

UNCLASSIFIED

AD NUMBER

AD423627

LIMITATION CHANGES

TO:

Approved for public release; distribution is unlimited.

FROM:

Distribution authorized to U.S. Gov't. agencies and their contractors;
Administrative/Operational Use; 07 MAY 1963.
Other requests shall be referred to Army Missile Command, Redstone Arsenal, AL 35898.

AUTHORITY

AAMRDEC memo dtd 1 Sep 2015

THIS PAGE IS UNCLASSIFIED

UNCLASSIFIED

AD

4 2 3 6 2 7

DEFENSE DOCUMENTATION CENTER

FOR

SCIENTIFIC AND TECHNICAL INFORMATION

CAMERON STATION, ALEXANDRIA, VIRGINIA



UNCLASSIFIED

NOTICE: When government or other drawings, specifications or other data are used for any purpose other than in connection with a definitely related government procurement operation, the U. S. Government thereby incurs no responsibility, nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use or sell any patented invention that may in any way be related thereto.

TN-AMSMI-RNR-1-63

428627

CATALOG DDG

RE-ENTRY PHYSICS

Technical Note 1

BLACKBODY RADIATION TABLES

SPONSORED BY

ADVANCED RESEARCH PROJECTS AGENCY

DDG
RECEIVED
DEC 2 1963

7 May 1963

BLACKBODY RADIATION TABLES

by

T. Roy Bowen

RE-ENTRY PHYSICS BRANCH
ARPA DIVISION
DIRECTORATE OF RESEARCH AND DEVELOPMENT
U. S. ARMY MISSILE COMMAND
REDSTONE ARSENAL, ALABAMA

Sponsored by
Advanced Research Projects Agency

This work is part of Project DEFENDER
of the Advanced Research Projects Agency
Department of Defense

INTRODUCTION

These tables were prepared in response to a need within this group for a convenient tabulation of blackbody radiation values at a number of wavelengths and temperatures and are being published in the hope that they may prove useful to a larger number of people. The choice of units was dictated by the general practice within this group. The entries in the tables result from evaluating, at the indicated wavelength and temperature, Planck's equation, which is

$$R = \frac{C_1}{\lambda^5} \frac{1}{\exp(C_2/\lambda T) - 1}$$

where $C_1 = 1.1906 \times 10^4$ watts - micron⁴ cm⁻²-steradian⁻¹,
 $C_2 = 1.4388 \times 10^4$ micron - °K,
T is in degrees Kelvin, and
 λ is in microns.

This equation represents the monochromatic radiant intensity at a particular wavelength from a perfect radiator maintained at the indicated temperature. With C_1 and C_2 set equal to the above values, the calculated radiant intensity has units of watts-cm⁻²-steradian⁻¹-micron⁻¹.

Due to the amount of calculation involved in evaluating Planck's equation, as well as the large number of repetitions required, it was decided that hand computation was not feasible. Consequently, the problem was programmed for a digital computer, and the values presented here were machine calculated. To avoid the possibility of

errors introduced during transcription, the tables were reproduced directly from the computer print-out.

The accuracy of the tabulated values is limited by the input data. The values presented are accurate to the number of places given; however, it should be noted that the values were truncated, and not rounded, to this number of decimal digits. The radiation values are given as a number followed by the power of ten by which this number is to be multiplied.

Following the tables, most of the data are presented graphically. For the sake of clarity and legibility, the curves for certain of the temperatures had to be omitted.

