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References

- [1] H. van Dijk and D. Shoenberg, *Nature* **164**, 151 (1949); Procès-Verbaux du Comité Consultatif de Thermométrie auprès du Comité International des Poids et Mesures, session de 1952, p. T 151 (Gauthier-Villars, Paris, France).
- [2] B. Bleaney and F. Simon, *Trans. Faraday Soc.* **35**, 1205 (1939).
- [3] G. Schmidt and W. H. Keesom, *Leiden Comm.* 250b and c, *Physica* **4**, 963 and 971 (1937).
- [4] J. Kistemaker and W. H. Keesom, *Leiden Comm.* 269b and c, *Physica* **12**, 227 and 272 (1946); J. Kistemaker, *Leiden Comm. Suppl.* 95a, *Physica* **12**, 281 (1946).
- [5] See: H. van Dijk, *Proc. Intern. Conf. Physics Very Low Temp.*, Mass. Inst. Technol., p. 118 (1949); R. D. Worley, M. W. Zemansky, and H. A. Boorse, *Phys. Rev.* **93**, 45 (1954); R. A. Erickson and L. D. Roberts, *Phys. Rev.* **93**, 957 (1954); J. R. Clement, *Phys. Rev.* **93**, 1420 (1954); R. Berman and C. A. Swenson, *Phys. Rev.* **95**, 311 (1954); W. E. Keller, *Phys. Rev.* **97**, 1 (1955), **98**, 1571 (1955), and **100**, 1790 (1955); H. van Dijk, *Temperature, its measurement and control* **2**, p. 199 (Reinhold Publishing Corp., New York, N. Y., 1955) and *Leiden Comm. Suppl.* 112c; W. S. Corak, M. P. Garfunkel, C. B. Satterthwaite, and A. Wexler, *Phys. Rev.* **98**, 1699 (1955); J. R. Clement, J. K. Logan, and J. Gaffney, *Phys. Rev.* **100**, 743 (1955); E. Ambler and R. P. Hudson, *J. Research NBS* **56**, 99 (1956) RP2654, and **57**, 23 (1956) RP2689.
- [6] H. van Dijk, *Proc. Intern. Conf. Physics Very Low Temp.*, Mass. Inst. Technol., p. 118 (1949); R. A. Erickson and L. D. Roberts, *Phys. Rev.* **93**, 957 (1954); H. van Dijk, *Temperature, its measurement and control* **2**, p. 199 (Reinhold Publishing Corp., New York, N. Y., 1955) and *Leiden Comm. Suppl.* 112c; E. Ambler and R. P. Hudson, *J. Research NBS* **56**, 99 (1956) RP2654 and **57**, 23 (1956) RP2689; H. van Dijk and M. Durieux, *Progress in low temperature physics*, vol. II, chap. XIV (North-Holland Publishing Co., Amsterdam, Netherlands, 1957).
- [7] J. R. Clement, *Low temperature physics and chemistry*, *Proc. Fifth Intern. Conf.*, p. 187 (Univ. Wis. Press, Madison, Wis., 1958).
- [8] H. van Dijk and M. Durieux, *Proc. Conf. Physics Low Temp.*, Paris, 1955, p. 595 (Annexe 1955-3, Suppl. au bulletin de l'Institut Intern. du Froid, Paris); *Progress in low temperature physics*, vol. II, chap. XIV (North-Holland Publishing Co., Amsterdam, Netherlands, 1957); and *Leiden Comm. Suppl.* 113c, *Physica* **24**, 1 (1958).
- [9] J. R. Clement, J. K. Logan, and J. Gaffney, *Proc. Conf. Physics Low Temp.*, Paris, 1955, p. 601 (Annexe 1955-3, Suppl. au bulletin de l'Institut Intern. du Froid, Paris); *Phys. Rev.* **100**, 743 (1955); U.S. Naval Research Rept. 4542 (Wash., May 1955); *Liquid helium vapor pressure-temperature scale*, rept. compiled by J. R. Clement, distributed at the Baton Rouge, La. Conf. Low Temp. Physics and Chem. (Dec. 1955); J. R. Clement, *Low temperature physics and chemistry*, *Proc. Fifth Intern. Conf.*, p. 187 (Univ. Wis. Press, Madison, Wis., 1958).
- [10] F. G. Brickwedde, Report on the conference agreement on the helium vapor pressure scale of temperatures, *Proc. Conf. Physics Low Temp.*, Paris, 1955, p. 608 (Annexe 1955-3, Suppl. au bulletin de l'Institut Intern. du Froid, Paris).
- [11] See F. G. Brickwedde, *Physics Today* **11**, 23 (1958).
- [12] F. G. Brickwedde, *Physica* **24**, Suppl. p. S 128 (1958).
- [13] H. van Dijk, M. Durieux, J. R. Clement, and J. K. Logan, *Physica* **24**, Suppl., S 129 (1958); H. van Dijk and M. Durieux, *Leiden Comm. Suppl.* 115a, *Physica* **24**, 920 (1958); Procès-Verbaux des Séances du Comité International des Poids et Mesures—2^e Serie, tome 26-A, Annexe T22 in the Procès-Verbaux des Séances, 5^e Session (1958) du Comité Consultatif de Thermométrie.

Part 2. Tables for the 1958 Temperature Scale

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1. Introduction

The tables which follow are these:

TABLE I. *Vapor pressure of He⁴ (1958 Scale) in microns (10⁻³ mm) mercury at 0° C and standard gravity (980.665 cm/sec²).* This table is an expanded version, with pressure values at millidegree intervals, of the table which defines the vapor pressure on the 1958 scale at 10-millidegree intervals.

TABLE II. *1958 He⁴ vapor pressure-temperature scale, T in °K as a function of P in millimeters mercury at 0° C and standard gravity.* This table is an inversion of table I for appropriate ranges of pressures and pressure intervals. Since this table contains differences between successive entries, it furnishes a convenient means for converting a measured vapor pressure to a temperature within 0.1 millidegree.

TABLE III. *1958 He⁴ vapor pressure-temperature scale, T in °K as a function of P in centimeters mercury at 0° C and standard gravity.* This table is an ex-

tension of table II for pressures greater than 80 cm mercury. It is numbered independently because the pressure unit is centimeters mercury rather than millimeters mercury.

TABLE IV. *Temperature derivative in millimeters Hg/°K for the 1958 He⁴ Scale.* This table gives values of the first derivative, dP/dT , to four significant digits. These values are smoother and more precise than values obtained directly from table I by simple difference calculation, and they represent true derivatives of the scale defined by table I.

TABLE V. *Auxiliary table for making hydrostatic head correction.* This table gives, as a function of pressure, values of the ratio between the density of liquid He I and the density of mercury at 0° C.

TABLE VI. *Deviations of earlier scales from the 1958 scale.* The definitions of earlier scales used for obtaining the values in this table are explicitly given in explanatory notes which accompany it.

TABLE VII. *Auxiliary table for making corrections for the density of mercury at temperatures other than*

0° C. This table gives values of the ratio between the density of mercury at temperatures between 10° and 39° C and the density at 0° C. Following this table is an equation useful for making another correction which in precise work must be applied to the observed height of a mercury column. This equation gives an empirical relation between the acceleration due to gravity and the local latitude and altitude. If the local value of this acceleration is unknown, the equation will yield a value sufficiently accurate for the purpose of manometry.

2. Constants Used in the Computation of the Scale

Certain constants are necessary for computing a vapor pressure-temperature scale. The values of these constants adopted for the computation of the 1958 scale are tabulated below. The significance of the L_0 value may be found in Part 1, Introduction by F. G. Brickwedde. These constants are: $i_0 = 12.2440$ cgs units; $L_0 = 59.62$ j/mole; $R = 8.31662$ j/mole-deg; density of mercury at 0° C = 13.5951 g/cm³; standard gravity = 980.665 cm/sec²; pressure at the λ -point = 37.80 mm mercury at 0° C and standard gravity.

3. Fixed Points on the Scale

The boiling point is at 4.2150° K for $P = 760.00$ mm mercury at 0° C and standard gravity (or 1013250 dynes/cm²). The λ -point is at 2.1720° K for P as noted above. The critical point, if the critical pressure is taken to be 1718 mm mercury (Kamerlingh Onnes, Leiden Comm. 124b) at 0° C and standard gravity, is at 5.1994° K.

4. Comments on Determining Temperature by Measuring Vapor Pressure

Two techniques are commonly used for determining a temperature by measuring the vapor pressure of liquid He⁴. In one, the pressure at some

point above a bath of liquid helium is measured. In this case, standard practice has been to add to the measured pressure, when above the λ -point pressure, an amount equal to the pressure exerted by the column of helium between the point where the pressure is measured and the point in the bath occupied by the object whose temperature is desired. Below the λ -point, no correction of the observed pressure is ordinarily made, although the pressure drop in the gas due to pumping may become significant at low pressures. In the other technique, the pressure over a small amount of helium condensed in a "vapor pressure bulb" is measured. Since this "bulb" is normally placed close to the point in the bath occupied by the object whose temperature is desired, correction of the observed pressure is usually considered unnecessary above, as well as below, the λ -point. Numerous arrangements have been used for the pressure-transmitting line from the "bulb" to the manometer, but no standard practice seems to prevail. In any such apparatus, thermomolecular pressure differences between the cold "bulb" and the warm manometer arise at sufficiently low pressures.

It is generally known that various adaptations of these two techniques yield slightly different pressures and therefore slightly different temperatures, especially above the λ -point. Although these temperatures usually differ by no more than 0.01° K, special attention to technique seems required when precision exceeding 0.01° K is desired. Two conditions necessary to any satisfactory technique for determining the temperature of an object by measuring the vapor pressure of a liquid seem obvious. First, there must be thermal equilibrium between the object and the liquid. Second, the pressure at which the liquid is in equilibrium with its saturated vapor must somehow be determined. In the case of He⁴ there is one criterion which, if satisfied, probably assures that these conditions are met. Differences between the thermal properties of He⁴ above and below the λ -point are so large that, if the calibration of a secondary thermometer yields a continuous curve through the λ -point, the technique by which the calibration was obtained is probably satisfactory.

TABLE I. Vapor pressure of He⁴ (1958 scale) in microns (10^{-3} mm) mercury at 0° C and standard gravity (980.665 cm/sec²)

| T°K | 0.000 | 0.001 | 0.002 | 0.003 | 0.004 | 0.005 | 0.006 | 0.007 | 0.008 | 0.009 |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0.50 | 0.016342 | 0.016901 | 0.017476 | 0.018069 | 0.018680 | 0.019309 | 0.019956 | 0.020623 | 0.021310 | 0.022017 |
| .51 | .022745 | .023494 | .024265 | .025058 | .025875 | .026714 | .027578 | .028467 | .029381 | .030321 |
| .52 | .031287 | .032280 | .033301 | .034351 | .035431 | .036541 | .037681 | .038852 | .040055 | .041291 |
| .53 | .042561 | .043865 | .045205 | .046581 | .047993 | .049443 | .050932 | .052461 | .054030 | .055640 |
| .54 | .057292 | .058987 | .060727 | .062512 | .064343 | .066221 | .068147 | .070123 | .072149 | .074226 |
| .55 | .076356 | .078540 | .080779 | .083074 | .085426 | .087836 | .090306 | .092837 | .095431 | .098088 |
| .56 | .10081 | .10360 | .10646 | .10938 | .11237 | .11544 | .11858 | .12179 | .12508 | .12845 |
| .57 | .13190 | .13543 | .13904 | .14274 | .14652 | .15039 | .15435 | .15840 | .16254 | .16678 |
| .58 | .17112 | .17555 | .18008 | .18471 | .18945 | .19430 | .19926 | .20433 | .20951 | .21480 |
| .59 | .22021 | .22574 | .23139 | .23716 | .24306 | .24908 | .25524 | .26153 | .26795 | .27451 |

TABLE I. Vapor pressure of He⁴ (1958 scale) in microns (10⁻³ mm) mercury at 0° C and standard gravity (980.665 cm/sec²)—Con.

