.	88.	68.	49.	37.	71.
NORTHWEST	31.	35.	49.	65.	85.	98.	101.	93.	79.	61.	46.	33.	65.
NORTH	31.	34.	46.	60.	78.	89.	92.	85.	75.	59.	46.	33.	61.
NORTHEAST	31.	35.	49.	65.	85.	98.	101.	93.	79.	61.	46.	33.	65.
EAST	35.	42.	57.	71.	92.	105.	109.	102.	88.	68.	49.	37.	71.
SOUTHEAST	42.	51.	63.	73.	91.	102.	108.	105.	95.	78.	55.	44.	76.
HORIZ.	40.	52.	72.	90.	120.	136.	140.	127.	105.	79.	54.	41.	88.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	64.	80.	90.	93.	108.	117.	126.	129.	126.	110.	74.	63.	98.
SOUTHWEST	56.	71.	86.	96.	117.	129.	136.	133.	121.	100.	67.	55.	97.
WEST	43.	56.	75.	92.	119.	134.	138.	127.	108.	82.	56.	43.	89.
NORTHWEST	36.	43.	61.	81.	106.	122.	124.	111.	91.	68.	50.	37.	77.
NORTH	35.	41.	55.	72.	93.	107.	108.	98.	84.	66.	50.	37.	70.
NORTHEAST	36.	43.	61.	81.	106.	122.	124.	111.	91.	68.	50.	37.	77.
EAST	43.	56.	75.	92.	119.	134.	138.	127.	108.	82.	56.	43.	89.
SOUTHEAST	56.	71.	86.	96.	117.	129.	136.	133.	121.	100.	67.	55.	97.
HORIZ.	52.	73.	101.	125.	167.	189.	192.	170.	138.	101.	65.	50.	119.

LOCATION LAKE CHARLES, LOUISIANA LATITUDE 30 DEGREES 13 MINUTES

MONTH 1 HO 1956. TOD 55. TOT 53. KT .473 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	4.	66.	104.	131.	146.	152.	146.	131.	104.	66.	4.	0.	0.	0.	1054.	134.	197.	86.	114.
SOUTHWEST	0.	0.	0.	2.	14.	26.	57.	91.	119.	140.	148.	140.	107.	7.	0.	0.	0.	851.	118.	170.	80.	102.
WEST	0.	0.	0.	2.	14.	26.	34.	40.	42.	74.	99.	109.	94.	6.	0.	0.	0.	541.	95.	128.	70.	84.
NORTHWEST	0.	0.	0.	2.	14.	26.	34.	40.	42.	40.	34.	29.	34.	4.	0.	0.	0.	299.	78.	96.	62.	70.
NORTH	0.	0.	0.	2.	14.	26.	34.	40.	42.	40.	34.	26.	14.	2.	0.	0.	0.	275.	76.	92.	61.	69.
NORTHEAST	0.	0.	0.	4.	34.	29.	34.	40.	42.	40.	34.	26.	14.	2.	0.	0.	0.	299.	78.	96.	62.	70.
EAST	0.	0.	0.	6.	94.	109.	99.	74.	42.	40.	34.	26.	14.	2.	0.	0.	0.	541.	95.	128.	70.	84.
SOUTHEAST	0.	0.	0.	7.	107.	140.	148.	140.	119.	91.	57.	26.	14.	2.	0.	0.	0.	851.	118.	170.	80.	102.
HORIZ.	0.	0.	0.	4.	43.	85.	118.	139.	146.	139.	118.	85.	43.	4.	0.	0.	0.	924.	124.	180.	82.	106.

MONTH 2 HO 2451. TOD 59. TOT 56. KT .492 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	24.	68.	102.	126.	142.	147.	142.	126.	102.	68.	24.	0.	0.	0.	1071.	133.	193.	90.	118.
SOUTHWEST	0.	0.	0.	7.	21.	33.	52.	88.	119.	141.	152.	148.	125.	59.	0.	0.	0.	943.	124.	177.	86.	111.
WEST	0.	0.	0.	7.	21.	33.	42.	48.	50.	86.	113.	127.	121.	63.	0.	0.	0.	710.	108.	148.	79.	97.
NORTHWEST	0.	0.	0.	7.	21.	33.	42.	48.	50.	48.	42.	51.	58.	35.	0.	0.	0.	434.	89.	113.	70.	81.
NORTH	0.	0.	0.	7.	21.	33.	42.	48.	50.	48.	42.	33.	21.	7.	0.	0.	0.	351.	83.	103.	67.	76.
NORTHEAST	0.	0.	0.	35.	58.	51.	42.	48.	50.	48.	42.	33.	21.	7.	0.	0.	0.	434.	89.	113.	70.	81.
EAST	0.	0.	0.	63.	121.	127.	113.	86.	50.	48.	42.	33.	21.	7.	0.	0.	0.	710.	108.	148.	79.	97.
SOUTHEAST	0.	0.	0.	59.	125.	148.	152.	141.	119.	88.	52.	33.	21.	7.	0.	0.	0.	943.	124.	177.	86.	111.
HORIZ.	0.	0.	0.	18.	67.	112.	147.	170.	177.	170.	147.	112.	67.	18.	0.	0.	0.	1208.	142.	210.	95.	126.

MONTH 3 HO 2951. TOD 63. TOT 61. KT .521 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	26.	61.	92.	117.	132.	137.	132.	117.	92.	61.	26.	0.	0.	0.	992.	127.	179.	92.	118.
SOUTHWEST	0.	0.	0.	13.	27.	40.	49.	80.	114.	139.	152.	152.	134.	88.	0.	0.	0.	989.	127.	178.	92.	118.
WEST	0.	0.	0.	13.	27.	40.	49.	55.	57.	96.	128.	146.	145.	107.	0.	0.	0.	863.	119.	164.	88.	111.
NORTHWEST	0.	0.	0.	13.	27.	40.	49.	55.	57.	55.	57.	77.	87.	71.	0.	0.	0.	588.	101.	132.	79.	95.
NORTH	0.	0.	0.	13.	27.	40.	49.	55.	57.	55.	49.	40.	27.	13.	0.	0.	0.	425.	91.	113.	74.	85.
NORTHEAST	0.	0.	0.	71.	87.	77.	57.	55.	57.	55.	49.	40.	27.	13.	0.	0.	0.	588.	101.	132.	79.	95.
EAST	0.	0.	0.	107.	145.	146.	128.	96.	57.	55.	49.	40.	27.	13.	0.	0.	0.	863.	119.	164.	88.	111.
SOUTHEAST	0.	0.	0.	88.	134.	152.	152.	139.	114.	80.	49.	40.	27.	13.	0.	0.	0.	989.	127.	178.	92.	118.
HORIZ.	0.	0.	0.	41.	95.	143.	180.	204.	212.	204.	180.	143.	95.	41.	0.	0.	0.	1535.	162.	242.	110.	150.

LOCATION LAKE CHARLES, LOUISIANA LATITUDE 30 DEGREES 13 MINUTES

MONTH 4 HO 3386. TOD 71. TOT 68. KT .542 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	5.	19.	43.	72.	95.	110.	115.	110.	95.	72.	43.	19.	5.	0.	0.	804.	119.	158.	94.	115.
SOUTHWEST	0.	0.	5.	19.	33.	45.	54.	65.	99.	126.	141.	142.	128.	94.	26.	0.	0.	977.	129.	176.	99.	125.
WEST	0.	0.	5.	19.	33.	45.	54.	60.	62.	103.	135.	155.	157.	131.	41.	0.	0.	1000.	130.	179.	100.	126.
NORTHWEST	0.	0.	5.	19.	33.	45.	54.	60.	62.	60.	82.	104.	114.	103.	35.	0.	0.	775.	117.	155.	93.	113.
NORTH	0.	0.	12.	25.	33.	45.	54.	60.	62.	60.	54.	45.	33.	25.	12.	0.	0.	518.	102.	127.	85.	98.
NORTHEAST	0.	0.	35.	103.	114.	104.	82.	60.	62.	60.	54.	45.	33.	19.	5.	0.	0.	775.	117.	155.	93.	113.
EAST	0.	0.	41.	131.	157.	155.	135.	103.	62.	60.	54.	45.	33.	19.	5.	0.	0.	1000.	130.	179.	100.	126.
SOUTHEAST	0.	0.	26.	94.	128.	142.	141.	126.	99.	65.	54.	45.	33.	19.	5.	0.	0.	977.	129.	176.	99.	125.
HORIZ.	0.	0.	12.	64.	119.	168.	206.	230.	238.	230.	206.	168.	119.	64.	12.	0.	0.	1836.	180.	269.	127.	175.

MONTH 5 HO 3623. TOD 77. TOT 74. KT .578 KD .177

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	9.	23.	36.	54.	76.	91.	96.	91.	76.	54.	36.	23.	9.	0.	0.	675.	118.	149.	98.	115.
SOUTHWEST	0.	0.	9.	23.	36.	47.	56.	62.	87.	115.	132.	135.	123.	94.	43.	0.	0.	961.	135.	179.	107.	133.
WEST	0.	0.	9.	23.	36.	47.	56.	62.	64.	107.	142.	165.	169.	148.	79.	0.	0.	1108.	144.	195.	112.	141.
NORTHWEST	0.	0.	9.	23.	36.	47.	56.	62.	64.	73.	103.	126.	138.	129.	75.	0.	0.	939.	134.	177.	107.	131.
NORTH	0.	0.	32.	47.	46.	47.	56.	62.	64.	62.	56.	47.	46.	47.	32.	0.	0.	644.	116.	146.	97.	113.
NORTHEAST	0.	0.	75.	129.	138.	126.	103.	73.	64.	62.	56.	47.	36.	23.	9.	0.	0.	939.	134.	177.	107.	131.
EAST	0.	0.	79.	148.	169.	165.	142.	107.	64.	62.	56.	47.	36.	23.	9.	0.	0.	1108.	144.	195.	112.	141.
SOUTHEAST	0.	0.	43.	94.	123.	135.	132.	115.	87.	62.	56.	47.	36.	23.	9.	0.	0.	961.	135.	179.	107.	133.
HORIZ.	0.	0.	26.	82.	139.	189.	228.	252.	261.	252.	228.	189.	139.	82.	26.	0.	0.	2095.	203.	300.	146.	201.

MONTH 6 HO 3700. TOD 83. TOT 81. KT .597 KD .174

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	11.	24.	37.	48.	68.	82.	87.	82.	68.	48.	37.	24.	11.	0.	0.	628.	120.	149.	102.	119.
SOUTHWEST	0.	0.	11.	24.	37.	48.	57.	62.	81.	110.	127.	131.	120.	93.	46.	0.	0.	947.	139.	182.	113.	138.
WEST	0.	0.	11.	24.	37.	48.	57.	62.	64.	109.	146.	169.	174.	154.	91.	0.	0.	1147.	151.	203.	120.	150.
NORTHWEST	0.	0.	11.	24.	37.	48.	57.	62.	64.	81.	112.	136.	148.	140.	89.	0.	0.	1008.	143.	188.	115.	142.
NORTH	0.	0.	41.	57.	57.	51.	57.	62.	64.	62.	57.	51.	57.	57.	41.	0.	0.	714.	125.	158.	105.	124.
NORTHEAST	0.	0.	89.	140.	148.	136.	112.	81.	64.	62.	57.	48.	37.	24.	11.	0.	0.	1008.	143.	188.	115.	142.
EAST	0.	0.	91.	154.	174.	169.	146.	109.	64.	62.	57.	48.	37.	24.	11.	0.	0.	1147.	151.	203.	120.	150.
SOUTHEAST	0.	0.	46.	93.	120.	131.	127.	110.	81.	62.	57.	48.	37.	24.	11.	0.	0.	947.	139.	182.	113.	138.
HORIZ.	0.	0.	32.	90.	148.	198.	238.	262.	271.	262.	238.	198.	148.	90.	32.	0.	0.	2208.	213.	313.	156.	214.

LOCATION LAKE CHARLES, LOUISIANA LATITUDE 30 DEGREES 13 MINUTES

MONTH 7 HO 3617. TOD 85. TOT 82. KT .538 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	9.	23.	36.	52.	73.	86.	91.	86.	73.	52.	36.	23.	9.	0.	0.	649.	124.	154.	104.	121.
SOUTHWEST	0.	0.	9.	23.	36.	47.	55.	61.	83.	107.	122.	124.	112.	85.	38.	0.	0.	901.	139.	180.	113.	137.
WEST	0.	0.	9.	23.	36.	47.	55.	61.	63.	101.	132.	151.	153.	132.	69.	0.	0.	1031.	147.	194.	117.	144.
NORTHWEST	0.	0.	9.	23.	36.	47.	55.	61.	63.	71.	97.	117.	125.	115.	65.	0.	0.	884.	138.	179.	112.	136.
NORTH	0.	0.	29.	44.	45.	47.	55.	61.	63.	61.	55.	47.	45.	44.	29.	0.	0.	625.	122.	151.	104.	120.
NORTHEAST	0.	0.	65.	115.	125.	117.	97.	71.	63.	61.	55.	47.	36.	23.	9.	0.	0.	884.	138.	179.	112.	136.
EAST	0.	0.	69.	132.	153.	151.	132.	101.	63.	61.	55.	47.	36.	23.	9.	0.	0.	1031.	147.	194.	117.	144.
SOUTHEAST	0.	0.	38.	85.	112.	124.	122.	107.	83.	61.	55.	47.	36.	23.	9.	0.	0.	901.	139.	180.	113.	137.
HORIZ.	0.	0.	25.	77.	129.	176.	212.	234.	242.	234.	212.	176.	129.	77.	25.	0.	0.	1946.	202.	291.	149.	200.

MONTH 8 HO 3360. TOD 85. TOT 82. KT .558 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	5.	19.	43.	72.	97.	112.	117.	112.	97.	72.	43.	19.	5.	0.	0.	813.	137.	176.	110.	131.
SOUTHWEST	0.	0.	5.	19.	33.	45.	54.	65.	101.	129.	144.	146.	130.	94.	24.	0.	0.	988.	148.	196.	116.	142.
WEST	0.	0.	5.	19.	33.	45.	54.	59.	61.	105.	139.	160.	161.	132.	37.	0.	0.	1009.	149.	198.	117.	143.
NORTHWEST	0.	0.	5.	19.	33.	45.	54.	59.	61.	59.	84.	106.	116.	103.	32.	0.	0.	777.	134.	172.	109.	129.
NORTH	0.	0.	11.	25.	33.	45.	54.	59.	61.	59.	54.	45.	33.	25.	11.	0.	0.	515.	118.	143.	100.	113.
NORTHEAST	0.	0.	32.	103.	116.	106.	84.	59.	61.	59.	54.	45.	33.	19.	5.	0.	0.	777.	134.	172.	109.	129.
EAST	0.	0.	37.	132.	161.	160.	139.	105.	61.	59.	54.	45.	33.	19.	5.	0.	0.	1009.	149.	198.	117.	143.
SOUTHEAST	0.	0.	24.	94.	130.	146.	144.	129.	101.	65.	54.	45.	33.	19.	5.	0.	0.	988.	148.	196.	116.	142.
HORIZ.	0.	0.	12.	64.	121.	172.	211.	236.	244.	236.	211.	172.	121.	64.	12.	0.	0.	1875.	204.	295.	146.	196.

MONTH 9 HO 2931. TOD 81. TOT 79. KT .553 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	25.	63.	97.	123.	140.	145.	140.	123.	97.	63.	25.	0.	0.	0.	1040.	152.	207.	114.	141.
SOUTHWEST	0.	0.	0.	13.	27.	40.	49.	82.	119.	147.	163.	162.	142.	91.	0.	0.	0.	1036.	152.	206.	114.	141.
WEST	0.	0.	0.	13.	27.	40.	49.	55.	57.	101.	136.	156.	154.	111.	0.	0.	0.	899.	143.	190.	109.	133.
NORTHWEST	0.	0.	0.	13.	27.	40.	49.	55.	57.	55.	58.	81.	92.	74.	0.	0.	0.	601.	122.	154.	99.	115.
NORTH	0.	0.	0.	13.	27.	40.	49.	55.	57.	55.	49.	40.	27.	13.	0.	0.	0.	425.	110.	133.	93.	104.
NORTHEAST	0.	0.	0.	74.	92.	81.	58.	55.	57.	55.	49.	40.	27.	13.	0.	0.	0.	601.	122.	154.	99.	115.
EAST	0.	0.	0.	111.	154.	156.	136.	101.	57.	55.	49.	40.	27.	13.	0.	0.	0.	899.	143.	190.	109.	133.
SOUTHEAST	0.	0.	0.	91.	142.	162.	163.	147.	119.	82.	49.	40.	27.	13.	0.	0.	0.	1036.	152.	206.	114.	141.
HORIZ.	0.	0.	0.	41.	99.	150.	191.	216.	225.	216.	191.	150.	99.	41.	0.	0.	0.	1619.	192.	276.	134.	176.

LOCATION LAKE CHARLES, LOUISIANA LATITUDE 30 DEGREES 13 MINUTES

MONTH 10 HO 2417. TOD 74. TOT 70. KT .597 KD .174

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	28.	85.	129.	161.	180.	187.	180.	161.	129.	85.	28.	0.	0.	0.	1351.	167.	243.	114.	149.
SOUTHWEST	0.	0.	0.	7.	21.	33.	57.	105.	147.	179.	195.	192.	161.	69.	0.	0.	0.	1166.	154.	220.	108.	138.
WEST	0.	0.	0.	7.	21.	33.	43.	49.	51.	101.	141.	163.	155.	75.	0.	0.	0.	838.	132.	179.	97.	119.
NORTHWEST	0.	0.	0.	7.	21.	33.	43.	49.	51.	49.	43.	57.	70.	40.	0.	0.	0.	463.	106.	132.	85.	97.
NORTH	0.	0.	0.	7.	21.	33.	43.	49.	51.	49.	43.	33.	21.	7.	0.	0.	0.	356.	98.	118.	82.	91.
NORTHEAST	0.	0.	0.	40.	70.	57.	43.	49.	51.	49.	43.	33.	21.	7.	0.	0.	0.	463.	106.	132.	85.	97.
EAST	0.	0.	0.	75.	155.	163.	141.	101.	51.	49.	43.	33.	21.	7.	0.	0.	0.	838.	132.	179.	97.	119.
SOUTHEAST	0.	0.	0.	69.	161.	192.	195.	179.	147.	105.	57.	33.	21.	7.	0.	0.	0.	1166.	154.	220.	108.	138.
HORIZ.	0.	0.	0.	19.	78.	134.	178.	206.	215.	206.	178.	134.	78.	19.	0.	0.	0.	1444.	174.	255.	117.	154.

MONTH 11 HO 1944. TOD 63. TOT 59. KT .524 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	4.	75.	119.	149.	167.	173.	167.	149.	119.	75.	4.	0.	0.	0.	1202.	152.	225.	98.	129.
SOUTHWEST	0.	0.	0.	2.	14.	26.	62.	101.	135.	159.	170.	161.	122.	6.	0.	0.	0.	960.	134.	192.	90.	115.
WEST	0.	0.	0.	2.	14.	26.	35.	41.	43.	82.	111.	124.	107.	6.	0.	0.	0.	592.	107.	142.	78.	94.
NORTHWEST	0.	0.	0.	2.	14.	26.	35.	41.	43.	41.	35.	30.	37.	3.	0.	0.	0.	309.	86.	104.	69.	77.
NORTH	0.	0.	0.	2.	14.	26.	35.	41.	43.	41.	35.	26.	14.	2.	0.	0.	0.	281.	83.	100.	68.	76.
NORTHEAST	0.	0.	0.	3.	37.	30.	35.	41.	43.	41.	35.	26.	14.	2.	0.	0.	0.	309.	86.	104.	69.	77.
EAST	0.	0.	0.	6.	107.	124.	111.	82.	43.	41.	35.	26.	14.	2.	0.	0.	0.	592.	107.	142.	78.	94.
SOUTHEAST	0.	0.	0.	6.	122.	161.	170.	159.	135.	101.	62.	26.	14.	2.	0.	0.	0.	960.	134.	192.	90.	115.
HORIZ.	0.	0.	0.	3.	46.	93.	130.	154.	162.	154.	130.	93.	46.	3.	0.	0.	0.	1017.	138.	200.	92.	119.

MONTH 12 HO 1756. TOD 57. TOT 54. KT .494 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	67.	112.	141.	158.	164.	158.	141.	112.	67.	0.	0.	0.	0.	1119.	143.	213.	90.	119.
SOUTHWEST	0.	0.	0.	0.	12.	25.	62.	97.	127.	148.	157.	147.	104.	0.	0.	0.	0.	880.	124.	179.	82.	105.
WEST	0.	0.	0.	0.	12.	23.	32.	38.	40.	74.	99.	109.	87.	0.	0.	0.	0.	515.	96.	129.	71.	84.
NORTHWEST	0.	0.	0.	0.	12.	23.	32.	38.	40.	38.	32.	23.	27.	0.	0.	0.	0.	265.	77.	94.	63.	69.
NORTH	0.	0.	0.	0.	12.	23.	32.	38.	40.	38.	32.	23.	12.	0.	0.	0.	0.	250.	76.	92.	62.	69.
NORTHEAST	0.	0.	0.	0.	27.	23.	32.	38.	40.	38.	32.	23.	12.	0.	0.	0.	0.	265.	77.	94.	63.	69.
EAST	0.	0.	0.	0.	87.	109.	99.	74.	40.	38.	32.	23.	12.	0.	0.	0.	0.	515.	96.	129.	71.	84.
SOUTHEAST	0.	0.	0.	0.	104.	147.	157.	148.	127.	97.	62.	25.	12.	0.	0.	0.	0.	880.	124.	179.	82.	105.
HORIZ.	0.	0.	0.	0.	35.	78.	113.	135.	142.	135.	113.	78.	35.	0.	0.	0.	0.	866.	123.	177.	82.	104.

LOCATION LAKE CHARLES, LOUISIANA LATITUDE 30 DEGREES 13 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	134.	133.	127.	119.	118.	120.	124.	137.	152.	167.	152.	143.	135.
SOUTHWEST	118.	124.	127.	129.	135.	139.	139.	148.	152.	154.	134.	124.	135.
WEST	95.	108.	119.	130.	144.	151.	147.	149.	143.	132.	107.	96.	127.
NORTHWEST	78.	89.	101.	117.	134.	143.	138.	134.	122.	106.	86.	77.	110.
NORTH	76.	83.	91.	102.	116.	125.	122.	118.	110.	98.	83.	76.	100.
NORTHEAST	78.	89.	101.	117.	134.	143.	138.	134.	122.	106.	86.	77.	110.
EAST	95.	108.	119.	130.	144.	151.	147.	149.	143.	132.	107.	96.	127.
SOUTHEAST	118.	124.	127.	129.	135.	139.	139.	148.	152.	154.	134.	124.	135.
HORIZ.	124.	142.	162.	180.	203.	213.	202.	204.	192.	174.	138.	123.	171.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	197.	193.	179.	158.	149.	149.	154.	176.	207.	243.	225.	213.	187.
SOUTHWEST	170.	177.	178.	176.	179.	182.	180.	196.	206.	220.	192.	179.	186.
WEST	128.	148.	164.	179.	195.	203.	194.	198.	190.	179.	142.	129.	171.
NORTHWEST	96.	113.	132.	155.	177.	188.	179.	172.	154.	132.	104.	94.	141.
NORTH	92.	103.	113.	127.	146.	158.	151.	143.	133.	118.	100.	92.	123.
NORTHEAST	96.	113.	132.	155.	177.	188.	179.	172.	154.	132.	104.	94.	141.
EAST	128.	148.	164.	179.	195.	203.	194.	198.	190.	179.	142.	129.	171.
SOUTHEAST	170.	177.	178.	176.	179.	182.	180.	196.	206.	220.	192.	179.	186.
HORIZ.	180.	210.	242.	269.	300.	313.	291.	295.	276.	255.	200.	177.	251.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	86.	90.	92.	94.	98.	102.	104.	110.	114.	114.	98.	90.	99.
SOUTHWEST	80.	86.	92.	99.	107.	113.	113.	116.	114.	108.	90.	82.	100.
WEST	70.	79.	88.	100.	112.	120.	117.	117.	109.	97.	78.	71.	97.
NORTHWEST	62.	70.	79.	93.	107.	115.	112.	109.	99.	85.	69.	63.	89.
NORTH	61.	67.	74.	85.	97.	105.	104.	100.	93.	82.	68.	62.	83.
NORTHEAST	62.	70.	79.	93.	107.	115.	112.	109.	99.	85.	69.	63.	89.
EAST	70.	79.	88.	100.	112.	120.	117.	117.	109.	97.	78.	71.	97.
SOUTHEAST	80.	86.	92.	99.	107.	113.	113.	116.	114.	108.	90.	82.	100.
HORIZ.	82.	95.	110.	127.	146.	156.	149.	146.	134.	117.	92.	82.	120.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	114.	118.	118.	115.	115.	119.	121.	131.	141.	149.	129.	119.	124.
SOUTHWEST	102.	111.	118.	125.	133.	138.	137.	142.	141.	138.	115.	105.	125.
WEST	84.	97.	111.	126.	141.	150.	144.	143.	133.	119.	94.	84.	119.
NORTHWEST	70.	81.	95.	113.	131.	142.	136.	129.	115.	97.	77.	69.	105.
NORTH	69.	76.	85.	98.	113.	124.	120.	113.	104.	91.	76.	69.	95.
NORTHEAST	70.	81.	95.	113.	131.	142.	136.	129.	115.	97.	77.	69.	105.
EAST	84.	97.	111.	126.	141.	150.	144.	143.	133.	119.	94.	84.	119.
SOUTHEAST	102.	111.	118.	125.	133.	138.	137.	142.	141.	138.	115.	105.	125.
HORIZ.	106.	126.	150.	175.	201.	214.	200.	196.	176.	154.	119.	104.	160.

LOCATION LANDER, WYOMING LATITUDE 42 DEGREES 48 MINUTES

MONTH 1 HO 1276. TOD 20. TOT 17. KT .650 KD .162

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	62.	154.	211.	244.	254.	244.	211.	154.	62.	0.	0.	0.	0.	1596.	151.	258.	68.	110.
SOUTHWEST	0.	0.	0.	0.	6.	21.	79.	139.	189.	223.	233.	206.	103.	0.	0.	0.	0.	1200.	119.	199.	55.	87.
WEST	0.	0.	0.	0.	6.	16.	25.	30.	32.	90.	134.	147.	87.	0.	0.	0.	0.	566.	67.	104.	35.	50.
NORTHWEST	0.	0.	0.	0.	6.	16.	25.	30.	32.	30.	25.	16.	23.	0.	0.	0.	0.	203.	37.	50.	23.	29.
NORTH	0.	0.	0.	0.	6.	16.	25.	30.	32.	30.	25.	16.	6.	0.	0.	0.	0.	186.	35.	48.	23.	28.
NORTHEAST	0.	0.	0.	0.	23.	16.	25.	30.	32.	30.	25.	16.	6.	0.	0.	0.	0.	203.	37.	50.	23.	29.
EAST	0.	0.	0.	0.	87.	147.	134.	90.	32.	30.	25.	16.	6.	0.	0.	0.	0.	566.	67.	104.	35.	50.
SOUTHEAST	0.	0.	0.	0.	103.	206.	233.	223.	189.	139.	79.	21.	6.	0.	0.	0.	0.	1200.	119.	199.	55.	87.
HORIZ.	0.	0.	0.	0.	20.	70.	112.	140.	149.	140.	112.	70.	20.	0.	0.	0.	0.	830.	88.	144.	43.	65.

MONTH 2 HO 1855. TOD 26. TOT 23. KT .672 KD .156

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	13.	98.	162.	208.	237.	247.	237.	208.	162.	98.	13.	0.	0.	0.	1682.	147.	246.	77.	121.
SOUTHWEST	0.	0.	0.	3.	14.	25.	72.	133.	186.	225.	242.	232.	181.	33.	0.	0.	0.	1346.	123.	202.	66.	101.
WEST	0.	0.	0.	3.	14.	25.	33.	39.	41.	104.	154.	182.	166.	35.	0.	0.	0.	796.	84.	130.	48.	69.
NORTHWEST	0.	0.	0.	3.	14.	25.	33.	39.	41.	39.	33.	39.	63.	18.	0.	0.	0.	348.	51.	72.	34.	43.
NORTH	0.	0.	0.	3.	14.	25.	33.	39.	41.	39.	33.	25.	14.	3.	0.	0.	0.	270.	46.	62.	32.	39.
NORTHEAST	0.	0.	0.	18.	63.	39.	33.	39.	41.	39.	33.	25.	14.	3.	0.	0.	0.	348.	51.	72.	34.	43.
EAST	0.	0.	0.	35.	166.	182.	154.	104.	41.	39.	33.	25.	14.	3.	0.	0.	0.	796.	84.	130.	48.	69.
SOUTHEAST	0.	0.	0.	33.	181.	232.	242.	225.	186.	133.	72.	25.	14.	3.	0.	0.	0.	1346.	123.	202.	66.	101.
HORIZ.	0.	0.	0.	7.	59.	114.	158.	186.	196.	186.	158.	114.	59.	7.	0.	0.	0.	1245.	116.	189.	63.	95.

MONTH 3 HO 2513. TOD 35. TOT 31. KT .691 KD .151

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	36.	94.	148.	191.	218.	227.	218.	191.	148.	94.	36.	0.	0.	0.	1600.	137.	221.	83.	125.
SOUTHWEST	0.	0.	0.	11.	23.	34.	57.	120.	175.	215.	237.	235.	204.	127.	0.	0.	0.	1439.	127.	202.	77.	115.
WEST	0.	0.	0.	11.	23.	34.	42.	47.	49.	115.	169.	204.	208.	151.	0.	0.	0.	1053.	102.	157.	65.	93.
NORTHWEST	0.	0.	0.	11.	23.	34.	42.	47.	49.	47.	42.	73.	103.	92.	0.	0.	0.	564.	71.	100.	49.	64.
NORTH	0.	0.	0.	11.	23.	34.	42.	47.	49.	47.	42.	34.	23.	11.	0.	0.	0.	363.	58.	77.	43.	52.
NORTHEAST	0.	0.	0.	92.	103.	73.	42.	47.	49.	47.	42.	34.	23.	11.	0.	0.	0.	564.	71.	100.	49.	64.
EAST	0.	0.	0.	151.	208.	204.	169.	115.	49.	47.	42.	34.	23.	11.	0.	0.	0.	1053.	102.	157.	65.	93.
SOUTHEAST	0.	0.	0.	127.	204.	235.	237.	215.	175.	120.	57.	34.	23.	11.	0.	0.	0.	1439.	127.	202.	77.	115.
HORIZ.	0.	0.	0.	41.	104.	161.	206.	234.	244.	234.	206.	161.	104.	41.	0.	0.	0.	1736.	146.	236.	87.	132.

LOCATION LANDER, WYOMING LATITUDE 42 DEGREES 48 MINUTES

MONTH 4 HO 3176. TOD 45. TOT 42. KT .647 KD .162

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	23.	67.	111.	146.	168.	176.	168.	146.	111.	67.	23.	7.	0.	0.	1218.	115.	172.	81.	113.
SOUTHWEST	0.	0.	7.	19.	31.	42.	50.	93.	141.	176.	196.	197.	176.	132.	54.	0.	0.	1313.	120.	181.	84.	119.
WEST	0.	0.	7.	19.	31.	42.	50.	55.	56.	113.	160.	192.	201.	175.	85.	0.	0.	1186.	113.	168.	80.	111.
NORTHWEST	0.	0.	7.	19.	31.	42.	50.	55.	56.	55.	60.	99.	125.	127.	71.	0.	0.	797.	91.	128.	68.	89.
NORTH	0.	0.	19.	19.	31.	42.	50.	55.	56.	55.	50.	42.	31.	19.	19.	0.	0.	488.	73.	96.	58.	71.
NORTHEAST	0.	0.	71.	127.	125.	99.	60.	55.	56.	55.	50.	42.	31.	19.	7.	0.	0.	797.	91.	128.	68.	89.
EAST	0.	0.	85.	175.	201.	192.	160.	113.	56.	55.	50.	42.	31.	19.	7.	0.	0.	1186.	113.	168.	80.	111.
SOUTHEAST	0.	0.	54.	132.	176.	197.	196.	176.	141.	93.	50.	42.	31.	19.	7.	0.	0.	1313.	120.	181.	84.	119.
HORIZ.	0.	0.	21.	77.	135.	187.	226.	252.	260.	252.	226.	187.	135.	77.	21.	0.	0.	2056.	163.	258.	108.	162.

MONTH 5 HO 3607. TOD 56. TOT 52. KT .597 KD .174

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	3.	13.	25.	48.	83.	112.	130.	137.	130.	112.	83.	48.	25.	13.	3.	0.	965.	110.	151.	85.	111.
SOUTHWEST	0.	3.	13.	25.	36.	46.	54.	75.	114.	144.	160.	161.	146.	114.	65.	5.	0.	1161.	121.	171.	92.	123.
WEST	0.	3.	13.	25.	36.	46.	54.	58.	60.	107.	145.	171.	180.	165.	114.	10.	0.	1186.	122.	173.	93.	124.
NORTHWEST	0.	3.	13.	25.	36.	46.	54.	58.	60.	58.	77.	108.	130.	133.	104.	10.	0.	916.	107.	147.	84.	108.
NORTH	0.	6.	40.	39.	36.	46.	54.	58.	60.	58.	54.	46.	36.	39.	40.	6.	0.	619.	91.	117.	74.	90.
NORTHEAST	0.	10.	104.	133.	130.	108.	77.	58.	60.	58.	54.	46.	36.	25.	13.	3.	0.	916.	107.	147.	84.	108.
EAST	0.	10.	114.	165.	180.	171.	145.	107.	60.	58.	54.	46.	36.	25.	13.	3.	0.	1186.	122.	173.	93.	124.
SOUTHEAST	0.	5.	65.	114.	146.	161.	160.	144.	114.	75.	54.	46.	36.	25.	13.	3.	0.	1161.	121.	171.	92.	123.
HORIZ.	0.	5.	43.	95.	146.	190.	225.	247.	254.	247.	225.	190.	146.	95.	43.	5.	0.	2153.	177.	269.	126.	183.

MONTH 6 HO 3765. TOD 65. TOT 61. KT .662 KD .159

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	4.	15.	26.	42.	81.	112.	133.	140.	133.	112.	81.	42.	26.	15.	4.	0.	964.	118.	158.	94.	120.
SOUTHWEST	0.	4.	15.	26.	37.	47.	55.	71.	117.	151.	171.	174.	159.	126.	76.	15.	0.	1243.	133.	184.	104.	137.
WEST	0.	4.	15.	26.	37.	47.	55.	59.	61.	115.	161.	193.	205.	192.	142.	35.	0.	1347.	138.	194.	108.	143.
NORTHWEST	0.	4.	15.	26.	37.	47.	55.	59.	61.	59.	89.	126.	153.	160.	133.	37.	0.	1063.	123.	167.	98.	126.
NORTH	0.	20.	55.	51.	37.	47.	55.	59.	61.	59.	55.	47.	37.	51.	55.	20.	0.	709.	104.	133.	86.	104.
NORTHEAST	0.	37.	133.	160.	153.	126.	89.	59.	61.	59.	55.	47.	37.	26.	15.	4.	0.	1063.	123.	167.	98.	126.
EAST	0.	35.	142.	192.	205.	193.	161.	115.	61.	59.	55.	47.	37.	26.	15.	4.	0.	1347.	138.	194.	108.	143.
SOUTHEAST	0.	15.	76.	126.	159.	174.	171.	151.	117.	71.	55.	47.	37.	26.	15.	4.	0.	1243.	133.	184.	104.	137.
HORIZ.	0.	10.	56.	113.	169.	218.	256.	280.	288.	280.	256.	218.	169.	113.	56.	10.	0.	2493.	200.	304.	147.	212.

LOCATION LANDER, WYOMING LATITUDE 42 DEGREES 48 MINUTES

MONTH 7 HO 3606. TOD 75. TOT 70. KT .665 KD .158

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	2.	13.	24.	49.	90.	123.	144.	151.	144.	123.	90.	49.	24.	13.	2.	0.	1040.	133.	177.	106.	133.
SOUTHWEST	0.	2.	13.	24.	36.	46.	53.	78.	124.	160.	180.	183.	166.	130.	73.	6.	0.	1273.	146.	200.	114.	147.
WEST	0.	2.	13.	24.	36.	46.	53.	58.	60.	116.	163.	195.	207.	190.	130.	11.	0.	1304.	147.	203.	115.	149.
NORTHWEST	0.	2.	13.	24.	36.	46.	53.	58.	60.	58.	82.	121.	147.	153.	119.	11.	0.	983.	130.	172.	104.	130.
NORTH	0.	6.	45.	41.	36.	46.	53.	58.	60.	58.	53.	46.	36.	41.	45.	6.	0.	630.	110.	137.	92.	108.
NORTHEAST	0.	11.	119.	153.	147.	121.	82.	58.	60.	58.	53.	46.	36.	24.	13.	2.	0.	983.	130.	172.	104.	130.
EAST	0.	11.	130.	190.	207.	195.	163.	116.	60.	58.	53.	46.	36.	24.	13.	2.	0.	1304.	147.	203.	115.	149.
SOUTHEAST	0.	6.	73.	130.	166.	183.	180.	160.	124.	78.	53.	46.	36.	24.	13.	2.	0.	1273.	146.	200.	114.	147.
HORIZ.	0.	5.	46.	104.	162.	212.	252.	276.	285.	276.	252.	212.	162.	104.	46.	5.	0.	2398.	209.	311.	152.	215.

MONTH 8 HO 3154. TOD 72. TOT 68. KT .649 KD .162

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	7.	22.	66.	110.	145.	168.	176.	168.	145.	110.	66.	22.	7.	0.	0.	1211.	146.	202.	110.	142.
SOUTHWEST	0.	0.	7.	19.	31.	41.	49.	93.	141.	176.	195.	196.	174.	128.	49.	0.	0.	1299.	151.	212.	113.	147.
WEST	0.	0.	7.	19.	31.	41.	49.	54.	56.	113.	160.	191.	198.	170.	77.	0.	0.	1167.	143.	198.	108.	139.
NORTHWEST	0.	0.	7.	19.	31.	41.	49.	54.	56.	54.	60.	99.	124.	124.	64.	0.	0.	783.	120.	156.	95.	116.
NORTH	0.	0.	18.	19.	31.	41.	49.	54.	56.	54.	49.	41.	31.	19.	18.	0.	0.	482.	102.	124.	85.	98.
NORTHEAST	0.	0.	64.	124.	124.	99.	60.	54.	56.	54.	49.	41.	31.	19.	7.	0.	0.	783.	120.	156.	95.	116.
EAST	0.	0.	77.	170.	198.	191.	160.	113.	56.	54.	49.	41.	31.	19.	7.	0.	0.	1167.	143.	198.	108.	139.
SOUTHEAST	0.	0.	49.	128.	174.	196.	195.	176.	141.	93.	49.	41.	31.	19.	7.	0.	0.	1299.	151.	212.	113.	147.
HORIZ.	0.	0.	20.	75.	134.	186.	226.	252.	261.	252.	226.	186.	134.	75.	20.	0.	0.	2048.	197.	292.	138.	192.

MONTH 9 HO 2503. TOD 61. TOT 57. KT .647 KD .162

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	31.	85.	135.	174.	199.	208.	199.	174.	135.	85.	31.	0.	0.	0.	1456.	160.	236.	107.	145.
SOUTHWEST	0.	0.	0.	11.	23.	34.	55.	112.	161.	197.	216.	212.	181.	109.	0.	0.	0.	1311.	151.	219.	102.	137.
WEST	0.	0.	0.	11.	23.	34.	42.	47.	49.	108.	156.	185.	185.	129.	0.	0.	0.	969.	127.	178.	91.	116.
NORTHWEST	0.	0.	0.	11.	23.	34.	42.	47.	49.	47.	42.	69.	93.	80.	0.	0.	0.	539.	98.	126.	76.	90.
NORTH	0.	0.	0.	11.	23.	34.	42.	47.	49.	47.	42.	34.	23.	11.	0.	0.	0.	364.	86.	105.	70.	79.
NORTHEAST	0.	0.	0.	80.	93.	69.	42.	47.	49.	47.	42.	34.	23.	11.	0.	0.	0.	539.	98.	126.	76.	90.
EAST	0.	0.	0.	129.	185.	185.	156.	108.	49.	47.	42.	34.	23.	11.	0.	0.	0.	969.	127.	178.	91.	116.
SOUTHEAST	0.	0.	0.	109.	181.	212.	216.	197.	161.	112.	55.	34.	23.	11.	0.	0.	0.	1311.	151.	219.	102.	137.
HORIZ.	0.	0.	1.	38.	96.	150.	192.	218.	228.	218.	192.	150.	96.	38.	1.	0.	0.	1619.	171.	256.	113.	155.

LOCATION LANDER, WYOMING LATITUDE 42 DEGREES 48 MINUTES

MONTH 10 HO 1822. TOD 48. TOT 45. KT .666 KD .158

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	10.	93.	158.	205.	235.	245.	235.	205.	158.	93.	10.	0.	0.	0.	1645.	167.	264.	97.	140.
SOUTHWEST	0.	0.	0.	3.	14.	25.	71.	132.	185.	222.	239.	226.	170.	23.	0.	0.	0.	1309.	143.	220.	87.	121.
WEST	0.	0.	0.	3.	14.	25.	33.	38.	40.	102.	151.	177.	156.	24.	0.	0.	0.	763.	103.	149.	69.	89.
NORTHWEST	0.	0.	0.	3.	14.	25.	33.	38.	40.	38.	33.	38.	59.	13.	0.	0.	0.	333.	72.	92.	55.	64.
NORTH	0.	0.	0.	3.	14.	25.	33.	38.	40.	38.	33.	25.	14.	3.	0.	0.	0.	265.	67.	83.	53.	60.
NORTHEAST	0.	0.	0.	13.	59.	38.	33.	38.	40.	38.	33.	25.	14.	3.	0.	0.	0.	333.	72.	92.	55.	64.
EAST	0.	0.	0.	24.	156.	177.	151.	102.	40.	38.	33.	25.	14.	3.	0.	0.	0.	763.	103.	149.	69.	89.
SOUTHEAST	0.	0.	0.	23.	170.	226.	239.	222.	185.	132.	71.	25.	14.	3.	0.	0.	0.	1309.	143.	220.	87.	121.
HORIZ.	0.	0.	0.	6.	56.	111.	155.	183.	193.	183.	155.	111.	56.	6.	0.	0.	0.	1212.	136.	207.	83.	115.

MONTH 11 HO 1264. TOD 33. TOT 30. KT .589 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	51.	132.	182.	211.	221.	211.	182.	132.	51.	0.	0.	0.	0.	1372.	146.	238.	74.	110.
SOUTHWEST	0.	0.	0.	0.	6.	21.	71.	122.	165.	194.	201.	175.	83.	0.	0.	0.	0.	1038.	119.	188.	63.	90.
WEST	0.	0.	0.	0.	6.	16.	25.	30.	32.	81.	117.	126.	70.	0.	0.	0.	0.	502.	75.	108.	46.	59.
NORTHWEST	0.	0.	0.	0.	6.	16.	25.	30.	32.	30.	25.	16.	20.	0.	0.	0.	0.	199.	50.	63.	36.	42.
NORTH	0.	0.	0.	0.	6.	16.	25.	30.	32.	30.	25.	16.	6.	0.	0.	0.	0.	186.	49.	61.	36.	41.
NORTHEAST	0.	0.	0.	0.	20.	16.	25.	30.	32.	30.	25.	16.	6.	0.	0.	0.	0.	199.	50.	63.	36.	42.
EAST	0.	0.	0.	0.	70.	126.	117.	81.	32.	30.	25.	16.	6.	0.	0.	0.	0.	502.	75.	108.	46.	59.
SOUTHEAST	0.	0.	0.	0.	83.	175.	201.	194.	165.	122.	71.	21.	6.	0.	0.	0.	0.	1038.	119.	188.	63.	90.
HORIZ.	0.	0.	0.	0.	18.	62.	101.	125.	134.	125.	101.	62.	18.	0.	0.	0.	0.	746.	95.	145.	54.	73.

MONTH 12 HO 1059. TOD 24. TOT 20. KT .643 KD .163

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	28.	143.	209.	245.	257.	245.	209.	143.	28.	0.	0.	0.	0.	1508.	155.	262.	69.	108.
SOUTHWEST	0.	0.	0.	0.	3.	23.	81.	140.	190.	222.	227.	187.	44.	0.	0.	0.	0.	1117.	121.	200.	56.	85.
WEST	0.	0.	0.	0.	3.	13.	21.	26.	28.	84.	125.	128.	36.	0.	0.	0.	0.	465.	64.	97.	35.	47.
NORTHWEST	0.	0.	0.	0.	3.	13.	21.	26.	28.	26.	21.	13.	9.	0.	0.	0.	0.	160.	38.	49.	26.	30.
NORTH	0.	0.	0.	0.	3.	13.	21.	26.	28.	26.	21.	13.	3.	0.	0.	0.	0.	155.	37.	48.	25.	29.
NORTHEAST	0.	0.	0.	0.	9.	13.	21.	26.	28.	26.	21.	13.	3.	0.	0.	0.	0.	160.	38.	49.	26.	30.
EAST	0.	0.	0.	0.	36.	128.	125.	84.	28.	26.	21.	13.	3.	0.	0.	0.	0.	465.	64.	97.	35.	47.
SOUTHEAST	0.	0.	0.	0.	44.	187.	227.	222.	190.	140.	81.	23.	3.	0.	0.	0.	0.	1117.	121.	200.	56.	85.
HORIZ.	0.	0.	0.	0.	8.	52.	94.	121.	131.	121.	94.	52.	8.	0.	0.	0.	0.	680.	83.	131.	42.	60.

LOCATION LANDER, WYOMING LATITUDE 42 DEGREES 48 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	151.	147.	137.	115.	110.	118.	133.	146.	160.	167.	146.	155.	140.
SOUTHWEST	119.	123.	127.	120.	121.	133.	146.	151.	151.	143.	119.	121.	131.
WEST	67.	84.	102.	113.	122.	138.	147.	143.	127.	103.	75.	64.	107.
NORTHWEST	37.	51.	71.	91.	107.	123.	130.	120.	98.	72.	50.	38.	82.
NORTH	35.	46.	58.	73.	91.	104.	110.	102.	86.	67.	49.	37.	71.
NORTHEAST	37.	51.	71.	91.	107.	123.	130.	120.	98.	72.	50.	38.	82.
EAST	67.	84.	102.	113.	122.	138.	147.	143.	127.	103.	75.	64.	107.
SOUTHEAST	119.	123.	127.	120.	121.	133.	146.	151.	151.	143.	119.	121.	131.
HORIZ.	88.	116.	146.	163.	177.	200.	209.	197.	171.	136.	95.	83.	148.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	258.	246.	221.	172.	151.	158.	177.	202.	236.	264.	238.	262.	215.
SOUTHWEST	199.	202.	202.	181.	171.	184.	200.	212.	219.	220.	188.	200.	198.
WEST	104.	130.	157.	168.	173.	194.	203.	198.	178.	149.	108.	97.	155.
NORTHWEST	50.	72.	100.	128.	147.	167.	172.	156.	126.	92.	63.	49.	110.
NORTH	48.	62.	77.	96.	117.	133.	137.	124.	105.	83.	61.	48.	91.
NORTHEAST	50.	72.	100.	128.	147.	167.	172.	156.	126.	92.	63.	49.	110.
EAST	104.	130.	157.	168.	173.	194.	203.	198.	178.	149.	108.	97.	155.
SOUTHEAST	199.	202.	202.	181.	171.	184.	200.	212.	219.	220.	188.	200.	198.
HORIZ.	144.	189.	236.	258.	269.	304.	311.	292.	256.	207.	145.	131.	229.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	68.	77.	83.	81.	85.	94.	106.	110.	107.	97.	74.	69.	88.
SOUTHWEST	55.	66.	77.	84.	92.	104.	114.	113.	102.	87.	63.	56.	85.
WEST	35.	48.	65.	80.	93.	108.	115.	108.	91.	69.	46.	35.	74.
NORTHWEST	23.	34.	49.	68.	84.	98.	104.	95.	76.	55.	36.	26.	62.
NORTH	23.	32.	43.	58.	74.	86.	92.	85.	70.	53.	36.	25.	56.
NORTHEAST	23.	34.	49.	68.	84.	98.	104.	95.	76.	55.	36.	26.	62.
EAST	35.	48.	65.	80.	93.	108.	115.	108.	91.	69.	46.	35.	74.
SOUTHEAST	55.	66.	77.	84.	92.	104.	114.	113.	102.	87.	63.	56.	85.
HORIZ.	43.	63.	87.	108.	126.	147.	152.	138.	113.	83.	54.	42.	96.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	110.	121.	125.	113.	111.	120.	133.	142.	145.	140.	110.	108.	123.
SOUTHWEST	87.	101.	115.	119.	123.	137.	147.	147.	137.	121.	90.	85.	117.
WEST	50.	69.	93.	111.	124.	143.	149.	139.	116.	89.	59.	47.	99.
NORTHWEST	29.	43.	64.	89.	108.	126.	130.	116.	90.	64.	42.	30.	77.
NORTH	28.	39.	52.	71.	90.	104.	108.	98.	79.	60.	41.	29.	67.
NORTHEAST	29.	43.	64.	89.	108.	126.	130.	116.	90.	64.	42.	30.	77.
EAST	50.	69.	93.	111.	124.	143.	149.	139.	116.	89.	59.	47.	99.
SOUTHEAST	87.	101.	115.	119.	123.	137.	147.	147.	137.	121.	90.	85.	117.
HORIZ.	65.	95.	132.	162.	183.	212.	215.	192.	155.	115.	73.	60.	138.

LOCATION LAS VEGAS, NEVADA LATITUDE 36 DEGREES 5 MINUTES

MONTH 1 HO 1644. TOD 47. TOT 44. KT .654 KD .161

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	91.	162.	208.	236.	245.	236.	208.	162.	91.	0.	0.	0.	0.	1639.	174.	277.	97.	140.
SOUTHWEST	0.	0.	0.	0.	11.	22.	78.	135.	184.	220.	235.	220.	151.	0.	0.	0.	0.	1256.	145.	224.	84.	117.
WEST	0.	0.	0.	0.	11.	22.	31.	37.	39.	96.	142.	162.	129.	0.	0.	0.	0.	668.	99.	141.	66.	83.
NORTHWEST	0.	0.	0.	0.	11.	22.	31.	37.	39.	37.	31.	22.	38.	0.	0.	0.	0.	265.	68.	85.	53.	60.
NORTH	0.	0.	0.	0.	11.	22.	31.	37.	39.	37.	31.	22.	11.	0.	0.	0.	0.	238.	66.	81.	52.	58.
NORTHEAST	0.	0.	0.	0.	38.	22.	31.	37.	39.	37.	31.	22.	11.	0.	0.	0.	0.	265.	68.	85.	53.	60.
EAST	0.	0.	0.	0.	129.	162.	142.	96.	39.	37.	31.	22.	11.	0.	0.	0.	0.	668.	99.	141.	66.	83.
SOUTHEAST	0.	0.	0.	0.	151.	220.	235.	220.	184.	135.	78.	22.	11.	0.	0.	0.	0.	1256.	145.	224.	84.	117.
HORIZ.	0.	0.	0.	0.	39.	96.	141.	170.	180.	170.	141.	96.	39.	0.	0.	0.	0.	1074.	130.	198.	79.	107.

MONTH 2 HO 2185. TOD 54. TOT 50. KT .697 KD .150

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	28.	106.	164.	207.	233.	242.	233.	207.	164.	106.	28.	0.	0.	0.	1720.	175.	273.	106.	151.
SOUTHWEST	0.	0.	0.	5.	18.	29.	67.	130.	185.	226.	248.	244.	202.	73.	0.	0.	0.	1428.	154.	236.	96.	134.
WEST	0.	0.	0.	5.	18.	29.	39.	44.	46.	113.	166.	198.	190.	78.	0.	0.	0.	927.	119.	172.	80.	104.
NORTHWEST	0.	0.	0.	5.	18.	29.	39.	44.	46.	44.	39.	53.	77.	40.	0.	0.	0.	436.	84.	109.	64.	76.
NORTH	0.	0.	0.	5.	18.	29.	39.	44.	46.	44.	39.	29.	18.	5.	0.	0.	0.	316.	76.	94.	61.	69.
NORTHEAST	0.	0.	0.	40.	77.	53.	39.	44.	46.	44.	39.	29.	18.	5.	0.	0.	0.	436.	84.	109.	64.	76.
EAST	0.	0.	0.	78.	190.	198.	166.	113.	46.	44.	39.	29.	18.	5.	0.	0.	0.	927.	119.	172.	80.	104.
SOUTHEAST	0.	0.	0.	73.	202.	244.	248.	226.	185.	130.	67.	29.	18.	5.	0.	0.	0.	1428.	154.	236.	96.	134.
HORIZ.	0.	0.	0.	14.	78.	141.	190.	221.	232.	221.	190.	141.	78.	14.	0.	0.	0.	1523.	161.	248.	9 .	139.

MONTH 3 HO 2763. TOD 60. TOT 56. KT .728 KD .136

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	36.	93.	145.	186.	211.	220.	211.	186.	145.	93.	36.	0.	0.	0.	1562.	160.	242.	107.	147.
SOUTHWEST	0.	0.	0.	11.	24.	36.	46.	112.	171.	216.	243.	245.	218.	143.	0.	0.	0.	1466.	154.	231.	104.	142.
WEST	0.	0.	0.	11.	24.	36.	45.	51.	53.	124.	184.	223.	229.	172.	0.	0.	0.	1154.	134.	194.	94.	124.
NORTHWEST	0.	0.	0.	11.	24.	36.	45.	51.	53.	51.	45.	91.	121.	108.	0.	0.	0.	636.	101.	134.	77.	94.
NORTH	0.	0.	0.	11.	24.	36.	45.	51.	53.	51.	45.	36.	24.	11.	0.	0.	0.	387.	85.	105.	69.	79.
NORTHEAST	0.	0.	0.	108.	121.	91.	45.	51.	53.	51.	45.	36.	24.	11.	0.	0.	0.	636.	101.	134.	77.	94.
EAST	0.	0.	0.	172.	229.	223.	184.	124.	53.	51.	45.	36.	24.	11.	0.	0.	0.	1154.	134.	194.	94.	124.
SOUTHEAST	0.	0.	0.	143.	218.	245.	243.	216.	171.	112.	46.	36.	24.	11.	0.	0.	0.	1466.	154.	231.	104.	142.
HORIZ.	0.	0.	0.	48.	121.	187.	238.	270.	281.	270.	238.	187.	121.	48.	0.	0.	0.	2011.	189.	294.	121.	174.

LOCATION LAS VEGAS, NEVADA LATITUDE 36 DEGREES 5 MINUTES

MONTH 4 HO 3306. TOD 69. TOT 66. KT .719 KD .140

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	5.	18.	60.	105.	141.	164.	172.	164.	141.	105.	60.	18.	5.	0.	0.	1156.	137.	192.	103.	133.
SOUTHWEST	0.	0.	5.	18.	31.	43.	51.	83.	139.	181.	207.	213.	194.	145.	49.	0.	0.	1361.	149.	214.	109.	145.
WEST	0.	0.	5.	18.	31.	43.	51.	57.	59.	126.	183.	221.	232.	201.	80.	0.	0.	1309.	146.	208.	108.	142.
NORTHWEST	0.	0.	5.	18.	31.	43.	51.	57.	59.	57.	81.	125.	153.	150.	68.	0.	0.	898.	122.	165.	94.	118.
NORTH	0.	0.	18.	22.	31.	43.	51.	57.	59.	57.	51.	43.	31.	22.	18.	0.	0.	502.	99.	123.	82.	95.
NORTHEAST	0.	0.	68.	150.	153.	125.	81.	57.	59.	57.	51.	43.	31.	18.	5.	0.	0.	898.	122.	165.	94.	118.
EAST	0.	0.	80.	201.	232.	221.	183.	126.	59.	57.	51.	43.	31.	18.	5.	0.	0.	1309.	146.	208.	108.	142.
SOUTHEAST	0.	0.	49.	145.	194.	213.	207.	181.	139.	83.	51.	43.	31.	18.	5.	0.	0.	1361.	149.	214.	109.	145.
HORIZ.	0.	0.	17.	83.	154.	217.	266.	297.	308.	297.	266.	217.	154.	83.	17.	0.	0.	2378.	208.	322.	142.	204.

MONTH 5 HO 3633. TOD 78. TOT 74. KT .732 KD .134

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	10.	22.	35.	75.	108.	130.	137.	130.	108.	75.	35.	22.	10.	0.	0.	896.	131.	171.	105.	128.
SOUTHWEST	0.	0.	10.	22.	35.	45.	53.	61.	115.	157.	184.	191.	176.	138.	71.	0.	0.	1257.	152.	208.	117.	150.
WEST	0.	0.	10.	22.	35.	45.	53.	59.	60.	127.	183.	221.	235.	214.	134.	0.	0.	1398.	160.	222.	122.	159.
NORTHWEST	0.	0.	10.	22.	35.	45.	53.	59.	60.	59.	106.	149.	177.	179.	124.	0.	0.	1077.	141.	189.	111.	139.
NORTH	0.	0.	47.	51.	35.	45.	53.	59.	60.	59.	53.	45.	35.	51.	47.	0.	0.	641.	116.	144.	96.	113.
NORTHEAST	0.	0.	124.	179.	177.	149.	106.	59.	60.	59.	53.	45.	35.	22.	10.	0.	0.	1077.	141.	189.	111.	139.
EAST	0.	0.	134.	214.	235.	221.	183.	127.	60.	59.	53.	45.	35.	22.	10.	0.	0.	1398.	160.	222.	122.	159.
SOUTHEAST	0.	0.	71.	138.	176.	191.	184.	157.	115.	61.	53.	45.	35.	22.	10.	0.	0.	1257.	152.	208.	117.	150.
HORIZ.	0.	0.	39.	108.	178.	239.	286.	316.	327.	316.	286.	239.	178.	108.	39.	0.	0.	2659.	233.	352.	165.	235.

MONTH 6 HO 3746. TOD 88. TOT 84. KT .746 KD .127

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	1.	11.	23.	35.	62.	95.	116.	124.	116.	95.	62.	35.	23.	11.	1.	0.	813.	134.	170.	111.	133.
SOUTHWEST	0.	1.	11.	23.	35.	45.	53.	58.	105.	148.	175.	183.	170.	134.	74.	2.	0.	1220.	157.	211.	125.	157.
WEST	0.	1.	11.	23.	35.	45.	53.	58.	60.	127.	184.	223.	239.	220.	149.	4.	0.	1434.	170.	232.	133.	170.
NORTHWEST	0.	1.	11.	23.	35.	45.	53.	58.	60.	66.	116.	160.	188.	191.	142.	4.	0.	1156.	154.	204.	123.	153.
NORTH	0.	3.	59.	64.	48.	45.	53.	58.	60.	58.	53.	45.	48.	64.	59.	3.	0.	723.	129.	161.	108.	127.
NORTHEAST	0.	4.	142.	191.	188.	160.	116.	66.	60.	58.	53.	45.	35.	23.	11.	1.	0.	1156.	154.	204.	123.	153.
EAST	0.	4.	149.	220.	239.	223.	184.	127.	60.	58.	53.	45.	35.	23.	11.	1.	0.	1434.	170.	232.	133.	170.
SOUTHEAST	0.	2.	74.	134.	170.	183.	175.	148.	105.	58.	53.	45.	35.	23.	11.	1.	0.	1220.	157.	211.	125.	157.
HORIZ.	0.	2.	48.	118.	188.	249.	297.	327.	337.	327.	297.	249.	188.	118.	48.	2.	0.	2794.	247.	368.	179.	252.

LOCATION LAS VEGAS, NEVADA LATITUDE 36 DEGREES 5 MINUTES

MONTH 7 HO 3628. TOD 95. TOT 90. KT .685 KD .153

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	10.	23.	36.	72.	103.	123.	130.	123.	103.	72.	36.	23.	10.	0.	0.	865.	145.	184.	120.	143.
SOUTHWEST	0.	0.	10.	23.	36.	47.	55.	62.	110.	147.	170.	175.	160.	124.	63.	0.	0.	1183.	164.	217.	131.	162.
WEST	0.	0.	10.	23.	36.	47.	55.	60.	62.	121.	170.	203.	213.	192.	117.	0.	0.	1309.	171.	230.	135.	170.
NORTHWEST	0.	0.	10.	23.	36.	47.	55.	60.	62.	60.	102.	139.	162.	161.	109.	0.	0.	1026.	155.	201.	126.	153.
NORTH	0.	0.	43.	49.	37.	47.	55.	60.	62.	60.	55.	47.	37.	49.	43.	0.	0.	644.	132.	161.	11 .	129.
NORTHEAST	0.	0.	109.	161.	162.	139.	102.	60.	62.	60.	55.	47.	36.	23.	10.	0.	0.	1026.	155.	201.	126.	153.
EAST	0.	0.	117.	192.	213.	203.	170.	121.	62.	60.	55.	47.	36.	23.	10.	0.	0.	1309.	171.	230.	135.	170.
SOUTHEAST	0.	0.	63.	124.	160.	175.	170.	147.	110.	62.	55.	47.	36.	23.	10.	0.	0.	1183.	164.	217.	131.	162.
HORIZ.	0.	1.	37.	101.	166.	223.	267.	295.	305.	295.	267.	223.	166.	101.	37.	1.	0.	2485.	240.	351.	175.	241.

MONTH 8 HO 3282. TOD 93. TOT 88. KT .697 KD .150

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	18.	58.	101.	135.	158.	165.	158.	135.	101.	58.	18.	6.	0.	0.	1117.	162.	216.	127.	156.
SOUTHWEST	0.	0.	6.	18.	32.	43.	52.	82.	134.	175.	199.	202.	182.	134.	42.	0.	0.	1300.	174.	236.	133.	167.
WEST	0.	0.	6.	18.	32.	43.	52.	57.	59.	123.	176.	210.	218.	185.	68.	0.	0.	1247.	170.	230.	131.	164.
NORTHWEST	0.	0.	6.	18.	32.	43.	52.	57.	59.	57.	80.	120.	145.	138.	57.	0.	0.	866.	147.	188.	118.	141.
NORTH	0.	0.	16.	22.	32.	43.	52.	57.	59.	57.	52.	43.	32.	22.	16.	0.	0.	503.	124.	148.	106.	119.
NORTHEAST	0.	0.	57.	138.	145.	120.	80.	57.	59.	57.	52.	43.	32.	18.	6.	0.	0.	866.	147.	188.	118.	141.
EAST	0.	0.	68.	185.	218.	210.	176.	123.	59.	57.	52.	43.	32.	18.	6.	0.	0.	1247.	170.	230.	131.	164.
SOUTHEAST	0.	0.	42.	134.	182.	202.	199.	175.	134.	82.	52.	43.	32.	18.	6.	0.	0.	1300.	174.	236.	133.	167.
HORIZ.	0.	0.	16.	79.	148.	209.	257.	287.	297.	287.	257.	209.	148.	79.	16.	0.	0.	2288.	235.	344.	167.	227.

MONTH 9 HO 2748. TOD 85. TOT 81. KT .716 KD .141

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	33.	88.	140.	180.	205.	214.	205.	180.	140.	88.	33.	0.	0.	0.	1507.	188.	267.	132.	172.
SOUTHWEST	0.	0.	0.	11.	24.	36.	46.	110.	167.	210.	235.	236.	207.	130.	0.	0.	0.	1414.	182.	255.	129.	166.
WEST	0.	0.	0.	11.	24.	36.	45.	51.	53.	122.	179.	216.	218.	158.	0.	0.	0.	1115.	161.	219.	119.	148.
NORTHWEST	0.	0.	0.	11.	24.	36.	45.	51.	53.	51.	45.	90.	116.	99.	0.	0.	0.	624.	128.	160.	102.	118.
NORTH	0.	0.	0.	11.	24.	36.	45.	51.	53.	51.	45.	36.	24.	11.	0.	0.	0.	390.	112.	132.	94.	104.
NORTHEAST	0.	0.	0.	99.	116.	90.	45.	51.	53.	51.	45.	36.	24.	11.	0.	0.	0.	624.	128.	160.	102.	118.
EAST	0.	0.	0.	158.	218.	216.	179.	122.	53.	51.	45.	36.	24.	11.	0.	0.	0.	1115.	161.	219.	119.	148.
SOUTHEAST	0.	0.	0.	130.	207.	236.	235.	210.	167.	110.	46.	36.	24.	11.	0.	0.	0.	1414.	182.	255.	129.	166.
HORIZ.	0.	0.	0.	46.	117.	183.	233.	266.	277.	266.	233.	183.	117.	46.	0.	0.	0.	1967.	219.	322.	148.	200.

LOCATION LAS VEGAS, NEVADA LATITUDE 36 DEGREES 5 MINUTES

MONTH 10 HO 2151. TOD 72. TOT 67. KT .704 KD .147

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	24.	105.	165.	210.	237.	247.	237.	210.	165.	105.	24.	0.	0.	0.	1729.	193.	293.	123.	168.
SOUTHWEST	0.	0.	0.	4.	17.	29.	68.	132.	188.	230.	251.	245.	199.	62.	0.	0.	0.	1424.	172.	254.	113.	150.
WEST	0.	0.	0.	4.	17.	29.	38.	44.	46.	113.	167.	198.	186.	66.	0.	0.	0.	909.	136.	188.	97.	120.
NORTHWEST	0.	0.	0.	4.	17.	29.	38.	44.	46.	44.	38.	52.	75.	34.	0.	0.	0.	421.	101.	125.	81.	92.
NORTH	0.	0.	0.	4.	17.	29.	38.	44.	46.	44.	38.	29.	17.	4.	0.	0.	0.	310.	94.	111.	77.	85.
NORTHEAST	0.	0.	0.	34.	75.	52.	38.	44.	46.	44.	38.	29.	17.	4.	0.	0.	0.	421.	101.	125.	81.	92.
EAST	0.	0.	0.	66.	186.	198.	167.	113.	46.	44.	38.	29.	17.	4.	0.	0.	0.	909.	136.	188.	97.	120.
SOUTHEAST	0.	0.	0.	62.	199.	245.	251.	230.	188.	132.	68.	29.	17.	4.	0.	0.	0.	1424.	172.	254.	113.	150.
HORIZ.	0.	0.	0.	12.	76.	140.	190.	222.	233.	222.	190.	140.	76.	12.	0.	0.	0.	1514.	178.	265.	116.	156.

MONTH 11 HO 1631. TOD 58. TOT 54. KT .657 KD .160

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	89.	162.	209.	237.	247.	237.	209.	162.	89.	0.	0.	0.	0.	1643.	185.	289.	107.	150.
SOUTHWEST	0.	0.	0.	0.	10.	22.	78.	136.	186.	221.	236.	220.	148.	0.	0.	0.	0.	1257.	155.	234.	94.	127.
WEST	0.	0.	0.	0.	10.	22.	31.	36.	38.	97.	142.	162.	126.	0.	0.	0.	0.	664.	109.	151.	75.	93.
NORTHWEST	0.	0.	0.	0.	10.	22.	31.	36.	38.	36.	31.	22.	37.	0.	0.	0.	0.	263.	78.	95.	62.	69.
NORTH	0.	0.	0.	0.	10.	22.	31.	36.	38.	36.	31.	22.	10.	0.	0.	0.	0.	236.	76.	91.	61.	68.
NORTHEAST	0.	0.	0.	0.	37.	22.	31.	36.	38.	36.	31.	22.	10.	0.	0.	0.	0.	263.	78.	95.	62.	69.
EAST	0.	0.	0.	0.	126.	162.	142.	97.	38.	36.	31.	22.	10.	0.	0.	0.	0.	664.	109.	151.	75.	93.
SOUTHEAST	0.	0.	0.	0.	148.	220.	236.	221.	186.	136.	78.	22.	10.	0.	0.	0.	0.	1257.	155.	234.	94.	127.
HORIZ.	0.	0.	0.	0.	38.	95.	141.	171.	181.	171.	141.	95.	38.	0.	0.	0.	0.	1071.	141.	208.	88.	116.

MONTH 12 HO 1432. TOD 50. TOT 47. KT .668 KD .157

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	80.	167.	220.	250.	260.	250.	220.	167.	80.	0.	0.	0.	0.	1692.	187.	298.	101.	145.
SOUTHWEST	0.	0.	0.	0.	8.	27.	84.	143.	194.	229.	242.	221.	127.	0.	0.	0.	0.	1275.	153.	237.	88.	121.
WEST	0.	0.	0.	0.	8.	19.	27.	33.	35.	94.	139.	156.	104.	0.	0.	0.	0.	615.	100.	140.	67.	83.
NORTHWEST	0.	0.	0.	0.	8.	19.	27.	33.	35.	33.	27.	19.	25.	0.	0.	0.	0.	226.	68.	83.	54.	60.
NORTH	0.	0.	0.	0.	8.	19.	27.	33.	35.	33.	27.	19.	8.	0.	0.	0.	0.	208.	67.	81.	53.	59.
NORTHEAST	0.	0.	0.	0.	25.	19.	27.	33.	35.	33.	27.	19.	8.	0.	0.	0.	0.	226.	68.	83.	54.	60.
EAST	0.	0.	0.	0.	104.	156.	139.	94.	35.	33.	27.	19.	8.	0.	0.	0.	0.	615.	100.	140.	67.	83.
SOUTHEAST	0.	0.	0.	0.	127.	221.	242.	229.	194.	143.	84.	27.	8.	0.	0.	0.	0.	1275.	153.	237.	88.	121.
HORIZ.	0.	0.	0.	0.	26.	82.	128.	158.	168.	158.	128.	82.	26.	0.	0.	0.	0.	959.	128.	191.	78.	103.

LOCATION LAS VEGAS, NEVADA LATITUDE 36 DEGREES 5 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	174.	175.	160.	137.	131.	134.	145.	162.	188.	193.	185.	187.	164.
SOUTHWEST	145.	154.	154.	149.	152.	157.	164.	174.	182.	172.	155.	153.	159.
WEST	99.	119.	134.	146.	160.	170.	171.	170.	161.	136.	109.	100.	140.
NORTHWEST	68.	84.	101.	122.	141.	154.	155.	147.	128.	101.	78.	68.	112.
NORTH	66.	76.	85.	99.	116.	129.	132.	124.	112.	94.	76.	67.	98.
NORTHEAST	68.	84.	101.	122.	141.	154.	155.	147.	128.	101.	78.	68.	112.
EAST	99.	119.	134.	146.	160.	170.	171.	170.	161.	136.	109.	100.	140.
SOUTHEAST	145.	154.	154.	149.	152.	157.	164.	174.	182.	172.	155.	153.	159.
HORIZ.	130.	161.	189.	208.	233.	247.	240.	235.	219.	178.	141.	128.	192.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	277.	273.	242.	192.	171.	170.	184.	216.	267.	293.	289.	298.	239.
SOUTHWEST	224.	236.	231.	214.	208.	211.	217.	236.	255.	254.	234.	237.	230.
WEST	141.	172.	194.	208.	222.	232.	230.	230.	219.	188.	151.	140.	194.
NORTHWEST	85.	109.	134.	165.	189.	204.	201.	188.	160.	125.	95.	83.	145.
NORTH	81.	94.	105.	123.	144.	161.	161.	148.	132.	111.	91.	81.	119.
NORTHEAST	85.	109.	134.	165.	189.	204.	201.	188.	160.	125.	95.	83.	145.
EAST	141.	172.	194.	208.	222.	232.	230.	230.	219.	188.	151.	140.	194.
SOUTHEAST	224.	236.	231.	214.	208.	211.	217.	236.	255.	254.	234.	237.	230.
HORIZ.	198.	248.	294.	322.	352.	368.	351.	344.	322.	265.	208.	191.	289.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	97.	106.	107.	103.	105.	111.	120.	127.	132.	123.	107.	101.	111.
SOUTHWEST	84.	96.	104.	109.	117.	125.	131.	133.	129.	113.	94.	88.	110.
WEST	66.	80.	94.	108.	122.	133.	135.	131.	119.	97.	75.	67.	102.
NORTHWEST	53.	64.	77.	94.	111.	123.	126.	118.	102.	81.	62.	54.	89.
NORTH	52.	61.	69.	82.	96.	108.	113.	106.	94.	77.	61.	53.	81.
NORTHEAST	53.	64.	77.	94.	111.	123.	126.	118.	102.	81.	62.	54.	89.
EAST	66.	80.	94.	108.	122.	133.	135.	131.	119.	97.	75.	67.	102.
SOUTHEAST	84.	96.	104.	109.	117.	125.	131.	133.	129.	113.	94.	88.	110.
HORIZ.	79.	99.	121.	142.	165.	179.	175.	167.	148.	116.	88.	78.	130.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	140.	151.	147.	133.	128.	133.	143.	156.	172.	168.	150.	145.	147.
SOUTHWEST	117.	134.	142.	145.	150.	157.	162.	167.	166.	150.	127.	121.	145.
WEST	83.	104.	124.	142.	159.	170.	170.	164.	148.	120.	93.	83.	130.
NORTHWEST	60.	76.	94.	118.	139.	153.	153.	141.	118.	92.	69.	60.	106.
NORTH	58.	69.	79.	95.	113.	127.	129.	119.	104.	85.	68.	59.	92.
NORTHEAST	60.	76.	94.	118.	139.	153.	153.	141.	118.	92.	69.	60.	106.
EAST	83.	104.	124.	142.	159.	170.	170.	164.	148.	120.	93.	83.	130.
SOUTHEAST	117.	134.	142.	145.	150.	157.	162.	167.	166.	150.	127.	121.	145.
HORIZ.	107.	139.	174.	204.	235.	252.	241.	227.	200.	156.	116.	103.	179.

LOCATION LEMONT, ILLINOIS LATITUDE 41 DEGREES 40 MINUTES

MONTH 1 HO 1338. TOD 29. TOT 24. KT .464 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	42.	96.	130.	149.	156.	149.	130.	96.	42.	0.	0.	0.	0.	989.	109.	174.	56.	81.
SOUTHWEST	0.	0.	0.	0.	7.	19.	55.	90.	119.	138.	143.	126.	67.	0.	0.	0.	0.	765.	91.	141.	48.	68.
WEST	0.	0.	0.	0.	7.	17.	25.	29.	31.	63.	87.	92.	57.	0.	0.	0.	0.	409.	62.	89.	37.	48.
NORTHWEST	0.	0.	0.	0.	7.	17.	25.	29.	31.	29.	25.	17.	18.	0.	0.	0.	0.	198.	45.	58.	30.	35.
NORTH	0.	0.	0.	0.	7.	17.	25.	29.	31.	29.	25.	17.	7.	0.	0.	0.	0.	187.	44.	56.	30.	35.
NORTHEAST	0.	0.	0.	0.	18.	17.	25.	29.	31.	29.	25.	17.	7.	0.	0.	0.	0.	198.	45.	58.	30.	35.
EAST	0.	0.	0.	0.	57.	92.	87.	63.	31.	29.	25.	17.	7.	0.	0.	0.	0.	409.	62.	89.	37.	48.
SOUTHEAST	0.	0.	0.	0.	67.	126.	143.	138.	119.	90.	55.	19.	7.	0.	0.	0.	0.	765.	91.	141.	48.	68.
HORIZ.	0.	0.	0.	0.	18.	54.	83.	102.	108.	102.	83.	54.	18.	0.	0.	0.	0.	622.	79.	120.	44.	60.

MONTH 2 HO 1913. TOD 30. TOT 26. KT .496 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	11.	65.	106.	137.	155.	162.	155.	137.	106.	65.	11.	0.	0.	0.	1111.	110.	175.	62.	91.
SOUTHWEST	0.	0.	0.	4.	15.	26.	56.	94.	126.	149.	157.	149.	116.	25.	0.	0.	0.	916.	96.	150.	56.	80.
WEST	0.	0.	0.	4.	15.	26.	34.	39.	41.	77.	106.	120.	107.	27.	0.	0.	0.	595.	73.	108.	45.	61.
NORTHWEST	0.	0.	0.	4.	15.	26.	34.	39.	41.	39.	34.	35.	45.	15.	0.	0.	0.	325.	54.	73.	37.	45.
NORTH	0.	0.	0.	4.	15.	26.	34.	39.	41.	39.	34.	26.	15.	4.	0.	0.	0.	275.	50.	66.	35.	42.
NORTHEAST	0.	0.	0.	15.	45.	35.	34.	39.	41.	39.	34.	26.	15.	4.	0.	0.	0.	325.	54.	73.	37.	45.
EAST	0.	0.	0.	27.	107.	120.	106.	77.	41.	39.	34.	26.	15.	4.	0.	0.	0.	595.	73.	108.	45.	61.
SOUTHEAST	0.	0.	0.	25.	116.	149.	157.	149.	126.	94.	56.	26.	15.	4.	0.	0.	0.	916.	96.	150.	56.	80.
HORIZ.	0.	0.	0.	8.	48.	88.	119.	139.	146.	139.	119.	88.	48.	8.	0.	0.	0.	948.	98.	154.	57.	82.

MONTH 3 HO 2558. TOD 39. TOT 36. KT .520 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	27.	67.	104.	133.	151.	157.	151.	133.	104.	67.	27.	0.	0.	0.	1119.	111.	169.	72.	101.
SOUTHWEST	0.	0.	0.	12.	24.	34.	50.	91.	125.	150.	162.	158.	136.	84.	0.	0.	0.	1027.	105.	159.	69.	96.
WEST	0.	0.	0.	12.	24.	34.	42.	48.	49.	89.	121.	140.	138.	99.	0.	0.	0.	798.	91.	132.	62.	83.
NORTHWEST	0.	0.	0.	12.	24.	34.	42.	48.	49.	48.	42.	60.	74.	63.	0.	0.	0.	496.	71.	97.	52.	65.
NORTH	0.	0.	0.	12.	24.	34.	42.	48.	49.	48.	42.	34.	24.	12.	0.	0.	0.	369.	63.	82.	48.	58.
NORTHEAST	0.	0.	0.	63.	74.	60.	42.	48.	49.	48.	42.	34.	24.	12.	0.	0.	0.	496.	71.	97.	52.	65.
EAST	0.	0.	0.	99.	138.	140.	121.	89.	49.	48.	42.	34.	24.	12.	0.	0.	0.	798.	91.	132.	62.	83.
SOUTHEAST	0.	0.	0.	84.	136.	158.	162.	150.	125.	91.	50.	34.	24.	12.	0.	0.	0.	1027.	105.	159.	69.	96.
HORIZ.	0.	0.	0.	34.	81.	123.	156.	177.	184.	177.	156.	123.	81.	34.	0.	0.	0.	1329.	124.	194.	79.	114.

LOCATION LEMONT, ILLINOIS LATITUDE 41 DEGREES 40 MINUTES

MONTH 4 HO 3201. TOD 50. TOT 48. KT .477 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	21.	51.	80.	103.	118.	123.	118.	103.	80.	51.	21.	7.	0.	0.	885.	100.	142.	76.	99.
SOUTHWEST	0.	0.	7.	19.	31.	41.	48.	74.	103.	124.	134.	132.	117.	86.	34.	0.	0.	951.	104.	149.	78.	103.
WEST	0.	0.	7.	19.	31.	41.	48.	53.	55.	88.	114.	130.	132.	112.	53.	0.	0.	883.	100.	141.	76.	99.
NORTHWEST	0.	0.	7.	19.	31.	41.	48.	53.	55.	53.	56.	76.	88.	84.	44.	0.	0.	654.	87.	118.	69.	86.
NORTH	0.	0.	14.	19.	31.	41.	48.	53.	55.	53.	48.	41.	31.	19.	14.	0.	0.	466.	76.	98.	63.	75.
NORTHEAST	0.	0.	44.	84.	88.	76.	56.	53.	55.	53.	48.	41.	31.	19.	7.	0.	0.	654.	87.	118.	69.	86.
EAST	0.	0.	53.	112.	132.	130.	114.	88.	55.	53.	48.	41.	31.	19.	7.	0.	0.	883.	100.	141.	76.	99.
SOUTHEAST	0.	0.	34.	86.	117.	132.	134.	124.	103.	74.	48.	41.	31.	19.	7.	0.	0.	951.	104.	149.	78.	103.
HORIZ.	0.	0.	18.	59.	101.	138.	167.	185.	191.	185.	167.	138.	101.	59.	18.	0.	0.	1528.	137.	209.	97.	137.

MONTH 5 HO 3614. TOD 59. TOT 59. KT .525 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	2.	13.	25.	43.	73.	97.	113.	118.	113.	97.	73.	43.	25.	13.	2.	0.	852.	107.	144.	88.	110.
SOUTHWEST	0.	2.	13.	25.	36.	46.	53.	69.	101.	124.	137.	136.	123.	95.	54.	4.	0.	1017.	117.	161.	94.	120.
WEST	0.	2.	13.	25.	36.	46.	53.	58.	59.	97.	127.	146.	151.	137.	92.	5.	0.	1047.	118.	164.	95.	122.
NORTHWEST	0.	2.	13.	25.	36.	46.	53.	58.	59.	58.	74.	97.	112.	112.	85.	6.	0.	835.	106.	142.	87.	109.
NORTH	0.	4.	35.	37.	36.	46.	53.	58.	59.	58.	53.	46.	36.	37.	35.	4.	0.	594.	93.	118.	79.	95.
NORTHEAST	0.	6.	85.	112.	112.	97.	74.	58.	59.	58.	53.	46.	36.	25.	13.	2.	0.	835.	106.	142.	87.	109.
EAST	0.	5.	92.	137.	151.	146.	127.	97.	59.	58.	53.	46.	36.	25.	13.	2.	0.	1047.	118.	164.	95.	122.
SOUTHEAST	0.	4.	54.	95.	123.	136.	137.	124.	101.	69.	53.	46.	36.	25.	13.	2.	0.	1017.	117.	161.	94.	120.
HORIZ.	0.	4.	38.	83.	128.	168.	198.	217.	224.	217.	198.	168.	128.	83.	38.	4.	0.	1897.	166.	248.	124.	174.

MONTH 6 HO 3764. TOD 71. TOT 69. KT .542 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	4.	15.	27.	39.	68.	93.	108.	114.	108.	93.	68.	39.	27.	15.	4.	0.	821.	116.	150.	97.	119.
SOUTHWEST	0.	4.	15.	27.	37.	47.	54.	65.	98.	122.	135.	136.	123.	96.	58.	10.	0.	1028.	127.	170.	104.	131.
WEST	0.	4.	15.	27.	37.	47.	54.	59.	61.	99.	130.	151.	157.	144.	104.	22.	0.	1111.	132.	178.	107.	136.
NORTHWEST	0.	4.	15.	27.	37.	47.	54.	59.	61.	59.	81.	105.	121.	123.	98.	23.	0.	915.	121.	159.	100.	124.
NORTH	0.	13.	44.	45.	37.	47.	54.	59.	61.	59.	54.	47.	37.	45.	44.	13.	0.	660.	107.	135.	92.	109.
NORTHEAST	0.	23.	98.	123.	121.	105.	81.	59.	61.	59.	54.	47.	37.	27.	15.	4.	0.	915.	121.	159.	100.	124.
EAST	0.	22.	104.	144.	157.	151.	130.	99.	61.	59.	54.	47.	37.	27.	15.	4.	0.	1111.	132.	178.	107.	136.
SOUTHEAST	0.	10.	58.	96.	123.	136.	135.	122.	98.	65.	54.	47.	37.	27.	15.	4.	0.	1028.	127.	170.	104.	131.
HORIZ.	0.	9.	46.	93.	139.	178.	209.	229.	235.	229.	209.	178.	139.	93.	46.	9.	0.	2041.	182.	268.	139.	192.

LOCATION LEMONT, ILLINOIS LATITUDE 41 DEGREES 40 MINUTES

MONTH 7 HO 3612. TOD 76. TOT 74. KT .542 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	2.	13.	25.	43.	74.	100.	116.	121.	116.	100.	74.	43.	25.	13.	2.	0.	868.	124.	162.	103.	126.
SOUTHWEST	0.	2.	13.	25.	36.	46.	53.	70.	103.	128.	141.	141.	127.	98.	55.	4.	0.	1041.	134.	179.	109.	137.
WEST	0.	2.	13.	25.	36.	46.	53.	58.	60.	99.	131.	152.	157.	141.	95.	6.	0.	1073.	136.	182.	110.	139.
NORTHWEST	0.	2.	13.	25.	36.	46.	53.	58.	60.	58.	76.	100.	116.	116.	87.	6.	0.	851.	124.	160.	103.	125.
NORTH	0.	4.	36.	38.	36.	46.	53.	58.	60.	58.	53.	46.	36.	38.	36.	4.	0.	599.	109.	135.	94.	110.
NORTHEAST	0.	6.	87.	116.	116.	100.	76.	58.	60.	58.	53.	46.	36.	25.	13.	2.	0.	851.	124.	160.	103.	125.
EAST	0.	6.	95.	141.	157.	152.	131.	99.	60.	58.	53.	46.	36.	25.	13.	2.	0.	1073.	136.	182.	110.	139.
SOUTHEAST	0.	4.	55.	98.	127.	141.	141.	128.	103.	70.	53.	46.	36.	25.	13.	2.	0.	1041.	134.	179.	109.	137.
HORIZ.	0.	4.	38.	86.	132.	173.	205.	225.	232.	225.	205.	173.	132.	86.	38.	4.	0.	1958.	186.	270.	141.	192.

MONTH 8 HO 3179. TOD 74. TOT 71. KT .559 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	7.	21.	57.	93.	121.	140.	146.	140.	121.	93.	57.	21.	7.	0.	0.	1024.	137.	185.	106.	133.
SOUTHWEST	0.	0.	7.	19.	31.	42.	50.	83.	120.	147.	161.	160.	142.	103.	38.	0.	0.	1103.	142.	193.	109.	138.
WEST	0.	0.	7.	19.	31.	42.	50.	55.	56.	100.	136.	158.	161.	136.	60.	0.	0.	1011.	136.	183.	106.	132.
NORTHWEST	0.	0.	7.	19.	31.	42.	50.	55.	56.	55.	60.	88.	105.	101.	50.	0.	0.	718.	118.	152.	96.	115.
NORTH	0.	0.	16.	19.	31.	42.	50.	55.	56.	55.	50.	42.	31.	19.	16.	0.	0.	480.	104.	126.	88.	100.
NORTHEAST	0.	0.	50.	101.	105.	88.	60.	55.	56.	55.	50.	42.	31.	19.	7.	0.	0.	718.	118.	152.	96.	115.
EAST	0.	0.	60.	136.	161.	158.	136.	100.	56.	55.	50.	42.	31.	19.	7.	0.	0.	1011.	136.	183.	106.	132.
SOUTHEAST	0.	0.	38.	103.	142.	160.	161.	147.	120.	83.	50.	42.	31.	19.	7.	0.	0.	1103.	142.	193.	109.	138.
HORIZ.	0.	0.	18.	66.	117.	161.	196.	218.	225.	218.	196.	161.	117.	66.	18.	0.	0.	1778.	183.	266.	132.	179.

MONTH 9 HO 2547. TOD 67. TOT 64. KT .547 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	27.	69.	109.	140.	159.	166.	159.	140.	109.	69.	27.	0.	0.	0.	1175.	147.	208.	104.	135.
SOUTHWEST	0.	0.	0.	11.	24.	34.	51.	94.	132.	159.	172.	168.	142.	86.	0.	0.	0.	1073.	140.	196.	101.	129.
WEST	0.	0.	0.	11.	24.	34.	43.	48.	49.	93.	128.	148.	146.	101.	0.	0.	0.	826.	123.	166.	92.	114.
NORTHWEST	0.	0.	0.	11.	24.	34.	43.	48.	49.	48.	43.	62.	78.	64.	0.	0.	0.	504.	101.	128.	81.	94.
NORTH	0.	0.	0.	11.	24.	34.	43.	48.	49.	48.	43.	34.	24.	11.	0.	0.	0.	369.	92.	112.	77.	86.
NORTHEAST	0.	0.	0.	64.	78.	62.	43.	48.	49.	48.	43.	34.	24.	11.	0.	0.	0.	504.	101.	128.	81.	94.
EAST	0.	0.	0.	101.	146.	148.	128.	93.	49.	48.	43.	34.	24.	11.	0.	0.	0.	826.	123.	166.	92.	114.
SOUTHEAST	0.	0.	0.	86.	142.	168.	172.	159.	132.	94.	51.	34.	24.	11.	0.	0.	0.	1073.	140.	196.	101.	129.
HORIZ.	0.	0.	1.	35.	84.	129.	164.	186.	194.	186.	164.	129.	84.	35.	1.	0.	0.	1392.	162.	234.	112.	148.

LOCATION LEMONT, ILLINOIS LATITUDE 41 DEGREES 40 MINUTES

MONTH 10 HO 1879. TOD 58. TOT 53. KT .506 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	9.	65.	108.	140.	160.	166.	160.	140.	108.	65.	9.	0.	0.	0.	1129.	139.	205.	89.	119.
SOUTHWEST	0.	0.	0.	3.	15.	25.	56.	96.	129.	152.	161.	152.	114.	19.	0.	0.	0.	924.	124.	178.	82.	107.
WEST	0.	0.	0.	3.	15.	25.	33.	39.	40.	79.	108.	121.	106.	20.	0.	0.	0.	589.	100.	135.	72.	87.
NORTHWEST	0.	0.	0.	3.	15.	25.	33.	39.	40.	39.	33.	34.	44.	12.	0.	0.	0.	318.	80.	99.	63.	71.
NORTH	0.	0.	0.	3.	15.	25.	33.	39.	40.	39.	33.	25.	15.	3.	0.	0.	0.	271.	77.	93.	62.	69.
NORTHEAST	0.	0.	0.	12.	44.	34.	33.	39.	40.	39.	33.	25.	15.	3.	0.	0.	0.	318.	80.	99.	63.	71.
EAST	0.	0.	0.	20.	106.	121.	108.	79.	40.	39.	33.	25.	15.	3.	0.	0.	0.	589.	100.	135.	72.	87.
SOUTHEAST	0.	0.	0.	19.	114.	152.	161.	152.	129.	96.	56.	25.	15.	3.	0.	0.	0.	924.	124.	178.	82.	107.
HORIZ.	0.	0.	0.	7.	46.	87.	120.	141.	148.	141.	120.	87.	46.	7.	0.	0.	0.	950.	126.	182.	83.	108.

MONTH 11 HO 1327. TOD 43. TOT 38. KT .433 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	37.	86.	117.	136.	142.	136.	117.	86.	37.	0.	0.	0.	0.	893.	116.	175.	67.	90.
SOUTHWEST	0.	0.	0.	0.	7.	19.	51.	83.	109.	126.	129.	113.	58.	0.	0.	0.	0.	694.	99.	145.	61.	79.
WEST	0.	0.	0.	0.	7.	16.	24.	28.	30.	59.	79.	83.	50.	0.	0.	0.	0.	375.	73.	98.	50.	60.
NORTHWEST	0.	0.	0.	0.	7.	16.	24.	28.	30.	28.	24.	16.	16.	0.	0.	0.	0.	189.	58.	71.	44.	49.
NORTH	0.	0.	0.	0.	7.	16.	24.	28.	30.	28.	24.	16.	7.	0.	0.	0.	0.	180.	58.	70.	44.	49.
NORTHEAST	0.	0.	0.	0.	16.	16.	24.	28.	30.	28.	24.	16.	7.	0.	0.	0.	0.	189.	58.	71.	44.	49.
EAST	0.	0.	0.	0.	50.	83.	79.	59.	30.	28.	24.	16.	7.	0.	0.	0.	0.	375.	73.	98.	50.	60.
SOUTHEAST	0.	0.	0.	0.	58.	113.	129.	126.	109.	83.	51.	19.	7.	0.	0.	0.	0.	694.	99.	145.	61.	79.
HORIZ.	0.	0.	0.	0.	17.	50.	77.	94.	100.	94.	77.	50.	17.	0.	0.	0.	0.	575.	90.	128.	57.	72.

MONTH 12 HO 1121. TOD 31. TOT 27. KT .467 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	24.	92.	130.	152.	160.	152.	130.	92.	24.	0.	0.	0.	0.	957.	113.	180.	57.	82.
SOUTHWEST	0.	0.	0.	0.	4.	20.	55.	91.	121.	139.	141.	118.	37.	0.	0.	0.	0.	727.	93.	144.	50.	69.
WEST	0.	0.	0.	0.	4.	14.	21.	26.	28.	60.	82.	83.	31.	0.	0.	0.	0.	348.	60.	85.	38.	47.
NORTHWEST	0.	0.	0.	0.	4.	14.	21.	26.	28.	26.	21.	14.	9.	0.	0.	0.	0.	162.	44.	56.	32.	36.
NORTH	0.	0.	0.	0.	4.	14.	21.	26.	28.	26.	21.	14.	4.	0.	0.	0.	0.	157.	44.	55.	32.	36.
NORTHEAST	0.	0.	0.	0.	9.	14.	21.	26.	28.	26.	21.	14.	4.	0.	0.	0.	0.	162.	44.	56.	32.	36.
EAST	0.	0.	0.	0.	31.	83.	82.	60.	28.	26.	21.	14.	4.	0.	0.	0.	0.	348.	60.	85.	38.	47.
SOUTHEAST	0.	0.	0.	0.	37.	118.	141.	139.	121.	91.	55.	20.	4.	0.	0.	0.	0.	727.	93.	144.	50.	69.
HORIZ.	0.	0.	0.	0.	9.	42.	72.	91.	97.	91.	72.	42.	9.	0.	0.	0.	0.	524.	76.	112.	43.	57.

LOCATION LEMONT, ILLINOIS LATITUDE 41 DEGREES 40 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	109.	110.	111.	100.	107.	116.	124.	137.	147.	139.	116.	113.	119.
SOUTHWEST	91.	96.	105.	104.	117.	127.	134.	142.	140.	124.	99.	93.	114.
WEST	62.	73.	91.	100.	118.	132.	136.	136.	123.	100.	73.	60.	100.
NORTHWEST	45.	54.	71.	87.	106.	121.	124.	118.	101.	80.	58.	44.	84.
NORTH	44.	50.	63.	76.	93.	107.	109.	104.	92.	77.	58.	44.	76.
NORTHEAST	45.	54.	71.	87.	106.	121.	124.	118.	101.	80.	58.	44.	84.
EAST	62.	73.	91.	100.	118.	132.	136.	136.	123.	100.	73.	60.	100.
SOUTHEAST	91.	96.	105.	104.	117.	127.	134.	142.	140.	124.	99.	93.	114.
HORIZ.	79.	98.	124.	137.	166.	182.	186.	183.	162.	126.	90.	76.	134.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	174.	175.	169.	142.	144.	150.	162.	185.	208.	205.	175.	180.	172.
SOUTHWEST	141.	150.	159.	149.	161.	170.	179.	193.	196.	178.	145.	144.	164.
WEST	89.	108.	132.	141.	164.	178.	182.	183.	166.	135.	98.	85.	138.
NORTHWEST	58.	73.	97.	118.	142.	159.	160.	152.	128.	99.	71.	56.	109.
NORTH	56.	66.	82.	98.	118.	135.	135.	126.	112.	93.	70.	55.	96.
NORTHEAST	58.	73.	97.	118.	142.	159.	160.	152.	128.	99.	71.	56.	109.
EAST	89.	108.	132.	141.	164.	178.	182.	183.	166.	135.	98.	85.	138.
SOUTHEAST	141.	150.	159.	149.	161.	170.	179.	193.	196.	178.	145.	144.	164.
HORIZ.	120.	154.	194.	209.	248.	268.	270.	266.	234.	182.	128.	112.	199.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	56.	62.	72.	76.	88.	97.	103.	106.	104.	89.	67.	57.	82.
SOUTHWEST	48.	56.	69.	78.	94.	104.	109.	109.	101.	82.	61.	50.	80.
WEST	37.	45.	62.	76.	95.	107.	110.	106.	92.	72.	50.	38.	74.
NORTHWEST	30.	37.	52.	69.	87.	100.	103.	96.	81.	63.	44.	32.	66.
NORTH	30.	35.	48.	63.	79.	92.	94.	88.	77.	62.	44.	32.	62.
NORTHEAST	30.	37.	52.	69.	87.	100.	103.	96.	81.	63.	44.	32.	66.
EAST	37.	45.	62.	76.	95.	107.	110.	106.	92.	72.	50.	38.	74.
SOUTHEAST	48.	56.	69.	78.	94.	104.	109.	109.	101.	82.	61.	50.	80.
HORIZ.	44.	57.	79.	97.	124.	139.	141.	132.	112.	83.	57.	43.	92.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	81.	91.	101.	99.	110.	119.	126.	133.	135.	119.	90.	82.	107.
SOUTHWEST	68.	80.	96.	103.	120.	131.	137.	138.	129.	107.	79.	69.	105.
WEST	48.	61.	83.	99.	122.	136.	139.	132.	114.	87.	60.	47.	94.
NORTHWEST	35.	45.	65.	86.	109.	124.	125.	115.	94.	71.	49.	36.	80.
NORTH	35.	42.	58.	75.	95.	109.	110.	100.	86.	69.	49.	36.	72.
NORTHEAST	35.	45.	65.	86.	109.	124.	125.	115.	94.	71.	49.	36.	80.
EAST	48.	61.	83.	99.	122.	136.	139.	132.	114.	87.	60.	47.	94.
SOUTHEAST	68.	80.	96.	103.	120.	131.	137.	138.	129.	107.	79.	69.	105.
HORIZ.	60.	82.	114.	137.	174.	192.	192.	179.	148.	108.	72.	57.	126.

LOCATION LEXINGTON, KENTUCKY LATITUDE 38 DEGREES 1 MINUTES

MONTH 1 HO 1537. TOD 36. TOT 32. KT .000 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	8.	15.	21.	25.	26.	25.	21.	15.	8.	0.	0.	0.	0.	164.	49.	60.	38.	42.
SOUTHWEST	0.	0.	0.	0.	8.	15.	21.	25.	26.	25.	21.	15.	8.	0.	0.	0.	0.	164.	49.	60.	38.	42.
WEST	0.	0.	0.	0.	8.	15.	21.	25.	26.	25.	21.	15.	8.	0.	0.	0.	0.	164.	49.	60.	38.	42.
NORTHWEST	0.	0.	0.	0.	8.	15.	21.	25.	26.	25.	21.	15.	8.	0.	0.	0.	0.	164.	49.	60.	38.	42.
NORTH	0.	0.	0.	0.	8.	15.	21.	25.	26.	25.	21.	15.	8.	0.	0.	0.	0.	164.	49.	60.	38.	42.
NORTHEAST	0.	0.	0.	0.	8.	15.	21.	25.	26.	25.	21.	15.	8.	0.	0.	0.	0.	164.	49.	60.	38.	42.
EAST	0.	0.	0.	0.	8.	15.	21.	25.	26.	25.	21.	15.	8.	0.	0.	0.	0.	164.	49.	60.	38.	42.
SOUTHEAST	0.	0.	0.	0.	8.	15.	21.	25.	26.	25.	21.	15.	8.	0.	0.	0.	0.	164.	49.	60.	38.	42.
HORIZ.	0.	0.	0.	0.	13.	26.	35.	41.	43.	41.	35.	26.	13.	0.	0.	0.	0.	274.	58.	76.	41.	48.

MONTH 2 HO 2092. TOD 39. TOT 34. KT .000 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	4.	13.	21.	27.	31.	32.	31.	27.	21.	13.	4.	0.	0.	0.	225.	55.	68.	42.	48.
SOUTHWEST	0.	0.	0.	4.	13.	21.	27.	31.	32.	31.	27.	21.	13.	4.	0.	0.	0.	225.	55.	68.	42.	48.
WEST	0.	0.	0.	4.	13.	21.	27.	31.	32.	31.	27.	21.	13.	4.	0.	0.	0.	225.	55.	68.	42.	48.
NORTHWEST	0.	0.	0.	4.	13.	21.	27.	31.	32.	31.	27.	21.	13.	4.	0.	0.	0.	225.	55.	68.	42.	48.
NORTH	0.	0.	0.	4.	13.	21.	27.	31.	32.	31.	27.	21.	13.	4.	0.	0.	0.	225.	55.	68.	42.	48.
NORTHEAST	0.	0.	0.	4.	13.	21.	27.	31.	32.	31.	27.	21.	13.	4.	0.	0.	0.	225.	55.	68.	42.	48.
EAST	0.	0.	0.	4.	13.	21.	27.	31.	32.	31.	27.	21.	13.	4.	0.	0.	0.	225.	55.	68.	42.	48.
SOUTHEAST	0.	0.	0.	4.	13.	21.	27.	31.	32.	31.	27.	21.	13.	4.	0.	0.	0.	225.	55.	68.	42.	48.
HORIZ.	0.	0.	0.	7.	22.	35.	45.	51.	54.	51.	45.	35.	22.	7.	0.	0.	0.	376.	65.	87.	47.	56.

MONTH 3 HO 2694. TOD 47. TOT 42. KT .000 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	10.	19.	27.	33.	37.	38.	37.	33.	27.	19.	10.	0.	0.	0.	288.	66.	81.	52.	59.
SOUTHWEST	0.	0.	0.	10.	19.	27.	33.	37.	38.	37.	33.	27.	19.	10.	0.	0.	0.	288.	66.	81.	52.	59.
WEST	0.	0.	0.	10.	19.	27.	33.	37.	38.	37.	33.	27.	19.	10.	0.	0.	0.	288.	66.	81.	52.	59.
NORTHWEST	0.	0.	0.	10.	19.	27.	33.	37.	38.	37.	33.	27.	19.	10.	0.	0.	0.	288.	66.	81.	52.	59.
NORTH	0.	0.	0.	10.	19.	27.	33.	37.	38.	37.	33.	27.	19.	10.	0.	0.	0.	288.	66.	81.	52.	59.
NORTHEAST	0.	0.	0.	10.	19.	27.	33.	37.	38.	37.	33.	27.	19.	10.	0.	0.	0.	288.	66.	81.	52.	59.
EAST	0.	0.	0.	10.	19.	27.	33.	37.	38.	37.	33.	27.	19.	10.	0.	0.	0.	288.	66.	81.	52.	59.
SOUTHEAST	0.	0.	0.	10.	19.	27.	33.	37.	38.	37.	33.	27.	19.	10.	0.	0.	0.	288.	66.	81.	52.	59.
HORIZ.	0.	0.	0.	17.	32.	45.	55.	61.	63.	61.	55.	45.	32.	17.	0.	0.	0.	480.	78.	103.	58.	70.

LOCATION LEXINGTON, KENTUCKY LATITUDE 38 DEGREES 1 MINUTES

MONTH 4 HO 3273. TOD 58. TOT 53. KT .575 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	20.	55.	90.	118.	136.	142.	136.	118.	90.	55.	20.	7.	0.	0.	992.	115.	162.	85.	111.
SOUTHWEST	0.	0.	7.	20.	32.	43.	52.	79.	118.	147.	163.	163.	146.	108.	39.	0.	0.	1116.	123.	175.	89.	118.
WEST	0.	0.	7.	20.	32.	43.	52.	57.	59.	105.	142.	166.	171.	146.	62.	0.	0.	1060.	119.	170.	87.	115.
NORTHWEST	0.	0.	7.	20.	32.	43.	52.	57.	59.	57.	69.	97.	114.	110.	52.	0.	0.	767.	102.	139.	78.	98.
NORTH	0.	0.	16.	20.	32.	43.	52.	57.	59.	57.	52.	43.	32.	20.	16.	0.	0.	499.	87.	110.	69.	82.
NORTHEAST	0.	0.	52.	110.	114.	97.	69.	57.	59.	57.	52.	43.	32.	20.	7.	0.	0.	767.	102.	139.	78.	98.
EAST	0.	0.	62.	146.	171.	166.	142.	105.	59.	57.	52.	43.	32.	20.	7.	0.	0.	1060.	119.	170.	87.	115.
SOUTHEAST	0.	0.	39.	108.	146.	163.	163.	147.	118.	79.	52.	43.	32.	20.	7.	0.	0.	1116.	123.	175.	89.	118.
HORIZ.	0.	0.	17.	69.	123.	171.	209.	232.	240.	232.	209.	171.	123.	69.	17.	0.	0.	1883.	167.	256.	113.	163.

MONTH 5 HO 3629. TOD 67. TOT 63. KT .606 KD .173

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	1.	12.	24.	39.	73.	101.	118.	124.	118.	101.	73.	39.	24.	12.	1.	0.	861.	117.	155.	92.	115.
SOUTHWEST	0.	1.	12.	24.	36.	47.	55.	66.	106.	136.	154.	156.	142.	110.	59.	1.	0.	1105.	131.	180.	100.	129.
WEST	0.	1.	12.	24.	36.	47.	55.	60.	62.	110.	149.	175.	182.	165.	106.	1.	0.	1184.	136.	188.	103.	134.
NORTHWEST	0.	1.	12.	24.	36.	47.	55.	60.	62.	60.	89.	119.	137.	137.	97.	1.	0.	938.	122.	163.	95.	119.
NORTH	0.	1.	39.	43.	36.	47.	55.	60.	62.	60.	55.	47.	36.	43.	39.	1.	0.	625.	104.	131.	84.	100.
NORTHEAST	0.	1.	97.	137.	137.	119.	89.	60.	62.	60.	55.	47.	36.	24.	12.	1.	0.	938.	122.	163.	95.	119.
EAST	0.	1.	106.	165.	182.	175.	149.	110.	62.	60.	55.	47.	36.	24.	12.	1.	0.	1184.	136.	188.	103.	134.
SOUTHEAST	0.	1.	59.	110.	142.	156.	154.	136.	106.	66.	55.	47.	36.	24.	12.	1.	0.	1105.	131.	180.	100.	129.
HORIZ.	0.	2.	37.	93.	148.	196.	234.	257.	265.	257.	234.	196.	148.	93.	37.	2.	0.	2199.	194.	292.	138.	195.

MONTH 6 HO 3755. TOD 76. TOT 72. KT .000 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	3.	11.	20.	28.	35.	40.	43.	44.	43.	40.	35.	28.	20.	11.	3.	0.	404.	99.	116.	86.	97.
SOUTHWEST	0.	3.	11.	20.	28.	35.	40.	43.	44.	43.	40.	35.	28.	20.	11.	3.	0.	404.	99.	116.	86.	97.
WEST	0.	3.	11.	20.	28.	35.	40.	43.	44.	43.	40.	35.	28.	20.	11.	3.	0.	404.	99.	116.	86.	97.
NORTHWEST	0.	3.	11.	20.	28.	35.	40.	43.	44.	43.	40.	35.	28.	20.	11.	3.	0.	404.	99.	116.	86.	97.
NORTH	0.	3.	11.	20.	28.	35.	40.	43.	44.	43.	40.	35.	28.	20.	11.	3.	0.	404.	99.	116.	86.	97.
NORTHEAST	0.	3.	11.	20.	28.	35.	40.	43.	44.	43.	40.	35.	28.	20.	11.	3.	0.	404.	99.	116.	86.	97.
EAST	0.	3.	11.	20.	28.	35.	40.	43.	44.	43.	40.	35.	28.	20.	11.	3.	0.	404.	99.	116.	86.	97.
SOUTHEAST	0.	3.	11.	20.	28.	35.	40.	43.	44.	43.	40.	35.	28.	20.	11.	3.	0.	404.	99.	116.	86.	97.
HORIZ.	0.	4.	19.	33.	46.	58.	67.	72.	74.	72.	67.	58.	46.	33.	19.	4.	0.	673.	114.	143.	95.	113.

LOCATION LEXINGTON, KENTUCKY LATITUDE 38 DEGREES 1 MINUTES

MONTH 7 HO 3625. TOD 80. TOT 76. KT .610 KD .172

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	1.	12.	24.	39.	73.	100.	118.	124.	118.	100.	73.	39.	24.	12.	1.	0.	858.	129.	167.	105.	128.
SOUTHWEST	0.	1.	12.	24.	36.	47.	55.	66.	106.	137.	154.	156.	142.	109.	58.	1.	0.	1103.	143.	192.	113.	142.
WEST	0.	1.	12.	24.	36.	47.	55.	60.	62.	110.	150.	176.	183.	164.	104.	1.	0.	1184.	148.	200.	116.	147.
NORTHWEST	0.	1.	12.	24.	36.	47.	55.	60.	62.	60.	90.	120.	138.	137.	96.	1.	0.	938.	134.	175.	108.	132.
NORTH	0.	1.	39.	44.	36.	47.	55.	60.	62.	60.	55.	47.	36.	44.	39.	1.	0.	625.	116.	143.	97.	113.
NORTHEAST	0.	1.	96.	137.	138.	120.	90.	60.	62.	60.	55.	47.	36.	24.	12.	1.	0.	938.	134.	175.	108.	132.
EAST	0.	1.	104.	164.	183.	176.	150.	110.	62.	60.	55.	47.	36.	24.	12.	1.	0.	1184.	148.	200.	116.	147.
SOUTHEAST	0.	1.	58.	109.	142.	156.	154.	137.	106.	66.	55.	47.	36.	24.	12.	1.	0.	1103.	143.	192.	113.	142.
HORIZ.	0.	2.	37.	93.	148.	197.	235.	259.	268.	259.	235.	197.	148.	93.	37.	2.	0.	2211.	207.	305.	151.	209.

MONTH 8 HO 3249. TOD 78. TOT 74. KT .619 KD .169

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	57.	95.	126.	146.	153.	146.	126.	95.	57.	19.	6.	0.	0.	1051.	143.	193.	110.	138.
SOUTHWEST	0.	0.	6.	19.	32.	43.	52.	82.	125.	158.	176.	177.	158.	115.	39.	0.	0.	1183.	151.	207.	115.	146.
WEST	0.	0.	6.	19.	32.	43.	52.	57.	59.	111.	153.	181.	186.	157.	61.	0.	0.	1116.	147.	200.	113.	142.
NORTHWEST	0.	0.	6.	19.	32.	43.	52.	57.	59.	57.	71.	104.	123.	117.	52.	0.	0.	791.	127.	165.	101.	122.
NORTH	0.	0.	16.	20.	32.	43.	52.	57.	59.	57.	52.	43.	32.	20.	16.	0.	0.	498.	109.	133.	91.	104.
NORTHEAST	0.	0.	52.	117.	123.	104.	71.	57.	59.	57.	52.	43.	32.	19.	6.	0.	0.	791.	127.	165.	101.	122.
EAST	0.	0.	61.	157.	186.	181.	153.	111.	59.	57.	52.	43.	32.	19.	6.	0.	0.	1116.	147.	200.	113.	142.
SOUTHEAST	0.	0.	39.	115.	158.	177.	176.	158.	125.	82.	52.	43.	32.	19.	6.	0.	0.	1183.	151.	207.	115.	146.
HORIZ.	0.	0.	17.	72.	131.	183.	224.	250.	259.	250.	224.	183.	131.	72.	17.	0.	0.	2012.	203.	298.	143.	196.

MONTH 9 HO 2681. TOD 73. TOT 69. KT .631 KD .166

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	30.	79.	124.	159.	182.	189.	182.	159.	124.	79.	30.	0.	0.	0.	1337.	164.	234.	115.	150.
SOUTHWEST	0.	0.	0.	12.	25.	36.	49.	102.	149.	184.	203.	201.	174.	107.	0.	0.	0.	1243.	157.	222.	111.	144.
WEST	0.	0.	0.	12.	25.	36.	45.	51.	53.	108.	154.	181.	181.	129.	0.	0.	0.	976.	139.	190.	102.	128.
NORTHWEST	0.	0.	0.	12.	25.	36.	45.	51.	53.	51.	45.	77.	97.	82.	0.	0.	0.	574.	112.	142.	89.	104.
NORTH	0.	0.	0.	12.	25.	36.	45.	51.	53.	51.	45.	36.	25.	12.	0.	0.	0.	391.	99.	120.	82.	93.
NORTHEAST	0.	0.	0.	82.	97.	77.	45.	51.	53.	51.	45.	36.	25.	12.	0.	0.	0.	574.	112.	142.	89.	104.
EAST	0.	0.	0.	129.	181.	181.	154.	108.	53.	51.	45.	36.	25.	12.	0.	0.	0.	976.	139.	190.	102.	128.
SOUTHEAST	0.	0.	0.	107.	174.	201.	203.	184.	149.	102.	49.	36.	25.	12.	0.	0.	0.	1243.	157.	222.	111.	144.
HORIZ.	0.	0.	0.	41.	102.	157.	200.	227.	237.	227.	200.	157.	102.	41.	0.	0.	0.	1691.	188.	276.	127.	171.

LOCATION LEXINGTON, KENTUCKY LATITUDE 38 DEGREES 1 MINUTES

MONTH 10 HO 2058. TOD 61. TOT 57. KT .604 KD .173

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	17.	85.	136.	174.	197.	205.	197.	174.	136.	85.	17.	0.	0.	0.	1424.	162.	245.	103.	140.
SOUTHWEST	0.	0.	0.	4.	17.	28.	63.	114.	158.	190.	205.	197.	156.	41.	0.	0.	0.	1173.	144.	212.	95.	126.
WEST	0.	0.	0.	4.	17.	28.	37.	43.	45.	96.	137.	159.	145.	44.	0.	0.	0.	755.	115.	158.	82.	101.
NORTHWEST	0.	0.	0.	4.	17.	28.	37.	43.	45.	43.	37.	44.	60.	23.	0.	0.	0.	380.	88.	110.	70.	79.
NORTH	0.	0.	0.	4.	17.	28.	37.	43.	45.	43.	37.	28.	17.	4.	0.	0.	0.	303.	83.	100.	67.	75.
NORTHEAST	0.	0.	0.	23.	60.	44.	37.	43.	45.	43.	37.	28.	17.	4.	0.	0.	0.	380.	88.	110.	70.	79.
EAST	0.	0.	0.	44.	145.	159.	137.	96.	45.	43.	37.	28.	17.	4.	0.	0.	0.	755.	115.	158.	82.	101.
SOUTHEAST	0.	0.	0.	41.	156.	197.	205.	190.	158.	114.	63.	28.	17.	4.	0.	0.	0.	1173.	144.	212.	95.	126.
HORIZ.	0.	0.	0.	10.	62.	115.	156.	183.	192.	183.	156.	115.	62.	10.	0.	0.	0.	1243.	149.	221.	97.	130.

MONTH 11 HO 1525. TOD 48. TOT 44. KT .000 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	8.	15.	21.	25.	26.	25.	21.	15.	8.	0.	0.	0.	0.	163.	60.	71.	49.	53.
SOUTHWEST	0.	0.	0.	0.	8.	15.	21.	25.	26.	25.	21.	15.	8.	0.	0.	0.	0.	163.	60.	71.	49.	53.
WEST	0.	0.	0.	0.	8.	15.	21.	25.	26.	25.	21.	15.	8.	0.	0.	0.	0.	163.	60.	71.	49.	53.
NORTHWEST	0.	0.	0.	0.	8.	15.	21.	25.	26.	25.	21.	15.	8.	0.	0.	0.	0.	163.	60.	71.	49.	53.
NORTH	0.	0.	0.	0.	8.	15.	21.	25.	26.	25.	21.	15.	8.	0.	0.	0.	0.	163.	60.	71.	49.	53.
NORTHEAST	0.	0.	0.	0.	8.	15.	21.	25.	26.	25.	21.	15.	8.	0.	0.	0.	0.	163.	60.	71.	49.	53.
EAST	0.	0.	0.	0.	8.	15.	21.	25.	26.	25.	21.	15.	8.	0.	0.	0.	0.	163.	60.	71.	49.	53.
SOUTHEAST	0.	0.	0.	0.	8.	15.	21.	25.	26.	25.	21.	15.	8.	0.	0.	0.	0.	163.	60.	71.	49.	53.
HORIZ.	0.	0.	0.	0.	13.	25.	35.	41.	43.	41.	35.	25.	13.	0.	0.	0.	0.	272.	69.	86.	53.	60.

MONTH 12 HO 1324. TOD 38. TOT 35. KT .513 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	46.	111.	150.	172.	180.	172.	150.	111.	46.	0.	0.	0.	0.	1139.	132.	209.	71.	101.
SOUTHWEST	0.	0.	0.	0.	7.	23.	63.	103.	136.	158.	164.	144.	72.	0.	0.	0.	0.	871.	110.	169.	63.	86.
WEST	0.	0.	0.	0.	7.	17.	25.	31.	32.	70.	97.	103.	59.	0.	0.	0.	0.	440.	75.	104.	49.	61.
NORTHWEST	0.	0.	0.	0.	7.	17.	25.	31.	32.	31.	25.	17.	16.	0.	0.	0.	0.	201.	55.	69.	41.	47.
NORTH	0.	0.	0.	0.	7.	17.	25.	31.	32.	31.	25.	17.	7.	0.	0.	0.	0.	192.	54.	67.	41.	46.
NORTHEAST	0.	0.	0.	0.	16.	17.	25.	31.	32.	31.	25.	17.	7.	0.	0.	0.	0.	201.	55.	69.	41.	47.
EAST	0.	0.	0.	0.	59.	103.	97.	70.	32.	31.	25.	17.	7.	0.	0.	0.	0.	440.	75.	104.	49.	61.
SOUTHEAST	0.	0.	0.	0.	72.	144.	164.	158.	136.	103.	63.	23.	7.	0.	0.	0.	0.	871.	110.	169.	63.	86.
HORIZ.	0.	0.	0.	0.	18.	58.	91.	113.	121.	113.	91.	58.	18.	0.	0.	0.	0.	680.	94.	140.	57.	75.