300. DEGREES

WL	R	WL	R	WL	R
.10	.0000E-99	.78	8.1611E-23	5.60	4.1255E-04
.12	.0000E-99	.80	3.3447E-22	5.80	4.6512E-04
.14	.0000E-99	.82	1.2757E-21	6.00	5.1724E-04
.16	.0000E-99	.84	4.5522E-21	6.20	5.6822E-04
.18	.0000E-99	.86	1.5267E-20	6.40	6.1746E-04
.20	.0000E-99	.88	4.8339E-20	6.60	6.6447E-04
.22	4.8691E-88	.90	1.4503E-19	6.80	7.0883E-04
.24	2.4445E-80	.92	4.1387E-19	7.00	7.5023E-04
.26	7.7673E-74	.94	1.1268E-18	7.20	7.8845E-04
.28	2.8283E-68	.96	2.9361E-18	7.40	8.2333E-04
.30	1.8236E-63	.98	7.3416E-18	7.60	8.5479E-04
.32	2.8848E-59	1.00	1.7660E-17	7.80	8.8281E-04
.34	1.4364E-55	1.20	2.1016E-14	8.00	9.0741E-04
.36	2.7326E-52	1.40	2.9338E-12	8.20	9.2866E-04
.38	2.3137E-49	1.60	1.0894E-10	8.40	9.4666E-04
.40	9.8527E-47	1.80	1.6899E-09	8.60	9.6154E-04
.42	2.3293E-44	2.00	1.4329E-08	8.80	9.7345E-04
.44	3.3143E-42	2.20	7.8710E-08	9.00	9.8255E-04
.46	3.0343E-40	2.40	3.1337E-07	9.20	9.8901E-04
.48	1.8893E-38	2.60	9.7686E-07	9.40	9.9300E-04
.50	8.3828E-37	2.80	2.5184E-06	9.60	9.9470E-04
.52	2.7569E-35	3.00	5.5877E-06	9.80	9.9430E-04
.54	6.9504E-34	3.20	1.0990E-05	10.00	9.9195E-04
.56	1.3823E-32	3.40	1.9600E-05	12.00	8.9574E-04
.58	2.2231E-31	3.60	3.2246E-05	14.00	7.4424E-04
.60	2.9539E-30	3.80	4.9613E-05	16.00	5.9649E-04
.62	3.3039E-29	4.00	7.2156E-05	18.00	4.7162E-04
.64	3.1617E-28	4.20	1.0006E-04	20.00	3.7201E-04
.66	2.6261E-27	4.40	1.3326E-04	22.00	2.9443E-04
.68	1.9172E-26	4.60	1.7139E-04	24.00	2.3448E-04
.70	1.2442E-25	4.80	2.1392E-04	26.00	1.8815E-04
.72	7.2487E-25	5.00	2.6013E-04	28.00	1.5221E-04
.74	3.8249E-24	5.20	3.0921E-04	30.00	1.2415E-04
.76	1.8425E-23	5.40	3.6031E-04		

350. DEGREES

WL	R	WL	R	WL	R
.10	.0000E-99	.78	5.3277E-19	5.60	1.4029E-03
.12	.0000E-99	.80	1.7530E-18	5.80	1.5165E-03
.14	.0000E-99	.82	5.4258E-18	6.00	1.6215E-03
.16	.0000E-99	.84	1.5868E-17	6.20	1.7172E-03
.18	.0000E-99	.86	4.4025E-17	6.40	1.8030E-03
.20	2.0159E-82	.88	1.1630E-16	6.60	1.8787E-03
.22	1.6316E-74	.90	2.9351E-16	6.80	1.9443E-03
.24	6.1132E-68	.92	7.0981E-16	7.00	2.0000E-03
.26	2.1609E-62	.94	1.6494E-15	7.20	2.0461E-03
.28	1.1980E-57	.96	3.6923E-15	7.40	2.0830E-03
.30	1.5114E-53	.98	7.9810E-15	7.60	2.1112E-03
.32	5.7370E-50	1.00	1.6693E-14	7.80	2.1313E-03
.34	8.1074E-47	1.20	6.3412E-12	8.00	2.1439E-03
.36	5.0345E-44	1.40	3.9158E-10	8.20	2.1496E-03
.38	1.5655E-41	1.60	7.8867E-09	8.40	2.1490E-03
.40	2.7064E-39	1.80	7.6022E-08	8.60	2.1427E-03
.42	2.8303E-37	2.00	4.4055E-07	8.80	2.1313E-03
.44	1.9186E-35	2.20	1.7723E-06	9.00	2.1154E-03
.46	8.9251E-34	2.40	5.4433E-06	9.20	2.0954E-03
.48	2.9877E-32	2.60	1.3623E-05	9.40	2.0718E-03
.50	7.4897E-31	2.80	2.9095E-05	9.60	2.0452E-03
.52	1.4541E-29	3.00	5.4838E-05	9.80	2.0159E-03
.54	2.2504E-28	3.20	9.3515E-05	10.00	1.9843E-03
.56	2.8448E-27	3.40	1.4703E-04	12.00	1.6086E-03
.58	3.0005E-26	3.60	2.1628E-04	14.00	1.2404E-03
.60	2.6892E-25	3.80	3.0105E-04	16.00	9.4177E-04
.62	2.0810E-24	4.00	4.0010E-04	18.00	7.1487E-04
.64	1.4099E-23	4.20	5.1141E-04	20.00	5.4633E-04
.66	8.4665E-23	4.40	6.3239E-04	22.00	4.2164E-04
.68	4.5548E-22	4.60	7.6014E-04	24.00	3.2900E-04
.70	2.2165E-21	4.80	8.9170E-04	26.00	2.5958E-04
.72	9.8391E-21	5.00	1.0242E-03	28.00	2.0704E-04
.74	4.0144E-20	5.20	1.1550E-03	30.00	1.6685E-04
.76	1.5156E-19	5.40	1.2819E-03		

