

Solar Spectrum

Document Change Record

Issue	Date	DCN No	Author	Changes
1	14/12/2010	-	GEO/GF	First Issue in Hummingbird

Table of Contents

Sheet	Description
Info	Spread sheet Information
SolarSpectrum	Solar spectrum data
Plot	Plot of the solar spectrum

1 Introduction

1.1 Purpose and Scope

This spread sheet gives the solar spectrum used for FCI radiometric specification and the diagram given in [CONV] related to the spectral irradiance at the top of the atmosphere.

1.1.1 Document Structure

Section 1: Introduction

1.2 Applicable & Reference Documents

1.2.1 Applicable Documents

	Reference	Issue	Title

1.2.2 Reference Documents

	Reference	Issue	Title
[CONV]	EUM/MTG/DEF/08/0034	3	MTG Conventions & Terms Document (CONV)
[WEHRLI]			Wehrli, C. Extraterrestrial Solar Spectrum, Publication no. 615, Physikalisch-Meteorologisches Observatorium + World Radiation Center (PMO/WRC) Davos Dorf, Switzerland, July 1985.

1.3 Open Issues

None

2. Description

The solar irradiance spectrum has been derived from the solar spectrum compiled in [WEHRLI] and found at <ftp.pmodwrc.ch/pub/publications/pmod615.asc> for the range 0.2 to 20 micron. The description of the data sources outside this range is given in the header to the data table in the sheet "SolarSpectrum". This sheet has been preserved in the form in which it was received

Composite Extraterrestrial Solar Irradiance Spectrum
(Davos World Radiation Center Reference Spectrum)

(adaptation of file pmod615.asc)

AUTHOR:

Christoph Wehrli (chwehrli@pmodwrc.ch)
PMOD/World Radiation Center
Dorfstrasse 33
CH-7260 Davos-Dorf
Switzerland

EDITING BY:

Warren Wiscombe (wiscombe@gsfc.nasa.gov)
NASA Goddard Space Flight Center
Greenbelt, MD 20771

REFERENCES:

Wehrli, C., World Radiation Center (WRC) Publication No. 615, Davos-Dorf, Switzerland, July 1985

Wehrli, C., World Climate Research Programme (WCRP) Publication Series No. 7, WMO ITD-No. 149, pp 119-126, October 1986.

Revised Instruction Manual on Radiation Instruments and Measurements edited by Claus Frohlich & Julius London, WCRP Publication Series No.7, World Meteorological Organization (1986) {This does not imply endorsement by WMO}

REMARKS FROM THE AUTHOR:

This spectrum was originally prepared as an in-house standard, but has spread to various institutions and applications, e.g LOWTRAN7. You can ftp it anonymously from:

[ftp.pmodwrc.ch/pub/publications/pmod615.asc](ftp://pmodwrc.ch/pub/publications/pmod615.asc)

Generally, you can expect absolute accuracies on the order of a few percent.

(NOTE: You may have to adjust your tab settings to get the following table and the data table to look OK.)

Wavelength

Range (um Source)

0.10-0.20 Dave Crisp, JPL (secondary source)
(David.Crisp@jpl.nasa.gov)

0.20-0.31 Brasseur, G. and P.Simon (1981)
J.Geophys.Res 86, 7343

0.31-0.33 Arvesen, J., R. Griffin and B. Pearson (1969)
Appl.Optics 8, 2215

0.33-0.869 Neckel, H. and D. Labs (1984)
Solar Physics 90, 205

0.870-20.0 Smith, E.V.P. and D. Gottlieb (1974)
Space Sci.Rev. 16, 771

20.0-100.0 Labs, D. and H. Neckel
Z. Astrophysik 69, 1-73, 1968

(The parts below 0.2 and above 20 micron were added later and are not part of the original Wehrl spectrum.)

At the wavelength limits between different spectra, the values are forced to be equal. After these adjustments, the total spectrum is scaled in order to yield a solar constant of 1367 W/m².

NOTE: Value at wavelength 0.3304 was inserted to make solar constant come out to 1367. Its elimination would reduce the solar constant by 0.455 W/m².

Units in original datafile were converted from nm to microns.

Data are tab-delimited.

Wavelength Solar_Flux_(W/m²/micron)

0.101	4.20E-03
0.1023	1.31E-01
0.103	8.08E-02
0.1047	3.51E-02
0.1084	1.58E-02
0.1132	3.17E-02
0.1172	3.75E-02
0.12	1.28E-01
0.1213	9.52E+00
0.1233	3.75E-02
0.1275	3.64E-02
0.1325	5.27E-02
0.1375	4.86E-02
0.1425	5.48E-02
0.1475	8.24E-02
0.1525	1.69E-01
0.1575	1.82E-01
0.1625	3.30E-01
0.1675	5.66E-01
0.1725	1.06E+00
0.1775	1.81E+00
0.1806	2.83E+00
0.1823	1.50E+00
0.1843	1.86E+00
0.1861	2.24E+00
0.1878	2.85E+00
0.1896	3.27E+00
0.1914	3.76E+00
0.1932	3.82E+00
0.1951	5.10E+00
0.197	5.98E+00
0.2005	7.03E+00
0.2015	7.18E+00
0.2025	7.88E+00

0.2035	8.70E+00
0.2045	9.47E+00
0.2055	9.56E+00
0.2065	1.02E+01
0.2075	1.15E+01
0.2085	1.46E+01
0.2095	2.42E+01
0.2105	2.75E+01
0.2115	3.39E+01
0.2125	3.02E+01
0.2135	3.19E+01
0.2145	4.10E+01
0.2155	3.69E+01
0.2165	3.42E+01
0.2175	3.61E+01
0.2185	4.49E+01
0.2195	4.76E+01
0.2205	4.81E+01
0.2215	3.93E+01
0.2225	5.06E+01
0.2235	6.59E+01
0.2245	5.79E+01
0.2255	5.39E+01
0.2265	4.10E+01
0.2275	4.09E+01
0.2285	5.40E+01
0.2295	4.78E+01
0.2305	5.63E+01
0.2315	5.00E+01
0.2325	5.49E+01
0.2335	4.59E+01
0.2345	3.93E+01
0.2355	5.69E+01
0.2365	4.92E+01
0.2375	5.33E+01
0.2385	4.19E+01
0.2395	4.65E+01
0.2405	4.31E+01
0.2415	5.25E+01
0.2425	7.25E+01
0.2435	6.54E+01
0.2445	6.24E+01
0.2455	5.11E+01
0.2465	5.15E+01
0.2475	5.71E+01
0.2485	4.52E+01
0.2495	5.84E+01
0.2505	5.92E+01
0.2515	4.66E+01
0.2525	4.40E+01
0.2535	5.55E+01
0.2545	6.08E+01
0.2555	8.85E+01
0.2565	1.07E+02
0.2575	1.29E+02
0.2585	1.34E+02