LOCATION LEXINGTON, KENTUCKY LATITUDE 38 DEGREES 1 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	49.	55.	66.	115.	117.	99.	129.	143.	164.	162.	60.	132.	108.
SOUTHWEST	49.	55.	66.	123.	131.	99.	143.	151.	157.	144.	60.	110.	107.
WEST	49.	55.	66.	119.	136.	99.	148.	147.	139.	115.	60.	75.	101.
NORTHWEST	49.	55.	66.	102.	122.	99.	134.	127.	112.	88.	60.	55.	89.
NORTH	49.	55.	66.	87.	104.	99.	116.	109.	99.	83.	60.	54.	82.
NORTHEAST	49.	55.	66.	102.	122.	99.	134.	127.	112.	88.	60.	55.	89.
EAST	49.	55.	66.	119.	136.	99.	148.	147.	139.	115.	60.	75.	101.
SOUTHEAST	49.	55.	66.	123.	131.	99.	143.	151.	157.	144.	60.	110.	107.
HORIZ.	58.	65.	78.	167.	194.	114.	207.	203.	188.	149.	69.	94.	132.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	60.	68.	81.	162.	155.	116.	167.	193.	234.	245.	71.	209.	147.
SOUTHWEST	60.	68.	81.	175.	180.	116.	192.	207.	222.	212.	71.	169.	146.
WEST	60.	68.	81.	170.	188.	116.	200.	200.	190.	158.	71.	104.	134.
NORTHWEST	60.	68.	81.	139.	163.	116.	175.	165.	142.	110.	71.	69.	113.
NORTH	60.	68.	81.	110.	131.	116.	143.	133.	120.	100.	71.	67.	100.
NORTHEAST	60.	68.	81.	139.	163.	116.	175.	165.	142.	110.	71.	69.	113.
EAST	60.	68.	81.	170.	188.	116.	200.	200.	190.	158.	71.	104.	134.
SOUTHEAST	60.	68.	81.	175.	180.	116.	192.	207.	222.	212.	71.	169.	146.
HORIZ.	76.	87.	103.	256.	292.	143.	305.	298.	276.	221.	86.	140.	190.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	38.	42.	52.	85.	92.	86.	105.	110.	115.	103.	49.	71.	79.
SOUTHWEST	38.	42.	52.	89.	100.	86.	113.	115.	111.	95.	49.	63.	79.
WEST	38.	42.	52.	87.	103.	86.	116.	113.	102.	82.	49.	49.	76.
NORTHWEST	38.	42.	52.	78.	95.	86.	108.	101.	89.	70.	49.	41.	71.
NORTH	38.	42.	52.	69.	84.	86.	97.	91.	82.	67.	49.	41.	66.
NORTHEAST	38.	42.	52.	78.	95.	86.	108.	101.	89.	70.	49.	41.	71.
EAST	38.	42.	52.	87.	103.	86.	116.	113.	102.	82.	49.	49.	76.
SOUTHEAST	38.	42.	52.	89.	100.	86.	113.	115.	111.	95.	49.	63.	79.
HORIZ.	41.	47.	58.	113.	138.	95.	151.	143.	127.	97.	53.	57.	93.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	42.	48.	59.	111.	115.	97.	128.	138.	150.	140.	53.	101.	98.
SOUTHWEST	42.	48.	59.	118.	129.	97.	142.	146.	144.	126.	53.	86.	99.
WEST	42.	48.	59.	115.	134.	97.	147.	142.	128.	101.	53.	61.	94.
NORTHWEST	42.	48.	59.	98.	119.	97.	132.	122.	104.	79.	53.	47.	83.
NORTH	42.	48.	59.	82.	100.	97.	113.	104.	93.	75.	53.	46.	76.
NORTHEAST	42.	48.	59.	98.	119.	97.	132.	122.	104.	79.	53.	47.	83.
EAST	42.	48.	59.	115.	134.	97.	147.	142.	128.	101.	53.	61.	94.
SOUTHEAST	42.	48.	59.	118.	129.	97.	142.	146.	144.	126.	53.	86.	99.
HORIZ.	48.	56.	70.	163.	195.	113.	209.	196.	171.	130.	60.	75.	124.

LOCATION LINCOLN, NEBRASKA LATITUDE 40 DEGREES 51 MINUTES

MONTH 1 HO 1383. TOD 28. TOT 24. KT .542 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	56.	121.	162.	185.	193.	185.	162.	121.	56.	0.	0.	0.	0.	1240.	128.	209.	64.	96.
SOUTHWEST	0.	0.	0.	0.	8.	21.	65.	109.	147.	172.	179.	160.	90.	0.	0.	0.	0.	951.	104.	167.	54.	79.
WEST	0.	0.	0.	0.	8.	18.	26.	32.	33.	76.	107.	117.	77.	0.	0.	0.	0.	493.	67.	100.	40.	53.
NORTHWEST	0.	0.	0.	0.	8.	18.	26.	32.	33.	32.	26.	18.	23.	0.	0.	0.	0.	216.	45.	59.	31.	37.
NORTH	0.	0.	0.	0.	8.	18.	26.	32.	33.	32.	26.	18.	8.	0.	0.	0.	0.	201.	44.	57.	30.	36.
NORTHEAST	0.	0.	0.	0.	23.	18.	26.	32.	33.	32.	26.	18.	8.	0.	0.	0.	0.	216.	45.	59.	31.	37.
EAST	0.	0.	0.	0.	77.	117.	107.	76.	33.	32.	26.	18.	8.	0.	0.	0.	0.	493.	67.	100.	40.	53.
SOUTHEAST	0.	0.	0.	0.	90.	160.	179.	172.	147.	109.	65.	21.	8.	0.	0.	0.	0.	951.	104.	167.	54.	79.
HORIZ.	0.	0.	0.	0.	22.	65.	100.	123.	130.	123.	100.	65.	22.	0.	0.	0.	0.	751.	88.	137.	48.	68.

MONTH 2 HO 1954. TOD 32. TOT 28. KT .528 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	13.	72.	116.	148.	168.	175.	168.	148.	116.	72.	13.	0.	0.	0.	1210.	119.	189.	67.	99.
SOUTHWEST	0.	0.	0.	4.	16.	26.	58.	100.	136.	161.	172.	164.	129.	31.	0.	0.	0.	997.	103.	162.	60.	86.
WEST	0.	0.	0.	4.	16.	26.	35.	40.	42.	83.	115.	131.	119.	33.	0.	0.	0.	645.	78.	116.	49.	66.
NORTHWEST	0.	0.	0.	4.	16.	26.	35.	40.	42.	40.	35.	37.	49.	18.	0.	0.	0.	342.	57.	77.	39.	48.
NORTH	0.	0.	0.	4.	16.	26.	35.	40.	42.	40.	35.	26.	16.	4.	0.	0.	0.	284.	52.	69.	37.	45.
NORTHEAST	0.	0.	0.	18.	49.	37.	35.	40.	42.	40.	35.	26.	16.	4.	0.	0.	0.	342.	57.	77.	39.	48.
EAST	0.	0.	0.	33.	119.	131.	115.	83.	42.	40.	35.	26.	16.	4.	0.	0.	0.	645.	78.	116.	49.	66.
SOUTHEAST	0.	0.	0.	31.	129.	164.	172.	161.	136.	100.	58.	26.	16.	4.	0.	0.	0.	997.	103.	162.	60.	86.
HORIZ.	0.	0.	0.	8.	52.	95.	130.	151.	159.	151.	130.	95.	52.	8.	0.	0.	0.	1031.	106.	166.	61.	88.

MONTH 3 HO 2590. TOD 42. TOT 38. KT .532 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	27.	69.	106.	135.	154.	160.	154.	135.	106.	69.	27.	0.	0.	0.	1143.	115.	175.	75.	105.
SOUTHWEST	0.	0.	0.	12.	24.	35.	50.	92.	128.	154.	166.	163.	140.	88.	0.	0.	0.	1052.	110.	165.	72.	100.
WEST	0.	0.	0.	12.	24.	35.	43.	48.	50.	92.	125.	145.	144.	104.	0.	0.	0.	821.	95.	138.	65.	86.
NORTHWEST	0.	0.	0.	12.	24.	35.	43.	48.	50.	48.	43.	62.	77.	66.	0.	0.	0.	508.	75.	101.	55.	68.
NORTH	0.	0.	0.	12.	24.	35.	43.	48.	50.	48.	43.	35.	24.	12.	0.	0.	0.	374.	66.	86.	50.	60.
NORTHEAST	0.	0.	0.	66.	77.	62.	43.	48.	50.	48.	43.	35.	24.	12.	0.	0.	0.	508.	75.	101.	55.	68.
EAST	0.	0.	0.	104.	144.	145.	125.	92.	50.	48.	43.	35.	24.	12.	0.	0.	0.	821.	95.	138.	65.	86.
SOUTHEAST	0.	0.	0.	88.	140.	163.	166.	154.	128.	92.	50.	35.	24.	12.	0.	0.	0.	1052.	110.	165.	72.	100.
HORIZ.	0.	0.	0.	35.	84.	128.	162.	183.	191.	183.	162.	128.	84.	35.	0.	0.	0.	1376.	130.	202.	83.	119.

LOCATION LINCOLN, NEBRASKA LATITUDE 40 DEGREES 51 MINUTES

MONTH 4 HO 3218. TOD 56. TOT 52. KT .507 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	7.	21.	53.	84.	109.	125.	130.	125.	109.	84.	53.	21.	7.	0.	0.	928.	109.	153.	82.	106.
SOUTHWEST	0.	0.	7.	20.	31.	42.	50.	77.	109.	132.	143.	142.	126.	93.	36.	0.	0.	1006.	114.	161.	84.	110.
WEST	0.	0.	7.	20.	31.	42.	50.	55.	56.	93.	123.	141.	143.	122.	56.	0.	0.	938.	110.	154.	82.	106.
NORTHWEST	0.	0.	7.	20.	31.	42.	50.	55.	56.	55.	59.	82.	95.	91.	47.	0.	0.	689.	95.	128.	74.	92.
NORTH	0.	0.	15.	20.	31.	42.	50.	55.	56.	55.	50.	42.	31.	20.	15.	0.	0.	480.	83.	106.	67.	80.
NORTHEAST	0.	0.	47.	91.	95.	82.	59.	55.	56.	55.	50.	42.	31.	20.	7.	0.	0.	689.	95.	128.	74.	92.
EAST	0.	0.	56.	122.	143.	141.	123.	93.	56.	55.	50.	42.	31.	20.	7.	0.	0.	938.	110.	154.	82.	106.
SOUTHEAST	0.	0.	36.	93.	126.	142.	143.	132.	109.	77.	50.	42.	31.	20.	7.	0.	0.	1006.	114.	161.	84.	110.
HORIZ.	0.	0.	18.	62.	108.	148.	179.	199.	205.	199.	179.	148.	108.	62.	18.	0.	0.	1633.	150.	226.	104.	147.

MONTH 5 HO 3618. TOD 66. TOT 62. KT .522 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	2.	13.	25.	42.	72.	95.	110.	116.	110.	95.	72.	42.	25.	13.	2.	0.	833.	113.	149.	90.	112.
SOUTHWEST	0.	2.	13.	25.	36.	46.	53.	68.	99.	122.	135.	134.	121.	94.	52.	3.	0.	1002.	123.	166.	96.	122.
WEST	0.	2.	13.	25.	36.	46.	53.	58.	60.	96.	126.	145.	150.	135.	90.	4.	0.	1039.	125.	170.	97.	124.
NORTHWEST	0.	2.	13.	25.	36.	46.	53.	58.	60.	58.	75.	98.	112.	112.	83.	4.	0.	833.	113.	149.	90.	112.
NORTH	0.	3.	34.	37.	36.	46.	53.	58.	60.	58.	53.	46.	36.	37.	34.	3.	0.	593.	99.	125.	82.	98.
NORTHEAST	0.	4.	83.	112.	112.	98.	75.	58.	60.	58.	53.	46.	36.	25.	13.	2.	0.	833.	113.	149.	90.	112.
EAST	0.	4.	90.	135.	150.	145.	126.	96.	60.	58.	53.	46.	36.	25.	13.	2.	0.	1039.	125.	170.	97.	124.
SOUTHEAST	0.	3.	52.	94.	121.	134.	135.	122.	99.	68.	53.	46.	36.	25.	13.	2.	0.	1002.	123.	166.	96.	122.
HORIZ.	0.	3.	37.	83.	128.	167.	198.	217.	224.	217.	198.	167.	128.	83.	37.	3.	0.	1889.	173.	255.	126.	176.

MONTH 6 HO 3763. TOD 76. TOT 72. KT .542 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	4.	15.	26.	37.	67.	91.	106.	112.	106.	91.	67.	37.	26.	15.	4.	0.	804.	120.	154.	100.	121.
SOUTHWEST	0.	4.	15.	26.	37.	47.	55.	64.	97.	121.	134.	135.	122.	95.	56.	9.	0.	1017.	132.	175.	107.	134.
WEST	0.	4.	15.	26.	37.	47.	55.	59.	61.	99.	131.	151.	157.	143.	102.	19.	0.	1106.	137.	183.	110.	139.
NORTHWEST	0.	4.	15.	26.	37.	47.	55.	59.	61.	59.	83.	107.	122.	123.	97.	20.	0.	914.	126.	165.	103.	127.
NORTH	0.	11.	43.	46.	38.	47.	55.	59.	61.	59.	55.	47.	38.	46.	43.	11.	0.	659.	112.	140.	95.	112.
NORTHEAST	0.	20.	97.	123.	122.	107.	83.	59.	61.	59.	55.	47.	37.	26.	15.	4.	0.	914.	126.	165.	103.	127.
EAST	0.	19.	102.	143.	157.	151.	131.	99.	61.	59.	55.	47.	37.	26.	15.	4.	0.	1106.	137.	183.	110.	139.
SOUTHEAST	0.	9.	56.	95.	122.	135.	134.	121.	97.	64.	55.	47.	37.	26.	15.	4.	0.	1017.	132.	175.	107.	134.
HORIZ.	0.	8.	45.	92.	138.	179.	210.	230.	236.	230.	210.	179.	138.	92.	45.	8.	0.	2040.	188.	274.	142.	195.

LOCATION LINCOLN, NEBRASKA LATITUDE 40 DEGREES 51 MINUTES

MONTH 7 HO 3616. TOD 83. TOT 78. KT .547 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	2.	13.	25.	42.	73.	99.	115.	120.	115.	99.	73.	42.	25.	13.	2.	0.	857.	131.	168.	108.	130.
SOUTHWEST	0.	2.	13.	25.	36.	46.	53.	69.	103.	128.	141.	141.	127.	98.	54.	3.	0.	1039.	141.	186.	114.	141.
WEST	0.	2.	13.	25.	36.	46.	53.	58.	60.	100.	133.	154.	159.	143.	94.	4.	0.	1079.	144.	190.	115.	144.
NORTHWEST	0.	2.	13.	25.	36.	46.	53.	58.	60.	58.	78.	103.	118.	118.	87.	4.	0.	858.	131.	168.	108.	130.
NORTH	0.	3.	36.	38.	36.	46.	53.	58.	60.	58.	53.	46.	36.	38.	36.	3.	0.	601.	117.	143.	99.	115.
NORTHEAST	0.	4.	87.	118.	118.	103.	78.	58.	60.	58.	53.	46.	36.	25.	13.	2.	0.	858.	131.	168.	108.	130.
EAST	0.	4.	94.	143.	159.	154.	133.	100.	60.	58.	53.	46.	36.	25.	13.	2.	0.	1079.	144.	190.	115.	144.
SOUTHEAST	0.	3.	54.	98.	127.	141.	141.	128.	103.	69.	53.	46.	36.	25.	13.	2.	0.	1039.	141.	186.	114.	141.
HORIZ.	0.	4.	38.	86.	133.	175.	208.	228.	235.	228.	208.	175.	133.	86.	38.	4.	0.	1978.	195.	280.	146.	198.

MONTH 8 HO 3195. TOD 80. TOT 76. KT .577 KD .177

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	20.	58.	94.	124.	143.	149.	143.	124.	94.	58.	20.	7.	0.	0.	1041.	144.	193.	112.	139.
SOUTHWEST	0.	0.	7.	19.	31.	42.	50.	83.	122.	151.	166.	166.	147.	107.	39.	0.	0.	1131.	149.	202.	115.	145.
WEST	0.	0.	7.	19.	31.	42.	50.	55.	57.	103.	141.	165.	168.	142.	61.	0.	0.	1043.	144.	193.	112.	139.
NORTHWEST	0.	0.	7.	19.	31.	42.	50.	55.	57.	55.	62.	92.	110.	106.	51.	0.	0.	739.	125.	160.	101.	121.
NORTH	0.	0.	16.	19.	31.	42.	50.	55.	57.	55.	50.	42.	31.	19.	16.	0.	0.	485.	110.	133.	93.	106.
NORTHEAST	0.	0.	51.	106.	110.	92.	62.	55.	57.	55.	50.	42.	31.	19.	7.	0.	0.	739.	125.	160.	101.	121.
EAST	0.	0.	61.	142.	168.	165.	141.	103.	57.	55.	50.	42.	31.	19.	7.	0.	0.	1043.	144.	193.	112.	139.
SOUTHEAST	0.	0.	39.	107.	147.	166.	166.	151.	122.	83.	50.	42.	31.	19.	7.	0.	0.	1131.	149.	202.	115.	145.
HORIZ.	0.	0.	18.	68.	121.	168.	204.	227.	235.	227.	204.	168.	121.	68.	18.	0.	0.	1845.	193.	280.	139.	188.

MONTH 9 HO 2578. TOD 71. TOT 67. KT .568 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	28.	72.	113.	145.	165.	172.	165.	145.	113.	72.	28.	0.	0.	0.	1219.	154.	218.	109.	141.
SOUTHWEST	0.	0.	0.	12.	24.	35.	51.	97.	137.	166.	180.	176.	150.	91.	0.	0.	0.	1118.	147.	206.	105.	135.
WEST	0.	0.	0.	12.	24.	35.	43.	49.	50.	97.	134.	156.	154.	108.	0.	0.	0.	863.	130.	175.	97.	119.
NORTHWEST	0.	0.	0.	12.	24.	35.	43.	49.	50.	49.	43.	66.	82.	68.	0.	0.	0.	521.	107.	134.	85.	99.
NORTH	0.	0.	0.	12.	24.	35.	43.	49.	50.	49.	43.	35.	24.	12.	0.	0.	0.	375.	97.	117.	80.	90.
NORTHEAST	0.	0.	0.	68.	82.	66.	43.	49.	50.	49.	43.	35.	24.	12.	0.	0.	0.	521.	107.	134.	85.	99.
EAST	0.	0.	0.	108.	154.	156.	134.	97.	50.	49.	43.	35.	24.	12.	0.	0.	0.	863.	130.	175.	97.	119.
SOUTHEAST	0.	0.	0.	91.	150.	176.	180.	166.	137.	97.	51.	35.	24.	12.	0.	0.	0.	1118.	147.	206.	105.	135.
HORIZ.	0.	0.	1.	36.	88.	136.	173.	196.	204.	196.	173.	136.	88.	36.	1.	0.	0.	1463.	171.	247.	117.	156.

LOCATION LINCOLN, NEBRASKA LATITUDE 40 DEGREES 51 MINUTES

MONTH 10 HO 1920. TOD 60. TOT 55. KT .596 KD .175

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	12.	81.	135.	174.	198.	207.	198.	174.	135.	81.	12.	0.	0.	0.	1408.	161.	243.	100.	137.
SOUTHWEST	0.	0.	0.	3.	15.	26.	64.	115.	158.	189.	203.	193.	148.	28.	0.	0.	0.	1143.	142.	209.	92.	122.
WEST	0.	0.	0.	3.	15.	26.	35.	40.	42.	93.	133.	153.	137.	30.	0.	0.	0.	708.	111.	152.	78.	96.
NORTHWEST	0.	0.	0.	3.	15.	26.	35.	40.	42.	40.	35.	39.	54.	16.	0.	0.	0.	347.	85.	105.	66.	75.
NORTH	0.	0.	0.	3.	15.	26.	35.	40.	42.	40.	35.	26.	15.	3.	0.	0.	0.	282.	80.	97.	64.	72.
NORTHEAST	0.	0.	0.	16.	54.	39.	35.	40.	42.	40.	35.	26.	15.	3.	0.	0.	0.	347.	85.	105.	66.	75.
EAST	0.	0.	0.	30.	137.	153.	133.	93.	42.	40.	35.	26.	15.	3.	0.	0.	0.	708.	111.	152.	78.	96.
SOUTHEAST	0.	0.	0.	28.	148.	193.	203.	189.	158.	115.	64.	26.	15.	3.	0.	0.	0.	1143.	142.	209.	92.	122.
HORIZ.	0.	0.	0.	7.	55.	105.	145.	170.	179.	170.	145.	105.	55.	7.	0.	0.	0.	1143.	142.	209.	92.	122.

MONTH 11 HO 1371. TOD 43. TOT 39. KT .508 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	48.	108.	146.	169.	176.	169.	146.	108.	48.	0.	0.	0.	0.	1120.	133.	207.	75.	104.
SOUTHWEST	0.	0.	0.	0.	8.	20.	61.	101.	134.	156.	162.	143.	78.	0.	0.	0.	0.	863.	113.	169.	67.	89.
WEST	0.	0.	0.	0.	8.	18.	26.	31.	33.	70.	98.	105.	66.	0.	0.	0.	0.	454.	80.	110.	54.	66.
NORTHWEST	0.	0.	0.	0.	8.	18.	26.	31.	33.	31.	26.	18.	20.	0.	0.	0.	0.	211.	60.	74.	46.	51.
NORTH	0.	0.	0.	0.	8.	18.	26.	31.	33.	31.	26.	18.	8.	0.	0.	0.	0.	198.	59.	72.	46.	51.
NORTHEAST	0.	0.	0.	0.	20.	18.	26.	31.	33.	31.	26.	18.	8.	0.	0.	0.	0.	211.	60.	74.	46.	51.
EAST	0.	0.	0.	0.	66.	105.	98.	70.	33.	31.	26.	18.	8.	0.	0.	0.	0.	454.	80.	110.	54.	66.
SOUTHEAST	0.	0.	0.	0.	78.	143.	162.	156.	134.	101.	61.	20.	8.	0.	0.	0.	0.	863.	113.	169.	67.	89.
HORIZ.	0.	0.	0.	0.	21.	60.	93.	114.	121.	114.	93.	60.	21.	0.	0.	0.	0.	698.	99.	145.	62.	80.

MONTH 12 HO 1167. TOD 32. TOT 28. KT .545 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	35.	117.	164.	190.	199.	190.	164.	117.	35.	0.	0.	0.	0.	1211.	135.	219.	67.	99.
SOUTHWEST	0.	0.	0.	0.	5.	22.	67.	112.	149.	174.	178.	151.	55.	0.	0.	0.	0.	913.	109.	173.	57.	81.
WEST	0.	0.	0.	0.	5.	15.	23.	28.	30.	72.	102.	106.	45.	0.	0.	0.	0.	424.	68.	97.	42.	53.
NORTHWEST	0.	0.	0.	0.	5.	15.	23.	28.	30.	28.	23.	15.	12.	0.	0.	0.	0.	177.	47.	59.	34.	38.
NORTH	0.	0.	0.	0.	5.	15.	23.	28.	30.	28.	23.	15.	5.	0.	0.	0.	0.	170.	46.	58.	34.	38.
NORTHEAST	0.	0.	0.	0.	12.	15.	23.	28.	30.	28.	23.	15.	5.	0.	0.	0.	0.	177.	47.	59.	34.	38.
EAST	0.	0.	0.	0.	45.	106.	102.	72.	30.	28.	23.	15.	5.	0.	0.	0.	0.	424.	68.	97.	42.	53.
SOUTHEAST	0.	0.	0.	0.	55.	151.	178.	174.	149.	112.	67.	22.	5.	0.	0.	0.	0.	913.	109.	173.	57.	81.
HORIZ.	0.	0.	0.	0.	12.	52.	87.	110.	117.	110.	87.	52.	12.	0.	0.	0.	0.	636.	86.	130.	49.	65.

LOCATION LINCOLN, NEBRASKA LATITUDE 40 DEGREES 51 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	128.	119.	115.	109.	113.	120.	131.	144.	154.	161.	133.	135.	130.
SOUTHWEST	104.	103.	110.	114.	123.	132.	141.	149.	147.	142.	113.	109.	124.
WEST	67.	78.	95.	110.	125.	137.	144.	144.	130.	111.	80.	68.	107.
NORTHWEST	45.	57.	75.	95.	113.	126.	131.	125.	107.	85.	60.	47.	89.
NORTH	44.	52.	66.	83.	99.	112.	117.	110.	97.	80.	59.	46.	81.
NORTHEAST	45.	57.	75.	95.	113.	126.	131.	125.	107.	85.	60.	47.	89.
EAST	67.	78.	95.	110.	125.	137.	144.	144.	130.	111.	80.	68.	107.
SOUTHEAST	104.	103.	110.	114.	123.	132.	141.	149.	147.	142.	113.	109.	124.
HORIZ.	88.	106.	130.	150.	173.	188.	195.	193.	171.	142.	99.	86.	143.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	209.	189.	175.	153.	149.	154.	168.	193.	218.	243.	207.	219.	190.
SOUTHWEST	167.	162.	165.	161.	166.	175.	186.	202.	206.	209.	169.	173.	178.
WEST	100.	116.	138.	154.	170.	183.	190.	193.	175.	152.	110.	97.	148.
NORTHWEST	59.	77.	101.	128.	149.	165.	168.	160.	134.	105.	74.	59.	115.
NORTH	57.	69.	86.	106.	125.	140.	143.	133.	117.	97.	72.	58.	100.
NORTHEAST	59.	77.	101.	128.	149.	165.	168.	160.	134.	105.	74.	59.	115.
EAST	100.	116.	138.	154.	170.	183.	190.	193.	175.	152.	110.	97.	148.
SOUTHEAST	167.	162.	165.	161.	166.	175.	186.	202.	206.	209.	169.	173.	178.
HORIZ.	137.	166.	202.	226.	255.	274.	280.	280.	247.	209.	145.	130.	213.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	64.	67.	75.	82.	90.	100.	108.	112.	109.	100.	75.	67.	87.
SOUTHWEST	54.	60.	72.	84.	96.	107.	114.	115.	105.	92.	67.	57.	85.
WEST	40.	49.	65.	82.	97.	110.	115.	112.	97.	78.	54.	42.	78.
NORTHWEST	31.	39.	55.	74.	90.	103.	108.	101.	85.	66.	46.	34.	69.
NORTH	30.	37.	50.	67.	82.	95.	99.	93.	80.	64.	46.	34.	65.
NORTHEAST	31.	39.	55.	74.	90.	103.	108.	101.	85.	66.	46.	34.	69.
EAST	40.	49.	65.	82.	97.	110.	115.	112.	97.	78.	54.	42.	78.
SOUTHEAST	54.	60.	72.	84.	96.	107.	114.	115.	105.	92.	67.	57.	85.
HORIZ.	48.	61.	83.	104.	126.	142.	146.	139.	117.	92.	62.	49.	97.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	96.	99.	105.	106.	112.	121.	130.	139.	141.	137.	104.	99.	116.
SOUTHWEST	79.	86.	100.	110.	122.	134.	141.	145.	135.	122.	89.	81.	112.
WEST	53.	66.	86.	106.	124.	139.	144.	139.	119.	96.	66.	53.	99.
NORTHWEST	37.	48.	68.	92.	112.	127.	130.	121.	99.	75.	51.	38.	83.
NORTH	36.	45.	60.	80.	98.	112.	115.	106.	90.	72.	51.	38.	75.
NORTHEAST	37.	48.	68.	92.	112.	127.	130.	121.	99.	75.	51.	38.	83.
EAST	53.	66.	86.	106.	124.	139.	144.	139.	119.	96.	66.	53.	99.
SOUTHEAST	79.	86.	100.	110.	122.	134.	141.	145.	135.	122.	89.	81.	112.
HORIZ.	68.	88.	119.	147.	176.	195.	198.	188.	156.	122.	80.	65.	133.

LOCATION LITTLE ROCK, ARKANSAS LATITUDE 34 DEGREES 44 MINUTES

MONTH 1 HO 1716. TOD 45. TOT 42. KT .424 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	52.	89.	114.	129.	134.	129.	114.	89.	52.	0.	0.	0.	0.	904.	114.	170.	71.	94.
SOUTHWEST	0.	0.	0.	0.	11.	21.	51.	81.	106.	122.	128.	118.	82.	0.	0.	0.	0.	721.	100.	145.	65.	84.
WEST	0.	0.	0.	0.	11.	21.	29.	34.	36.	63.	83.	90.	71.	0.	0.	0.	0.	441.	78.	106.	56.	68.
NORTHWEST	0.	0.	0.	0.	11.	21.	29.	34.	36.	34.	29.	22.	25.	0.	0.	0.	0.	244.	63.	79.	50.	56.
NORTH	0.	0.	0.	0.	11.	21.	29.	34.	36.	34.	29.	21.	11.	0.	0.	0.	0.	230.	62.	76.	49.	55.
NORTHEAST	0.	0.	0.	0.	25.	22.	29.	34.	36.	34.	29.	21.	11.	0.	0.	0.	0.	244.	63.	79.	50.	56.
EAST	0.	0.	0.	0.	71.	90.	83.	63.	36.	34.	29.	21.	11.	0.	0.	0.	0.	441.	78.	106.	56.	68.
SOUTHEAST	0.	0.	0.	0.	82.	118.	128.	122.	106.	81.	51.	21.	11.	0.	0.	0.	0.	721.	100.	145.	65.	84.
HORIZ.	0.	0.	0.	1.	30.	66.	94.	112.	119.	112.	94.	66.	30.	1.	0.	0.	0.	726.	100.	145.	65.	84.

MONTH 2 HO 2248. TOD 48. TOT 46. KT .458 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	18.	62.	95.	120.	135.	140.	135.	120.	95.	62.	18.	0.	0.	0.	999.	118.	175.	78.	104.
SOUTHWEST	0.	0.	0.	6.	18.	29.	51.	84.	112.	132.	141.	135.	110.	43.	0.	0.	0.	861.	109.	158.	73.	96.
WEST	0.	0.	0.	6.	18.	29.	38.	43.	45.	77.	101.	113.	105.	46.	0.	0.	0.	621.	92.	127.	66.	82.
NORTHWEST	0.	0.	0.	6.	18.	29.	38.	43.	45.	43.	38.	42.	49.	25.	0.	0.	0.	375.	75.	96.	58.	67.
NORTH	0.	0.	0.	6.	18.	29.	38.	43.	45.	43.	38.	29.	18.	6.	0.	0.	0.	313.	70.	88.	56.	64.
NORTHEAST	0.	0.	0.	25.	49.	42.	38.	43.	45.	43.	38.	29.	18.	6.	0.	0.	0.	375.	75.	96.	58.	67.
EAST	0.	0.	0.	46.	105.	113.	101.	77.	45.	43.	38.	29.	18.	6.	0.	0.	0.	621.	92.	127.	66.	82.
SOUTHEAST	0.	0.	0.	43.	110.	135.	141.	132.	112.	84.	51.	29.	18.	6.	0.	0.	0.	861.	109.	158.	73.	96.
HORIZ.	0.	0.	0.	13.	56.	96.	127.	147.	154.	147.	127.	96.	56.	13.	0.	0.	0.	1031.	121.	179.	79.	106.

MONTH 3 HO 2809. TOD 56. TOT 53. KT .496 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	25.	60.	92.	117.	132.	138.	132.	117.	92.	60.	25.	0.	0.	0.	992.	119.	171.	85.	111.
SOUTHWEST	0.	0.	0.	13.	26.	37.	46.	82.	113.	136.	147.	145.	126.	81.	0.	0.	0.	952.	117.	167.	83.	108.
WEST	0.	0.	0.	13.	26.	37.	46.	52.	54.	90.	118.	135.	133.	97.	0.	0.	0.	801.	107.	149.	78.	99.
NORTHWEST	0.	0.	0.	13.	26.	37.	46.	52.	54.	52.	47.	67.	77.	64.	0.	0.	0.	535.	90.	118.	70.	84.
NORTH	0.	0.	0.	13.	26.	37.	46.	52.	54.	52.	46.	37.	26.	13.	0.	0.	0.	402.	82.	103.	66.	76.
NORTHEAST	0.	0.	0.	64.	77.	67.	47.	52.	54.	52.	46.	37.	26.	13.	0.	0.	0.	535.	90.	118.	70.	84.
EAST	0.	0.	0.	97.	133.	135.	118.	90.	54.	52.	46.	37.	26.	13.	0.	0.	0.	801.	107.	149.	78.	99.
SOUTHEAST	0.	0.	0.	81.	126.	145.	147.	136.	113.	82.	46.	37.	26.	13.	0.	0.	0.	952.	117.	167.	83.	108.
HORIZ.	0.	0.	0.	37.	96.	129.	163.	184.	192.	184.	163.	129.	86.	37.	0.	0.	0.	1391.	145.	218.	97.	134.

LOCATION LITTLE ROCK, ARKANSAS LATITUDE 34 DEGREES 44 MINUTES

MONTH 4 HO 3328. TOD 66. TOT 63. KT .513 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	6.	19.	47.	76.	100.	114.	120.	114.	100.	76.	47.	19.	6.	0.	0.	845.	115.	156.	90.	112.
SOUTHWEST	0.	0.	6.	19.	32.	43.	52.	70.	102.	126.	138.	138.	123.	90.	30.	0.	0.	970.	123.	169.	94.	119.
WEST	0.	0.	6.	19.	32.	43.	52.	57.	59.	97.	126.	144.	146.	122.	46.	0.	0.	952.	122.	167.	93.	118.
NORTHWEST	0.	0.	6.	19.	32.	43.	52.	57.	59.	57.	71.	92.	102.	94.	40.	0.	0.	726.	108.	143.	86.	105.
NORTH	0.	0.	13.	22.	32.	43.	52.	57.	59.	57.	52.	43.	32.	22.	13.	0.	0.	501.	95.	119.	79.	92.
NORTHEAST	0.	0.	40.	94.	102.	92.	71.	57.	59.	57.	52.	43.	32.	19.	6.	0.	0.	726.	108.	143.	86.	105.
EAST	0.	0.	46.	122.	146.	144.	126.	97.	59.	57.	52.	43.	32.	19.	6.	0.	0.	952.	122.	167.	93.	118.
SOUTHEAST	0.	0.	30.	90.	123.	138.	138.	126.	102.	70.	52.	43.	32.	19.	6.	0.	0.	970.	123.	169.	94.	119.
HORIZ.	0.	0.	14.	62.	112.	156.	190.	211.	218.	211.	190.	156.	112.	62.	14.	0.	0.	1708.	166.	248.	117.	162.

MONTH 5 HO 3633. TOD 73. TOT 70. KT .545 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	11.	24.	36.	62.	85.	100.	105.	100.	85.	62.	36.	24.	11.	0.	0.	739.	116.	150.	95.	114.
SOUTHWEST	0.	0.	11.	24.	36.	47.	55.	60.	92.	117.	132.	133.	120.	92.	47.	0.	0.	966.	130.	173.	103.	128.
WEST	0.	0.	11.	24.	36.	47.	55.	60.	62.	102.	133.	154.	158.	140.	84.	0.	0.	1064.	136.	183.	106.	134.
NORTHWEST	0.	0.	11.	24.	36.	47.	55.	60.	62.	61.	89.	112.	124.	119.	78.	0.	0.	877.	125.	164.	100.	123.
NORTH	0.	0.	33.	42.	39.	47.	55.	60.	62.	60.	55.	47.	39.	42.	33.	0.	0.	613.	109.	137.	91.	107.
NORTHEAST	0.	0.	78.	119.	124.	112.	89.	61.	62.	60.	55.	47.	36.	24.	11.	0.	0.	877.	125.	164.	100.	123.
EAST	0.	0.	84.	140.	158.	154.	133.	102.	62.	60.	55.	47.	36.	24.	11.	0.	0.	1064.	136.	183.	106.	134.
SOUTHEAST	0.	0.	47.	92.	120.	133.	132.	117.	92.	60.	55.	47.	36.	24.	11.	0.	0.	966.	130.	173.	103.	128.
HORIZ.	0.	0.	31.	82.	133.	177.	212.	234.	241.	234.	212.	177.	133.	82.	31.	0.	0.	1979.	189.	278.	137.	189.

MONTH 6 HO 3738. TOD 77. TOT 78. KT .559 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	1.	12.	25.	37.	55.	78.	92.	98.	92.	78.	55.	37.	25.	12.	1.	0.	701.	117.	148.	102.	121.
SOUTHWEST	0.	1.	12.	25.	37.	48.	56.	61.	87.	113.	128.	130.	118.	92.	50.	2.	0.	959.	132.	174.	111.	136.
WEST	0.	1.	12.	25.	37.	48.	56.	61.	63.	103.	136.	157.	162.	145.	94.	2.	0.	1101.	140.	188.	116.	145.
NORTHWEST	0.	1.	12.	25.	37.	48.	56.	61.	63.	68.	97.	120.	132.	128.	91.	2.	0.	942.	131.	172.	111.	135.
NORTH	0.	2.	42.	51.	48.	48.	56.	61.	63.	61.	56.	48.	48.	51.	42.	2.	0.	675.	115.	145.	102.	119.
NORTHEAST	0.	2.	91.	128.	132.	120.	97.	68.	63.	61.	56.	48.	37.	25.	12.	1.	0.	942.	131.	172.	111.	135.
EAST	0.	2.	94.	145.	162.	157.	136.	103.	63.	61.	56.	48.	37.	25.	12.	1.	0.	1101.	140.	188.	116.	145.
SOUTHEAST	0.	2.	50.	92.	118.	130.	128.	113.	87.	61.	56.	48.	37.	25.	12.	1.	0.	959.	132.	174.	111.	136.
HORIZ.	0.	2.	38.	89.	141.	186.	221.	243.	250.	243.	221.	186.	141.	89.	38.	2.	0.	2089.	196.	288.	150.	205.

LOCATION LITTLE ROCK, ARKANSAS LATITUDE 34 DEGREES 44 MINUTES

MONTH 7 HO 3628. TOD 85. TOT 82. KT .566 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	11.	24.	36.	62.	86.	102.	107.	102.	86.	62.	36.	24.	11.	0.	0.	750.	129.	163.	108.	127.
SOUTHWEST	0.	0.	11.	24.	36.	47.	55.	60.	94.	121.	136.	138.	125.	96.	47.	0.	0.	990.	143.	188.	116.	142.
WEST	0.	0.	11.	24.	36.	47.	55.	60.	62.	104.	139.	160.	165.	145.	86.	0.	0.	1094.	149.	198.	119.	148.
NORTHWEST	0.	0.	11.	24.	36.	47.	55.	60.	62.	62.	92.	116.	129.	124.	80.	0.	0.	899.	138.	178.	113.	136.
NORTH	0.	0.	34.	44.	39.	47.	55.	60.	62.	60.	55.	47.	39.	44.	34.	0.	0.	620.	121.	149.	103.	119.
NORTHEAST	0.	0.	80.	124.	129.	116.	92.	62.	62.	60.	55.	47.	36.	24.	11.	0.	0.	899.	138.	178.	113.	136.
EAST	0.	0.	86.	145.	165.	160.	139.	104.	62.	60.	55.	47.	36.	24.	11.	0.	0.	1094.	149.	198.	119.	148.
SOUTHEAST	0.	0.	47.	96.	125.	138.	136.	121.	94.	60.	55.	47.	36.	24.	11.	0.	0.	990.	143.	188.	116.	142.
HORIZ.	0.	0.	31.	84.	137.	184.	220.	243.	251.	243.	220.	184.	137.	84.	31.	0.	0.	2052.	205.	298.	152.	206.

MONTH 8 HO 3303. TOD 85. TOT 81. KT .574 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	49.	83.	110.	127.	133.	127.	110.	83.	49.	19.	6.	0.	0.	920.	142.	186.	113.	137.
SOUTHWEST	0.	0.	6.	19.	32.	44.	53.	73.	111.	140.	156.	157.	140.	102.	31.	0.	0.	1064.	151.	202.	118.	146.
WEST	0.	0.	6.	19.	32.	44.	53.	58.	60.	105.	142.	165.	167.	139.	48.	0.	0.	1039.	150.	199.	117.	144.
NORTHWEST	0.	0.	6.	19.	32.	44.	53.	58.	60.	58.	76.	102.	116.	106.	41.	0.	0.	771.	133.	170.	108.	128.
NORTH	0.	0.	13.	23.	32.	44.	53.	58.	60.	58.	53.	44.	32.	23.	13.	0.	0.	505.	116.	140.	99.	112.
NORTHEAST	0.	0.	41.	106.	116.	102.	76.	58.	60.	58.	53.	44.	32.	19.	6.	0.	0.	771.	133.	170.	108.	128.
EAST	0.	0.	48.	139.	167.	165.	142.	105.	60.	58.	53.	44.	32.	19.	6.	0.	0.	1039.	150.	199.	117.	144.
SOUTHEAST	0.	0.	31.	102.	140.	157.	156.	140.	111.	73.	53.	44.	32.	19.	6.	0.	0.	1064.	151.	202.	118.	146.
HORIZ.	0.	0.	14.	67.	123.	173.	212.	237.	245.	237.	212.	173.	123.	67.	14.	0.	0.	1896.	203.	294.	146.	196.

MONTH 9 HO 2793. TOD 78. TOT 75. KT .561 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	27.	67.	104.	133.	151.	158.	151.	133.	104.	67.	27.	0.	0.	0.	1122.	155.	213.	113.	143.
SOUTHWEST	0.	0.	0.	13.	26.	38.	47.	89.	127.	156.	171.	169.	146.	92.	0.	0.	0.	1073.	151.	207.	112.	140.
WEST	0.	0.	0.	13.	26.	38.	47.	52.	54.	100.	136.	157.	155.	111.	0.	0.	0.	888.	139.	185.	105.	128.
NORTHWEST	0.	0.	0.	13.	26.	38.	47.	52.	54.	52.	49.	75.	88.	72.	0.	0.	0.	567.	117.	146.	94.	109.
NORTH	0.	0.	0.	13.	26.	38.	47.	52.	54.	52.	47.	38.	26.	13.	0.	0.	0.	406.	106.	127.	89.	99.
NORTHEAST	0.	0.	0.	72.	88.	75.	49.	52.	54.	52.	47.	38.	26.	13.	0.	0.	0.	567.	117.	146.	94.	109.
EAST	0.	0.	0.	111.	155.	157.	136.	100.	54.	52.	47.	38.	26.	13.	0.	0.	0.	888.	139.	185.	105.	128.
SOUTHEAST	0.	0.	0.	92.	146.	169.	171.	156.	127.	89.	47.	38.	26.	13.	0.	0.	0.	1073.	151.	207.	112.	140.
HORIZ.	0.	0.	0.	39.	95.	145.	184.	209.	218.	209.	184.	145.	95.	39.	0.	0.	0.	1565.	185.	267.	128.	169.

LOCATION LITTLE ROCK, ARKANSAS LATITUDE 34 DEGREES 44 MINUTES

MONTH 10 HO 2214. TOD 68. TOT 64. KT .552 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	20.	77.	120.	151.	171.	177.	171.	151.	120.	77.	20.	0.	0.	0.	1254.	156.	227.	104.	137.
SOUTHWEST	0.	0.	0.	5.	18.	30.	57.	101.	139.	167.	179.	173.	140.	48.	0.	0.	0.	1060.	142.	203.	98.	126.
WEST	0.	0.	0.	5.	18.	30.	39.	45.	47.	91.	125.	143.	133.	51.	0.	0.	0.	728.	119.	161.	87.	107.
NORTHWEST	0.	0.	0.	5.	18.	30.	39.	45.	47.	45.	39.	47.	58.	28.	0.	0.	0.	401.	96.	119.	77.	87.
NORTH	0.	0.	0.	5.	18.	30.	39.	45.	47.	45.	39.	30.	18.	5.	0.	0.	0.	323.	91.	109.	74.	83.
NORTHEAST	0.	0.	0.	28.	58.	47.	39.	45.	47.	45.	39.	30.	18.	5.	0.	0.	0.	401.	96.	119.	77.	87.
EAST	0.	0.	0.	51.	133.	143.	125.	91.	47.	45.	39.	30.	18.	5.	0.	0.	0.	728.	119.	161.	87.	107.
SOUTHEAST	0.	0.	0.	48.	140.	173.	179.	167.	139.	101.	57.	30.	18.	5.	0.	0.	0.	1060.	142.	203.	98.	126.
HORIZ.	0.	0.	0.	13.	64.	113.	152.	177.	185.	177.	152.	113.	64.	13.	0.	0.	0.	1223.	154.	223.	103.	135.

MONTH 11 HO 1704. TOD 55. TOT 51. KT .484 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	60.	106.	136.	154.	160.	154.	136.	106.	60.	0.	0.	0.	0.	1073.	137.	204.	86.	114.
SOUTHWEST	0.	0.	0.	0.	11.	22.	58.	94.	124.	145.	152.	141.	97.	0.	0.	0.	0.	846.	120.	172.	79.	101.
WEST	0.	0.	0.	0.	11.	22.	31.	36.	38.	72.	97.	107.	84.	0.	0.	0.	0.	500.	93.	124.	68.	81.
NORTHWEST	0.	0.	0.	0.	11.	22.	31.	36.	38.	36.	31.	23.	28.	0.	0.	0.	0.	258.	74.	91.	60.	67.
NORTH	0.	0.	0.	0.	11.	22.	31.	36.	38.	36.	31.	22.	11.	0.	0.	0.	0.	241.	73.	88.	59.	66.
NORTHEAST	0.	0.	0.	0.	28.	23.	31.	36.	38.	36.	31.	22.	11.	0.	0.	0.	0.	258.	74.	91.	60.	67.
EAST	0.	0.	0.	0.	84.	107.	97.	72.	38.	36.	31.	22.	11.	0.	0.	0.	0.	500.	93.	124.	68.	81.
SOUTHEAST	0.	0.	0.	0.	97.	141.	152.	145.	124.	94.	58.	22.	11.	0.	0.	0.	0.	846.	120.	172.	79.	101.
HORIZ.	0.	0.	0.	0.	33.	74.	107.	128.	135.	128.	107.	74.	33.	0.	0.	0.	0.	823.	118.	169.	78.	99.

MONTH 12 HO 1507. TOD 47. TOT 44. KT .463 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	51.	100.	130.	148.	154.	148.	130.	100.	51.	0.	0.	0.	0.	1012.	127.	193.	76.	103.
SOUTHWEST	0.	0.	0.	0.	9.	23.	57.	91.	119.	137.	143.	129.	79.	0.	0.	0.	0.	787.	109.	161.	69.	90.
WEST	0.	0.	0.	0.	9.	19.	27.	33.	34.	65.	88.	94.	66.	0.	0.	0.	0.	435.	81.	110.	58.	69.
NORTHWEST	0.	0.	0.	0.	9.	19.	27.	33.	34.	33.	27.	19.	19.	0.	0.	0.	0.	220.	64.	79.	51.	57.
NORTH	0.	0.	0.	0.	9.	19.	27.	33.	34.	33.	27.	19.	9.	0.	0.	0.	0.	210.	63.	77.	51.	56.
NORTHEAST	0.	0.	0.	0.	19.	19.	27.	33.	34.	33.	27.	19.	9.	0.	0.	0.	0.	220.	64.	79.	51.	57.
EAST	0.	0.	0.	0.	66.	94.	88.	65.	34.	33.	27.	19.	9.	0.	0.	0.	0.	435.	81.	110.	58.	69.
SOUTHEAST	0.	0.	0.	0.	79.	129.	143.	137.	119.	91.	57.	23.	9.	0.	0.	0.	0.	787.	109.	161.	69.	90.
HORIZ.	0.	0.	0.	0.	24.	62.	92.	112.	119.	112.	92.	62.	24.	0.	0.	0.	0.	698.	102.	148.	66.	85.

LOCATION LITTLE ROCK, ARKANSAS LATITUDE 34 DEGREES 44 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	114.	118.	119.	115.	116.	117.	129.	142.	155.	156.	137.	127.	129.
SOUTHWEST	100.	109.	117.	123.	130.	132.	143.	151.	151.	142.	120.	109.	127.
WEST	78.	92.	107.	122.	136.	140.	149.	150.	139.	119.	93.	81.	117.
NORTHWEST	63.	75.	90.	108.	125.	131.	138.	133.	117.	96.	74.	64.	101.
NORTH	62.	70.	82.	95.	109.	115.	121.	116.	106.	91.	73.	63.	92.
NORTHEAST	63.	75.	90.	108.	125.	131.	138.	133.	117.	96.	74.	64.	101.
EAST	78.	92.	107.	122.	136.	140.	149.	150.	139.	119.	93.	81.	117.
SOUTHEAST	100.	109.	117.	123.	130.	132.	143.	151.	151.	142.	120.	109.	127.
HORIZ.	100.	121.	145.	166.	189.	196.	205.	203.	185.	154.	118.	102.	157.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	170.	175.	171.	156.	150.	148.	163.	186.	213.	227.	204.	193.	180.
SOUTHWEST	145.	158.	167.	169.	173.	174.	188.	202.	207.	203.	172.	161.	177.
WEST	106.	127.	149.	167.	183.	188.	198.	199.	185.	161.	124.	110.	158.
NORTHWEST	79.	96.	118.	143.	164.	172.	178.	170.	146.	119.	91.	79.	130.
NORTH	76.	88.	103.	119.	137.	145.	149.	140.	127.	109.	88.	77.	113.
NORTHEAST	79.	96.	118.	143.	164.	172.	178.	170.	146.	119.	91.	79.	130.
EAST	106.	127.	149.	167.	183.	188.	198.	199.	185.	161.	124.	110.	158.
SOUTHEAST	145.	158.	167.	169.	173.	174.	188.	202.	207.	203.	172.	161.	177.
HORIZ.	145.	179.	218.	248.	278.	288.	298.	294.	267.	223.	169.	148.	230.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	71.	78.	85.	90.	95.	102.	108.	113.	113.	104.	86.	76.	93.
SOUTHWEST	65.	73.	83.	94.	103.	111.	116.	118.	112.	98.	79.	69.	93.
WEST	56.	66.	78.	93.	106.	116.	119.	117.	105.	87.	68.	58.	89.
NORTHWEST	50.	58.	70.	86.	100.	111.	113.	108.	94.	77.	60.	51.	81.
NORTH	49.	56.	66.	79.	91.	102.	103.	99.	89.	74.	59.	51.	76.
NORTHEAST	50.	58.	70.	86.	100.	111.	113.	108.	94.	77.	60.	51.	81.
EAST	56.	66.	78.	93.	106.	116.	119.	117.	105.	87.	68.	58.	89.
SOUTHEAST	65.	73.	83.	94.	103.	111.	116.	118.	112.	98.	79.	69.	93.
HORIZ.	65.	79.	97.	117.	137.	150.	152.	146.	128.	103.	78.	66.	110.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	94.	104.	111.	112.	114.	121.	127.	137.	143.	137.	114.	103.	118.
SOUTHWEST	84.	96.	108.	119.	128.	136.	142.	146.	140.	126.	101.	90.	118.
WEST	68.	82.	99.	118.	134.	145.	148.	144.	128.	107.	81.	69.	110.
NORTHWEST	56.	67.	84.	105.	123.	135.	136.	128.	109.	87.	67.	57.	96.
NORTH	55.	64.	76.	92.	107.	119.	119.	112.	99.	83.	66.	56.	87.
NORTHEAST	56.	67.	84.	105.	123.	135.	136.	128.	109.	87.	67.	57.	96.
EAST	68.	82.	99.	118.	134.	145.	148.	144.	128.	107.	81.	69.	110.
SOUTHEAST	84.	96.	108.	119.	128.	136.	142.	146.	140.	126.	101.	90.	118.
HORIZ.	84.	106.	134.	162.	189.	205.	206.	196.	169.	135.	99.	85.	148.

LOCATION LOS ANGELES, CALIF.WBAS LATITUDE 33 DEGREES 55 MINUTES

MONTH 1 HO 1759. TOD 56. TOT 53. KT .547 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	1.	75.	127.	161.	181.	188.	181.	161.	127.	75.	1.	0.	0.	0.	1278.	153.	233.	94.	128.
SOUTHWEST	0.	0.	0.	1.	12.	24.	65.	108.	145.	171.	181.	171.	123.	1.	0.	0.	0.	1002.	132.	194.	85.	112.
WEST	0.	0.	0.	1.	12.	24.	33.	38.	40.	82.	115.	129.	106.	1.	0.	0.	0.	580.	100.	136.	72.	87.
NORTHWEST	0.	0.	0.	1.	12.	24.	33.	38.	40.	38.	33.	25.	34.	1.	0.	0.	0.	278.	77.	95.	62.	69.
NORTH	0.	0.	0.	1.	12.	24.	33.	38.	40.	38.	33.	24.	12.	1.	0.	0.	0.	255.	76.	91.	61.	68.
NORTHEAST	0.	0.	0.	1.	34.	25.	33.	38.	40.	38.	33.	24.	12.	1.	0.	0.	0.	278.	77.	95.	62.	69.
EAST	0.	0.	0.	1.	106.	129.	115.	82.	40.	38.	33.	24.	12.	1.	0.	0.	0.	580.	100.	136.	72.	87.
SOUTHEAST	0.	0.	0.	1.	123.	171.	181.	171.	145.	108.	65.	24.	12.	1.	0.	0.	0.	1002.	132.	194.	85.	112.
HORIZ.	0.	0.	0.	1.	40.	87.	125.	149.	157.	149.	125.	87.	40.	1.	0.	0.	0.	961.	129.	189.	84.	109.

MONTH 2 HO 2285. TOD 57. TOT 54. KT .596 KD .175

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	26.	87.	132.	166.	187.	194.	187.	166.	132.	87.	26.	0.	0.	0.	1388.	154.	233.	99.	135.
SOUTHWEST	0.	0.	0.	6.	19.	31.	60.	109.	151.	183.	199.	195.	162.	66.	0.	0.	0.	1181.	139.	206.	92.	123.
WEST	0.	0.	0.	6.	19.	31.	41.	47.	49.	99.	139.	162.	154.	71.	0.	0.	0.	817.	114.	160.	80.	102.
NORTHWEST	0.	0.	0.	6.	19.	31.	41.	47.	49.	47.	41.	52.	67.	38.	0.	0.	0.	437.	87.	112.	68.	80.
NORTH	0.	0.	0.	6.	19.	31.	41.	47.	49.	47.	41.	31.	19.	6.	0.	0.	0.	336.	80.	99.	65.	74.
NORTHEAST	0.	0.	0.	38.	67.	52.	41.	47.	49.	47.	41.	31.	19.	6.	0.	0.	0.	437.	87.	112.	68.	80.
EAST	0.	0.	0.	71.	154.	162.	139.	99.	49.	47.	41.	31.	19.	6.	0.	0.	0.	817.	114.	160.	80.	102.
SOUTHEAST	0.	0.	0.	66.	162.	195.	199.	183.	151.	109.	60.	31.	19.	6.	0.	0.	0.	1181.	139.	206.	92.	123.
HORIZ.	0.	0.	0.	16.	73.	127.	169.	195.	204.	195.	169.	127.	73.	16.	0.	0.	0.	1363.	152.	229.	98.	134.

MONTH 3 HO 2835. TOD 59. TOT 56. KT .635 KD .165

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	31.	78.	120.	153.	174.	181.	174.	153.	120.	78.	31.	0.	0.	0.	1295.	142.	210.	98.	132.
SOUTHWEST	0.	0.	0.	13.	26.	38.	48.	98.	144.	180.	200.	201.	178.	117.	0.	0.	0.	1244.	139.	204.	96.	129.
WEST	0.	0.	0.	13.	26.	38.	48.	54.	56.	112.	158.	187.	189.	142.	0.	0.	0.	1022.	125.	178.	89.	116.
NORTHWEST	0.	0.	0.	13.	26.	38.	48.	54.	56.	54.	51.	85.	105.	91.	0.	0.	0.	620.	99.	131.	76.	93.
NORTH	0.	0.	0.	13.	26.	38.	48.	54.	56.	54.	48.	38.	26.	13.	0.	0.	0.	413.	86.	107.	70.	81.
NORTHEAST	0.	0.	0.	91.	105.	85.	51.	54.	56.	54.	48.	38.	26.	13.	0.	0.	0.	620.	99.	131.	76.	93.
EAST	0.	0.	0.	142.	189.	187.	158.	112.	56.	54.	48.	38.	26.	13.	0.	0.	0.	1022.	125.	178.	89.	116.
SOUTHEAST	0.	0.	0.	117.	178.	201.	200.	180.	144.	98.	48.	38.	26.	13.	0.	0.	0.	1244.	139.	204.	96.	129.
HORIZ.	0.	0.	0.	45.	109.	167.	212.	240.	250.	240.	212.	167.	109.	45.	0.	0.	0.	1799.	174.	268.	114.	161.

LOCATION LOS ANGELES, CALIF.WBAS LATITUDE 33 DEGREES 55 MINUTES

MONTH 4 HO 3339. TOD 61. TOT 59. KT .595 KD .175

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	50.	85.	112.	130.	136.	130.	112.	85.	50.	19.	6.	0.	0.	941.	117.	162.	89.	114.
SOUTHWEST	0.	0.	6.	19.	33.	44.	53.	74.	114.	145.	162.	164.	148.	110.	35.	0.	0.	1108.	127.	180.	95.	124.
WEST	0.	0.	6.	19.	33.	44.	53.	59.	61.	109.	149.	174.	179.	152.	56.	0.	0.	1094.	126.	178.	94.	123.
NORTHWEST	0.	0.	6.	19.	33.	44.	53.	59.	61.	59.	79.	108.	124.	116.	47.	0.	0.	809.	109.	148.	85.	106.
NORTH	0.	0.	15.	24.	33.	44.	53.	59.	61.	59.	53.	44.	33.	24.	15.	0.	0.	517.	92.	117.	76.	89.
NORTHEAST	0.	0.	47.	116.	124.	108.	79.	59.	61.	59.	53.	44.	33.	19.	6.	0.	0.	809.	109.	148.	85.	106.
EAST	0.	0.	56.	152.	179.	174.	149.	109.	61.	59.	53.	44.	33.	19.	6.	0.	0.	1094.	126.	178.	94.	123.
SOUTHEAST	0.	0.	35.	110.	148.	164.	162.	145.	114.	74.	53.	44.	33.	19.	6.	0.	0.	1108.	127.	180.	95.	124.
HORIZ.	0.	0.	15.	70.	129.	182.	222.	248.	256.	248.	222.	182.	129.	70.	15.	0.	0.	1988.	178.	274.	123.	175.

MONTH 5 HO 3633. TOD 64. TOT 62. KT .610 KD .172

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	10.	24.	36.	64.	89.	106.	112.	106.	89.	64.	36.	24.	10.	0.	0.	771.	110.	145.	88.	109.
SOUTHWEST	0.	0.	10.	24.	36.	47.	56.	61.	98.	128.	147.	150.	137.	106.	52.	0.	0.	1052.	126.	174.	98.	126.
WEST	0.	0.	10.	24.	36.	47.	56.	61.	63.	111.	150.	176.	183.	163.	96.	0.	0.	1177.	134.	187.	102.	133.
NORTHWEST	0.	0.	10.	24.	36.	47.	56.	61.	63.	65.	99.	127.	143.	139.	90.	0.	0.	960.	121.	164.	95.	120.
NORTH	0.	0.	37.	47.	41.	47.	56.	61.	63.	61.	56.	47.	41.	47.	37.	0.	0.	640.	102.	131.	84.	101.
NORTHEAST	0.	0.	90.	139.	143.	127.	99.	65.	63.	61.	56.	47.	36.	24.	10.	0.	0.	960.	121.	164.	95.	120.
EAST	0.	0.	96.	163.	183.	176.	150.	111.	63.	61.	56.	47.	36.	24.	10.	0.	0.	1177.	134.	187.	102.	133.
SOUTHEAST	0.	0.	52.	106.	137.	150.	147.	128.	98.	61.	56.	47.	36.	24.	10.	0.	0.	1052.	126.	174.	98.	126.
HORIZ.	0.	0.	32.	90.	148.	199.	239.	264.	272.	264.	239.	199.	148.	90.	32.	0.	0.	2216.	195.	295.	138.	196.

MONTH 6 HO 3732. TOD 67. TOT 65. KT .608 KD .172

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	1.	12.	25.	37.	54.	79.	95.	101.	95.	79.	54.	37.	25.	12.	1.	0.	709.	108.	139.	89.	108.
SOUTHWEST	0.	1.	12.	25.	37.	48.	57.	62.	90.	120.	137.	141.	129.	100.	54.	1.	0.	1014.	125.	170.	99.	126.
WEST	0.	1.	12.	25.	37.	48.	57.	62.	64.	110.	148.	173.	180.	162.	104.	1.	0.	1184.	135.	187.	105.	136.
NORTHWEST	0.	1.	12.	25.	37.	48.	57.	62.	64.	72.	105.	132.	148.	144.	100.	1.	0.	1008.	125.	169.	99.	126.
NORTH	0.	1.	45.	56.	51.	48.	57.	62.	64.	62.	57.	48.	51.	56.	45.	1.	0.	702.	107.	138.	89.	107.
NORTHEAST	0.	1.	100.	144.	148.	132.	105.	72.	64.	62.	57.	48.	37.	25.	12.	1.	0.	1008.	125.	169.	99.	126.
EAST	0.	1.	104.	162.	180.	173.	148.	110.	64.	62.	57.	48.	37.	25.	12.	1.	0.	1184.	135.	187.	105.	136.
SOUTHEAST	0.	1.	54.	100.	129.	141.	137.	120.	90.	62.	57.	48.	37.	25.	12.	1.	0.	1014.	125.	170.	99.	126.
HORIZ.	0.	2.	39.	96.	153.	202.	241.	265.	274.	265.	241.	202.	153.	96.	39.	2.	0.	2269.	197.	297.	142.	202.

LOCATION LOS ANGELES, CALIF.WBAS LATITUDE 33 DEGREES 55 MINUTES

MONTH 7 HO 3627. TOD 70. TOT 68. KT .657 KD .160

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	10.	23.	36.	65.	93.	111.	117.	111.	93.	65.	36.	23.	10.	0.	0.	792.	116.	152.	95.	115.
SOUTHWEST	0.	0.	10.	23.	36.	47.	55.	61.	101.	136.	158.	162.	149.	114.	56.	0.	0.	1109.	135.	185.	106.	135.
WEST	0.	0.	10.	23.	36.	47.	55.	61.	63.	117.	163.	192.	201.	179.	104.	0.	0.	1251.	143.	200.	110.	143.
NORTHWEST	0.	0.	10.	23.	36.	47.	55.	61.	63.	65.	105.	137.	157.	152.	97.	0.	0.	1008.	129.	174.	102.	128.
NORTH	0.	0.	39.	50.	42.	47.	55.	61.	63.	61.	55.	47.	42.	50.	39.	0.	0.	650.	108.	137.	90.	107.
NORTHEAST	0.	0.	97.	152.	157.	137.	105.	65.	63.	61.	55.	47.	36.	23.	10.	0.	0.	1008.	129.	174.	102.	128.
EAST	0.	0.	104.	179.	201.	192.	163.	117.	63.	61.	55.	47.	36.	23.	10.	0.	0.	1251.	143.	200.	110.	143.
SOUTHEAST	0.	0.	56.	114.	149.	162.	158.	136.	101.	61.	55.	47.	36.	23.	10.	0.	0.	1109.	135.	185.	106.	135.
HORIZ.	0.	0.	33.	95.	159.	215.	258.	285.	294.	285.	258.	215.	159.	95.	33.	0.	0.	2383.	210.	318.	149.	212.

MONTH 8 HO 3314. TOD 70. TOT 68. KT .635 KD .165

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	51.	88.	118.	137.	144.	137.	118.	88.	51.	19.	6.	0.	0.	982.	132.	179.	102.	128.
SOUTHWEST	0.	0.	6.	19.	32.	44.	53.	74.	119.	154.	174.	177.	159.	116.	34.	0.	0.	1160.	143.	199.	108.	138.
WEST	0.	0.	6.	19.	32.	44.	53.	59.	61.	115.	159.	187.	192.	161.	54.	0.	0.	1141.	142.	196.	107.	137.
NORTHWEST	0.	0.	6.	19.	32.	44.	53.	59.	61.	59.	82.	114.	132.	122.	46.	0.	0.	828.	122.	162.	97.	118.
NORTH	0.	0.	14.	24.	32.	44.	53.	59.	61.	59.	53.	44.	32.	24.	14.	0.	0.	512.	102.	127.	86.	99.
NORTHEAST	0.	0.	46.	122.	132.	114.	82.	59.	61.	59.	53.	44.	32.	19.	6.	0.	0.	828.	122.	162.	97.	118.
EAST	0.	0.	54.	161.	192.	187.	159.	115.	61.	59.	53.	44.	32.	19.	6.	0.	0.	1141.	142.	196.	107.	137.
SOUTHEAST	0.	0.	34.	116.	159.	177.	174.	154.	119.	74.	53.	44.	32.	19.	6.	0.	0.	1160.	143.	199.	108.	138.
HORIZ.	0.	0.	14.	72.	136.	193.	236.	264.	274.	264.	236.	193.	136.	72.	14.	0.	0.	2105.	202.	303.	140.	195.

MONTH 9 HO 2818. TOD 69. TOT 67. KT .641 KD .164

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	30.	76.	119.	153.	174.	182.	174.	153.	119.	76.	30.	0.	0.	0.	1288.	157.	224.	111.	145.
SOUTHWEST	0.	0.	0.	12.	26.	38.	47.	97.	145.	181.	201.	201.	176.	112.	0.	0.	0.	1236.	153.	218.	109.	141.
WEST	0.	0.	0.	12.	26.	38.	47.	53.	55.	112.	159.	187.	188.	135.	0.	0.	0.	1014.	138.	191.	101.	128.
NORTHWEST	0.	0.	0.	12.	26.	38.	47.	53.	55.	53.	51.	86.	105.	87.	0.	0.	0.	616.	111.	143.	88.	104.
NORTH	0.	0.	0.	12.	26.	38.	47.	53.	55.	53.	47.	38.	26.	12.	0.	0.	0.	410.	97.	118.	81.	91.
NORTHEAST	0.	0.	0.	87.	105.	86.	51.	53.	55.	53.	47.	38.	26.	12.	0.	0.	0.	616.	111.	143.	88.	104.
EAST	0.	0.	0.	135.	188.	187.	159.	112.	55.	53.	47.	38.	26.	12.	0.	0.	0.	1014.	138.	191.	101.	128.
SOUTHEAST	0.	0.	0.	112.	176.	201.	201.	181.	145.	97.	47.	38.	26.	12.	0.	0.	0.	1236.	153.	218.	109.	141.
HORIZ.	0.	0.	0.	44.	109.	168.	213.	242.	252.	242.	213.	168.	109.	44.	0.	0.	0.	1806.	192.	286.	128.	176.

LOCATION LOS ANGELES, CALIF.WBAS LATITUDE 33 DEGREES 55 MINUTES

MONTH 10 HO 2251. TOD 66. TOT 63. KT .574 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	22.	81.	125.	158.	178.	185.	178.	158.	125.	81.	22.	0.	0.	0.	1313.	158.	233.	106.	140.
SOUTHWEST	0.	0.	0.	6.	19.	31.	58.	105.	145.	174.	189.	183.	149.	54.	0.	0.	0.	1112.	144.	207.	99.	128.
WEST	0.	0.	0.	6.	19.	31.	40.	46.	48.	95.	132.	152.	141.	57.	0.	0.	0.	766.	120.	163.	88.	108.
NORTHWEST	0.	0.	0.	6.	19.	31.	40.	46.	48.	46.	40.	49.	62.	31.	0.	0.	0.	417.	95.	119.	77.	88.
NORTH	0.	0.	0.	6.	19.	31.	40.	46.	48.	46.	40.	31.	19.	6.	0.	0.	0.	330.	89.	108.	74.	83.
NORTHEAST	0.	0.	0.	31.	62.	49.	40.	46.	48.	46.	40.	31.	19.	6.	0.	0.	0.	417.	95.	119.	77.	88.
EAST	0.	0.	0.	57.	141.	152.	132.	95.	48.	46.	40.	31.	19.	6.	0.	0.	0.	766.	120.	163.	88.	108.
SOUTHEAST	0.	0.	0.	54.	149.	183.	189.	174.	145.	105.	58.	31.	19.	6.	0.	0.	0.	1112.	144.	207.	99.	128.
HORIZ.	0.	0.	0.	14.	68.	120.	161.	186.	195.	186.	161.	120.	68.	14.	0.	0.	0.	1293.	156.	230.	105.	139.

MONTH 11 HO 1747. TOD 63. TOT 59. KT .551 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	1.	74.	127.	162.	183.	190.	183.	162.	127.	74.	1.	0.	0.	0.	1286.	160.	240.	101.	134.
SOUTHWEST	0.	0.	0.	1.	12.	23.	66.	109.	146.	172.	183.	171.	121.	1.	0.	0.	0.	1006.	139.	202.	92.	118.
WEST	0.	0.	0.	1.	12.	23.	32.	38.	40.	83.	115.	129.	104.	1.	0.	0.	0.	579.	107.	143.	78.	93.
NORTHWEST	0.	0.	0.	1.	12.	23.	32.	38.	40.	38.	32.	25.	34.	1.	0.	0.	0.	276.	84.	101.	68.	75.
NORTH	0.	0.	0.	1.	12.	23.	32.	38.	40.	38.	32.	23.	12.	1.	0.	0.	0.	253.	82.	98.	67.	74.
NORTHEAST	0.	0.	0.	1.	34.	25.	32.	38.	40.	38.	32.	23.	12.	1.	0.	0.	0.	276.	84.	101.	68.	75.
EAST	0.	0.	0.	1.	104.	129.	115.	83.	40.	38.	32.	23.	12.	1.	0.	0.	0.	579.	107.	143.	78.	93.
SOUTHEAST	0.	0.	0.	1.	121.	171.	183.	172.	146.	109.	66.	23.	12.	1.	0.	0.	0.	1006.	139.	202.	92.	118.
HORIZ.	0.	0.	0.	1.	39.	87.	125.	150.	158.	150.	125.	87.	39.	1.	0.	0.	0.	961.	136.	196.	90.	115.

MONTH 12 HO 1552. TOD 59. TOT 56. KT .566 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	71.	134.	172.	195.	202.	195.	172.	134.	71.	0.	0.	0.	0.	1345.	165.	252.	99.	134.
SOUTHWEST	0.	0.	0.	0.	9.	26.	71.	116.	154.	181.	190.	175.	111.	0.	0.	0.	0.	1033.	140.	207.	89.	116.
WEST	0.	0.	0.	0.	9.	21.	29.	35.	37.	81.	114.	126.	92.	0.	0.	0.	0.	546.	102.	137.	73.	87.
NORTHWEST	0.	0.	0.	0.	9.	21.	29.	35.	37.	35.	29.	21.	25.	0.	0.	0.	0.	242.	78.	93.	63.	70.
NORTH	0.	0.	0.	0.	9.	21.	29.	35.	37.	35.	29.	21.	9.	0.	0.	0.	0.	226.	77.	91.	63.	69.
NORTHEAST	0.	0.	0.	0.	25.	21.	29.	35.	37.	35.	29.	21.	9.	0.	0.	0.	0.	242.	78.	93.	63.	70.
EAST	0.	0.	0.	0.	92.	126.	114.	81.	37.	35.	29.	21.	9.	0.	0.	0.	0.	546.	102.	137.	73.	87.
SOUTHEAST	0.	0.	0.	0.	111.	175.	190.	181.	154.	116.	71.	26.	9.	0.	0.	0.	0.	1033.	140.	207.	89.	116.
HORIZ.	0.	0.	0.	0.	29.	77.	116.	141.	150.	141.	116.	77.	29.	0.	0.	0.	0.	879.	128.	185.	84.	107.

LOCATION LOS ANGELES, CALIF.WBAS LATITUDE 33 DEGREES 55 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	153.	154.	142.	117.	110.	108.	116.	132.	157.	158.	160.	165.	139.
SOUTHWEST	132.	139.	139.	127.	126.	125.	135.	143.	153.	144.	139.	140.	137.
WEST	100.	114.	125.	126.	134.	135.	143.	142.	138.	120.	107.	102.	124.
NORTHWEST	77.	87.	99.	109.	121.	125.	129.	122.	111.	95.	84.	78.	103.
NORTH	76.	80.	86.	92.	102.	107.	108.	102.	97.	89.	82.	77.	91.
NORTHEAST	77.	87.	99.	109.	121.	125.	129.	122.	111.	95.	84.	78.	103.
EAST	100.	114.	125.	126.	134.	135.	143.	142.	138.	120.	107.	102.	124.
SOUTHEAST	132.	139.	139.	127.	126.	125.	135.	143.	153.	144.	139.	140.	137.
HORIZ.	129.	152.	174.	178.	195.	197.	210.	202.	192.	156.	136.	128.	171.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	233.	233.	210.	162.	145.	139.	152.	179.	224.	233.	240.	252.	200.
SOUTHWEST	194.	206.	204.	180.	174.	170.	185.	199.	218.	207.	202.	207.	195.
WEST	136.	160.	178.	178.	187.	187.	200.	196.	191.	163.	143.	137.	171.
NORTHWEST	95.	112.	131.	148.	164.	169.	174.	162.	143.	119.	101.	93.	134.
NORTH	91.	99.	107.	117.	131.	138.	137.	127.	118.	108.	98.	91.	114.
NORTHEAST	95.	112.	131.	148.	164.	169.	174.	162.	143.	119.	101.	93.	134.
EAST	136.	160.	178.	178.	187.	187.	200.	196.	191.	163.	143.	137.	171.
SOUTHEAST	194.	206.	204.	180.	174.	170.	185.	199.	218.	207.	202.	207.	195.
HORIZ.	189.	229.	268.	274.	295.	297.	318.	303.	286.	230.	196.	185.	256.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	94.	99.	98.	89.	88.	89.	95.	102.	111.	106.	101.	99.	97.
SOUTHWEST	85.	92.	96.	95.	98.	99.	106.	108.	109.	99.	92.	89.	97.
WEST	72.	80.	89.	94.	102.	105.	110.	107.	101.	88.	78.	73.	92.
NORTHWEST	62.	68.	76.	85.	95.	99.	102.	97.	88.	77.	68.	63.	82.
NORTH	61.	65.	70.	76.	84.	89.	90.	86.	81.	74.	67.	63.	75.
NORTHEAST	62.	68.	76.	85.	95.	99.	102.	97.	88.	77.	68.	63.	82.
EAST	72.	80.	89.	94.	102.	105.	110.	107.	101.	88.	78.	73.	92.
SOUTHEAST	85.	92.	96.	95.	98.	99.	106.	108.	109.	99.	92.	89.	97.
HORIZ.	84.	98.	114.	123.	138.	142.	149.	140.	128.	105.	90.	84.	116.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	128.	135.	132.	114.	109.	108.	115.	128.	145.	140.	134.	134.	127.
SOUTHWEST	112.	123.	129.	124.	126.	126.	135.	138.	141.	128.	118.	116.	126.
WEST	87.	102.	116.	123.	133.	136.	143.	137.	128.	108.	93.	87.	116.
NORTHWEST	69.	80.	93.	106.	120.	126.	128.	118.	104.	88.	75.	70.	98.
NORTH	68.	74.	81.	89.	101.	107.	107.	99.	91.	83.	74.	69.	87.
NORTHEAST	69.	80.	93.	106.	120.	126.	128.	118.	104.	88.	75.	70.	98.
EAST	87.	102.	116.	123.	133.	136.	143.	137.	128.	108.	93.	87.	116.
SOUTHEAST	112.	123.	129.	124.	126.	126.	135.	138.	141.	128.	118.	116.	126.
HORIZ.	109.	134.	161.	175.	196.	202.	212.	195.	176.	139.	115.	107.	160.

LOCATION LOS ANGELES, CALIF.,WBO LATITUDE 34 DEGREES 3 MINUTES

MONTH 1 HO 1753. TOD 58. TOT 55. KT .538 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	1.	73.	124.	157.	177.	184.	177.	157.	124.	73.	1.	0.	0.	0.	1249.	153.	230.	95.	128.
SOUTHWEST	0.	0.	0.	1.	12.	24.	64.	106.	142.	167.	177.	167.	119.	1.	0.	0.	0.	980.	132.	193.	86.	112.
WEST	0.	0.	0.	1.	12.	24.	32.	38.	40.	81.	112.	126.	103.	1.	0.	0.	0.	569.	101.	137.	73.	88.
NORTHWEST	0.	0.	0.	1.	12.	24.	32.	38.	40.	38.	32.	25.	33.	1.	0.	0.	0.	276.	79.	96.	64.	71.
NORTH	0.	0.	0.	1.	12.	24.	32.	38.	40.	38.	32.	24.	12.	1.	0.	0.	0.	253.	77.	93.	63.	70.
NORTHEAST	0.	0.	0.	1.	33.	25.	32.	38.	40.	38.	32.	24.	12.	1.	0.	0.	0.	276.	79.	96.	64.	71.
EAST	0.	0.	0.	1.	103.	126.	112.	81.	40.	38.	32.	24.	12.	1.	0.	0.	0.	569.	101.	137.	73.	88.
SOUTHEAST	0.	0.	0.	1.	119.	167.	177.	167.	142.	106.	64.	24.	12.	1.	0.	0.	0.	980.	132.	193.	86.	112.
HORIZ.	0.	0.	0.	1.	39.	85.	123.	146.	154.	146.	123.	85.	39.	1.	0.	0.	0.	942.	130.	188.	85.	110.

MONTH 2 HO 2280. TOD 59. TOT 56. KT .568 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	24.	82.	125.	156.	176.	182.	176.	156.	125.	82.	24.	0.	0.	0.	1308.	150.	225.	98.	133.
SOUTHWEST	0.	0.	0.	6.	19.	31.	58.	104.	143.	172.	187.	182.	151.	61.	0.	0.	0.	1115.	137.	200.	92.	121.
WEST	0.	0.	0.	6.	19.	31.	40.	46.	48.	95.	131.	152.	144.	66.	0.	0.	0.	778.	113.	158.	81.	102.
NORTHWEST	0.	0.	0.	6.	19.	31.	40.	46.	48.	46.	40.	50.	63.	35.	0.	0.	0.	426.	89.	113.	70.	81.
NORTH	0.	0.	0.	6.	19.	31.	40.	46.	48.	46.	40.	31.	19.	6.	0.	0.	0.	334.	82.	101.	67.	76.
NORTHEAST	0.	0.	0.	35.	63.	50.	40.	46.	48.	46.	40.	31.	19.	6.	0.	0.	0.	426.	89.	113.	70.	81.
EAST	0.	0.	0.	66.	144.	152.	131.	95.	48.	46.	40.	31.	19.	6.	0.	0.	0.	778.	113.	158.	81.	102.
SOUTHEAST	0.	0.	0.	61.	151.	182.	187.	172.	143.	104.	58.	31.	19.	6.	0.	0.	0.	1115.	137.	200.	92.	121.
HORIZ.	0.	0.	0.	16.	69.	120.	160.	185.	194.	185.	160.	120.	69.	16.	0.	0.	0.	1296.	150.	223.	98.	132.

MONTH 3 HO 2832. TOD 62. TOT 59. KT .602 KD .174

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	30.	74.	113.	144.	164.	171.	164.	144.	113.	74.	30.	0.	0.	0.	1221.	140.	204.	98.	130.
SOUTHWEST	0.	0.	0.	13.	26.	39.	48.	94.	137.	169.	187.	187.	165.	108.	0.	0.	0.	1174.	137.	198.	97.	127.
WEST	0.	0.	0.	13.	26.	39.	48.	54.	56.	107.	148.	174.	175.	130.	0.	0.	0.	970.	124.	175.	90.	115.
NORTHWEST	0.	0.	0.	13.	26.	39.	48.	54.	56.	54.	51.	81.	98.	84.	0.	0.	0.	603.	100.	132.	78.	94.
NORTH	0.	0.	0.	13.	26.	39.	48.	54.	56.	54.	48.	39.	26.	13.	0.	0.	0.	415.	88.	110.	72.	83.
NORTHEAST	0.	0.	0.	84.	98.	81.	51.	54.	56.	54.	48.	39.	26.	13.	0.	0.	0.	603.	100.	132.	78.	94.
EAST	0.	0.	0.	130.	175.	174.	148.	107.	56.	54.	48.	39.	26.	13.	0.	0.	0.	970.	124.	175.	90.	115.
SOUTHEAST	0.	0.	0.	108.	165.	187.	187.	169.	137.	94.	48.	39.	26.	13.	0.	0.	0.	1174.	137.	198.	97.	127.
HORIZ.	0.	0.	0.	43.	104.	158.	200.	227.	236.	227.	200.	158.	104.	43.	0.	0.	0.	1703.	171.	260.	114.	158.

LOCATION LOS ANGELES, CALIF.,WBO LATITUDE 34 DEGREES 3 MINUTES

MONTH 4 HO 3338. TOD 64. TOT 61. KT .571 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	6.	19.	49.	82.	108.	125.	131.	125.	108.	82.	49.	19.	6.	0.	0.	911.	118.	162.	91.	115.
SOUTHWEST	0.	0.	6.	19.	33.	44.	53.	72.	110.	139.	155.	157.	141.	104.	33.	0.	0.	1067.	127.	178.	96.	124.
WEST	0.	0.	6.	19.	33.	44.	53.	59.	61.	106.	142.	165.	169.	143.	53.	0.	0.	1053.	126.	177.	95.	123.
NORTHWEST	0.	0.	6.	19.	33.	44.	53.	59.	61.	59.	77.	103.	117.	110.	45.	0.	0.	785.	110.	148.	87.	107.
NORTH	0.	0.	14.	23.	33.	44.	53.	59.	61.	59.	53.	44.	33.	23.	14.	0.	0.	513.	94.	119.	78.	91.
NORTHEAST	0.	0.	45.	110.	117.	103.	77.	59.	61.	59.	53.	44.	33.	19.	6.	0.	0.	785.	110.	148.	87.	107.
EAST	0.	0.	53.	143.	169.	165.	142.	106.	61.	59.	53.	44.	33.	19.	6.	0.	0.	1053.	126.	177.	95.	123.
SOUTHEAST	0.	0.	33.	104.	141.	157.	155.	139.	110.	72.	53.	44.	33.	19.	6.	0.	0.	1067.	127.	178.	96.	124.
HORIZ.	0.	0.	15.	68.	124.	174.	213.	237.	245.	237.	213.	174.	124.	68.	15.	0.	0.	1907.	176.	268.	123.	173.

MONTH 5 HO 3633. TOD 68. TOT 65. KT .573 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	10.	24.	36.	62.	86.	102.	107.	102.	86.	62.	36.	24.	10.	0.	0.	747.	112.	145.	90.	110.
SOUTHWEST	0.	0.	10.	24.	36.	47.	56.	61.	94.	122.	137.	140.	127.	98.	49.	0.	0.	1000.	127.	172.	99.	125.
WEST	0.	0.	10.	24.	36.	47.	56.	61.	63.	106.	141.	163.	168.	149.	88.	0.	0.	1112.	133.	183.	103.	132.
NORTHWEST	0.	0.	10.	24.	36.	47.	56.	61.	63.	64.	94.	119.	132.	127.	82.	0.	0.	915.	122.	163.	96.	120.
NORTH	0.	0.	34.	44.	40.	47.	56.	61.	63.	61.	56.	47.	40.	44.	34.	0.	0.	627.	105.	133.	86.	103.
NORTHEAST	0.	0.	82.	127.	132.	119.	94.	64.	63.	61.	56.	47.	36.	24.	10.	0.	0.	915.	122.	163.	96.	120.
EAST	0.	0.	88.	149.	168.	163.	141.	106.	63.	61.	56.	47.	36.	24.	10.	0.	0.	1112.	133.	183.	103.	132.
SOUTHEAST	0.	0.	49.	98.	127.	140.	137.	122.	94.	61.	56.	47.	36.	24.	10.	0.	0.	1000.	127.	172.	99.	125.
HORIZ.	0.	0.	31.	85.	139.	187.	224.	247.	255.	247.	224.	187.	139.	85.	31.	0.	0.	2081.	190.	284.	136.	191.

MONTH 6 HO 3733. TOD 71. TOT 68. KT .605 KD .173

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	1.	12.	25.	37.	55.	79.	95.	101.	95.	79.	55.	37.	25.	12.	1.	0.	711.	112.	143.	92.	111.
SOUTHWEST	0.	1.	12.	25.	37.	48.	57.	62.	90.	119.	137.	140.	128.	100.	54.	1.	0.	1012.	129.	173.	102.	129.
WEST	0.	1.	12.	25.	37.	48.	57.	62.	64.	110.	147.	172.	179.	161.	104.	1.	0.	1180.	139.	191.	108.	139.
NORTHWEST	0.	1.	12.	25.	37.	48.	57.	62.	64.	72.	105.	131.	147.	143.	100.	1.	0.	1004.	128.	173.	102.	128.
NORTH	0.	1.	45.	55.	50.	48.	57.	62.	64.	62.	57.	48.	50.	55.	45.	1.	0.	700.	111.	142.	92.	110.
NORTHEAST	0.	1.	100.	143.	147.	131.	105.	72.	64.	62.	57.	48.	37.	25.	12.	1.	0.	1004.	128.	173.	102.	128.
EAST	0.	1.	104.	161.	179.	172.	147.	110.	64.	62.	57.	48.	37.	25.	12.	1.	0.	1180.	139.	191.	108.	139.
SOUTHEAST	0.	1.	54.	100.	128.	140.	137.	119.	90.	62.	57.	48.	37.	25.	12.	1.	0.	1012.	129.	173.	102.	129.
HORIZ.	0.	2.	39.	95.	152.	201.	240.	264.	272.	264.	240.	201.	152.	95.	39.	2.	0.	2258.	201.	300.	145.	204.

LOCATION LOS ANGELES, CALIF.,WBO LATITUDE 34 DEGREES 3 MINUTES

MONTH 7 HO 3628. TOD 76. TOT 72. KT .660 KD .159

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	10.	23.	36.	65.	93.	112.	118.	112.	93.	65.	36.	23.	10.	0.	0.	797.	123.	159.	100.	121.
SOUTHWEST	0.	0.	10.	23.	36.	47.	55.	61.	102.	137.	159.	163.	150.	115.	56.	0.	0.	1114.	141.	192.	111.	140.
WEST	0.	0.	10.	23.	36.	47.	55.	61.	63.	118.	163.	194.	202.	180.	105.	0.	0.	1257.	150.	206.	115.	148.
NORTHWEST	0.	0.	10.	23.	36.	47.	55.	61.	63.	65.	105.	138.	157.	153.	98.	0.	0.	1010.	135.	181.	107.	134.
NORTH	0.	0.	39.	50.	41.	47.	55.	61.	63.	61.	55.	47.	41.	50.	39.	0.	0.	650.	114.	143.	95.	112.
NORTHEAST	0.	0.	98.	153.	157.	138.	105.	65.	63.	61.	55.	47.	36.	23.	10.	0.	0.	1010.	135.	181.	107.	134.
EAST	0.	0.	105.	180.	202.	194.	163.	118.	63.	61.	55.	47.	36.	23.	10.	0.	0.	1257.	150.	206.	115.	148.
SOUTHEAST	0.	0.	56.	115.	150.	163.	159.	137.	102.	61.	55.	47.	36.	23.	10.	0.	0.	1114.	141.	192.	111.	140.
HORIZ.	0.	0.	33.	96.	159.	215.	259.	286.	296.	286.	259.	215.	159.	96.	33.	0.	0.	2394.	217.	325.	154.	217.

MONTH 8 HO 3313. TOD 76. TOT 73. KT .648 KD .162

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	52.	90.	120.	140.	147.	140.	120.	90.	52.	19.	6.	0.	0.	1000.	139.	187.	107.	133.
SOUTHWEST	0.	0.	6.	19.	32.	44.	53.	75.	122.	157.	178.	181.	163.	119.	35.	0.	0.	1184.	150.	207.	113.	144.
WEST	0.	0.	6.	19.	32.	44.	53.	58.	60.	117.	163.	192.	198.	165.	56.	0.	0.	1162.	149.	205.	113.	143.
NORTHWEST	0.	0.	6.	19.	32.	44.	53.	58.	60.	58.	83.	116.	135.	126.	47.	0.	0.	838.	129.	169.	102.	124.
NORTH	0.	0.	14.	24.	32.	44.	53.	58.	60.	58.	53.	44.	32.	24.	14.	0.	0.	511.	108.	133.	90.	104.
NORTHEAST	0.	0.	47.	126.	135.	116.	83.	58.	60.	58.	53.	44.	32.	19.	6.	0.	0.	838.	129.	169.	102.	124.
EAST	0.	0.	56.	165.	198.	192.	163.	117.	60.	58.	53.	44.	32.	19.	6.	0.	0.	1162.	149.	205.	113.	143.
SOUTHEAST	0.	0.	35.	119.	163.	181.	178.	157.	122.	75.	53.	44.	32.	19.	6.	0.	0.	1184.	150.	207.	113.	144.
HORIZ.	0.	0.	14.	74.	139.	196.	241.	270.	279.	270.	241.	196.	139.	74.	14.	0.	0.	2147.	211.	314.	146.	203.

MONTH 9 HO 2815. TOD 74. TOT 71. KT .643 KD .163

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	30.	77.	120.	154.	175.	183.	175.	154.	120.	77.	30.	0.	0.	0.	1294.	162.	230.	115.	149.
SOUTHWEST	0.	0.	0.	12.	26.	38.	47.	98.	145.	182.	202.	202.	177.	112.	0.	0.	0.	1241.	159.	223.	113.	146.
WEST	0.	0.	0.	12.	26.	38.	47.	53.	55.	113.	159.	188.	188.	136.	0.	0.	0.	1017.	143.	196.	106.	132.
NORTHWEST	0.	0.	0.	12.	26.	38.	47.	53.	55.	53.	51.	86.	105.	87.	0.	0.	0.	615.	116.	148.	92.	108.
NORTH	0.	0.	0.	12.	26.	38.	47.	53.	55.	53.	47.	38.	26.	12.	0.	0.	0.	410.	102.	123.	85.	96.
NORTHEAST	0.	0.	0.	87.	105.	86.	51.	53.	55.	53.	47.	38.	26.	12.	0.	0.	0.	615.	116.	148.	92.	108.
EAST	0.	0.	0.	136.	188.	188.	159.	113.	55.	53.	47.	38.	26.	12.	0.	0.	0.	1017.	143.	196.	106.	132.
SOUTHEAST	0.	0.	0.	112.	177.	202.	202.	182.	145.	98.	47.	38.	26.	12.	0.	0.	0.	1241.	159.	223.	113.	146.
HORIZ.	0.	0.	0.	44.	109.	168.	214.	243.	253.	243.	214.	168.	109.	44.	0.	0.	0.	1809.	197.	292.	133.	180.

LOCATION LOS ANGELES, CALIF.,WBO LATITUDE 34 DEGREES 3 MINUTES

MONTH 10 HO 2245. TOD 70. TOT 67. KT .578 KD .177

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	22.	81.	126.	160.	180.	187.	180.	160.	126.	81.	22.	0.	0.	0.	1326.	162.	238.	109.	144.
SOUTHWEST	0.	0.	0.	6.	19.	31.	59.	106.	146.	176.	190.	185.	151.	54.	0.	0.	0.	1121.	148.	212.	103.	132.
WEST	0.	0.	0.	6.	19.	31.	40.	46.	48.	95.	133.	153.	143.	57.	0.	0.	0.	770.	123.	167.	91.	111.
NORTHWEST	0.	0.	0.	6.	19.	31.	40.	46.	48.	46.	40.	49.	62.	31.	0.	0.	0.	417.	99.	122.	80.	91.
NORTH	0.	0.	0.	6.	19.	31.	40.	46.	48.	46.	40.	31.	19.	6.	0.	0.	0.	329.	93.	111.	77.	86.
NORTHEAST	0.	0.	0.	31.	62.	49.	40.	46.	48.	46.	40.	31.	19.	6.	0.	0.	0.	417.	99.	122.	80.	91.
EAST	0.	0.	0.	57.	143.	153.	133.	95.	48.	46.	40.	31.	19.	6.	0.	0.	0.	770.	123.	167.	91.	111.
SOUTHEAST	0.	0.	0.	54.	151.	185.	190.	176.	146.	106.	59.	31.	19.	6.	0.	0.	0.	1121.	148.	212.	103.	132.
HORIZ.	0.	0.	0.	14.	68.	120.	161.	187.	196.	187.	161.	120.	68.	14.	0.	0.	0.	1298.	160.	234.	108.	142.

MONTH 11 HO 1741. TOD 65. TOT 62. KT .548 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	1.	73.	126.	161.	182.	189.	182.	161.	126.	73.	1.	0.	0.	0.	1276.	163.	242.	103.	136.
SOUTHWEST	0.	0.	0.	1.	12.	23.	65.	109.	145.	171.	182.	170.	120.	1.	0.	0.	0.	998.	141.	204.	94.	120.
WEST	0.	0.	0.	1.	12.	23.	32.	38.	40.	82.	114.	128.	103.	1.	0.	0.	0.	574.	109.	145.	81.	96.
NORTHWEST	0.	0.	0.	1.	12.	23.	32.	38.	40.	38.	32.	24.	33.	1.	0.	0.	0.	274.	86.	103.	71.	78.
NORTH	0.	0.	0.	1.	12.	23.	32.	38.	40.	38.	32.	23.	12.	1.	0.	0.	0.	252.	85.	100.	70.	77.
NORTHEAST	0.	0.	0.	1.	33.	24.	32.	38.	40.	38.	32.	23.	12.	1.	0.	0.	0.	274.	86.	103.	71.	78.
EAST	0.	0.	0.	1.	103.	128.	114.	82.	40.	38.	32.	23.	12.	1.	0.	0.	0.	574.	109.	145.	81.	96.
SOUTHEAST	0.	0.	0.	1.	120.	170.	182.	171.	145.	109.	65.	23.	12.	1.	0.	0.	0.	998.	141.	204.	94.	120.
HORIZ.	0.	0.	0.	1.	39.	86.	124.	148.	157.	148.	124.	86.	39.	1.	0.	0.	0.	953.	138.	197.	93.	118.

MONTH 12 HO 1545. TOD 60. TOT 57. KT .566 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	70.	133.	172.	195.	203.	195.	172.	133.	70.	0.	0.	0.	0.	1345.	167.	254.	100.	136.
SOUTHWEST	0.	0.	0.	0.	9.	26.	71.	116.	154.	181.	190.	175.	111.	0.	0.	0.	0.	1032.	142.	209.	90.	117.
WEST	0.	0.	0.	0.	9.	21.	29.	35.	37.	81.	114.	126.	92.	0.	0.	0.	0.	544.	103.	138.	75.	89.
NORTHWEST	0.	0.	0.	0.	9.	21.	29.	35.	37.	35.	29.	21.	25.	0.	0.	0.	0.	241.	79.	95.	65.	71.
NORTH	0.	0.	0.	0.	9.	21.	29.	35.	37.	35.	29.	21.	9.	0.	0.	0.	0.	225.	78.	93.	65.	70.
NORTHEAST	0.	0.	0.	0.	25.	21.	29.	35.	37.	35.	29.	21.	9.	0.	0.	0.	0.	241.	79.	95.	65.	71.
EAST	0.	0.	0.	0.	92.	126.	114.	81.	37.	35.	29.	21.	9.	0.	0.	0.	0.	544.	103.	138.	75.	89.
SOUTHEAST	0.	0.	0.	0.	111.	175.	190.	181.	154.	116.	71.	26.	9.	0.	0.	0.	0.	1032.	142.	209.	90.	117.
HORIZ.	0.	0.	0.	0.	29.	77.	116.	141.	149.	141.	116.	77.	29.	0.	0.	0.	0.	875.	129.	186.	85.	108.

LOCATION LOS ANGELES, CALIF.,WBO LATITUDE 34 DEGREES 3 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	153.	150.	140.	118.	112.	112.	123.	139.	162.	162.	163.	167.	142.
SOUTHWEST	132.	137.	137.	127.	127.	129.	141.	150.	159.	148.	141.	142.	139.
WEST	101.	113.	124.	126.	133.	139.	150.	149.	143.	123.	109.	103.	126.
NORTHWEST	79.	89.	100.	110.	122.	128.	135.	129.	116.	99.	86.	79.	106.
NORTH	77.	82.	88.	94.	105.	111.	114.	108.	102.	93.	85.	78.	95.
NORTHEAST	79.	89.	100.	110.	122.	128.	135.	129.	116.	99.	86.	79.	106.
EAST	101.	113.	124.	126.	133.	139.	150.	149.	143.	123.	109.	103.	126.
SOUTHEAST	132.	137.	137.	127.	127.	129.	141.	150.	159.	148.	141.	142.	139.
HORIZ.	130.	150.	171.	176.	190.	201.	217.	211.	197.	160.	138.	129.	172.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	230.	225.	204.	162.	145.	143.	159.	187.	230.	238.	242.	254.	201.
SOUTHWEST	193.	200.	198.	178.	172.	173.	192.	207.	223.	212.	204.	209.	197.
WEST	137.	158.	175.	177.	183.	191.	206.	205.	196.	167.	145.	138.	173.
NORTHWEST	96.	113.	132.	148.	163.	173.	181.	169.	148.	122.	103.	95.	137.
NORTH	93.	101.	110.	119.	133.	142.	143.	133.	123.	111.	100.	93.	117.
NORTHEAST	96.	113.	132.	148.	163.	173.	181.	169.	148.	122.	103.	95.	137.
EAST	137.	158.	175.	177.	183.	191.	206.	205.	196.	167.	145.	138.	173.
SOUTHEAST	193.	200.	198.	178.	172.	173.	192.	207.	223.	212.	204.	209.	197.
HORIZ.	188.	223.	260.	268.	284.	300.	325.	314.	292.	234.	197.	186.	256.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	95.	98.	98.	91.	90.	92.	100.	107.	115.	109.	103.	100.	100.
SOUTHWEST	86.	92.	97.	96.	99.	102.	111.	113.	113.	103.	94.	90.	100.
WEST	73.	81.	90.	95.	103.	108.	115.	113.	106.	91.	81.	75.	94.
NORTHWEST	64.	70.	78.	87.	96.	102.	107.	102.	92.	80.	71.	65.	84.
NORTH	63.	67.	72.	78.	86.	92.	95.	90.	85.	77.	70.	65.	78.
NORTHEAST	64.	70.	78.	87.	96.	102.	107.	102.	92.	80.	71.	65.	84.
EAST	73.	81.	90.	95.	103.	108.	115.	113.	106.	91.	81.	75.	94.
SOUTHEAST	86.	92.	97.	96.	99.	102.	111.	113.	113.	103.	94.	90.	100.
HORIZ.	85.	98.	114.	123.	136.	145.	154.	146.	133.	108.	93.	85.	118.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	128.	133.	130.	115.	110.	111.	121.	133.	149.	144.	136.	136.	129.
SOUTHWEST	112.	121.	127.	124.	125.	129.	140.	144.	146.	132.	120.	117.	128.
WEST	88.	102.	115.	123.	132.	139.	148.	143.	132.	111.	96.	89.	118.
NORTHWEST	71.	81.	94.	107.	120.	128.	134.	124.	108.	91.	78.	71.	101.
NORTH	70.	76.	83.	91.	103.	110.	112.	104.	96.	86.	77.	70.	90.
NORTHEAST	71.	81.	94.	107.	120.	128.	134.	124.	108.	91.	78.	71.	101.
EAST	88.	102.	115.	123.	132.	139.	148.	143.	132.	111.	96.	89.	118.
SOUTHEAST	112.	121.	127.	124.	125.	129.	140.	144.	146.	132.	120.	117.	128.
HORIZ.	110.	132.	158.	173.	191.	204.	217.	203.	180.	142.	118.	108.	161.

LOCATION MADISON, WISCONSIN LATITUDE 43 DEGREES 7 MINUTES

MONTH 1 HO 1257. TOD 22. TOT 19. KT .490 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	40.	101.	139.	161.	169.	161.	139.	101.	40.	0.	0.	0.	0.	1052.	108.	179.	53.	80.
SOUTHWEST	0.	0.	0.	0.	6.	19.	58.	96.	128.	149.	153.	133.	64.	0.	0.	0.	0.	807.	88.	142.	45.	66.
WEST	0.	0.	0.	0.	6.	16.	24.	29.	30.	66.	91.	97.	55.	0.	0.	0.	0.	413.	56.	84.	32.	43.
NORTHWEST	0.	0.	0.	0.	6.	16.	24.	29.	30.	29.	24.	16.	17.	0.	0.	0.	0.	190.	37.	50.	25.	30.
NORTH	0.	0.	0.	0.	6.	16.	24.	29.	30.	29.	24.	16.	6.	0.	0.	0.	0.	180.	37.	49.	25.	30.
NORTHEAST	0.	0.	0.	0.	17.	16.	24.	29.	30.	29.	24.	16.	6.	0.	0.	0.	0.	190.	37.	50.	25.	30.
EAST	0.	0.	0.	0.	55.	97.	91.	66.	30.	29.	24.	16.	6.	0.	0.	0.	0.	413.	56.	84.	32.	43.
SOUTHEAST	0.	0.	0.	0.	64.	133.	153.	149.	128.	96.	58.	19.	6.	0.	0.	0.	0.	807.	88.	142.	45.	66.
HORIZ.	0.	0.	0.	0.	16.	52.	83.	103.	109.	103.	83.	52.	16.	0.	0.	0.	0.	617.	73.	114.	39.	55.

MONTH 2 HO 1838. TOD 25. TOT 22. KT .478 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	9.	61.	102.	131.	149.	155.	149.	131.	102.	61.	9.	0.	0.	0.	1059.	101.	163.	56.	84.
SOUTHWEST	0.	0.	0.	3.	14.	24.	54.	91.	121.	142.	150.	141.	108.	19.	0.	0.	0.	868.	87.	138.	50.	72.
WEST	0.	0.	0.	3.	14.	24.	32.	37.	39.	74.	100.	113.	100.	20.	0.	0.	0.	555.	65.	97.	40.	54.
NORTHWEST	0.	0.	0.	3.	14.	24.	32.	37.	39.	37.	32.	32.	41.	11.	0.	0.	0.	303.	46.	64.	32.	40.
NORTH	0.	0.	0.	3.	14.	24.	32.	37.	39.	37.	32.	24.	14.	3.	0.	0.	0.	260.	43.	59.	30.	37.
NORTHEAST	0.	0.	0.	11.	41.	32.	32.	37.	39.	37.	32.	24.	14.	3.	0.	0.	0.	303.	46.	64.	32.	40.
EAST	0.	0.	0.	20.	100.	113.	100.	74.	39.	37.	32.	24.	14.	3.	0.	0.	0.	555.	65.	97.	40.	54.
SOUTHEAST	0.	0.	0.	19.	108.	141.	150.	142.	121.	91.	54.	24.	14.	3.	0.	0.	0.	868.	87.	138.	50.	72.
HORIZ.	0.	0.	0.	6.	43.	81.	111.	130.	136.	130.	111.	81.	43.	6.	0.	0.	0.	878.	88.	140.	50.	73.

MONTH 3 HO 2500. TOD 35. TOT 32. KT .522 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	27.	68.	106.	135.	154.	160.	154.	135.	106.	68.	27.	0.	0.	0.	1138.	108.	167.	69.	99.
SOUTHWEST	0.	0.	0.	11.	23.	33.	51.	92.	127.	152.	164.	160.	136.	84.	0.	0.	0.	1035.	101.	155.	66.	93.
WEST	0.	0.	0.	11.	23.	33.	41.	47.	48.	89.	121.	140.	138.	99.	0.	0.	0.	791.	86.	127.	58.	79.
NORTHWEST	0.	0.	0.	11.	23.	33.	41.	47.	48.	47.	41.	58.	73.	62.	0.	0.	0.	485.	66.	92.	48.	61.
NORTH	0.	0.	0.	11.	23.	33.	41.	47.	48.	47.	41.	33.	23.	11.	0.	0.	0.	360.	58.	77.	44.	53.
NORTHEAST	0.	0.	0.	62.	73.	58.	41.	47.	48.	47.	41.	33.	23.	11.	0.	0.	0.	485.	66.	92.	48.	61.
EAST	0.	0.	0.	99.	138.	140.	121.	89.	48.	47.	41.	33.	23.	11.	0.	0.	0.	791.	86.	127.	58.	79.
SOUTHEAST	0.	0.	0.	84.	136.	160.	164.	152.	127.	92.	51.	33.	23.	11.	0.	0.	0.	1035.	101.	155.	66.	93.
HORIZ.	0.	0.	0.	33.	79.	121.	153.	174.	181.	174.	153.	121.	79.	33.	0.	0.	0.	1304.	119.	187.	74.	108.

LOCATION MADISON, WISCONSIN LATITUDE 43 DEGREES 7 MINUTES

MONTH 4 HO 3169. TOD 49. TOT 46. KT .474 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	8.	21.	52.	81.	105.	120.	125.	120.	105.	81.	52.	21.	8.	0.	0.	899.	100.	142.	75.	98.
SOUTHWEST	0.	0.	8.	19.	30.	40.	47.	75.	104.	124.	134.	132.	117.	86.	35.	0.	0.	953.	103.	148.	76.	101.
WEST	0.	0.	8.	19.	30.	40.	47.	52.	54.	87.	113.	129.	131.	112.	54.	0.	0.	875.	99.	139.	74.	97.
NORTHWEST	0.	0.	8.	19.	30.	40.	47.	52.	54.	52.	53.	74.	86.	83.	46.	0.	0.	643.	86.	115.	66.	83.
NORTH	0.	0.	15.	19.	30.	40.	47.	52.	54.	52.	47.	40.	30.	19.	15.	0.	0.	461.	75.	97.	60.	73.
NORTHEAST	0.	0.	46.	83.	86.	74.	53.	52.	54.	52.	47.	40.	30.	19.	8.	0.	0.	643.	86.	115.	66.	83.
EAST	0.	0.	54.	112.	131.	129.	113.	87.	54.	52.	47.	40.	30.	19.	8.	0.	0.	875.	99.	139.	74.	97.
SOUTHEAST	0.	0.	35.	86.	117.	132.	134.	124.	104.	75.	47.	40.	30.	19.	8.	0.	0.	953.	103.	148.	76.	101.
HORIZ.	0.	0.	18.	59.	100.	136.	164.	181.	188.	181.	164.	136.	100.	59.	18.	0.	0.	1503.	135.	204.	94.	133.

MONTH 5 HO 3605. TOD 61. TOT 57. KT .493 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	3.	13.	25.	44.	72.	95.	109.	114.	109.	95.	72.	44.	25.	13.	3.	0.	836.	108.	144.	86.	108.
SOUTHWEST	0.	3.	13.	25.	35.	45.	52.	69.	98.	118.	129.	128.	115.	89.	51.	5.	0.	976.	116.	157.	91.	116.
WEST	0.	3.	13.	25.	35.	45.	52.	56.	58.	91.	118.	135.	139.	126.	87.	9.	0.	992.	116.	159.	91.	117.
NORTHWEST	0.	3.	13.	25.	35.	45.	52.	56.	58.	56.	68.	89.	103.	103.	79.	9.	0.	795.	105.	139.	85.	106.
NORTH	0.	6.	33.	34.	35.	45.	52.	56.	58.	56.	52.	45.	35.	34.	33.	6.	0.	581.	93.	118.	77.	93.
NORTHEAST	0.	9.	79.	103.	103.	89.	68.	56.	58.	56.	52.	45.	35.	25.	13.	3.	0.	795.	105.	139.	85.	106.
EAST	0.	9.	87.	126.	139.	135.	118.	91.	58.	56.	52.	45.	35.	25.	13.	3.	0.	992.	116.	159.	91.	117.
SOUTHEAST	0.	5.	51.	89.	115.	128.	129.	118.	98.	69.	52.	45.	35.	25.	13.	3.	0.	976.	116.	157.	91.	116.
HORIZ.	0.	5.	38.	79.	121.	156.	184.	202.	208.	202.	184.	156.	121.	79.	38.	5.	0.	1778.	160.	236.	118.	165.

MONTH 6 HO 3765. TOD 71. TOT 67. KT .540 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	5.	15.	27.	41.	71.	96.	111.	117.	111.	96.	71.	41.	27.	15.	5.	0.	849.	117.	152.	96.	119.
SOUTHWEST	0.	5.	15.	27.	37.	47.	54.	68.	100.	124.	137.	137.	124.	98.	59.	13.	0.	1046.	127.	171.	103.	131.
WEST	0.	5.	15.	27.	37.	47.	54.	58.	60.	98.	130.	150.	157.	144.	106.	28.	0.	1117.	131.	177.	106.	135.
NORTHWEST	0.	5.	15.	27.	37.	47.	54.	58.	60.	58.	78.	103.	119.	122.	100.	30.	0.	913.	120.	158.	99.	123.
NORTH	0.	17.	44.	44.	37.	47.	54.	58.	60.	58.	54.	47.	37.	44.	44.	17.	0.	663.	107.	134.	90.	107.
NORTHEAST	0.	30.	100.	122.	119.	103.	78.	58.	60.	58.	54.	47.	37.	27.	15.	5.	0.	913.	120.	158.	99.	123.
EAST	0.	28.	106.	144.	157.	150.	130.	98.	60.	58.	54.	47.	37.	27.	15.	5.	0.	1117.	131.	177.	106.	135.
SOUTHEAST	0.	13.	59.	98.	124.	137.	137.	124.	100.	68.	54.	47.	37.	27.	15.	5.	0.	1046.	127.	171.	103.	131.
HORIZ.	0.	10.	48.	94.	138.	177.	207.	226.	233.	226.	207.	177.	138.	94.	48.	10.	0.	2034.	181.	265.	137.	190.

LOCATION MADISON, WISCONSIN LATITUDE 43 DEGREES 7 MINUTES

MONTH 7 HO 3604. TOD 77. TOT 73. KT .559 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	3.	13.	25.	46.	79.	106.	123.	129.	123.	106.	79.	46.	25.	13.	3.	0.	918.	128.	167.	104.	128.
SOUTHWEST	0.	3.	13.	25.	36.	46.	53.	73.	108.	134.	148.	148.	134.	104.	59.	6.	0.	1090.	138.	184.	110.	139.
WEST	0.	3.	13.	25.	36.	46.	53.	58.	59.	101.	135.	158.	164.	149.	102.	10.	0.	1111.	139.	186.	111.	140.
NORTHWEST	0.	3.	13.	25.	36.	46.	53.	58.	59.	58.	74.	101.	119.	121.	93.	10.	0.	868.	125.	162.	103.	125.
NORTH	0.	6.	37.	37.	36.	46.	53.	58.	59.	58.	53.	46.	36.	37.	37.	6.	0.	605.	111.	136.	94.	110.
NORTHEAST	0.	10.	93.	121.	119.	101.	74.	58.	59.	58.	53.	46.	36.	25.	13.	3.	0.	868.	125.	162.	103.	125.
EAST	0.	10.	102.	149.	164.	158.	135.	101.	59.	58.	53.	46.	36.	25.	13.	3.	0.	1111.	139.	186.	111.	140.
SOUTHEAST	0.	6.	59.	104.	134.	148.	148.	134.	108.	73.	53.	46.	36.	25.	13.	3.	0.	1090.	138.	184.	110.	139.
HORIZ.	0.	5.	41.	89.	136.	178.	210.	230.	237.	230.	210.	178.	136.	89.	41.	5.	0.	2015.	189.	275.	142.	195.

MONTH 8 HO 3147. TOD 74. TOT 71. KT .534 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	8.	22.	57.	91.	118.	136.	142.	136.	118.	91.	57.	22.	8.	0.	0.	1004.	135.	182.	105.	131.
SOUTHWEST	0.	0.	8.	19.	31.	41.	49.	82.	117.	142.	154.	152.	134.	98.	38.	0.	0.	1064.	139.	188.	107.	135.
WEST	0.	0.	8.	19.	31.	41.	49.	53.	55.	96.	128.	149.	151.	128.	58.	0.	0.	966.	133.	178.	104.	129.
NORTHWEST	0.	0.	8.	19.	31.	41.	49.	53.	55.	53.	56.	82.	98.	95.	49.	0.	0.	688.	116.	148.	94.	112.
NORTH	0.	0.	15.	19.	31.	41.	49.	53.	55.	53.	49.	41.	31.	19.	15.	0.	0.	472.	103.	125.	87.	99.
NORTHEAST	0.	0.	49.	95.	98.	82.	56.	53.	55.	53.	49.	41.	31.	19.	8.	0.	0.	688.	116.	148.	94.	112.
EAST	0.	0.	58.	128.	151.	149.	128.	96.	55.	53.	49.	41.	31.	19.	8.	0.	0.	966.	133.	178.	104.	129.
SOUTHEAST	0.	0.	38.	98.	134.	152.	154.	142.	117.	82.	49.	41.	31.	19.	8.	0.	0.	1064.	139.	188.	107.	135.
HORIZ.	0.	0.	19.	64.	111.	152.	184.	205.	212.	205.	184.	152.	111.	64.	19.	0.	0.	1681.	176.	254.	128.	172.

MONTH 9 HO 2490. TOD 66. TOT 62. KT .549 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	27.	70.	111.	142.	163.	169.	163.	142.	111.	70.	27.	0.	0.	0.	1195.	147.	209.	103.	134.
SOUTHWEST	0.	0.	0.	11.	23.	34.	52.	96.	134.	161.	174.	169.	143.	85.	0.	0.	0.	1083.	139.	196.	99.	128.
WEST	0.	0.	0.	11.	23.	34.	42.	47.	48.	93.	128.	148.	146.	100.	0.	0.	0.	820.	121.	164.	90.	112.
NORTHWEST	0.	0.	0.	11.	23.	34.	42.	47.	48.	47.	42.	60.	76.	63.	0.	0.	0.	493.	99.	125.	79.	92.
NORTH	0.	0.	0.	11.	23.	34.	42.	47.	48.	47.	42.	34.	23.	11.	0.	0.	0.	361.	90.	109.	74.	84.
NORTHEAST	0.	0.	0.	63.	76.	60.	42.	47.	48.	47.	42.	34.	23.	11.	0.	0.	0.	493.	99.	125.	79.	92.
EAST	0.	0.	0.	100.	146.	148.	128.	93.	48.	47.	42.	34.	23.	11.	0.	0.	0.	820.	121.	164.	90.	112.
SOUTHEAST	0.	0.	0.	85.	143.	169.	174.	161.	134.	96.	52.	34.	23.	11.	0.	0.	0.	1083.	139.	196.	99.	128.
HORIZ.	0.	0.	1.	34.	82.	127.	161.	183.	191.	183.	161.	127.	82.	34.	1.	0.	0.	1366.	158.	230.	109.	145.

LOCATION MADISON, WISCONSIN LATITUDE 43 DEGREES 7 MINUTES

MONTH 10 HO 1805. TOD 54. TOT 50. KT .510 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	7.	64.	109.	142.	163.	170.	163.	142.	109.	64.	7.	0.	0.	0.	1141.	136.	204.	87.	117.
SOUTHWEST	0.	0.	0.	3.	14.	24.	57.	97.	131.	155.	163.	153.	113.	15.	0.	0.	0.	926.	121.	175.	80.	104.
WEST	0.	0.	0.	3.	14.	24.	32.	37.	39.	78.	108.	121.	104.	15.	0.	0.	0.	576.	95.	129.	69.	84.
NORTHWEST	0.	0.	0.	3.	14.	24.	32.	37.	39.	37.	32.	32.	42.	9.	0.	0.	0.	303.	76.	94.	60.	68.
NORTH	0.	0.	0.	3.	14.	24.	32.	37.	39.	37.	32.	24.	14.	3.	0.	0.	0.	261.	73.	88.	59.	66.
NORTHEAST	0.	0.	0.	9.	42.	32.	32.	37.	39.	37.	32.	24.	14.	3.	0.	0.	0.	303.	76.	94.	60.	68.
EAST	0.	0.	0.	15.	104.	121.	108.	78.	39.	37.	32.	24.	14.	3.	0.	0.	0.	576.	95.	129.	69.	84.
SOUTHEAST	0.	0.	0.	15.	113.	153.	163.	155.	131.	97.	57.	24.	14.	3.	0.	0.	0.	926.	121.	175.	80.	104.
HORIZ.	0.	0.	0.	6.	44.	84.	117.	137.	144.	137.	117.	84.	44.	6.	0.	0.	0.	920.	120.	175.	80.	104.

