

## Appendix

# A

## STANDARD AM0 AND AM1.5 SPECTRA

Table A.1 is an abbreviated version of that provided online by the National Renewable Energy Laboratory (NREL, 2004), which is from Standard ASTM G173-02 (ASTM, 2003). This abbreviated version of the standard spectral distribution is for information only. Since this version is only a sample of the more extensive complete table, using the abbreviated version in the applications for which the standard was developed will not produce the same technical results as would use of the complete table published in the standard.

Permission to reproduce this abbreviated version of the standard has been granted by ASTM.

The ASTM standard spectral distributions are computed using the SMARTS spectral model of Gueymard (1995, 2001).

Table A.1. Standard AM0, global AM1.5, and direct and circumsolar AM1.5 spectra. (Extracted, with permission, from G173-03 Standard Tables for Reference Solar Spectral Irradiances: Direct Normal and Hemispherical on 37° Tilted Surface, copyright ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428.)

wave-length (nm)	direct and circumsolar			wave-length (nm)	direct and circumsolar		
	AM0	global	AM1.5		AM0	global	AM1.5
	(W/m <sup>2</sup> /nm)	(W/m <sup>2</sup> /nm)	(W/m <sup>2</sup> /nm)		(W/m <sup>2</sup> /nm)	(W/m <sup>2</sup> /nm)	(W/m <sup>2</sup> /nm)
280	8.2000E-02	4.7309E-23	2.5361E-26	660	1.5580E+00	1.3992E+00	1.2668E+00
290	5.6300E-01	6.0168E-09	5.1454E-10	670	1.5340E+00	1.4196E+00	1.2853E+00
300	4.5794E-01	1.0205E-03	4.5631E-04	680	1.4940E+00	1.3969E+00	1.2650E+00
310	5.3300E-01	5.0939E-02	2.7826E-02	690	1.4790E+00	1.1821E+00	1.0746E+00
320	7.7500E-01	2.0527E-01	1.1277E-01	700	1.4220E+00	1.2823E+00	1.1636E+00
330	1.1098E+00	4.7139E-01	2.6192E-01	710	1.4040E+00	1.3175E+00	1.1954E+00
340	1.0544E+00	5.0180E-01	2.9659E-01	720	1.3487E+00	9.8550E-01	8.9940E-01
350	1.0122E+00	5.2798E-01	3.2913E-01	730	1.3357E+00	1.1285E+00	1.0294E+00
360	1.0890E+00	5.9817E-01	3.9240E-01	740	1.2830E+00	1.2195E+00	1.1119E+00
370	1.2934E+00	7.5507E-01	5.1666E-01	750	1.2740E+00	1.2341E+00	1.1273E+00
380	1.1520E+00	7.0077E-01	4.9751E-01	760	1.2590E+00	2.6604E-01	2.4716E-01
390	1.2519E+00	7.9699E-01	5.8457E-01	770	1.2146E+00	1.1608E+00	1.0646E+00
400	1.6885E+00	1.1141E+00	8.3989E-01	780	1.1930E+00	1.1636E+00	1.0687E+00
410	1.5370E+00	1.0485E+00	8.0910E-01	790	1.1704E+00	1.0910E+00	1.0045E+00
420	1.5990E+00	1.1232E+00	8.8467E-01	800	1.1248E+00	1.0725E+00	9.8859E-01
430	1.2120E+00	8.7462E-01	7.0134E-01	810	1.1100E+00	1.0559E+00	9.7488E-01
440	1.8300E+00	1.3499E+00	1.0993E+00	820	1.0740E+00	8.6188E-01	7.9899E-01
450	2.0690E+00	1.5595E+00	1.2881E+00	830	1.0563E+00	9.1601E-01	8.4930E-01
460	1.9973E+00	1.5291E+00	1.2791E+00	840	1.0500E+00	1.0157E+00	9.4124E-01
470	1.9390E+00	1.5077E+00	1.2749E+00	850	9.1000E-01	8.9372E-01	8.2900E-01
480	2.0680E+00	1.6181E+00	1.3825E+00	860	1.0000E+00	9.8816E-01	9.1764E-01
490	2.0320E+00	1.6224E+00	1.3968E+00	870	9.7700E-01	9.6755E-01	8.9933E-01
500	1.9160E+00	1.5451E+00	1.3391E+00	875	9.3562E-01	9.2687E-01	8.6204E-01
510	1.9100E+00	1.5481E+00	1.3497E+00	880	9.4856E-01	9.3957E-01	8.7434E-01
520	1.8600E+00	1.5236E+00	1.3349E+00	885	9.5469E-01	9.4423E-01	8.7913E-01
530	1.8920E+00	1.5446E+00	1.3598E+00	890	9.4236E-01	9.2393E-01	8.6078E-01
540	1.8000E+00	1.4825E+00	1.3096E+00	895	9.2600E-01	8.1357E-01	7.5956E-01
550	1.8630E+00	1.5399E+00	1.3648E+00	900	9.1378E-01	7.4260E-01	6.9429E-01
560	1.7860E+00	1.4740E+00	1.3118E+00	905	9.1800E-01	8.1709E-01	7.6337E-01
570	1.8280E+00	1.4816E+00	1.3240E+00	910	8.9496E-01	6.2467E-01	5.8553E-01
580	1.8340E+00	1.5020E+00	1.3455E+00	920	8.8540E-01	7.4414E-01	6.9657E-01
590	1.7218E+00	1.3709E+00	1.2316E+00	930	8.6866E-01	4.3210E-01	4.0679E-01
600	1.7700E+00	1.4753E+00	1.3278E+00	940	8.4000E-01	4.7181E-01	4.4411E-01
610	1.7240E+00	1.4686E+00	1.3237E+00	950	8.2867E-01	1.4726E-01	1.3944E-01
620	1.7110E+00	1.4739E+00	1.3299E+00	960	8.0627E-01	4.2066E-01	3.9685E-01
630	1.6650E+00	1.3924E+00	1.2589E+00	970	7.9140E-01	6.3461E-01	5.9689E-01
640	1.6130E+00	1.4340E+00	1.2962E+00	980	7.7512E-01	6.0468E-01	5.6941E-01
650	1.5260E+00	1.3594E+00	1.2299E+00	990	7.5694E-01	7.3227E-01	6.8843E-01