400. DEGREES

WL	R	WL	R	WL	R
.10	.0000E-99	.78	3.8693E-16	5.60	3.5153E-03
.12	.0000E-99	.80	1.0798E-15	5.80	3.6824E-03
.14	.0000E-99	.82	2.8575E-15	6.00	3.8238E-03
.16	.0000E-99	.84	7.1987E-15	6.20	3.9401E-03
.18	1.0301E-79	.86	1.7324E-14	6.40	4.0324E-03
.20	2.9023E-71	.88	3.9954E-14	6.60	4.1021E-03
.22	2.2725E-64	.90	8.8562E-14	6.80	4.1507E-03
.24	1.2156E-58	.92	1.8917E-13	7.00	4.1800E-03
.26	8.2780E-54	.94	3.9033E-13	7.20	4.1916E-03
.28	1.1185E-49	.96	7.7971E-13	7.40	4.1875E-03
.30	4.1519E-46	.98	1.5109E-12	7.60	4.1693E-03
.32	5.4025E-43	1.00	2.8457E-12	7.80	4.1387E-03
.34	2.9687E-40	1.20	4.5907E-10	8.00	4.0972E-03
.36	7.9615E-38	1.40	1.5376E-08	8.20	4.0463E-03
.38	1.1680E-35	1.60	1.9574E-07	8.40	3.9874E-03
.40	1.0269E-33	1.80	1.3205E-06	8.60	3.9218E-03
.42	5.8250E-32	2.00	5.7521E-06	8.80	3.8505E-03
.44	2.2642E-30	2.20	1.8320E-05	9.00	3.7746E-03
.46	6.3392E-29	2.40	4.6314E-05	9.20	3.6950E-03
.48	1.3323E-27	2.60	9.8311E-05	9.40	3.6126E-03
.50	2.1765E-26	2.80	1.8232E-04	9.60	3.5280E-03
.52	2.8461E-25	3.00	3.0406E-04	9.80	3.4419E-03
.54	3.0546E-24	3.20	4.6588E-04	10.00	3.3548E-03
.56	2.7489E-23	3.40	6.6650E-04	12.00	2.5136E-03
.58	2.1129E-22	3.60	9.0146E-04	14.00	1.8361E-03
.60	1.4094E-21	3.80	1.1639E-03	16.00	1.3405E-03
.62	8.2741E-21	4.00	1.4458E-03	18.00	9.8810E-04
.64	4.3267E-20	4.20	1.7385E-03	20.00	7.3813E-04
.66	2.0370E-19	4.40	2.0336E-03	22.00	5.5944E-04
.68	8.7160E-19	4.60	2.3235E-03	24.00	4.3014E-04
.70	3.4177E-18	4.80	2.6019E-03	26.00	3.3528E-04
.72	1.2373E-17	5.00	2.8637E-03	28.00	2.6471E-04
.74	4.1626E-17	5.20	3.1047E-03	30.00	2.1148E-04
.76	1.3091E-16	5.40	3.3225E-03		

450. DEGREES

WL	R	WL	R	WL	R
.10	.0000E-99	.78	6.5002E-14	5.60	7.1887E-03
.12	.0000E-99	.80	1.5959E-13	5.80	7.3497E-03
.14	.0000E-99	.82	3.7388E-13	6.00	7.4612E-03
.16	1.8563E-79	.84	8.3869E-13	6.20	7.5277E-03
.18	4.5273E-70	.86	1.8069E-12	6.40	7.5535E-03
.20	1.3848E-62	.88	3.7496E-12	6.60	7.5433E-03
.22	1.7627E-56	.90	7.5134E-12	6.80	7.5014E-03
.24	2.0750E-51	.92	1.4572E-11	7.00	7.4321E-03
.26	3.9247E-47	.94	2.7412E-11	7.20	7.3394E-03
.28	1.7688E-43	.96	5.0117E-11	7.40	7.2269E-03
.30	2.5352E-40	.98	8.9209E-11	7.60	7.0978E-03
.32	1.4346E-37	1.00	1.5485E-10	7.80	6.9553E-03
.34	3.7814E-35	1.20	1.2832E-08	8.00	6.8020E-03
.36	5.2780E-33	1.40	2.6709E-07	8.20	6.6403E-03
.38	4.3167E-31	1.60	2.3796E-06	8.40	6.4722E-03
.40	2.2431E-29	1.80	1.2163E-05	8.60	6.2996E-03
.42	7.9066E-28	2.00	4.2432E-05	8.80	6.1241E-03
.44	1.9942E-26	2.20	1.1269E-04	9.00	5.9471E-03
.46	3.7615E-25	2.40	2.4487E-04	9.20	5.7696E-03
.48	5.5045E-24	2.60	4.5729E-04	9.40	5.5928E-03
.50	6.4451E-23	2.80	7.5989E-04	9.60	5.4173E-03
.52	6.1973E-22	3.00	1.1522E-03	9.80	5.2440E-03
.54	5.0035E-21	3.20	1.6244E-03	10.00	5.0734E-03
.56	3.4568E-20	3.40	2.1594E-03	12.00	3.5814E-03
.58	2.0773E-19	3.60	2.7361E-03	14.00	2.5116E-03
.60	1.1013E-18	3.80	3.3325E-03	16.00	1.7806E-03
.62	5.2154E-18	4.00	3.9278E-03	18.00	1.2838E-03
.64	2.2296E-17	4.20	4.5038E-03	20.00	9.4278E-04
.66	8.6874E-17	4.40	5.0458E-03	22.00	7.0490E-04
.68	3.1107E-16	4.60	5.5428E-03	24.00	5.3603E-04
.70	1.0312E-15	4.80	5.9873E-03	26.00	4.1401E-04
.72	3.1857E-15	5.00	6.3749E-03	28.00	3.2436E-04
.74	9.2247E-15	5.20	6.7038E-03	30.00	2.5745E-04
.76	2.5168E-14	5.40	6.9744E-03		