MONTH 11 HO 1246. TOD 38. TOT 35. KT .396 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	28.	74.	103.	120.	125.	120.	103.	74.	28.	0.	0.	0.	0.	775.	102.	154.	60.	80.
SOUTHWEST	0.	0.	0.	0.	6.	17.	46.	74.	97.	111.	113.	96.	44.	0.	0.	0.	0.	603.	87.	128.	55.	70.
WEST	0.	0.	0.	0.	6.	15.	22.	26.	27.	52.	69.	71.	38.	0.	0.	0.	0.	325.	65.	86.	46.	54.
NORTHWEST	0.	0.	0.	0.	6.	15.	22.	26.	27.	26.	22.	15.	13.	0.	0.	0.	0.	170.	52.	63.	41.	45.
NORTH	0.	0.	0.	0.	6.	15.	22.	26.	27.	26.	22.	15.	6.	0.	0.	0.	0.	164.	51.	62.	41.	45.
NORTHEAST	0.	0.	0.	0.	13.	15.	22.	26.	27.	26.	22.	15.	6.	0.	0.	0.	0.	170.	52.	63.	41.	45.
EAST	0.	0.	0.	0.	38.	71.	69.	52.	27.	26.	22.	15.	6.	0.	0.	0.	0.	325.	65.	86.	46.	54.
SOUTHEAST	0.	0.	0.	0.	44.	96.	113.	111.	97.	74.	46.	17.	6.	0.	0.	0.	0.	603.	87.	128.	55.	70.
HORIZ.	0.	0.	0.	0.	13.	42.	66.	82.	87.	82.	66.	42.	13.	0.	0.	0.	0.	494.	79.	112.	51.	64.

MONTH 12 HO 1040. TOD 25. TOT 23. KT .467 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	16.	88.	130.	153.	160.	153.	130.	88.	16.	0.	0.	0.	0.	935.	107.	174.	53.	77.
SOUTHWEST	0.	0.	0.	0.	3.	19.	55.	91.	121.	139.	140.	113.	25.	0.	0.	0.	0.	707.	87.	138.	46.	64.
WEST	0.	0.	0.	0.	3.	12.	20.	24.	26.	58.	80.	79.	21.	0.	0.	0.	0.	325.	54.	77.	33.	42.
NORTHWEST	0.	0.	0.	0.	3.	12.	20.	24.	26.	24.	20.	12.	6.	0.	0.	0.	0.	149.	38.	49.	28.	32.
NORTH	0.	0.	0.	0.	3.	12.	20.	24.	26.	24.	20.	12.	3.	0.	0.	0.	0.	146.	38.	49.	28.	32.
NORTHEAST	0.	0.	0.	0.	6.	12.	20.	24.	26.	24.	20.	12.	3.	0.	0.	0.	0.	149.	38.	49.	28.	32.
EAST	0.	0.	0.	0.	21.	79.	80.	58.	26.	24.	20.	12.	3.	0.	0.	0.	0.	325.	54.	77.	33.	42.
SOUTHEAST	0.	0.	0.	0.	25.	113.	140.	139.	121.	91.	55.	19.	3.	0.	0.	0.	0.	707.	87.	138.	46.	64.
HORIZ.	0.	0.	0.	0.	7.	38.	67.	86.	92.	86.	67.	38.	7.	0.	0.	0.	0.	486.	68.	103.	39.	51.

LOCATION MADISON, WISCONSIN LATITUDE 43 DEGREES 7 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	108.	101.	108.	100.	108.	117.	128.	135.	147.	136.	102.	107.	116.
SOUTHWEST	88.	87.	101.	103.	116.	127.	138.	139.	139.	121.	87.	87.	111.
WEST	56.	65.	86.	99.	116.	131.	139.	133.	121.	95.	65.	54.	97.
NORTHWEST	37.	46.	66.	86.	105.	120.	125.	116.	99.	76.	52.	38.	81.
NORTH	37.	43.	58.	75.	93.	107.	111.	103.	90.	73.	51.	38.	73.
NORTHEAST	37.	46.	66.	86.	105.	120.	125.	116.	99.	76.	52.	38.	81.
EAST	56.	65.	86.	99.	116.	131.	139.	133.	121.	95.	65.	54.	97.
SOUTHEAST	88.	87.	101.	103.	116.	127.	138.	139.	139.	121.	87.	87.	111.
HORIZ.	73.	88.	119.	135.	160.	181.	189.	176.	158.	120.	79.	68.	129.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	179.	163.	167.	142.	144.	152.	167.	182.	209.	204.	154.	174.	170.
SOUTHWEST	142.	138.	155.	148.	157.	171.	184.	188.	196.	175.	128.	138.	160.
WEST	84.	97.	127.	139.	159.	177.	186.	178.	164.	129.	86.	77.	134.
NORTHWEST	50.	64.	92.	115.	139.	158.	162.	148.	125.	94.	63.	49.	105.
NORTH	49.	59.	77.	97.	118.	134.	136.	125.	109.	88.	62.	49.	92.
NORTHEAST	50.	64.	92.	115.	139.	158.	162.	148.	125.	94.	63.	49.	105.
EAST	84.	97.	127.	139.	159.	177.	186.	178.	164.	129.	86.	77.	134.
SOUTHEAST	142.	138.	155.	148.	157.	171.	184.	188.	196.	175.	128.	138.	160.
HORIZ.	114.	140.	187.	204.	236.	265.	275.	254.	230.	175.	112.	103.	191.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	53.	56.	69.	75.	86.	96.	104.	105.	103.	87.	60.	53.	79.
SOUTHWEST	45.	50.	66.	76.	91.	103.	110.	107.	99.	80.	55.	46.	77.
WEST	32.	40.	58.	74.	91.	106.	111.	104.	90.	69.	46.	33.	71.
NORTHWEST	25.	32.	48.	66.	85.	99.	103.	94.	79.	60.	41.	28.	63.
NORTH	25.	30.	44.	60.	77.	90.	94.	87.	74.	59.	41.	28.	59.
NORTHEAST	25.	32.	48.	66.	85.	99.	103.	94.	79.	60.	41.	28.	63.
EAST	32.	40.	58.	74.	91.	106.	111.	104.	90.	69.	46.	33.	71.
SOUTHEAST	45.	50.	66.	76.	91.	103.	110.	107.	99.	80.	55.	46.	77.
HORIZ.	39.	50.	74.	94.	118.	137.	142.	128.	109.	80.	51.	39.	88.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	80.	84.	99.	98.	108.	119.	128.	131.	134.	117.	80.	77.	105.
SOUTHWEST	66.	72.	93.	101.	116.	131.	139.	135.	128.	104.	70.	64.	102.
WEST	43.	54.	79.	97.	117.	135.	140.	129.	112.	84.	54.	42.	90.
NORTHWEST	30.	40.	61.	83.	106.	123.	125.	112.	92.	68.	45.	32.	76.
NORTH	30.	37.	53.	73.	93.	107.	110.	99.	84.	66.	45.	32.	69.
NORTHEAST	30.	40.	61.	83.	106.	123.	125.	112.	92.	68.	45.	32.	76.
EAST	43.	54.	79.	97.	117.	135.	140.	129.	112.	84.	54.	42.	90.
SOUTHEAST	66.	72.	93.	101.	116.	131.	139.	135.	128.	104.	70.	64.	102.
HORIZ.	55.	73.	108.	133.	165.	190.	195.	172.	145.	104.	64.	51.	121.

LOCATION MATANUSKA, ALASKA LATITUDE 61 DEGREES 30 MINUTES

MONTH 1 HO 291. TOD 14. TOT 13. KT .513 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	0.	1.	97.	177.	203.	177.	97.	1.	0.	0.	0.	0.	0.	753.	104.	177.	37.	57.
SOUTHWEST	0.	0.	0.	0.	0.	1.	35.	98.	147.	158.	104.	1.	0.	0.	0.	0.	0.	544.	79.	132.	30.	45.
WEST	0.	0.	0.	0.	0.	1.	6.	9.	11.	52.	54.	1.	0.	0.	0.	0.	0.	134.	30.	43.	17.	21.
NORTHWEST	0.	0.	0.	0.	0.	1.	6.	9.	11.	9.	6.	1.	0.	0.	0.	0.	0.	42.	19.	23.	14.	15.
NORTH	0.	0.	0.	0.	0.	1.	6.	9.	11.	9.	6.	1.	0.	0.	0.	0.	0.	42.	19.	23.	14.	15.
NORTHEAST	0.	0.	0.	0.	0.	1.	6.	9.	11.	9.	6.	1.	0.	0.	0.	0.	0.	42.	19.	23.	14.	15.
EAST	0.	0.	0.	0.	0.	1.	54.	52.	11.	9.	6.	1.	0.	0.	0.	0.	0.	134.	30.	43.	17.	21.
SOUTHEAST	0.	0.	0.	0.	0.	1.	104.	158.	147.	98.	35.	1.	0.	0.	0.	0.	0.	544.	79.	132.	30.	45.
HORIZ.	0.	0.	0.	0.	0.	2.	17.	35.	42.	35.	17.	2.	0.	0.	0.	0.	0.	149.	32.	46.	18.	22.

MONTH 2 HO 848. TOD 21. TOT 19. KT .503 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	24.	91.	141.	170.	180.	170.	141.	91.	24.	0.	0.	0.	0.	1034.	106.	176.	52.	79.
SOUTHWEST	0.	0.	0.	0.	4.	11.	52.	97.	134.	156.	156.	125.	42.	0.	0.	0.	0.	776.	85.	137.	44.	64.
WEST	0.	0.	0.	0.	4.	11.	16.	20.	21.	61.	89.	91.	37.	0.	0.	0.	0.	351.	50.	74.	30.	39.
NORTHWEST	0.	0.	0.	0.	4.	11.	16.	20.	21.	20.	16.	11.	13.	0.	0.	0.	0.	132.	32.	41.	23.	26.
NORTH	0.	0.	0.	0.	4.	11.	16.	20.	21.	20.	16.	11.	4.	0.	0.	0.	0.	122.	31.	39.	23.	26.
NORTHEAST	0.	0.	0.	0.	13.	11.	16.	20.	21.	20.	16.	11.	4.	0.	0.	0.	0.	132.	32.	41.	23.	26.
EAST	0.	0.	0.	0.	37.	91.	89.	61.	21.	20.	16.	11.	4.	0.	0.	0.	0.	351.	50.	74.	30.	39.
SOUTHEAST	0.	0.	0.	0.	42.	125.	156.	156.	134.	97.	52.	11.	4.	0.	0.	0.	0.	776.	85.	137.	44.	64.
HORIZ.	0.	0.	0.	0.	9.	34.	58.	73.	78.	73.	58.	34.	9.	0.	0.	0.	0.	427.	56.	85.	32.	43.

MONTH 3 HO 1648. TOD 27. TOT 25. KT .000 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	6.	12.	16.	20.	22.	23.	22.	20.	16.	12.	6.	0.	0.	0.	176.	39.	48.	30.	35.
SOUTHWEST	0.	0.	0.	6.	12.	16.	20.	22.	23.	22.	20.	16.	12.	6.	0.	0.	0.	176.	39.	48.	30.	35.
WEST	0.	0.	0.	6.	12.	16.	20.	22.	23.	22.	20.	16.	12.	6.	0.	0.	0.	176.	39.	48.	30.	35.
NORTHWEST	0.	0.	0.	6.	12.	16.	20.	22.	23.	22.	20.	16.	12.	6.	0.	0.	0.	176.	39.	48.	30.	35.
NORTH	0.	0.	0.	6.	12.	16.	20.	22.	23.	22.	20.	16.	12.	6.	0.	0.	0.	176.	39.	48.	30.	35.
NORTHEAST	0.	0.	0.	6.	12.	16.	20.	22.	23.	22.	20.	16.	12.	6.	0.	0.	0.	176.	39.	48.	30.	35.
EAST	0.	0.	0.	6.	12.	16.	20.	22.	23.	22.	20.	16.	12.	6.	0.	0.	0.	176.	39.	48.	30.	35.
SOUTHEAST	0.	0.	0.	6.	12.	16.	20.	22.	23.	22.	20.	16.	12.	6.	0.	0.	0.	176.	39.	48.	30.	35.
HORIZ.	0.	0.	0.	10.	19.	27.	33.	37.	38.	37.	33.	27.	19.	10.	0.	0.	0.	294.	46.	61.	34.	42.

LOCATION MATANUSKA, ALASKA LATITUDE 61 DEGREES 30 MINUTES

MONTH 4 HO 2629. TOD 39. TOT 35. KT .545 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	3.	10.	34.	77.	118.	150.	171.	179.	171.	150.	118.	77.	34.	10.	3.	0.	1307.	105.	160.	77.	112.
SOUTHWEST	0.	3.	10	18.	26.	33.	57.	102.	139.	165.	178.	174.	154.	117.	65.	8.	0.	1249.	102.	155.	75.	108.
WEST	0.	3.	10.	18.	26.	33.	38.	41.	42.	86.	123.	148.	156.	142.	96.	15.	0.	978.	89.	129.	67.	92.
NORTHWEST	0.	3.	10.	18.	26.	33.	38.	41.	42.	41.	38.	54.	82.	94.	77.	14.	0.	613.	70.	96.	55.	71.
NORTH	0.	7.	19.	18.	26.	33.	38.	41.	42.	41.	38.	33.	26.	18.	19.	7.	0.	408.	59.	76.	48.	59.
NORTHEAST	0.	14.	77.	94.	82.	54.	38.	41.	42.	41.	38.	33.	26.	18.	10.	3.	0.	613.	70.	96.	55.	71.
EAST	0.	15.	96.	142.	156.	148.	123.	86.	42.	41.	38.	33.	26.	18.	10.	3.	0.	978.	89.	129.	67.	92.
SOUTHEAST	0.	8.	65.	117.	154.	174.	178.	165.	139.	102.	57.	33.	26.	18.	10.	3.	0.	1249.	102.	155.	75.	108.
HORIZ.	0.	6.	30.	63.	97.	126.	148.	163.	168.	163.	148.	126.	97.	63.	30.	6.	0.	1433.	112.	172.	81.	119.

MONTH 5 HO 3393. TOD 50. TOT 46. KT .494 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	4.	10.	18.	31.	66.	98.	124.	140.	146.	140.	124.	98.	66.	31.	18.	10.	4.	1127.	103.	143.	84.	114.
SOUTHWEST	4.	10.	18.	25.	33.	39.	52.	87.	117.	138.	148.	147.	133.	107.	73.	36.	7.	1174.	105.	146.	86.	117.
WEST	4.	10.	18.	25.	33.	39.	44.	47.	48.	83.	112.	132.	141.	135.	113.	72.	18.	1073.	100.	138.	82.	111.
NORTHWEST	4.	10.	18.	25.	33.	39.	44.	47.	48.	47.	44.	63.	86.	99.	97.	72.	20.	795.	87.	115.	73.	94.
NORTH	14.	36.	35.	25.	33.	39.	44.	47.	48.	47.	44.	39.	33.	25.	35.	36.	14.	590.	78.	99.	66.	81.
NORTHEAST	20.	72.	97.	99.	86.	63.	44.	47.	48.	47.	44.	39.	33.	25.	18.	10.	4.	795.	87.	115.	73.	94.
EAST	18.	72.	113.	135.	141.	132.	112.	83.	48.	47.	44.	39.	33.	25.	18.	10.	4.	1073.	100.	138.	82.	111.
SOUTHEAST	7.	36.	73.	107.	133.	147.	148.	138.	117.	87.	52.	39.	33.	25.	18.	10.	4.	1174.	105.	146.	86.	117.
HORIZ.	8.	28.	55.	85.	113.	138.	157.	169.	173.	169.	157.	138.	113.	85.	55.	28.	8.	1676.	128.	188.	103.	147.

MONTH 6 HO 3711. TOD 58. TOT 54. KT .466 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	7.	13.	20.	29.	60.	89.	112.	127.	132.	127.	112.	89.	60.	29.	20.	13.	7.	1052.	103.	138.	90.	117.
SOUTHWEST	7.	13.	20.	27.	34.	40.	49.	81.	108.	126.	135.	134.	122.	100.	71.	39.	12.	1122.	106.	143.	92.	121.
WEST	7.	13.	20.	27.	34.	40.	45.	47.	48.	79.	106.	124.	132.	128.	110.	79.	36.	1079.	104.	140.	91.	119.
NORTHWEST	7.	13.	20.	27.	34.	40.	45.	47.	48.	47.	45.	65.	85.	97.	97.	80.	43.	845.	94.	122.	83.	105.
NORTH	29.	43.	39.	27.	34.	40.	45.	47.	48.	47.	45.	40.	34.	27.	39.	43.	29.	660.	86.	108.	76.	94.
NORTHEAST	43.	80.	97.	97.	85.	65.	45.	47.	48.	47.	45.	40.	34.	27.	20.	13.	7.	845.	94.	122.	83.	105.
EAST	36.	79.	110.	128.	132.	124.	106.	79.	48.	47.	45.	40.	34.	27.	20.	13.	7.	1079.	104.	140.	91.	119.
SOUTHEAST	12.	39.	71.	100.	122.	134.	135.	126.	108.	81.	49.	40.	34.	27.	20.	13.	7.	1122.	106.	143.	92.	121.
HORIZ.	15.	36.	62.	89.	115.	138.	155.	166.	170.	166.	155.	138.	115.	89.	62.	36.	15.	1730.	132.	189.	113.	158.

LOCATION MATANUSKA, ALASKA LATITUDE 61 DEGREES 30 MINUTES

MONTH 7 HO 3402. TOD 60. TOT 57. KT .434 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	4.	10.	17.	29.	57.	84.	106.	120.	125.	120.	106.	84.	57.	29.	17.	10.	4.	980.	105.	140.	91.	117.
SOUTHWEST	4.	10.	17.	24.	31.	37.	48.	77.	101.	118.	126.	124.	112.	90.	61.	30.	6.	1018.	107.	143.	92.	119.
WEST	4.	10.	17.	24.	31.	37.	41.	44.	45.	73.	97.	113.	119.	113.	93.	59.	15.	935.	103.	136.	89.	114.
NORTHWEST	4.	10.	17.	24.	31.	37.	41.	44.	45.	44.	41.	57.	74.	84.	81.	59.	17.	710.	93.	118.	82.	100.
NORTH	12.	31.	31.	24.	31.	37.	41.	44.	45.	44.	41.	37.	31.	24.	31.	31.	12.	545.	85.	105.	76.	90.
NORTHEAST	17.	59.	81.	84.	74.	57.	41.	44.	45.	44.	41.	37.	31.	24.	17.	10.	4.	710.	93.	118.	82.	100.
EAST	15.	59.	93.	113.	119.	113.	97.	73.	45.	44.	41.	37.	31.	24.	17.	10.	4.	935.	103.	136.	89.	114.
SOUTHEAST	6.	30.	61.	90.	112.	124.	126.	118.	101.	77.	48.	37.	31.	24.	17.	10.	4.	1018.	107.	143.	92.	119.
HORIZ.	8.	25.	49.	75.	99.	121.	137.	148.	151.	148.	137.	121.	99.	75.	49.	25.	8.	1476.	128.	180.	108.	146.

MONTH 8 HO 2615. TOD 58. TOT 56. KT .419 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	3.	10.	27.	56.	84.	107.	122.	127.	122.	107.	84.	56.	27.	10.	3.	0.	945.	110.	149.	88.	113.
SOUTHWEST	0.	3.	10.	17.	24.	30.	47.	76.	101.	118.	125.	121.	105.	79.	43.	6.	0.	903.	107.	145.	86.	110.
WEST	0.	3.	10.	17.	24.	30.	35.	38.	39.	67.	90.	104.	107.	94.	61.	9.	0.	726.	98.	128.	80.	99.
NORTHWEST	0.	3.	10.	17.	24.	30.	35.	38.	39.	38.	35.	44.	60.	64.	50.	9.	0.	494.	85.	106.	72.	85.
NORTH	0.	5.	15.	17.	24.	30.	35.	38.	39.	38.	35.	30.	24.	17.	15.	5.	0.	365.	78.	93.	68.	78.
NORTHEAST	0.	9.	50.	64.	60.	44.	35.	38.	39.	38.	35.	30.	24.	17.	10.	3.	0.	494.	85.	106.	72.	85.
EAST	0.	9.	61.	94.	107.	104.	90.	67.	39.	38.	35.	30.	24.	17.	10.	3.	0.	726.	98.	128.	80.	99.
SOUTHEAST	0.	6.	43.	79.	105.	121.	125.	118.	101.	76.	47.	30.	24.	17.	10.	3.	0.	903.	107.	145.	86.	110.
HORIZ.	0.	5.	24.	49.	74.	96.	113.	124.	127.	124.	113.	96.	74.	49.	24.	5.	0.	1096.	118.	163.	93.	122.

MONTH 9 HO 1653. TOD 50. TOT 48. KT .401 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	16.	48.	79.	104.	120.	125.	120.	104.	79.	48.	16.	0.	0.	0.	859.	108.	153.	77.	100.
SOUTHWEST	0.	0.	0.	7.	14.	20.	44.	73.	97.	113.	118.	109.	85.	42.	0.	0.	0.	723.	99.	136.	73.	92.
WEST	0.	0.	0.	7.	14.	20.	25.	28.	29.	56.	77.	87.	81.	48.	0.	0.	0.	473.	82.	107.	64.	77.
NORTHWEST	0.	0.	0.	7.	14.	20.	25.	28.	29.	28.	25.	26.	38.	29.	0.	0.	0.	269.	68.	82.	57.	64.
NORTH	0.	0.	0.	7.	14.	20.	25.	28.	29.	28.	25.	20.	14.	7.	0.	0.	0.	217.	65.	76.	55.	61.
NORTHEAST	0.	0.	0.	29.	38.	26.	25.	28.	29.	28.	25.	20.	14.	7.	0.	0.	0.	269.	68.	82.	57.	64.
EAST	0.	0.	0.	48.	81.	87.	77.	56.	29.	28.	25.	20.	14.	7.	0.	0.	0.	473.	82.	107.	64.	77.
SOUTHEAST	0.	0.	0.	42.	85.	109.	118.	113.	97.	73.	44.	20.	14.	7.	0.	0.	0.	723.	99.	136.	73.	92.
HORIZ.	0.	0.	1.	16.	39.	61.	78.	89.	93.	89.	78.	61.	39.	16.	1.	0.	0.	662.	95.	129.	71.	88.

LOCATION MATANUSKA, ALASKA LATITUDE 61 DEGREES 30 MINUTES

MONTH 10 HO 820. TOD 38. TOT 36. KT .390 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	14.	60.	95.	117.	124.	117.	95.	60.	14.	0.	0.	0.	0.	696.	96.	143.	58.	77.
SOUTHWEST	0.	0.	0.	0.	4.	10.	38.	68.	93.	107.	105.	81.	22.	0.	0.	0.	0.	528.	82.	117.	53.	67.
WEST	0.	0.	0.	0.	4.	9.	14.	17.	18.	45.	62.	60.	20.	0.	0.	0.	0.	249.	58.	75.	44.	50.
NORTHWEST	0.	0.	0.	0.	4.	9.	14.	17.	18.	17.	14.	9.	8.	0.	0.	0.	0.	112.	47.	55.	40.	43.
NORTH	0.	0.	0.	0.	4.	9.	14.	17.	18.	17.	14.	9.	4.	0.	0.	0.	0.	107.	47.	54.	39.	42.
NORTHEAST	0.	0.	0.	0.	8.	9.	14.	17.	18.	17.	14.	9.	4.	0.	0.	0.	0.	112.	47.	55.	40.	43.
EAST	0.	0.	0.	0.	20.	60.	62.	45.	18.	17.	14.	9.	4.	0.	0.	0.	0.	249.	58.	75.	44.	50.
SOUTHEAST	0.	0.	0.	0.	22.	81.	105.	107.	93.	68.	38.	10.	4.	0.	0.	0.	0.	528.	82.	117.	53.	67.
HORIZ.	0.	0.	0.	0.	7.	26.	43.	55.	59.	55.	43.	26.	7.	0.	0.	0.	0.	320.	64.	86.	46.	55.

MONTH 11 HO 284. TOD 23. TOT 22. KT .372 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	0.	1.	55.	106.	122.	106.	55.	1.	0.	0.	0.	0.	0.	446.	77.	120.	37.	48.
SOUTHWEST	0.	0.	0.	0.	0.	1.	22.	60.	89.	95.	60.	1.	0.	0.	0.	0.	0.	326.	62.	94.	33.	41.
WEST	0.	0.	0.	0.	0.	1.	5.	8.	9.	33.	32.	1.	0.	0.	0.	0.	0.	88.	34.	42.	25.	27.
NORTHWEST	0.	0.	0.	0.	0.	1.	5.	8.	9.	8.	5.	1.	0.	0.	0.	0.	0.	36.	27.	31.	23.	24.
NORTH	0.	0.	0.	0.	0.	1.	5.	8.	9.	8.	5.	1.	0.	0.	0.	0.	0.	36.	27.	31.	23.	24.
NORTHEAST	0.	0.	0.	0.	0.	1.	5.	8.	9.	8.	5.	1.	0.	0.	0.	0.	0.	36.	27.	31.	23.	24.
EAST	0.	0.	0.	0.	0.	1.	32.	33.	9.	8.	5.	1.	0.	0.	0.	0.	0.	88.	34.	42.	25.	27.
SOUTHEAST	0.	0.	0.	0.	0.	1.	60.	95.	89.	60.	22.	1.	0.	0.	0.	0.	0.	326.	62.	94.	33.	41.
HORIZ.	0.	0.	0.	0.	0.	1.	12.	25.	29.	25.	12.	1.	0.	0.	0.	0.	0.	106.	36.	46.	26.	28.

MONTH 12 HO 131. TOD 14. TOT 14. KT .364 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	0.	0.	6.	89.	127.	89.	6.	0.	0.	0.	0.	0.	0.	316.	63.	104.	24.	32.
SOUTHWEST	0.	0.	0.	0.	0.	0.	3.	50.	91.	79.	6.	0.	0.	0.	0.	0.	0.	229.	50.	79.	21.	27.
WEST	0.	0.	0.	0.	0.	0.	1.	4.	5.	25.	4.	0.	0.	0.	0.	0.	0.	40.	20.	25.	15.	16.
NORTHWEST	0.	0.	0.	0.	0.	0.	1.	4.	5.	4.	1.	0.	0.	0.	0.	0.	0.	17.	17.	19.	14.	15.
NORTH	0.	0.	0.	0.	0.	0.	1.	4.	5.	4.	1.	0.	0.	0.	0.	0.	0.	17.	17.	19.	14.	15.
NORTHEAST	0.	0.	0.	0.	0.	0.	1.	4.	5.	4.	1.	0.	0.	0.	0.	0.	0.	17.	17.	19.	14.	15.
EAST	0.	0.	0.	0.	0.	0.	4.	25.	5.	4.	1.	0.	0.	0.	0.	0.	0.	40.	20.	25.	15.	16.
SOUTHEAST	0.	0.	0.	0.	0.	0.	6.	79.	91.	50.	3.	0.	0.	0.	0.	0.	0.	229.	50.	79.	21.	27.
HORIZ.	0.	0.	0.	0.	0.	0.	3.	12.	18.	12.	3.	0.	0.	0.	0.	0.	0.	48.	21.	28.	15.	17.

LOCATION MATANUSKA, ALASKA LATITUDE 61 DEGREES 30 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	104.	106.	39.	105.	103.	103.	105.	110.	108.	96.	77.	63.	93.
SOUTHWEST	79.	85.	39.	102.	105.	106.	107.	107.	99.	82.	62.	50.	85.
WEST	30.	50.	39.	89.	100.	104.	103.	98.	82.	58.	34.	20.	67.
NORTHWEST	19.	32.	39.	70.	87.	94.	93.	85.	68.	47.	27.	17.	56.
NORTH	19.	31.	39.	59.	78.	86.	85.	78.	65.	47.	27.	17.	53.
NORTHEAST	19.	32.	39.	70.	87.	94.	93.	85.	68.	47.	27.	17.	56.
EAST	30.	50.	39.	89.	100.	104.	103.	98.	82.	58.	34.	20.	67.
SOUTHEAST	79.	85.	39.	102.	105.	106.	107.	107.	99.	82.	62.	50.	85.
HORIZ.	32.	56.	46.	112.	128.	132.	128.	118.	95.	64.	36.	21.	81.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	177.	176.	48.	160.	143.	138.	140.	149.	153.	143.	120.	104.	137.
SOUTHWEST	132.	137.	48.	155.	146.	143.	143.	145.	136.	117.	94.	79.	123.
WEST	43.	74.	48.	129.	138.	140.	136.	128.	107.	75.	42.	25.	90.
NORTHWEST	23.	41.	48.	96.	115.	122.	118.	106.	82.	55.	31.	19.	71.
NORTH	23.	39.	48.	76.	99.	108.	105.	93.	76.	54.	31.	19.	64.
NORTHEAST	23.	41.	48.	96.	115.	122.	118.	106.	82.	55.	31.	19.	71.
EAST	43.	74.	48.	129.	138.	140.	136.	128.	107.	75.	42.	25.	90.
SOUTHEAST	132.	137.	48.	155.	146.	143.	143.	145.	136.	117.	94.	79.	123.
HORIZ.	46.	85.	61.	172.	188.	189.	180.	163.	129.	86.	46.	28.	114.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	37.	52.	30.	77.	84.	90.	91.	88.	77.	58.	37.	24.	62.
SOUTHWEST	30.	44.	30.	75.	86.	92.	92.	86.	73.	53.	33.	21.	60.
WEST	17.	30.	30.	67.	82.	91.	89.	80.	64.	44.	25.	15.	53.
NORTHWEST	14.	23.	30.	55.	73.	83.	82.	72.	57.	40.	23.	14.	47.
NORTH	14.	23.	30.	48.	66.	76.	76.	68.	55.	39.	23.	14.	45.
NORTHEAST	14.	23.	30.	55.	73.	83.	82.	72.	57.	40.	23.	14.	47.
EAST	17.	30.	30.	67.	82.	91.	89.	80.	64.	44.	25.	15.	53.
SOUTHEAST	30.	44.	30.	75.	86.	92.	92.	86.	73.	53.	33.	21.	60.
HORIZ.	18.	32.	34.	81.	103.	113.	108.	93.	71.	46.	26.	15.	62.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	57.	79.	35.	112.	114.	117.	117.	113.	100.	77.	48.	32.	83.
SOUTHWEST	45.	64.	35.	108.	117.	121.	119.	110.	92.	67.	41.	27.	79.
WEST	21.	39.	35.	92.	111.	119.	114.	99.	77.	50.	27.	16.	67.
NORTHWEST	15.	26.	35.	71.	94.	105.	100.	85.	64.	43.	24.	15.	56.
NORTH	15.	26.	35.	59.	81.	94.	90.	78.	61.	42.	24.	15.	52.
NORTHEAST	15.	26.	35.	71.	94.	105.	100.	85.	64.	43.	24.	15.	56.
EAST	21.	39.	35.	92.	111.	119.	114.	99.	77.	50.	27.	16.	67.
SOUTHEAST	45.	64.	35.	108.	117.	121.	119.	110.	92.	67.	41.	27.	79.
HORIZ.	22.	43.	42.	119.	147.	158.	146.	122.	88.	55.	28.	17.	82.

LOCATION MEDFORD, OREGON LATITUDE 42 DEGREES 23 MINUTES

MONTH 1 HO 1299. TOD 39. TOT 37. KT .353 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	27.	63.	87.	101.	105.	101.	87.	63.	27.	0.	0.	0.	0.	660.	93.	137.	58.	76.
SOUTHWEST	0.	0.	0.	0.	6.	16.	41.	64.	82.	94.	95.	82.	42.	0.	0.	0.	0.	521.	82.	117.	54.	68.
WEST	0.	0.	0.	0.	6.	15.	21.	26.	27.	47.	60.	61.	36.	0.	0.	0.	0.	299.	64.	84.	47.	55.
NORTHWEST	0.	0.	0.	0.	6.	15.	21.	26.	27.	26.	21.	15.	13.	0.	0.	0.	0.	170.	53.	65.	43.	47.
NORTH	0.	0.	0.	0.	6.	15.	21.	26.	27.	26.	21.	15.	6.	0.	0.	0.	0.	164.	53.	64.	42.	47.
NORTHEAST	0.	0.	0.	0.	13.	15.	21.	26.	27.	26.	21.	15.	6.	0.	0.	0.	0.	170.	53.	65.	43.	47.
EAST	0.	0.	0.	0.	36.	61.	60.	47.	27.	26.	21.	15.	6.	0.	0.	0.	0.	299.	64.	84.	47.	55.
SOUTHEAST	0.	0.	0.	0.	42.	82.	95.	94.	82.	64.	41.	16.	6.	0.	0.	0.	0.	521.	82.	117.	54.	68.
HORIZ.	0.	0.	0.	0.	14.	40.	61.	75.	79.	75.	61.	40.	14.	0.	0.	0.	0.	459.	77.	107.	52.	64.

MONTH 2 HO 1877. TOD 45. TOT 43. KT .464 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	9.	59.	98.	126.	143.	149.	143.	126.	98.	59.	9.	0.	0.	0.	1020.	119.	179.	75.	102.
SOUTHWEST	0.	0.	0.	3.	14.	24.	52.	87.	117.	137.	144.	136.	104.	21.	0.	0.	0.	841.	106.	155.	70.	92.
WEST	0.	0.	0.	3.	14.	24.	32.	37.	39.	72.	97.	109.	97.	22.	0.	0.	0.	547.	85.	117.	60.	74.
NORTHWEST	0.	0.	0.	3.	14.	24.	32.	37.	39.	37.	32.	32.	41.	12.	0.	0.	0.	305.	67.	85.	52.	60.
NORTH	0.	0.	0.	3.	14.	24.	32.	37.	39.	37.	32.	24.	14.	3.	0.	0.	0.	262.	64.	80.	51.	58.
NORTHEAST	0.	0.	0.	12.	41.	32.	32.	37.	39.	37.	32.	24.	14.	3.	0.	0.	0.	305.	67.	85.	52.	60.
EAST	0.	0.	0.	22.	97.	109.	97.	72.	39.	37.	32.	24.	14.	3.	0.	0.	0.	547.	85.	117.	60.	74.
SOUTHEAST	0.	0.	0.	21.	104.	136.	144.	137.	117.	87.	52.	24.	14.	3.	0.	0.	0.	841.	106.	155.	70.	92.
HORIZ.	0.	0.	0.	7.	43.	80.	110.	128.	134.	128.	110.	80.	43.	7.	0.	0.	0.	871.	108.	159.	71.	93.

MONTH 3 HO 2530. TOD 51. TOT 47. KT .527 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	27.	69.	106.	136.	154.	161.	154.	136.	106.	69.	27.	0.	0.	0.	1145.	124.	184.	84.	114.
SOUTHWEST	0.	0.	0.	11.	23.	34.	51.	93.	128.	153.	165.	162.	138.	86.	0.	0.	0.	1045.	118.	172.	81.	108.
WEST	0.	0.	0.	11.	23.	34.	42.	47.	49.	90.	123.	142.	141.	101.	0.	0.	0.	804.	102.	144.	73.	94.
NORTHWEST	0.	0.	0.	11.	23.	34.	42.	47.	49.	47.	42.	59.	75.	63.	0.	0.	0.	494.	82.	108.	63.	76.
NORTH	0.	0.	0.	11.	23.	34.	42.	47.	49.	47.	42.	34.	23.	11.	0.	0.	0.	365.	74.	93.	59.	68.
NORTHEAST	0.	0.	0.	63.	75.	59.	42.	47.	49.	47.	42.	34.	23.	11.	0.	0.	0.	494.	82.	108.	63.	76.
EAST	0.	0.	0.	101.	141.	142.	123.	90.	49.	47.	42.	34.	23.	11.	0.	0.	0.	804.	102.	144.	73.	94.
SOUTHEAST	0.	0.	0.	86.	138.	162.	165.	153.	128.	93.	51.	34.	23.	11.	0.	0.	0.	1045.	118.	172.	81.	108.
HORIZ.	0.	0.	0.	34.	81.	124.	157.	178.	185.	178.	157.	124.	81.	34.	0.	0.	0.	1332.	136.	205.	90.	125.

LOCATION MEDFORD, OREGON LATITUDE 42 DEGREES 23 MINUTES

MONTH 4 HO 3185. TOD 56. TOT 52. KT .584 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	22.	61.	99.	129.	149.	156.	149.	129.	99.	61.	22.	7.	0.	0.	1092.	119.	170.	87.	116.
SOUTHWEST	0.	0.	7.	20.	32.	42.	50.	87.	127.	156.	172.	172.	153.	114.	46.	0.	0.	1177.	123.	178.	90.	121.
WEST	0.	0.	7.	20.	32.	42.	50.	55.	57.	104.	143.	168.	174.	151.	72.	0.	0.	1074.	118.	168.	87.	115.
NORTHWEST	0.	0.	7.	20.	32.	42.	50.	55.	57.	55.	59.	91.	111.	111.	60.	0.	0.	749.	99.	134.	76.	96.
NORTH	0.	0.	17.	20.	32.	42.	50.	55.	57.	55.	50.	42.	32.	20.	17.	0.	0.	487.	84.	107.	68.	81.
NORTHEAST	0.	0.	60.	111.	111.	91.	59.	55.	57.	55.	50.	42.	32.	20.	7.	0.	0.	749.	99.	134.	76.	96.
EAST	0.	0.	72.	151.	174.	168.	143.	104.	57.	55.	50.	42.	32.	20.	7.	0.	0.	1074.	118.	168.	87.	115.
SOUTHEAST	0.	0.	46.	114.	153.	172.	172.	156.	127.	87.	50.	42.	32.	20.	7.	0.	0.	1177.	123.	178.	90.	121.
HORIZ.	0.	0.	20.	70.	123.	169.	204.	227.	235.	227.	204.	169.	123.	70.	20.	0.	0.	1861.	163.	249.	112.	161.

MONTH 5 HO 3610. TOD 63. TOT 59. KT .625 KD .168

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	2.	13.	25.	48.	85.	116.	135.	142.	135.	116.	85.	48.	25.	13.	2.	0.	988.	119.	161.	93.	118.
SOUTHWEST	0.	2.	13.	25.	36.	46.	54.	76.	118.	150.	168.	169.	154.	121.	69.	5.	0.	1204.	131.	182.	100.	131.
WEST	0.	2.	13.	25.	36.	46.	54.	59.	60.	111.	153.	181.	191.	175.	121.	9.	0.	1236.	132.	186.	101.	133.
NORTHWEST	0.	2.	13.	25.	36.	46.	54.	59.	60.	59.	80.	114.	138.	142.	110.	9.	0.	946.	116.	157.	91.	116.
NORTH	0.	5.	42.	40.	36.	46.	54.	59.	60.	59.	54.	46.	36.	40.	42.	5.	0.	624.	98.	125.	80.	96.
NORTHEAST	0.	9.	110.	142.	138.	114.	80.	59.	60.	59.	54.	46.	36.	25.	13.	2.	0.	946.	116.	157.	91.	116.
EAST	0.	9.	121.	175.	191.	181.	153.	111.	60.	59.	54.	46.	36.	25.	13.	2.	0.	1236.	132.	186.	101.	133.
SOUTHEAST	0.	5.	69.	121.	154.	169.	168.	150.	118.	76.	54.	46.	36.	25.	13.	2.	0.	1204.	131.	182.	100.	131.
HORIZ.	0.	4.	44.	98.	152.	200.	236.	259.	267.	259.	236.	200.	152.	98.	44.	4.	0.	2256.	190.	287.	136.	195.

MONTH 6 HO 3765. TOD 69. TOT 65. KT .648 KD .162

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	4.	15.	26.	41.	78.	109.	129.	135.	129.	109.	78.	41.	26.	15.	4.	0.	939.	120.	160.	97.	122.
SOUTHWEST	0.	4.	15.	26.	38.	47.	55.	70.	114.	147.	166.	169.	154.	122.	73.	14.	0.	1212.	135.	186.	106.	138.
WEST	0.	4.	15.	26.	38.	47.	55.	59.	61.	114.	158.	188.	199.	186.	136.	32.	0.	1317.	141.	196.	110.	144.
NORTHWEST	0.	4.	15.	26.	38.	47.	55.	59.	61.	59.	89.	125.	150.	156.	128.	34.	0.	1046.	126.	170.	101.	128.
NORTH	0.	18.	54.	50.	38.	47.	55.	59.	61.	59.	55.	47.	38.	50.	54.	18.	0.	704.	108.	137.	89.	107.
NORTHEAST	0.	34.	128.	156.	150.	125.	89.	59.	61.	59.	55.	47.	38.	26.	15.	4.	0.	1046.	126.	170.	101.	128.
EAST	0.	32.	136.	186.	199.	188.	158.	114.	61.	59.	55.	47.	38.	26.	15.	4.	0.	1317.	141.	196.	110.	144.
SOUTHEAST	0.	14.	73.	122.	154.	169.	166.	147.	114.	70.	55.	47.	38.	26.	15.	4.	0.	1212.	135.	186.	106.	138.
HORIZ.	0.	9.	54.	110.	165.	214.	251.	275.	283.	275.	251.	214.	165.	110.	54.	9.	0.	2440.	202.	304.	148.	212.

LOCATION MEDFORD, OREGON LATITUDE 42 DEGREES 23 MINUTES

MONTH 7 HO 3608. TOD 77. TOT 72. KT .710 KD .144

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	2.	12.	24.	49.	93.	128.	152.	159.	152.	128.	93.	49.	24.	12.	2.	0.	1078.	137.	184.	109.	137.
SOUTHWEST	0.	2.	12.	24.	35.	45.	53.	78.	130.	170.	193.	197.	180.	140.	79.	5.	0.	1343.	152.	210.	118.	153.
WEST	0.	2.	12.	24.	35.	45.	53.	58.	59.	122.	175.	212.	226.	208.	142.	10.	0.	1383.	154.	214.	119.	155.
NORTHWEST	0.	2.	12.	24.	35.	45.	53.	58.	59.	58.	86.	130.	160.	168.	130.	10.	0.	1028.	135.	179.	107.	134.
NORTH	0.	6.	48.	43.	35.	45.	53.	58.	59.	58.	53.	45.	35.	43.	48.	6.	0.	634.	112.	140.	93.	110.
NORTHEAST	0.	10.	130.	168.	160.	130.	86.	58.	59.	58.	53.	45.	35.	24.	12.	2.	0.	1028.	135.	179.	107.	134.
EAST	0.	10.	142.	208.	226.	212.	175.	122.	59.	58.	53.	45.	35.	24.	12.	2.	0.	1383.	154.	214.	119.	155.
SOUTHEAST	0.	5.	79.	140.	180.	197.	193.	170.	130.	78.	53.	45.	35.	24.	12.	2.	0.	1343.	152.	210.	118.	153.
HORIZ.	0.	4.	47.	110.	172.	227.	270.	297.	306.	297.	270.	227.	172.	110.	47.	4.	0.	2561.	220.	330.	159.	227.

MONTH 8 HO 3163. TOD 76. TOT 71. KT .689 KD .152

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	22.	69.	116.	153.	178.	186.	178.	153.	116.	69.	22.	7.	0.	0.	1274.	154.	213.	115.	148.
SOUTHWEST	0.	0.	7.	19.	31.	41.	49.	96.	148.	187.	209.	210.	188.	138.	52.	0.	0.	1376.	160.	224.	118.	154.
WEST	0.	0.	7.	19.	31.	41.	49.	54.	56.	119.	171.	206.	215.	185.	83.	0.	0.	1237.	152.	209.	113.	146.
NORTHWEST	0.	0.	7.	19.	31.	41.	49.	54.	56.	54.	62.	105.	134.	134.	69.	0.	0.	816.	126.	164.	99.	120.
NORTH	0.	0.	19.	19.	31.	41.	49.	54.	56.	54.	49.	41.	31.	19.	19.	0.	0.	482.	106.	128.	88.	100.
NORTHEAST	0.	0.	69.	134.	134.	105.	62.	54.	56.	54.	49.	41.	31.	19.	7.	0.	0.	816.	126.	164.	99.	120.
EAST	0.	0.	83.	185.	215.	206.	171.	119.	56.	54.	49.	41.	31.	19.	7.	0.	0.	1237.	152.	209.	113.	146.
SOUTHEAST	0.	0.	52.	138.	188.	210.	209.	187.	148.	96.	49.	41.	31.	19.	7.	0.	0.	1376.	160.	224.	118.	154.
HORIZ.	0.	0.	20.	79.	142.	198.	242.	269.	279.	269.	242.	198.	142.	79.	20.	0.	0.	2180.	209.	311.	146.	203.

MONTH 9 HO 2519. TOD 70. TOT 64. KT .628 KD .167

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	30.	82.	129.	167.	191.	199.	191.	167.	129.	82.	30.	0.	0.	0.	1398.	165.	237.	112.	149.
SOUTHWEST	0.	0.	0.	11.	23.	34.	54.	108.	155.	190.	207.	203.	173.	104.	0.	0.	0.	1264.	155.	221.	108.	141.
WEST	0.	0.	0.	11.	23.	34.	42.	48.	50.	105.	151.	178.	177.	124.	0.	0.	0.	943.	134.	183.	97.	121.
NORTHWEST	0.	0.	0.	11.	23.	34.	42.	48.	50.	48.	42.	68.	91.	77.	0.	0.	0.	535.	106.	134.	83.	97.
NORTH	0.	0.	0.	11.	23.	34.	42.	48.	50.	48.	42.	34.	23.	11.	0.	0.	0.	368.	95.	114.	77.	87.
NORTHEAST	0.	0.	0.	77.	91.	68.	42.	48.	50.	48.	42.	34.	23.	11.	0.	0.	0.	535.	106.	134.	83.	97.
EAST	0.	0.	0.	124.	177.	178.	151.	105.	50.	48.	42.	34.	23.	11.	0.	0.	0.	943.	134.	183.	97.	121.
SOUTHEAST	0.	0.	0.	104.	173.	203.	207.	190.	155.	108.	54.	34.	23.	11.	0.	0.	0.	1264.	155.	221.	108.	141.
HORIZ.	0.	0.	1.	38.	95.	147.	187.	213.	222.	213.	187.	147.	95.	38.	1.	0.	0.	1581.	177.	259.	118.	160.

LOCATION MEDFORD, OREGON LATITUDE 42 DEGREES 23 MINUTES

MONTH 10 HO 1843. TOD 59. TOT 54. KT .526 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	8.	68.	114.	148.	169.	176.	169.	148.	114.	68.	8.	0.	0.	0.	1192.	145.	215.	93.	124.
SOUTHWEST	0.	0.	0.	3.	14.	25.	58.	101.	136.	161.	171.	160.	120.	18.	0.	0.	0.	968.	129.	186.	86.	111.
WEST	0.	0.	0.	3.	14.	25.	33.	38.	40.	81.	113.	127.	111.	19.	0.	0.	0.	604.	102.	138.	74.	90.
NORTHWEST	0.	0.	0.	3.	14.	25.	33.	38.	40.	38.	33.	34.	45.	11.	0.	0.	0.	314.	81.	100.	65.	73.
NORTH	0.	0.	0.	3.	14.	25.	33.	38.	40.	38.	33.	25.	14.	3.	0.	0.	0.	267.	78.	94.	63.	70.
NORTHEAST	0.	0.	0.	11.	45.	34.	33.	38.	40.	38.	33.	25.	14.	3.	0.	0.	0.	314.	81.	100.	65.	73.
EAST	0.	0.	0.	19.	111.	127.	113.	81.	40.	38.	33.	25.	14.	3.	0.	0.	0.	604.	102.	138.	74.	90.
SOUTHEAST	0.	0.	0.	18.	120.	160.	171.	161.	136.	101.	58.	25.	14.	3.	0.	0.	0.	968.	129.	186.	86.	111.
HORIZ.	0.	0.	0.	6.	46.	89.	123.	144.	152.	144.	123.	89.	46.	6.	0.	0.	0.	969.	129.	186.	86.	111.

MONTH 11 HO 1287. TOD 47. TOT 44. KT .384 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	29.	71.	98.	114.	120.	114.	98.	71.	29.	0.	0.	0.	0.	746.	108.	158.	68.	88.
SOUTHWEST	0.	0.	0.	0.	6.	17.	44.	71.	93.	106.	108.	93.	45.	0.	0.	0.	0.	583.	95.	134.	63.	78.
WEST	0.	0.	0.	0.	6.	15.	22.	26.	28.	51.	67.	69.	39.	0.	0.	0.	0.	323.	73.	95.	55.	63.
NORTHWEST	0.	0.	0.	0.	6.	15.	22.	26.	28.	26.	22.	15.	13.	0.	0.	0.	0.	174.	61.	73.	50.	54.
NORTH	0.	0.	0.	0.	6.	15.	22.	26.	28.	26.	22.	15.	6.	0.	0.	0.	0.	167.	61.	72.	50.	54.
NORTHEAST	0.	0.	0.	0.	13.	15.	22.	26.	28.	26.	22.	15.	6.	0.	0.	0.	0.	174.	61.	73.	50.	54.
EAST	0.	0.	0.	0.	39.	69.	67.	51.	28.	26.	22.	15.	6.	0.	0.	0.	0.	323.	73.	95.	55.	63.
SOUTHEAST	0.	0.	0.	0.	45.	93.	108.	106.	93.	71.	44.	17.	6.	0.	0.	0.	0.	583.	95.	134.	63.	78.
HORIZ.	0.	0.	0.	0.	14.	43.	66.	81.	86.	81.	66.	43.	14.	0.	0.	0.	0.	495.	88.	121.	60.	73.

MONTH 12 HO 1082. TOD 40. TOT 38. KT .313 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	11.	48.	70.	82.	86.	82.	70.	48.	11.	0.	0.	0.	0.	509.	85.	121.	55.	68.
SOUTHWEST	0.	0.	0.	0.	4.	14.	34.	53.	68.	76.	75.	60.	17.	0.	0.	0.	0.	401.	75.	103.	51.	62.
WEST	0.	0.	0.	0.	4.	11.	18.	22.	23.	38.	47.	44.	14.	0.	0.	0.	0.	219.	60.	75.	46.	51.
NORTHWEST	0.	0.	0.	0.	4.	11.	18.	22.	23.	22.	18.	11.	5.	0.	0.	0.	0.	133.	52.	61.	43.	46.
NORTH	0.	0.	0.	0.	4.	11.	18.	22.	23.	22.	18.	11.	4.	0.	0.	0.	0.	132.	52.	61.	43.	46.
NORTHEAST	0.	0.	0.	0.	5.	11.	18.	22.	23.	22.	18.	11.	4.	0.	0.	0.	0.	133.	52.	61.	43.	46.
EAST	0.	0.	0.	0.	14.	44.	47.	38.	23.	22.	18.	11.	4.	0.	0.	0.	0.	219.	60.	75.	46.	51.
SOUTHEAST	0.	0.	0.	0.	17.	60.	75.	76.	68.	53.	34.	14.	4.	0.	0.	0.	0.	401.	75.	103.	51.	62.
HORIZ.	0.	0.	0.	0.	7.	28.	46.	58.	62.	58.	46.	28.	7.	0.	0.	0.	0.	339.	70.	94.	49.	58.

LOCATION MEDFORD, OREGON LATITUDE 42 DEGREES 23 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	93.	119.	124.	119.	119.	120.	137.	154.	165.	145.	108.	85.	124.
SOUTHWEST	82.	106.	118.	123.	131.	135.	152.	160.	155.	129.	95.	75.	122.
WEST	64.	85.	102.	118.	132.	141.	154.	152.	134.	102.	73.	60.	110.
NORTHWEST	53.	67.	82.	99.	116.	126.	135.	126.	106.	81.	61.	52.	92.
NORTH	53.	64.	74.	84.	98.	108.	112.	106.	95.	78.	61.	52.	82.
NORTHEAST	53.	67.	82.	99.	116.	126.	135.	126.	106.	81.	61.	52.	92.
EAST	64.	85.	102.	118.	132.	141.	154.	152.	134.	102.	73.	60.	110.
SOUTHEAST	82.	106.	118.	123.	131.	135.	152.	160.	155.	129.	95.	75.	122.
HORIZ.	77.	108.	136.	163.	190.	202.	220.	209.	177.	129.	88.	70.	147.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	137.	179.	184.	170.	161.	160.	184.	213.	237.	215.	158.	121.	176.
SOUTHWEST	117.	155.	172.	178.	182.	186.	210.	224.	221.	186.	134.	103.	172.
WEST	84.	117.	144.	168.	186.	196.	214.	209.	183.	138.	95.	75.	151.
NORTHWEST	65.	85.	108.	134.	157.	170.	179.	164.	134.	100.	73.	61.	119.
NORTH	64.	80.	93.	107.	125.	137.	140.	128.	114.	94.	72.	61.	101.
NORTHEAST	65.	85.	108.	134.	157.	170.	179.	164.	134.	100.	73.	61.	119.
EAST	84.	117.	144.	168.	186.	196.	214.	209.	183.	133.	95.	75.	151.
SOUTHEAST	117.	155.	172.	178.	182.	186.	210.	224.	221.	186.	134.	103.	172.
HORIZ.	107.	159.	205.	249.	287.	304.	330.	311.	259.	186.	121.	94.	218.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	58.	75.	84.	87.	93.	97.	109.	115.	112.	93.	68.	55.	87.
SOUTHWEST	54.	70.	81.	90.	100.	106.	118.	118.	108.	86.	63.	51.	87.
WEST	47.	60.	73.	87.	101.	110.	119.	113.	97.	74.	55.	46.	82.
NORTHWEST	43.	52.	63.	76.	91.	101.	107.	99.	83.	65.	50.	43.	73.
NORTH	42.	51.	59.	68.	80.	89.	93.	88.	77.	63.	50.	43.	67.
NORTHEAST	43.	52.	63.	76.	91.	101.	107.	99.	83.	65.	50.	43.	73.
EAST	47.	60.	73.	87.	101.	110.	119.	113.	97.	74.	55.	46.	82.
SOUTHEAST	54.	70.	81.	90.	100.	106.	118.	118.	108.	86.	63.	51.	87.
HORIZ.	52.	71.	90.	112.	136.	148.	159.	146.	118.	86.	60.	49.	102.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	76.	102.	114.	116.	118.	122.	137.	148.	149.	124.	88.	68.	113.
SOUTHWEST	68.	92.	108.	121.	131.	138.	153.	154.	141.	111.	78.	62.	113.
WEST	55.	74.	94.	115.	133.	144.	155.	146.	121.	90.	63.	51.	104.
NORTHWEST	47.	60.	76.	96.	116.	128.	134.	120.	97.	73.	54.	46.	87.
NORTH	47.	58.	68.	81.	96.	107.	110.	100.	87.	70.	54.	46.	77.
NORTHEAST	47.	60.	76.	96.	116.	128.	134.	120.	97.	73.	54.	46.	87.
EAST	55.	74.	94.	115.	133.	144.	155.	146.	121.	90.	63.	51.	104.
SOUTHEAST	68.	92.	108.	121.	131.	138.	153.	154.	141.	111.	78.	62.	113.
HORIZ.	64.	93.	125.	161.	195.	212.	227.	203.	160.	111.	73.	58.	140.

LOCATION MIAMI, FLORIDA LATITUDE 25 DEGREES 47 MINUTES

MONTH 1 HO 2184. TOD 72. TOT 68. KT .604 KD .173

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	18.	97.	144.	175.	195.	201.	195.	175.	144.	97.	18.	0.	0.	0.	1460.	177.	263.	115.	153.
SOUTHWEST	0.	0.	0.	4.	17.	30.	67.	115.	156.	188.	204.	200.	164.	37.	0.	0.	0.	1182.	157.	227.	106.	137.
WEST	0.	0.	0.	4.	17.	30.	40.	46.	48.	98.	136.	157.	145.	36.	0.	0.	0.	757.	126.	171.	93.	112.
NORTHWEST	0.	0.	0.	4.	17.	30.	40.	46.	48.	46.	40.	39.	51.	16.	0.	0.	0.	377.	99.	121.	80.	90.
NORTH	0.	0.	0.	4.	17.	30.	40.	46.	48.	46.	40.	30.	17.	4.	0.	0.	0.	321.	95.	114.	79.	87.
NORTHEAST	0.	0.	0.	16.	51.	39.	40.	46.	48.	46.	40.	30.	17.	4.	0.	0.	0.	377.	99.	121.	80.	90.
EAST	0.	0.	0.	36.	145.	157.	136.	98.	48.	46.	40.	30.	17.	4.	0.	0.	0.	757.	126.	171.	93.	112.
SOUTHEAST	0.	0.	0.	37.	164.	200.	204.	188.	156.	115.	67.	30.	17.	4.	0.	0.	0.	1182.	157.	227.	106.	137.
HORIZ.	0.	0.	0.	8.	65.	122.	167.	195.	205.	195.	167.	122.	65.	8.	0.	0.	0.	1318.	167.	244.	111.	145.

MONTH 2 HO 2637. TOD 72. TOT 69. KT .616 KD .170

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	36.	89.	129.	159.	177.	183.	177.	159.	129.	89.	36.	0.	0.	0.	1364.	165.	241.	112.	148.
SOUTHWEST	0.	0.	0.	8.	23.	36.	52.	102.	146.	180.	199.	200.	175.	95.	0.	0.	0.	1217.	155.	222.	108.	140.
WEST	0.	0.	0.	8.	23.	36.	46.	53.	55.	108.	150.	175.	172.	103.	0.	0.	0.	929.	135.	187.	99.	123.
NORTHWEST	0.	0.	0.	8.	23.	36.	46.	53.	55.	53.	46.	69.	82.	56.	0.	0.	0.	526.	108.	137.	86.	99.
NORTH	0.	0.	0.	8.	23.	36.	46.	53.	55.	53.	46.	36.	23.	8.	0.	0.	0.	387.	98.	120.	81.	91.
NORTHEAST	0.	0.	0.	56.	82.	69.	46.	53.	55.	53.	46.	36.	23.	8.	0.	0.	0.	526.	108.	137.	86.	99.
EAST	0.	0.	0.	103.	172.	175.	150.	108.	55.	53.	46.	36.	23.	8.	0.	0.	0.	929.	135.	187.	99.	123.
SOUTHEAST	0.	0.	0.	95.	175.	200.	199.	180.	146.	102.	52.	36.	23.	8.	0.	0.	0.	1217.	155.	222.	108.	140.
HORIZ.	0.	0.	0.	26.	92.	151.	198.	227.	237.	227.	198.	151.	92.	26.	0.	0.	0.	1627.	183.	273.	121.	163.

MONTH 3 HO 3072. TOD 74. TOT 71. KT .612 KD .171

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	28.	67.	101.	128.	145.	151.	145.	128.	101.	67.	28.	0.	0.	0.	1091.	144.	201.	106.	135.
SOUTHWEST	0.	0.	0.	14.	29.	42.	52.	81.	125.	158.	179.	183.	165.	112.	0.	0.	0.	1139.	147.	206.	108.	138.
WEST	0.	0.	0.	14.	29.	42.	52.	58.	60.	113.	155.	181.	183.	139.	0.	0.	0.	1026.	140.	193.	104.	131.
NORTHWEST	0.	0.	0.	14.	29.	42.	52.	58.	60.	58.	71.	98.	111.	93.	0.	0.	0.	686.	118.	154.	93.	111.
NORTH	0.	0.	0.	14.	29.	42.	52.	58.	60.	58.	52.	42.	29.	14.	0.	0.	0.	449.	103.	126.	86.	97.
NORTHEAST	0.	0.	0.	93.	111.	98.	71.	58.	60.	58.	52.	42.	29.	14.	0.	0.	0.	686.	118.	154.	93.	111.
EAST	0.	0.	0.	139.	183.	181.	155.	113.	60.	58.	52.	42.	29.	14.	0.	0.	0.	1026.	140.	193.	104.	131.
SOUTHEAST	0.	0.	0.	112.	165.	183.	179.	158.	125.	81.	52.	42.	29.	14.	0.	0.	0.	1139.	147.	206.	108.	138.
HORIZ.	0.	0.	0.	48.	115.	175.	221.	250.	260.	250.	221.	175.	115.	48.	0.	0.	0.	1878.	194.	292.	132.	181.

LOCATION MIAMI, FLORIDA LATITUDE 25 DEGREES 47 MINUTES

MONTH 4 HO 3425. TOD 77. TOT 75. KT .600 KD .174

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	4.	19.	38.	68.	92.	107.	112.	107.	92.	68.	38.	19.	4.	0.	0.	767.	123.	161.	100.	120.
SOUTHWEST	0.	0.	4.	19.	33.	46.	56.	62.	98.	130.	149.	154.	140.	104.	23.	0.	0.	1018.	138.	188.	108.	134.
WEST	0.	0.	4.	19.	33.	46.	56.	62.	64.	113.	152.	177.	180.	149.	37.	0.	0.	1091.	143.	196.	110.	138.
NORTHWEST	0.	0.	4.	19.	33.	46.	56.	62.	64.	66.	98.	123.	134.	119.	31.	0.	0.	855.	129.	171.	102.	125.
NORTH	0.	0.	11.	29.	33.	46.	56.	62.	64.	62.	56.	46.	33.	29.	11.	0.	0.	537.	109.	136.	92.	106.
NORTHEAST	0.	0.	31.	119.	134.	123.	98.	66.	64.	62.	56.	46.	33.	19.	4.	0.	0.	855.	129.	171.	102.	125.
EAST	0.	0.	37.	149.	180.	177.	152.	113.	64.	62.	56.	46.	33.	19.	4.	0.	0.	1091.	143.	196.	110.	138.
SOUTHEAST	0.	0.	23.	104.	140.	154.	149.	130.	98.	62.	56.	46.	33.	19.	4.	0.	0.	1018.	138.	188.	108.	134.
HORIZ.	0.	0.	10.	68.	132.	189.	233.	260.	270.	260.	233.	189.	132.	68.	10.	0.	0.	2054.	201.	302.	141.	195.

MONTH 5 HO 3596. TOD 80. TOT 78. KT .578 KD .177

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	8.	22.	36.	47.	64.	78.	82.	78.	64.	47.	36.	22.	8.	0.	0.	591.	116.	144.	98.	114.
SOUTHWEST	0.	0.	8.	22.	36.	47.	57.	62.	77.	105.	123.	127.	117.	89.	35.	0.	0.	905.	135.	178.	109.	133.
WEST	0.	0.	8.	22.	36.	47.	57.	62.	64.	108.	143.	164.	168.	144.	66.	0.	0.	1088.	147.	198.	115.	144.
NORTHWEST	0.	0.	8.	22.	36.	47.	57.	62.	64.	83.	112.	133.	141.	128.	63.	0.	0.	956.	139.	184.	111.	136.
NORTH	0.	0.	27.	50.	53.	51.	57.	62.	64.	62.	57.	51.	53.	50.	27.	0.	0.	664.	121.	152.	101.	118.
NORTHEAST	0.	0.	63.	128.	141.	133.	112.	83.	64.	62.	57.	47.	36.	22.	8.	0.	0.	956.	139.	184.	111.	136.
EAST	0.	0.	66.	144.	168.	164.	143.	108.	64.	62.	57.	47.	36.	22.	8.	0.	0.	1088.	147.	198.	115.	144.
SOUTHEAST	0.	0.	35.	89.	117.	127.	123.	105.	77.	62.	57.	47.	36.	22.	8.	0.	0.	905.	135.	178.	109.	133.
HORIZ.	0.	0.	21.	78.	137.	189.	229.	255.	263.	255.	229.	189.	137.	78.	21.	0.	0.	2080.	208.	305.	149.	204.

MONTH 6 HO 3645. TOD 83. TOT 81. KT .545 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	9.	23.	36.	47.	56.	66.	71.	66.	56.	47.	36.	23.	9.	0.	0.	546.	116.	141.	100.	114.
SOUTHWEST	0.	0.	9.	23.	36.	47.	56.	62.	68.	93.	108.	112.	102.	78.	34.	0.	0.	830.	133.	171.	110.	131.
WEST	0.	0.	9.	23.	36.	47.	56.	62.	64.	102.	132.	151.	153.	132.	68.	0.	0.	1034.	145.	193.	117.	144.
NORTHWEST	0.	0.	9.	23.	36.	47.	56.	62.	64.	87.	111.	129.	135.	122.	67.	0.	0.	948.	140.	184.	114.	139.
NORTH	0.	0.	32.	54.	59.	60.	58.	62.	64.	62.	58.	60.	59.	54.	32.	0.	0.	714.	126.	159.	106.	124.
NORTHEAST	0.	0.	67.	122.	135.	129.	111.	87.	64.	62.	56.	47.	36.	23.	9.	0.	0.	948.	140.	184.	114.	139.
EAST	0.	0.	68.	132.	153.	151.	132.	102.	64.	62.	56.	47.	36.	23.	9.	0.	0.	1034.	145.	193.	117.	144.
SOUTHEAST	0.	0.	34.	78.	102.	112.	108.	93.	68.	62.	56.	47.	36.	23.	9.	0.	0.	830.	133.	171.	110.	131.
HORIZ.	0.	0.	25.	78.	132.	180.	216.	240.	248.	240.	216.	180.	132.	78.	25.	0.	0.	1987.	203.	295.	149.	201.

LOCATION MIAMI, FLORIDA LATITUDE 25 DEGREES 47 MINUTES

MONTH 7 HO 3588. TOD 84. TOT 83. KT .552 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	8.	22.	35.	47.	63.	75.	80.	75.	63.	47.	35.	22.	8.	0.	0.	580.	120.	147.	102.	118.
SOUTHWEST	0.	0.	8.	22.	35.	47.	56.	62.	75.	101.	117.	120.	109.	82.	32.	0.	0.	867.	137.	178.	112.	135.
WEST	0.	0.	8.	22.	35.	47.	56.	62.	64.	104.	136.	155.	157.	133.	59.	0.	0.	1037.	148.	196.	118.	145.
NORTHWEST	0.	0.	8.	22.	35.	47.	56.	62.	64.	82.	108.	126.	133.	118.	57.	0.	0.	917.	140.	183.	114.	138.
NORTH	0.	0.	25.	47.	52.	51.	56.	62.	64.	62.	56.	51.	52.	47.	25.	0.	0.	650.	124.	155.	105.	122.
NORTHEAST	0.	0.	57.	118.	133.	126.	108.	82.	64.	62.	56.	47.	35.	22.	8.	0.	0.	917.	140.	183.	114.	138.
EAST	0.	0.	59.	133.	157.	155.	136.	104.	64.	62.	56.	47.	35.	22.	8.	0.	0.	1037.	148.	196.	118.	145.
SOUTHEAST	0.	0.	32.	82.	109.	120.	117.	101.	75.	62.	56.	47.	35.	22.	8.	0.	0.	867.	137.	178.	112.	135.
HORIZ.	0.	0.	20.	74.	130.	180.	218.	243.	251.	243.	218.	180.	130.	74.	20.	0.	0.	1982.	206.	299.	150.	202.

MONTH 8 HO 3397. TOD 84. TOT 83. KT .549 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	4.	19.	36.	63.	85.	99.	104.	99.	85.	63.	36.	19.	4.	0.	0.	718.	131.	166.	107.	126.
SOUTHWEST	0.	0.	4.	19.	33.	45.	55.	61.	92.	119.	135.	137.	123.	89.	18.	0.	0.	928.	144.	190.	115.	139.
WEST	0.	0.	4.	19.	33.	45.	55.	61.	63.	104.	137.	157.	157.	126.	27.	0.	0.	988.	148.	197.	117.	143.
NORTHWEST	0.	0.	4.	19.	33.	45.	55.	61.	63.	64.	92.	111.	118.	101.	24.	0.	0.	789.	135.	174.	110.	131.
NORTH	0.	0.	9.	28.	33.	45.	55.	61.	63.	61.	55.	45.	33.	28.	9.	0.	0.	521.	118.	144.	101.	114.
NORTHEAST	0.	0.	24.	101.	118.	111.	92.	64.	63.	61.	55.	45.	33.	19.	4.	0.	0.	789.	135.	174.	110.	131.
EAST	0.	0.	27.	126.	157.	157.	137.	104.	63.	61.	55.	45.	33.	19.	4.	0.	0.	988.	148.	197.	117.	143.
SOUTHEAST	0.	0.	18.	89.	123.	137.	135.	119.	92.	61.	55.	45.	33.	19.	4.	0.	0.	928.	144.	190.	115.	139.
HORIZ.	0.	0.	9.	61.	120.	171.	211.	237.	245.	237.	211.	171.	120.	61.	9.	0.	0.	1865.	204.	296.	147.	196.

MONTH 9 HO 3049. TOD 83. TOT 82. KT .525 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	23.	56.	86.	109.	123.	128.	123.	109.	86.	56.	23.	0.	0.	0.	923.	146.	194.	113.	137.
SOUTHWEST	0.	0.	0.	14.	28.	41.	51.	74.	108.	133.	148.	148.	130.	85.	0.	0.	0.	960.	149.	199.	115.	140.
WEST	0.	0.	0.	14.	28.	41.	51.	57.	59.	99.	130.	147.	145.	105.	0.	0.	0.	875.	143.	189.	112.	135.
NORTHWEST	0.	0.	0.	14.	28.	41.	51.	57.	59.	57.	65.	84.	91.	71.	0.	0.	0.	618.	125.	158.	103.	119.
NORTH	0.	0.	0.	14.	28.	41.	51.	57.	59.	57.	51.	41.	28.	14.	0.	0.	0.	440.	113.	136.	97.	108.
NORTHEAST	0.	0.	0.	71.	91.	84.	65.	57.	59.	57.	51.	41.	28.	14.	0.	0.	0.	618.	125.	158.	103.	119.
EAST	0.	0.	0.	105.	145.	147.	130.	99.	59.	57.	51.	41.	28.	14.	0.	0.	0.	875.	143.	189.	112.	135.
SOUTHEAST	0.	0.	0.	85.	130.	148.	148.	133.	108.	74.	51.	41.	28.	14.	0.	0.	0.	960.	149.	199.	115.	140.
HORIZ.	0.	0.	0.	42.	98.	149.	188.	213.	221.	213.	188.	149.	98.	42.	0.	0.	0.	1599.	192.	276.	136.	178.

LOCATION MIAMI, FLORIDA LATITUDE 25 DEGREES 47 MINUTES

MONTH 10 HO 2603. TOD 80. TOT 78. KT .534 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	28.	74.	109.	134.	150.	155.	150.	134.	109.	74.	28.	0.	0.	0.	1144.	158.	222.	115.	145.
SOUTHWEST	0.	0.	0.	8.	23.	35.	51.	90.	125.	152.	165.	164.	140.	70.	0.	0.	0.	1022.	150.	207.	111.	137.
WEST	0.	0.	0.	8.	23.	35.	45.	51.	53.	94.	126.	143.	137.	75.	0.	0.	0.	792.	134.	178.	103.	124.
NORTHWEST	0.	0.	0.	8.	23.	35.	45.	51.	53.	51.	45.	60.	67.	42.	0.	0.	0.	481.	113.	140.	93.	106.
NORTH	0.	0.	0.	8.	23.	35.	45.	51.	53.	51.	45.	35.	23.	8.	0.	0.	0.	378.	106.	127.	90.	100.
NORTHEAST	0.	0.	0.	42.	67.	60.	45.	51.	53.	51.	45.	35.	23.	8.	0.	0.	0.	481.	113.	140.	93.	106.
EAST	0.	0.	0.	75.	137.	143.	126.	94.	53.	51.	45.	35.	23.	8.	0.	0.	0.	792.	134.	178.	103.	124.
SOUTHEAST	0.	0.	0.	70.	140.	164.	165.	152.	125.	90.	51.	35.	23.	8.	0.	0.	0.	1022.	150.	207.	111.	137.
HORIZ.	0.	0.	0.	23.	78.	129.	169.	195.	203.	195.	169.	129.	78.	23.	0.	0.	0.	1392.	175.	252.	123.	159.

MONTH 11 HO 2171. TOD 76. TOT 72. KT .559 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	15.	87.	129.	159.	176.	182.	176.	159.	129.	87.	15.	0.	0.	0.	1315.	171.	248.	114.	149.
SOUTHWEST	0.	0.	0.	4.	17.	30.	64.	106.	143.	170.	184.	179.	144.	30.	0.	0.	0.	1069.	153.	216.	106.	134.
WEST	0.	0.	0.	4.	17.	30.	39.	45.	47.	91.	124.	141.	127.	29.	0.	0.	0.	694.	126.	167.	94.	113.
NORTHWEST	0.	0.	0.	4.	17.	30.	39.	45.	47.	45.	39.	38.	46.	14.	0.	0.	0.	364.	102.	123.	84.	93.
NORTH	0.	0.	0.	4.	17.	30.	39.	45.	47.	45.	39.	30.	17.	4.	0.	0.	0.	317.	98.	117.	82.	91.
NORTHEAST	0.	0.	0.	14.	46.	38.	39.	45.	47.	45.	39.	30.	17.	4.	0.	0.	0.	364.	102.	123.	84.	93.
EAST	0.	0.	0.	29.	127.	141.	124.	91.	47.	45.	39.	30.	17.	4.	0.	0.	0.	694.	126.	167.	94.	113.
SOUTHEAST	0.	0.	0.	30.	144.	179.	184.	170.	143.	106.	64.	30.	17.	4.	0.	0.	0.	1069.	153.	216.	106.	134.
HORIZ.	0.	0.	0.	8.	60.	112.	153.	179.	188.	179.	153.	112.	60.	8.	0.	0.	0.	1212.	163.	235.	111.	143.

MONTH 12 HO 1996. TOD 73. TOT 69. KT .588 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	6.	94.	143.	176.	195.	201.	195.	176.	143.	94.	6.	0.	0.	0.	1428.	178.	265.	115.	152.
SOUTHWEST	0.	0.	0.	2.	15.	27.	71.	116.	155.	184.	199.	193.	151.	9.	0.	0.	0.	1122.	156.	224.	105.	135.
WEST	0.	0.	0.	2.	15.	27.	37.	43.	45.	91.	127.	145.	128.	9.	0.	0.	0.	669.	122.	163.	91.	108.
NORTHWEST	0.	0.	0.	2.	15.	27.	37.	43.	45.	43.	37.	28.	39.	4.	0.	0.	0.	320.	96.	116.	79.	88.
NORTH	0.	0.	0.	2.	15.	27.	37.	43.	45.	43.	37.	27.	15.	2.	0.	0.	0.	292.	94.	112.	79.	86.
NORTHEAST	0.	0.	0.	4.	39.	28.	37.	43.	45.	43.	37.	27.	15.	2.	0.	0.	0.	320.	96.	116.	79.	88.
EAST	0.	0.	0.	9.	128.	145.	127.	91.	45.	43.	37.	27.	15.	2.	0.	0.	0.	669.	122.	163.	91.	108.
SOUTHEAST	0.	0.	0.	9.	151.	193.	199.	184.	155.	116.	71.	27.	15.	2.	0.	0.	0.	1122.	156.	224.	105.	135.
HORIZ.	0.	0.	0.	4.	53.	108.	150.	178.	187.	178.	150.	108.	53.	4.	0.	0.	0.	1172.	159.	230.	107.	137.

LOCATION MIAMI, FLORIDA LATITUDE 25 DEGREES 47 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	177.	165.	144.	123.	116.	116.	120.	131.	146.	158.	171.	178.	145.
SOUTHWEST	157.	155.	147.	138.	135.	133.	137.	144.	149.	150.	153.	156.	146.
WEST	126.	135.	140.	143.	147.	145.	148.	148.	143.	134.	126.	122.	138.
NORTHWEST	99.	108.	118.	129.	139.	140.	140.	135.	125.	113.	102.	96.	120.
NORTH	95.	98.	103.	109.	121.	126.	124.	118.	113.	106.	98.	94.	109.
NORTHEAST	99.	108.	118.	129.	139.	140.	140.	135.	125.	113.	102.	96.	120.
EAST	126.	135.	140.	143.	147.	145.	148.	148.	143.	134.	126.	122.	138.
SOUTHEAST	157.	155.	147.	138.	135.	133.	137.	144.	149.	150.	153.	156.	146.
HORIZ.	167.	183.	194.	201.	208.	203.	206.	204.	192.	175.	163.	159.	188.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	263.	241.	201.	161.	144.	141.	147.	166.	194.	222.	248.	265.	199.
SOUTHWEST	227.	222.	206.	188.	178.	171.	178.	190.	199.	207.	216.	224.	200.
WEST	171.	187.	193.	196.	198.	193.	196.	197.	189.	178.	167.	163.	186.
NORTHWEST	121.	137.	154.	171.	184.	184.	183.	174.	158.	140.	123.	116.	154.
NORTH	114.	120.	126.	136.	152.	159.	155.	144.	136.	127.	117.	112.	133.
NORTHEAST	121.	137.	154.	171.	184.	184.	183.	174.	158.	140.	123.	116.	154.
EAST	171.	187.	193.	196.	198.	193.	196.	197.	189.	178.	167.	163.	186.
SOUTHEAST	227.	222.	206.	188.	178.	171.	178.	190.	199.	207.	216.	224.	200.
HORIZ.	244.	273.	292.	302.	305.	295.	299.	296.	276.	252.	235.	230.	275.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	115.	112.	106.	100.	98.	100.	102.	107.	113.	115.	114.	115.	108.
SOUTHWEST	106.	108.	108.	108.	109.	110.	112.	115.	115.	111.	106.	105.	109.
WEST	93.	99.	104.	110.	115.	117.	118.	117.	112.	103.	94.	91.	106.
NORTHWEST	80.	86.	93.	102.	111.	114.	114.	110.	103.	93.	84.	79.	97.
NORTH	79.	81.	86.	92.	101.	106.	105.	101.	97.	90.	82.	79.	91.
NORTHEAST	80.	86.	93.	102.	111.	114.	114.	110.	103.	93.	84.	79.	97.
EAST	93.	99.	104.	110.	115.	117.	118.	117.	112.	103.	94.	91.	106.
SOUTHEAST	106.	108.	108.	108.	109.	110.	112.	115.	115.	111.	106.	105.	109.
HORIZ.	111.	121.	132.	141.	149.	149.	150.	147.	136.	123.	111.	107.	131.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	153.	148.	135.	120.	114.	114.	118.	126.	137.	145.	149.	152.	134.
SOUTHWEST	137.	140.	138.	134.	133.	131.	135.	139.	140.	137.	134.	135.	136.
WEST	112.	123.	131.	138.	144.	144.	145.	143.	135.	124.	113.	108.	130.
NORTHWEST	90.	99.	111.	125.	136.	139.	138.	131.	119.	106.	93.	88.	115.
NORTH	87.	91.	97.	106.	118.	124.	122.	114.	108.	100.	91.	86.	104.
NORTHEAST	90.	99.	111.	125.	136.	139.	138.	131.	119.	106.	93.	88.	115.
EAST	112.	123.	131.	138.	144.	144.	145.	143.	135.	124.	113.	108.	130.
SOUTHEAST	137.	140.	138.	134.	133.	131.	135.	139.	140.	137.	134.	135.	136.
HORIZ.	145.	163.	181.	195.	204.	201.	202.	196.	178.	159.	143.	137.	175.

LOCATION MIDLAND, TEXAS LATITUDE 31 DEGREES 55 MINUTES

MONTH 1 HO 1866. TOD 48. TOT 44. KT .587 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	2.	86.	140.	176.	197.	204.	197.	176.	140.	86.	2.	0.	0.	0.	1406.	153.	239.	89.	126.
SOUTHWEST	0.	0.	0.	1.	14.	25.	69.	116.	157.	186.	200.	191.	143.	3.	0.	0.	0.	1104.	131.	198.	80.	109.
WEST	0.	0.	0.	1.	14.	25.	35.	40.	42.	90.	127.	144.	124.	3.	0.	0.	0.	646.	96.	136.	65.	82.
NORTHWEST	0.	0.	0.	1.	14.	25.	35.	40.	42.	40.	35.	29.	40.	2.	0.	0.	0.	303.	71.	89.	54.	62.
NORTH	0.	0.	0.	1.	14.	25.	35.	40.	42.	40.	35.	25.	14.	1.	0.	0.	0.	273.	68.	85.	53.	60.
NORTHEAST	0.	0.	0.	2.	40.	29.	35.	40.	42.	40.	35.	25.	14.	1.	0.	0.	0.	303.	71.	89.	54.	62.
EAST	0.	0.	0.	3.	124.	144.	127.	90.	42.	40.	35.	25.	14.	1.	0.	0.	0.	646.	96.	136.	65.	82.
SOUTHEAST	0.	0.	0.	3.	143.	191.	200.	186.	157.	116.	69.	25.	14.	1.	0.	0.	0.	1104.	131.	198.	80.	109.
HORIZ.	0.	0.	0.	2.	47.	100.	141.	168.	177.	168.	141.	100.	47.	2.	0.	0.	0.	1094.	130.	197.	79.	108.

MONTH 2 HO 2376. TOD 53. TOT 49. KT .596 KD .175

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	28.	87.	131.	163.	183.	190.	183.	163.	131.	87.	28.	0.	0.	0.	1373.	148.	225.	93.	129.
SOUTHWEST	0.	0.	0.	7.	20.	33.	58.	106.	149.	180.	197.	194.	164.	73.	0.	0.	0.	1181.	135.	201.	87.	118.
WEST	0.	0.	0.	7.	20.	33.	42.	48.	50.	100.	140.	163.	157.	78.	0.	0.	0.	839.	111.	158.	76.	98.
NORTHWEST	0.	0.	0.	7.	20.	33.	42.	48.	50.	48.	42.	56.	70.	42.	0.	0.	0.	458.	85.	110.	64.	76.
NORTH	0.	0.	0.	7.	20.	33.	42.	48.	50.	48.	42.	33.	20.	7.	0.	0.	0.	350.	77.	97.	60.	69.
NORTHEAST	0.	0.	0.	42.	70.	56.	42.	48.	50.	48.	42.	33.	20.	7.	0.	0.	0.	458.	85.	110.	64.	76.
EAST	0.	0.	0.	78.	157.	163.	140.	100.	50.	48.	42.	33.	20.	7.	0.	0.	0.	839.	111.	158.	76.	98.
SOUTHEAST	0.	0.	0.	73.	164.	194.	197.	180.	149.	106.	58.	33.	20.	7.	0.	0.	0.	1181.	135.	201.	87.	118.
HORIZ.	0.	0.	0.	19.	77.	132.	175.	202.	211.	202.	175.	132.	77.	19.	0.	0.	0.	1417.	151.	231.	94.	132.

MONTH 3 HO 2899. TOD 60. TOT 56. KT .638 KD .165

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	31.	76.	117.	149.	170.	176.	170.	149.	117.	76.	31.	0.	0.	0.	1263.	141.	207.	96.	129.
SOUTHWEST	0.	0.	0.	13.	27.	39.	49.	94.	141.	177.	198.	200.	178.	118.	0.	0.	0.	1237.	139.	204.	95.	128.
WEST	0.	0.	0.	13.	27.	39.	49.	55.	57.	113.	160.	189.	192.	144.	0.	0.	0.	1038.	126.	181.	89.	116.
NORTHWEST	0.	0.	0.	13.	27.	39.	49.	55.	57.	55.	56.	90.	109.	93.	0.	0.	0.	642.	101.	135.	76.	93.
NORTH	0.	0.	0.	13.	27.	39.	49.	55.	57.	55.	49.	39.	27.	13.	0.	0.	0.	422.	87.	109.	69.	80.
NORTHEAST	0.	0.	0.	93.	109.	90.	56.	55.	57.	55.	49.	39.	27.	13.	0.	0.	0.	642.	101.	135.	76.	93.
EAST	0.	0.	0.	144.	192.	189.	160.	113.	57.	55.	49.	39.	27.	13.	0.	0.	0.	1038.	126.	181.	89.	116.
SOUTHEAST	0.	0.	0.	118.	178.	200.	198.	177.	141.	94.	49.	39.	27.	13.	0.	0.	0.	1237.	139.	204.	95.	128.
HORIZ.	0.	0.	0.	47.	113.	172.	218.	247.	257.	247.	218.	172.	113.	47.	0.	0.	0.	1848.	178.	275.	115.	163.

LOCATION MIDLAND, TEXAS LATITUDE 31 DEGREES 55 MINUTES

MONTH 4 HO 3366. TOD 69. TOT 64. KT .617 KD .170

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	5.	19.	48.	83.	111.	128.	135.	128.	111.	83.	48.	19.	5.	0.	0.	923.	123.	168.	94.	118.
SOUTHWEST	0.	0.	5.	19.	33.	45.	54.	70.	113.	146.	166.	169.	153.	114.	34.	0.	0.	1121.	135.	189.	100.	130.
WEST	0.	0.	5.	19.	33.	45.	54.	60.	62.	113.	155.	182.	188.	159.	54.	0.	0.	1130.	136.	190.	101.	130.
NORTHWEST	0.	0.	5.	19.	33.	45.	54.	60.	62.	60.	86.	115.	132.	122.	46.	0.	0.	839.	118.	159.	91.	113.
NORTH	0.	0.	14.	25.	33.	45.	54.	60.	62.	60.	54.	45.	33.	25.	14.	0.	0.	524.	100.	125.	81.	95.
NORTHEAST	0.	0.	46.	122.	132.	115.	86.	60.	62.	60.	54.	45.	33.	19.	5.	0.	0.	839.	118.	159.	91.	113.
EAST	0.	0.	54.	159.	188.	182.	155.	113.	62.	60.	54.	45.	33.	19.	5.	0.	0.	1130.	136.	190.	101.	130.
SOUTHEAST	0.	0.	34.	114.	153.	169.	166.	146.	113.	70.	54.	45.	33.	19.	5.	0.	0.	1121.	135.	189.	100.	130.
HORIZ.	0.	0.	14.	72.	135.	190.	233.	260.	270.	260.	233.	190.	135.	72.	14.	0.	0.	2077.	192.	292.	131.	186.

MONTH 5 HO 3629. TOD 77. TOT 73. KT .639 KD .164

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	9.	23.	36.	59.	86.	103.	109.	103.	86.	59.	36.	23.	9.	0.	0.	741.	121.	155.	99.	118.
SOUTHWEST	0.	0.	9.	23.	36.	47.	56.	62.	95.	129.	149.	154.	142.	109.	52.	0.	0.	1064.	141.	189.	110.	138.
WEST	0.	0.	9.	23.	36.	47.	56.	62.	63.	115.	158.	187.	194.	172.	97.	0.	0.	1221.	150.	206.	115.	147.
NORTHWEST	0.	0.	9.	23.	36.	47.	56.	62.	63.	70.	107.	137.	154.	148.	91.	0.	0.	1004.	137.	183.	108.	134.
NORTH	0.	0.	37.	50.	45.	47.	56.	62.	63.	62.	56.	47.	45.	50.	37.	0.	0.	657.	116.	146.	96.	113.
NORTHEAST	0.	0.	91.	148.	154.	137.	107.	70.	63.	62.	56.	47.	36.	23.	9.	0.	0.	1004.	137.	183.	108.	134.
EAST	0.	0.	97.	172.	194.	187.	158.	115.	63.	62.	56.	47.	36.	23.	9.	0.	0.	1221.	150.	206.	115.	147.
SOUTHEAST	0.	0.	52.	109.	142.	154.	149.	129.	95.	62.	56.	47.	36.	23.	9.	0.	0.	1064.	141.	189.	110.	138.
HORIZ.	0.	0.	30.	92.	154.	209.	252.	279.	288.	279.	252.	209.	154.	92.	30.	0.	0.	2320.	215.	321.	153.	213.

MONTH 6 HO 3716. TOD 84. TOT 80. KT .622 KD .169

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	11.	24.	37.	49.	74.	90.	95.	90.	74.	49.	37.	24.	11.	0.	0.	667.	123.	152.	103.	120.
SOUTHWEST	0.	0.	11.	24.	37.	48.	57.	62.	86.	117.	136.	141.	129.	100.	52.	0.	0.	1001.	142.	187.	114.	141.
WEST	0.	0.	11.	24.	37.	48.	57.	62.	64.	112.	152.	178.	185.	165.	102.	0.	0.	1198.	154.	207.	121.	153.
NORTHWEST	0.	0.	11.	24.	37.	48.	57.	62.	64.	78.	112.	139.	154.	148.	99.	0.	0.	1034.	144.	190.	115.	143.
NORTH	0.	0.	45.	58.	55.	48.	57.	62.	64.	62.	57.	48.	55.	58.	45.	0.	0.	713.	125.	157.	104.	123.
NORTHEAST	0.	0.	99.	148.	154.	139.	112.	78.	64.	62.	57.	48.	37.	24.	11.	0.	0.	1034.	144.	190.	115.	143.
EAST	0.	0.	102.	165.	185.	178.	152.	112.	64.	62.	57.	48.	37.	24.	11.	0.	0.	1198.	154.	207.	121.	153.
SOUTHEAST	0.	0.	52.	100.	129.	141.	136.	117.	86.	62.	57.	48.	37.	24.	11.	0.	0.	1001.	142.	187.	114.	141.
HORIZ.	0.	1.	36.	95.	155.	207.	248.	273.	282.	273.	248.	207.	155.	95.	36.	1.	0.	2311.	218.	322.	159.	220.

LOCATION MIDLAND, TEXAS LATITUDE 31 DEGREES 55 MINUTES

MONTH 7 HO 3623. TOD 86. TOT 82. KT .628 KD .167

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	10.	23.	36.	58.	84.	101.	107.	101.	84.	58.	36.	23.	10.	0.	0.	730.	129.	162.	107.	126.
SOUTHWEST	0.	0.	10.	23.	36.	47.	56.	61.	94.	126.	146.	150.	137.	105.	49.	0.	0.	1041.	148.	195.	118.	145.
WEST	0.	0.	10.	23.	36.	47.	56.	61.	63.	114.	155.	182.	188.	166.	91.	0.	0.	1193.	157.	211.	123.	154.
NORTHWEST	0.	0.	10.	23.	36.	47.	56.	61.	63.	71.	106.	135.	150.	143.	86.	0.	0.	987.	144.	189.	116.	142.
NORTH	0.	0.	35.	49.	45.	47.	56.	61.	63.	61.	56.	47.	45.	49.	35.	0.	0.	653.	125.	154.	104.	121.
NORTHEAST	0.	0.	86.	143.	150.	135.	106.	71.	63.	61.	56.	47.	36.	23.	10.	0.	0.	987.	144.	189.	116.	142.
EAST	0.	0.	91.	166.	188.	182.	155.	114.	63.	61.	56.	47.	36.	23.	10.	0.	0.	1193.	157.	211.	123.	154.
SOUTHEAST	0.	0.	49.	105.	137.	150.	146.	126.	94.	61.	56.	47.	36.	23.	10.	0.	0.	1041.	148.	195.	118.	145.
HORIZ.	0.	0.	29.	90.	151.	205.	247.	274.	283.	274.	247.	205.	151.	90.	29.	0.	0.	2276.	221.	325.	160.	219.

MONTH 8 HO 3340. TOD 85. TOT 81. KT .643 KD .163

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	5.	19.	48.	84.	113.	132.	139.	132.	113.	84.	48.	19.	5.	0.	0.	943.	144.	190.	114.	138.
SOUTHWEST	0.	0.	5.	19.	32.	44.	54.	70.	116.	151.	173.	176.	159.	116.	31.	0.	0.	1146.	157.	213.	121.	151.
WEST	0.	0.	5.	19.	32.	44.	54.	59.	61.	117.	162.	191.	195.	162.	50.	0.	0.	1152.	158.	213.	121.	151.
NORTHWEST	0.	0.	5.	19.	32.	44.	54.	59.	61.	59.	88.	120.	137.	125.	43.	0.	0.	845.	138.	179.	110.	132.
NORTH	0.	0.	13.	25.	32.	44.	54.	59.	61.	59.	54.	44.	32.	25.	13.	0.	0.	517.	118.	143.	99.	113.
NORTHEAST	0.	0.	43.	125.	137.	120.	88.	59.	61.	59.	54.	44.	32.	19.	5.	0.	0.	845.	138.	179.	110.	132.
EAST	0.	0.	50.	162.	195.	191.	162.	117.	61.	59.	54.	44.	32.	19.	5.	0.	0.	1152.	158.	213.	121.	151.
SOUTHEAST	0.	0.	31.	116.	159.	176.	173.	151.	116.	70.	54.	44.	32.	19.	5.	0.	0.	1146.	157.	213.	121.	151.
HORIZ.	0.	0.	13.	72.	138.	197.	242.	271.	281.	271.	242.	197.	138.	72.	13.	0.	0.	2148.	220.	324.	155.	211.

MONTH 9 HO 2880. TOD 79. TOT 75. KT .642 KD .164

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	29.	75.	116.	149.	169.	176.	169.	149.	116.	75.	29.	0.	0.	0.	1251.	164.	229.	118.	151.
SOUTHWEST	0.	0.	0.	13.	27.	39.	48.	94.	141.	177.	198.	199.	175.	112.	0.	0.	0.	1224.	162.	226.	117.	149.
WEST	0.	0.	0.	13.	27.	39.	48.	54.	57.	114.	160.	188.	189.	137.	0.	0.	0.	1026.	149.	202.	110.	137.
NORTHWEST	0.	0.	0.	13.	27.	39.	48.	54.	57.	54.	57.	90.	108.	89.	0.	0.	0.	636.	122.	155.	97.	114.
NORTH	0.	0.	0.	13.	27.	39.	48.	54.	57.	54.	48.	39.	27.	13.	0.	0.	0.	419.	107.	129.	90.	101.
NORTHEAST	0.	0.	0.	89.	108.	90.	57.	54.	57.	54.	48.	39.	27.	13.	0.	0.	0.	636.	122.	155.	97.	114.
EAST	0.	0.	0.	137.	189.	188.	160.	114.	57.	54.	48.	39.	27.	13.	0.	0.	0.	1026.	149.	202.	110.	137.
SOUTHEAST	0.	0.	0.	112.	175.	199.	198.	177.	141.	94.	48.	39.	27.	13.	0.	0.	0.	1224.	162.	226.	117.	149.
HORIZ.	0.	0.	0.	45.	112.	172.	218.	248.	258.	248.	218.	172.	112.	45.	0.	0.	0.	1848.	205.	301.	139.	187.

LOCATION MIDLAND, TEXAS LATITUDE 31 DEGREES 55 MINUTES

MONTH 10 HO 2341. TOD 70. TOT 67. KT .600 KD .174

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	26.	86.	131.	164.	185.	192.	185.	164.	131.	86.	26.	0.	0.	0.	1374.	166.	244.	111.	147.
SOUTHWEST	0.	0.	0.	6.	20.	32.	58.	107.	150.	182.	198.	194.	161.	64.	0.	0.	0.	1174.	152.	218.	104.	135.
WEST	0.	0.	0.	6.	20.	32.	42.	48.	50.	100.	141.	163.	154.	69.	0.	0.	0.	823.	127.	174.	93.	115.
NORTHWEST	0.	0.	0.	6.	20.	32.	42.	48.	50.	48.	42.	55.	68.	37.	0.	0.	0.	446.	101.	127.	81.	93.
NORTH	0.	0.	0.	6.	20.	32.	42.	48.	50.	48.	42.	32.	20.	6.	0.	0.	0.	345.	94.	114.	78.	87.
NORTHEAST	0.	0.	0.	37.	68.	55.	42.	48.	50.	48.	42.	32.	20.	6.	0.	0.	0.	446.	101.	127.	81.	93.
EAST	0.	0.	0.	69.	154.	163.	141.	100.	50.	48.	42.	32.	20.	6.	0.	0.	0.	823.	127.	174.	93.	115.
SOUTHEAST	0.	0.	0.	64.	161.	194.	198.	182.	150.	107.	58.	32.	20.	6.	0.	0.	0.	1174.	152.	218.	104.	135.
HORIZ.	0.	0.	0.	17.	75.	130.	174.	202.	211.	202.	174.	130.	75.	17.	0.	0.	0.	1406.	168.	248.	112.	148.

MONTH 11 HO 1853. TOD 57. TOT 53. KT .609 KD .172

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	2.	89.	146.	185.	207.	215.	207.	185.	146.	89.	2.	0.	0.	0.	1473.	167.	257.	100.	139.
SOUTHWEST	0.	0.	0.	1.	13.	25.	71.	121.	164.	196.	210.	200.	148.	2.	0.	0.	0.	1152.	143.	214.	90.	120.
WEST	0.	0.	0.	1.	13.	25.	34.	40.	42.	93.	132.	151.	128.	2.	0.	0.	0.	663.	106.	147.	74.	91.
NORTHWEST	0.	0.	0.	1.	13.	25.	34.	40.	42.	40.	34.	28.	41.	2.	0.	0.	0.	302.	79.	98.	62.	70.
NORTH	0.	0.	0.	1.	13.	25.	34.	40.	42.	40.	34.	25.	13.	1.	0.	0.	0.	271.	77.	94.	62.	69.
NORTHEAST	0.	0.	0.	2.	41.	28.	34.	40.	42.	40.	34.	25.	13.	1.	0.	0.	0.	302.	79.	98.	62.	70.
EAST	0.	0.	0.	2.	128.	151.	132.	93.	42.	40.	34.	25.	13.	1.	0.	0.	0.	663.	106.	147.	74.	91.
SOUTHEAST	0.	0.	0.	2.	148.	200.	210.	196.	164.	121.	71.	25.	13.	1.	0.	0.	0.	1152.	143.	214.	90.	120.
HORIZ.	0.	0.	0.	2.	48.	102.	146.	174.	183.	174.	146.	102.	48.	2.	0.	0.	0.	1127.	141.	210.	89.	118.

MONTH 12 HO 1662. TOD 49. TOT 45. KT .611 KD .171

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	86.	150.	191.	214.	222.	214.	191.	150.	86.	0.	0.	0.	0.	1503.	166.	261.	94.	133.
SOUTHWEST	0.	0.	0.	0.	11.	27.	76.	126.	169.	199.	212.	199.	136.	0.	0.	0.	0.	1154.	139.	212.	82.	113.
WEST	0.	0.	0.	0.	11.	22.	31.	37.	39.	89.	128.	144.	113.	0.	0.	0.	0.	616.	97.	136.	65.	81.
NORTHWEST	0.	0.	0.	0.	11.	22.	31.	37.	39.	37.	31.	22.	30.	0.	0.	0.	0.	262.	69.	86.	54.	61.
NORTH	0.	0.	0.	0.	11.	22.	31.	37.	39.	37.	31.	22.	11.	0.	0.	0.	0.	243.	68.	83.	53.	60.
NORTHEAST	0.	0.	0.	0.	30.	22.	31.	37.	39.	37.	31.	22.	11.	0.	0.	0.	0.	262.	69.	86.	54.	61.
EAST	0.	0.	0.	0.	113.	144.	128.	89.	39.	37.	31.	22.	11.	0.	0.	0.	0.	616.	97.	136.	65.	81.
SOUTHEAST	0.	0.	0.	0.	136.	199.	212.	199.	169.	126.	76.	27.	11.	0.	0.	0.	0.	1154.	139.	212.	82.	113.
HORIZ.	0.	0.	0.	0.	37.	90.	134.	161.	171.	161.	134.	90.	37.	0.	0.	0.	0.	1015.	128.	192.	78.	105.

LOCATION MIDLAND, TEXAS LATITUDE 31 DEGREES 55 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	153.	148.	141.	123.	121.	123.	129.	144.	164.	166.	167.	166.	146.
SOUTHWEST	131.	135.	139.	135.	141.	142.	148.	157.	162.	152.	143.	139.	144.
WEST	96.	111.	126.	136.	150.	154.	157.	158.	149.	127.	106.	97.	131.
NORTHWEST	71.	85.	101.	118.	137.	144.	144.	138.	122.	101.	79.	69.	109.
NORTH	68.	77.	87.	100.	116.	125.	125.	118.	107.	94.	77.	68.	97.
NORTHEAST	71.	85.	101.	118.	137.	144.	144.	138.	122.	101.	79.	69.	109.
EAST	96.	111.	126.	136.	150.	154.	157.	158.	149.	127.	106.	97.	131.
SOUTHEAST	131.	135.	139.	135.	141.	142.	148.	157.	162.	152.	143.	139.	144.
HORIZ.	130.	151.	178.	192.	215.	218.	221.	220.	205.	168.	141.	128.	181.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	239.	225.	207.	168.	155.	152.	162.	190.	229.	244.	257.	261.	208.
SOUTHWEST	198.	201.	204.	189.	189.	187.	195.	213.	226.	218.	214.	212.	204.
WEST	136.	158.	181.	190.	206.	207.	211.	213.	202.	174.	147.	136.	180.
NORTHWEST	89.	110.	135.	159.	183.	190.	189.	179.	155.	127.	98.	86.	142.
NORTH	85.	97.	109.	125.	146.	157.	154.	143.	129.	114.	94.	83.	120.
NORTHEAST	89.	110.	135.	159.	183.	190.	189.	179.	155.	127.	98.	86.	142.
EAST	136.	158.	181.	190.	206.	207.	211.	213.	202.	174.	147.	136.	180.
SOUTHEAST	198.	201.	204.	189.	189.	187.	195.	213.	226.	218.	214.	212.	204.
HORIZ.	197.	231.	275.	292.	321.	322.	325.	324.	301.	248.	210.	192.	270.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	89.	93.	96.	94.	99.	103.	107.	114.	118.	111.	100.	94.	101.
SOUTHWEST	80.	87.	95.	100.	110.	114.	118.	121.	117.	104.	90.	82.	102.
WEST	65.	76.	89.	101.	115.	121.	123.	121.	110.	93.	74.	65.	96.
NORTHWEST	54.	64.	76.	91.	108.	115.	116.	110.	97.	81.	62.	54.	86.
NORTH	53.	60.	69.	81.	96.	104.	104.	99.	90.	78.	62.	53.	79.
NORTHEAST	54.	64.	76.	91.	108.	115.	116.	110.	97.	81.	62.	54.	86.
EAST	65.	76.	89.	101.	115.	121.	123.	121.	110.	93.	74.	65.	96.
SOUTHEAST	80.	87.	95.	100.	110.	114.	118.	121.	117.	104.	90.	82.	102.
HORIZ.	79.	94.	115.	131.	153.	159.	160.	155.	139.	112.	89.	78.	122.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	126.	129.	129.	118.	118.	120.	126.	138.	151.	147.	139.	133.	131.
SOUTHWEST	109.	118.	128.	130.	138.	141.	145.	151.	149.	135.	120.	113.	131.
WEST	82.	98.	116.	130.	147.	153.	154.	151.	137.	115.	91.	81.	121.
NORTHWEST	62.	76.	93.	113.	134.	143.	142.	132.	114.	93.	70.	61.	103.
NORTH	60.	69.	80.	95.	113.	123.	121.	113.	101.	87.	69.	60.	91.
NORTHEAST	62.	76.	93.	113.	134.	143.	142.	132.	114.	93.	70.	61.	103.
EAST	82.	98.	116.	130.	147.	153.	154.	151.	137.	115.	91.	81.	121.
SOUTHEAST	109.	118.	128.	130.	138.	141.	145.	151.	149.	135.	120.	113.	131.
HORIZ.	108.	132.	163.	186.	213.	220.	219.	211.	187.	148.	118.	105.	168.

LOCATION NASHVILLE, TENNESSEE LATITUDE 36 DEGREES 7 MINUTES

MONTH 1 HO 1642. TOD 43. TOT 40. KT .373 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	41.	74.	96.	109.	113.	109.	96.	74.	41.	0.	0.	0.	0.	752.	101.	148.	64.	84.
SOUTHWEST	0.	0.	0.	0.	10.	20.	45.	70.	90.	103.	106.	96.	64.	0.	0.	0.	0.	603.	89.	127.	59.	75.
WEST	0.	0.	0.	0.	10.	20.	27.	32.	33.	55.	70.	74.	56.	0.	0.	0.	0.	375.	72.	95.	52.	62.
NORTHWEST	0.	0.	0.	0.	10.	20.	27.	32.	33.	32.	27.	20.	20.	0.	0.	0.	0.	220.	60.	73.	47.	53.
NORTH	0.	0.	0.	0.	10.	20.	27.	32.	33.	32.	27.	20.	10.	0.	0.	0.	0.	209.	59.	72.	47.	52.
NORTHEAST	0.	0.	0.	0.	20.	20.	27.	32.	33.	32.	27.	20.	10.	0.	0.	0.	0.	220.	60.	73.	47.	53.
EAST	0.	0.	0.	0.	56.	74.	70.	55.	33.	32.	27.	20.	10.	0.	0.	0.	0.	375.	72.	95.	52.	62.
SOUTHEAST	0.	0.	0.	0.	64.	96.	106.	103.	90.	70.	45.	20.	10.	0.	0.	0.	0.	603.	89.	127.	59.	75.
HORIZ.	0.	0.	0.	0.	25.	55.	80.	95.	100.	95.	80.	55.	25.	0.	0.	0.	0.	611.	90.	128.	59.	75.

MONTH 2 HO 2184. TOD 45. TOT 42. KT .440 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	16.	58.	91.	115.	129.	134.	129.	115.	91.	58.	16.	0.	0.	0.	953.	112.	167.	73.	98.
SOUTHWEST	0.	0.	0.	5.	17.	28.	50.	81.	108.	126.	134.	128.	103.	37.	0.	0.	0.	817.	102.	149.	69.	90.
WEST	0.	0.	0.	5.	17.	28.	36.	41.	43.	73.	96.	106.	98.	39.	0.	0.	0.	583.	86.	119.	61.	76.
NORTHWEST	0.	0.	0.	5.	17.	28.	36.	41.	43.	41.	36.	39.	45.	22.	0.	0.	0.	354.	70.	90.	54.	63.
NORTH	0.	0.	0.	5.	17.	28.	36.	41.	43.	41.	36.	28.	17.	5.	0.	0.	0.	299.	66.	83.	52.	60.
NORTHEAST	0.	0.	0.	22.	45.	39.	36.	41.	43.	41.	36.	28.	17.	5.	0.	0.	0.	354.	70.	90.	54.	63.
EAST	0.	0.	0.	39.	98.	106.	96.	73.	43.	41.	36.	28.	17.	5.	0.	0.	0.	583.	86.	119.	61.	76.
SOUTHEAST	0.	0.	0.	37.	103.	128.	134.	126.	108.	81.	50.	28.	17.	5.	0.	0.	0.	817.	102.	149.	69.	90.
HORIZ.	0.	0.	0.	12.	52.	89.	119.	137.	144.	137.	119.	89.	52.	12.	0.	0.	0.	962.	113.	168.	73.	98.

MONTH 3 HO 2762. TOD 53. TOT 50. KT .472 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	24.	58.	88.	112.	127.	132.	127.	112.	88.	58.	24.	0.	0.	0.	953.	114.	164.	80.	105.
SOUTHWEST	0.	0.	0.	12.	25.	36.	45.	79.	109.	130.	140.	137.	118.	76.	0.	0.	0.	906.	111.	158.	79.	103.
WEST	0.	0.	0.	12.	25.	36.	44.	50.	52.	85.	111.	126.	124.	90.	0.	0.	0.	756.	101.	141.	74.	94.
NORTHWEST	0.	0.	0.	12.	25.	36.	44.	50.	52.	50.	44.	63.	71.	59.	0.	0.	0.	506.	85.	112.	66.	79.
NORTH	0.	0.	0.	12.	25.	36.	44.	50.	52.	50.	44.	36.	25.	12.	0.	0.	0.	387.	78.	98.	62.	72.
NORTHEAST	0.	0.	0.	59.	71.	63.	44.	50.	52.	50.	44.	36.	25.	12.	0.	0.	0.	506.	85.	112.	66.	79.
EAST	0.	0.	0.	90.	124.	126.	111.	85.	52.	50.	44.	36.	25.	12.	0.	0.	0.	756.	101.	141.	74.	94.
SOUTHEAST	0.	0.	0.	76.	118.	137.	140.	130.	109.	79.	45.	36.	25.	12.	0.	0.	0.	906.	111.	158.	79.	103.
HORIZ.	0.	0.	0.	35.	80.	121.	153.	172.	179.	172.	153.	121.	80.	35.	0.	0.	0.	1302.	136.	204.	92.	126.

LOCATION NASHVILLE, TENNESSEE LATITUDE 36 DEGREES 7 MINUTES

MONTH 4 HO 3306. TOD 63. TOT 60. KT .514 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	6.	19.	48.	78.	102.	118.	123.	118.	102.	78.	48.	19.	6.	0.	0.	868.	114.	155.	88.	110.
SOUTHWEST	0.	0.	6.	19.	32.	43.	52.	72.	104.	128.	140.	140.	124.	91.	31.	0.	0.	983.	120.	167.	91.	117.
WEST	0.	0.	6.	19.	32.	43.	52.	57.	59.	96.	126.	144.	146.	123.	49.	0.	0.	953.	119.	164.	90.	115.
NORTHWEST	0.	0.	6.	19.	32.	43.	52.	57.	59.	57.	68.	90.	101.	94.	42.	0.	0.	721.	105.	139.	83.	102.
NORTH	0.	0.	14.	21.	32.	43.	52.	57.	59.	57.	52.	43.	32.	21.	14.	0.	0.	497.	92.	116.	76.	89.
NORTHEAST	0.	0.	42.	94.	101.	90.	68.	57.	59.	57.	52.	43.	32.	19.	6.	0.	0.	721.	105.	139.	83.	102.
EAST	0.	0.	49.	123.	146.	144.	126.	96.	59.	57.	52.	43.	32.	19.	6.	0.	0.	953.	119.	164.	90.	115.
SOUTHEAST	0.	0.	31.	91.	124.	140.	140.	128.	104.	72.	52.	43.	32.	19.	6.	0.	0.	983.	120.	167.	91.	117.
HORIZ.	0.	0.	15.	62.	112.	155.	188.	210.	217.	210.	188.	155.	112.	62.	15.	0.	0.	1700.	162.	243.	114.	159.

MONTH 5 HO 3633. TOD 71. TOT 68. KT .556 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	11.	24.	36.	65.	89.	105.	110.	105.	89.	65.	36.	24.	11.	0.	0.	773.	116.	151.	95.	115.
SOUTHWEST	0.	0.	11.	24.	36.	47.	55.	62.	96.	122.	137.	138.	125.	96.	50.	0.	0.	999.	130.	174.	102.	129.
WEST	0.	0.	11.	24.	36.	47.	55.	60.	62.	103.	136.	157.	162.	145.	89.	0.	0.	1088.	135.	183.	105.	134.
NORTHWEST	0.	0.	11.	24.	36.	47.	55.	60.	62.	60.	88.	112.	126.	122.	83.	0.	0.	885.	123.	163.	98.	122.
NORTH	0.	0.	34.	42.	37.	47.	55.	60.	62.	60.	55.	47.	37.	42.	34.	0.	0.	612.	107.	134.	89.	105.
NORTHEAST	0.	0.	83.	122.	126.	112.	88.	60.	62.	60.	55.	47.	36.	24.	11.	0.	0.	885.	123.	163.	98.	122.
EAST	0.	0.	89.	145.	162.	157.	136.	103.	62.	60.	55.	47.	36.	24.	11.	0.	0.	1088.	135.	183.	105.	134.
SOUTHEAST	0.	0.	50.	96.	125.	138.	137.	122.	96.	62.	55.	47.	36.	24.	11.	0.	0.	999.	130.	174.	102.	129.
HORIZ.	0.	1.	33.	84.	136.	181.	216.	237.	245.	237.	216.	181.	136.	84.	33.	1.	0.	2019.	189.	279.	137.	190.

MONTH 6 HO 3746. TOD 80. TOT 77. KT .573 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	2.	13.	25.	37.	59.	83.	98.	103.	98.	83.	59.	37.	25.	13.	2.	0.	737.	122.	154.	102.	121.
SOUTHWEST	0.	2.	13.	25.	37.	48.	56.	61.	91.	118.	134.	136.	123.	96.	53.	3.	0.	997.	137.	180.	111.	137.
WEST	0.	2.	13.	25.	37.	48.	56.	61.	63.	105.	139.	161.	167.	151.	101.	4.	0.	1133.	144.	194.	116.	145.
NORTHWEST	0.	2.	13.	25.	37.	48.	56.	61.	63.	66.	96.	121.	135.	133.	97.	4.	0.	956.	134.	176.	110.	135.
NORTH	0.	3.	44.	51.	46.	48.	56.	61.	63.	61.	56.	48.	46.	51.	44.	3.	0.	679.	119.	148.	100.	118.
NORTHEAST	0.	4.	97.	133.	135.	121.	96.	66.	63.	61.	56.	48.	37.	25.	13.	2.	0.	956.	134.	176.	110.	135.
EAST	0.	4.	101.	151.	167.	161.	139.	105.	63.	61.	56.	48.	37.	25.	13.	2.	0.	1133.	144.	194.	116.	145.
SOUTHEAST	0.	3.	53.	96.	123.	136.	134.	118.	91.	61.	56.	48.	37.	25.	13.	2.	0.	997.	137.	180.	111.	137.
HORIZ.	0.	3.	40.	93.	145.	190.	226.	248.	256.	248.	226.	190.	145.	93.	40.	3.	0.	2146.	202.	295.	150.	207.

LOCATION NASHVILLE, TENNESSEE LATITUDE 36 DEGREES 7 MINUTES

MONTH 7 HO 3628. TOD 83. TOT 80. KT .565 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	11.	24.	36.	65.	90.	106.	111.	106.	90.	65.	36.	24.	11.	0.	0.	776.	128.	163.	107.	127.
SOUTHWEST	0.	0.	11.	24.	36.	47.	55.	61.	97.	123.	138.	140.	126.	97.	49.	0.	0.	1006.	142.	187.	114.	141.
WEST	0.	0.	11.	24.	36.	47.	55.	60.	62.	104.	138.	160.	165.	146.	89.	0.	0.	1097.	147.	196.	118.	146.
NORTHWEST	0.	0.	11.	24.	36.	47.	55.	60.	62.	60.	89.	114.	128.	124.	82.	0.	0.	892.	135.	175.	111.	134.
NORTH	0.	0.	34.	43.	37.	47.	55.	60.	62.	60.	55.	47.	37.	43.	34.	0.	0.	615.	119.	146.	101.	117.
NORTHEAST	0.	0.	82.	124.	128.	114.	89.	60.	62.	60.	55.	47.	36.	24.	11.	0.	0.	892.	135.	175.	111.	134.
EAST	0.	0.	89.	146.	165.	160.	138.	104.	62.	60.	55.	47.	36.	24.	11.	0.	0.	1097.	147.	196.	118.	146.
SOUTHEAST	0.	0.	49.	97.	126.	140.	138.	123.	97.	61.	55.	47.	36.	24.	11.	0.	0.	1006.	142.	187.	114.	141.
HORIZ.	0.	1.	33.	85.	137.	183.	219.	242.	249.	242.	219.	183.	137.	85.	33.	1.	0.	2049.	202.	294.	150.	204.

MONTH 8 HO 3281. TOD 82. TOT 79. KT .554 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	50.	83.	109.	126.	132.	126.	109.	83.	50.	19.	6.	0.	0.	918.	139.	183.	110.	134.
SOUTHWEST	0.	0.	6.	19.	32.	43.	52.	74.	110.	137.	152.	152.	135.	98.	31.	0.	0.	1042.	147.	196.	114.	142.
WEST	0.	0.	6.	19.	32.	43.	52.	57.	59.	102.	136.	157.	160.	133.	49.	0.	0.	1005.	144.	192.	113.	139.
NORTHWEST	0.	0.	6.	19.	32.	43.	52.	57.	59.	57.	71.	96.	109.	101.	41.	0.	0.	745.	128.	164.	104.	124.
NORTH	0.	0.	14.	22.	32.	43.	52.	57.	59.	57.	52.	43.	32.	22.	14.	0.	0.	498.	113.	137.	96.	109.
NORTHEAST	0.	0.	41.	101.	109.	96.	71.	57.	59.	57.	52.	43.	32.	19.	6.	0.	0.	745.	128.	164.	104.	124.
EAST	0.	0.	49.	133.	160.	157.	136.	102.	59.	57.	52.	43.	32.	19.	6.	0.	0.	1005.	144.	192.	113.	139.
SOUTHEAST	0.	0.	31.	98.	135.	152.	152.	137.	110.	74.	52.	43.	32.	19.	6.	0.	0.	1042.	147.	196.	114.	142.
HORIZ.	0.	0.	15.	65.	118.	166.	203.	226.	234.	226.	203.	166.	118.	65.	15.	0.	0.	1819.	195.	282.	141.	189.

MONTH 9 HO 2747. TOD 77. TOT 73. KT .556 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	27.	67.	105.	134.	152.	159.	152.	134.	105.	67.	27.	0.	0.	0.	1130.	154.	212.	112.	141.
SOUTHWEST	0.	0.	0.	12.	26.	37.	46.	90.	128.	156.	170.	168.	145.	90.	0.	0.	0.	1069.	149.	205.	110.	138.
WEST	0.	0.	0.	12.	26.	37.	46.	52.	53.	98.	134.	154.	152.	108.	0.	0.	0.	873.	136.	182.	103.	126.
NORTHWEST	0.	0.	0.	12.	26.	37.	46.	52.	53.	52.	46.	72.	86.	70.	0.	0.	0.	552.	114.	143.	92.	107.
NORTH	0.	0.	0.	12.	26.	37.	46.	52.	53.	52.	46.	37.	26.	12.	0.	0.	0.	399.	104.	125.	87.	97.
NORTHEAST	0.	0.	0.	70.	86.	72.	46.	52.	53.	52.	46.	37.	26.	12.	0.	0.	0.	552.	114.	143.	92.	107.
EAST	0.	0.	0.	108.	152.	154.	134.	98.	53.	52.	46.	37.	26.	12.	0.	0.	0.	873.	136.	182.	103.	126.
SOUTHEAST	0.	0.	0.	90.	145.	168.	170.	156.	128.	90.	46.	37.	26.	12.	0.	0.	0.	1069.	149.	205.	110.	138.
HORIZ.	0.	0.	1.	38.	93.	142.	180.	204.	212.	204.	180.	142.	93.	38.	1.	0.	0.	1526.	180.	260.	125.	165.