| T°K | 0.000 | 0.001 | 0.002 | 0.003 | 0.004 | 0.005 | 0.006 | 0.007 | 0.008 | 0.009 |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0.60 | 0.28121 | 0.28805 | 0.29504 | 0.30218 | 0.30947 | 0.31691 | 0.32450 | 0.33225 | 0.34017 | 0.34825 |
| .61 | .35649 | .36490 | .37349 | .38225 | .39120 | .40032 | .40963 | .41912 | .42881 | .43869 |
| .62 | .44877 | .45905 | .46953 | .48023 | .49113 | .50225 | .51358 | .52514 | .53692 | .54894 |
| .63 | .56118 | .57366 | .58638 | .59935 | .61256 | .62603 | .63975 | .65374 | .66799 | .68250 |
| .64 | .69729 | .71236 | .72771 | .74334 | .75926 | .77548 | .79200 | .80882 | .82595 | .84340 |
| .65 | .86116 | .87925 | .89766 | .91641 | .93550 | .95493 | .97471 | .99484 | 1.0153 | 1.0362 |
| .66 | 1.0574 | 1.1033 | 1.1501 | 1.1977 | 1.2461 | 1.2952 | 1.3450 | 1.3955 | 1.4467 | 1.4986 |
| .67 | 1.2911 | 1.3168 | 1.3429 | 1.3694 | 1.3964 | 1.4238 | 1.4518 | 1.4802 | 1.5090 | 1.5384 |
| .68 | 1.5682 | 1.5985 | 1.6293 | 1.6607 | 1.6925 | 1.7249 | 1.7578 | 1.7913 | 1.8253 | 1.8598 |
| .69 | 1.8949 | 1.9306 | 1.9669 | 2.0037 | 2.0412 | 2.0792 | 2.1179 | 2.1571 | 2.1970 | 2.2375 |
| .70 | 2.2787 | 2.3205 | 2.3629 | 2.4061 | 2.4499 | 2.4944 | 2.5395 | 2.5853 | 2.6319 | 2.6792 |
| .71 | 2.7272 | 2.7760 | 2.8255 | 2.8757 | 2.9267 | 2.9785 | 3.0311 | 3.0845 | 3.1386 | 3.1936 |
| .72 | 3.2494 | 3.3060 | 3.3635 | 3.4218 | 3.4810 | 3.5411 | 3.6021 | 3.6639 | 3.7266 | 3.7903 |
| .73 | 3.8549 | 3.9204 | 3.9869 | 4.0544 | 4.1228 | 4.1922 | 4.2626 | 4.3340 | 4.4064 | 4.4798 |
| .74 | 4.5543 | 4.6298 | 4.7064 | 4.7841 | 4.8629 | 4.9428 | 5.0238 | 5.1059 | 5.1891 | 5.2735 |
| .75 | 5.3591 | 5.4459 | 5.5338 | 5.6230 | 5.7134 | 5.8050 | 5.8978 | 5.9919 | 6.0873 | 6.1840 |
| .76 | 6.2820 | 6.3813 | 6.4819 | 6.5839 | 6.6872 | 6.7919 | 6.8980 | 7.0055 | 7.1144 | 7.2247 |
| .77 | 7.3365 | 7.4498 | 7.5645 | 7.6807 | 7.7985 | 7.9178 | 8.0386 | 8.1610 | 8.2849 | 8.4104 |
| .78 | 8.5376 | 8.6664 | 8.7968 | 8.9289 | 9.0627 | 9.1981 | 9.3352 | 9.4741 | 9.6149 | 9.7571 |
| .79 | 9.9013 | 10.047 | 10.195 | 10.345 | 10.496 | 10.650 | 10.805 | 10.962 | 11.121 | 11.282 |
| .80 | 11.445 | 11.610 | 11.777 | 11.946 | 12.117 | 12.290 | 12.465 | 12.642 | 12.822 | 13.003 |
| .81 | 13.187 | 13.373 | 13.561 | 13.751 | 13.944 | 14.138 | 14.335 | 14.535 | 14.737 | 14.941 |
| .82 | 15.147 | 15.356 | 15.567 | 15.781 | 15.997 | 16.216 | 16.437 | 16.661 | 16.887 | 17.116 |
| .83 | 17.348 | 17.582 | 17.819 | 18.058 | 18.300 | 18.545 | 18.793 | 19.043 | 19.296 | 19.552 |
| .84 | 19.811 | 20.073 | 20.337 | 20.605 | 20.875 | 21.149 | 21.425 | 21.704 | 21.987 | 22.272 |
| .85 | 22.561 | 22.853 | 23.148 | 23.446 | 23.747 | 24.052 | 24.360 | 24.671 | 24.985 | 25.303 |
| .86 | 25.024 | 25.498 | 26.076 | 26.668 | 27.274 | 27.893 | 28.525 | 29.170 | 29.828 | 30.500 |
| .87 | 29.027 | 29.387 | 29.751 | 30.119 | 30.490 | 30.865 | 31.245 | 31.628 | 32.014 | 32.405 |
| .88 | 32.800 | 33.199 | 33.602 | 34.009 | 34.420 | 34.835 | 35.254 | 35.678 | 36.106 | 36.538 |
| .89 | 36.974 | 37.860 | 38.763 | 38.309 | 38.763 | 39.221 | 39.684 | 40.151 | 40.623 | 41.100 |
| .90 | 41.581 | 42.067 | 42.557 | 43.053 | 43.553 | 44.058 | 44.568 | 45.082 | 45.602 | 46.126 |
| .91 | 46.656 | 47.191 | 47.730 | 48.275 | 48.825 | 49.380 | 49.940 | 50.505 | 51.076 | 51.652 |
| .92 | 52.234 | 52.821 | 53.414 | 54.012 | 54.615 | 55.224 | 55.839 | 56.459 | 57.085 | 57.717 |
| .93 | 58.355 | 58.999 | 59.648 | 60.303 | 60.964 | 61.632 | 62.305 | 62.984 | 63.670 | 64.361 |
| .94 | 65.059 | 65.763 | 66.473 | 67.190 | 67.913 | 68.642 | 69.378 | 70.120 | 70.869 | 71.624 |
| .95 | 72.386 | 73.155 | 73.930 | 74.713 | 75.502 | 76.298 | 77.101 | 77.910 | 78.727 | 79.551 |
| .96 | 80.382 | 81.220 | 82.066 | 82.918 | 83.778 | 84.645 | 85.520 | 86.402 | 87.291 | 88.188 |
| .97 | 89.093 | 90.005 | 90.925 | 91.853 | 92.789 | 93.732 | 94.683 | 95.642 | 96.609 | 97.584 |
| .98 | 98.567 | 99.558 | 100.557 | 101.565 | 102.581 | 103.605 | 104.638 | 105.679 | 106.728 | 107.786 |
| .99 | 108.853 | 109.928 | 111.012 | 112.104 | 113.205 | 114.315 | 115.434 | 116.562 | 117.699 | 118.845 |
| 1.00 | 120.000 | 121.165 | 122.339 | 123.523 | 124.716 | 125.918 | 127.129 | 128.350 | 129.580 | 130.820 |
| 1.01 | 132.070 | 133.330 | 134.600 | 135.880 | 137.169 | 138.468 | 139.778 | 141.097 | 142.427 | 143.766 |
| 1.02 | 145.116 | 146.477 | 147.848 | 149.230 | 150.622 | 152.025 | 153.438 | 154.862 | 156.297 | 157.742 |
| 1.03 | 159.198 | 160.666 | 162.145 | 163.634 | 165.135 | 166.647 | 168.170 | 169.704 | 171.250 | 172.806 |
| 1.04 | 174.375 | 175.956 | 177.548 | 179.152 | 180.768 | 182.395 | 184.035 | 185.686 | 187.349 | 189.024 |
| 1.05 | 190.711 | 192.412 | 194.124 | 195.849 | 197.587 | 199.336 | 201.098 | 202.874 | 204.661 | 206.461 |
| 1.06 | 208.274 | 210.101 | 211.941 | 213.794 | 215.660 | 217.538 | 219.431 | 221.335 | 223.255 | 225.187 |
| 1.07 | 227.132 | 229.092 | 231.065 | 233.052 | 235.053 | 237.068 | 239.096 | 241.138 | 243.195 | 245.265 |
| 1.08 | 247.350 | 249.450 | 251.565 | 253.694 | 255.838 | 257.995 | 260.168 | 262.355 | 264.557 | 266.774 |
| 1.09 | 269.006 | 271.254 | 273.516 | 275.794 | 278.087 | 280.396 | 282.719 | 285.058 | 287.413 | 289.783 |
| 1.10 | 292.169 | 294.572 | 296.991 | 299.426 | 301.877 | 304.344 | 306.828 | 309.327 | 311.843 | 314.375 |
| 1.11 | 316.923 | 319.489 | 322.072 | 324.671 | 327.287 | 329.920 | 332.570 | 335.237 | 337.921 | 340.622 |
| 1.12 | 343.341 | 346.079 | 348.834 | 351.606 | 354.397 | 357.205 | 360.030 | 362.874 | 365.735 | 368.614 |
| 1.13 | 371.512 | 374.429 | 377.364 | 380.318 | 383.290 | 386.280 | 389.290 | 392.317 | 395.364 | 398.430 |
| 1.14 | 401.514 | 404.619 | 407.744 | 410.887 | 414.050 | 417.232 | 420.434 | 423.655 | 426.896 | 430.156 |
| 1.15 | 433.437 | 436.739 | 440.060 | 443.402 | 446.764 | 450.146 | 453.549 | 456.972 | 460.416 | 463.880 |
| 1.16 | 467.365 | 470.873 | 474.402 | 477.951 | 481.522 | 485.114 | 488.728 | 492.363 | 496.019 | 499.697 |
| 1.17 | 503.396 | 507.118 | 510.863 | 514.630 | 518.418 | 522.229 | 526.062 | 529.917 | 533.794 | 537.694 |
| 1.18 | 541.617 | 545.564 | 549.535 | 553.528 | 557.544 | 561.583 | 565.645 | 569.731 | 573.840 | 577.972 |
| 1.19 | 582.129 | 586.310 | 590.515 | 594.744 | 598.998 | 603.275 | 607.576 | 611.901 | 616.251 | 620.626 |
| 1.20 | 625.025 | 629.450 | 633.901 | 638.377 | 642.877 | 647.403 | 651.954 | 656.520 | 661.131 | 665.758 |
| 1.21 | 670.411 | 675.091 | 679.797 | 684.529 | 689.287 | 694.071 | 698.881 | 703.717 | 708.580 | 713.470 |
| 1.22 | 718.386 | 723.331 | 728.303 | 733.301 | 738.327 | 743.380 | 748.461 | 753.569 | 758.704 | 763.866 |
| 1.23 | 769.057 | 774.277 | 779.525 | 784.801 | 790.105 | 795.437 | 800.798 | 806.187 | 811.605 | 817.052 |
| 1.24 | 822.527 | 828.033 | 833.569 | 839.135 | 844.730 | 850.353 | 856.006 | 861.689 | 867.402 | 873.144 |
| 1.25 | 878.916 | 884.720 | 890.555 | 896.420 | 902.315 | 908.241 | 914.197 | 920.184 | 926.202 | 932.250 |
| 1.26 | 938.330 | 944.442 | 950.585 | 956.759 | 962.965 | 969.203 | 975.473 | 981.774 | 988.107 | 994.472 |
| 1.27 | 1090.87 | 1097.30 | 1103.77 | 1110.27 | 1116.80 | 1123.36 | 1129.95 | 1136.58 | 1143.24 | 1149.94 |
| 1.28 | 1066.67 | 1073.44 | 1080.24 | 1087.07 | 1093.93 | 1100.83 | 1107.77 | 1114.74 | 1121.74 | 1128.78 |
| 1.29 | 1135.85 | 1142.96 | 1150.10 | 1157.28 | 1164.49 | 1171.74 | 1179.02 | 1186.34 | 1193.69 | 1201.08 |

TABLE I. Vapor pressure of He⁴ (1958 scale) in micron (10⁻³ mm) mercury at 0° C and standard gravity (980.665 cm/sec²)—Con.

