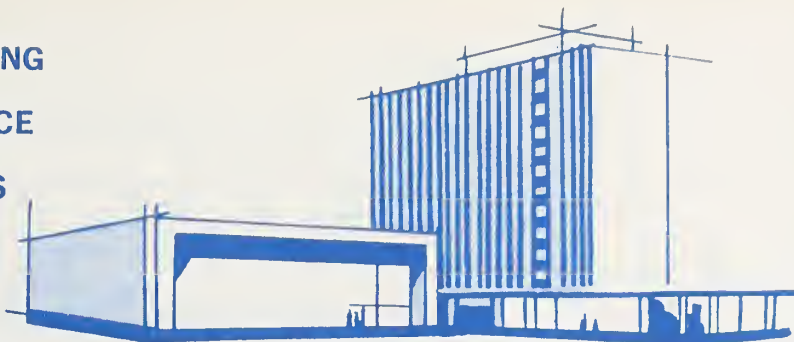BUILDING

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Algorithms for
Psychrometric Calculations
(Skeleton Tables for the Thermodynamic
Properties of Moist Air)

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Contents

Algorithms for Psychrometric Calculations
(Skeleton Tables for the Thermodynamic Properties of Moist Air)

T. Kusuda

Computer algorithms to obtain thermodynamic properties of saturated and unsaturated moist air are presented in this paper. The saturated moist air properties are calculated by the methodology developed by J. A. Goff and S. Gratch for their ASHRAE tables (1967 Book of Fundamentals, The American Society of Heating, Refrigerating and Air Conditioning Engineers). Sample calculations were performed using a computer program based upon the algorithms presented herein and the results are attached.

Key words: Computer algorithm; psychrometrics; saturated and unsaturated moist air; thermodynamic properties.

1. Introduction

Very accurate values of moist-air properties are required for many engineering problems. Most notable examples are those required in psychrometric calorimetry for measuring the capacity of various air conditioning apparatus, moisture transfer analyses in the cold storage warehouses, and analyses of simultaneous transfer of heat and moisture affecting the physiological responses of biological bodies. Although numerous psychrometric formulas and charts currently exist, the thermodynamic properties of moist air calculated by Goff and Gratch (1945) [1] are still considered most accurate and extensive. Their calculations are based upon the theory of statistical mechanics whereby interactions of major molecular components in the moist air are taken into consideration. Thus the calculation methodology employed by Goff and Gratch to produce the now well-known ASHRAE tables of moist-air properties should be valid beyond the ranges within which their calculations had been made. For example, the barometric pressure up to 3 atm and the temperature to 400 K can be covered. In addition, it is believed that the methodology is valid for a mole fraction composition of dry air different from that used in the original calculations.

Although the basic principle of calculation procedures for obtaining the moist air properties is described in the 1949 paper of J. A. Goff [2], it is not readily adaptable for machine calculation. The purpose of this paper is, then, to list step-by-step procedures for computer-oriented engineers to be able to calculate the accurate values of moist air properties based upon the Goff paper mentioned above. Since the paper is not intended for elaborating the thermodynamic principles inherent to the calculation procedures, those who wish to familarize themselves with that account should refer to references [1] and [2]. The complete National Bureau of Standards program called PSYCHR has been written to follow the calculation procedures described in this paper. This program has successfully reproduced the ASHRAE table of saturated moist air for 29.92 in of barometric pressure.

Additional programs called CF, DBWBW, DBDPW, DBRHWB, coupled with PSYCHR, can be used to calculate thermodynamic properties of unsaturated moist air by inputting values of the barometric pressure, dry-bulb temperature, and any one of several humidity indices such as wet-bulb temperature, dew-point temperature, relative humidity, and humidity ratio.

The program has been further employed to calculate the thermodynamic properties of moist air at various degrees of saturation and at various barometric pressure levels. Sample results of such calculations are attached to this algorithm. It is believed that the step-by-step account of the calculation methodology and the sample calculations presented herein should be very useful in future reference work relating to accurate psychrometric calculations.

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[1] Figures in brackets indicate the literature references on p. 10.

1

2. PSYCHR Program

Input: P_t = barometric pressure (inches Hg)

          t = dry-bulb temperature (F)

Output: h_a = enthalpy of dry air (Btu/lb of dry air)

          h_s = enthalpy of saturated moist air (Btu/lb of dry air)

          V_a = volume of dry air (ft.^{3}/lb of dry air)

          V_s = volume of saturated moist air (ft.^{3}/lb of dry air)

          W_s = humidity ratio of saturated moist air (lb of H_2O/lb of dry air)

          f_s = air-water interaction factor

          h_w = enthalpy of saturated water (Btu/lb of H_2O)

          P_{vs} = vapor pressure of liquid water in moisture saturated air (inches Hg)

          s_a = entropy of dry air (Btu/lb, F)

          s_s = entropy of saturated moist air (Btu/F, lb of dry air)

1. Composition of dry air.

Components	Oxygen	Nitrogen	Argon	Carbon dioxide
Chemical Symbols	O_2	N_2	Ar	CO_2
Mole fraction (X)	0.2095	0.7809	0.0093	0.0003
Molecular weight (M) (natural oxygen scale)	32.000	28.016	39.944	44.01

Molecular weight of air.................. M_a = 28.966

Molecular weight of water.................. M_w = 18.016

2. Kelvin temperature used for the calculations.[2]

$$T = \frac{t - 32}{1.8} + 273.16$$

$$\tau = \frac{1}{T}$$

3. Zero pressure constants.

Components	Oxygen	Nitrogen	Argon	Carbon dioxide	Water
C	7/2	7/2	5/2	7/2	4
N_1	1	1	0	2	1
N_2	0	0	0	1	1
N_3	0	0	0	1	1
$\theta_1(K)$	2235.4	3352.69	∞	960	2291.16
$\theta_2(K)$	∞	∞	∞	1944	5176.37
$\theta_3(K)$	∞	∞	∞	3379	5445.59
$A(K)$	1.073	0.9580	0	0	5.011
B	0	0.09	0	0	0
$D(K^{-1})$	3.30×10^{-6}	2.023×10^{-6}	0	0	2.32×10^{-5}
F	0.011	0.009009	0	0	0
a_1	0	0	0	0	-0.03958
a_2	0	0	0	0	0.05353
a_3	0	0	0	0	0.04000
Const	1.2164	-0.414686	1.867	1.8945	-4.1083

[2] If the new Kelvin Temperature Scale is to be used, 273.16 in this algorithm should be replaced by 273.15. Detailed discussions on this subject are presented beginning on p. 9.

4. For each component, calculate zero pressure enthalpy and entropy, $\frac{h°}{R}$, and $\frac{s°}{R}$ by the following relations.

$$\frac{h°}{R} = \frac{c}{\tau} + \sum_{k=1}^{3} \frac{N_k \theta_k e^{-\theta_k \tau}}{1 - e^{-\theta_k \tau}} - A - 2B\tau + \frac{D}{\tau^2} + \sum_{k=1}^{3} a_k \theta_k e^{-\theta_k \tau} - \frac{F\theta_1 e^{-\theta_{17}}}{(e^{-\theta_{17}} - 1)^2}$$

$$\frac{s°}{R} = c(1 - \ln \tau) + \sum_{k=1}^{3} N_k \left\{ \frac{\theta_k \tau - (1 - e^{-\theta_k \tau}) \ln (1 - e^{-\theta_k \tau})}{(1 - e^{-\theta_k \tau})} \right\}$$

$$- B\tau^2 + \frac{2D}{\tau} + \sum_{k=1}^{3} a_k e^{-\theta_k \tau} (\theta_k \tau + 1) + F \left\{ \frac{e^{\theta_{17}} (1 - e^{\theta_{17}}) - 1}{(e^{\theta_{17}} - 1)^2} \right\} + \text{Const}$$

where $R = 1.98583$ cal/mol, K.

5. Zero pressure enthalpy and entropy of dry air and water vapor are then obtained by

$$h°_{\text{air}} = \left[\frac{X_{O_2} h°_{O_2} + X_{N_2} h°_{N_2} + X_{Ar} h°_{Ar} + X_{CO_2} h°_{CO_2}}{M_a} \right] \qquad \text{cal/g}$$

$$h°_{H_2O} \leftarrow \frac{h°_{H_2O}}{M_w} \,^{3} \qquad \text{cal/g}$$

$$s°_{\text{air}} = \left[\frac{X_{O_2} s°_{O_2} + X_{N_2} s°_{N_2} + X_{Ar} s°_{Ar} + X_{CO_2} s°_{CO_2}}{M_a} \right] + 0.03945 \qquad \text{cal/g} \qquad K$$

$$s°_{H_2O} \leftarrow \frac{s°_{H_2O}}{M_w} \qquad \text{cal/g} \qquad K$$

6. Pressure in atmosphere

$$P_t \leftarrow P_t / 29.921$$

7. Virial coefficients:

$$A_{aa} = -40.70 + 13116\tau + 12\tau^3 \cdot 10^7 \qquad \text{cm}^3/\text{g. mol}$$
$$B_{aa} = -40.70 + 26232\tau + 48\tau^3 \cdot 10^7 \qquad \text{cm}^3/\text{g. mol}$$
$$C_{aa} = \tau(A_{aa} - B_{aa}) \qquad \text{cm}^3/\text{g. mol, K}$$
$$A_{ww} = -33.97 + 55306\tau \cdot 10^{72000\tau^2} \qquad \text{cm}^3/\text{g. mol}$$
$$B_{ww} = -33.97 + 110612\tau \cdot 10^{72000\tau^2} \qquad \text{cm}^3/\text{g. mol}$$
$$\qquad + 55306\tau^2(144000\tau \cdot 10^{72000\tau^2} \cdot \ln 10)$$
$$C_{ww} = \tau(A_{ww} - B_{ww}) \qquad \text{cm}^3/\text{g. mol, K}$$
$$A_{aw} = -29.53 + \frac{0.00669}{\tau} (1 - e^{-\theta\tau}) + A\tau + B\tau^2 + D\tau^3 \quad \text{cm}^3/\text{g. mol}$$
$$B_{aw} = -29.53 + 0.00669\theta e^{-\theta\tau} + 2A\tau + 3B\tau^2 + 4D\tau^3 \quad \text{cm}^3/\text{g. mol}$$
$$C_{aw} = \tau(A_{aw} - B_{aw}) \qquad \text{cm}^3/\text{g. mol, K}$$

$$\text{where } A = 17546 \qquad \text{cm}^3 \text{ K/g. mol}$$
$$B = 95300 \qquad \text{cm}^3 \text{ K}^2/\text{g. mol}$$
$$D = 8.515 \cdot 10^7 \qquad \text{cm}^3 \text{ K}^3/\text{g. mol}$$
$$\theta = 4416.5 \qquad \text{K}$$

---

[3] Throughout this algorithm "←" means "is replaced by" instead of "equals to" as in conventional mathematics.

$$A_{www} = 0.0348\tau^2 A_{ww}^3 \qquad\qquad \text{cm}^3/\text{g. mol. atm}$$
$$B_{www} = 0.1044\tau^2 A_{ww}^2 B_{ww} \qquad\qquad \text{cm}^3/\text{g. mol. atm}$$
$$C_{www} = \tau(A_{www} - B_{www}) \qquad\qquad \text{cm}^3/\text{g. mol. atm, K}$$

8. Dry air properties

$$h_a = 1.8\left[h_{\text{air}}^\circ - \frac{0.0242179 \cdot B_{aa}(P_t)}{M_a} - 60.99 \right], \text{Btu/lb}$$

$$s_a = s_{\text{air}}^\circ + \frac{0.0242179 \cdot C_{aa}(P_t)}{M_a} - \frac{R}{M_a} \ln(P_t) - 1.60096, \text{ Btu/lb, F}$$

$$V_a = \left(\frac{453.5924}{28316.85}\right) \frac{\left(\dfrac{82.0567}{P_t} - A_{aa}\right)}{M_a}, \text{ ft}^3/\text{lb}$$

9. Calculate the water vapor pressure. If $T \leq 273.16$,

$$u = 273.16\tau$$

$$z = -9.09718(u-1) - 3.56654 \log_{10} u + 0.876793\left(1 - \frac{1}{u}\right)$$

$$P_s = 0.0060273 \cdot 10^z \ \dots \ (\text{atm}) \ \dots \ \text{vapor pressure of ice.}$$

if $T > 273.16$,

$$u = 373.16\tau$$

$$z = -7.90298(u-1) + 5.02808 \log_{10} u$$

$$\quad - 1.3816 \cdot 10^{-7}\{10^{11.344(1-1/u)} - 1\}$$

$$\quad + 8.1328 \cdot 10^{-3}(10^{-3.49149(u-1)} - 1)$$

$$P_s = 10^z \ \dots \ \text{atm} \ \dots \ \text{vapor pressure of liquid water.}$$

$$P_{vs} = 29.921 \cdot P_s$$

10. Calculate humidity ratio and mole fraction of moisture saturated air.

$$\alpha = (A_{aa} - 2A_{aw} + A_{ww})\frac{P_s\tau}{82.0567} + \frac{A_{www}P_s^2\tau}{82.0567}$$

$$z' = \alpha\left(1 - \frac{P_s}{P_t}\right) + \beta\left(\frac{P_t}{P_s} - 1\right) \qquad\qquad (\beta \text{ is tabulated below})$$

$$f_s = e^{z'}$$

$$W_s = 0.62197\frac{f_s\dfrac{P_s}{P_t}}{1 - f_s\dfrac{P_s}{P_t}}$$

$$Y_s = \frac{18.016}{28.966 \cdot W_s + 18.016}$$

4

11. Table of β, h', L for the Lagrangean interpolation.

$\left(\dfrac{t-32}{1.8}\right)$	β^*	h'_w (cal/g)
−80	0.44*10⁻⁸	−114.25
−70	1.90*10⁻⁸	−110.54
−60	0.71*10⁻⁷	−106.64
−50	2.35*10⁻⁷	−102.58
−40	0.70*10⁻⁶	−98.34
−30	1.91*10⁻⁶	−93.92
−20	0.48*10⁻⁵	−89.34
−10	1.11*10⁻⁵	−84.57
0	2.43*10⁻⁵	−79.64
0	2.37*10⁻⁵	0.02
10	4.44*10⁻⁵	10.06
20	0.79*10⁻⁴	20.06
30	1.34*10⁻⁴	30.04
40	2.19*10⁻⁴	40.03
50	3.46*10⁻⁴	50.01
60	5.26*10⁻⁴	60.00
70	0.78*10⁻³	69.99
80	1.12*10⁻³	80.01
90	1.58*10⁻³	90.05

* "*" means multiplication in this table.

12. Calculate the properties of water vapor.

$$h'_g = h^\circ_{H_2O} - \frac{0.0242179}{M_w}\left\{ B_{ww}P_s + \frac{1}{2}B_{www}P_s^2 \right\} + 477.277 \text{ cal/g}$$

$$h_g = 1.8 h'_g \ldots \text{ Btu/lb}$$

$$s_g = s^\circ_{H_2O} + \frac{0.0242179}{M_w}\left\{ C_{ww}P_s + \frac{1}{2}C_{www}P_s^2 \right\}$$

$$-\frac{R}{M_w}\ln P_s - 0.83960, \text{ Btu/lb, F or cal/g, C}$$

$$V_g = \frac{1}{M_w}\left(\frac{453.5924}{28316.85}\right)\left(\frac{82.0567}{P_s\tau} - A_{ww} - A_{www}P_s\right), \text{ ft}^3/\text{lb}$$

13. Enthalpy of liquid water.

$$h_w = 1.8 \, h'_w \ldots \text{ Btu/lb}$$

14. Calculate the properties of moist air saturated with water vapor.

$$h_s = \frac{1.8}{M_a Y_s} \left\{ \left[M_a Y_s h^\circ_{air} + M_w (1 - Y_s) h^\circ_{H_2O} \right] \right.$$

$$- 0.0242179 \left[(Y^2_s \cdot B_{aa} + 2Y_s (1 - Y_s) B_{aw} + (1 - Y_s)^2 B_{ww}) P_t \right.$$

$$\left. - 1/2 (1 - Y_s)^3 B_{www} P^2_t \right] \right\} - 109.782 + 859.099 W_s, \text{ B.t.u./lb. of dry air}$$

$$s_s = \frac{1}{M_a Y_s} \left\{ \left[M_a Y_s s^\circ_{air} + M_w (1 - Y_s) s^\circ_{H_2O} \right] \right.$$
$$+ 0.0242179 \left[(Y^2_s C_{aa} + 2Y_s (1 - Y_s) C_{aw} + (1 - Y_s)^2 C_{ww}) P_t \right.$$
$$\left. + 1/2 (1 - Y_s)^3 C_{www} P^2_t \right] - R \left[Y_s \ln Y_s + (1 - Y_s) \ln (1 - Y_s) + \ln P_t \right]$$
$$- 1.60096 - 0.83960 W_s, \text{ B.t.u./lb. of dry air, } ^\circ R$$

$$V_s = \frac{1}{M_a Y_s} \left(\frac{453.5924}{28316.85} \right) \left\{ \frac{82.0567}{P_t \tau} \right.$$
$$- \left[(Y^2_s A_{aa} + 2Y_s (1 - Y_s) A_{aw} + (1 - Y_s)^2 A_{ww}) \right.$$
$$\left. - (1 - Y_s)^3 A_{www} P_t \right] \right\} \text{ft}^3\text{/lb. of dry air}$$

3. CF Program

Comments: When $t \geqslant 112$ °F, this program CF is used to find correction terms for h and v calculated by

$$h = h_a + (W/W_s)(h_s - h_a), \quad V = V_a + (W/W_s)(V_s - V_a).$$

Input: $t =$ dry bulb temperatures (F)
    $W =$ humidity ratio (lb H_2O/lb of dry air)
    $W_s =$ humidity ratio of saturated moist air (lb H_2O/lb of dry air)
Output: $\bar{V} =$ correction terms to the volume v (ft/lb of dry air)
    $\bar{h} =$ correction term to the enthalpy h (Btu/lb of dry air)
Calculation procedures:
    1. Use the Lagrangean interpolation technique to pick up A and B from the following table:

t	A	B
96	0.0018	0.0268
112	.0042	.0650
128	.0096	.1439
144	.0215	.3149
160	.0487	.6969
176	.1169	1.636
192	.3363	4.608

2. $\bar{v} = \dfrac{\left(\dfrac{W}{W_s} \right) \cdot \left(1 - \dfrac{W}{W_s} \right) A}{1 + 1.6078 W}$

3. $\bar{h} = \left(\dfrac{W}{W_s} \right) \left(1 - \dfrac{W}{W_s} \right) B / (1 + 1.6078 W)$

4. DBWBW Program

Input: $t =$ dry-bulb temperature (F)
$t^* =$ thermodynamic wet-bulb temperature (F)
$P_t =$ barometric pressure (inches Hg)
Output: $W =$ humidity ratio of moist air (lb of H_2O/lb of dry air)
$h =$ enthalpy of moist air (Btu/lb of dry air)
$V =$ volume of moist air (ft³/lb of dry air)
$\mu =$ degree of saturation
$P_v =$ water vapor pressure, inches Hg
$DP =$ dew-point temperature, F
$RH =$ relative humidity, %

Calculation procedures:

1. CALL PSYCHR $(P_t, P_{vs}, t, h_a, h_s, V_a, V_s, W_s, f_s, h_w)$
2. CALL PSYCHR $(P_t, P_{vs}, t^*, h_a^*, h_s^*, V_a^*, V_s^*, W_s^*, f_s^*, h_w^*)$ [4]
3. Iterate on W to satisfy

$$h = h_a + \frac{W}{W_s}(h_s - h_a) + \bar{h}$$

$$h + (W_s^* - W)h_w^* = h_s^*$$

where $\bar{h}$ is obtained by

$$\text{CALL CF}(t, W, W_s, \bar{V}, \bar{h}).$$

If $t \leqslant 112$ °F, however, W may be calculated by

4. If $t \leqslant 112$ °F,

$$W = \left[\frac{h_s^* - h_a - h_w^* W_s^*}{h_s - h_a - h_w^* W_s}\right] \cdot W_s.$$

$$h = h_a + \frac{W}{W_s}(h_s - h_a)$$

$$V = V_a + \frac{W}{W_s}(V_s - V_a).$$

5. If $t > 112$ °F,

$$\text{CALL CF } (t, W, W_s, \bar{V}, \bar{h})$$

$$h \leftarrow h + \bar{h}$$

$$V \leftarrow V + \bar{V}$$

6. $$\mu = \frac{W}{W_s}.$$

7. $$RH = \frac{\mu \times 100}{1 - (1 - \mu)f_s \dfrac{P_{vs}}{P_t}}$$

8. Iterate PSYCHR on various DP until

$$W = W_s(DP).$$

9. $$PV = P_{vs}(DP)$$

---

[4] Properties with superscript (*) depict those evaluated at the thermodynamic wet-bulb temperature t^*.