Table A.1 (continued).

wave-length (nm)	direct and circumsolar AM1.5		wave-length (nm)	direct and circumsolar AM1.5			
	AM0 (W/m <sup>2</sup> /nm)	global (W/m <sup>2</sup> /nm)		AM0 (W/m <sup>2</sup> /nm)	global (W/m <sup>2</sup> /nm)		
1000	7.4255E-01	7.3532E-01	6.9159E-01	1500	3.0077E-01	2.5061E-01	2.4339E-01
1010	7.3055E-01	7.1914E-01	6.7695E-01	1510	2.9394E-01	2.7052E-01	2.6269E-01
1020	7.0127E-01	6.9896E-01	6.5839E-01	1520	2.8786E-01	2.6450E-01	2.5688E-01
1030	6.9208E-01	6.9055E-01	6.5092E-01	1530	2.6731E-01	2.5522E-01	2.4789E-01
1040	6.7440E-01	6.7170E-01	6.3366E-01	1540	2.6857E-01	2.6491E-01	2.5737E-01
1050	6.6117E-01	6.5463E-01	6.1802E-01	1550	2.6961E-01	2.6990E-01	2.6226E-01
1060	6.4831E-01	6.3585E-01	6.0073E-01	1560	2.6546E-01	2.6568E-01	2.5821E-01
1070	6.2165E-01	6.0469E-01	5.7178E-01	1570	2.6068E-01	2.4175E-01	2.3497E-01
1080	6.2250E-01	5.9722E-01	5.6519E-01	1580	2.6381E-01	2.4464E-01	2.3772E-01
1090	6.0442E-01	5.5573E-01	5.2656E-01	1590	2.4154E-01	2.4179E-01	2.3486E-01
1100	6.0000E-01	4.8577E-01	4.6113E-01	1600	2.5259E-01	2.3810E-01	2.3133E-01
1110	5.8700E-01	4.7899E-01	4.5496E-01	1610	2.3312E-01	2.1760E-01	2.1146E-01
1120	5.6850E-01	1.4189E-01	1.3562E-01	1620	2.3407E-01	2.3449E-01	2.2783E-01
1130	5.6401E-01	7.0574E-02	6.7568E-02	1630	2.3655E-01	2.3651E-01	2.2984E-01
1140	5.5573E-01	2.5599E-01	2.4447E-01	1640	2.2571E-01	2.1511E-01	2.0913E-01
1150	5.4623E-01	1.2164E-01	1.1648E-01	1650	2.2840E-01	2.2526E-01	2.1902E-01
1160	5.2928E-01	2.8648E-01	2.7371E-01	1660	2.2412E-01	2.2332E-01	2.1721E-01
1170	5.2875E-01	4.5873E-01	4.3731E-01	1670	2.2208E-01	2.2168E-01	2.1573E-01
1180	5.2199E-01	4.4069E-01	4.2052E-01	1680	2.0641E-01	2.0558E-01	2.0017E-01
1190	5.0583E-01	4.6239E-01	4.4124E-01	1690	2.0845E-01	2.0523E-01	1.9991E-01
1200	5.0005E-01	4.4825E-01	4.2789E-01	1700	2.0539E-01	1.9975E-01	1.9464E-01
1210	4.9225E-01	4.5336E-01	4.3267E-01	1710	1.9894E-01	1.8790E-01	1.8316E-01
1220	4.8433E-01	4.5805E-01	4.3724E-01	1720	1.9799E-01	1.8698E-01	1.8231E-01