| T°K | 0.000 | 0.001 | 0.002 | 0.003 | 0.004 | 0.005 | 0.006 | 0.007 | 0.008 | 0.009 |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1.30 | 1208.51 | 1215.98 | 1223.48 | 1231.02 | 1238.59 | 1246.20 | 1253.85 | 1261.54 | 1269.26 | 1277.02 |
| 1.31 | 1284.81 | 1292.64 | 1300.51 | 1308.42 | 1316.37 | 1324.35 | 1332.37 | 1340.43 | 1348.53 | 1356.66 |
| 1.32 | 1364.83 | 1373.04 | 1381.30 | 1389.59 | 1397.92 | 1406.29 | 1414.70 | 1423.15 | 1431.64 | 1440.16 |
| 1.33 | 1448.73 | 1457.34 | 1465.98 | 1474.67 | 1483.40 | 1492.17 | 1500.97 | 1509.82 | 1518.71 | 1527.64 |
| 1.34 | 1536.61 | 1545.62 | 1554.68 | 1563.78 | 1572.91 | 1582.09 | 1591.31 | 1600.57 | 1609.88 | 1619.23 |
| 1.35 | 1628.62 | 1638.06 | 1647.54 | 1657.06 | 1666.62 | 1676.23 | 1685.88 | 1695.57 | 1705.31 | 1715.09 |
| 1.36 | 1724.91 | 1734.78 | 1744.69 | 1754.65 | 1764.65 | 1774.69 | 1784.78 | 1794.91 | 1805.09 | 1815.31 |
| 1.37 | 1825.58 | 1835.90 | 1846.26 | 1856.66 | 1867.11 | 1877.61 | 1888.16 | 1898.75 | 1909.38 | 1920.06 |
| 1.38 | 1930.79 | 1941.57 | 1952.39 | 1963.26 | 1974.18 | 1985.14 | 1996.15 | 2007.21 | 2018.32 | 2029.47 |
| 1.39 | 2040.67 | 2051.92 | 2063.22 | 2074.57 | 2085.96 | 2097.40 | 2108.89 | 2120.43 | 2132.02 | 2143.66 |
| 1.40 | 2155.35 | 2167.09 | 2178.88 | 2190.72 | 2202.61 | 2214.54 | 2226.53 | 2238.57 | 2250.66 | 2262.80 |
| 1.41 | 2274.99 | 2287.23 | 2299.52 | 2311.87 | 2324.27 | 2336.72 | 2349.22 | 2361.77 | 2374.37 | 2387.02 |
| 1.42 | 2399.73 | 2412.49 | 2425.30 | 2438.17 | 2451.09 | 2464.06 | 2477.09 | 2490.17 | 2503.30 | 2516.48 |
| 1.43 | 2529.72 | 2543.01 | 2556.36 | 2569.76 | 2583.21 | 2596.72 | 2610.29 | 2623.91 | 2637.58 | 2651.31 |
| 1.44 | 2665.09 | 2678.93 | 2692.82 | 2706.77 | 2720.78 | 2734.84 | 2748.96 | 2763.13 | 2777.36 | 2791.65 |
| 1.45 | 2805.99 | 2820.39 | 2834.85 | 2849.37 | 2863.95 | 2878.58 | 2893.27 | 2908.02 | 2922.82 | 2937.68 |
| 1.46 | 2952.60 | 2967.58 | 2982.62 | 2997.72 | 3012.88 | 3028.09 | 3043.36 | 3058.69 | 3074.08 | 3089.53 |
| 1.47 | 3105.04 | 3120.61 | 3136.24 | 3151.94 | 3167.69 | 3183.50 | 3199.37 | 3215.30 | 3231.30 | 3247.36 |
| 1.48 | 3263.48 | 3279.66 | 3295.90 | 3312.20 | 3328.57 | 3345.00 | 3361.49 | 3378.04 | 3394.65 | 3411.33 |
| 1.49 | 3428.07 | 3444.87 | 3461.74 | 3478.67 | 3495.66 | 3512.72 | 3529.84 | 3547.03 | 3564.28 | 3581.59 |
| 1.50 | 3598.97 | 3616.41 | 3633.92 | 3651.49 | 3669.13 | 3686.83 | 3704.60 | 3722.43 | 3740.33 | 3758.29 |
| 1.51 | 3776.32 | 3794.42 | 3812.59 | 3830.82 | 3849.12 | 3867.49 | 3885.92 | 3904.42 | 3922.99 | 3941.62 |
| 1.52 | 3960.32 | 3979.09 | 3997.93 | 4016.83 | 4035.80 | 4054.84 | 4073.95 | 4093.12 | 4112.37 | 4131.69 |
| 1.53 | 4151.07 | 4170.52 | 4190.05 | 4209.65 | 4229.32 | 4249.06 | 4268.87 | 4288.74 | 4308.68 | 4328.70 |
| 1.54 | 4348.79 | 4368.95 | 4389.17 | 4409.47 | 4429.84 | 4450.28 | 4470.80 | 4491.39 | 4512.05 | 4532.78 |
| 1.55 | 4553.58 | 4574.46 | 4595.41 | 4616.44 | 4637.54 | 4658.71 | 4679.96 | 4701.28 | 4722.67 | 4744.14 |
| 1.56 | 4765.68 | 4787.29 | 4808.98 | 4830.74 | 4852.58 | 4874.49 | 4896.48 | 4918.54 | 4940.68 | 4962.89 |
| 1.57 | 4985.18 | 5029.54 | 5073.98 | 5118.50 | 5163.09 | 5207.76 | 5252.51 | 5297.33 | 5342.23 | 5387.21 |
| 1.58 | 5212.26 | 5235.39 | 5258.60 | 5281.89 | 5305.26 | 5328.71 | 5352.23 | 5375.83 | 5399.51 | 5423.27 |
| 1.59 | 5447.11 | 5471.03 | 5495.02 | 5519.10 | 5543.26 | 5567.49 | 5591.81 | 5616.21 | 5640.68 | 5665.24 |
| 1.60 | 5689.88 | 5714.60 | 5739.40 | 5764.28 | 5789.25 | 5814.30 | 5839.42 | 5864.63 | 5889.92 | 5915.30 |
| 1.61 | 5940.76 | 5966.30 | 5991.92 | 6017.62 | 6043.41 | 6069.28 | 6095.24 | 6121.28 | 6147.40 | 6173.61 |
| 1.62 | 6199.90 | 6226.27 | 6252.72 | 6279.26 | 6305.88 | 6332.59 | 6359.39 | 6386.27 | 6413.23 | 6440.28 |
| 1.63 | 6467.42 | 6494.64 | 6521.95 | 6549.35 | 6576.84 | 6604.41 | 6632.07 | 6659.81 | 6687.64 | 6715.56 |
| 1.64 | 6743.57 | 6771.66 | 6799.84 | 6828.11 | 6856.47 | 6884.91 | 6913.44 | 6942.07 | 6970.78 | 6999.58 |
| 1.65 | 7028.47 | 7057.45 | 7086.52 | 7115.67 | 7144.92 | 7174.26 | 7203.69 | 7233.21 | 7262.82 | 7292.52 |
| 1.66 | 7322.31 | 7352.19 | 7382.15 | 7412.21 | 7442.36 | 7472.60 | 7502.94 | 7533.37 | 7563.89 | 7594.50 |
| 1.67 | 7625.21 | 7656.01 | 7686.90 | 7717.88 | 7748.96 | 7780.13 | 7811.40 | 7842.76 | 7874.21 | 7905.76 |
| 1.68 | 7937.40 | 7969.13 | 8000.96 | 8032.88 | 8064.90 | 8097.01 | 8129.22 | 8161.53 | 8193.93 | 8226.43 |
| 1.69 | 8259.02 | 8291.70 | 8324.48 | 8357.36 | 8390.33 | 8423.40 | 8456.57 | 8489.84 | 8523.20 | 8556.66 |
| 1.70 | 8590.22 | 8623.87 | 8657.62 | 8691.47 | 8725.42 | 8759.47 | 8793.62 | 8827.86 | 8862.20 | 8896.64 |
| 1.71 | 8931.18 | 8965.82 | 9000.56 | 9035.40 | 9070.33 | 9105.36 | 9140.50 | 9175.74 | 9211.08 | 9246.52 |
| 1.72 | 9282.06 | 9317.70 | 9353.44 | 9389.28 | 9425.22 | 9461.26 | 9497.41 | 9533.66 | 9570.01 | 9606.46 |
| 1.73 | 9643.02 | 9679.68 | 9716.45 | 9753.32 | 9790.29 | 9827.36 | 9864.54 | 9901.82 | 9939.21 | 9976.70 |
| 1.74 | 10014.3 | 10052.0 | 10089.8 | 10127.7 | 10165.7 | 10203.8 | 10242.0 | 10280.3 | 10318.7 | 10357.3 |
| 1.75 | 10395.9 | 10434.6 | 10473.4 | 10512.4 | 10551.5 | 10590.7 | 10630.0 | 10669.4 | 10708.9 | 10748.5 |
| 1.76 | 10788.2 | 10828.0 | 10867.9 | 10907.9 | 10948.0 | 10988.3 | 11028.7 | 11069.2 | 11109.7 | 11150.4 |
| 1.77 | 11191.2 | 11232.1 | 11273.1 | 11314.2 | 11355.4 | 11396.7 | 11438.1 | 11479.7 | 11521.4 | 11563.2 |
| 1.78 | 11605.1 | 11647.1 | 11689.2 | 11731.4 | 11773.7 | 11816.1 | 11858.7 | 11901.4 | 11944.2 | 11987.1 |
| 1.79 | 12030.1 | 12073.2 | 12116.4 | 12159.7 | 12203.1 | 12246.6 | 12290.3 | 12334.1 | 12378.0 | 12422.0 |
| 1.80 | 12466.1 | 12510.3 | 12554.7 | 12599.2 | 12643.8 | 12688.5 | 12733.3 | 12778.2 | 12823.2 | 12868.4 |
| 1.81 | 12913.7 | 12959.1 | 13004.6 | 13050.2 | 13095.9 | 13141.8 | 13187.8 | 13233.9 | 13280.1 | 13326.4 |
| 1.82 | 13372.8 | 13419.3 | 13466.0 | 13512.8 | 13559.7 | 13606.7 | 13653.8 | 13701.1 | 13748.5 | 13796.0 |
| 1.83 | 13843.6 | 13891.3 | 13939.1 | 13987.1 | 14035.2 | 14083.4 | 14131.7 | 14180.1 | 14228.6 | 14277.3 |
| 1.84 | 14326.1 | 14375.0 | 14424.0 | 14473.2 | 14522.5 | 14571.9 | 14621.4 | 14671.0 | 14720.8 | 14770.7 |
| 1.85 | 14820.7 | 14870.8 | 14921.0 | 14971.4 | 15021.9 | 15072.5 | 15123.2 | 15174.0 | 15225.0 | 15276.1 |
| 1.86 | 15327.3 | 15378.6 | 15430.1 | 15481.7 | 15533.4 | 15585.2 | 15637.2 | 15689.3 | 15741.5 | 15793.8 |
| 1.87 | 15846.3 | 15898.9 | 15951.6 | 16004.4 | 16057.3 | 16110.4 | 16163.6 | 16216.9 | 16270.4 | 16324.0 |
| 1.88 | 16377.7 | 16431.5 | 16485.5 | 16539.6 | 16593.8 | 16648.1 | 16702.6 | 16757.2 | 16811.9 | 16866.7 |
| 1.89 | 16921.7 | 16976.8 | 17032.0 | 17087.3 | 17142.8 | 17198.4 | 17254.1 | 17309.9 | 17365.9 | 17422.0 |
| 1.90 | 17478.2 | 17534.6 | 17591.1 | 17647.7 | 17704.5 | 17761.4 | 17818.4 | 17875.5 | 17932.8 | 17990.2 |
| 1.91 | 18047.7 | 18105.4 | 18163.2 | 18221.1 | 18279.1 | 18337.3 | 18395.6 | 18454.0 | 18512.6 | 18571.3 |
| 1.92 | 18630.1 | 18689.0 | 18748.1 | 18807.3 | 18866.7 | 18926.2 | 18985.8 | 19045.5 | 19105.4 | 19165.4 |
| 1.93 | 19225.5 | 19285.8 | 19346.2 | 19406.7 | 19467.4 | 19528.2 | 19589.1 | 19650.1 | 19711.3 | 19772.6 |
| 1.94 | 19834.1 | 19895.7 | 19957.4 | 20019.2 | 20081.2 | 20143.3 | 20205.6 | 20268.0 | 20330.5 | 20393.1 |
| 1.95 | 20455.9 | 20518.8 | 20581.9 | 20645.1 | 20708.4 | 20771.8 | 20835.4 | 20899.1 | 20963.0 | 21027.0 |
| 1.96 | 21091.1 | 21155.4 | 21219.8 | 21284.3 | 21348.9 | 21413.7 | 21478.6 | 21543.7 | 21608.9 | 21674.2 |
| 1.97 | 21739.7 | 21805.3 | 21871.1 | 21937.0 | 22003.0 | 22069.2 | 22135.5 | 22201.9 | 22268.5 | 22335.2 |
| 1.98 | 22402.0 | 22469.0 | 22536.1 | 22603.3 | 22670.7 | 22738.2 | 22805.9 | 22873.7 | 22941.6 | 23009.7 |
| 1.99 | 23077.9 | 23146.2 | 23214.7 | 23283.3 | 23352.1 | 23421.0 | 23490.0 | 23559.1 | 23628.4 | 23697.8 |

TABLE I. Vapor pressure of He⁴ (1958 scale) in microns (10⁻³ mm) mercury at 0° C and standard gravity (980.665 cm/sec²)—Con.

| T°K | 0.000 | 0.001 | 0.002 | 0.003 | 0.004 | 0.005 | 0.006 | 0.007 | 0.008 | 0.009 |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 2.00 | 23767.4 | 23837.1 | 23907.0 | 23977.0 | 24047.2 | 24117.5 | 24187.9 | 24258.4 | 24329.1 | 24399.9 |
| 2.01 | 24470.9 | 24542.0 | 24613.2 | 24684.6 | 24756.1 | 24827.8 | 24899.6 | 24971.5 | 25043.6 | 25115.8 |
| 2.02 | 25188.1 | 25260.6 | 25333.2 | 25406.0 | 25478.9 | 25551.9 | 25625.1 | 25698.4 | 25771.9 | 25845.5 |
| 2.03 | 25919.2 | 25993.1 | 26067.1 | 26141.3 | 26215.6 | 26290.0 | 26364.6 | 26439.3 | 26514.1 | 26589.1 |
| 2.04 | 26664.2 | 26739.5 | 26814.9 | 26890.5 | 26966.2 | 27042.0 | 27118.0 | 27194.1 | 27270.4 | 27346.8 |
| 2.05 | 27423.3 | 27500.0 | 27576.8 | 27653.8 | 27730.9 | 27808.1 | 27885.4 | 27962.9 | 28040.6 | 28118.4 |
| 2.06 | 28196.3 | 28274.4 | 28352.6 | 28430.9 | 28509.4 | 28588.0 | 28666.8 | 28745.7 | 28824.7 | 28903.9 |
| 2.07 | 28983.2 | 29062.7 | 29142.3 | 29222.1 | 29302.0 | 29382.0 | 29462.2 | 29542.5 | 29622.9 | 29703.5 |
| 2.08 | 29784.1 | 29865.1 | 29946.1 | 30027.2 | 30108.5 | 30189.9 | 30271.5 | 30353.2 | 30435.0 | 30517.0 |
| 2.09 | 30599.1 | 30681.4 | 30763.8 | 30846.4 | 30929.2 | 31011.9 | 31094.9 | 31178.0 | 31261.2 | 31344.6 |
| 2.10 | 31428.1 | 31511.8 | 31595.6 | 31679.6 | 31763.7 | 31847.9 | 31932.3 | 32016.8 | 32101.4 | 32186.2 |
| 2.11 | 32271.1 | 32356.2 | 32441.4 | 32526.8 | 32612.3 | 32697.9 | 32783.6 | 32869.5 | 32955.5 | 33041.7 |
| 2.12 | 33128.0 | 33214.5 | 33301.1 | 33387.8 | 33474.6 | 33561.6 | 33648.7 | 33736.0 | 33823.4 | 33910.9 |
| 2.13 | 33998.6 | 34086.4 | 34174.4 | 34262.5 | 34350.7 | 34439.0 | 34527.5 | 34616.1 | 34704.9 | 34793.8 |
| 2.14 | 34882.8 | 34971.9 | 35061.2 | 35150.6 | 35240.2 | 35329.9 | 35419.7 | 35509.7 | 35599.8 | 35690.0 |
| 2.15 | 35780.3 | 35870.7 | 35961.3 | 36052.0 | 36142.9 | 36233.9 | 36325.0 | 36416.3 | 36507.7 | 36599.2 |
| 2.16 | 36690.9 | 36782.7 | 36874.6 | 36966.6 | 37058.8 | 37151.1 | 37243.5 | 37336.0 | 37428.6 | 37521.4 |
| 2.17 | 37614.3 | 37707.4 | 37800.6 | 37893.9 | 37987.3 | 38080.8 | 38174.4 | 38268.1 | 38362.0 | 38456.0 |
| 2.18 | 38550.2 | 38644.5 | 38739.0 | 38833.6 | 38928.4 | 39023.3 | 39118.4 | 39213.6 | 39309.0 | 39404.6 |
| 2.19 | 39500.3 | 39596.2 | 39692.2 | 39788.3 | 39884.6 | 39981.0 | 40077.6 | 40174.4 | 40271.3 | 40368.4 |
| 2.20 | 40465.6 | 40563.0 | 40660.5 | 40758.2 | 40856.0 | 40954.0 | 41052.2 | 41150.6 | 41249.1 | 41347.8 |
| 2.21 | 41446.6 | 41545.6 | 41644.7 | 41744.0 | 41843.4 | 41943.0 | 42042.8 | 42142.7 | 42242.8 | 42343.1 |
| 2.22 | 42443.5 | 42544.1 | 42644.8 | 42745.7 | 42846.8 | 42948.0 | 43049.4 | 43150.9 | 43252.6 | 43354.5 |
| 2.23 | 43456.5 | 43558.7 | 43661.0 | 43763.5 | 43866.2 | 43969.0 | 44072.0 | 44175.2 | 44278.5 | 44382.0 |
| 2.24 | 44485.7 | 44589.5 | 44693.5 | 44797.6 | 44901.9 | 45006.4 | 45111.0 | 45215.8 | 45320.8 | 45426.0 |
| 2.25 | 45531.3 | 45636.8 | 45742.4 | 45848.2 | 45954.1 | 46060.2 | 46166.5 | 46273.0 | 46379.7 | 46486.5 |
| 2.26 | 46593.5 | 46700.6 | 46807.9 | 46915.4 | 47023.0 | 47130.8 | 47238.8 | 47347.0 | 47455.3 | 47563.8 |
| 2.27 | 47672.5 | 47781.3 | 47890.3 | 47999.5 | 48108.9 | 48218.4 | 48328.1 | 48438.0 | 48548.0 | 48658.2 |
| 2.28 | 48768.6 | 48879.2 | 48989.9 | 49100.8 | 49211.8 | 49323.0 | 49434.4 | 49546.0 | 49657.8 | 49769.7 |
| 2.29 | 49881.8 | 49994.1 | 50106.5 | 50219.1 | 50331.9 | 50444.9 | 50558.0 | 50671.3 | 50784.8 | 50898.5 |
| 2.30 | 51012.3 | 51126.3 | 51240.5 | 51354.8 | 51469.3 | 51584.0 | 51698.9 | 51814.0 | 51929.2 | 52044.6 |
| 2.31 | 52160.2 | 52276.0 | 52391.9 | 52508.0 | 52624.3 | 52740.8 | 52857.4 | 52974.2 | 53091.2 | 53208.4 |
| 2.32 | 53325.8 | 53443.3 | 53561.0 | 53678.9 | 53797.0 | 53915.3 | 54033.7 | 54152.3 | 54271.1 | 54390.1 |
| 2.33 | 54509.2 | 54628.5 | 54748.0 | 54867.7 | 54987.6 | 55107.6 | 55227.8 | 55348.2 | 55468.8 | 55589.6 |
| 2.34 | 55710.5 | 55831.6 | 55952.9 | 56074.4 | 56196.1 | 56318.0 | 56440.0 | 56562.2 | 56684.6 | 56807.2 |
| 2.35 | 56930.0 | 57053.0 | 57176.1 | 57299.4 | 57422.9 | 57546.6 | 57670.5 | 57794.6 | 57918.8 | 58043.2 |
| 2.36 | 58167.8 | 58292.6 | 58417.5 | 58542.6 | 58668.0 | 58793.5 | 58919.2 | 59045.0 | 59171.1 | 59297.4 |
| 2.37 | 59423.8 | 59550.5 | 59677.3 | 59804.3 | 59931.5 | 60058.9 | 60186.5 | 60314.3 | 60442.3 | 60570.5 |
| 2.38 | 60698.8 | 60827.3 | 60955.9 | 61084.7 | 61213.8 | 61343.1 | 61472.5 | 61602.1 | 61731.9 | 61861.9 |
| 2.39 | 61992.0 | 62122.4 | 62253.0 | 62383.7 | 62514.6 | 62645.8 | 62777.1 | 62908.6 | 63040.3 | 63172.2 |
| 2.40 | 63304.3 | 63436.5 | 63569.0 | 63701.6 | 63834.4 | 63967.4 | 64100.5 | 64233.9 | 64367.5 | 64501.2 |
| 2.41 | 64635.2 | 64769.4 | 64903.7 | 65038.2 | 65173.0 | 65307.9 | 65443.0 | 65578.3 | 65713.8 | 65849.5 |
| 2.42 | 65985.4 | 66121.5 | 66257.7 | 66394.2 | 66530.8 | 66667.7 | 66804.7 | 66941.9 | 67079.4 | 67217.0 |
| 2.43 | 67354.8 | 67492.8 | 67631.0 | 67769.4 | 67907.9 | 68046.7 | 68185.7 | 68324.8 | 68464.2 | 68603.7 |
| 2.44 | 68743.5 | 68883.3 | 69023.6 | 69164.0 | 69304.5 | 69445.3 | 69586.2 | 69727.4 | 69868.7 | 70010.3 |
| 2.45 | 70152.0 | 70294.0 | 70436.1 | 70578.4 | 70721.0 | 70863.7 | 71006.6 | 71149.7 | 71293.0 | 71436.5 |
| 2.46 | 71580.2 | 71724.1 | 71868.2 | 72012.5 | 72157.0 | 72301.6 | 72446.5 | 72591.6 | 72736.9 | 72882.4 |
| 2.47 | 73028.1 | 73174.0 | 73320.1 | 73466.4 | 73612.8 | 73759.5 | 73906.4 | 74053.5 | 74200.8 | 74348.3 |
| 2.48 | 74496.0 | 74643.9 | 74792.0 | 74940.3 | 75088.8 | 75237.6 | 75386.5 | 75535.6 | 75684.8 | 75834.5 |
| 2.49 | 75984.2 | 76134.2 | 76284.3 | 76434.7 | 76585.3 | 76736.1 | 76887.1 | 77038.3 | 77189.7 | 77341.3 |
| 2.50 | 77493.1 | 77645.1 | 77797.3 | 77949.7 | 78102.3 | 78255.1 | 78408.1 | 78561.3 | 78714.7 | 78868.4 |
| 2.51 | 79022.2 | 79176.3 | 79330.5 | 79485.0 | 79639.7 | 79794.6 | 79949.7 | 80105.0 | 80260.5 | 80416.3 |
| 2.52 | 80572.2 | 80728.3 | 80884.7 | 81041.2 | 81198.0 | 81354.9 | 81512.1 | 81669.5 | 81827.1 | 81984.9 |
| 2.53 | 82142.9 | 82301.1 | 82459.6 | 82618.2 | 82777.1 | 82936.1 | 83095.4 | 83254.9 | 83414.6 | 83574.5 |
| 2.54 | 83734.6 | 83894.9 | 84055.4 | 84216.2 | 84377.1 | 84538.3 | 84699.6 | 84861.2 | 85023.0 | 85185.0 |
| 2.55 | 85347.2 | 85509.6 | 85672.3 | 85835.2 | 85998.2 | 86161.5 | 86325.0 | 86488.7 | 86652.7 | 86816.8 |
| 2.56 | 86981.2 | 87145.8 | 87310.6 | 87475.6 | 87640.8 | 87806.3 | 87971.9 | 88137.8 | 88303.9 | 88470.2 |
| 2.57 | 88636.7 | 88803.4 | 88970.4 | 89137.6 | 89304.9 | 89472.5 | 89640.3 | 89808.4 | 89976.7 | 90145.1 |
| 2.58 | 90313.8 | 90482.7 | 90651.8 | 90821.2 | 90990.8 | 91160.5 | 91330.5 | 91500.7 | 91671.1 | 91841.8 |
| 2.59 | 92012.6 | 92183.7 | 92355.0 | 92526.6 | 92698.3 | 92870.3 | 93042.5 | 93214.9 | 93387.5 | 93560.3 |
| 2.60 | 93733.4 | 93906.7 | 94080.2 | 94253.9 | 94427.8 | 94602.0 | 94776.3 | 94950.9 | 95125.7 | 95300.8 |
| 2.61 | 95476.0 | 95651.5 | 95827.2 | 96003.1 | 96179.3 | 96355.6 | 96532.2 | 96709.0 | 96886.1 | 97063.3 |
| 2.62 | 97240.8 | 97418.5 | 97596.5 | 97774.7 | 97953.1 | 98131.7 | 98310.6 | 98489.6 | 98668.9 | 98848.5 |
| 2.63 | 99028.2 | 99208.2 | 99388.4 | 99568.8 | 99749.4 | 99930.3 | 100111 | 100293 | 100474 | 100656 |
| 2.64 | 100838 | 101020 | 101202 | 101385 | 101568 | 101751 | 101934 | 102117 | 102301 | 102485 |
| 2.65 | 102669 | 102854 | 103038 | 103223 | 103409 | 103594 | 103780 | 103966 | 104152 | 104338 |
| 2.66 | 104525 | 104712 | 104899 | 105086 | 105273 | 105461 | 105649 | 105837 | 106026 | 106214 |
| 2.67 | 106403 | 106592 | 106781 | 106971 | 107161 | 107351 | 107541 | 107731 | 107922 | 108113 |
| 2.68 | 108304 | 108495 | 108687 | 108879 | 109071 | 109263 | 109456 | 109648 | 109841 | 110035 |
| 2.69 | 110228 | 110422 | 110616 | 110810 | 111004 | 111199 | 111393 | 111588 | 111784 | 111979 |