5. DBDPW Program

Input: t = dry-bulb temperature (F)

DP = dew-point temperature (F)

P_t = barometric pressure (inches Hg)

Output: W = humidity ratio (lb of H_2O/lb of dry air)

h = enthalpy (Btu/lb of dry air)

V = volume (ft³/lb of dry air)

RH = relative humidity, %

t^* = thermodynamic wet-bulb temperature, F

Calculation procedures:

1. CALL PSYCHR $(P_t, P_{vs}, DP, h'_a, h'_s, V'_a, V'_s, W'_s, f'_s, h'_w)$

$$W = W'_s$$

2. CALL PSYCHR $(P_t, P_{vs}, t, h_a, h_s, V_a, V_s, W_s, f_s, h_w)$

3. If $t \leqslant 112\ °F$

$$h = h_a + \frac{W}{W_s}(V_s - V_a).$$

4. If $t > 112\ °F$

$$\text{CALL CF } (t, W, W_s, \bar{V}, \bar{h})$$

$$h = h_a + \frac{W}{W_s}(h_s - h_a) + \bar{h}$$

$$V = V_a + \frac{W}{W_s}(V_s - V_a) + \bar{V}$$

5.
$$\mu = \frac{W}{W_s}$$

$$RH = \frac{\mu \times 100}{1 - (1 - \mu)f_s \dfrac{P_{vs}}{P_t}}$$

6. Iterate t^* on the following equation by making use of PSYCHR.

$$h + (W_s(t^*) - W)h_w(t^*) = h_s(t^*).$$

6. DBRHWB Program

Input: P_t = barometric pressure (inches Hg)

t = dry-bulb temperature (F)

ϕ = relative humidity, fraction

Output: t^* = thermodynamic wet-bulb temperature (F)

Calculation procedures:

1. CALL PSYCHR $(P_t, P_{vs}, t, h_a, h_s, \bar{V}_a, V_s, W_s, f_s, h_w)$

2.
$$P_s = \phi P_{vs} \qquad \textit{approximation)}$$

3.
$$\mu = \frac{\phi\left(1 - f_s \dfrac{P_s}{P_t}\right)}{1 - \phi f_s \dfrac{P_s}{P_t}}.$$

8

If $t \leqslant 112 \, °F$

$$h = h_a + \mu(h_s - h_a).$$

If $t > 112 \, °F$

$$\text{CALL CF } (t, W, W_s, \bar{V}, \bar{h})$$

$$h \leftarrow h + \bar{h}$$

4.

$$W = \mu W_s$$

5. Iterate the following formula to find t^* by making use of PSYCHR.

$$h + (W_s(t^*) - W) \cdot h_w(t^*) = h_s(t^*)$$

7. Comments on the New Kelvin Temperature Scale

The values for saturation pressure of water calculated by the algorithms presented herein are identical with those tabulated in table 2 of Chapter 21 of 1967 ASHRAE Book of Fundamentals. These values were, however, obtained by the Goff's calculation based upon the old Kelvin scale $[t = T - 273.16$ (Centigrade vs. Kelvin)$]$. In October 1954, the Tenth General Conference on Weights and Measures adopted a new Kelvin scale T of absolute temperature on which the triple-point of water is assigned the value 273.16. According to this new convention, the new temperature scale becomes $t = T - 273.15$. Prof. J. A. Goff published new formulas corrected for this new temperature scale for saturation pressure in his most recent paper (Saturation Pressure of Water on the New Kelvin Temperature Scale, 1963 International Symposium on Humidity and Moisture, Washington, D.C.). According to that paper, the saturation pressure for the new temperature scale will be calculated by the following algorithms.

$$u = 273.16 / [(t - 32)/1.8 + 273.15]$$

$$P_s = 29.92 \ 10^z \qquad\qquad (1013250 \text{ dyn/cm}^2)$$

when (1) saturation over ice

$$z = -9.096936(u - 1) - 3.56654 \log_{10} u$$

$$+ 0.876817\left(1 - \frac{1}{u}\right) - 2.2195983$$

(2) saturation over liquid water

$$z = -10.79586(u - 1) - 5.02808 \log_{10} u$$

$$+ 1.50474 \cdot 10^{-4} (1 - 10^{-8.29692(1/u-)})$$

$$+ 0.42873 \cdot 10^{-3} (10^{4.76955(1-u)} - 1)$$

$$- 2.2195983$$

According to this new formula, the corrections $\Delta P/P$ to the current ASHRAE table values of the saturation water vapor pressure are found to be extremely small, as shown in the following table.

over ice	t (°F)	$\Delta P/P$
	-292	-0.00513
	-220	-0.00216
	-148	-0.001050
	$-\ 76$	-0.000541
	$-\ \ 4$	-0.000269
	$+\ 32$	-0.000181
over liquid water	32	-0.000193
	68	-0.0001320
	104	-0.0000854
	140	-0.0000493
	176	-0.0000212
	212	0.00000

For the engineering calculation, the algorithms based upon Goff's 1949 paper for PSYCHR should, therefore, be sufficiently accurate.

Unit Conversion Table

	To Convert From		To	Operation Required
V	[ft³/lb]	V'	[m³/kg]	$V' = 0.06243\ V$
P	$\begin{bmatrix} \text{in Hg*} \\ (32\ °F) \end{bmatrix}$	P'	[N/m²]	$P' = 3386.389\ P$
		P''	[kg/m²]	$P'' = 345.3\ P$
		P'''	[mm Hg]	$P''' = 25.4\ P$
h	[Btu/lb]	h'	[J/kg]	$h' = (h - 7.686)\ 2326$
		h''	[kcal/kg]	$h'' = \left(\dfrac{h - 7.686}{1.8} \right)$
s	[Btu/lb °R]	s'	[kcal/kg K]	$s' = s - 0.01617$
		s''	[J/kg K]	$s'' = (s - 0.01617)\ 4184$
W	[lb/lb]	W'	[g/kg]	$W' = 1000\ W$

*Density, 13.595 g/cm³

8. References

[1] Goff, J. A., and Gratch, S., Thermodynamic properties of moist air, ASHVE Transaction, 1945, pp. 125–164.
[2] Goff, J. A., Standardization of thermodynamic properties of moist air, ASHVE Journal Section, HPAC, Nov. 1949.

9. Sample Results of Psychrometric Calculations

NOMENCLATURE

ALT............. Altitude, ft
DB.............. Dry-bulb temperature, F
WB.............. Thermodynamic wet-bulb temperature, F
DP.............. Dewpoint temperature, F
RH .... Relative humidity, percent
PV.............. Vapor pressure, in. hg
W................ Humidity ratio
H................. Enthalpy, Btu per lb of dry air
S .... Entropy, Btu per F per lb of dry air
V................ Volume, cu ft per lb of dry air
PB.............. Barometric pressure, in. hg

Thermodynamic properties tabulated in this publication are calculated by the Goff and Gratch formulas originally published in Standardization of Thermodynamic Properties of Moist Air (ASHVE Journal Section 1949).

DB	WB	DP	RH	PV	W	H	S	V
−40.0	−40.0	−40.0	100.0	.0038	.00008	−9.54	−.0242	10.19
.0	.0	.0	100.0	.0376	.00076	.80	−.0006	11.18
.0	−.1	−.6	96.9	.0365	.00074	.77	−.0007	11.18
.0	−.2	−1.2	93.8	.0353	.00071	.75	−.0007	11.18
.0	−.3	−1.9	90.7	.0341	.00069	.72	−.0008	11.18
.0	−.4	−2.5	87.5	.0330	.00066	.70	−.0008	11.18
.0	−.5	−3.2	84.4	.0318	.00064	.67	−.0009	11.18
.0	−.6	−3.9	81.3	.0306	.00062	.65	−.0010	11.18
.0	−.7	−4.6	78.2	.0294	.00059	.62	−.0010	11.18
.0	−.8	−5.4	75.1	.0283	.00057	.60	−.0011	11.18
.0	−.9	−6.2	72.0	.0271	.00055	.57	−.0011	11.18
.0	−1.0	−7.0	68.9	.0259	.00052	.55	−.0012	11.18
.0	−1.1	−7.8	65.8	.0248	.00050	.52	−.0012	11.18
.0	−1.2	−8.7	62.7	.0236	.00048	.50	−.0013	11.18
.0	−1.3	−9.7	59.7	.0225	.00045	.47	−.0013	11.18
.0	−1.4	−10.6	56.6	.0213	.00043	.45	−.0014	11.18
.0	−1.5	−11.6	53.5	.0201	.00041	.42	−.0015	11.18
.0	−1.6	−12.7	50.4	.0190	.00038	.40	−.0015	11.17
.0	−1.7	−13.8	47.3	.0178	.00036	.37	−.0016	11.17
.0	−1.8	−15.0	44.3	.0167	.00034	.35	−.0016	11.17
.0	−1.9	−16.3	41.2	.0155	.00031	.32	−.0017	11.17
.0	−2.0	−17.7	38.1	.0143	.00029	.30	−.0017	11.17
.0	−2.1	−19.2	35.0	.0132	.00027	.28	−.0018	11.17
.0	−2.2	−20.8	32.0	.0120	.00024	.25	−.0019	11.17
.0	−2.3	−22.5	28.9	.0109	.00022	.23	−.0019	11.17
.0	−2.4	−24.4	25.8	.0097	.00020	.20	−.0020	11.17
40.0	40.0	40.0	100.0	.2477	.00503	15.02	.0290	12.24
40.0	39.0	37.8	91.7	.2271	.00461	14.57	.0281	12.23
40.0	38.0	35.4	83.5	.2069	.00420	14.13	.0272	12.23
40.0	37.0	32.9	75.5	.1870	.00379	13.69	.0263	12.22
40.0	36.0	30.4	67.6	.1674	.00339	13.26	.0254	12.21
40.0	35.0	27.7	59.8	.1481	.00300	12.84	.0245	12.20
40.0	34.0	24.8	52.1	.1291	.00261	12.42	.0237	12.19
40.0	33.0	21.5	44.6	.1104	.00223	12.01	.0228	12.19
40.0	32.0	19.9	41.3	.1024	.00207	11.83	.0225	12.18
40.0	31.0	16.0	34.2	.0846	.00171	11.45	.0216	12.18
40.0	30.0	11.3	27.1	.0671	.00135	11.06	.0208	12.17
40.0	29.0	5.4	20.1	.0499	.00101	10.69	.0200	12.16
40.0	28.0	−2.5	13.3	.0330	.00067	10.32	.0192	12.16
40.0	27.0	−15.3	6.6	.0164	.00033	9.96	.0184	12.15
40.0	26.0	−85.5	.1	.0002	.00000	9.61	.0176	12.14

DB	WB	DP	RH	PV	W	H	S	V
80.0	80.0	80.0	100.0	1.0323	.02152	42.79	.0822	13.57
80.0	79.0	78.7	95.7	.9879	.02056	41.74	.0802	13.55
80.0	78.0	77.3	91.5	.9445	.01963	40.72	.0783	13.53
80.0	77.0	75.9	87.4	.9020	.01872	39.73	.0765	13.51
80.0	76.0	74.5	83.3	.8604	.01783	38.75	.0746	13.49
80.0	75.0	73.0	79.4	.8196	.01696	37.80	.0729	13.48
80.0	74.0	71.6	75.5	.7797	.01611	36.87	.0711	13.46
80.0	73.0	70.1	71.7	.7406	.01529	35.97	.0694	13.44
80.0	72.0	68.5	68.0	.7024	.01448	35.08	.0677	13.42
80.0	71.0	66.9	64.4	.6649	.01369	34.22	.0661	13.41
80.0	70.0	65.3	60.9	.6282	.01292	33.37	.0645	13.39
80.0	69.0	63.6	57.4	.5922	.01216	32.54	.0629	13.37
80.0	68.0	61.9	54.0	.5570	.01143	31.74	.0613	13.36
80.0	67.0	60.1	50.6	.5225	.01071	30.95	.0598	13.34
80.0	66.0	58.2	47.3	.4887	.01000	30.18	.0583	13.33
80.0	65.0	56.2	44.1	.4556	.00931	29.42	.0569	13.31
80.0	64.0	54.2	41.0	.4231	.00864	28.69	.0555	13.30
80.0	63.0	52.1	37.9	.3913	.00798	27.97	.0540	13.29
80.0	62.0	49.8	34.9	.3602	.00734	27.26	.0527	13.27
80.0	61.0	47.5	31.9	.3296	.00671	26.57	.0513	13.26
80.0	60.0	44.9	29.0	.2997	.00609	25.90	.0500	13.25
80.0	59.0	42.3	26.2	.2703	.00549	25.23	.0487	13.23
80.0	58.0	39.4	23.4	.2415	.00490	24.59	.0474	13.22
80.0	57.0	36.2	20.7	.2132	.00432	23.96	.0461	13.21
80.0	56.0	32.7	18.0	.1856	.00376	23.34	.0448	13.20
80.0	55.0	29.2	15.3	.1584	.00321	22.73	.0436	13.19
80.0	54.0	25.2	12.8	.1317	.00266	22.14	.0424	13.18
80.0	53.0	20.6	10.2	.1056	.00213	21.55	.0412	13.16
80.0	52.0	14.8	7.7	.0799	.00161	20.98	.0400	13.15
80.0	51.0	7.3	5.3	.0547	.00110	20.43	.0388	13.14
80.0	50.0	−4.3	2.9	.0300	.00061	19.88	.0376	13.13
80.0	49.0	−33.3	.6	.0058	.00012	19.34	.0364	13.12

DB	WB	DP	RH	PV	W	H	S	V
120.0	120.0	120.0	100.0	3.4476	.07826	115.94	.2126	15.86
120.0	118.0	117.8	94.0	3.2393	.07298	110.06	.2024	15.74
120.0	116.0	115.5	88.2	3.0397	.06798	104.51	.1927	15.63
120.0	114.0	113.2	82.6	2.8483	.06326	99.26	.1835	15.52
120.0	112.0	110.9	77.3	2.6649	.05880	94.29	.1748	15.42
120.0	110.0	108.5	72.2	2.4892	.05458	89.60	.1665	15.32
120.0	108.0	106.1	67.3	2.3208	.05058	85.15	.1586	15.23
120.0	106.0	103.7	62.6	2.1595	.04680	80.94	.1511	15.15
120.0	104.0	101.2	58.2	2.0050	.04322	76.96	.1440	15.07
120.0	102.0	98.7	53.9	1.8571	.03982	73.18	.1372	14.99
120.0	100.0	96.1	49.8	1.7154	.03660	69.59	.1308	14.92
120.0	98.0	93.4	45.8	1.5797	.03355	66.19	.1246	14.85
120.0	96.0	90.6	42.1	1.4497	.03065	62.97	.1188	14.79
120.0	94.0	87.8	38.4	1.3253	.02790	59.91	.1132	14.72
120.0	92.0	84.8	35.0	1.2062	.02529	57.00	.1078	14.66
120.0	90.0	81.7	31.7	1.0921	.02281	54.24	.1027	14.61
120.0	88.0	78.5	28.5	.9829	.02045	51.61	.0979	14.56
120.0	86.0	75.1	25.5	.8783	.01821	49.12	.0932	14.51
120.0	84.0	71.5	22.6	.7782	.01608	46.75	.0888	14.46
120.0	82.0	67.7	19.8	.6822	.01405	44.49	.0845	14.41
120.0	80.0	63.5	17.1	.5904	.01212	42.34	.0804	14.37
120.0	78.0	58.9	14.6	.5023	.01029	40.29	.0765	14.33
120.0	76.0	53.9	12.1	.4180	.00853	38.34	.0727	14.29
120.0	74.0	48.1	9.8	.3372	.00687	36.48	.0691	14.25
120.0	72.0	41.2	7.5	.2597	.00528	34.71	.0656	14.21
120.0	70.0	32.7	5.4	.1855	.00376	33.02	.0622	14.18
120.0	68.0	22.2	3.3	.1143	.00231	31.41	.0589	14.15
120.0	66.0	3.9	1.3	.0460	.00093	29.87	.0556	14.11

