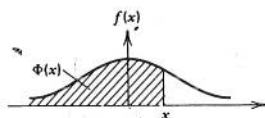


# APPENDIX D

## Tabulation of the Standard Normal Distribution\*



| x   | Φ(x)   | f(x)   | x    | Φ(x)   | f(x)   | x    | Φ(x)   | f(x)   |
|-----|--------|--------|------|--------|--------|------|--------|--------|
| .00 | .50000 | .39894 | .50  | .69146 | .35207 | 1.00 | .84134 | .24197 |
| .01 | .50399 | .39892 | .51  | .69497 | .35029 | 1.01 | .84375 | .23955 |
| .02 | .50798 | .39886 | .52  | .69847 | .34849 | 1.02 | .84614 | .23713 |
| .03 | .51197 | .39876 | .53  | .70194 | .34667 | 1.03 | .84850 | .23471 |
| .04 | .51595 | .39862 | .54  | .70540 | .34482 | 1.04 | .85083 | .23230 |
| .05 | .51994 | .39844 | .55  | .70884 | .34294 | 1.05 | .85314 | .22988 |
| .06 | .52392 | .39822 | .56  | .71226 | .34105 | 1.06 | .85543 | .22747 |
| .07 | .52790 | .39797 | .57  | .71566 | .33912 | 1.07 | .85769 | .22506 |
| .08 | .53188 | .39767 | .58  | .71904 | .33718 | 1.08 | .85993 | .22265 |
| .09 | .53586 | .39733 | .59  | .72240 | .33521 | 1.09 | .86214 | .22025 |
| .10 | .53983 | .39695 | .60  | .72575 | .33322 | 1.10 | .86433 | .21785 |
| .11 | .54380 | .39654 | .61  | .72907 | .33121 | 1.11 | .86650 | .21546 |
| .12 | .54776 | .39608 | .62  | .73237 | .32918 | 1.12 | .86864 | .21307 |
| .13 | .55172 | .39559 | .63  | .73565 | .32713 | 1.13 | .87076 | .21069 |
| .14 | .55567 | .39505 | .64  | .73891 | .32506 | 1.14 | .87286 | .20831 |
| .15 | .55962 | .39448 | .65  | .74215 | .32297 | 1.15 | .87493 | .20594 |
| .16 | .56356 | .39387 | .66  | .74537 | .32086 | 1.16 | .87698 | .20357 |
| .17 | .56750 | .39322 | .67  | .74857 | .31874 | 1.17 | .87900 | .20121 |
| .18 | .57142 | .39253 | .68  | .75175 | .31659 | 1.18 | .88100 | .19886 |
| .19 | .57535 | .39181 | .69  | .75490 | .31443 | 1.19 | .88298 | .19652 |
| .20 | .57926 | .39104 | .70  | .75804 | .31225 | 1.20 | .88493 | .19419 |
| .21 | .58317 | .39024 | .71  | .76115 | .31006 | 1.21 | .88686 | .19186 |
| .22 | .58706 | .38940 | .72  | .76424 | .30785 | 1.22 | .88877 | .18954 |
| .23 | .59095 | .38853 | .73  | .76730 | .30563 | 1.23 | .89065 | .18724 |
| .24 | .59484 | .38762 | .74  | .77035 | .30339 | 1.24 | .89251 | .18494 |
| .25 | .59871 | .38667 | .75  | .77337 | .30114 | 1.25 | .89435 | .18265 |
| .26 | .60257 | .38568 | .76  | .77637 | .29887 | 1.26 | .89617 | .18037 |
| .27 | .60643 | .38466 | .77  | .77935 | .29659 | 1.27 | .89796 | .17810 |
| .28 | .61026 | .38361 | .78  | .78230 | .29431 | 1.28 | .89973 | .17585 |
| .29 | .61409 | .38251 | .79  | .78524 | .29200 | 1.29 | .90147 | .17360 |
| .30 | .61791 | .38139 | .80  | .78814 | .28969 | 1.30 | .90320 | .17137 |
| .31 | .62172 | .38023 | .81  | .79103 | .28737 | 1.31 | .90490 | .16915 |