1230	4.7502E-01	4.6003E-01	4.3928E-01	1730	1.9309E-01	1.7407E-01	1.6979E-01
1240	4.5968E-01	4.6077E-01	4.4011E-01	1740	1.9001E-01	1.6818E-01	1.6405E-01
1250	4.5860E-01	4.5705E-01	4.3684E-01	1750	1.8518E-01	1.6566E-01	1.6162E-01
1260	4.5018E-01	4.3110E-01	4.1235E-01	1760	1.8243E-01	1.5998E-01	1.5608E-01
1270	4.4212E-01	3.8744E-01	3.7087E-01	1770	1.7969E-01	1.4172E-01	1.3831E-01
1280	4.3543E-01	4.2204E-01	4.0387E-01	1780	1.7553E-01	1.0050E-01	9.8143E-02
1290	4.1851E-01	4.1285E-01	3.9522E-01	1790	1.7371E-01	8.8904E-02	8.6831E-02
1300	4.1537E-01	3.5312E-01	3.3855E-01	1800	1.6800E-01	3.1828E-02	3.1112E-02
1310	4.0714E-01	3.0114E-01	2.8908E-01	1810	1.6859E-01	9.6911E-03	9.4762E-03
1320	3.9875E-01	2.5872E-01	2.4864E-01	1820	1.6000E-01	9.8755E-04	9.6578E-04
1330	3.8548E-01	2.2923E-01	2.2052E-01	1830	1.5921E-01	5.2041E-06	5.0896E-06
1340	3.7439E-01	1.6831E-01	1.6216E-01	1840	1.5552E-01	6.2703E-08	6.1337E-08
1350	3.7081E-01	1.6025E-02	1.5488E-02	1850	1.5337E-01	2.9993E-06	2.9348E-06
1360	3.6464E-01	2.1404E-06	2.0706E-06	1860	1.4933E-01	1.1151E-05	1.0920E-05
1370	3.5912E-01	2.9200E-07	2.8266E-07	1870	1.4565E-01	2.6662E-10	2.6148E-10
1380	3.5682E-01	8.1587E-05	7.9042E-05	1880	1.4667E-01	7.7505E-05	7.6123E-05
1390	3.4736E-01	4.9328E-04	4.7836E-04	1890	1.4041E-01	2.2333E-04	2.1956E-04
1400	3.3896E-01	3.2466E-09	3.1513E-09	1900	1.4041E-01	8.6221E-07	8.4916E-07
1410	3.4046E-01	4.6653E-04	4.5332E-04	1910	1.3654E-01	2.3045E-05	2.2726E-05
1420	3.3270E-01	8.2718E-03	8.0437E-03	1920	1.3463E-01	4.5069E-04	4.4451E-04
1430	3.2277E-01	6.1601E-02	5.9912E-02	1930	1.3145E-01	5.5242E-04	5.4474E-04
1440	3.1269E-01	3.9601E-02	3.8547E-02	1940	1.2950E-01	3.2821E-03	3.2357E-03
1450	3.1774E-01	2.7412E-02	2.6699E-02	1950	1.2627E-01	1.6727E-02	1.6482E-02
1460	3.1367E-01	8.5421E-02	8.3161E-02	1960	1.2610E-01	2.1906E-02	2.1569E-02
1470	3.1010E-01	4.9678E-02	4.8397E-02	1970	1.2375E-01	4.8847E-02	4.8055E-02
1480	3.0626E-01	6.0637E-02	5.9063E-02	1980	1.1968E-01	7.5512E-02	7.4234E-02
1490	3.0093E-01	1.7478E-01	1.6993E-01	1990	1.1977E-01	8.5613E-02	8.4124E-02