15

DB	WB	DP	RH	PV	W	H	S	V
160.0	160.0	160.0	100.0	9.6555	.28371	358.97	.6192	21.88
160.0	158.0	157.9	95.1	9.1863	.26407	336.81	.5829	21.41
160.0	156.0	155.8	90.5	8.7346	.24595	316.37	.5493	20.98
160.0	154.0	153.7	86.0	8.2998	.22919	297.46	.5181	20.58
160.0	152.0	151.6	81.6	7.8813	.21366	279.93	.4892	20.21
160.0	150.0	149.5	77.5	7.4787	.19924	263.66	.4622	19.86
160.0	148.0	147.4	73.4	7.0915	.18584	248.52	.4370	19.54
160.0	146.0	145.2	69.6	6.7191	.17335	234.43	.4135	19.24
160.0	144.0	143.0	65.9	6.3611	.16170	221.28	.3915	18.96
160.0	142.0	140.9	62.3	6.0171	.15083	208.99	.3709	18.70
160.0	140.0	138.7	58.9	5.6865	.14066	197.51	.3515	18.46
160.0	138.0	136.5	55.6	5.3688	.13114	186.75	.3334	18.23
160.0	136.0	134.2	52.4	5.0638	.12221	176.67	.3163	18.01
160.0	134.0	132.0	49.4	4.7709	.11384	167.21	.3002	17.81
160.0	132.0	129.7	46.5	4.4897	.10598	158.33	.2850	17.62
160.0	130.0	127.4	43.7	4.2198	.09859	149.98	.2707	17.45
160.0	128.0	125.0	41.0	3.9608	.09165	142.13	.2572	17.28
160.0	126.0	122.7	38.4	3.7124	.08510	134.73	.2445	17.12
160.0	124.0	120.3	36.0	3.4741	.07894	127.77	.2324	16.97
160.0	122.0	117.8	33.6	3.2455	.07313	121.20	.2210	16.83
160.0	120.0	115.4	31.3	3.0264	.06765	115.00	.2102	16.70
160.0	118.0	112.8	29.2	2.8163	.06248	109.16	.1999	16.58
160.0	116.0	110.2	27.1	2.6150	.05759	103.63	.1902	16.46
160.0	114.0	107.6	25.1	2.4220	.05298	98.41	.1810	16.35
160.0	112.0	104.9	23.2	2.2372	.04862	93.48	.1723	16.24
160.0	110.0	102.1	21.3	2.0601	.04449	88.81	.1639	16.14
160.0	108.0	99.3	19.6	1.8904	.04058	84.39	.1560	16.05
160.0	106.0	96.3	17.9	1.7279	.03689	80.21	.1485	15.96
160.0	104.0	93.2	16.3	1.5724	.03338	76.25	.1414	15.87
160.0	102.0	90.0	14.7	1.4234	.03007	72.49	.1345	15.79
160.0	100.0	86.7	13.3	1.2807	.02692	68.93	.1280	15.72
160.0	98.0	83.2	11.9	1.1442	.02394	65.56	.1218	15.65
160.0	96.0	79.4	10.5	1.0135	.02111	62.36	.1159	15.58
160.0	94.0	75.5	9.2	.8883	.01842	59.32	.1103	15.51
160.0	92.0	71.1	8.0	.7685	.01588	56.44	.1049	15.45
160.0	90.0	66.4	6.8	.6539	.01346	53.70	.0997	15.39
160.0	88.0	61.2	5.6	.5441	.01116	51.09	.0947	15.34
160.0	86.0	55.2	4.5	.4391	.00897	48.62	.0900	15.29
160.0	84.0	48.2	3.5	.3385	.00689	46.27	.0854	15.23
160.0	82.0	39.4	2.5	.2422	.00492	44.03	.0810	15.19
160.0	80.0	28.0	1.6	.1500	.00304	41.90	.0767	15.14
160.0	78.0	9.6	.6	.0617	.00125	39.88	.0725	15.10

DB	WB	DP	RH	PV	W	H	S	V
−40.0	−40.0	−40.0	100.0	.0038	.00008	−9.53	−.0217	10.57
.0	.0	.0	100.0	.0376	.00079	.83	.0019	11.59
.0	−.1	−.6	97.0	.0365	.00076	.81	.0019	11.59
.0	−.2	−1.2	93.9	.0354	.00074	.78	.0018	11.59
.0	−.3	−1.8	90.9	.0342	.00072	.76	.0018	11.59
.0	−.4	−2.4	87.9	.0331	.00069	.73	.0017	11.59
.0	−.5	−3.1	84.9	.0320	.00067	.71	.0016	11.59
.0	−.6	−3.8	81.9	.0308	.00064	.68	.0016	11.59
.0	−.7	−4.5	78.9	.0297	.00062	.66	.0015	11.59
.0	−.8	−5.2	75.9	.0286	.00060	.63	.0015	11.59
.0	−.9	−6.0	72.9	.0274	.00057	.61	.0014	11.59
.0	−1.0	−6.7	69.8	.0263	.00055	.58	.0014	11.59
.0	−1.1	−7.6	66.8	.0252	.00053	.56	.0013	11.59
.0	−1.2	−8.4	63.8	.0240	.00050	.53	.0013	11.59
.0	−1.3	−9.3	60.8	.0229	.00048	.51	.0012	11.59
.0	−1.4	−10.2	57.9	.0218	.00046	.48	.0011	11.59
.0	−1.5	−11.2	54.9	.0207	.00043	.46	.0011	11.59
.0	−1.6	−12.2	51.9	.0195	.00041	.43	.0010	11.59
.0	−1.7	−13.3	48.9	.0184	.00038	.41	.0010	11.59
.0	−1.8	−14.4	45.9	.0173	.00036	.38	.0009	11.59
.0	−1.9	−15.6	42.9	.0162	.00034	.36	.0009	11.59
.0	−2.0	−16.9	39.9	.0150	.00031	.33	.0008	11.58
.0	−2.1	−18.2	37.0	.0139	.00029	.31	.0007	11.58
.0	−2.2	−19.7	34.0	.0128	.00027	.28	.0007	11.58
.0	−2.3	−21.3	31.0	.0117	.00024	.26	.0006	11.58
.0	−2.4	−23.0	28.1	.0106	.00022	.23	.0006	11.58
.0	−2.5	−25.0	25.1	.0094	.00020	.21	.0005	11.58
40.0	40.0	40.0	100.0	.2477	.00521	15.23	.0319	12.70
40.0	39.0	37.8	91.9	.2275	.00479	14.77	.0309	12.69
40.0	38.0	35.5	83.9	.2077	.00437	14.32	.0300	12.68
40.0	37.0	33.1	76.0	.1882	.00395	13.87	.0291	12.67
40.0	36.0	30.6	68.2	.1690	.00355	13.43	.0282	12.66
40.0	35.0	28.0	60.6	.1501	.00315	13.00	.0274	12.65
40.0	34.0	25.2	53.1	.1315	.00276	12.58	.0265	12.65
40.0	33.0	22.0	45.7	.1132	.00237	12.17	.0256	12.64
40.0	32.0	20.5	42.5	.1052	.00220	11.98	.0253	12.63
40.0	31.0	16.7	35.4	.0877	.00184	11.59	.0244	12.63
40.0	30.0	12.3	28.5	.0705	.00148	11.20	.0236	12.62
40.0	29.0	6.9	21.7	.0537	.00112	10.82	.0228	12.61
40.0	28.0	−.2	15.0	.0372	.00078	10.45	.0220	12.61
40.0	27.0	−10.9	8.5	.0209	.00044	10.08	.0212	12.60
40.0	26.0	−35.6	2.0	.0050	.00010	9.72	.0203	12.59

DB	WB	DP	RH	PV	W	H	S	V
80.0	80.0	80.0	100.0	1.0323	.02233	43.69	.0864	14.09
80.0	79.0	78.7	95.7	.9883	.02135	42.61	.0844	14.07
80.0	78.0	77.3	91.6	.9453	.02039	41.56	.0824	14.05
80.0	77.0	75.9	87.5	.9032	.01945	40.53	.0805	14.03
80.0	76.0	74.5	83.5	.8620	.01854	39.53	.0786	14.01
80.0	75.0	73.1	79.6	.8216	.01764	38.55	.0768	13.99
80.0	74.0	71.7	75.8	.7821	.01677	37.60	.0750	13.97
80.0	73.0	70.2	72.0	.7435	.01592	36.67	.0733	13.95
80.0	72.0	68.6	68.4	.7056	.01509	35.76	.0715	13.93
80.0	71.0	67.1	64.8	.6685	.01428	34.87	.0698	13.91
80.0	70.0	65.5	61.2	.6322	.01349	34.00	.0682	13.90
80.0	69.0	63.8	57.8	.5967	.01271	33.15	.0666	13.88
80.0	68.0	62.1	54.4	.5618	.01196	32.32	.0650	13.86
80.0	67.0	60.3	51.1	.5277	.01122	31.51	.0634	13.85
80.0	66.0	58.5	47.9	.4943	.01050	30.72	.0619	13.83
80.0	65.0	56.6	44.7	.4616	.00979	29.95	.0604	13.81
80.0	64.0	54.6	41.6	.4295	.00910	29.19	.0589	13.80
80.0	63.0	52.5	38.6	.3981	.00842	28.45	.0575	13.79
80.0	62.0	50.4	35.6	.3674	.00777	27.73	.0561	13.77
80.0	61.0	48.1	32.7	.3372	.00712	27.02	.0547	13.76
80.0	60.0	45.6	29.8	.3076	.00649	26.33	.0533	13.74
80.0	59.0	43.0	27.0	.2787	.00587	25.66	.0520	13.73
80.0	58.0	40.3	24.2	.2502	.00527	24.99	.0507	13.72
80.0	57.0	37.3	21.5	.2224	.00468	24.35	.0494	13.70
80.0	56.0	34.0	18.9	.1951	.00410	23.71	.0481	13.69
80.0	55.0	30.5	16.3	.1683	.00353	23.09	.0468	13.68
80.0	54.0	26.8	13.8	.1420	.00298	22.49	.0456	13.67
80.0	53.0	22.6	11.3	.1163	.00244	21.89	.0444	13.65
80.0	52.0	17.5	8.8	.0910	.00191	21.31	.0432	13.64
80.0	51.0	11.0	6.4	.0662	.00139	20.74	.0419	13.63
80.0	50.0	2.1	4.1	.0419	.00088	20.18	.0407	13.62
80.0	49.0	—13.6	1.7	.0180	.00038	19.63	.0395	13.61

DB	WB	DP	RH	PV	W	H	S	V
120.0	120.0	120.0	100.0	3.4476	.08151	119.55	.2217	16.52
120.0	118.0	117.8	94.0	3.2402	.07600	113.43	.2110	16.39
120.0	116.0	115.5	88.2	3.0413	.07080	107.64	.2009	16.27
120.0	114.0	113.2	82.7	2.8508	.06589	102.18	.1914	16.15
120.0	112.0	110.9	77.4	2.6682	.06125	97.02	.1823	16.04
120.0	110.0	108.6	72.3	2.4933	.05686	92.14	.1737	15.94
120.0	108.0	106.2	67.5	2.3257	.05271	87.53	.1655	15.85
120.0	106.0	103.8	62.8	2.1652	.04879	83.16	.1577	15.75
120.0	104.0	101.3	58.3	2.0116	.04507	79.02	.1504	15.67
120.0	102.0	98.8	54.1	1.8644	.04155	75.11	.1433	15.58
120.0	100.0	96.2	50.0	1.7235	.03822	71.39	.1366	15.51
120.0	98.0	93.6	46.1	1.5886	.03505	67.88	.1303	15.43
120.0	96.0	90.8	42.3	1.4595	.03206	64.54	.1242	15.36
120.0	94.0	88.0	38.7	1.3359	.02921	61.37	.1184	15.30
120.0	92.0	85.1	35.3	1.2175	.02651	58.37	.1129	15.23
120.0	90.0	82.1	32.0	1.1043	.02395	55.51	.1077	15.17
120.0	88.0	78.9	28.9	.9958	.02152	52.80	.1026	15.12
120.0	86.0	75.6	25.9	.8920	.01920	50.23	.0978	15.06
120.0	84.0	72.1	23.0	.7927	.01700	47.78	.0932	15.01
120.0	82.0	68.3	20.2	.6975	.01491	45.45	.0888	14.96
120.0	80.0	64.3	17.6	.6065	.01293	43.24	.0846	14.91
120.0	78.0	59.9	15.1	.5192	.01103	41.13	.0806	14.87
120.0	76.0	55.0	12.6	.4357	.00923	39.12	.0767	14.83
120.0	74.0	49.5	10.3	.3557	.00752	37.21	.0730	14.79
120.0	72.0	43.1	8.1	.2790	.00588	35.39	.0694	14.75
120.0	70.0	35.3	6.0	.2055	.00432	33.65	.0659	14.71
120.0	68.0	25.8	3.9	.1351	.00283	31.99	.0625	14.68
120.0	66.0	11.4	2.0	.0675	.00141	30.41	.0592	14.65
120.0	64.0	—44.9	.1	.0028	.00006	28.90	.0559	14.61

DB	WB	DP	RH	PV	W	H	S	V
160.0	160.0	160.0	100.0	9.6555	.29909	376.34	.6512	23.07
160.0	158.0	157.9	95.1	9.1872	.27810	352.66	.6124	22.55
160.0	156.0	155.8	90.5	8.7363	.25877	330.86	.5766	22.07
160.0	154.0	153.7	86.0	8.3023	.24093	310.73	.5434	21.63
160.0	152.0	151.6	81.7	7.8847	.22443	292.11	.5127	21.22
160.0	150.0	149.5	77.5	7.4829	.20915	274.86	.4841	20.84
160.0	148.0	147.4	73.5	7.0965	.19495	258.84	.4574	20.49
160.0	146.0	145.2	69.6	6.7250	.18176	243.94	.4326	20.16
160.0	144.0	143.1	66.0	6.3679	.16947	230.06	.4094	19.85
160.0	142.0	140.9	62.4	6.0246	.15800	217.11	.3876	19.57
160.0	140.0	138.7	59.0	5.6948	.14730	205.02	.3673	19.30
160.0	138.0	136.5	55.7	5.3780	.13728	193.71	.3481	19.05
160.0	136.0	134.3	52.5	5.0738	.12791	183.12	.3302	18.82
160.0	134.0	132.1	49.5	4.7817	.11913	173.20	.3133	18.60
160.0	132.0	129.8	46.6	4.5013	.11089	163.89	.2974	18.39
160.0	130.0	127.5	43.8	4.2323	.10316	155.15	.2825	18.20
160.0	128.0	125.2	41.2	3.9741	.09589	146.93	.2683	18.02
160.0	126.0	122.8	38.6	3.7264	.08905	139.20	.2550	17.85
160.0	124.0	120.4	36.1	3.4889	.08261	131.93	.2424	17.69
160.0	122.0	118.0	33.8	3.2612	.07655	125.07	.2305	17.54
160.0	120.0	115.5	31.5	3.0429	.07084	118.61	.2192	17.39
160.0	118.0	113.0	29.3	2.8336	.06545	112.52	.2086	17.26
160.0	116.0	110.5	27.3	2.6330	.06036	106.77	.1985	17.13
160.0	114.0	107.9	25.3	2.4409	.05556	101.34	.1889	17.01
160.0	112.0	105.2	23.4	2.2568	.05102	96.20	.1798	16.90
160.0	110.0	102.4	21.5	2.0805	.04673	91.35	.1711	16.79
160.0	108.0	99.6	19.8	1.9117	.04268	86.76	.1629	16.69
160.0	106.0	96.7	18.1	1.7500	.03884	82.42	.1551	16.59
160.0	104.0	93.7	16.5	1.5952	.03521	78.31	.1477	16.50
160.0	102.0	90.6	15.0	1.4470	.03177	74.42	.1406	16.42
160.0	100.0	87.3	13.5	1.3051	.02851	70.73	.1339	16.34
160.0	98.0	83.8	12.1	1.1694	.02542	67.24	.1275	16.26
160.0	96.0	80.2	10.8	1.0394	.02249	63.93	.1214	16.19
160.0	94.0	76.3	9.5	.9151	.01971	60.78	.1156	16.12
160.0	92.0	72.2	8.2	.7961	.01708	57.80	.1100	16.05
160.0	90.0	67.7	7.1	.6822	.01458	54.97	.1046	15.99
160.0	88.0	62.7	5.9	.5732	.01220	52.28	.0995	15.93
160.0	86.0	57.0	4.9	.4689	.00995	49.73	.0946	15.87
160.0	84.0	50.5	3.8	.3691	.00780	47.30	.0899	15.82
160.0	82.0	42.6	2.8	.2736	.00576	44.99	.0854	15.77
160.0	80.0	32.2	1.9	.1822	.00383	42.80	.0810	15.72
160.0	78.0	18.3	1.0	.0946	.00198	40.71	.0767	15.67
160.0	76.0	−22.5	.1	.0109	.00023	38.72	.0724	15.63

DB	WB	DP	RH	PV	W	H	S	V
−40.0	−40.0	−40.0	100.0	.0038	.00008	−9.52	−.0192	10.96
.0	.0	.0	100.0	.0376	.00082	.87	.0045	12.02
.0	−.1	−.6	97.1	.0365	.00079	.84	.0044	12.02
.0	−.2	−1.2	94.1	.0354	.00077	.82	.0044	12.02
.0	−.3	−1.8	91.2	.0343	.00074	.79	.0043	12.02
.0	−.4	−2.4	88.3	.0332	.00072	.77	.0043	12.02
.0	−.5	−3.0	85.3	.0321	.00070	.74	.0042	12.02
.0	−.6	−3.7	82.4	.0310	.00067	.72	.0041	12.02
.0	−.7	−4.3	79.5	.0299	.00065	.69	.0041	12.02
.0	−.8	−5.0	76.6	.0288	.00062	.67	.0040	12.02
.0	−.9	−5.8	73.6	.0277	.00060	.64	.0040	12.02
.0	−1.0	−6.5	70.7	.0266	.00058	.62	.0039	12.02
.0	−1.1	−7.3	67.8	.0255	.00055	.59	.0039	12.02
.0	−1.2	−8.1	64.9	.0244	.00053	.56	.0038	12.01
.0	−1.3	−8.9	62.0	.0233	.00051	.54	.0037	12.01
.0	−1.4	−9.8	59.1	.0222	.00048	.51	.0037	12.01
.0	−1.5	−10.7	56.2	.0212	.00046	.49	.0036	12.01
.0	−1.6	−11.7	53.3	.0201	.00043	.46	.0036	12.01
.0	−1.7	−12.7	50.4	.0190	.00041	.44	.0035	12.01
.0	−1.8	−13.8	47.5	.0179	.00039	.41	.0035	12.01
.0	−1.9	−14.9	44.6	.0168	.00036	.39	.0034	12.01
.0	−2.0	−16.1	41.7	.0157	.00034	.36	.0033	12.01
.0	−2.1	−17.4	38.8	.0146	.00032	.34	.0033	12.01
.0	−2.2	−18.7	35.9	.0135	.00029	.31	.0032	12.01
.0	−2.3	−20.2	33.1	.0124	.00027	.29	.0032	12.01
.0	−2.4	−21.8	30.2	.0114	.00025	.26	.0031	12.01
.0	−2.5	−23.5	27.3	.0103	.00022	.24	.0031	12.01
.0	−2.6	−25.4	24.4	.0092	.00020	.21	.0030	12.01
40.0	40.0	40.0	100.0	.2477	.00541	15.44	.0348	13.17
40.0	39.0	37.9	92.0	.2279	.00497	14.97	.0338	13.16
40.0	38.0	35.6	84.2	.2085	.00454	14.51	.0329	13.15
40.0	37.0	33.2	76.4	.1893	.00412	14.06	.0320	13.14
40.0	36.0	30.8	68.8	.1705	.00371	13.61	.0311	13.13
40.0	35.0	28.3	61.4	.1520	.00331	13.18	.0302	13.12
40.0	34.0	25.6	54.0	.1338	.00291	12.75	.0293	13.11
40.0	33.0	22.5	46.8	.1158	.00252	12.33	.0284	13.11
40.0	32.0	21.0	43.5	.1078	.00234	12.14	.0281	13.10
40.0	31.0	17.4	36.6	.0907	.00197	11.74	.0272	13.09
40.0	30.0	13.2	29.8	.0739	.00160	11.34	.0264	13.09
40.0	29.0	8.2	23.2	.0574	.00124	10.95	.0256	13.08
40.0	28.0	1.7	16.6	.0412	.00089	10.57	.0247	13.07
40.0	27.0	−7.5	10.2	.0253	.00055	10.20	.0239	13.06
40.0	26.0	−24.6	3.9	.0097	.00021	9.84	.0231	13.06