| .32 | .62552 | .37903 | .82  | .79389 | .28504 | 1.32 | .90658 | .16694 |
| .33 | .62930 | .37780 | .83  | .79673 | .28269 | 1.33 | .90824 | .16474 |
| .34 | .63307 | .37654 | .84  | .79955 | .28034 | 1.34 | .90988 | .16256 |
| .35 | .63683 | .37524 | .85  | .80234 | .27798 | 1.35 | .91149 | .16038 |
| .36 | .64058 | .37391 | .86  | .80511 | .27562 | 1.36 | .91308 | .15822 |
| .37 | .64431 | .37255 | .87  | .80785 | .27324 | 1.37 | .91466 | .15608 |
| .38 | .64803 | .37115 | .88  | .81057 | .27086 | 1.38 | .91621 | .15395 |
| .39 | .65173 | .36973 | .89  | .81327 | .26848 | 1.39 | .91774 | .15183 |
| .40 | .65542 | .36827 | .90  | .81594 | .26609 | 1.40 | .91924 | .14973 |
| .41 | .65910 | .36678 | .91  | .81859 | .26369 | 1.41 | .92073 | .14764 |
| .42 | .66276 | .36526 | .92  | .82121 | .26129 | 1.42 | .92220 | .14556 |
| .43 | .66640 | .36371 | .93  | .82381 | .25888 | 1.43 | .92364 | .14350 |
| .44 | .67003 | .36213 | .94  | .82639 | .25647 | 1.44 | .92507 | .14146 |
| .45 | .67365 | .36053 | .95  | .82894 | .25406 | 1.45 | .92647 | .13943 |
| .46 | .67724 | .35889 | .96  | .83147 | .25164 | 1.46 | .92786 | .13742 |
| .47 | .68082 | .35723 | .97  | .83398 | .24923 | 1.47 | .92922 | .13542 |
| .48 | .68439 | .35553 | .98  | .83646 | .24681 | 1.48 | .93056 | .13344 |
| .49 | .68793 | .35381 | .99  | .83891 | .24439 | 1.49 | .93189 | .13147 |
| .50 | .69146 | .35207 | 1.00 | .84134 | .24197 | 1.50 | .93319 | .12952 |

\* Abridged from *Biometrika Tables for Statisticians*, vol. 1 (2nd edition), edited by E. S. Pearson and H. O. Hartley, Cambridge University Press, London, 1958, table 1, with permission of the Biometrika Trustees.

| x    | $\Phi(x)$ | f(x)   | x    | $\Phi(x)$ | f(x)   | x    | $\Phi(x)$ | f(x)   |
|------|-----------|--------|------|-----------|--------|------|-----------|--------|
| 1.50 | .93319    | .12952 | 2.00 | .97725    | .05399 | 2.50 | .99379    | .01753 |
| 1.51 | .93448    | .12758 | 2.01 | .97778    | .05292 | 2.51 | .99396    | .01709 |
| 1.52 | .93574    | .12566 | 2.02 | .97831    | .05186 | 2.52 | .99413    | .01667 |
| 1.53 | .93699    | .12376 | 2.03 | .97882    | .05082 | 2.53 | .99430    | .01625 |
| 1.54 | .93822    | .12188 | 2.04 | .97932    | .04980 | 2.54 | .99446    | .01585 |
| 1.55 | .93943    | .12001 | 2.05 | .97982    | .04879 | 2.55 | .99461    | .01545 |
| 1.56 | .94062    | .11816 | 2.06 | .98030    | .04780 | 2.56 | .99477    | .01506 |
| 1.57 | .94179    | .11632 | 2.07 | .98077    | .04682 | 2.57 | .99492    | .01468 |
| 1.58 | .94295    | .11450 | 2.08 | .98124    | .04586 | 2.58 | .99506    | .01431 |
| 1.59 | .94408    | .11270 | 2.09 | .98169    | .04491 | 2.59 | .99520    | .01394 |