500 . DEGREES

WL	R	WL	R	WL	R
.10	.0000E-99	.78	3.9189E-12	5.60	1.2756E-02
.12	.0000E-99	.80	8.6844E-12	5.80	1.2793E-02
.14	1.1994E-81	.82	1.8456E-11	6.00	1.2756E-02
.16	8.8573E-71	.84	3.7729E-11	6.20	1.2656E-02
.18	2.3452E-62	.86	7.4400E-11	6.40	1.2503E-02
.20	1.2142E-55	.88	1.4188E-10	6.60	1.2305E-02
.22	3.6135E-50	.90	2.6224E-10	6.80	1.2071E-02
.24	1.2670E-45	.92	4.7081E-10	7.00	1.1806E-02
.26	8.6004E-42	.94	8.2256E-10	7.20	1.1519E-02
.28	1.6103E-38	.96	1.4009E-09	7.40	1.1214E-02
.30	1.0780E-35	.98	2.3298E-09	7.60	1.0896E-02
.32	3.1338E-33	1.00	3.7888E-09	7.80	1.0569E-02
.34	4.5891E-31	1.20	1.8427E-07	8.00	1.0238E-02
.36	3.7988E-29	1.40	2.6212E-06	8.20	9.9045E-03
.38	1.9468E-27	1.60	1.7554E-05	8.40	9.5710E-03
.40	6.6423E-26	1.80	7.1859E-05	8.60	9.2401E-03
.42	1.6000E-24	2.00	2.0988E-04	8.80	8.9132E-03
.44	2.8552E-23	2.20	4.8203E-04	9.00	8.5919E-03
.46	3.9266E-22	2.40	9.2794E-04	9.20	8.2772E-03
.48	4.3013E-21	2.60	1.5641E-03	9.40	7.9700E-03
.50	3.8583E-20	2.80	2.3805E-03	9.60	7.6709E-03
.52	2.9010E-19	3.00	3.3453E-03	9.80	7.3804E-03
.54	1.8652E-18	3.20	4.4124E-03	10.00	7.0989E-03
.56	1.0430E-17	3.40	5.5309E-03	12.00	4.7842E-03
.58	5.1478E-17	3.60	6.6518E-03	14.00	3.2506E-03
.60	2.2711E-16	3.80	7.7324E-03	16.00	2.2526E-03
.62	9.0560E-16	4.00	8.7393E-03	18.00	1.5966E-03
.64	3.2953E-15	4.20	9.6480E-03	20.00	1.1570E-03
.66	1.1035E-14	4.40	1.0443E-02	22.00	8.5602E-04
.68	3.4268E-14	4.60	1.1117E-02	24.00	6.4538E-04
.70	9.9323E-14	4.80	1.1669E-02	26.00	4.9495E-04
.72	2.7027E-13	5.00	1.2101E-02	28.00	3.8547E-04
.74	6.9409E-13	5.20	1.2420E-02	30.00	3.0439E-04
.76	1.6901E-12	5.40	1.2635E-02		