DB	WB	DP	RH	PV	W	H	S	V
80.0	80.0	80.0	100.0	1.0323	.02318	44.62	.0907	14.62
80.0	79.0	78.7	95.8	.9887	.02217	43.51	.0886	14.60
80.0	78.0	77.3	91.7	.9461	.02118	42.43	.0866	14.58
80.0	77.0	76.0	87.6	.9044	.02021	41.37	.0846	14.56
80.0	76.0	74.6	83.7	.8635	.01927	40.34	.0827	14.54
80.0	75.0	73.2	79.8	.8236	.01835	39.34	.0808	14.52
80.0	74.0	71.7	76.0	.7845	.01746	38.35	.0790	14.50
80.0	73.0	70.3	72.3	.7462	.01658	37.39	.0772	14.48
80.0	72.0	68.8	68.7	.7087	.01573	36.46	.0754	14.46
80.0	71.0	67.2	65.1	.6720	.01489	35.54	.0737	14.44
80.0	70.0	65.6	61.6	.6361	.01408	34.65	.0720	14.42
80.0	69.0	64.0	58.2	.6009	.01328	33.78	.0703	14.40
80.0	68.0	62.3	54.9	.5665	.01251	32.93	.0687	14.38
80.0	67.0	60.6	51.6	.5327	.01175	32.10	.0671	14.37
80.0	66.0	58.8	48.4	.4997	.01101	31.29	.0655	14.35
80.0	65.0	56.9	45.3	.4674	.01028	30.49	.0640	14.33
80.0	64.0	55.0	42.2	.4357	.00957	29.72	.0625	14.32
80.0	63.0	53.0	39.2	.4047	.00888	28.96	.0610	14.30
80.0	62.0	50.9	36.3	.3743	.00821	28.22	.0595	14.29
80.0	61.0	48.6	33.4	.3445	.00755	27.49	.0581	14.27
80.0	60.0	46.3	30.5	.3153	.00690	26.79	.0567	14.26
80.0	59.0	43.8	27.8	.2867	.00627	26.09	.0554	14.24
80.0	58.0	41.1	25.1	.2587	.00565	25.42	.0540	14.23
80.0	57.0	38.2	22.4	.2312	.00504	24.75	.0527	14.22
80.0	56.0	35.1	19.8	.2043	.00445	24.10	.0514	14.20
80.0	55.0	31.7	17.2	.1779	.00387	23.47	.0501	14.19
80.0	54.0	28.3	14.7	.1520	.00331	22.85	.0488	14.18
80.0	53.0	24.4	12.3	.1266	.00275	22.24	.0476	14.16
80.0	52.0	19.8	9.9	.1017	.00221	21.64	.0463	14.15
80.0	51.0	14.2	7.5	.0773	.00168	21.06	.0451	14.14
80.0	50.0	6.8	5.2	.0533	.00116	20.49	.0439	14.13
80.0	49.0	—4.4	2.9	.0298	.00065	19.93	.0427	14.12
80.0	48.0	—30.5	.7	.0068	.00015	19.38	.0414	14.10

DB	WB	DP	RH	PV	W	H	S	V
120.0	120.0	120.0	100.0	3.4476	.08490	123.33·	.2311	17.21
120.0	118.0	117.8	94.0	3.2410	.07916	116.95	.2200	17.07
120.0	116.0	115.5	88.3	3.0429	.07374	110.92	.2094	16.94
120.0	114.0	113.3	82.8	2.8531	.06863	105.24	.1995	16.81
120.0	112.0	111.0	77.5	2.6714	.06380	99.87	.1900	16.70
120.0	110.0	108.7	72.4	2.4972	.05925	94.80	.1811	16.59
120.0	108.0	106.3	67.6	2.3305	.05494	90.01	.1726	16.48
120.0	106.0	103.9	63.0	2.1708	.05086	85.47	.1645	16.38
120.0	104.0	101.4	58.5	2.0179	.04700	81.18	.1569	16.29
120.0	102.0	98.9	54.3	1.8715	.04335	77.12	.1496	16.20
120.0	100.0	96.4	50.2	1.7314	.03990	73.27	.1427	16.12
120.0	98.0	93.7	46.3	1.5973	.03662	69.63	.1361	16.04
120.0	96.0	91.0	42.6	1.4689	.03352	66.17	.1298	15.96
120.0	94.0	88.3	39.0	1.3461	.03058	62.89	.1238	15.89
120.0	92.0	85.4	35.6	1.2285	.02778	59.79	.1181	15.82
120.0	90.0	82.4	32.4	1.1160	.02514	56.84	.1127	15.76
120.0	88.0	79.3	29.2	1.0083	.02262	54.04	.1075	15.70
120.0	86.0	76.0	26.3	.9053	.02023	51.38	.1025	15.64
120.0	84.0	72.6	23.4	.8067	.01797	48.85	.0978	15.59
120.0	82.0	68.9	20.7	.7123	.01581	46.45	.0933	15.53
120.0	80.0	65.0	18.0	.6220	.01376	44.17	.0889	15.48
120.0	78.0	60.7	15.5	.5355	.01181	42.00	.0848	15.44
120.0	76.0	56.1	13.1	.4527	.00995	39.93	.0808	15.39
120.0	74.0	50.8	10.8	.3734	.00819	37.96	.0770	15.35
120.0	72.0	44.8	8.6	.2975	.00651	36.09	.0733	15.31
120.0	70.0	37.5	6.5	.2248	.00490	34.30	.0697	15.27
120.0	68.0	28.7	4.5	.1551	.00337	32.60	.0663	15.23
120.0	66.0	16.9	2.6	.0883	.00192	30.98	.0629	15.20
120.0	64.0	—8.2	.7	.0243	.00053	29.43	.0596	15.16

DB	WB	DP	RH	PV	W	H	S	V
160.0	160.0	160.0	100.0	9.6555	.31557	394.96	.6854	24.34
160.0	158.0	157.9	95.2	9.1880	.29309	369.61	.6438	23.77
160.0	156.0	155.8	90.5	8.7380	.27245	346.32	.6056	23.23
160.0	154.0	153.8	86.0	8.3048	.25344	324.87	.5702	22.75
160.0	152.0	151.7	81.7	7.8880	.23589	305.06	.5375	22.29
160.0	150.0	149.5	77.5	7.4870	.21966	286.74	.5071	21.88
160.0	148.0	147.4	73.5	7.1014	.20462	269.76	.4789	21.49
160.0	146.0	145.3	69.7	6.7307	.19065	254.00	.4526	21.13
160.0	144.0	143.1	66.0	6.3744	.17767	239.33	.4281	20.79
160.0	142.0	141.0	62.5	6.0319	.16557	225.68	.4051	20.48
160.0	140.0	138.8	59.1	5.7029	.15429	212.93	.3837	20.19
160.0	138.0	136.6	55.8	5.3869	.14376	201.04	.3636	19.92
160.0	136.0	134.4	52.6	5.0835	.13391	189.91	.3447	19.66
160.0	134.0	132.1	49.6	4.7922	.12469	179.49	.3270	19.43
160.0	132.0	129.9	46.7	4.5126	.11605	169.73	.3103	19.20
160.0	130.0	127.6	44.0	4.2443	.10795	160.57	.2947	18.99
160.0	128.0	125.3	41.3	3.9869	.10034	151.97	.2799	18.80
160.0	126.0	122.9	38.7	3.7400	.09319	143.88	.2659	18.61
160.0	124.0	120.6	36.3	3.5033	.08646	136.28	.2528	18.44
160.0	122.0	118.2	33.9	3.2763	.08013	129.13	.2404	18.27
160.0	120.0	115.7	31.7	3.0587	.07417	122.39	.2286	18.12
160.0	118.0	113.2	29.5	2.8502	.06855	116.03	.2175	17.97
160.0	116.0	110.7	27.5	2.6505	.06325	110.04	.2069	17.84
160.0	114.0	108.1	25.5	2.4591	.05825	104.39	.1970	17.71
160.0	112.0	105.5	23.6	2.2758	.05353	99.05	.1875	17.59
160.0	110.0	102.8	21.8	2.1002	.04908	94.01	.1785	17.47
160.0	108.0	100.0	20.0	1.9322	.04486	89.24	.1700	17.36
160.0	106.0	97.1	18.3	1.7712	.04088	84.73	.1619	17.26
160.0	104.0	94.1	16.7	1.6172	.03711	80.47	.1542	17.16
160.0	102.0	91.1	15.2	1.4698	.03354	76.43	.1469	17.07
160.0	100.0	87.8	13.8	1.3287	.03016	72.61	.1399	16.98
160.0	98.0	84.5	12.4	1.1936	.02696	68.99	.1333	16.90
160.0	96.0	80.9	11.0	1.0644	.02393	65.56	.1270	16.82
160.0	94.0	77.2	9.7	.9408	.02106	62.30	.1209	16.74
160.0	92.0	73.2	8.5	.8226	.01833	59.22	.1152	16.67
160.0	90.0	68.8	7.3	.7094	.01574	56.29	.1097	16.61
160.0	88.0	64.0	6.2	.6012	.01329	53.51	.1044	16.54
160.0	86.0	58.7	5.2	.4977	.01096	50.88	.0994	16.48
160.0	84.0	52.6	4.1	.3986	.00875	48.37	.0945	16.42
160.0	82.0	45.3	3.1	.3038	.00665	45.99	.0898	16.37
160.0	80.0	36.2	2.2	.2131	.00465	43.73	.0854	16.32
160.0	78.0	24.3	1.3	.1263	.00275	41.58	.0810	16.27
160.0	76.0	2.7	.4	.0433	.00094	39.53	.0767	16.22

DB	WB	DP	RH	PV	W	H	S	V
−40.0	−40.0	−40.0	100.0	.0038	.00009	−9.51	−.0167	11.35
.0	.0	.0	100.0	.0376	.00085	.90	.0070	12.45
.0	−.1	−.6	97.1	.0366	.00082	.88	.0069	12.45
.0	−.2	−1.1	94.3	.0355	.00080	.85	.0069	12.45
.0	−.3	−1.7	91.4	.0344	.00077	.83	.0068	12.45
.0	−.4	−2.3	88.6	.0333	.00075	.80	.0067	12.45
.0	−.5	−2.9	85.8	.0323	.00072	.78	.0067	12.45
.0	−.6	−3.5	82.9	.0312	.00070	.75	.0066	12.45
.0	−.7	−4.2	80.1	.0301	.00068	.73	.0066	12.45
.0	−.8	−4.9	77.2	.0291	.00065	.70	.0065	12.45
.0	−.9	−5.6	74.4	.0280	.00063	.67	.0065	12.45
.0	−1.0	−6.3	71.6	.0269	.00060	.65	.0064	12.45
.0	−1.1	−7.0	68.7	.0259	.00058	.62	.0064	12.45
.0	−1.2	−7.8	65.9	.0248	.00056	.60	.0063	12.45
.0	−1.3	−8.6	63.1	.0237	.00053	.57	.0062	12.45
.0	−1.4	−9.5	60.3	.0227	.00051	.55	.0062	12.45
.0	−1.5	−10.3	57.4	.0216	.00049	.52	.0061	12.45
.0	−1.6	−11.3	54.6	.0206	.00046	.50	.0061	12.44
.0	−1.7	−12.2	51.8	.0195	.00044	.47	.0060	12.44
.0	−1.8	−13.2	49.0	.0184	.00041	.45	.0060	12.44
.0	−1.9	−14.3	46.2	.0174	.00039	.42	.0059	12.44
.0	−2.0	−15.4	43.4	.0163	.00037	.40	.0058	12.44
.0	−2.1	−16.6	40.6	.0153	.00034	.37	.0058	12.44
.0	−2.2	−17.9	37.8	.0142	.00032	.35	.0057	12.44
.0	−2.3	−19.2	35.0	.0132	.00030	.32	.0057	12.44
.0	−2.4	−20.7	32.2	.0121	.00027	.30	.0056	12.44
.0	−2.5	−22.2	29.4	.0111	.00025	.27	.0056	12.44
.0	−2.6	−24.0	26.6	.0100	.00022	.25	.0055	12.44
.0	−2.7	−25.8	23.8	.0090	.00020	.22	.0054	12.44
.0	−2.8	−28.0	21.0	.0079	.00018	.20	.0054	12.44
40.0	40.0	40.0	100.0	.2477	.00560	15.66	.0377	13.64
40.0	39.0	37.9	92.2	.2283	.00516	15.18	.0367	13.63
40.0	38.0	35.7	84.5	.2092	.00472	14.71	.0358	13.62
40.0	37.0	33.3	76.9	.1904	.00430	14.25	.0348	13.62
40.0	36.0	31.0	69.4	.1719	.00388	13.80	.0339	13.61
40.0	35.0	28.5	62.1	.1538	.00347	13.35	.0330	13.60
40.0	34.0	25.9	54.9	.1359	.00306	12.92	.0321	13.59
40.0	33.0	23.0	47.8	.1184	.00266	12.49	.0312	13.58
40.0	32.0	21.5	44.6	.1104	.00248	12.29	.0308	13.58
40.0	31.0	18.1	37.8	.0935	.00210	11.88	.0300	13.57
40.0	30.0	14.1	31.1	.0770	.00173	11.48	.0291	13.56
40.0	29.0	9.4	24.6	.0608	.00137	11.09	.0283	13.55
40.0	28.0	3.4	18.2	.0450	.00101	10.70	.0274	13.54
40.0	27.0	−4.7	11.9	.0294	.00066	10.33	.0266	13.54
40.0	26.0	−18.0	5.7	.0141	.00032	9.96	.0258	13.53

DB	WB	DP	RH	PV	W	H	S	V
80.0	80.0	80.0	100.0	1.0323	.02404	45.57	.0950	15.17
80.0	79.0	78.7	95.8	.9891	.02300	44.43	.0928	15.15
80.0	78.0	77.4	91.7	.9468	.02198	43.31	.0908	15.12
80.0	77.0	76.0	87.7	.9055	.02099	42.22	.0887	15.10
80.0	76.0	74.7	83.8	.8650	.02002	41.16	.0867	15.08
80.0	75.0	73.3	80.0	.8254	.01907	40.13	.0848	15.05
80.0	74.0	71.8	76.2	.7866	.01815	39.12	.0829	15.03
80.0	73.0	70.4	72.5	.7487	.01725	38.13	.0810	15.01
80.0	72.0	68.9	68.9	.7116	.01637	37.17	.0792	14.99
80.0	71.0	67.4	65.4	.6753	.01552	36.23	.0774	14.97
80.0	70.0	65.8	62.0	.6397	.01468	35.31	.0757	14.95
80.0	69.0	64.2	58.6	.6049	.01386	34.42	.0740	14.93
80.0	68.0	62.5	55.3	.5708	.01307	33.55	.0723	14.91
80.0	67.0	60.8	52.1	.5375	.01229	32.69	.0707	14.90
80.0	66.0	59.1	48.9	.5048	.01153	31.86	.0691	14.88
80.0	65.0	57.3	45.8	.4728	.01078	31.05	.0675	14.86
80.0	64.0	55.4	42.8	.4415	.01006	30.25	.0660	14.84
80.0	63.0	53.4	39.8	.4108	.00935	29.47	.0645	14.83
80.0	62.0	51.3	36.9	.3808	.00866	28.71	.0630	14.81
80.0	61.0	49.2	34.0	.3514	.00798	27.97	.0615	14.79
80.0	60.0	46.9	31.2	.3226	.00732	27.24	.0601	14.78
80.0	59.0	44.5	28.5	.2943	.00667	26.54	.0587	14.76
80.0	58.0	41.9	25.8	.2667	.00604	25.84	.0573	14.75
80.0	57.0	39.1	23.2	.2395	.00542	25.16	.0559	14.73
80.0	56.0	36.2	20.6	.2130	.00481	24.50	.0546	14.72
80.0	55.0	32.9	18.1	.1869	.00422	23.85	.0533	14.71
80.0	54.0	29.6	15.6	.1614	.00364	23.21	.0520	14.69
80.0	53.0	26.0	13.2	.1364	.00307	22.59	.0507	14.68
80.0	52.0	21.8	10.8	.1118	.00252	21.98	.0495	14.67
80.0	51.0	16.7	8.5	.0878	.00197	21.39	.0482	14.65
80.0	50.0	10.4	6.2	.0642	.00144	20.81	.0470	14.64
80.0	49.0	1.6	4.0	.0410	.00092	20.23	.0458	14.63
80.0	48.0	—13.4	1.8	.0183	.00041	19.68	.0445	14.62

DB	WB	DP	RH	PV	W	H	S	V
120.0	120.0	120.0	100.0	3.4476	.08837	127.20	.2405	17.91
120.0	118.0	117.8	94.0	3.2417	.08239	120.54	.2289	17.76
120.0	116.0	115.6	88.3	3.0444	.07675	114.27	.2180	17.62
120.0	114.0	113.3	82.8	2.8554	.07143	108.36	.2076	17.49
120.0	112.0	111.0	77.6	2.6743	.06641	102.78	.1978	17.36
120.0	110.0	108.7	72.5	2.5009	.06168	97.51	.1885	17.24
120.0	108.0	106.4	67.7	2.3349	.05720	92.53	.1797	17.13
120.0	106.0	104.0	63.1	2.1760	.05297	87.83	.1713	17.02
120.0	104.0	101.5	58.7	2.0238	.04897	83.38	.1634	16.92
120.0	102.0	99.0	54.5	1.8782	.04519	79.17	.1558	16.83
120.0	100.0	96.5	50.4	1.7388	.04161	75.18	.1487	16.74
120.0	98.0	93.9	46.6	1.6054	.03822	71.41	.1419	16.65
120.0	96.0	91.2	42.9	1.4778	.03501	67.83	.1354	16.57
120.0	94.0	88.5	39.3	1.3557	.03196	64.44	.1292	16.50
120.0	92.0	85.6	35.9	1.2388	.02908	61.23	.1233	16.42
120.0	90.0	82.7	32.7	1.1270	.02634	58.18	.1177	16.36
120.0	88.0	79.6	29.6	1.0201	.02375	55.29	.1123	16.29
120.0	86.0	76.4	26.6	.9178	.02128	52.55	.1072	16.23
120.0	84.0	73.1	23.8	.8199	.01894	49.94	.1023	16.17
120.0	82.0	69.5	21.1	.7262	.01672	47.47	.0977	16.11
120.0	80.0	65.7	18.5	.6366	.01461	45.12	.0932	16.06
120.0	78.0	61.5	16.0	.5509	.01260	42.88	.0889	16.01
120.0	76.0	57.0	13.6	.4688	.01069	40.75	.0848	15.96
120.0	74.0	52.0	11.3	.3902	.00887	38.73	.0809	15.92
120.0	72.0	46.3	9.1	.3150	.00714	36.80	.0771	15.87
120.0	70.0	39.5	7.0	.2430	.00549	34.96	.0735	15.83
120.0	68.0	31.2	5.0	.1740	.00392	33.22	.0700	15.79
120.0	66.0	21.0	3.1	.1079	.00243	31.55	.0665	15.75
120.0	64.0	3.3	1.3	.0446	.00100	29.96	.0632	15.72