Table A.1 (continued).

wave-length (nm)	direct and circumsolar			wave-length (nm)	direct and circumsolar		
	AM0	global	AM1.5		AM0	global	AM1.5
	(W/m <sup>2</sup> /nm)	(W/m <sup>2</sup> /nm)	(W/m <sup>2</sup> /nm)		(W/m <sup>2</sup> /nm)	(W/m <sup>2</sup> /nm)	(W/m <sup>2</sup> /nm)
2000	1.1673E-01	3.8156E-02	3.7491E-02	2500	5.1380E-02	7.0642E-03	7.0328E-03
2010	1.1512E-01	3.9748E-02	3.9071E-02	2510	4.9600E-02	2.2163E-03	2.2063E-03
2020	1.1192E-01	4.4981E-02	4.4239E-02	2520	4.8140E-02	3.7054E-04	3.6879E-04
2030	1.0969E-01	8.4856E-02	8.3460E-02	2530	4.7700E-02	6.3593E-07	6.3279E-07
2040	1.0720E-01	8.9781E-02	8.8344E-02	2540	4.6770E-02	3.7716E-07	3.7521E-07
2050	1.0592E-01	6.7927E-02	6.6892E-02	2550	4.6260E-02	2.8222E-13	2.8066E-13
2060	1.0320E-01	6.9193E-02	6.8157E-02	2560	4.5400E-02	3.1020E-11	3.0842E-11
2070	1.0095E-01	6.5676E-02	6.4715E-02	2570	4.4850E-02	1.5258E-18	1.5151E-18
2080	9.9330E-02	8.6812E-02	8.5528E-02	2580	4.4100E-02	3.8214E-22	3.7933E-22
2090	9.7540E-02	8.9100E-02	8.7779E-02	2590	4.3410E-02	5.4793E-31	5.4369E-31
2100	9.6240E-02	8.6133E-02	8.4869E-02	2600	4.2910E-02	4.4912E-28	4.4556E-28
2110	9.4630E-02	8.9654E-02	8.8320E-02	2610	4.2500E-02	5.9447E-34	5.8970E-34
2120	9.3140E-02	8.7588E-02	8.6281E-02	2620	4.1900E-02	5.6505E-29	5.6056E-29
2130	9.2380E-02	8.9774E-02	8.8422E-02	2630	4.1160E-02	2.8026E-45	2.8026E-45
2140	9.1050E-02	9.0767E-02	8.9390E-02	2640	4.0220E-02	1.1750E-16	1.1657E-16
2150	8.9710E-02	8.4639E-02	8.3369E-02	2650	3.9960E-02	1.4295E-19	1.4186E-19
2160	8.7890E-02	8.4170E-02	8.2912E-02	2660	3.9480E-02	2.6068E-25	2.5880E-25
2170	8.5370E-02	8.1996E-02	8.0776E-02	2670	3.9100E-02	0.0000E+00	0.0000E+00
2180	8.4640E-02	8.1808E-02	8.0597E-02	2680	3.8430E-02	0.0000E+00	0.0000E+00
2190	8.3140E-02	7.9068E-02	7.7905E-02	2690	3.7790E-02	1.0226E-29	1.0178E-29
2200	8.2790E-02	7.1202E-02	7.0175E-02	2700	3.7120E-02	0.0000E+00	0.0000E+00
2210	8.0810E-02	7.9315E-02	7.8174E-02	2710	3.6680E-02	1.1250E-35	1.1239E-35
2220	7.9990E-02	7.7730E-02	7.6631E-02	2720	3.6380E-02	5.6052E-45	5.6052E-45