0.2595	1.08E+02
0.2605	1.02E+02
0.2615	1.03E+02
0.2625	1.21E+02
0.2635	1.75E+02
0.2645	2.74E+02
0.2655	2.80E+02
0.2665	2.61E+02
0.2675	2.70E+02
0.2685	2.60E+02
0.2695	2.52E+02
0.2705	2.93E+02
0.2715	2.32E+02
0.2725	2.15E+02
0.2735	2.04E+02
0.2745	1.37E+02
0.2755	2.00E+02
0.2765	2.58E+02
0.2775	2.40E+02
0.2785	1.66E+02
0.2795	8.94E+01
0.2805	1.12E+02
0.2815	2.31E+02
0.2825	3.07E+02
0.2835	3.30E+02
0.2845	2.44E+02
0.2855	1.41E+02
0.2865	3.20E+02
0.2875	3.71E+02
0.2885	3.07E+02
0.2895	4.56E+02
0.2905	6.23E+02
0.2915	6.00E+02
0.2925	5.45E+02
0.2935	5.45E+02
0.2945	5.09E+02
0.2955	5.48E+02
0.2965	4.92E+02
0.2975	5.31E+02
0.2985	4.13E+02
0.2995	4.85E+02
0.3005	4.03E+02
0.3015	4.45E+02
0.3025	4.84E+02
0.3035	6.31E+02
0.3045	6.10E+02
0.3055	5.80E+02
0.3065	5.75E+02
0.3075	6.45E+02
0.3085	6.13E+02
0.3095	4.84E+02
0.31	4.95E+02
0.3104	5.07E+02
0.3108	5.88E+02
0.3112	7.07E+02
0.3116	7.48E+02

0.312	7.07E+02
0.3124	6.44E+02
0.3128	6.63E+02
0.3132	7.10E+02
0.3136	6.91E+02
0.314	6.90E+02
0.3144	7.22E+02
0.3148	6.73E+02
0.3152	6.95E+02
0.3156	7.65E+02
0.316	6.75E+02
0.3164	5.69E+02
0.3168	6.23E+02
0.3172	7.49E+02
0.3176	8.30E+02
0.318	8.13E+02
0.3184	6.73E+02
0.3188	6.42E+02
0.3192	7.68E+02
0.3196	7.59E+02
0.32	7.12E+02
0.3204	7.78E+02
0.3208	8.44E+02
0.3212	8.47E+02
0.3216	7.36E+02
0.322	6.95E+02
0.3224	7.73E+02
0.3228	7.58E+02
0.3232	6.46E+02
0.3236	6.03E+02
0.324	6.04E+02
0.3244	6.19E+02
0.3248	6.55E+02
0.3252	6.46E+02
0.3256	6.82E+02
0.326	8.52E+02
0.3264	1.05E+03
0.3268	1.11E+03
0.3272	1.11E+03
0.3276	1.05E+03
0.328	9.65E+02
0.3284	9.14E+02
0.3288	9.13E+02
0.3292	9.52E+02
0.3296	1.04E+03
0.33	1.14E+03
0.3304	1.14E+03
0.3305	1.01E+03
0.3315	9.68E+02
0.3325	9.21E+02
0.3335	9.05E+02
0.3345	9.40E+02
0.3355	9.82E+02
0.3365	7.65E+02
0.3375	8.66E+02
0.3385	9.16E+02

0.3395 9.37E+02
0.3405 9.92E+02
0.3415 9.36E+02
0.3425 9.95E+02
0.3435 9.85E+02
0.3445 7.19E+02
0.3455 9.67E+02
0.3465 9.19E+02
0.3475 9.02E+02
0.3485 9.48E+02
0.3495 8.65E+02
0.3505 1.12E+03
0.3515 9.93E+02
0.3525 8.71E+02
0.3535 1.12E+03
0.3545 1.13E+03
0.3555 1.06E+03
0.3565 9.38E+02
0.3575 8.91E+02
0.3585 6.27E+02
0.3595 1.14E+03
0.3605 9.79E+02
0.3615 8.94E+02
0.3625 1.18E+03
0.3635 9.58E+02
0.3645 1.02E+03
0.3655 1.26E+03
0.3665 1.25E+03
0.3675 1.21E+03
0.3685 1.09E+03
0.3695 1.33E+03
0.3705 1.08E+03
0.3715 1.31E+03
0.3725 1.07E+03
0.3735 8.38E+02
0.3745 8.78E+02
0.3755 1.14E+03
0.3765 1.10E+03
0.3775 1.29E+03
0.3785 1.34E+03
0.3795 1.00E+03
0.3805 1.29E+03
0.3815 1.10E+03
0.3825 7.33E+02
0.3835 6.84E+02
0.3845 1.03E+03
0.3855 9.54E+02
0.3865 1.07E+03
0.3875 9.66E+02
0.3885 9.12E+02
0.3895 1.23E+03
0.3905 1.22E+03
0.3915 1.40E+03
0.3925 9.55E+02
0.3935 4.89E+02
0.3945 1.10E+03

0.3955	1.38E+03
0.3965	6.50E+02
0.3975	1.04E+03
0.3985	1.54E+03
0.3995	1.66E+03
0.4005	1.65E+03
0.4015	1.80E+03
0.4025	1.80E+03
0.4035	1.66E+03
0.4045	1.60E+03
0.4055	1.67E+03
0.4065	1.62E+03
0.4075	1.55E+03
0.4085	1.82E+03
0.4095	1.71E+03
0.4105	1.50E+03
0.4115	1.82E+03
0.4125	1.79E+03
0.4135	1.76E+03
0.4145	1.74E+03
0.4155	1.74E+03
0.4165	1.84E+03
0.4175	1.67E+03
0.4185	1.69E+03
0.4195	1.70E+03
0.4205	1.76E+03
0.4215	1.80E+03
0.4225	1.58E+03
0.4235	1.71E+03
0.4245	1.77E+03
0.4255	1.70E+03
0.4265	1.70E+03
0.4275	1.57E+03
0.4285	1.59E+03
0.4295	1.48E+03
0.4305	1.14E+03
0.4315	1.69E+03
0.4325	1.65E+03
0.4335	1.73E+03
0.4345	1.67E+03
0.4355	1.73E+03
0.4365	1.93E+03
0.4375	1.81E+03
0.4385	1.57E+03
0.4395	1.83E+03
0.4405	1.72E+03
0.4415	1.93E+03
0.4425	1.98E+03
0.4435	1.91E+03
0.4445	1.98E+03
0.4455	1.82E+03
0.4465	1.89E+03
0.4475	2.08E+03
0.4485	1.98E+03
0.4495	2.03E+03
0.4505	2.15E+03

0.4515	2.11E+03
0.4525	1.94E+03
0.4535	1.97E+03
0.4545	1.98E+03
0.4555	2.04E+03
0.4565	2.08E+03
0.4575	2.10E+03
0.4585	1.97E+03
0.4595	2.01E+03
0.4605	2.04E+03
0.4615	2.06E+03
0.4625	2.11E+03
0.4635	2.04E+03
0.4645	1.98E+03
0.4655	2.04E+03
0.4665	1.92E+03
0.4675	2.02E+03
0.4685	2.00E+03
0.4695	1.99E+03
0.4705	1.88E+03
0.4715	2.02E+03
0.4725	2.04E+03
0.4735	1.99E+03
0.4745	2.05E+03
0.4755	2.02E+03
0.4765	1.96E+03
0.4775	2.08E+03
0.4785	2.01E+03
0.4795	2.08E+03
0.4805	2.04E+03
0.4815	2.09E+03
0.4825	2.03E+03
0.4835	2.02E+03
0.4845	1.97E+03
0.4855	1.83E+03
0.4865	1.63E+03
0.4875	1.83E+03
0.4885	1.92E+03
0.4895	1.96E+03
0.4905	2.01E+03
0.4915	1.90E+03
0.4925	1.90E+03
0.4935	1.89E+03
0.4945	2.06E+03
0.4955	1.93E+03
0.4965	2.02E+03
0.4975	2.02E+03
0.4985	1.87E+03
0.4995	1.97E+03
0.5005	1.86E+03
0.5015	1.81E+03
0.5025	1.90E+03
0.5035	1.94E+03
0.5045	1.87E+03
0.5055	2.00E+03
0.5065	1.96E+03