| 1.60 | .94520    | .11092 | 2.10 | .98214    | .04398 | 2.60 | .99534    | .01358 |
| 1.61 | .94630    | .10915 | 2.11 | .98257    | .04307 | 2.61 | .99547    | .01323 |
| 1.62 | .94738    | .10741 | 2.12 | .98300    | .04217 | 2.62 | .99560    | .01289 |
| 1.63 | .94845    | .10567 | 2.13 | .98341    | .04128 | 2.63 | .99573    | .01256 |
| 1.64 | .94950    | .10396 | 2.14 | .98382    | .04041 | 2.64 | .99585    | .01223 |
| 1.65 | .95053    | .10226 | 2.15 | .98422    | .03955 | 2.65 | .99598    | .01191 |
| 1.66 | .95154    | .10059 | 2.16 | .98461    | .03871 | 2.66 | .99609    | .01160 |
| 1.67 | .95254    | .09893 | 2.17 | .98500    | .03788 | 2.67 | .99621    | .01130 |
| 1.68 | .95352    | .09728 | 2.18 | .98537    | .03706 | 2.68 | .99632    | .01100 |
| 1.69 | .95449    | .09566 | 2.19 | .98574    | .03626 | 2.69 | .99643    | .01071 |
| 1.70 | .95543    | .09405 | 2.20 | .98610    | .03547 | 2.70 | .99653    | .01042 |
| 1.71 | .95637    | .09246 | 2.21 | .98645    | .03470 | 2.71 | .99664    | .01014 |
| 1.72 | .95728    | .09089 | 2.22 | .98679    | .03394 | 2.72 | .99674    | .00987 |
| 1.73 | .95818    | .08933 | 2.23 | .98713    | .03319 | 2.73 | .99683    | .00961 |
| 1.74 | .95907    | .08780 | 2.24 | .98745    | .03246 | 2.74 | .99693    | .00935 |
| 1.75 | .95994    | .08628 | 2.25 | .98778    | .03174 | 2.75 | .99702    | .00909 |
| 1.76 | .96080    | .08478 | 2.26 | .98809    | .03103 | 2.76 | .99711    | .00885 |
| 1.77 | .96164    | .08329 | 2.27 | .98840    | .03034 | 2.77 | .99720    | .00861 |
| 1.78 | .96246    | .08183 | 2.28 | .98870    | .02965 | 2.78 | .99728    | .00837 |
| 1.79 | .96327    | .08038 | 2.29 | .98899    | .02898 | 2.79 | .99736    | .00814 |
| 1.80 | .96407    | .07895 | 2.30 | .98928    | .02833 | 2.80 | .99744    | .00792 |
| 1.81 | .96485    | .07754 | 2.31 | .98956    | .02768 | 2.81 | .99752    | .00770 |
| 1.82 | .96562    | .07614 | 2.32 | .98983    | .02705 | 2.82 | .99760    | .00748 |
| 1.83 | .96638    | .07477 | 2.33 | .99010    | .02643 | 2.83 | .99767    | .00727 |
| 1.84 | .96712    | .07341 | 2.34 | .99036    | .02582 | 2.84 | .99774    | .00707 |
| 1.85 | .96784    | .07206 | 2.35 | .99061    | .02522 | 2.85 | .99781    | .00687 |
| 1.86 | .96856    | .07074 | 2.36 | .99086    | .02463 | 2.86 | .99788    | .00668 |
| 1.87 | .96926    | .06943 | 2.37 | .99111    | .02406 | 2.87 | .99795    | .00649 |
| 1.88 | .96995    | .06814 | 2.38 | .99134    | .02349 | 2.88 | .99801    | .00631 |
| 1.89 | .97062    | .06687 | 2.39 | .99158    | .02294 | 2.89 | .99807    | .00613 |
| 1.90 | .97128    | .06562 | 2.40 | .99180    | .02239 | 2.90 | .99813    | .00595 |