2230	7.8400E-02	7.5773E-02	7.4727E-02	2730	3.6010E-02	6.0734E-19	6.0929E-19
2240	7.6510E-02	7.3118E-02	7.2140E-02	2740	3.5530E-02	2.3314E-27	2.3435E-27
2250	7.5370E-02	7.1937E-02	7.1034E-02	2750	3.5180E-02	1.6648E-28	1.6758E-28
2260	7.4090E-02	6.6929E-02	6.6143E-02	2760	3.4550E-02	0.0000E+00	0.0000E+00
2270	7.3100E-02	6.4867E-02	6.4138E-02	2770	3.4260E-02	8.3791E-24	8.4528E-24
2280	7.1390E-02	6.6288E-02	6.5551E-02	2780	3.3640E-02	4.8067E-34	4.8532E-34
2290	7.1190E-02	6.3220E-02	6.2534E-02	2790	3.3200E-02	1.2170E-16	1.2295E-16
2300	6.9640E-02	5.8824E-02	5.8193E-02	2800	3.2760E-02	1.6484E-12	1.6665E-12
2310	6.8900E-02	6.3870E-02	6.3189E-02	2810	3.2420E-02	4.0233E-10	4.0695E-10
2320	6.7630E-02	5.2031E-02	5.1489E-02	2820	3.2060E-02	2.0548E-11	2.0789E-11
2330	6.6220E-02	5.6824E-02	5.6231E-02	2830	3.1700E-02	3.9008E-06	3.9475E-06
2340	6.5220E-02	4.5836E-02	4.5366E-02	2840	3.1180E-02	1.9609E-07	1.9849E-07
2350	6.4340E-02	4.1536E-02	4.1115E-02	2850	3.0680E-02	1.1566E-06	1.1708E-06
2360	6.3070E-02	5.0237E-02	4.9724E-02	2860	3.0160E-02	2.5356E-05	2.5672E-05
2370	6.2390E-02	3.0817E-02	3.0514E-02	2870	2.9600E-02	6.3129E-06	6.3922E-06
2380	6.1810E-02	4.2552E-02	4.2128E-02	2880	2.9400E-02	2.4724E-04	2.5037E-04
2390	6.0360E-02	3.7109E-02	3.6748E-02	2890	2.9070E-02	1.8623E-04	1.8860E-04
2400	5.9740E-02	4.4150E-02	4.3726E-02	2900	2.8810E-02	8.1152E-04	8.2183E-04
2410	5.9150E-02	3.3813E-02	3.3504E-02	2910	2.8500E-02	2.7220E-03	2.7566E-03
2420	5.7820E-02	2.6590E-02	2.6358E-02	2920	2.8040E-02	2.8948E-03	2.9316E-03
2430	5.7190E-02	4.5099E-02	4.4725E-02	2930	2.7570E-02	5.8858E-03	5.9606E-03
2440	5.6270E-02	4.3249E-02	4.2926E-02	2940	2.7140E-02	1.6273E-03	1.6479E-03
2450	5.4590E-02	1.3611E-02	1.3523E-02	2950	2.6680E-02	5.2276E-03	5.2935E-03
2460	5.4510E-02	3.3363E-02	3.3157E-02	2960	2.6380E-02	4.5971E-03	4.6549E-03
2470	5.3400E-02	1.6727E-02	1.6635E-02	2970	2.6120E-02	3.5233E-04	3.5676E-04
2480	5.2100E-02	8.0395E-03	7.9996E-03	2980	2.5800E-02	1.3381E-03	1.3548E-03
2490	5.2220E-02	3.5113E-03	3.4957E-03	2990	2.5540E-02	1.0280E-02	1.0407E-02