DB	WB	DP	RH	PV	W	H	S	V
160.0	160.0	160.0	100.0	9.6555	.33287	414.52	.7210	25.68
160.0	158.0	157.9	95.2	9.1888	.30880	387.36	.6765	25.04
160.0	156.0	155.9	90.5	8.7395	.28675	362.48	.6357	24.45
160.0	154.0	153.8	86.0	8.3071	.26648	339.61	.5980	23.91
160.0	152.0	151.7	81.7	7.8911	.24782	318.55	.5632	23.41
160.0	150.0	149.6	77.6	7.4909	.23058	299.10	.5309	22.95
160.0	148.0	147.4	73.6	7.1061	.21464	281.10	.5010	22.53
160.0	146.0	145.3	69.8	6.7361	.19987	264.42	.4732	22.13
160.0	144.0	143.2	66.1	6.3805	.18615	248.93	.4473	21.77
160.0	142.0	141.0	62.5	6.0388	.17340	234.52	.4231	21.43
160.0	140.0	138.8	59.1	5.7105	.16151	221.10	.4005	21.11
160.0	138.0	136.6	55.9	5.3953	.15043	208.59	.3793	20.81
160.0	136.0	134.4	52.7	5.0926	.14008	196.89	.3595	20.54
160.0	134.0	132.2	49.7	4.8020	.13041	185.96	.3409	20.28
160.0	132.0	130.0	46.8	4.5232	.12135	175.72	.3235	20.03
160.0	130.0	127.7	44.1	4.2556	.11286	166.13	.3070	19.81
160.0	128.0	125.4	41.4	3.9990	.10490	157.13	.2916	19.59
160.0	126.0	123.1	38.9	3.7528	.09742	148.68	.2770	19.39
160.0	124.0	120.7	36.4	3.5168	.09040	140.74	.2633	19.21
160.0	122.0	118.3	34.1	3.2906	.08380	133.27	.2503	19.03
160.0	120.0	115.9	31.8	3.0737	.07758	126.25	.2381	18.86
160.0	118.0	113.4	29.7	2.8660	.07173	119.63	.2265	18.70
160.0	116.0	110.9	27.6	2.6669	.06621	113.39	.2155	18.56
160.0	114.0	108.4	25.6	2.4763	.06101	107.50	.2051	18.42
160.0	112.0	105.7	23.8	2.2937	.05610	101.95	.1953	18.29
160.0	110.0	103.1	21.9	2.1188	.05147	96.71	.1860	18.16
160.0	108.0	100.3	20.2	1.9515	.04709	91.76	.1771	18.04
160.0	106.0	97.5	18.6	1.7913	.04295	87.08	.1687	17.93
160.0	104.0	94.6	17.0	1.6380	.03904	82.66	.1608	17.83
160.0	102.0	91.5	15.4	1.4912	.03534	78.48	.1532	17.73
160.0	100.0	88.4	14.0	1.3508	.03184	74.52	.1460	17.63
160.0	98.0	85.1	12.6	1.2165	.02853	70.77	.1391	17.54
160.0	96.0	81.6	11.3	1.0881	.02539	67.22	.1326	17.46
160.0	94.0	78.0	10.0	.9652	.02242	63.85	.1263	17.38
160.0	92.0	74.0	8.8	.8476	.01960	60.66	.1204	17.30
160.0	90.0	69.8	7.6	.7352	.01693	57.64	.1147	17.23
160.0	88.0	65.3	6.5	.6276	.01440	54.77	.1093	17.16
160.0	86.0	60.2	5.4	.5248	.01199	52.05	.1041	17.10
160.0	84.0	54.4	4.4	.4264	.00971	49.46	.0991	17.04
160.0	82.0	47.7	3.4	.3324	.00754	47.01	.0943	16.98
160.0	80.0	39.4	2.5	.2424	.00548	44.68	.0897	16.92
160.0	78.0	28.9	1.6	.1563	.00352	42.46	.0852	16.87
160.0	76.0	13.3	.8	.0739	.00166	40.35	.0809	16.82

DB	WB	DP	RH	PV	W	H	S	V
—40.0	—40.0	—40.0	100.0	.0038	.00009	—9.50	—.0142	11.77
.0	.0	.0	100.0	.0376	.00088	.94	.0095	12.91
.0	—.1	—.5	97.2	.0366	.00085	.92	.0095	12.91
.0	—.2	—1.1	94.5	.0356	.00083	.89	.0094	12.91
.0	—.3	—1.6	91.7	.0345	.00080	.86	.0094	12.91
.0	—.4	—2.2	88.9	.0335	.00078	.84	.0093	12.91
.0	—.5	—2.8	86.2	.0324	.00075	.81	.0093	12.91
.0	—.6	—3.4	83.4	.0314	.00073	.79	.0092	12.91
.0	—.7	—4.1	80.7	.0304	.00071	.76	.0091	12.91
.0	—.8	—4.7	77.9	.0293	.00068	.74	.0091	12.91
.0	—.9	—5.4	75.1	.0283	.00066	.71	.0090	12.91
.0	—1.0	—6.1	72.4	.0273	.00063	.68	.0090	12.91
.0	—1.1	—6.8	69.7	.0262	.00061	.66	.0089	12.91
.0	—1.2	—7.5	66.9	.0252	.00059	.63	.0089	12.91
.0	—1.3	—8.3	64.2	.0242	.00056	.61	.0088	12.91
.0	—1.4	—9.1	61.4	.0231	.00054	.58	.0087	12.91
.0	—1.5	—10.0	58.7	.0221	.00051	.56	.0087	12.90
.0	—1.6	—10.8	56.0	.0211	.00049	.53	.0086	12.90
.0	—1.7	—11.7	53.2	.0200	.00047	.51	.0086	12.90
.0	—1.8	—12.7	50.5	.0190	.00044	.48	.0085	12.90
.0	—1.9	—13.7	47.8	.0180	.00042	.46	.0085	12.90
.0	—2.0	—14.7	45.0	.0170	.00039	.43	.0084	12.90
.0	—2.1	—15.8	42.3	.0159	.00037	.41	.0083	12.90
.0	—2.2	—17.0	39.6	.0149	.00035	.38	.0083	12.90
.0	—2.3	—18.3	36.9	.0139	.00032	.35	.0082	12.90
.0	—2.4	—19.6	34.2	.0129	.00030	.33	.0082	12.90
.0	—2.5	—21.1	31.5	.0118	.00028	.30	.0081	12.90
.0	—2.6	—22.6	28.8	.0108	.00025	.28	.0080	12.90
.0	—2.7	—24.3	26.0	.0098	.00023	.25	.0080	12.90
.0	—2.8	—26.2	23.3	.0088	.00020	.23	.0079	12.90
.0	—2.9	—28.3	20.6	.0078	.00018	.20	.0079	12.90
40.0	40.0	40.0	100.0	.2477	.00581	15.88	.0406	14.15
40.0	39.0	38.0	92.3	.2286	.00536	15.40	.0396	14.14
40.0	38.0	35.8	84.7	.2099	.00492	14.92	.0387	14.13
40.0	37.0	33.5	77.3	.1915	.00448	14.45	.0377	14.12
40.0	36.0	31.1	70.0	.1734	.00406	13.99	.0368	14.11
40.0	35.0	28.8	62.8	.1556	.00364	13.54	.0359	14.10
40.0	34.0	26.2	55.7	.1381	.00323	13.10	.0350	14.09
40.0	33.0	23.4	48.8	.1208	.00282	12.66	.0341	14.08
40.0	32.0	22.0	45.6	.1129	.00263	12.46	.0336	14.08
40.0	31.0	18.7	38.9	.0964	.00225	12.04	.0328	14.07
40.0	30.0	14.9	32.4	.0802	.00187	11.63	.0319	14.06
40.0	29.0	10.4	26.0	.0643	.00150	11.23	.0311	14.05
40.0	28.0	5.0	19.7	.0487	.00113	10.84	.0302	14.05
40.0	27.0	—2.3	13.5	.0334	.00078	10.46	.0294	14.04
40.0	26.0	—13.2	7.4	.0184	.00043	10.08	.0285	14.03
40.0	25.0	—40.3	1.5	.0037	.00009	9.71	.0277	14.02

DB	WB	DP	RH	PV	W	H	S	V
80.0	80.0	80.0	100.0	1.0323	.02496	46.58	.0994	15.75
80.0	79.0	78.7	95.9	.9894	.02388	45.40	.0972	15.73
80.0	78.0	77.4	91.8	.9475	.02283	44.25	.0951	15.70
80.0	77.0	76.1	87.8	.9065	.02181	43.13	.0930	15.68
80.0	76.0	74.7	83.9	.8664	.02081	42.04	.0909	15.65
80.0	75.0	73.3	80.1	.8272	.01984	40.97	.0889	15.63
80.0	74.0	71.9	76.4	.7888	.01889	39.93	.0870	15.60
80.0	73.0	70.5	72.8	.7513	.01797	38.92	.0851	15.58
80.0	72.0	69.0	69.2	.7145	.01706	37.93	.0832	15.56
80.0	71.0	67.5	65.7	.6785	.01618	36.96	.0814	15.54
80.0	70.0	66.0	62.3	.6433	.01532	36.02	.0796	15.52
80.0	69.0	64.4	59.0	.6089	.01448	35.10	.0778	15.50
80.0	68.0	62.8	55.7	.5752	.01366	34.20	.0761	15.48
80.0	67.0	61.1	52.5	.5422	.01286	33.33	.0744	15.46
80.0	66.0	59.4	49.4	.5099	.01208	32.47	.0728	15.44
80.0	65.0	57.6	46.3	.4782	.01132	31.63	.0712	15.42
80.0	64.0	55.7	43.3	.4473	.01057	30.82	.0696	15.40
80.0	63.0	53.8	40.4	.4170	.00984	30.02	.0680	15.38
80.0	62.0	51.8	37.5	.3873	.00913	29.24	.0665	15.37
80.0	61.0	49.7	34.7	.3582	.00844	28.48	.0650	15.35
80.0	60.0	47.5	31.9	.3297	.00776	27.73	.0636	15.33
80.0	59.0	45.1	29.2	.3019	.00709	27.01	.0621	15.32
80.0	58.0	42.7	26.6	.2745	.00645	26.30	.0607	15.30
80.0	57.0	40.0	24.0	.2478	.00581	25.60	.0593	15.29
80.0	56.0	37.2	21.5	.2216	.00519	24.92	.0580	15.27
80.0	55.0	34.1	19.0	.1959	.00459	24.26	.0566	15.26
80.0	54.0	30.8	16.5	.1707	.00399	23.61	.0553	15.24
80.0	53.0	27.4	14.1	.1460	.00341	22.97	.0540	15.23
80.0	52.0	23.6	11.8	.1218	.00284	22.35	.0527	15.21
80.0	51.0	19.0	9.5	.0981	.00229	21.74	.0514	15.20
80.0	50.0	13.5	7.3	.0749	.00174	21.14	.0502	15.19
80.0	49.0	6.3	5.0	.0521	.00121	20.56	.0489	15.18
80.0	48.0	—4.5	2.9	.0297	.00069	19.99	.0477	15.16
80.0	47.0	—28.3	.8	.0078	.00018	19.43	.0464	15.15

DB	WB	DP	RH	PV	W	H	S	V
120.0	120.0	120.0	100.0	3.4476	.09209	131.35	.2506	18.67
120.0	118.0	117.8	94.0	3.2425	.08585	124.41	.2385	18.51
120.0	116.0	115.6	88.3	3.0459	.07997	117.87	.2271	18.35
120.0	114.0	113.3	82.9	2.8576	.07443	111.71	.2163	18.21
120.0	112.0	111.1	77.7	2.6773	.06921	105.89	.2061	18.07
120.0	110.0	108.8	72.6	2.5046	.06428	100.41	.1964	17.95
120.0	108.0	106.4	67.9	2.3393	.05963	95.24	.1872	17.82
120.0	106.0	104.0	63.3	2.1811	.05523	90.35	.1785	17.71
120.0	104.0	101.6	58.9	2.0297	.05108	85.72	.1703	17.60
120.0	102.0	99.2	54.7	1.8848	.04715	81.35	.1624	17.50
120.0	100.0	96.6	50.6	1.7461	.04344	77.22	.1550	17.40
120.0	98.0	94.1	46.8	1.6135	.03992	73.31	.1479	17.31
120.0	96.0	91.4	43.1	1.4866	.03660	69.61	.1412	17.23
120.0	94.0	88.7	39.6	1.3652	.03345	66.10	.1348	17.14
120.0	92.0	85.9	36.2	1.2490	.03046	62.77	.1287	17.07
120.0	90.0	83.0	33.0	1.1380	.02763	59.62	.1229	16.99
120.0	88.0	80.0	29.9	1.0317	.02495	56.63	.1174	16.92
120.0	86.0	76.8	27.0	.9301	.02240	53.80	.1121	16.86
120.0	84.0	73.5	24.2	.8330	.01998	51.11	.1071	16.79
120.0	82.0	70.0	21.5	.7400	.01769	48.55	.1023	16.73
120.0	80.0	66.3	18.9	.6511	.01551	46.13	.0977	16.68
120.0	78.0	62.3	16.4	.5661	.01344	43.82	.0933	16.62
120.0	76.0	57.9	14.1	.4847	.01147	41.63	.0891	16.57
120.0	74.0	53.1	11.8	.4068	.00960	39.54	.0850	16.52
120.0	72.0	47.7	9.6	.3323	.00782	37.56	.0811	16.47
120.0	70.0	41.3	7.6	.2610	.00612	35.67	.0774	16.43
120.0	68.0	33.6	5.6	.1927	.00451	33.87	.0738	16.39
120.0	66.0	24.5	3.7	.1273	.00297	32.16	.0703	16.35
120.0	64.0	10.6	1.9	.0647	.00151	30.53	.0669	16.31
120.0	62.0	—36.6	.1	.0047	.00011	28.97	.0634	16.27

DB	WB	DP	RH	PV	W	H	S	V
160.0	160.0	160.0	100.0	9.6555	.35199	436.12	.7602	27.16
160.0	158.0	157.9	95.2	9.1896	.32611	406.92	.7124	26.44
160.0	156.0	155.9	90.5	8.7411	.30246	380.24	.6685	25.79
160.0	154.0	153.8	86.1	8.3094	.28078	355.78	.6282	25.19
160.0	152.0	151.7	81.8	7.8942	.26086	333.30	.5911	24.64
160.0	150.0	149.6	77.6	7.4947	.24251	312.59	.5567	24.13
160.0	148.0	147.5	73.6	7.1106	.22557	293.46	.5249	23.66
160.0	146.0	145.3	69.8	6.7414	.20990	275.76	.4954	23.23
160.0	144.0	143.2	66.1	6.3866	.19537	259.36	.4680	22.83
160.0	142.0	141.1	62.6	6.0456	.18189	244.13	.4424	22.45
160.0	140.0	138.9	59.2	5.7181	.16934	229.96	.4185	22.11
160.0	138.0	136.7	56.0	5.4036	.15766	216.76	.3963	21.78
160.0	136.0	134.5	52.8	5.1016	.14676	204.45	.3754	21.48
160.0	134.0	132.3	49.8	4.8118	.13658	192.95	.3558	21.20
160.0	132.0	130.1	47.0	4.5337	.12707	182.20	.3375	20.93
160.0	130.0	127.8	44.2	4.2668	.11816	172.13	.3203	20.69
160.0	128.0	125.5	41.5	4.0109	.10982	162.70	.3041	20.45
160.0	126.0	123.2	39.0	3.7655	.10199	153.85	.2888	20.24
160.0	124.0	120.9	36.6	3.5302	.09464	145.54	.2744	20.03
160.0	122.0	118.5	34.2	3.3047	.08773	137.73	.2609	19.84
160.0	120.0	116.1	32.0	3.0886	.08124	130.39	.2481	19.66
160.0	118.0	113.6	29.8	2.8815	.07513	123.48	.2360	19.49
160.0	116.0	111.1	27.8	2.6832	.06938	116.98	.2246	19.33
160.0	114.0	108.6	25.8	2.4933	.06396	110.85	.2138	19.18
160.0	112.0	106.0	23.9	2.3114	.05885	105.07	.2035	19.04
160.0	110.0	103.4	22.1	2.1373	.05402	99.61	.1938	18.90
160.0	108.0	100.6	20.4	1.9706	.04947	94.46	.1846	18.78
160.0	106.0	97.8	18.8	1.8111	.04518	89.60	.1759	18.66
160.0	104.0	95.0	17.2	1.6585	.04111	85.01	.1676	18.54
160.0	102.0	92.0	15.7	1.5125	.03727	80.66	.1598	18.44
160.0	100.0	88.9	14.2	1.3728	.03364	76.55	.1523	18.33
160.0	98.0	85.7	12.8	1.2392	.03021	72.67	.1452	18.24
160.0	96.0	82.3	11.5	1.1114	.02696	68.99	.1384	18.15
160.0	94.0	78.7	10.2	.9892	.02388	65.50	.1320	18.06
160.0	92.0	74.9	9.0	.8724	.02096	62.20	.1258	17.98
160.0	90.0	70.8	7.9	.7606	.01820	59.07	.1199	17.90
160.0	88.0	66.4	6.8	.6538	.01558	56.11	.1143	17.83
160.0	86.0	61.6	5.7	.5517	.01309	53.29	.1090	17.76
160.0	84.0	56.1	4.7	.4540	.01073	50.63	.1038	17.70
160.0	82.0	49.9	3.7	.3606	.00849	48.09	.0989	17.63
160.0	80.0	42.4	2.8	.2713	.00637	45.69	.0942	17.57
160.0	78.0	32.8	1.9	.1859	.00435	43.40	.0896	17.52
160.0	76.0	20.3	1.1	.1042	.00243	41.23	.0852	17.46
160.0	74.0	−6.9	.3	.0261	.00061	39.16	.0808	17.41