550. DEGREES

WL	R	WL	R	WL	R
.10	.0000E-99	.78	1.1213E-10	5.60	2.0423E-02
.12	1.0084E-86	.80	2.2850E-10	5.80	2.0165E-02
.14	1.5635E-73	.82	4.4837E-10	6.00	1.9818E-02
.16	1.1169E-63	.84	8.4956E-10	6.20	1.9399E-02
.18	4.8077E-56	.86	1.5582E-09	6.40	1.8925E-02
.20	5.8196E-50	.88	2.7730E-09	6.60	1.8407E-02
.22	5.2734E-45	.90	4.7980E-09	6.80	1.7858E-02
.24	6.8645E-41	.92	8.0864E-09	7.00	1.7287E-02
.26	2.0146E-37	.94	1.3298E-08	7.20	1.6703E-02
.28	1.8384E-34	.96	2.1373E-08	7.40	1.6112E-02
.30	6.6020E-32	.98	3.3622E-08	7.60	1.5521E-02
.32	1.1128E-29	1.00	5.1834E-08	7.80	1.4934E-02
.34	1.0074E-27	1.20	1.6301E-06	8.00	1.4354E-02
.36	5.4390E-26	1.40	1.6983E-05	8.20	1.3786E-02
.38	1.9015E-24	1.60	9.0043E-05	8.40	1.3230E-02
.40	4.5984E-23	1.80	3.0736E-04	8.60	1.2689E-02
.42	8.1129E-22	2.00	7.7632E-04	8.80	1.2165E-02
.44	1.0907E-20	2.20	1.5830E-03	9.00	1.1657E-02
.46	1.1583E-19	2.40	2.7599E-03	9.20	1.1167E-02
.48	1.0011E-18	2.60	4.2780E-03	9.40	1.0696E-02
.50	7.2215E-18	2.80	6.0598E-03	9.60	1.0242E-02
.52	4.4401E-17	3.00	8.0017E-03	9.80	9.8067E-03
.54	2.3694E-16	3.20	9.9949E-03	10.00	9.3889E-03
.56	1.1144E-15	3.40	1.1941E-02	12.00	6.0980E-03
.58	4.6821E-15	3.60	1.3762E-02	14.00	4.0403E-03
.60	1.7773E-14	3.80	1.5399E-02	16.00	2.7496E-03
.62	6.1571E-14	4.00	1.6819E-02	18.00	1.9225E-03
.64	1.9637E-13	4.20	1.8002E-02	20.00	1.3786E-03
.66	5.8102E-13	4.40	1.8947E-02	22.00	1.0114E-03
.68	1.6056E-12	4.60	1.9662E-02	24.00	7.5735E-04
.70	4.1693E-12	4.80	2.0161E-02	26.00	5.7754E-04
.72	1.0226E-11	5.00	2.0465E-02	28.00	4.4764E-04
.74	2.3807E-11	5.20	2.0594E-02	30.00	3.5206E-04
.76	5.2823E-11	5.40	2.0573E-02		

600 . DEGREES

WL	R	WL	R	WL	R
.10	.0000E-99	.78	1.8345E-09	5.60	3.0279E-02
.12	7.8225E-79	.80	3.4860E-09	5.80	2.9515E-02
.14	9.0508E-67	.82	6.4007E-09	6.00	2.8663E-02
.16	9.2316E-58	.84	1.1384E-08	6.20	2.7748E-02
.18	8.7443E-51	.86	1.9657E-08	6.40	2.6790E-02
.20	3.1528E-45	.88	3.3023E-08	6.60	2.5807E-02
.22	1.0606E-40	.90	5.4077E-08	6.80	2.4811E-02
.24	6.0457E-37	.92	8.6466E-08	7.00	2.3815E-02
.26	8.8223E-34	.94	1.3520E-07	7.20	2.2828E-02
.28	4.4233E-31	.96	2.0705E-07	7.40	2.1857E-02
.30	9.4526E-29	.98	3.1096E-07	7.60	2.0907E-02
.32	1.0117E-26	1.00	4.5854E-07	7.80	1.9983E-02
.34	6.1353E-25	1.20	1.0027E-05	8.00	1.9087E-02
.36	2.3196E-23	1.40	8.0590E-05	8.20	1.8223E-02
.38	5.8963E-22	1.60	3.5170E-04	8.40	1.7390E-02
.40	1.0703E-20	1.80	1.0318E-03	8.60	1.6591E-02
.42	1.4567E-19	2.00	2.3090E-03	8.80	1.5824E-02
.44	1.5468E-18	2.20	4.2643E-03	9.00	1.5092E-02
.46	1.3243E-17	2.40	6.8454E-03	9.20	1.4391E-02
.48	9.3957E-17	2.60	9.8948E-03	9.40	1.3724E-02
.50	5.6513E-16	2.80	1.3201E-02	9.60	1.3087E-02
.52	2.9382E-15	3.00	1.6551E-02	9.80	1.2481E-02
.54	1.3424E-14	3.20	1.9758E-02	10.00	1.1904E-02
.56	5.4665E-14	3.40	2.2682E-02	12.00	7.5034E-03
.58	2.0081E-13	3.60	2.5230E-02	14.00	4.8709E-03
.60	6.7252E-13	3.80	2.7353E-02	16.00	3.2664E-03
.62	2.0721E-12	4.00	2.9037E-02	18.00	2.2588E-03
.64	5.9209E-12	4.20	3.0293E-02	20.00	1.6059E-03
.66	1.5800E-11	4.40	3.1150E-02	22.00	1.1701E-03
.68	3.9623E-11	4.60	3.1648E-02	24.00	8.7134E-04
.70	9.3883E-11	4.80	3.1830E-02	26.00	6.6139E-04
.72	2.1119E-10	5.00	3.1742E-02	28.00	5.1064E-04
.74	4.5302E-10	5.20	3.1428E-02	30.00	4.0027E-04
.76	9.3017E-10	5.40	3.0928E-02		