TABLE I. Vapor pressure of He⁴ (1958 scale) in microns (10^{-3} mm) mercury at 0° C and standard gravity (980.665 cm/sec²)—Con.

| T°K | 0.000 | 0.001 | 0.002 | 0.003 | 0.004 | 0.005 | 0.006 | 0.007 | 0.008 | 0.009 |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 2.70 | 112175 | 112371 | 112567 | 112764 | 112960 | 113157 | 113354 | 113552 | 113749 | 113947 |
| 2.71 | 114145 | 114343 | 114542 | 114741 | 114940 | 115139 | 115339 | 115538 | 115738 | 115939 |
| 2.72 | 116139 | 116340 | 116541 | 116742 | 116943 | 117145 | 117346 | 117546 | 117748 | 117951 |
| 2.73 | 118156 | 118359 | 118562 | 118766 | 118970 | 119174 | 119378 | 119583 | 119788 | 119993 |
| 2.74 | 120198 | 120403 | 120609 | 120815 | 121021 | 121228 | 121434 | 121641 | 121848 | 122055 |
| 2.75 | 122263 | 122471 | 122679 | 122887 | 123096 | 123305 | 123514 | 123723 | 123933 | 124143 |
| 2.76 | 124353 | 124563 | 124773 | 124984 | 125195 | 125406 | 125617 | 125829 | 126041 | 126253 |
| 2.77 | 126465 | 126678 | 126891 | 127104 | 127317 | 127531 | 127745 | 127959 | 128173 | 128388 |
| 2.78 | 128603 | 128818 | 129033 | 129249 | 129465 | 129681 | 129897 | 130114 | 130331 | 130548 |
| 2.79 | 130765 | 130983 | 131200 | 131419 | 131637 | 131855 | 132074 | 132293 | 132513 | 132732 |
| 2.80 | 132952 | 133172 | 133392 | 133613 | 133834 | 134055 | 134276 | 134498 | 134720 | 134942 |
| 2.81 | 135164 | 135387 | 135609 | 135832 | 136056 | 136279 | 136503 | 136727 | 136952 | 137176 |
| 2.82 | 137401 | 137626 | 137851 | 138077 | 138303 | 138529 | 138755 | 138982 | 139209 | 139436 |
| 2.83 | 139663 | 139890 | 140118 | 140346 | 140574 | 140803 | 141032 | 141261 | 141490 | 141719 |
| 2.84 | 141949 | 142179 | 142409 | 142640 | 142870 | 143101 | 143333 | 143564 | 143796 | 144028 |
| 2.85 | 144260 | 144493 | 144725 | 144958 | 145192 | 145425 | 145659 | 145893 | 146128 | 146362 |
| 2.86 | 146597 | 146832 | 147068 | 147304 | 147540 | 147776 | 148012 | 148249 | 148486 | 148723 |
| 2.87 | 148961 | 149199 | 149437 | 149675 | 149913 | 150152 | 150391 | 150630 | 150869 | 151109 |
| 2.88 | 151349 | 151589 | 151830 | 152070 | 152312 | 152553 | 152794 | 153036 | 153278 | 153520 |
| 2.89 | 153763 | 154006 | 154249 | 154493 | 154736 | 154980 | 155224 | 155469 | 155714 | 155959 |
| 2.90 | 156204 | 156450 | 156695 | 156941 | 157188 | 157434 | 157681 | 157928 | 158176 | 158423 |
| 2.91 | 158671 | 158919 | 159168 | 159416 | 159665 | 159914 | 160164 | 160413 | 160663 | 160914 |
| 2.92 | 161164 | 161415 | 161666 | 161917 | 162169 | 162421 | 162673 | 162925 | 163178 | 163431 |
| 2.93 | 163684 | 163937 | 164191 | 164445 | 164699 | 164954 | 165208 | 165463 | 165719 | 165974 |
| 2.94 | 166230 | 166486 | 166742 | 166999 | 167256 | 167513 | 167770 | 168028 | 168285 | 168544 |
| 2.95 | 168802 | 169061 | 169320 | 169579 | 169839 | 170099 | 170359 | 170619 | 170878 | 171141 |
| 2.96 | 171402 | 171663 | 171925 | 172187 | 172449 | 172712 | 172974 | 173237 | 173501 | 173764 |
| 2.97 | 174028 | 174292 | 174557 | 174821 | 175086 | 175352 | 175617 | 175883 | 176149 | 176415 |
| 2.98 | 176682 | 176949 | 177216 | 177484 | 177752 | 178020 | 178288 | 178557 | 178825 | 179095 |
| 2.99 | 179364 | 179634 | 179904 | 180174 | 180444 | 180715 | 180986 | 181257 | 181529 | 181801 |
| 3.00 | 182073 | 182345 | 182618 | 182891 | 183164 | 183438 | 183712 | 183986 | 184260 | 184535 |
| 3.01 | 184810 | 185085 | 185361 | 185636 | 185912 | 186189 | 186465 | 186742 | 187019 | 187296 |
| 3.02 | 187574 | 187852 | 188130 | 188409 | 188687 | 188967 | 189246 | 189525 | 189805 | 190086 |
| 3.03 | 190366 | 190647 | 190928 | 191209 | 191491 | 191773 | 192055 | 192338 | 192621 | 192904 |
| 3.04 | 193187 | 193471 | 193755 | 194039 | 194324 | 194608 | 194894 | 195179 | 195465 | 195751 |
| 3.05 | 196037 | 196323 | 196610 | 196897 | 197184 | 197472 | 197760 | 198048 | 198336 | 198625 |
| 3.06 | 198914 | 199203 | 199492 | 199783 | 200073 | 200363 | 200654 | 200945 | 201237 | 201528 |
| 3.07 | 201820 | 202112 | 202405 | 202697 | 202991 | 203284 | 203578 | 203871 | 204166 | 204460 |
| 3.08 | 204755 | 205050 | 205346 | 205641 | 205937 | 206233 | 206530 | 206827 | 207124 | 207421 |
| 3.09 | 207719 | 208017 | 208315 | 208614 | 208912 | 209211 | 209511 | 209810 | 210110 | 210411 |
| 3.10 | 210711 | 211012 | 211313 | 211614 | 211916 | 212218 | 212520 | 212823 | 213125 | 213429 |
| 3.11 | 213732 | 214036 | 214340 | 214644 | 214949 | 215254 | 215559 | 215865 | 216171 | 216477 |
| 3.12 | 216783 | 217090 | 217397 | 217704 | 218012 | 218320 | 218628 | 218937 | 219246 | 219555 |
| 3.13 | 219864 | 220174 | 220484 | 220794 | 221105 | 221416 | 221727 | 222039 | 222350 | 222663 |
| 3.14 | 222975 | 223288 | 223601 | 223914 | 224227 | 224541 | 224855 | 225170 | 225485 | 225800 |
| 3.15 | 226115 | 226431 | 226747 | 227063 | 227379 | 227696 | 228013 | 228331 | 228649 | 228967 |
| 3.16 | 229285 | 229604 | 229922 | 230242 | 230561 | 230881 | 231201 | 231521 | 231842 | 232163 |
| 3.17 | 232484 | 232806 | 233128 | 233450 | 233772 | 234095 | 234418 | 234742 | 235066 | 235390 |
| 3.18 | 235714 | 236039 | 236364 | 236689 | 237014 | 237340 | 237666 | 237993 | 238320 | 238647 |
| 3.19 | 238974 | 239302 | 239630 | 239958 | 240287 | 240616 | 240946 | 241275 | 241605 | 241935 |
| 3.20 | 242266 | 242597 | 242928 | 243259 | 243591 | 243923 | 244255 | 244588 | 244920 | 245254 |
| 3.21 | 245587 | 245920 | 246255 | 246589 | 246924 | 247259 | 247595 | 247930 | 248266 | 248602 |
| 3.22 | 248939 | 249276 | 249613 | 249951 | 250289 | 250627 | 250965 | 251304 | 251643 | 251982 |
| 3.23 | 252322 | 252662 | 253002 | 253343 | 253684 | 254025 | 254367 | 254709 | 255051 | 255393 |
| 3.24 | 255736 | 256079 | 256423 | 256767 | 257111 | 257455 | 257800 | 258145 | 258490 | 258836 |
| 3.25 | 259182 | 259528 | 259875 | 260222 | 260569 | 260916 | 261264 | 261612 | 261960 | 262309 |
| 3.26 | 262658 | 263007 | 263357 | 263707 | 264057 | 264408 | 264759 | 265110 | 265462 | 265814 |
| 3.27 | 266166 | 266519 | 266871 | 267225 | 267578 | 267932 | 268286 | 268641 | 268995 | 269351 |
| 3.28 | 269706 | 270062 | 270418 | 270774 | 271131 | 271488 | 271845 | 272203 | 272561 | 272919 |
| 3.29 | 273278 | 273637 | 273996 | 274355 | 274715 | 275075 | 275435 | 275796 | 276157 | 276518 |
| 3.30 | 276880 | 277242 | 277605 | 277967 | 278331 | 278694 | 279058 | 279422 | 279786 | 280151 |
| 3.31 | 280516 | 280881 | 281247 | 281613 | 281979 | 282346 | 282712 | 283080 | 283447 | 283815 |
| 3.32 | 284183 | 284552 | 284920 | 285290 | 285659 | 286029 | 286399 | 286770 | 287140 | 287512 |
| 3.33 | 287883 | 288255 | 288627 | 288999 | 289372 | 289745 | 290118 | 290492 | 290866 | 291240 |
| 3.34 | 291615 | 291990 | 292365 | 292741 | 293117 | 293493 | 293870 | 294247 | 294624 | 295002 |
| 3.35 | 295380 | 295758 | 296137 | 296516 | 296895 | 297275 | 297655 | 298035 | 298416 | 298797 |
| 3.36 | 299178 | 299560 | 299941 | 300324 | 300706 | 301089 | 301472 | 301856 | 302239 | 302624 |
| 3.37 | 303008 | 303393 | 303778 | 304163 | 304549 | 304935 | 305322 | 305709 | 306096 | 306483 |
| 3.38 | 306871 | 307259 | 307648 | 308037 | 308426 | 308815 | 309205 | 309595 | 309986 | 310377 |
| 3.39 | 310768 | 311159 | 311551 | 311943 | 312335 | 312728 | 313121 | 313515 | 313908 | 314302 |