| 1.91 | .97193    | .06438 | 2.41 | .99202    | .02186 | 2.91 | .99819    | .00578 |
| 1.92 | .97257    | .06316 | 2.42 | .99224    | .02134 | 2.92 | .99825    | .00562 |
| 1.93 | .97320    | .06195 | 2.43 | .99245    | .02083 | 2.93 | .99831    | .00545 |
| 1.94 | .97381    | .06077 | 2.44 | .99266    | .02033 | 2.94 | .99836    | .00530 |
| 1.95 | .97441    | .05959 | 2.45 | .99286    | .01984 | 2.95 | .99841    | .00514 |
| 1.96 | .97500    | .05844 | 2.46 | .99305    | .01936 | 2.96 | .99846    | .00499 |
| 1.97 | .97558    | .05730 | 2.47 | .99324    | .01889 | 2.97 | .99851    | .00485 |
| 1.98 | .97615    | .05618 | 2.48 | .99343    | .01842 | 2.98 | .99856    | .00471 |
| 1.99 | .97670    | .05508 | 2.49 | .99361    | .01797 | 2.99 | .99861    | .00457 |
| 2.00 | .97725    | .05399 | 2.50 | .99379    | .01753 | 3.00 | .99865    | .00443 |

| x    | $\Phi(x)$ | f(x)   | x    | $\Phi(x)$ | f(x)   | x    | $\Phi(x)$ | f(x)   |
|------|-----------|--------|------|-----------|--------|------|-----------|--------|
| 3.00 | .99865    | .00443 | 3.50 | .99977    | .00087 | 4.00 | .99997    | .00013 |
| 3.01 | .99869    | .00430 | 3.51 | .99978    | .00084 | 4.01 | .99997    | .00013 |
| 3.02 | .99874    | .00417 | 3.52 | .99978    | .00081 | 4.02 | .99997    | .00012 |
| 3.03 | .99878    | .00405 | 3.53 | .99979    | .00079 | 4.03 | .99997    | .00012 |
| 3.04 | .99882    | .00393 | 3.54 | .99980    | .00076 | 4.04 | .99997    | .00011 |
| 3.05 | .99886    | .00381 | 3.55 | .99981    | .00073 | 4.05 | .99997    | .00011 |
| 3.06 | .99889    | .00370 | 3.56 | .99981    | .00071 | 4.06 | .99998    | .00011 |
| 3.07 | .99893    | .00358 | 3.57 | .99982    | .00068 | 4.07 | .99998    | .00010 |
| 3.08 | .99897    | .00348 | 3.58 | .99983    | .00066 | 4.08 | .99998    | .00010 |
| 3.09 | .99900    | .00337 | 3.59 | .99983    | .00063 | 4.09 | .99998    | .00009 |
| 3.10 | .99903    | .00327 | 3.60 | .99984    | .00061 | 4.10 | .99998    | .00009 |
| 3.11 | .99906    | .00317 | 3.61 | .99985    | .00059 | 4.11 | .99998    | .00009 |
| 3.12 | .99910    | .00307 | 3.62 | .99985    | .00057 | 4.12 | .99998    | .00008 |
| 3.13 | .99913    | .00298 | 3.63 | .99986    | .00055 | 4.13 | .99998    | .00008 |
| 3.14 | .99916    | .00288 | 3.64 | .99986    | .00053 | 4.14 | .99998    | .00008 |
| 3.15 | .99918    | .00279 | 3.65 | .99987    | .00051 | 4.15 | .99998    | .00007 |
| 3.16 | .99921    | .00271 | 3.66 | .99987    | .00049 | 4.16 | .99998    | .00007 |
| 3.17 | .99924    | .00262 | 3.67 | .99988    | .00047 | 4.17 | .99998    | .00007 |
| 3.18 | .99926    | .00254 | 3.68 | .99988    | .00046 | 4.18 | .99999    | .00006 |
| 3.19 | .99929    | .00246 | 3.69 | .99989    | .00044 | 4.19 | .99999    | .00006 |