Table A.1 (continued).

wave-length (nm)	direct and circumsolar			wave-length (nm)	direct and circumsolar		
	AM0	global	AM1.5		AM0	global	AM1.5
	(W/m <sup>2</sup> /nm)	(W/m <sup>2</sup> /nm)	(W/m <sup>2</sup> /nm)		(W/m <sup>2</sup> /nm)	(W/m <sup>2</sup> /nm)	(W/m <sup>2</sup> /nm)
3000	2.5250E-02	7.8472E-03	7.9442E-03	3500	1.4230E-02	1.1917E-02	1.2032E-02
3010	2.4980E-02	6.8479E-03	6.9320E-03	3510	1.4050E-02	1.1963E-02	1.2077E-02
3020	2.4660E-02	6.3369E-04	6.4143E-04	3520	1.3930E-02	1.2122E-02	1.2226E-02
3030	2.4420E-02	6.0753E-03	6.1491E-03	3530	1.3800E-02	1.1127E-02	1.1217E-02
3040	2.3930E-02	2.0242E-03	2.0487E-03	3540	1.3670E-02	9.0310E-03	9.1011E-03
3050	2.3950E-02	1.0321E-03	1.0446E-03	3550	1.3570E-02	1.0538E-02	1.0616E-02
3060	2.3760E-02	6.3012E-03	6.3761E-03	3560	1.3360E-02	1.0795E-02	1.0872E-02
3070	2.3440E-02	1.7492E-03	1.7699E-03	3570	1.3250E-02	8.3376E-03	8.3951E-03
3080	2.3150E-02	3.6224E-03	3.6646E-03	3580	1.3080E-02	1.0187E-02	1.0255E-02
3090	2.2800E-02	2.3805E-03	2.4080E-03	3590	1.2980E-02	9.4523E-03	9.5145E-03
3100	2.2430E-02	4.4010E-03	4.4513E-03	3600	1.2850E-02	1.0262E-02	1.0328E-02
3110	2.2110E-02	8.4569E-04	8.5524E-04	3610	1.2740E-02	9.4787E-03	9.5385E-03
3120	2.1740E-02	9.8197E-03	9.9294E-03	3620	1.2640E-02	1.1614E-02	1.1686E-02
3130	2.1450E-02	5.7614E-03	5.8246E-03	3630	1.2510E-02	9.9550E-03	1.0016E-02
3140	2.1180E-02	3.3241E-03	3.3603E-03	3640	1.2400E-02	1.1480E-02	1.1549E-02
3150	2.0880E-02	6.744E-03	6.7457E-03	3650	1.2280E-02	1.0123E-02	1.0183E-02
3160	2.0730E-02	9.2320E-03	9.3294E-03	3660	1.2150E-02	1.0914E-02	1.0978E-02
3170	2.0520E-02	1.2516E-02	1.2645E-02	3670	1.2040E-02	7.9003E-03	7.9464E-03
3180	2.0320E-02	1.0621E-02	1.0730E-02	3680	1.1890E-02	8.3312E-03	8.3789E-03
3190	2.0190E-02	4.2388E-03	4.2817E-03	3690	1.1770E-02	9.6922E-03	9.7458E-03
3200	1.9940E-02	4.3843E-04	4.4280E-04	3700	1.1550E-02	1.0878E-02	1.0937E-02
3210	1.9760E-02	1.3634E-04	1.3768E-04	3710	1.1510E-02	9.3640E-03	9.4130E-03
3220	1.9540E-02	1.6089E-03	1.6245E-03	3720	1.1440E-02	1.0376E-02	1.0429E-02
3230	1.9380E-02	3.4080E-04	3.4404E-04	3730	1.1340E-02	9.2707E-03	9.3169E-03