DB	WB	DP	RH	PV	W	H	S	V
−40.0	−40.0	−40.0	100.0	.0038	.00009	−9.49	−.0116	12.22
.0	.0	.0	100.0	.0376	.00091	.98	.0122	13.41
.0	−.1	−.5	97.3	.0366	.00089	.96	.0121	13.41
.0	−.2	−1.1	94.6	.0356	.00086	.93	.0121	13.41
.0	−.3	−1.6	91.9	.0346	.00084	.90	.0120	13.41
.0	−.4	−2.2	89.3	.0336	.00081	.88	.0120	13.41
.0	−.5	−2.7	86.6	.0326	.00079	.85	.0119	13.40
.0	−.6	−3.3	83.9	.0316	.00076	.83	.0119	13.40
.0	−.7	−3.9	81.2	.0306	.00074	.80	.0118	13.40
.0	−.8	−4.6	78.6	.0296	.00071	.77	.0117	13.40
.0	−.9	−5.2	75.9	.0286	.00069	.75	.0117	13.40
.0	−1.0	−5.9	73.2	.0276	.00067	.72	.0116	13.40
.0	−1.1	−6.6	70.6	.0266	.00064	.70	.0116	13.40
.0	−1.2	−7.3	67.9	.0256	.00062	.67	.0115	13.40
.0	−1.3	−8.0	65.2	.0246	.00059	.65	.0115	13.40
.0	−1.4	−8.8	62.6	.0236	.00057	.62	.0114	13.40
.0	−1.5	−9.6	59.9	.0226	.00054	.59	.0113	13.40
.0	−1.6	−10.4	57.3	.0216	.00052	.57	.0113	13.40
.0	−1.7	−11.3	54.6	.0206	.00050	.54	.0112	13.40
.0	−1.8	−12.2	52.0	.0196	.00047	.52	.0112	13.40
.0	−1.9	−13.1	49.3	.0186	.00045	.49	.0111	13.40
.0	−2.0	−14.1	46.7	.0176	.00042	.47	.0111	13.40
.0	−2.1	−15.1	44.1	.0166	.00040	.44	.0110	13.40
.0	−2.2	−16.2	41.4	.0156	.00038	.42	.0109	13.40
.0	−2.3	−17.4	38.8	.0146	.00035	.39	.0109	13.40
.0	−2.4	−18.6	36.2	.0136	.00033	.37	.0108	13.40
.0	−2.5	−19.9	33.5	.0126	.00030	.34	.0108	13.39
.0	−2.6	−21.4	30.9	.0116	.00028	.31	.0107	13.39
.0	−2.7	−22.9	28.3	.0106	.00026	.29	.0106	13.39
.0	−2.8	−24.6	25.7	.0097	.00023	.26	.0106	13.39
.0	−2.9	−26.4	23.0	.0087	.00021	.24	.0105	13.39
.0	−3.0	−28.4	20.4	.0077	.00019	.21	.0105	13.39
40.0	40.0	40.0	100.0	.2477	.00603	16.13	.0437	14.70
40.0	39.0	38.0	92.4	.2290	.00557	15.63	.0427	14.69
40.0	38.0	35.9	85.0	.2106	.00512	15.15	.0417	14.68
40.0	37.0	33.6	77.7	.1925	.00468	14.67	.0408	14.67
40.0	36.0	31.3	70.6	.1748	.00425	14.20	.0398	14.66
40.0	35.0	29.0	63.5	.1573	.00382	13.74	.0389	14.65
40.0	34.0	26.6	56.6	.1402	.00340	13.29	.0379	14.64
40.0	33.0	23.8	49.8	.1233	.00299	12.85	.0370	14.63
40.0	32.0	22.4	46.6	.1154	.00280	12.64	.0366	14.62
40.0	31.0	19.3	40.0	.0992	.00240	12.21	.0357	14.61
40.0	30.0	15.7	33.6	.0833	.00202	11.80	.0348	14.60
40.0	29.0	11.5	27.3	.0677	.00164	11.39	.0340	14.60
40.0	28.0	6.4	21.2	.0525	.00127	10.99	.0331	14.59
40.0	27.0	−.1	15.1	.0375	.00091	10.60	.0323	14.58
40.0	26.0	−9.4	9.2	.0228	.00055	10.22	.0314	14.57
40.0	25.0	−27.0	3.4	.0084	.00020	9.84	.0306	14.56

DB	WB	DP	RH	PV	W	H	S	V
80.0	80.0	80.0	100.0	1.0323	.02595	47.67	.1041	16.38
80.0	79.0	78.7	95.9	.9898	.02484	46.45	.1019	16.35
80.0	78.0	77.4	91.9	.9483	.02376	45.27	.0996	16.32
80.0	77.0	76.1	87.9	.9076	.02270	44.11	.0975	16.30
80.0	76.0	74.8	84.1	.8679	.02167	42.98	.0954	16.27
80.0	75.0	73.4	80.3	.8290	.02067	41.88	.0933	16.25
80.0	74.0	72.0	76.6	.7910	.01969	40.81	.0913	16.22
80.0	73.0	70.6	73.0	.7538	.01874	39.77	.0893	16.20
80.0	72.0	69.1	69.5	.7174	.01781	38.75	.0874	16.17
80.0	71.0	67.6	66.0	.6818	.01690	37.75	.0855	16.15
80.0	70.0	66.1	62.7	.6469	.01601	36.78	.0837	16.13
80.0	69.0	64.6	59.4	.6129	.01515	35.83	.0819	16.11
80.0	68.0	63.0	56.1	.5795	.01430	34.91	.0801	16.09
80.0	67.0	61.3	53.0	.5469	.01348	34.01	.0784	16.07
80.0	66.0	59.6	49.9	.5149	.01268	33.13	.0767	16.04
80.0	65.0	57.9	46.9	.4836	.01189	32.27	.0750	16.03
80.0	64.0	56.1	43.9	.4530	.01113	31.43	.0734	16.01
80.0	63.0	54.2	41.0	.4231	.01038	30.61	.0718	15.99
80.0	62.0	52.2	38.1	.3937	.00965	29.81	.0702	15.97
80.0	61.0	50.2	35.4	.3650	.00893	29.02	.0687	15.95
80.0	60.0	48.1	32.6	.3369	.00824	28.26	.0672	15.93
80.0	59.0	45.8	30.0	.3094	.00755	27.51	.0657	15.92
80.0	58.0	43.4	27.4	.2824	.00689	26.78	.0643	15.90
80.0	57.0	40.9	24.8	.2560	.00624	26.07	.0629	15.88
80.0	56.0	38.1	22.3	.2302	.00560	25.37	.0615	15.87
80.0	55.0	35.2	19.8	.2048	.00498	24.69	.0601	15.85
80.0	54.0	32.0	17.4	.1800	.00437	24.03	.0587	15.84
80.0	53.0	28.8	15.1	.1557	.00378	23.37	.0574	15.82
80.0	52.0	25.2	12.8	.1318	.00320	22.74	.0561	15.81
80.0	51.0	21.1	10.5	.1085	.00263	22.11	.0548	15.79
80.0	50.0	16.2	8.3	.0856	.00207	21.50	.0535	15.78
80.0	49.0	10.1	6.1	.0631	.00153	20.91	.0523	15.76
80.0	48.0	1.7	4.0	.0411	.00099	20.32	.0510	15.75
80.0	47.0	−12.2	1.9	.0195	.00047	19.75	.0497	15.74

DB	WB	DP	RH	PV	W	H	S	V
120.0	120.0	120.0	100.0	3.4476	.09615	135.86	.2614	19.49
120.0	118.0	117.8	94.1	3.2432	.08962	128.60	.2487	19.32
120.0	116.0	115.6	88.4	3.0474	.08348	121.77	.2368	19.15
120.0	114.0	113.4	83.0	2.8598	.07769	115.34	.2255	18.99
120.0	112.0	111.1	77.7	2.6803	.07224	109.28	.2149	18.85
120.0	110.0	108.8	72.8	2.5083	.06711	103.56	.2048	18.71
120.0	108.0	106.5	68.0	2.3438	.06226	98.17	.1953	18.58
120.0	106.0	104.1	63.4	2.1863	.05768	93.08	.1862	18.45
120.0	104.0	101.7	59.0	2.0356	.05336	88.27	.1776	18.34
120.0	102.0	99.3	54.9	1.8914	.04928	83.73	.1695	18.23
120.0	100.0	96.8	50.9	1.7535	.04542	79.43	.1617	18.12
120.0	98.0	94.2	47.0	1.6215	.04177	75.37	.1544	18.02
120.0	96.0	91.6	43.4	1.4953	.03832	71.52	.1474	17.93
120.0	94.0	88.9	39.9	1.3747	.03505	67.89	.1408	17.84
120.0	92.0	86.2	36.5	1.2593	.03195	64.44	.1345	17.76
120.0	90.0	83.3	33.3	1.1489	.02902	61.17	.1285	17.68
120.0	88.0	80.3	30.3	1.0434	.02624	58.08	.1227	17.60
120.0	86.0	77.2	27.3	.9425	.02361	55.15	.1173	17.53
120.0	84.0	74.0	24.5	.8461	.02111	52.36	.1121	17.47
120.0	82.0	70.6	21.9	.7538	.01874	49.72	.1071	17.40
120.0	80.0	66.9	19.3	.6656	.01649	47.21	.1024	17.34
120.0	78.0	63.1	16.9	.5813	.01435	44.83	.0978	17.28
120.0	76.0	58.8	14.5	.5006	.01232	42.57	.0935	17.23
120.0	74.0	54.2	12.3	.4234	.01039	40.42	.0893	17.17
120.0	72.0	49.0	10.1	.3496	.00855	38.38	.0853	17.13
120.0	70.0	43.1	8.1	.2790	.00680	36.43	.0815	17.08
120.0	68.0	36.0	6.1	.2114	.00514	34.58	.0778	17.03
120.0	66.0	27.5	4.3	.1467	.00356	32.82	.0742	16.99
120.0	64.0	16.0	2.5	.0848	.00205	31.14	.0707	16.95
120.0	62.0	—7.3	.7	.0255	.00062	29.53	.0673	16.91

DB	WB	DP	RH	PV	W	H	S	V
160.0	160.0	160.0	100.0	9.6555	.37343	460.35	.8039	28.81
160.0	158.0	157.9	95.2	9.1904	.34547	428.80	.7522	28.01
160.0	156.0	155.9	90.5	8.7426	.31999	400.05	.7050	27.28
160.0	154.0	153.8	86.1	8.3117	.29670	373.77	.6617	26.61
160.0	152.0	151.7	81.8	7.8972	.27535	349.68	.6218	26.00
160.0	150.0	149.6	77.7	7.4986	.25574	327.53	.5851	25.44
160.0	148.0	147.5	73.7	7.1152	.23766	307.13	.5512	24.92
160.0	146.0	145.4	69.9	6.7468	.22098	288.29	.5198	24.44
160.0	144.0	143.2	66.2	6.3927	.20554	270.86	.4906	23.99
160.0	142.0	141.1	62.7	6.0525	.19123	254.69	.4635	23.58
160.0	140.0	138.9	59.3	5.7257	.17794	239.69	.4382	23.20
160.0	138.0	136.8	56.0	5.4119	.16559	225.73	.4147	22.84
160.0	136.0	134.6	52.9	5.1107	.15408	212.73	.3926	22.51
160.0	134.0	132.4	49.9	4.8216	.14335	200.60	.3720	22.20
160.0	132.0	130.1	47.1	4.5442	.13332	189.27	.3527	21.91
160.0	130.0	127.9	44.3	4.2781	.12395	178.68	.3346	21.64
160.0	128.0	125.6	41.7	4.0229	.11518	168.77	.3175	21.39
160.0	126.0	123.3	39.1	3.7782	.10696	159.48	.3015	21.15
160.0	124.0	121.0	36.7	3.5436	.09926	150.77	.2865	20.93
160.0	122.0	118.6	34.4	3.3188	.09202	142.59	.2723	20.72
160.0	120.0	116.2	32.1	3.1034	.08523	134.90	.2589	20.53
160.0	118.0	113.8	30.0	2.8971	.07884	127.68	.2462	20.34
160.0	116.0	111.3	28.0	2.6995	.07282	120.88	.2343	20.17
160.0	114.0	108.8	26.0	2.5103	.06716	114.48	.2230	20.00
160.0	112.0	106.3	24.1	2.3291	.06183	108.44	.2123	19.85
160.0	110.0	103.6	22.3	2.1557	.05680	102.76	.2022	19.71
160.0	108.0	101.0	20.6	1.9898	.05206	97.39	.1927	19.57
160.0	106.0	98.2	19.0	1.8310	.04758	92.33	.1836	19.44
160.0	104.0	95.4	17.4	1.6791	.04336	87.55	.1750	19.32
160.0	102.0	92.4	15.9	1.5338	.03937	83.03	.1668	19.20
160.0	100.0	89.4	14.4	1.3948	.03559	78.76	.1590	19.09
160.0	98.0	86.2	13.1	1.2619	.03202	74.72	.1517	18.99
160.0	96.0	82.9	11.8	1.1348	.02865	70.90	.1446	18.89
160.0	94.0	79.4	10.5	1.0133	.02545	67.29	.1379	18.80
160.0	92.0	75.7	9.3	.8972	.02243	63.87	.1316	18.71
160.0	90.0	71.8	8.1	.7861	.01957	60.63	.1255	18.63
160.0	88.0	67.6	7.0	.6800	.01685	57.55	.1197	18.55
160.0	86.0	62.9	6.0	.5785	.01428	54.64	.1142	18.47
160.0	84.0	57.8	5.0	.4816	.01184	51.88	.1089	18.40
160.0	82.0	51.9	4.0	.3889	.00953	49.26	.1038	18.34
160.0	80.0	45.0	3.1	.3003	.00733	46.77	.0989	18.27
160.0	78.0	36.5	2.2	.2155	.00524	44.41	.0942	18.21
160.0	76.0	25.7	1.4	.1346	.00326	42.17	.0897	18.16
160.0	74.0	8.1	.6	.0571	.00138	40.04	.0853	18.10

DB	WB	DP	RH	PV	W	H	S	V
—40.0	—40.0	—40.0	100.0	.0038	.00010	—9.48	—.0089	12.71
.0	.0	.0	100.0	.0376	.00095	1.02	.0150	13.94
.0	—.1	—.5	97.4	.0367	.00092	1.00	.0149	13.94
.0	—.2	—1.0	94.8	.0357	.00090	.97	.0149	13.94
.0	—.3	—1.5	92.2	.0347	.00087	.95	.0148	13.94
.0	—.4	—2.1	89.6	.0337	.00085	.92	.0147	13.94
.0	—.5	—2.6	87.0	.0327	.00082	.89	.0147	13.94
.0	—.6	—3.2	84.4	.0318	.00080	.87	.0146	13.94
.0	—.7	—3.8	81.8	.0308	.00077	.84	.0146	13.94
.0	—.8	—4.4	79.2	.0298	.00075	.82	.0145	13.94
.0	—.9	—5.0	76.6	.0288	.00072	.79	.0145	13.94
.0	—1.0	—5.7	74.1	.0279	.00070	.76	.0144	13.94
.0	—1.1	—6.3	71.5	.0269	.00068	.74	.0143	13.94
.0	—1.2	—7.0	68.9	.0259	.00065	.71	.0143	13.94
.0	—1.3	—7.7	66.3	.0250	.00063	.69	.0142	13.93
.0	—1.4	—8.4	63.7	.0240	.00060	.66	.0142	13.93
.0	—1.5	—9.2	61.2	.0230	.00058	.63	.0141	13.93
.0	—1.6	—10.0	58.6	.0221	.00055	.61	.0140	13.93
.0	—1.7	—10.8	56.0	.0211	.00053	.58	.0140	13.93
.0	—1.8	—11.6	53.5	.0201	.00051	.56	.0139	13.93
.0	—1.9	—12.5	50.9	.0192	.00048	.53	.0139	13.93
.0	—2.0	—13.5	48.4	.0182	.00046	.51	.0138	13.93
.0	—2.1	—14.4	45.8	.0172	.00043	.48	.0138	13.93
.0	—2.2	—15.5	43.2	.0163	.00041	.45	.0137	13.93
.0	—2.3	—16.5	40.7	.0153	.00038	.43	.0136	13.93
.0	—2.4	—17.7	38.1	.0144	.00036	.40	.0136	13.93
.0	—2.5	—18.9	35.6	.0134	.00034	.38	.0135	13.93
.0	—2.6	—20.2	33.1	.0124	.00031	.35	.0135	13.93
.0	—2.7	—21.6	30.5	.0115	.00029	.33	.0134	13.93
.0	—2.8	—23.1	28.0	.0105	.00026	.30	.0133	13.93
.0	—2.9	—24.7	25.4	.0096	.00024	.28	.0133	13.93
.0	—3.0	—26.5	22.9	.0086	.00022	.25	.0132	13.93
.0	—3.1	—28.5	20.4	.0077	.00019	.23	.0132	13.93
40.0	40.0	40.0	100.0	.2477	.00627	16.39	.0469	15.29
40.0	39.0	38.0	92.6	.2293	.00581	15.89	.0459	15.28
40.0	38.0	36.0	85.3	.2113	.00535	15.39	.0449	15.27
40.0	37.0	33.8	78.2	.1936	.00489	14.90	.0439	15.25
40.0	36.0	31.5	71.1	.1762	.00445	14.43	.0430	15.24
40.0	35.0	29.3	64.2	.1591	.00402	13.96	.0420	15.23
40.0	34.0	26.9	57.5	.1423	.00359	13.50	.0411	15.22
40.0	33.0	24.3	50.8	.1258	.00317	13.05	.0401	15.21
40.0	32.0	22.9	47.6	.1179	.00297	12.83	.0397	15.21
40.0	31.0	19.8	41.2	.1020	.00257	12.40	.0388	15.20
40.0	30.0	16.4	34.9	.0864	.00217	11.97	.0379	15.19
40.0	29.0	12.5	28.7	.0711	.00179	11.56	.0370	15.18
40.0	28.0	7.8	22.7	.0562	.00141	11.15	.0361	15.17
40.0	27.0	1.9	16.8	.0415	.00104	10.75	.0353	15.16
40.0	26.0	—6.1	11.0	.0272	.00068	10.36	.0344	15.15
40.0	25.0	—19.3	5.3	.0131	.00033	9.98	.0336	15.14

DB	WB	DP	RH	PV	W	H	S	V
80.0	80.0	80.0	100.0	1.0323	.02703	48.85	.1091	17.06
80.0	79.0	78.7	95.9	.9902	.02588	47.59	.1068	17.03
80.0	78.0	77.4	91.9	.9490	.02476	46.37	.1045	17.00
80.0	77.0	76.1	88.0	.9087	.02367	45.17	.1022	16.97
80.0	76.0	74.8	84.2	.8693	.02260	44.01	.1001	16.94
80.0	75.0	73.5	80.5	.8308	.02157	42.87	.0979	16.92
80.0	74.0	72.1	76.8	.7932	.02056	41.76	.0958	16.89
80.0	73.0	70.7	73.3	.7563	.01957	40.68	.0938	16.86
80.0	72.0	69.2	69.8	.7203	.01861	39.63	.0918	16.84
80.0	71.0	67.8	66.4	.6850	.01767	38.60	.0899	16.81
80.0	70.0	66.3	63.0	.6506	.01676	37.60	.0880	16.79
80.0	69.0	64.8	59.8	.6168	.01587	36.63	.0861	16.77
80.0	68.0	63.2	56.6	.5838	.01500	35.67	.0843	16.74
80.0	67.0	61.6	53.4	.5515	.01415	34.74	.0825	16.72
80.0	66.0	59.9	50.4	.5199	.01332	33.84	.0808	16.70
80.0	65.0	58.2	47.4	.4890	.01251	32.95	.0791	16.68
80.0	64.0	56.4	44.4	.4588	.01172	32.09	.0774	16.66
80.0	63.0	54.6	41.6	.4292	.01095	31.24	.0757	16.64
80.0	62.0	52.7	38.8	.4002	.01020	30.42	.0741	16.62
80.0	61.0	50.7	36.0	.3719	.00947	29.61	.0726	16.60
80.0	60.0	48.6	33.3	.3441	.00875	28.83	.0710	16.58
80.0	59.0	46.4	30.7	.3169	.00805	28.06	.0695	16.56
80.0	58.0	44.1	28.1	.2903	.00737	27.31	.0680	16.54
80.0	57.0	41.7	25.6	.2643	.00670	26.58	.0666	16.53
80.0	56.0	39.1	23.1	.2388	.00605	25.86	.0651	16.51
80.0	55.0	36.3	20.7	.2138	.00541	25.16	.0637	16.49
80.0	54.0	33.2	18.3	.1893	.00478	24.48	.0624	16.48
80.0	53.0	30.1	16.0	.1653	.00417	23.81	.0610	16.46
80.0	52.0	26.8	13.7	.1418	.00358	23.16	.0597	16.44
80.0	51.0	23.0	11.5	.1188	.00299	22.52	.0583	16.43
80.0	50.0	18.7	9.3	.0963	.00242	21.89	.0570	16.41
80.0	49.0	13.3	7.2	.0742	.00187	21.28	.0557	16.40
80.0	48.0	6.4	5.1	.0525	.00132	20.68	.0545	16.39
80.0	47.0	−3.5	3.0	.0313	.00079	20.10	.0532	16.37
80.0	46.0	−23.3	1.0	.0104	.00026	19.52	.0519	16.36