LOCATION NASHVILLE, TENNESSEE LATITUDE 36 DEGREES 7 MINUTES

MONTH 10 HO 2149. TOD 65. TOT 62. KT .540 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	18.	74.	117.	148.	168.	175.	168.	148.	117.	74.	18.	0.	0.	0.	1224.	152.	222.	101.	133.
SOUTHWEST	0.	0.	0.	5.	18.	29.	57.	100.	137.	163.	175.	168.	134.	42.	0.	0.	0.	1028.	138.	197.	95.	122.
WEST	0.	0.	0.	5.	18.	29.	38.	44.	46.	88.	121.	138.	126.	44.	0.	0.	0.	697.	114.	155.	84.	102.
NORTHWEST	0.	0.	0.	5.	18.	29.	38.	44.	46.	44.	38.	44.	55.	24.	0.	0.	0.	384.	92.	114.	74.	84.
NORTH	0.	0.	0.	5.	18.	29.	38.	44.	46.	44.	38.	29.	18.	5.	0.	0.	0.	313.	87.	105.	72.	80.
NORTHEAST	0.	0.	0.	24.	55.	44.	38.	44.	46.	44.	38.	29.	18.	5.	0.	0.	0.	384.	92.	114.	74.	84.
EAST	0.	0.	0.	44.	126.	138.	121.	88.	46.	44.	38.	29.	18.	5.	0.	0.	0.	697.	114.	155.	84.	102.
SOUTHEAST	0.	0.	0.	42.	134.	168.	175.	163.	137.	100.	57.	29.	18.	5.	0.	0.	0.	1028.	138.	197.	95.	122.
HORIZ.	0.	0.	0.	12.	60.	107.	145.	168.	176.	168.	145.	107.	60.	12.	0.	0.	0.	1161.	147.	214.	99.	129.

MONTH 11 HO 1630. TOD 52. TOT 49. KT .454 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	53.	97.	125.	143.	148.	143.	125.	97.	53.	0.	0.	0.	0.	983.	128.	190.	81.	107.
SOUTHWEST	0.	0.	0.	0.	10.	21.	55.	88.	115.	134.	140.	128.	85.	0.	0.	0.	0.	775.	112.	161.	74.	94.
WEST	0.	0.	0.	0.	10.	21.	29.	34.	36.	67.	89.	96.	73.	0.	0.	0.	0.	454.	87.	116.	64.	76.
NORTHWEST	0.	0.	0.	0.	10.	21.	29.	34.	36.	34.	29.	21.	25.	0.	0.	0.	0.	238.	71.	86.	57.	63.
NORTH	0.	0.	0.	0.	10.	21.	29.	34.	36.	34.	29.	21.	10.	0.	0.	0.	0.	224.	70.	84.	56.	62.
NORTHEAST	0.	0.	0.	0.	25.	21.	29.	34.	36.	34.	29.	21.	10.	0.	0.	0.	0.	238.	71.	86.	57.	63.
EAST	0.	0.	0.	0.	73.	96.	89.	67.	36.	34.	29.	21.	10.	0.	0.	0.	0.	454.	87.	116.	64.	76.
SOUTHEAST	0.	0.	0.	0.	85.	128.	140.	134.	115.	88.	55.	21.	10.	0.	0.	0.	0.	775.	112.	161.	74.	94.
HORIZ.	0.	0.	0.	0.	29.	66.	97.	116.	123.	116.	97.	66.	29.	0.	0.	0.	0.	738.	109.	156.	73.	92.

MONTH 12 HO 1430. TOD 44. TOT 42. KT .426 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	42.	88.	116.	133.	138.	133.	116.	88.	42.	0.	0.	0.	0.	894.	116.	175.	70.	94.
SOUTHWEST	0.	0.	0.	0.	8.	21.	52.	82.	107.	123.	127.	113.	64.	0.	0.	0.	0.	697.	101.	146.	64.	82.
WEST	0.	0.	0.	0.	8.	18.	25.	30.	32.	59.	78.	82.	53.	0.	0.	0.	0.	385.	75.	101.	54.	64.
NORTHWEST	0.	0.	0.	0.	8.	18.	25.	30.	32.	30.	25.	18.	16.	0.	0.	0.	0.	201.	61.	74.	48.	53.
NORTH	0.	0.	0.	0.	8.	18.	25.	30.	32.	30.	25.	18.	8.	0.	0.	0.	0.	193.	60.	73.	48.	53.
NORTHEAST	0.	0.	0.	0.	16.	18.	25.	30.	32.	30.	25.	18.	8.	0.	0.	0.	0.	201.	61.	74.	48.	53.
EAST	0.	0.	0.	0.	53.	82.	78.	59.	32.	30.	25.	18.	8.	0.	0.	0.	0.	385.	75.	101.	54.	64.
SOUTHEAST	0.	0.	0.	0.	64.	113.	127.	123.	107.	82.	52.	21.	8.	0.	0.	0.	0.	697.	101.	146.	64.	82.
HORIZ.	0.	0.	0.	0.	19.	53.	81.	99.	105.	99.	81.	53.	19.	0.	0.	0.	0.	610.	94.	134.	61.	77.

LOCATION NASHVILLE, TENNESSEE LATITUDE 36 DEGREES 7 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	101.	112.	114.	114.	116.	122.	128.	139.	154.	152.	128.	116.	125.
SOUTHWEST	89.	102.	111.	120.	130.	137.	142.	147.	149.	138.	112.	101.	123.
WEST	72.	86.	101.	119.	135.	144.	147.	144.	136.	114.	87.	75.	113.
NORTHWEST	60.	70.	85.	105.	123.	134.	135.	128.	114.	92.	71.	61.	98.
NORTH	59.	66.	78.	92.	107.	119.	119.	113.	104.	87.	70.	60.	89.
NORTHEAST	60.	70.	85.	105.	123.	134.	135.	128.	114.	92.	71.	61.	98.
EAST	72.	86.	101.	119.	135.	144.	147.	144.	136.	114.	87.	75.	113.
SOUTHEAST	89.	102.	111.	120.	130.	137.	142.	147.	149.	138.	112.	101.	123.
HORIZ.	90.	113.	136.	162.	189.	202.	202.	195.	180.	147.	109.	94.	152.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	148.	167.	164.	155.	151.	154.	163.	183.	212.	222.	190.	175.	174.
SOUTHWEST	127.	149.	158.	167.	174.	180.	187.	196.	205.	197.	161.	146.	171.
WEST	95.	119.	141.	164.	183.	194.	196.	192.	182.	155.	116.	101.	153.
NORTHWEST	73.	90.	112.	139.	163.	176.	175.	164.	143.	114.	86.	74.	126.
NORTH	72.	83.	98.	116.	134.	148.	146.	137.	125.	105.	84.	73.	110.
NORTHEAST	73.	90.	112.	139.	163.	176.	175.	164.	143.	114.	86.	74.	126.
EAST	95.	119.	141.	164.	183.	194.	196.	192.	182.	155.	116.	101.	153.
SOUTHEAST	127.	149.	158.	167.	174.	180.	187.	196.	205.	197.	161.	146.	171.
HORIZ.	128.	168.	204.	243.	279.	295.	294.	282.	260.	214.	156.	134.	221.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	64.	73.	80.	88.	95.	102.	107.	110.	112.	101.	81.	70.	90.
SOUTHWEST	59.	69.	79.	91.	102.	111.	114.	114.	110.	95.	74.	64.	90.
WEST	52.	61.	74.	90.	105.	116.	118.	113.	103.	84.	64.	54.	86.
NORTHWEST	47.	54.	66.	83.	98.	110.	111.	104.	92.	74.	57.	48.	79.
NORTH	47.	52.	62.	76.	89.	100.	101.	96.	87.	72.	56.	48.	74.
NORTHEAST	47.	54.	66.	83.	98.	110.	111.	104.	92.	74.	57.	48.	79.
EAST	52.	61.	74.	90.	105.	116.	118.	113.	103.	84.	64.	54.	86.
SOUTHEAST	59.	69.	79.	91.	102.	111.	114.	114.	110.	95.	74.	64.	90.
HORIZ.	59.	73.	92.	114.	137.	150.	150.	141.	125.	99.	73.	61.	106.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	84.	98.	105.	110.	115.	121.	127.	134.	141.	133.	107.	94.	114.
SOUTHWEST	75.	90.	103.	117.	129.	137.	141.	142.	138.	122.	94.	82.	114.
WEST	62.	76.	94.	115.	134.	145.	146.	139.	126.	102.	76.	64.	107.
NORTHWEST	53.	63.	79.	102.	122.	135.	134.	124.	107.	84.	63.	53.	93.
NORTH	52.	60.	72.	89.	105.	118.	117.	109.	97.	80.	62.	53.	85.
NORTHEAST	53.	63.	79.	102.	122.	135.	134.	124.	107.	84.	63.	53.	93.
EAST	62.	76.	94.	115.	134.	145.	146.	139.	126.	102.	76.	64.	107.
SOUTHEAST	75.	90.	103.	117.	129.	137.	141.	142.	138.	122.	94.	82.	114.
HORIZ.	75.	98.	126.	159.	190.	207.	204.	189.	165.	129.	92.	77.	143.

LOCATION NEW PORT, RHODE ISLAND LATITUDE 41 DEGREES 28 MINUTES

MONTH 1 HO 1348. TOD 29. TOT 29. KT .438 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	39.	89.	120.	138.	144.	138.	120.	89.	39.	0.	0.	0.	0.	915.	104.	164.	58.	82.
SOUTHWEST	0.	0.	0.	0.	7.	19.	52.	84.	111.	128.	132.	116.	63.	0.	0.	0.	0.	711.	87.	134.	52.	70.
WEST	0.	0.	0.	0.	7.	17.	24.	29.	30.	60.	81.	85.	54.	0.	0.	0.	0.	387.	61.	86.	41.	51.
NORTHWEST	0.	0.	0.	0.	7.	17.	24.	29.	30.	29.	24.	17.	17.	0.	0.	0.	0.	194.	45.	58.	35.	40.
NORTH	0.	0.	0.	0.	7.	17.	24.	29.	30.	29.	24.	17.	7.	0.	0.	0.	0.	184.	44.	57.	35.	39.
NORTHEAST	0.	0.	0.	0.	17.	17.	24.	29.	30.	29.	24.	17.	7.	0.	0.	0.	0.	194.	45.	58.	35.	40.
EAST	0.	0.	0.	0.	54.	85.	81.	60.	30.	29.	24.	17.	7.	0.	0.	0.	0.	387.	61.	86.	41.	51.
SOUTHEAST	0.	0.	0.	0.	63.	116.	132.	128.	111.	84.	52.	19.	7.	0.	0.	0.	0.	711.	87.	134.	52.	70.
HORIZ.	0.	0.	0.	0.	18.	51.	79.	96.	102.	96.	79.	51.	18.	0.	0.	0.	0.	591.	77.	116.	48.	63.

MONTH 2 HO 1922. TOD 32. TOT 29. KT .482 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	11.	63.	103.	132.	150.	156.	150.	132.	103.	63.	11.	0.	0.	0.	1072.	109.	171.	63.	91.
SOUTHWEST	0.	0.	0.	4.	15.	25.	54.	91.	122.	143.	152.	144.	111.	25.	0.	0.	0.	886.	95.	147.	57.	80.
WEST	0.	0.	0.	4.	15.	25.	33.	39.	40.	75.	102.	115.	103.	26.	0.	0.	0.	580.	74.	107.	47.	62.
NORTHWEST	0.	0.	0.	4.	15.	25.	33.	39.	40.	39.	33.	34.	44.	15.	0.	0.	0.	321.	55.	74.	39.	47.
NORTH	0.	0.	0.	4.	15.	25.	33.	39.	40.	39.	33.	25.	15.	4.	0.	0.	0.	273.	52.	68.	37.	45.
NORTHEAST	0.	0.	0.	15.	44.	34.	33.	39.	40.	39.	33.	25.	15.	4.	0.	0.	0.	321.	55.	74.	39.	47.
EAST	0.	0.	0.	26.	103.	115.	102.	75.	40.	39.	33.	25.	15.	4.	0.	0.	0.	580.	74.	107.	47.	62.
SOUTHEAST	0.	0.	0.	25.	111.	144.	152.	143.	122.	91.	54.	25.	15.	4.	0.	0.	0.	886.	95.	147.	57.	80.
HORIZ.	0.	0.	0.	8.	47.	86.	116.	136.	142.	136.	116.	86.	47.	8.	0.	0.	0.	926.	98.	153.	58.	83.

MONTH 3 HO 2565. TOD 40. TOT 37. KT .507 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	26.	65.	101.	128.	146.	152.	146.	128.	101.	65.	26.	0.	0.	0.	1084.	109.	165.	72.	100.
SOUTHWEST	0.	0.	0.	12.	24.	34.	50.	89.	122.	145.	156.	153.	131.	81.	0.	0.	0.	996.	103.	155.	69.	95.
WEST	0.	0.	0.	12.	24.	34.	42.	48.	49.	88.	118.	135.	133.	96.	0.	0.	0.	779.	89.	130.	62.	82.
NORTHWEST	0.	0.	0.	12.	24.	34.	42.	48.	49.	48.	42.	59.	72.	61.	0.	0.	0.	491.	71.	97.	53.	65.
NORTH	0.	0.	0.	12.	24.	34.	42.	48.	49.	48.	42.	34.	24.	12.	0.	0.	0.	369.	63.	82.	49.	58.
NORTHEAST	0.	0.	0.	61.	72.	59.	42.	48.	49.	48.	42.	34.	24.	12.	0.	0.	0.	491.	71.	97.	53.	65.
EAST	0.	0.	0.	96.	133.	135.	118.	88.	49.	48.	42.	34.	24.	12.	0.	0.	0.	779.	89.	130.	62.	82.
SOUTHEAST	0.	0.	0.	81.	131.	153.	156.	145.	122.	89.	50.	34.	24.	12.	0.	0.	0.	996.	103.	155.	69.	95.
HORIZ.	0.	0.	0.	34.	79.	121.	153.	173.	180.	173.	153.	121.	79.	34.	0.	0.	0.	1299.	123.	190.	78.	112.

LOCATION NEW PORT, RHODE ISLAND LATITUDE 41 DEGREES 28 MINUTES

MONTH 4 HO 3205. TOD 48. TOT 46. KT .477 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	20.	51.	80.	103.	118.	123.	118.	103.	80.	51.	20.	7.	0.	0.	883.	99.	140.	74.	97.
SOUTHWEST	0.	0.	7.	19.	31.	41.	48.	74.	103.	124.	134.	132.	117.	86.	34.	0.	0.	949.	103.	147.	76.	101.
WEST	0.	0.	7.	19.	31.	41.	48.	53.	55.	88.	114.	130.	132.	112.	52.	0.	0.	883.	99.	140.	74.	97.
NORTHWEST	0.	0.	7.	19.	31.	41.	48.	53.	55.	53.	56.	76.	88.	84.	44.	0.	0.	655.	86.	116.	67.	84.
NORTH	0.	0.	14.	19.	31.	41.	48.	53.	55.	53.	48.	41.	31.	19.	14.	0.	0.	467.	75.	97.	61.	73.
NORTHEAST	0.	0.	44.	84.	88.	76.	56.	53.	55.	53.	48.	41.	31.	19.	7.	0.	0.	655.	86.	116.	67.	84.
EAST	0.	0.	52.	112.	132.	130.	114.	88.	55.	53.	48.	41.	31.	19.	7.	0.	0.	883.	99.	140.	74.	97.
SOUTHEAST	0.	0.	34.	86.	117.	132.	134.	124.	103.	74.	48.	41.	31.	19.	7.	0.	0.	949.	103.	147.	76.	101.
HORIZ.	0.	0.	17.	59.	101.	139.	167.	186.	192.	186.	167.	139.	101.	59.	17.	0.	0.	1530.	136.	207.	95.	135.

MONTH 5 HO 3615. TOD 59. TOT 57. KT .520 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	2.	13.	25.	43.	72.	96.	111.	117.	111.	96.	72.	43.	25.	13.	2.	0.	843.	106.	143.	86.	108.
SOUTHWEST	0.	2.	13.	25.	36.	46.	53.	69.	100.	123.	135.	135.	121.	94.	53.	3.	0.	1006.	115.	159.	91.	118.
WEST	0.	2.	13.	25.	36.	46.	53.	58.	59.	96.	126.	145.	149.	135.	91.	5.	0.	1037.	117.	162.	92.	119.
NORTHWEST	0.	2.	13.	25.	36.	46.	53.	58.	59.	58.	74.	97.	111.	111.	83.	5.	0.	829.	105.	141.	85.	107.
NORTH	0.	4.	34.	37.	36.	46.	53.	58.	59.	58.	53.	46.	36.	37.	34.	4.	0.	592.	92.	118.	77.	93.
NORTHEAST	0.	5.	83.	111.	111.	97.	74.	58.	59.	58.	53.	46.	36.	25.	13.	2.	0.	829.	105.	141.	85.	107.
EAST	0.	5.	91.	135.	149.	145.	126.	96.	59.	58.	53.	46.	36.	25.	13.	2.	0.	1037.	117.	162.	92.	119.
SOUTHEAST	0.	3.	53.	94.	121.	135.	135.	123.	100.	69.	53.	46.	36.	25.	13.	2.	0.	1006.	115.	159.	91.	118.
HORIZ.	0.	4.	37.	83.	127.	166.	196.	215.	222.	215.	196.	166.	127.	83.	37.	4.	0.	1880.	165.	246.	121.	170.

MONTH 6 HO 3764. TOD 67. TOT 66. KT .536 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	4.	15.	26.	38.	68.	91.	107.	112.	107.	91.	68.	38.	26.	15.	4.	0.	811.	111.	145.	93.	115.
SOUTHWEST	0.	4.	15.	26.	37.	47.	54.	65.	97.	121.	133.	134.	121.	95.	56.	10.	0.	1016.	123.	165.	100.	127.
WEST	0.	4.	15.	26.	37.	47.	54.	59.	60.	98.	129.	149.	155.	142.	102.	21.	0.	1099.	127.	173.	103.	132.
NORTHWEST	0.	4.	15.	26.	37.	47.	54.	59.	60.	59.	81.	104.	120.	121.	96.	22.	0.	907.	117.	155.	97.	120.
NORTH	0.	13.	43.	45.	37.	47.	54.	59.	60.	59.	54.	47.	37.	45.	43.	13.	0.	657.	103.	130.	88.	105.
NORTHEAST	0.	22.	96.	121.	120.	104.	81.	59.	60.	59.	54.	47.	37.	26.	15.	4.	0.	907.	117.	155.	97.	120.
EAST	0.	21.	102.	142.	155.	149.	129.	98.	60.	59.	54.	47.	37.	26.	15.	4.	0.	1099.	127.	173.	103.	132.
SOUTHEAST	0.	10.	56.	95.	121.	134.	133.	121.	97.	65.	54.	47.	37.	26.	15.	4.	0.	1016.	123.	165.	100.	127.
HORIZ.	0.	8.	46.	92.	137.	176.	207.	226.	233.	226.	207.	176.	137.	92.	46.	8.	0.	2018.	177.	262.	135.	188.

LOCATION NEW PORT, RHODE ISLAND LATITUDE 41 DEGREES 28 MINUTES

MONTH 7 HO 3613. TOD 73. TOT 71. KT .529 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	2.	13.	25.	43.	73.	97.	113.	118.	113.	97.	73.	43.	25.	13.	2.	0.	849.	121.	158.	100.	122.
SOUTHWEST	0.	2.	13.	25.	36.	46.	53.	69.	101.	124.	137.	137.	123.	95.	53.	3.	0.	1016.	130.	174.	106.	132.
WEST	0.	2.	13.	25.	36.	46.	53.	58.	59.	97.	128.	147.	152.	136.	91.	5.	0.	1048.	132.	178.	107.	134.
NORTHWEST	0.	2.	13.	25.	36.	46.	53.	58.	59.	58.	75.	98.	113.	113.	84.	5.	0.	837.	120.	156.	100.	122.
NORTH	0.	4.	35.	37.	36.	46.	53.	58.	59.	58.	53.	46.	36.	37.	35.	4.	0.	595.	107.	132.	91.	107.
NORTHEAST	0.	5.	84.	113.	113.	98.	75.	58.	59.	58.	53.	46.	36.	25.	13.	2.	0.	837.	120.	156.	100.	122.
EAST	0.	5.	91.	136.	152.	147.	128.	97.	59.	58.	53.	46.	36.	25.	13.	2.	0.	1048.	132.	178.	107.	134.
SOUTHEAST	0.	3.	53.	95.	123.	137.	137.	124.	101.	69.	53.	46.	36.	25.	13.	2.	0.	1016.	130.	174.	106.	132.
HORIZ.	0.	4.	37.	84.	129.	169.	200.	219.	226.	219.	200.	169.	129.	84.	37.	4.	0.	1911.	181.	263.	136.	186.

MONTH 8 HO 3182. TOD 72. TOT 69. KT .513 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	7.	21.	53.	85.	111.	127.	133.	127.	111.	85.	53.	21.	7.	0.	0.	940.	130.	174.	102.	126.
SOUTHWEST	0.	0.	7.	19.	31.	41.	49.	78.	110.	133.	145.	143.	126.	91.	34.	0.	0.	1009.	134.	181.	104.	130.
WEST	0.	0.	7.	19.	31.	41.	49.	54.	56.	93.	123.	142.	143.	120.	52.	0.	0.	932.	129.	173.	101.	126.
NORTHWEST	0.	0.	7.	19.	31.	41.	49.	54.	56.	54.	58.	81.	95.	90.	44.	0.	0.	680.	114.	146.	93.	110.
NORTH	0.	0.	15.	19.	31.	41.	49.	54.	56.	54.	49.	41.	31.	19.	15.	0.	0.	474.	101.	123.	86.	98.
NORTHEAST	0.	0.	44.	90.	95.	81.	58.	54.	56.	54.	49.	41.	31.	19.	7.	0.	0.	680.	114.	146.	93.	110.
EAST	0.	0.	52.	120.	143.	142.	123.	93.	56.	54.	49.	41.	31.	19.	7.	0.	0.	932.	129.	173.	101.	126.
SOUTHEAST	0.	0.	34.	91.	126.	143.	145.	133.	110.	78.	49.	41.	31.	19.	7.	0.	0.	1009.	134.	181.	104.	130.
HORIZ.	0.	0.	18.	61.	107.	148.	180.	200.	206.	200.	180.	148.	107.	61.	18.	0.	0.	1633.	172.	248.	125.	168.

MONTH 9 HO 2554. TOD 67. TOT 63. KT .524 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	26.	66.	103.	132.	151.	157.	151.	132.	103.	66.	26.	0.	0.	0.	1113.	142.	200.	101.	130.
SOUTHWEST	0.	0.	0.	12.	24.	34.	50.	91.	126.	150.	162.	158.	134.	80.	0.	0.	0.	1021.	136.	189.	98.	124.
WEST	0.	0.	0.	12.	24.	34.	42.	48.	49.	90.	122.	140.	137.	95.	0.	0.	0.	793.	121.	162.	90.	111.
NORTHWEST	0.	0.	0.	12.	24.	34.	42.	48.	49.	48.	42.	60.	74.	61.	0.	0.	0.	494.	100.	126.	80.	93.
NORTH	0.	0.	0.	12.	24.	34.	42.	48.	49.	48.	42.	34.	24.	12.	0.	0.	0.	368.	92.	111.	75.	85.
NORTHEAST	0.	0.	0.	61.	74.	60.	42.	48.	49.	48.	42.	34.	24.	12.	0.	0.	0.	494.	100.	126.	80.	93.
EAST	0.	0.	0.	95.	137.	140.	122.	90.	49.	48.	42.	34.	24.	12.	0.	0.	0.	793.	121.	162.	90.	111.
SOUTHEAST	0.	0.	0.	80.	134.	158.	162.	150.	126.	91.	50.	34.	24.	12.	0.	0.	0.	1021.	136.	189.	98.	124.
HORIZ.	0.	0.	1.	34.	81.	124.	158.	179.	186.	179.	158.	124.	81.	34.	1.	0.	0.	1337.	158.	227.	108.	143.

LOCATION NEW PORT, RHODE ISLAND LATITUDE 41 DEGREES 28 MINUTES

MONTH 10 HO 1888. TOD 56. TOT 53. KT .512 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	9.	66.	110.	142.	162.	169.	162.	142.	110.	66.	9.	0.	0.	0.	1148.	139.	206.	90.	120.
SOUTHWEST	0.	0.	0.	3.	15.	25.	57.	97.	131.	155.	164.	154.	117.	20.	0.	0.	0.	939.	124.	179.	83.	107.
WEST	0.	0.	0.	3.	15.	25.	34.	39.	41.	80.	109.	123.	108.	22.	0.	0.	0.	599.	99.	134.	72.	88.
NORTHWEST	0.	0.	0.	3.	15.	25.	34.	39.	41.	39.	34.	35.	45.	12.	0.	0.	0.	321.	79.	98.	63.	71.
NORTH	0.	0.	0.	3.	15.	25.	34.	39.	41.	39.	34.	25.	15.	3.	0.	0.	0.	273.	76.	92.	61.	69.
NORTHEAST	0.	0.	0.	12.	45.	35.	34.	39.	41.	39.	34.	25.	15.	3.	0.	0.	0.	321.	79.	98.	63.	71.
EAST	0.	0.	0.	22.	108.	123.	109.	80.	41.	39.	34.	25.	15.	3.	0.	0.	0.	599.	99.	134.	72.	88.
SOUTHEAST	0.	0.	0.	20.	117.	154.	164.	155.	131.	97.	57.	25.	15.	3.	0.	0.	0.	939.	124.	179.	83.	107.
HORIZ.	0.	0.	0.	7.	47.	89.	122.	143.	150.	143.	122.	89.	47.	7.	0.	0.	0.	966.	126.	182.	84.	109.

MONTH 11 HO 1337. TOD 46. TOT 43. KT .440 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	38.	88.	120.	139.	145.	139.	120.	88.	38.	0.	0.	0.	0.	915.	121.	181.	72.	96.
SOUTHWEST	0.	0.	0.	0.	7.	19.	52.	84.	111.	129.	132.	116.	60.	0.	0.	0.	0.	710.	104.	151.	65.	84.
WEST	0.	0.	0.	0.	7.	16.	24.	29.	30.	60.	81.	85.	51.	0.	0.	0.	0.	384.	78.	103.	55.	65.
NORTHWEST	0.	0.	0.	0.	7.	16.	24.	29.	30.	29.	24.	16.	17.	0.	0.	0.	0.	192.	62.	75.	49.	54.
NORTH	0.	0.	0.	0.	7.	16.	24.	29.	30.	29.	24.	16.	7.	0.	0.	0.	0.	183.	61.	73.	48.	53.
NORTHEAST	0.	0.	0.	0.	17.	16.	24.	29.	30.	29.	24.	16.	7.	0.	0.	0.	0.	192.	62.	75.	49.	54.
EAST	0.	0.	0.	0.	51.	85.	81.	60.	30.	29.	24.	16.	7.	0.	0.	0.	0.	384.	78.	103.	55.	65.
SOUTHEAST	0.	0.	0.	0.	60.	116.	132.	129.	111.	84.	52.	19.	7.	0.	0.	0.	0.	710.	104.	151.	65.	84.
HORIZ.	0.	0.	0.	0.	17.	51.	79.	96.	103.	96.	79.	51.	17.	0.	0.	0.	0.	589.	94.	133.	61.	77.

MONTH 12 HO 1131. TOD 34. TOT 32. KT .460 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	25.	90.	128.	149.	156.	149.	128.	90.	25.	0.	0.	0.	0.	939.	115.	180.	62.	86.
SOUTHWEST	0.	0.	0.	0.	4.	20.	55.	90.	119.	136.	139.	116.	38.	0.	0.	0.	0.	715.	96.	146.	55.	73.
WEST	0.	0.	0.	0.	4.	14.	21.	26.	28.	59.	81.	82.	31.	0.	0.	0.	0.	345.	64.	88.	43.	52.
NORTHWEST	0.	0.	0.	0.	4.	14.	21.	26.	28.	26.	21.	14.	9.	0.	0.	0.	0.	163.	48.	60.	37.	41.
NORTH	0.	0.	0.	0.	4.	14.	21.	26.	28.	26.	21.	14.	4.	0.	0.	0.	0.	158.	48.	59.	37.	41.
NORTHEAST	0.	0.	0.	0.	9.	14.	21.	26.	28.	26.	21.	14.	4.	0.	0.	0.	0.	163.	48.	60.	37.	41.
EAST	0.	0.	0.	0.	31.	82.	81.	59.	28.	26.	21.	14.	4.	0.	0.	0.	0.	345.	64.	88.	43.	52.
SOUTHEAST	0.	0.	0.	0.	38.	116.	139.	136.	119.	90.	55.	20.	4.	0.	0.	0.	0.	715.	96.	146.	55.	73.
HORIZ.	0.	0.	0.	0.	9.	42.	71.	90.	96.	90.	71.	42.	9.	0.	0.	0.	0.	521.	79.	115.	48.	62.

LOCATION NEW PORT, RHODE ISLAND LATITUDE 41 DEGREES 28 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	104.	109.	109.	99.	106.	111.	121.	130.	142.	139.	121.	115.	117.
SOUTHWEST	87.	95.	103.	103.	115.	123.	130.	134.	136.	124.	104.	96.	113.
WEST	61.	74.	89.	99.	117.	127.	132.	129.	121.	99.	78.	64.	99.
NORTHWEST	45.	55.	71.	86.	105.	117.	120.	114.	100.	79.	62.	48.	84.
NORTH	44.	52.	63.	75.	92.	103.	107.	101.	92.	76.	61.	48.	76.
NORTHEAST	45.	55.	71.	86.	105.	117.	120.	114.	100.	79.	62.	48.	84.
EAST	61.	74.	89.	99.	117.	127.	132.	129.	121.	99.	78.	64.	99.
SOUTHEAST	87.	95.	103.	103.	115.	123.	130.	134.	136.	124.	104.	96.	113.
HORIZ.	77.	98.	123.	136.	165.	177.	181.	172.	158.	126.	94.	79.	132.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	164.	171.	165.	140.	143.	145.	158.	174.	200.	206.	181.	180.	169.
SOUTHWEST	134.	147.	155.	147.	159.	165.	174.	181.	189.	179.	151.	146.	161.
WEST	86.	107.	130.	140.	162.	173.	178.	173.	162.	134.	103.	88.	136.
NORTHWEST	58.	74.	97.	116.	141.	155.	156.	146.	126.	98.	75.	60.	108.
NORTH	57.	68.	82.	97.	118.	130.	132.	123.	111.	92.	73.	59.	95.
NORTHEAST	58.	74.	97.	116.	141.	155.	156.	146.	126.	98.	75.	60.	108.
EAST	86.	107.	130.	140.	162.	173.	178.	173.	162.	134.	103.	88.	136.
SOUTHEAST	134.	147.	155.	147.	159.	165.	174.	181.	189.	179.	151.	146.	161.
HORIZ.	116.	153.	190.	207.	246.	262.	263.	248.	227.	182.	133.	115.	195.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	58.	63.	72.	74.	86.	93.	100.	102.	101.	90.	72.	62.	81.
SOUTHWEST	52.	57.	69.	76.	91.	100.	106.	104.	98.	83.	65.	55.	80.
WEST	41.	47.	62.	74.	92.	103.	107.	101.	90.	72.	55.	43.	74.
NORTHWEST	35.	39.	53.	67.	85.	97.	100.	93.	80.	63.	49.	37.	66.
NORTH	35.	37.	49.	61.	77.	88.	91.	86.	75.	61.	48.	37.	62.
NORTHEAST	35.	39.	53.	67.	85.	97.	100.	93.	80.	63.	49.	37.	66.
EAST	41.	47.	62.	74.	92.	103.	107.	101.	90.	72.	55.	43.	74.
SOUTHEAST	52.	57.	69.	76.	91.	100.	106.	104.	98.	83.	65.	55.	80.
HORIZ.	48.	58.	78.	95.	121.	135.	136.	125.	108.	84.	61.	48.	92.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	82.	91.	100.	97.	108.	115.	122.	126.	130.	120.	96.	86.	106.
SOUTHWEST	70.	80.	95.	101.	118.	127.	132.	130.	124.	107.	84.	73.	104.
WEST	51.	62.	82.	97.	119.	132.	134.	126.	111.	88.	65.	52.	93.
NORTHWEST	40.	47.	65.	84.	107.	120.	122.	110.	93.	71.	54.	41.	80.
NORTH	39.	45.	58.	73.	93.	105.	107.	98.	85.	69.	53.	41.	72.
NORTHEAST	40.	47.	65.	84.	107.	120.	122.	110.	93.	71.	54.	41.	80.
EAST	51.	62.	82.	97.	119.	132.	134.	126.	111.	88.	65.	52.	93.
SOUTHEAST	70.	80.	95.	101.	118.	127.	132.	130.	124.	107.	84.	73.	104.
HORIZ.	63.	83.	112.	135.	170.	188.	186.	168.	143.	109.	77.	62.	125.

LOCATION NEW YORK, N.Y. LATITUDE 40 DEGREES 46 MINUTES

MONTH 1 HO 1388. TOD 35. TOT 33. KT .406 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	37.	80.	108.	124.	129.	124.	108.	80.	37.	0.	0.	0.	0.	826.	101.	156.	59.	81.
SOUTHWEST	0.	0.	0.	0.	7.	18.	48.	77.	100.	115.	118.	105.	59.	0.	0.	0.	0.	647.	87.	129.	54.	71.
WEST	0.	0.	0.	0.	7.	17.	24.	29.	30.	56.	74.	78.	50.	0.	0.	0.	0.	365.	64.	88.	45.	54.
NORTHWEST	0.	0.	0.	0.	7.	17.	24.	29.	30.	29.	24.	17.	17.	0.	0.	0.	0.	193.	50.	63.	39.	44.
NORTH	0.	0.	0.	0.	7.	17.	24.	29.	30.	29.	24.	17.	7.	0.	0.	0.	0.	184.	50.	62.	39.	44.
NORTHEAST	0.	0.	0.	0.	17.	17.	24.	29.	30.	29.	24.	17.	7.	0.	0.	0.	0.	193.	50.	63.	39.	44.
EAST	0.	0.	0.	0.	50.	78.	74.	56.	30.	29.	24.	17.	7.	0.	0.	0.	0.	365.	64.	88.	45.	54.
SOUTHEAST	0.	0.	0.	0.	59.	105.	118.	115.	100.	77.	48.	18.	7.	0.	0.	0.	0.	647.	87.	129.	54.	71.
HORIZ.	0.	0.	0.	0.	18.	49.	75.	91.	97.	91.	75.	49.	18.	0.	0.	0.	0.	564.	80.	117.	51.	66.

MONTH 2 HO 1958. TOD 35. TOT 33. KT .435 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	11.	56.	90.	115.	131.	136.	131.	115.	90.	56.	11.	0.	0.	0.	940.	102.	157.	63.	87.
SOUTHWEST	0.	0.	0.	4.	15.	25.	50.	81.	108.	126.	132.	125.	97.	24.	0.	0.	0.	786.	91.	137.	58.	78.
WEST	0.	0.	0.	4.	15.	25.	33.	37.	39.	69.	91.	101.	90.	25.	0.	0.	0.	530.	73.	104.	50.	64.
NORTHWEST	0.	0.	0.	4.	15.	25.	33.	37.	39.	37.	33.	33.	40.	14.	0.	0.	0.	310.	57.	75.	43.	51.
NORTH	0.	0.	0.	4.	15.	25.	33.	37.	39.	37.	33.	25.	15.	4.	0.	0.	0.	267.	54.	69.	41.	48.
NORTHEAST	0.	0.	0.	14.	40.	33.	33.	37.	39.	37.	33.	25.	15.	4.	0.	0.	0.	310.	57.	75.	43.	51.
EAST	0.	0.	0.	25.	90.	101.	91.	69.	39.	37.	33.	25.	15.	4.	0.	0.	0.	530.	73.	104.	50.	64.
SOUTHEAST	0.	0.	0.	24.	97.	125.	132.	126.	108.	81.	50.	25.	15.	4.	0.	0.	0.	786.	91.	137.	58.	78.
HORIZ.	0.	0.	0.	8.	44.	79.	107.	124.	130.	124.	107.	79.	44.	8.	0.	0.	0.	852.	96.	145.	60.	82.

MONTH 3 HO 2593. TOD 43. TOT 41. KT .480 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	25.	61.	94.	119.	136.	141.	136.	119.	94.	61.	25.	0.	0.	0.	1011.	108.	160.	73.	100.
SOUTHWEST	0.	0.	0.	12.	24.	34.	48.	84.	114.	136.	146.	142.	121.	76.	0.	0.	0.	935.	103.	152.	71.	95.
WEST	0.	0.	0.	12.	24.	34.	42.	47.	49.	84.	111.	127.	124.	89.	0.	0.	0.	742.	91.	129.	64.	84.
NORTHWEST	0.	0.	0.	12.	24.	34.	42.	47.	49.	47.	42.	57.	68.	57.	0.	0.	0.	479.	74.	99.	56.	69.
NORTH	0.	0.	0.	12.	24.	34.	42.	47.	49.	47.	42.	34.	24.	12.	0.	0.	0.	365.	66.	86.	52.	62.
NORTHEAST	0.	0.	0.	57.	68.	57.	42.	47.	49.	47.	42.	34.	24.	12.	0.	0.	0.	479.	74.	99.	56.	69.
EAST	0.	0.	0.	89.	124.	127.	111.	84.	49.	47.	42.	34.	24.	12.	0.	0.	0.	742.	91.	129.	64.	84.
SOUTHEAST	0.	0.	0.	76.	121.	142.	146.	136.	114.	84.	48.	34.	24.	12.	0.	0.	0.	935.	103.	152.	71.	95.
HORIZ.	0.	0.	0.	33.	76.	115.	146.	165.	172.	165.	146.	115.	76.	33.	0.	0.	0.	1243.	123.	187.	81.	113.

LOCATION NEW YORK, N.Y. LATITUDE 40 DEGREES 46 MINUTES

MONTH 4 HO 3220. TOD 52. TOT 50. KT .455 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	7.	20.	48.	76.	97.	111.	116.	111.	97.	76.	48.	20.	7.	0.	0.	834.	100.	139.	77.	98.
SOUTHWEST	0.	0.	7.	19.	30.	40.	48.	71.	98.	117.	126.	124.	109.	80.	31.	0.	0.	901.	104.	146.	79.	102.
WEST	0.	0.	7.	19.	30.	40.	48.	52.	54.	85.	109.	123.	124.	105.	48.	0.	0.	844.	101.	140.	77.	99.
NORTHWEST	0.	0.	7.	19.	30.	40.	48.	52.	54.	52.	56.	74.	84.	79.	41.	0.	0.	635.	89.	119.	70.	87.
NORTH	0.	0.	14.	19.	30.	40.	48.	52.	54.	52.	48.	40.	30.	19.	14.	0.	0.	459.	79.	100.	65.	77.
NORTHEAST	0.	0.	41.	79.	84.	74.	56.	52.	54.	52.	48.	40.	30.	19.	7.	0.	0.	635.	89.	119.	70.	87.
EAST	0.	0.	48.	105.	124.	123.	109.	85.	54.	52.	48.	40.	30.	19.	7.	0.	0.	844.	101.	140.	77.	99.
SOUTHEAST	0.	0.	31.	80.	109.	124.	126.	117.	98.	71.	48.	40.	30.	19.	7.	0.	0.	901.	104.	146.	79.	102.
HORIZ.	0.	0.	17.	56.	97.	133.	160.	178.	184.	178.	160.	133.	97.	56.	17.	0.	0.	1466.	137.	205.	97.	135.

MONTH 5 HO 3619. TOD 63. TOT 61. KT .488 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	2.	13.	24.	41.	68.	90.	104.	108.	104.	90.	68.	41.	24.	13.	2.	0.	791.	108.	143.	88.	109.
SOUTHWEST	0.	2.	13.	24.	35.	45.	52.	66.	94.	114.	125.	124.	111.	86.	48.	3.	0.	942.	117.	158.	93.	118.
WEST	0.	2.	13.	24.	35.	45.	52.	57.	59.	91.	117.	134.	137.	123.	82.	4.	0.	975.	119.	161.	94.	120.
NORTHWEST	0.	2.	13.	24.	35.	45.	52.	57.	59.	57.	72.	92.	103.	102.	75.	4.	0.	792.	108.	143.	88.	109.
NORTH	0.	3.	32.	35.	35.	45.	52.	57.	59.	57.	52.	45.	35.	35.	32.	3.	0.	578.	96.	121.	81.	96.
NORTHEAST	0.	4.	75.	102.	103.	92.	72.	57.	59.	57.	52.	45.	35.	24.	13.	2.	0.	792.	108.	143.	88.	109.
EAST	0.	4.	82.	123.	137.	134.	117.	91.	59.	57.	52.	45.	35.	24.	13.	2.	0.	975.	119.	161.	94.	120.
SOUTHEAST	0.	3.	48.	86.	111.	124.	125.	114.	94.	66.	52.	45.	35.	24.	13.	2.	0.	942.	117.	158.	93.	118.
HORIZ.	0.	3.	35.	78.	120.	156.	185.	202.	209.	202.	185.	156.	120.	78.	35.	3.	0.	1766.	163.	240.	121.	167.

MONTH 6 HO 3763. TOD 72. TOT 70. KT .530 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	4.	15.	26.	37.	66.	89.	104.	109.	104.	89.	66.	37.	26.	15.	4.	0.	791.	116.	149.	97.	118.
SOUTHWEST	0.	4.	15.	26.	37.	47.	54.	64.	95.	118.	131.	131.	118.	93.	55.	9.	0.	996.	127.	169.	104.	130.
WEST	0.	4.	15.	26.	37.	47.	54.	59.	61.	98.	128.	147.	152.	139.	99.	18.	0.	1083.	132.	177.	107.	135.
NORTHWEST	0.	4.	15.	26.	37.	47.	54.	59.	61.	59.	82.	104.	119.	119.	94.	19.	0.	898.	122.	159.	101.	124.
NORTH	0.	11.	42.	45.	38.	47.	54.	59.	61.	59.	54.	47.	38.	45.	42.	11.	0.	653.	108.	136.	92.	109.
NORTHEAST	0.	19.	94.	119.	119.	104.	82.	59.	61.	59.	54.	47.	37.	26.	15.	4.	0.	898.	122.	159.	101.	124.
EAST	0.	18.	99.	139.	152.	147.	128.	98.	61.	59.	54.	47.	37.	26.	15.	4.	0.	1083.	132.	177.	107.	135.
SOUTHEAST	0.	9.	55.	93.	118.	131.	131.	118.	95.	64.	54.	47.	37.	26.	15.	4.	0.	996.	127.	169.	104.	130.
HORIZ.	0.	8.	44.	90.	135.	175.	205.	224.	231.	224.	205.	175.	135.	90.	44.	8.	0.	1995.	182.	266.	138.	190.

LOCATION NEW YORK, N.Y. LATITUDE 40 DEGREES 46 MINUTES

MONTH 7 HO 3616. TOD 77. TOT 75. KT .528 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	2.	13.	25.	42.	71.	95.	111.	116.	111.	95.	71.	42.	25.	13.	2.	0.	834.	124.	160.	103.	125.
SOUTHWEST	0.	2.	13.	25.	36.	46.	53.	68.	100.	123.	136.	136.	122.	94.	52.	3.	0.	1006.	134.	177.	109.	135.
WEST	0.	2.	13.	25.	36.	46.	53.	58.	60.	97.	128.	147.	151.	136.	89.	4.	0.	1044.	136.	181.	110.	138.
NORTHWEST	0.	2.	13.	25.	36.	46.	53.	58.	60.	58.	76.	99.	113.	112.	82.	4.	0.	837.	124.	161.	103.	125.
NORTH	0.	3.	34.	38.	36.	46.	53.	58.	60.	58.	53.	46.	36.	38.	34.	3.	0.	595.	111.	136.	95.	111.
NORTHEAST	0.	4.	82.	112.	113.	99.	76.	58.	60.	58.	53.	46.	36.	25.	13.	2.	0.	837.	124.	161.	103.	125.
EAST	0.	4.	89.	136.	151.	147.	128.	97.	60.	58.	53.	46.	36.	25.	13.	2.	0.	1044.	136.	181.	110.	138.
SOUTHEAST	0.	3.	52.	94.	122.	136.	136.	123.	100.	68.	53.	46.	36.	25.	13.	2.	0.	1006.	134.	177.	109.	135.
HORIZ.	0.	4.	37.	83.	129.	169.	200.	220.	227.	220.	200.	169.	129.	83.	37.	4.	0.	1909.	185.	268.	140.	190.

MONTH 8 HO 3197. TOD 75. TOT 73. KT .486 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	7.	20.	50.	80.	103.	119.	124.	119.	103.	80.	50.	20.	7.	0.	0.	882.	129.	171.	103.	126.
SOUTHWEST	0.	0.	7.	19.	31.	41.	49.	74.	104.	125.	135.	133.	117.	85.	31.	0.	0.	950.	133.	178.	106.	131.
WEST	0.	0.	7.	19.	31.	41.	49.	53.	55.	89.	116.	132.	133.	111.	47.	0.	0.	885.	129.	171.	103.	127.
NORTHWEST	0.	0.	7.	19.	31.	41.	49.	53.	55.	53.	58.	78.	89.	84.	40.	0.	0.	658.	116.	146.	96.	113.
NORTH	0.	0.	14.	19.	31.	41.	49.	53.	55.	53.	49.	41.	31.	19.	14.	0.	0.	468.	104.	126.	89.	101.
NORTHEAST	0.	0.	40.	84.	89.	78.	58.	53.	55.	53.	49.	41.	31.	19.	7.	0.	0.	658.	116.	146.	96.	113.
EAST	0.	0.	47.	111.	133.	132.	116.	89.	55.	53.	49.	41.	31.	19.	7.	0.	0.	885.	129.	171.	103.	127.
SOUTHEAST	0.	0.	31.	85.	117.	133.	135.	125.	104.	74.	49.	41.	31.	19.	7.	0.	0.	950.	133.	178.	106.	131.
HORIZ.	0.	0.	17.	59.	102.	141.	171.	190.	196.	190.	171.	141.	102.	59.	17.	0.	0.	1555.	170.	243.	126.	167.

MONTH 9 HO 2581. TOD 69. TOT 67. KT .500 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	25.	62.	97.	124.	141.	147.	141.	124.	97.	62.	25.	0.	0.	0.	1045.	141.	195.	103.	130.
SOUTHWEST	0.	0.	0.	12.	24.	34.	48.	86.	118.	141.	152.	147.	125.	75.	0.	0.	0.	964.	135.	185.	100.	126.
WEST	0.	0.	0.	12.	24.	34.	43.	48.	49.	87.	116.	132.	128.	89.	0.	0.	0.	761.	121.	161.	93.	113.
NORTHWEST	0.	0.	0.	12.	24.	34.	43.	48.	49.	48.	43.	59.	70.	57.	0.	0.	0.	487.	103.	128.	84.	97.
NORTH	0.	0.	0.	12.	24.	34.	43.	48.	49.	48.	43.	34.	24.	12.	0.	0.	0.	370.	95.	114.	80.	90.
NORTHEAST	0.	0.	0.	57.	70.	59.	43.	48.	49.	48.	43.	34.	24.	12.	0.	0.	0.	487.	103.	128.	84.	97.
EAST	0.	0.	0.	89.	128.	132.	116.	87.	49.	48.	43.	34.	24.	12.	0.	0.	0.	761.	121.	161.	93.	113.
SOUTHEAST	0.	0.	0.	75.	125.	147.	152.	141.	118.	86.	48.	34.	24.	12.	0.	0.	0.	964.	135.	185.	100.	126.
HORIZ.	0.	0.	1.	33.	78.	120.	152.	172.	179.	172.	152.	120.	78.	33.	1.	0.	0.	1289.	157.	224.	111.	145.

LOCATION NEW YORK, N.Y. LATITUDE 40 DEGREES 46 MINUTES

MONTH 10 HO 1924. TOD 59. TOT 57. KT .475 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	10.	60.	100.	129.	146.	152.	146.	129.	100.	60.	10.	0.	0.	0.	1041.	134.	195.	90.	118.
SOUTHWEST	0.	0.	0.	4.	15.	25.	53.	89.	120.	140.	148.	139.	106.	21.	0.	0.	0.	860.	121.	171.	85.	107.
WEST	0.	0.	0.	4.	15.	25.	33.	38.	40.	74.	100.	112.	98.	22.	0.	0.	0.	563.	100.	133.	75.	90.
NORTHWEST	0.	0.	0.	4.	15.	25.	33.	38.	40.	38.	33.	34.	42.	12.	0.	0.	0.	316.	82.	100.	67.	75.
NORTH	0.	0.	0.	4.	15.	25.	33.	38.	40.	38.	33.	25.	15.	4.	0.	0.	0.	272.	79.	95.	66.	73.
NORTHEAST	0.	0.	0.	12.	42.	34.	33.	38.	40.	38.	33.	25.	15.	4.	0.	0.	0.	316.	82.	100.	67.	75.
EAST	0.	0.	0.	22.	98.	112.	100.	74.	40.	38.	33.	25.	15.	4.	0.	0.	0.	563.	100.	133.	75.	90.
SOUTHEAST	0.	0.	0.	21.	106.	139.	148.	140.	120.	89.	53.	25.	15.	4.	0.	0.	0.	860.	121.	171.	85.	107.
HORIZ.	0.	0.	0.	7.	45.	84.	115.	135.	141.	135.	115.	84.	45.	7.	0.	0.	0.	914.	125.	178.	86.	110.

MONTH 11 HO 1376. TOD 48. TOT 46. KT .397 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	35.	77.	104.	120.	125.	120.	104.	77.	35.	0.	0.	0.	0.	795.	112.	165.	72.	93.
SOUTHWEST	0.	0.	0.	0.	7.	18.	47.	74.	97.	111.	114.	100.	54.	0.	0.	0.	0.	624.	99.	139.	66.	83.
WEST	0.	0.	0.	0.	7.	16.	24.	28.	30.	54.	71.	74.	47.	0.	0.	0.	0.	352.	77.	100.	58.	67.
NORTHWEST	0.	0.	0.	0.	7.	16.	24.	28.	30.	28.	24.	16.	16.	0.	0.	0.	0.	189.	64.	76.	52.	57.
NORTH	0.	0.	0.	0.	7.	16.	24.	28.	30.	28.	24.	16.	7.	0.	0.	0.	0.	181.	63.	75.	52.	57.
NORTHEAST	0.	0.	0.	0.	16.	16.	24.	28.	30.	28.	24.	16.	7.	0.	0.	0.	0.	189.	64.	76.	52.	57.
EAST	0.	0.	0.	0.	47.	74.	71.	54.	30.	28.	24.	16.	7.	0.	0.	0.	0.	352.	77.	100.	58.	67.
SOUTHEAST	0.	0.	0.	0.	54.	100.	114.	111.	97.	74.	47.	18.	7.	0.	0.	0.	0.	624.	99.	139.	66.	83.
HORIZ.	0.	0.	0.	0.	17.	48.	73.	89.	94.	89.	73.	48.	17.	0.	0.	0.	0.	547.	92.	128.	64.	78.

MONTH 12 HO 1171. TOD 38. TOT 36. KT .403 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	23.	75.	106.	123.	129.	123.	106.	75.	23.	0.	0.	0.	0.	785.	104.	159.	61.	81.
SOUTHWEST	0.	0.	0.	0.	5.	18.	47.	76.	99.	113.	115.	96.	35.	0.	0.	0.	0.	605.	89.	131.	55.	71.
WEST	0.	0.	0.	0.	5.	14.	21.	25.	27.	52.	68.	69.	29.	0.	0.	0.	0.	309.	64.	85.	46.	54.
NORTHWEST	0.	0.	0.	0.	5.	14.	21.	25.	27.	25.	21.	14.	9.	0.	0.	0.	0.	159.	51.	62.	41.	45.
NORTH	0.	0.	0.	0.	5.	14.	21.	25.	27.	25.	21.	14.	5.	0.	0.	0.	0.	155.	51.	62.	41.	45.
NORTHEAST	0.	0.	0.	0.	9.	14.	21.	25.	27.	25.	21.	14.	5.	0.	0.	0.	0.	159.	51.	62.	41.	45.
EAST	0.	0.	0.	0.	29.	69.	68.	52.	27.	25.	21.	14.	5.	0.	0.	0.	0.	309.	64.	85.	46.	54.
SOUTHEAST	0.	0.	0.	0.	35.	96.	115.	113.	99.	76.	47.	18.	5.	0.	0.	0.	0.	605.	89.	131.	55.	71.
HORIZ.	0.	0.	0.	0.	10.	39.	64.	80.	86.	80.	64.	39.	10.	0.	0.	0.	0.	473.	78.	111.	51.	63.

LOCATION NEW YORK, N.Y. LATITUDE 40 DEGREES 46 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	101.	102.	108.	100.	108.	116.	124.	129.	141.	134.	112.	104.	115.
SOUTHWEST	87.	91.	103.	104.	117.	127.	134.	133.	135.	121.	99.	89.	112.
WEST	64.	73.	91.	101.	119.	132.	136.	129.	121.	100.	77.	64.	100.
NORTHWEST	50.	57.	74.	89.	108.	122.	124.	116.	103.	82.	64.	51.	87.
NORTH	50.	54.	66.	79.	96.	108.	111.	104.	95.	79.	63.	51.	80.
NORTHEAST	50.	57.	74.	89.	108.	122.	124.	116.	103.	82.	64.	51.	87.
EAST	64.	73.	91.	101.	119.	132.	136.	129.	121.	100.	77.	64.	100.
SOUTHEAST	87.	91.	103.	104.	117.	127.	134.	133.	135.	121.	99.	89.	112.
HORIZ.	80.	96.	123.	137.	163.	182.	185.	170.	157.	125.	92.	78.	132.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	156.	157.	160.	139.	143.	149.	160.	171.	195.	195.	165.	159.	162.
SOUTHWEST	129.	137.	152.	146.	158.	169.	177.	178.	185.	171.	139.	131.	156.
WEST	88.	104.	129.	140.	161.	177.	181.	171.	161.	133.	100.	85.	136.
NORTHWEST	63.	75.	99.	119.	143.	159.	161.	146.	128.	100.	76.	62.	111.
NORTH	62.	69.	86.	100.	121.	136.	136.	126.	114.	95.	75.	62.	98.
NORTHEAST	63.	75.	99.	119.	143.	159.	161.	146.	128.	100.	76.	62.	111.
EAST	88.	104.	129.	140.	161.	177.	181.	171.	161.	133.	100.	85.	136.
SOUTHEAST	129.	137.	152.	146.	158.	169.	177.	178.	185.	171.	139.	131.	156.
HORIZ.	117.	145.	187.	205.	240.	266.	268.	243.	224.	178.	128.	111.	193.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	59.	63.	73.	77.	88.	97.	103.	103.	103.	90.	72.	61.	82.
SOUTHWEST	54.	58.	71.	79.	93.	104.	109.	106.	100.	85.	66.	55.	82.
WEST	45.	50.	64.	77.	94.	107.	110.	103.	93.	75.	58.	46.	77.
NORTHWEST	39.	43.	56.	70.	88.	101.	103.	96.	84.	67.	52.	41.	70.
NORTH	39.	41.	52.	65.	81.	92.	95.	89.	80.	66.	52.	41.	66.
NORTHEAST	39.	43.	56.	70.	88.	101.	103.	96.	84.	67.	52.	41.	70.
EAST	45.	50.	64.	77.	94.	107.	110.	103.	93.	75.	58.	46.	77.
SOUTHEAST	54.	58.	71.	79.	93.	104.	109.	106.	100.	85.	66.	55.	82.
HORIZ.	51.	60.	81.	97.	121.	138.	140.	126.	111.	86.	64.	51.	94.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	81.	87.	100.	98.	109.	118.	125.	126.	130.	118.	93.	81.	106.
SOUTHWEST	71.	78.	95.	102.	118.	130.	135.	131.	126.	107.	83.	71.	104.
WEST	54.	64.	84.	99.	120.	135.	138.	127.	113.	90.	67.	54.	95.
NORTHWEST	44.	51.	69.	87.	109.	124.	125.	113.	97.	75.	57.	45.	83.
NORTH	44.	48.	62.	77.	96.	109.	111.	101.	90.	73.	57.	45.	76.
NORTHEAST	44.	51.	69.	87.	109.	124.	125.	113.	97.	75.	57.	45.	83.
EAST	54.	64.	84.	99.	120.	135.	138.	127.	113.	90.	67.	54.	95.
SOUTHEAST	71.	78.	95.	102.	118.	130.	135.	131.	126.	107.	83.	71.	104.
HORIZ.	66.	82.	113.	135.	167.	190.	190.	167.	145.	110.	78.	63.	126.

LOCATION OAK RIDGE, TENNESSEE LATITUDE 36 DEGREES 1 MINUTES

MONTH 1 HO 1647. TOD 42. TOT 38. KT .382 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	43.	77.	99.	112.	117.	112.	99.	77.	43.	0.	0.	0.	0.	778.	102.	151.	63.	83.
SOUTHWEST	0.	0.	0.	0.	10.	20.	46.	72.	93.	106.	110.	100.	67.	0.	0.	0.	0.	623.	90.	129.	58.	74.
WEST	0.	0.	0.	0.	10.	20.	27.	32.	34.	56.	72.	76.	58.	0.	0.	0.	0.	386.	72.	96.	50.	61.
NORTHWEST	0.	0.	0.	0.	10.	20.	27.	32.	34.	32.	27.	20.	21.	0.	0.	0.	0.	223.	59.	73.	45.	51.
NORTH	0.	0.	0.	0.	10.	20.	27.	32.	34.	32.	27.	20.	10.	0.	0.	0.	0.	212.	58.	72.	45.	50.
NORTHEAST	0.	0.	0.	0.	21.	20.	27.	32.	34.	32.	27.	20.	10.	0.	0.	0.	0.	223.	59.	73.	45.	51.
EAST	0.	0.	0.	0.	58.	76.	72.	56.	34.	32.	27.	20.	10.	0.	0.	0.	0.	386.	72.	96.	50.	61.
SOUTHEAST	0.	0.	0.	0.	67.	100.	110.	106.	93.	72.	46.	20.	10.	0.	0.	0.	0.	623.	90.	129.	58.	74.
HORIZ.	0.	0.	0.	0.	26.	57.	82.	98.	103.	98.	82.	57.	26.	0.	0.	0.	0.	627.	90.	130.	58.	75.

MONTH 2 HO 2188. TOD 44. TOT 40. KT .435 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	16.	58.	89.	113.	127.	132.	127.	113.	89.	58.	16.	0.	0.	0.	939.	110.	164.	71.	95.
SOUTHWEST	0.	0.	0.	5.	17.	28.	49.	80.	106.	124.	132.	126.	102.	37.	0.	0.	0.	806.	101.	147.	66.	87.
WEST	0.	0.	0.	5.	17.	28.	36.	41.	43.	72.	94.	105.	96.	39.	0.	0.	0.	577.	85.	118.	59.	74.
NORTHWEST	0.	0.	0.	5.	17.	28.	36.	41.	43.	41.	36.	39.	44.	22.	0.	0.	0.	353.	69.	89.	52.	61.
NORTH	0.	0.	0.	5.	17.	28.	36.	41.	43.	41.	36.	28.	17.	5.	0.	0.	0.	298.	65.	82.	50.	58.
NORTHEAST	0.	0.	0.	22.	44.	39.	36.	41.	43.	41.	36.	28.	17.	5.	0.	0.	0.	353.	69.	89.	52.	61.
EAST	0.	0.	0.	39.	96.	105.	94.	72.	43.	41.	36.	28.	17.	5.	0.	0.	0.	577.	85.	118.	59.	74.
SOUTHEAST	0.	0.	0.	37.	102.	126.	132.	124.	106.	80.	49.	28.	17.	5.	0.	0.	0.	806.	101.	147.	66.	87.
HORIZ.	0.	0.	0.	12.	51.	89.	118.	136.	142.	136.	118.	89.	51.	12.	0.	0.	0.	953.	111.	166.	71.	96.

MONTH 3 HO 2766. TOD 52. TOT 47. KT .471 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	24.	58.	88.	112.	127.	132.	127.	112.	88.	58.	24.	0.	0.	0.	950.	112.	162.	78.	103.
SOUTHWEST	0.	0.	0.	12.	25.	36.	45.	79.	108.	129.	139.	136.	118.	75.	0.	0.	0.	904.	110.	157.	77.	100.
WEST	0.	0.	0.	12.	25.	36.	44.	50.	52.	85.	111.	126.	123.	90.	0.	0.	0.	755.	100.	139.	72.	91.
NORTHWEST	0.	0.	0.	12.	25.	36.	44.	50.	52.	50.	44.	63.	71.	59.	0.	0.	0.	506.	84.	111.	64.	77.
NORTH	0.	0.	0.	12.	25.	36.	44.	50.	52.	50.	44.	36.	25.	12.	0.	0.	0.	387.	76.	97.	60.	70.
NORTHEAST	0.	0.	0.	59.	71.	63.	44.	50.	52.	50.	44.	36.	25.	12.	0.	0.	0.	506.	84.	111.	64.	77.
EAST	0.	0.	0.	90.	123.	126.	111.	85.	52.	50.	44.	36.	25.	12.	0.	0.	0.	755.	100.	139.	72.	91.
SOUTHEAST	0.	0.	0.	75.	118.	136.	139.	129.	108.	79.	45.	36.	25.	12.	0.	0.	0.	904.	110.	157.	77.	100.
HORIZ.	0.	0.	0.	35.	80.	121.	152.	172.	179.	172.	152.	121.	80.	35.	0.	0.	0.	1301.	135.	203.	89.	123.

LOCATION OAK RIDGE, TENNESSEE LATITUDE 36 DEGREES 1 MINUTES

MONTH 4 HO 3308. TOD 61. TOT 58. KT .524 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	49.	79.	104.	120.	125.	120.	104.	79.	49.	19.	6.	0.	0.	881.	113.	155.	86.	109.
SOUTHWEST	0.	0.	6.	19.	32.	43.	52.	72.	106.	130.	143.	143.	127.	94.	32.	0.	0.	1001.	120.	168.	90.	116.
WEST	0.	0.	6.	19.	32.	43.	52.	57.	59.	98.	129.	148.	150.	127.	50.	0.	0.	971.	118.	164.	89.	114.
NORTHWEST	0.	0.	6.	19.	32.	43.	52.	57.	59.	57.	69.	92.	104.	97.	43.	0.	0.	731.	104.	139.	81.	100.
NORTH	0.	0.	14.	22.	32.	43.	52.	57.	59.	57.	52.	43.	32.	22.	14.	0.	0.	499.	91.	114.	74.	87.
NORTHEAST	0.	0.	43.	97.	104.	92.	69.	57.	59.	57.	52.	43.	32.	19.	6.	0.	0.	731.	104.	139.	81.	100.
EAST	0.	0.	50.	127.	150.	148.	129.	98.	59.	57.	52.	43.	32.	19.	6.	0.	0.	971.	118.	164.	89.	114.
SOUTHEAST	0.	0.	32.	94.	127.	143.	143.	130.	106.	72.	52.	43.	32.	19.	6.	0.	0.	1001.	120.	168.	90.	116.
HORIZ.	0.	0.	15.	63.	114.	158.	192.	214.	221.	214.	192.	158.	114.	63.	15.	0.	0.	1734.	163.	245.	113.	159.

MONTH 5 HO 3633. TOD 70. TOT 67. KT .541 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	11.	24.	36.	64.	87.	102.	108.	102.	87.	64.	36.	24.	11.	0.	0.	758.	114.	148.	93.	112.
SOUTHWEST	0.	0.	11.	24.	36.	47.	55.	61.	94.	119.	133.	134.	121.	93.	48.	0.	0.	975.	127.	170.	100.	126.
WEST	0.	0.	11.	24.	36.	47.	55.	60.	62.	101.	132.	152.	156.	139.	85.	0.	0.	1060.	132.	179.	103.	131.
NORTHWEST	0.	0.	11.	24.	36.	47.	55.	60.	62.	60.	86.	109.	122.	118.	79.	0.	0.	868.	120.	159.	96.	119.
NORTH	0.	0.	33.	41.	37.	47.	55.	60.	62.	60.	55.	47.	37.	41.	33.	0.	0.	607.	105.	132.	87.	103.
NORTHEAST	0.	0.	79.	118.	122.	109.	86.	60.	62.	60.	55.	47.	36.	24.	11.	0.	0.	868.	120.	159.	96.	119.
EAST	0.	0.	85.	139.	156.	152.	132.	101.	62.	60.	55.	47.	36.	24.	11.	0.	0.	1060.	132.	179.	103.	131.
SOUTHEAST	0.	0.	48.	93.	121.	134.	133.	119.	94.	61.	55.	47.	36.	24.	11.	0.	0.	975.	127.	170.	100.	126.
HORIZ.	0.	1.	32.	82.	132.	176.	210.	231.	238.	231.	210.	176.	132.	82.	32.	1.	0.	1964.	184.	272.	134.	185.

MONTH 6 HO 3745. TOD 78. TOT 76. KT .551 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	2.	13.	25.	37.	57.	80.	95.	100.	95.	80.	57.	37.	25.	13.	2.	0.	721.	119.	150.	100.	119.
SOUTHWEST	0.	2.	13.	25.	37.	48.	56.	61.	89.	114.	128.	130.	118.	91.	51.	2.	0.	965.	133.	175.	109.	134.
WEST	0.	2.	13.	25.	37.	48.	56.	61.	62.	102.	134.	154.	159.	143.	95.	3.	0.	1093.	140.	187.	11 .	142.
NORTHWEST	0.	2.	13.	25.	37.	48.	56.	61.	62.	65.	93.	116.	129.	126.	91.	3.	0.	928.	130.	171.	108.	132.
NORTH	0.	3.	42.	50.	45.	48.	56.	61.	62.	61.	56.	48.	45.	50.	42.	3.	0.	669.	116.	145.	99.	116.
NORTHEAST	0.	3.	91.	126.	129.	116.	93.	65.	62.	61.	56.	48.	37.	25.	13.	2.	0.	928.	130.	171.	108.	132.
EAST	0.	3.	95.	143.	159.	154.	134.	102.	62.	61.	56.	48.	37.	25.	13.	2.	0.	1093.	140.	187.	113.	142.
SOUTHEAST	0.	2.	51.	91.	118.	130.	128.	114.	89.	61.	56.	48.	37.	25.	13.	2.	0.	965.	133.	175.	109.	134.
HORIZ.	0.	3.	39.	89.	139.	183.	217.	238.	245.	238.	217.	183.	139.	89.	39.	3.	0.	2064.	195.	285.	146.	200.

LOCATION OAK RIDGE, TENNESSEE LATITUDE 36 DEGREES 1 MINUTES

MONTH 7 HO 3628. TOD 80. TOT 78. KT .536 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	11.	24.	36.	63.	86.	101.	106.	101.	86.	63.	36.	24.	11.	0.	0.	750.	124.	157.	103.	123.
SOUTHWEST	0.	0.	11.	24.	36.	46.	55.	60.	93.	117.	131.	131.	118.	91.	46.	0.	0.	961.	136.	179.	111.	136.
WEST	0.	0.	11.	24.	36.	46.	55.	60.	61.	100.	131.	150.	154.	135.	82.	0.	0.	1045.	141.	188.	114.	141.
NORTHWEST	0.	0.	11.	24.	36.	46.	55.	60.	61.	60.	86.	108.	120.	115.	76.	0.	0.	858.	130.	168.	107.	130.
NORTH	0.	0.	32.	41.	37.	46.	55.	60.	61.	60.	55.	46.	37.	41.	32.	0.	0.	604.	115.	142.	98.	114.
NORTHEAST	0.	0.	76.	115.	120.	108.	86.	60.	61.	60.	55.	46.	36.	24.	11.	0.	0.	858.	130.	168.	107.	130.
EAST	0.	0.	82.	135.	154.	150.	131.	100.	61.	60.	55.	46.	36.	24.	11.	0.	0.	1045.	141.	188.	114.	141.
SOUTHEAST	0.	0.	46.	91.	118.	131.	131.	117.	93.	60.	55.	46.	36.	24.	11.	0.	0.	961.	136.	179.	111.	136.
HORIZ.	0.	1.	32.	81.	130.	174.	208.	229.	236.	229.	208.	174.	130.	81.	32.	1.	0.	1944.	193.	280.	144.	195.

MONTH 8 HO 3283. TOD 79. TOT 77. KT .534 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	6.	19.	49.	80.	105.	121.	127.	121.	105.	80.	49.	19.	6.	0.	0.	887.	134.	176.	107.	130.
SOUTHWEST	0.	0.	6.	19.	32.	43.	52.	73.	107.	132.	145.	145.	128.	93.	30.	0.	0.	1005.	141.	189.	111.	137.
WEST	0.	0.	6.	19.	32.	43.	52.	57.	59.	99.	131.	150.	152.	126.	46.	0.	0.	971.	139.	186.	110.	135.
NORTHWEST	0.	0.	6.	19.	32.	43.	52.	57.	59.	57.	70.	93.	105.	96.	39.	0.	0.	727.	124.	159.	101.	121.
NORTH	0.	0.	13.	22.	32.	43.	52.	57.	59.	57.	52.	43.	32.	22.	13.	0.	0.	495.	110.	133.	94.	107.
NORTHEAST	0.	0.	39.	96.	105.	93.	70.	57.	59.	57.	52.	43.	32.	19.	6.	0.	0.	727.	124.	159.	101.	121.
EAST	0.	0.	46.	126.	152.	150.	131.	99.	59.	57.	52.	43.	32.	19.	6.	0.	0.	971.	139.	186.	110.	135.
SOUTHEAST	0.	0.	30.	93.	128.	145.	145.	132.	107.	73.	52.	43.	32.	19.	6.	0.	0.	1005.	141.	189.	111.	137.
HORIZ.	0.	0.	15.	63.	114.	160.	195.	218.	225.	218.	195.	160.	114.	63.	15.	0.	0.	1754.	188.	272.	137.	183.

MONTH 9 HO 2750. TOD 74. TOT 71. KT .542 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	26.	66.	102.	130.	148.	154.	148.	130.	102.	66.	26.	0.	0.	0.	1096.	149.	206.	109.	138.
SOUTHWEST	0.	0.	0.	12.	25.	37.	46.	88.	124.	151.	165.	162.	140.	87.	0.	0.	0.	1039.	145.	199.	107.	134.
WEST	0.	0.	0.	12.	25.	37.	46.	51.	53.	96.	130.	149.	147.	104.	0.	0.	0.	852.	133.	177.	100.	123.
NORTHWEST	0.	0.	0.	12.	25.	37.	46.	51.	53.	51.	46.	71.	83.	68.	0.	0.	0.	545.	112.	140.	90.	104.
NORTH	0.	0.	0.	12.	25.	37.	46.	51.	53.	51.	46.	37.	25.	12.	0.	0.	0.	398.	102.	122.	85.	95.
NORTHEAST	0.	0.	0.	68.	83.	71.	46.	51.	53.	51.	46.	37.	25.	12.	0.	0.	0.	545.	112.	140.	90.	104.
EAST	0.	0.	0.	104.	147.	149.	130.	96.	53.	51.	46.	37.	25.	12.	0.	0.	0.	852.	133.	177.	100.	123.
SOUTHEAST	0.	0.	0.	87.	140.	162.	165.	151.	124.	88.	46.	37.	25.	12.	0.	0.	0.	1039.	145.	199.	107.	134.
HORIZ.	0.	0.	1.	38.	91.	138.	175.	199.	207.	199.	175.	138.	91.	38.	1.	0.	0.	1489.	176.	254.	122.	161.

LOCATION OAK RIDGE, TENNESSEE LATITUDE 36 DEGREES 1 MINUTES

MONTH 10 HO 2154. TOD 63. TOT 58. KT .527 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	17.	72.	113.	144.	162.	169.	162.	144.	113.	72.	17.	0.	0.	0.	1185.	146.	214.	96.	127.
SOUTHWEST	0.	0.	0.	5.	18.	29.	56.	98.	133.	158.	169.	162.	130.	41.	0.	0.	0.	998.	133.	190.	90.	117.
WEST	0.	0.	0.	5.	18.	29.	38.	44.	45.	86.	118.	133.	122.	43.	0.	0.	0.	681.	111.	150.	80.	98.
NORTHWEST	0.	0.	0.	5.	18.	29.	38.	44.	45.	44.	38.	43.	53.	24.	0.	0.	0.	381.	90.	111.	71.	81.
NORTH	0.	0.	0.	5.	18.	29.	38.	44.	45.	44.	38.	29.	18.	5.	0.	0.	0.	313.	85.	103.	68.	77.
NORTHEAST	0.	0.	0.	24.	53.	43.	38.	44.	45.	44.	38.	29.	18.	5.	0.	0.	0.	381.	90.	111.	71.	81.
EAST	0.	0.	0.	43.	122.	133.	118.	86.	45.	44.	38.	29.	18.	5.	0.	0.	0.	681.	111.	150.	80.	98.
SOUTHEAST	0.	0.	0.	41.	130.	162.	169.	158.	133.	98.	56.	29.	18.	5.	0.	0.	0.	998.	133.	190.	90.	117.
HORIZ.	0.	0.	0.	12.	59.	105.	141.	164.	172.	164.	141.	105.	59.	12.	0.	0.	0.	1136.	143.	208.	95.	125.

MONTH 11 HO 1635. TOD 50. TOT 45. KT .438 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	50.	92.	119.	136.	141.	136.	119.	92.	50.	0.	0.	0.	0.	937.	123.	182.	75.	100.
SOUTHWEST	0.	0.	0.	0.	10.	21.	53.	84.	110.	128.	133.	121.	81.	0.	0.	0.	0.	741.	108.	154.	69.	89.
WEST	0.	0.	0.	0.	10.	21.	29.	34.	35.	64.	85.	92.	69.	0.	0.	0.	0.	439.	84.	112.	59.	71.
NORTHWEST	0.	0.	0.	0.	10.	21.	29.	34.	35.	34.	29.	21.	24.	0.	0.	0.	0.	235.	69.	83.	53.	59.
NORTH	0.	0.	0.	0.	10.	21.	29.	34.	35.	34.	29.	21.	10.	0.	0.	0.	0.	221.	68.	81.	53.	58.
NORTHEAST	0.	0.	0.	0.	24.	21.	29.	34.	35.	34.	29.	21.	10.	0.	0.	0.	0.	235.	69.	83.	53.	59.
EAST	0.	0.	0.	0.	69.	92.	85.	64.	35.	34.	29.	21.	10.	0.	0.	0.	0.	439.	84.	112.	59.	71.
SOUTHEAST	0.	0.	0.	0.	81.	121.	133.	128.	110.	84.	53.	21.	10.	0.	0.	0.	0.	741.	108.	154.	69.	89.
HORIZ.	0.	0.	0.	0.	28.	64.	94.	112.	118.	112.	94.	64.	28.	0.	0.	0.	0.	715.	106.	151.	68.	87.

MONTH 12 HO 1436. TOD 42. TOT 39. KT .422 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	41.	87.	115.	131.	136.	131.	115.	87.	41.	0.	0.	0.	0.	883.	114.	172.	67.	90.
SOUTHWEST	0.	0.	0.	0.	8.	21.	52.	81.	106.	121.	125.	112.	63.	0.	0.	0.	0.	689.	98.	143.	61.	79.
WEST	0.	0.	0.	0.	8.	18.	25.	30.	32.	58.	77.	81.	53.	0.	0.	0.	0.	382.	73.	98.	51.	61.
NORTHWEST	0.	0.	0.	0.	8.	18.	25.	30.	32.	30.	25.	18.	16.	0.	0.	0.	0.	201.	59.	72.	45.	51.
NORTH	0.	0.	0.	0.	8.	18.	25.	30.	32.	30.	25.	18.	8.	0.	0.	0.	0.	193.	58.	71.	45.	50.
NORTHEAST	0.	0.	0.	0.	16.	18.	25.	30.	32.	30.	25.	18.	8.	0.	0.	0.	0.	201.	59.	72.	45.	51.
EAST	0.	0.	0.	0.	53.	81.	77.	58.	32.	30.	25.	18.	8.	0.	0.	0.	0.	382.	73.	98.	51.	61.
SOUTHEAST	0.	0.	0.	0.	63.	112.	125.	121.	106.	81.	52.	21.	8.	0.	0.	0.	0.	689.	98.	143.	61.	79.
HORIZ.	0.	0.	0.	0.	19.	53.	81.	98.	104.	98.	81.	53.	19.	0.	0.	0.	0.	607.	91.	131.	58.	74.

LOCATION OAK RIDGE, TENNESSEE LATITUDE 36 DEGREES 1 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	102.	110.	112.	113.	114.	119.	124.	134.	149.	146.	123.	114.	122.
SOUTHWEST	90.	101.	110.	120.	127.	133.	136.	141.	145.	133.	108.	98.	120.
WEST	72.	85.	100.	118.	132.	140.	141.	139.	133.	111.	84.	73.	111.
NORTHWEST	59.	69.	84.	104.	120.	130.	130.	124.	112.	90.	69.	59.	96.
NORTH	58.	65.	76.	91.	105.	116.	115.	110.	102.	85.	68.	58.	87.
NORTHEAST	59.	69.	84.	104.	120.	130.	130.	124.	112.	90.	69.	59.	96.
EAST	72.	85.	100.	118.	132.	140.	141.	139.	133.	111.	84.	73.	111.
SOUTHEAST	90.	101.	110.	120.	127.	133.	136.	141.	145.	133.	108.	98.	120.
HORIZ.	90.	111.	135.	163.	184.	195.	193.	188.	176.	143.	106.	91.	148.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	151.	164.	162.	155.	148.	150.	157.	176.	206.	214.	182.	172.	170.
SOUTHWEST	129.	147.	157.	168.	170.	175.	179.	189.	199.	190.	154.	143.	167.
WEST	96.	118.	139.	164.	179.	187.	188.	186.	177.	150.	112.	98.	150.
NORTHWEST	73.	89.	111.	139.	159.	171.	168.	159.	140.	111.	83.	72.	123.
NORTH	72.	82.	97.	114.	132.	145.	142.	133.	122.	103.	81.	71.	108.
NORTHEAST	73.	89.	111.	139.	159.	171.	168.	159.	140.	111.	83.	72.	123.
EAST	96.	118.	139.	164.	179.	187.	188.	186.	177.	150.	112.	98.	150.
SOUTHEAST	129.	147.	157.	168.	170.	175.	179.	189.	199.	190.	154.	143.	167.
HORIZ.	130.	166.	203.	245.	272.	285.	280.	272.	254.	208.	151.	131.	216.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	63.	71.	78.	86.	93.	100.	103.	107.	109.	96.	75.	67.	87.
SOUTHWEST	58.	66.	77.	90.	100.	109.	111.	111.	107.	90.	69.	61.	87.
WEST	50.	59.	72.	89.	103.	113.	114.	110.	100.	80.	59.	51.	83.
NORTHWEST	45.	52.	64.	81.	96.	108.	107.	101.	90.	71.	53.	45.	76.
NORTH	45.	50.	60.	74.	87.	99.	98.	94.	85.	68.	53.	45.	71.
NORTHEAST	45.	52.	64.	81.	96.	108.	107.	101.	90.	71.	53.	45.	76.
EAST	50.	59.	72.	89.	103.	113.	114.	110.	100.	80.	59.	51.	83.
SOUTHEAST	58.	66.	77.	90.	100.	109.	111.	111.	107.	90.	69.	61.	87.
HORIZ.	58.	71.	89.	113.	134.	146.	144.	137.	122.	95.	68.	58.	103.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	83.	95.	103.	109.	112.	119.	123.	130.	138.	127.	100.	90.	111.
SOUTHWEST	74.	87.	100.	116.	126.	134.	136.	137.	134.	117.	89.	79.	111.
WEST	61.	74.	91.	114.	131.	142.	141.	135.	123.	98.	71.	61.	103.
NORTHWEST	51.	61.	77.	100.	119.	132.	130.	121.	104.	81.	59.	51.	90.
NORTH	50.	58.	70.	87.	103.	116.	114.	107.	95.	77.	58.	50.	82.
NORTHEAST	51.	61.	77.	100.	119.	132.	130.	121.	104.	81.	59.	51.	90.
EAST	61.	74.	91.	114.	131.	142.	141.	135.	123.	98.	71.	61.	103.
SOUTHEAST	74.	87.	100.	116.	126.	134.	136.	137.	134.	117.	89.	79.	111.
HORIZ.	75.	96.	123.	159.	185.	200.	195.	183.	161.	125.	87.	74.	139.

LOCATION OKLAHOMA CITY, OKLAHOMA LATITUDE 35 DEGREES 23 MINUTES

MONTH 1 HO 1681. TOD 40. TOT 37. KT .580 KD .177

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	78.	137.	176.	198.	206.	198.	176.	137.	78.	0.	0.	0.	0.	1384.	146.	233.	82.	118.
SOUTHWEST	0.	0.	0.	0.	11.	23.	69.	117.	157.	186.	197.	185.	129.	0.	0.	0.	0.	1074.	123.	190.	72.	100.
WEST	0.	0.	0.	0.	11.	23.	32.	37.	39.	86.	122.	138.	110.	0.	0.	0.	0.	598.	86.	124.	56.	72.
NORTHWEST	0.	0.	0.	0.	11.	23.	32.	37.	39.	37.	32.	23.	34.	0.	0.	0.	0.	268.	61.	77.	46.	53.
NORTH	0.	0.	0.	0.	11.	23.	32.	37.	39.	37.	32.	23.	11.	0.	0.	0.	0.	244.	59.	74.	45.	51.
NORTHEAST	0.	0.	0.	0.	34.	23.	32.	37.	39.	37.	32.	23.	11.	0.	0.	0.	0.	268.	61.	77.	46.	53.
EAST	0.	0.	0.	0.	110.	138.	122.	86.	39.	37.	32.	23.	11.	0.	0.	0.	0.	598.	86.	124.	56.	72.
SOUTHEAST	0.	0.	0.	0.	129.	185.	197.	186.	157.	117.	69.	23.	11.	0.	0.	0.	0.	1074.	123.	190.	72.	100.
HORIZ.	0.	0.	0.	0.	38.	87.	127.	153.	162.	153.	127.	87.	38.	0.	0.	0.	0.	973.	115.	176.	68.	94.

MONTH 2 HO 2217. TOD 45. TOT 42. KT .571 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	23.	82.	126.	159.	179.	186.	179.	159.	126.	82.	23.	0.	0.	0.	1324.	138.	213.	84.	119.
SOUTHWEST	0.	0.	0.	6.	19.	30.	59.	105.	145.	174.	189.	184.	151.	57.	0.	0.	0.	1119.	123.	187.	78.	107.
WEST	0.	0.	0.	6.	19.	30.	39.	45.	47.	94.	131.	151.	143.	61.	0.	0.	0.	766.	99.	142.	66.	86.
NORTHWEST	0.	0.	0.	6.	19.	30.	39.	45.	47.	45.	39.	48.	62.	32.	0.	0.	0.	413.	74.	98.	55.	66.
NORTH	0.	0.	0.	6.	19.	30.	39.	45.	47.	45.	39.	30.	19.	6.	0.	0.	0.	325.	68.	86.	52.	61.
NORTHEAST	0.	0.	0.	32.	62.	48.	39.	45.	47.	45.	39.	30.	19.	6.	0.	0.	0.	413.	74.	98.	55.	66.
EAST	0.	0.	0.	61.	143.	151.	131.	94.	47.	45.	39.	30.	19.	6.	0.	0.	0.	766.	99.	142.	66.	86.
SOUTHEAST	0.	0.	0.	57.	151.	184.	189.	174.	145.	105.	59.	30.	19.	6.	0.	0.	0.	1119.	123.	187.	78.	107.
HORIZ.	0.	0.	0.	14.	67.	118.	157.	182.	191.	182.	157.	118.	67.	14.	0.	0.	0.	1267.	134.	206.	82.	116.

MONTH 3 HO 2787. TOD 53. TOT 50. KT .576 KD .177

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	29.	71.	110.	140.	159.	165.	159.	140.	110.	71.	29.	0.	0.	0.	1183.	129.	191.	88.	119.
SOUTHWEST	0.	0.	0.	13.	26.	38.	47.	93.	133.	163.	179.	178.	156.	101.	0.	0.	0.	1125.	125.	184.	86.	115.
WEST	0.	0.	0.	13.	26.	38.	47.	53.	54.	102.	140.	164.	164.	121.	0.	0.	0.	922.	112.	160.	79.	103.
NORTHWEST	0.	0.	0.	13.	26.	38.	47.	53.	54.	53.	47.	76.	92.	78.	0.	0.	0.	576.	90.	120.	68.	83.
NORTH	0.	0.	0.	13.	26.	38.	47.	53.	54.	53.	47.	38.	26.	13.	0.	0.	0.	406.	79.	100.	63.	73.
NORTHEAST	0.	0.	0.	78.	92.	76.	47.	53.	54.	53.	47.	38.	26.	13.	0.	0.	0.	576.	90.	120.	68.	83.
EAST	0.	0.	0.	121.	164.	164.	140.	102.	54.	53.	47.	38.	26.	13.	0.	0.	0.	922.	112.	160.	79.	103.
SOUTHEAST	0.	0.	0.	101.	156.	178.	179.	163.	133.	93.	47.	38.	26.	13.	0.	0.	0.	1125.	125.	184.	86.	115.
HORIZ.	0.	0.	0.	41.	98.	149.	189.	214.	222.	214.	189.	149.	98.	41.	0.	0.	0.	1604.	156.	240.	101.	143.

LOCATION OKLAHOMA CITY, OKLAHOMA LATITUDE 35 DEGREES 23 MINUTES

MONTH 4 HO 3317. TOD 64. TOT 60. KT .570 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	6.	19.	51.	84.	111.	128.	134.	128.	111.	84.	51.	19.	6.	0.	0.	936.	118.	163.	90.	115.
SOUTHWEST	0.	0.	6.	19.	33.	44.	53.	75.	113.	141.	157.	158.	142.	105.	35.	0.	0.	1080.	127.	178.	95.	123.
WEST	0.	0.	6.	19.	33.	44.	53.	58.	60.	105.	142.	165.	169.	143.	56.	0.	0.	1051.	125.	175.	94.	122.
NORTHWEST	0.	0.	6.	19.	33.	44.	53.	58.	60.	58.	74.	101.	116.	109.	47.	0.	0.	777.	109.	146.	85.	106.
NORTH	0.	0.	15.	22.	33.	44.	53.	58.	60.	58.	53.	44.	33.	22.	15.	0.	0.	508.	93.	118.	77.	90.
NORTHEAST	0.	0.	47.	109.	116.	101.	74.	58.	60.	58.	53.	44.	33.	19.	6.	0.	0.	777.	109.	146.	85.	106.
EAST	0.	0.	56.	143.	169.	165.	142.	105.	60.	58.	53.	44.	33.	19.	6.	0.	0.	1051.	125.	175.	94.	122.
SOUTHEAST	0.	0.	35.	105.	142.	158.	157.	141.	113.	75.	53.	44.	33.	19.	6.	0.	0.	1080.	127.	178.	95.	123.
HORIZ.	0.	0.	15.	68.	124.	173.	211.	234.	243.	234.	211.	173.	124.	68.	15.	0.	0.	1892.	174.	265.	121.	171.

MONTH 5 HO 3633. TOD 71. TOT 68. KT .558 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	11.	24.	36.	64.	88.	103.	109.	103.	88.	64.	36.	24.	11.	0.	0.	761.	116.	150.	94.	114.
SOUTHWEST	0.	0.	11.	24.	36.	47.	55.	60.	95.	121.	136.	138.	125.	96.	49.	0.	0.	993.	129.	174.	102.	128.
WEST	0.	0.	11.	24.	36.	47.	55.	60.	62.	103.	137.	158.	163.	145.	88.	0.	0.	1089.	135.	184.	105.	134.
NORTHWEST	0.	0.	11.	24.	36.	47.	55.	60.	62.	60.	90.	113.	127.	123.	82.	0.	0.	889.	123.	163.	98.	122.
NORTH	0.	0.	34.	43.	38.	47.	55.	60.	62.	60.	55.	47.	38.	43.	34.	0.	0.	615.	107.	135.	89.	105.
NORTHEAST	0.	0.	82.	123.	127.	113.	90.	60.	62.	60.	55.	47.	36.	24.	11.	0.	0.	889.	123.	163.	98.	122.
EAST	0.	0.	88.	145.	163.	158.	137.	103.	62.	60.	55.	47.	36.	24.	11.	0.	0.	1089.	135.	184.	105.	134.
SOUTHEAST	0.	0.	49.	96.	125.	138.	136.	121.	95.	60.	55.	47.	36.	24.	11.	0.	0.	993.	129.	174.	102.	128.
HORIZ.	0.	0.	32.	84.	136.	182.	217.	239.	247.	239.	217.	182.	136.	84.	32.	0.	0.	2026.	190.	281.	137.	190.

MONTH 6 HO 3742. TOD 81. TOT 77. KT .629 KD .167

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	2.	12.	25.	37.	59.	85.	102.	108.	102.	85.	59.	37.	25.	12.	2.	0.	753.	124.	156.	103.	123.
SOUTHWEST	0.	2.	12.	25.	37.	48.	56.	61.	95.	127.	145.	149.	137.	107.	59.	2.	0.	1062.	141.	188.	114.	142.
WEST	0.	2.	12.	25.	37.	48.	56.	61.	63.	113.	154.	181.	189.	172.	113.	3.	0.	1229.	151.	204.	120.	152.
NORTHWEST	0.	2.	12.	25.	37.	48.	56.	61.	63.	69.	105.	134.	153.	151.	109.	3.	0.	1028.	139.	184.	113.	140.
NORTH	0.	2.	48.	56.	49.	48.	56.	61.	63.	61.	56.	48.	49.	56.	48.	2.	0.	704.	121.	152.	102.	120.
NORTHEAST	0.	3.	109.	151.	153.	134.	105.	69.	63.	61.	56.	48.	37.	25.	12.	2.	0.	1028.	139.	184.	113.	140.
EAST	0.	3.	113.	172.	189.	181.	154.	113.	63.	61.	56.	48.	37.	25.	12.	2.	0.	1229.	151.	204.	120.	152.
SOUTHEAST	0.	2.	59.	107.	137.	149.	145.	127.	95.	61.	56.	48.	37.	25.	12.	2.	0.	1062.	141.	188.	114.	142.
HORIZ.	0.	3.	42.	100.	158.	209.	249.	274.	282.	274.	249.	209.	158.	100.	42.	3.	0.	2353.	215.	318.	158.	220.

LOCATION OKLAHOMA CITY, OKLAHOMA LATITUDE 35 DEGREES 23 MINUTES

MONTH 7 HO 3628. TOD 85. TOT 82. KT .618 KD .170

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	11.	24.	36.	67.	94.	111.	117.	111.	94.	67.	36.	24.	11.	0.	0.	802.	132.	168.	110.	131.
SOUTHWEST	0.	0.	11.	24.	36.	47.	55.	61.	101.	132.	151.	154.	140.	108.	54.	0.	0.	1075.	148.	196.	119.	147.
WEST	0.	0.	11.	24.	36.	47.	55.	61.	63.	112.	152.	178.	185.	165.	99.	0.	0.	1189.	155.	208.	123.	154.
NORTHWEST	0.	0.	11.	24.	36.	47.	55.	61.	63.	61.	97.	126.	143.	140.	92.	0.	0.	956.	141.	184.	115.	140.
NORTH	0.	0.	38.	46.	39.	47.	55.	61.	63.	61.	55.	47.	39.	46.	38.	0.	0.	634.	123.	151.	104.	120.
NORTHEAST	0.	0.	92.	140.	143.	126.	97.	61.	63.	61.	55.	47.	36.	24.	11.	0.	0.	956.	141.	184.	115.	140.
EAST	0.	0.	99.	165.	185.	178.	152.	112.	63.	61.	55.	47.	36.	24.	11.	0.	0.	1189.	155.	208.	123.	154.
SOUTHEAST	0.	0.	54.	108.	140.	154.	151.	132.	101.	61.	55.	47.	36.	24.	11.	0.	0.	1075.	148.	196.	119.	147.
HORIZ.	0.	0.	34.	92.	150.	201.	241.	266.	275.	266.	241.	201.	150.	92.	34.	0.	0.	2241.	216.	317.	159.	218.

MONTH 8 HO 3293. TOD 85. TOT 82. KT .565 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	50.	83.	109.	127.	132.	127.	109.	83.	50.	19.	6.	0.	0.	920.	143.	187.	113.	138.
SOUTHWEST	0.	0.	6.	19.	32.	43.	52.	74.	111.	139.	154.	155.	138.	100.	31.	0.	0.	1055.	151.	202.	118.	146.
WEST	0.	0.	6.	19.	32.	43.	52.	58.	60.	104.	140.	161.	164.	136.	49.	0.	0.	1024.	149.	198.	117.	144.
NORTHWEST	0.	0.	6.	19.	32.	43.	52.	58.	60.	58.	73.	99.	113.	104.	41.	0.	0.	759.	133.	169.	108.	128.
NORTH	0.	0.	14.	22.	32.	43.	52.	58.	60.	58.	52.	43.	32.	22.	14.	0.	0.	502.	117.	141.	99.	112.
NORTHEAST	0.	0.	41.	104.	113.	99.	73.	58.	60.	58.	52.	43.	32.	19.	6.	0.	0.	759.	133.	169.	108.	128.
EAST	0.	0.	49.	136.	164.	161.	140.	104.	60.	58.	52.	43.	32.	19.	6.	0.	0.	1024.	149.	198.	117.	144.
SOUTHEAST	0.	0.	31.	100.	138.	155.	154.	139.	111.	74.	52.	43.	32.	19.	6.	0.	0.	1055.	151.	202.	118.	146.
HORIZ.	0.	0.	15.	66.	121.	170.	208.	232.	240.	232.	208.	170.	121.	66.	15.	0.	0.	1861.	201.	290.	146.	194.

MONTH 9 HO 2771. TOD 77. TOT 74. KT .628 KD .167

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	29.	76.	119.	153.	174.	181.	174.	153.	119.	76.	29.	0.	0.	0.	1285.	165.	232.	118.	152.
SOUTHWEST	0.	0.	0.	12.	26.	38.	47.	98.	144.	179.	198.	197.	172.	108.	0.	0.	0.	1218.	160.	224.	116.	148.
WEST	0.	0.	0.	12.	26.	38.	47.	52.	54.	110.	154.	181.	181.	130.	0.	0.	0.	987.	145.	196.	108.	134.
NORTHWEST	0.	0.	0.	12.	26.	38.	47.	52.	54.	52.	48.	82.	100.	83.	0.	0.	0.	595.	118.	149.	94.	110.
NORTH	0.	0.	0.	12.	26.	38.	47.	52.	54.	52.	47.	38.	26.	12.	0.	0.	0.	404.	105.	126.	88.	98.
NORTHEAST	0.	0.	0.	83.	100.	82.	48.	52.	54.	52.	47.	38.	26.	12.	0.	0.	0.	595.	118.	149.	94.	110.
EAST	0.	0.	0.	130.	181.	181.	154.	110.	54.	52.	47.	38.	26.	12.	0.	0.	0.	987.	145.	196.	108.	134.
SOUTHEAST	0.	0.	0.	108.	172.	197.	198.	179.	144.	98.	47.	38.	26.	12.	0.	0.	0.	1218.	160.	224.	116.	148.
HORIZ.	0.	0.	0.	42.	105.	161.	206.	233.	243.	233.	206.	161.	105.	42.	0.	0.	0.	1739.	196.	287.	133.	179.

LOCATION OKLAHOMA CITY, OKLAHOMA LATITUDE 35 DEGREES 23 MINUTES

MONTH 10 HO 2183. TOD 66. TOT 63. KT .614 KD .171

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	21.	88.	138.	174.	197.	205.	197.	174.	138.	88.	21.	0.	0.	0.	1441.	168.	250.	109.	147.
SOUTHWEST	0.	0.	0.	5.	18.	30.	62.	114.	159.	191.	208.	202.	163.	53.	0.	0.	0.	1204.	151.	220.	102.	133.
WEST	0.	0.	0.	5.	18.	30.	39.	45.	47.	100.	142.	165.	154.	57.	0.	0.	0.	801.	123.	169.	89.	110.
NORTHWEST	0.	0.	0.	5.	18.	30.	39.	45.	47.	45.	39.	49.	65.	30.	0.	0.	0.	412.	95.	119.	76.	87.
NORTH	0.	0.	0.	5.	18.	30.	39.	45.	47.	45.	39.	30.	18.	5.	0.	0.	0.	321.	89.	107.	73.	82.
NORTHEAST	0.	0.	0.	30.	65.	49.	39.	45.	47.	45.	39.	30.	18.	5.	0.	0.	0.	412.	95.	119.	76.	87.
EAST	0.	0.	0.	57.	154.	165.	142.	100.	47.	45.	39.	30.	18.	5.	0.	0.	0.	801.	123.	169.	89.	110.
SOUTHEAST	0.	0.	0.	53.	163.	202.	208.	191.	159.	114.	62.	30.	18.	5.	0.	0.	0.	1204.	151.	220.	102.	133.
HORIZ.	0.	0.	0.	13.	69.	124.	167.	195.	204.	195.	167.	124.	69.	13.	0.	0.	0.	1340.	161.	237.	106.	141.

MONTH 11 HO 1668. TOD 52. TOT 49. KT .588 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	78.	139.	179.	202.	210.	202.	179.	139.	78.	0.	0.	0.	0.	1405.	160.	248.	94.	131.
SOUTHWEST	0.	0.	0.	0.	11.	22.	70.	119.	160.	189.	201.	187.	128.	0.	0.	0.	0.	1087.	136.	204.	84.	112.
WEST	0.	0.	0.	0.	11.	22.	31.	37.	39.	87.	124.	139.	110.	0.	0.	0.	0.	600.	98.	136.	68.	84.
NORTHWEST	0.	0.	0.	0.	11.	22.	31.	37.	39.	37.	31.	23.	34.	0.	0.	0.	0.	266.	73.	89.	58.	64.
NORTH	0.	0.	0.	0.	11.	22.	31.	37.	39.	37.	31.	22.	11.	0.	0.	0.	0.	243.	71.	86.	57.	63.
NORTHEAST	0.	0.	0.	0.	34.	23.	31.	37.	39.	37.	31.	22.	11.	0.	0.	0.	0.	266.	73.	89.	58.	64.
EAST	0.	0.	0.	0.	110.	139.	124.	87.	39.	37.	31.	22.	11.	0.	0.	0.	0.	600.	98.	136.	68.	84.
SOUTHEAST	0.	0.	0.	0.	128.	187.	201.	189.	160.	119.	70.	22.	11.	0.	0.	0.	0.	1087.	136.	204.	84.	112.
HORIZ.	0.	0.	0.	0.	37.	88.	129.	155.	163.	155.	129.	88.	37.	0.	0.	0.	0.	979.	128.	189.	80.	106.

MONTH 12 HO 1470. TOD 43. TOT 40. KT .608 KD .172

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	72.	146.	191.	217.	226.	217.	191.	146.	72.	0.	0.	0.	0.	1480.	162.	259.	88.	126.
SOUTHWEST	0.	0.	0.	0.	8.	26.	76.	127.	170.	200.	211.	192.	115.	0.	0.	0.	0.	1126.	133.	207.	7 .	106.
WEST	0.	0.	0.	0.	8.	19.	28.	34.	36.	86.	124.	137.	94.	0.	0.	0.	0.	567.	89.	126.	58.	73.
NORTHWEST	0.	0.	0.	0.	8.	19.	28.	34.	36.	34.	28.	19.	24.	0.	0.	0.	0.	232.	62.	77.	48.	54.
NORTH	0.	0.	0.	0.	8.	19.	28.	34.	36.	34.	28.	19.	8.	0.	0.	0.	0.	216.	60.	75.	47.	53.
NORTHEAST	0.	0.	0.	0.	24.	19.	28.	34.	36.	34.	28.	19.	8.	0.	0.	0.	0.	232.	62.	77.	48.	54.
EAST	0.	0.	0.	0.	94.	137.	124.	86.	36.	34.	28.	19.	8.	0.	0.	0.	0.	567.	89.	126.	58.	73.
SOUTHEAST	0.	0.	0.	0.	115.	192.	211.	200.	170.	127.	76.	26.	8.	0.	0.	0.	0.	1126.	133.	207.	76.	106.
HORIZ.	0.	0.	0.	0.	27.	78.	119.	146.	155.	146.	119.	78.	27.	0.	0.	0.	0.	895.	115.	173.	69.	92.

LOCATION OKLAHOMA CITY, OKLAHOMA LATITUDE 35 DEGREES 23 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	146.	138.	129.	118.	116.	124.	132.	143.	165.	168.	160.	162.	142.
SOUTHWEST	123.	123.	125.	127.	129.	141.	148.	151.	160.	151.	136.	133.	137.
WEST	86.	99.	112.	125.	135.	151.	155.	149.	145.	123.	98.	89.	122.
NORTHWEST	61.	74.	90.	109.	123.	139.	141.	133.	118.	95.	73.	62.	101.
NORTH	59.	68.	79.	93.	107.	121.	123.	117.	105.	89.	71.	60.	91.
NORTHEAST	61.	74.	90.	109.	123.	139.	141.	133.	118.	95.	73.	62.	101.
EAST	86.	99.	112.	125.	135.	151.	155.	149.	145.	123.	98.	89.	122.
SOUTHEAST	123.	123.	125.	127.	129.	141.	148.	151.	160.	151.	136.	133.	137.
HORIZ.	115.	134.	156.	174.	190.	215.	216.	201.	196.	161.	128.	115.	167.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	233.	213.	191.	163.	150.	156.	168.	187.	232.	250.	248.	259.	204.
SOUTHWEST	190.	187.	184.	178.	174.	188.	196.	202.	224.	220.	204.	207.	196.
WEST	124.	142.	160.	175.	184.	204.	208.	198.	196.	169.	136.	126.	169.
NORTHWEST	77.	98.	120.	146.	163.	184.	184.	169.	149.	119.	89.	77.	131.
NORTH	74.	86.	100.	118.	135.	152.	151.	141.	126.	107.	86.	75.	113.
NORTHEAST	77.	98.	120.	146.	163.	184.	184.	169.	149.	119.	89.	77.	131.
EAST	124.	142.	160.	175.	184.	204.	208.	198.	196.	169.	136.	126.	169.
SOUTHEAST	190.	187.	184.	178.	174.	188.	196.	202.	224.	220.	204.	207.	196.
HORIZ.	176.	206.	240.	265.	281.	318.	317.	290.	287.	237.	189.	173.	248.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	82.	84.	88.	90.	94.	103.	110.	113.	118.	109.	94.	88.	98.
SOUTHWEST	72.	78.	86.	95.	102.	114.	119.	118.	116.	102.	84.	76.	97.
WEST	56.	66.	79.	94.	105.	120.	123.	117.	108.	89.	68.	58.	90.
NORTHWEST	46.	55.	68.	85.	98.	113.	115.	108.	94.	76.	58.	48.	80.
NORTH	45.	52.	63.	77.	89.	102.	104.	99.	88.	73.	57.	47.	75.
NORTHEAST	46.	55.	68.	85.	98.	113.	115.	108.	94.	76.	58.	48.	80.
EAST	56.	66.	79.	94.	105.	120.	123.	117.	108.	89.	68.	58.	90.
SOUTHEAST	72.	78.	86.	95.	102.	114.	119.	118.	116.	102.	84.	76.	97.
HORIZ.	68.	82.	101.	121.	137.	158.	159.	146.	133.	106.	80.	69.	113.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	118.	119.	119.	115.	114.	123.	131.	138.	152.	147.	131.	126.	128.
SOUTHWEST	100.	107.	115.	123.	128.	142.	147.	146.	148.	133.	112.	106.	126.
WEST	72.	86.	103.	122.	134.	152.	154.	144.	134.	110.	84.	73.	114.
NORTHWEST	53.	66.	83.	106.	122.	140.	140.	128.	110.	87.	64.	54.	96.
NORTH	51.	61.	73.	90.	105.	120.	120.	112.	98.	82.	63.	53.	86.
NORTHEAST	53.	66.	83.	106.	122.	140.	140.	128.	110.	87.	64.	54.	96.
EAST	72.	86.	103.	122.	134.	152.	154.	144.	134.	110.	84.	73.	114.
SOUTHEAST	100.	107.	115.	123.	128.	142.	147.	146.	148.	133.	112.	106.	126.
HORIZ.	94.	116.	143.	171.	190.	220.	218.	194.	179.	141.	106.	92.	155.

LOCATION PORTLAND, MAINE LATITUDE 43 DEGREES 38 MINUTES

MONTH 1 HO 1229. TOD 24. TOT 21. KT .482 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	37.	98.	136.	158.	165.	158.	136.	98.	37.	0.	0.	0.	0.	1024.	108.	177.	54.	80.
SOUTHWEST	0.	0.	0.	0.	6.	19.	56.	94.	126.	146.	149.	129.	59.	0.	0.	0.	0.	785.	89.	142.	46.	66.
WEST	0.	0.	0.	0.	6.	16.	23.	28.	30.	64.	89.	94.	50.	0.	0.	0.	0.	399.	57.	84.	34.	44.
NORTHWEST	0.	0.	0.	0.	6.	16.	23.	28.	30.	28.	23.	16.	15.	0.	0.	0.	0.	184.	39.	51.	27.	31.
NORTH	0.	0.	0.	0.	6.	16.	23.	28.	30.	28.	23.	16.	6.	0.	0.	0.	0.	175.	38.	50.	26.	31.
NORTHEAST	0.	0.	0.	0.	15.	16.	23.	28.	30.	28.	23.	16.	6.	0.	0.	0.	0.	184.	39.	51.	27.	31.
EAST	0.	0.	0.	0.	50.	94.	89.	64.	30.	28.	23.	16.	6.	0.	0.	0.	0.	399.	57.	84.	34.	44.
SOUTHEAST	0.	0.	0.	0.	59.	129.	149.	146.	126.	94.	56.	19.	6.	0.	0.	0.	0.	785.	89.	142.	46.	66.
HORIZ.	0.	0.	0.	0.	15.	50.	80.	99.	106.	99.	80.	50.	15.	0.	0.	0.	0.	593.	73.	113.	40.	55.

MONTH 2 HO 1812. TOD 24. TOT 21. KT .524 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	9.	69.	115.	149.	169.	176.	169.	149.	115.	69.	9.	0.	0.	0.	1197.	111.	182.	60.	91.
SOUTHWEST	0.	0.	0.	3.	14.	24.	58.	101.	136.	161.	171.	161.	123.	20.	0.	0.	0.	972.	95.	152.	53.	78.
WEST	0.	0.	0.	3.	14.	24.	32.	38.	39.	80.	112.	127.	113.	21.	0.	0.	0.	604.	68.	104.	41.	57.
NORTHWEST	0.	0.	0.	3.	14.	24.	32.	38.	39.	38.	32.	33.	45.	12.	0.	0.	0.	311.	47.	65.	31.	40.
NORTH	0.	0.	0.	3.	14.	24.	32.	38.	39.	38.	32.	24.	14.	3.	0.	0.	0.	263.	43.	59.	30.	37.
NORTHEAST	0.	0.	0.	12.	45.	33.	32.	38.	39.	38.	32.	24.	14.	3.	0.	0.	0.	311.	47.	65.	31.	40.
EAST	0.	0.	0.	21.	113.	127.	112.	80.	39.	38.	32.	24.	14.	3.	0.	0.	0.	604.	68.	104.	41.	57.
SOUTHEAST	0.	0.	0.	20.	123.	161.	171.	161.	136.	101.	58.	24.	14.	3.	0.	0.	0.	972.	95.	152.	53.	78.
HORIZ.	0.	0.	0.	6.	46.	87.	120.	141.	148.	141.	120.	87.	46.	6.	0.	0.	0.	949.	93.	149.	52.	77.

MONTH 3 HO 2479. TOD 34. TOT 31. KT .569 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	29.	76.	118.	151.	172.	179.	172.	151.	118.	76.	29.	0.	0.	0.	1271.	116.	182.	72.	106.
SOUTHWEST	0.	0.	0.	11.	23.	34.	54.	101.	141.	170.	184.	180.	155.	95.	0.	0.	0.	1148.	108.	168.	68.	98.
WEST	0.	0.	0.	11.	23.	34.	42.	47.	48.	96.	134.	157.	156.	112.	0.	0.	0.	860.	89.	134.	59.	82.
NORTHWEST	0.	0.	0.	11.	23.	34.	42.	47.	48.	47.	42.	61.	80.	70.	0.	0.	0.	504.	67.	93.	48.	61.
NORTH	0.	0.	0.	11.	23.	34.	42.	47.	48.	47.	42.	34.	23.	11.	0.	0.	0.	361.	57.	76.	43.	53.
NORTHEAST	0.	0.	0.	70.	80.	61.	42.	47.	48.	47.	42.	34.	23.	11.	0.	0.	0.	504.	67.	93.	48.	61.
EAST	0.	0.	0.	112.	156.	157.	134.	96.	48.	47.	42.	34.	23.	11.	0.	0.	0.	860.	89.	134.	59.	82.
SOUTHEAST	0.	0.	0.	95.	155.	180.	184.	170.	141.	101.	54.	34.	23.	11.	0.	0.	0.	1148.	108.	168.	68.	98.
HORIZ.	0.	0.	0.	35.	85.	131.	166.	189.	196.	189.	166.	131.	85.	35.	0.	0.	0.	1409.	125.	198.	77.	114.

LOCATION PORTLAND, MAINE LATITUDE 43 DEGREES 38 MINUTES

MONTH 4 HO 3157. TOD 45. TOT 42. KT .500 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	8.	22.	55.	87.	112.	128.	133.	128.	112.	87.	55.	22.	8.	0.	0.	955.	99.	143.	73.	98.
SOUTHWEST	0.	0.	8.	20.	31.	41.	48.	79.	110.	132.	143.	141.	125.	93.	38.	0.	0.	1010.	102.	149.	74.	101.
WEST	0.	0.	8.	20.	31.	41.	48.	53.	55.	91.	120.	137.	140.	120.	59.	0.	0.	921.	97.	140.	71.	96.
NORTHWEST	0.	0.	8.	20.	31.	41.	48.	53.	55.	53.	54.	77.	91.	89.	50.	0.	0.	667.	83.	114.	63.	81.
NORTH	0.	0.	16.	20.	31.	41.	48.	53.	55.	53.	48.	41.	31.	20.	16.	0.	0.	470.	72.	93.	57.	69.
NORTHEAST	0.	0.	50.	89.	91.	77.	54.	53.	55.	53.	48.	41.	31.	20.	8.	0.	0.	667.	83.	114.	63.	81.
EAST	0.	0.	59.	120.	140.	137.	120.	91.	55.	53.	48.	41.	31.	20.	8.	0.	0.	921.	97.	140.	71.	96.
SOUTHEAST	0.	0.	38.	93.	125.	141.	143.	132.	110.	79.	48.	41.	31.	20.	8.	0.	0.	1010.	102.	149.	74.	101.
HORIZ.	0.	0.	19.	61.	105.	143.	172.	191.	197.	191.	172.	143.	105.	61.	19.	0.	0.	1579.	135.	208.	93.	134.

MONTH 5 HO 3602. TOD 55. TOT 52. KT .544 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	3.	13.	25.	47.	79.	105.	121.	127.	121.	105.	79.	47.	25.	13.	3.	0.	914.	106.	145.	84.	108.
SOUTHWEST	0.	3.	13.	25.	36.	45.	53.	73.	107.	132.	145.	145.	131.	102.	59.	6.	0.	1076.	115.	161.	89.	117.
WEST	0.	3.	13.	25.	36.	45.	53.	57.	59.	99.	131.	153.	159.	145.	101.	12.	0.	1091.	116.	163.	90.	118.
NORTHWEST	0.	3.	13.	25.	36.	45.	53.	57.	59.	57.	71.	98.	115.	118.	92.	12.	0.	854.	103.	139.	82.	104.
NORTH	0.	7.	37.	36.	36.	45.	53.	57.	59.	57.	53.	45.	36.	36.	37.	7.	0.	600.	89.	114.	73.	89.
NORTHEAST	0.	12.	92.	118.	115.	98.	71.	57.	59.	57.	53.	45.	36.	25.	13.	3.	0.	854.	103.	139.	82.	104.
EAST	0.	12.	101.	145.	159.	153.	131.	99.	59.	57.	53.	45.	36.	25.	13.	3.	0.	1091.	116.	163.	90.	118.
SOUTHEAST	0.	6.	59.	102.	131.	145.	145.	132.	107.	73.	53.	45.	36.	25.	13.	3.	0.	1076.	115.	161.	89.	117.
HORIZ.	0.	6.	41.	87.	133.	173.	203.	223.	229.	223.	203.	173.	133.	87.	41.	6.	0.	1959.	164.	248.	119.	171.

MONTH 6 HO 3766. TOD 65. TOT 62. KT .536 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	5.	16.	27.	42.	72.	96.	112.	117.	112.	96.	72.	42.	27.	16.	5.	0.	856.	111.	146.	91.	113.
SOUTHWEST	0.	5.	16.	27.	37.	47.	54.	68.	100.	124.	137.	137.	124.	97.	59.	14.	0.	1046.	121.	164.	98.	125.
WEST	0.	5.	16.	27.	37.	47.	54.	58.	60.	98.	129.	149.	155.	143.	106.	30.	0.	1113.	125.	171.	100.	129.
NORTHWEST	0.	5.	16.	27.	37.	47.	54.	58.	60.	58.	77.	101.	118.	121.	99.	32.	0.	909.	114.	151.	93.	117.
NORTH	0.	18.	44.	43.	37.	47.	54.	58.	60.	58.	54.	47.	37.	43.	44.	18.	0.	662.	101.	128.	84.	102.
NORTHEAST	0.	32.	99.	121.	118.	101.	77.	58.	60.	58.	54.	47.	37.	27.	16.	5.	0.	909.	114.	151.	93.	117.
EAST	0.	30.	106.	143.	155.	149.	129.	98.	60.	58.	54.	47.	37.	27.	16.	5.	0.	1113.	125.	171.	100.	129.
SOUTHEAST	0.	14.	59.	97.	124.	137.	137.	124.	100.	68.	54.	47.	37.	27.	16.	5.	0.	1046.	121.	164.	98.	125.
HORIZ.	0.	11.	49.	93.	137.	175.	205.	224.	230.	224.	205.	175.	137.	93.	49.	11.	0.	2019.	174.	257.	131.	184.

LOCATION PORTLAND, MAINE LATITUDE 43 DEGREES 38 MINUTES

MONTH 7 HO 3600. TOD 71. TOT 68. KT .572 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	3.	13.	25.	48.	82.	109.	127.	133.	127.	109.	82.	48.	25.	13.	3.	0.	946.	124.	164.	100.	125.
SOUTHWEST	0.	3.	13.	25.	36.	46.	53.	75.	111.	138.	153.	153.	138.	108.	61.	6.	0.	1121.	133.	181.	106.	136.
WEST	0.	3.	13.	25.	36.	46.	53.	58.	59.	103.	138.	162.	169.	154.	106.	12.	0.	1138.	134.	183.	107.	137.
NORTHWEST	0.	3.	13.	25.	36.	46.	53.	58.	59.	58.	74.	102.	122.	125.	97.	12.	0.	883.	120.	158.	98.	121.
NORTH	0.	7.	38.	37.	36.	46.	53.	58.	59.	58.	53.	46.	36.	37.	38.	7.	0.	609.	105.	131.	89.	105.
NORTHEAST	0.	12.	97.	125.	122.	102.	74.	58.	59.	58.	53.	46.	36.	25.	13.	3.	0.	883.	120.	158.	98.	121.
EAST	0.	12.	106.	154.	169.	162.	138.	103.	59.	58.	53.	46.	36.	25.	13.	3.	0.	1138.	134.	183.	107.	137.
SOUTHEAST	0.	6.	61.	108.	138.	153.	153.	138.	111.	75.	53.	46.	36.	25.	13.	3.	0.	1121.	133.	181.	106.	136.
HORIZ.	0.	6.	42.	91.	139.	182.	214.	235.	242.	235.	214.	182.	139.	91.	42.	6.	0.	2059.	185.	273.	138.	192.