0.5075	1.91E+03
0.5085	1.92E+03
0.5095	1.92E+03
0.5105	1.95E+03
0.5115	2.00E+03
0.5125	1.87E+03
0.5135	1.86E+03
0.5145	1.88E+03
0.5155	1.90E+03
0.5165	1.67E+03
0.5175	1.73E+03
0.5185	1.66E+03
0.5195	1.83E+03
0.5205	1.83E+03
0.5215	1.91E+03
0.5225	1.83E+03
0.5235	1.90E+03
0.5245	1.96E+03
0.5255	1.93E+03
0.5265	1.68E+03
0.5275	1.83E+03
0.5285	1.90E+03
0.5295	1.92E+03
0.5305	1.95E+03
0.5315	1.97E+03
0.5325	1.77E+03
0.5335	1.93E+03
0.5345	1.86E+03
0.5355	1.99E+03
0.5365	1.87E+03
0.5375	1.88E+03
0.5385	1.91E+03
0.5395	1.83E+03
0.5405	1.77E+03
0.5415	1.88E+03
0.5425	1.83E+03
0.5435	1.88E+03
0.5445	1.88E+03
0.5455	1.90E+03
0.5465	1.88E+03
0.5475	1.84E+03
0.5485	1.87E+03
0.5495	1.90E+03
0.5505	1.86E+03
0.5515	1.87E+03
0.5525	1.85E+03
0.5535	1.88E+03
0.5545	1.90E+03
0.5555	1.90E+03
0.5565	1.82E+03
0.5575	1.85E+03
0.5585	1.79E+03
0.5595	1.81E+03
0.5605	1.85E+03
0.5615	1.83E+03
0.5625	1.85E+03

0.5635	1.86E+03
0.5645	1.86E+03
0.5655	1.80E+03
0.5665	1.83E+03
0.5675	1.89E+03
0.5685	1.81E+03
0.5695	1.86E+03
0.5705	1.77E+03
0.5715	1.83E+03
0.5725	1.89E+03
0.5735	1.88E+03
0.5745	1.87E+03
0.5755	1.83E+03
0.5765	1.85E+03
0.5775	1.86E+03
0.5785	1.79E+03
0.5795	1.83E+03
0.5805	1.84E+03
0.5815	1.86E+03
0.5825	1.88E+03
0.5835	1.86E+03
0.5845	1.86E+03
0.5855	1.79E+03
0.5865	1.83E+03
0.5875	1.85E+03
0.5885	1.75E+03
0.5895	1.61E+03
0.5905	1.82E+03
0.5915	1.79E+03
0.5925	1.81E+03
0.5935	1.80E+03
0.5945	1.78E+03
0.5955	1.79E+03
0.5965	1.81E+03
0.5975	1.78E+03
0.5985	1.76E+03
0.5995	1.78E+03
0.6005	1.75E+03
0.6015	1.75E+03
0.6025	1.72E+03
0.6035	1.79E+03
0.6045	1.78E+03
0.6055	1.77E+03
0.6065	1.76E+03
0.6075	1.76E+03
0.6085	1.75E+03
0.6095	1.75E+03
0.6105	1.71E+03
0.6115	1.75E+03
0.6125	1.71E+03
0.6135	1.69E+03
0.6145	1.72E+03
0.6155	1.72E+03
0.6165	1.61E+03
0.6175	1.71E+03
0.6185	1.73E+03

0.6195	1.71E+03
0.6205	1.74E+03
0.6215	1.69E+03
0.6225	1.72E+03
0.6235	1.67E+03
0.6245	1.66E+03
0.6255	1.63E+03
0.6265	1.70E+03
0.6275	1.70E+03
0.6285	1.70E+03
0.6295	1.68E+03
0.631	1.64E+03
0.633	1.65E+03
0.635	1.66E+03
0.637	1.66E+03
0.639	1.65E+03
0.641	1.62E+03
0.643	1.62E+03
0.645	1.63E+03
0.647	1.61E+03
0.649	1.56E+03
0.651	1.61E+03
0.653	1.60E+03
0.655	1.53E+03
0.657	1.39E+03
0.659	1.55E+03
0.661	1.57E+03
0.663	1.56E+03
0.665	1.56E+03
0.667	1.54E+03
0.669	1.55E+03
0.671	1.52E+03
0.673	1.52E+03
0.675	1.51E+03
0.677	1.51E+03
0.679	1.50E+03
0.681	1.49E+03
0.683	1.48E+03
0.685	1.46E+03
0.687	1.47E+03
0.689	1.46E+03
0.691	1.45E+03
0.693	1.45E+03
0.695	1.44E+03
0.697	1.42E+03
0.699	1.43E+03
0.701	1.39E+03
0.703	1.39E+03
0.705	1.42E+03
0.707	1.40E+03
0.709	1.39E+03
0.711	1.39E+03
0.713	1.38E+03
0.715	1.37E+03
0.717	1.36E+03
0.719	1.33E+03

0.721 1.33E+03
0.723 1.35E+03
0.725 1.35E+03
0.727 1.35E+03
0.729 1.32E+03
0.731 1.33E+03
0.733 1.32E+03
0.735 1.31E+03
0.737 1.31E+03
0.739 1.28E+03
0.741 1.26E+03
0.743 1.29E+03
0.745 1.28E+03
0.747 1.28E+03
0.749 1.27E+03
0.751 1.26E+03
0.753 1.26E+03
0.755 1.26E+03
0.757 1.25E+03
0.759 1.24E+03
0.761 1.24E+03
0.763 1.24E+03
0.765 1.22E+03
0.767 1.19E+03
0.769 1.20E+03
0.771 1.21E+03
0.773 1.21E+03
0.775 1.19E+03
0.777 1.20E+03
0.779 1.19E+03
0.781 1.19E+03
0.783 1.18E+03
0.785 1.18E+03
0.787 1.18E+03
0.789 1.18E+03
0.791 1.16E+03
0.793 1.14E+03
0.795 1.14E+03
0.797 1.15E+03
0.799 1.14E+03
0.801 1.14E+03
0.803 1.13E+03
0.805 1.12E+03
0.807 1.12E+03
0.809 1.10E+03
0.811 1.12E+03
0.813 1.12E+03
0.815 1.11E+03
0.817 1.11E+03
0.819 1.07E+03
0.821 1.08E+03
0.823 1.07E+03
0.825 1.08E+03
0.827 1.08E+03
0.829 1.07E+03
0.831 1.07E+03

0.833 1.03E+03
0.835 1.05E+03
0.837 1.05E+03
0.839 1.04E+03
0.841 1.05E+03
0.843 1.03E+03
0.845 1.03E+03
0.847 1.03E+03
0.849 9.71E+02
0.851 1.00E+03
0.853 9.73E+02
0.855 8.77E+02
0.857 1.01E+03
0.859 9.97E+02
0.861 9.97E+02
0.863 9.99E+02
0.865 9.70E+02
0.867 8.80E+02
0.869 9.67E+02
0.871 9.86E+02
0.873 9.78E+02
0.875 9.81E+02
0.877 9.84E+02
0.879 9.59E+02
0.881 9.61E+02
0.883 9.48E+02
0.885 9.63E+02
0.887 9.47E+02
0.889 9.49E+02
0.891 9.44E+02
0.893 9.34E+02
0.895 9.36E+02
0.897 9.39E+02
0.899 9.12E+02
0.901 9.05E+02
0.903 9.05E+02
0.905 8.93E+02
0.907 8.91E+02
0.909 8.61E+02
0.911 8.70E+02
0.913 8.76E+02
0.915 8.66E+02
0.917 8.59E+02
0.919 8.58E+02
0.921 8.30E+02
0.923 8.21E+02
0.925 8.25E+02
0.927 8.28E+02
0.929 8.33E+02
0.931 8.26E+02
0.933 8.32E+02
0.935 8.18E+02
0.937 8.02E+02
0.939 8.08E+02
0.941 8.00E+02
0.943 7.84E+02