| 3.20 | .99931    | .00238 | 3.70 | .99989    | .00042 | 4.20 | .99999    | .00006 |
| 3.21 | .99934    | .00231 | 3.71 | .99990    | .00041 | 4.21 | .99999    | .00006 |
| 3.22 | .99936    | .00224 | 3.72 | .99990    | .00039 | 4.22 | .99999    | .00005 |
| 3.23 | .99938    | .00216 | 3.73 | .99990    | .00038 | 4.23 | .99999    | .00005 |
| 3.24 | .99940    | .00210 | 3.74 | .99991    | .00037 | 4.24 | .99999    | .00005 |
| 3.25 | .99942    | .00203 | 3.75 | .99991    | .00035 | 4.25 | .99999    | .00005 |
| 3.26 | .99944    | .00196 | 3.76 | .99992    | .00034 | 4.26 | .99999    | .00005 |
| 3.27 | .99946    | .00190 | 3.77 | .99992    | .00033 | 4.27 | .99999    | .00004 |
| 3.28 | .99948    | .00184 | 3.78 | .99992    | .00031 | 4.28 | .99999    | .00004 |
| 3.29 | .99950    | .00178 | 3.79 | .99992    | .00030 | 4.29 | .99999    | .00004 |
| 3.30 | .99952    | .00172 | 3.80 | .99993    | .00029 | 4.30 | .99999    | .00004 |
| 3.31 | .99953    | .00167 | 3.81 | .99993    | .00028 | 4.31 | .99999    | .00004 |
| 3.32 | .99955    | .00161 | 3.82 | .99993    | .00027 | 4.32 | .99999    | .00004 |
| 3.33 | .99957    | .00156 | 3.83 | .99994    | .00026 | 4.33 | .99999    | .00003 |
| 3.34 | .99958    | .00151 | 3.84 | .99994    | .00025 | 4.34 | .99999    | .00003 |
| 3.35 | .99960    | .00146 | 3.85 | .99994    | .00024 | 4.35 | .99999    | .00003 |
| 3.36 | .99961    | .00141 | 3.86 | .99994    | .00023 | 4.36 | .99999    | .00003 |
| 3.37 | .99962    | .00136 | 3.87 | .99995    | .00022 | 4.37 | .99999    | .00003 |
| 3.38 | .99964    | .00132 | 3.88 | .99995    | .00021 | 4.38 | .99999    | .00003 |
| 3.39 | .99965    | .00127 | 3.89 | .99995    | .00021 | 4.39 | .99999    | .00003 |
| 3.40 | .99966    | .00123 | 3.90 | .99995    | .00020 | 4.40 | .99999    | .00002 |
| 3.41 | .99968    | .00119 | 3.91 | .99995    | .00019 | 4.41 | .99999    | .00002 |
| 3.42 | .99969    | .00115 | 3.92 | .99996    | .00018 | 4.42 | 1.00000   | .00002 |
| 3.43 | .99970    | .00111 | 3.93 | .99996    | .00018 | 4.43 | 1.00000   | .00002 |
| 3.44 | .99971    | .00107 | 3.94 | .99996    | .00017 | 4.44 | 1.00000   | .00002 |
| 3.45 | .99972    | .00104 | 3.95 | .99996    | .00016 | 4.45 | 1.00000   | .00002 |
| 3.46 | .99973    | .00100 | 3.96 | .99996    | .00016 | 4.46 | 1.00000   | .00002 |
| 3.47 | .99974    | .00097 | 3.97 | .99996    | .00015 | 4.47 | 1.00000   | .00002 |
| 3.48 | .99975    | .00094 | 3.98 | .99997    | .00014 | 4.48 | 1.00000   | .00002 |
| 3.49 | .99976    | .00090 | 3.99 | .99997    | .00014 | 4.49 | 1.00000   | .00002 |
| 3.50 | .99977    | .00087 | 4.00 | .99997    | .00013 | 4.50 | 1.00000   | .00002 |