650. DEGREES

WL	R	WL	R	WL	R
.10	.0000E-99	.78	1.9524E-08	5.60	4.2324E-02
.12	3.7088E-72	.80	3.4972E-08	5.80	4.0815E-02
.14	4.7738E-61	.82	6.0700E-08	6.00	3.9245E-02
.16	9.3798E-53	.84	1.0232E-07	6.20	3.7642E-02
.18	2.4678E-46	.86	1.6789E-07	6.40	3.6031E-02
.20	3.1933E-41	.88	2.6864E-07	6.60	3.4430E-02
.22	4.6445E-37	.90	4.1989E-07	6.80	3.2853E-02
.24	1.3164E-33	.92	6.4211E-07	7.00	3.1313E-02
.26	1.0635E-30	.94	9.6213E-07	7.20	2.9817E-02
.28	3.2125E-28	.96	1.4144E-06	7.40	2.8372E-02
.30	4.4249E-26	.98	2.0425E-06	7.60	2.6980E-02
.32	3.2250E-24	1.00	2.9006E-06	7.80	2.5646E-02
.34	1.3932E-22	1.20	4.6644E-05	8.00	2.4369E-02
.36	3.8968E-21	1.40	3.0095E-04	8.20	2.3151E-02
.38	7.5640E-20	1.60	1.1139E-03	8.40	2.1991E-02
.40	1.0771E-18	1.80	2.8753E-03	8.60	2.0887E-02
.42	1.1769E-17	2.00	5.8074E-03	8.80	1.9839E-02
.44	1.0236E-16	2.20	9.8628E-03	9.00	1.8845E-02
.46	7.3038E-16	2.40	1.4764E-02	9.20	1.7903E-02
.48	4.3843E-15	2.60	2.0117E-02	9.40	1.7011E-02
.50	2.2613E-14	2.80	2.5516E-02	9.60	1.6167E-02
.52	1.0201E-13	3.00	3.0620E-02	9.80	1.5367E-02
.54	4.0872E-13	3.20	3.5180E-02	10.00	1.4612E-02
.56	1.4732E-12	3.40	3.9046E-02	12.00	8.9843E-03
.58	4.8307E-12	3.60	4.2152E-02	14.00	5.7346E-03
.60	1.4550E-11	3.80	4.4496E-02	16.00	3.7991E-03
.62	4.0599E-11	4.00	4.6117E-02	18.00	2.6033E-03
.64	1.0571E-10	4.20	4.7085E-02	20.00	1.8377E-03
.66	2.5851E-10	4.40	4.7480E-02	22.00	1.3314E-03
.68	5.9710E-10	4.60	4.7389E-02	24.00	9.8689E-04
.70	1.3092E-09	4.80	4.6895E-02	26.00	7.4623E-04
.72	2.7373E-09	5.00	4.6076E-02	28.00	5.7428E-04
.74	5.4789E-09	5.20	4.5002E-02	30.00	4.4891E-04
.76	1.0535E-08	5.40	4.3734E-02		