TABLE I. Vapor pressure of He⁴ (1958 scale) in microns (10⁻³ mm) mercury at 0° C and standard gravity (980.665 cm/sec²)—Con.

| T°K | 0.000 | 0.001 | 0.002 | 0.003 | 0.004 | 0.005 | 0.006 | 0.007 | 0.008 | 0.009 |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 3.40 | 314697 | 315092 | 315487 | 315882 | 316278 | 316674 | 317070 | 317467 | 317864 | 318261 |
| 3.41 | 318659 | 319057 | 319455 | 319854 | 320253 | 320652 | 321052 | 321452 | 321852 | 322253 |
| 3.42 | 322654 | 323055 | 323457 | 323859 | 324262 | 324665 | 325068 | 325471 | 325875 | 326279 |
| 3.43 | 326684 | 327089 | 327493 | 327899 | 328305 | 328711 | 329118 | 329525 | 329932 | 330339 |
| 3.44 | 330747 | 331155 | 331564 | 331973 | 332382 | 332792 | 333202 | 333612 | 334023 | 334434 |
| 3.45 | 334845 | 335257 | 335668 | 336081 | 336493 | 336906 | 337319 | 337733 | 338147 | 338561 |
| 3.46 | 338976 | 339391 | 339806 | 340222 | 340638 | 341054 | 341471 | 341888 | 342305 | 342723 |
| 3.47 | 343141 | 343559 | 343978 | 344397 | 344817 | 345237 | 345657 | 346077 | 346498 | 346919 |
| 3.48 | 347341 | 347763 | 348185 | 348608 | 349030 | 349454 | 349877 | 350301 | 350725 | 351150 |
| 3.49 | 351575 | 352000 | 352426 | 352852 | 353278 | 353705 | 354132 | 354560 | 354987 | 355416 |
| 3.50 | 355844 | 356273 | 356702 | 357131 | 357561 | 357991 | 358422 | 358852 | 359284 | 359715 |
| 3.51 | 360147 | 360579 | 361012 | 361445 | 361878 | 362312 | 362746 | 363180 | 363615 | 364050 |
| 3.52 | 364485 | 364921 | 365357 | 365794 | 366231 | 366668 | 367106 | 367544 | 367982 | 368421 |
| 3.53 | 368860 | 369299 | 369739 | 370179 | 370619 | 371060 | 371501 | 371943 | 372384 | 372826 |
| 3.54 | 373269 | 373712 | 374155 | 374599 | 375043 | 375487 | 375932 | 376377 | 376822 | 377268 |
| 3.55 | 377714 | 378160 | 378607 | 379054 | 379502 | 379950 | 380398 | 380846 | 381295 | 381744 |
| 3.56 | 382194 | 382644 | 383094 | 383545 | 383996 | 384447 | 384899 | 385351 | 385804 | 386257 |
| 3.57 | 386710 | 387164 | 387617 | 388072 | 388526 | 388982 | 389437 | 389893 | 390349 | 390805 |
| 3.58 | 391262 | 391719 | 392177 | 392634 | 393092 | 393551 | 394010 | 394469 | 394929 | 395389 |
| 3.59 | 395849 | 396310 | 396770 | 397232 | 397693 | 398155 | 398618 | 399081 | 399544 | 400007 |
| 3.60 | 400471 | 400935 | 401400 | 401865 | 402330 | 402796 | 403262 | 403728 | 404195 | 404662 |
| 3.61 | 405130 | 405598 | 406066 | 406535 | 407004 | 407473 | 407943 | 408413 | 408883 | 409354 |
| 3.62 | 409825 | 410296 | 410768 | 411240 | 411713 | 412186 | 412659 | 413133 | 413607 | 414081 |
| 3.63 | 414556 | 415031 | 415507 | 415983 | 416459 | 416935 | 417412 | 417890 | 418367 | 418846 |
| 3.64 | 419324 | 419803 | 420282 | 420761 | 421241 | 421721 | 422202 | 422683 | 423164 | 423646 |
| 3.65 | 424128 | 424610 | 425093 | 425576 | 426060 | 426543 | 427028 | 427512 | 427997 | 428482 |
| 3.66 | 428968 | 429454 | 429941 | 430427 | 430915 | 431402 | 431890 | 432379 | 432867 | 433356 |
| 3.67 | 433846 | 434336 | 434826 | 435316 | 435807 | 436298 | 436790 | 437282 | 437774 | 438267 |
| 3.68 | 438760 | 439254 | 439748 | 440242 | 440737 | 441232 | 441727 | 442223 | 442719 | 443216 |
| 3.69 | 443713 | 444210 | 444708 | 445206 | 445704 | 446203 | 446702 | 447201 | 447701 | 448201 |
| 3.70 | 448702 | 449203 | 449704 | 450206 | 450708 | 451211 | 451714 | 452217 | 452721 | 453225 |
| 3.71 | 453729 | 454234 | 454739 | 455244 | 455750 | 456257 | 456763 | 457270 | 457778 | 458286 |
| 3.72 | 458794 | 459303 | 459812 | 460321 | 460831 | 461341 | 461851 | 462362 | 462873 | 463385 |
| 3.73 | 463897 | 464409 | 464922 | 465435 | 465949 | 466463 | 466977 | 467492 | 468007 | 468522 |
| 3.74 | 469038 | 469554 | 470071 | 470588 | 471105 | 471623 | 472141 | 472660 | 473179 | 473698 |
| 3.75 | 474218 | 474738 | 475258 | 475779 | 476300 | 476822 | 477344 | 477866 | 478389 | 478912 |
| 3.76 | 479435 | 479959 | 480483 | 481008 | 481533 | 482058 | 482584 | 483110 | 483637 | 484164 |
| 3.77 | 484691 | 485219 | 485747 | 486275 | 486804 | 487333 | 487863 | 488393 | 488923 | 489454 |
| 3.78 | 489855 | 490385 | 490914 | 491443 | 491973 | 492504 | 493034 | 493564 | 494094 | 494624 |
| 3.79 | 495317 | 495852 | 496388 | 496924 | 497461 | 497998 | 498535 | 499073 | 499611 | 500149 |
| 3.80 | 500688 | 501227 | 501767 | 502307 | 502847 | 503388 | 503929 | 504471 | 505013 | 505555 |
| 3.81 | 506098 | 506641 | 507185 | 507729 | 508273 | 508818 | 509363 | 509908 | 510454 | 511000 |
| 3.82 | 511547 | 512094 | 512642 | 513190 | 513738 | 514287 | 514836 | 515385 | 515935 | 516485 |
| 3.83 | 517036 | 517587 | 518139 | 518690 | 519243 | 519795 | 520348 | 520901 | 521455 | 522009 |
| 3.84 | 522564 | 523119 | 523674 | 524230 | 524786 | 525343 | 525900 | 526457 | 527015 | 527573 |
| 3.85 | 528132 | 528691 | 529250 | 529810 | 530370 | 530930 | 531491 | 532053 | 532614 | 533176 |
| 3.86 | 533739 | 534302 | 534865 | 535429 | 535993 | 536558 | 537123 | 537688 | 538254 | 538820 |
| 3.87 | 539387 | 539954 | 540521 | 541089 | 541657 | 542226 | 542795 | 543364 | 543934 | 544504 |
| 3.88 | 545075 | 545646 | 546218 | 546790 | 547362 | 547935 | 548508 | 549082 | 549656 | 550230 |
| 3.89 | 550805 | 551380 | 551956 | 552531 | 553108 | 553684 | 554262 | 554839 | 555417 | 555995 |
| 3.90 | 556574 | 557153 | 557732 | 558312 | 558893 | 559473 | 560054 | 560636 | 561218 | 561800 |
| 3.91 | 562383 | 562966 | 563550 | 564133 | 564718 | 565303 | 565889 | 566474 | 567060 | 567647 |
| 3.92 | 568234 | 568821 | 569409 | 569997 | 570586 | 571175 | 571764 | 572354 | 572944 | 573535 |
| 3.93 | 574126 | 574717 | 575309 | 575902 | 576494 | 577087 | 577681 | 578275 | 578869 | 579464 |
| 3.94 | 580059 | 580655 | 581251 | 581847 | 582444 | 583041 | 583639 | 584237 | 584836 | 585435 |
| 3.95 | 586034 | 586634 | 587234 | 587835 | 588436 | 589037 | 589639 | 590241 | 590844 | 591447 |
| 3.96 | 592051 | 592655 | 593259 | 593864 | 594470 | 595075 | 595681 | 596288 | 596895 | 597502 |
| 3.97 | 598110 | 598718 | 599327 | 599936 | 600545 | 601155 | 601765 | 602376 | 602987 | 603598 |
| 3.98 | 604210 | 604822 | 605435 | 606048 | 606662 | 607276 | 607890 | 608505 | 609120 | 609736 |
| 3.99 | 610352 | 610969 | 611586 | 612203 | 612821 | 613439 | 614058 | 614677 | 615297 | 615917 |
| 4.00 | 616537 | 617158 | 617779 | 618401 | 619023 | 619645 | 620268 | 620891 | 621515 | 622139 |
| 4.01 | 622764 | 623389 | 624014 | 624640 | 625266 | 625893 | 626520 | 627148 | 627776 | 628404 |
| 4.02 | 629033 | 629662 | 630292 | 630922 | 631553 | 632184 | 632815 | 633447 | 634079 | 634712 |
| 4.03 | 635345 | 635979 | 636613 | 637247 | 637882 | 638517 | 639153 | 639789 | 640426 | 641063 |
| 4.04 | 641700 | 642338 | 642976 | 643615 | 644254 | 644894 | 645534 | 646174 | 646815 | 647457 |
| 4.05 | 648199 | 648841 | 649484 | 650127 | 650771 | 651415 | 652059 | 652704 | 653349 | 653995 |
| 4.06 | 654541 | 655188 | 655836 | 656482 | 657130 | 657778 | 658427 | 659076 | 659726 | 660376 |
| 4.07 | 661026 | 661677 | 662328 | 662980 | 663632 | 664284 | 664938 | 665591 | 666245 | 666899 |
| 4.08 | 667554 | 668209 | 668865 | 669521 | 670177 | 670834 | 671491 | 672149 | 672807 | 673466 |
| 4.09 | 674125 | 674784 | 675444 | 676105 | 676766 | 677427 | 678089 | 678751 | 679413 | 680076 |

TABLE I. Vapor pressure of He⁴ (1958 scale) in microns (10⁻³ mm) mercury at 0° C and standard gravity (980.665 cm/sec²)—Con.