0.945	7.99E+02
0.947	7.93E+02
0.949	7.77E+02
0.951	7.78E+02
0.953	7.71E+02
0.955	7.60E+02
0.957	7.74E+02
0.959	7.71E+02
0.961	7.67E+02
0.963	7.67E+02
0.965	7.64E+02
0.967	7.57E+02
0.969	7.76E+02
0.971	7.63E+02
0.973	7.64E+02
0.975	7.50E+02
0.977	7.68E+02
0.979	7.68E+02
0.981	7.62E+02
0.983	7.67E+02
0.985	7.71E+02
0.987	7.56E+02
0.989	7.67E+02
0.991	7.64E+02
0.993	7.55E+02
0.995	7.56E+02
0.997	7.43E+02
0.999	7.43E+02
1.0025	7.45E+02
1.0075	7.37E+02
1.0125	7.34E+02
1.0175	7.21E+02
1.0225	7.04E+02
1.0275	7.08E+02
1.0325	6.88E+02
1.0375	6.92E+02
1.0425	6.81E+02
1.0475	6.85E+02
1.0525	6.61E+02
1.0575	6.50E+02
1.0625	6.42E+02
1.0675	6.43E+02
1.0725	6.38E+02
1.0775	6.30E+02
1.0825	6.21E+02
1.0875	6.14E+02
1.0925	6.12E+02
1.0975	5.99E+02
1.1025	6.08E+02
1.1075	6.01E+02
1.1125	6.03E+02
1.1175	5.89E+02
1.1225	5.79E+02
1.1275	5.69E+02
1.1325	5.66E+02
1.1375	5.63E+02

1.1425	5.57E+02
1.1475	5.56E+02
1.1525	5.45E+02
1.1575	5.54E+02
1.1625	5.40E+02
1.1675	5.30E+02
1.1725	5.33E+02
1.1775	5.25E+02
1.1825	5.15E+02
1.1875	5.12E+02
1.1925	5.11E+02
1.1975	5.02E+02
1.2025	4.96E+02
1.2075	4.94E+02
1.2125	4.89E+02
1.2175	5.00E+02
1.2225	4.81E+02
1.2275	4.81E+02
1.2325	4.84E+02
1.2375	4.77E+02
1.2425	4.77E+02
1.2475	4.66E+02
1.2525	4.74E+02
1.2575	4.63E+02
1.2625	4.44E+02
1.2675	4.38E+02
1.2725	4.39E+02
1.2775	4.53E+02
1.2825	4.35E+02
1.2875	4.37E+02
1.2925	4.43E+02
1.2975	4.38E+02
1.3025	4.38E+02
1.3075	4.29E+02
1.3125	4.19E+02
1.3175	4.16E+02
1.3225	4.16E+02
1.3275	4.11E+02
1.3325	4.05E+02
1.3375	4.00E+02
1.3425	3.98E+02
1.3475	3.95E+02
1.3525	3.87E+02
1.3575	3.82E+02
1.3625	3.78E+02
1.3675	3.70E+02
1.3725	3.69E+02
1.3775	3.68E+02
1.3825	3.64E+02
1.3875	3.64E+02
1.3925	3.58E+02
1.3975	3.57E+02
1.4025	3.53E+02
1.4075	3.50E+02
1.4125	3.46E+02
1.4175	3.44E+02

1.4225	3.43E+02
1.4275	3.48E+02
1.4325	3.37E+02
1.4375	3.31E+02
1.4425	3.27E+02
1.4475	3.18E+02
1.4525	3.23E+02
1.4575	3.07E+02
1.4625	3.17E+02
1.4675	3.11E+02
1.4725	3.11E+02
1.4775	3.07E+02
1.4825	3.03E+02
1.4875	2.99E+02
1.4925	3.03E+02
1.4975	3.00E+02
1.5025	2.96E+02
1.5075	2.95E+02
1.5125	2.90E+02
1.5175	2.90E+02
1.5225	2.86E+02
1.5275	2.90E+02
1.5325	2.82E+02
1.5375	2.75E+02
1.5425	2.75E+02
1.5475	2.74E+02
1.5525	2.73E+02
1.5575	2.72E+02
1.5625	2.70E+02
1.5675	2.63E+02
1.5725	2.60E+02
1.5775	2.59E+02
1.5825	2.55E+02
1.5875	2.52E+02
1.5925	2.46E+02
1.5975	2.46E+02
1.6025	2.47E+02
1.6075	2.42E+02
1.6125	2.44E+02
1.6175	2.43E+02
1.6225	2.40E+02
1.6275	2.44E+02
1.6325	2.41E+02
1.6375	2.38E+02
1.6425	2.34E+02
1.6475	2.35E+02
1.6525	2.34E+02
1.6575	2.34E+02
1.6625	2.33E+02
1.6675	2.29E+02
1.6725	2.28E+02
1.6775	2.20E+02
1.6825	2.21E+02
1.6875	2.19E+02
1.6925	2.19E+02
1.6975	2.14E+02

1.7025 2.17E+02
1.7075 2.12E+02
1.7125 2.03E+02
1.7175 2.12E+02
1.7225 2.05E+02
1.7275 1.96E+02
1.7325 1.90E+02
1.7375 1.89E+02
1.7425 1.91E+02
1.7475 1.85E+02
1.7525 1.87E+02
1.7575 1.89E+02
1.7625 1.84E+02
1.7675 1.83E+02
1.7725 1.77E+02
1.7775 1.73E+02
1.7825 1.71E+02
1.7875 1.70E+02
1.7925 1.69E+02
1.7975 1.73E+02
1.8025 1.69E+02
1.8075 1.68E+02
1.8125 1.60E+02
1.8175 1.60E+02
1.8225 1.59E+02
1.8275 1.56E+02
1.8325 1.56E+02
1.8375 1.50E+02
1.8425 1.53E+02
1.8475 1.51E+02
1.8525 1.48E+02
1.8575 1.45E+02
1.8625 1.43E+02
1.8675 1.43E+02
1.8725 1.35E+02
1.8775 1.35E+02
1.8825 1.40E+02
1.8875 1.38E+02
1.8925 1.37E+02
1.8975 1.38E+02
1.9025 1.33E+02
1.9075 1.36E+02
1.9125 1.38E+02
1.9175 1.36E+02
1.9225 1.34E+02
1.9275 1.32E+02
1.9325 1.32E+02
1.9375 1.31E+02
1.9425 1.29E+02
1.9475 1.28E+02
1.9525 1.27E+02
1.9575 1.22E+02
1.9625 1.26E+02
1.9675 1.26E+02
1.9725 1.25E+02
1.9775 1.29E+02