MONTH 8 HO 3135. TOD 70. TOT 66. KT .554 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	8.	22.	59.	95.	124.	143.	149.	143.	124.	95.	59.	22.	8.	0.	0.	1050.	133.	182.	102.	130.
SOUTHWEST	0.	0.	8.	19.	31.	41.	49.	85.	122.	148.	162.	160.	142.	103.	40.	0.	0.	1110.	137.	188.	104.	133.
WEST	0.	0.	8.	19.	31.	41.	49.	53.	55.	99.	134.	156.	159.	135.	63.	0.	0.	1001.	130.	177.	101.	127.
NORTHWEST	0.	0.	8.	19.	31.	41.	49.	53.	55.	53.	55.	84.	102.	99.	52.	0.	0.	702.	112.	145.	90.	109.
NORTH	0.	0.	16.	19.	31.	41.	49.	53.	55.	53.	49.	41.	31.	19.	16.	0.	0.	474.	98.	120.	83.	95.
NORTHEAST	0.	0.	52.	99.	102.	84.	55.	53.	55.	53.	49.	41.	31.	19.	8.	0.	0.	702.	112.	145.	90.	109.
EAST	0.	0.	63.	135.	159.	156.	134.	99.	55.	53.	49.	41.	31.	19.	8.	0.	0.	1001.	130.	177.	101.	127.
SOUTHEAST	0.	0.	40.	103.	142.	160.	162.	148.	122.	85.	49.	41.	31.	19.	8.	0.	0.	1110.	137.	188.	104.	133.
HORIZ.	0.	0.	19.	66.	114.	157.	191.	212.	219.	212.	191.	157.	114.	66.	19.	0.	0.	1737.	175.	255.	126.	171.

MONTH 9 HO 2470. TOD 62. TOT 59. KT .546 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	27.	70.	110.	142.	162.	169.	162.	142.	110.	70.	27.	0.	0.	0.	1193.	143.	205.	99.	131.
SOUTHWEST	0.	0.	0.	11.	23.	33.	52.	96.	134.	160.	173.	168.	142.	84.	0.	0.	0.	1078.	135.	191.	95.	124.
WEST	0.	0.	0.	11.	23.	33.	41.	46.	48.	92.	127.	147.	144.	99.	0.	0.	0.	812.	117.	159.	86.	108.
NORTHWEST	0.	0.	0.	11.	23.	33.	41.	46.	48.	46.	41.	59.	75.	62.	0.	0.	0.	487.	95.	120.	75.	88.
NORTH	0.	0.	0.	11.	23.	33.	41.	46.	48.	46.	41.	33.	23.	11.	0.	0.	0.	358.	86.	105.	71.	80.
NORTHEAST	0.	0.	0.	62.	75.	59.	41.	46.	48.	46.	41.	33.	23.	11.	0.	0.	0.	487.	95.	120.	75.	88.
EAST	0.	0.	0.	99.	144.	147.	127.	92.	48.	46.	41.	33.	23.	11.	0.	0.	0.	812.	117.	159.	86.	108.
SOUTHEAST	0.	0.	0.	84.	142.	168.	173.	160.	134.	96.	52.	33.	23.	11.	0.	0.	0.	1078.	135.	191.	95.	124.
HORIZ.	0.	0.	1.	33.	81.	125.	159.	181.	188.	181.	159.	125.	81.	33.	1.	0.	0.	1347.	153.	224.	105.	140.

LOCATION PORTLAND, MAINE LATITUDE 43 DEGREES 38 MINUTES

MONTH 10 HO 1779. TOD 52. TOT 48. KT .539 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	7.	69.	118.	154.	176.	184.	176.	154.	118.	69.	7.	0.	0.	0.	1232.	141.	214.	88.	120.
SOUTHWEST	0.	0.	0.	3.	14.	24.	60.	104.	142.	167.	177.	166.	122.	14.	0.	0.	0.	992.	124.	183.	80.	106.
WEST	0.	0.	0.	3.	14.	24.	32.	37.	39.	82.	115.	130.	112.	15.	0.	0.	0.	603.	96.	131.	68.	84.
NORTHWEST	0.	0.	0.	3.	14.	24.	32.	37.	39.	37.	32.	33.	45.	8.	0.	0.	0.	304.	74.	92.	58.	66.
NORTH	0.	0.	0.	3.	14.	24.	32.	37.	39.	37.	32.	24.	14.	3.	0.	0.	0.	258.	71.	86.	57.	63.
NORTHEAST	0.	0.	0.	8.	45.	33.	32.	37.	39.	37.	32.	24.	14.	3.	0.	0.	0.	304.	74.	92.	58.	66.
EAST	0.	0.	0.	15.	112.	130.	115.	82.	39.	37.	32.	24.	14.	3.	0.	0.	0.	603.	96.	131.	68.	84.
SOUTHEAST	0.	0.	0.	14.	122.	166.	177.	167.	142.	104.	60.	24.	14.	3.	0.	0.	0.	992.	124.	183.	80.	106.
HORIZ.	0.	0.	0.	5.	45.	88.	122.	144.	151.	144.	122.	88.	45.	5.	0.	0.	0.	958.	121.	178.	79.	104.

MONTH 11 HO 1217. TOD 40. TOT 38. KT .431 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	30.	83.	116.	135.	142.	135.	116.	83.	30.	0.	0.	0.	0.	871.	112.	171.	65.	88.
SOUTHWEST	0.	0.	0.	0.	6.	18.	50.	82.	108.	125.	127.	108.	47.	0.	0.	0.	0.	672.	96.	141.	59.	77.
WEST	0.	0.	0.	0.	6.	15.	22.	26.	28.	57.	77.	79.	40.	0.	0.	0.	0.	349.	69.	93.	49.	58.
NORTHWEST	0.	0.	0.	0.	6.	15.	22.	26.	28.	26.	22.	15.	13.	0.	0.	0.	0.	173.	55.	66.	43.	48.
NORTH	0.	0.	0.	0.	6.	15.	22.	26.	28.	26.	22.	15.	6.	0.	0.	0.	0.	165.	54.	65.	43.	47.
NORTHEAST	0.	0.	0.	0.	13.	15.	22.	26.	28.	26.	22.	15.	6.	0.	0.	0.	0.	173.	55.	66.	43.	48.
EAST	0.	0.	0.	0.	40.	79.	77.	57.	28.	26.	22.	15.	6.	0.	0.	0.	0.	349.	69.	93.	49.	58.
SOUTHEAST	0.	0.	0.	0.	47.	108.	127.	125.	108.	82.	50.	18.	6.	0.	0.	0.	0.	672.	96.	141.	59.	77.
HORIZ.	0.	0.	0.	0.	13.	44.	71.	88.	94.	88.	71.	44.	13.	0.	0.	0.	0.	526.	84.	119.	54.	68.

MONTH 12 HO 1012. TOD 28. TOT 25. KT .491 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	15.	93.	139.	164.	172.	164.	139.	93.	15.	0.	0.	0.	0.	993.	115.	187.	57.	83.
SOUTHWEST	0.	0.	0.	0.	3.	19.	58.	97.	129.	149.	150.	120.	22.	0.	0.	0.	0.	747.	94.	148.	49.	69.
WEST	0.	0.	0.	0.	3.	12.	20.	25.	26.	61.	85.	84.	18.	0.	0.	0.	0.	334.	57.	81.	36.	45.
NORTHWEST	0.	0.	0.	0.	3.	12.	20.	25.	26.	25.	20.	12.	6.	0.	0.	0.	0.	148.	41.	52.	30.	34.
NORTH	0.	0.	0.	0.	3.	12.	20.	25.	26.	25.	20.	12.	3.	0.	0.	0.	0.	145.	41.	51.	30.	34.
NORTHEAST	0.	0.	0.	0.	6.	12.	20.	25.	26.	25.	20.	12.	3.	0.	0.	0.	0.	148.	41.	52.	30.	34.
EAST	0.	0.	0.	0.	18.	84.	85.	61.	26.	25.	20.	12.	3.	0.	0.	0.	0.	334.	57.	81.	36.	45.
SOUTHEAST	0.	0.	0.	0.	22.	120.	150.	149.	129.	97.	58.	19.	3.	0.	0.	0.	0.	747.	94.	148.	49.	69.
HORIZ.	0.	0.	0.	0.	6.	38.	68.	88.	95.	88.	68.	38.	6.	0.	0.	0.	0.	497.	72.	107.	41.	54.

LOCATION PORTLAND, MAINE LATITUDE 43 DEGREES 38 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	108.	111.	116.	99.	106.	111.	124.	133.	143.	141.	112.	115.	118.
SOUTHWEST	89.	95.	108.	102.	115.	121.	133.	137.	135.	124.	96.	94.	112.
WEST	57.	68.	89.	97.	116.	125.	134.	130.	117.	96.	69.	57.	96.
NORTHWEST	39.	47.	67.	83.	103.	114.	120.	112.	95.	74.	55.	41.	79.
NORTH	38.	43.	57.	72.	89.	101.	105.	98.	86.	71.	54.	41.	71.
NORTHEAST	39.	47.	67.	83.	103.	114.	120.	112.	95.	74.	55.	41.	79.
EAST	57.	68.	89.	97.	116.	125.	134.	130.	117.	96.	69.	57.	96.
SOUTHEAST	89.	95.	108.	102.	115.	121.	133.	137.	135.	124.	96.	94.	112.
HORIZ.	73.	93.	125.	135.	164.	174.	185.	175.	153.	121.	84.	72.	129.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	177.	182.	182.	143.	145.	146.	164.	182.	205.	214.	171.	187.	175.
SOUTHWEST	142.	152.	168.	149.	161.	164.	181.	188.	191.	183.	141.	148.	164.
WEST	84.	104.	134.	140.	163.	171.	183.	177.	159.	131.	93.	81.	135.
NORTHWEST	51.	65.	93.	114.	139.	151.	158.	145.	120.	92.	66.	52.	104.
NORTH	50.	59.	76.	93.	114.	128.	131.	120.	105.	86.	65.	51.	90.
NORTHEAST	51.	65.	93.	114.	139.	151.	158.	145.	120.	92.	66.	52.	104.
EAST	84.	104.	134.	140.	163.	171.	183.	177.	159.	131.	93.	81.	135.
SOUTHEAST	142.	152.	168.	149.	161.	164.	181.	188.	191.	183.	141.	148.	164.
HORIZ.	113.	149.	198.	208.	248.	257.	273.	255.	224.	178.	119.	107.	194.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	54.	60.	72.	73.	84.	91.	100.	102.	99.	88.	65.	57.	79.
SOUTHWEST	46.	53.	68.	74.	89.	98.	106.	104.	95.	80.	59.	49.	77.
WEST	34.	41.	59.	71.	90.	100.	107.	101.	86.	68.	49.	36.	70.
NORTHWEST	27.	31.	48.	63.	82.	93.	98.	90.	75.	58.	43.	30.	62.
NORTH	26.	30.	43.	57.	73.	84.	89.	83.	71.	57.	43.	30.	57.
NORTHEAST	27.	31.	48.	63.	82.	93.	98.	90.	75.	58.	43.	30.	62.
EAST	34.	41.	59.	71.	90.	100.	107.	101.	86.	68.	49.	36.	70.
SOUTHEAST	46.	53.	68.	74.	89.	98.	106.	104.	95.	80.	59.	49.	77.
HORIZ.	40.	52.	77.	93.	119.	131.	138.	126.	105.	79.	54.	41.	88.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	80.	91.	106.	98.	108.	113.	125.	130.	131.	120.	88.	83.	106.
SOUTHWEST	66.	78.	98.	101.	117.	125.	136.	133.	124.	106.	77.	69.	103.
WEST	44.	57.	82.	96.	118.	129.	137.	127.	108.	84.	58.	45.	90.
NORTHWEST	31.	40.	61.	81.	104.	117.	121.	109.	88.	66.	48.	34.	75.
NORTH	31.	37.	53.	69.	89.	102.	105.	95.	80.	63.	47.	34.	67.
NORTHEAST	31.	40.	61.	81.	104.	117.	121.	109.	88.	66.	48.	34.	75.
EAST	44.	57.	82.	96.	118.	129.	137.	127.	108.	84.	58.	45.	90.
SOUTHEAST	66.	78.	98.	101.	117.	125.	136.	133.	124.	106.	77.	69.	103.
HORIZ.	55.	77.	114.	134.	171.	184.	192.	171.	140.	104.	68.	54.	122.

LOCATION RAPID CITY, S.D. LATITUDE 44 DEGREES 9 MINUTES

MONTH 1 HO 1201. TOD 25. TOT 21. KT .601 KD .174

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	48.	135.	188.	218.	228.	218.	188.	135.	48.	0.	0.	0.	0.	1406.	142.	237.	66.	103.
SOUTHWEST	0.	0.	0.	0.	6.	20.	72.	126.	170.	200.	207.	179.	79.	0.	0.	0.	0.	1059.	113.	185.	55.	83.
WEST	0.	0.	0.	0.	6.	15.	24.	29.	30.	81.	119.	128.	66.	0.	0.	0.	0.	498.	66.	100.	37.	50.
NORTHWEST	0.	0.	0.	0.	6.	15.	24.	29.	30.	29.	24.	15.	18.	0.	0.	0.	0.	190.	40.	53.	27.	32.
NORTH	0.	0.	0.	0.	6.	15.	24.	29.	30.	29.	24.	15.	6.	0.	0.	0.	0.	177.	39.	51.	27.	31.
NORTHEAST	0.	0.	0.	0.	18.	15.	24.	29.	30.	29.	24.	15.	6.	0.	0.	0.	0.	190.	40.	53.	27.	32.
EAST	0.	0.	0.	0.	66.	128.	119.	81.	30.	29.	24.	15.	6.	0.	0.	0.	0.	498.	66.	100.	37.	50.
SOUTHEAST	0.	0.	0.	0.	79.	179.	207.	200.	170.	126.	72.	20.	6.	0.	0.	0.	0.	1059.	113.	185.	55.	83.
HORIZ.	0.	0.	0.	0.	16.	60.	98.	123.	131.	123.	98.	60.	16.	0.	0.	0.	0.	723.	85.	134.	44.	63.

MONTH 2 HO 1786. TOD 27. TOT 24. KT .627 KD .167

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	10.	87.	147.	191.	218.	227.	218.	191.	147.	87.	10.	0.	0.	0.	1533.	138.	229.	73.	113.
SOUTHWEST	0.	0.	0.	3.	14.	24.	68.	124.	172.	206.	221.	210.	160.	23.	0.	0.	0.	1224.	116.	188.	63.	95.
WEST	0.	0.	0.	3.	14.	24.	33.	38.	40.	96.	140.	163.	147.	24.	0.	0.	0.	720.	80.	122.	47.	66.
NORTHWEST	0.	0.	0.	3.	14.	24.	33.	38.	40.	38.	33.	36.	56.	13.	0.	0.	0.	325.	51.	70.	34.	43.
NORTH	0.	0.	0.	3.	14.	24.	33.	38.	40.	38.	33.	24.	14.	3.	0.	0.	0.	262.	46.	62.	32.	39.
NORTHEAST	0.	0.	0.	13.	56.	36.	33.	38.	40.	38.	33.	24.	14.	3.	0.	0.	0.	325.	51.	70.	34.	43.
EAST	0.	0.	0.	24.	147.	163.	140.	96.	40.	38.	33.	24.	14.	3.	0.	0.	0.	720.	80.	122.	47.	66.
SOUTHEAST	0.	0.	0.	23.	160.	210.	221.	206.	172.	124.	68.	24.	14.	3.	0.	0.	0.	1224.	116.	188.	63.	95.
HORIZ.	0.	0.	0.	5.	52.	103.	143.	168.	177.	168.	143.	103.	52.	5.	0.	0.	0.	1119.	108.	175.	60.	89.

MONTH 3 HO 2459. TOD 35. TOT 31. KT .649 KD .162

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	33.	89.	139.	179.	204.	213.	204.	179.	139.	89.	33.	0.	0.	0.	1503.	131.	209.	80.	119.
SOUTHWEST	0.	0.	0.	11.	23.	33.	57.	115.	165.	201.	220.	217.	187.	115.	0.	0.	0.	1345.	121.	191.	74.	110.
WEST	0.	0.	0.	11.	23.	33.	41.	47.	48.	108.	156.	187.	189.	136.	0.	0.	0.	979.	97.	148.	63.	88.
NORTHWEST	0.	0.	0.	11.	23.	33.	41.	47.	48.	47.	41.	67.	93.	83.	0.	0.	0.	534.	69.	97.	48.	62.
NORTH	0.	0.	0.	11.	23.	33.	41.	47.	48.	47.	41.	33.	23.	11.	0.	0.	0.	357.	58.	76.	43.	52.
NORTHEAST	0.	0.	0.	83.	93.	67.	41.	47.	48.	47.	41.	33.	23.	11.	0.	0.	0.	534.	69.	97.	48.	62.
EAST	0.	0.	0.	136.	189.	187.	156.	108.	48.	47.	41.	33.	23.	11.	0.	0.	0.	979.	97.	148.	63.	88.
SOUTHEAST	0.	0.	0.	115.	187.	217.	220.	201.	165.	115.	57.	33.	23.	11.	0.	0.	0.	1345.	121.	191.	74.	110.
HORIZ.	0.	0.	0.	38.	96.	148.	189.	215.	223.	215.	189.	148.	96.	38.	0.	0.	0.	1595.	137.	220.	82.	124.

LOCATION RAPID CITY, S.D. LATITUDE 44 DEGREES 9 MINUTES

MONTH 4 HO 3145. TOD 48. TOT 44. KT .594 KD .175

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	8.	24.	65.	104.	136.	156.	163.	156.	136.	104.	65.	24.	8.	0.	0.	1146.	113.	166.	81.	111.
SOUTHWEST	0.	0.	8.	20.	31.	41.	49.	90.	132.	162.	178.	178.	158.	118.	49.	0.	0.	1215.	117.	173.	83.	115.
WEST	0.	0.	8.	20.	31.	41.	49.	54.	56.	105.	145.	171.	178.	155.	77.	0.	0.	1090.	110.	160.	79.	108.
NORTHWEST	0.	0.	8.	20.	31.	41.	49.	54.	56.	54.	56.	89.	111.	112.	64.	0.	0.	746.	90.	125.	68.	88.
NORTH	0.	0.	18.	20.	31.	41.	49.	54.	56.	54.	49.	41.	31.	20.	18.	0.	0.	483.	76.	98.	60.	73.
NORTHEAST	0.	0.	64.	112.	111.	89.	56.	54.	56.	54.	49.	41.	31.	20.	8.	0.	0.	746.	90.	125.	68.	88.
EAST	0.	0.	77.	155.	178.	171.	145.	105.	56.	54.	49.	41.	31.	20.	8.	0.	0.	1090.	110.	160.	79.	108.
SOUTHEAST	0.	0.	49.	118.	158.	178.	178.	162.	132.	90.	49.	41.	31.	20.	8.	0.	0.	1215.	117.	173.	83.	115.
HORIZ.	0.	0.	21.	72.	123.	169.	205.	227.	235.	227.	205.	169.	123.	72.	21.	0.	0.	1869.	154.	241.	104.	153.

MONTH 5 HO 3598. TOD 58. TOT 55. KT .574 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	3.	14.	25.	49.	83.	111.	129.	135.	129.	111.	83.	49.	25.	14.	3.	0.	965.	112.	153.	88.	113.
SOUTHWEST	0.	3.	14.	25.	36.	46.	53.	76.	113.	140.	155.	156.	141.	110.	64.	7.	0.	1138.	121.	170.	94.	123.
WEST	0.	3.	14.	25.	36.	46.	53.	58.	59.	103.	139.	163.	171.	157.	110.	14.	0.	1150.	122.	171.	94.	124.
NORTHWEST	0.	3.	14.	25.	36.	46.	53.	58.	59.	58.	73.	102.	122.	126.	100.	15.	0.	888.	108.	145.	85.	108.
NORTH	0.	8.	39.	37.	36.	46.	53.	58.	59.	58.	53.	46.	36.	37.	39.	8.	0.	611.	92.	118.	76.	92.
NORTHEAST	0.	15.	100.	126.	122.	102.	73.	58.	59.	58.	53.	46.	36.	25.	14.	3.	0.	888.	108.	145.	85.	108.
EAST	0.	14.	110.	157.	171.	163.	139.	103.	59.	58.	53.	46.	36.	25.	14.	3.	0.	1150.	122.	171.	94.	124.
SOUTHEAST	0.	7.	64.	110.	141.	156.	155.	140.	113.	76.	53.	46.	36.	25.	14.	3.	0.	1138.	121.	170.	94.	123.
HORIZ.	0.	6.	43.	92.	140.	182.	214.	235.	242.	235.	214.	182.	140.	92.	43.	6.	0.	2065.	173.	261.	125.	179.

MONTH 6 HO 3765. TOD 67. TOT 64. KT .583 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	5.	16.	27.	44.	77.	105.	122.	128.	122.	105.	77.	44.	27.	16.	5.	0.	920.	117.	154.	95.	119.
SOUTHWEST	0.	5.	16.	27.	38.	47.	54.	72.	108.	136.	151.	152.	138.	109.	67.	16.	0.	1135.	128.	175.	103.	132.
WEST	0.	5.	16.	27.	38.	47.	54.	59.	60.	104.	140.	165.	173.	161.	121.	36.	0.	1207.	132.	182.	105.	137.
NORTHWEST	0.	5.	16.	27.	38.	47.	54.	59.	60.	59.	80.	109.	130.	135.	113.	38.	0.	969.	119.	159.	97.	122.
NORTH	0.	21.	48.	45.	38.	47.	54.	59.	60.	59.	54.	47.	38.	45.	48.	21.	0.	685.	104.	132.	87.	105.
NORTHEAST	0.	38.	113.	135.	130.	109.	80.	59.	60.	59.	54.	47.	38.	27.	16.	5.	0.	969.	119.	159.	97.	122.
EAST	0.	36.	121.	161.	173.	165.	140.	104.	60.	59.	54.	47.	38.	27.	16.	5.	0.	1207.	132.	182.	105.	137.
SOUTHEAST	0.	16.	67.	109.	138.	152.	151.	136.	108.	72.	54.	47.	38.	27.	16.	5.	0.	1135.	128.	175.	103.	132.
HORIZ.	0.	12.	53.	102.	149.	191.	223.	243.	250.	243.	223.	191.	149.	102.	53.	12.	0.	2196.	185.	275.	139.	196.

LOCATION RAPID CITY, S.D. LATITUDE 44 DEGREES 9 MINUTES

MONTH 7 HO 3597. TOD 76. TOT 72. KT .612 KD .171

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	3.	13.	25.	50.	87.	117.	137.	144.	137.	117.	87.	50.	25.	13.	3.	0.	1010.	132.	175.	107.	133.
SOUTHWEST	0.	3.	13.	25.	36.	46.	53.	78.	119.	149.	166.	167.	151.	118.	68.	8.	0.	1201.	143.	194.	113.	145.
WEST	0.	3.	13.	25.	36.	46.	53.	58.	59.	108.	149.	176.	185.	170.	118.	15.	0.	1215.	144.	195.	114.	146.
NORTHWEST	0.	3.	13.	25.	36.	46.	53.	58.	59.	58.	75.	109.	132.	136.	107.	15.	0.	926.	128.	167.	104.	128.
NORTH	0.	9.	41.	38.	36.	46.	53.	58.	59.	58.	53.	46.	36.	38.	41.	9.	0.	621.	111.	137.	94.	110.
NORTHEAST	0.	15.	107.	136.	132.	109.	75.	58.	59.	58.	53.	46.	36.	25.	13.	3.	0.	926.	128.	167.	104.	128.
EAST	0.	15.	118.	170.	185.	176.	149.	108.	59.	58.	53.	46.	36.	25.	13.	3.	0.	1215.	144.	195.	114.	146.
SOUTHEAST	0.	8.	68.	118.	151.	167.	166.	149.	119.	78.	53.	46.	36.	25.	13.	3.	0.	1201.	143.	194.	113.	145.
HORIZ.	0.	6.	45.	97.	149.	194.	229.	251.	259.	251.	229.	194.	149.	97.	45.	6.	0.	2201.	198.	292.	148.	205.

MONTH 8 HO 3124. TOD 75. TOT 71. KT .622 KD .169

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	23.	66.	108.	142.	164.	171.	164.	142.	108.	66.	23.	7.	0.	0.	1191.	147.	202.	112.	143.
SOUTHWEST	0.	0.	7.	19.	31.	41.	49.	93.	137.	170.	188.	187.	166.	122.	48.	0.	0.	1257.	151.	209.	114.	147.
WEST	0.	0.	7.	19.	31.	41.	49.	54.	55.	108.	152.	180.	187.	160.	75.	0.	0.	1119.	143.	194.	109.	139.
NORTHWEST	0.	0.	7.	19.	31.	41.	49.	54.	55.	54.	56.	92.	116.	116.	63.	0.	0.	754.	120.	155.	97.	116.
NORTH	0.	0.	18.	19.	31.	41.	49.	54.	55.	54.	49.	41.	31.	19.	18.	0.	0.	478.	104.	126.	87.	100.
NORTHEAST	0.	0.	63.	116.	116.	92.	56.	54.	55.	54.	49.	41.	31.	19.	7.	0.	0.	754.	120.	155.	97.	116.
EAST	0.	0.	75.	160.	187.	180.	152.	108.	55.	54.	49.	41.	31.	19.	7.	0.	0.	1119.	143.	194.	109.	139.
SOUTHEAST	0.	0.	48.	122.	166.	187.	188.	170.	137.	93.	49.	41.	31.	19.	7.	0.	0.	1257.	151.	209.	114.	147.
HORIZ.	0.	0.	21.	73.	127.	176.	214.	238.	246.	238.	214.	176.	127.	73.	21.	0.	0.	1944.	192.	282.	137.	188.

MONTH 9 HO 2450. TOD 65. TOT 60. KT .628 KD .167

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	31.	83.	132.	170.	195.	203.	195.	170.	132.	83.	31.	0.	0.	0.	1423.	161.	236.	109.	146.
SOUTHWEST	0.	0.	0.	11.	23.	33.	56.	110.	158.	192.	209.	205.	173.	103.	0.	0.	0.	1273.	151.	218.	104.	137.
WEST	0.	0.	0.	11.	23.	33.	41.	46.	48.	104.	150.	177.	176.	122.	0.	0.	0.	931.	128.	176.	92.	117.
NORTHWEST	0.	0.	0.	11.	23.	33.	41.	46.	48.	46.	41.	65.	88.	75.	0.	0.	0.	519.	100.	127.	78.	92.
NORTH	0.	0.	0.	11.	23.	33.	41.	46.	48.	46.	41.	33.	23.	11.	0.	0.	0.	357.	89.	108.	73.	82.
NORTHEAST	0.	0.	0.	75.	88.	65.	41.	46.	48.	46.	41.	33.	23.	11.	0.	0.	0.	519.	100.	127.	78.	92.
EAST	0.	0.	0.	122.	176.	177.	150.	104.	48.	46.	41.	33.	23.	11.	0.	0.	0.	931.	128.	176.	92.	117.
SOUTHEAST	0.	0.	0.	103.	173.	205.	209.	192.	158.	110.	56.	33.	23.	11.	0.	0.	0.	1273.	151.	218.	104.	137.
HORIZ.	0.	0.	1.	36.	92.	142.	182.	207.	216.	207.	182.	142.	92.	36.	1.	0.	0.	1538.	169.	249.	113.	153.

LOCATION RAPID CITY, S.D. LATITUDE 44 DEGREES 9 MINUTES

MONTH 10 HO 1753. TOD 53. TOT 49. KT .624 KD .168

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	7.	83.	145.	189.	217.	226.	217.	189.	145.	83.	7.	0.	0.	0.	1507.	163.	252.	97.	137.
SOUTHWEST	0.	0.	0.	2.	13.	24.	68.	124.	171.	205.	218.	205.	151.	15.	0.	0.	0.	1197.	140.	211.	87.	119.
WEST	0.	0.	0.	2.	13.	24.	32.	37.	39.	95.	138.	160.	138.	16.	0.	0.	0.	694.	103.	145.	71.	90.
NORTHWEST	0.	0.	0.	2.	13.	24.	32.	37.	39.	37.	32.	34.	52.	9.	0.	0.	0.	313.	76.	94.	59.	67.
NORTH	0.	0.	0.	2.	13.	24.	32.	37.	39.	37.	32.	24.	13.	2.	0.	0.	0.	257.	72.	87.	57.	64.
NORTHEAST	0.	0.	0.	9.	52.	34.	32.	37.	39.	37.	32.	24.	13.	2.	0.	0.	0.	313.	76.	94.	59.	67.
EAST	0.	0.	0.	16.	138.	160.	138.	95.	39.	37.	32.	24.	13.	2.	0.	0.	0.	694.	103.	145.	71.	90.
SOUTHEAST	0.	0.	0.	15.	151.	205.	218.	205.	171.	124.	68.	24.	13.	2.	0.	0.	0.	1197.	140.	211.	87.	119.
HORIZ.	0.	0.	0.	5.	49.	100.	140.	166.	174.	166.	140.	100.	49.	5.	0.	0.	0.	1093.	132.	197.	84.	113.

MONTH 11 HO 1190. TOD 39. TOT 35. KT .566 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	41.	122.	172.	200.	210.	200.	172.	122.	41.	0.	0.	0.	0.	1281.	145.	232.	76.	110.
SOUTHWEST	0.	0.	0.	0.	5.	20.	67.	116.	157.	184.	189.	162.	67.	0.	0.	0.	0.	968.	119.	185.	66.	92.
WEST	0.	0.	0.	0.	5.	15.	23.	28.	30.	76.	109.	115.	57.	0.	0.	0.	0.	459.	77.	108.	50.	62.
NORTHWEST	0.	0.	0.	0.	5.	15.	23.	28.	30.	28.	23.	15.	16.	0.	0.	0.	0.	185.	54.	67.	41.	46.
NORTH	0.	0.	0.	0.	5.	15.	23.	28.	30.	28.	23.	15.	5.	0.	0.	0.	0.	174.	53.	65.	41.	45.
NORTHEAST	0.	0.	0.	0.	16.	15.	23.	28.	30.	28.	23.	15.	5.	0.	0.	0.	0.	185.	54.	67.	41.	46.
EAST	0.	0.	0.	0.	57.	115.	109.	76.	30.	28.	23.	15.	5.	0.	0.	0.	0.	459.	77.	108.	50.	62.
SOUTHEAST	0.	0.	0.	0.	67.	162.	189.	184.	157.	116.	67.	20.	5.	0.	0.	0.	0.	968.	119.	185.	66.	92.
HORIZ.	0.	0.	0.	0.	14.	55.	91.	115.	123.	115.	91.	55.	14.	0.	0.	0.	0.	674.	95.	141.	57.	75.

MONTH 12 HO 984. TOD 29. TOT 26. KT .588 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	15.	121.	182.	215.	226.	215.	182.	121.	15.	0.	0.	0.	0.	1291.	144.	237.	67.	101.
SOUTHWEST	0.	0.	0.	0.	3.	21.	72.	124.	168.	195.	197.	156.	23.	0.	0.	0.	0.	958.	114.	184.	56.	82.
WEST	0.	0.	0.	0.	3.	12.	20.	25.	27.	75.	108.	107.	19.	0.	0.	0.	0.	395.	64.	93.	38.	49.
NORTHWEST	0.	0.	0.	0.	3.	12.	20.	25.	27.	25.	20.	12.	5.	0.	0.	0.	0.	147.	42.	53.	30.	34.
NORTH	0.	0.	0.	0.	3.	12.	20.	25.	27.	25.	20.	12.	3.	0.	0.	0.	0.	145.	42.	52.	30.	34.
NORTHEAST	0.	0.	0.	0.	5.	12.	20.	25.	27.	25.	20.	12.	3.	0.	0.	0.	0.	147.	42.	53.	30.	34.
EAST	0.	0.	0.	0.	19.	107.	108.	75.	27.	25.	20.	12.	3.	0.	0.	0.	0.	395.	64.	93.	38.	49.
SOUTHEAST	0.	0.	0.	0.	23.	156.	197.	195.	168.	124.	72.	21.	3.	0.	0.	0.	0.	958.	114.	184.	56.	82.
HORIZ.	0.	0.	0.	0.	5.	43.	80.	104.	113.	104.	80.	43.	5.	0.	0.	0.	0.	578.	80.	122.	44.	59.

LOCATION RAPID CITY, S.D. LATITUDE 44 DEGREES 9 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	142.	138.	131.	113.	112.	117.	132.	147.	161.	163.	145.	144.	137.
SOUTHWEST	113.	116.	121.	117.	121.	128.	143.	151.	151.	140.	119.	114.	128.
WEST	66.	80.	97.	110.	122.	132.	144.	143.	128.	103.	77.	64.	105.
NORTHWEST	40.	51.	69.	90.	108.	119.	128.	120.	100.	76.	54.	42.	83.
NORTH	39.	46.	58.	76.	92.	104.	111.	104.	89.	72.	53.	42.	74.
NORTHEAST	40.	51.	69.	90.	108.	119.	128.	120.	100.	76.	54.	42.	83.
EAST	66.	80.	97.	110.	122.	132.	144.	143.	128.	103.	77.	64.	105.
SOUTHEAST	113.	116.	121.	117.	121.	128.	143.	151.	151.	140.	119.	114.	128.
HORIZ.	85.	108.	137.	154.	173.	185.	198.	192.	169.	132.	95.	80.	142.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	237.	229.	209.	166.	153.	154.	175.	202.	236.	252.	232.	237.	207.
SOUTHWEST	185.	188.	191.	173.	170.	175.	194.	209.	218.	211.	185.	184.	190.
WEST	100.	122.	148.	160.	171.	182.	195.	194.	176.	145.	108.	93.	150.
NORTHWEST	53.	70.	97.	125.	145.	159.	167.	155.	127.	94.	67.	53.	109.
NORTH	51.	62.	76.	98.	118.	132.	137.	126.	108.	87.	65.	52.	93.
NORTHEAST	53.	70.	97.	125.	145.	159.	167.	155.	127.	94.	67.	53.	109.
EAST	100.	122.	148.	160.	171.	182.	195.	194.	176.	145.	108.	93.	150.
SOUTHEAST	185.	188.	191.	173.	170.	175.	194.	209.	218.	211.	185.	184.	190.
HORIZ.	134.	175.	220.	241.	261.	275.	292.	282.	249.	197.	141.	122.	216.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	66.	73.	80.	81.	88.	95.	107.	112.	109.	97.	76.	67.	88.
SOUTHWEST	55.	63.	74.	83.	94.	103.	113.	114.	104.	87.	66.	56.	84.
WEST	37.	47.	63.	79.	94.	105.	114.	109.	92.	71.	50.	38.	75.
NORTHWEST	27.	34.	48.	68.	85.	97.	104.	97.	78.	59.	41.	30.	64.
NORTH	27.	32.	43.	60.	76.	87.	94.	87.	73.	57.	41.	30.	59.
NORTHEAST	27.	34.	48.	68.	85.	97.	104.	97.	78.	59.	41.	30.	64.
EAST	37.	47.	63.	79.	94.	105.	114.	109.	92.	71.	50.	38.	75.
SOUTHEAST	55.	63.	74.	83.	94.	103.	113.	114.	104.	87.	66.	56.	84.
HORIZ.	44.	60.	82.	104.	125.	139.	148.	137.	113.	84.	57.	44.	95.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	103.	113.	119.	111.	113.	119.	133.	143.	146.	137.	110.	101.	121.
SOUTHWEST	83.	95.	110.	115.	123.	132.	145.	147.	137.	119.	92.	82.	115.
WEST	50.	66.	88.	108.	124.	137.	146.	139.	117.	90.	62.	49.	98.
NORTHWEST	32.	43.	62.	88.	108.	122.	128.	116.	92.	67.	46.	34.	78.
NORTH	31.	39.	52.	73.	92.	105.	110.	100.	82.	64.	45.	34.	69.
NORTHEAST	32.	43.	62.	88.	108.	122.	128.	116.	92.	67.	46.	34.	78.
EAST	50.	66.	88.	108.	124.	137.	146.	139.	117.	90.	62.	49.	98.
SOUTHEAST	83.	95.	110.	115.	123.	132.	145.	147.	137.	119.	92.	82.	115.
HORIZ.	63.	89.	124.	153.	179.	196.	205.	188.	153.	113.	75.	59.	133.

LOCATION RIVERSIDE, CALIFORNIA LATITUDE 33 DEGREES 57 MINUTES

MONTH 1 HO 1759. TOD 55. TOT 53. KT .589 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	1.	83.	140.	178.	201.	208.	201.	178.	140.	83.	1.	0.	0.	0.	1414.	163.	251.	99.	136.
SOUTHWEST	0.	0.	0.	1.	12.	24.	70.	118.	159.	189.	201.	190.	137.	1.	0.	0.	0.	1102.	139.	207.	89.	117.
WEST	0.	0.	0.	1.	12.	24.	33.	39.	41.	89.	126.	143.	118.	1.	0.	0.	0.	624.	103.	142.	73.	90.
NORTHWEST	0.	0.	0.	1.	12.	24.	33.	39.	41.	39.	33.	25.	37.	1.	0.	0.	0.	283.	77.	94.	62.	70.
NORTH	0.	0.	0.	1.	12.	24.	33.	39.	41.	39.	33.	24.	12.	1.	0.	0.	0.	257.	75.	91.	61.	68.
NORTHEAST	0.	0.	0.	1.	37.	25.	33.	39.	41.	39.	33.	24.	12.	1.	0.	0.	0.	283.	77.	94.	62.	70.
EAST	0.	0.	0.	1.	118.	143.	126.	89.	41.	39.	33.	24.	12.	1.	0.	0.	0.	624.	103.	142.	73.	90.
SOUTHEAST	0.	0.	0.	1.	137.	190.	201.	189.	159.	118.	70.	24.	12.	1.	0.	0.	0.	1102.	139.	207.	89.	117.
HORIZ.	0.	0.	0.	1.	42.	94.	135.	161.	170.	161.	135.	94.	42.	1.	0.	0.	0.	1035.	134.	198.	86.	113.

MONTH 2 HO 2284. TOD 57. TOT 54. KT .617 KD .170

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	27.	91.	138.	173.	195.	203.	195.	173.	138.	91.	27.	0.	0.	0.	1452.	158.	241.	101.	139.
SOUTHWEST	0.	0.	0.	6.	19.	31.	61.	112.	157.	191.	208.	205.	171.	69.	0.	0.	0.	1232.	143.	213.	94.	126.
WEST	0.	0.	0.	6.	19.	31.	41.	47.	49.	102.	145.	170.	162.	75.	0.	0.	0.	846.	116.	164.	81.	103.
NORTHWEST	0.	0.	0.	6.	19.	31.	41.	47.	49.	47.	41.	53.	70.	39.	0.	0.	0.	442.	88.	113.	68.	80.
NORTH	0.	0.	0.	6.	19.	31.	41.	47.	49.	47.	41.	31.	19.	6.	0.	0.	0.	336.	80.	99.	65.	74.
NORTHEAST	0.	0.	0.	39.	70.	53.	41.	47.	49.	47.	41.	31.	19.	6.	0.	0.	0.	442.	88.	113.	68.	80.
EAST	0.	0.	0.	75.	162.	170.	145.	102.	49.	47.	41.	31.	19.	6.	0.	0.	0.	846.	116.	164.	81.	103.
SOUTHEAST	0.	0.	0.	69.	171.	205.	208.	191.	157.	112.	61.	31.	19.	6.	0.	0.	0.	1232.	143.	213.	94.	126.
HORIZ.	0.	0.	0.	16.	75.	131.	175.	202.	212.	202.	175.	131.	75.	16.	0.	0.	0.	1410.	155.	236.	99.	136.

MONTH 3 HO 2835. TOD 61. TOT 56. KT .643 KD .163

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	32.	79.	122.	155.	177.	184.	177.	155.	122.	79.	32.	0.	0.	0.	1313.	145.	213.	99.	133.
SOUTHWEST	0.	0.	0.	12.	26.	38.	48.	98.	146.	183.	203.	205.	181.	119.	0.	0.	0.	1261.	141.	207.	97.	130.
WEST	0.	0.	0.	12.	26.	38.	48.	54.	56.	113.	160.	190.	193.	144.	0.	0.	0.	1035.	127.	181.	90.	117.
NORTHWEST	0.	0.	0.	12.	26.	38.	48.	54.	56.	54.	51.	86.	107.	92.	0.	0.	0.	624.	101.	133.	77.	93.
NORTH	0.	0.	0.	12.	26.	38.	48.	54.	56.	54.	48.	38.	26.	12.	0.	0.	0.	412.	87.	109.	70.	81.
NORTHEAST	0.	0.	0.	92.	107.	86.	51.	54.	56.	54.	48.	38.	26.	12.	0.	0.	0.	624.	101.	133.	77.	93.
EAST	0.	0.	0.	144.	193.	190.	160.	113.	56.	54.	48.	38.	26.	12.	0.	0.	0.	1035.	127.	181.	90.	117.
SOUTHEAST	0.	0.	0.	119.	181.	205.	203.	183.	146.	98.	48.	38.	26.	12.	0.	0.	0.	1261.	141.	207.	97.	130.
HORIZ.	0.	0.	0.	46.	111.	169.	215.	244.	253.	244.	215.	169.	111.	46.	0.	0.	0.	1822.	177.	272.	115.	163.

LOCATION RIVERSIDE, CALIFORNIA LATITUDE 33 DEGREES 57 MINUTES

MONTH 4 HO 3339. TOD 65. TOT 59. KT .594 KD .175

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	50.	85.	112.	130.	136.	130.	112.	85.	50.	19.	6.	0.	0.	940.	120.	165.	89.	114.
SOUTHWEST	0.	0.	6.	19.	33.	44.	53.	73.	114.	145.	162.	164.	148.	110.	35.	0.	0.	1107.	130.	183.	95.	124.
WEST	0.	0.	6.	19.	33.	44.	53.	59.	61.	109.	149.	174.	178.	151.	56.	0.	0.	1093.	129.	182.	94.	123.
NORTHWEST	0.	0.	6.	19.	33.	44.	53.	59.	61.	59.	79.	107.	123.	116.	47.	0.	0.	808.	113.	151.	85.	106.
NORTH	0.	0.	15.	24.	33.	44.	53.	59.	61.	59.	53.	44.	33.	24.	15.	0.	0.	517.	95.	120.	76.	89.
NORTHEAST	0.	0.	47.	116.	123.	107.	79.	59.	61.	59.	53.	44.	33.	19.	6.	0.	0.	808.	113.	151.	85.	106.
EAST	0.	0.	56.	151.	178.	174.	149.	109.	61.	59.	53.	44.	33.	19.	6.	0.	0.	1093.	129.	182.	94.	123.
SOUTHEAST	0.	0.	35.	110.	148.	164.	162.	145.	114.	73.	53.	44.	33.	19.	6.	0.	0.	1107.	130.	183.	95.	124.
HORIZ.	0.	0.	15.	70.	129.	181.	222.	247.	256.	247.	222.	181.	129.	70.	15.	0.	0.	1984.	182.	277.	123.	175.

MONTH 5 HO 3633. TOD 69. TOT 62. KT .635 KD .165

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	10.	23.	36.	65.	92.	109.	115.	109.	92.	65.	36.	23.	10.	0.	0.	786.	116.	151.	89.	110.
SOUTHWEST	0.	0.	10.	23.	36.	47.	56.	61.	100.	133.	153.	157.	144.	111.	55.	0.	0.	1087.	134.	183.	99.	128.
WEST	0.	0.	10.	23.	36.	47.	56.	61.	63.	115.	157.	185.	193.	173.	102.	0.	0.	1221.	141.	197.	104.	136.
NORTHWEST	0.	0.	10.	23.	36.	47.	56.	61.	63.	65.	102.	132.	151.	147.	95.	0.	0.	988.	128.	172.	96.	122.
NORTH	0.	0.	38.	48.	41.	47.	56.	61.	63.	61.	56.	47.	41.	48.	38.	0.	0.	646.	107.	137.	84.	101.
NORTHEAST	0.	0.	95.	147.	151.	132.	102.	65.	63.	61.	56.	47.	36.	23.	10.	0.	0.	988.	128.	172.	96.	122.
EAST	0.	0.	102.	173.	193.	185.	157.	115.	63.	61.	56.	47.	36.	23.	10.	0.	0.	1221.	141.	197.	104.	136.
SOUTHEAST	0.	0.	55.	111.	144.	157.	153.	133.	100.	61.	56.	47.	36.	23.	10.	0.	0.	1087.	134.	183.	99.	128.
HORIZ.	0.	0.	33.	93.	154.	208.	249.	275.	284.	275.	249.	208.	154.	93.	33.	0.	0.	2307.	205.	310.	141.	201.

MONTH 6 HO 3732. TOD 74. TOT 65. KT .667 KD .157

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	1.	12.	24.	37.	55.	83.	101.	107.	101.	83.	55.	37.	24.	12.	1.	0.	732.	116.	148.	90.	109.
SOUTHWEST	0.	1.	12.	24.	37.	48.	56.	61.	94.	129.	151.	156.	144.	113.	60.	1.	0.	1088.	137.	185.	102.	130.
WEST	0.	1.	12.	24.	37.	48.	56.	61.	63.	118.	163.	194.	204.	185.	119.	1.	0.	1287.	148.	205.	109.	142.
NORTHWEST	0.	1.	12.	24.	37.	48.	56.	61.	63.	74.	113.	146.	166.	163.	115.	1.	0.	1081.	136.	184.	102.	130.
NORTH	0.	1.	50.	60.	52.	48.	56.	61.	63.	61.	56.	48.	52.	60.	50.	1.	0.	722.	116.	147.	89.	108.
NORTHEAST	0.	1.	115.	163.	166.	146.	113.	74.	63.	61.	56.	48.	37.	24.	12.	1.	0.	1081.	136.	184.	102.	130.
EAST	0.	1.	119.	185.	204.	194.	163.	118.	63.	61.	56.	48.	37.	24.	12.	1.	0.	1287.	148.	205.	109.	142.
SOUTHEAST	0.	1.	60.	113.	144.	156.	151.	129.	94.	61.	56.	48.	37.	24.	12.	1.	0.	1088.	137.	185.	102.	130.
HORIZ.	0.	2.	41.	104.	167.	222.	265.	292.	302.	292.	265.	222.	167.	104.	41.	2.	0.	2489.	217.	327.	150.	215.

LOCATION RIVERSIDE, CALIFORNIA LATITUDE 33 DEGREES 57 MINUTES

MONTH 7 HO 3627. TOD 81. TOT 68. KT .665 KD .158

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	10.	23.	36.	65.	94.	112.	119.	112.	94.	65.	36.	23.	10.	0.	0.	797.	128.	164.	95.	116.
SOUTHWEST	0.	0.	10.	23.	36.	47.	55.	61.	102.	138.	160.	165.	151.	116.	57.	0.	0.	1120.	147.	198.	106.	135.
WEST	0.	0.	10.	23.	36.	47.	55.	61.	63.	118.	165.	195.	204.	182.	106.	0.	0.	1265.	155.	213.	111.	144.
NORTHWEST	0.	0.	10.	23.	36.	47.	55.	61.	63.	65.	106.	139.	159.	154.	99.	0.	0.	1017.	141.	187.	102.	129.
NORTH	0.	0.	40.	50.	42.	47.	55.	61.	63.	61.	55.	47.	42.	50.	40.	0.	0.	651.	119.	149.	90.	107.
NORTHEAST	0.	0.	99.	154.	159.	139.	106.	65.	63.	61.	55.	47.	36.	23.	10.	0.	0.	1017.	141.	187.	102.	129.
EAST	0.	0.	106.	182.	204.	195.	165.	118.	63.	61.	55.	47.	36.	23.	10.	0.	0.	1265.	155.	213.	111.	144.
SOUTHEAST	0.	0.	57.	116.	151.	165.	160.	138.	102.	61.	55.	47.	36.	23.	10.	0.	0.	1120.	147.	198.	106.	135.
HORIZ.	0.	0.	33.	96.	161.	217.	261.	289.	298.	289.	261.	217.	161.	96.	33.	0.	0.	2412.	223.	332.	150.	213.

MONTH 8 HO 3314. TOD 81. TOT 68. KT .668 KD .157

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	5.	19.	53.	92.	124.	144.	151.	144.	124.	92.	53.	19.	5.	0.	0.	1023.	145.	194.	10,.	130.
SOUTHWEST	0.	0.	5.	19.	32.	44.	53.	76.	124.	162.	184.	188.	170.	124.	36.	0.	0.	1217.	157.	216.	110.	142.
WEST	0.	0.	5.	19.	32.	44.	53.	58.	60.	120.	168.	200.	206.	173.	58.	0.	0.	1196.	156.	213.	109.	140.
NORTHWEST	0.	0.	5.	19.	32.	44.	53.	58.	60.	58.	84.	120.	141.	131.	49.	0.	0.	855.	135.	176.	97.	120.
NORTH	0.	0.	15.	24.	32.	44.	53.	58.	60.	58.	53.	44.	32.	24.	15.	0.	0.	511.	113.	138.	86.	99.
NORTHEAST	0.	0.	49.	131.	141.	120.	84.	58.	60.	58.	53.	44.	32.	19.	5.	0.	0.	855.	135.	176.	97.	120.
EAST	0.	0.	58.	173.	206.	200.	168.	120.	60.	58.	53.	44.	32.	19.	5.	0.	0.	1196.	156.	213.	109.	140.
SOUTHEAST	0.	0.	36.	124.	170.	188.	184.	162.	124.	76.	53.	44.	32.	19.	5.	0.	0.	1217.	157.	216.	110.	142.
HORIZ.	0.	0.	14.	75.	143.	203.	249.	279.	289.	279.	249.	203.	143.	75.	14.	0.	0.	2214.	220.	326.	144.	202.

MONTH 9 HO 2818. TOD 78. TOT 67. KT .665 KD .158

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	31.	79.	124.	160.	182.	189.	182.	160.	124.	79.	31.	0.	0.	0.	1342.	170.	240.	113.	148.
SOUTHWEST	0.	0.	0.	12.	26.	38.	47.	100.	150.	189.	210.	211.	185.	118.	0.	0.	0.	1286.	166.	233.	111.	144.
WEST	0.	0.	0.	12.	26.	38.	47.	53.	55.	116.	166.	196.	198.	143.	0.	0.	0.	1051.	150.	205.	103.	130.
NORTHWEST	0.	0.	0.	12.	26.	38.	47.	53.	55.	53.	52.	89.	109.	92.	0.	0.	0.	627.	121.	154.	88.	105.
NORTH	0.	0.	0.	12.	26.	38.	47.	53.	55.	53.	47.	38.	26.	12.	0.	0.	0.	409.	106.	128.	81.	91.
NORTHEAST	0.	0.	0.	92.	109.	89.	52.	53.	55.	53.	47.	38.	26.	12.	0.	0.	0.	627.	121.	154.	88.	105.
EAST	0.	0.	0.	143.	198.	196.	166.	116.	55.	53.	47.	38.	26.	12.	0.	0.	0.	1051.	150.	205.	103.	130.
SOUTHEAST	0.	0.	0.	118.	185.	211.	210.	189.	150.	100.	47.	38.	26.	12.	0.	0.	0.	1286.	166.	233.	111.	144.
HORIZ.	0.	0.	0.	45.	113.	174.	222.	252.	262.	252.	222.	174.	113.	45.	0.	0.	0.	1873.	206.	304.	131.	180.

LOCATION RIVERSIDE, CALIFORNIA LATITUDE 33 DEGREES 57 MINUTES

MONTH 10 HO 2250. TOD 71. TOT 63. KT .639 KD .164

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	25.	93.	144.	181.	205.	212.	205.	181.	144.	93.	25.	0.	0.	0.	1508.	176.	262.	112.	151.
SOUTHWEST	0.	0.	0.	5.	19.	31.	62.	117.	164.	200.	218.	213.	175.	63.	0.	0.	0.	1266.	159.	232.	104.	137.
WEST	0.	0.	0.	5.	19.	31.	40.	46.	48.	105.	150.	176.	165.	67.	0.	0.	0.	852.	131.	179.	91.	113.
NORTHWEST	0.	0.	0.	5.	19.	31.	40.	46.	48.	46.	40.	53.	70.	35.	0.	0.	0.	433.	101.	126.	77.	89.
NORTH	0.	0.	0.	5.	19.	31.	40.	46.	48.	46.	40.	31.	19.	5.	0.	0.	0.	329.	94.	113.	7 .	83.
NORTHEAST	0.	0.	0.	35.	70.	53.	40.	46.	48.	46.	40.	31.	19.	5.	0.	0.	0.	433.	101.	126.	7 .	89.
EAST	0.	0.	0.	67.	165.	176.	150.	105.	48.	46.	40.	31.	19.	5.	0.	0.	0.	852.	131.	179.	91.	113.
SOUTHEAST	0.	0.	0.	63.	175.	213.	218.	200.	164.	117.	62.	31.	19.	5.	0.	0.	0.	1266.	159.	232.	104.	137.
HORIZ.	0.	0.	0.	15.	75.	133.	179.	208.	218.	208.	179.	133.	75.	15.	0.	0.	0.	1438.	171.	254.	110.	147.

MONTH 11 HO 1746. TOD 63. TOT 59. KT .606 KD .173

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	1.	84.	145.	185.	209.	217.	209.	185.	145.	84.	1.	0.	0.	0.	1465.	175.	266.	106.	145.
SOUTHWEST	0.	0.	0.	1.	12.	24.	72.	122.	165.	196.	209.	197.	140.	1.	0.	0.	0.	1137.	150.	220.	96.	126.
WEST	0.	0.	0.	1.	12.	24.	33.	39.	41.	91.	130.	147.	120.	1.	0.	0.	0.	636.	112.	151.	80.	96.
NORTHWEST	0.	0.	0.	1.	12.	24.	33.	39.	41.	39.	33.	25.	37.	1.	0.	0.	0.	282.	85.	102.	68.	76.
NORTH	0.	0.	0.	1.	12.	24.	33.	39.	41.	39.	33.	24.	12.	1.	0.	0.	0.	255.	83.	98.	67.	74.
NORTHEAST	0.	0.	0.	1.	37.	25.	33.	39.	41.	39.	33.	24.	12.	1.	0.	0.	0.	282.	85.	102.	68.	76.
EAST	0.	0.	0.	1.	120.	147.	130.	91.	41.	39.	33.	24.	12.	1.	0.	0.	0.	636.	112.	151.	80.	96.
SOUTHEAST	0.	0.	0.	1.	140.	197.	209.	196.	165.	122.	72.	24.	12.	1.	0.	0.	0.	1137.	150.	220.	96.	126.
HORIZ.	0.	0.	0.	1.	42.	95.	138.	165.	175.	165.	138.	95.	42.	1.	0.	0.	0.	1057.	144.	209.	93.	121.

MONTH 12 HO 1551. TOD 57. TOT 56. KT .626 KD .168

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	82.	154.	199.	225.	233.	225.	199.	154.	82.	0.	0.	0.	0.	1552.	180.	280.	105.	146.
SOUTHWEST	0.	0.	0.	0.	9.	27.	78.	131.	176.	208.	220.	204.	130.	0.	0.	0.	0.	1182.	151.	227.	94.	124.
WEST	0.	0.	0.	0.	9.	21.	30.	35.	37.	90.	130.	146.	107.	0.	0.	0.	0.	605.	105.	144.	75.	91.
NORTHWEST	0.	0.	0.	0.	9.	21.	30.	35.	37.	35.	30.	21.	27.	0.	0.	0.	0.	245.	77.	92.	63.	70.
NORTH	0.	0.	0.	0.	9.	21.	30.	35.	37.	35.	30.	21.	9.	0.	0.	0.	0.	227.	75.	90.	63.	69.
NORTHEAST	0.	0.	0.	0.	27.	21.	30.	35.	37.	35.	30.	21.	9.	0.	0.	0.	0.	245.	77.	92.	63.	70.
EAST	0.	0.	0.	0.	107.	146.	130.	90.	37.	35.	30.	21.	9.	0.	0.	0.	0.	605.	105.	144.	75.	91.
SOUTHEAST	0.	0.	0.	0.	130.	204.	220.	208.	176.	131.	78.	27.	9.	0.	0.	0.	0.	1182.	151.	227.	94.	124.
HORIZ.	0.	0.	0.	0.	32.	85.	129.	157.	167.	157.	129.	85.	32.	0.	0.	0.	0.	972.	134.	197.	87.	112.

LOCATION RIVERSIDE, CALIFORNIA LATITUDE 33 DEGREES 57 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	163.	158.	145.	120.	116.	116.	128.	145.	170.	176.	175.	180.	149.
SOUTHWEST	139.	143.	141.	130.	134.	137.	147.	157.	166.	159.	150.	151.	146.
WEST	103.	116.	127.	129.	141.	148.	155.	156.	150.	131.	112.	105.	131.
NORTHWEST	77.	88.	101.	113.	128.	136.	141.	135.	121.	101.	85.	77.	108.
NORTH	75.	80.	87.	95.	107.	116.	119.	113.	106.	94.	83.	75.	96.
NORTHEAST	77.	88.	101.	113.	128.	136.	141.	135.	121.	101.	85.	77.	108.
EAST	103.	116.	127.	129.	141.	148.	155.	156.	150.	131.	112.	105.	131.
SOUTHEAST	139.	143.	141.	130.	134.	137.	147.	157.	166.	159.	150.	151.	146.
HORIZ.	134.	155.	177.	182.	205.	217.	223.	220.	206.	171.	144.	134.	181.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	251.	241.	213.	165.	151.	148.	164.	194.	240.	262.	266.	280.	215.
SOUTHWEST	207.	213.	207.	183.	183.	185.	198.	216.	233.	232.	220.	227.	209.
WEST	142.	164.	181.	182.	197.	205.	213.	213.	205.	179.	151.	144.	181.
NORTHWEST	94.	113.	133.	151.	172.	184.	187.	176.	154.	126.	102.	92.	140.
NORTH	91.	99.	109.	120.	137.	147.	149.	138.	128.	113.	98.	90.	118.
NORTHEAST	94.	113.	133.	151.	172.	184.	187.	176.	154.	126.	102.	92.	140.
EAST	142.	164.	181.	182.	197.	205.	213.	213.	205.	179.	151.	144.	181.
SOUTHEAST	207.	213.	207.	183.	183.	185.	198.	216.	233.	232.	220.	227.	209.
HORIZ.	198.	236.	272.	277.	310.	327.	332.	326.	304.	254.	209.	197.	270.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	99.	101.	99.	89.	89.	90.	95.	103.	113.	112.	106.	105.	100.
SOUTHWEST	89.	94.	97.	95.	99.	102.	106.	110.	111.	104.	96.	94.	100.
WEST	73.	81.	90.	94.	104.	109.	111.	109.	103.	91.	80.	75.	93.
NORTHWEST	62.	68.	77.	85.	96.	102.	102.	97.	88.	77.	68.	63.	82.
NORTH	61.	65.	70.	76.	84.	89.	90.	86.	81.	74.	67.	63.	75.
NORTHEAST	62.	68.	77.	85.	96.	102.	102.	97.	88.	77.	68.	63.	82.
EAST	73.	81.	90.	94.	104.	109.	111.	109.	103.	91.	80.	75.	93.
SOUTHEAST	89.	94.	97.	95.	99.	102.	106.	110.	111.	104.	96.	94.	100.
HORIZ.	86.	99.	115.	123.	141.	150.	150.	144.	131.	110.	93.	87.	119.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	136.	139.	133.	114.	110.	109.	116.	130.	148.	151.	145.	146.	131.
SOUTHWEST	117.	126.	130.	124.	128.	130.	135.	142.	144.	137.	126.	124.	130.
WEST	90.	103.	117.	123.	136.	142.	144.	140.	130.	113.	96.	91.	119.
NORTHWEST	70.	80.	93.	106.	122.	130.	129.	120.	105.	89.	76.	70.	99.
NORTH	68.	74.	81.	89.	101.	108.	107.	99.	91.	83.	74.	69.	87.
NORTHEAST	70.	80.	93.	106.	122.	130.	129.	120.	105.	89.	76.	70.	99.
EAST	90.	103.	117.	123.	136.	142.	144.	140.	130.	113.	96.	91.	119.
SOUTHEAST	117.	126.	130.	124.	128.	130.	135.	142.	144.	137.	126.	124.	130.
HORIZ.	113.	136.	163.	175.	201.	215.	213.	202.	180.	147.	121.	112.	165.

LOCATION ST. CLOUD, MINNESOTA LATITUDE 45 DEGREES 34 MINUTES

MONTH 1 HO 1122. TOD 14. TOT 10. KT .595 KD .175

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	39.	130.	185.	216.	227.	216.	185.	130.	39.	0.	0.	0.	0.	1366.	129.	223.	54.	90.
SOUTHWEST	0.	0.	0.	0.	5.	20.	71.	124.	169.	198.	203.	172.	63.	0.	0.	0.	0.	1025.	100.	171.	43.	70.
WEST	0.	0.	0.	0.	5.	14.	22.	27.	29.	79.	116.	122.	53.	0.	0.	0.	0.	467.	53.	85.	25.	38.
NORTHWEST	0.	0.	0.	0.	5.	14.	22.	27.	29.	27.	22.	14.	15.	0.	0.	0.	0.	175.	28.	41.	16.	21.
NORTH	0.	0.	0.	0.	5.	14.	22.	27.	29.	27.	22.	14.	5.	0.	0.	0.	0.	165.	28.	39.	16.	20.
NORTHEAST	0.	0.	0.	0.	15.	14.	22.	27.	29.	27.	22.	14.	5.	0.	0.	0.	0.	175.	28.	41.	16.	21.
EAST	0.	0.	0.	0.	53.	122.	116.	79.	29.	27.	22.	14.	5.	0.	0.	0.	0.	467.	53.	85.	25.	38.
SOUTHEAST	0.	0.	0.	0.	63.	172.	203.	198.	169.	124.	71.	20.	5.	0.	0.	0.	0.	1025.	100.	171.	43.	70.
HORIZ.	0.	0.	0.	0.	12.	54.	91.	115.	124.	115.	91.	54.	12.	0.	0.	0.	0.	668.	70.	116.	32.	49.

MONTH 2 HO 1712. TOD 17. TOT 14. KT .629 KD .167

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	7.	86.	148.	193.	221.	230.	221.	193.	148.	86.	7.	0.	0.	0.	1541.	129.	221.	63.	103.
SOUTHWEST	0.	0.	0.	2.	13.	23.	69.	126.	174.	208.	222.	210.	157.	16.	0.	0.	0.	1221.	106.	179.	53.	85.
WEST	0.	0.	0.	2.	13.	23.	31.	36.	38.	95.	140.	162.	143.	17.	0.	0.	0.	701.	68.	110.	36.	54.
NORTHWEST	0.	0.	0.	2.	13.	23.	31.	36.	38.	36.	31.	33.	53.	9.	0.	0.	0.	308.	39.	58.	23.	32.
NORTH	0.	0.	0.	2.	13.	23.	31.	36.	38.	36.	31.	23.	13.	2.	0.	0.	0.	251.	35.	50.	22.	28.
NORTHEAST	0.	0.	0.	9.	53.	33.	31.	36.	38.	36.	31.	23.	13.	2.	0.	0.	0.	308.	39.	58.	23.	32.
EAST	0.	0.	0.	17.	143.	162.	140.	95.	38.	36.	31.	23.	13.	2.	0.	0.	0.	701.	68.	110.	36.	54.
SOUTHEAST	0.	0.	0.	16.	157.	210.	222.	208.	174.	126.	69.	23.	13.	2.	0.	0.	0.	1221.	106.	179.	53.	85.
HORIZ.	0.	0.	0.	4.	49.	98.	138.	163.	171.	163.	138.	98.	49.	4.	0.	0.	0.	1076.	95.	159.	48.	76.

MONTH 3 HO 2399. TOD 30. TOT 27. KT .614 KD .171

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	32.	84.	132.	169.	193.	201.	193.	169.	132.	84.	32.	0.	0.	0.	1421.	121.	195.	72.	110.
SOUTHWEST	0.	0.	0.	11.	22.	33.	58.	111.	156.	189.	206.	202.	172.	105.	0.	0.	0.	1264.	111.	177.	67.	101.
WEST	0.	0.	0.	11.	22.	33.	41.	46.	47.	101.	145.	173.	173.	123.	0.	0.	0.	915.	88.	136.	56.	80.
NORTHWEST	0.	0.	0.	11.	22.	33.	41.	46.	47.	46.	41.	61.	85.	75.	0.	0.	0.	508.	62.	89.	43.	56.
NORTH	0.	0.	0.	11.	22.	33.	41.	46.	47.	46.	41.	33.	22.	11.	0.	0.	0.	351.	52.	71.	3 .	47.
NORTHEAST	0.	0.	0.	75.	85.	61.	41.	46.	47.	46.	41.	33.	22.	11.	0.	0.	0.	508.	62.	89.	43.	56.
EAST	0.	0.	0.	123.	173.	173.	145.	101.	47.	46.	41.	33.	22.	11.	0.	0.	0.	915.	88.	136.	56.	80.
SOUTHEAST	0.	0.	0.	105.	172.	202.	206.	189.	156.	111.	58.	33.	22.	11.	0.	0.	0.	1264.	111.	177.	67.	101.
HORIZ.	0.	0.	0.	36.	89.	137.	174.	198.	206.	198.	174.	137.	89.	36.	0.	0.	0.	1472.	124.	201.	74.	113.

LOCATION ST. CLOUD, MINNESOTA LATITUDE 45 DEGREES 34 MINUTES

MONTH 4 HO 3111. TOD 46. TOT 43. KT .534 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SAT S	SATGD
SOUTH	0.	0.	8.	24.	60.	95.	123.	141.	147.	141.	123.	95.	60.	24.	8.	0.	0.	1051.	105.	154.	77.	104.
SOUTHWEST	0.	0.	8.	20.	31.	40.	48.	85.	120.	145.	158.	156.	138.	103.	44.	0.	0.	1096.	108.	158.	78.	107.
WEST	0.	0.	8.	20.	31.	40.	48.	52.	54.	95.	128.	149.	153.	133.	69.	0.	0.	980.	101.	146.	74.	100.
NORTHWEST	0.	0.	8.	20.	31.	40.	48.	52.	54.	52.	51.	78.	96.	97.	57.	0.	0.	685.	85.	116.	65.	83.
NORTH	0.	0.	17.	20.	31.	40.	48.	52.	54.	52.	48.	40.	31.	20.	17.	0.	0.	469.	73.	94.	58.	70.
NORTHEAST	0.	0.	57.	97.	96.	78.	51.	52.	54.	52.	48.	40.	31.	20.	8.	0.	0.	685.	85.	116.	65.	83.
EAST	0.	0.	69.	133.	153.	149.	128.	95.	54.	52.	48.	40.	31.	20.	8.	0.	0.	980.	101.	146.	74.	100.
SOUTHEAST	0.	0.	44.	103.	138.	156.	158.	145.	120.	85.	48.	40.	31.	20.	8.	0.	0.	1096.	108.	158.	78.	107.
HORIZ.	0.	0.	21.	65.	110.	150.	181.	200.	207.	200.	181.	150.	110.	65.	21.	0.	0.	1662.	140.	216.	96.	140.

MONTH 5 HO 3587. TOD 59. TOT 55. KT .530 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	4.	14.	25.	49.	81.	106.	122.	128.	122.	106.	81.	49.	25.	14.	4.	0.	931.	110.	149.	87.	111.
SOUTHWEST	0.	4.	14.	25.	36.	45.	52.	75.	107.	131.	143.	143.	129.	101.	59.	9.	0.	1073.	118.	163.	92.	120.
WEST	0.	4.	14.	25.	36.	45.	52.	56.	58.	96.	127.	148.	154.	141.	101.	18.	0.	1073.	118.	163.	92.	120.
NORTHWEST	0.	4.	14.	25.	36.	45.	52.	56.	58.	56.	67.	92.	110.	113.	91.	19.	0.	836.	105.	140.	84.	106.
NORTH	0.	10.	36.	34.	36.	45.	52.	56.	58.	56.	52.	45.	36.	34.	36.	10.	0.	596.	92.	117.	76.	91.
NORTHEAST	0.	19.	91.	113.	110.	92.	67.	56.	58.	56.	52.	45.	36.	25.	14.	4.	0.	836.	105.	140.	84.	106.
EAST	0.	18.	101.	141.	154.	148.	127.	96.	58.	56.	52.	45.	36.	25.	14.	4.	0.	1073.	118.	163.	92.	120.
SOUTHEAST	0.	9.	59.	101.	129.	143.	143.	131.	107.	75.	52.	45.	36.	25.	14.	4.	0.	1073.	118.	163.	92.	120.
HORIZ.	0.	7.	42.	86.	129.	167.	195.	214.	220.	214.	195.	167.	129.	86.	42.	7.	0.	1901.	163.	243.	120.	170.

MONTH 6 HO 3764. TOD 68. TOT 65. KT .533 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	6.	16.	27.	45.	75.	100.	116.	121.	116.	100.	75.	45.	27.	16.	6.	0.	891.	116.	152.	9 .	119.
SOUTHWEST	0.	6.	16.	27.	37.	46.	53.	71.	103.	126.	139.	138.	125.	99.	62.	17.	0.	1067.	125.	168.	101.	129.
WEST	0.	6.	16.	27.	37.	46.	53.	57.	59.	97.	127.	148.	154.	143.	108.	38.	0.	1118.	128.	173.	103.	133.
NORTHWEST	0.	6.	16.	27.	37.	46.	53.	57.	59.	57.	73.	98.	115.	119.	101.	40.	0.	906.	116.	153.	96.	120.
NORTH	0.	22.	44.	41.	37.	46.	53.	57.	59.	57.	53.	46.	37.	41.	44.	22.	0.	663.	104.	131.	88.	105.
NORTHEAST	0.	40.	101.	119.	115.	98.	73.	57.	59.	57.	53.	46.	37.	27.	16.	6.	0.	906.	116.	153.	96.	120.
EAST	0.	38.	108.	143.	154.	148.	127.	97.	59.	57.	53.	46.	37.	27.	16.	6.	0.	1118.	128.	173.	103.	133.
SOUTHEAST	0.	17.	62.	99.	125.	138.	139.	126.	103.	71.	53.	46.	37.	27.	16.	6.	0.	1067.	125.	168.	101.	129.
HORIZ.	0.	14.	51.	94.	137.	173.	202.	220.	226.	220.	202.	173.	137.	94.	51.	14.	0.	2007.	175.	256.	134.	186.

LOCATION ST. CLOUD, MINNESOTA LATITUDE 45 DEGREES 34 MINUTES

MONTH 7 HO 3586. TOD 74. TOT 71. KT .573 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	4.	14.	25.	51.	86.	114.	132.	138.	132.	114.	86.	51.	25.	14.	4.	0.	988.	129.	170.	104.	130.
SOUTHWEST	0.	4.	14.	25.	36.	45.	52.	78.	115.	142.	157.	157.	141.	110.	64.	10.	0.	1150.	137.	186.	110.	140.
WEST	0.	4.	14.	25.	36.	45.	52.	57.	58.	102.	138.	162.	170.	156.	110.	20.	0.	1150.	137.	186.	110.	140.
NORTHWEST	0.	4.	14.	25.	36.	45.	52.	57.	58.	57.	70.	99.	120.	125.	100.	20.	0.	882.	123.	160.	101.	124.
NORTH	0.	11.	39.	35.	36.	45.	52.	57.	58.	57.	52.	45.	36.	35.	39.	11.	0.	610.	108.	133.	91.	107.
NORTHEAST	0.	20.	100.	125.	120.	99.	70.	57.	58.	57.	52.	45.	36.	25.	14.	4.	0.	882.	123.	160.	101.	124.
EAST	0.	20.	110.	156.	170.	162.	138.	102.	58.	57.	52.	45.	36.	25.	14.	4.	0.	1150.	137.	186.	110.	140.
SOUTHEAST	0.	10.	64.	110.	141.	157.	157.	142.	115.	78.	52.	45.	36.	25.	14.	4.	0.	1150.	137.	186.	110.	140.
HORIZ.	0.	7.	45.	92.	139.	180.	212.	232.	239.	232.	212.	180.	139.	92.	45.	7.	0.	2055.	187.	273.	141.	195.

MONTH 8 HO 3090. TOD 72. TOT 68. KT .570 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	8.	24.	63.	101.	132.	151.	158.	151.	132.	101.	63.	24.	8.	0.	0.	1116.	139.	190.	106.	136.
SOUTHWEST	0.	0.	8.	19.	31.	40.	48.	89.	128.	156.	170.	169.	149.	109.	44.	0.	0.	1160.	141.	195.	108.	138.
WEST	0.	0.	8.	19.	31.	40.	48.	53.	54.	100.	137.	161.	165.	142.	69.	0.	0.	1026.	133.	181.	103.	130.
NORTHWEST	0.	0.	8.	19.	31.	40.	48.	53.	54.	53.	52.	83.	103.	103.	57.	0.	0.	703.	114.	146.	92.	111.
NORTH	0.	0.	17.	19.	31.	40.	48.	53.	54.	53.	48.	40.	31.	19.	17.	0.	0.	469.	100.	122.	84.	96.
NORTHEAST	0.	0.	57.	103.	103.	83.	52.	53.	54.	53.	48.	40.	31.	19.	8.	0.	0.	703.	114.	146.	92.	111.
EAST	0.	0.	69.	142.	165.	161.	137.	100.	54.	53.	48.	40.	31.	19.	8.	0.	0.	1026.	133.	181.	103.	130.
SOUTHEAST	0.	0.	44.	109.	149.	169.	170.	156.	128.	89.	48.	40.	31.	19.	8.	0.	0.	1160.	141.	195.	108.	138.
HORIZ.	0.	0.	21.	67.	116.	159.	193.	214.	221.	214.	193.	159.	116.	67.	21.	0.	0.	1762.	178.	259.	128.	175.

MONTH 9 HO 2391. TOD 63. TOT 59. KT .539 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	26.	70.	110.	142.	162.	169.	162.	142.	110.	70.	26.	0.	0.	0.	1192.	143.	206.	100.	131.
SOUTHWEST	0.	0.	0.	11.	22.	32.	53.	96.	133.	160.	171.	166.	139.	82.	0.	0.	0.	1066.	135.	190.	95.	123.
WEST	0.	0.	0.	11.	22.	32.	40.	45.	46.	89.	124.	143.	140.	95.	0.	0.	0.	788.	116.	157.	86.	106.
NORTHWEST	0.	0.	0.	11.	22.	32.	40.	45.	46.	45.	40.	55.	72.	60.	0.	0.	0.	468.	94.	119.	75.	87.
NORTH	0.	0.	0.	11.	22.	32.	40.	45.	46.	45.	40.	32.	22.	11.	0.	0.	0.	346.	86.	104.	71.	80.
NORTHEAST	0.	0.	0.	60.	72.	55.	40.	45.	46.	45.	40.	32.	22.	11.	0.	0.	0.	468.	94.	119.	75.	87.
EAST	0.	0.	0.	95.	140.	143.	124.	89.	46.	45.	40.	32.	22.	11.	0.	0.	0.	788.	116.	157.	86.	106.
SOUTHEAST	0.	0.	0.	82.	139.	166.	171.	160.	133.	96.	53.	32.	22.	11.	0.	0.	0.	1066.	135.	190.	95.	123.
HORIZ.	0.	0.	1.	32.	77.	119.	152.	173.	180.	173.	152.	119.	77.	32.	1.	0.	0.	1288.	150.	217.	103.	137.

LOCATION ST. CLOUD, MINNESOTA LATITUDE 45 DEGREES 34 MINUTES

MONTH 10 HO 1679. TOD 50. TOT 47. KT .490 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	4.	58.	103.	136.	156.	163.	156.	136.	103.	58.	4.	0.	0.	0.	1077.	129.	194.	81.	109.
SOUTHWEST	0.	0.	0.	2.	13.	22.	55.	94.	126.	147.	155.	143.	102.	7.	0.	0.	0.	865.	114.	165.	74.	97.
WEST	0.	0.	0.	2.	13.	22.	30.	35.	36.	73.	100.	112.	93.	7.	0.	0.	0.	524.	89.	120.	63.	77.
NORTHWEST	0.	0.	0.	2.	13.	22.	30.	35.	36.	35.	30.	28.	37.	5.	0.	0.	0.	273.	70.	87.	55.	63.
NORTH	0.	0.	0.	2.	13.	22.	30.	35.	36.	35.	30.	22.	13.	2.	0.	0.	0.	240.	68.	82.	54.	61.
NORTHEAST	0.	0.	0.	5.	37.	28.	30.	35.	36.	35.	30.	22.	13.	2.	0.	0.	0.	273.	70.	87.	55.	63.
EAST	0.	0.	0.	7.	93.	112.	100.	73.	36.	35.	30.	22.	13.	2.	0.	0.	0.	524.	89.	120.	63.	77.
SOUTHEAST	0.	0.	0.	7.	102.	143.	155.	147.	126.	94.	55.	22.	13.	2.	0.	0.	0.	865.	114.	165.	74.	97.
HORIZ.	0.	0.	0.	4.	38.	75.	105.	124.	131.	124.	105.	75.	38.	4.	0.	0.	0.	822.	110.	160.	73.	95.

MONTH 11 HO 1111. TOD 32. TOT 29. KT .435 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	23.	81.	117.	138.	144.	138.	117.	81.	23.	0.	0.	0.	0.	862.	105.	165.	57.	80.
SOUTHWEST	0.	0.	0.	0.	5.	17.	49.	83.	110.	126.	128.	106.	36.	0.	0.	0.	0.	659.	88.	133.	51.	68.
WEST	0.	0.	0.	0.	5.	13.	20.	25.	26.	56.	76.	76.	31.	0.	0.	0.	0.	327.	60.	82.	40.	48.
NORTHWEST	0.	0.	0.	0.	5.	13.	20.	25.	26.	25.	20.	13.	10.	0.	0.	0.	0.	157.	45.	56.	34.	39.
NORTH	0.	0.	0.	0.	5.	13.	20.	25.	26.	25.	20.	13.	5.	0.	0.	0.	0.	152.	45.	55.	34.	38.
NORTHEAST	0.	0.	0.	0.	10.	13.	20.	25.	26.	25.	20.	13.	5.	0.	0.	0.	0.	157.	45.	56.	34.	39.
EAST	0.	0.	0.	0.	31.	76.	76.	56.	26.	25.	20.	13.	5.	0.	0.	0.	0.	327.	60.	82.	40.	48.
SOUTHEAST	0.	0.	0.	0.	36.	106.	128.	126.	110.	83.	49.	17.	5.	0.	0.	0.	0.	659.	88.	133.	51.	68.
HORIZ.	0.	0.	0.	0.	10.	40.	66.	83.	88.	83.	66.	40.	10.	0.	0.	0.	0.	484.	73.	106.	45.	58.

MONTH 12 HO 905. TOD 18. TOT 15. KT .504 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	5.	90.	142.	171.	180.	171.	142.	90.	5.	0.	0.	0.	0.	998.	109.	183.	48.	74.
SOUTHWEST	0.	0.	0.	0.	2.	18.	58.	100.	135.	155.	154.	116.	7.	0.	0.	0.	0.	745.	86.	141.	39.	59.
WEST	0.	0.	0.	0.	2.	11.	18.	23.	24.	61.	85.	80.	6.	0.	0.	0.	0.	311.	46.	69.	25.	34.
NORTHWEST	0.	0.	0.	0.	2.	11.	18.	23.	24.	23.	18.	11.	3.	0.	0.	0.	0.	131.	30.	40.	20.	23.
NORTH	0.	0.	0.	0.	2.	11.	18.	23.	24.	23.	18.	11.	2.	0.	0.	0.	0.	131.	30.	40.	20.	23.
NORTHEAST	0.	0.	0.	0.	3.	11.	18.	23.	24.	23.	18.	11.	2.	0.	0.	0.	0.	131.	30.	40.	20.	23.
EAST	0.	0.	0.	0.	6.	80.	85.	61.	24.	23.	18.	11.	2.	0.	0.	0.	0.	311.	46.	69.	25.	34.
SOUTHEAST	0.	0.	0.	0.	7.	116.	154.	155.	135.	100.	58.	18.	2.	0.	0.	0.	0.	745.	86.	141.	39.	59.
HORIZ.	0.	0.	0.	0.	3.	33.	63.	83.	90.	83.	63.	33.	3.	0.	0.	0.	0.	456.	60.	93.	30.	42.

LOCATION ST. CLOUD, MINNESOTA LATITUDE 45 DEGREES 34 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	129.	129.	121.	105.	110.	116.	129.	139.	143.	129.	105.	109.	122.
SOUTHWEST	100.	106.	111.	108.	118.	125.	137.	141.	135.	114.	88.	86.	114.
WEST	53.	68.	88.	101.	118.	128.	137.	133.	116.	89.	60.	46.	95.
NORTHWEST	28.	39.	62.	85.	105.	116.	123.	114.	94.	70.	45.	30.	76.
NORTH	28.	35.	52.	73.	92.	104.	108.	100.	86.	68.	45.	30.	68.
NORTHEAST	28.	39.	62.	85.	105.	116.	123.	114.	94.	70.	45.	30.	76.
EAST	53.	68.	88.	101.	118.	128.	137.	133.	116.	89.	60.	46.	95.
SOUTHEAST	100.	106.	111.	108.	118.	125.	137.	141.	135.	114.	88.	86.	114.
HORIZ.	70.	95.	124.	140.	163.	175.	187.	178.	150.	110.	73.	60.	127.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	223.	221.	195.	154.	149.	152.	170.	190.	206.	194.	165.	183.	183.
SOUTHWEST	171.	179.	177.	158.	163.	168.	186.	195.	190.	165.	133.	141.	169.
WEST	85.	110.	136.	146.	163.	173.	186.	181.	157.	120.	82.	69.	134.
NORTHWEST	41.	58.	89.	116.	140.	153.	160.	146.	119.	87.	56.	40.	100.
NORTH	39.	50.	71.	94.	117.	131.	133.	122.	104.	82.	55.	40.	86.
NORTHEAST	41.	58.	89.	116.	140.	153.	160.	146.	119.	87.	56.	40.	100.
EAST	85.	110.	136.	146.	163.	173.	186.	181.	157.	120.	82.	69.	134.
SOUTHEAST	171.	179.	177.	158.	163.	168.	186.	195.	190.	165.	133.	141.	169.
HORIZ.	116.	159.	201.	216.	243.	256.	273.	259.	217.	160.	106.	93.	192.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	54.	63.	72.	77.	87.	95.	104.	106.	100.	81.	57.	48.	79.
SOUTHWEST	43.	53.	67.	78.	92.	101.	110.	108.	95.	74.	51.	39.	76.
WEST	25.	36.	56.	74.	92.	103.	110.	103.	86.	63.	40.	25.	68.
NORTHWEST	16.	23.	43.	65.	84.	96.	101.	92.	75.	55.	34.	20.	59.
NORTH	16.	22.	38.	58.	76.	88.	91.	84.	71.	54.	34.	20.	54.
NORTHEAST	16.	23.	43.	65.	84.	96.	101.	92.	75.	55.	34.	20.	59.
EAST	25.	36.	56.	74.	92.	103.	110.	103.	86.	63.	40.	25.	68.
SOUTHEAST	43.	53.	67.	78.	92.	101.	110.	108.	95.	74.	51.	39.	76.
HORIZ.	32.	48.	74.	96.	120.	134.	141.	128.	103.	73.	45.	30.	85.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	90.	103.	110.	104.	111.	119.	130.	136.	131.	109.	80.	74.	108.
SOUTHWEST	70.	85.	101.	107.	120.	129.	140.	138.	123.	97.	68.	59.	103.
WEST	38.	54.	80.	100.	120.	133.	140.	130.	106.	77.	48.	34.	88.
NORTHWEST	21.	32.	56.	83.	106.	120.	124.	111.	87.	63.	39.	23.	72.
NORTH	20.	28.	47.	70.	91.	105.	107.	96.	80.	61.	38.	23.	64.
NORTHEAST	21.	32.	56.	83.	106.	120.	124.	111.	87.	63.	39.	23.	72.
EAST	38.	54.	80.	100.	120.	133.	140.	130.	106.	77.	48.	34.	88.
SOUTHEAST	70.	85.	101.	107.	120.	129.	140.	138.	123.	97.	68.	59.	103.
HORIZ.	49.	76.	113.	140.	170.	186.	195.	175.	137.	95.	58.	42.	120.

LOCATION SALT LAKE CITY, UTAH LATITUDE 40 DEGREES 46 MINUTES

MONTH 1 HO 1388. TOD 29. TOT 26. KT .468 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	45.	98.	131.	151.	157.	151.	131.	98.	45.	0.	0.	0.	0.	1007.	110.	176.	59.	85.
SOUTHWEST	0.	0.	0.	0.	8.	20.	56.	91.	121.	140.	145.	129.	73.	0.	0.	0.	0.	781.	92.	143.	52.	72.
WEST	0.	0.	0.	0.	8.	18.	25.	30.	32.	65.	88.	95.	62.	0.	0.	0.	0.	423.	63.	91.	40.	51.
NORTHWEST	0.	0.	0.	0.	8.	18.	25.	30.	32.	30.	25.	18.	20.	0.	0.	0.	0.	206.	46.	59.	33.	39.
NORTH	0.	0.	0.	0.	8.	18.	25.	30.	32.	30.	25.	18.	8.	0.	0.	0.	0.	194.	45.	58.	33.	38.
NORTHEAST	0.	0.	0.	0.	20.	18.	25.	30.	32.	30.	25.	18.	8.	0.	0.	0.	0.	206.	46.	59.	33.	39.
EAST	0.	0.	0.	0.	62.	95.	88.	65.	32.	30.	25.	18.	8.	0.	0.	0.	0.	423.	63.	91.	40.	51.
SOUTHEAST	0.	0.	0.	0.	73.	129.	145.	140.	121.	91.	56.	20.	8.	0.	0.	0.	0.	781.	92.	143.	52.	72.
HORIZ.	0.	0.	0.	0.	20.	57.	86.	106.	112.	106.	86.	57.	20.	0.	0.	0.	0.	650.	82.	124.	47.	64.

MONTH 2 HO 1958. TOD 36. TOT 33. KT .909 KD .125

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	24.	143.	232.	296.	336.	349.	336.	296.	232.	143.	24.	0.	0.	0.	2410.	208.	349.	111.	174.
SOUTHWEST	0.	0.	0.	3.	16.	28.	91.	181.	260.	319.	350.	341.	273.	65.	0.	0.	0.	1927.	174.	286.	95.	146.
WEST	0.	0.	0.	3.	16.	28.	37.	43.	46.	142.	221.	267.	252.	70.	0.	0.	0.	1125.	117.	182.	69.	99.
NORTHWEST	0.	0.	0.	3.	16.	28.	37.	43.	46.	43.	37.	53.	93.	35.	0.	0.	0.	435.	67.	93.	47.	59.
NORTH	0.	0.	0.	3.	16.	28.	37.	43.	46.	43.	37.	28.	16.	3.	0.	0.	0.	300.	58.	75.	43.	51.
NORTHEAST	0.	0.	0.	35.	93.	53.	37.	43.	46.	43.	37.	28.	16.	3.	0.	0.	0.	435.	67.	93.	47.	59.
EAST	0.	0.	0.	70.	252.	267.	221.	142.	46.	43.	37.	28.	16.	3.	0.	0.	0.	1125.	117.	182.	69.	99.
SOUTHEAST	0.	0.	0.	65.	273.	341.	350.	319.	260.	181.	91.	28.	16.	3.	0.	0.	0.	1927.	174.	286.	95.	146.
HORIZ.	0.	0.	0.	9.	85.	163.	226.	266.	279.	266.	226.	163.	85.	9.	0.	0.	0.	1777.	163.	267.	90.	137.

MONTH 3 HO 2593. TOD 44. TOT 41. KT .529 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	27.	68.	105.	134.	153.	159.	153.	134.	105.	68.	27.	0.	0.	0.	1134.	117.	176.	77.	107.
SOUTHWEST	0.	0.	0.	12.	24.	35.	50.	92.	127.	153.	165.	162.	139.	87.	0.	0.	0.	1045.	111.	166.	75.	102.
WEST	0.	0.	0.	12.	24.	35.	43.	48.	50.	91.	124.	144.	143.	103.	0.	0.	0.	817.	97.	139.	67.	89.
NORTHWEST	0.	0.	0.	12.	24.	35.	43.	48.	50.	48.	43.	62.	77.	65.	0.	0.	0.	508.	77.	103.	57.	71.
NORTH	0.	0.	0.	12.	24.	35.	43.	48.	50.	48.	43.	35.	24.	12.	0.	0.	0.	374.	68.	88.	53.	63.
NORTHEAST	0.	0.	0.	65.	77.	62.	43.	48.	50.	48.	43.	35.	24.	12.	0.	0.	0.	508.	77.	103.	57.	71.
EAST	0.	0.	0.	103.	143.	144.	124.	91.	50.	48.	43.	35.	24.	12.	0.	0.	0.	817.	97.	139.	67.	89.
SOUTHEAST	0.	0.	0.	87.	139.	162.	165.	153.	127.	92.	50.	35.	24.	12.	0.	0.	0.	1045.	111.	166.	75.	102.
HORIZ.	0.	0.	0.	35.	84.	127.	161.	183.	190.	183.	161.	127.	84.	35.	0.	0.	0.	1370.	132.	204.	85.	121.

LOCATION SALT LAKE CITY, UTAH LATITUDE 40 DEGREES 46 MINUTES

MONTH 4 HO 3220. TOD 54. TOT 50. KT .579 KD .177

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	7.	21.	59.	95.	125.	144.	150.	144.	125.	95.	59.	21.	7.	0.	0.	1052.	114.	164.	84.	111.
SOUTHWEST	0.	0.	7.	20.	32.	42.	51.	84.	123.	152.	168.	168.	150.	111.	43.	0.	0.	1151.	120.	174.	87.	117.
WEST	0.	0.	7.	20.	32.	42.	51.	56.	57.	104.	142.	167.	172.	148.	68.	0.	0.	1066.	115.	165.	84.	112.
NORTHWEST	0.	0.	7.	20.	32.	42.	51.	56.	57.	56.	63.	93.	112.	110.	57.	0.	0.	755.	97.	133.	74.	94.
NORTH	0.	0.	17.	20.	32.	42.	51.	56.	57.	56.	51.	42.	32.	20.	17.	0.	0.	491.	82.	105.	66.	79.
NORTHEAST	0.	0.	57.	110.	112.	93.	63.	56.	57.	56.	51.	42.	32.	20.	7.	0.	0.	755.	97.	133.	74.	94.
EAST	0.	0.	68.	148.	172.	167.	142.	104.	57.	56.	51.	42.	32.	20.	7.	0.	0.	1066.	115.	165.	84.	112.
SOUTHEAST	0.	0.	43.	111.	150.	168.	168.	152.	123.	84.	51.	42.	32.	20.	7.	0.	0.	1151.	120.	174.	87.	117.
HORIZ.	0.	0.	19.	70.	123.	169.	206.	228.	236.	228.	206.	169.	123.	70.	19.	0.	0.	1865.	161.	249.	110.	159.

MONTH 5 HO 3619. TOD 63. TOT 59. KT .000 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	2.	10.	19.	27.	34.	39.	42.	43.	42.	39.	34.	27.	19.	10.	2.	0.	389.	85.	102.	72.	82.
SOUTHWEST	0.	2.	10.	19.	27.	34.	39.	42.	43.	42.	39.	34.	27.	19.	10.	2.	0.	389.	85.	102.	72.	82.
WEST	0.	2.	10.	19.	27.	34.	39.	42.	43.	42.	39.	34.	27.	19.	10.	2.	0.	389.	85.	102.	72.	82.
NORTHWEST	0.	2.	10.	19.	27.	34.	39.	42.	43.	42.	39.	34.	27.	19.	10.	2.	0.	389.	85.	102.	72.	82.
NORTH	0.	2.	10.	19.	27.	34.	39.	42.	43.	42.	39.	34.	27.	19.	10.	2.	0.	389.	85.	102.	72.	82.
NORTHEAST	0.	2.	10.	19.	27.	34.	39.	42.	43.	42.	39.	34.	27.	19.	10.	2.	0.	389.	85.	102.	72.	82.
EAST	0.	2.	10.	19.	27.	34.	39.	42.	43.	42.	39.	34.	27.	19.	10.	2.	0.	389.	85.	102.	72.	82.
SOUTHEAST	0.	2.	10.	19.	27.	34.	39.	42.	43.	42.	39.	34.	27.	19.	10.	2.	0.	389.	85.	102.	72.	82.
HORIZ.	0.	3.	17.	32.	45.	56.	65.	70.	72.	70.	65.	56.	45.	32.	17.	3.	0.	648.	100.	128.	81.	98.

MONTH 6 HO 3763. TOD 72. TOT 67. KT .000 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	4.	12.	20.	28.	34.	40.	43.	44.	43.	40.	34.	28.	20.	12.	4.	0.	405.	94.	111.	81.	92.
SOUTHWEST	0.	4.	12.	20.	28.	34.	40.	43.	44.	43.	40.	34.	28.	20.	12.	4.	0.	405.	94.	111.	81.	92.
WEST	0.	4.	12.	20.	28.	34.	40.	43.	44.	43.	40.	34.	28.	20.	12.	4.	0.	405.	94.	111.	81.	92.
NORTHWEST	0.	4.	12.	20.	28.	34.	40.	43.	44.	43.	40.	34.	28.	20.	12.	4.	0.	405.	94.	111.	81.	92.
NORTH	0.	4.	12.	20.	28.	34.	40.	43.	44.	43.	40.	34.	28.	20.	12.	4.	0.	405.	94.	111.	81.	92.
NORTHEAST	0.	4.	12.	20.	28.	34.	40.	43.	44.	43.	40.	34.	28.	20.	12.	4.	0.	405.	94.	111.	81.	92.
EAST	0.	4.	12.	20.	28.	34.	40.	43.	44.	43.	40.	34.	28.	20.	12.	4.	0.	405.	94.	111.	81.	92.
SOUTHEAST	0.	4.	12.	20.	28.	34.	40.	43.	44.	43.	40.	34.	28.	20.	12.	4.	0.	405.	94.	111.	81.	92.
HORIZ.	0.	6.	20.	34.	46.	57.	66.	71.	73.	71.	66.	57.	46.	34.	20.	6.	0.	675.	109.	137.	90.	108.

LOCATION SALT LAKE CITY, UTAH LATITUDE 40 DEGREES 46 MINUTES

MONTH 7 HO 3616. TOD 81. TOT 77. KT .000 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	2.	10.	19.	27.	34.	39.	42.	43.	42.	39.	34.	27.	19.	10.	2.	0.	389.	103.	120.	90.	100.
SOUTHWEST	0.	2.	10.	19.	27.	34.	39.	42.	43.	42.	39.	34.	27.	19.	10.	2.	0.	389.	103.	120.	90.	100.
WEST	0.	2.	10.	19.	27.	34.	39.	42.	43.	42.	39.	34.	27.	19.	10.	2.	0.	389.	103.	120.	90.	100.
NORTHWEST	0.	2.	10.	19.	27.	34.	39.	42.	43.	42.	39.	34.	27.	19.	10.	2.	0.	389.	103.	120.	90.	100.
NORTH	.0.	2.	10.	19.	27.	34.	39.	42.	43.	42.	39.	34.	27.	19.	10.	2.	0.	389.	103.	120.	90.	100.
NORTHEAST	0.	2.	10.	19.	27.	34.	39.	42.	43.	42.	39.	34.	27.	19.	10.	2.	0.	389.	103.	120.	90.	100.
EAST	0.	2.	10.	19.	27.	34.	39.	42.	43.	42.	39.	34.	27.	19.	10.	2.	0.	389.	103.	120.	90.	100.
SOUTHEAST	0.	2.	10.	19.	27.	34.	39.	42.	43.	42.	39.	34.	27.	19.	10.	2.	0.	389.	103.	120.	90.	100.
HORIZ.	0.	3.	17.	32.	45.	56.	65.	70.	72.	70.	65.	56.	45.	32.	17.	3.	0.	648.	118.	146.	9 .	116.

MONTH 8 HO 3197. TOD 79. TOT 74. KT .000 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	15.	24.	31.	36.	40.	41.	40.	36.	31.	24.	15.	6.	0.	0.	344.	100.	116.	86.	95.
SOUTHWEST	0.	0.	6.	15.	24.	31.	36.	40.	41.	40.	36.	31.	24.	15.	6.	0.	0.	344.	100.	116.	86.	95.
WEST	0.	0.	6.	15.	24.	31.	36.	40.	41.	40.	36.	31.	24.	15.	6.	0.	0.	344.	100.	116.	86.	95.
NORTHWEST	0.	0.	6.	15.	24.	31.	36.	40.	41.	40.	36.	31.	24.	15.	6.	0.	0.	344.	100.	116.	86.	95.
NORTH	0.	0.	6.	15.	24.	31.	36.	40.	41.	40.	36.	31.	24.	15.	6.	0.	0.	344.	100.	116.	86.	95.
NORTHEAST	0.	0.	6.	15.	24.	31.	36.	40.	41.	40.	36.	31.	24.	15.	6.	0.	0.	344.	100.	116.	86.	95.
EAST	0.	0.	6.	15.	24.	31.	36.	40.	41.	40.	36.	31.	24.	15.	6.	0.	0.	344.	100.	116.	86.	95.
SOUTHEAST	0.	0.	6.	15.	24.	31.	36.	40.	41.	40.	36.	31.	24.	15.	6.	0.	0.	344.	100.	116.	86.	95.
HORIZ.	0.	0.	11.	25.	39.	51.	60.	66.	68.	66.	60.	51.	39.	25.	11.	0.	0.	573.	114.	141.	94.	109.

MONTH 9 HO 2581. TOD 69. TOT 64. KT .621 KD .169

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	30.	80.	126.	162.	184.	192.	184.	162.	126.	80.	30.	0.	0.	0.	1355.	161.	231.	111.	146.
SOUTHWEST	0.	0.	0.	11.	24.	35.	52.	105.	151.	185.	202.	199.	170.	104.	0.	0.	0.	1238.	153.	217.	107.	139.
WEST	0.	0.	0.	11.	24.	35.	44.	49.	51.	105.	149.	176.	175.	123.	0.	0.	0.	943.	133.	182.	96.	121.
NORTHWEST	0.	0.	0.	11.	24.	35.	44.	49.	51.	49.	44.	71.	92.	77.	0.	0.	0.	546.	106.	134.	83.	97.
NORTH	0.	0.	0.	11.	24.	35.	44.	49.	51.	49.	44.	35.	24.	11.	0.	0.	0.	377.	94.	114.	77.	87.
NORTHEAST	0.	0.	0.	77.	92.	71.	44.	49.	51.	49.	44.	35.	24.	11.	0.	0.	0.	546.	106.	134.	83.	97.
EAST	0.	0.	0.	123.	175.	176.	149.	105.	51.	49.	44.	35.	24.	11.	0.	0.	0.	943.	133.	182.	96.	121.
SOUTHEAST	0.	0.	0.	104.	170.	199.	202.	185.	151.	105.	52.	35.	24.	11.	0.	0.	0.	1238.	153.	217.	107.	139.
HORIZ.	0.	0.	1.	39.	96.	149.	190.	216.	224.	216.	190.	149.	96.	39.	1.	0.	0.	1602.	178.	261.	119.	161.

LOCATION SALT LAKE CITY, UTAH LATITUDE 40 DEGREES 46 MINUTES

MONTH 10 HO 1924. TOD 57. TOT 53. KT .610 KD .172

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	12.	84.	139.	180.	205.	213.	205.	180.	139.	84.	12.	0.	0.	0.	1453.	161.	246.	100.	138.
SOUTHWEST	0.	0.	0.	3.	15.	26.	65.	118.	163.	195.	209.	199.	153.	29.	0.	0.	0.	1178.	141.	210.	91.	122.
WEST	0.	0.	0.	3.	15.	26.	35.	40.	42.	95.	137.	158.	142.	31.	0.	0.	0.	726.	109.	151.	76.	95.
NORTHWEST	0.	0.	0.	3.	15.	26.	35.	40.	42.	40.	35.	40.	56.	17.	0.	0.	0.	350.	82.	103.	64.	73.
NORTH	0.	0.	0.	3.	15.	26.	35.	40.	42.	40.	35.	26.	15.	3.	0.	0.	0.	283.	77.	94.	62.	69.
NORTHEAST	0.	0.	0.	17.	56.	40.	35.	40.	42.	40.	35.	26.	15.	3.	0.	0.	0.	350.	82.	103.	64.	73.
EAST	0.	0.	0.	31.	142.	158.	137.	95.	42.	40.	35.	26.	15.	3.	0.	0.	0.	726.	109.	151.	76.	95.
SOUTHEAST	0.	0.	0.	29.	153.	199.	209.	195.	163.	118.	65.	26.	15.	3.	0.	0.	0.	1178.	141.	210.	91.	122.
HORIZ.	0.	0.	0.	7.	56.	108.	149.	175.	183.	175.	149.	108.	56.	7.	0.	0.	0.	1173.	141.	210.	91.	121.

MONTH 11 HO 1376. TOD 42. TOT 39. KT .000 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	6.	14.	19.	23.	24.	23.	19.	14.	6.	0.	0.	0.	0.	148.	54.	64.	44.	48.
SOUTHWEST	0.	0.	0.	0.	6.	14.	19.	23.	24.	23.	19.	14.	6.	0.	0.	0.	0.	148.	54.	64.	44.	48.
WEST	0.	0.	0.	0.	6.	14.	19.	23.	24.	23.	19.	14.	6.	0.	0.	0.	0.	148.	54.	64.	44.	48.
NORTHWEST	0.	0.	0.	0.	6.	14.	19.	23.	24.	23.	19.	14.	6.	0.	0.	0.	0.	148.	54.	64.	44.	48.
NORTH	0.	0.	0.	0.	6.	14.	19.	23.	24.	23.	19.	14.	6.	0.	0.	0.	0.	148.	54.	64.	44.	48.
NORTHEAST	0.	0.	0.	0.	6.	14.	19.	23.	24.	23.	19.	14.	6.	0.	0.	0.	0.	148.	54.	64.	44.	48.
EAST	0.	0.	0.	0.	6.	14.	19.	23.	24.	23.	19.	14.	6.	0.	0.	0.	0.	148.	54.	64.	44.	48.
SOUTHEAST	0.	0.	0.	0.	6.	14.	19.	23.	24.	23.	19.	14.	6.	0.	0.	0.	0.	148.	54.	64.	44.	48.
HORIZ.	0.	0.	0.	0.	11.	23.	32.	38.	40.	38.	32.	23.	11.	0.	0.	0.	0.	246.	62.	79.	47.	54.

MONTH 12 HO 1171. TOD 34. TOT 31. KT .467 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	29.	93.	131.	152.	159.	152.	131.	93.	29.	0.	0.	0.	0.	969.	116.	183.	63.	88.
SOUTHWEST	0.	0.	0.	0.	5.	20.	56.	92.	121.	139.	142.	120.	44.	0.	0.	0.	0.	739.	97.	148.	55.	75.
WEST	0.	0.	0.	0.	5.	14.	22.	27.	29.	61.	83.	85.	36.	0.	0.	0.	0.	361.	65.	90.	43.	53.
NORTHWEST	0.	0.	0.	0.	5.	14.	22.	27.	29.	27.	22.	14.	10.	0.	0.	0.	0.	170.	48.	60.	37.	41.
NORTH	0.	0.	0.	0.	5.	14.	22.	27.	29.	27.	22.	14.	5.	0.	0.	0.	0.	165.	48.	59.	37.	41.
NORTHEAST	0.	0.	0.	0.	10.	14.	22.	27.	29.	27.	22.	14.	5.	0.	0.	0.	0.	170.	48.	60.	37.	41.
EAST	0.	0.	0.	0.	36.	85.	83.	61.	29.	27.	22.	14.	5.	0.	0.	0.	0.	361.	65.	90.	43.	53.
SOUTHEAST	0.	0.	0.	0.	44.	120.	142.	139.	121.	92.	56.	20.	5.	0.	0.	0.	0.	739.	97.	148.	55.	75.
HORIZ.	0.	0.	0.	0.	11.	45.	74.	94.	100.	94.	74.	45.	11.	0.	0.	0.	0.	548.	80.	118.	49.	63.

LOCATION SALT LAKE CITY, UTAH LATITUDE 40 DEGREES 46 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	110.	208.	117.	114.	85.	94.	103.	100.	161.	161.	54.	116.	119.
SOUTHWEST	92.	174.	111.	120.	85.	94.	103.	100.	153.	141.	54.	97.	110.
WEST	63.	117.	97.	115.	85.	94.	103.	100.	133.	109.	54.	65.	95.
NORTHWEST	46.	67.	77.	97.	85.	94.	103.	100.	106.	82.	54.	48.	80.
NORTH	45.	58.	68.	82.	85.	94.	103.	100.	94.	77.	54.	48.	76.
NORTHEAST	46.	67.	77.	97.	85.	94.	103.	100.	106.	82.	54.	48.	80.
EAST	63.	117.	97.	115.	85.	94.	103.	100.	133.	109.	54.	65.	95.
SOUTHEAST	92.	174.	111.	120.	85.	94.	103.	100.	153.	141.	54.	97.	110.
HORIZ.	82.	163.	132.	161.	100.	109.	118.	114.	178.	141.	62.	80.	120.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	176.	349.	176.	164.	102.	111.	120.	116.	231.	246.	64.	183.	170.
SOUTHWEST	143.	286.	166.	174.	102.	111.	120.	116.	217.	210.	64.	148.	155.
WEST	91.	182.	139.	165.	102.	111.	120.	116.	182.	151.	64.	90.	126.
NORTHWEST	59.	93.	103.	133.	102.	111.	120.	116.	134.	103.	64.	60.	100.
NORTH	58.	75.	88.	105.	102.	111.	120.	116.	114.	94.	64.	59.	92.
NORTHEAST	59.	93.	103.	133.	102.	111.	120.	116.	134.	103.	64.	60.	100.
EAST	91.	182.	139.	165.	102.	111.	120.	116.	182.	151.	64.	90.	126.
SOUTHEAST	143.	286.	166.	174.	102.	111.	120.	116.	217.	210.	64.	148.	155.
HORIZ.	124.	267.	204.	249.	128.	137.	146.	141.	261.	210.	79.	118.	172.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	59.	111.	77.	84.	72.	81.	90.	86.	111.	100.	44.	63.	81.
SOUTHWEST	52.	95.	75.	87.	72.	81.	90.	86.	107.	91.	44.	55.	78.
WEST	40.	69.	67.	84.	72.	81.	90.	86.	96.	76.	44.	43.	71.
NORTHWEST	33.	47.	57.	74.	72.	81.	90.	86.	83.	64.	44.	37.	64.
NORTH	33.	43.	53.	66.	72.	81.	90.	86.	77.	62.	44.	37.	62.
NORTHEAST	33.	47.	57.	74.	72.	81.	90.	86.	83.	64.	44.	37.	64.
EAST	40.	69.	67.	84.	72.	81.	90.	86.	96.	76.	44.	43.	71.
SOUTHEAST	52.	95.	75.	87.	72.	81.	90.	86.	107.	91.	44.	55.	78.
HORIZ.	47.	90.	85.	110.	81.	90.	99.	94.	119.	91.	47.	49.	84.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	85.	174.	107.	111.	82.	92.	100.	95.	146.	138.	48.	88.	106.
SOUTHWEST	72.	146.	102.	117.	82.	92.	100.	95.	139.	122.	48.	75.	99.
WEST	51.	99.	89.	112.	82.	92.	100.	95.	121.	95.	48.	53.	86.
NORTHWEST	39.	59.	71.	94.	82.	92.	100.	95.	97.	73.	48.	41.	74.
NORTH	38.	51.	63.	79.	82.	92.	100.	95.	87.	69.	48.	41.	70.
NORTHEAST	39.	59.	71.	94.	82.	92.	100.	95.	97.	73.	48.	41.	74.
EAST	51.	99.	89.	112.	82.	92.	100.	95.	121.	95.	48.	53.	86.
SOUTHEAST	72.	146.	102.	117.	82.	92.	100.	95.	139.	122.	48.	75.	99.
HORIZ.	64.	137.	121.	159.	98.	108.	116.	109.	161.	121.	54.	63.	109.

LOCATION SAN ANTONIO, TEXAS LATITUDE 29 DEGREES 31 MINUTES

MONTH 1 HO 1992. TOD 54. TOT 51. KT .541 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	6.	80.	125.	156.	174.	180.	174.	156.	125.	80.	6.	0.	0.	0.	1262.	147.	223.	91.	124.
SOUTHWEST	0.	0.	0.	2.	15.	27.	64.	105.	140.	166.	178.	171.	132.	11.	0.	0.	0.	1010.	128.	189.	83.	109.
WEST	0.	0.	0.	2.	15.	27.	36.	42.	44.	85.	117.	132.	116.	11.	0.	0.	0.	627.	100.	138.	71.	87.
NORTHWEST	0.	0.	0.	2.	15.	27.	36.	42.	44.	42.	36.	32.	40.	5.	0.	0.	0.	322.	77.	97.	61.	69.
NORTH	0.	0.	0.	2.	15.	27.	36.	42.	44.	42.	36.	27.	15.	2.	0.	0.	0.	289.	75.	92.	60.	67.
NORTHEAST	0.	0.	0.	5.	40.	32.	36.	42.	44.	42.	36.	27.	15.	2.	0.	0.	0.	322.	77.	97.	61.	69.
EAST	0.	0.	0.	11.	116.	132.	117.	85.	44.	42.	36.	27.	15.	2.	0.	0.	0.	627.	100.	138.	71.	87.
SOUTHEAST	0.	0.	0.	11.	132.	171.	178.	166.	140.	105.	64.	27.	15.	2.	0.	0.	0.	1010.	128.	189.	83.	109.
HORIZ.	0.	0.	0.	4.	50.	99.	138.	162.	171.	162.	138.	99.	50.	4.	0.	0.	0.	1076.	133.	198.	85.	113.

MONTH 2 HO 2481. TOD 58. TOT 55. KT .550 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	28.	78.	116.	144.	162.	167.	162.	144.	116.	78.	28.	0.	0.	0.	1225.	143.	211.	94.	126.
SOUTHWEST	0.	0.	0.	7.	21.	34.	54.	96.	133.	161.	175.	173.	147.	71.	0.	0.	0.	1075.	132.	193.	90.	118.
WEST	0.	0.	0.	7.	21.	34.	43.	49.	51.	95.	129.	148.	143.	77.	0.	0.	0.	799.	113.	158.	81.	102.
NORTHWEST	0.	0.	0.	7.	21.	34.	43.	49.	51.	49.	43.	56.	67.	42.	0.	0.	0.	464.	90.	116.	70.	82.
NORTH	0.	0.	0.	7.	21.	34.	43.	49.	51.	49.	43.	34.	21.	7.	0.	0.	0.	362.	83.	104.	67.	76.
NORTHEAST	0.	0.	0.	42.	67.	56.	43.	49.	51.	49.	43.	34.	21.	7.	0.	0.	0.	464.	90.	116.	70.	82.
EAST	0.	0.	0.	77.	143.	148.	129.	95.	51.	49.	43.	34.	21.	7.	0.	0.	0.	799.	113.	158.	81.	102.
SOUTHEAST	0.	0.	0.	71.	147.	173.	175.	161.	133.	96.	54.	34.	21.	7.	0.	0.	0.	1075.	132.	193.	90.	118.
HORIZ.	0.	0.	0.	20.	76.	127.	167.	192.	201.	192.	167.	127.	76.	20.	0.	0.	0.	1366.	152.	229.	99.	135.

MONTH 3 HO 2971. TOD 65. TOT 61. KT .542 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	26.	63.	95.	121.	137.	142.	137.	121.	95.	63.	26.	0.	0.	0.	1025.	131.	184.	94.	121.
SOUTHWEST	0.	0.	0.	13.	28.	40.	49.	81.	117.	144.	159.	160.	141.	94.	0.	0.	0.	1028.	131.	184.	94.	121.
WEST	0.	0.	0.	13.	28.	40.	49.	55.	58.	100.	134.	154.	153.	114.	0.	0.	0.	899.	123.	170.	90.	114.
NORTHWEST	0.	0.	0.	13.	28.	40.	49.	55.	58.	55.	59.	81.	92.	76.	0.	0.	0.	607.	104.	136.	81.	97.
NORTH	0.	0.	0.	13.	28.	40.	49.	55.	58.	55.	49.	40.	28.	13.	0.	0.	0.	430.	93.	115.	75.	86.
NORTHEAST	0.	0.	0.	76.	92.	81.	59.	55.	58.	55.	49.	40.	28.	13.	0.	0.	0.	607.	104.	136.	81.	97.
EAST	0.	0.	0.	114.	153.	154.	134.	100.	58.	55.	49.	40.	28.	13.	0.	0.	0.	899.	123.	170.	90.	114.
SOUTHEAST	0.	0.	0.	94.	141.	160.	159.	144.	117.	81.	49.	40.	28.	13.	0.	0.	0.	1028.	131.	184.	94.	121.
HORIZ.	0.	0.	0.	42.	99.	150.	189.	213.	222.	213.	189.	150.	99.	42.	0.	0.	0.	1608.	168.	252.	113.	155.

LOCATION SAN ANTONIO, TEXAS LATITUDE 29 DEGREES 31 MINUTES

MONTH 4 HO 3393. TOD 72. TOT 69. KT .500 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	5.	19.	40.	67.	88.	101.	106.	101.	88.	67.	40.	19.	5.	0.	0.	747.	117.	153.	93.	112.
SOUTHWEST	0.	0.	5.	19.	33.	44.	53.	63.	93.	115.	128.	128.	114.	84.	23.	0.	0.	902.	126.	170.	98.	121.
WEST	0.	0.	5.	19.	33.	44.	53.	59.	61.	96.	124.	140.	141.	116.	35.	0.	0.	928.	128.	173.	99.	123.
NORTHWEST	0.	0.	5.	19.	33.	44.	53.	59.	61.	59.	79.	96.	103.	92.	30.	0.	0.	735.	116.	152.	92.	112.
NORTH	0.	0.	11.	25.	33.	44.	53.	59.	61.	59.	53.	44.	33.	25.	11.	0.	0.	512.	103.	128.	85.	99.
NORTHEAST	0.	0.	30.	92.	103.	96.	79.	59.	61.	59.	53.	44.	33.	19.	5.	0.	0.	735.	116.	152.	92.	112.
EAST	0.	0.	35.	116.	141.	140.	124.	96.	61.	59.	53.	44.	33.	19.	5.	0.	0.	928.	128.	173.	99.	123.
SOUTHEAST	0.	0.	23.	84.	114.	128.	128.	115.	93.	63.	53.	44.	33.	19.	5.	0.	0.	902.	126.	170.	98.	121.
HORIZ.	0.	0.	11.	59.	110.	155.	190.	212.	220.	212.	190.	155.	110.	59.	11.	0.	0.	1697.	173.	256.	123.	168.

MONTH 5 HO 3620. TOD 79. TOT 76. KT .563 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	9.	23.	36.	52.	74.	88.	93.	88.	74.	52.	36.	23.	9.	0.	0.	654.	119.	149.	98.	115.
SOUTHWEST	0.	0.	9.	23.	36.	47.	56.	62.	84.	111.	127.	130.	118.	90.	40.	0.	0.	933.	135.	179.	108.	132.
WEST	0.	0.	9.	23.	36.	47.	56.	62.	63.	105.	139.	160.	163.	142.	74.	0.	0.	1079.	144.	194.	113.	141.
NORTHWEST	0.	0.	9.	23.	36.	47.	56.	62.	63.	74.	102.	124.	134.	124.	70.	0.	0.	923.	135.	178.	108.	132.
NORTH	0.	0.	30.	47.	47.	47.	56.	62.	63.	62.	56.	47.	47.	47.	30.	0.	0.	640.	118.	147.	98.	115.
NORTHEAST	0.	0.	70.	124.	134.	124.	102.	74.	63.	62.	56.	47.	36.	23.	9.	0.	0.	923.	135.	178.	108.	132.
EAST	0.	0.	74.	142.	163.	160.	139.	105.	63.	62.	56.	47.	36.	23.	9.	0.	0.	1079.	144.	194.	113.	141.
SOUTHEAST	0.	0.	40.	90.	118.	130.	127.	111.	84.	62.	56.	47.	36.	23.	9.	0.	0.	933.	135.	179.	108.	132.
HORIZ.	0.	0.	25.	80.	135.	184.	222.	246.	254.	246.	222.	184.	135.	80.	25.	0.	0.	2039.	202.	296.	146.	199.

MONTH 6 HO 3692. TOD 85. TOT 82. KT .620 KD .169

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	10.	24.	37.	48.	66.	81.	87.	81.	66.	48.	37.	24.	10.	0.	0.	619.	122.	150.	103.	119.
SOUTHWEST	0.	0.	10.	24.	37.	48.	57.	62.	80.	111.	130.	135.	125.	96.	47.	0.	0.	963.	142.	185.	115.	140.
WEST	0.	0.	10.	24.	37.	48.	57.	62.	64.	112.	151.	177.	183.	162.	94.	0.	0.	1182.	155.	208.	122.	153.
NORTHWEST	0.	0.	10.	24.	37.	48.	57.	62.	64.	84.	117.	143.	156.	147.	92.	0.	0.	1041.	146.	194.	118.	145.
NORTH	0.	0.	42.	60.	59.	53.	57.	62.	64.	62.	57.	53.	59.	60.	42.	0.	0.	730.	128.	161.	107.	126.
NORTHEAST	0.	0.	92.	147.	156.	143.	117.	84.	64.	62.	57.	48.	37.	24.	10.	0.	0.	1041.	146.	194.	118.	145.
EAST	0.	0.	94.	162.	183.	177.	151.	112.	64.	62.	57.	48.	37.	24.	10.	0.	0.	1182.	155.	208.	122.	153.
SOUTHEAST	0.	0.	47.	96.	125.	135.	130.	111.	80.	62.	57.	48.	37.	24.	10.	0.	0.	963.	142.	185.	115.	140.
HORIZ.	0.	0.	32.	92.	153.	206.	247.	273.	282.	273.	247.	206.	153.	92.	32.	0.	0.	2289.	220.	324.	160.	220.