| T°K | 0.000 | 0.001 | 0.002 | 0.003 | 0.004 | 0.005 | 0.006 | 0.007 | 0.008 | 0.009 |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 4.10 | 680740 | 681404 | 682068 | 682733 | 683398 | 684064 | 684730 | 685397 | 686064 | 686731 |
| 4.11 | 687399 | 688067 | 688736 | 689405 | 690075 | 690745 | 691416 | 692087 | 692759 | 693431 |
| 4.12 | 694103 | 694776 | 695449 | 696123 | 696797 | 697471 | 698146 | 698822 | 699498 | 700174 |
| 4.13 | 700851 | 701528 | 702206 | 702884 | 703562 | 704241 | 704921 | 705601 | 706281 | 706962 |
| 4.14 | 707643 | 708325 | 709007 | 709689 | 710372 | 711055 | 711739 | 712423 | 713108 | 713793 |
| 4.15 | 714479 | 715165 | 715852 | 716538 | 717226 | 717914 | 718602 | 719291 | 719980 | 720670 |
| 4.16 | 721360 | 722050 | 722741 | 723433 | 724124 | 724817 | 725509 | 726203 | 726896 | 727590 |
| 4.17 | 728285 | 728980 | 729675 | 730371 | 731067 | 731764 | 732461 | 733159 | 733857 | 734556 |
| 4.18 | 735255 | 735954 | 736654 | 737354 | 738055 | 738756 | 739458 | 740160 | 740863 | 741566 |
| 4.19 | 742269 | 742973 | 743677 | 744382 | 745087 | 745793 | 746499 | 747205 | 747912 | 748620 |
| 4.20 | 749328 | 750036 | 750745 | 751454 | 752164 | 752874 | 753584 | 754295 | 755007 | 755719 |
| 4.21 | 756431 | 757144 | 757857 | 758571 | 759285 | 759999 | 760714 | 761430 | 762146 | 762862 |
| 4.22 | 763579 | 764296 | 765014 | 765732 | 766451 | 767170 | 767889 | 768609 | 769330 | 770051 |
| 4.23 | 770772 | 771494 | 772216 | 772938 | 773662 | 774385 | 775109 | 775834 | 776559 | 777284 |
| 4.24 | 778010 | 778736 | 779463 | 780190 | 780918 | 781646 | 782375 | 783104 | 783833 | 784563 |
| 4.25 | 785294 | 786025 | 786756 | 787488 | 788220 | 788953 | 789686 | 790419 | 791153 | 791888 |
| 4.26 | 792623 | 793358 | 794094 | 794831 | 795568 | 796305 | 797043 | 797781 | 798520 | 799259 |
| 4.27 | 799999 | 800739 | 801480 | 802221 | 802962 | 803705 | 804447 | 805190 | 805934 | 806678 |
| 4.28 | 807422 | 808167 | 808912 | 809658 | 810405 | 811152 | 811899 | 812647 | 813395 | 814144 |
| 4.29 | 814893 | 815643 | 816393 | 817143 | 817894 | 818646 | 819398 | 820151 | 820905 | 821657 |
| 4.30 | 822411 | 823166 | 823921 | 824676 | 825432 | 826188 | 826945 | 827703 | 828461 | 829219 |
| 4.31 | 829978 | 830737 | 831497 | 832257 | 833018 | 833779 | 834541 | 835303 | 836065 | 836828 |
| 4.32 | 837592 | 838356 | 839121 | 839886 | 840651 | 841417 | 842184 | 842951 | 843718 | 844486 |
| 4.33 | 845255 | 846024 | 846793 | 847563 | 848334 | 849104 | 849876 | 850648 | 851420 | 852193 |
| 4.34 | 852966 | 853740 | 854514 | 855289 | 856064 | 856839 | 857616 | 858392 | 859169 | 859947 |
| 4.35 | 860725 | 861504 | 862283 | 863062 | 863842 | 864623 | 865404 | 866185 | 866967 | 867750 |
| 4.36 | 868533 | 869317 | 870101 | 870885 | 871670 | 872455 | 873241 | 874028 | 874815 | 875602 |
| 4.37 | 876390 | 877178 | 877967 | 878757 | 879546 | 880337 | 881128 | 881919 | 882711 | 883503 |
| 4.38 | 884296 | 885089 | 885883 | 886678 | 887472 | 888268 | 889064 | 889860 | 890657 | 891454 |
| 4.39 | 892252 | 893050 | 893849 | 894649 | 895448 | 896249 | 897050 | 897851 | 898653 | 899455 |
| 4.40 | 900258 | 901061 | 901865 | 902669 | 903474 | 904279 | 905085 | 905891 | 906698 | 907505 |
| 4.41 | 908313 | 909121 | 909930 | 910739 | 911549 | 912359 | 913170 | 913981 | 914793 | 915605 |
| 4.42 | 916418 | 917231 | 918045 | 918859 | 919674 | 920489 | 921305 | 922121 | 922938 | 923755 |
| 4.43 | 924573 | 925391 | 926210 | 927029 | 927849 | 928669 | 929490 | 930311 | 931133 | 931955 |
| 4.44 | 932778 | 933601 | 934425 | 935249 | 936074 | 936899 | 937725 | 938551 | 939378 | 940205 |
| 4.45 | 941033 | 941861 | 942690 | 943519 | 944349 | 945179 | 946010 | 946841 | 947673 | 948505 |
| 4.46 | 949338 | 950171 | 951005 | 951839 | 952674 | 953509 | 954345 | 955181 | 956018 | 956855 |
| 4.47 | 957693 | 958531 | 959370 | 960209 | 961049 | 961890 | 962730 | 963572 | 964414 | 965256 |
| 4.48 | 966099 | 966942 | 967786 | 968631 | 969476 | 970321 | 971167 | 972013 | 972860 | 973708 |
| 4.49 | 974556 | 975405 | 976254 | 977104 | 977954 | 978804 | 979656 | 980508 | 981360 | 982213 |
| 4.50 | 983066 | 983920 | 984774 | 985629 | 986485 | 987340 | 988197 | 989054 | 989911 | 990769 |
| 4.51 | 991628 | 992487 | 993346 | 994206 | 995066 | 995927 | 996788 | 997650 | 998513 | 999376 |
| 4.52 | 1000239 | 1001103 | 1001968 | 1002833 | 1003699 | 1004565 | 1005432 | 1006300 | 1007168 | 1008036 |
| 4.53 | 1008905 | 1009774 | 1010644 | 1011514 | 1012385 | 1013256 | 1014128 | 1015001 | 1015874 | 1016747 |
| 4.54 | 1017621 | 1018496 | 1019371 | 1020246 | 1021122 | 1021999 | 1022876 | 1023754 | 1024632 | 1025511 |
| 4.55 | 1026390 | 1027270 | 1028150 | 1029031 | 1029913 | 1030795 | 1031677 | 1032561 | 1033444 | 1034328 |
| 4.56 | 1035213 | 1036098 | 1036984 | 1037870 | 1038756 | 1039643 | 1040531 | 1041419 | 1042308 | 1043197 |
| 4.57 | 1044087 | 1044977 | 1045868 | 1046759 | 1047651 | 1048544 | 1049437 | 1050330 | 1051224 | 1052119 |
| 4.58 | 1053014 | 1053910 | 1054806 | 1055703 | 1056600 | 1057498 | 1058396 | 1059295 | 1060194 | 1061094 |
| 4.59 | 1061995 | 1062896 | 1063797 | 1064700 | 1065602 | 1066505 | 1067409 | 1068313 | 1069218 | 1070123 |
| 4.60 | 1071029 | 1071935 | 1072842 | 1073749 | 1074656 | 1075565 | 1076474 | 1077383 | 1078293 | 1079203 |
| 4.61 | 1080114 | 1081026 | 1081938 | 1082850 | 1083763 | 1084677 | 1085591 | 1086506 | 1087422 | 1088338 |
| 4.62 | 1089254 | 1090171 | 1091089 | 1092007 | 1092925 | 1093845 | 1094764 | 1095685 | 1096606 | 1097527 |
| 4.63 | 1098449 | 1099372 | 1100295 | 1101218 | 1102142 | 1103067 | 1103992 | 1104918 | 1105845 | 1106772 |
| 4.64 | 1107699 | 1108627 | 1109555 | 1110484 | 1111414 | 1112344 | 1113274 | 1114205 | 1115137 | 1116069 |
| 4.65 | 1117002 | 1117935 | 1118869 | 1119803 | 1120738 | 1121674 | 1122610 | 1123546 | 1124483 | 1125421 |
| 4.66 | 1126359 | 1127298 | 1128237 | 1129177 | 1130118 | 1131059 | 1132000 | 1132942 | 1133885 | 1134828 |
| 4.67 | 1135772 | 1136716 | 1137661 | 1138606 | 1139552 | 1140499 | 1141446 | 1142393 | 1143341 | 1144290 |
| 4.68 | 1145239 | 1146189 | 1147139 | 1148090 | 1149041 | 1149993 | 1150945 | 1151899 | 1152852 | 1153806 |
| 4.69 | 1154761 | 1155716 | 1156672 | 1157629 | 1158585 | 1159543 | 1160501 | 1161460 | 1162419 | 1163379 |
| 4.70 | 1164339 | 1165300 | 1166261 | 1167223 | 1168186 | 1169149 | 1170112 | 1171076 | 1172041 | 1173006 |
| 4.71 | 1173972 | 1174938 | 1175905 | 1176873 | 1177841 | 1178810 | 1179779 | 1180749 | 1181719 | 1182690 |
| 4.72 | 1183662 | 1184634 | 1185606 | 1186580 | 1187553 | 1188527 | 1189502 | 1190478 | 1191453 | 1192428 |
| 4.73 | 1193407 | 1194385 | 1195363 | 1196342 | 1197321 | 1198301 | 1199281 | 1200262 | 1201244 | 1202226 |
| 4.74 | 1203209 | 1204192 | 1205176 | 1206160 | 1207145 | 1208130 | 1209116 | 1210103 | 1211090 | 1212078 |
| 4.75 | 1213066 | 1214055 | 1215044 | 1216035 | 1217025 | 1218016 | 1219008 | 1220001 | 1220995 | 1221987 |
| 4.76 | 1222981 | 1223976 | 1224971 | 1225967 | 1226964 | 1227961 | 1228959 | 1229957 | 1230956 | 1231955 |
| 4.77 | 1232955 | 1233955 | 1234956 | 1235957 | 1236959 | 1237962 | 1238965 | 1239969 | 1240973 | 1241978 |
| 4.78 | 1242983 | 1243989 | 1244996 | 1246003 | 1247011 | 1248019 | 1249028 | 1250037 | 1251047 | 1252058 |
| 4.79 | 1253069 | 1254081 | 1255093 | 1256106 | 1257119 | 1258133 | 1259148 | 1260163 | 1261179 | 1262195 |

TABLE I. Vapor pressure of He⁴ (1958 scale) in microns (10⁻³ mm) mercury at 0° C and standard gravity (980.665 cm/sec²)—Con.

| T°K | 0.000 | 0.001 | 0.002 | 0.003 | 0.004 | 0.005 | 0.006 | 0.007 | 0.008 | 0.009 |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 4.80 | 1263212 | 1264230 | 1265248 | 1266266 | 1267286 | 1268306 | 1269326 | 1270347 | 1271369 | 1272391 |
| 4.81 | 1273414 | 1274437 | 1275461 | 1276486 | 1277511 | 1278536 | 1279562 | 1280589 | 1281616 | 1282644 |
| 4.82 | 1283673 | 1284702 | 1285732 | 1286762 | 1287793 | 1288825 | 1289857 | 1290889 | 1291923 | 1292957 |
| 4.83 | 1293991 | 1295026 | 1296062 | 1297098 | 1298134 | 1299172 | 1300210 | 1301248 | 1302287 | 1303327 |
| 4.84 | 1304367 | 1305408 | 1306449 | 1307491 | 1308534 | 1309577 | 1310621 | 1311665 | 1312710 | 1313756 |
| 4.85 | 1314802 | 1315849 | 1316896 | 1317944 | 1318993 | 1320042 | 1321092 | 1322142 | 1323193 | 1324245 |
| 4.86 | 1325297 | 1326350 | 1327403 | 1328457 | 1329511 | 1330566 | 1331622 | 1332678 | 1333735 | 1334792 |
| 4.87 | 1335850 | 1336908 | 1337968 | 1339027 | 1340088 | 1341148 | 1342210 | 1343272 | 1344335 | 1345398 |
| 4.88 | 1346462 | 1347527 | 1348592 | 1349658 | 1350724 | 1351791 | 1352859 | 1353927 | 1354996 | 1356066 |
| 4.89 | 1357136 | 1358207 | 1359278 | 1360350 | 1361422 | 1362495 | 1363569 | 1364643 | 1365718 | 1366794 |
| 4.90 | 1367870 | 1368947 | 1370024 | 1371101 | 1372180 | 1373258 | 1374338 | 1375418 | 1376499 | 1377580 |
| 4.91 | 1378662 | 1379745 | 1380828 | 1381912 | 1382996 | 1384081 | 1385167 | 1386253 | 1387340 | 1388428 |
| 4.92 | 1389516 | 1390605 | 1391694 | 1392783 | 1393874 | 1394965 | 1396056 | 1397149 | 1398241 | 1399335 |
| 4.93 | 1400429 | 1401524 | 1402619 | 1403715 | 1404812 | 1405909 | 1407007 | 1408105 | 1409204 | 1410304 |
| 4.94 | 1411404 | 1412505 | 1413606 | 1414708 | 1415810 | 1416913 | 1418017 | 1419121 | 1420226 | 1421332 |
| 4.95 | 1422438 | 1423545 | 1424652 | 1425760 | 1426869 | 1427978 | 1429088 | 1430198 | 1431309 | 1432421 |
| 4.96 | 1433533 | 1434646 | 1435762 | 1436874 | 1437988 | 1439104 | 1440220 | 1441336 | 1442454 | 1443572 |
| 4.97 | 1444690 | 1445809 | 1446929 | 1448050 | 1449171 | 1450293 | 1451415 | 1452538 | 1453662 | 1454786 |
| 4.98 | 1455911 | 1457036 | 1458162 | 1459288 | 1460415 | 1461543 | 1462671 | 1463800 | 1464930 | 1466060 |
| 4.99 | 1467191 | 1468323 | 1469455 | 1470588 | 1471721 | 1472855 | 1473990 | 1475125 | 1476261 | 1477398 |
| 5.00 | 1478535 | 1479673 | 1480811 | 1481950 | 1483089 | 1484230 | 1485370 | 1486512 | 1487654 | 1488797 |
| 5.01 | 1489940 | 1491084 | 1492229 | 1493374 | 1494520 | 1495667 | 1496814 | 1497962 | 1499110 | 1500259 |
| 5.02 | 1501409 | 1502559 | 1503710 | 1504862 | 1506014 | 1507167 | 1508320 | 1509474 | 1510629 | 1511784 |
| 5.03 | 1512940 | 1514097 | 1515254 | 1516412 | 1517570 | 1518730 | 1519889 | 1521050 | 1522211 | 1523373 |
| 5.04 | 1524535 | 1525698 | 1526861 | 1528025 | 1529190 | 1530356 | 1531522 | 1532688 | 1533856 | 1535023 |
| 5.05 | 1536192 | 1537361 | 1538531 | 1539701 | 1540872 | 1542044 | 1543216 | 1544389 | 1545563 | 1546737 |
| 5.06 | 1547912 | 1549088 | 1550264 | 1551441 | 1552619 | 1553797 | 1554976 | 1556155 | 1557336 | 1558516 |
| 5.07 | 1559698 | 1560880 | 1562062 | 1563246 | 1564429 | 1565614 | 1566799 | 1567985 | 1569171 | 1570358 |
| 5.08 | 1571546 | 1572734 | 1573923 | 1575113 | 1576303 | 1577494 | 1578685 | 1579878 | 1581070 | 1582264 |
| 5.09 | 1583458 | 1584653 | 1585849 | 1587045 | 1588242 | 1589439 | 1590638 | 1591836 | 1593036 | 1594236 |
| 5.10 | 1595437 | 1596638 | 1597841 | 1599043 | 1600247 | 1601451 | 1602656 | 1603861 | 1605067 | 1606274 |
| 5.11 | 1607481 | 1608689 | 1609897 | 1611107 | 1612316 | 1613527 | 1614738 | 1615950 | 1617162 | 1618375 |
| 5.12 | 1619589 | 1620802 | 1622018 | 1623234 | 1624450 | 1625667 | 1626884 | 1628102 | 1629321 | 1630541 |
| 5.13 | 1631761 | 1632982 | 1634204 | 1635426 | 1636649 | 1637872 | 1639096 | 1640321 | 1641547 | 1642773 |
| 5.14 | 1644000 | 1645228 | 1646456 | 1647685 | 1648914 | 1650144 | 1651375 | 1652606 | 1653839 | 1655071 |
| 5.15 | 1656305 | 1657539 | 1658773 | 1660008 | 1661244 | 1662481 | 1663718 | 1664956 | 1666194 | 1667433 |
| 5.16 | 1668673 | 1669913 | 1671155 | 1672396 | 1673639 | 1674882 | 1676126 | 1677370 | 1678616 | 1679862 |
| 5.17 | 1681108 | 1682355 | 1683603 | 1684852 | 1686102 | 1687352 | 1688602 | 1689854 | 1691106 | 1692359 |
| 5.18 | 1693612 | 1694866 | 1696120 | 1697375 | 1698631 | 1699888 | 1701145 | 1702403 | 1703661 | 1704920 |
| 5.19 | 1706180 | 1707441 | 1708702 | 1709964 | 1711228 | 1712490 | 1713754 | 1715019 | 1716284 | 1717550 |
| 5.20 | 1718817 | 1720084 | 1721352 | 1722621 | 1723891 | 1725161 | 1726431 | 1727703 | 1728975 | 1730248 |
| 5.21 | 1731521 | 1732795 | 1734069 | 1735345 | 1736620 | 1737897 | 1739174 | 1740452 | 1741731 | 1743010 |
| 5.22 | 1744290 | | | | | | | | | |