1.9825	1.25E+02
1.9875	1.23E+02
1.9925	1.21E+02
1.9975	1.23E+02
2.0025	1.16E+02
2.0075	1.10E+02
2.0125	1.14E+02
2.0175	1.12E+02
2.0225	1.13E+02
2.0275	1.13E+02
2.0325	1.10E+02
2.0375	1.07E+02
2.0425	1.07E+02
2.0475	1.08E+02
2.0525	1.04E+02
2.0575	1.02E+02
2.0625	1.00E+02
2.0675	9.51E+01
2.0725	9.90E+01
2.0775	1.01E+02
2.0825	9.70E+01
2.0875	9.61E+01
2.0925	9.80E+01
2.0975	9.11E+01
2.1025	9.31E+01
2.1075	9.31E+01
2.1125	8.72E+01
2.1175	9.02E+01
2.1225	8.72E+01
2.1275	8.72E+01
2.1325	8.72E+01
2.1375	8.53E+01
2.1425	9.02E+01
2.1475	8.23E+01
2.1525	8.13E+01
2.1575	7.94E+01
2.1625	8.23E+01
2.1675	8.04E+01
2.1725	8.23E+01
2.1775	7.74E+01
2.1825	7.54E+01
2.1875	6.76E+01
2.1925	7.25E+01
2.1975	7.35E+01
2.2025	8.23E+01
2.2075	7.54E+01
2.2125	7.54E+01
2.2175	7.25E+01
2.2225	7.74E+01
2.2275	7.54E+01
2.2325	7.54E+01
2.2375	6.47E+01
2.2425	5.98E+01
2.2475	7.15E+01
2.2525	7.54E+01
2.2575	7.54E+01

2.2625	7.05E+01
2.2675	7.15E+01
2.2725	6.47E+01
2.2775	6.37E+01
2.2825	6.86E+01
2.2875	6.56E+01
2.2925	6.56E+01
2.2975	6.46E+01
2.3025	6.56E+01
2.3075	6.27E+01
2.3125	6.17E+01
2.3175	5.78E+01
2.3225	5.29E+01
2.3275	5.49E+01
2.3325	5.49E+01
2.3375	5.88E+01
2.3425	5.78E+01
2.3475	5.97E+01
2.3525	6.07E+01
2.3575	6.27E+01
2.3625	6.46E+01
2.3675	6.07E+01
2.3725	6.07E+01
2.3775	5.68E+01
2.3825	5.48E+01
2.3875	5.97E+01
2.3925	5.88E+01
2.3975	5.78E+01
2.4025	5.39E+01
2.4075	5.48E+01
2.4125	5.58E+01
2.4175	5.29E+01
2.4225	5.68E+01
2.4275	5.39E+01
2.4325	5.78E+01
2.4375	5.39E+01
2.4425	5.09E+01
2.4475	4.90E+01
2.4525	4.99E+01
2.4575	5.09E+01
2.4625	4.80E+01
2.4675	5.29E+01
2.4725	4.80E+01
2.4775	5.29E+01
2.4825	4.99E+01
2.4875	4.70E+01
2.4925	5.38E+01
2.4975	4.60E+01
2.5025	4.83E+01
2.5075	4.79E+01
2.5125	4.75E+01
2.5175	4.72E+01
2.5225	4.69E+01
2.5275	4.65E+01
2.5325	4.62E+01
2.5375	4.59E+01

2.5425	4.55E+01
2.5475	4.52E+01
2.5525	4.49E+01
2.5575	4.46E+01
2.5625	4.42E+01
2.5675	4.39E+01
2.5725	4.36E+01
2.5775	4.33E+01
2.5825	4.30E+01
2.5875	4.27E+01
2.5925	4.24E+01
2.5975	4.21E+01
2.6025	4.18E+01
2.6075	4.15E+01
2.6125	4.12E+01
2.6175	4.09E+01
2.6225	4.06E+01
2.6275	4.03E+01
2.6325	4.01E+01
2.6375	3.98E+01
2.6425	3.95E+01
2.6475	3.92E+01
2.6525	3.90E+01
2.6575	3.87E+01
2.6625	3.84E+01
2.6675	3.82E+01
2.6725	3.79E+01
2.6775	3.76E+01
2.6825	3.74E+01
2.6875	3.71E+01
2.6925	3.69E+01
2.6975	3.66E+01
2.7025	3.64E+01
2.7075	3.61E+01
2.7125	3.59E+01
2.7175	3.56E+01
2.7225	3.54E+01
2.7275	3.52E+01
2.7325	3.49E+01
2.7375	3.47E+01
2.7425	3.45E+01
2.7475	3.42E+01
2.7525	3.40E+01
2.7575	3.38E+01
2.7625	3.35E+01
2.7675	3.33E+01
2.7725	3.31E+01
2.7775	3.29E+01
2.7825	3.27E+01
2.7875	3.25E+01
2.7925	3.22E+01
2.7975	3.20E+01
2.8025	3.18E+01
2.8075	3.16E+01
2.8125	3.14E+01
2.8175	3.12E+01

2.8225	3.10E+01
2.8275	3.08E+01
2.8325	3.06E+01
2.8375	3.04E+01
2.8425	3.02E+01
2.8475	3.00E+01
2.8525	2.98E+01
2.8575	2.96E+01
2.8625	2.94E+01
2.8675	2.92E+01
2.8725	2.91E+01
2.8775	2.89E+01
2.8825	2.87E+01
2.8875	2.85E+01
2.8925	2.83E+01
2.8975	2.81E+01
2.9025	2.80E+01
2.9075	2.78E+01
2.9125	2.76E+01
2.9175	2.75E+01
2.9225	2.73E+01
2.9275	2.71E+01
2.9325	2.69E+01
2.9375	2.68E+01
2.9425	2.66E+01
2.9475	2.64E+01
2.9525	2.63E+01
2.9575	2.61E+01
2.9625	2.59E+01
2.9675	2.58E+01
2.9725	2.56E+01
2.9775	2.55E+01
2.9825	2.53E+01
2.9875	2.52E+01
2.9925	2.50E+01
2.9975	2.49E+01
3.005	2.47E+01
3.015	2.44E+01
3.025	2.41E+01
3.035	2.38E+01
3.045	2.35E+01
3.055	2.32E+01
3.065	2.30E+01
3.075	2.27E+01
3.085	2.24E+01
3.095	2.21E+01
3.105	2.19E+01
3.115	2.16E+01
3.125	2.14E+01
3.135	2.11E+01
3.145	2.09E+01
3.155	2.06E+01
3.165	2.04E+01
3.175	2.02E+01
3.185	1.99E+01
3.195	1.97E+01

3.205	1.95E+01
3.215	1.93E+01
3.225	1.90E+01
3.235	1.88E+01
3.245	1.86E+01
3.255	1.84E+01
3.265	1.82E+01
3.275	1.80E+01
3.285	1.78E+01
3.295	1.76E+01
3.305	1.74E+01
3.315	1.72E+01
3.325	1.70E+01
3.335	1.68E+01
3.345	1.66E+01
3.355	1.65E+01
3.365	1.63E+01
3.375	1.61E+01
3.385	1.59E+01
3.395	1.58E+01
3.405	1.56E+01
3.415	1.54E+01
3.425	1.53E+01
3.435	1.51E+01
3.445	1.49E+01
3.455	1.48E+01
3.465	1.46E+01
3.475	1.45E+01
3.485	1.43E+01
3.495	1.42E+01
3.505	1.40E+01
3.515	1.39E+01
3.525	1.37E+01
3.535	1.36E+01
3.545	1.34E+01
3.555	1.33E+01
3.565	1.32E+01
3.575	1.30E+01
3.585	1.29E+01
3.595	1.28E+01
3.605	1.26E+01
3.615	1.25E+01
3.625	1.24E+01
3.635	1.23E+01
3.645	1.21E+01
3.655	1.20E+01
3.665	1.19E+01
3.675	1.18E+01
3.685	1.17E+01
3.695	1.15E+01
3.705	1.14E+01
3.715	1.13E+01
3.725	1.12E+01
3.735	1.11E+01
3.745	1.10E+01
3.755	1.09E+01