3240	1.9210E-02	3.7464E-03	3.7816E-03	3740	1.1080E-02	8.8494E-03	8.8923E-03
3250	1.9090E-02	2.6067E-03	2.6308E-03	3750	1.1040E-02	9.2903E-03	9.3341E-03
3260	1.8800E-02	1.2248E-03	1.2360E-03	3760	1.0940E-02	8.8633E-03	8.9041E-03
3270	1.8600E-02	1.2186E-03	1.2292E-03	3770	1.0860E-02	9.1243E-03	9.1649E-03
3280	1.8370E-02	2.8644E-03	2.8890E-03	3780	1.0740E-02	9.5746E-03	9.6158E-03
3290	1.8260E-02	8.7571E-03	8.8310E-03	3790	1.0630E-02	7.7564E-03	7.7891E-03
3300	1.7920E-02	1.7794E-03	1.7944E-03	3800	1.0530E-02	9.8592E-03	9.8988E-03
3310	1.7700E-02	3.9235E-03	3.9565E-03	3810	1.0430E-02	8.2451E-03	8.2771E-03
3320	1.7300E-02	5.9987E-05	6.0496E-05	3820	1.0340E-02	9.6550E-03	9.6908E-03
3330	1.7130E-02	4.6616E-03	4.7014E-03	3830	1.0250E-02	9.5925E-03	9.6268E-03
3340	1.6850E-02	3.4602E-03	3.4903E-03	3840	1.0150E-02	8.9756E-03	9.0066E-03
3350	1.6600E-02	8.0277E-03	8.0998E-03	3850	1.0050E-02	8.8274E-03	8.8569E-03
3360	1.6360E-02	5.2402E-03	5.2892E-03	3860	9.9400E-03	7.9940E-03	8.0197E-03
3370	1.6180E-02	3.9389E-03	3.9770E-03	3870	9.8300E-03	7.3604E-03	7.3839E-03
3380	1.6010E-02	5.1115E-03	5.1624E-03	3880	9.7500E-03	6.5340E-03	6.5543E-03
3390	1.5900E-02	9.8552E-03	9.9552E-03	3890	9.7100E-03	6.8818E-03	6.9028E-03
3400	1.5640E-02	1.2509E-02	1.2638E-02	3900	9.6000E-03	7.9254E-03	7.9487E-03
3410	1.5540E-02	7.0802E-03	7.1547E-03	3910	9.5200E-03	7.1353E-03	7.1560E-03
3420	1.5430E-02	1.3165E-02	1.3305E-02	3920	9.4100E-03	6.9466E-03	6.9665E-03
3430	1.5220E-02	8.6892E-03	8.7810E-03	3930	9.3200E-03	7.0502E-03	7.0699E-03
3440	1.5050E-02	8.0348E-03	8.1181E-03	3940	9.2300E-03	7.4027E-03	7.4228E-03
3450	1.4920E-02	1.1153E-02	1.1267E-02	3950	9.1100E-03	7.6277E-03	7.6475E-03
3460	1.4800E-02	1.2530E-02	1.2657E-02	3960	9.0200E-03	7.7482E-03	7.7679E-03
3470	1.4660E-02	1.2264E-02	1.2386E-02	3970	8.9300E-03	7.6806E-03	7.6997E-03
3480	1.4480E-02	1.1224E-02	1.1335E-02	3980	8.8400E-03	7.3872E-03	7.4049E-03
3490	1.4360E-02	1.0419E-02	1.0520E-02	3990	8.7800E-03	7.3723E-03	7.3894E-03
				4000	8.6800E-03	7.1043E-03	7.1199E-03

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