TABLE II. 1958 He⁴ vapor pressure-temperature scale, T in °K as a function of P in millimeters mercury at 0° C and standard gravity, 980.665 cm/sec²

| P | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|------|--------|----|------|----|------|----|------|----|------|----|
| 0.01 | 0.7907 | 65 | 7972 | 61 | 8033 | 57 | 8090 | 53 | 8143 | 50 |
| .02 | .8407 | 38 | 8445 | 35 | 8480 | 35 | 8515 | 33 | 8548 | 32 |
| .03 | .8727 | 27 | 8754 | 26 | 8780 | 25 | 8805 | 25 | 8830 | 24 |
| .04 | .8967 | 21 | 8988 | 21 | 9009 | 20 | 9029 | 20 | 9049 | 19 |
| .05 | .9161 | 18 | 9179 | 17 | 9196 | 17 | 9213 | 17 | 9230 | 16 |
| .06 | .9325 | 15 | 9340 | 15 | 9355 | 15 | 9370 | 15 | 9385 | 14 |
| .07 | .9468 | 14 | 9482 | 13 | 9495 | 13 | 9508 | 13 | 9521 | 13 |
| .08 | .9595 | 12 | 9607 | 12 | 9619 | 12 | 9631 | 12 | 9643 | 11 |
| .09 | .9710 | 11 | 9721 | 11 | 9732 | 10 | 9742 | 11 | 9753 | 10 |
| .10 | .9814 | 10 | 9824 | 10 | 9834 | 10 | 9844 | 10 | 9854 | 9 |
| .11 | .9911 | 9 | 9920 | 9 | 9929 | 9 | 9938 | 9 | 9947 | 9 |
| .12 | 1.0000 | 9 | 0009 | 8 | 0017 | 9 | 0026 | 8 | 0034 | 8 |
| .13 | 1.0083 | 8 | 0091 | 8 | 0099 | 8 | 0107 | 8 | 0115 | 8 |
| .14 | 1.0162 | 7 | 0169 | 8 | 0177 | 7 | 0184 | 8 | 0192 | 7 |
| .15 | 1.0236 | 7 | 0243 | 7 | 0250 | 7 | 0257 | 7 | 0264 | 7 |
| .16 | 1.0305 | 7 | 0312 | 7 | 0319 | 7 | 0326 | 6 | 0332 | 7 |
| .17 | 1.0372 | 6 | 0378 | 7 | 0385 | 6 | 0391 | 7 | 0398 | 6 |
| .18 | 1.0435 | 6 | 0441 | 7 | 0448 | 6 | 0454 | 6 | 0460 | 6 |
| .19 | 1.0496 | 6 | 0502 | 6 | 0508 | 5 | 0513 | 6 | 0519 | 6 |

TABLE III. 1958 He⁴ vapor pressure-temperature scale, T in ° K as a function of P in centimeters mercury at 0° C and standard gravity, 980.665 cm/sec²

| P | 0 | | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | 9 | |
|-----|--------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|
| 80 | 4.2700 | 135 | 2835 | 133 | 2968 | 132 | 3100 | 131 | 3231 | 131 | 3362 | 129 | 3491 | 128 | 3619 | 127 | 3746 | 126 | 3872 | 125 |
| 90 | 4.3997 | 124 | 4121 | 123 | 4244 | 122 | 4366 | 122 | 4488 | 120 | 4608 | 120 | 4728 | 118 | 4846 | 118 | 4964 | 117 | 5081 | 116 |
| 100 | 4.5197 | 116 | 5313 | 114 | 5427 | 114 | 5541 | 113 | 5654 | 112 | 5766 | 112 | 5878 | 111 | 5989 | 110 | 6099 | 109 | 6208 | 109 |
| 110 | 4.6317 | 108 | 6425 | 107 | 6532 | 107 | 6639 | 106 | 6745 | 105 | 6850 | 105 | 6955 | 104 | 7059 | 103 | 7162 | 103 | 7265 | 102 |
| 120 | 4.7367 | 102 | 7469 | 101 | 7570 | 100 | 7670 | 100 | 7770 | 100 | 7870 | 98 | 7968 | 99 | 8067 | 97 | 8164 | 97 | 8261 | 97 |
| 130 | 4.8358 | 96 | 8454 | 96 | 8550 | 95 | 8645 | 94 | 8739 | 94 | 8833 | 94 | 8927 | 93 | 9020 | 92 | 9112 | 92 | 9204 | 92 |
| 140 | 4.9296 | 91 | 9387 | 91 | 9478 | 90 | 9568 | 90 | 9658 | 89 | 9747 | 89 | 9836 | 89 | 9925 | 88 | 0013 | 88 | 0101 | 87 |
| 150 | 5.0188 | 87 | 0275 | 86 | 0361 | 86 | 0447 | 86 | 0533 | 85 | 0618 | 85 | 0703 | 84 | 0787 | 84 | 0871 | 84 | 0955 | 83 |
| 160 | 5.1038 | 83 | 1121 | 82 | 1203 | 83 | 1286 | 81 | 1367 | 82 | 1449 | 81 | 1530 | 81 | 1611 | 80 | 1691 | 80 | 1771 | 80 |
| 170 | 5.1851 | 79 | 1930 | 79 | 2009 | 79 | 2088 | 78 | 2166 | 78 | | | | | | | | | | |

TABLE IV. Temperature derivative, dP/dT, in millimeters Hg/° K for the 1958 He⁴ vapor pressure-temperature scale, P in millimeters mercury at 0° C and standard gravity, 980.665 cm/sec²

| T | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 |
|-----|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|
| 0.5 | 0.0005503 | 0.0007383 | 0.0009799 | 0.001287 | 0.001674 | 0.002157 | 0.002755 | 0.003489 | 0.004384 | 0.005468 |
| .6 | .006772 | .008329 | .01018 | .01236 | .01493 | .01792 | .02141 | .02544 | .03008 | .03540 |
| .7 | .04148 | .04838 | .05622 | .06506 | .07501 | .08617 | .09863 | .1125 | .1280 | .1451 |
| .8 | .1640 | .1848 | .2077 | .2328 | .2602 | .2902 | .3228 | .3583 | .3968 | .4385 |
| .9 | .4835 | .5320 | .5843 | .6406 | .7008 | .7654 | .8346 | .9084 | .9871 | 1.071 |
| 1.0 | 1.160 | 1.255 | 1.355 | 1.462 | 1.575 | 1.694 | 1.820 | 1.953 | 2.093 | 2.240 |
| 1.1 | 2.395 | 2.557 | 2.728 | 2.907 | 3.095 | 3.291 | 3.496 | 3.711 | 3.935 | 4.169 |
| 1.2 | 4.412 | 4.666 | 4.930 | 5.205 | 5.491 | 5.788 | 6.096 | 6.416 | 6.747 | 7.090 |
| 1.3 | 7.445 | 7.813 | 8.194 | 8.587 | 8.993 | 9.413 | 9.846 | 10.29 | 10.75 | 11.23 |
| 1.4 | 11.72 | 12.22 | 12.73 | 13.26 | 13.81 | 14.37 | 14.95 | 15.54 | 16.15 | 16.77 |
| 1.5 | 17.41 | 18.06 | 18.73 | 19.42 | 20.12 | 20.84 | 21.58 | 22.33 | 23.10 | 23.88 |
| 1.6 | 24.68 | 25.50 | 26.33 | 27.18 | 28.05 | 28.94 | 29.84 | 30.76 | 31.69 | 32.64 |
| 1.7 | 33.61 | 34.59 | 35.59 | 36.61 | 37.64 | 38.69 | 39.76 | 40.84 | 41.94 | 43.05 |
| 1.8 | 44.18 | 45.33 | 46.49 | 47.67 | 48.86 | 50.06 | 51.28 | 52.52 | 53.77 | 55.03 |
| 1.9 | 56.30 | 57.59 | 58.89 | 60.20 | 61.52 | 62.85 | 64.19 | 65.54 | 66.91 | 68.28 |
| 2.0 | 69.65 | 71.03 | 72.42 | 73.81 | 75.20 | 76.60 | 77.99 | 79.39 | 80.79 | 82.20 |
| 2.1 | 83.60 | 85.00 | 86.38 | 87.74 | 89.09 | 90.41 | 91.71 | 92.96 | 94.28 | 95.77 |
| 2.2 | 97.31 | 98.88 | 100.5 | 102.1 | 103.7 | 105.4 | 107.1 | 108.8 | 110.5 | 112.2 |
| 2.3 | 113.9 | 115.7 | 117.5 | 119.2 | 121.0 | 122.9 | 124.7 | 126.5 | 128.4 | 130.3 |
| 2.4 | 132.1 | 134.1 | 136.0 | 137.9 | 139.9 | 141.8 | 143.8 | 145.8 | 147.8 | 149.8 |
| 2.5 | 151.9 | 153.9 | 155.0 | 158.1 | 160.2 | 162.3 | 164.5 | 166.6 | 168.8 | 171.0 |
| 2.6 | 173.2 | 175.4 | 177.6 | 179.8 | 182.0 | 184.3 | 186.6 | 188.8 | 191.2 | 193.5 |
| 2.7 | 195.9 | 198.2 | 200.6 | 202.9 | 205.3 | 207.7 | 210.1 | 212.5 | 215.0 | 217.4 |
| 2.8 | 219.9 | 222.4 | 224.9 | 227.4 | 230.0 | 232.4 | 235.0 | 237.6 | 240.1 | 242.7 |
| 2.9 | 245.4 | 248.0 | 250.6 | 253.3 | 256.0 | 258.6 | 261.3 | 264.1 | 266.8 | 269.5 |
| 3.0 | 272.3 | 275.1 | 277.9 | 280.7 | 283.5 | 286.3 | 289.2 | 292.0 | 294.9 | 297.8 |
| 3.1 | 300.7 | 303.7 | 306.6 | 309.5 | 312.5 | 315.5 | 318.5 | 321.5 | 324.5 | 327.6 |
| 3.2 | 330.6 | 333.7 | 336.8 | 339.9 | 343.0 | 346.1 | 349.3 | 352.4 | 355.6 | 358.7 |
| 3.3 | 361.9 | 365.1 | 368.4 | 371.6 | 374.8 | 378.1 | 381.4 | 384.7 | 388.0 | 391.3 |
| 3.4 | 394.6 | 398.0 | 401.3 | 404.7 | 408.1 | 411.5 | 414.9 | 418.3 | 421.7 | 425.2 |
| 3.5 | 428.7 | 432.1 | 435.6 | 439.1 | 442.7 | 446.2 | 449.7 | 453.3 | 456.9 | 460.5 |
| 3.6 | 464.1 | 467.7 | 471.3 | 474.9 | 478.6 | 482.3 | 486.0 | 489.7 | 493.4 | 497.2 |
| 3.7 | 500.9 | 504.6 | 508.4 | 512.2 | 516.0 | 519.8 | 523.6 | 527.5 | 531.3 | 535.2 |
| 3.8 | 539.1 | 543.0 | 546.9 | 550.8 | 554.8 | 558.8 | 562.8 | 566.8 | 570.8 | 574.9 |
| 3.9 | 578.9 | 583.0 | 587.1 | 591.2 | 595.4 | 599.5 | 603.7 | 607.9 | 612.1 | 616.3 |
| 4.0 | 620.6 | 624.8 | 629.1 | 633.3 | 637.6 | 642.0 | 646.3 | 650.6 | 655.0 | 659.4 |
| 4.1 | 663.7 | 668.1 | 672.6 | 677.0 | 681.4 | 685.9 | 690.3 | 694.8 | 699.2 | 703.7 |
| 4.2 | 708.1 | 712.6 | 717.1 | 721.6 | 726.1 | 730.7 | 735.3 | 740.0 | 744.7 | 749.4 |
| 4.3 | 754.1 | 758.9 | 763.7 | 768.6 | 773.4 | 778.3 | 783.2 | 788.1 | 793.0 | 797.9 |
| 4.4 | 802.9 | 807.9 | 812.9 | 817.9 | 822.9 | 828.0 | 833.1 | 838.1 | 843.2 | 848.4 |
| 4.5 | 853.5 | 858.7 | 863.9 | 869.1 | 874.3 | 879.5 | 884.8 | 890.1 | 895.3 | 900.7 |
| 4.6 | 906.0 | 911.4 | 916.7 | 922.1 | 927.6 | 933.0 | 938.5 | 943.9 | 949.4 | 955.0 |
| 4.7 | 960.5 | 966.1 | 971.7 | 977.3 | 982.9 | 988.6 | 994.4 | 1000 | 1006 | 1011 |
| 4.8 | 1017 | 1023 | 1029 | 1035 | 1041 | 1046 | 1052 | 1058 | 1064 | 1070 |
| 4.9 | 1076 | 1082 | 1088 | 1094 | 1100 | 1107 | 1113 | 1119 | 1125 | 1131 |
| 5.0 | 1137 | 1144 | 1150 | 1156 | 1163 | 1169 | 1175 | 1182 | 1188 | 1195 |
| 5.1 | 1201 | 1207 | 1214 | 1221 | 1227 | 1234 | 1240 | 1247 | 1254 | 1260 |
| 5.2 | 1267 | 1274 | 1280 | | | | | | | |

TABLE V. Auxiliary table for use in making hydrostatic head correction

Table gives values of the ratio between the density of liquid He I at its saturated vapor pressure and the density of mercury at 0° C. (P in centimeters mercury at 0° C and standard gravity, 980.665 cm/sec².) The density of mercury has been taken as 13.5951 g/cm³. If densities of liquid He I constitute critical data in an analysis, examination of the original literature is recommended.