3.765	1.08E+01
3.775	1.07E+01
3.785	1.06E+01
3.795	1.05E+01
3.805	1.04E+01
3.815	1.03E+01
3.825	1.02E+01
3.835	1.01E+01
3.845	9.97E+00
3.855	9.88E+00
3.865	9.78E+00
3.875	9.69E+00
3.885	9.59E+00
3.895	9.50E+00
3.905	9.42E+00
3.915	9.33E+00
3.925	9.24E+00
3.935	9.15E+00
3.945	9.08E+00
3.955	8.99E+00
3.965	8.90E+00
3.975	8.82E+00
3.985	8.74E+00
3.995	8.66E+00
4.005	8.60E+00
4.015	8.51E+00
4.025	8.41E+00
4.035	8.33E+00
4.045	8.24E+00
4.055	8.16E+00
4.065	8.08E+00
4.075	8.00E+00
4.085	7.91E+00
4.095	7.84E+00
4.105	7.76E+00
4.115	7.68E+00
4.125	7.60E+00
4.135	7.54E+00
4.145	7.45E+00
4.155	7.38E+00
4.165	7.32E+00
4.175	7.24E+00
4.185	7.17E+00
4.195	7.09E+00
4.205	7.03E+00
4.215	6.95E+00
4.225	6.89E+00
4.235	6.83E+00
4.245	6.76E+00
4.255	6.70E+00
4.265	6.62E+00
4.275	6.57E+00
4.285	6.51E+00
4.295	6.44E+00
4.305	6.38E+00
4.315	6.32E+00

4.325	6.26E+00
4.335	6.21E+00
4.345	6.14E+00
4.355	6.09E+00
4.365	6.03E+00
4.375	5.97E+00
4.385	5.91E+00
4.395	5.87E+00
4.405	5.80E+00
4.415	5.76E+00
4.425	5.70E+00
4.435	5.64E+00
4.445	5.59E+00
4.455	5.54E+00
4.465	5.49E+00
4.475	5.44E+00
4.485	5.40E+00
4.495	5.34E+00
4.505	5.29E+00
4.515	5.25E+00
4.525	5.19E+00
4.535	5.15E+00
4.545	5.10E+00
4.555	5.06E+00
4.565	5.01E+00
4.575	4.96E+00
4.585	4.93E+00
4.595	4.87E+00
4.605	4.83E+00
4.615	4.80E+00
4.625	4.75E+00
4.635	4.70E+00
4.645	4.67E+00
4.655	4.62E+00
4.665	4.58E+00
4.675	4.54E+00
4.685	4.50E+00
4.695	4.46E+00
4.705	4.43E+00
4.715	4.38E+00
4.725	4.34E+00
4.735	4.31E+00
4.745	4.28E+00
4.755	4.24E+00
4.765	4.20E+00
4.775	4.16E+00
4.785	4.13E+00
4.795	4.09E+00
4.805	4.07E+00
4.815	4.02E+00
4.825	3.98E+00
4.835	3.96E+00
4.845	3.93E+00
4.855	3.89E+00
4.865	3.86E+00
4.875	3.83E+00

4.885	3.80E+00
4.895	3.77E+00
4.905	3.75E+00
4.915	3.71E+00
4.925	3.67E+00
4.935	3.64E+00
4.945	3.62E+00
4.955	3.59E+00
4.965	3.55E+00
4.975	3.52E+00
4.985	3.50E+00
4.995	3.47E+00
5.005	3.47E+00
5.015	3.44E+00
5.025	3.40E+00
5.035	3.38E+00
5.045	3.36E+00
5.055	3.33E+00
5.065	3.31E+00
5.075	3.28E+00
5.085	3.26E+00
5.095	3.23E+00
5.105	3.20E+00
5.115	3.18E+00
5.125	3.15E+00
5.135	3.14E+00
5.145	3.12E+00
5.155	3.09E+00
5.165	3.06E+00
5.175	3.03E+00
5.185	3.02E+00
5.195	3.00E+00
5.205	2.98E+00
5.215	2.95E+00
5.225	2.93E+00
5.235	2.90E+00
5.245	2.89E+00
5.255	2.86E+00
5.265	2.84E+00
5.275	2.82E+00
5.285	2.80E+00
5.295	2.79E+00
5.305	2.77E+00
5.315	2.74E+00
5.325	2.72E+00
5.335	2.70E+00
5.345	2.68E+00
5.355	2.67E+00
5.365	2.65E+00
5.375	2.63E+00
5.385	2.61E+00
5.395	2.59E+00
5.405	2.56E+00
5.415	2.55E+00
5.425	2.53E+00
5.435	2.51E+00

5.445	2.50E+00
5.455	2.48E+00
5.465	2.46E+00
5.475	2.44E+00
5.485	2.43E+00
5.495	2.41E+00
5.505	2.39E+00
5.515	2.37E+00
5.525	2.35E+00
5.535	2.34E+00
5.545	2.32E+00
5.555	2.31E+00
5.565	2.30E+00
5.575	2.28E+00
5.585	2.27E+00
5.595	2.24E+00
5.605	2.22E+00
5.615	2.21E+00
5.625	2.19E+00
5.635	2.19E+00
5.645	2.17E+00
5.655	2.16E+00
5.665	2.14E+00
5.675	2.13E+00
5.685	2.11E+00
5.695	2.10E+00
5.705	2.07E+00
5.715	2.07E+00
5.725	2.05E+00
5.735	2.04E+00
5.745	2.02E+00
5.755	2.01E+00
5.765	2.00E+00
5.775	1.98E+00
5.785	1.97E+00
5.795	1.96E+00
5.805	1.95E+00
5.815	1.94E+00
5.825	1.93E+00
5.835	1.90E+00
5.845	1.89E+00
5.855	1.88E+00
5.865	1.86E+00
5.875	1.85E+00
5.885	1.84E+00
5.895	1.84E+00
5.905	1.82E+00
5.915	1.81E+00
5.925	1.80E+00
5.935	1.79E+00
5.945	1.78E+00
5.955	1.76E+00
5.965	1.75E+00
5.975	1.73E+00
5.985	1.72E+00
5.995	1.71E+00

6.005	1.71E+00
6.015	1.69E+00
6.025	1.68E+00
6.035	1.67E+00
6.045	1.66E+00
6.055	1.65E+00
6.065	1.64E+00
6.075	1.63E+00
6.085	1.62E+00
6.095	1.61E+00
6.105	1.60E+00
6.115	1.60E+00
6.125	1.59E+00
6.135	1.58E+00
6.145	1.56E+00
6.155	1.55E+00
6.165	1.54E+00
6.175	1.53E+00
6.185	1.52E+00
6.195	1.51E+00
6.205	1.50E+00
6.215	1.49E+00
6.225	1.48E+00
6.235	1.48E+00
6.245	1.47E+00
6.255	1.46E+00
6.265	1.45E+00
6.275	1.44E+00
6.285	1.43E+00
6.295	1.42E+00
6.305	1.41E+00
6.315	1.41E+00
6.325	1.39E+00
6.335	1.38E+00
6.345	1.37E+00
6.355	1.36E+00
6.365	1.36E+00
6.375	1.35E+00
6.385	1.34E+00
6.395	1.34E+00
6.405	1.33E+00
6.415	1.32E+00
6.425	1.31E+00
6.435	1.30E+00
6.445	1.30E+00
6.455	1.29E+00
6.465	1.28E+00
6.475	1.27E+00
6.485	1.26E+00
6.495	1.26E+00
6.505	1.25E+00
6.515	1.25E+00
6.525	1.24E+00
6.535	1.24E+00
6.545	1.22E+00
6.555	1.21E+00