DB	WB	DP	RH	PV	W	H	S	V
120.0	120.0	120.0	100.0	3.4476	.10058	140.80	.2730	20.39
120.0	118.0	117.8	94.1	3.2439	.09374	133.19	.2598	20.20
120.0	116.0	115.6	88.4	3.0489	.08730	126.03	.2473	20.02
120.0	114.0	113.4	83.0	2.8621	.08125	119.30	.2355	19.85
120.0	112.0	111.1	77.8	2.6832	.07555	112.96	.2244	19.69
120.0	110.0	108.9	72.9	2.5120	.07018	106.99	.2138	19.54
120.0	108.0	106.5	68.1	2.3482	.06512	101.36	.2039	19.40
120.0	106.0	104.2	63.6	2.1914	.06035	96.05	.1944	19.26
120.0	104.0	101.8	59.2	2.0415	.05584	91.04	.1855	19.14
120.0	102.0	99.4	55.1	1.8980	.05159	86.30	.1770	19.02
120.0	100.0	96.9	51.1	1.7608	.04757	81.83	.1689	18.90
120.0	98.0	94.4	47.3	1.6296	.04378	77.60	.1613	18.80
120.0	96.0	91.8	43.6	1.5041	.04019	73.61	.1541	18.70
120.0	94.0	89.1	40.1	1.3842	.03679	69.83	.1472	18.60
120.0	92.0	86.4	36.8	1.2695	.03357	66.25	.1406	18.51
120.0	90.0	83.6	33.6	1.1599	.03053	62.86	.1344	18.43
120.0	88.0	80.7	30.6	1.0551	.02765	59.65	.1284	18.34
120.0	86.0	77.6	27.7	.9549	.02492	56.61	.1228	18.27
120.0	84.0	74.5	24.9	.8591	.02233	53.72	.1174	18.19
120.0	82.0	71.1	22.3	.7676	.01987	50.99	.1123	18.13
120.0	80.0	67.6	19.7	.6801	.01754	48.39	.1074	18.06
120.0	78.0	63.8	17.3	.5965	.01533	45.93	.1027	18.00
120.0	76.0	59.7	15.0	.5165	.01323	43.59	.0982	17.94
120.0	74.0	55.3	12.8	.4401	.01124	41.37	.0939	17.88
120.0	72.0	50.3	10.6	.3669	.00934	39.26	.0898	17.83
120.0	70.0	44.7	8.6	.2970	.00754	37.25	.0858	17.78
120.0	68.0	38.1	6.7	.2301	.00583	35.34	.0820	17.73
120.0	66.0	30.2	4.8	.1661	.00420	33.53	.0784	17.68
120.0	64.0	20.4	3.0	.1049	.00264	31.80	.0748	17.64
120.0	62.0	4.0	1.3	.0463	.00116	30.15	.0713	17.60

DB	WB	DP	RH	PV	W	H	S	V
160.0	160.0	160.0	100.0	9.6555	.39767	487.73	.8530	30.69
160.0	158.0	157.9	95.2	9.1911	.36727	453.44	.7968	29.78
160.0	156.0	155.9	90.6	8.7442	.33967	422.30	.7456	28.96
160.0	154.0	153.8	86.1	8.3141	.31452	393.92	.6989	28.21
160.0	152.0	151.7	81.8	7.9003	.29154	367.97	.6560	27.52
160.0	150.0	149.6	77.7	7.5024	.27047	344.19	.6166	26.89
160.0	148.0	147.5	73.7	7.1198	.25111	322.33	.5802	26.31
160.0	146.0	145.4	69.9	6.7521	.23327	302.19	.5467	25.78
160.0	144.0	143.3	66.3	6.3987	.21680	283.59	.5155	25.29
160.0	142.0	141.1	62.8	6.0593	.20156	266.38	.4867	24.83
160.0	140.0	139.0	59.4	5.7332	.18744	250.43	.4598	24.41
160.0	138.0	136.8	56.1	5.4202	.17433	235.62	.4348	24.02
160.0	136.0	134.6	53.0	5.1197	.16214	221.84	.4115	23.65
160.0	134.0	132.4	50.0	4.8313	.15078	209.01	.3896	23.31
160.0	132.0	130.2	47.2	4.5547	.14019	197.05	.3692	22 99
160.0	130.0	128.0	44.4	4.2893	.13031	185.87	.3501	22.70
160.0	128.0	125.7	41.8	4.0348	.12106	175.43	.3322	22.42
160.0	126.0	123.4	39.3	3.7909	.11241	165.65	.3153	22.16
160.0	124.0	121.1	36.8	3.5570	.10431	156.49	.2995	21.92
160.0	122.0	118.8	34.5	3.3330	.09671	147.89	.2846	21.69
160.0	120.0	116.4	32.3	3.1183	.08958	139.83	.2705	21.47
160.0	118.0	114.0	30.2	2.9127	.08288	132.25	.2573	21.27
160.0	116.0	111.6	28.1	2.7158	.07658	125.13	.2448	21.08
160.0	114.0	109.1	26.2	2.5273	.07066	118.43	.2330	20.91
160.0	112.0	106.5	24.3	2.3468	.06508	112.12	.2218	20.74
160.0	110.0	103.9	22.5	2.1741	.05983	106.18	.2113	20.58
160.0	108.0	101.3	20.8	2.0089	.05487	100.58	.2013	20.43
160.0	106.0	98.6	19.2	1.8508	.05020	95.30	.1918	20.29
160.0	104.0	95.8	17.6	1.6996	.04580	90.31	.1828	20.16
160.0	102.0	92.9	16.1	1.5550	.04164	85.61	.1743	20.03
160.0	100.0	89.9	14.7	1.4168	.03771	81.16	.1662	19.91
160.0	98.0	86.8	13.3	1.2846	.03400	76.96	.1586	19.80
160.0	96.0	83.5	12.0	1.1582	.03049	72.99	.1513	19.70
160.0	94.0	80.2	10.7	1.0374	.02717	69.23	.1443	19.60
160.0	92.0	76.6	9.5	.9219	.02402	65.67	.1377	19.50
160.0	90.0	72.8	8.4	.8116	.02105	62.31	.1314	19.41
160.0	88.0	68.7	7.3	.7062	.01823	59.12	.1254	19.33
160.0	86.0	64.2	6.3	.6054	.01557	56.10	.1197	19.25
160.0	84.0	59.3	5.3	.5091	.01304	53.24	.1142	19.17
160.0	82.0	53.8	4.3	.4171	.01064	50.53	.1090	19.10
160.0	80.0	47.4	3.4	.3292	.00837	47.95	.1040	19.03
160.0	78.0	39.7	2.5	.2452	.00621	45.51	.0991	18.97
160.0	76.0	30.0	1.7	.1649	.00416	43.19	.0945	18.90
160.0	74.0	16.8	.9	.0881	.00222	40.99	.0899	18.85
160.0	72.0	−17.2	.2	.0148	.00037	38.90	.0854	18.79

DB	WB	DP	RH	PV	W	H	S	V
—40.0	—40.0	—40.0	100.0	.0038	.00010	—9.46	—.0024	13.96
.0	.0	.0	100.0	.0376	.00104	1.13	.0217	15.32
.0	—.1	—.5	97.6	.0367	.00101	1.11	.0216	15.32
.0	—.2	—.9	95.2	.0358	.00099	1.08	.0216	15.32
.0	—.3	—1.4	92.8	.0349	.00096	1.05	.0215	15.32
.0	—.4	—1.9	90.3	.0340	.00094	1.03	.0214	15.32
.0	—.5	—2.4	87.9	.0331	.00091	1.00	.0214	15.32
.0	—.6	—3.0	85.5	.0322	.00089	.97	.0213	15.32
.0	—.7	—3.5	83.1	.0313	.00086	.95	.0213	15.32
.0	—.8	—4.1	80.7	.0304	.00084	.92	.0212	15.32
.0	—.9	—4.6	78.3	.0295	.00081	.89	.0212	15.32
.0	—1.0	—5.2	75.9	.0286	.00079	.87	.0211	15.32
.0	—1.1	—5.8	73.5	.0277	.00076	.84	.0210	15.32
.0	—1.2	—6.4	71.1	.0268	.00074	.82	.0210	15.32
.0	—1.3	—7.0	68.8	.0259	.00071	.79	.0209	15.32
.0	—1.4	—7.7	66.4	.0250	.00069	.76	.0209	15.32
.0	—1.5	—8.4	64.0	.0241	.00066	.74	.0208	15.31
.0	—1.6	—9.1	61.6	.0232	.00064	.71	.0207	15.31
.0	—1.7	—9.8	59.2	.0223	.00062	.68	.0207	15.31
.0	—1.8	—10.5	56.9	.0214	.00059	.66	.0206	15.31
.0	—1.9	—11.3	54.5	.0205	.00057	.63	.0206	15.31
.0	—2.0	—12.1	52.1	.0196	.00054	.61	.0205	15.31
.0	—2.1	—13.0	49.7	.0187	.00052	.58	.0204	15.31
.0	—2.2	—13.8	47.4	.0178	.00049	.55	.0204	15.31
.0	—2.3	—14.7	45.0	.0169	.00047	.53	.0203	15.31
.0	—2.4	—15.7	42.6	.0161	.00044	.50	.0203	15.31
.0	—2.5	—16.7	40.3	.0152	.00042	.48	.0202	15.31
.0	—2.6	—17.8	37.9	.0143	.00039	.45	.0201	15.31
.0	—2.7	—18.9	35.6	.0134	.00037	.42	.0201	15.31
.0	—2.8	—20.1	33.2	.0125	.00034	.40	.0200	15.31
.0	—2.9	—21.4	30.9	.0116	.00032	.37	.0200	15.31
.0	—3.0	—22.8	28.5	.0107	.00030	.35	.0199	15.31
.0	—3.1	—24.2	26.2	.0099	.00027	.32	.0198	15.31
.0	—3.2	—25.8	23.8	.0090	.00025	.29	.0198	15.30
.0	—3.3	—27.6	21.5	.0081	.00022	.27	.0197	15.30
.0	—3.4	—29.5	19.1	.0072	.00020	.24	.0197	15.30

DB	WB	DP	RH	PV	W	H	S	V
40.0	40.0	40.0	100.0	.2477	.00690	17.08	.0548	16.82
40.0	39.0	38.1	92.9	.2301	.00641	16.54	.0538	16.80
40.0	38.0	36.1	86.0	.2129	.00592	16.02	.0527	16.79
40.0	37.0	34.1	79.1	.1960	.00545	15.51	.0517	16.78
40.0	36.0	31.9	72.4	.1794	.00498	15.01	.0507	16.77
40.0	35.0	29.8	65.9	.1631	.00453	14.52	.0497	16.75
40.0	34.0	27.6	59.4	.1471	.00408	14.04	.0487	16.74
40.0	33.0	25.2	53.1	.1314	.00364	13.56	.0477	16.73
40.0	32.0	23.9	49.9	.1235	.00342	13.33	.0472	16.73
40.0	31.0	21.1	43.7	.1083	.00300	12.87	.0463	16.71
40.0	30.0	18.0	37.7	.0935	.00259	12.42	.0453	16.70
40.0	29.0	14.6	31.9	.0789	.00218	11.99	.0444	16.69
40.0	28.0	10.6	26.1	.0647	.00179	11.56	.0435	16.68
40.0	27.0	5.8	20.5	.0507	.00140	11.15	.0426	16.67
40.0	26.0	—.3	15.0	.0370	.00102	10.74	.0417	16.66
40.0	25.0	—8.7	9.6	.0237	.00065	10.34	.0408	16.65
40.0	24.0	—23.1	4.2	.0105	.00029	9.95	.0399	16.64

DB	WB	DP	RH	PV	W	H	S	V
80.0	80.0	80.0	100.0	1.0323	.02982	51.92	.1216	18.83
80.0	79.0	78.8	96.0	.9910	.02857	50.55	.1190	18.79
80.0	78.0	77.5	92.1	.9506	.02735	49.22	.1165	18.76
80.0	77.0	76.2	88.3	.9112	.02617	47.92	.1141	18.72
80.0	76.0	74.9	84.5	.8726	.02502	46.66	.1117	18.69
80.0	75.0	73.6	80.9	.8349	.02390	45.43	.1094	18.66
80.0	74.0	72.3	77.3	.7981	.02280	44.23	.1072	18.63
80.0	73.0	70.9	73.8	.7620	.02174	43.07	.1050	18.59
80.0	72.0	69.5	70.4	.7268	.02070	41.93	.1028	18.56
80.0	71.0	68.1	67.1	.6924	.01969	40.82	.1007	18.54
80.0	70.0	66.6	63.8	.6587	.01870	39.74	.0987	18.51
80.0	69.0	65.2	60.6	.6258	.01774	38.68	.0967	18.48
80.0	68.0	63.7	57.5	.5936	.01680	37.66	.0947	18.45
80.0	67.0	62.1	54.5	.5621	.01589	36.66	.0928	18.43
80.0	66.0	60.5	51.5	.5314	.01500	35.68	.0909	18.40
80.0	65.0	58.9	48.6	.5013	.01413	34.73	.0891	18.38
80.0	64.0	57.2	45.7	.4718	.01328	33.80	.0873	18.35
80.0	63.0	55.5	42.9	.4430	.01245	32.89	.0855	18.33
80.0	62.0	53.7	40.2	.4149	.01165	32.01	.0838	18.30
80.0	61.0	51.8	37.5	.3873	.01086	31.15	.0821	18.28
80.0	60.0	49.8	34.9	.3603	.01009	30.30	.0805	18.26
80.0	59.0	47.8	32.4	.3340	.00934	29.48	.0789	18.24
80.0	58.0	45.7	29.9	.3082	.00861	28.68	.0773	18.22
80.0	57.0	43.4	27.4	.2829	.00789	27.90	.0757	18.20
80.0	56.0	41.1	25.0	.2582	.00720	27.13	.0742	18.18
80.0	55.0	38.5	22.7	.2340	.00652	26.39	.0727	18.16
80.0	54.0	35.8	20.4	.2103	.00585	25.66	.0713	18.14
80.0	53.0	32.9	18.1	.1872	.00520	24.94	.0698	18.12
80.0	52.0	30.0	15.9	.1645	.00456	24.25	.0684	18.10
80.0	51.0	26.9	13.8	.1422	.00394	23.57	.0670	18.08
80.0	50.0	23.3	11.7	.1205	.00334	22.90	.0656	18.06
80.0	49.0	19.3	9.6	.0992	.00274	22.25	.0643	18.05
80.0	48.0	14.4	7.6	.0783	.00217	21.62	.0629	18.03
80.0	47.0	8.4	5.6	.0578	.00160	20.99	.0616	18.01
80.0	46.0	.1	3.7	.0378	.00104	20.39	.0603	18.00
80.0	45.0	—13.5	1.8	.0182	.00050	19.79	.0590	17.98

DB	WB	DP	RH	PV	W	H	S	V
120.0	120.0	120.0	100.0	3.4476	.11229	153.84	.3032	22.77
120.0	118.0	117.8	94.1	3.2456	.10460	145.29	.2884	22.53
120.0	116.0	115.7	88.5	3.0522	.09738	137.26	.2744	22.31
120.0	114.0	113.4	83.2	2.8671	.09061	129.73	.2612	22.10
120.0	112.0	111.2	78.0	2.6899	.08425	122.65	.2487	21.91
120.0	110.0	109.0	73.1	2.5204	.07826	116.00	.2370	21.72
120.0	108.0	106.7	68.4	2.3582	.07264	109.73	.2259	21.55
120.0	106.0	104.4	63.9	2.2031	.06734	103.84	.2154	21.38
120.0	104.0	102.0	59.6	2.0548	.06234	98.28	.2055	21.23
120.0	102.0	99.6	55.5	1.9130	.05764	93.05	.1961	21.09
120.0	100.0	97.2	51.6	1.7774	.05320	88.11	.1872	20.95
120.0	98.0	94.7	47.8	1.6478	.04902	83.45	.1788	20.82
120.0	96.0	92.2	44.2	1.5240	.04506	79.05	.1708	20.70
120.0	94.0	89.6	40.8	1.4057	.04133	74.89	.1633	20.58
120.0	92.0	87.0	37.5	1.2926	.03780	70.96	.1561	20.47
120.0	90.0	84.2	34.4	1.1846	.03447	67.25	.1493	20.37
120.0	88.0	81.4	31.4	1.0814	.03131	63.73	.1428	20.27
120.0	86.0	78.5	28.5	.9829	.02833	60.41	.1366	20.18
120.0	84.0	75.5	25.8	.8887	.02550	57.26	.1307	20.09
120.0	82.0	72.3	23.2	.7988	.02282	54.28	.1252	20.01
120.0	80.0	68.9	20.7	.7129	.02029	51.46	.1198	19.93
120.0	78.0	65.4	18.3	.6309	.01789	48.78	.1148	19.86
120.0	76.0	61.6	16.0	.5525	.01561	46.25	.1099	19.79
120.0	74.0	57.5	13.9	.4777	.01345	43.84	.1053	19.72
120.0	72.0	53.1	11.8	.4061	.01140	41.55	.1008	19.66
120.0	70.0	48.1	9.8	.3378	.00945	39.39	.0966	19.60
120.0	68.0	42.5	7.9	.2725	.00760	37.33	.0925	19.54
120.0	66.0	35.8	6.1	.2101	.00584	35.37	.0886	19.48
120.0	64.0	28.1	4.4	.1504	.00417	33.51	.0848	19.43
120.0	62.0	18.0	2.7	.0933	.00258	31.74	.0812	19.38
120.0	60.0	.6	1.1	.0388	.00107	30.05	.0776	19.34