700 . DEGREES

WL	R	WL	R	WL	R
.10	6.4511E-81	.78	1.4822E-07	5.60	5.6492E-02
.12	1.9562E-66	.80	2.5237E-07	5.80	5.3987E-02
.14	3.8336E-56	.82	4.1742E-07	6.00	5.1475E-02
.16	1.8358E-48	.84	6.7212E-07	6.20	4.8989E-02
.18	1.6110E-42	.86	1.0555E-06	6.40	4.6552E-02
.20	8.6607E-38	.88	1.6198E-06	6.60	4.4183E-02
.22	6.1395E-34	.90	2.4327E-06	6.80	4.1894E-02
.24	9.5606E-31	.92	3.5808E-06	7.00	3.9693E-02
.26	4.6534E-28	.94	5.1728E-06	7.20	3.7587E-02
.28	9.1036E-26	.96	7.3426E-06	7.40	3.5578E-02
.30	8.6056E-24	.98	1.0252E-05	7.60	3.3667E-02
.32	4.5118E-22	1.00	1.4097E-05	7.80	3.1854E-02
.34	1.4575E-20	1.20	1.7418E-04	8.00	3.0136E-02
.36	3.1485E-19	1.40	9.3105E-04	8.20	2.8511E-02
.38	4.8502E-18	1.60	2.9925E-03	8.40	2.6977E-02
.40	5.6096E-17	1.80	6.9211E-03	8.60	2.5528E-02
.42	5.0778E-16	2.00	1.2803E-02	8.80	2.4163E-02
.44	3.7217E-15	2.20	2.0236E-02	9.00	2.2876E-02
.46	2.2714E-14	2.40	2.8534E-02	9.20	2.1663E-02
.48	1.1815E-13	2.60	3.6961E-02	9.40	2.0521E-02
.50	5.3418E-13	2.80	4.4893E-02	9.60	1.9447E-02
.52	2.1339E-12	3.00	5.1889E-02	9.80	1.8435E-02
.54	7.6389E-12	3.20	5.7697E-02	10.00	1.7482E-02
.56	2.4799E-11	3.40	6.2219E-02	12.00	1.0528E-02
.58	7.3775E-11	3.60	6.5475E-02	14.00	6.6254E-03
.60	2.0291E-10	3.80	6.7559E-02	16.00	4.3447E-03
.62	5.2004E-10	4.00	6.8606E-02	18.00	2.9543E-03
.64	1.2503E-09	4.20	6.8770E-02	20.00	2.0731E-03
.66	2.8371E-09	4.40	6.8204E-02	22.00	1.4949E-03
.68	6.1073E-09	4.60	6.7052E-02	24.00	1.1037E-03
.70	1.2530E-08	4.80	6.5446E-02	26.00	8.3186E-04
.72	2.4605E-08	5.00	6.3499E-02	28.00	6.3843E-04
.74	4.6410E-08	5.20	6.1307E-02	30.00	4.9789E-04
.76	8.4363E-08	5.40	5.8949E-02		

750. DEGREES

WL	R	WL	R	WL	R
.10	5.7638E-75	.78	8.5876E-07	5.60	7.2680E-02
.12	1.7809E-61	.80	1.3993E-06	5.80	6.8921E-02
.14	6.8292E-52	.82	2.2198E-06	6.00	6.5245E-02
.16	9.6218E-45	.84	3.4348E-06	6.20	6.1681E-02
.18	3.2603E-39	.86	5.1937E-06	6.40	5.8251E-02
.20	8.1863E-35	.88	7.6865E-06	6.60	5.4967E-02
.22	3.1129E-31	.90	1.1151E-05	6.80	5.1839E-02
.24	2.8847E-28	.92	1.5879E-05	7.00	4.8868E-02
.26	9.0499E-26	.94	2.2224E-05	7.20	4.6057E-02
.28	1.2150E-23	.96	3.0602E-05	7.40	4.3402E-02
.30	8.2884E-22	.98	4.1504E-05	7.60	4.0899E-02
.32	3.2663E-20	1.00	5.5495E-05	7.80	3.8544E-02
.34	8.2024E-19	1.20	5.4568E-04	8.00	3.6330E-02
.36	1.4163E-17	1.40	2.4777E-03	8.20	3.4250E-02
.38	1.7858E-16	1.60	7.0465E-03	8.40	3.2299E-02
.40	1.7246E-15	1.80	1.4818E-02	8.60	3.0469E-02
.42	1.3261E-14	2.00	2.5403E-02	8.80	2.8753E-02
.44	8.3803E-14	2.20	3.7729E-02	9.00	2.7144E-02
.46	4.4669E-13	2.40	5.0512E-02	9.20	2.5636E-02
.48	2.0523E-12	2.60	6.2624E-02	9.40	2.4223E-02
.50	8.2776E-12	2.80	7.3265E-02	9.60	2.2898E-02
.52	2.9759E-11	3.00	8.1981E-02	9.80	2.1656E-02
.54	9.6623E-11	3.20	8.8614E-02	10.00	2.0492E-02
.56	2.8650E-10	3.40	9.3211E-02	12.00	1.2124E-02
.58	7.8336E-10	3.60	9.5952E-02	14.00	7.5387E-03
.60	1.9914E-09	3.80	9.7083E-02	16.00	4.9009E-03
.62	4.7412E-09	4.00	9.6870E-02	18.00	3.3108E-03
.64	1.0638E-08	4.20	9.5578E-02	20.00	2.3115E-03
.66	2.2623E-08	4.40	9.3446E-02	22.00	1.6600E-03
.68	4.5815E-08	4.60	9.0685E-02	24.00	1.2215E-03
.70	8.8741E-08	4.80	8.7475E-02	26.00	9.1813E-04
.72	1.6503E-07	5.00	8.3961E-02	28.00	7.0300E-04
.74	2.9567E-07	5.20	8.0265E-02	30.00	5.4715E-04
.76	5.1190E-07	5.40	7.6480E-02		