6.565	1.20E+00
6.575	1.20E+00
6.585	1.19E+00
6.595	1.18E+00
6.605	1.17E+00
6.615	1.17E+00
6.625	1.16E+00
6.635	1.15E+00
6.645	1.15E+00
6.655	1.14E+00
6.665	1.13E+00
6.675	1.13E+00
6.685	1.12E+00
6.695	1.12E+00
6.705	1.12E+00
6.715	1.11E+00
6.725	1.10E+00
6.735	1.10E+00
6.745	1.09E+00
6.755	1.08E+00
6.765	1.08E+00
6.775	1.07E+00
6.785	1.06E+00
6.795	1.06E+00
6.805	1.04E+00
6.815	1.04E+00
6.825	1.03E+00
6.835	1.02E+00
6.845	1.02E+00
6.855	1.01E+00
6.865	1.01E+00
6.875	9.99E-01
6.885	9.99E-01
6.895	9.99E-01
6.905	9.89E-01
6.915	9.89E-01
6.925	9.79E-01
6.935	9.79E-01
6.945	9.69E-01
6.955	9.59E-01
6.965	9.59E-01
6.975	9.49E-01
6.985	9.49E-01
6.995	9.39E-01
7.005	9.39E-01
7.015	9.29E-01
7.025	9.29E-01
7.035	9.19E-01
7.045	9.19E-01
7.055	9.09E-01
7.065	9.09E-01
7.075	8.99E-01
7.085	8.99E-01
7.095	8.89E-01
7.105	8.89E-01
7.115	8.89E-01

7.125	8.89E-01
7.135	8.79E-01
7.145	8.69E-01
7.155	8.59E-01
7.165	8.59E-01
7.175	8.49E-01
7.185	8.49E-01
7.195	8.39E-01
7.205	8.39E-01
7.215	8.29E-01
7.225	8.29E-01
7.235	8.19E-01
7.245	8.19E-01
7.255	8.09E-01
7.265	8.09E-01
7.275	8.09E-01
7.285	7.99E-01
7.295	7.99E-01
7.305	7.89E-01
7.315	7.89E-01
7.325	7.79E-01
7.335	7.79E-01
7.345	7.69E-01
7.355	7.69E-01
7.365	7.69E-01
7.375	7.69E-01
7.385	7.69E-01
7.395	7.59E-01
7.405	7.59E-01
7.415	7.59E-01
7.425	7.49E-01
7.435	7.49E-01
7.445	7.39E-01
7.455	7.39E-01
7.465	7.39E-01
7.475	7.29E-01
7.485	7.29E-01
7.495	7.19E-01
7.505	7.19E-01
7.515	7.19E-01
7.525	7.09E-01
7.535	7.09E-01
7.545	7.09E-01
7.555	6.89E-01
7.565	6.89E-01
7.575	6.79E-01
7.585	6.79E-01
7.595	6.79E-01
7.605	6.69E-01
7.615	6.69E-01
7.625	6.69E-01
7.635	6.59E-01
7.645	6.59E-01
7.655	6.59E-01
7.665	6.49E-01
7.675	6.49E-01

7.685	6.49E-01
7.695	6.49E-01
7.705	6.49E-01
7.715	6.49E-01
7.725	6.39E-01
7.735	6.39E-01
7.745	6.39E-01
7.755	6.29E-01
7.765	6.29E-01
7.775	6.29E-01
7.785	6.19E-01
7.795	6.19E-01
7.805	6.19E-01
7.815	6.09E-01
7.825	6.09E-01
7.835	6.09E-01
7.845	5.99E-01
7.855	5.99E-01
7.865	5.99E-01
7.875	5.89E-01
7.885	5.89E-01
7.895	5.89E-01
7.905	5.89E-01
7.915	5.79E-01
7.925	5.79E-01
7.935	5.79E-01
7.945	5.69E-01
7.955	5.69E-01
7.965	5.69E-01
7.975	5.69E-01
7.985	5.59E-01
7.995	5.59E-01
8.005	5.59E-01
8.015	5.49E-01
8.025	5.49E-01
8.035	5.49E-01
8.045	5.49E-01
8.055	5.39E-01
8.065	5.39E-01
8.075	5.39E-01
8.085	5.39E-01
8.095	5.29E-01
8.105	5.29E-01
8.115	5.29E-01
8.125	5.29E-01
8.135	5.29E-01
8.145	5.29E-01
8.155	5.29E-01
8.165	5.19E-01
8.175	5.19E-01
8.185	5.19E-01
8.195	5.09E-01
8.205	4.99E-01
8.215	4.99E-01
8.225	4.99E-01
8.235	4.99E-01

8.245	4.89E-01
8.255	4.89E-01
8.265	4.89E-01
8.275	4.89E-01
8.285	4.79E-01
8.295	4.79E-01
8.305	4.79E-01
8.315	4.79E-01
8.325	4.79E-01
8.335	4.69E-01
8.345	4.69E-01
8.355	4.69E-01
8.365	4.69E-01
8.375	4.59E-01
8.385	4.59E-01
8.395	4.59E-01
8.405	4.59E-01
8.415	4.59E-01
8.425	4.49E-01
8.435	4.49E-01
8.445	4.49E-01
8.455	4.49E-01
8.465	4.39E-01
8.475	4.39E-01
8.485	4.39E-01
8.495	4.39E-01
8.505	4.39E-01
8.515	4.29E-01
8.525	4.29E-01
8.535	4.29E-01
8.545	4.29E-01
8.555	4.29E-01
8.565	4.19E-01
8.575	4.19E-01
8.585	4.19E-01
8.595	4.19E-01
8.605	4.19E-01
8.615	4.09E-01
8.625	4.09E-01
8.635	4.09E-01
8.645	4.09E-01
8.655	4.09E-01
8.665	4.09E-01
8.675	4.09E-01
8.685	4.09E-01
8.695	4.09E-01
8.705	4.09E-01
8.715	4.09E-01
8.725	3.99E-01
8.735	3.99E-01
8.745	3.99E-01
8.755	3.99E-01
8.765	3.99E-01
8.775	3.90E-01
8.785	3.90E-01
8.795	3.90E-01

8.805	3.90E-01
8.815	3.90E-01
8.825	3.90E-01
8.835	3.80E-01
8.845	3.80E-01
8.855	3.80E-01
8.865	3.80E-01
8.875	3.80E-01
8.885	3.80E-01
8.895	3.70E-01
8.905	3.70E-01
8.915	3.70E-01
8.925	3.70E-01
8.935	3.70E-01
8.945	3.70E-01
8.955	3.60E-01
8.965	3.60E-01
8.975	3.60E-01
8.985	3.60E-01
8.995	3.60E-01
9.005	3.60E-01
9.015	3.50E-01
9.025	3.50E-01
9.035	3.50E-01
9.045	3.50E-01
9.055	3.50E-01
9.065	3.50E-01
9.075	3.40E-01
9.085	3.40E-01
9.095	3.40E-01
9.105	3.40E-01
9.115	3.40E-01
9.125	3.40E-01
9.135	3.40E-01
9.145	3.20E-01
9.155	3.20E-01
9.165	3.20E-01
9.175	3.20E-01
9.185	3.20E-01
9.195	3.20E-01
9.205	3.20E-01
9.215	3.10E-01
9.225	3.10E-01
9.235	3.10E-01
9.245	3.10E-01
9.255	3.10E-01
9.265	3.10E-01
9.275	3.10E-01
9.285	3.00E-01
9.295	3.00E-01
9.305	3.00E-01
9.315	3.00E-01
9.325	3.00E-01
9.335	3.00E-01
9.345	3.00E-01
9.355	3.00E-01