44

DB	WB	DP	RH	PV	W	H	S	V
160.0	160.0	160.0	100.0	9.6555	.46613	565.09	.9904	35.98
160.0	158.0	157.9	95.2	9.1929	.42845	522.58	.9208	34.74
160.0	156.0	155.9	90.6	8.7477	.39457	484.34	.8580	33.63
160.0	154.0	153.8	86.2	8.3193	.36396	449.80	.8011	32.63
160.0	152.0	151.8	81.9	7.9073	.33620	418.47	.7493	31.71
160.0	150.0	149.7	77.8	7.5111	.31094	389.95	.7020	30.89
160.0	148.0	147.6	73.8	7.1302	.28788	363.91	.6587	30.13
160.0	146.0	145.5	70.1	6.7642	.26676	340.07	.6190	29.43
160.0	144.0	143.4	66.4	6.4125	.24738	318.17	.5823	28.80
160.0	142.0	141.2	62.9	6.0748	.22953	298.01	.5485	28.21
160.0	140.0	139.1	59.6	5.7504	.21307	279.42	.5172	27.67
160.0	138.0	137.0	56.3	5.4390	.19786	262.23	.4882	27.17
160.0	136.0	134.8	53.2	5.1402	.18377	246.31	.4612	26.70
160.0	134.0	132.6	50.3	4.8535	.17070	231.54	.4361	26.27
160.0	132.0	130.4	47.4	4.5785	.15855	217.82	.4127	25.87
160.0	130.0	128.2	44.7	4.3148	.14725	205.04	.3909	25.50
160.0	128.0	126.0	42.1	4.0619	.13671	193.14	.3704	25.15
160.0	126.0	123.7	39.6	3.8196	.12689	182.03	.3513	24.83
160.0	124.0	121.4	37.2	3.5874	.11771	171.65	.3334	24.53
160.0	122.0	119.1	34.9	3.3650	.10912	161.94	.3165	24.24
160.0	120.0	116.8	32.6	3.1519	.10108	152.85	.3007	23.98
160.0	118.0	114.4	30.5	2.9479	.09355	144.34	.2858	23.73
160.0	116.0	112.0	28.5	2.7526	.08649	136.35	.2718	23.50
160.0	114.0	109.6	26.6	2.5658	.07985	128.85	.2586	23.28
160.0	112.0	107.1	24.7	2.3869	.07362	121.80	.2461	23.07
160.0	110.0	104.6	22.9	2.2159	.06777	115.18	.2344	22.88
160.0	108.0	102.0	21.3	2.0522	.06226	108.94	.2233	22.70
160.0	106.0	99.3	19.6	1.8958	.05707	103.08	.2128	22.53
160.0	104.0	96.6	18.1	1.7462	.05219	97.55	.2028	22.36
160.0	102.0	93.9	16.6	1.6032	.04758	92.34	.1934	22.21
160.0	100.0	91.0	15.2	1.4665	.04324	87.43	.1845	22.07
160.0	98.0	88.0	13.8	1.3359	.03915	82.79	.1761	21.93
160.0	96.0	84.9	12.5	1.2111	.03528	78.42	.1681	21.80
160.0	94.0	81.7	11.3	1.0919	.03163	74.29	.1605	21.68
160.0	92.0	78.4	10.1	.9780	.02818	70.38	.1532	21.57
160.0	90.0	74.8	9.0	.8693	.02492	66.69	.1463	21.46
160.0	88.0	71.0	7.9	.7654	.02184	63.20	.1398	21.36
160.0	86.0	67.0	6.9	.6662	.01892	59.90	.1336	21.26
160.0	84.0	62.6	5.9	.5715	.01616	56.78	.1276	21.17
160.0	82.0	57.7	5.0	.4811	.01355	53.82	.1219	21.09
160.0	80.0	52.3	4.1	.3947	.01107	51.02	.1165	21.00
160.0	78.0	46.0	3.2	.3123	.00872	48.36	.1113	20.93
160.0	76.0	38.5	2.4	.2335	.00650	45.85	.1063	20.85
160.0	74.0	29.2	1.6	.1583	.00439	43.46	.1015	20.78
160.0	72.0	16.5	.9	.0865	.00239	41.19	.0969	20.72
160.0	70.0	—13.7	.2	.0179	.00049	39.04	.0922	20.65

DB	WB	DP	RH	PV	W	H	S	V
−40.0	−40.0	−40.0	100.0	.0038	.00011	−9.44	.0042	15.37
.0	.0	.0	100.0	.0376	.00114	1.25	.0285	16.87
.0	−.1	−.4	97.8	.0368	.00112	1.23	.0285	16.87
.0	−.2	−.9	95.5	.0360	.00109	1.20	.0284	16.87
.0	−.3	−1.3	93.3	.0351	.00107	1.17	.0283	16.87
.0	−.4	−1.8	91.0	.0343	.00104	1.14	.0283	16.87
.0	−.5	−2.3	88.8	.0334	.00102	1.12	.0282	16.87
.0	−.6	−2.7	86.6	.0326	.00099	1.09	.0282	16.87
.0	−.7	−3.2	84.3	.0317	.00096	1.06	.0281	16.86
.0	−.8	−3.7	82.1	.0309	.00094	1.04	.0280	16.86
.0	−.9	−4.2	79.9	.0301	.00091	1.01	.0280	16.86
.0	−1.0	−4.8	77.7	.0292	.00089	.98	.0279	16.86
.0	−1.1	−5.3	75.4	.0284	.00086	.96	.0279	16.86
.0	−1.2	−5.9	73.2	.0276	.00084	.93	.0278	16.86
.0	−1.3	−6.4	71.0	.0267	.00081	.90	.0277	16.86
.0	−1.4	−7.0	68.8	.0259	.00079	.88	.0277	16.86
.0	−1.5	−7.6	66.6	.0251	.00076	.85	.0276	16.86
.0	−1.6	−8.3	64.4	.0242	.00074	.82	.0276	16.86
.0	−1.7	−8.9	62.2	.0234	.00071	.79	.0275	16.86
.0	−1.8	−9.6	60.0	.0226	.00069	.77	.0274	16.86
.0	−1.9	−10.2	57.8	.0217	.00066	.74	.0274	16.86
.0	−2.0	−10.9	55.6	.0209	.00063	.71	.0273	16.86
.0	−2.1	−11.7	53.4	.0201	.00061	.69	.0273	16.85
.0	−2.2	−12.4	51.2	.0193	.00058	.66	.0272	16.85
.0	−2.3	−13.2	49.0	.0184	.00056	.63	.0271	16.85
.0	−2.4	−14.0	46.8	.0176	.00053	.61	.0271	16.85
.0	−2.5	−14.9	44.6	.0168	.00051	.58	.0270	16.85
.0	−2.6	−15.8	42.4	.0160	.00048	.56	.0270	16.85
.0	−2.7	−16.7	40.2	.0151	.00046	.53	.0269	16.85
.0	−2.8	−17.7	38.1	.0143	.00043	.50	.0268	16.85
.0	−2.9	−18.8	35.9	.0135	.00041	.48	.0268	16.85
.0	−3.0	−19.9	33.7	.0127	.00039	.45	.0267	16.85
.0	−3.1	−21.0	31.5	.0119	.00036	.42	.0267	16.85
.0	−3.2	−22.2	29.4	.0111	.00034	.40	.0266	16.85
.0	−3.3	−23.6	27.2	.0102	.00031	.37	.0265	16.85
.0	−3.4	−25.0	25.0	.0094	.00029	.34	.0265	16.85
.0	−3.5	−26.5	22.9	.0086	.00026	.32	.0264	16.85
.0	−3.6	−28.2	20.7	.0078	.00024	.29	.0264	16.84
.0	−3.7	−30.0	18.5	.0070	.00021	.27	.0263	16.84
.0	−3.8	−32.1	16.4	.0062	.00019	.24	.0262	16.84

DB	WB	DP	RH	PV	W	H	S	V
40.0	40.0	40.0	100.0	.2477	.00760	17.84	.0630	18.53
40.0	39.0	38.2	93.2	.2309	.00708	17.28	.0619	18.52
40.0	38.0	36.3	86.6	.2144	.00657	16.73	.0608	18.50
40.0	37.0	34.4	80.0	.1982	.00607	16.19	.0597	18.49
40.0	36.0	32.3	73.6	.1824	.00558	15.66	.0586	18.47
40.0	35.0	30.3	67.4	.1668	.00510	15.14	.0576	18.46
40.0	34.0	28.2	61.2	.1516	.00463	14.64	.0565	18.44
40.0	33.0	26.0	55.1	.1366	.00417	14.14	.0555	18.43
40.0	32.0	24.7	52.0	.1287	.00393	13.88	.0550	18.42
40.0	31.0	22.2	46.1	.1142	.00348	13.40	.0540	18.41
40.0	30.0	19.4	40.4	.1000	.00305	12.93	.0530	18.40
40.0	29.0	16.4	34.8	.0861	.00262	12.47	.0520	18.38
40.0	28.0	12.9	29.3	.0725	.00221	12.02	.0511	18.37
40.0	27.0	8.8	23.9	.0592	.00180	11.58	.0501	18.36
40.0	26.0	3.9	18.6	.0462	.00140	11.16	.0492	18.35
40.0	25.0	—2.2	13.5	.0334	.00102	10.74	.0483	18.34
40.0	24.0	—10.9	8.5	.0210	.00064	10.33	.0474	18.33
40.0	23.0	—26.3	3.5	.0087	.00026	9.93	.0465	18.32

DB	WB	DP	RH	PV	W	H	S	V
80.0	80.0	80.0	100.0	1.0323	.03297	55.38	.1349	20.82
80.0	79.0	78.8	96.1	.9917	.03161	53.89	.1321	20.78
80.0	78.0	77.5	92.2	.9522	.03028	52.44	.1294	20.74
80.0	77.0	76.3	88.5	.9135	.02899	51.03	.1268	20.70
80.0	76.0	75.0	84.8	.8757	.02774	49.65	.1242	20.66
80.0	75.0	73.7	81.2	.8387	.02652	48.31	.1217	20.62
80.0	74.0	72.4	77.8	.8026	.02533	47.01	.1192	20.58
80.0	73.0	71.1	74.3	.7673	.02417	45.74	.1169	20.54
80.0	72.0	69.8	71.0	.7329	.02305	44.51	.1145	20.51
80.0	71.0	68.4	67.7	.6992	.02195	43.31	.1122	20.47
80.0	70.0	67.0	64.5	.6663	.02088	42.14	.1100	20.44
80.0	69.0	65.5	61.4	.6341	.01984	41.00	.1079	20.41
80.0	68.0	64.1	58.4	.6027	.01883	39.89	.1057	20.37
80.0	67.0	62.6	55.4	.5719	.01784	38.80	.1037	20.34
80.0	66.0	61.1	52.5	.5419	.01688	37.75	.1016	20.31
80.0	65.0	59.5	49.7	.5126	.01594	36.72	.0997	20.28
80.0	64.0	57.9	46.9	.4839	.01503	35.72	.0977	20.25
80.0	63.0	56.2	44.2	.4558	.01413	34.74	.0958	20.22
80.0	62.0	54.5	41.5	.4284	.01327	33.79	.0940	20.20
80.0	61.0	52.8	38.9	.4016	.01242	32.86	.0922	20.17
80.0	60.0	50.9	36.4	.3754	.01159	31.96	.0904	20.14
80.0	59.0	49.0	33.9	.3497	.01079	31.07	.0887	20.12
80.0	58.0	47.1	31.5	.3247	.01000	30.21	.0870	20.09
80.0	57.0	45.0	29.1	.3002	.00924	29.37	.0853	20.07
80.0	56.0	42.8	26.8	.2762	.00849	28.55	.0837	20.05
80.0	55.0	40.5	24.5	.2527	.00776	27.75	.0821	20.02
80.0	54.0	38.1	22.3	.2298	.00705	26.97	.0805	20.00
80.0	53.0	35.5	20.1	.2073	.00635	26.21	.0790	19.98
80.0	52.0	32.7	18.0	.1854	.00567	25.47	.0775	19.96
80.0	51.0	29.9	15.9	.1639	.00501	24.74	.0760	19.94
80.0	50.0	27.0	13.8	.1429	.00436	24.03	.0746	19.91
80.0	49.0	23.7	11.8	.1223	.00373	23.34	.0731	19.89
80.0	48.0	19.9	9.9	.1021	.00311	22.66	.0717	19.87
80.0	47.0	15.5	8.0	.0824	.00251	22.00	.0703	19.86
80.0	46.0	10.1	6.1	.0631	.00192	21.35	.0690	19.84
80.0	45.0	3.1	4.3	.0442	.00134	20.72	.0676	19.82
80.0	44.0	—7.2	2.5	.0257	.00078	20.10	.0662	19.80
80.0	43.0	—28.7	.7	.0076	.00023	19.50	.0649	19.78

DB	WB	DP	RH	PV	W	H	S	V
120.0	120.0	120.0	100.0	3.4476	.12583	168.92	.3373	25.52
120.0	118.0	117.9	94.2	3.2472	.11713	159.25	.3204	25.23
120.0	116.0	115.7	88.6	3.0553	.10899	150.19	.3046	24.95
120.0	114.0	113.5	83.3	2.8717	.10137	141.71	.2898	24.69
120.0	112.0	111.3	78.2	2.6961	.09422	133.77	.2758	24.45
120.0	110.0	109.1	73.3	2.5281	.08752	126.31	.2627	24.22
120.0	108.0	106.8	68.7	2.3675	.08123	119.31	.2503	24.01
120.0	106.0	104.5	64.2	2.2139	.07532	112.73	.2386	23.81
120.0	104.0	102.2	60.0	2.0671	.06976	106.54	.2275	23.62
120.0	102.0	99.9	55.9	1.9268	.06453	100.72	.2171	23.44
120.0	100.0	97.5	52.0	1.7928	.05961	95.25	.2073	23.27
120.0	98.0	95.1	48.3	1.6647	.05497	90.08	.1979	23.12
120.0	96.0	92.6	44.7	1.5424	.05060	85.22	.1891	22.97
120.0	94.0	90.1	41.3	1.4256	.04648	80.63	.1808	22.83
120.0	92.0	87.5	38.1	1.3140	.04259	76.30	.1729	22.70
120.0	90.0	84.8	35.0	1.2075	.03892	72.21	.1654	22.57
120.0	88.0	82.1	32.1	1.1058	.03545	68.35	.1582	22.45
120.0	86.0	79.3	29.3	1.0088	.03218	64.71	.1515	22.34
120.0	84.0	76.4	26.6	.9161	.02908	61.26	.1451	22.24
120.0	82.0	73.3	24.0	.8277	.02616	58.00	.1390	22.14
120.0	80.0	70.2	21.6	.7433	.02339	54.92	.1332	22.04
120.0	78.0	66.8	19.2	.6627	.02077	52.00	.1276	21.95
120.0	76.0	63.3	17.0	.5858	.01829	49.23	.1224	21.87
120.0	74.0	59.5	14.9	.5124	.01594	46.62	.1173	21.79
120.0	72.0	55.4	12.8	.4424	.01371	44.14	.1126	21.71
120.0	70.0	51.0	10.9	.3755	.01160	41.78	.1080	21.64
120.0	68.0	46.0	9.0	.3116	.00959	39.55	.1036	21.57
120.0	66.0	40.3	7.3	.2507	.00769	37.44	.0994	21.51
120.0	64.0	33.6	5.6	.1925	.00589	35.43	.0954	21.45
120.0	62.0	26.0	4.0	.1368	.00418	33.52	.0915	21.39
120.0	60.0	15.8	2.4	.0837	.00255	31.70	.0877	21.33
120.0	58.0	—2.5	1.0	.0329	.00100	29.98	.0840	21.28

DB	WB	DP	RH	PV	W	H	S	V
160.0	160.0	160.0	100.0	9.6555	.55435	664.78	1.1654	42.79
160.0	158.0	158.0	95.2	9.1946	.50641	610.68	1.0768	41.06
160.0	156.0	155.9	90.6	8.7510	.46382	562.61	.9978	39.52
160.0	154.0	153.9	86.2	8.3242	.42575	519.65	.9270	38.15
160.0	152.0	151.8	82.0	7.9138	.39157	481.06	.8632	36.91
160.0	150.0	149.7	77.9	7.5192	.36074	446.25	.8055	35.80
160.0	148.0	147.6	73.9	7.1399	.33282	414.72	.7531	34.79
160.0	146.0	145.5	70.2	6.7754	.30744	386.06	.7053	33.87
160.0	144.0	143.4	66.5	6.4253	.28429	359.92	.6616	33.03
160.0	142.0	141.3	63.1	6.0891	.26312	336.00	.6215	32.27
160.0	140.0	139.2	59.7	5.7663	.24370	314.07	.5846	31.56
160.0	138.0	137.1	56.5	5.4565	.22585	293.89	.5505	30.92
160.0	136.0	134.9	53.4	5.1592	.20939	275.30	.5190	30.32
160.0	134.0	132.8	50.5	4.8740	.19420	258.13	.4899	29.77
160.0	132.0	130.6	47.6	4.6005	.18014	242.24	.4628	29.26
160.0	130.0	128.4	44.9	4.3383	.16711	227.51	.4376	28.79
160.0	128.0	126.2	42.3	4.0870	.15500	213.83	.4141	28.35
160.0	126.0	124.0	39.8	3.8462	.14375	201.11	.3922	27.94
160.0	124.0	121.7	37.4	3.6155	.13328	189.27	.3717	27.56
160.0	122.0	119.4	35.2	3.3946	.12351	178.22	.3526	27.21
160.0	120.0	117.1	33.0	3.1830	.11439	167.91	.3347	26.87
160.0	118.0	114.8	30.9	2.9805	.10587	158.28	.3178	26.57
160.0	116.0	112.5	28.9	2.7868	.09789	149.26	.3020	26.28
160.0	114.0	110.1	26.9	2.6014	.09043	140.82	.2872	26.00
160.0	112.0	107.6	25.1	2.4240	.08343	132.90	.2732	25.75
160.0	110.0	105.2	23.3	2.2544	.07687	125.48	.2600	25.51
160.0	108.0	102.6	21.7	2.0923	.07071	118.51	.2476	25.29
160.0	106.0	100.1	20.1	1.9373	.06492	111.96	.2359	25.08
160.0	104.0	97.4	18.5	1.7892	.05948	105.80	.2249	24.88
160.0	102.0	94.7	17.1	1.6477	.05436	100.01	.2144	24.69
160.0	100.0	92.0	15.7	1.5125	.04954	94.56	.2045	24.52
160.0	98.0	89.1	14.3	1.3833	.04500	89.42	.1952	24.35
160.0	96.0	86.2	13.0	1.2600	.04072	84.59	.1863	24.20
160.0	94.0	83.1	11.8	1.1423	.03669	80.02	.1780	24.05
160.0	92.0	79.9	10.7	1.0299	.03289	75.72	.1700	23.91
160.0	90.0	76.6	9.6	.9226	.02930	71.66	.1625	23.78
160.0	88.0	73.1	8.5	.8202	.02591	67.82	.1553	23.66
160.0	86.0	69.3	7.5	.7224	.02271	64.20	.1485	23.54
160.0	84.0	65.3	6.5	.6292	.01968	60.77	.1420	23.43
160.0	82.0	61.0	5.6	.5402	.01682	57.53	.1358	23.33
160.0	80.0	56.2	4.7	.4553	.01412	54.47	.1299	23.23
160.0	78.0	50.9	3.9	.3742	.01156	51.57	.1243	23.13
160.0	76.0	44.7	3.1	.2969	.00913	48.83	.1189	23.05
160.0	74.0	37.3	2.3	.2232	.00684	46.23	.1138	22.96
160.0	72.0	28.4	1.6	.1528	.00467	43.77	.1088	22.88
160.0	70.0	16.2	.9	.0856	.00261	41.44	.1040	22.81
160.0	68.0	—10.4	.2	.0215	.00065	39.23	.0992	22.74

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