LOCATION SAN ANTONIO, TEXAS LATITUDE 29 DEGREES 31 MINUTES

MONTH 7 HO 3613. TOD 87. TOT 84. KT .647 KD .162

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	9.	22.	36.	52.	78.	94.	100.	94.	78.	52.	36.	22.	9.	0.	0.	680.	128.	160.	107.	125.
SOUTHWEST	0.	0.	9.	22.	36.	47.	56.	62.	89.	123.	145.	151.	138.	106.	46.	0.	0.	1030.	149.	197.	119.	146.
WEST	0.	0.	9.	22.	36.	47.	56.	62.	64.	117.	160.	189.	195.	171.	88.	0.	0.	1215.	161.	217.	126.	158.
NORTHWEST	0.	0.	9.	22.	36.	47.	56.	62.	64.	78.	115.	144.	159.	148.	83.	0.	0.	1021.	149.	196.	119.	146.
NORTH	0.	0.	34.	52.	50.	47.	56.	62.	64.	62.	56.	47.	50.	52.	34.	0.	0.	667.	128.	158.	107.	125.
NORTHEAST	0.	0.	83.	148.	159.	144.	115.	78.	64.	62.	56.	47.	36.	22.	9.	0.	0.	1021.	149.	196.	119.	146.
EAST	0.	0.	88.	171.	195.	189.	160.	117.	64.	62.	56.	47.	36.	22.	9.	0.	0.	1215.	161.	217.	126.	158.
SOUTHEAST	0.	0.	46.	106.	138.	151.	145.	123.	89.	62.	56.	47.	36.	22.	9.	0.	0.	1030.	149.	197.	119.	146.
HORIZ.	0.	0.	27.	89.	154.	212.	256.	284.	294.	284.	256.	212.	154.	89.	27.	0.	0.	2339.	228.	336.	164.	226.

MONTH 8 HO 3367. TOD 88. TOT 84. KT .637 KD .165

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	5.	19.	44.	78.	106.	123.	129.	123.	106.	78.	44.	19.	5.	0.	0.	878.	144.	186.	114.	137.
SOUTHWEST	0.	0.	5.	19.	33.	45.	54.	65.	110.	145.	166.	170.	154.	112.	27.	0.	0.	1103.	158.	212.	122.	151.
WEST	0.	0.	5.	19.	33.	45.	54.	60.	62.	116.	161.	189.	193.	159.	43.	0.	0.	1138.	160.	215.	123.	153.
NORTHWEST	0.	0.	5.	19.	33.	45.	54.	60.	62.	60.	93.	123.	138.	124.	37.	0.	0.	852.	142.	183.	114.	136.
NORTH	0.	0.	12.	27.	33.	45.	54.	60.	62.	60.	54.	45.	33.	27.	12.	0.	0.	524.	121.	147.	102.	116.
NORTHEAST	0.	0.	37.	124.	138.	123.	93.	60.	62.	60.	54.	45.	33.	19.	5.	0.	0.	852.	142.	183.	114.	136.
EAST	0.	0.	43.	159.	193.	189.	161.	116.	62.	60.	54.	45.	33.	19.	5.	0.	0.	1138.	160.	215.	123.	153.
SOUTHEAST	0.	0.	27.	112.	154.	170.	166.	145.	110.	65.	54.	45.	33.	19.	5.	0.	0.	1103.	158.	212.	122.	151.
HORIZ.	0.	0.	11.	71.	138.	197.	243.	272.	282.	272.	243.	197.	138.	71.	11.	0.	0.	2144.	224.	328.	158.	214.

MONTH 9 HO 2950. TOD 83. TOT 79. KT .603 KD .173

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	27.	68.	105.	133.	152.	158.	152.	133.	105.	68.	27.	0.	0.	0.	1127.	159.	218.	118.	147.
SOUTHWEST	0.	0.	0.	13.	28.	40.	50.	86.	129.	161.	180.	181.	159.	103.	0.	0.	0.	1130.	160.	219.	118.	148.
WEST	0.	0.	0.	13.	28.	40.	50.	56.	58.	109.	150.	174.	174.	126.	0.	0.	0.	979.	149.	200.	113.	139.
NORTHWEST	0.	0.	0.	13.	28.	40.	50.	56.	58.	56.	62.	90.	103.	83.	0.	0.	0.	639.	126.	159.	101.	118.
NORTH	0.	0.	0.	13.	28.	40.	50.	56.	58.	56.	50.	40.	28.	13.	0.	0.	0.	432.	112.	135.	94.	106.
NORTHEAST	0.	0.	0.	83.	103.	90.	62.	56.	58.	56.	50.	40.	28.	13.	0.	0.	0.	639.	126.	159.	101.	118.
EAST	0.	0.	0.	126.	174.	174.	150.	109.	58.	56.	50.	40.	28.	13.	0.	0.	0.	979.	149.	200.	113.	139.
SOUTHEAST	0.	0.	0.	103.	159.	181.	180.	161.	129.	86.	50.	40.	28.	13.	0.	0.	0.	1130.	160.	219.	118.	148.
HORIZ.	0.	0.	0.	45.	108.	165.	210.	238.	247.	238.	210.	165.	108.	45.	0.	0.	0.	1778.	204.	297.	140.	187.

LOCATION SAN ANTONIO, TEXAS LATITUDE 29 DEGREES 31 MINUTES

MONTH 10 HO 2446. TOD 75. TOT 71. KT .584 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	28.	83.	125.	155.	174.	181.	174.	155.	125.	83.	28.	0.	0.	0.	1309.	165.	239.	113.	148.
SOUTHWEST	0.	0.	0.	7.	21.	33.	56.	102.	143.	173.	189.	186.	157.	69.	0.	0.	0.	1137.	153.	217.	108.	138.
WEST	0.	0.	0.	7.	21.	33.	43.	49.	51.	100.	138.	159.	151.	75.	0.	0.	0.	827.	132.	178.	98.	119.
NORTHWEST	0.	0.	0.	7.	21.	33.	43.	49.	51.	49.	43.	58.	69.	40.	0.	0.	0.	465.	107.	133.	86.	98.
NORTH	0.	0.	0.	7.	21.	33.	43.	49.	51.	49.	43.	33.	21.	7.	0.	0.	0.	359.	99.	120.	83.	92.
NORTHEAST	0.	0.	0.	40.	69.	58.	43.	49.	51.	49.	43.	33.	21.	7.	0.	0.	0.	465.	107.	133.	86.	98.
EAST	0.	0.	0.	75.	151.	159.	138.	100.	51.	49.	43.	33.	21.	7.	0.	0.	0.	827.	132.	178.	98.	119.
SOUTHEAST	0.	0.	0.	69.	157.	186.	189.	173.	143.	102.	56.	33.	21.	7.	0.	0.	0.	1137.	153.	217.	108.	138.
HORIZ.	0.	0.	0.	19.	78.	133.	176.	203.	212.	203.	176.	133.	78.	19.	0.	0.	0.	1430.	173.	254.	117.	155.

MONTH 11 HO 1979. TOD 63. TOT 60. KT .507 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	5.	72.	114.	142.	159.	165.	159.	142.	114.	72.	5.	0.	0.	0.	1149.	148.	218.	97.	127.
SOUTHWEST	0.	0.	0.	2.	15.	27.	60.	98.	129.	152.	162.	154.	118.	8.	0.	0.	0.	924.	132.	187.	89.	114.
WEST	0.	0.	0.	2.	15.	27.	36.	41.	43.	80.	107.	119.	103.	8.	0.	0.	0.	582.	106.	141.	78.	94.
NORTHWEST	0.	0.	0.	2.	15.	27.	36.	41.	43.	41.	36.	31.	37.	4.	0.	0.	0.	313.	86.	105.	70.	78.
NORTH	0.	0.	0.	2.	15.	27.	36.	41.	43.	41.	36.	27.	15.	2.	0.	0.	0.	285.	84.	102.	69.	76.
NORTHEAST	0.	0.	0.	4.	37.	31.	36.	41.	43.	41.	36.	27.	15.	2.	0.	0.	0.	313.	86.	105.	70.	78.
EAST	0.	0.	0.	8.	103.	119.	107.	80.	43.	41.	36.	27.	15.	2.	0.	0.	0.	582.	106.	141.	78.	94.
SOUTHEAST	0.	0.	0.	8.	118.	154.	162.	152.	129.	98.	60.	27.	15.	2.	0.	0.	0.	924.	132.	187.	89.	114.
HORIZ.	0.	0.	0.	4.	46.	92.	128.	151.	159.	151.	128.	92.	46.	4.	0.	0.	0.	1002.	137.	198.	92.	118.

MONTH 12 HO 1794. TOD 56. TOT 53. KT .528 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	1.	75.	123.	154.	173.	179.	173.	154.	123.	75.	1.	0.	0.	0.	1230.	150.	227.	93.	125.
SOUTHWEST	0.	0.	0.	1.	12.	26.	66.	105.	138.	162.	172.	162.	118.	1.	0.	0.	0.	963.	130.	190.	84.	109.
WEST	0.	0.	0.	1.	12.	24.	33.	39.	41.	79.	109.	121.	99.	1.	0.	0.	0.	558.	99.	134.	71.	86.
NORTHWEST	0.	0.	0.	1.	12.	24.	33.	39.	41.	39.	33.	24.	30.	1.	0.	0.	0.	276.	78.	95.	62.	69.
NORTH	0.	0.	0.	1.	12.	24.	33.	39.	41.	39.	33.	24.	12.	1.	0.	0.	0.	259.	76.	92.	61.	68.
NORTHEAST	0.	0.	0.	1.	30.	24.	33.	39.	41.	39.	33.	24.	12.	1.	0.	0.	0.	276.	78.	95.	62.	69.
EAST	0.	0.	0.	1.	99.	121.	109.	79.	41.	39.	33.	24.	12.	1.	0.	0.	0.	558.	99.	134.	71.	86.
SOUTHEAST	0.	0.	0.	1.	118.	162.	172.	162.	138.	105.	66.	26.	12.	1.	0.	0.	0.	963.	130.	190.	84.	109.
HORIZ.	0.	0.	0.	1.	39.	86.	123.	147.	155.	147.	123.	86.	39.	1.	0.	0.	0.	946.	129.	187.	83.	108.

LOCATION SAN ANTONIO, TEXAS LATITUDE 29 DEGREES 31 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	147.	143.	131.	117.	119.	110.	128.	144.	159.	165.	148.	150.	138.
SOUTHWEST	128.	132.	131.	126.	135.	112.	149.	158.	160.	153.	132.	130.	137.
WEST	100.	113.	123.	128.	144.	113.	161.	160.	149.	132.	106.	99.	127.
NORTHWEST	77.	90.	104.	116.	135.	112.	149.	142.	126.	107.	86.	78.	110.
NORTH	75.	83.	93.	103.	118.	110.	128.	121.	112.	99.	84.	76.	100.
NORTHEAST	77.	90.	104.	116.	135.	112.	149.	142.	126.	107.	86.	78.	110.
EAST	100.	113.	123.	128.	144.	113.	161.	160.	149.	132.	106.	99.	127.
SOUTHEAST	128.	132.	131.	126.	135.	112.	149.	158.	160.	153.	132.	130.	137.
HORIZ.	133.	152.	168.	173.	202.	133.	228.	224.	204.	173.	137.	129.	171.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	223.	211.	184.	153.	149.	129.	160.	186.	218.	239.	218.	227.	191.
SOUTHWEST	189.	193.	184.	170.	179.	132.	197.	212.	219.	217.	187.	190.	189.
WEST	138.	158.	170.	173.	194.	134.	217.	215.	200.	178.	141.	134.	171.
NORTHWEST	97.	116.	136.	152.	178.	133.	196.	183.	159.	133.	105.	95.	140.
NORTH	92.	104.	115.	128.	147.	130.	158.	147.	135.	120.	102.	92.	122.
NORTHEAST	97.	116.	136.	152.	178.	133.	196.	183.	159.	133.	105.	95.	140.
EAST	138.	158.	170.	173.	194.	134.	217.	215.	200.	178.	141.	134.	171.
SOUTHEAST	189.	193.	184.	170.	179.	132.	197.	212.	219.	217.	187.	190.	189.
HORIZ.	198.	229.	252.	256.	296.	170.	336.	328.	297.	254.	198.	187.	250.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	91.	94.	94.	93.	98.	96.	107.	114.	118.	113.	97.	93.	101.
SOUTHWEST	83.	90.	94.	98.	108.	97.	119.	122.	118.	108.	89.	84.	101.
WEST	71.	81.	90.	99.	113.	98.	126.	123.	113.	98.	78.	71.	97.
NORTHWEST	61.	70.	81.	92.	108.	98.	119.	114.	101.	86.	70.	62.	88.
NORTH	60.	67.	75.	85.	98.	97.	107.	102.	94.	83.	69.	61.	83.
NORTHEAST	61.	70.	81.	92.	108.	98.	119.	114.	101.	86.	70.	62.	88.
EAST	71.	81.	90.	99.	113.	98.	126.	123.	113.	98.	78.	71.	97.
SOUTHEAST	83.	90.	94.	98.	108.	97.	119.	122.	118.	108.	89.	84.	101.
HORIZ.	85.	99.	113.	123.	146.	110.	164.	158.	140.	117.	92.	83.	119.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	124.	126.	121.	112.	115.	107.	125.	137.	147.	148.	127.	125.	126.
SOUTHWEST	109.	118.	121.	121.	132.	109.	146.	151.	148.	138.	114.	109.	126.
WEST	87.	102.	114.	123.	141.	110.	158.	153.	139.	119.	94.	86.	119.
NORTHWEST	69.	82.	97.	112.	132.	110.	146.	136.	118.	98.	78.	69.	104.
NORTH	67.	76.	86.	99.	115.	108.	125.	116.	106.	92.	76.	68.	95.
NORTHEAST	69.	82.	97.	112.	132.	110.	146.	136.	118.	98.	78.	69.	104.
EAST	87.	102.	114.	123.	141.	110.	158.	153.	139.	119.	94.	86.	119.
SOUTHEAST	109.	118.	121.	121.	132.	109.	146.	151.	148.	138.	114.	109.	126.
HORIZ.	113.	135.	155.	168.	199.	131.	226.	214.	187.	155.	118.	108.	159.

LOCATION SANTA MARIA, CALIFORNIA LATITUDE 34 DEGREES 53 MINUTES

MONTH 1 HO 1708. TOD 54. TOT 50. KT .595 KD .175

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	82.	142.	181.	205.	213.	205.	181.	142.	82.	0.	0.	0.	0.	1434.	164.	253.	96.	134.
SOUTHWEST	0.	0.	0.	0.	12.	23.	71.	120.	162.	192.	204.	192.	136.	0.	0.	0.	0.	1112.	139.	209.	86.	115.
WEST	0.	0.	0.	0.	12.	23.	32.	38.	40.	89.	126.	143.	117.	0.	0.	0.	0.	620.	102.	140.	70.	87.
NORTHWEST	0.	0.	0.	0.	12.	23.	32.	38.	40.	38.	32.	24.	36.	0.	0.	0.	0.	275.	75.	92.	59.	66.
NORTH	0.	0.	0.	0.	12.	23.	32.	38.	40.	38.	32.	23.	12.	0.	0.	0.	0.	250.	73.	89.	58.	65.
NORTHEAST	0.	0.	0.	0.	36.	24.	32.	38.	40.	38.	32.	23.	12.	0.	0.	0.	0.	275.	75.	92.	59.	66.
EAST	0.	0.	0.	0.	117.	143.	126.	89.	40.	38.	32.	23.	12.	0.	0.	0.	0.	620.	102.	140.	70.	87.
SOUTHEAST	0.	0.	0.	0.	136.	192.	204.	192.	162.	120.	71.	23.	12.	0.	0.	0.	0.	1112.	139.	209.	86.	115.
HORIZ.	0.	0.	0.	0.	40.	91.	133.	159.	168.	159.	133.	91.	40.	0.	0.	0.	0.	1015.	132.	195.	83.	110.

MONTH 2 HO 2241. TOD 55. TOT 52. KT .613 KD .171

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	25.	90.	138.	173.	195.	203.	195.	173.	138.	90.	25.	0.	0.	0.	1447.	156.	239.	98.	136.
SOUTHWEST	0.	0.	0.	6.	19.	31.	61.	113.	157.	190.	207.	203.	169.	65.	0.	0.	0.	1221.	141.	210.	91.	123.
WEST	0.	0.	0.	6.	19.	31.	40.	46.	48.	101.	143.	167.	159.	70.	0.	0.	0.	829.	113.	161.	78.	100.
NORTHWEST	0.	0.	0.	6.	19.	31.	40.	46.	48.	46.	40.	51.	68.	37.	0.	0.	0.	431.	85.	110.	66.	77.
NORTH	0.	0.	0.	6.	19.	31.	40.	46.	48.	46.	40.	31.	19.	6.	0.	0.	0.	329.	78.	97.	62.	71.
NORTHEAST	0.	0.	0.	37.	68.	51.	40.	46.	48.	46.	40.	31.	19.	6.	0.	0.	0.	431.	85.	110.	66.	77.
EAST	0.	0.	0.	70.	159.	167.	143.	101.	48.	46.	40.	31.	19.	6.	0.	0.	0.	829.	113.	161.	78.	100.
SOUTHEAST	0.	0.	0.	65.	169.	203.	207.	190.	157.	113.	61.	31.	19.	6.	0.	0.	0.	1221.	141.	210.	91.	123.
HORIZ.	0.	0.	0.	15.	73.	127.	171.	198.	207.	198.	171.	127.	73.	15.	0.	0.	0.	1374.	151.	230.	96.	132.

MONTH 3 HO 2804. TOD 58. TOT 54. KT .671 KD .156

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	33.	84.	130.	166.	188.	196.	188.	166.	130.	84.	33.	0.	0.	0.	1397.	147.	220.	99.	135.
SOUTHWEST	0.	0.	0.	12.	26.	38.	47.	103.	155.	194.	216.	218.	193.	126.	0.	0.	0.	1328.	143.	212.	97.	131.
WEST	0.	0.	0.	12.	26.	38.	47.	53.	55.	117.	168.	200.	204.	153.	0.	0.	0.	1073.	126.	182.	88.	116.
NORTHWEST	0.	0.	0.	12.	26.	38.	47.	53.	55.	53.	49.	88.	111.	97.	0.	0.	0.	628.	98.	131.	74.	91.
NORTH	0.	0.	0.	12.	26.	38.	47.	53.	55.	53.	47.	38.	26.	12.	0.	0.	0.	406.	84.	105.	67.	78.
NORTHEAST	0.	0.	0.	97.	111.	88.	49.	53.	55.	53.	47.	38.	26.	12.	0.	0.	0.	628.	98.	131.	74.	91.
EAST	0.	0.	0.	153.	204.	200.	168.	117.	55.	53.	47.	38.	26.	12.	0.	0.	0.	1073.	126.	182.	88.	116.
SOUTHEAST	0.	0.	0.	126.	193.	218.	216.	194.	155.	103.	47.	38.	26.	12.	0.	0.	0.	1328.	143.	212.	97.	131.
HORIZ.	0.	0.	0.	46.	114.	175.	222.	252.	262.	252.	222.	175.	114.	46.	0.	0.	0.	1880.	178.	276.	114.	164.

LOCATION SANTA MARIA, CALIFORNIA LATITUDE 34 DEGREES 53 MINUTES

MONTH 4 HO 3325. TOD 59. TOT 56. KT .636 KD .165

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	54.	92.	122.	141.	148.	141.	122.	92.	54.	19.	6.	0.	0.	1015.	119.	168.	88.	115.
SOUTHWEST	0.	0.	6.	19.	32.	44.	53.	77.	122.	157.	177.	180.	163.	121.	40.	0.	0.	1193.	129.	187.	94.	125.
WEST	0.	0.	6.	19.	32.	44.	53.	59.	60.	115.	160.	189.	196.	168.	64.	0.	0.	1165.	128.	184.	93.	124.
NORTHWEST	0.	0.	6.	19.	32.	44.	53.	59.	60.	59.	80.	113.	133.	127.	54.	0.	0.	839.	109.	149.	83.	105.
NORTH	0.	0.	16.	23.	32.	44.	53.	59.	60.	59.	53.	44.	32.	23.	16.	0.	0.	514.	90.	114.	72.	86.
NORTHEAST	0.	0.	54.	127.	133.	113.	80.	59.	60.	59.	53.	44.	32.	19.	6.	0.	0.	839.	109.	149.	83.	105.
EAST	0.	0.	64.	168.	196.	189.	160.	115.	60.	59.	53.	44.	32.	19.	6.	0.	0.	1165.	128.	184.	93.	124.
SOUTHEAST	0.	0.	40.	121.	163.	180.	177.	157.	122.	77.	53.	44.	32.	19.	6.	0.	0.	1193.	129.	187.	94.	125.
HORIZ.	0.	0.	16.	75.	138.	193.	236.	264.	273.	264.	236.	193.	138.	75.	16.	0.	0.	2115.	184.	285.	124.	179.

MONTH 5 HO 3633. TOD 61. TOT 58. KT .661 KD .159

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	10.	23.	36.	68.	97.	116.	122.	116.	97.	68.	36.	23.	10.	0.	0.	824.	110.	147.	86.	108.
SOUTHWEST	0.	0.	10.	23.	36.	47.	55.	61.	105.	140.	162.	166.	153.	119.	60.	0.	0.	1137.	128.	179.	97.	126.
WEST	0.	0.	10.	23.	36.	47.	55.	61.	63.	118.	164.	195.	204.	184.	111.	0.	0.	1270.	136.	193.	101.	134.
NORTHWEST	0.	0.	10.	23.	36.	47.	55.	61.	63.	62.	102.	136.	157.	155.	103.	0.	0.	1011.	121.	166.	92.	119.
NORTH	0.	0.	41.	49.	39.	47.	55.	61.	63.	61.	55.	47.	39.	49.	41.	0.	0.	646.	99.	128.	80.	97.
NORTHEAST	0.	0.	103.	155.	157.	136.	102.	62.	63.	61.	55.	47.	36.	23.	10.	0.	0.	1011.	121.	166.	92.	119.
EAST	0.	0.	111.	184.	204.	195.	164.	118.	63.	61.	55.	47.	36.	23.	10.	0.	0.	1270.	136.	193.	101.	134.
SOUTHEAST	0.	0.	60.	119.	153.	166.	162.	140.	105.	61.	55.	47.	36.	23.	10.	0.	0.	1137.	128.	179.	97.	126.
HORIZ.	0.	0.	35.	97.	160.	216.	259.	286.	295.	286.	259.	216.	160.	97.	35.	0.	0.	2401.	202.	310.	140.	203.

MONTH 6 HO 3739. TOD 63. TOT 60. KT .695 KD .150

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	1.	12.	24.	37.	58.	88.	107.	114.	107.	88.	58.	37.	24.	12.	1.	0.	769.	107.	141.	86.	107.
SOUTHWEST	0.	1.	12.	24.	37.	48.	56.	61.	99.	136.	160.	166.	153.	120.	65.	1.	0.	1139.	129.	179.	99.	129.
WEST	0.	1.	12.	24.	37.	48.	56.	61.	63.	122.	171.	204.	215.	197.	129.	2.	0.	1341.	140.	199.	106.	141.
NORTHWEST	0.	1.	12.	24.	37.	48.	56.	61.	63.	71.	114.	151.	173.	172.	125.	2.	0.	1110.	127.	176.	98.	127.
NORTH	0.	2.	54.	62.	51.	48.	56.	61.	63.	61.	56.	48.	51.	62.	54.	2.	0.	728.	105.	137.	85.	104.
NORTHEAST	0.	2.	125.	172.	173.	151.	114.	71.	63.	61.	56.	48.	37.	24.	12.	1.	0.	1110.	127.	176.	98.	127.
EAST	0.	2.	129.	197.	215.	204.	171.	122.	63.	61.	56.	48.	37.	24.	12.	1.	0.	1341.	140.	199.	106.	141.
SOUTHEAST	0.	1.	65.	120.	153.	166.	160.	136.	99.	61.	56.	48.	37.	24.	12.	1.	0.	1139.	129.	179.	99.	129.
HORIZ.	0.	2.	44.	109.	175.	232.	276.	304.	314.	304.	276.	232.	175.	109.	44.	2.	0.	2598.	212.	326.	149.	217.

LOCATION SANTA MARIA, CALIFORNIA LATITUDE 34 DEGREES 53 MINUTES

MONTH 7 HO 3628. TOD 65. TOT 62. KT .690 KD .152

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	10.	23.	36.	69.	99.	119.	126.	119.	99.	69.	36.	23.	10.	0.	0.	837.	114.	152.	91.	113.
SOUTHWEST	0.	0.	10.	23.	36.	47.	55.	60.	107.	145.	168.	174.	159.	123.	61.	0.	0.	1169.	134.	186.	102.	133.
WEST	0.	0.	10.	23.	36.	47.	55.	60.	62.	122.	171.	204.	215.	192.	115.	0.	0.	1312.	142.	201.	107.	141.
NORTHWEST	0.	0.	10.	23.	36.	47.	55.	60.	62.	62.	106.	143.	165.	162.	107.	0.	0.	1038.	126.	173.	98.	125.
NORTH	0.	0.	42.	51.	40.	47.	55.	60.	62.	60.	55.	47.	40.	51.	42.	0.	0.	651.	103.	133.	84.	102.
NORTHEAST	0.	0.	107.	162.	165.	143.	106.	62.	62.	60.	55.	47.	36.	23.	10.	0.	0.	1038.	126.	173.	98.	125.
EAST	0.	0.	115.	192.	215.	204.	171.	122.	62.	60.	55.	47.	36.	23.	10.	0.	0.	1312.	142.	201.	107.	141.
SOUTHEAST	0.	0.	61.	123.	159.	174.	168.	145.	107.	60.	55.	47.	36.	23.	10.	0.	0.	1169.	134.	186.	102.	133.
HORIZ.	0.	0.	35.	100.	167.	225.	270.	299.	309.	299.	270.	225.	167.	100.	35.	0.	0.	2503.	212.	324.	148.	213.

MONTH 8 HO 3300. TOD 66. TOT 62. KT .678 KD .155

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	5.	19.	55.	95.	128.	149.	157.	149.	128.	95.	55.	19.	5.	0.	0.	1060.	132.	183.	99.	126.
SOUTHWEST	0.	0.	5.	19.	32.	43.	52.	78.	128.	167.	190.	193.	174.	127.	38.	0.	0.	1248.	144.	203.	105.	138.
WEST	0.	0.	5.	19.	32.	43.	52.	58.	60.	121.	171.	203.	210.	177.	62.	0.	0.	1213.	141.	200.	104.	136.
NORTHWEST	0.	0.	5.	19.	32.	43.	52.	58.	60.	58.	82.	120.	142.	134.	52.	0.	0.	858.	119.	160.	92.	114.
NORTH	0.	0.	15.	23.	32.	43.	52.	58.	60.	58.	52.	43.	32.	23.	15.	0.	0.	508.	97.	122.	80.	93.
NORTHEAST	0.	0.	52.	134.	142.	120.	82.	58.	60.	58.	52.	43.	32.	19.	5.	0.	0.	858.	119.	160.	92.	114.
EAST	0.	0.	62.	177.	210.	203.	171.	121.	60.	58.	52.	43.	32.	19.	5.	0.	0.	1213.	141.	200.	104.	136.
SOUTHEAST	0.	0.	38.	127.	174.	193.	190.	167.	128.	78.	52.	43.	32.	19.	5.	0.	0.	1248.	144.	203.	105.	138.
HORIZ.	0.	0.	15.	77.	144.	205.	252.	281.	291.	281.	252.	205.	144.	77.	15.	0.	0.	2238.	205.	313.	139.	198.

MONTH 9 HO 2787. TOD 66. TOT 62. KT .674 KD .156

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	31.	82.	128.	164.	187.	195.	187.	164.	128.	82.	31.	0.	0.	0.	1381.	160.	232.	109.	146.
SOUTHWEST	0.	0.	0.	12.	25.	37.	47.	103.	154.	193.	215.	216.	189.	120.	0.	0.	0.	1313.	155.	224.	107.	141.
WEST	0.	0.	0.	12.	25.	37.	47.	53.	55.	117.	168.	199.	201.	145.	0.	0.	0.	1059.	138.	193.	98.	126.
NORTHWEST	0.	0.	0.	12.	25.	37.	47.	53.	55.	53.	49.	88.	110.	92.	0.	0.	0.	621.	108.	141.	83.	100.
NORTH	0.	0.	0.	12.	25.	37.	47.	53.	55.	53.	47.	37.	25.	12.	0.	0.	0.	403.	93.	114.	76.	86.
NORTHEAST	0.	0.	0.	92.	110.	88.	49.	53.	55.	53.	47.	37.	25.	12.	0.	0.	0.	621.	108.	141.	83.	100.
EAST	0.	0.	0.	145.	201.	199.	168.	117.	55.	53.	47.	37.	25.	12.	0.	0.	0.	1059.	138.	193.	98.	126.
SOUTHEAST	0.	0.	0.	120.	189.	216.	215.	193.	154.	103.	47.	37.	25.	12.	0.	0.	0.	1313.	155.	224.	107.	141.
HORIZ.	0.	0.	0.	45.	113.	174.	222.	253.	263.	253.	222.	174.	113.	45.	0.	0.	0.	1878.	194.	292.	126.	176.

LOCATION SANTA MARIA, CALIFORNIA LATITUDE 34 DEGREES 53 MINUTES

MONTH 10 HO 2206. TOD 64. TOT 60. KT .676 KD .155

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	25.	100.	156.	197.	222.	231.	222.	197.	156.	100.	25.	0.	0.	0.	1629.	178.	272.	112.	155.
SOUTHWEST	0.	0.	0.	5.	18.	30.	65.	125.	177.	216.	236.	231.	189.	64.	0.	0.	0.	1355.	159.	237.	103.	139.
WEST	0.	0.	0.	5.	18.	30.	39.	45.	47.	110.	160.	189.	178.	68.	0.	0.	0.	888.	126.	177.	89.	112.
NORTHWEST	0.	0.	0.	5.	18.	30.	39.	45.	47.	45.	39.	53.	73.	36.	0.	0.	0.	430.	94.	119.	74.	85.
NORTH	0.	0.	0.	5.	18.	30.	39.	45.	47.	45.	39.	30.	18.	5.	0.	0.	0.	321.	87.	105.	70.	79.
NORTHEAST	0.	0.	0.	36.	73.	53.	39.	45.	47.	45.	39.	30.	18.	5.	0.	0.	0.	430.	94.	119.	74.	85.
EAST	0.	0.	0.	68.	178.	189.	160.	110.	47.	45.	39.	30.	18.	5.	0.	0.	0.	888.	126.	177.	89.	112.
SOUTHEAST	0.	0.	0.	64.	189.	231.	236.	216.	177.	125.	65.	30.	18.	5.	0.	0.	0.	1355.	159.	237.	103.	139.
HORIZ.	0.	0.	0.	14.	76.	138.	187.	217.	228.	217.	187.	138.	76.	14.	0.	0.	0.	1491.	169.	254.	108.	147.

MONTH 11 HO 1695. TOD 61. TOT 56. KT .624 KD .168

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	86.	151.	194.	219.	227.	219.	194.	151.	86.	0.	0.	0.	0.	1527.	178.	273.	105.	145.
SOUTHWEST	0.	0.	0.	0.	11.	23.	74.	127.	172.	205.	218.	205.	142.	0.	0.	0.	0.	1178.	151.	225.	94.	125.
WEST	0.	0.	0.	0.	11.	23.	32.	38.	40.	93.	134.	152.	122.	0.	0.	0.	0.	644.	110.	150.	77.	94.
NORTHWEST	0.	0.	0.	0.	11.	23.	32.	38.	40.	38.	32.	23.	37.	0.	0.	0.	0.	273.	82.	99.	65.	72.
NORTH	0.	0.	0.	0.	11.	23.	32.	38.	40.	38.	32.	23.	11.	0.	0.	0.	0.	247.	80.	95.	64.	71.
NORTHEAST	0.	0.	0.	0.	37.	23.	32.	38.	40.	38.	32.	23.	11.	0.	0.	0.	0.	273.	82.	99.	65.	72.
EAST	0.	0.	0.	0.	122.	152.	134.	93.	40.	38.	32.	23.	11.	0.	0.	0.	0.	644.	110.	150.	77.	94.
SOUTHEAST	0.	0.	0.	0.	142.	205.	218.	205.	172.	127.	74.	23.	11.	0.	0.	0.	0.	1178.	151.	225.	94.	125.
HORIZ.	0.	0.	0.	0.	40.	95.	139.	167.	176.	167.	139.	95.	40.	0.	0.	0.	0.	1057.	142.	208.	90.	118.

MONTH 12 HO 1498. TOD 56. TOT 52. KT .627 KD .167

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	78.	154.	200.	226.	235.	226.	200.	154.	78.	0.	0.	0.	0.	1551.	180.	281.	102.	143.
SOUTHWEST	0.	0.	0.	0.	9.	26.	79.	132.	177.	209.	221.	203.	124.	0.	0.	0.	0.	1178.	150.	227.	90.	121.
WEST	0.	0.	0.	0.	9.	20.	29.	34.	36.	89.	129.	144.	102.	0.	0.	0.	0.	593.	103.	142.	71.	87.
NORTHWEST	0.	0.	0.	0.	9.	20.	29.	34.	36.	34.	29.	20.	26.	0.	0.	0.	0.	236.	75.	90.	60.	66.
NORTH	0.	0.	0.	0.	9.	20.	29.	34.	36.	34.	29.	20.	9.	0.	0.	0.	0.	219.	74.	88.	59.	65.
NORTHEAST	0.	0.	0.	0.	26.	20.	29.	34.	36.	34.	29.	20.	9.	0.	0.	0.	0.	236.	75.	90.	60.	66.
EAST	0.	0.	0.	0.	102.	144.	129.	89.	36.	34.	29.	20.	9.	0.	0.	0.	0.	593.	103.	142.	71.	87.
SOUTHEAST	0.	0.	0.	0.	124.	203.	221.	209.	177.	132.	79.	26.	9.	0.	0.	0.	0.	1178.	150.	227.	90.	121.
HORIZ.	0.	0.	0.	0.	29.	82.	125.	153.	163.	153.	125.	82.	29.	0.	0.	0.	0.	941.	131.	192.	83.	107.

LOCATION SANTA MARIA, CALIFORNIA LATITUDE 34 DEGREES 53 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	164.	156.	147.	119.	110.	107.	114.	132.	160.	178.	178.	180.	145.
SOUTHWEST	139.	141.	143.	129.	128.	129.	134.	144.	155.	159.	151.	150.	142.
WEST	102.	113.	126.	128.	136.	140.	142.	141.	138.	126.	110.	103.	126.
NORTHWEST	75.	85.	98.	109.	121.	127.	126.	119.	108.	94.	82.	75.	102.
NORTH	73.	78.	84.	90.	99.	105.	103.	97.	93.	87.	80.	74.	89.
NORTHEAST	75.	85.	98.	109.	121.	127.	126.	119.	108.	94.	82.	75.	102.
EAST	102.	113.	126.	128.	136.	140.	142.	141.	138.	126.	110.	103.	126.
SOUTHEAST	139.	141.	143.	129.	128.	129.	134.	144.	155.	159.	151.	150.	142.
HORIZ.	132.	151.	178.	184.	202.	212.	212.	205.	194.	169.	142.	131.	176.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	253.	239.	220.	168.	147.	141.	152.	183.	232.	272.	273.	281.	213.
SOUTHWEST	209.	210.	212.	187.	179.	179.	186.	203.	224.	237.	225.	227.	206.
WEST	140.	161.	182.	184.	193.	199.	201.	200.	193.	177.	150.	142.	177.
NORTHWEST	92.	110.	131.	149.	166.	176.	173.	160.	141.	119.	99.	90.	134.
NORTH	89.	97.	105.	114.	128.	137.	133.	122.	114.	105.	95.	88.	111.
NORTHEAST	92.	110.	131.	149.	166.	176.	173.	160.	141.	119.	99.	90.	134.
EAST	140.	161.	182.	184.	193.	199.	201.	200.	193.	177.	150.	142.	177.
SOUTHEAST	209.	210.	212.	187.	179.	179.	186.	203.	224.	237.	225.	227.	206.
HORIZ.	195.	230.	276.	285.	310.	326.	324.	313.	292.	254.	208.	192.	267.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	96.	98.	99.	88.	86.	86.	91.	99.	109.	112.	105.	102.	98.
SOUTHWEST	86.	91.	97.	94.	97.	99.	102.	105.	107.	103.	94.	90.	97.
WEST	70.	78.	88.	93.	101.	106.	107.	104.	98.	89.	77.	71.	90.
NORTHWEST	59.	66.	74.	83.	92.	98.	98.	92.	83.	74.	65.	60.	79.
NORTH	58.	62.	67.	72.	80.	85.	84.	80.	76.	70.	64.	59.	72.
NORTHEAST	59.	66.	74.	83.	92.	98.	98.	92.	83.	74.	65.	60.	79.
EAST	70.	78.	88.	93.	101.	106.	107.	104.	98.	89.	77.	71.	90.
SOUTHEAST	86.	91.	97.	94.	97.	99.	102.	105.	107.	103.	94.	90.	97.
HORIZ.	83.	96.	114.	124.	140.	149.	148.	139.	126.	108.	90.	83.	117.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	134.	136.	135.	115.	108.	107.	113.	126.	146.	155.	145.	143.	130.
SOUTHWEST	115.	123.	131.	125.	126.	129.	133.	138.	141.	139.	125.	121.	129.
WEST	87.	100.	116.	124.	134.	141.	141.	136.	126.	112.	94.	87.	117.
NORTHWEST	66.	77.	91.	105.	119.	127.	125.	114.	100.	85.	72.	66.	96.
NORTH	65.	71.	78.	86.	97.	104.	102.	93.	86.	79.	71.	65.	83.
NORTHEAST	66.	77.	91.	105.	119.	127.	125.	114.	100.	85.	72.	66.	96.
EAST	87.	100.	116.	124.	134.	141.	141.	136.	126.	112.	94.	87.	117.
SOUTHEAST	115.	123.	131.	125.	126.	129.	133.	138.	141.	139.	125.	121.	129.
HORIZ.	110.	132.	164.	179.	203.	217.	213.	198.	176.	147.	118.	107.	164.

LOCATION SAULT STE. MARIE, MICH. LATITUDE 46 DEGREES 28 MINUTES

MONTH 1 HO 1073. TOD 16. TOT 14. KT .490 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	25.	95.	138.	163.	171.	163.	138.	95.	25.	0.	0.	0.	0.	1013.	103.	173.	46.	73.
SOUTHWEST	0.	0.	0.	0.	4.	17.	56.	96.	129.	149.	151.	125.	40.	0.	0.	0.	0.	768.	82.	135.	38.	59.
WEST	0.	0.	0.	0.	4.	13.	21.	25.	27.	63.	88.	89.	34.	0.	0.	0.	0.	364.	47.	73.	25.	35.
NORTHWEST	0.	0.	0.	0.	4.	13.	21.	25.	27.	25.	21.	13.	10.	0.	0.	0.	0.	160.	30.	41.	19.	23.
NORTH	0.	0.	0.	0.	4.	13.	21.	25.	27.	25.	21.	13.	4.	0.	0.	0.	0.	154.	29.	40.	19.	23.
NORTHEAST	0.	0.	0.	0.	10.	13.	21.	25.	27.	25.	21.	13.	4.	0.	0.	0.	0.	160.	30.	41.	19.	23.
EAST	0.	0.	0.	0.	34.	89.	88.	63.	27.	25.	21.	13.	4.	0.	0.	0.	0.	364.	47.	73.	25.	35.
SOUTHEAST	0.	0.	0.	0.	40.	125.	151.	149.	129.	96.	56.	17.	4.	0.	0.	0.	0.	768.	82.	135.	38.	59.
HORIZ.	0.	0.	0.	0.	9.	42.	72.	91.	97.	91.	72.	42.	9.	0.	0.	0.	0.	526.	61.	98.	31.	44.

MONTH 2 HO 1666. TOD 16. TOT 13. KT .560 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	5.	72.	126.	165.	189.	197.	189.	165.	126.	72.	5.	0.	0.	0.	1311.	112.	191.	56.	90.
SOUTHWEST	0.	0.	0.	2.	13.	23.	63.	110.	150.	178.	188.	176.	130.	10.	0.	0.	0.	1043.	93.	155.	47.	74.
WEST	0.	0.	0.	2.	13.	23.	30.	35.	37.	83.	119.	137.	118.	11.	0.	0.	0.	609.	61.	97.	33.	49.
NORTHWEST	0.	0.	0.	2.	13.	23.	30.	35.	37.	35.	30.	30.	45.	6.	0.	0.	0.	287.	37.	54.	23.	30.
NORTH	0.	0.	0.	2.	13.	23.	30.	35.	37.	35.	30.	23.	13.	2.	0.	0.	0.	243.	34.	49.	21.	28.
NORTHEAST	0.	0.	0.	6.	45.	30.	30.	35.	37.	35.	30.	23.	13.	2.	0.	0.	0.	287.	37.	54.	23.	30.
EAST	0.	0.	0.	11.	118.	137.	119.	83.	37.	35.	30.	23.	13.	2.	0.	0.	0.	609.	61.	97.	33.	49.
SOUTHEAST	0.	0.	0.	10.	130.	176.	188.	178.	150.	110.	63.	23.	13.	2.	0.	0.	0.	1043.	93.	155.	47.	74.
HORIZ.	0.	0.	0.	4.	42.	85.	119.	141.	148.	141.	119.	85.	42.	4.	0.	0.	0.	932.	85.	140.	43.	68.

MONTH 3 HO 2362. TOD 26. TOT 23. KT .606 KD .173

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	31.	83.	131.	168.	191.	200.	191.	168.	131.	83.	31.	0.	0.	0.	1408.	116.	189.	68.	105.
SOUTHWEST	0.	0.	0.	10.	22.	32.	58.	110.	155.	187.	203.	198.	169.	102.	0.	0.	0.	1247.	105.	170.	63.	96.
WEST	0.	0.	0.	10.	22.	32.	40.	45.	47.	99.	142.	169.	169.	120.	0.	0.	0.	896.	83.	130.	52.	75.
NORTHWEST	0.	0.	0.	10.	22.	32.	40.	45.	47.	45.	40.	59.	83.	73.	0.	0.	0.	496.	57.	83.	39.	52.
NORTH	0.	0.	0.	10.	22.	32.	40.	45.	47.	45.	40.	32.	22.	10.	0.	0.	0.	346.	48.	66.	34.	43.
NORTHEAST	0.	0.	0.	73.	83.	59.	40.	45.	47.	45.	40.	32.	22.	10.	0.	0.	0.	496.	57.	83.	39.	52.
EAST	0.	0.	0.	120.	169.	169.	142.	99.	47.	45.	40.	32.	22.	10.	0.	0.	0.	896.	83.	130.	52.	75.
SOUTHEAST	0.	0.	0.	102.	169.	198.	203.	187.	155.	110.	58.	32.	22.	10.	0.	0.	0.	1247.	105.	170.	63.	96.
HORIZ.	0.	0.	0.	35.	86.	133.	169.	192.	200.	192.	169.	133.	86.	35.	0.	0.	0.	1430.	117.	192.	69.	106.

LOCATION SAULT STE. MARIE, MICH. LATITUDE 46 DEGREES 28 MINUTES

MONTH 4 HO 3089. TOD 39. TOT 37. KT .526 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	8.	24.	60.	95.	123.	140.	146.	140.	123.	95.	60.	24.	8.	0.	0.	1048.	98.	146.	70.	98.
SOUTHWEST	0.	0.	8.	19.	30.	40.	47.	85.	119.	144.	156.	154.	136.	101.	45.	0.	0.	1085.	100.	150.	72.	100.
WEST	0.	0.	8.	19.	30.	40.	47.	52.	53.	93.	125.	146.	150.	130.	68.	0.	0.	963.	94.	138.	68.	93.
NORTHWEST	0.	0.	8.	19.	30.	40.	47.	52.	53.	52.	49.	76.	94.	94.	57.	0.	0.	672.	77.	108.	58.	76.
NORTH	0.	0.	17.	19.	30.	40.	47.	52.	53.	52.	47.	40.	30.	19.	17.	0.	0.	464.	66.	87.	52.	64.
NORTHEAST	0.	0.	57.	94.	94.	76.	49.	52.	53.	52.	47.	40.	30.	19.	8.	0.	0.	672.	77.	108.	58.	76.
EAST	0.	0.	68.	130.	150.	146.	125.	93.	53.	52.	47.	40.	30.	19.	8.	0.	0.	963.	94.	138.	68.	93.
SOUTHEAST	0.	0.	45.	101.	136.	154.	156.	144.	119.	85.	47.	40.	30.	19.	8.	0.	0.	1085.	100.	150.	72.	100.
HORIZ.	0.	0.	21.	64.	108.	147.	176.	195.	202.	195.	176.	147.	108.	64.	21.	0.	0.	1625.	131.	205.	89.	131.

MONTH 5 HO 3579. TOD 52. TOT 49. KT .560 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	4.	14.	25.	52.	86.	114.	132.	138.	132.	114.	86.	52.	25.	14.	4.	0.	992.	106.	148.	83.	109.
SOUTHWEST	0.	4.	14.	25.	36.	45.	52.	79.	114.	140.	154.	154.	139.	109.	65.	12.	0.	1143.	114.	162.	88.	118.
WEST	0.	4.	14.	25.	36.	45.	52.	56.	58.	100.	135.	158.	166.	153.	111.	24.	0.	1135.	114.	162.	88.	118.
NORTHWEST	0.	4.	14.	25.	36.	45.	52.	56.	58.	56.	67.	96.	116.	122.	100.	24.	0.	870.	100.	136.	79.	101.
NORTH	0.	13.	39.	34.	36.	45.	52.	56.	58.	56.	52.	45.	36.	34.	39.	13.	0.	607.	85.	111.	70.	86.
NORTHEAST	0.	24.	100.	122.	116.	96.	67.	56.	58.	56.	52.	45.	36.	25.	14.	4.	0.	870.	100.	136.	79.	101.
EAST	0.	24.	111.	153.	166.	158.	135.	100.	58.	56.	52.	45.	36.	25.	14.	4.	0.	1135.	114.	162.	88.	118.
SOUTHEAST	0.	12.	65.	109.	139.	154.	154.	140.	114.	79.	52.	45.	36.	25.	14.	4.	0.	1143.	114.	162.	88.	118.
HORIZ.	0.	8.	45.	91.	136.	175.	206.	225.	231.	225.	206.	175.	136.	91.	45.	8.	0.	2004.	161.	245.	117.	170.

MONTH 6 HO 3763. TOD 62. TOT 58. KT .549 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	6.	16.	27.	47.	79.	105.	121.	127.	121.	105.	79.	47.	27.	16.	6.	0.	929.	110.	148.	90.	114.
SOUTHWEST	0.	6.	16.	27.	37.	46.	53.	73.	107.	132.	145.	145.	131.	104.	65.	19.	0.	1108.	120.	164.	96.	125.
WEST	0.	6.	16.	27.	37.	46.	53.	57.	59.	99.	131.	153.	161.	150.	115.	44.	0.	1155.	122.	169.	98.	128.
NORTHWEST	0.	6.	16.	27.	37.	46.	53.	57.	59.	57.	72.	99.	118.	124.	107.	46.	0.	926.	110.	148.	90.	114.
NORTH	0.	25.	46.	41.	37.	46.	53.	57.	59.	57.	53.	46.	37.	41.	46.	25.	0.	672.	97.	124.	81.	99.
NORTHEAST	0.	46.	107.	124.	118.	99.	72.	57.	59.	57.	53.	46.	37.	27.	16.	6.	0.	926.	110.	148.	90.	114.
EAST	0.	44.	115.	150.	161.	153.	131.	99.	59.	57.	53.	46.	37.	27.	16.	6.	0.	1155.	122.	169.	98.	128.
SOUTHEAST	0.	19.	65.	104.	131.	145.	145.	132.	107.	73.	53.	46.	37.	27.	16.	6.	0.	1108.	120.	164.	96.	125.
HORIZ.	0.	15.	53.	98.	141.	178.	207.	225.	232.	225.	207.	178.	141.	98.	53.	15.	0.	2066.	170.	253.	129.	183.

LOCATION SAULT STE. MARIE, MICH. LATITUDE 46 DEGREES 28 MINUTES

MONTH 7 HO 3579. TOD 67. TOT 64. KT .590 KD .175

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	4.	14.	25.	53.	90.	119.	138.	145.	138.	119.	90.	53.	25.	14.	4.	0.	1032.	123.	167.	99.	126.
SOUTHWEST	0.	4.	14.	25.	36.	45.	52.	81.	119.	148.	163.	164.	148.	115.	68.	12.	0.	1195.	132.	182.	105.	136.
WEST	0.	4.	14.	25.	36.	45.	52.	57.	58.	104.	142.	168.	177.	163.	117.	24.	0.	1187.	132.	181.	104.	136.
NORTHWEST	0.	4.	14.	25.	36.	45.	52.	57.	58.	57.	69.	101.	123.	129.	105.	25.	0.	901.	116.	154.	95.	118.
NORTH	0.	13.	41.	35.	36.	45.	52.	57.	58.	57.	52.	45.	36.	35.	41.	13.	0.	616.	101.	127.	85.	101.
NORTHEAST	0.	25.	105.	129.	123.	101.	69.	57.	58.	57.	52.	45.	36.	25.	14.	4.	0.	901.	116.	154.	95.	118.
EAST	0.	24.	117.	163.	177.	168.	142.	104.	58.	57.	52.	45.	36.	25.	14.	4.	0.	1187.	132.	181.	104.	136.
SOUTHEAST	0.	12.	68.	115.	148.	164.	163.	148.	119.	81.	52.	45.	36.	25.	14.	4.	0.	1195.	132.	182.	105.	136.
HORIZ.	0.	8.	47.	95.	143.	185.	217.	238.	245.	238.	217.	185.	143.	95.	47.	8.	0.	2112.	182.	270.	136.	191.

MONTH 8 HO 3068. TOD 66. TOT 63. KT .554 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	8.	24.	62.	99.	129.	148.	155.	148.	129.	99.	62.	24.	8.	0.	0.	1098.	132.	182.	100.	129.
SOUTHWEST	0.	0.	8.	19.	30.	40.	47.	88.	125.	152.	166.	163.	144.	105.	44.	0.	0.	1132.	134.	186.	102.	131.
WEST	0.	0.	8.	19.	30.	40.	47.	52.	53.	97.	132.	155.	159.	136.	67.	0.	0.	997.	126.	171.	97.	123.
NORTHWEST	0.	0.	8.	19.	30.	40.	47.	52.	53.	52.	50.	79.	99.	98.	56.	0.	0.	684.	107.	138.	86.	104.
NORTH	0.	0.	17.	19.	30.	40.	47.	52.	53.	52.	47.	40.	30.	19.	17.	0.	0.	464.	94.	115.	79.	91.
NORTHEAST	0.	0.	56.	98.	99.	79.	50.	52.	53.	52.	47.	40.	30.	19.	8.	0.	0.	684.	107.	138.	86.	104.
EAST	0.	0.	67.	136.	159.	155.	132.	97.	53.	52.	47.	40.	30.	19.	8.	0.	0.	997.	126.	171.	97.	123.
SOUTHEAST	0.	0.	44.	105.	144.	163.	166.	152.	125.	88.	47.	40.	30.	19.	8.	0.	0.	1132.	134.	186.	102.	131.
HORIZ.	0.	0.	21.	66.	112.	153.	185.	206.	213.	206.	185.	153.	112.	66.	21.	0.	0.	1700.	168.	245.	121.	166.

MONTH 9 HO 2355. TOD 58. TOT 55. KT .481 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	23.	61.	96.	124.	142.	148.	142.	124.	96.	61.	23.	0.	0.	0.	1041.	129.	183.	91.	118.
SOUTHWEST	0.	0.	0.	11.	21.	31.	50.	87.	117.	139.	148.	142.	118.	69.	0.	0.	0.	932.	121.	170.	87.	112.
WEST	0.	0.	0.	11.	21.	31.	38.	43.	44.	80.	107.	122.	118.	80.	0.	0.	0.	696.	105.	141.	79.	97.
NORTHWEST	0.	0.	0.	11.	21.	31.	38.	43.	44.	43.	38.	49.	62.	50.	0.	0.	0.	431.	87.	110.	70.	81.
NORTH	0.	0.	0.	11.	21.	31.	38.	43.	44.	43.	38.	31.	21.	11.	0.	0.	0.	332.	80.	98.	67.	75.
NORTHEAST	0.	0.	0.	50.	62.	49.	38.	43.	44.	43.	38.	31.	21.	11.	0.	0.	0.	431.	87.	110.	70.	81.
EAST	0.	0.	0.	80.	118.	122.	107.	80.	44.	43.	38.	31.	21.	11.	0.	0.	0.	696.	105.	141.	79.	97.
SOUTHEAST	0.	0.	0.	69.	118.	142.	148.	139.	117.	87.	50.	31.	21.	11.	0.	0.	0.	932.	121.	170.	87.	112.
HORIZ.	0.	0.	1.	29.	68.	105.	133.	151.	157.	151.	133.	105.	68.	29.	1.	0.	0.	1131.	135.	194.	94.	124.

LOCATION SAULT STE. MARIE, MICH. LATITUDE 46 DEGREES 28 MINUTES

MONTH 10 HO 1633. TOD 47. TOT 44. KT .457 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	3.	52.	94.	124.	143.	149.	143.	124.	94.	52.	3.	0.	0.	0.	982.	119.	178.	76.	102.
SOUTHWEST	0.	0.	0.	2.	12.	21.	51.	86.	116.	135.	141.	129.	91.	5.	0.	0.	0.	788.	105.	152.	70.	90.
WEST	0.	0.	0.	2.	12.	21.	28.	33.	34.	67.	91.	101.	83.	5.	0.	0.	0.	478.	82.	111.	60.	72.
NORTHWEST	0.	0.	0.	2.	12.	21.	28.	33.	34.	33.	28.	26.	33.	3.	0.	0.	0.	254.	66.	81.	53.	59.
NORTH	0.	0.	0.	2.	12.	21.	28.	33.	34.	33.	28.	21.	12.	2.	0.	0.	0.	226.	63.	77.	52.	58.
NORTHEAST	0.	0.	0.	3.	33.	26.	28.	33.	34.	33.	28.	21.	12.	2.	0.	0.	0.	254.	66.	81.	53.	59.
EAST	0.	0.	0.	5.	83.	101.	91.	67.	34.	33.	28.	21.	12.	2.	0.	0.	0.	478.	82.	111.	60.	72.
SOUTHEAST	0.	0.	0.	5.	91.	129.	141.	135.	116.	86.	51.	21.	12.	2.	0.	0.	0.	788.	105.	152.	70.	90.
HORIZ.	0.	0.	0.	3.	34.	68.	95.	113.	119.	113.	95.	68.	34.	3.	0.	0.	0.	746.	102.	147.	68.	88.

MONTH 11 HO 1063. TOD 33. TOT 31. KT .323 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	13.	50.	73.	86.	91.	86.	73.	50.	13.	0.	0.	0.	0.	534.	79.	116.	49.	63.
SOUTHWEST	0.	0.	0.	0.	4.	13.	34.	55.	71.	80.	79.	63.	19.	0.	0.	0.	0.	418.	69.	98.	45.	56.
WEST	0.	0.	0.	0.	4.	11.	17.	21.	23.	39.	49.	47.	16.	0.	0.	0.	0.	228.	53.	69.	39.	45.
NORTHWEST	0.	0.	0.	0.	4.	11.	17.	21.	23.	21.	17.	11.	6.	0.	0.	0.	0.	133.	45.	54.	36.	39.
NORTH	0.	0.	0.	0.	4.	11.	17.	21.	23.	21.	17.	11.	4.	0.	0.	0.	0.	131.	45.	54.	36.	39.
NORTHEAST	0.	0.	0.	0.	6.	11.	17.	21.	23.	21.	17.	11.	4.	0.	0.	0.	0.	133.	45.	54.	36.	39.
EAST	0.	0.	0.	0.	16.	47.	49.	39.	23.	21.	17.	11.	4.	0.	0.	0.	0.	228.	53.	69.	39.	45.
SOUTHEAST	0.	0.	0.	0.	19.	63.	79.	80.	71.	55.	34.	13.	4.	0.	0.	0.	0.	418.	69.	98.	45.	56.
HORIZ.	0.	0.	0.	0.	7.	28.	47.	58.	62.	58.	47.	28.	7.	0.	0.	0.	0.	344.	63.	87.	43.	52.

MONTH 12 HO 857. TOD 22. TOT 20. KT .408 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	2.	64.	104.	126.	133.	126.	104.	64.	2.	0.	0.	0.	0.	724.	88.	143.	43.	62.
SOUTHWEST	0.	0.	0.	0.	1.	14.	44.	75.	100.	114.	112.	81.	2.	0.	0.	0.	0.	546.	72.	113.	37.	52.
WEST	0.	0.	0.	0.	1.	9.	16.	20.	21.	47.	63.	57.	2.	0.	0.	0.	0.	237.	44.	61.	28.	34.
NORTHWEST	0.	0.	0.	0.	1.	9.	16.	20.	21.	20.	16.	9.	2.	0.	0.	0.	0.	114.	32.	41.	24.	27.
NORTH	0.	0.	0.	0.	1.	9.	16.	20.	21.	20.	16.	9.	1.	0.	0.	0.	0.	113.	32.	41.	24.	27.
NORTHEAST	0.	0.	0.	0.	2.	9.	16.	20.	21.	20.	16.	9.	1.	0.	0.	0.	0.	114.	32.	41.	24.	27.
EAST	0.	0.	0.	0.	2.	57.	63.	47.	21.	20.	16.	9.	1.	0.	0.	0.	0.	237.	44.	61.	28.	34.
SOUTHEAST	0.	0.	0.	0.	2.	81.	112.	114.	100.	75.	44.	14.	1.	0.	0.	0.	0.	546.	72.	113.	37.	52.
HORIZ.	0.	0.	0.	0.	2.	25.	49.	64.	70.	64.	49.	25.	2.	0.	0.	0.	0.	349.	54.	80.	31.	40.

LOCATION SAULT STE. MARIE, MICH. LATITUDE 46 DEGREES 28 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	103.	112.	116.	98.	106.	110.	123.	132.	129.	119.	79.	88.	110.
SOUTHWEST	82.	93.	105.	100.	114.	120.	132.	134.	121.	105.	69.	72.	104.
WEST	47.	61.	83.	94.	114.	122.	132.	126.	105.	82.	53.	44.	89.
NORTHWEST	30.	37.	57.	77.	100.	110.	116.	107.	87.	66.	45.	32.	72.
NORTH	29.	34.	48.	66.	85.	97.	101.	94.	80.	63.	45.	32.	65.
NORTHEAST	30.	37.	57.	77.	100.	110.	116.	107.	87.	66.	45.	32.	72.
EAST	47.	61.	83.	94.	114.	122.	132.	126.	105.	82.	53.	44.	89.
SOUTHEAST	82.	93.	105.	100.	114.	120.	132.	134.	121.	105.	69.	72.	104.
HORIZ.	61.	85.	117.	131.	161.	170.	182.	168.	135.	102.	63.	54.	119.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	173.	191.	189.	146.	148.	148.	167.	182.	183.	178.	116.	143.	164.
SOUTHWEST	135.	155.	170.	150.	162.	164.	182.	186.	170.	152.	98.	113.	153.
WEST	73.	97.	130.	138.	162.	169.	181.	171.	141.	111.	69.	61.	125.
NORTHWEST	41.	54.	83.	108.	136.	148.	154.	138.	110.	81.	54.	41.	96.
NORTH	40.	49.	66.	87.	111.	124.	127.	115.	98.	77.	54.	41.	82.
NORTHEAST	41.	54.	83.	108.	136.	148.	154.	138.	110.	81.	54.	41.	96.
EAST	73.	97.	130.	138.	162.	169.	181.	171.	141.	111.	69.	61.	125.
SOUTHEAST	135.	155.	170.	150.	162.	164.	182.	186.	170.	152.	98.	113.	153.
HORIZ.	98.	140.	192.	205.	245.	253.	270.	245.	194.	147.	87.	80.	180.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	46.	56.	68.	70.	83.	90.	99.	100.	91.	76.	49.	43.	73.
SOUTHWEST	38.	47.	63.	72.	88.	96.	105.	102.	87.	70.	45.	37.	71.
WEST	25.	33.	52.	68.	88.	98.	104.	97.	79.	60.	39.	28.	64.
NORTHWEST	19.	23.	39.	58.	79.	90.	95.	86.	70.	53.	36.	24.	56.
NORTH	19.	21.	34.	52.	70.	81.	85.	79.	67.	52.	36.	24.	51.
NORTHEAST	19.	23.	39.	58.	79.	90.	95.	86.	70.	53.	36.	24.	56.
EAST	25.	33.	52.	68.	88.	98.	104.	97.	79.	60.	39.	28.	64.
SOUTHEAST	38.	47.	63.	72.	88.	96.	105.	102.	87.	70.	45.	37.	71.
HORIZ.	31.	43.	69.	89.	117.	129.	136.	121.	94.	68.	43.	31.	81.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	73.	90.	105.	98.	109.	114.	126.	129.	118.	102.	63.	62.	99.
SOUTHWEST	59.	74.	96.	100.	118.	125.	136.	131.	112.	90.	56.	52.	96.
WEST	35.	49.	75.	93.	118.	128.	136.	123.	97.	72.	45.	34.	84.
NORTHWEST	23.	30.	52.	76.	101.	114.	118.	104.	81.	59.	39.	27.	69.
NORTH	23.	28.	43.	64.	86.	99.	101.	91.	75.	58.	39.	27.	61.
NORTHEAST	23.	30.	52.	76.	101.	114.	118.	104.	81.	59.	39.	27.	69.
EAST	35.	49.	75.	93.	118.	128.	136.	123.	97.	72.	45.	34.	84.
SOUTHEAST	59.	74.	96.	100.	118.	125.	136.	131.	112.	90.	56.	52.	96.
HORIZ.	44.	68.	106.	131.	170.	183.	191.	166.	124.	88.	52.	40.	114.

LOCATION SAYVILLE, NEW YORK LATITUDE 40 DEGREES 30 MINUTES

MONTH 1 HO 1402. TOD 35. TOT 33. KT .453 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	44.	94.	125.	144.	150.	144.	125.	94.	44.	0.	0.	0.	0.	965.	112.	175.	64.	89.
SOUTHWEST	0.	0.	0.	0.	8.	20.	54.	88.	116.	134.	138.	123.	71.	0.	0.	0.	0.	751.	95.	144.	57.	77.
WEST	0.	0.	0.	0.	8.	18.	25.	30.	32.	63.	85.	91.	60.	0.	0.	0.	0.	412.	68.	95.	46.	57.
NORTHWEST	0.	0.	0.	0.	8.	18.	25.	30.	32.	30.	25.	18.	19.	0.	0.	0.	0.	205.	51.	65.	39.	45.
NORTH	0.	0.	0.	0.	8.	18.	25.	30.	32.	30.	25.	18.	8.	0.	0.	0.	0.	194.	51.	63.	39.	44.
NORTHEAST	0.	0.	0.	0.	19.	18.	25.	30.	32.	30.	25.	18.	8.	0.	0.	0.	0.	205.	51.	65.	39.	45.
EAST	0.	0.	0.	0.	60.	91.	85.	63.	32.	30.	25.	18.	8.	0.	0.	0.	0.	412.	68.	95.	46.	57.
SOUTHEAST	0.	0.	0.	0.	71.	123.	138.	134.	116.	88.	54.	20.	8.	0.	0.	0.	0.	751.	95.	144.	57.	77.
HORIZ.	0.	0.	0.	0.	20.	56.	84.	103.	109.	103.	84.	56.	20.	0.	0.	0.	0.	636.	86.	128.	53.	70.

MONTH 2 HO 1971. TOD 35. TOT 33. KT .511 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	13.	69.	111.	142.	161.	167.	161.	142.	111.	69.	13.	0.	0.	0.	1156.	117.	185.	70.	100.
SOUTHWEST	0.	0.	0.	4.	16.	27.	57.	97.	130.	154.	164.	156.	123.	31.	0.	0.	0.	958.	103.	159.	63.	88.
WEST	0.	0.	0.	4.	16.	27.	35.	40.	42.	81.	111.	126.	114.	33.	0.	0.	0.	627.	80.	116.	53.	69.
NORTHWEST	0.	0.	0.	4.	16.	27.	35.	40.	42.	40.	35.	37.	48.	18.	0.	0.	0.	342.	59.	79.	44.	53.
NORTH	0.	0.	0.	4.	16.	27.	35.	40.	42.	40.	35.	27.	16.	4.	0.	0.	0.	285.	55.	72.	42.	49.
NORTHEAST	0.	0.	0.	18.	48.	37.	35.	40.	42.	40.	35.	27.	16.	4.	0.	0.	0.	342.	59.	79.	44.	53.
EAST	0.	0.	0.	33.	114.	126.	111.	81.	42.	40.	35.	27.	16.	4.	0.	0.	0.	627.	80.	116.	53.	69.
SOUTHEAST	0.	0.	0.	31.	123.	156.	164.	154.	130.	97.	57.	27.	16.	4.	0.	0.	0.	958.	103.	159.	63.	88.
HORIZ.	0.	0.	0.	9.	51.	93.	126.	147.	154.	147.	126.	93.	51.	9.	0.	0.	0.	1007.	107.	165.	65.	91.

MONTH 3 HO 2603. TOD 43. TOT 41. KT .510 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	26.	65.	100.	128.	145.	151.	145.	128.	100.	65.	26.	0.	0.	0.	1082.	112.	169.	75.	104.
SOUTHWEST	0.	0.	0.	12.	24.	35.	49.	88.	122.	146.	157.	153.	132.	82.	0.	0.	0.	1001.	107.	159.	73.	99.
WEST	0.	0.	0.	12.	24.	35.	43.	48.	50.	89.	119.	137.	135.	97.	0.	0.	0.	790.	94.	135.	66.	87.
NORTHWEST	0.	0.	0.	12.	24.	35.	43.	48.	50.	48.	43.	61.	74.	62.	0.	0.	0.	500.	75.	101.	57.	70.
NORTH	0.	0.	0.	12.	24.	35.	43.	48.	50.	48.	43.	35.	24.	12.	0.	0.	0.	374.	67.	87.	53.	63.
NORTHEAST	0.	0.	0.	62.	74.	61.	43.	48.	50.	48.	43.	35.	24.	12.	0.	0.	0.	500.	75.	101.	57.	70.
EAST	0.	0.	0.	97.	135.	137.	119.	89.	50.	48.	43.	35.	24.	12.	0.	0.	0.	790.	94.	135.	66.	87.
SOUTHEAST	0.	0.	0.	82.	132.	153.	157.	146.	122.	88.	49.	35.	24.	12.	0.	0.	0.	1001.	107.	159.	73.	99.
HORIZ.	0.	0.	0.	34.	81.	123.	156.	176.	183.	176.	156.	123.	81.	34.	0.	0.	0.	1326.	128.	197.	83.	118.

LOCATION SAYVILLE, NEW YORK LATITUDE 40 DEGREES 30 MINUTES

MONTH 4 HO 3225. TOD 52. TOT 50. KT .498 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	20.	52.	82.	106.	122.	127.	122.	106.	82.	52.	20.	7.	0.	0.	907.	104.	147.	79.	103.
SOUTHWEST	0.	0.	7.	20.	31.	42.	50.	76.	106.	129.	140.	138.	122.	90.	35.	0.	0.	985.	109.	155.	81.	107.
WEST	0.	0.	7.	20.	31.	42.	50.	55.	56.	92.	120.	138.	139.	119.	54.	0.	0.	922.	105.	149.	79.	104.
NORTHWEST	0.	0.	7.	20.	31.	42.	50.	55.	56.	55.	59.	81.	93.	89.	46.	0.	0.	683.	92.	124.	72.	90.
NORTH	0.	0.	15.	20.	31.	42.	50.	55.	56.	55.	50.	42.	31.	20.	15.	0.	0.	479.	80.	102.	65.	78.
NORTHEAST	0.	0.	46.	89.	93.	81.	59.	55.	56.	55.	50.	42.	31.	20.	7.	0.	0.	683.	92.	124.	72.	90.
EAST	0.	0.	54.	119.	139.	138.	120.	92.	56.	55.	50.	42.	31.	20.	7.	0.	0.	922.	105.	149.	79.	104.
SOUTHEAST	0.	0.	35.	90.	122.	138.	140.	129.	106.	76.	50.	42.	31.	20.	7.	0.	0.	985.	109.	155.	81.	107.
HORIZ.	0.	0.	17.	61.	106.	146.	176.	196.	202.	196.	176.	146.	106.	61.	17.	0.	0.	1607.	145.	220.	101.	143.

MONTH 5 HO 3620. TOD 63. TOT 61. KT .522 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	2.	13.	25.	42.	71.	95.	110.	115.	110.	95.	71.	42.	25.	13.	2.	0.	827.	110.	146.	89.	111.
SOUTHWEST	0.	2.	13.	25.	36.	46.	53.	67.	99.	122.	134.	134.	121.	93.	52.	2.	0.	998.	120.	163.	95.	121.
WEST	0.	2.	13.	25.	36.	46.	53.	58.	60.	97.	126.	145.	150.	135.	90.	3.	0.	1037.	122.	167.	96.	123.
NORTHWEST	0.	2.	13.	25.	36.	46.	53.	58.	60.	58.	76.	98.	112.	112.	82.	3.	0.	833.	111.	147.	89.	111.
NORTH	0.	3.	34.	37.	36.	46.	53.	58.	60.	58.	53.	46.	36.	37.	34.	3.	0.	594.	97.	123.	81.	97.
NORTHEAST	0.	3.	82.	112.	112.	98.	76.	58.	60.	58.	53.	46.	36.	25.	13.	2.	0.	833.	111.	147.	89.	111.
EAST	0.	3.	90.	135.	150.	145.	126.	97.	60.	58.	53.	46.	36.	25.	13.	2.	0.	1037.	122.	167.	96.	123.
SOUTHEAST	0.	2.	52.	93.	121.	134.	134.	122.	99.	67.	53.	46.	36.	25.	13.	2.	0.	998.	120.	163.	95.	121.
HORIZ.	0.	3.	36.	82.	128.	167.	198.	218.	224.	218.	198.	167.	128.	82.	36.	3.	0.	1890.	171.	253.	125.	175.

MONTH 6 HO 3762. TOD 72. TOT 70. KT .564 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	4.	14.	26.	38.	68.	93.	109.	114.	109.	93.	68.	38.	26.	14.	4.	0.	818.	117.	152.	98.	119.
SOUTHWEST	0.	4.	14.	26.	38.	47.	55.	64.	99.	125.	139.	140.	127.	100.	59.	9.	0.	1046.	130.	174.	106.	133.
WEST	0.	4.	14.	26.	38.	47.	55.	60.	61.	103.	136.	158.	165.	151.	108.	18.	0.	1145.	135.	184.	109.	139.
NORTHWEST	0.	4.	14.	26.	38.	47.	55.	60.	61.	60.	86.	112.	128.	130.	102.	19.	0.	942.	124.	164.	102.	127.
NORTH	0.	11.	45.	47.	38.	47.	55.	60.	61.	60.	55.	47.	38.	47.	45.	11.	0.	669.	109.	137.	93.	110.
NORTHEAST	0.	19.	102.	130.	128.	112.	86.	60.	61.	60.	55.	47.	38.	26.	14.	4.	0.	942.	124.	164.	102.	127.
EAST	0.	18.	108.	151.	165.	158.	136.	103.	61.	60.	55.	47.	38.	26.	14.	4.	0.	1145.	135.	184.	109.	139.
SOUTHEAST	0.	9.	59.	100.	127.	140.	139.	125.	99.	64.	55.	47.	38.	26.	14.	4.	0.	1046.	130.	174.	106.	133.
HORIZ.	0.	7.	46.	96.	144.	186.	219.	240.	247.	240.	219.	186.	144.	96.	46.	7.	0.	2122.	189.	279.	142.	198.

LOCATION SAYVILLE, NEW YORK LATITUDE 40 DEGREES 30 MINUTES

MONTH 7 HO 3617. TOD 77. TOT 75. KT .555 KD .180

ORIENTATION	HOURLY SOLAR RADIATION 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
SOUTH	0.	2.	13.	25.	42.	73.	99.	115.	121.	115.	99.	73.	42.	25.	13.	2.	0.	859.	126.	163.	104.	126.
SOUTHWEST	0.	2.	13.	25.	36.	46.	54.	68.	103.	129.	143.	143.	129.	100.	55.	3.	0.	1048.	136.	182.	110.	138.
WEST	0.	2.	13.	25.	36.	46.	54.	59.	60.	101.	135.	156.	162.	145.	96.	3.	0.	1092.	139.	186.	112.	141.
NORTHWEST	0.	2.	13.	25.	36.	46.	54.	59.	60.	59.	79.	105.	121.	120.	88.	4.	0.	868.	126.	164.	10 .	127.
NORTH	0.	3.	36.	39.	36.	46.	54.	59.	60.	59.	54.	46.	36.	39.	36.	3.	0.	604.	111.	137.	95.	111.
NORTHEAST	0.	4.	88.	120.	121.	105.	79.	59.	60.	59.	54.	46.	36.	25.	13.	2.	0.	868.	126.	164.	10 .	127.
EAST	0.	3.	96.	145.	162.	156.	135.	101.	60.	59.	54.	46.	36.	25.	13.	2.	0.	1092.	139.	186.	112.	141.
SOUTHEAST	0.	3.	55.	100.	129.	143.	143.	129.	103.	68.	54.	46.	36.	25.	13.	2.	0.	1048.	136.	182.	110.	138.
HORIZ.	0.	3.	38.	87.	135.	178.	211.	232.	239.	232.	211.	178.	135.	87.	38.	3.	0.	2008.	191.	278.	14 .	196.

MONTH 8 HO 3202. TOD 75. TOT 73. KT .525 KD .185

ORIENTATION	HOURLY SOLAR RADIATION 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
SOUTH	0.	0.	7.	20.	53.	86.	112.	128.	134.	128.	112.	86.	53.	20.	7.	0.	0.	945.	133.	178.	106.	130.
SOUTHWEST	0.	0.	7.	19.	31.	42.	50.	78.	111.	136.	148.	146.	129.	94.	34.	0.	0.	1025.	138.	186.	108.	135.
WEST	0.	0.	7.	19.	31.	42.	50.	55.	56.	96.	127.	146.	148.	124.	53.	0.	0.	953.	134.	178.	106.	131.
NORTHWEST	0.	0.	7.	19.	31.	42.	50.	55.	56.	55.	61.	84.	98.	93.	44.	0.	0.	696.	118.	151.	9 .	115.
NORTH	0.	0.	14.	19.	31.	42.	50.	55.	56.	55.	50.	42.	31.	19.	14.	0.	0.	479.	105.	127.	90.	102.
NORTHEAST	0.	0.	44.	93.	98.	84.	61.	55.	56.	55.	50.	42.	31.	19.	7.	0.	0.	696.	118.	151.	9 .	115.
EAST	0.	0.	53.	124.	148.	146.	127.	96.	56.	55.	50.	42.	31.	19.	7.	0.	0.	953.	134.	178.	106.	131.
SOUTHEAST	0.	0.	34.	94.	129.	146.	148.	136.	111.	78.	50.	42.	31.	19.	7.	0.	0.	1025.	138.	186.	10 .	135.
HORIZ.	0.	0.	17.	63.	110.	153.	185.	206.	213.	206.	185.	153.	110.	63.	17.	0.	0.	1682.	178.	257.	13 .	175.

MONTH 9 HO 2591. TOD 69. TOT 67. KT .530 KD .184

ORIENTATION	HOURLY SOLAR RADIATION 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
SOUTH	0.	0.	0.	26.	66.	104.	133.	151.	158.	151.	133.	104.	66.	26.	0.	0.	0.	1119.	146.	204.	106.	135.
SOUTHWEST	0.	0.	0.	12.	24.	35.	49.	91.	126.	152.	164.	160.	136.	82.	0.	0.	0.	1031.	140.	193.	103.	130.
WEST	0.	0.	0.	12.	24.	35.	43.	48.	50.	91.	124.	143.	140.	97.	0.	0.	0.	808.	124.	167.	95.	116.
NORTHWEST	0.	0.	0.	12.	24.	35.	43.	48.	50.	48.	43.	62.	76.	62.	0.	0.	0.	504.	104.	130.	85.	98.
NORTH	0.	0.	0.	12.	24.	35.	43.	48.	50.	48.	43.	35.	24.	12.	0.	0.	0.	374.	95.	114.	80.	90.
NORTHEAST	0.	0.	0.	62.	76.	62.	43.	48.	50.	48.	43.	35.	24.	12.	0.	0.	0.	504.	104.	130.	85.	98.
EAST	0.	0.	0.	97.	140.	143.	124.	91.	50.	48.	43.	35.	24.	12.	0.	0.	0.	808.	124.	167.	95.	116.
SOUTHEAST	0.	0.	0.	82.	136.	160.	164.	152.	126.	91.	49.	35.	24.	12.	0.	0.	0.	1031.	140.	193.	103.	130.
HORIZ.	0.	0.	1.	35.	83.	127.	162.	183.	191.	183.	162.	127.	83.	35.	1.	0.	0.	1372.	163.	234.	114.	150.

LOCATION SAYVILLE, NEW YORK LATITUDE 40 DEGREES 30 MINUTES

MONTH 10 HO 1937. TOD 59. TOT 57. KT .527 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	11.	69.	114.	147.	168.	175.	168.	147.	114.	69.	11.	0.	0.	0.	1194.	145.	215.	95.	127.
SOUTHWEST	0.	0.	0.	4.	15.	26.	58.	100.	136.	161.	171.	161.	124.	25.	0.	0.	0.	980.	129.	187.	88.	114.
WEST	0.	0.	0.	4.	15.	26.	35.	40.	42.	83.	114.	129.	115.	26.	0.	0.	0.	629.	104.	141.	77.	94.
NORTHWEST	0.	0.	0.	4.	15.	26.	35.	40.	42.	40.	35.	37.	48.	14.	0.	0.	0.	335.	83.	103.	68.	76.
NORTH	0.	0.	0.	4.	15.	26.	35.	40.	42.	40.	35.	26.	15.	4.	0.	0.	0.	281.	79.	96.	66.	73.
NORTHEAST	0.	0.	0.	14.	48.	37.	35.	40.	42.	40.	35.	26.	15.	4.	0.	0.	0.	335.	83.	103.	68.	76.
EAST	0.	0.	0.	26.	115.	129.	114.	83.	42.	40.	35.	26.	15.	4.	0.	0.	0.	629.	104.	141.	77.	94.
SOUTHEAST	0.	0.	0.	25.	124.	161.	171.	161.	136.	100.	58.	26.	15.	4.	0.	0.	0.	980.	129.	187.	88.	114.
HORIZ.	0.	0.	0.	8.	50.	94.	129.	151.	158.	151.	129.	94.	50.	8.	0.	0.	0.	1021.	132.	192.	90.	116.

MONTH 11 HO 1391. TOD 48. TOT 46. KT .450 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	42.	92.	124.	143.	149.	143.	124.	92.	42.	0.	0.	0.	0.	951.	125.	187.	77.	102.
SOUTHWEST	0.	0.	0.	0.	8.	19.	53.	87.	115.	133.	137.	121.	67.	0.	0.	0.	0.	739.	108.	156.	70.	89.
WEST	0.	0.	0.	0.	8.	17.	25.	30.	32.	62.	84.	89.	57.	0.	0.	0.	0.	404.	81.	107.	59.	70.
NORTHWEST	0.	0.	0.	0.	8.	17.	25.	30.	32.	30.	25.	17.	18.	0.	0.	0.	0.	202.	65.	78.	53.	58.
NORTH	0.	0.	0.	0.	8.	17.	25.	30.	32.	30.	25.	17.	8.	0.	0.	0.	0.	192.	64.	76.	52.	57.
NORTHEAST	0.	0.	0.	0.	18.	17.	25.	30.	32.	30.	25.	17.	8.	0.	0.	0.	0.	202.	65.	78.	53.	58.
EAST	0.	0.	0.	0.	57.	89.	84.	62.	32.	30.	25.	17.	8.	0.	0.	0.	0.	404.	81.	107.	59.	70.
SOUTHEAST	0.	0.	0.	0.	67.	121.	137.	133.	115.	87.	53.	19.	8.	0.	0.	0.	0.	739.	108.	156.	70.	89.
HORIZ.	0.	0.	0.	0.	20.	55.	83.	102.	108.	102.	83.	55.	20.	0.	0.	0.	0.	627.	99.	140.	66.	83.

MONTH 12 HO 1186. TOD 38. TOT 36. KT .447 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	28.	88.	123.	143.	150.	143.	123.	88.	28.	0.	0.	0.	0.	915.	115.	178.	65.	89.
SOUTHWEST	0.	0.	0.	0.	5.	20.	53.	87.	114.	131.	134.	113.	43.	0.	0.	0.	0.	700.	97.	145.	58.	76.
WEST	0.	0.	0.	0.	5.	14.	22.	27.	28.	58.	79.	80.	36.	0.	0.	0.	0.	349.	67.	91.	47.	56.
NORTHWEST	0.	0.	0.	0.	5.	14.	22.	27.	28.	27.	22.	14.	10.	0.	0.	0.	0.	169.	52.	64.	41.	46.
NORTH	0.	0.	0.	0.	5.	14.	22.	27.	28.	27.	22.	14.	5.	0.	0.	0.	0.	164.	52.	63.	41.	45.
NORTHEAST	0.	0.	0.	0.	10.	14.	22.	27.	28.	27.	22.	14.	5.	0.	0.	0.	0.	169.	52.	64.	41.	46.
EAST	0.	0.	0.	0.	36.	80.	79.	58.	28.	27.	22.	14.	5.	0.	0.	0.	0.	349.	67.	91.	47.	56.
SOUTHEAST	0.	0.	0.	0.	43.	113.	134.	131.	114.	87.	53.	20.	5.	0.	0.	0.	0.	700.	97.	145.	58.	76.
HORIZ.	0.	0.	0.	0.	11.	44.	72.	90.	97.	90.	72.	44.	11.	0.	0.	0.	0.	531.	83.	119.	53.	67.

LOCATION SAYVILLE, NEW YORK LATITUDE 40 DEGREES 30 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	112.	117.	112.	104.	110.	117.	126.	133.	146.	145.	125.	115.	122.
SOUTHWEST	95.	103.	107.	109.	120.	130.	136.	138.	140.	129.	108.	97.	118.
WEST	68.	80.	94.	105.	122.	135.	139.	134.	124.	104.	81.	67.	104.
NORTHWEST	51.	59.	75.	92.	111.	124.	126.	118.	104.	83.	65.	52.	88.
NORTH	51.	55.	67.	80.	97.	109.	111.	105.	95.	79.	64.	52.	80.
NORTHEAST	51.	59.	75.	92.	111.	124.	126.	118.	104.	83.	65.	52.	88.
EAST	68.	80.	94.	105.	122.	135.	139.	134.	124.	104.	81.	67.	104.
SOUTHEAST	95.	103.	107.	109.	120.	130.	136.	138.	140.	129.	108.	97.	118.
HORIZ.	86.	107.	128.	145.	171.	189.	191.	178.	163.	132.	99.	83.	139.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	175.	185.	169.	147.	146.	152.	163.	178.	204.	215.	187.	178.	175.
SOUTHWEST	144.	159.	159.	155.	163.	174.	182.	186.	193.	187.	156.	145.	167.
WEST	95.	116.	135.	149.	167.	184.	186.	178.	167.	141.	107.	91.	143.
NORTHWEST	65.	79.	101.	124.	147.	164.	164.	151.	130.	103.	78.	64.	114.
NORTH	63.	72.	87.	102.	123.	137.	137.	127.	114.	96.	76.	63.	100.
NORTHEAST	65.	79.	101.	124.	147.	164.	164.	151.	130.	103.	78.	64.	114.
EAST	95.	116.	135.	149.	167.	184.	186.	178.	167.	141.	107.	91.	143.
SOUTHEAST	144.	159.	159.	155.	163.	174.	182.	186.	193.	187.	156.	145.	167.
HORIZ.	128.	165.	197.	220.	253.	279.	278.	257.	234.	192.	140.	119.	205.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	64.	70.	75.	79.	89.	98.	104.	106.	106.	95.	77.	65.	86.
SOUTHWEST	57.	63.	73.	81.	95.	106.	110.	108.	103.	88.	70.	58.	84.
WEST	46.	53.	66.	79.	96.	109.	112.	106.	95.	77.	59.	47.	79.
NORTHWEST	39.	44.	57.	72.	89.	102.	104.	97.	85.	68.	53.	41.	71.
NORTH	39.	42.	53.	65.	81.	93.	95.	90.	80.	66.	52.	41.	66.
NORTHEAST	39.	44.	57.	72.	89.	102.	104.	97.	85.	68.	53.	41.	71.
EAST	46.	53.	66.	79.	96.	109.	112.	106.	95.	77.	59.	47.	79.
SOUTHEAST	57.	63.	73.	81.	95.	106.	110.	108.	103.	88.	70.	58.	84.
HORIZ.	53.	65.	83.	101.	125.	142.	143.	131.	114.	90.	66.	53.	97.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	89.	100.	104.	103.	111.	119.	126.	130.	135.	127.	102.	89.	111.
SOUTHWEST	77.	88.	99.	107.	121.	133.	138.	135.	130.	114.	89.	76.	109.
WEST	57.	69.	87.	104.	123.	139.	141.	131.	116.	94.	70.	56.	99.
NORTHWEST	45.	53.	70.	90.	111.	127.	127.	115.	98.	76.	58.	46.	85.
NORTH	44.	49.	63.	78.	97.	110.	111.	102.	90.	73.	57.	45.	77.
NORTHEAST	45.	53.	70.	90.	111.	127.	127.	115.	98.	76.	58.	46.	85.
EAST	57.	69.	87.	104.	123.	139.	141.	131.	116.	94.	70.	56.	99.
SOUTHEAST	77.	88.	99.	107.	121.	133.	138.	135.	130.	114.	89.	76.	109.
HORIZ.	70.	91.	118.	143.	175.	198.	196.	175.	150.	116.	83.	67.	132.

LOCATION SCHENECTADY, NEW YORK LATITUDE 42 DEGREES 50 MINUTES

MONTH 1 HO 1274. TOD 25. TOT 21. KT .406 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	32.	78.	107.	124.	130.	124.	107.	78.	32.	0.	0.	0.	0.	812.	91.	146.	48.	69.
SOUTHWEST	0.	0.	0.	0.	6.	17.	47.	76.	100.	115.	117.	102.	50.	0.	0.	0.	0.	631.	76.	119.	4 .	58.
WEST	0.	0.	0.	0.	6.	15.	22.	27.	28.	54.	72.	75.	43.	0.	0.	0.	0.	342.	53.	76.	32.	41.
NORTHWEST	0.	0.	0.	0.	6.	15.	22.	27.	28.	27.	22.	15.	14.	0.	0.	0.	0.	177.	39.	51.	27.	32.
NORTH	0.	0.	0.	0.	6.	15.	22.	27.	28.	27.	22.	15.	6.	0.	0.	0.	0.	169.	39.	50.	27.	31.
NORTHEAST	0.	0.	0.	0.	14.	15.	22.	27.	28.	27.	22.	15.	6.	0.	0.	0.	0.	177.	39.	51.	27.	32.
EAST	0.	0.	0.	0.	43.	75.	72.	54.	28.	27.	22.	15.	6.	0.	0.	0.	0.	342.	53.	76.	32.	41.
SOUTHEAST	0.	0.	0.	0.	50.	102.	117.	115.	100.	76.	47.	17.	6.	0.	0.	0.	0.	631.	76.	119.	42.	58.
HORIZ.	0.	0.	0.	0.	15.	44.	69.	85.	91.	85.	69.	44.	15.	0.	0.	0.	0.	518.	67.	102.	38.	52.

MONTH 2 HO 1854. TOD 25. TOT 22. KT .441 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	8.	55.	91.	118.	134.	140.	134.	118.	91.	55.	8.	0.	0.	0.	954.	93.	149.	53.	78.
SOUTHWEST	0.	0.	0.	3.	14.	24.	50.	83.	110.	128.	135.	127.	96.	18.	0.	0.	0.	788.	81.	128.	47.	68.
WEST	0.	0.	0.	3.	14.	24.	31.	36.	38.	68.	91.	101.	89.	19.	0.	0.	0.	515.	62.	92.	38.	52.
NORTHWEST	0.	0.	0.	3.	14.	24.	31.	36.	38.	36.	31.	31.	38.	11.	0.	0.	0.	292.	46.	63.	31.	39.
NORTH	0.	0.	0.	3.	14.	24.	31.	36.	38.	36.	31.	24.	14.	3.	0.	0.	0.	254.	43.	58.	30.	37.
NORTHEAST	0.	0.	0.	11.	38.	31.	31.	36.	38.	36.	31.	24.	14.	3.	0.	0.	0.	292.	46.	63.	31.	39.
EAST	0.	0.	0.	19.	89.	101.	91.	68.	38.	36.	31.	24.	14.	3.	0.	0.	0.	515.	62.	92.	38.	52.
SOUTHEAST	0.	0.	0.	18.	96.	127.	135.	128.	110.	83.	50.	24.	14.	3.	0.	0.	0.	788.	81.	128.	47.	68.
HORIZ.	0.	0.	0.	6.	41.	75.	103.	120.	126.	120.	103.	75.	41.	6.	0.	0.	0.	817.	83.	132.	48.	70.

MONTH 3 HO 2512. TOD 35. TOT 32. KT .433 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	22.	55.	84.	107.	122.	127.	122.	107.	84.	55.	22.	0.	0.	0.	909.	93.	140.	62.	85.
SOUTHWEST	0.	0.	0.	11.	22.	32.	46.	77.	103.	121.	129.	124.	105.	65.	0.	0.	0.	835.	88.	132.	59.	81.
WEST	0.	0.	0.	11.	22.	32.	39.	44.	45.	75.	98.	110.	107.	75.	0.	0.	0.	657.	77.	111.	54.	71.
NORTHWEST	0.	0.	0.	11.	22.	32.	39.	44.	45.	44.	39.	50.	59.	48.	0.	0.	0.	432.	63.	85.	46.	58.
NORTH	0.	0.	0.	11.	22.	32.	39.	44.	45.	44.	39.	32.	22.	11.	0.	0.	0.	339.	57.	74.	43.	52.
NORTHEAST	0.	0.	0.	48.	59.	50.	39.	44.	45.	44.	39.	32.	22.	11.	0.	0.	0.	432.	63.	85.	46.	58.
EAST	0.	0.	0.	75.	107.	110.	98.	75.	45.	44.	39.	32.	22.	11.	0.	0.	0.	657.	77.	111.	54.	71.
SOUTHEAST	0.	0.	0.	65.	105.	124.	129.	121.	103.	77.	46.	32.	22.	11.	0.	0.	0.	835.	88.	132.	59.	81.
HORIZ.	0.	0.	0.	29.	67.	101.	127.	144.	150.	144.	127.	101.	67.	29.	0.	0.	0.	1086.	104.	161.	67.	96.

LOCATION SCHENECTADY, NEW YORK LATITUDE 42 DEGREES 50 MINUTES

MONTH 4 HO 3175. TOD 48. TOT 45. KT .413 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	7.	20.	46.	71.	90.	103.	107.	103.	90.	71.	46.	20.	7.	0.	0.	780.	93.	129.	70.	91.
SOUTHWEST	0.	0.	7.	18.	29.	38.	45.	68.	91.	107.	114.	111.	97.	72.	29.	0.	0.	825.	95.	134.	72.	93.
WEST	0.	0.	7.	18.	29.	38.	45.	49.	51.	77.	97.	109.	109.	92.	44.	0.	0.	765.	92.	127.	70.	90.
NORTHWEST	0.	0.	7.	18.	29.	38.	45.	49.	51.	49.	50.	65.	73.	69.	37.	0.	0.	581.	81.	108.	64.	79.
NORTH	0.	0.	13.	18.	29.	38.	45.	49.	51.	49.	45.	38.	29.	18.	13.	0.	0.	434.	73.	93.	59.	70.
NORTHEAST	0.	0.	37.	69.	73.	65.	50.	49.	51.	49.	45.	38.	29.	18.	7.	0.	0.	581.	81.	108.	64.	79.
EAST	0.	0.	44.	92.	109.	109.	97.	77.	51.	49.	45.	38.	29.	18.	7.	0.	0.	765.	92.	127.	70.	90.
SOUTHEAST	0.	0.	29.	72.	97.	111.	114.	107.	91.	68.	45.	38.	29.	18.	7.	0.	0.	825.	95.	134.	72.	93.
HORIZ.	0.	0.	17.	52.	87.	118.	143.	158.	163.	158.	143.	118.	87.	52.	17.	0.	0.	1312.	123.	184.	87.	122.

MONTH 5 HO 3607. TOD 62. TOT 58. KT .438 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	3.	13.	24.	41.	65.	84.	97.	101.	97.	84.	65.	41.	24.	13.	3.	0.	753.	104.	136.	84.	104.
SOUTHWEST	0.	3.	13.	24.	34.	43.	49.	64.	88.	105.	113.	111.	99.	77.	44.	4.	0.	870.	110.	148.	88.	111.
WEST	0.	3.	13.	24.	34.	43.	49.	54.	55.	83.	104.	118.	120.	107.	73.	7.	0.	885.	111.	149.	88.	112.
NORTHWEST	0.	3.	13.	24.	34.	43.	49.	54.	55.	54.	63.	80.	90.	88.	67.	7.	0.	723.	102.	133.	83.	102.
NORTH	0.	5.	29.	32.	34.	43.	49.	54.	55.	54.	49.	43.	34.	32.	29.	5.	0.	545.	92.	116.	7 .	91.
NORTHEAST	0.	7.	67.	88.	90.	80.	63.	54.	55.	54.	49.	43.	34.	24.	13.	3.	0.	723.	102.	133.	83.	102.
EAST	0.	7.	73.	107.	120.	118.	104.	83.	55.	54.	49.	43.	34.	24.	13.	3.	0.	885.	111.	149.	88.	112.
SOUTHEAST	0.	4.	44.	77.	99.	111.	113.	105.	88.	64.	49.	43.	34.	24.	13.	3.	0.	870.	110.	148.	88.	111.
HORIZ.	0.	5.	34.	71.	107.	139.	163.	179.	184.	179.	163.	139.	107.	71.	34.	5.	0.	1580.	150.	218.	112.	154.

MONTH 6 HO 3765. TOD 71. TOT 68. KT .448 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	5.	15.	25.	38.	62.	81.	93.	98.	93.	81.	62.	38.	25.	15.	5.	0.	736.	111.	141.	93.	112.
SOUTHWEST	0.	5.	15.	25.	36.	44.	51.	62.	86.	103.	112.	110.	99.	77.	47.	10.	0.	881.	119.	155.	98.	121.
WEST	0.	5.	15.	25.	36.	44.	51.	55.	57.	84.	107.	120.	123.	112.	81.	21.	0.	935.	121.	160.	100.	125.
NORTHWEST	0.	5.	15.	25.	36.	44.	51.	55.	57.	55.	69.	86.	96.	95.	77.	22.	0.	787.	113.	146.	95.	116.
NORTH	0.	13.	36.	38.	36.	44.	51.	55.	57.	55.	51.	44.	36.	38.	36.	13.	0.	602.	103.	128.	89.	104.
NORTHEAST	0.	22.	77.	95.	96.	86.	69.	55.	57.	55.	51.	44.	36.	25.	15.	5.	0.	787.	113.	146.	95.	116.
EAST	0.	21.	81.	112.	123.	120.	107.	84.	57.	55.	51.	44.	36.	25.	15.	5.	0.	935.	121.	160.	100.	125.
SOUTHEAST	0.	10.	47.	77.	99.	110.	112.	103.	86.	62.	51.	44.	36.	25.	15.	5.	0.	881.	119.	155.	98.	121.
HORIZ.	0.	9.	41.	78.	115.	147.	171.	187.	192.	187.	171.	147.	115.	78.	41.	9.	0.	1687.	162.	232.	126.	170.

LOCATION SCHENECTADY, NEW YORK LATITUDE 42 DEGREES 50 MINUTES

MONTH 7 HO 3605. TOD 77. TOT 73. KT .454 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	3.	13.	24.	41.	66.	87.	100.	104.	100.	87.	66.	41.	24.	13.	3.	0.	772.	120.	153.	99.	119.
SOUTHWEST	0.	3.	13.	24.	34.	43.	50.	65.	90.	108.	117.	116.	103.	79.	45.	5.	0.	895.	127.	165.	103.	127.
WEST	0.	3.	13.	24.	34.	43.	50.	54.	56.	85.	108.	122.	125.	111.	75.	7.	0.	912.	128.	167.	104.	128.
NORTHWEST	0.	3.	13.	24.	34.	43.	50.	54.	56.	54.	65.	83.	93.	92.	69.	7.	0.	741.	118.	150.	98.	117.
NORTH	0.	5.	30.	33.	34.	43.	50.	54.	56.	54.	50.	43.	34.	33.	30.	5.	0.	555.	108.	132.	92.	106.
NORTHEAST	0.	7.	69.	92.	93.	83.	65.	54.	56.	54.	50.	43.	34.	24.	13.	3.	0.	741.	118.	150.	98.	117.
EAST	0.	7.	75.	111.	125.	122.	108.	85.	56.	54.	50.	43.	34.	24.	13.	3.	0.	912.	128.	167.	104.	128.
SOUTHEAST	0.	5.	45.	79.	103.	116.	117.	108.	90.	65.	50.	43.	34.	24.	13.	3.	0.	895.	127.	165.	103.	127.
HORIZ.	0.	5.	35.	73.	111.	144.	170.	186.	191.	186.	170.	144.	111.	73.	35.	5.	0.	1637.	168.	238.	129.	172.

MONTH 8 HO 3153. TOD 74. TOT 70. KT .458 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	7.	20.	49.	77.	100.	114.	119.	114.	100.	77.	49.	20.	7.	0.	0.	858.	126.	166.	100.	122.
SOUTHWEST	0.	0.	7.	19.	30.	39.	46.	73.	100.	119.	128.	125.	110.	79.	31.	0.	0.	906.	129.	171.	101.	125.
WEST	0.	0.	7.	19.	30.	39.	46.	51.	53.	84.	108.	123.	123.	103.	47.	0.	0.	833.	124.	163.	99.	121.
NORTHWEST	0.	0.	7.	19.	30.	39.	46.	51.	53.	51.	52.	71.	82.	77.	39.	0.	0.	618.	111.	140.	92.	108.
NORTH	0.	0.	14.	19.	30.	39.	46.	51.	53.	51.	46.	39.	30.	19.	14.	0.	0.	450.	101.	122.	86.	98.
NORTHEAST	0.	0.	39.	77.	82.	71.	52.	51.	53.	51.	46.	39.	30.	19.	7.	0.	0.	618.	111.	140.	92.	108.
EAST	0.	0.	47.	103.	123.	123.	108.	84.	53.	51.	46.	39.	30.	19.	7.	0.	0.	833.	124.	163.	99.	121.
SOUTHEAST	0.	0.	31.	79.	110.	125.	128.	119.	100.	73.	46.	39.	30.	19.	7.	0.	0.	906.	129.	171.	101.	125.
HORIZ.	0.	0.	17.	56.	95.	131.	158.	175.	181.	175.	158.	131.	95.	56.	17.	0.	0.	1445.	161.	229.	120.	158.

MONTH 9 HO 2502. TOD 65. TOT 62. KT .426 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	21.	53.	82.	104.	119.	124.	119.	104.	82.	53.	21.	0.	0.	0.	881.	124.	170.	92.	115.
SOUTHWEST	0.	0.	0.	11.	22.	31.	45.	75.	101.	118.	125.	120.	100.	60.	0.	0.	0.	808.	120.	162.	89.	111.
WEST	0.	0.	0.	11.	22.	31.	39.	43.	45.	73.	95.	107.	102.	70.	0.	0.	0.	637.	108.	141.	84.	100.
NORTHWEST	0.	0.	0.	11.	22.	31.	39.	43.	45.	43.	39.	49.	57.	45.	0.	0.	0.	423.	93.	115.	76.	87.
NORTH	0.	0.	0.	11.	22.	31.	39.	43.	45.	43.	39.	31.	22.	11.	0.	0.	0.	336.	87.	105.	73.	82.
NORTHEAST	0.	0.	0.	45.	57.	49.	39.	43.	45.	43.	39.	31.	22.	11.	0.	0.	0.	423.	93.	115.	76.	87.
EAST	0.	0.	0.	70.	102.	107.	95.	73.	45.	43.	39.	31.	22.	11.	0.	0.	0.	637.	108.	141.	84.	100.
SOUTHEAST	0.	0.	0.	60.	100.	120.	125.	118.	101.	75.	45.	31.	22.	11.	0.	0.	0.	808.	120.	162.	89.	111.
HORIZ.	0.	0.	1.	28.	65.	99.	125.	141.	147.	141.	125.	99.	65.	28.	1.	0.	0.	1064.	137.	192.	98.	126.

LOCATION SCHENECTADY, NEW YORK LATITUDE 42 DEGREES 50 MINUTES

MONTH 10 HO 1820. TOD 53. TOT 50. KT .420 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	6.	50.	85.	110.	126.	131.	126.	110.	85.	50.	6.	0.	0.	0.	885.	117.	169.	79.	102.
SOUTHWEST	0.	0.	0.	3.	13.	23.	48.	78.	103.	120.	126.	116.	86.	12.	0.	0.	0.	729.	106.	149.	74.	93.
WEST	0.	0.	0.	3.	13.	23.	30.	35.	36.	64.	85.	93.	79.	13.	0.	0.	0.	475.	87.	116.	66.	78.
NORTHWEST	0.	0.	0.	3.	13.	23.	30.	35.	36.	35.	30.	29.	34.	8.	0.	0.	0.	276.	73.	89.	59.	66.
NORTH	0.	0.	0.	3.	13.	23.	30.	35.	36.	35.	30.	23.	13.	3.	0.	0.	0.	244.	71.	85.	58.	65.
NORTHEAST	0.	0.	0.	8.	34.	29.	30.	35.	36.	35.	30.	23.	13.	3.	0.	0.	0.	276.	73.	89.	59.	66.
EAST	0.	0.	0.	13.	79.	93.	85.	64.	36.	35.	30.	23.	13.	3.	0.	0.	0.	475.	87.	116.	66.	78.
SOUTHEAST	0.	0.	0.	12.	86.	116.	126.	120.	103.	78.	48.	23.	13.	3.	0.	0.	0.	729.	106.	149.	74.	93.
HORIZ.	0.	0.	0.	5.	37.	70.	96.	113.	119.	113.	96.	70.	37.	5.	0.	0.	0.	764.	108.	154.	75.	95.

MONTH 11 HO 1262. TOD 40. TOT 39. KT .309 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	20.	50.	69.	81.	85.	81.	69.	50.	20.	0.	0.	0.	0.	525.	83.	118.	55.	69.
SOUTHWEST	0.	0.	0.	0.	6.	15.	35.	53.	67.	75.	75.	64.	30.	0.	0.	0.	0.	420.	75.	103.	52.	63.
WEST	0.	0.	0.	0.	6.	14.	20.	24.	25.	40.	49.	48.	26.	0.	0.	0.	0.	252.	61.	78.	47.	53.
NORTHWEST	0.	0.	0.	0.	6.	14.	20.	24.	25.	24.	20.	14.	10.	0.	0.	0.	0.	157.	53.	63.	44.	48.
NORTH	0.	0.	0.	0.	6.	14.	20.	24.	25.	24.	20.	14.	6.	0.	0.	0.	0.	153.	53.	63.	43.	47.
NORTHEAST	0.	0.	0.	0.	10.	14.	20.	24.	25.	24.	20.	14.	6.	0.	0.	0.	0.	157.	53.	63.	44.	48.
EAST	0.	0.	0.	0.	26.	48.	49.	40.	25.	24.	20.	14.	6.	0.	0.	0.	0.	252.	61.	78.	47.	53.
SOUTHEAST	0.	0.	0.	0.	30.	64.	75.	75.	67.	53.	35.	15.	6.	0.	0.	0.	0.	420.	75.	103.	52.	63.
HORIZ.	0.	0.	0.	0.	12.	34.	52.	64.	68.	64.	52.	34.	12.	0.	0.	0.	0.	391.	72.	98.	51.	61.

MONTH 12 HO 1057. TOD 28. TOT 26. KT .331 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	11.	52.	77.	90.	95.	90.	77.	52.	11.	0.	0.	0.	0.	556.	76.	116.	44.	58.
SOUTHWEST	0.	0.	0.	0.	3.	15.	36.	57.	74.	83.	82.	66.	16.	0.	0.	0.	0.	433.	66.	97.	40.	51.
WEST	0.	0.	0.	0.	3.	11.	18.	22.	23.	40.	50.	48.	14.	0.	0.	0.	0.	228.	48.	64.	33.	39.
NORTHWEST	0.	0.	0.	0.	3.	11.	18.	22.	23.	22.	18.	11.	5.	0.	0.	0.	0.	133.	40.	49.	30.	34.
NORTH	0.	0.	0.	0.	3.	11.	18.	22.	23.	22.	18.	11.	3.	0.	0.	0.	0.	131.	39.	49.	30.	34.
NORTHEAST	0.	0.	0.	0.	5.	11.	18.	22.	23.	22.	18.	11.	3.	0.	0.	0.	0.	133.	40.	49.	30.	34.
EAST	0.	0.	0.	0.	14.	48.	50.	40.	23.	22.	18.	11.	3.	0.	0.	0.	0.	228.	48.	64.	33.	39.
SOUTHEAST	0.	0.	0.	0.	16.	66.	82.	83.	74.	57.	36.	15.	3.	0.	0.	0.	0.	433.	66.	97.	40.	51.
HORIZ.	0.	0.	0.	0.	6.	28.	48.	60.	65.	60.	48.	28.	6.	0.	0.	0.	0.	350.	59.	83.	37.	46.

LOCATION SCHENECTADY, NEW YORK LATITUDE 42 DEGREES 50 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	91.	93.	93.	93.	104.	111.	120.	126.	124.	117.	83.	76.	103.
SOUTHWEST	76.	81.	88.	95.	110.	119.	127.	129.	120.	106.	75.	66.	99.
WEST	53.	62.	77.	92.	111.	121.	128.	124.	108.	87.	61.	48.	89.
NORTHWEST	39.	46.	63.	81.	102.	113.	118.	111.	93.	73.	53.	40.	78.
NORTH	39.	43.	57.	73.	92.	103.	108.	101.	87.	71.	53.	39.	72.
NORTHEAST	39.	46.	63.	81.	102.	113.	118.	111.	93.	73.	53.	40.	78.
EAST	53.	62.	77.	92.	111.	121.	128.	124.	108.	87.	61.	48.	89.
SOUTHEAST	76.	81.	88.	95.	110.	119.	127.	129.	120.	106.	75.	66.	99.
HORIZ.	67.	83.	104.	123.	150.	162.	168.	161.	137.	108.	72.	59.	116.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	146.	149.	140.	129.	136.	141.	153.	166.	170.	169.	118.	116.	145.
SOUTHWEST	119.	128.	132.	134.	148.	155.	165.	171.	162.	149.	103.	97.	138.
WEST	76.	92.	111.	127.	149.	160.	167.	163.	141.	116.	78.	64.	120.
NORTHWEST	51.	63.	85.	108.	133.	146.	150.	140.	115.	89.	63.	49.	99.
NORTH	50.	58.	74.	93.	116.	128.	132.	122.	105.	85.	63.	49.	90.
NORTHEAST	51.	63.	85.	108.	133.	146.	150.	140.	115.	89.	63.	49.	99.
EAST	76.	92.	111.	127.	149.	160.	167.	163.	141.	116.	78.	64.	120.
SOUTHEAST	119.	128.	132.	134.	148.	155.	165.	171.	162.	149.	103.	97.	138.
HORIZ.	102.	132.	161.	184.	218.	232.	238.	229.	192.	154.	98.	83.	169.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	48.	53.	62.	70.	84.	93.	99.	100.	92.	79.	55.	44.	73.
SOUTHWEST	42.	47.	59.	72.	88.	98.	103.	101.	89.	74.	52.	40.	72.
WEST	32.	38.	54.	70.	88.	100.	104.	99.	84.	66.	47.	33.	68.
NORTHWEST	27.	31.	46.	64.	83.	95.	98.	92.	76.	59.	44.	30.	62.
NORTH	27.	30.	43.	59.	77.	89.	92.	86.	73.	58.	43.	30.	59.
NORTHEAST	27.	31.	46.	64.	83.	95.	98.	92.	76.	59.	44.	30.	62.
EAST	32.	38.	54.	70.	88.	100.	104.	99.	84.	66.	47.	33.	68.
SOUTHEAST	42.	47.	59.	72.	88.	98.	103.	101.	89.	74.	52.	40.	72.
HORIZ.	38.	48.	67.	87.	112.	126.	129.	120.	98.	75.	51.	37.	82.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	69.	78.	85.	91.	104.	112.	119.	122.	115.	102.	69.	58.	94.
SOUTHWEST	58.	68.	81.	93.	111.	121.	127.	125.	111.	93.	63.	51.	92.
WEST	41.	52.	71.	90.	112.	125.	128.	121.	100.	78.	53.	39.	84.
NORTHWEST	32.	39.	58.	79.	102.	116.	117.	108.	87.	66.	48.	34.	74.
NORTH	31.	37.	52.	70.	91.	104.	106.	98.	82.	65.	47.	34.	68.
NORTHEAST	32.	39.	58.	79.	102.	116.	117.	108.	87.	66.	48.	34.	74.
EAST	41.	52.	71.	90.	112.	125.	128.	121.	100.	78.	53.	39.	84.
SOUTHEAST	58.	68.	81.	93.	111.	121.	127.	125.	111.	93.	63.	51.	92.
HORIZ.	52.	70.	96.	122.	154.	170.	172.	158.	126.	95.	61.	46.	110.

LOCATION SEABROOK, NEW JERSEY LATITUDE 39 DEGREES 30 MINUTES

MONTH 1 HO 1457. TOD 39. TOT 36. KT .426 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	43.	87.	115.	132.	138.	132.	115.	87.	43.	0.	0.	0.	0.	892.	110.	168.	64.	88.
SOUTHWEST	0.	0.	0.	0.	8.	19.	51.	81.	107.	123.	127.	114.	68.	0.	0.	0.	0.	699.	95.	140.	58.	77.
WEST	0.	0.	0.	0.	8.	18.	26.	30.	32.	60.	80.	85.	59.	0.	0.	0.	0.	397.	71.	97.	49.	59.
NORTHWEST	0.	0.	0.	0.	8.	18.	26.	30.	32.	30.	26.	18.	19.	0.	0.	0.	0.	207.	56.	69.	42.	48.
NORTH	0.	0.	0.	0.	8.	18.	26.	30.	32.	30.	26.	18.	8.	0.	0.	0.	0.	196.	55.	68.	42.	47.
NORTHEAST	0.	0.	0.	0.	19.	18.	26.	30.	32.	30.	26.	18.	8.	0.	0.	0.	0.	207.	56.	69.	42.	48.
EAST	0.	0.	0.	0.	59.	85.	80.	60.	32.	30.	26.	18.	8.	0.	0.	0.	0.	397.	71.	97.	49.	59.
SOUTHEAST	0.	0.	0.	0.	68.	114.	127.	123.	107.	81.	51.	19.	8.	0.	0.	0.	0.	699.	95.	140.	58.	77.
HORIZ.	0.	0.	0.	0.	21.	55.	82.	99.	105.	99.	82.	55.	21.	0.	0.	0.	0.	621.	89.	129.	56.	72.

MONTH 2 HO 2020. TOD 38. TOT 35. KT .453 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	13.	59.	95.	121.	137.	142.	137.	121.	95.	59.	13.	0.	0.	0.	991.	108.	165.	67.	93.
SOUTHWEST	0.	0.	0.	4.	16.	26.	51.	85.	113.	132.	140.	132.	104.	29.	0.	0.	0.	832.	97.	145.	62.	84.
WEST	0.	0.	0.	4.	16.	26.	34.	39.	41.	73.	97.	108.	98.	31.	0.	0.	0.	566.	78.	111.	54.	68.
NORTHWEST	0.	0.	0.	4.	16.	26.	34.	39.	41.	39.	34.	36.	43.	17.	0.	0.	0.	329.	61.	80.	46.	55.
NORTH	0.	0.	0.	4.	16.	26.	34.	39.	41.	39.	34.	26.	16.	4.	0.	0.	0.	280.	57.	74.	44.	52.
NORTHEAST	0.	0.	0.	17.	43.	36.	34.	39.	41.	39.	34.	26.	16.	4.	0.	0.	0.	329.	61.	80.	46.	55.
EAST	0.	0.	0.	31.	98.	108.	97.	73.	41.	39.	34.	26.	16.	4.	0.	0.	0.	566.	78.	111.	54.	68.
SOUTHEAST	0.	0.	0.	29.	104.	132.	140.	132.	113.	85.	51.	26.	16.	4.	0.	0.	0.	832.	97.	145.	62.	84.
HORIZ.	0.	0.	0.	9.	47.	85.	114.	133.	139.	133.	114.	85.	47.	9.	0.	0.	0.	916.	103.	156.	65.	89.

MONTH 3 HO 2641. TOD 44. TOT 41. KT .476 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	25.	60.	92.	117.	133.	138.	133.	117.	92.	60.	25.	0.	0.	0.	991.	107.	159.	73.	99.
SOUTHWEST	0.	0.	0.	12.	24.	34.	47.	82.	112.	133.	143.	140.	120.	75.	0.	0.	0.	924.	103.	151.	71.	95.
WEST	0.	0.	0.	12.	24.	34.	43.	48.	50.	84.	111.	126.	123.	89.	0.	0.	0.	743.	91.	130.	65.	85.
NORTHWEST	0.	0.	0.	12.	24.	34.	43.	48.	50.	48.	43.	58.	69.	57.	0.	0.	0.	485.	75.	100.	57.	70.
NORTH	0.	0.	0.	12.	24.	34.	43.	48.	50.	48.	43.	34.	24.	12.	0.	0.	0.	371.	68.	87.	53.	63.
NORTHEAST	0.	0.	0.	57.	69.	58.	43.	48.	50.	48.	43.	34.	24.	12.	0.	0.	0.	485.	75.	100.	57.	70.
EAST	0.	0.	0.	89.	123.	126.	111.	84.	50.	48.	43.	34.	24.	12.	0.	0.	0.	743.	91.	130.	65.	85.
SOUTHEAST	0.	0.	0.	75.	120.	140.	143.	133.	112.	82.	47.	34.	24.	12.	0.	0.	0.	924.	103.	151.	71.	95.
HORIZ.	0.	0.	0.	33.	77.	117.	147.	167.	173.	167.	147.	117.	77.	33.	0.	0.	0.	1255.	124.	190.	82.	115.

LOCATION SEABROOK, NEW JERSEY LATITUDE 39 DEGREES 30 MINUTES

MONTH 4 HO 3245. TOD 55. TOT 49. KT .481 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	19.	49.	78.	101.	116.	121.	116.	101.	78.	49.	19.	7.	0.	0.	863.	105.	145.	77.	100.
SOUTHWEST	0.	0.	7.	19.	31.	41.	49.	73.	102.	123.	133.	132.	116.	86.	32.	0.	0.	945.	109.	154.	80.	104.
WEST	0.	0.	7.	19.	31.	41.	49.	54.	56.	90.	116.	132.	133.	113.	50.	0.	0.	892.	106.	148.	78.	101.
NORTHWEST	0.	0.	7.	19.	31.	41.	49.	54.	56.	54.	60.	80.	91.	85.	42.	0.	0.	670.	93.	125.	71.	88.
NORTH	0.	0.	14.	19.	31.	41.	49.	54.	56.	54.	49.	41.	31.	19.	14.	0.	0.	474.	82.	104.	65.	77.
NORTHEAST	0.	0.	42.	85.	91.	80.	60.	54.	56.	54.	49.	41.	31.	19.	7.	0.	0.	670.	93.	125.	71.	88.
EAST	0.	0.	50.	113.	133.	132.	116.	90.	56.	54.	49.	41.	31.	19.	7.	0.	0.	892.	106.	148.	78.	101.
SOUTHEAST	0.	0.	32.	86.	116.	132.	133.	123.	102.	73.	49.	41.	31.	19.	7.	0.	0.	945.	109.	154.	80.	104.
HORIZ.	0.	0.	17.	59.	103.	142.	172.	190.	197.	190.	172.	142.	103.	59.	17.	0.	0.	1562.	145.	218.	100.	140.