9.365	2.90E-01
9.375	2.90E-01
9.385	2.90E-01
9.395	2.90E-01
9.405	2.90E-01
9.415	2.90E-01
9.425	2.90E-01
9.435	2.90E-01
9.445	2.90E-01
9.455	2.90E-01
9.465	2.90E-01
9.475	2.90E-01
9.485	2.90E-01
9.495	2.90E-01
9.505	2.90E-01
9.515	2.90E-01
9.525	2.80E-01
9.535	2.80E-01
9.545	2.80E-01
9.555	2.80E-01
9.565	2.80E-01
9.575	2.80E-01
9.585	2.80E-01
9.595	2.80E-01
9.605	2.70E-01
9.615	2.70E-01
9.625	2.70E-01
9.635	2.70E-01
9.645	2.70E-01
9.655	2.70E-01
9.665	2.70E-01
9.675	2.70E-01
9.685	2.70E-01
9.695	2.60E-01
9.705	2.60E-01
9.715	2.60E-01
9.725	2.60E-01
9.735	2.60E-01
9.745	2.60E-01
9.755	2.60E-01
9.765	2.60E-01
9.775	2.60E-01
9.785	2.60E-01
9.795	2.50E-01
9.805	2.50E-01
9.815	2.50E-01
9.825	2.50E-01
9.835	2.50E-01
9.845	2.50E-01
9.855	2.50E-01
9.865	2.50E-01
9.875	2.50E-01
9.885	2.40E-01
9.895	2.40E-01
9.905	2.40E-01
9.915	2.40E-01

9.925	2.40E-01
9.935	2.40E-01
9.945	2.40E-01
9.955	2.40E-01
9.965	2.40E-01
9.975	2.40E-01
9.985	2.40E-01
9.995	2.30E-01
10.025	2.30E-01
10.075	2.30E-01
10.125	2.20E-01
10.175	2.20E-01
10.225	2.10E-01
10.275	2.10E-01
10.325	2.00E-01
10.375	2.00E-01
10.425	2.00E-01
10.475	1.90E-01
10.525	1.90E-01
10.575	1.90E-01
10.625	1.80E-01
10.675	1.80E-01
10.725	1.80E-01
10.775	1.80E-01
10.825	1.80E-01
10.875	1.70E-01
10.925	1.70E-01
10.975	1.70E-01
11.025	1.60E-01
11.075	1.60E-01
11.125	1.60E-01
11.175	1.60E-01
11.225	1.50E-01
11.275	1.50E-01
11.325	1.50E-01
11.375	1.50E-01
11.425	1.40E-01
11.475	1.40E-01
11.525	1.40E-01
11.575	1.40E-01
11.625	1.20E-01
11.675	1.20E-01
11.725	1.20E-01
11.775	1.20E-01
11.825	1.10E-01
11.875	1.10E-01
11.925	1.10E-01
11.975	1.10E-01
12.025	1.10E-01
12.075	9.99E-02
12.125	9.99E-02
12.175	9.99E-02
12.225	9.99E-02
12.275	9.99E-02
12.325	9.99E-02
12.375	8.99E-02

12.425	8.99E-02
12.475	8.99E-02
12.525	8.99E-02
12.575	8.99E-02
12.625	8.99E-02
12.675	7.99E-02
12.725	7.99E-02
12.775	7.99E-02
12.825	7.99E-02
12.875	7.99E-02
12.925	7.99E-02
12.975	7.99E-02
13.025	6.99E-02
13.075	6.99E-02
13.125	6.99E-02
13.175	6.99E-02
13.225	6.99E-02
13.275	6.99E-02
13.325	6.99E-02
13.375	6.99E-02
13.425	5.99E-02
13.475	5.99E-02
13.525	5.99E-02
13.575	5.99E-02
13.625	5.99E-02
13.675	5.99E-02
13.725	5.99E-02
13.775	5.99E-02
13.825	5.99E-02
13.875	5.99E-02
13.925	5.99E-02
13.975	5.99E-02
14.025	5.99E-02
14.075	5.99E-02
14.125	5.99E-02
14.175	5.99E-02
14.225	5.99E-02
14.275	5.99E-02
14.325	5.99E-02
14.375	5.99E-02
14.425	5.99E-02
14.475	4.99E-02
14.525	4.99E-02
14.575	4.99E-02
14.625	4.99E-02
14.675	4.99E-02
14.725	4.99E-02
14.775	4.99E-02
14.825	4.99E-02
14.875	4.99E-02
14.925	4.99E-02
14.975	4.99E-02
15.025	4.99E-02
15.075	4.99E-02
15.125	4.99E-02
15.175	4.99E-02

15.225	3.99E-02
15.275	3.99E-02
15.325	3.99E-02
15.375	3.99E-02
15.425	3.99E-02
15.475	3.99E-02
15.525	3.99E-02
15.575	3.99E-02
15.625	3.99E-02
15.675	3.99E-02
15.725	3.99E-02
15.775	3.99E-02
15.825	3.99E-02
15.875	3.99E-02
15.925	3.99E-02
15.975	3.99E-02
16.025	3.99E-02
16.075	3.99E-02
16.125	3.99E-02
16.175	3.99E-02
16.225	3.00E-02
16.275	3.00E-02
16.325	3.00E-02
16.375	3.00E-02
16.425	3.00E-02
16.475	3.00E-02
16.525	3.00E-02
16.575	3.00E-02
16.625	3.00E-02
16.675	3.00E-02
16.725	3.00E-02
16.775	3.00E-02
16.825	3.00E-02
16.875	3.00E-02
16.925	3.00E-02
16.975	3.00E-02
17.025	3.00E-02
17.075	3.00E-02
17.125	3.00E-02
17.175	3.00E-02
17.225	3.00E-02
17.275	3.00E-02
17.325	3.00E-02
17.375	3.00E-02
17.425	3.00E-02
17.475	3.00E-02
17.525	3.00E-02
17.575	3.00E-02
17.625	2.00E-02
17.675	2.00E-02
17.725	2.00E-02
17.775	2.00E-02
17.825	2.00E-02
17.875	2.00E-02
17.925	2.00E-02
17.975	2.00E-02

18.025	2.00E-02
18.075	2.00E-02
18.125	2.00E-02
18.175	2.00E-02
18.225	2.00E-02
18.275	2.00E-02
18.325	2.00E-02
18.375	2.00E-02
18.425	2.00E-02
18.475	2.00E-02
18.525	2.00E-02
18.575	2.00E-02
18.625	2.00E-02
18.675	2.00E-02
18.725	2.00E-02
18.775	2.00E-02
18.825	2.00E-02
18.875	2.00E-02
18.925	2.00E-02
18.975	2.00E-02
19.025	2.00E-02
19.075	2.00E-02
19.125	2.00E-02
19.175	2.00E-02
19.225	2.00E-02
19.275	2.00E-02
19.325	2.00E-02
19.375	2.00E-02
19.425	2.00E-02
19.475	2.00E-02
19.525	2.00E-02
19.575	2.00E-02
19.625	2.00E-02
19.675	2.00E-02
19.725	2.00E-02
19.775	2.00E-02
19.825	2.00E-02
19.875	2.00E-02
19.925	2.00E-02
19.975	9.99E-03
20.025	9.99E-03
22	9.37E-03
24	6.61E-03
26	4.80E-03
28	3.58E-03
30	2.72E-03
32	2.10E-03
35	1.47E-03
40	8.60E-04
45	5.39E-04
50	3.54E-04
55	2.42E-04
60	1.71E-04
65	1.25E-04
70	9.25E-05
75	7.05E-05

80	5.45E-05
85	4.28E-05
90	3.41E-05
95	2.75E-05
100	2.24E-05