| P | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | | |
|-----|---------|-----|------|-----|------|----|------|----|------|----|------|----|------|-----|------|-----|------|-----|------|-----|
| 0 | 0.01 | | | | 0754 | 37 | 0717 | 35 | 0682 | 33 | 0649 | 30 | 0619 | 29 | 0590 | 29 | | | | |
| 10 | .010561 | 27 | 0534 | 26 | 0508 | 26 | 0482 | 25 | 0457 | 24 | 0433 | 24 | 0409 | 23 | 0386 | 23 | 0340 | 23 | | |
| 20 | .010317 | 22 | 0295 | 22 | 0273 | 22 | 0251 | 21 | 0230 | 21 | 0209 | 21 | 0188 | 21 | 0167 | 21 | 0146 | 20 | 0126 | 21 |
| 30 | .010105 | 20 | 0085 | 20 | 0065 | 20 | 0045 | 20 | 0025 | 20 | 0005 | 20 | 9985 | 20 | 9965 | 19 | 9946 | 20 | 9926 | 19 |
| 40 | .009907 | 20 | 9887 | 20 | 9867 | 19 | 9848 | 20 | 9828 | 19 | 9809 | 20 | 9789 | 19 | 9770 | 20 | 9750 | 19 | 9731 | 20 |
| 50 | .009711 | 19 | 9692 | 19 | 9673 | 20 | 9653 | 19 | 9634 | 20 | 9614 | 20 | 9594 | 20 | 9574 | 19 | 9555 | 19 | 9536 | 20 |
| 60 | .009516 | 20 | 9496 | 19 | 9477 | 19 | 9458 | 20 | 9438 | 19 | 9419 | 20 | 9399 | 19 | 9380 | 20 | 9360 | 20 | 9340 | 19 |
| 70 | .009321 | 20 | 9301 | 19 | 9282 | 19 | 9263 | 20 | 9243 | 19 | 9224 | 19 | 9205 | 19 | 9186 | 19 | 9167 | 20 | 9147 | 19 |
| 80 | .009128 | 19 | 9109 | 19 | 9090 | 20 | 9070 | 19 | 9051 | 20 | 9031 | 19 | 9012 | 20 | 8992 | 20 | 8972 | 20 | 8952 | 20 |
| 90 | .008932 | 19 | 8913 | 20 | 8893 | 20 | 8873 | 20 | 8853 | 20 | 8833 | 21 | 8812 | 20 | 8792 | 21 | 8771 | 20 | 8751 | 21 |
| 100 | .008730 | 21 | 8709 | 22 | 8687 | 21 | 8666 | 22 | 8644 | 21 | 8623 | 21 | 8602 | 22 | 8580 | 22 | 8558 | 22 | 8536 | 23 |
| 110 | .008513 | 23 | 8490 | 22 | 8468 | 23 | 8445 | 23 | 8422 | 24 | 8398 | 23 | 8375 | 24 | 8351 | 24 | 8327 | 25 | 8302 | 24 |
| 120 | .008278 | 24 | 8254 | 24 | 8230 | 25 | 8205 | 26 | 8179 | 26 | 8153 | 26 | 8127 | 27 | 8100 | 26 | 8074 | 27 | 8047 | 28 |
| 130 | .008019 | 28 | 7991 | 28 | 7963 | 28 | 7935 | 29 | 7906 | 29 | 7877 | 29 | 7848 | 30 | 7818 | 31 | 7787 | 32 | 7755 | 32 |
| 140 | .007723 | 33 | 7690 | 32 | 7658 | 33 | 7625 | 34 | 7591 | 36 | 7555 | 36 | 7519 | 37 | 7482 | 38 | 7444 | 39 | 7405 | 41 |
| 150 | .007364 | 42 | 7322 | 43 | 7279 | 44 | 7235 | 46 | 7189 | 48 | 7141 | 49 | 7092 | 51 | 7041 | 53 | 6988 | 56 | 6932 | 59 |
| 160 | .006873 | 61 | 6812 | 64 | 6748 | 68 | 6680 | 73 | 6607 | 79 | 6528 | 87 | 6441 | 103 | 6338 | 130 | 6208 | 154 | 6054 | 190 |
| 170 | .005864 | 229 | 5635 | 287 | 5348 | | | | | | | | | | | | | | | |

TABLE VI. Deviations of earlier scales from the 1958 scale,^a $T_n - T_{58}$ in millidegrees

| T_n | L55 | 55E | 48 | BS | 37 | 32 | 29 | 24 | T_n | L55 | 55E | 48 | BS | 37 | 32 | 29 | 24 |
|-------|------|------|------|-------|-------|-------|-------|--------|-------|------|------|-------|-------|-------|-------|-------|-------|
| 0.7 | -1.1 | +1.0 | +0.4 | +0.3 | ----- | -18.4 | -2.7 | -2.1 | 0.7 | -0.6 | -1.1 | +5.6 | ----- | +4.2 | -3.5 | -3.5 | +66.8 |
| .8 | -1.2 | +1.1 | +5 | +3 | ----- | -20.4 | -10.3 | -2.3 | .8 | -0.2 | -1.1 | +6.0 | ----- | +5.3 | -4.5 | -4.5 | +57.2 |
| .9 | -1.3 | +1.2 | +6 | +4 | -31.9 | -22.1 | -17.3 | -2.4 | .9 | +2 | -0.9 | +8.0 | ----- | +6.7 | -5.2 | -5.2 | +47.7 |
| 1.0 | -1.5 | +1.3 | +3 | +4 | -26.8 | -23.5 | -23.5 | -2.6 | 1.0 | +7 | -7 | +8.6 | ----- | +7.9 | -5.7 | -5.7 | +38.4 |
| 1.1 | -1.6 | +1.4 | -2 | +4 | -21.5 | -24.7 | -28.5 | -2.7 | 1.1 | +1.3 | -5 | +8.7 | ----- | +8.7 | -5.9 | -5.9 | +29.4 |
| 1.2 | -1.7 | +1.5 | +4 | +5 | -15.2 | -25.4 | -32.1 | -2.8 | 1.2 | +1.9 | -3 | +8.8 | ----- | +8.9 | -5.8 | -5.8 | +21.0 |
| 1.3 | -1.8 | +1.5 | +3 | +6 | -8.1 | -25.7 | -34.1 | -3.0 | 1.3 | +2.5 | -1 | +8.7 | ----- | +9.0 | -5.5 | -5.5 | +13.2 |
| 1.4 | -1.9 | +1.6 | +1.0 | +8 | -2.3 | -25.5 | -34.5 | -3.2 | 1.4 | +2.9 | 0 | +8.6 | ----- | +8.6 | -4.8 | -4.8 | +6.2 |
| 1.5 | -2.0 | +1.6 | +1.3 | +1.2 | +1.1 | -24.7 | -33.2 | -3.5 | 1.5 | +3.2 | 0 | +7.7 | ----- | +7.5 | -3.9 | -3.9 | -0.1 |
| 1.6 | -2.1 | +1.5 | +2.9 | +1.8 | +2.6 | -23.2 | -30.3 | +0.2 | 1.6 | +3.2 | -1 | +6.6 | ----- | +6.3 | -2.6 | -2.6 | -5.4 |
| 1.7 | -2.1 | +1.4 | +3.8 | +2.6 | +3.2 | -21.0 | -25.9 | +33.0 | 1.7 | +3.0 | -2 | +5.0 | ----- | +4.7 | -0.9 | -0.9 | -9.6 |
| 1.8 | -2.2 | +1.1 | +3.9 | +3.4 | +3.5 | -18.0 | -20.2 | +58.6 | 1.8 | +2.4 | -3 | +2.6 | ----- | +2.8 | +1.2 | +1.2 | -12.7 |
| 1.9 | -2.2 | +0.8 | +5.1 | +4.1 | +4.2 | -14.2 | -13.3 | +78.5 | 1.9 | +1.2 | -6 | +0.5 | ----- | +1.1 | +3.7 | +3.7 | -14.6 |
| 2.0 | -2.2 | +6 | +6.0 | +4.6 | +5.6 | -9.7 | -5.6 | +93.6 | 2.0 | 0 | -1.0 | -4 | ----- | -0.5 | +6.6 | +6.6 | -15.3 |
| 2.1 | -2.2 | +6 | +8.4 | +5.1 | +7.1 | -4.5 | +2.5 | +104.5 | 2.1 | -0.9 | -1.4 | +9 | ----- | +10.0 | +10.0 | +10.0 | -14.6 |
| 2.2 | -2.2 | +8 | +9.4 | ----- | +9.3 | +8.2 | +8.2 | +111.2 | 2.2 | -1.5 | -1.9 | +3.8 | ----- | +14.0 | +14.0 | +14.0 | -12.4 |
| 2.3 | -2.1 | +5 | +8.5 | ----- | +8.2 | +7.0 | +7.0 | +113.3 | 2.3 | -1.7 | -2.3 | +7.7 | ----- | +18.5 | +18.5 | +18.5 | -8.8 |
| 2.4 | -2.0 | 0 | +7.0 | ----- | +6.9 | +5.4 | +5.4 | +111.2 | 2.4 | -1.5 | -2.8 | +11.9 | ----- | +23.6 | +23.6 | +23.6 | -3.7 |
| 2.5 | -1.9 | -4 | +5.6 | ----- | +5.5 | +3.8 | +3.8 | +106.8 | 2.5 | -0.9 | -3.2 | +15.8 | ----- | +29.3 | +29.3 | +29.3 | +3.0 |
| 2.6 | -1.8 | -7 | +5.0 | ----- | +4.4 | +2.1 | +2.1 | +100.7 | 2.6 | +2 | -3.7 | +18.6 | ----- | +35.7 | +35.7 | +35.7 | +11.1 |
| 2.7 | -1.5 | -9 | +4.5 | ----- | +3.6 | +0.6 | +0.6 | +93.4 | 2.7 | +1.7 | -4.1 | +19.0 | ----- | +42.6 | +42.6 | +42.6 | +20.8 |
| 2.8 | -1.3 | -1.1 | +3.6 | ----- | +3.4 | -9 | -9 | +85.2 | 2.8 | +3.7 | -4.5 | +15.8 | ----- | ----- | ----- | ----- | +32.1 |
| 2.9 | -0.9 | -1.1 | +4.7 | ----- | +3.6 | -2.2 | -2.2 | +76.3 | 2.9 | +6.3 | -5.0 | +6.5 | ----- | ----- | ----- | ----- | +45.0 |

^a Explanatory notes concerning table of deviations of earlier scales from the 1958 scale:

T_{24} : Defined by equation on p. 33 of Leiden Comm. No. 147b (Kamerlingh Onnes and Weber) and by last equation on p. 23 of Leiden Comm. Suppl. No. 49 (Verschaffelt). These equations yield equal pressures at about 1.59° K. Therefore, values up through 1.5° K were derived from Verschaffelt's equation and those above from that of Kamerlingh Onnes and Weber.

T_{26} : Defined by eq (6) on p. 36 of Leiden Comm. No. 202c (Keesom, Weber, and Schmidt). These equations give equal pressures at 2.1765° K. The authors state in the last paragraph of the communication, p. 37, that the first of the equations fits reasonably well the data of Comm. No. 147b up to 5° K. Therefore, deviations up to 5.0° K have been included in the table.

T_{32} : Defined by the first of eq (6) on p. 36 of Leiden Comm. No. 202c (Keesom, Weber, and Schmidt) and by the equation on p. 8 of Leiden Comm. No. 219a (Keesom). T_{32} and T_{26} are thus identical above the lambda point. These two equations are discontinuous by about 0.008° at 2.190° K and this fact was noted by Keesom (Leiden Comm. Suppl. 71d).

T_{37} : Defined by T_{32} together with curves in figure 1 of Leiden Comm. No. 250c (Schmidt and Keesom). Differences between T_{37} and T_{32} were determined directly from figure 1 with sufficient precision to determine differences between T_{35} and T_{37} to 0.1 millidegree.

T_{BS} : Defined by eq (9) and curve of figure 4, p. 1212 of Trans. Faraday Soc. 35 (Bleaney and Simon, 1939). Part, or all, of this scale is sometimes referred to as T_{26} . In order to obtain differences between this scale and T_{58} , pressures were calculated from the equation and curve with sufficient precision to yield differences to 0.1 millidegree.

(Continued on page 17)

T_{48} : Defined by tables I and II on pages T153 to T159 and by second equation on p. T152 of Procès-Verbaux des séances du Comité International des Poids et Mesures **23B**, T151 (1952). Values given in the table were obtained in the following ways. First, values of the difference between this scale and the 1958 scale were calculated at every 0.01° interval between 0.95° and 4.25° K from data of table II on pp. T158 and T159. The tabulated values from 1.0° through 4.2° K were then obtained by averaging the calculated differences between $T-0.05^\circ$ and $T+0.05^\circ$, with weights of $\frac{1}{2}$ assigned to the values at $T-0.05^\circ$ and $T+0.05^\circ$ and unit weights to all values at intermediate temperatures. For example, the tabulated value at 2.0° K is actually 1/20 of the sum of the differences at 1.95° and 2.05° plus 1/10 of the sum of the differences at 1.96°, 1.97°, 1.98°, 1.99°, 2.00°, 2.01°, 2.02°, 2.03°, and 2.04° K. The tabulated values at 0.7°, 0.8°, and 0.9° K were obtained by calculating the pressure corresponding to each 0.01° interval between 0.65° and 0.95° K from the data on p. T153 of table I and averaging the results in the manner just described. At 4.3° K and above, the tabulated values were obtained directly from the equation given on p. T152. Tables and equation have been published also by C. F. Squire, *Low temperature physics*, pp. 229 to 233 and p. 26 (McGraw-Hill Book Co., Inc., New York, N.Y., 1953).

T_{55E} : Defined by the unnumbered equations on p. 188, *Low temperature physics and chemistry* (Clement), Proc. Fifth Intern. Conf. (Univ. of Wisconsin Press, Madison, Wis., 1958). Values of vapor pressure in millimeters mercury at 20° C were calculated by the computer at the U.S. Naval Research Laboratory (the NAREC) and values in millimeters mercury at 0° C were calculated by the computer at Los Alamos Scientific Laboratory (the MANIAC). The MANIAC calculation was used for obtaining the values in the table.

T_{L8} : Defined by table VII on p. 461, *Progress in low temperature physics* (Van Dijk and Durieux), (North-Holland Publishing Co., Amsterdam, Netherlands, 1957). Values below 0.9° K were obtained from the tables mentioned in section 23 of the reference. Table VII mentioned above is the same as table V published in *Physica* **24**, 1 (1958) and in *Leiden Comm. Suppl.* 113c.

TABLE VII. Auxiliary table for use in making corrections for density of mercury at temperatures other than 0°C^a

Table gives values of the ratio between the density of mercury at the indicated temperature (° C) and that at 0° C.

| $t^\circ\text{C}$ | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-------------------|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 10 | 0.99818 | 800 | 782 | 764 | 746 | 728 | 710 | 692 | 674 | 655 |
| 20 | .99637 | 619 | 601 | 583 | 565 | 547 | 529 | 511 | 493 | 475 |
| 30 | .99457 | 439 | 421 | 403 | 385 | 367 | 349 | 331 | 313 | 295 |

^a Smithsonian Physical Tables, Ninth Revised Ed., edited by W. E. Forsythe, p. 153 (The Smithsonian Inst., Washington, D.C., 1954).

Equation for Computing Local Acceleration Due to Gravity^{1, 2}

Most frequently the vapor pressure is measured as a distance between two mercury levels. After corrections for capillarity and for the temperature of the mercury and the scale have been applied, the height, h , has to be reduced to standard gravity. The reduced height, h_0 , can be computed from $h_0 = hg/980.665$. If the local value of g is unknown, it may be computed with sufficient accuracy for correcting the height of a mercury column from

$$g = 980.632 - 2.586 \cos 2\phi + 0.003 \cos 4\phi - 0.0003086 H$$

where ϕ is the local latitude and H the local altitude in meters. The unit of g is cm/sec².

¹ Procès-Verbaux des séances du Comité International des Poids et Mesures **22**, pp. 96 to 98, 114 to 118, 129 to 134 (1950).

² G. D. Garland, pp. 221, 222, Karl Jung, p. 564, *Handbuch der Physik* edited by J. Bartels **47**, (Springer-Verlag, Berlin, 1956).

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