MONTH 5 HO 3624. TOD 65. TOT 59. KT .504 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	2.	12.	24.	40.	68.	90.	104.	109.	104.	90.	68.	40.	24.	12.	2.	0.	789.	110.	145.	8 .	107.
SOUTHWEST	0.	2.	12.	24.	36.	46.	53.	65.	95.	116.	128.	127.	114.	88.	48.	2.	0.	956.	120.	161.	92.	117.
WEST	0.	2.	12.	24.	36.	46.	53.	58.	60.	94.	122.	139.	143.	127.	83.	2.	0.	1002.	122.	166.	93.	120.
NORTHWEST	0.	2.	12.	24.	36.	46.	53.	58.	60.	58.	76.	96.	108.	106.	77.	2.	0.	815.	111.	147.	87.	108.
NORTH	0.	2.	32.	37.	36.	46.	53.	58.	60.	58.	53.	46.	36.	37.	32.	2.	0.	588.	99.	124.	79.	95.
NORTHEAST	0.	2.	77.	106.	108.	96.	76.	58.	60.	58.	53.	46.	36.	24.	12.	2.	0.	815.	111.	147.	87.	108.
EAST	0.	2.	83.	127.	143.	139.	122.	94.	60.	58.	53.	46.	36.	24.	12.	2.	0.	1002.	122.	166.	93.	120.
SOUTHEAST	0.	2.	48.	88.	114.	127.	128.	116.	95.	65.	53.	46.	36.	24.	12.	2.	0.	956.	120.	161.	92.	117.
HORIZ.	0.	3.	34.	79.	123.	162.	192.	211.	217.	211.	192.	162.	123.	79.	34.	3.	0.	1826.	169.	249.	122.	169.

MONTH 6 HO 3760. TOD 74. TOT 69. KT .522 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SAT S	SATGD
SOUTH	0.	3.	14.	26.	37.	63.	85.	100.	105.	100.	85.	63.	37.	26.	14.	3.	0.	763.	116.	149.	95.	115.
SOUTHWEST	0.	3.	14.	26.	37.	47.	55.	61.	92.	114.	127.	127.	115.	90.	52.	7.	0.	966.	128.	169.	102.	127.
WEST	0.	3.	14.	26.	37.	47.	55.	59.	61.	97.	126.	144.	149.	135.	94.	13.	0.	1060.	133.	178.	105.	133.
NORTHWEST	0.	3.	14.	26.	37.	47.	55.	59.	61.	59.	83.	105.	118.	117.	90.	13.	0.	887.	123.	161.	99.	122.
NORTH	0.	8.	41.	45.	39.	47.	55.	59.	61.	59.	55.	47.	39.	45.	41.	8.	0.	650.	110.	138.	91.	108.
NORTHEAST	0.	13.	90.	117.	118.	105.	83.	59.	61.	59.	55.	47.	37.	26.	14.	3.	0.	887.	123.	161.	99.	122.
EAST	0.	13.	94.	135.	149.	144.	126.	97.	61.	59.	55.	47.	37.	26.	14.	3.	0.	1060.	133.	178.	105.	133.
SOUTHEAST	0.	7.	52.	90.	115.	127.	127.	114.	92.	61.	55.	47.	37.	26.	14.	3.	0.	966.	128.	169.	102.	127.
HORIZ.	0.	6.	42.	88.	133.	172.	203.	222.	229.	222.	203.	172.	133.	88.	42.	6.	0.	1963.	183.	266.	136.	187.

LOCATION SEABROOK, NEW JERSEY LATITUDE 39 DEGREES 30 MINUTES

MONTH 7 HO 3621. TOD 80. TOT 74. KT .530 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	2.	12.	24.	40.	69.	93.	108.	114.	108.	93.	69.	40.	24.	12.	2.	0.	812.	126.	162.	101.	123.
SOUTHWEST	0.	2.	12.	24.	36.	46.	54.	66.	98.	122.	134.	134.	121.	93.	50.	2.	0.	994.	137.	180.	108.	134.
WEST	0.	2.	12.	24.	36.	46.	54.	58.	60.	98.	128.	148.	152.	136.	87.	2.	0.	1044.	139.	185.	109.	137.
NORTHWEST	0.	2.	12.	24.	36.	46.	54.	58.	60.	58.	79.	101.	115.	113.	81.	2.	0.	842.	128.	165.	10 .	124.
NORTH	0.	2.	34.	39.	36.	46.	54.	58.	60.	58.	54.	46.	36.	39.	34.	2.	0.	597.	114.	140.	94.	110.
NORTHEAST	0.	2.	81.	113.	115.	101.	79.	58.	60.	58.	54.	46.	36.	24.	12.	2.	0.	842.	128.	165.	102.	124.
EAST	0.	2.	87.	136.	152.	148.	128.	98.	60.	58.	54.	46.	36.	24.	12.	2.	0.	1044.	139.	185.	10 .	137.
SOUTHEAST	0.	2.	50.	93.	121.	134.	134.	122.	98.	66.	54.	46.	36.	24.	12.	2.	0.	994.	137.	180.	108.	134.
HORIZ.	0.	3.	35.	83.	129.	170.	202.	222.	229.	222.	202.	170.	129.	83.	35.	3.	0.	1919.	189.	273.	13 .	190.

MONTH 8 HO 3222. TOD 78. TOT 73. KT .517 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	7.	19.	51.	83.	108.	124.	130.	124.	108.	83.	51.	19.	7.	0.	0.	916.	134.	177.	10 .	128.
SOUTHWEST	0.	0.	7.	19.	31.	42.	50.	76.	108.	132.	144.	143.	126.	91.	32.	0.	0.	1002.	139.	187.	10 .	134.
WEST	0.	0.	7.	19.	31.	42.	50.	55.	57.	95.	125.	143.	145.	121.	50.	0.	0.	940.	136.	180.	105.	130.
NORTHWEST	0.	0.	7.	19.	31.	42.	50.	55.	57.	55.	62.	85.	97.	91.	42.	0.	0.	694.	120.	153.	97.	115.
NORTH	0.	0.	14.	19.	31.	42.	50.	55.	57.	55.	50.	42.	31.	19.	14.	0.	0.	480.	107.	130.	9n.	102.
NORTHEAST	0.	0.	42.	91.	97.	85.	62.	55.	57.	55.	50.	42.	31.	19.	7.	0.	0.	694.	120.	153.	97.	115.
EAST	0.	0.	50.	121.	145.	143.	125.	95.	57.	55.	50.	42.	31.	19.	7.	0.	0.	940.	136.	180.	105.	130.
SOUTHEAST	0.	0.	32.	91.	126.	143.	144.	132.	108.	76.	50.	42.	31.	19.	7.	0.	0.	1002.	139.	187.	107.	134.
HORIZ.	0.	0.	16.	62.	109.	151.	184.	205.	212.	205.	184.	151.	109.	62.	16.	0.	0.	1667.	180.	259.	130.	174.

MONTH 9 HO 2628. TOD 70. TOT 68. KT .524 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	26.	65.	101.	130.	148.	154.	148.	130.	101.	65.	26.	0.	0.	0.	1093.	144.	201.	106.	134.
SOUTHWEST	0.	0.	0.	12.	24.	35.	48.	89.	124.	149.	161.	157.	134.	81.	0.	0.	0.	1014.	139.	192.	103.	130.
WEST	0.	0.	0.	12.	24.	35.	44.	49.	51.	91.	123.	141.	138.	96.	0.	0.	0.	805.	124.	166.	96.	117.
NORTHWEST	0.	0.	0.	12.	24.	35.	44.	49.	51.	49.	44.	63.	76.	62.	0.	0.	0.	509.	104.	131.	86.	99.
NORTH	0.	0.	0.	12.	24.	35.	44.	49.	51.	49.	44.	35.	24.	12.	0.	0.	0.	379.	95.	115.	81.	91.
NORTHEAST	0.	0.	0.	62.	76.	63.	44.	49.	51.	49.	44.	35.	24.	12.	0.	0.	0.	509.	104.	131.	86.	99.
EAST	0.	0.	0.	96.	138.	141.	123.	91.	51.	49.	44.	35.	24.	12.	0.	0.	0.	805.	124.	166.	96.	117.
SOUTHEAST	0.	0.	0.	81.	134.	157.	161.	149.	124.	89.	48.	35.	24.	12.	0.	0.	0.	1014.	139.	192.	103.	130.
HORIZ.	0.	0.	1.	35.	84.	128.	162.	184.	191.	184.	162.	128.	84.	35.	1.	0.	0.	1376.	163.	235.	115.	151.

LOCATION SEABROOK, NEW JERSEY LATITUDE 39 DEGREES 30 MINUTES

MONTH 10 HO 1986. TOD 61. TOT 58. KT .508 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	12.	66.	109.	139.	158.	165.	158.	139.	109.	66.	12.	0.	0.	0.	1135.	142.	208.	94.	124.
SOUTHWEST	0.	0.	0.	4.	16.	27.	56.	96.	129.	152.	162.	153.	118.	27.	0.	0.	0.	940.	128.	183.	8[illegible].	113.
WEST	0.	0.	0.	4.	16.	27.	35.	40.	42.	81.	110.	124.	110.	29.	0.	0.	0.	617.	105.	141.	7[illegible].	94.
NORTHWEST	0.	0.	0.	4.	16.	27.	35.	40.	42.	40.	35.	37.	47.	16.	0.	0.	0.	340.	85.	105.	6[illegible].	78.
NORTH	0.	0.	0.	4.	16.	27.	35.	40.	42.	40.	35.	27.	16.	4.	0.	0.	0.	287.	82.	98.	67.	75.
NORTHEAST	0.	0.	0.	16.	47.	37.	35.	40.	42.	40.	35.	27.	16.	4.	0.	0.	0.	340.	85.	105.	6[illegible].	78.
EAST	0.	0.	0.	29.	110.	124.	110.	81.	42.	40.	35.	27.	16.	4.	0.	0.	0.	617.	105.	141.	78.	94.
SOUTHEAST	0.	0.	0.	27.	118.	153.	162.	152.	129.	96.	56.	27.	16.	4.	0.	0.	0.	940.	128.	183.	8[illegible].	113.
HORIZ.	0.	0.	0.	8.	51.	93.	127.	148.	155.	148.	127.	93.	51.	8.	0.	0.	0.	1009.	133.	192.	9[illegible].	117.

MONTH 11 HO 1445. TOD 48. TOT 48. KT .449 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SAT[illegible]S	SATGD
SOUTH	0.	0.	0.	0.	45.	93.	124.	142.	148.	142.	124.	93.	45.	0.	0.	0.	0.	954.	124.	186.	7[illegible].	104.
SOUTHWEST	0.	0.	0.	0.	8.	20.	53.	87.	114.	132.	137.	122.	71.	0.	0.	0.	0.	744.	108.	156.	7[illegible].	91.
WEST	0.	0.	0.	0.	8.	18.	26.	31.	32.	63.	85.	90.	61.	0.	0.	0.	0.	415.	81.	108.	6[illegible].	72.
NORTHWEST	0.	0.	0.	0.	8.	18.	26.	31.	32.	31.	26.	18.	20.	0.	0.	0.	0.	210.	65.	79.	5[illegible].	60.
NORTH	0.	0.	0.	0.	8.	18.	26.	31.	32.	31.	26.	18.	8.	0.	0.	0.	0.	199.	64.	77.	5[illegible].	60.
NORTHEAST	0.	0.	0.	0.	20.	18.	26.	31.	32.	31.	26.	18.	8.	0.	0.	0.	0.	210.	65.	79.	5[illegible].	60.
EAST	0.	0.	0.	0.	61.	90.	85.	63.	32.	31.	26.	18.	8.	0.	0.	0.	0.	415.	81.	108.	6[illegible].	72.
SOUTHEAST	0.	0.	0.	0.	71.	122.	137.	132.	114.	87.	53.	20.	8.	0.	0.	0.	0.	744.	108.	156.	7[illegible].	91.
HORIZ.	0.	0.	0.	0.	22.	57.	86.	105.	111.	105.	86.	57.	22.	0.	0.	0.	0.	649.	100.	142.	6[illegible].	86.

MONTH 12 HO 1242. TOD 39. TOT 38. KT .416 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SAT[illegible]S	SATGD
SOUTH	0.	0.	0.	0.	29.	81.	112.	129.	135.	129.	112.	81.	29.	0.	0.	0.	0.	837.	109.	166.	6[illegible].	87.
SOUTHWEST	0.	0.	0.	0.	5.	19.	50.	79.	104.	119.	121.	104.	45.	0.	0.	0.	0.	646.	93.	137.	5[illegible].	76.
WEST	0.	0.	0.	0.	5.	15.	22.	27.	28.	55.	73.	74.	37.	0.	0.	0.	0.	336.	67.	90.	4[illegible].	58.
NORTHWEST	0.	0.	0.	0.	5.	15.	22.	27.	28.	27.	22.	15.	11.	0.	0.	0.	0.	172.	54.	65.	4[illegible].	48.
NORTH	0.	0.	0.	0.	5.	15.	22.	27.	28.	27.	22.	15.	5.	0.	0.	0.	0.	166.	53.	65.	4[illegible].	48.
NORTHEAST	0.	0.	0.	0.	11.	15.	22.	27.	28.	27.	22.	15.	5.	0.	0.	0.	0.	172.	54.	65.	4[illegible].	48.
EAST	0.	0.	0.	0.	37.	74.	73.	55.	28.	27.	22.	15.	5.	0.	0.	0.	0.	336.	67.	90.	4[illegible].	58.
SOUTHEAST	0.	0.	0.	0.	45.	104.	121.	119.	104.	79.	50.	19.	5.	0.	0.	0.	0.	646.	93.	137.	5[illegible].	76.
HORIZ.	0.	0.	0.	0.	12.	44.	70.	87.	93.	87.	70.	44.	12.	0.	0.	0.	0.	518.	83.	118.	5[illegible].	68.

LOCATION SEABROOK, NEW JERSEY LATITUDE 39 DEGREES 30 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	110.	108.	107.	105.	110.	116.	126.	134.	144.	142.	124.	109.	120.
SOUTHWEST	95.	97.	103.	109.	120.	128.	137.	139.	139.	128.	108.	93.	116.
WEST	71.	78.	91.	106.	122.	133.	139.	136.	124.	105.	81.	67.	105.
NORTHWEST	56.	61.	75.	93.	111.	123.	128.	120.	104.	85.	65.	54.	90.
NORTH	55.	57.	68.	82.	99.	110.	114.	107.	95.	82.	64.	53.	82.
NORTHEAST	56.	61.	75.	93.	111.	123.	128.	120.	104.	85.	65.	54.	90.
EAST	71.	78.	91.	106.	122.	133.	139.	136.	124.	105.	81.	67.	105.
SOUTHEAST	95.	97.	103.	109.	120.	128.	137.	139.	139.	128.	108.	93.	116.
HORIZ.	89.	103.	124.	145.	169.	183.	189.	180.	163.	133.	100.	83.	138.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	168.	165.	159.	145.	145.	149.	162.	177.	201.	208.	186.	166.	169.
SOUTHWEST	140.	145.	151.	154.	161.	169.	180.	187.	192.	183.	156.	137.	163.
WEST	97.	111.	130.	148.	166.	178.	185.	180.	166.	141.	108.	90.	142.
NORTHWEST	69.	80.	100.	125.	147.	161.	165.	153.	131.	105.	79.	65.	115.
NORTH	68.	74.	87.	104.	124.	138.	140.	130.	115.	98.	77.	65.	102.
NORTHEAST	69.	80.	100.	125.	147.	161.	165.	153.	131.	105.	79.	65.	115.
EAST	97.	111.	130.	148.	166.	178.	185.	180.	166.	141.	108.	90.	142.
SOUTHEAST	140.	145.	151.	154.	161.	169.	180.	187.	192.	183.	156.	137.	163.
HORIZ.	129.	156.	190.	218.	249.	266.	273.	259.	235.	192.	142.	118.	202.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	64.	67.	73.	77.	86.	95.	101.	104.	106.	94.	79.	65.	84.
SOUTHWEST	58.	62.	71.	80.	92.	102.	108.	107.	103.	88.	72.	59.	83.
WEST	49.	54.	65.	78.	93.	105.	109.	105.	96.	78.	61.	49.	79.
NORTHWEST	42.	46.	57.	71.	87.	99.	102.	97.	86.	69.	55.	44.	71.
NORTH	42.	44.	53.	65.	79.	91.	94.	90.	81.	67.	54.	44.	67.
NORTHEAST	42.	46.	57.	71.	87.	99.	102.	97.	86.	69.	55.	44.	71.
EAST	49.	54.	65.	78.	93.	105.	109.	105.	96.	78.	61.	49.	79.
SOUTHEAST	58.	62.	71.	80.	92.	102.	108.	107.	103.	88.	72.	59.	83.
HORIZ.	56.	65.	82.	100.	122.	136.	139.	130.	115.	90.	69.	55.	96.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	88.	93.	99.	100.	107.	115.	123.	128.	134.	124.	104.	87.	108.
SOUTHWEST	77.	84.	95.	104.	117.	127.	134.	134.	130.	113.	91.	76.	107.
WEST	59.	68.	85.	101.	120.	133.	137.	130.	117.	94.	72.	58.	98.
NORTHWEST	48.	55.	70.	88.	108.	122.	124.	115.	99.	78.	60.	48.	85.
NORTH	47.	52.	63.	77.	95.	108.	110.	102.	91.	75.	60.	48.	77.
NORTHEAST	48.	55.	70.	88.	108.	122.	124.	115.	99.	78.	60.	48.	85.
EAST	59.	68.	85.	101.	120.	133.	137.	130.	117.	94.	72.	58.	98.
SOUTHEAST	77.	84.	95.	104.	117.	127.	134.	134.	130.	113.	91.	76.	107.
HORIZ.	72.	89.	115.	140.	169.	187.	190.	174.	151.	117.	86.	68.	130.

LOCATION SEATTLE, WASHINGTON LATITUDE 47 DEGREES 26 MINUTES

MONTH 1 HO 1019. TOD 42. TOT 39. KT .296 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	ALL DAY SAT S	ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	10.	42.	62.	74.	78.	74.	62.	42.	10.	0.	0.	0.	0.	452.	81.	113.	5 .	65.
SOUTHWEST	0.	0.	0.	0.	3.	12.	30.	48.	61.	68.	67.	53.	14.	0.	0.	0.	0.	357.	73.	98.	5 .	60.
WEST	0.	0.	0.	0.	3.	11.	16.	20.	21.	35.	42.	39.	12.	0.	0.	0.	0.	200.	59.	73.	4 .	51.
NORTHWEST	0.	0.	0.	0.	3.	11.	16.	20.	21.	20.	16.	11.	5.	0.	0.	0.	0.	124.	53.	62.	4 .	46.
NORTH	0.	0.	0.	0.	3.	11.	16.	20.	21.	20.	16.	11.	3.	0.	0.	0.	0.	122.	53.	61.	4 .	46.
NORTHEAST	0.	0.	0.	0.	5.	11.	16.	20.	21.	20.	16.	11.	3.	0.	0.	0.	0.	124.	53.	62.	4 .	46.
EAST	0.	0.	0.	0.	12.	39.	42.	35.	21.	20.	16.	11.	3.	0.	0.	0.	0.	200.	59.	73.	4 .	51.
SOUTHEAST	0.	0.	0.	0.	14.	53.	67.	68.	61.	48.	30.	12.	3.	0.	0.	0.	0.	357.	73.	98.	5 .	60.
HORIZ.	0.	0.	0.	0.	6.	25.	41.	51.	55.	51.	41.	25.	6.	0.	0.	0.	0.	302.	68.	90.	4 .	57.

MONTH 2 HO 1614. TOD 45. TOT 42. KT .355 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	3.	38.	66.	87.	100.	105.	100.	87.	66.	38.	3.	0.	0.	0.	695.	96.	138.	65.	83.
SOUTHWEST	0.	0.	0.	2.	11.	19.	40.	64.	83.	95.	98.	89.	63.	4.	0.	0.	0.	570.	87.	121.	61.	76.
WEST	0.	0.	0.	2.	11.	19.	25.	29.	31.	51.	66.	71.	58.	4.	0.	0.	0.	368.	72.	94.	54.	64.
NORTHWEST	0.	0.	0.	2.	11.	19.	25.	29.	31.	29.	25.	22.	25.	3.	0.	0.	0.	222.	61.	75.	50.	55.
NORTH	0.	0.	0.	2.	11.	19.	25.	29.	31.	29.	25.	19.	11.	2.	0.	0.	0.	204.	60.	72.	49.	54.
NORTHEAST	0.	0.	0.	3.	25.	22.	25.	29.	31.	29.	25.	19.	11.	2.	0.	0.	0.	222.	61.	75.	50.	55.
EAST	0.	0.	0.	4.	58.	71.	66.	51.	31.	29.	25.	19.	11.	2.	0.	0.	0.	368.	72.	94.	54.	64.
SOUTHEAST	0.	0.	0.	4.	63.	89.	98.	95.	83.	64.	40.	19.	11.	2.	0.	0.	0.	570.	87.	121.	61.	76.
HORIZ.	0.	0.	0.	3.	27.	53.	73.	86.	90.	86.	73.	53.	27.	3.	0.	0.	0.	573.	87.	122.	61.	76.

MONTH 3 HO 2320. TOD 49. TOT 46. KT .456 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	23.	59.	92.	118.	134.	140.	134.	118.	92.	59.	23.	0.	0.	0.	993.	112.	164.	78.	104.
SOUTHWEST	0.	0.	0.	10.	21.	30.	49.	83.	111.	131.	139.	134.	112.	67.	0.	0.	0.	888.	106.	152.	75.	98.
WEST	0.	0.	0.	10.	21.	30.	37.	41.	43.	75.	101.	115.	112.	78.	0.	0.	0.	662.	91.	126.	67.	85.
NORTHWEST	0.	0.	0.	10.	21.	30.	37.	41.	43.	41.	37.	46.	58.	49.	0.	0.	0.	412.	75.	97.	59.	70.
NORTH	0.	0.	0.	10.	21.	30.	37.	41.	43.	41.	37.	30.	21.	10.	0.	0.	0.	320.	69.	86.	56.	65.
NORTHEAST	0.	0.	0.	49.	58.	46.	37.	41.	43.	41.	37.	30.	21.	10.	0.	0.	0.	412.	75.	97.	59.	70.
EAST	0.	0.	0.	78.	112.	115.	101.	75.	43.	41.	37.	30.	21.	10.	0.	0.	0.	662.	91.	126.	67.	85.
SOUTHEAST	0.	0.	0.	67.	112.	134.	139.	131.	111.	83.	49.	30.	21.	10.	0.	0.	0.	888.	106.	152.	75.	98.
HORIZ.	0.	0.	0.	27.	64.	98.	124.	141.	146.	141.	124.	98.	64.	27.	0.	0.	0.	1056.	116.	171.	80.	108.

LOCATION SEATTLE, WASHINGTON LATITUDE 47 DEGREES 26 MINUTES

MONTH 4 HO 3063. TOD 54. TOT 51. KT .510 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	8.	25.	60.	93.	120.	137.	143.	137.	120.	93.	60.	25.	8.	0.	0.	1028.	112.	158.	84.	111.
SOUTHWEST	0.	0.	8.	19.	30.	39.	46.	84.	116.	140.	151.	148.	131.	98.	44.	0.	0.	1055.	113.	161.	85.	112.
WEST	0.	0.	8.	19.	30.	39.	46.	51.	52.	90.	121.	140.	143.	125.	67.	0.	0.	932.	106.	149.	81.	105.
NORTHWEST	0.	0.	8.	19.	30.	39.	46.	51.	52.	51.	47.	72.	89.	90.	55.	0.	0.	652.	91.	120.	72.	89.
NORTH	0.	0.	17.	19.	30.	39.	46.	51.	52.	51.	46.	39.	30.	19.	17.	0.	0.	458.	80.	101.	66.	78.
NORTHEAST	0.	0.	55.	90.	89.	72.	47.	51.	52.	51.	46.	39.	30.	19.	8.	0.	0.	652.	91.	120.	72.	89.
EAST	0.	0.	67.	125.	143.	140.	121.	90.	52.	51.	46.	39.	30.	19.	8.	0.	0.	932.	106.	149.	81.	105.
SOUTHEAST	0.	0.	44.	98.	131.	148.	151.	140.	116.	84.	46.	39.	30.	19.	8.	0.	0.	1055.	113.	161.	85.	112.
HORIZ.	0.	0.	21.	62.	104.	141.	169.	187.	193.	187.	169.	141.	104.	62.	21.	0.	0.	1562.	141.	213.	101.	142.

MONTH 5 HO 3570. TOD 60. TOT 56. KT .538 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	4.	14.	25.	52.	85.	111.	128.	134.	128.	111.	85.	52.	25.	14.	4.	0.	977.	113.	153.	90.	116.
SOUTHWEST	0.	4.	14.	25.	36.	44.	51.	78.	112.	136.	149.	148.	133.	105.	63.	13.	0.	1112.	120.	166.	95.	124.
WEST	0.	4.	14.	25.	36.	44.	51.	55.	57.	96.	129.	150.	157.	145.	106.	26.	0.	1097.	119.	165.	94.	123.
NORTHWEST	0.	4.	14.	25.	36.	44.	51.	55.	57.	55.	63.	90.	110.	115.	95.	27.	0.	844.	106.	141.	85.	108.
NORTH	0.	14.	37.	33.	36.	44.	51.	55.	57.	55.	51.	44.	36.	33.	37.	14.	0.	599.	92.	117.	77.	93.
NORTHEAST	0.	27.	95.	115.	110.	90.	63.	55.	57.	55.	51.	44.	36.	25.	14.	4.	0.	844.	106.	141.	85.	108.
EAST	0.	26.	106.	145.	157.	150.	129.	96.	57.	55.	51.	44.	36.	25.	14.	4.	0.	1097.	119.	165.	94.	123.
SOUTHEAST	0.	13.	63.	105.	133.	148.	149.	136.	112.	78.	51.	44.	36.	25.	14.	4.	0.	1112.	120.	166.	95.	124.
HORIZ.	0.	9.	45.	88.	130.	167.	196.	214.	220.	214.	196.	167.	130.	88.	45.	9.	0.	1921.	164.	244.	122.	173.

MONTH 6 HO 3761. TOD 64. TOT 61. KT .508 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	7.	17.	27.	46.	76.	99.	114.	120.	114.	99.	76.	46.	27.	17.	7.	0.	893.	111.	147.	92.	115.
SOUTHWEST	0.	7.	17.	27.	37.	46.	52.	72.	102.	123.	134.	133.	120.	95.	60.	20.	0.	1044.	119.	160.	97.	124.
WEST	0.	7.	17.	27.	37.	46.	52.	56.	58.	92.	120.	139.	145.	135.	104.	43.	0.	1078.	121.	164.	98.	126.
NORTHWEST	0.	7.	17.	27.	37.	46.	52.	56.	58.	56.	67.	90.	107.	111.	96.	45.	0.	873.	110.	145.	91.	114.
NORTH	0.	25.	42.	39.	37.	46.	52.	56.	58.	56.	52.	46.	37.	39.	42.	25.	0.	652.	98.	124.	84.	101.
NORTHEAST	0.	45.	96.	111.	107.	90.	67.	56.	58.	56.	52.	46.	37.	27.	17.	7.	0.	873.	110.	145.	91.	114.
EAST	0.	43.	104.	135.	145.	139.	120.	92.	58.	56.	52.	46.	37.	27.	17.	7.	0.	1078.	121.	164.	98.	126.
SOUTHEAST	0.	20.	60.	95.	120.	133.	134.	123.	102.	72.	52.	46.	37.	27.	17.	7.	0.	1044.	119.	160.	97.	124.
HORIZ.	0.	16.	51.	91.	130.	164.	190.	207.	212.	207.	190.	164.	130.	91.	51.	16.	0.	1910.	164.	240.	127.	177.

LOCATION SEATTLE, WASHINGTON LATITUDE 47 DEGREES 26 MINUTES

MONTH 7 HO 3570. TOD 68. TOT 65. KT .581 KD .177

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	4.	14.	25.	54.	90.	120.	139.	145.	139.	120.	90.	54.	25.	14.	4.	0.	1040.	125.	168.	101.	128.
SOUTHWEST	0.	4.	14.	25.	36.	45.	52.	82.	119.	147.	162.	162.	146.	114.	68.	14.	0.	1191.	133.	182.	106.	137.
WEST	0.	4.	14.	25.	36.	45.	52.	56.	58.	103.	140.	165.	173.	160.	116.	28.	0.	1175.	132.	181.	105.	136.
NORTHWEST	0.	4.	14.	25.	36.	45.	52.	56.	58.	56.	66.	97.	120.	127.	105.	29.	0.	890.	116.	153.	96.	119.
NORTH	0.	15.	40.	34.	36.	45.	52.	56.	58.	56.	52.	45.	36.	34.	40.	15.	0.	613.	102.	127.	86.	102.
NORTHEAST	0.	29.	105.	127.	120.	97.	66.	56.	58.	56.	52.	45.	36.	25.	14.	4.	0.	890.	116.	153.	96.	119.
EAST	0.	28.	116.	160.	173.	165.	140.	103.	58.	56.	52.	45.	36.	25.	14.	4.	0.	1175.	132.	181.	105.	136.
SOUTHEAST	0.	14.	68.	114.	146.	162.	162.	147.	119.	82.	52.	45.	36.	25.	14.	4.	0.	1191.	133.	182.	106.	137.
HORIZ.	0.	10.	47.	94.	141.	181.	212.	232.	239.	232.	212.	181.	141.	94.	47.	10.	0.	2074.	180.	266.	136.	191.

MONTH 8 HO 3043. TOD 68. TOT 65. KT .533 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	8.	24.	61.	97.	125.	144.	150.	144.	125.	97.	61.	24.	8.	0.	0.	1069.	132.	180.	101.	129.
SOUTHWEST	0.	0.	8.	19.	30.	39.	46.	87.	121.	146.	159.	156.	137.	100.	43.	0.	0.	1093.	133.	183.	102.	131.
WEST	0.	0.	8.	19.	30.	39.	46.	51.	53.	93.	126.	147.	150.	129.	65.	0.	0.	958.	125.	169.	97.	123.
NORTHWEST	0.	0.	8.	19.	30.	39.	46.	51.	53.	51.	47.	75.	93.	93.	54.	0.	0.	660.	107.	137.	87.	105.
NORTH	0.	0.	16.	19.	30.	39.	46.	51.	53.	51.	46.	39.	30.	19.	16.	0.	0.	457.	95.	116.	80.	92.
NORTHEAST	0.	0.	54.	93.	93.	75.	47.	51.	53.	51.	46.	39.	30.	19.	8.	0.	0.	660.	107.	137.	87.	105.
EAST	0.	0.	65.	129.	150.	147.	126.	93.	53.	51.	46.	39.	30.	19.	8.	0.	0.	958.	125.	169.	97.	123.
SOUTHEAST	0.	0.	43.	100.	137.	156.	159.	146.	121.	87.	46.	39.	30.	19.	8.	0.	0.	1093.	133.	183.	102.	131.
HORIZ.	0.	0.	21.	63.	107.	146.	176.	195.	202.	195.	176.	146.	107.	63.	21.	0.	0.	1622.	164.	238.	120.	163.

MONTH 9 HO 2313. TOD 63. TOT 60. KT .492 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	24.	63.	99.	128.	147.	153.	147.	128.	99.	63.	24.	0.	0.	0.	1076.	136.	192.	97.	125.
SOUTHWEST	0.	0.	0.	10.	21.	31.	51.	89.	121.	143.	152.	146.	122.	70.	0.	0.	0.	958.	128.	178.	93.	118.
WEST	0.	0.	0.	10.	21.	31.	38.	42.	44.	81.	110.	125.	121.	81.	0.	0.	0.	706.	111.	148.	84.	102.
NORTHWEST	0.	0.	0.	10.	21.	31.	38.	42.	44.	42.	38.	49.	62.	51.	0.	0.	0.	430.	92.	115.	75.	86.
NORTH	0.	0.	0.	10.	21.	31.	38.	42.	44.	42.	38.	31.	21.	10.	0.	0.	0.	330.	86.	103.	71.	80.
NORTHEAST	0.	0.	0.	51.	62.	49.	38.	42.	44.	42.	38.	31.	21.	10.	0.	0.	0.	430.	92.	115.	75.	86.
EAST	0.	0.	0.	81.	121.	125.	110.	81.	44.	42.	38.	31.	21.	10.	0.	0.	0.	706.	111.	148.	84.	102.
SOUTHEAST	0.	0.	0.	70.	122.	146.	152.	143.	121.	89.	51.	31.	21.	10.	0.	0.	0.	958.	128.	178.	93.	118.
HORIZ.	0.	0.	1.	29.	69.	105.	134.	152.	158.	152.	134.	105.	69.	29.	1.	0.	0.	1137.	140.	200.	99.	128.

LOCATION SEATTLE, WASHINGTON LATITUDE 47 DEGREES 26 MINUTES

MONTH 10 HO 1582. TOD 56. TOT 53. KT .407 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	2.	44.	80.	106.	122.	128.	122.	106.	80.	44.	2.	0.	0.	0.	836.	118.	169.	80.	102.
SOUTHWEST	0.	0.	0.	2.	11.	19.	46.	75.	100.	115.	120.	109.	74.	3.	0.	0.	0.	674.	106.	147.	74.	92.
WEST	0.	0.	0.	2.	11.	19.	26.	30.	32.	59.	78.	85.	68.	3.	0.	0.	0.	414.	87.	112.	66.	77.
NORTHWEST	0.	0.	0.	2.	11.	19.	26.	30.	32.	30.	26.	23.	28.	2.	0.	0.	0.	231.	73.	87.	60.	66.
NORTH	0.	0.	0.	2.	11.	19.	26.	30.	32.	30.	26.	19.	11.	2.	0.	0.	0.	209.	72.	84.	60.	65.
NORTHEAST	0.	0.	0.	2.	28.	23.	26.	30.	32.	30.	26.	19.	11.	2.	0.	0.	0.	231.	73.	87.	60.	66.
EAST	0.	0.	0.	3.	68.	85.	78.	59.	32.	30.	26.	19.	11.	2.	0.	0.	0.	414.	87.	112.	66.	77.
SOUTHEAST	0.	0.	0.	3.	74.	109.	120.	115.	100.	75.	46.	19.	11.	2.	0.	0.	0.	674.	106.	147.	74.	92.
HORIZ.	0.	0.	0.	3.	29.	59.	82.	97.	103.	97.	82.	59.	29.	3.	0.	0.	0.	643.	104.	143.	73.	90.

MONTH 11 HO 1009. TOD 48. TOT 45. KT .336 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	11.	52.	77.	92.	97.	92.	77.	52.	11.	0.	0.	0.	0.	561.	97.	137.	63.	78.
SOUTHWEST	0.	0.	0.	0.	3.	13.	35.	58.	75.	85.	84.	66.	16.	0.	0.	0.	0.	435.	86.	117.	59.	71.
WEST	0.	0.	0.	0.	3.	11.	17.	21.	22.	40.	51.	48.	14.	0.	0.	0.	0.	227.	68.	84.	53.	59.
NORTHWEST	0.	0.	0.	0.	3.	11.	17.	21.	22.	21.	17.	11.	5.	0.	0.	0.	0.	128.	59.	68.	49.	53.
NORTH	0.	0.	0.	0.	3.	11.	17.	21.	22.	21.	17.	11.	3.	0.	0.	0.	0.	125.	59.	68.	49.	53.
NORTHEAST	0.	0.	0.	0.	5.	11.	17.	21.	22.	21.	17.	11.	3.	0.	0.	0.	0.	128.	59.	68.	49.	53.
EAST	0.	0.	0.	0.	14.	48.	51.	40.	22.	21.	17.	11.	3.	0.	0.	0.	0.	227.	68.	84.	53.	59.
SOUTHEAST	0.	0.	0.	0.	16.	66.	84.	85.	75.	58.	35.	13.	3.	0.	0.	0.	0.	435.	86.	117.	59.	71.
HORIZ.	0.	0.	0.	0.	6.	27.	46.	58.	63.	58.	46.	27.	6.	0.	0.	0.	0.	340.	78.	102.	56.	65.

MONTH 12 HO 804. TOD 44. TOT 42. KT .292 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	1.	34.	58.	71.	75.	71.	58.	34.	1.	0.	0.	0.	0.	401.	82.	112.	55.	65.
SOUTHWEST	0.	0.	0.	0.	1.	10.	28.	45.	58.	65.	61.	42.	1.	0.	0.	0.	0.	311.	73.	97.	52.	60.
WEST	0.	0.	0.	0.	1.	8.	13.	17.	18.	31.	37.	30.	1.	0.	0.	0.	0.	155.	59.	71.	47.	51.
NORTHWEST	0.	0.	0.	0.	1.	8.	13.	17.	18.	17.	13.	8.	1.	0.	0.	0.	0.	95.	53.	61.	45.	47.
NORTH	0.	0.	0.	0.	1.	8.	13.	17.	18.	17.	13.	8.	1.	0.	0.	0.	0.	95.	53.	61.	45.	47.
NORTHEAST	0.	0.	0.	0.	1.	8.	13.	17.	18.	17.	13.	8.	1.	0.	0.	0.	0.	95.	53.	61.	45.	47.
EAST	0.	0.	0.	0.	1.	30.	37.	31.	18.	17.	13.	8.	1.	0.	0.	0.	0.	155.	59.	71.	47.	51.
SOUTHEAST	0.	0.	0.	0.	1.	42.	61.	65.	58.	45.	28.	10.	1.	0.	0.	0.	0.	311.	73.	97.	52.	60.
HORIZ.	0.	0.	0.	0.	1.	17.	33.	43.	46.	43.	33.	17.	1.	0.	0.	0.	0.	234.	66.	84.	49.	55.

LOCATION SEATTLE, WASHINGTON LATITUDE 47 DEGREES 26 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	81.	96.	112.	112.	113.	111.	125.	132.	136.	118.	97.	82.	110.
SOUTHWEST	73.	87.	106.	113.	120.	119.	133.	133.	128.	106.	86.	73.	106.
WEST	59.	72.	91.	106.	119.	121.	132.	125.	111.	87.	68.	59.	96.
NORTHWEST	53.	61.	75.	91.	106.	110.	116.	107.	92.	73.	59.	53.	83.
NORTH	53.	60.	69.	80.	92.	98.	102.	95.	86.	72.	59.	53.	77.
NORTHEAST	53.	61.	75.	91.	106.	110.	116.	107.	92.	73.	59.	53.	83.
EAST	59.	72.	91.	106.	119.	121.	132.	125.	111.	87.	68.	59.	96.
SOUTHEAST	73.	87.	106.	113.	120.	119.	133.	133.	128.	106.	86.	73.	106.
HORIZ.	68.	87.	116.	141.	164.	164.	180.	164.	140.	104.	78.	66.	123.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	113.	138.	164.	158.	153.	147.	168.	180.	192.	169.	137.	112.	153.
SOUTHWEST	98.	121.	152.	161.	166.	160.	182.	183.	178.	147.	117.	97.	147.
WEST	73.	94.	126.	149.	165.	164.	181.	169.	148.	112.	84.	71.	128.
NORTHWEST	62.	75.	97.	120.	141.	145.	153.	137.	115.	87.	68.	61.	105.
NORTH	61.	72.	86.	101.	117.	124.	127.	116.	103.	84.	68.	61.	93.
NORTHEAST	62.	75.	97.	120.	141.	145.	153.	137.	115.	87.	68.	61.	105.
EAST	73.	94.	126.	149.	165.	164.	181.	169.	148.	112.	84.	71.	128.
SOUTHEAST	98.	121.	152.	161.	166.	160.	182.	183.	178.	147.	117.	97.	147.
HORIZ.	90.	122.	171.	213.	244.	240.	266.	238.	200.	143.	102.	84.	176.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	53.	65.	78.	84.	90.	92.	101.	101.	97.	80.	63.	55.	80.
SOUTHWEST	50.	61.	75.	85.	95.	97.	106.	102.	93.	74.	59.	52.	79.
WEST	45.	54.	67.	81.	94.	98.	105.	97.	84.	66.	53.	47.	74.
NORTHWEST	43.	50.	59.	72.	85.	91.	96.	87.	75.	60.	49.	45.	68.
NORTH	43.	49.	56.	66.	77.	84.	86.	80.	71.	60.	49.	45.	64.
NORTHEAST	43.	50.	59.	72.	85.	91.	96.	87.	75.	60.	49.	45.	68.
EAST	45.	54.	67.	81.	94.	98.	105.	97.	84.	66.	53.	47.	74.
SOUTHEAST	50.	61.	75.	85.	95.	97.	106.	102.	93.	74.	59.	52.	79.
HORIZ.	49.	61.	80.	101.	122.	127.	136.	120.	99.	73.	56.	49.	89.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	65.	83.	104.	111.	116.	115.	128.	129.	125.	102.	78.	65.	102.
SOUTHWEST	60.	76.	98.	112.	124.	124.	137.	131.	118.	92.	71.	60.	100.
WEST	51.	64.	85.	105.	123.	126.	136.	123.	102.	77.	59.	51.	92.
NORTHWEST	46.	55.	70.	89.	108.	114.	119.	105.	86.	66.	53.	47.	80.
NORTH	46.	54.	65.	78.	93.	101.	102.	92.	80.	65.	53.	47.	73.
NORTHEAST	46.	55.	70.	89.	108.	114.	119.	105.	86.	66.	53.	47.	80.
EAST	51.	64.	85.	105.	123.	126.	136.	123.	102.	77.	59.	51.	92.
SOUTHEAST	60.	76.	98.	112.	124.	124.	137.	131.	118.	92.	71.	60.	100.
HORIZ.	57.	76.	108.	142.	173.	177.	191.	163.	128.	90.	65.	55.	119.

LOCATION SEATTLE, WASHINGTON LATITUDE 47 DEGREES 36 MINUTES

MONTH 1 HO 1011. TOD 39. TOT 37. KT .266 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	8.	33.	50.	59.	62.	59.	50.	33.	8.	0.	0.	0.	0.	363.	70.	96.	49.	58.
SOUTHWEST	0.	0.	0.	0.	3.	12.	26.	40.	50.	55.	53.	42.	11.	0.	0.	0.	0.	292.	64.	85.	47.	54.
WEST	0.	0.	0.	0.	3.	10.	16.	19.	20.	30.	35.	32.	10.	0.	0.	0.	0.	176.	54.	67.	43.	47.
NORTHWEST	0.	0.	0.	0.	3.	10.	16.	19.	20.	19.	16.	10.	5.	0.	0.	0.	0.	119.	49.	58.	41.	44.
NORTH	0.	0.	0.	0.	3.	10.	16.	19.	20.	19.	16.	10.	3.	0.	0.	0.	0.	118.	49.	57.	41.	44.
NORTHEAST	0.	0.	0.	0.	5.	10.	16.	19.	20.	19.	16.	10.	3.	0.	0.	0.	0.	119.	49.	58.	41.	44.
EAST	0.	0.	0.	0.	10.	32.	35.	30.	20.	19.	16.	10.	3.	0.	0.	0.	0.	176.	54.	67.	43.	47.
SOUTHEAST	0.	0.	0.	0.	11.	42.	53.	55.	50.	40.	26.	12.	3.	0.	0.	0.	0.	292.	64.	85.	47.	54.
HORIZ.	0.	0.	0.	0.	6.	22.	37.	46.	49.	46.	37.	22.	6.	0.	0.	0.	0.	270.	62.	81.	46.	53.

MONTH 2 HO 1606. TOD 43. TOT 41. KT .324 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	2.	33.	58.	76.	87.	91.	87.	76.	58.	33.	2.	0.	0.	0.	604.	87.	124.	60.	76.
SOUTHWEST	0.	0.	0.	2.	11.	18.	37.	57.	73.	83.	85.	77.	54.	4.	0.	0.	0.	500.	80.	110.	57.	70.
WEST	0.	0.	0.	2.	11.	18.	24.	28.	30.	47.	58.	61.	50.	4.	0.	0.	0.	333.	67.	87.	52.	60.
NORTHWEST	0.	0.	0.	2.	11.	18.	24.	28.	30.	28.	24.	21.	22.	3.	0.	0.	0.	212.	59.	71.	48.	53.
NORTH	0.	0.	0.	2.	11.	18.	24.	28.	30.	28.	24.	18.	11.	2.	0.	0.	0.	197.	57.	69.	47.	52.
NORTHEAST	0.	0.	0.	3.	22.	21.	24.	28.	30.	28.	24.	18.	11.	2.	0.	0.	0.	212.	59.	71.	48.	53.
EAST	0.	0.	0.	4.	50.	61.	58.	47.	30.	28.	24.	18.	11.	2.	0.	0.	0.	333.	67.	87.	52.	60.
SOUTHEAST	0.	0.	0.	4.	54.	77.	85.	83.	73.	57.	37.	18.	11.	2.	0.	0.	0.	500.	80.	110.	57.	70.
HORIZ.	0.	0.	0.	3.	25.	48.	66.	77.	81.	77.	66.	48.	25.	3.	0.	0.	0.	520.	81.	113.	58.	71.

MONTH 3 HO 2313. TOD 47. TOT 44. KT .423 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	21.	54.	84.	107.	122.	127.	122.	107.	84.	54.	21.	0.	0.	0.	906.	105.	152.	74.	97.
SOUTHWEST	0.	0.	0.	10.	20.	29.	46.	77.	102.	119.	126.	121.	101.	60.	0.	0.	0.	812.	99.	141.	71.	92.
WEST	0.	0.	0.	10.	20.	29.	36.	40.	41.	70.	92.	104.	101.	69.	0.	0.	0.	612.	86.	118.	64.	80.
NORTHWEST	0.	0.	0.	10.	20.	29.	36.	40.	41.	40.	36.	43.	53.	44.	0.	0.	0.	391.	72.	92.	57.	67.
NORTH	0.	0.	0.	10.	20.	29.	36.	40.	41.	40.	36.	29.	20.	10.	0.	0.	0.	310.	67.	83.	54.	63.
NORTHEAST	0.	0.	0.	44.	53.	43.	36.	40.	41.	40.	36.	29.	20.	10.	0.	0.	0.	391.	72.	92.	57.	67.
EAST	0.	0.	0.	69.	101.	104.	92.	70.	41.	40.	36.	29.	20.	10.	0.	0.	0.	612.	86.	118.	64.	80.
SOUTHEAST	0.	0.	0.	60.	101.	121.	126.	119.	102.	77.	46.	29.	20.	10.	0.	0.	0.	812.	99.	141.	71.	92.
HORIZ.	0.	0.	0.	26.	60.	91.	115.	130.	135.	130.	115.	91.	60.	26.	0.	0.	0.	977.	109.	160.	76.	101.

LOCATION SEATTLE, WASHINGTON LATITUDE 47 DEGREES 36 MINUTES

MONTH 4 HO 3059. TOD 52. TOT 49. KT .468 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	8.	24.	55.	85.	109.	124.	130.	124.	109.	85.	55.	24.	8.	0.	0.	941.	104.	147.	79.	104.
SOUTHWEST	0.	0.	8.	19.	29.	38.	45.	78.	107.	127.	136.	133.	117.	87.	39.	0.	0.	964.	106.	150.	80.	105.
WEST	0.	0.	8.	19.	29.	38.	45.	49.	51.	83.	109.	126.	128.	111.	59.	0.	0.	856.	100.	139.	77.	99.
NORTHWEST	0.	0.	8.	19.	29.	38.	45.	49.	51.	49.	45.	67.	81.	81.	49.	0.	0.	611.	86.	114.	69.	85.
NORTH	0.	0.	16.	19.	29.	38.	45.	49.	51.	49.	45.	38.	29.	19.	16.	0.	0.	442.	77.	97.	63.	75.
NORTHEAST	0.	0.	49.	81.	81.	67.	45.	49.	51.	49.	45.	38.	29.	19.	8.	0.	0.	611.	86.	114.	69.	85.
EAST	0.	0.	59.	111.	128.	126.	109.	83.	51.	49.	45.	38.	29.	19.	8.	0.	0.	856.	100.	139.	77.	99.
SOUTHEAST	0.	0.	39.	87.	117.	133.	136.	127.	107.	78.	45.	38.	29.	19.	8.	0.	0.	964.	106.	150.	80.	105.
HORIZ.	0.	0.	20.	58.	96.	129.	155.	171.	176.	171.	155.	129.	96.	58.	20.	0.	0.	1432.	132.	197.	95.	132.

MONTH 5 HO 3568. TOD 58. TOT 55. KT .477 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	5.	14.	25.	48.	76.	99.	114.	119.	114.	99.	76.	48.	25.	14.	5.	0.	881.	106.	142.	85.	108.
SOUTHWEST	0.	5.	14.	25.	35.	43.	50.	72.	100.	120.	129.	128.	115.	90.	54.	12.	0.	990.	112.	153.	89.	115.
WEST	0.	5.	14.	25.	35.	43.	50.	54.	55.	87.	113.	129.	134.	122.	89.	23.	0.	977.	111.	152.	89.	114.
NORTHWEST	0.	5.	14.	25.	35.	43.	50.	54.	55.	54.	59.	80.	95.	98.	81.	24.	0.	770.	100.	132.	81.	102.
NORTH	0.	13.	33.	31.	35.	43.	50.	54.	55.	54.	50.	43.	35.	31.	33.	13.	0.	570.	89.	113.	75.	90.
NORTHEAST	0.	24.	81.	98.	95.	80.	59.	54.	55.	54.	50.	43.	35.	25.	14.	5.	0.	770.	100.	132.	81.	102.
EAST	0.	23.	89.	122.	134.	129.	113.	87.	55.	54.	50.	43.	35.	25.	14.	5.	0.	977.	111.	152.	89.	114.
SOUTHEAST	0.	12.	54.	90.	115.	128.	129.	120.	100.	72.	50.	43.	35.	25.	14.	5.	0.	990.	112.	153.	89.	115.
HORIZ.	0.	9.	41.	79.	116.	148.	173.	189.	194.	189.	173.	148.	116.	79.	41.	9.	0.	1703.	150.	221.	113.	158.

MONTH 6 HO 3760. TOD 63. TOT 60. KT .459 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	7.	16.	26.	44.	70.	90.	104.	108.	104.	90.	70.	44.	26.	16.	7.	0.	823.	106.	138.	88.	110.
SOUTHWEST	0.	7.	16.	26.	36.	44.	50.	68.	93.	111.	120.	118.	106.	84.	53.	18.	0.	950.	112.	150.	92.	117.
WEST	0.	7.	16.	26.	36.	44.	50.	54.	55.	85.	108.	123.	127.	118.	90.	38.	0.	978.	114.	153.	93.	119.
NORTHWEST	0.	7.	16.	26.	36.	44.	50.	54.	55.	54.	63.	82.	95.	98.	84.	40.	0.	804.	105.	137.	87.	108.
NORTH	0.	22.	38.	36.	36.	44.	50.	54.	55.	54.	50.	44.	36.	36.	38.	22.	0.	615.	95.	119.	81.	97.
NORTHEAST	0.	40.	84.	98.	95.	82.	63.	54.	55.	54.	50.	44.	36.	26.	16.	7.	0.	804.	105.	137.	87.	108.
EAST	0.	38.	90.	118.	127.	123.	108.	85.	55.	54.	50.	44.	36.	26.	16.	7.	0.	978.	114.	153.	93.	119.
SOUTHEAST	0.	18.	53.	84.	106.	118.	120.	111.	93.	68.	50.	44.	36.	26.	16.	7.	0.	950.	112.	150.	92.	117.
HORIZ.	0.	15.	47.	83.	118.	148.	171.	186.	191.	186.	171.	148.	118.	83.	47.	15.	0.	1726.	153.	221.	119.	164.

LOCATION SEATTLE, WASHINGTON LATITUDE 47 DEGREES 36 MINUTES

MONTH 7 HO 3569. TOD 67. TOT 64. KT .498 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	5.	15.	25.	50.	79.	103.	118.	124.	118.	103.	79.	50.	25.	15.	5.	0.	912.	116.	154.	95.	119.
SOUTHWEST	0.	5.	15.	25.	35.	44.	50.	74.	104.	125.	135.	134.	120.	94.	56.	12.	0.	1028.	123.	165.	99.	126.
WEST	0.	5.	15.	25.	35.	44.	50.	55.	56.	90.	118.	136.	141.	128.	93.	24.	0.	1014.	122.	164.	99.	125.
NORTHWEST	0.	5.	15.	25.	35.	44.	50.	55.	56.	55.	61.	84.	100.	103.	84.	24.	0.	795.	110.	143.	91.	112.
NORTH	0.	13.	34.	32.	35.	44.	50.	55.	56.	55.	50.	44.	35.	32.	34.	13.	0.	583.	99.	123.	84.	99.
NORTHEAST	0.	24.	84.	103.	100.	84.	61.	55.	56.	55.	50.	44.	35.	25.	15.	5.	0.	795.	110.	143.	91.	112.
EAST	0.	24.	93.	128.	141.	136.	118.	90.	56.	55.	50.	44.	35.	25.	15.	5.	0.	1014.	122.	164.	99.	125.
SOUTHEAST	0.	12.	56.	94.	120.	134.	135.	125.	104.	74.	50.	44.	35.	25.	15.	5.	0.	1028.	123.	165.	99.	126.
HORIZ.	0.	10.	42.	82.	121.	155.	181.	197.	203.	197.	181.	155.	121.	82.	42.	10.	0.	1778.	163.	237.	125.	171.

MONTH 8 HO 3039. TOD 67. TOT 64. KT .511 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	8.	24.	59.	93.	120.	137.	143.	137.	120.	93.	59.	24.	8.	0.	0.	1024.	128.	174.	99.	125.
SOUTHWEST	0.	0.	8.	19.	30.	39.	46.	84.	116.	139.	151.	148.	130.	95.	40.	0.	0.	1045.	129.	176.	99.	127.
WEST	0.	0.	8.	19.	30.	39.	46.	51.	52.	90.	120.	139.	142.	121.	61.	0.	0.	919.	121.	163.	95.	119.
NORTHWEST	0.	0.	8.	19.	30.	39.	46.	51.	52.	51.	47.	72.	88.	88.	51.	0.	0.	641.	105.	134.	86.	102.
NORTH	0.	0.	16.	19.	30.	39.	46.	51.	52.	51.	46.	39.	30.	19.	16.	0.	0.	453.	94.	114.	79.	91.
NORTHEAST	0.	0.	51.	88.	88.	72.	47.	51.	52.	51.	46.	39.	30.	19.	8.	0.	0.	641.	105.	134.	86.	102.
EAST	0.	0.	61.	121.	142.	139.	120.	90.	52.	51.	46.	39.	30.	19.	8.	0.	0.	919.	121.	163.	95.	119.
SOUTHEAST	0.	0.	40.	95.	130.	148.	151.	139.	116.	84.	46.	39.	30.	19.	8.	0.	0.	1045.	129.	176.	99.	127.
HORIZ.	0.	0.	21.	61.	103.	140.	169.	187.	193.	187.	169.	140.	103.	61.	21.	0.	0.	1553.	159.	230.	117.	157.

MONTH 9 HO 2307. TOD 62. TOT 59. KT .459 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	22.	58.	92.	118.	135.	140.	135.	118.	92.	58.	22.	0.	0.	0.	990.	129.	180.	93.	119.
SOUTHWEST	0.	0.	0.	10.	21.	30.	49.	83.	112.	132.	140.	134.	111.	64.	0.	0.	0.	883.	122.	168.	89.	112.
WEST	0.	0.	0.	10.	21.	30.	37.	41.	43.	75.	101.	115.	110.	74.	0.	0.	0.	656.	106.	140.	81.	98.
NORTHWEST	0.	0.	0.	10.	21.	30.	37.	41.	43.	41.	37.	46.	58.	46.	0.	0.	0.	409.	89.	111.	73.	83.
NORTH	0.	0.	0.	10.	21.	30.	37.	41.	43.	41.	37.	30.	21.	10.	0.	0.	0.	319.	83.	100.	70.	78.
NORTHEAST	0.	0.	0.	46.	58.	46.	37.	41.	43.	41.	37.	30.	21.	10.	0.	0.	0.	409.	89.	111.	73.	83.
EAST	0.	0.	0.	74.	110.	115.	101.	75.	43.	41.	37.	30.	21.	10.	0.	0.	0.	656.	106.	140.	81.	98.
SOUTHEAST	0.	0.	0.	64.	111.	134.	140.	132.	112.	83.	49.	30.	21.	10.	0.	0.	0.	883.	122.	168.	89.	112.
HORIZ.	0.	0.	1.	27.	64.	98.	124.	141.	147.	141.	124.	98.	64.	27.	1.	0.	0.	1058.	133.	188.	95.	123.

LOCATION SEATTLE, WASHINGTON LATITUDE 47 DEGREES 36 MINUTES

MONTH 10 HO 1574. TOD 54. TOT 52. KT .372 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	2.	38.	70.	93.	108.	112.	108.	93.	70.	38.	2.	0.	0.	0.	735.	108.	153.	75.	95.
SOUTHWEST	0.	0.	0.	2.	11.	19.	42.	68.	88.	102.	105.	94.	64.	3.	0.	0.	0.	597.	98.	134.	71.	86.
WEST	0.	0.	0.	2.	11.	19.	25.	29.	31.	53.	70.	75.	59.	3.	0.	0.	0.	375.	82.	104.	64.	74.
NORTHWEST	0.	0.	0.	2.	11.	19.	25.	29.	31.	29.	25.	22.	25.	2.	0.	0.	0.	220.	70.	84.	59.	65.
NORTH	0.	0.	0.	2.	11.	19.	25.	29.	31.	29.	25.	19.	11.	2.	0.	0.	0.	202.	69.	81.	58.	63.
NORTHEAST	0.	0.	0.	2.	25.	22.	25.	29.	31.	29.	25.	19.	11.	2.	0.	0.	0.	220.	70.	84.	59.	65.
EAST	0.	0.	0.	3.	59.	75.	70.	53.	31.	29.	25.	19.	11.	2.	0.	0.	0.	375.	82.	104.	64.	74.
SOUTHEAST	0.	0.	0.	3.	64.	94.	105.	102.	88.	68.	42.	19.	11.	2.	0.	0.	0.	597.	98.	134.	71.	86.
HORIZ.	0.	0.	0.	3.	27.	53.	75.	88.	93.	88.	75.	53.	27.	3.	0.	0.	0.	585.	97.	133.	70.	86.

MONTH 11 HO 1001. TOD 46. TOT 44. KT .284 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	8.	38.	57.	68.	72.	68.	57.	38.	8.	0.	0.	0.	0.	412.	81.	111.	57.	68.
SOUTHWEST	0.	0.	0.	0.	3.	12.	28.	44.	57.	63.	61.	48.	11.	0.	0.	0.	0.	327.	74.	97.	54.	63.
WEST	0.	0.	0.	0.	3.	10.	16.	19.	21.	33.	39.	36.	10.	0.	0.	0.	0.	187.	62.	75.	50.	55.
NORTHWEST	0.	0.	0.	0.	3.	10.	16.	19.	21.	19.	16.	10.	5.	0.	0.	0.	0.	120.	56.	65.	48.	51.
NORTH	0.	0.	0.	0.	3.	10.	16.	19.	21.	19.	16.	10.	3.	0.	0.	0.	0.	119.	56.	64.	48.	51.
NORTHEAST	0.	0.	0.	0.	5.	10.	16.	19.	21.	19.	16.	10.	3.	0.	0.	0.	0.	120.	56.	65.	48.	51.
EAST	0.	0.	0.	0.	10.	36.	39.	33.	21.	19.	16.	10.	3.	0.	0.	0.	0.	187.	62.	75.	50.	55.
SOUTHEAST	0.	0.	0.	0.	11.	48.	61.	63.	57.	44.	28.	12.	3.	0.	0.	0.	0.	327.	74.	97.	54.	63.
HORIZ.	0.	0.	0.	0.	6.	23.	39.	49.	52.	49.	39.	23.	6.	0.	0.	0.	0.	285.	70.	91.	53.	60.

MONTH 12 HO 796. TOD 41. TOT 40. KT .269 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	1.	28.	48.	59.	63.	59.	48.	28.	1.	0.	0.	0.	0.	335.	73.	99.	51.	59.
SOUTHWEST	0.	0.	0.	0.	1.	9.	24.	39.	50.	54.	51.	35.	1.	0.	0.	0.	0.	264.	66.	86.	48.	55.
WEST	0.	0.	0.	0.	1.	7.	13.	16.	17.	27.	32.	25.	1.	0.	0.	0.	0.	140.	55.	65.	44.	48.
NORTHWEST	0.	0.	0.	0.	1.	7.	13.	16.	17.	16.	13.	7.	1.	0.	0.	0.	0.	92.	50.	57.	43.	45.
NORTH	0.	0.	0.	0.	1.	7.	13.	16.	17.	16.	13.	7.	1.	0.	0.	0.	0.	92.	50.	57.	43.	45.
NORTHEAST	0.	0.	0.	0.	1.	7.	13.	16.	17.	16.	13.	7.	1.	0.	0.	0.	0.	92.	50.	57.	43.	45.
EAST	0.	0.	0.	0.	1.	25.	32.	27.	17.	16.	13.	7.	1.	0.	0.	0.	0.	140.	55.	65.	44.	48.
SOUTHEAST	0.	0.	0.	0.	1.	35.	51.	54.	50.	39.	24.	9.	1.	0.	0.	0.	0.	264.	66.	86.	48.	55.
HORIZ.	0.	0.	0.	0.	1.	16.	30.	39.	42.	39.	30.	16.	1.	0.	0.	0.	0.	213.	61.	78.	47.	52.

LOCATION SEATTLE, WASHINGTON LATITUDE 47 DEGREES 36 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	70.	87.	105.	104.	106.	106.	116.	128.	129.	108.	81.	73.	101.
SOUTHWEST	64.	80.	99.	106.	112.	112.	123.	129.	122.	98.	74.	66.	99.
WEST	54.	67.	86.	100.	111.	114.	122.	121.	106.	82.	62.	55.	90.
NORTHWEST	49.	59.	72.	86.	100.	105.	110.	105.	89.	70.	56.	50.	79.
NORTH	49.	57.	67.	77.	89.	95.	99.	94.	83.	69.	56.	50.	74.
NORTHEAST	49.	59.	72.	86.	100.	105.	110.	105.	89.	70.	56.	50.	79.
EAST	54.	67.	86.	100.	111.	114.	122.	121.	106.	82.	62.	55.	90.
SOUTHEAST	64.	80.	99.	106.	112.	112.	123.	129.	122.	98.	74.	66.	99.
HORIZ.	62.	81.	109.	132.	150.	153.	163.	159.	133.	97.	70.	61.	114.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	96.	124.	152.	147.	142.	138.	154.	174.	180.	153.	111.	99.	139.
SOUTHWEST	85.	110.	141.	150.	153.	150.	165.	176.	168.	134.	97.	86.	135.
WEST	67.	87.	118.	139.	152.	153.	164.	163.	140.	104.	75.	65.	119.
NORTHWEST	58.	71.	92.	114.	132.	137.	143.	134.	111.	84.	65.	57.	100.
NORTH	57.	69.	83.	97.	113.	119.	123.	114.	100.	81.	64.	57.	90.
NORTHEAST	58.	71.	92.	114.	132.	137.	143.	134.	111.	84.	65.	57.	100.
EAST	67.	87.	118.	139.	152.	153.	164.	163.	140.	104.	75.	65.	119.
SOUTHEAST	85.	110.	141.	150.	153.	150.	165.	176.	168.	134.	97.	86.	135.
HORIZ.	81.	113.	160.	197.	221.	221.	237.	230.	188.	133.	91.	78.	162.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	49.	60.	74.	79.	85.	88.	95.	99.	93.	75.	57.	51.	75.
SOUTHWEST	47.	57.	71.	80.	89.	92.	99.	99.	89.	71.	54.	48.	75.
WEST	43.	52.	64.	77.	89.	93.	99.	95.	81.	64.	50.	44.	71.
NORTHWEST	41.	48.	57.	69.	81.	87.	91.	86.	73.	59.	48.	43.	65.
NORTH	41.	47.	54.	63.	75.	81.	84.	79.	70.	58.	48.	43.	62.
NORTHEAST	41.	48.	57.	69.	81.	87.	91.	86.	73.	59.	48.	43.	65.
EAST	43.	52.	64.	77.	89.	93.	99.	95.	81.	64.	50.	44.	71.
SOUTHEAST	47.	57.	71.	80.	89.	92.	99.	99.	89.	71.	54.	48.	75.
HORIZ.	46.	58.	76.	95.	113.	119.	125.	117.	95.	70.	53.	47.	84.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	58.	76.	97.	104.	108.	110.	119.	125.	119.	95.	68.	59.	95.
SOUTHWEST	54.	70.	92.	105.	115.	117.	126.	127.	112.	86.	63.	55.	94.
WEST	47.	60.	80.	99.	114.	119.	125.	119.	98.	74.	55.	48.	87.
NORTHWEST	44.	53.	67.	85.	102.	108.	112.	102.	83.	65.	51.	45.	76.
NORTH	44.	52.	63.	75.	90.	97.	99.	91.	78.	63.	51.	45.	71.
NORTHEAST	44.	53.	67.	85.	102.	108.	112.	102.	83.	65.	51.	45.	76.
EAST	47.	60.	80.	99.	114.	119.	125.	119.	98.	74.	55.	48.	87.
SOUTHEAST	54.	70.	92.	105.	115.	117.	126.	127.	112.	86.	63.	55.	94.
HORIZ.	53.	71.	101.	132.	158.	164.	171.	157.	123.	86.	60.	52.	111.

LOCATION SPOKANE, WASHINGTON LATITUDE 47 DEGREES 40 MINUTES

MONTH 1 HO 1007. TOD 26. TOT 25. KT .478 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	18.	89.	133.	158.	166.	158.	133.	89.	18.	0.	0.	0.	0.	962.	110.	178.	56.	81.
SOUTHWEST	0.	0.	0.	0.	4.	16.	54.	93.	125.	144.	145.	117.	28.	0.	0.	0.	0.	726.	89.	141.	48.	67.
WEST	0.	0.	0.	0.	4.	12.	19.	24.	25.	60.	84.	83.	24.	0.	0.	0.	0.	335.	56.	79.	36.	44.
NORTHWEST	0.	0.	0.	0.	4.	12.	19.	24.	25.	24.	19.	12.	8.	0.	0.	0.	0.	147.	39.	50.	30.	33.
NORTH	0.	0.	0.	0.	4.	12.	19.	24.	25.	24.	19.	12.	4.	0.	0.	0.	0.	143.	39.	49.	29.	33.
NORTHEAST	0.	0.	0.	0.	8.	12.	19.	24.	25.	24.	19.	12.	4.	0.	0.	0.	0.	147.	39.	50.	30.	33.
EAST	0.	0.	0.	0.	24.	83.	84.	60.	25.	24.	19.	12.	4.	0.	0.	0.	0.	335.	56.	79.	36.	44.
SOUTHEAST	0.	0.	0.	0.	28.	117.	145.	144.	125.	93.	54.	16.	4.	0.	0.	0.	0.	726.	89.	141.	48.	67.
HORIZ.	0.	0.	0.	0.	7.	38.	66.	84.	91.	84.	66.	38.	7.	0.	0.	0.	0.	482.	68.	102.	40.	53.

MONTH 2 HO 1603. TOD 32. TOT 30. KT .579 KD .177

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	4.	74.	132.	174.	199.	208.	199.	174.	132.	74.	4.	0.	0.	0.	1372.	133.	215.	74.	110.
SOUTHWEST	0.	0.	0.	2.	12.	22.	65.	115.	158.	187.	198.	184.	133.	7.	0.	0.	0.	1082.	111.	177.	64.	93.
WEST	0.	0.	0.	2.	12.	22.	29.	34.	36.	85.	124.	142.	121.	7.	0.	0.	0.	614.	77.	114.	49.	65.
NORTHWEST	0.	0.	0.	2.	12.	22.	29.	34.	36.	34.	29.	29.	45.	4.	0.	0.	0.	277.	52.	69.	39.	46.
NORTH	0.	0.	0.	2.	12.	22.	29.	34.	36.	34.	29.	22.	12.	2.	0.	0.	0.	235.	49.	63.	37.	43.
NORTHEAST	0.	0.	0.	4.	45.	29.	29.	34.	36.	34.	29.	22.	12.	2.	0.	0.	0.	277.	52.	69.	39.	46.
EAST	0.	0.	0.	7.	121.	142.	124.	85.	36.	34.	29.	22.	12.	2.	0.	0.	0.	614.	77.	114.	49.	65.
SOUTHEAST	0.	0.	0.	7.	133.	184.	198.	187.	158.	115.	65.	22.	12.	2.	0.	0.	0.	1082.	111.	177.	64.	93.
HORIZ.	0.	0.	0.	3.	41.	84.	119.	141.	149.	141.	119.	84.	41.	3.	0.	0.	0.	927.	100.	156.	59.	84.

MONTH 3 HO 2310. TOD 40. TOT 38. KT .556 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	28.	75.	118.	152.	173.	181.	173.	152.	118.	75.	28.	0.	0.	0.	1275.	122.	188.	79.	112.
SOUTHWEST	0.	0.	0.	10.	21.	31.	56.	102.	141.	169.	182.	177.	149.	89.	0.	0.	0.	1127.	113.	171.	74.	104.
WEST	0.	0.	0.	10.	21.	31.	39.	43.	45.	91.	128.	150.	149.	104.	0.	0.	0.	811.	92.	135.	64.	85.
NORTHWEST	0.	0.	0.	10.	21.	31.	39.	43.	45.	43.	39.	53.	73.	64.	0.	0.	0.	463.	70.	94.	53.	65.
NORTH	0.	0.	0.	10.	21.	31.	39.	43.	45.	43.	39.	31.	21.	10.	0.	0.	0.	335.	62.	79.	49.	58.
NORTHEAST	0.	0.	0.	64.	73.	53.	39.	43.	45.	43.	39.	31.	21.	10.	0.	0.	0.	463.	70.	94.	53.	65.
EAST	0.	0.	0.	104.	149.	150.	128.	91.	45.	43.	39.	31.	21.	10.	0.	0.	0.	811.	92.	135.	64.	85.
SOUTHEAST	0.	0.	0.	89.	149.	177.	182.	169.	141.	102.	56.	31.	21.	10.	0.	0.	0.	1127.	113.	171.	74.	104.
HORIZ.	0.	0.	0.	32.	77.	119.	152.	172.	179.	172.	152.	119.	77.	32.	0.	0.	0.	1283.	123.	189.	79.	113.

LOCATION SPOKANE, WASHINGTON LATITUDE 47 DEGREES 40 MINUTES

MONTH 4 HO 3058. TOD 49. TOT 46. KT .602 KD .174

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	8.	27.	70.	112.	145.	167.	174.	167.	145.	112.	70.	27.	8.	0.	0.	1231.	118.	174.	86.	118.
SOUTHWEST	0.	0.	8.	19.	30.	40.	47.	96.	139.	170.	186.	185.	165.	123.	55.	0.	0.	1265.	120.	177.	87.	120.
WEST	0.	0.	8.	19.	30.	40.	47.	52.	54.	104.	146.	173.	181.	159.	86.	0.	0.	1100.	111.	161.	82.	110.
NORTHWEST	0.	0.	8.	19.	30.	40.	47.	52.	54.	52.	48.	84.	109.	113.	71.	0.	0.	727.	90.	123.	70.	89.
NORTH	0.	0.	19.	19.	30.	40.	47.	52.	54.	52.	47.	40.	30.	19.	19.	0.	0.	471.	75.	97.	61.	74.
NORTHEAST	0.	0.	71.	113.	109.	84.	48.	52.	54.	52.	47.	40.	30.	19.	8.	0.	0.	727.	90.	123.	70.	89.
EAST	0.	0.	86.	159.	181.	173.	146.	104.	54.	52.	47.	40.	30.	19.	8.	0.	0.	1100.	111.	161.	82.	110.
SOUTHEAST	0.	0.	55.	123.	165.	185.	186.	170.	139.	96.	47.	40.	30.	19.	8.	0.	0.	1265.	120.	177.	87.	120.
HORIZ.	0.	0.	24.	72.	122.	166.	200.	222.	229.	222.	200.	166.	122.	72.	24.	0.	0.	1841.	152.	236.	105.	154.

MONTH 5 HO 3568. TOD 58. TOT 55. KT .603 KD .173

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	4.	14.	25.	57.	95.	125.	145.	152.	145.	125.	95.	57.	25.	14.	4.	0.	1084.	117.	161.	92.	120.
SOUTHWEST	0.	4.	14.	25.	36.	45.	52.	84.	124.	154.	170.	171.	154.	122.	74.	15.	0.	1245.	125.	177.	97.	130.
WEST	0.	4.	14.	25.	36.	45.	52.	56.	58.	106.	146.	173.	183.	170.	126.	32.	0.	1226.	124.	175.	97.	129.
NORTHWEST	0.	4.	14.	25.	36.	45.	52.	56.	58.	56.	66.	100.	125.	134.	113.	33.	0.	919.	108.	146.	86.	110.
NORTH	0.	17.	42.	34.	36.	45.	52.	56.	58.	56.	52.	45.	36.	34.	42.	17.	0.	622.	92.	117.	76.	92.
NORTHEAST	0.	33.	113.	134.	125.	100.	66.	56.	58.	56.	52.	45.	36.	25.	14.	4.	0.	919.	108.	146.	86.	110.
EAST	0.	32.	126.	170.	183.	173.	146.	106.	58.	56.	52.	45.	36.	25.	14.	4.	0.	1226.	124.	175.	97.	129.
SOUTHEAST	0.	15.	74.	122.	154.	171.	170.	154.	124.	84.	52.	45.	36.	25.	14.	4.	0.	1245.	125.	177.	97.	130.
HORIZ.	0.	10.	49.	98.	146.	188.	220.	241.	248.	241.	220.	188.	146.	98.	49.	10.	0.	2151.	174.	263.	128.	185.

MONTH 6 HO 3760. TOD 65. TOT 61. KT .593 KD .175

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	7.	17.	28.	50.	86.	115.	134.	140.	134.	115.	86.	50.	28.	17.	7.	0.	1014.	117.	158.	96.	123.
SOUTHWEST	0.	7.	17.	28.	38.	47.	53.	78.	117.	145.	160.	161.	146.	116.	74.	24.	0.	1208.	127.	176.	103.	134.
WEST	0.	7.	17.	28.	38.	47.	53.	58.	59.	104.	142.	168.	178.	168.	130.	55.	0.	1251.	130.	179.	104.	137.
NORTHWEST	0.	7.	17.	28.	38.	47.	53.	58.	59.	58.	72.	105.	128.	137.	121.	57.	0.	983.	116.	155.	95.	121.
NORTH	0.	31.	50.	42.	38.	47.	53.	58.	59.	58.	53.	47.	38.	42.	50.	31.	0.	695.	101.	128.	85.	103.
NORTHEAST	0.	57.	121.	137.	128.	105.	72.	58.	59.	58.	53.	47.	38.	28.	17.	7.	0.	983.	116.	155.	95.	121.
EAST	0.	55.	130.	168.	178.	168.	142.	104.	59.	58.	53.	47.	38.	28.	17.	7.	0.	1251.	130.	179.	104.	137.
SOUTHEAST	0.	24.	74.	116.	146.	161.	160.	145.	117.	78.	53.	47.	38.	28.	17.	7.	0.	1208.	127.	176.	103.	134.
HORIZ.	0.	17.	58.	106.	152.	192.	223.	242.	249.	242.	223.	192.	152.	106.	58.	17.	0.	2230.	180.	269.	138.	196.

LOCATION SPOKANE, WASHINGTON LATITUDE 47 DEGREES 40 MINUTES

MONTH 7 HO 3568. TOD 73. TOT 70. KT .684 KD .153

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	4.	14.	25.	60.	105.	142.	165.	173.	165.	142.	105.	60.	25.	14.	4.	0.	1202.	138.	188.	111.	142.
SOUTHWEST	0.	4.	14.	25.	35.	44.	52.	90.	139.	176.	197.	199.	181.	142.	85.	17.	0.	1399.	149.	207.	117.	154.
WEST	0.	4.	14.	25.	35.	44.	52.	56.	57.	117.	167.	202.	216.	202.	148.	37.	0.	1376.	148.	204.	117.	153.
NORTHWEST	0.	4.	14.	25.	35.	44.	52.	56.	57.	56.	70.	113.	145.	158.	132.	38.	0.	999.	127.	169.	104.	130.
NORTH	0.	19.	47.	36.	35.	44.	52.	56.	57.	56.	52.	44.	35.	36.	47.	19.	0.	636.	108.	134.	91.	108.
NORTHEAST	0.	38.	132.	158.	145.	113.	70.	56.	57.	56.	52.	44.	35.	25.	14.	4.	0.	999.	127.	169.	104.	130.
EAST	0.	37.	148.	202.	216.	202.	167.	117.	57.	56.	52.	44.	35.	25.	14.	4.	0.	1376.	148.	204.	117.	153.
SOUTHEAST	0.	17.	85.	142.	181.	199.	197.	176.	139.	90.	52.	44.	35.	25.	14.	4.	0.	1399.	149.	207.	117.	154.
HORIZ.	0.	10.	54.	110.	165.	214.	251.	275.	283.	275.	251.	214.	165.	110.	54.	10.	0.	2441.	205.	306.	153.	217.

MONTH 8 HO 3038. TOD 72. TOT 68. KT .656 KD .160

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	8.	27.	74.	121.	159.	184.	192.	184.	159.	121.	74.	27.	8.	0.	0.	1339.	151.	212.	114.	149.
SOUTHWEST	0.	0.	8.	19.	30.	39.	47.	103.	152.	188.	207.	206.	182.	134.	57.	0.	0.	1370.	153.	216.	115.	151.
WEST	0.	0.	8.	19.	30.	39.	47.	52.	53.	112.	160.	192.	201.	174.	89.	0.	0.	1176.	142.	195.	108.	139.
NORTHWEST	0.	0.	8.	19.	30.	39.	47.	52.	53.	52.	47.	90.	119.	123.	73.	0.	0.	752.	116.	151.	94.	113.
NORTH	0.	0.	19.	19.	30.	39.	47.	52.	53.	52.	47.	39.	30.	19.	19.	0.	0.	465.	99.	121.	84.	96.
NORTHEAST	0.	0.	73.	123.	119.	90.	47.	52.	53.	52.	47.	39.	30.	19.	8.	0.	0.	752.	116.	151.	94.	113.
EAST	0.	0.	89.	174.	201.	192.	160.	112.	53.	52.	47.	39.	30.	19.	8.	0.	0.	1176.	142.	195.	108.	139.
SOUTHEAST	0.	0.	57.	134.	182.	206.	207.	188.	152.	103.	47.	39.	30.	19.	8.	0.	0.	1370.	153.	216.	115.	151.
HORIZ.	0.	0.	24.	76.	131.	180.	218.	242.	250.	242.	218.	180.	131.	76.	24.	0.	0.	1993.	190.	281.	136.	188.

MONTH 9 HO 2304. TOD 63. TOT 59. KT .616 KD .170

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	30.	83.	133.	172.	197.	205.	197.	172.	133.	83.	30.	0.	0.	0.	1434.	160.	235.	108.	146.
SOUTHWEST	0.	0.	0.	10.	21.	31.	59.	112.	159.	192.	207.	201.	169.	97.	0.	0.	0.	1259.	148.	214.	102.	135.
WEST	0.	0.	0.	10.	21.	31.	39.	44.	45.	100.	144.	170.	168.	114.	0.	0.	0.	887.	123.	169.	90.	113.
NORTHWEST	0.	0.	0.	10.	21.	31.	39.	44.	45.	44.	39.	58.	82.	69.	0.	0.	0.	483.	96.	121.	76.	88.
NORTH	0.	0.	0.	10.	21.	31.	39.	44.	45.	44.	39.	31.	21.	10.	0.	0.	0.	337.	86.	103.	71.	80.
NORTHEAST	0.	0.	0.	69.	82.	58.	39.	44.	45.	44.	39.	31.	21.	10.	0.	0.	0.	483.	96.	121.	76.	88.
EAST	0.	0.	0.	114.	168.	170.	144.	100.	45.	44.	39.	31.	21.	10.	0.	0.	0.	887.	123.	169.	90.	113.
SOUTHEAST	0.	0.	0.	97.	169.	201.	207.	192.	159.	112.	59.	31.	21.	10.	0.	0.	0.	1259.	148.	214.	102.	135.
HORIZ.	0.	0.	1.	33.	84.	131.	168.	192.	200.	192.	168.	131.	84.	33.	1.	0.	0.	1419.	159.	233.	108.	145.

LOCATION SPOKANE, WASHINGTON LATITUDE 47 DEGREES 40 MINUTES

MONTH 10 HO 1570. TOD 51. TOT 49. KT .494 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	2.	56.	104.	138.	159.	166.	159.	138.	104.	56.	2.	0.	0.	0.	1084.	132.	197.	83.	112.
SOUTHWEST	0.	0.	0.	2.	11.	21.	55.	95.	128.	150.	156.	143.	98.	3.	0.	0.	0.	862.	115.	167.	76.	99.
WEST	0.	0.	0.	2.	11.	21.	28.	33.	34.	72.	100.	111.	89.	3.	0.	0.	0.	504.	89.	119.	65.	78.
NORTHWEST	0.	0.	0.	2.	11.	21.	28.	33.	34.	33.	28.	26.	35.	2.	0.	0.	0.	254.	70.	86.	57.	63.
NORTH	0.	0.	0.	2.	11.	21.	28.	33.	34.	33.	28.	21.	11.	2.	0.	0.	0.	225.	68.	82.	56.	62.
NORTHEAST	0.	0.	0.	2.	35.	26.	28.	33.	34.	33.	28.	21.	11.	2.	0.	0.	0.	254.	70.	86.	57.	63.
EAST	0.	0.	0.	3.	89.	111.	100.	72.	34.	33.	28.	21.	11.	2.	0.	0.	0.	504.	89.	119.	65.	78.
SOUTHEAST	0.	0.	0.	3.	98.	143.	156.	150.	128.	95.	55.	21.	11.	2.	0.	0.	0.	862.	115.	167.	76.	99.
HORIZ.	0.	0.	0.	3.	34.	70.	100.	119.	125.	119.	100.	70.	34.	3.	0.	0.	0.	775.	109.	156.	73.	94.

MONTH 11 HO 997. TOD 37. TOT 36. KT .428 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	14.	75.	113.	135.	142.	135.	113.	75.	14.	0.	0.	0.	0.	815.	108.	166.	62.	83.
SOUTHWEST	0.	0.	0.	0.	3.	15.	47.	80.	107.	123.	123.	98.	21.	0.	0.	0.	0.	619.	91.	135.	56.	72.
WEST	0.	0.	0.	0.	3.	12.	18.	23.	24.	53.	72.	70.	18.	0.	0.	0.	0.	292.	63.	84.	45.	53.
NORTHWEST	0.	0.	0.	0.	3.	12.	18.	23.	24.	23.	18.	12.	6.	0.	0.	0.	0.	138.	49.	59.	40.	44.
NORTH	0.	0.	0.	0.	3.	12.	18.	23.	24.	23.	18.	12.	3.	0.	0.	0.	0.	135.	49.	59.	40.	44.
NORTHEAST	0.	0.	0.	0.	6.	12.	18.	23.	24.	23.	18.	12.	3.	0.	0.	0.	0.	138.	49.	59.	40.	44.
EAST	0.	0.	0.	0.	18.	70.	72.	53.	24.	23.	18.	12.	3.	0.	0.	0.	0.	292.	63.	84.	45.	53.
SOUTHEAST	0.	0.	0.	0.	21.	98.	123.	123.	107.	80.	47.	15.	3.	0.	0.	0.	0.	619.	91.	135.	56.	72.
HORIZ.	0.	0.	0.	0.	7.	33.	58.	75.	80.	75.	58.	33.	7.	0.	0.	0.	0.	427.	74.	105.	49.	61.

MONTH 12 HO 792. TOD 30. TOT 29. KT .345 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	1.	45.	78.	96.	102.	96.	78.	45.	1.	0.	0.	0.	0.	542.	81.	123.	46.	61.
SOUTHWEST	0.	0.	0.	0.	1.	11.	35.	59.	77.	87.	84.	57.	1.	0.	0.	0.	0.	412.	69.	101.	42.	53.
WEST	0.	0.	0.	0.	1.	8.	14.	18.	19.	38.	48.	40.	1.	0.	0.	0.	0.	186.	48.	62.	35.	40.
NORTHWEST	0.	0.	0.	0.	1.	8.	14.	18.	19.	18.	14.	8.	1.	0.	0.	0.	0.	98.	40.	47.	32.	35.
NORTH	0.	0.	0.	0.	1.	8.	14.	18.	19.	18.	14.	8.	1.	0.	0.	0.	0.	98.	40.	47.	32.	35.
NORTHEAST	0.	0.	0.	0.	1.	8.	14.	18.	19.	18.	14.	8.	1.	0.	0.	0.	0.	98.	40.	47.	32.	35.
EAST	0.	0.	0.	0.	1.	40.	48.	38.	19.	18.	14.	8.	1.	0.	0.	0.	0.	186.	48.	62.	35.	40.
SOUTHEAST	0.	0.	0.	0.	1.	57.	84.	87.	77.	59.	35.	11.	1.	0.	0.	0.	0.	412.	69.	101.	42.	53.
HORIZ.	0.	0.	0.	0.	1.	19.	38.	51.	55.	51.	38.	19.	1.	0.	0.	0.	0.	273.	56.	77.	38.	45.

LOCATION SPOKANE, WASHINGTON LATITUDE 47 DEGREES 40 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	110.	133.	122.	118.	117.	117.	138.	151.	160.	132.	108.	81.	124.
SOUTHWEST	89.	111.	113.	120.	125.	127.	149.	153.	148.	115.	91.	69.	118.
WEST	56.	77.	92.	111.	124.	130.	148.	142.	123.	89.	63.	48.	100.
NORTHWEST	39.	52.	70.	90.	108.	116.	127.	116.	96.	70.	49.	40.	81.
NORTH	39.	49.	62.	75.	92.	101.	108.	99.	86.	68.	49.	40.	72.
NORTHEAST	39.	52.	70.	90.	108.	116.	127.	116.	96.	70.	49.	40.	81.
EAST	56.	77.	92.	111.	124.	130.	148.	142.	123.	89.	63.	48.	100.
SOUTHEAST	89.	111.	113.	120.	125.	127.	149.	153.	148.	115.	91.	69.	118.
HORIZ.	68.	100.	123.	152.	174.	180.	205.	190.	159.	109.	74.	56.	133.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	178.	215.	188.	174.	161.	158.	188.	212.	235.	197.	166.	123.	183.
SOUTHWEST	141.	177.	171.	177.	177.	176.	207.	216.	214.	167.	135.	101.	171.
WEST	79.	114.	135.	161.	175.	179.	204.	195.	169.	119.	84.	62.	140.
NORTHWEST	50.	69.	94.	123.	146.	155.	169.	151.	121.	86.	59.	47.	106.
NORTH	49.	63.	79.	97.	117.	128.	134.	121.	103.	82.	59.	47.	90.
NORTHEAST	50.	69.	94.	123.	146.	155.	169.	151.	121.	86.	59.	47.	106.
EAST	79.	114.	135.	161.	175.	179.	204.	195.	169.	119.	84.	62.	140.
SOUTHEAST	141.	177.	171.	177.	177.	176.	207.	216.	214.	167.	135.	101.	171.
HORIZ.	102.	156.	189.	236.	263.	269.	306.	281.	233.	156.	105.	77.	198.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	56.	74.	79.	86.	92.	96.	111.	114.	108.	83.	62.	46.	84.
SOUTHWEST	48.	64.	74.	87.	97.	103.	117.	115.	102.	76.	56.	42.	82.
WEST	36.	49.	64.	82.	97.	104.	117.	108.	90.	65.	45.	35.	74.
NORTHWEST	30.	39.	53.	70.	86.	95.	104.	94.	76.	57.	40.	32.	65.
NORTH	29.	37.	49.	61.	76.	85.	91.	84.	71.	56.	40.	32.	59.
NORTHEAST	30.	39.	53.	70.	86.	95.	104.	94.	76.	57.	40.	32.	65.
EAST	36.	49.	64.	82.	97.	104.	117.	108.	90.	65.	45.	35.	74.
SOUTHEAST	48.	64.	74.	87.	97.	103.	117.	115.	102.	76.	56.	42.	82.
HORIZ.	40.	59.	79.	105.	128.	138.	153.	136.	108.	73.	49.	38.	92.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	81.	110.	112.	118.	120.	123.	142.	149.	146.	112.	83.	61.	113.
SOUTHWEST	67.	93.	104.	120.	130.	134.	154.	151.	135.	99.	72.	53.	109.
WEST	44.	65.	85.	110.	129.	137.	153.	139.	113.	78.	53.	40.	96.
NORTHWEST	33.	46.	65.	89.	110.	121.	130.	113.	88.	63.	44.	35.	78.
NORTH	33.	43.	58.	74.	92.	103.	108.	96.	80.	62.	44.	35.	69.
NORTHEAST	33.	46.	65.	89.	110.	121.	130.	113.	88.	63.	44.	35.	78.
EAST	44.	65.	85.	110.	129.	137.	153.	139.	113.	78.	53.	40.	96.
SOUTHEAST	67.	93.	104.	120.	130.	134.	154.	151.	135.	99.	72.	53.	109.
HORIZ.	53.	84.	113.	154.	185.	196.	217.	188.	145.	94.	61.	45.	128.

LOCATION STATE COLLEGE, PA. LATITUDE 40 DEGREES 48 MINUTES

MONTH 1 HO 1386. TOD 31. TOT 28. KT .381 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	34.	73.	98.	113.	118.	113.	98.	73.	34.	0.	0.	0.	0.	753.	92.	141.	53.	72.
SOUTHWEST	0.	0.	0.	0.	7.	18.	45.	71.	92.	105.	108.	95.	53.	0.	0.	0.	0.	593.	79.	118.	48.	63.
WEST	0.	0.	0.	0.	7.	16.	23.	28.	29.	52.	68.	71.	46.	0.	0.	0.	0.	341.	59.	81.	39.	48.
NORTHWEST	0.	0.	0.	0.	7.	16.	23.	28.	29.	28.	23.	16.	16.	0.	0.	0.	0.	187.	46.	59.	35.	39.
NORTH	0.	0.	0.	0.	7.	16.	23.	28.	29.	28.	23.	16.	7.	0.	0.	0.	0.	179.	46.	57.	34.	39.
NORTHEAST	0.	0.	0.	0.	16.	16.	23.	28.	29.	28.	23.	16.	7.	0.	0.	0.	0.	187.	46.	59.	35.	39.
EAST	0.	0.	0.	0.	46.	71.	68.	52.	29.	28.	23.	16.	7.	0.	0.	0.	0.	341.	59.	81.	39.	48.
SOUTHEAST	0.	0.	0.	0.	53.	95.	108.	105.	92.	71.	45.	18.	7.	0.	0.	0.	0.	593.	79.	118.	48.	63.
HORIZ.	0.	0.	0.	0.	17.	46.	70.	85.	90.	85.	70.	46.	17.	0.	0.	0.	0.	529.	74.	108.	45.	59.

MONTH 2 HO 1956. TOD 31. TOT 29. KT .413 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	10.	52.	84.	108.	122.	127.	122.	108.	84.	52.	10.	0.	0.	0.	878.	94.	145.	57.	80.
SOUTHWEST	0.	0.	0.	4.	15.	24.	47.	77.	101.	117.	123.	116.	90.	22.	0.	0.	0.	737.	84.	127.	52.	72.
WEST	0.	0.	0.	4.	15.	24.	32.	37.	38.	65.	85.	94.	84.	23.	0.	0.	0.	502.	67.	97.	45.	58.
NORTHWEST	0.	0.	0.	4.	15.	24.	32.	37.	38.	37.	32.	32.	37.	13.	0.	0.	0.	300.	53.	70.	38.	46.
NORTH	0.	0.	0.	4.	15.	24.	32.	37.	38.	37.	32.	24.	15.	4.	0.	0.	0.	261.	50.	65.	37.	44.
NORTHEAST	0.	0.	0.	13.	37.	32.	32.	37.	38.	37.	32.	24.	15.	4.	0.	0.	0.	300.	53.	70.	38.	46.
EAST	0.	0.	0.	23.	84.	94.	85.	65.	38.	37.	32.	24.	15.	4.	0.	0.	0.	502.	67.	97.	45.	58.
SOUTHEAST	0.	0.	0.	22.	90.	116.	123.	117.	101.	77.	47.	24.	15.	4.	0.	0.	0.	737.	84.	127.	52.	72.
HORIZ.	0.	0.	0.	8.	42.	75.	101.	117.	123.	117.	101.	75.	42.	8.	0.	0.	0.	808.	89.	136.	55.	76.

MONTH 3 HO 2592. TOD 40. TOT 38. KT .451 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	23.	57.	87.	111.	126.	131.	126.	111.	87.	57.	23.	0.	0.	0.	941.	100.	149.	68.	93.
SOUTHWEST	0.	0.	0.	11.	23.	33.	46.	79.	107.	126.	135.	131.	111.	69.	0.	0.	0.	872.	96.	141.	66.	89.
WEST	0.	0.	0.	11.	23.	33.	41.	46.	47.	79.	103.	117.	114.	81.	0.	0.	0.	697.	84.	121.	60.	78.
NORTHWEST	0.	0.	0.	11.	23.	33.	41.	46.	47.	46.	41.	54.	63.	52.	0.	0.	0.	458.	69.	93.	53.	65.
NORTH	0.	0.	0.	11.	23.	33.	41.	46.	47.	46.	41.	33.	23.	11.	0.	0.	0.	356.	63.	81.	49.	59.
NORTHEAST	0.	0.	0.	52.	63.	54.	41.	46.	47.	46.	41.	33.	23.	11.	0.	0.	0.	458.	69.	93.	53.	65.
EAST	0.	0.	0.	81.	114.	117.	103.	79.	47.	46.	41.	33.	23.	11.	0.	0.	0.	697.	84.	121.	60.	78.
SOUTHEAST	0.	0.	0.	69.	111.	131.	135.	126.	107.	79.	46.	33.	23.	11.	0.	0.	0.	872.	96.	141.	66.	89.
HORIZ.	0.	0.	0.	31.	72.	108.	137.	155.	161.	155.	137.	108.	72.	31.	0.	0.	0.	1167.	114.	175.	75.	106.

LOCATION STATE COLLEGE, PA. LATITUDE 40 DEGREES 48 MINUTES

MONTH 4 HO 3219. TOD 51. TOT 48. KT .448 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	7.	20.	48.	74.	96.	109.	114.	109.	96.	74.	48.	20.	7.	0.	0.	822.	99.	137.	75.	96.
SOUTHWEST	0.	0.	7.	19.	30.	40.	47.	70.	96.	115.	124.	122.	107.	79.	31.	0.	0.	887.	102.	144.	77.	100.
WEST	0.	0.	7.	19.	30.	40.	47.	52.	54.	84.	107.	121.	122.	103.	47.	0.	0.	831.	99.	138.	75.	97.
NORTHWEST	0.	0.	7.	19.	30.	40.	47.	52.	54.	52.	55.	73.	82.	78.	40.	0.	0.	628.	87.	117.	69.	85.
NORTH	0.	0.	13.	19.	30.	40.	47.	52.	54.	52.	47.	40.	30.	19.	13.	0.	0.	456.	77.	99.	63.	75.
NORTHEAST	0.	0.	40.	78.	82.	73.	55.	52.	54.	52.	47.	40.	30.	19.	7.	0.	0.	628.	87.	117.	69.	85.
EAST	0.	0.	47.	103.	122.	121.	107.	84.	54.	52.	47.	40.	30.	19.	7.	0.	0.	831.	99.	138.	75.	97.
SOUTHEAST	0.	0.	31.	79.	107.	122.	124.	115.	96.	70.	47.	40.	30.	19.	7.	0.	0.	887.	102.	144.	77.	100.
HORIZ.	0.	0.	16.	56.	96.	131.	158.	175.	181.	175.	158.	131.	96.	56.	16.	0.	0.	1443.	134.	202.	95.	133.

MONTH 5 HO 3619. TOD 63. TOT 60. KT .493 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	2.	13.	24.	41.	69.	91.	105.	110.	105.	91.	69.	41.	24.	13.	2.	0.	798.	109.	143.	88.	109.
SOUTHWEST	0.	2.	13.	24.	36.	45.	53.	66.	95.	115.	126.	126.	113.	87.	48.	3.	0.	951.	117.	159.	93.	118.
WEST	0.	2.	13.	24.	36.	45.	53.	57.	59.	92.	119.	135.	139.	124.	83.	4.	0.	984.	119.	162.	94.	120.
NORTHWEST	0.	2.	13.	24.	36.	45.	53.	57.	59.	57.	73.	92.	105.	103.	76.	4.	0.	798.	109.	143.	88.	109.
NORTH	0.	3.	32.	36.	36.	45.	53.	57.	59.	57.	53.	45.	36.	36.	32.	3.	0.	581.	96.	122.	80.	96.
NORTHEAST	0.	4.	76.	103.	105.	92.	73.	57.	59.	57.	53.	45.	36.	24.	13.	2.	0.	798.	109.	143.	88.	109.
EAST	0.	4.	83.	124.	139.	135.	119.	92.	59.	57.	53.	45.	36.	24.	13.	2.	0.	984.	119.	162.	94.	120.
SOUTHEAST	0.	3.	48.	87.	113.	126.	126.	115.	95.	66.	53.	45.	36.	24.	13.	2.	0.	951.	117.	159.	93.	118.
HORIZ.	0.	3.	35.	78.	121.	158.	187.	205.	211.	205.	187.	158.	121.	78.	35.	3.	0.	1784.	165.	242.	122.	168.

MONTH 6 HO 3763. TOD 72. TOT 70. KT .539 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	4.	15.	26.	37.	67.	90.	106.	111.	106.	90.	67.	37.	26.	15.	4.	0.	800.	116.	150.	97.	118.
SOUTHWEST	0.	4.	15.	26.	37.	47.	54.	64.	96.	120.	133.	134.	121.	95.	56.	9.	0.	1011.	127.	170.	104.	131.
WEST	0.	4.	15.	26.	37.	47.	54.	59.	61.	99.	130.	150.	156.	142.	102.	18.	0.	1100.	132.	179.	107.	136.
NORTHWEST	0.	4.	15.	26.	37.	47.	54.	59.	61.	59.	82.	106.	121.	122.	96.	19.	0.	910.	122.	160.	101.	125.
NORTH	0.	11.	43.	45.	38.	47.	54.	59.	61.	59.	54.	47.	38.	45.	43.	11.	0.	657.	108.	136.	92.	109.
NORTHEAST	0.	19.	96.	122.	121.	106.	82.	59.	61.	59.	54.	47.	37.	26.	15.	4.	0.	910.	122.	160.	101.	125.
EAST	0.	18.	102.	142.	156.	150.	130.	99.	61.	59.	54.	47.	37.	26.	15.	4.	0.	1100.	132.	179.	107.	136.
SOUTHEAST	0.	9.	56.	95.	121.	134.	133.	120.	96.	64.	54.	47.	37.	26.	15.	4.	0.	1011.	127.	170.	104.	131.
HORIZ.	0.	8.	45.	92.	138.	178.	209.	228.	235.	228.	209.	178.	138.	92.	45.	8.	0.	2029.	183.	269.	139.	192.

LOCATION STATE COLLEGE, PA. LATITUDE 40 DEGREES 48 MINUTES

MONTH 7 HO 3616. TOD 76. TOT 74. KT .536 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	2.	13.	25.	42.	72.	97.	112.	118.	112.	97.	72.	42.	25.	13.	2.	0.	844.	124.	160.	103.	125.
SOUTHWEST	0.	2.	13.	25.	36.	46.	53.	68.	101.	125.	138.	138.	124.	96.	53.	3.	0.	1020.	134.	178.	109.	136.
WEST	0.	2.	13.	25.	36.	46.	53.	58.	60.	98.	130.	150.	154.	139.	91.	4.	0.	1059.	136.	182.	110.	138.
NORTHWEST	0.	2.	13.	25.	36.	46.	53.	58.	60.	58.	77.	101.	115.	115.	84.	4.	0.	846.	124.	160.	103.	125.
NORTH	0.	3.	35.	38.	36.	46.	53.	58.	60.	58.	53.	46.	36.	38.	35.	3.	0.	598.	110.	136.	95.	110.
NORTHEAST	0.	4.	84.	115.	115.	101.	77.	58.	60.	58.	53.	46.	36.	25.	13.	2.	0.	846.	124.	160.	103.	125.
EAST	0.	4.	91.	139.	154.	150.	130.	98.	60.	58.	53.	46.	36.	25.	13.	2.	0.	1059.	136.	182.	110.	138.
SOUTHEAST	0.	3.	53.	96.	124.	138.	138.	125.	101.	68.	53.	46.	36.	25.	13.	2.	0.	1020.	134.	178.	109.	136.
HORIZ.	0.	4.	37.	84.	131.	172.	203.	223.	230.	223.	203.	172.	131.	84.	37.	4.	0.	1938.	186.	270.	140.	191.

MONTH 8 HO 3196. TOD 73. TOT 72. KT .512 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	20.	52.	84.	109.	125.	131.	125.	109.	84.	52.	20.	7.	0.	0.	927.	130.	174.	104.	128.
SOUTHWEST	0.	0.	7.	19.	31.	41.	49.	77.	109.	132.	144.	142.	125.	91.	33.	0.	0.	1002.	135.	182.	106.	132.
WEST	0.	0.	7.	19.	31.	41.	49.	54.	56.	94.	123.	141.	143.	120.	51.	0.	0.	931.	130.	174.	104.	128.
NORTHWEST	0.	0.	7.	19.	31.	41.	49.	54.	56.	54.	59.	82.	95.	90.	43.	0.	0.	683.	115.	147.	95.	113.
NORTH	0.	0.	14.	19.	31.	41.	49.	54.	56.	54.	49.	41.	31.	19.	14.	0.	0.	476.	103.	125.	88.	101.
NORTHEAST	0.	0.	43.	90.	95.	82.	59.	54.	56.	54.	49.	41.	31.	19.	7.	0.	0.	683.	115.	147.	95.	113.
EAST	0.	0.	51.	120.	143.	141.	123.	94.	56.	54.	49.	41.	31.	19.	7.	0.	0.	931.	130.	174.	104.	128.
SOUTHEAST	0.	0.	33.	91.	125.	142.	144.	132.	109.	77.	49.	41.	31.	19.	7.	0.	0.	1002.	135.	182.	106.	132.
HORIZ.	0.	0.	17.	61.	108.	149.	180.	200.	207.	200.	180.	149.	108.	61.	17.	0.	0.	1637.	174.	250.	128.	171.

MONTH 9 HO 2580. TOD 66. TOT 65. KT .492 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	24.	61.	95.	122.	139.	144.	139.	122.	95.	61.	24.	0.	0.	0.	1026.	136.	189.	100.	127.
SOUTHWEST	0.	0.	0.	12.	24.	34.	48.	85.	116.	139.	149.	144.	122.	74.	0.	0.	0.	947.	131.	180.	97.	122.
WEST	0.	0.	0.	12.	24.	34.	42.	47.	49.	85.	114.	129.	125.	87.	0.	0.	0.	749.	117.	156.	90.	110.
NORTHWEST	0.	0.	0.	12.	24.	34.	42.	47.	49.	47.	42.	58.	69.	56.	0.	0.	0.	482.	99.	124.	81.	94.
NORTH	0.	0.	0.	12.	24.	34.	42.	47.	49.	47.	42.	34.	24.	12.	0.	0.	0.	368.	91.	110.	77.	87.
NORTHEAST	0.	0.	0.	56.	69.	58.	42.	47.	49.	47.	42.	34.	24.	12.	0.	0.	0.	482.	99.	124.	81.	94.
EAST	0.	0.	0.	87.	125.	129.	114.	85.	49.	47.	42.	34.	24.	12.	0.	0.	0.	749.	117.	156.	90.	110.
SOUTHEAST	0.	0.	0.	74.	122.	144.	149.	139.	116.	85.	48.	34.	24.	12.	0.	0.	0.	947.	131.	180.	97.	122.
HORIZ.	0.	0.	1.	33.	77.	118.	149.	169.	176.	169.	149.	118.	77.	33.	1.	0.	0.	1268.	152.	218.	108.	141.

LOCATION STATE COLLEGE, PA. LATITUDE 40 DEGREES 48 MINUTES

MONTH 10 HO 1922. TOD 56. TOT 53. KT .496 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	10.	64.	105.	136.	155.	161.	155.	136.	105.	64.	10.	0.	0.	0.	1099.	134.	199.	88.	117.
SOUTHWEST	0.	0.	0.	4.	15.	26.	55.	94.	126.	148.	157.	148.	112.	22.	0.	0.	0.	906.	121.	174.	82.	106.
WEST	0.	0.	0.	4.	15.	26.	34.	39.	41.	78.	106.	118.	104.	23.	0.	0.	0.	588.	98.	132.	72.	87.
NORTHWEST	0.	0.	0.	4.	15.	26.	34.	39.	41.	39.	34.	35.	44.	13.	0.	0.	0.	324.	79.	98.	64.	72.
NORTH	0.	0.	0.	4.	15.	26.	34.	39.	41.	39.	34.	26.	15.	4.	0.	0.	0.	276.	75.	92.	62.	69.
NORTHEAST	0.	0.	0.	13.	44.	35.	34.	39.	41.	39.	34.	26.	15.	4.	0.	0.	0.	324.	79.	98.	64.	72.
EAST	0.	0.	0.	23.	104.	118.	106.	78.	41.	39.	34.	26.	15.	4.	0.	0.	0.	588.	98.	132.	72.	87.
SOUTHEAST	0.	0.	0.	22.	112.	148.	157.	148.	126.	94.	55.	26.	15.	4.	0.	0.	0.	906.	121.	174.	82.	106.
HORIZ.	0.	0.	0.	7.	47.	88.	120.	141.	148.	141.	120.	88.	47.	7.	0.	0.	0.	953.	124.	180.	84.	109.

MONTH 11 HO 1374. TOD 43. TOT 42. KT .379 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	32.	72.	97.	112.	117.	112.	97.	72.	32.	0.	0.	0.	0.	743.	103.	152.	66.	85.
SOUTHWEST	0.	0.	0.	0.	7.	18.	44.	70.	91.	104.	106.	93.	50.	0.	0.	0.	0.	585.	90.	129.	61.	76.
WEST	0.	0.	0.	0.	7.	16.	23.	28.	29.	52.	67.	69.	43.	0.	0.	0.	0.	335.	70.	92.	53.	61.
NORTHWEST	0.	0.	0.	0.	7.	16.	23.	28.	29.	28.	23.	16.	15.	0.	0.	0.	0.	185.	58.	70.	48.	53.
NORTH	0.	0.	0.	0.	7.	16.	23.	28.	29.	28.	23.	16.	7.	0.	0.	0.	0.	177.	57.	69.	48.	52.
NORTHEAST	0.	0.	0.	0.	15.	16.	23.	28.	29.	28.	23.	16.	7.	0.	0.	0.	0.	185.	58.	70.	48.	53.
EAST	0.	0.	0.	0.	43.	69.	67.	52.	29.	28.	23.	16.	7.	0.	0.	0.	0.	335.	70.	92.	53.	61.
SOUTHEAST	0.	0.	0.	0.	50.	93.	106.	104.	91.	70.	44.	18.	7.	0.	0.	0.	0.	585.	90.	129.	61.	76.
HORIZ.	0.	0.	0.	0.	17.	46.	69.	84.	89.	84.	69.	46.	17.	0.	0.	0.	0.	521.	85.	119.	59.	72.

MONTH 12 HO 1169. TOD 33. TOT 31. KT .376 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	21.	68.	95.	111.	116.	111.	95.	68.	21.	0.	0.	0.	0.	707.	93.	142.	54.	72.
SOUTHWEST	0.	0.	0.	0.	5.	17.	44.	69.	90.	102.	103.	86.	32.	0.	0.	0.	0.	548.	79.	117.	49.	63.
WEST	0.	0.	0.	0.	5.	13.	20.	25.	26.	48.	62.	62.	26.	0.	0.	0.	0.	287.	57.	77.	40.	48.
NORTHWEST	0.	0.	0.	0.	5.	13.	20.	25.	26.	25.	20.	13.	8.	0.	0.	0.	0.	155.	46.	56.	36.	40.
NORTH	0.	0.	0.	0.	5.	13.	20.	25.	26.	25.	20.	13.	5.	0.	0.	0.	0.	151.	45.	56.	36.	40.
NORTHEAST	0.	0.	0.	0.	8.	13.	20.	25.	26.	25.	20.	13.	5.	0.	0.	0.	0.	155.	46.	56.	36.	40.
EAST	0.	0.	0.	0.	26.	62.	62.	48.	26.	25.	20.	13.	5.	0.	0.	0.	0.	287.	57.	77.	40.	48.
SOUTHEAST	0.	0.	0.	0.	32.	86.	103.	102.	90.	69.	44.	17.	5.	0.	0.	0.	0.	548.	79.	117.	49.	63.
HORIZ.	0.	0.	0.	0.	10.	37.	60.	75.	80.	75.	60.	37.	10.	0.	0.	0.	0.	441.	70.	101.	45.	57.

LOCATION STATE COLLEGE, PA. LATITUDE 40 DEGREES 48 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	92.	94.	100.	99.	109.	116.	124.	130.	136.	134.	103.	93.	111.
SOUTHWEST	79.	84.	96.	102.	117.	127.	134.	135.	131.	121.	90.	79.	108.
WEST	59.	67.	84.	99.	119.	132.	136.	130.	117.	98.	70.	57.	97.
NORTHWEST	46.	53.	69.	87.	109.	122.	124.	115.	99.	79.	58.	46.	84.
NORTH	46.	50.	63.	77.	96.	108.	110.	103.	91.	75.	57.	45.	77.
NORTHEAST	46.	53.	69.	87.	109.	122.	124.	115.	99.	79.	58.	46.	84.
EAST	59.	67.	84.	99.	119.	132.	136.	130.	117.	98.	70.	57.	97.
SOUTHEAST	79.	84.	96.	102.	117.	127.	134.	135.	131.	121.	90.	79.	108.
HORIZ.	74.	89.	114.	134.	165.	183.	186.	174.	152.	124.	85.	70.	129.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	141.	145.	149.	137.	143.	150.	160.	174.	189.	199.	152.	142.	157.
SOUTHWEST	118.	127.	141.	144.	159.	170.	178.	182.	180.	174.	129.	117.	151.
WEST	81.	97.	121.	138.	162.	179.	182.	174.	156.	132.	92.	77.	132.
NORTHWEST	59.	70.	93.	117.	143.	160.	160.	147.	124.	98.	70.	56.	108.
NORTH	57.	65.	81.	99.	122.	136.	136.	125.	110.	92.	69.	56.	96.
NORTHEAST	59.	70.	93.	117.	143.	160.	160.	147.	124.	98.	70.	56.	108.
EAST	81.	97.	121.	138.	162.	179.	182.	174.	156.	132.	92.	77.	132.
SOUTHEAST	118.	127.	141.	144.	159.	170.	178.	182.	180.	174.	129.	117.	151.
HORIZ.	108.	136.	175.	202.	242.	269.	270.	250.	218.	180.	119.	101.	189.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	53.	57.	68.	75.	88.	97.	103.	104.	100.	88.	66.	54.	79.
SOUTHWEST	48.	52.	66.	77.	93.	104.	109.	106.	97.	82.	61.	49.	79.
WEST	39.	45.	60.	75.	94.	107.	110.	104.	90.	72.	53.	40.	74.
NORTHWEST	35.	38.	53.	69.	88.	101.	103.	95.	81.	64.	48.	36.	67.
NORTH	34.	37.	49.	63.	80.	92.	95.	88.	77.	62.	48.	36.	63.
NORTHEAST	35.	38.	53.	69.	88.	101.	103.	95.	81.	64.	48.	36.	67.
EAST	39.	45.	60.	75.	94.	107.	110.	104.	90.	72.	53.	40.	74.
SOUTHEAST	48.	52.	66.	77.	93.	104.	109.	106.	97.	82.	61.	49.	79.
HORIZ.	45.	55.	75.	95.	122.	139.	140.	128.	108.	84.	59.	45.	91.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	72.	80.	93.	96.	109.	118.	125.	128.	127.	117.	85.	72.	102.
SOUTHWEST	63.	72.	89.	100.	118.	131.	136.	132.	122.	106.	76.	63.	101.
WEST	48.	58.	78.	97.	120.	136.	138.	128.	110.	87.	61.	48.	93.
NORTHWEST	39.	46.	65.	85.	109.	125.	125.	113.	94.	72.	53.	40.	80.
NORTH	39.	44.	59.	75.	96.	109.	110.	101.	87.	69.	52.	40.	73.
NORTHEAST	39.	46.	65.	85.	109.	125.	125.	113.	94.	72.	53.	40.	80.
EAST	48.	58.	78.	97.	120.	136.	138.	128.	110.	87.	61.	48.	93.
SOUTHEAST	63.	72.	89.	100.	118.	131.	136.	132.	122.	106.	76.	63.	101.
HORIZ.	59.	76.	106.	133.	168.	192.	191.	171.	141.	109.	72.	57.	123.

LOCATION STILLWATER, OKLAHOMA LATITUDE 36 DEGREES 9 MINUTES

MONTH 1 HO 1640. TOD 41. TOT 37. KT .484 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	59.	106.	137.	155.	161.	155.	137.	106.	59.	0.	0.	0.	0.	1074.	124.	192.	72.	100.
SOUTHWEST	0.	0.	0.	0.	11.	22.	58.	94.	125.	145.	152.	141.	95.	0.	0.	0.	0.	844.	106.	160.	64.	87.
WEST	0.	0.	0.	0.	11.	21.	30.	35.	37.	71.	96.	106.	82.	0.	0.	0.	0.	490.	79.	110.	53.	66.
NORTHWEST	0.	0.	0.	0.	11.	21.	30.	35.	37.	35.	30.	21.	27.	0.	0.	0.	0.	248.	60.	76.	45.	52.
NORTH	0.	0.	0.	0.	11.	21.	30.	35.	37.	35.	30.	21.	11.	0.	0.	0.	0.	232.	59.	74.	45.	51.
NORTHEAST	0.	0.	0.	0.	27.	21.	30.	35.	37.	35.	30.	21.	11.	0.	0.	0.	0.	248.	60.	76.	45.	52.
EAST	0.	0.	0.	0.	82.	106.	96.	71.	37.	35.	30.	21.	11.	0.	0.	0.	0.	490.	79.	110.	53.	66.
SOUTHEAST	0.	0.	0.	0.	95.	141.	152.	145.	125.	94.	58.	22.	11.	0.	0.	0.	0.	844.	106.	160.	64.	87.
HORIZ.	0.	0.	0.	0.	31.	71.	104.	124.	131.	124.	104.	71.	31.	0.	0.	0.	0.	792.	102.	152.	63.	84.

MONTH 2 HO 2182. TOD 46. TOT 42. KT .527 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	20.	74.	114.	144.	162.	169.	162.	144.	114.	74.	20.	0.	0.	0.	1196.	130.	198.	80.	112.
SOUTHWEST	0.	0.	0.	5.	18.	30.	57.	98.	133.	158.	170.	164.	134.	48.	0.	0.	0.	1013.	117.	175.	75.	101.
WEST	0.	0.	0.	5.	18.	30.	38.	44.	46.	87.	118.	135.	126.	51.	0.	0.	0.	699.	95.	135.	64.	83.
NORTHWEST	0.	0.	0.	5.	18.	30.	38.	44.	46.	44.	38.	44.	55.	28.	0.	0.	0.	391.	73.	95.	55.	65.
NORTH	0.	0.	0.	5.	18.	30.	38.	44.	46.	44.	38.	30.	18.	5.	0.	0.	0.	317.	68.	86.	52.	60.
NORTHEAST	0.	0.	0.	28.	55.	44.	38.	44.	46.	44.	38.	30.	18.	5.	0.	0.	0.	391.	73.	95.	55.	65.
EAST	0.	0.	0.	51.	126.	135.	118.	87.	46.	44.	38.	30.	18.	5.	0.	0.	0.	699.	95.	135.	64.	83.
SOUTHEAST	0.	0.	0.	48.	134.	164.	170.	158.	133.	98.	57.	30.	18.	5.	0.	0.	0.	1013.	117.	175.	75.	101.
HORIZ.	0.	0.	0.	13.	61.	107.	143.	165.	173.	165.	143.	107.	61.	13.	0.	0.	0.	1151.	126.	192.	79.	109.

MONTH 3 HO 2761. TOD 54. TOT 50. KT .555 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	28.	69.	106.	135.	154.	160.	154.	135.	106.	69.	28.	0.	0.	0.	1145.	127.	187.	87.	117.
SOUTHWEST	0.	0.	0.	12.	26.	37.	47.	91.	129.	157.	171.	170.	148.	95.	0.	0.	0.	1084.	123.	180.	85.	113.
WEST	0.	0.	0.	12.	26.	37.	46.	52.	54.	98.	134.	156.	155.	114.	0.	0.	0.	885.	110.	157.	78.	101.
NORTHWEST	0.	0.	0.	12.	26.	37.	46.	52.	54.	52.	46.	72.	87.	73.	0.	0.	0.	558.	89.	119.	68.	82.
NORTH	0.	0.	0.	12.	26.	37.	46.	52.	54.	52.	46.	37.	26.	12.	0.	0.	0.	401.	79.	100.	63.	73.
NORTHEAST	0.	0.	0.	73.	87.	72.	46.	52.	54.	52.	46.	37.	26.	12.	0.	0.	0.	558.	89.	119.	68.	82.
EAST	0.	0.	0.	114.	155.	156.	134.	98.	54.	52.	46.	37.	26.	12.	0.	0.	0.	885.	110.	157.	78.	101.
SOUTHEAST	0.	0.	0.	95.	148.	170.	171.	157.	129.	91.	47.	37.	26.	12.	0.	0.	0.	1084.	123.	180.	85.	113.
HORIZ.	0.	0.	0.	39.	94.	142.	180.	204.	212.	204.	180.	142.	94.	39.	0.	0.	0.	1531.	152.	232.	99.	139.

LOCATION STILLWATER, OKLAHOMA LATITUDE 36 DEGREES 9 MINUTES

MONTH 4 HO 3305. TOD 64. TOT 61. KT .528 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	6.	19.	49.	80.	105.	121.	126.	121.	105.	80.	49.	19.	6.	0.	0.	889.	116.	158.	89.	112.
SOUTHWEST	0.	0.	6.	19.	32.	43.	52.	73.	106.	131.	145.	144.	129.	95.	33.	0.	0.	1009.	123.	171.	93.	120.
WEST	0.	0.	6.	19.	32.	43.	52.	57.	59.	98.	130.	149.	152.	128.	51.	0.	0.	978.	121.	168.	92.	118.
NORTHWEST	0.	0.	6.	19.	32.	43.	52.	57.	59.	57.	69.	92.	105.	98.	43.	0.	0.	734.	107.	142.	84.	103.
NORTH	0.	0.	14.	22.	32.	43.	52.	57.	59.	57.	52.	43.	32.	22.	14.	0.	0.	499.	93.	117.	77.	90.
NORTHEAST	0.	0.	43.	98.	105.	92.	69.	57.	59.	57.	52.	43.	32.	19.	6.	0.	0.	734.	107.	142.	84.	103.
EAST	0.	0.	51.	128.	152.	149.	130.	98.	59.	57.	52.	43.	32.	19.	6.	0.	0.	978.	121.	168.	92.	118.
SOUTHEAST	0.	0.	33.	95.	129.	144.	145.	131.	106.	73.	52.	43.	32.	19.	6.	0.	0.	1009.	123.	171.	93.	120.
HORIZ.	0.	0.	15.	64.	114.	159.	194.	215.	223.	215.	194.	159.	114.	64.	15.	0.	0.	1746.	166.	249.	117.	162.

MONTH 5 HO 3633. TOD 72. TOT 68. KT .523 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	11.	24.	36.	63.	86.	100.	105.	100.	86.	63.	36.	24.	11.	0.	0.	745.	115.	148.	94.	113.
SOUTHWEST	0.	0.	11.	24.	36.	46.	54.	61.	92.	115.	128.	129.	116.	89.	46.	0.	0.	949.	127.	169.	101.	126.
WEST	0.	0.	11.	24.	36.	46.	54.	59.	61.	98.	127.	146.	149.	132.	81.	0.	0.	1028.	132.	177.	103.	130.
NORTHWEST	0.	0.	11.	24.	36.	46.	54.	59.	61.	59.	84.	105.	116.	112.	76.	0.	0.	846.	121.	159.	97.	119.
NORTH	0.	0.	32.	40.	36.	46.	54.	59.	61.	59.	54.	46.	36.	40.	32.	0.	0.	600.	107.	133.	89.	104.
NORTHEAST	0.	0.	76.	112.	116.	105.	84.	59.	61.	59.	54.	46.	36.	24.	11.	0.	0.	846.	121.	159.	97.	119.
EAST	0.	0.	81.	132.	149.	146.	127.	98.	61.	59.	54.	46.	36.	24.	11.	0.	0.	1028.	132.	177.	103.	130.
SOUTHEAST	0.	0.	46.	89.	116.	129.	128.	115.	92.	61.	54.	46.	36.	24.	11.	0.	0.	949.	127.	169.	101.	126.
HORIZ.	0.	1.	31.	80.	128.	170.	202.	223.	230.	223.	202.	170.	128.	80.	31.	1.	0.	1899.	182.	267.	133.	183.

MONTH 6 HO 3746. TOD 81. TOT 77. KT .596 KD .175

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	2.	13.	26.	38.	60.	85.	101.	107.	101.	85.	60.	38.	26.	13.	2.	0.	753.	124.	157.	103.	123.
SOUTHWEST	0.	2.	13.	26.	38.	48.	56.	61.	94.	122.	139.	142.	129.	101.	56.	3.	0.	1030.	140.	184.	113.	140.
WEST	0.	2.	13.	26.	38.	48.	56.	61.	63.	108.	145.	169.	176.	160.	107.	4.	0.	1175.	148.	199.	118.	148.
NORTHWEST	0.	2.	13.	26.	38.	48.	56.	61.	63.	66.	99.	126.	142.	140.	102.	4.	0.	985.	137.	180.	111.	137.
NORTH	0.	3.	46.	53.	46.	48.	56.	61.	63.	61.	56.	48.	46.	53.	46.	3.	0.	690.	120.	150.	101.	119.
NORTHEAST	0.	4.	102.	140.	142.	126.	99.	66.	63.	61.	56.	48.	38.	26.	13.	2.	0.	985.	137.	180.	111.	137.
EAST	0.	4.	107.	160.	176.	169.	145.	108.	63.	61.	56.	48.	38.	26.	13.	2.	0.	1175.	148.	199.	118.	148.
SOUTHEAST	0.	3.	56.	101.	129.	142.	139.	122.	94.	61.	56.	48.	38.	26.	13.	2.	0.	1030.	140.	184.	113.	140.
HORIZ.	0.	3.	41.	96.	151.	198.	235.	258.	266.	258.	235.	198.	151.	96.	41.	3.	0.	2233.	208.	305.	154.	212.

LOCATION STILLWATER, OKLAHOMA LATITUDE 36 DEGREES 9 MINUTES

MONTH 7 HO 3628. TOD 86. TOT 82. KT .604 KD .173

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	11.	24.	36.	68.	94.	112.	117.	112.	94.	68.	36.	24.	11.	0.	0.	809.	133.	169.	110.	131.
SOUTHWEST	0.	0.	11.	24.	36.	47.	55.	62.	101.	131.	149.	151.	137.	106.	54.	0.	0.	1066.	148.	195.	119.	146.
WEST	0.	0.	11.	24.	36.	47.	55.	61.	62.	110.	148.	173.	180.	160.	98.	0.	0.	1167.	154.	206.	122.	153.
NORTHWEST	0.	0.	11.	24.	36.	47.	55.	61.	62.	61.	93.	122.	139.	135.	91.	0.	0.	938.	140.	182.	114.	139.
NORTH	0.	0.	37.	45.	37.	47.	55.	61.	62.	61.	55.	47.	37.	45.	37.	0.	0.	628.	122.	150.	104.	120.
NORTHEAST	0.	0.	91.	135.	139.	122.	93.	61.	62.	61.	55.	47.	36.	24.	11.	0.	0.	938.	140.	182.	114.	139.
EAST	0.	0.	98.	160.	180.	173.	148.	110.	62.	61.	55.	47.	36.	24.	11.	0.	0.	1167.	154.	206.	122.	153.
SOUTHEAST	0.	0.	54.	106.	137.	151.	149.	131.	101.	62.	55.	47.	36.	24.	11.	0.	0.	1066.	148.	195.	119.	146.
HORIZ.	0.	1.	34.	90.	147.	196.	235.	259.	267.	259.	235.	196.	147.	90.	34.	1.	0.	2191.	213.	311.	157.	214.

MONTH 8 HO 3281. TOD 86. TOT 82. KT .607 KD .172

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	6.	19.	53.	90.	119.	138.	144.	138.	119.	90.	53.	19.	6.	0.	0.	994.	148.	195.	116.	142.
SOUTHWEST	0.	0.	6.	19.	32.	44.	52.	78.	120.	151.	169.	170.	152.	111.	35.	0.	0.	1139.	157.	211.	121.	151.
WEST	0.	0.	6.	19.	32.	44.	52.	58.	60.	110.	151.	176.	181.	151.	55.	0.	0.	1095.	154.	206.	119.	148.
NORTHWEST	0.	0.	6.	19.	32.	44.	52.	58.	60.	58.	75.	105.	122.	114.	47.	0.	0.	792.	135.	173.	109.	130.
NORTH	0.	0.	15.	22.	32.	44.	52.	58.	60.	58.	52.	44.	32.	22.	15.	0.	0.	505.	117.	141.	99.	112.
NORTHEAST	0.	0.	47.	114.	122.	105.	75.	58.	60.	58.	52.	44.	32.	19.	6.	0.	0.	792.	135.	173.	109.	130.
EAST	0.	0.	55.	151.	181.	176.	151.	110.	60.	58.	52.	44.	32.	19.	6.	0.	0.	1095.	154.	206.	119.	148.
SOUTHEAST	0.	0.	35.	111.	152.	170.	169.	151.	120.	78.	52.	44.	32.	19.	6.	0.	0.	1139.	157.	211.	121.	151.
HORIZ.	0.	0.	15.	70.	129.	182.	223.	248.	257.	248.	223.	182.	129.	70.	15.	0.	0.	1992.	210.	305.	150.	202.

MONTH 9 HO 2746. TOD 77. TOT 74. KT .599 KD .174

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	28.	73.	114.	146.	166.	173.	166.	146.	114.	73.	28.	0.	0.	0.	1229.	161.	225.	116.	148.
SOUTHWEST	0.	0.	0.	12.	26.	37.	47.	96.	138.	170.	187.	185.	161.	100.	0.	0.	0.	1160.	156.	217.	113.	144.
WEST	0.	0.	0.	12.	26.	37.	46.	52.	54.	105.	146.	170.	169.	121.	0.	0.	0.	938.	141.	190.	106.	130.
NORTHWEST	0.	0.	0.	12.	26.	37.	46.	52.	54.	52.	46.	77.	93.	77.	0.	0.	0.	575.	117.	147.	93.	109.
NORTH	0.	0.	0.	12.	26.	37.	46.	52.	54.	52.	46.	37.	26.	12.	0.	0.	0.	402.	105.	126.	88.	98.
NORTHEAST	0.	0.	0.	77.	93.	77.	46.	52.	54.	52.	46.	37.	26.	12.	0.	0.	0.	575.	117.	147.	93.	109.
EAST	0.	0.	0.	121.	169.	170.	146.	105.	54.	52.	46.	37.	26.	12.	0.	0.	0.	938.	141.	190.	106.	130.
SOUTHEAST	0.	0.	0.	100.	161.	185.	187.	170.	138.	96.	47.	37.	26.	12.	0.	0.	0.	1160.	156.	217.	113.	144.
HORIZ.	0.	0.	0.	41.	99.	153.	194.	220.	229.	220.	194.	153.	99.	41.	0.	0.	0.	1643.	189.	275.	130.	173.

LOCATION STILLWATER, OKLAHOMA LATITUDE 36 DEGREES 9 MINUTES

MONTH 10 HO 2148. TOD 68. TOT 63. KT .581 KD .177

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	19.	81.	129.	163.	185.	192.	185.	163.	129.	81.	19.	0.	0.	0.	1346.	162.	240.	107.	142.
SOUTHWEST	0.	0.	0.	5.	18.	29.	60.	108.	149.	179.	193.	186.	150.	46.	0.	0.	0.	1124.	147.	211.	99.	129.
WEST	0.	0.	0.	5.	18.	29.	38.	44.	46.	94.	132.	152.	141.	49.	0.	0.	0.	749.	120.	163.	87.	107.
NORTHWEST	0.	0.	0.	5.	18.	29.	38.	44.	46.	44.	38.	46.	60.	26.	0.	0.	0.	395.	95.	118.	76.	86.
NORTH	0.	0.	0.	5.	18.	29.	38.	44.	46.	44.	38.	29.	18.	5.	0.	0.	0.	315.	90.	108.	74.	82.
NORTHEAST	0.	0.	0.	26.	60.	46.	38.	44.	46.	44.	38.	29.	18.	5.	0.	0.	0.	395.	95.	118.	76.	86.
EAST	0.	0.	0.	49.	141.	152.	132.	94.	46.	44.	38.	29.	18.	5.	0.	0.	0.	749.	120.	163.	87.	107.
SOUTHEAST	0.	0.	0.	46.	150.	186.	193.	179.	149.	108.	60.	29.	18.	5.	0.	0.	0.	1124.	147.	211.	99.	129.
HORIZ.	0.	0.	0.	12.	64.	115.	156.	182.	190.	182.	156.	115.	64.	12.	0.	0.	0.	1248.	155.	227.	103.	136.

MONTH 11 HO 1628. TOD 53. TOT 50. KT .548 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	69.	125.	162.	184.	192.	184.	162.	125.	69.	0.	0.	0.	0.	1273.	151.	232.	90.	124.
SOUTHWEST	0.	0.	0.	0.	11.	22.	66.	109.	147.	172.	182.	168.	112.	0.	0.	0.	0.	988.	129.	192.	81.	107.
WEST	0.	0.	0.	0.	11.	22.	30.	36.	38.	80.	112.	125.	96.	0.	0.	0.	0.	550.	95.	130.	67.	82.
NORTHWEST	0.	0.	0.	0.	11.	22.	30.	36.	38.	36.	30.	22.	30.	0.	0.	0.	0.	255.	72.	88.	58.	64.
NORTH	0.	0.	0.	0.	11.	22.	30.	36.	38.	36.	30.	22.	11.	0.	0.	0.	0.	236.	71.	86.	57.	63.
NORTHEAST	0.	0.	0.	0.	30.	22.	30.	36.	38.	36.	30.	22.	11.	0.	0.	0.	0.	255.	72.	88.	58.	64.
EAST	0.	0.	0.	0.	96.	125.	112.	80.	38.	36.	30.	22.	11.	0.	0.	0.	0.	550.	95.	130.	67.	82.
SOUTHEAST	0.	0.	0.	0.	112.	168.	182.	172.	147.	109.	66.	22.	11.	0.	0.	0.	0.	988.	129.	192.	81.	107.
HORIZ.	0.	0.	0.	0.	33.	80.	117.	141.	149.	141.	117.	80.	33.	0.	0.	0.	0.	891.	122.	178.	78.	102.

MONTH 12 HO 1428. TOD 44. TOT 41. KT .544 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	59.	124.	164.	186.	194.	186.	164.	124.	59.	0.	0.	0.	0.	1259.	146.	228.	81.	114.
SOUTHWEST	0.	0.	0.	0.	8.	25.	68.	111.	147.	172.	180.	162.	92.	0.	0.	0.	0.	963.	122.	185.	72.	97.
WEST	0.	0.	0.	0.	8.	19.	27.	33.	35.	76.	106.	116.	76.	0.	0.	0.	0.	495.	84.	117.	57.	70.
NORTHWEST	0.	0.	0.	0.	8.	19.	27.	33.	35.	33.	27.	19.	20.	0.	0.	0.	0.	220.	62.	76.	48.	54.
NORTH	0.	0.	0.	0.	8.	19.	27.	33.	35.	33.	27.	19.	8.	0.	0.	0.	0.	208.	61.	74.	47.	53.
NORTHEAST	0.	0.	0.	0.	20.	19.	27.	33.	35.	33.	27.	19.	8.	0.	0.	0.	0.	220.	62.	76.	48.	54.
EAST	0.	0.	0.	0.	76.	116.	106.	76.	35.	33.	27.	19.	8.	0.	0.	0.	0.	495.	84.	117.	57.	70.
SOUTHEAST	0.	0.	0.	0.	92.	162.	180.	172.	147.	111.	68.	25.	8.	0.	0.	0.	0.	963.	122.	185.	72.	97.
HORIZ.	0.	0.	0.	0.	23.	67.	104.	127.	135.	127.	104.	67.	23.	0.	0.	0.	0.	778.	107.	158.	66.	86.

LOCATION STILLWATER, OKLAHOMA LATITUDE 36 DEGREES 9 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	124.	130.	127.	116.	115.	124.	133.	148.	161.	162.	151.	146.	136.
SOUTHWEST	106.	117.	123.	123.	127.	140.	148.	157.	156.	147.	129.	122.	133.
WEST	79.	95.	110.	121.	132.	148.	154.	154.	141.	120.	95.	84.	119.
NORTHWEST	60.	73.	89.	107.	121.	137.	140.	135.	117.	95.	72.	62.	101.
NORTH	59.	68.	79.	93.	107.	120.	122.	117.	105.	90.	71.	61.	91.
NORTHEAST	60.	73.	89.	107.	121.	137.	140.	135.	117.	95.	72.	62.	101.
EAST	79.	95.	110.	121.	132.	148.	154.	154.	141.	120.	95.	84.	119.
SOUTHEAST	106.	117.	123.	123.	127.	140.	148.	157.	156.	147.	129.	122.	133.
HORIZ.	102.	126.	152.	166.	182.	208.	213.	210.	189.	155.	122.	107.	161.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	192.	198.	187.	158.	148.	157.	169.	195.	225.	240.	232.	228.	194.
SOUTHWEST	160.	175.	180.	171.	169.	184.	195.	211.	217.	211.	192.	185.	188.
WEST	110.	135.	157.	168.	177.	199.	206.	206.	190.	163.	130.	117.	163.
NORTHWEST	76.	95.	119.	142.	159.	180.	182.	173.	147.	118.	88.	76.	130.
NORTH	74.	86.	100.	117.	133.	150.	150.	141.	126.	108.	86.	74.	112.
NORTHEAST	76.	95.	119.	142.	159.	180.	182.	173.	147.	118.	88.	76.	130.
EAST	110.	135.	157.	168.	177.	199.	206.	206.	190.	163.	130.	117.	163.
SOUTHEAST	160.	175.	180.	171.	169.	184.	195.	211.	217.	211.	192.	185.	188.
HORIZ.	152.	192.	232.	249.	267.	305.	311.	305.	275.	227.	178.	158.	238.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	72.	80.	87.	89.	94.	103.	110.	116.	116.	107.	90.	81.	95.
SOUTHWEST	64.	75.	85.	93.	101.	113.	119.	121.	113.	99.	81.	72.	95.
WEST	53.	64.	78.	92.	103.	118.	122.	119.	106.	87.	67.	57.	89.
NORTHWEST	45.	55.	68.	84.	97.	111.	114.	109.	93.	76.	58.	48.	80.
NORTH	45.	52.	63.	77.	89.	101.	104.	99.	88.	74.	57.	47.	75.
NORTHEAST	45.	55.	68.	84.	97.	111.	114.	109.	93.	76.	58.	48.	80.
EAST	53.	64.	78.	92.	103.	118.	122.	119.	106.	87.	67.	57.	89.
SOUTHEAST	64.	75.	85.	93.	101.	113.	119.	121.	113.	99.	81.	72.	95.
HORIZ.	63.	79.	99.	117.	133.	154.	157.	150.	130.	103.	78.	66.	111.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	100.	112.	117.	112.	113.	123.	131.	142.	148.	142.	124.	114.	123.
SOUTHWEST	87.	101.	113.	120.	126.	140.	146.	151.	144.	129.	107.	97.	122.
WEST	66.	83.	101.	118.	130.	148.	153.	148.	130.	107.	82.	70.	111.
NORTHWEST	52.	65.	82.	103.	119.	137.	139.	130.	109.	86.	64.	54.	95.
NORTH	51.	60.	73.	90.	104.	119.	120.	112.	98.	82.	63.	53.	86.
NORTHEAST	52.	65.	82.	103.	119.	137.	139.	130.	109.	86.	64.	54.	95.
EAST	66.	83.	101.	118.	130.	148.	153.	148.	130.	107.	82.	70.	111.
SOUTHEAST	87.	101.	113.	120.	126.	140.	146.	151.	144.	129.	107.	97.	122.
HORIZ.	84.	109.	139.	162.	183.	212.	214.	202.	173.	136.	102.	86.	150.

LOCATION TAMPA, FLORIDA LATITUDE 27 DEGREES 54 MINUTES

MONTH 1 HO 2076. TOD 64. TOT 61. KT .605 KD .173

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	12.	96.	145.	179.	199.	205.	199.	179.	145.	96.	12.	0.	0.	0.	1464.	171.	259.	108.	147.
SOUTHWEST	0.	0.	0.	3.	16.	28.	69.	117.	159.	190.	206.	201.	160.	23.	0.	0.	0.	1171.	150.	220.	99.	130.
WEST	0.	0.	0.	3.	16.	28.	38.	44.	46.	96.	135.	155.	140.	22.	0.	0.	0.	724.	117.	160.	85.	104.
NORTHWEST	0.	0.	0.	3.	16.	28.	38.	44.	46.	44.	38.	36.	48.	10.	0.	0.	0.	351.	90.	111.	73.	82.
NORTH	0.	0.	0.	3.	16.	28.	38.	44.	46.	44.	38.	28.	16.	3.	0.	0.	0.	305.	86.	105.	71.	79.
NORTHEAST	0.	0.	0.	10.	48.	36.	38.	44.	46.	44.	38.	28.	16.	3.	0.	0.	0.	351.	90.	111.	73.	82.
EAST	0.	0.	0.	22.	140.	155.	135.	96.	46.	44.	38.	28.	16.	3.	0.	0.	0.	724.	117.	160.	85.	104.
SOUTHEAST	0.	0.	0.	23.	160.	201.	206.	190.	159.	117.	69.	28.	16.	3.	0.	0.	0.	1171.	150.	220.	99.	130.
HORIZ.	0.	0.	0.	6.	59.	116.	160.	188.	197.	188.	160.	116.	59.	6.	0.	0.	0.	1254.	156.	231.	102.	135.

MONTH 2 HO 2549. TOD 66. TOT 63. KT .600 KD .174

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	33.	87.	128.	158.	176.	183.	176.	158.	128.	87.	33.	0.	0.	0.	1345.	158.	233.	106.	141.
SOUTHWEST	0.	0.	0.	8.	22.	35.	55.	102.	145.	177.	195.	194.	168.	86.	0.	0.	0.	1186.	147.	213.	101.	132.
WEST	0.	0.	0.	8.	22.	35.	45.	51.	53.	104.	144.	168.	163.	93.	0.	0.	0.	886.	126.	176.	91.	115.
NORTHWEST	0.	0.	0.	8.	22.	35.	45.	51.	53.	51.	45.	63.	76.	50.	0.	0.	0.	500.	100.	128.	79.	92.
NORTH	0.	0.	0.	8.	22.	35.	45.	51.	53.	51.	45.	35.	22.	8.	0.	0.	0.	376.	91.	112.	75.	85.
NORTHEAST	0.	0.	0.	50.	76.	63.	45.	51.	53.	51.	45.	35.	22.	8.	0.	0.	0.	500.	100.	128.	79.	92.
EAST	0.	0.	0.	93.	163.	168.	144.	104.	53.	51.	45.	35.	22.	8.	0.	0.	0.	886.	126.	176.	91.	115.
SOUTHEAST	0.	0.	0.	86.	168.	194.	195.	177.	145.	102.	55.	35.	22.	8.	0.	0.	0.	1186.	147.	213.	101.	132.
HORIZ.	0.	0.	0.	23.	85.	142.	187.	215.	225.	215.	187.	142.	85.	23.	0.	0.	0.	1532.	171.	256.	112.	152.

MONTH 3 HO 3016. TOD 69. TOT 66. KT .606 KD .173

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	28.	68.	104.	132.	150.	156.	150.	132.	104.	68.	28.	0.	0.	0.	1121.	141.	199.	102.	131.
SOUTHWEST	0.	0.	0.	14.	28.	41.	51.	85.	128.	161.	180.	183.	164.	110.	0.	0.	0.	1144.	142.	202.	103.	133.
WEST	0.	0.	0.	14.	28.	41.	51.	57.	59.	111.	152.	178.	180.	136.	0.	0.	0.	1007.	133.	186.	98.	125.
NORTHWEST	0.	0.	0.	14.	28.	41.	51.	57.	59.	57.	65.	93.	107.	90.	0.	0.	0.	663.	111.	146.	87.	105.
NORTH	0.	0.	0.	14.	28.	41.	51.	57.	59.	57.	51.	41.	28.	14.	0.	0.	0.	441.	97.	120.	80.	92.
NORTHEAST	0.	0.	0.	90.	107.	93.	65.	57.	59.	57.	51.	41.	28.	14.	0.	0.	0.	663.	111.	146.	87.	105.
EAST	0.	0.	0.	136.	180.	178.	152.	111.	59.	57.	51.	41.	28.	14.	0.	0.	0.	1007.	133.	186.	98.	125.
SOUTHEAST	0.	0.	0.	110.	164.	183.	180.	161.	128.	85.	51.	41.	28.	14.	0.	0.	0.	1144.	142.	202.	103.	133.
HORIZ.	0.	0.	0.	47.	112.	170.	215.	243.	253.	243.	215.	170.	112.	47.	0.	0.	0.	1826.	186.	281.	125.	172.

LOCATION TAMPA, FLORIDA LATITUDE 27 DEGREES 54 MINUTES

MONTH 4 HO 3409. TOD 74. TOT 71. KT .602 KD .174

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	5.	19.	41.	73.	98.	114.	119.	114.	98.	73.	41.	19.	5.	0.	0.	817.	123.	163.	98.	119.
SOUTHWEST	0.	0.	5.	19.	33.	46.	55.	62.	103.	135.	154.	158.	144.	106.	26.	0.	0.	1045.	137.	188.	105.	132.
WEST	0.	0.	5.	19.	33.	46.	55.	61.	63.	112.	152.	177.	181.	151.	42.	0.	0.	1099.	140.	194.	107.	136.
NORTHWEST	0.	0.	5.	19.	33.	46.	55.	61.	63.	61.	94.	120.	132.	119.	36.	0.	0.	844.	125.	166.	99.	121.
NORTH	0.	0.	12.	28.	33.	46.	55.	61.	63.	61.	55.	46.	33.	28.	12.	0.	0.	533.	106.	132.	89.	103.
NORTHEAST	0.	0.	36.	119.	132.	120.	94.	61.	63.	61.	55.	46.	33.	19.	5.	0.	0.	844.	125.	166.	99.	121.
EAST	0.	0.	42.	151.	181.	177.	152.	112.	63.	61.	55.	46.	33.	19.	5.	0.	0.	1099.	140.	194.	107.	136.
SOUTHEAST	0.	0.	26.	106.	144.	158.	154.	135.	103.	62.	55.	46.	33.	19.	5.	0.	0.	1045.	137.	188.	105.	132.
HORIZ.	0.	0.	11.	69.	132.	188.	232.	259.	268.	259.	232.	188.	132.	69.	11.	0.	0.	2052.	197.	297.	137.	191.

MONTH 5 HO 3611. TOD 79. TOT 76. KT .620 KD .169

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	8.	22.	36.	48.	72.	87.	93.	87.	72.	48.	36.	22.	8.	0.	0.	641.	118.	148.	98.	115.
SOUTHWEST	0.	0.	8.	22.	36.	47.	57.	62.	84.	116.	136.	141.	130.	100.	43.	0.	0.	983.	139.	185.	110.	136.
WEST	0.	0.	8.	22.	36.	47.	57.	62.	64.	113.	154.	179.	185.	161.	81.	0.	0.	1170.	151.	205.	117.	147.
NORTHWEST	0.	0.	8.	22.	36.	47.	57.	62.	64.	81.	114.	140.	153.	141.	76.	0.	0.	1002.	140.	187.	111.	137.
NORTH	0.	0.	32.	52.	52.	47.	57.	62.	64.	62.	57.	47.	52.	52.	32.	0.	0.	667.	120.	151.	99.	117.
NORTHEAST	0.	0.	76.	141.	153.	140.	114.	81.	64.	62.	57.	47.	36.	22.	8.	0.	0.	1002.	140.	187.	111.	137.
EAST	0.	0.	81.	161.	185.	179.	154.	113.	64.	62.	57.	47.	36.	22.	8.	0.	0.	1170.	151.	205.	117.	147.
SOUTHEAST	0.	0.	43.	100.	130.	141.	136.	116.	84.	62.	57.	47.	36.	22.	8.	0.	0.	983.	139.	185.	110.	136.
HORIZ.	0.	0.	24.	85.	148.	203.	246.	273.	282.	273.	246.	203.	148.	85.	24.	0.	0.	2240.	216.	320.	153.	212.

MONTH 6 HO 3674. TOD 83. TOT 80. KT .583 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	10.	23.	37.	48.	60.	74.	79.	74.	60.	48.	37.	23.	10.	0.	0.	584.	118.	144.	100.	116.
SOUTHWEST	0.	0.	10.	23.	37.	48.	57.	62.	75.	103.	120.	124.	114.	87.	41.	0.	0.	899.	137.	178.	111.	135.
WEST	0.	0.	10.	23.	37.	48.	57.	62.	64.	107.	142.	164.	168.	147.	81.	0.	0.	1111.	149.	200.	118.	148.
NORTHWEST	0.	0.	10.	23.	37.	48.	57.	62.	64.	86.	114.	136.	146.	135.	80.	0.	0.	997.	142.	188.	114.	141.
NORTH	0.	0.	37.	57.	59.	57.	57.	62.	64.	62.	57.	57.	59.	57.	37.	0.	0.	722.	126.	159.	105.	124.
NORTHEAST	0.	0.	80.	135.	146.	136.	114.	86.	64.	62.	57.	48.	37.	23.	10.	0.	0.	997.	142.	188.	114.	141.
EAST	0.	0.	81.	147.	168.	164.	142.	107.	64.	62.	57.	48.	37.	23.	10.	0.	0.	1111.	149.	200.	118.	148.
SOUTHEAST	0.	0.	41.	87.	114.	124.	120.	103.	75.	62.	57.	48.	37.	23.	10.	0.	0.	899.	137.	178.	111.	135.
HORIZ.	0.	0.	29.	85.	143.	193.	232.	257.	265.	257.	232.	193.	143.	85.	29.	0.	0.	2142.	211.	309.	154.	210.

LOCATION TAMPA, FLORIDA LATITUDE 27 DEGREES 54 MINUTES

MONTH 7 HO 3604. TOD 84. TOT 82. KT .548 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	9.	22.	35.	47.	68.	81.	86.	81.	68.	47.	35.	22.	9.	0.	0.	611.	121.	150.	103.	119.
SOUTHWEST	0.	0.	9.	22.	35.	47.	56.	61.	79.	105.	120.	123.	111.	84.	35.	0.	0.	888.	138.	179.	112.	135.
WEST	0.	0.	9.	22.	35.	47.	56.	61.	63.	103.	135.	154.	156.	133.	65.	0.	0.	1039.	147.	195.	117.	144.
NORTHWEST	0.	0.	9.	22.	35.	47.	56.	61.	63.	77.	103.	122.	130.	118.	61.	0.	0.	905.	139.	181.	113.	136.
NORTH	0.	0.	27.	46.	49.	47.	56.	61.	63.	61.	56.	47.	49.	46.	27.	0.	0.	636.	123.	152.	103.	120.
NORTHEAST	0.	0.	61.	118.	130.	122.	103.	77.	63.	61.	56.	47.	35.	22.	9.	0.	0.	905.	139.	181.	113.	136.
EAST	0.	0.	65.	133.	156.	154.	135.	103.	63.	61.	56.	47.	35.	22.	9.	0.	0.	1039.	147.	195.	117.	144.
SOUTHEAST	0.	0.	35.	84.	111.	123.	120.	105.	79.	61.	56.	47.	35.	22.	9.	0.	0.	888.	138.	179.	112.	135.
HORIZ.	0.	0.	22.	76.	131.	179.	216.	240.	248.	240.	216.	179.	131.	76.	22.	0.	0.	1976.	204.	296.	149.	201.

MONTH 8 HO 3382. TOD 84. TOT 82. KT .537 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	5.	19.	39.	66.	89.	103.	108.	103.	89.	66.	39.	19.	5.	0.	0.	749.	132.	169.	108.	127.
SOUTHWEST	0.	0.	5.	19.	33.	45.	54.	60.	94.	120.	135.	136.	122.	88.	20.	0.	0.	930.	144.	189.	114.	138.
WEST	0.	0.	5.	19.	33.	45.	54.	60.	62.	102.	134.	152.	153.	123.	31.	0.	0.	972.	146.	194.	115.	141.
NORTHWEST	0.	0.	5.	19.	33.	45.	54.	60.	62.	60.	86.	106.	113.	98.	27.	0.	0.	766.	133.	171.	108.	128.
NORTH	0.	0.	10.	26.	33.	45.	54.	60.	62.	60.	54.	45.	33.	26.	10.	0.	0.	516.	117.	143.	100.	113.
NORTHEAST	0.	0.	27.	98.	113.	106.	86.	60.	62.	60.	54.	45.	33.	19.	5.	0.	0.	766.	133.	171.	108.	128.
EAST	0.	0.	31.	123.	153.	152.	134.	102.	62.	60.	54.	45.	33.	19.	5.	0.	0.	972.	146.	194.	115.	141.
SOUTHEAST	0.	0.	20.	88.	122.	136.	135.	120.	94.	60.	54.	45.	33.	19.	5.	0.	0.	930.	144.	189.	114.	138.
HORIZ.	0.	0.	10.	61.	117.	167.	205.	229.	238.	229.	205.	167.	117.	61.	10.	0.	0.	1816.	200.	289.	144.	192.

MONTH 9 HO 2994. TOD 83. TOT 80. KT .546 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	25.	60.	92.	117.	133.	138.	133.	117.	92.	60.	25.	0.	0.	0.	992.	151.	202.	114.	140.
SOUTHWEST	0.	0.	0.	14.	28.	40.	50.	79.	115.	142.	157.	157.	138.	90.	0.	0.	0.	1011.	152.	205.	115.	142.
WEST	0.	0.	0.	14.	28.	40.	50.	56.	58.	101.	135.	154.	152.	110.	0.	0.	0.	898.	144.	191.	111.	135.
NORTHWEST	0.	0.	0.	14.	28.	40.	50.	56.	58.	56.	62.	84.	93.	74.	0.	0.	0.	616.	125.	157.	102.	118.
NORTH	0.	0.	0.	14.	28.	40.	50.	56.	58.	56.	50.	40.	28.	14.	0.	0.	0.	434.	112.	135.	95.	107.
NORTHEAST	0.	0.	0.	74.	93.	84.	62.	56.	58.	56.	50.	40.	28.	14.	0.	0.	0.	616.	125.	157.	102.	118.
EAST	0.	0.	0.	110.	152.	154.	135.	101.	58.	56.	50.	40.	28.	14.	0.	0.	0.	898.	144.	191.	111.	135.
SOUTHEAST	0.	0.	0.	90.	138.	157.	157.	142.	115.	79.	50.	40.	28.	14.	0.	0.	0.	1011.	152.	205.	115.	142.
HORIZ.	0.	0.	0.	42.	100.	152.	192.	218.	226.	218.	192.	152.	100.	42.	0.	0.	0.	1633.	194.	280.	136.	179.

LOCATION TAMPA, FLORIDA LATITUDE 27 DEGREES 54 MINUTES

MONTH 10 HO 2515. TOD 77. TOT 75. KT .572 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	28.	81.	120.	149.	167.	173.	167.	149.	120.	81.	28.	0.	0.	0.	1262.	164.	234.	115.	148.
SOUTHWEST	0.	0.	0.	8.	22.	34.	54.	98.	138.	167.	183.	181.	153.	72.	0.	0.	0.	1108.	153.	215.	110.	139.
WEST	0.	0.	0.	8.	22.	34.	44.	50.	52.	99.	135.	156.	149.	77.	0.	0.	0.	826.	134.	180.	101.	123.
NORTHWEST	0.	0.	0.	8.	22.	34.	44.	50.	52.	50.	44.	60.	70.	42.	0.	0.	0.	476.	110.	136.	90.	102.
NORTH	0.	0.	0.	8.	22.	34.	44.	50.	52.	50.	44.	34.	22.	8.	0.	0.	0.	368.	102.	123.	86.	96.
NORTHEAST	0.	0.	0.	42.	70.	60.	44.	50.	52.	50.	44.	34.	22.	8.	0.	0.	0.	476.	110.	136.	90.	102.
EAST	0.	0.	0.	77.	149.	156.	135.	99.	52.	50.	44.	34.	22.	8.	0.	0.	0.	826.	134.	180.	101.	123.
SOUTHEAST	0.	0.	0.	72.	153.	181.	183.	167.	138.	98.	54.	34.	22.	8.	0.	0.	0.	1108.	153.	215.	110.	139.
HORIZ.	0.	0.	0.	21.	79.	134.	176.	203.	213.	203.	176.	134.	79.	21.	0.	0.	0.	1440.	176.	257.	121.	159.

MONTH 11 HO 2063. TOD 70. TOT 67. KT .590 KD .175

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	10.	91.	140.	173.	192.	199.	192.	173.	140.	91.	10.	0.	0.	0.	1410.	173.	257.	112.	149.
SOUTHWEST	0.	0.	0.	3.	16.	28.	68.	114.	154.	184.	199.	193.	152.	19.	0.	0.	0.	1128.	152.	220.	103.	132.
WEST	0.	0.	0.	3.	16.	28.	38.	44.	46.	94.	131.	149.	133.	18.	0.	0.	0.	699.	121.	162.	89.	107.
NORTHWEST	0.	0.	0.	3.	16.	28.	38.	44.	46.	44.	38.	35.	46.	9.	0.	0.	0.	345.	95.	115.	78.	87.
NORTH	0.	0.	0.	3.	16.	28.	38.	44.	46.	44.	38.	28.	16.	3.	0.	0.	0.	303.	92.	110.	76.	84.
NORTHEAST	0.	0.	0.	9.	46.	35.	38.	44.	46.	44.	38.	28.	16.	3.	0.	0.	0.	345.	95.	115.	78.	87.
EAST	0.	0.	0.	18.	133.	149.	131.	94.	46.	44.	38.	28.	16.	3.	0.	0.	0.	699.	121.	162.	89.	107.
SOUTHEAST	0.	0.	0.	19.	152.	193.	199.	184.	154.	114.	68.	28.	16.	3.	0.	0.	0.	1128.	152.	220.	103.	132.
HORIZ.	0.	0.	0.	5.	57.	112.	155.	182.	192.	182.	155.	112.	57.	5.	0.	0.	0.	1215.	159.	231.	106.	137.

MONTH 12 HO 1882. TOD 65. TOT 63. KT .589 KD .176

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	1.	91.	144.	178.	198.	205.	198.	178.	144.	91.	1.	0.	0.	0.	1429.	173.	261.	109.	146.
SOUTHWEST	0.	0.	0.	1.	14.	26.	72.	118.	158.	187.	200.	192.	145.	2.	0.	0.	0.	1113.	149.	218.	98.	128.
WEST	0.	0.	0.	1.	14.	26.	35.	41.	43.	90.	126.	143.	122.	2.	0.	0.	0.	640.	114.	153.	83.	100.
NORTHWEST	0.	0.	0.	1.	14.	26.	35.	41.	43.	41.	35.	26.	35.	1.	0.	0.	0.	297.	88.	106.	72.	80.
NORTH	0.	0.	0.	1.	14.	26.	35.	41.	43.	41.	35.	26.	14.	1.	0.	0.	0.	275.	86.	103.	72.	79.
NORTHEAST	0.	0.	0.	1.	35.	26.	35.	41.	43.	41.	35.	26.	14.	1.	0.	0.	0.	297.	88.	106.	72.	80.
EAST	0.	0.	0.	2.	122.	143.	126.	90.	43.	41.	35.	26.	14.	1.	0.	0.	0.	640.	114.	153.	83.	100.
SOUTHEAST	0.	0.	0.	2.	145.	192.	200.	187.	158.	118.	72.	26.	14.	1.	0.	0.	0.	1113.	149.	218.	98.	128.
HORIZ.	0.	0.	0.	2.	47.	101.	143.	170.	180.	170.	143.	101.	47.	2.	0.	0.	0.	1107.	149.	217.	98.	127.

LOCATION TAMPA, FLORIDA LATITUDE 27 DEGREES 54 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	171.	158.	141.	123.	118.	118.	121.	132.	151.	164.	173.	173.	145.
SOUTHWEST	150.	147.	142.	137.	139.	137.	138.	144.	152.	153.	152.	149.	145.
WEST	117.	126.	133.	140.	151.	149.	147.	146.	144.	134.	121.	114.	135.
NORTHWEST	90.	100.	111.	125.	140.	142.	139.	133.	125.	110.	95.	88.	117.
NORTH	86.	91.	97.	106.	120.	126.	123.	117.	112.	102.	92.	86.	105.
NORTHEAST	90.	100.	111.	125.	140.	142.	139.	133.	125.	110.	95.	88.	117.
EAST	117.	126.	133.	140.	151.	149.	147.	146.	144.	134.	121.	114.	135.
SOUTHEAST	150.	147.	142.	137.	139.	137.	138.	144.	152.	153.	152.	149.	145.
HORIZ.	156.	171.	186.	197.	216.	211.	204.	200.	194.	176.	159.	149.	185.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	259.	233.	199.	163.	148.	144.	150.	169.	202.	234.	257.	261.	202.
SOUTHWEST	220.	213.	202.	188.	185.	178.	179.	189.	205.	215.	220.	218.	201.
WEST	160.	176.	186.	194.	205.	200.	195.	194.	191.	180.	162.	153.	183.
NORTHWEST	111.	128.	146.	166.	187.	188.	181.	171.	157.	136.	115.	106.	149.
NORTH	105.	112.	120.	132.	151.	159.	152.	143.	135.	123.	110.	103.	129.
NORTHEAST	111.	128.	146.	166.	187.	188.	181.	171.	157.	136.	115.	106.	149.
EAST	160.	176.	186.	194.	205.	200.	195.	194.	191.	180.	162.	153.	183.
SOUTHEAST	220.	213.	202.	188.	185.	178.	179.	189.	205.	215.	220.	218.	201.
HORIZ.	231.	256.	281.	297.	320.	309.	296.	289.	280.	257.	231.	217.	272.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	108.	106.	102.	98.	98.	100.	103.	108.	114.	115.	112.	109.	106.
SOUTHWEST	99.	101.	103.	105.	110.	111.	112.	114.	115.	110.	103.	98.	107.
WEST	85.	91.	98.	107.	117.	118.	117.	115.	111.	101.	89.	83.	103.
NORTHWEST	73.	79.	87.	99.	111.	114.	113.	108.	102.	90.	78.	72.	94.
NORTH	71.	75.	80.	89.	99.	105.	103.	100.	95.	86.	76.	72.	88.
NORTHEAST	73.	79.	87.	99.	111.	114.	113.	108.	102.	90.	78.	72.	94.
EAST	85.	91.	98.	107.	117.	118.	117.	115.	111.	101.	89.	83.	103.
SOUTHEAST	99.	101.	103.	105.	110.	111.	112.	114.	115.	110.	103.	98.	107.
HORIZ.	102.	112.	125.	137.	153.	154.	149.	144.	136.	121.	106.	98.	128.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	147.	141.	131.	119.	115.	116.	119.	127.	140.	148.	149.	146.	133.
SOUTHWEST	130.	132.	133.	132.	136.	135.	135.	138.	142.	139.	132.	128.	134.
WEST	104.	115.	125.	136.	147.	148.	144.	141.	135.	123.	107.	100.	127.
NORTHWEST	82.	92.	105.	121.	137.	141.	136.	128.	118.	102.	87.	80.	111.
NORTH	79.	85.	92.	103.	117.	124.	120.	113.	107.	96.	84.	79.	100.
NORTHEAST	82.	92.	105.	121.	137.	141.	136.	128.	118.	102.	87.	80.	111.
EAST	104.	115.	125.	136.	147.	148.	144.	141.	135.	123.	107.	100.	127.
SOUTHEAST	130.	132.	133.	132.	136.	135.	135.	138.	142.	139.	132.	128.	134.
HORIZ.	135.	152.	172.	191.	212.	210.	201.	192.	179.	159.	137.	127.	172.

LOCATION TUCSON, ARIZONA LATITUDE 32 DEGREES 7 MINUTES

MONTH 1 HO 1856. TOD 54. TOT 50. KT .648 KD .162

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	2.	99.	161.	201.	226.	234.	226.	201.	161.	99.	2.	0.	0.	0.	1611.	175.	273.	101.	144.
SOUTHWEST	0.	0.	0.	1.	13.	25.	75.	130.	178.	213.	230.	220.	166.	2.	0.	0.	0.	1254.	148.	225.	90.	123.
WEST	0.	0.	0.	1.	13.	25.	34.	40.	42.	99.	143.	166.	143.	2.	0.	0.	0.	710.	107.	150.	72.	91.
NORTHWEST	0.	0.	0.	1.	13.	25.	34.	40.	42.	40.	34.	29.	44.	2.	0.	0.	0.	305.	77.	95.	59.	67.
NORTH	0.	0.	0.	1.	13.	25.	34.	40.	42.	40.	34.	25.	13.	1.	0.	0.	0.	270.	74.	91.	58.	65.
NORTHEAST	0.	0.	0.	2.	44.	29.	34.	40.	42.	40.	34.	25.	13.	1.	0.	0.	0.	305.	77.	95.	59.	67.
EAST	0.	0.	0.	2.	143.	166.	143.	99.	42.	40.	34.	25.	13.	1.	0.	0.	0.	710.	107.	150.	72.	91.
SOUTHEAST	0.	0.	0.	2.	166.	220.	230.	213.	178.	130.	75.	25.	13.	1.	0.	0.	0.	1254.	148.	225.	90.	123.
HORIZ.	0.	0.	0.	2.	51.	109.	156.	185.	195.	185.	156.	109.	51.	2.	0.	0.	0.	1201.	144.	218.	88.	120.

MONTH 2 HO 2368. TOD 57. TOT 53. KT .646 KD .163

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	31.	96.	145.	181.	203.	210.	203.	181.	145.	96.	31.	0.	0.	0.	1523.	163.	249.	102.	142.
SOUTHWEST	0.	0.	0.	6.	20.	32.	60.	115.	163.	200.	220.	218.	185.	82.	0.	0.	0.	1301.	147.	221.	95.	129.
WEST	0.	0.	0.	6.	20.	32.	42.	48.	50.	108.	154.	182.	177.	88.	0.	0.	0.	907.	120.	171.	82.	106.
NORTHWEST	0.	0.	0.	6.	20.	32.	42.	48.	50.	48.	42.	58.	77.	46.	0.	0.	0.	469.	90.	116.	68.	81.
NORTH	0.	0.	0.	6.	20.	32.	42.	48.	50.	48.	42.	32.	20.	6.	0.	0.	0.	346.	81.	101.	64.	73.
NORTHEAST	0.	0.	0.	46.	77.	58.	42.	48.	50.	48.	42.	32.	20.	6.	0.	0.	0.	469.	90.	116.	68.	81.
EAST	0.	0.	0.	88.	177.	182.	154.	108.	50.	48.	42.	32.	20.	6.	0.	0.	0.	907.	120.	171.	82.	106.
SOUTHEAST	0.	0.	0.	82.	185.	218.	220.	200.	163.	115.	60.	32.	20.	6.	0.	0.	0.	1301.	147.	221.	95.	129.
HORIZ.	0.	0.	0.	19.	82.	142.	189.	219.	229.	219.	189.	142.	82.	19.	0.	0.	0.	1531.	163.	250.	102.	142.

MONTH 3 HO 2893. TOD 62. TOT 58. KT .000 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	11.	20.	29.	35.	39.	41.	39.	35.	29.	20.	11.	0.	0.	0.	309.	82.	98.	68.	76.
SOUTHWEST	0.	0.	0.	11.	20.	29.	35.	39.	41.	39.	35.	29.	20.	11.	0.	0.	0.	309.	82.	98.	68.	76.
WEST	0.	0.	0.	11.	20.	29.	35.	39.	41.	39.	35.	29.	20.	11.	0.	0.	0.	309.	82.	98.	68.	76.
NORTHWEST	0.	0.	0.	11.	20.	29.	35.	39.	41.	39.	35.	29.	20.	11.	0.	0.	0.	309.	82.	98.	68.	76.
NORTH	0.	0.	0.	11.	20.	29.	35.	39.	41.	39.	35.	29.	20.	11.	0.	0.	0.	309.	82.	98.	68.	76.
NORTHEAST	0.	0.	0.	11.	20.	29.	35.	39.	41.	39.	35.	29.	20.	11.	0.	0.	0.	309.	82.	98.	68.	76.
EAST	0.	0.	0.	11.	20.	29.	35.	39.	41.	39.	35.	29.	20.	11.	0.	0.	0.	309.	82.	98.	68.	76.
SOUTHEAST	0.	0.	0.	11.	20.	29.	35.	39.	41.	39.	35.	29.	20.	11.	0.	0.	0.	309.	82.	98.	68.	76.
HORIZ.	0.	0.	0.	18.	34.	48.	59.	65.	68.	65.	59.	48.	34.	18.	0.	0.	0.	515.	95.	122.	74.	88.

LOCATION TUCSON, ARIZONA LATITUDE 32 DEGREES 7 MINUTES

MONTH 4 HO 3364. TOD 70. TOT 65. KT .738 KD .131

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	5.	18.	52.	95.	129.	151.	159.	151.	129.	95.	52.	18.	5.	0.	0.	1058.	132.	183.	99.	127.
SOUTHWEST	0.	0.	5.	18.	31.	43.	52.	72.	130.	175.	204.	212.	195.	146.	43.	0.	0.	1324.	148.	212.	107.	142.
WEST	0.	0.	5.	18.	31.	43.	52.	57.	59.	130.	189.	230.	241.	207.	71.	0.	0.	1333.	149.	213.	108.	143.
NORTHWEST	0.	0.	5.	18.	31.	43.	52.	57.	59.	57.	94.	138.	165.	158.	60.	0.	0.	936.	125.	170.	95.	120.
NORTH	0.	0.	16.	26.	31.	43.	52.	57.	59.	57.	52.	43.	31.	26.	16.	0.	0.	509.	100.	124.	81.	95.
NORTHEAST	0.	0.	60.	158.	165.	138.	94.	57.	59.	57.	52.	43.	31.	18.	5.	0.	0.	936.	125.	170.	95.	120.
EAST	0.	0.	71.	207.	241.	230.	189.	130.	59.	57.	52.	43.	31.	18.	5.	0.	0.	1333.	149.	213.	108.	143.
SOUTHEAST	0.	0.	43.	146.	195.	212.	204.	175.	130.	72.	52.	43.	31.	18.	5.	0.	0.	1324.	148.	212.	107.	142.
HORIZ.	0.	0.	14.	84.	160.	228.	280.	313.	325.	313.	280.	228.	160.	84.	14.	0.	0.	2482.	217.	336.	145.	210.

MONTH 5 HO 3630. TOD 78. TOT 73. KT .000 KD .179

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	8.	18.	27.	34.	40.	44.	45.	44.	40.	34.	27.	18.	8.	0.	0.	389.	101.	119.	86.	97.
SOUTHWEST	0.	0.	8.	18.	27.	34.	40.	44.	45.	44.	40.	34.	27.	18.	8.	0.	0.	389.	101.	119.	86.	97.
WEST	0.	0.	8.	18.	27.	34.	40.	44.	45.	44.	40.	34.	27.	18.	8.	0.	0.	389.	101.	119.	86.	97.
NORTHWEST	0.	0.	8.	18.	27.	34.	40.	44.	45.	44.	40.	34.	27.	18.	8.	0.	0.	389.	101.	119.	86.	97.
NORTH	0.	0.	8.	18.	27.	34.	40.	44.	45.	44.	40.	34.	27.	18.	8.	0.	0.	389.	101.	119.	86.	97.
NORTHEAST	0.	0.	8.	18.	27.	34.	40.	44.	45.	44.	40.	34.	27.	18.	8.	0.	0.	389.	101.	119.	86.	97.
EAST	0.	0.	8.	18.	27.	34.	40.	44.	45.	44.	40.	34.	27.	18.	8.	0.	0.	389.	101.	119.	86.	97.
SOUTHEAST	0.	0.	8.	18.	27.	34.	40.	44.	45.	44.	40.	34.	27.	18.	8.	0.	0.	389.	101.	119.	86.	97.
HORIZ.	0.	0.	14.	30.	45.	57.	67.	73.	75.	73.	67.	57.	45.	30.	14.	0.	0.	649.	117.	146.	95.	112.

MONTH 6 HO 3718. TOD 87. TOT 82. KT .698 KD .150

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	11.	24.	37.	49.	78.	96.	102.	96.	78.	49.	37.	24.	11.	0.	0.	691.	127.	158.	106.	124.
SOUTHWEST	0.	0.	11.	24.	37.	48.	56.	62.	91.	129.	153.	160.	148.	116.	60.	0.	0.	1093.	151.	199.	119.	148.
WEST	0.	0.	11.	24.	37.	48.	56.	62.	63.	122.	171.	205.	215.	195.	121.	0.	0.	1330.	164.	224.	128.	162.
NORTHWEST	0.	0.	11.	24.	37.	48.	56.	62.	63.	80.	122.	157.	178.	173.	117.	0.	0.	1129.	153.	203.	121.	150.
NORTH	0.	0.	51.	64.	58.	48.	56.	62.	63.	62.	56.	48.	58.	64.	51.	0.	0.	741.	130.	163.	107.	127.
NORTHEAST	0.	0.	117.	173.	178.	157.	122.	80.	63.	62.	56.	48.	37.	24.	11.	0.	0.	1129.	153.	203.	121.	150.
EAST	0.	0.	121.	195.	215.	205.	171.	122.	63.	62.	56.	48.	37.	24.	11.	0.	0.	1330.	164.	224.	128.	162.
SOUTHEAST	0.	0.	60.	116.	148.	160.	153.	129.	91.	62.	56.	48.	37.	24.	11.	0.	0.	1093.	151.	199.	119.	148.
HORIZ.	0.	1.	39.	106.	173.	233.	279.	308.	318.	308.	279.	233.	173.	106.	39.	1.	0.	2595.	238.	354.	171.	239.

LOCATION TUCSON, ARIZONA LATITUDE 32 DEGREES 7 MINUTES

MONTH 7 HO 3624. TOD 90. TOT 86. KT .625 KD .168

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	10.	23.	36.	59.	84.	101.	107.	101.	84.	59.	36.	23.	10.	0.	0.	733.	134.	167.	111.	130.
SOUTHWEST	0.	0.	10.	23.	36.	47.	56.	61.	94.	126.	146.	150.	137.	105.	49.	0.	0.	1040.	152.	199.	122.	149.
WEST	0.	0.	10.	23.	36.	47.	56.	61.	63.	113.	154.	181.	187.	165.	91.	0.	0.	1189.	161.	215.	127.	158.
NORTHWEST	0.	0.	10.	23.	36.	47.	56.	61.	63.	70.	105.	134.	149.	142.	86.	0.	0.	982.	149.	193.	120.	146.
NORTH	0.	0.	35.	49.	45.	47.	56.	61.	63.	61.	56.	47.	45.	49.	35.	0.	0.	651.	129.	158.	108.	126.
NORTHEAST	0.	0.	86.	142.	149.	134.	105.	70.	63.	61.	56.	47.	36.	23.	10.	0.	0.	982.	149.	193.	120.	146.
EAST	0.	0.	91.	165.	187.	181.	154.	113.	63.	61.	56.	47.	36.	23.	10.	0.	0.	1189.	161.	215.	127.	158.
SOUTHEAST	0.	0.	49.	105.	137.	150.	146.	126.	94.	61.	56.	47.	36.	23.	10.	0.	0.	1040.	152.	199.	122.	149.
HORIZ.	0.	0.	30.	89.	150.	204.	246.	272.	281.	272.	246.	204.	150.	89.	30.	0.	0.	2265.	225.	328.	164.	223.

MONTH 8 HO 3338. TOD 87. TOT 84. KT .640 KD .164

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	5.	19.	48.	84.	114.	132.	139.	132.	114.	84.	48.	19.	5.	0.	0.	944.	147.	192.	116.	141.
SOUTHWEST	0.	0.	5.	19.	32.	44.	53.	71.	116.	151.	172.	175.	158.	115.	31.	0.	0.	1144.	159.	215.	123.	153.
WEST	0.	0.	5.	19.	32.	44.	53.	59.	61.	116.	161.	189.	194.	161.	50.	0.	0.	1147.	160.	215.	123.	153.
NORTHWEST	0.	0.	5.	19.	32.	44.	53.	59.	61.	59.	87.	119.	136.	124.	43.	0.	0.	842.	140.	181.	113.	135.
NORTH	0.	0.	13.	25.	32.	44.	53.	59.	61.	59.	53.	44.	32.	25.	13.	0.	0.	517.	120.	145.	101.	115.
NORTHEAST	0.	0.	43.	124.	136.	119.	87.	59.	61.	59.	53.	44.	32.	19.	5.	0.	0.	842.	140.	181.	113.	135.
EAST	0.	0.	50.	161.	194.	189.	161.	116.	61.	59.	53.	44.	32.	19.	5.	0.	0.	1147.	160.	215.	123.	153.
SOUTHEAST	0.	0.	31.	115.	158.	175.	172.	151.	116.	71.	53.	44.	32.	19.	5.	0.	0.	1144.	159.	215.	123.	153.
HORIZ.	0.	0.	13.	72.	138.	196.	241.	269.	279.	269.	241.	196.	138.	72.	13.	0.	0.	2137.	222.	325.	157.	213.

MONTH 9 HO 2875. TOD 84. TOT 80. KT .710 KD .144

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	32.	83.	130.	167.	190.	198.	190.	167.	130.	83.	32.	0.	0.	0.	1399.	179.	252.	128.	165.
SOUTHWEST	0.	0.	0.	12.	26.	38.	48.	101.	156.	199.	225.	228.	202.	130.	0.	0.	0.	1365.	177.	248.	127.	163.
WEST	0.	0.	0.	12.	26.	38.	48.	54.	56.	124.	179.	215.	218.	159.	0.	0.	0.	1128.	161.	220.	119.	148.
NORTHWEST	0.	0.	0.	12.	26.	38.	48.	54.	56.	54.	57.	98.	121.	102.	0.	0.	0.	665.	129.	164.	103.	120.
NORTH	0.	0.	0.	12.	26.	38.	48.	54.	56.	54.	48.	38.	26.	12.	0.	0.	0.	410.	112.	133.	94.	105.
NORTHEAST	0.	0.	0.	102.	121.	98.	57.	54.	56.	54.	48.	38.	26.	12.	0.	0.	0.	665.	129.	164.	103.	120.
EAST	0.	0.	0.	159.	218.	215.	179.	124.	56.	54.	48.	38.	26.	12.	0.	0.	0.	1128.	161.	220.	119.	148.
SOUTHEAST	0.	0.	0.	130.	202.	228.	225.	199.	156.	101.	48.	38.	26.	12.	0.	0.	0.	1365.	177.	248.	127.	163.
HORIZ.	0.	0.	0.	49.	122.	189.	242.	275.	286.	275.	242.	189.	122.	49.	0.	0.	0.	2041.	223.	330.	150.	203.

LOCATION TUCSON, ARIZONA LATITUDE 32 DEGREES 7 MINUTES

MONTH 10 HO 2333. TOD 74. TOT 70. KT .672 KD .156

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	29.	99.	152.	190.	214.	222.	214.	190.	152.	99.	29.	0.	0.	0.	1589.	184.	274.	121.	162.
SOUTHWEST	0.	0.	0.	6.	19.	32.	62.	120.	171.	210.	231.	228.	190.	75.	0.	0.	0.	1345.	167.	244.	113.	148.
WEST	0.	0.	0.	6.	19.	32.	41.	47.	49.	111.	161.	190.	181.	81.	0.	0.	0.	918.	138.	190.	99.	123.
NORTHWEST	0.	0.	0.	6.	19.	32.	41.	47.	49.	47.	41.	58.	77.	43.	0.	0.	0.	461.	106.	132.	84.	96.
NORTH	0.	0.	0.	6.	19.	32.	41.	47.	49.	47.	41.	32.	19.	6.	0.	0.	0.	339.	97.	117.	80.	89.
NORTHEAST	0.	0.	0.	43.	77.	58.	41.	47.	49.	47.	41.	32.	19.	6.	0.	0.	0.	461.	106.	132.	84.	96.
EAST	0.	0.	0.	81.	181.	190.	161.	111.	49.	47.	41.	32.	19.	6.	0.	0.	0.	918.	138.	190.	99.	123.
SOUTHEAST	0.	0.	0.	75.	190.	228.	231.	210.	171.	120.	62.	32.	19.	6.	0.	0.	0.	1345.	167.	244.	113.	148.
HORIZ.	0.	0.	0.	17.	82.	145.	195.	226.	237.	226.	195.	145.	82.	17.	0.	0.	0.	1569.	183.	272.	120.	161.

MONTH 11 HO 1844. TOD 63. TOT 58. KT .650 KD .162

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	1.	97.	160.	202.	227.	235.	227.	202.	160.	97.	1.	0.	0.	0.	1612.	184.	283.	110.	152.
SOUTHWEST	0.	0.	0.	1.	13.	25.	76.	131.	179.	214.	230.	220.	163.	2.	0.	0.	0.	1252.	157.	233.	98.	131.
WEST	0.	0.	0.	1.	13.	25.	34.	40.	42.	99.	144.	165.	141.	2.	0.	0.	0.	705.	115.	159.	81.	99.
NORTHWEST	0.	0.	0.	1.	13.	25.	34.	40.	42.	40.	34.	28.	43.	1.	0.	0.	0.	302.	85.	104.	68.	76.
NORTH	0.	0.	0.	1.	13.	25.	34.	40.	42.	40.	34.	25.	13.	1.	0.	0.	0.	268.	83.	99.	67.	74.
NORTHEAST	0.	0.	0.	1.	43.	28.	34.	40.	42.	40.	34.	25.	13.	1.	0.	0.	0.	302.	85.	104.	68.	76.
EAST	0.	0.	0.	2.	141.	165.	144.	99.	42.	40.	34.	25.	13.	1.	0.	0.	0.	705.	115.	159.	81.	99.
SOUTHEAST	0.	0.	0.	2.	163.	220.	230.	214.	179.	131.	76.	25.	13.	1.	0.	0.	0.	1252.	157.	233.	98.	131.
HORIZ.	0.	0.	0.	2.	50.	108.	155.	185.	196.	185.	155.	108.	50.	2.	0.	0.	0.	1197.	152.	226.	97.	128.

MONTH 12 HO 1652. TOD 56. TOT 52. KT .679 KD .154

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	0.	99.	175.	221.	249.	258.	249.	221.	175.	99.	0.	0.	0.	0.	1744.	192.	303.	108.	154.
SOUTHWEST	0.	0.	0.	0.	10.	27.	84.	143.	194.	231.	247.	233.	159.	0.	0.	0.	0.	1326.	159.	244.	95.	129.
WEST	0.	0.	0.	0.	10.	22.	31.	37.	39.	99.	146.	167.	132.	0.	0.	0.	0.	683.	109.	153.	74.	92.
NORTHWEST	0.	0.	0.	0.	10.	22.	31.	37.	39.	37.	31.	22.	33.	0.	0.	0.	0.	262.	76.	93.	60.	67.
NORTH	0.	0.	0.	0.	10.	22.	31.	37.	39.	37.	31.	22.	10.	0.	0.	0.	0.	239.	75.	90.	60.	66.
NORTHEAST	0.	0.	0.	0.	33.	22.	31.	37.	39.	37.	31.	22.	10.	0.	0.	0.	0.	262.	76.	93.	60.	67.
EAST	0.	0.	0.	0.	132.	167.	146.	99.	39.	37.	31.	22.	10.	0.	0.	0.	0.	683.	109.	153.	74.	92.
SOUTHEAST	0.	0.	0.	0.	159.	233.	247.	231.	194.	143.	84.	27.	10.	0.	0.	0.	0.	1326.	159.	244.	95.	129.
HORIZ.	0.	0.	0.	0.	39.	99.	148.	179.	190.	179.	148.	99.	39.	0.	0.	0.	0.	1122.	143.	215.	88.	117.

LOCATION TUCSON, ARIZONA LATITUDE 32 DEGREES 7 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	175.	163.	82.	132.	101.	127.	134.	147.	179.	184.	184.	192.	150.
SOUTHWEST	148.	147.	82.	148.	101.	151.	152.	159.	177.	167.	157.	159.	146.
WEST	107.	120.	82.	149.	101.	164.	161.	160.	161.	138.	115.	109.	131.
NORTHWEST	77.	90.	82.	125.	101.	153.	149.	140.	129.	106.	85.	76.	109.
NORTH	74.	81.	82.	100.	101.	130.	129.	120.	112.	97.	83.	75.	99.
NORTHEAST	77.	90.	82.	125.	101.	153.	149.	140.	129.	106.	85.	76.	109.
EAST	107.	120.	82.	149.	101.	164.	161.	160.	161.	138.	115.	109.	131.
SOUTHEAST	148.	147.	82.	148.	101.	151.	152.	159.	177.	167.	157.	159.	146.
HORIZ.	144.	163.	95.	217.	117.	238.	225.	222.	223.	183.	152.	143.	177.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	273.	249.	98.	183.	119.	158.	167.	192.	252.	274.	283.	303.	213.
SOUTHWEST	225.	221.	98.	212.	119.	199.	199.	215.	248.	244.	233.	244.	205.
WEST	150.	171.	98.	213.	119.	224.	215.	215.	220.	190.	159.	153.	177.
NORTHWEST	95.	116.	98.	170.	119.	203.	193.	181.	164.	132.	104.	93.	139.
NORTH	91.	101.	98.	124.	119.	163.	158.	145.	133.	117.	99.	90.	120.
NORTHEAST	95.	116.	98.	170.	119.	203.	193.	181.	164.	132.	104.	93.	139.
EAST	150.	171.	98.	213.	119.	224.	215.	215.	220.	190.	159.	153.	177.
SOUTHEAST	225.	221.	98.	212.	119.	199.	199.	215.	248.	244.	233.	244.	205.
HORIZ.	218.	250.	122.	336.	146.	354.	328.	325.	330.	272.	226.	215.	260.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	101.	102.	68.	99.	86.	106.	111.	116.	128.	121.	110.	108.	105.
SOUTHWEST	90.	95.	68.	107.	86.	119.	122.	123.	127.	113.	98.	95.	104.
WEST	72.	82.	68.	108.	86.	128.	127.	123.	119.	99.	81.	74.	97.
NORTHWEST	59.	68.	68.	95.	86.	121.	120.	113.	103.	84.	68.	60.	87.
NORTH	58.	64.	68.	81.	86.	107.	108.	101.	94.	80.	67.	60.	81.
NORTHEAST	59.	68.	68.	95.	86.	121.	120.	113.	103.	84.	68.	60.	87.
EAST	72.	82.	68.	108.	86.	128.	127.	123.	119.	99.	81.	74.	97.
SOUTHEAST	90.	95.	68.	107.	86.	119.	122.	123.	127.	113.	98.	95.	104.
HORIZ.	88.	102.	74.	145.	95.	171.	164.	157.	150.	120.	97.	88.	121.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	144.	142.	76.	127.	97.	124.	130.	141.	165.	162.	152.	154.	134.
SOUTHWEST	123.	129.	76.	142.	97.	148.	149.	153.	163.	148.	131.	129.	132.
WEST	91.	106.	76.	143.	97.	162.	158.	153.	148.	123.	99.	92.	121.
NORTHWEST	67.	81.	76.	120.	97.	150.	146.	135.	120.	96.	76.	67.	103.
NORTH	65.	73.	76.	95.	97.	127.	126.	115.	105.	89.	74.	66.	92.
NORTHEAST	67.	81.	76.	120.	97.	150.	146.	135.	120.	96.	76.	67.	103.
EAST	91.	106.	76.	143.	97.	162.	158.	153.	148.	123.	99.	92.	121.
SOUTHEAST	123.	129.	76.	142.	97.	148.	149.	153.	163.	148.	131.	129.	132.
HORIZ.	120.	142.	88.	210.	112.	239.	223.	213.	203.	161.	128.	117.	163.

LOCATION UPTON, NEW YORK LATITUDE 40 DEGREES 51 MINUTES

MONTH 1 HO 1382. TOD 35. TOT 33. KT .444 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	42.	91.	122.	140.	146.	140.	122.	91.	42.	0.	0.	0.	0.	937.	110.	172.	63.	87.
SOUTHWEST	0.	0.	0.	0.	8.	19.	53.	85.	113.	130.	134.	119.	67.	0.	0.	0.	0.	729.	94.	141.	56.	75.
WEST	0.	0.	0.	0.	8.	17.	25.	30.	31.	61.	83.	88.	57.	0.	0.	0.	0.	399.	67.	93.	46.	56.
NORTHWEST	0.	0.	0.	0.	8.	17.	25.	30.	31.	30.	25.	17.	18.	0.	0.	0.	0.	200.	51.	64.	39.	45.
NORTH	0.	0.	0.	0.	8.	17.	25.	30.	31.	30.	25.	17.	8.	0.	0.	0.	0.	189.	50.	63.	39.	44.
NORTHEAST	0.	0.	0.	0.	18.	17.	25.	30.	31.	30.	25.	17.	8.	0.	0.	0.	0.	200.	51.	64.	39.	45.
EAST	0.	0.	0.	0.	57.	88.	83.	61.	31.	30.	25.	17.	8.	0.	0.	0.	0.	399.	67.	93.	46.	56.
SOUTHEAST	0.	0.	0.	0.	67.	119.	134.	130.	113.	85.	53.	19.	8.	0.	0.	0.	0.	729.	94.	141.	56.	75.
HORIZ.	0.	0.	0.	0.	19.	54.	82.	100.	106.	100.	82.	54.	19.	0.	0.	0.	0.	614.	84.	125.	53.	69.

MONTH 2 HO 1953. TOD 35. TOT 33. KT .483 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	12.	64.	103.	132.	150.	156.	150.	132.	103.	64.	12.	0.	0.	0.	1075.	112.	174.	67.	95.
SOUTHWEST	0.	0.	0.	4.	15.	26.	54.	91.	122.	143.	152.	144.	113.	27.	0.	0.	0.	892.	99.	151.	61.	85.
WEST	0.	0.	0.	4.	15.	26.	34.	39.	41.	76.	103.	116.	105.	29.	0.	0.	0.	588.	77.	111.	52.	67.
NORTHWEST	0.	0.	0.	4.	15.	26.	34.	39.	41.	39.	34.	35.	45.	16.	0.	0.	0.	328.	58.	77.	43.	52.
NORTH	0.	0.	0.	4.	15.	26.	34.	39.	41.	39.	34.	26.	15.	4.	0.	0.	0.	278.	55.	71.	42.	49.
NORTHEAST	0.	0.	0.	16.	45.	35.	34.	39.	41.	39.	34.	26.	15.	4.	0.	0.	0.	328.	58.	77.	43.	52.
EAST	0.	0.	0.	29.	105.	116.	103.	76.	41.	39.	34.	26.	15.	4.	0.	0.	0.	588.	77.	111.	52.	67.
SOUTHEAST	0.	0.	0.	27.	113.	144.	152.	143.	122.	91.	54.	26.	15.	4.	0.	0.	0.	892.	99.	151.	61.	85.
HORIZ.	0.	0.	0.	8.	48.	87.	118.	138.	145.	138.	118.	87.	48.	8.	0.	0.	0.	943.	102.	157.	63.	88.

MONTH 3 HO 2589. TOD 43. TOT 41. KT .522 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	27.	67.	104.	132.	150.	156.	150.	132.	104.	67.	27.	0.	0.	0.	1117.	115.	173.	77.	106.
SOUTHWEST	0.	0.	0.	12.	24.	35.	50.	91.	125.	150.	162.	159.	136.	85.	0.	0.	0.	1029.	109.	163.	74.	101.
WEST	0.	0.	0.	12.	24.	35.	43.	48.	50.	90.	122.	141.	140.	101.	0.	0.	0.	806.	95.	137.	67.	88.
NORTHWEST	0.	0.	0.	12.	24.	35.	43.	48.	50.	48.	43.	61.	75.	64.	0.	0.	0.	503.	75.	102.	57.	70.
NORTH	0.	0.	0.	12.	24.	35.	43.	48.	50.	48.	43.	35.	24.	12.	0.	0.	0.	373.	67.	86.	53.	62.
NORTHEAST	0.	0.	0.	64.	75.	61.	43.	48.	50.	48.	43.	35.	24.	12.	0.	0.	0.	503.	75.	102.	57.	70.
EAST	0.	0.	0.	101.	140.	141.	122.	90.	50.	48.	43.	35.	24.	12.	0.	0.	0.	806.	95.	137.	67.	88.
SOUTHEAST	0.	0.	0.	85.	136.	159.	162.	150.	125.	91.	50.	35.	24.	12.	0.	0.	0.	1029.	109.	163.	74.	101.
HORIZ.	0.	0.	0.	35.	82.	125.	159.	180.	187.	180.	159.	125.	82.	35.	0.	0.	0.	1350.	129.	200.	84.	119.

LOCATION UPTON, NEW YORK LATITUDE 40 DEGREES 51 MINUTES

MONTH 4 HO 3218. TOD 52. TOT 50. KT .514 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	21.	54.	85.	111.	127.	132.	127.	111.	85.	54.	21.	7.	0.	0.	940.	106.	150.	80.	105.
SOUTHWEST	0.	0.	7.	20.	31.	42.	50.	78.	110.	134.	146.	144.	128.	95.	37.	0.	0.	1020.	111.	159.	83.	109.
WEST	0.	0.	7.	20.	31.	42.	50.	55.	56.	94.	124.	143.	146.	125.	57.	0.	0.	950.	107.	151.	80.	105.
NORTHWEST	0.	0.	7.	20.	31.	42.	50.	55.	56.	55.	60.	83.	97.	93.	48.	0.	0.	696.	92.	125.	72.	90.
NORTH	0.	0.	15.	20.	31.	42.	50.	55.	56.	55.	50.	42.	31.	20.	15.	0.	0.	481.	80.	102.	65.	78.
NORTHEAST	0.	0.	48.	93.	97.	83.	60.	55.	56.	55.	50.	42.	31.	20.	7.	0.	0.	696.	92.	125.	72.	90.
EAST	0.	0.	57.	125.	146.	143.	124.	94.	56.	55.	50.	42.	31.	20.	7.	0.	0.	950.	107.	151.	80.	105.
SOUTHEAST	0.	0.	37.	95.	128.	144.	146.	134.	110.	78.	50.	42.	31.	20.	7.	0.	0.	1020.	111.	159.	83.	109.
HORIZ.	0.	0.	18.	63.	109.	150.	182.	202.	208.	202.	182.	150.	109.	63.	18.	0.	0.	1655.	147.	225.	103.	146.

MONTH 5 HO 3618. TOD 63. TOT 61. KT .532 KD .184

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	2.	13.	25.	43.	73.	97.	112.	118.	112.	97.	73.	43.	25.	13.	2.	0.	845.	111.	148.	90.	112.
SOUTHWEST	0.	2.	13.	25.	36.	46.	53.	68.	101.	125.	137.	138.	124.	96.	54.	3.	0.	1020.	121.	165.	96.	122.
WEST	0.	2.	13.	25.	36.	46.	53.	58.	60.	98.	129.	149.	154.	139.	93.	4.	0.	1057.	123.	169.	97.	125.
NORTHWEST	0.	2.	13.	25.	36.	46.	53.	58.	60.	58.	76.	100.	115.	114.	85.	4.	0.	844.	111.	148.	90.	112.
NORTH	0.	3.	35.	38.	36.	46.	53.	58.	60.	58.	53.	46.	36.	38.	35.	3.	0.	597.	97.	123.	81.	97.
NORTHEAST	0.	4.	85.	114.	115.	100.	76.	58.	60.	58.	53.	46.	36.	25.	13.	2.	0.	844.	111.	148.	90.	112.
EAST	0.	4.	93.	139.	154.	149.	129.	98.	60.	58.	53.	46.	36.	25.	13.	2.	0.	1057.	123.	169.	97.	125.
SOUTHEAST	0.	3.	54.	96.	124.	138.	137.	125.	101.	68.	53.	46.	36.	25.	13.	2.	0.	1020.	121.	165.	96.	122.
HORIZ.	0.	3.	37.	84.	130.	170.	202.	221.	228.	221.	202.	170.	130.	84.	37.	3.	0.	1925.	172.	256.	127.	177.

MONTH 6 HO 3763. TOD 72. TOT 70. KT .574 KD .178

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	4.	15.	26.	38.	69.	95.	112.	117.	112.	95.	69.	38.	26.	15.	4.	0.	834.	118.	153.	98.	120.
SOUTHWEST	0.	4.	15.	26.	38.	47.	55.	65.	101.	128.	142.	144.	131.	103.	61.	9.	0.	1068.	131.	176.	106.	134.
WEST	0.	4.	15.	26.	38.	47.	55.	60.	61.	104.	139.	162.	169.	155.	111.	20.	0.	1166.	136.	185.	110.	140.
NORTHWEST	0.	4.	15.	26.	38.	47.	55.	60.	61.	60.	86.	113.	131.	133.	105.	21.	0.	955.	125.	165.	102.	127.
NORTH	0.	12.	46.	48.	38.	47.	55.	60.	61.	60.	55.	47.	38.	48.	46.	12.	0.	674.	109.	138.	93.	110.
NORTHEAST	0.	21.	105.	133.	131.	113.	86.	60.	61.	60.	55.	47.	38.	26.	15.	4.	0.	955.	125.	165.	102.	127.
EAST	0.	20.	111.	155.	169.	162.	139.	104.	61.	60.	55.	47.	38.	26.	15.	4.	0.	1166.	136.	185.	110.	140.
SOUTHEAST	0.	9.	61.	103.	131.	144.	142.	128.	101.	65.	55.	47.	38.	26.	15.	4.	0.	1068.	131.	176.	106.	134.
HORIZ.	0.	8.	47.	97.	147.	189.	223.	244.	251.	244.	223.	189.	147.	97.	47.	8.	0.	2160.	191.	282.	144.	200.

LOCATION UPTON, NEW YORK LATITUDE 40 DEGREES 51 MINUTES

MONTH 7 HO 3616. TOD 77. TOT 75. KT .557 KD .180

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	2.	13.	25.	43.	74.	100.	117.	122.	117.	100.	74.	43.	25.	13.	2.	0.	869.	126.	164.	104.	127.
SOUTHWEST	0.	2.	13.	25.	36.	46.	54.	69.	104.	130.	144.	145.	130.	101.	55.	3.	0.	1056.	137.	182.	111.	138.
WEST	0.	2.	13.	25.	36.	46.	54.	58.	60.	101.	135.	157.	163.	146.	97.	4.	0.	1097.	139.	187.	112.	141.
NORTHWEST	0.	2.	13.	25.	36.	46.	54.	58.	60.	58.	78.	104.	121.	121.	89.	4.	0.	870.	126.	164.	104.	127.
NORTH	0.	3.	36.	39.	36.	46.	54.	58.	60.	58.	54.	46.	36.	39.	36.	3.	0.	605.	111.	137.	95.	111.
NORTHEAST	0.	4.	89.	121.	121.	104.	78.	58.	60.	58.	54.	46.	36.	25.	13.	2.	0.	870.	126.	164.	104.	127.
EAST	0.	4.	97.	146.	163.	157.	135.	101.	60.	58.	54.	46.	36.	25.	13.	2.	0.	1097.	139.	187.	112.	141.
SOUTHEAST	0.	3.	55.	101.	130.	145.	144.	130.	104.	69.	54.	46.	36.	25.	13.	2.	0.	1056.	137.	182.	111.	138.
HORIZ.	0.	4.	38.	87.	136.	179.	212.	232.	239.	232.	212.	179.	136.	87.	38.	4.	0.	2014.	191.	278.	143.	196.

MONTH 8 HO 3195. TOD 75. TOT 73. KT .542 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	7.	20.	55.	89.	116.	133.	139.	133.	116.	89.	55.	20.	7.	0.	0.	980.	135.	181.	107.	132.
SOUTHWEST	0.	0.	7.	19.	31.	42.	50.	80.	115.	141.	154.	153.	135.	98.	36.	0.	0.	1062.	140.	190.	110.	137.
WEST	0.	0.	7.	19.	31.	42.	50.	55.	56.	98.	131.	152.	155.	130.	56.	0.	0.	983.	135.	181.	107.	133.
NORTHWEST	0.	0.	7.	19.	31.	42.	50.	55.	56.	55.	61.	87.	102.	97.	47.	0.	0.	708.	119.	152.	97.	116.
NORTH	0.	0.	15.	19.	31.	42.	50.	55.	56.	55.	50.	42.	31.	19.	15.	0.	0.	480.	105.	127.	90.	102.
NORTHEAST	0.	0.	47.	97.	102.	87.	61.	55.	56.	55.	50.	42.	31.	19.	7.	0.	0.	708.	119.	152.	97.	116.
EAST	0.	0.	56.	130.	155.	152.	131.	98.	56.	55.	50.	42.	31.	19.	7.	0.	0.	983.	135.	181.	107.	133.
SOUTHEAST	0.	0.	36.	98.	135.	153.	154.	141.	115.	80.	50.	42.	31.	19.	7.	0.	0.	1062.	140.	190.	110.	137.
HORIZ.	0.	0.	18.	64.	114.	157.	191.	213.	220.	213.	191.	157.	114.	64.	18.	0.	0.	1733.	181.	263.	132.	178.

MONTH 9 HO 2577. TOD 69. TOT 67. KT .542 KD .182

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	26.	68.	107.	137.	156.	163.	156.	137.	107.	68.	26.	0.	0.	0.	1153.	148.	208.	107.	137.
SOUTHWEST	0.	0.	0.	12.	24.	35.	50.	93.	130.	156.	169.	165.	140.	85.	0.	0.	0.	1059.	142.	197.	104.	131.
WEST	0.	0.	0.	12.	24.	35.	43.	48.	50.	93.	127.	147.	144.	100.	0.	0.	0.	824.	126.	168.	95.	117.
NORTHWEST	0.	0.	0.	12.	24.	35.	43.	48.	50.	48.	43.	63.	78.	64.	0.	0.	0.	508.	104.	130.	85.	98.
NORTH	0.	0.	0.	12.	24.	35.	43.	48.	50.	48.	43.	35.	24.	12.	0.	0.	0.	373.	95.	114.	80.	90.
NORTHEAST	0.	0.	0.	64.	78.	63.	43.	48.	50.	48.	43.	35.	24.	12.	0.	0.	0.	508.	104.	130.	85.	98.
EAST	0.	0.	0.	100.	144.	147.	127.	93.	50.	48.	43.	35.	24.	12.	0.	0.	0.	824.	126.	168.	95.	117.
SOUTHEAST	0.	0.	0.	85.	140.	165.	169.	156.	130.	93.	50.	35.	24.	12.	0.	0.	0.	1059.	142.	197.	104.	131.
HORIZ.	0.	0.	1.	35.	84.	129.	165.	187.	194.	187.	165.	129.	84.	35.	1.	0.	0.	1396.	164.	237.	115.	152.

LOCATION UPTON, NEW YORK LATITUDE 40 DEGREES 51 MINUTES

MONTH 10 HO 1919. TOD 59. TOT 57. KT .538 KD .183

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	11.	71.	118.	152.	173.	180.	173.	152.	118.	71.	11.	0.	0.	0.	1228.	147.	219.	96.	129.
SOUTHWEST	0.	0.	0.	4.	15.	26.	59.	102.	139.	165.	176.	166.	127.	24.	0.	0.	0.	1005.	131.	190.	89.	116.
WEST	0.	0.	0.	4.	15.	26.	34.	40.	41.	84.	117.	133.	118.	26.	0.	0.	0.	637.	105.	142.	77.	94.
NORTHWEST	0.	0.	0.	4.	15.	26.	34.	40.	41.	40.	34.	37.	48.	14.	0.	0.	0.	333.	83.	103.	68.	76.
NORTH	0.	0.	0.	4.	15.	26.	34.	40.	41.	40.	34.	26.	15.	4.	0.	0.	0.	279.	79.	96.	66.	73.
NORTHEAST	0.	0.	0.	14.	48.	37.	34.	40.	41.	40.	34.	26.	15.	4.	0.	0.	0.	333.	83.	103.	68.	76.
EAST	0.	0.	0.	26.	118.	133.	117.	84.	41.	40.	34.	26.	15.	4.	0.	0.	0.	637.	105.	142.	77.	94.
SOUTHEAST	0.	0.	0.	24.	127.	166.	176.	165.	139.	102.	59.	26.	15.	4.	0.	0.	0.	1005.	131.	190.	89.	116.
HORIZ.	0.	0.	0.	7.	50.	95.	130.	153.	160.	153.	130.	95.	50.	7.	0.	0.	0.	1032.	133.	194.	90.	117.

MONTH 11 HO 1371. TOD 48. TOT 46. KT .448 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	41.	91.	123.	142.	148.	142.	123.	91.	41.	0.	0.	0.	0.	943.	124.	186.	77.	101.
SOUTHWEST	0.	0.	0.	0.	7.	19.	53.	86.	114.	132.	136.	120.	65.	0.	0.	0.	0.	732.	107.	155.	70.	89.
WEST	0.	0.	0.	0.	7.	17.	25.	30.	31.	62.	83.	88.	55.	0.	0.	0.	0.	398.	80.	107.	59.	69.
NORTHWEST	0.	0.	0.	0.	7.	17.	25.	30.	31.	30.	25.	17.	18.	0.	0.	0.	0.	199.	64.	77.	53.	58.
NORTH	0.	0.	0.	0.	7.	17.	25.	30.	31.	30.	25.	17.	7.	0.	0.	0.	0.	189.	63.	76.	52.	57.
NORTHEAST	0.	0.	0.	0.	18.	17.	25.	30.	31.	30.	25.	17.	7.	0.	0.	0.	0.	199.	64.	77.	53.	58.
EAST	0.	0.	0.	0.	55.	88.	83.	62.	31.	30.	25.	17.	7.	0.	0.	0.	0.	398.	80.	107.	59.	69.
SOUTHEAST	0.	0.	0.	0.	65.	120.	136.	132.	114.	86.	53.	19.	7.	0.	0.	0.	0.	732.	107.	155.	70.	89.
HORIZ.	0.	0.	0.	0.	19.	53.	82.	100.	106.	100.	82.	53.	19.	0.	0.	0.	0.	615.	98.	138.	66.	82.

MONTH 12 HO 1166. TOD 38. TOT 36. KT .467 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	28.	93.	131.	152.	159.	152.	131.	93.	28.	0.	0.	0.	0.	968.	120.	187.	67.	92.
SOUTHWEST	0.	0.	0.	0.	5.	20.	56.	92.	121.	139.	142.	120.	43.	0.	0.	0.	0.	738.	100.	152.	59.	79.
WEST	0.	0.	0.	0.	5.	14.	22.	27.	28.	61.	83.	85.	36.	0.	0.	0.	0.	360.	68.	93.	47.	57.
NORTHWEST	0.	0.	0.	0.	5.	14.	22.	27.	28.	27.	22.	14.	10.	0.	0.	0.	0.	169.	52.	64.	41.	46.
NORTH	0.	0.	0.	0.	5.	14.	22.	27.	28.	27.	22.	14.	5.	0.	0.	0.	0.	164.	52.	63.	41.	45.
NORTHEAST	0.	0.	0.	0.	10.	14.	22.	27.	28.	27.	22.	14.	5.	0.	0.	0.	0.	169.	52.	64.	41.	46.
EAST	0.	0.	0.	0.	36.	85.	83.	61.	28.	27.	22.	14.	5.	0.	0.	0.	0.	360.	68.	93.	47.	57.
SOUTHEAST	0.	0.	0.	0.	43.	120.	142.	139.	121.	92.	56.	20.	5.	0.	0.	0.	0.	738.	100.	152.	59.	79.
HORIZ.	0.	0.	0.	0.	11.	45.	74.	93.	100.	93.	74.	45.	11.	0.	0.	0.	0.	545.	84.	122.	53.	67.

LOCATION UPTON, NEW YORK LATITUDE 40 DEGREES 51 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	110.	112.	115.	106.	111.	118.	126.	135.	148.	147.	124.	120.	123.
SOUTHWEST	94.	99.	109.	111.	121.	131.	137.	140.	142.	131.	107.	100.	118.
WEST	67.	77.	95.	107.	123.	136.	139.	135.	126.	105.	80.	68.	105.
NORTHWEST	51.	58.	75.	92.	111.	125.	126.	119.	104.	83.	64.	52.	88.
NORTH	50.	55.	67.	80.	97.	109.	111.	105.	95.	79.	63.	52.	80.
NORTHEAST	51.	58.	75.	92.	111.	125.	126.	119.	104.	83.	64.	52.	88.
EAST	67.	77.	95.	107.	123.	136.	139.	135.	126.	105.	80.	68.	105.
SOUTHEAST	94.	99.	109.	111.	121.	131.	137.	140.	142.	131.	107.	100.	118.
HORIZ.	84.	102.	129.	147.	172.	191.	191.	181.	164.	133.	98.	84.	140.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	172.	174.	173.	150.	148.	153.	164.	181.	208.	219.	186.	187.	176.
SOUTHWEST	141.	151.	163.	159.	165.	176.	182.	190.	197.	190.	155.	152.	168.
WEST	93.	111.	137.	151.	169.	185.	187.	181.	168.	142.	107.	93.	144.
NORTHWEST	64.	77.	102.	125.	148.	165.	164.	152.	130.	103.	77.	64.	114.
NORTH	63.	71.	86.	102.	123.	138.	137.	127.	114.	96.	76.	63.	100.
NORTHEAST	64.	77.	102.	125.	148.	165.	164.	152.	130.	103.	77.	64.	114.
EAST	93.	111.	137.	151.	169.	185.	187.	181.	168.	142.	107.	93.	144.
SOUTHEAST	141.	151.	163.	159.	165.	176.	182.	190.	197.	190.	155.	152.	168.
HORIZ.	125.	157.	200.	225.	256.	282.	278.	263.	237.	194.	138.	122.	206.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	63.	67.	77.	80.	90.	98.	104.	107.	107.	96.	77.	67.	86.
SOUTHWEST	56.	61.	74.	83.	96.	106.	111.	110.	104.	89.	70.	59.	85.
WEST	46.	52.	67.	80.	97.	110.	112.	107.	95.	77.	59.	47.	79.
NORTHWEST	39.	43.	57.	72.	90.	102.	104.	97.	85.	68.	53.	41.	71.
NORTH	39.	42.	53.	65.	81.	93.	95.	90.	80.	66.	52.	41.	66.
NORTHEAST	39.	43.	57.	72.	90.	102.	104.	97.	85.	68.	53.	41.	71.
EAST	46.	52.	67.	80.	97.	110.	112.	107.	95.	77.	59.	47.	79.
SOUTHEAST	56.	61.	74.	83.	96.	106.	111.	110.	104.	89.	70.	59.	85.
HORIZ.	53.	63.	84.	103.	127.	144.	143.	132.	115.	90.	66.	53.	98.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	87.	95.	106.	105.	112.	120.	127.	132.	137.	129.	101.	92.	112.
SOUTHWEST	75.	85.	101.	109.	122.	134.	138.	137.	131.	116.	89.	79.	110.
WEST	56.	67.	88.	105.	125.	140.	141.	133.	117.	94.	69.	57.	99.
NORTHWEST	45.	52.	70.	90.	112.	127.	127.	116.	98.	76.	58.	46.	85.
NORTH	44.	49.	62.	78.	97.	110.	111.	102.	90.	73.	57.	45.	77.
NORTHEAST	45.	52.	70.	90.	112.	127.	127.	116.	98.	76.	58.	46.	85.
EAST	56.	67.	88.	105.	125.	140.	141.	133.	117.	94.	69.	57.	99.
SOUTHEAST	75.	85.	101.	109.	122.	134.	138.	137.	131.	116.	89.	79.	110.
HORIZ.	69.	88.	119.	146.	177.	200.	196.	178.	152.	117.	82.	67.	133.

LOCATION WASHINGTON, D.C. LATITUDE 38 DEGREES 51 MINUTES

MONTH 1 HO 1493. TOD 38. TOT 36. KT .445 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	47.	93.	122.	140.	146.	140.	122.	93.	47.	0.	0.	0.	0.	951.	114.	175.	67.	92.
SOUTHWEST	0.	0.	0.	0.	9.	20.	53.	86.	113.	131.	136.	122.	75.	0.	0.	0.	0.	745.	97.	145.	60.	80.
WEST	0.	0.	0.	0.	9.	19.	27.	31.	33.	63.	85.	91.	65.	0.	0.	0.	0.	422.	72.	99.	50.	61.
NORTHWEST	0.	0.	0.	0.	9.	19.	27.	31.	33.	31.	27.	19.	21.	0.	0.	0.	0.	217.	56.	69.	43.	49.
NORTH	0.	0.	0.	0.	9.	19.	27.	31.	33.	31.	27.	19.	9.	0.	0.	0.	0.	204.	55.	68.	43.	48.
NORTHEAST	0.	0.	0.	0.	21.	19.	27.	31.	33.	31.	27.	19.	9.	0.	0.	0.	0.	217.	56.	69.	43.	49.
EAST	0.	0.	0.	0.	65.	91.	85.	63.	33.	31.	27.	19.	9.	0.	0.	0.	0.	422.	72.	99.	50.	61.
SOUTHEAST	0.	0.	0.	0.	75.	122.	136.	131.	113.	86.	53.	20.	9.	0.	0.	0.	0.	745.	97.	145.	60.	80.
HORIZ.	0.	0.	0.	0.	23.	59.	88.	106.	112.	106.	88.	59.	23.	0.	0.	0.	0.	664.	91.	134.	58.	75.

MONTH 2 HO 2052. TOD 40. TOT 37. KT .470 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	14.	62.	99.	126.	143.	149.	143.	126.	99.	62.	14.	0.	0.	0.	1038.	113.	173.	70.	98.
SOUTHWEST	0.	0.	0.	5.	16.	27.	53.	88.	117.	138.	146.	139.	111.	33.	0.	0.	0.	872.	101.	152.	65.	88.
WEST	0.	0.	0.	5.	16.	27.	35.	40.	42.	76.	101.	114.	104.	35.	0.	0.	0.	594.	82.	116.	56.	72.
NORTHWEST	0.	0.	0.	5.	16.	27.	35.	40.	42.	40.	35.	37.	45.	19.	0.	0.	0.	343.	64.	84.	48.	57.
NORTH	0.	0.	0.	5.	16.	27.	35.	40.	42.	40.	35.	27.	16.	5.	0.	0.	0.	289.	60.	77.	46.	54.
NORTHEAST	0.	0.	0.	19.	45.	37.	35.	40.	42.	40.	35.	27.	16.	5.	0.	0.	0.	343.	64.	84.	48.	57.
EAST	0.	0.	0.	35.	104.	114.	101.	76.	42.	40.	35.	27.	16.	5.	0.	0.	0.	594.	82.	116.	56.	72.
SOUTHEAST	0.	0.	0.	33.	111.	139.	146.	138.	117.	88.	53.	27.	16.	5.	0.	0.	0.	872.	101.	152.	65.	88.
HORIZ.	0.	0.	0.	10.	50.	89.	120.	140.	146.	140.	120.	89.	50.	10.	0.	0.	0.	965.	108.	164.	68.	93.

MONTH 3 HO 2665. TOD 48. TOT 45. KT .496 KD .188

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	25.	62.	96.	122.	138.	144.	138.	122.	96.	62.	25.	0.	0.	0.	1032.	114.	168.	78.	105.
SOUTHWEST	0.	0.	0.	12.	25.	35.	48.	85.	117.	139.	150.	147.	126.	80.	0.	0.	0.	965.	110.	160.	76.	102.
WEST	0.	0.	0.	12.	25.	35.	44.	49.	51.	88.	116.	133.	131.	94.	0.	0.	0.	778.	98.	138.	70.	91.
NORTHWEST	0.	0.	0.	12.	25.	35.	44.	49.	51.	49.	44.	62.	73.	61.	0.	0.	0.	504.	80.	107.	61.	75.
NORTH	0.	0.	0.	12.	25.	35.	44.	49.	51.	49.	44.	35.	25.	12.	0.	0.	0.	381.	72.	92.	58.	67.
NORTHEAST	0.	0.	0.	61.	73.	62.	44.	49.	51.	49.	44.	35.	25.	12.	0.	0.	0.	504.	80.	107.	61.	75.
EAST	0.	0.	0.	94.	131.	133.	116.	88.	51.	49.	44.	35.	25.	12.	0.	0.	0.	778.	98.	138.	70.	91.
SOUTHEAST	0.	0.	0.	80.	126.	147.	150.	139.	117.	85.	48.	35.	25.	12.	0.	0.	0.	965.	110.	160.	76.	102.
HORIZ.	0.	0.	0.	35.	81.	123.	155.	175.	182.	175.	155.	123.	81.	35.	0.	0.	0.	1320.	133.	201.	88.	122.

LOCATION WASHINGTON, D.C. LATITUDE 38 DEGREES 51 MINUTES

MONTH 4 HO 3258. TOD 57. TOT 54. KT .504 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	20.	51.	81.	105.	120.	126.	120.	105.	81.	51.	20.	7.	0.	0.	893.	109.	151.	83.	106.
SOUTHWEST	0.	0.	7.	20.	32.	42.	50.	74.	106.	128.	140.	139.	123.	91.	34.	0.	0.	985.	115.	161.	86.	112.
WEST	0.	0.	7.	20.	32.	42.	50.	56.	57.	94.	122.	140.	142.	120.	52.	0.	0.	934.	112.	156.	84.	109.
NORTHWEST	0.	0.	7.	20.	32.	42.	50.	56.	57.	56.	63.	84.	96.	91.	44.	0.	0.	698.	98.	131.	77.	95.
NORTH	0.	0.	14.	20.	32.	42.	50.	56.	57.	56.	50.	42.	32.	20.	14.	0.	0.	485.	86.	109.	70.	83.
NORTHEAST	0.	0.	44.	91.	96.	84.	63.	56.	57.	56.	50.	42.	32.	20.	7.	0.	0.	698.	98.	131.	77.	95.
EAST	0.	0.	52.	120.	142.	140.	122.	94.	57.	56.	50.	42.	32.	20.	7.	0.	0.	934.	112.	156.	84.	109.
SOUTHEAST	0.	0.	34.	91.	123.	139.	140.	128.	106.	74.	50.	42.	32.	20.	7.	0.	0.	985.	115.	161.	86.	112.
HORIZ.	0.	0.	17.	62.	108.	149.	181.	201.	208.	201.	181.	149.	108.	62.	17.	0.	0.	1643.	153.	230.	107.	150.

MONTH 5 HO 3627. TOD 68. TOT 65. KT .516 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	1.	12.	24.	39.	68.	90.	105.	110.	105.	90.	68.	39.	24.	12.	1.	0.	789.	113.	148.	92.	112.
SOUTHWEST	0.	1.	12.	24.	36.	46.	54.	65.	95.	118.	130.	130.	117.	90.	49.	1.	0.	969.	123.	166.	98.	123.
WEST	0.	1.	12.	24.	36.	46.	54.	59.	60.	96.	125.	143.	147.	132.	85.	1.	0.	1022.	126.	171.	100.	126.
NORTHWEST	0.	1.	12.	24.	36.	46.	54.	59.	60.	59.	78.	100.	112.	110.	78.	1.	0.	830.	115.	152.	93.	115.
NORTH	0.	1.	33.	38.	36.	46.	54.	59.	60.	59.	54.	46.	36.	38.	33.	1.	0.	593.	102.	128.	85.	101.
NORTHEAST	0.	1.	78.	110.	112.	100.	78.	59.	60.	59.	54.	46.	36.	24.	12.	1.	0.	830.	115.	152.	93.	115.
EAST	0.	1.	85.	132.	147.	143.	125.	96.	60.	59.	54.	46.	36.	24.	12.	1.	0.	1022.	126.	171.	100.	126.
SOUTHEAST	0.	1.	49.	90.	117.	130.	130.	118.	95.	65.	54.	46.	36.	24.	12.	1.	0.	969.	123.	166.	98.	123.
HORIZ.	0.	2.	34.	81.	126.	166.	197.	217.	224.	217.	197.	166.	126.	81.	34.	2.	0.	1871.	175.	257.	129.	178.

MONTH 6 HO 3758. TOD 76. TOT 73. KT .553 KD .181

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	3.	14.	26.	38.	63.	87.	103.	108.	103.	87.	63.	38.	26.	14.	3.	0.	777.	119.	153.	100.	120.
SOUTHWEST	0.	3.	14.	26.	38.	47.	55.	61.	95.	120.	134.	135.	122.	95.	55.	6.	0.	1005.	132.	175.	108.	134.
WEST	0.	3.	14.	26.	38.	47.	55.	60.	62.	101.	134.	155.	160.	146.	102.	11.	0.	1113.	138.	186.	111.	141.
NORTHWEST	0.	3.	14.	26.	38.	47.	55.	60.	62.	60.	88.	112.	127.	126.	97.	12.	0.	926.	128.	167.	105.	129.
NORTH	0.	7.	44.	48.	41.	47.	55.	60.	62.	60.	55.	47.	41.	48.	44.	7.	0.	666.	113.	142.	96.	114.
NORTHEAST	0.	12.	97.	126.	127.	112.	88.	60.	62.	60.	55.	47.	38.	26.	14.	3.	0.	926.	128.	167.	105.	129.
EAST	0.	11.	102.	146.	160.	155.	134.	101.	62.	60.	55.	47.	38.	26.	14.	3.	0.	1113.	138.	186.	111.	141.
SOUTHEAST	0.	6.	55.	95.	122.	135.	134.	120.	95.	61.	55.	47.	38.	26.	14.	3.	0.	1005.	132.	175.	108.	134.
HORIZ.	0.	6.	43.	92.	141.	183.	216.	237.	244.	237.	216.	183.	141.	92.	43.	6.	0.	2078.	192.	281.	144.	199.

LOCATION WASHINGTON, D.C. LATITUDE 38 DEGREES 51 MINUTES

MONTH 7 HO 3623. TOD 80. TOT 77. KT .524 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	1.	12.	24.	39.	68.	91.	106.	111.	106.	91.	68.	39.	24.	12.	1.	0.	793.	125.	160.	104.	125.
SOUTHWEST	0.	1.	12.	24.	36.	46.	54.	65.	96.	119.	132.	132.	118.	91.	49.	2.	0.	976.	136.	179.	111.	136.
WEST	0.	1.	12.	24.	36.	46.	54.	59.	60.	97.	127.	146.	149.	133.	85.	2.	0.	1031.	139.	184.	113.	140.
NORTHWEST	0.	1.	12.	24.	36.	46.	54.	59.	60.	59.	79.	101.	114.	111.	78.	2.	0.	837.	128.	165.	106.	128.
NORTH	0.	2.	33.	39.	36.	46.	54.	59.	60.	59.	54.	46.	36.	39.	33.	2.	0.	595.	114.	140.	98.	113.
NORTHEAST	0.	2.	78.	111.	114.	101.	79.	59.	60.	59.	54.	46.	36.	24.	12.	1.	0.	837.	128.	165.	106.	128.
EAST	0.	2.	85.	133.	149.	146.	127.	97.	60.	59.	54.	46.	36.	24.	12.	1.	0.	1031.	139.	184.	113.	140.
SOUTHEAST	0.	2.	49.	91.	118.	132.	132.	119.	96.	65.	54.	46.	36.	24.	12.	1.	0.	976.	136.	179.	111.	136.
HORIZ.	0.	2.	34.	81.	128.	169.	200.	220.	227.	220.	200.	169.	128.	81.	34.	2.	0.	1898.	189.	272.	142.	192.

MONTH 8 HO 3234. TOD 78. TOT 75. KT .516 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	7.	19.	51.	82.	107.	123.	128.	123.	107.	82.	51.	19.	7.	0.	0.	904.	134.	176.	106.	130.
SOUTHWEST	0.	0.	7.	19.	31.	42.	50.	75.	107.	131.	143.	142.	125.	91.	31.	0.	0.	995.	139.	186.	109.	136.
WEST	0.	0.	7.	19.	31.	42.	50.	55.	57.	95.	125.	143.	144.	120.	48.	0.	0.	939.	136.	180.	108.	132.
NORTHWEST	0.	0.	7.	19.	31.	42.	50.	55.	57.	55.	63.	86.	98.	91.	41.	0.	0.	697.	121.	154.	99.	117.
NORTH	0.	0.	14.	20.	31.	42.	50.	55.	57.	55.	50.	42.	31.	20.	14.	0.	0.	482.	108.	130.	92.	105.
NORTHEAST	0.	0.	41.	91.	98.	86.	63.	55.	57.	55.	50.	42.	31.	19.	7.	0.	0.	697.	121.	154.	99.	117.
EAST	0.	0.	48.	120.	144.	143.	125.	95.	57.	55.	50.	42.	31.	19.	7.	0.	0.	939.	136.	180.	108.	132.
SOUTHEAST	0.	0.	31.	91.	125.	142.	143.	131.	107.	75.	50.	42.	31.	19.	7.	0.	0.	995.	139.	186.	109.	136.
HORIZ.	0.	0.	16.	61.	109.	152.	185.	205.	212.	205.	185.	152.	109.	61.	16.	0.	0.	1670.	181.	260.	133.	176.

MONTH 9 HO 2651. TOD 72. TOT 70. KT .520 KD .185

ORIENTATION	HOURLY SOLAR RADIATION																	DAILY TOTAL	SAG/DAYTIME		SAG/ALL DAY	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	RADIATION	SATGS	SATGD	SATGS	SATGD
SOUTH	0.	0.	0.	25.	64.	100.	128.	145.	151.	145.	128.	100.	64.	25.	0.	0.	0.	1077.	145.	202.	106.	135.
SOUTHWEST	0.	0.	0.	12.	24.	35.	48.	88.	122.	147.	159.	155.	132.	81.	0.	0.	0.	1003.	140.	193.	104.	130.
WEST	0.	0.	0.	12.	24.	35.	44.	49.	51.	91.	122.	140.	137.	96.	0.	0.	0.	803.	127.	169.	97.	118.
NORTHWEST	0.	0.	0.	12.	24.	35.	44.	49.	51.	49.	44.	64.	76.	62.	0.	0.	0.	512.	107.	134.	87.	101.
NORTH	0.	0.	0.	12.	24.	35.	44.	49.	51.	49.	44.	35.	24.	12.	0.	0.	0.	382.	98.	118.	83.	93.
NORTHEAST	0.	0.	0.	62.	76.	64.	44.	49.	51.	49.	44.	35.	24.	12.	0.	0.	0.	512.	107.	134.	87.	101.
EAST	0.	0.	0.	96.	137.	140.	122.	91.	51.	49.	44.	35.	24.	12.	0.	0.	0.	803.	127.	169.	97.	118.
SOUTHEAST	0.	0.	0.	81.	132.	155.	159.	147.	122.	88.	48.	35.	24.	12.	0.	0.	0.	1003.	140.	193.	104.	130.
HORIZ.	0.	0.	1.	35.	84.	128.	162.	184.	191.	184.	162.	128.	84.	35.	1.	0.	0.	1377.	166.	238.	117.	153.

LOCATION WASHINGTON, D.C. LATITUDE 38 DEGREES 51 MINUTES

MONTH 10 HO 2018. TOD 61. TOT 58. KT .506 KD .187

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	13.	67.	108.	138.	157.	163.	157.	138.	108.	67.	13.	0.	0.	0.	1128.	141.	207.	94.	124.
SOUTHWEST	0.	0.	0.	4.	16.	27.	56.	95.	128.	151.	161.	152.	118.	29.	0.	0.	0.	938.	128.	182.	88.	113.
WEST	0.	0.	0.	4.	16.	27.	36.	41.	43.	81.	110.	124.	110.	31.	0.	0.	0.	623.	105.	141.	78.	94.
NORTHWEST	0.	0.	0.	4.	16.	27.	36.	41.	43.	41.	36.	38.	47.	17.	0.	0.	0.	346.	86.	106.	69.	78.
NORTH	0.	0.	0.	4.	16.	27.	36.	41.	43.	41.	36.	27.	16.	4.	0.	0.	0.	292.	82.	99.	68.	75.
NORTHEAST	0.	0.	0.	17.	47.	38.	36.	41.	43.	41.	36.	27.	16.	4.	0.	0.	0.	346.	86.	106.	69.	78.
EAST	0.	0.	0.	31.	110.	124.	110.	81.	43.	41.	36.	27.	16.	4.	0.	0.	0.	623.	105.	141.	78.	94.
SOUTHEAST	0.	0.	0.	29.	118.	152.	161.	151.	128.	95.	56.	27.	16.	4.	0.	0.	0.	938.	128.	182.	88.	113.
HORIZ.	0.	0.	0.	9.	52.	94.	128.	149.	157.	149.	128.	94.	52.	9.	0.	0.	0.	1021.	134.	193.	91.	118.

MONTH 11 HO 1481. TOD 50. TOT 48. KT .464 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	48.	98.	129.	148.	154.	148.	129.	98.	48.	0.	0.	0.	0.	1001.	129.	194.	80.	106.
SOUTHWEST	0.	0.	0.	0.	9.	20.	55.	90.	119.	138.	143.	129.	77.	0.	0.	0.	0.	781.	112.	162.	73.	93.
WEST	0.	0.	0.	0.	9.	19.	27.	32.	34.	66.	89.	95.	66.	0.	0.	0.	0.	436.	85.	113.	62.	73.
NORTHWEST	0.	0.	0.	0.	9.	19.	27.	32.	34.	32.	27.	19.	21.	0.	0.	0.	0.	219.	68.	82.	55.	60.
NORTH	0.	0.	0.	0.	9.	19.	27.	32.	34.	32.	27.	19.	9.	0.	0.	0.	0.	206.	67.	80.	54.	60.
NORTHEAST	0.	0.	0.	0.	21.	19.	27.	32.	34.	32.	27.	19.	9.	0.	0.	0.	0.	219.	68.	82.	55.	60.
EAST	0.	0.	0.	0.	66.	95.	89.	66.	34.	32.	27.	19.	9.	0.	0.	0.	0.	436.	85.	113.	62.	73.
SOUTHEAST	0.	0.	0.	0.	77.	129.	143.	138.	119.	90.	55.	20.	9.	0.	0.	0.	0.	781.	112.	162.	73.	93.
HORIZ.	0.	0.	0.	0.	24.	61.	91.	110.	117.	110.	91.	61.	24.	0.	0.	0.	0.	687.	105.	149.	70.	88.

MONTH 12 HO 1278. TOD 40. TOT 38. KT .460 KD .186

ORIENTATION	HOURLY SOLAR RADIATION																DAILY TOTAL RADIATION	SAG/DAYTIME SATGS	SAG/DAYTIME SATGD	SAG/ALL DAY SATGS	SAG/ALL DAY SATGD
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
SOUTH	0.	0.	0.	0.	37.	94.	129.	148.	155.	148.	129.	94.	37.	0.	0.	0.	0.	971.	121.	187.	69.	95.
SOUTHWEST	0.	0.	0.	0.	6.	21.	56.	90.	118.	137.	140.	122.	56.	0.	0.	0.	0.	746.	102.	153.	62.	81.
WEST	0.	0.	0.	0.	6.	16.	24.	29.	30.	61.	83.	87.	47.	0.	0.	0.	0.	382.	72.	98.	50.	60.
NORTHWEST	0.	0.	0.	0.	6.	16.	24.	29.	30.	29.	24.	16.	13.	0.	0.	0.	0.	185.	56.	68.	44.	49.
NORTH	0.	0.	0.	0.	6.	16.	24.	29.	30.	29.	24.	16.	6.	0.	0.	0.	0.	178.	55.	67.	44.	48.
NORTHEAST	0.	0.	0.	0.	13.	16.	24.	29.	30.	29.	24.	16.	6.	0.	0.	0.	0.	185.	56.	68.	44.	49.
EAST	0.	0.	0.	0.	47.	87.	83.	61.	30.	29.	24.	16.	6.	0.	0.	0.	0.	382.	72.	98.	50.	60.
SOUTHEAST	0.	0.	0.	0.	56.	122.	140.	137.	118.	90.	56.	21.	6.	0.	0.	0.	0.	746.	102.	153.	62.	81.
HORIZ.	0.	0.	0.	0.	15.	50.	79.	98.	105.	98.	79.	50.	15.	0.	0.	0.	0.	589.	89.	129.	57.	72.

LOCATION WASHINGTON, D.C. LATITUDE 38 DEGREES 51 MINUTES

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	114.	113.	114.	109.	113.	119.	125.	134.	145.	141.	129.	121.	123.
SOUTHWEST	97.	101.	110.	115.	123.	132.	136.	139.	140.	128.	112.	102.	120.
WEST	72.	82.	98.	112.	126.	138.	139.	136.	127.	105.	85.	72.	108.
NORTHWEST	56.	64.	80.	98.	115.	128.	128.	121.	107.	86.	68.	56.	92.
NORTH	55.	60.	72.	86.	102.	113.	114.	108.	98.	82.	67.	55.	84.
NORTHEAST	56.	64.	80.	98.	115.	128.	128.	121.	107.	86.	68.	56.	92.
EAST	72.	82.	98.	112.	126.	138.	139.	136.	127.	105.	85.	72.	108.
SOUTHEAST	97.	101.	110.	115.	123.	132.	136.	139.	140.	128.	112.	102.	120.
HORIZ.	91.	108.	133.	153.	175.	192.	189.	181.	166.	134.	105.	89.	143.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, DAYTIME (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	175.	173.	168.	151.	148.	153.	160.	176.	202.	207.	194.	187.	174.
SOUTHWEST	145.	152.	160.	161.	166.	175.	179.	186.	193.	182.	162.	153.	168.
WEST	99.	116.	138.	156.	171.	186.	184.	180.	169.	141.	113.	98.	146.
NORTHWEST	69.	84.	107.	131.	152.	167.	165.	154.	134.	106.	82.	68.	118.
NORTH	68.	77.	92.	109.	128.	142.	140.	130.	118.	99.	80.	67.	104.
NORTHEAST	69.	84.	107.	131.	152.	167.	165.	154.	134.	106.	82.	68.	118.
EAST	99.	116.	138.	156.	171.	186.	184.	180.	169.	141.	113.	98.	146.
SOUTHEAST	145.	152.	160.	161.	166.	175.	179.	186.	193.	182.	162.	153.	168.
HORIZ.	134.	164.	201.	230.	257.	281.	272.	260.	238.	193.	149.	129.	209.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (SINGLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	67.	70.	78.	83.	92.	100.	104.	106.	106.	94.	80.	69.	88.
SOUTHWEST	60.	65.	76.	86.	98.	108.	111.	109.	104.	88.	73.	62.	87.
WEST	50.	56.	70.	84.	100.	111.	113.	108.	97.	78.	62.	50.	82.
NORTHWEST	43.	48.	61.	77.	93.	105.	106.	99.	87.	69.	55.	44.	74.
NORTH	43.	46.	58.	70.	85.	96.	98.	92.	83.	68.	54.	44.	70.
NORTHEAST	43.	48.	61.	77.	93.	105.	106.	99.	87.	69.	55.	44.	74.
EAST	50.	56.	70.	84.	100.	111.	113.	108.	97.	78.	62.	50.	82.
SOUTHEAST	60.	65.	76.	86.	98.	108.	111.	109.	104.	88.	73.	62.	87.
HORIZ.	58.	68.	88.	107.	129.	144.	142.	133.	117.	91.	70.	57.	100.

ANNUAL SUMMARY OF SOL-AIR TEMPERATURE FOR GLASS, ALL DAY (DOUBLE GLAZING)

ORIENTATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
SOUTH	92.	98.	105.	106.	112.	120.	125.	130.	135.	124.	106.	95.	112.
SOUTHWEST	80.	88.	102.	112.	123.	134.	136.	136.	130.	113.	93.	81.	111.
WEST	61.	72.	91.	109.	126.	141.	140.	132.	118.	94.	73.	60.	101.
NORTHWEST	49.	57.	75.	95.	115.	129.	128.	117.	101.	78.	60.	49.	88.
NORTH	48.	54.	67.	83.	101.	114.	113.	105.	93.	75.	60.	48.	80.
NORTHEAST	49.	57.	75.	95.	115.	129.	128.	117.	101.	78.	60.	49.	88.
EAST	61.	72.	91.	109.	126.	141.	140.	132.	118.	94.	73.	60.	101.
SOUTHEAST	80.	88.	102.	112.	123.	134.	136.	136.	130.	113.	93.	81.	111.
HORIZ.	75.	93.	122.	150.	178.	199.	192.	176.	153.	118.	88.	72.	135.

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16. ABSTRACT *(A 200-word or less factual summary of most significant information. If document includes a significant bibliography or literature survey, mention it here.)*

The majority of the available solar radiation data for the United States and Canada are in the form of either monthly averages of daily total radiation on a horizontal surface or hourly values for cloudless days on horizontal, tilted, and vertical surfaces. Hourly solar radiation data for walls and roofs under "average" solar conditions were computed in order to be able to make estimates of the effect that incident solar radiation has on a building and/or its heating and air conditioning system over a heating and/or cooling season. Calculation procedures developed by Liu and Jordan were modified and hourly solar radiation data were compiled for 80 locations in the United States and Canada. Data were also computed and tabulated for a new parameter called "sol-air temperature for glass".

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