800. DEGREES

WL	R	WL	R	WL	R
.10	9.2875E-70	.78	3.9945E-06	5.60	9.0761E-02
.12	3.8902E-57	.80	6.2637E-06	5.80	8.5494E-02
.14	3.5792E-48	.82	9.5796E-06	6.00	8.0435E-02
.16	1.7288E-41	.84	1.4315E-05	6.20	7.5606E-02
.18	2.5476E-36	.86	2.0939E-05	6.40	7.1022E-02
.20	3.2861E-32	.88	3.0023E-05	6.60	6.6686E-02
.22	7.2456E-29	.90	4.2257E-05	6.80	6.2599E-02
.24	4.2635E-26	.92	5.8457E-05	7.00	5.8756E-02
.26	9.1078E-24	.94	7.9575E-05	7.20	5.5150E-02
.28	8.7965E-22	.96	1.0670E-04	7.40	5.1772E-02
.30	4.5103E-20	.98	1.4107E-04	7.60	4.8612E-02
.32	1.3845E-18	1.00	1.8406E-04	7.80	4.5657E-02
.34	2.7891E-17	1.20	1.4820E-03	8.00	4.2897E-02
.36	3.9593E-16	1.40	5.8343E-03	8.20	4.0320E-02
.38	4.1893E-15	1.60	1.4908E-02	8.40	3.7915E-02
.40	3.4554E-14	1.80	2.8846E-02	8.60	3.5670E-02
.42	2.3036E-13	2.00	4.6267E-02	8.80	3.3574E-02
.44	1.2785E-12	2.20	6.5075E-02	9.00	3.1619E-02
.46	6.0535E-12	2.40	8.3263E-02	9.20	2.9793E-02
.48	2.4951E-11	2.60	9.9353E-02	9.40	2.8089E-02
.50	9.1063E-11	2.80	1.1249E-01	9.60	2.6497E-02
.52	2.9854E-10	3.00	1.2236E-01	9.80	2.5010E-02
.54	8.8997E-10	3.20	1.2903E-01	10.00	2.3620E-02
.56	2.4377E-09	3.40	1.3282E-01	12.00	1.3764E-02
.58	6.1908E-09	3.60	1.3413E-01	14.00	8.4707E-03
.60	1.4690E-08	3.80	1.3341E-01	16.00	5.4658E-03
.62	3.2791E-08	4.00	1.3111E-01	18.00	3.6718E-03
.64	6.9264E-08	4.20	1.2759E-01	20.00	2.5522E-03
.66	1.3916E-07	4.40	1.2321E-01	22.00	1.8265E-03
.68	2.6715E-07	4.60	1.1824E-01	24.00	1.3402E-03
.70	4.9205E-07	4.80	1.1289E-01	26.00	1.0049E-03
.72	8.7254E-07	5.00	1.0735E-01	28.00	7.6789E-04
.74	1.4944E-06	5.20	1.0175E-01	30.00	5.9663E-04
.76	2.4794E-06	5.40	9.6200E-02		

850. DEGREES

WL	R	WL	R	WL	R
.10	3.6516E-65	.78	1.5506E-05	5.60	1.1060E-01
.12	2.6229E-53	.80	2.3504E-05	5.80	1.0357E-01
.14	6.8491E-45	.82	3.4806E-05	6.00	9.6927E-02
.16	1.2863E-38	.84	5.0441E-05	6.20	9.0655E-02
.18	9.0926E-34	.86	7.1650E-05	6.40	8.4764E-02
.20	6.5159E-30	.88	9.9901E-05	6.60	7.9246E-02
.22	8.8822E-27	.90	1.3690E-04	6.80	7.4090E-02
.24	3.5008E-24	.92	1.8460E-04	7.00	6.9280E-02
.26	5.3279E-22	.94	2.4522E-04	7.20	6.4799E-02
.28	3.8479E-20	.96	3.2120E-04	7.40	6.0628E-02
.30	1.5336E-18	.98	4.1522E-04	7.60	5.6750E-02
.32	3.7767E-17	1.00	5.3019E-04	7.80	5.3144E-02
.34	6.2635E-16	1.20	3.5789E-03	8.00	4.9794E-02
.36	7.4799E-15	1.40	1.2421E-02	8.20	4.6680E-02
.38	6.7802E-14	1.60	2.8879E-02	8.40	4.3786E-02
.40	4.8657E-13	1.80	5.1923E-02	8.60	4.1097E-02
.42	2.8599E-12	2.00	7.8531E-02	8.80	3.8597E-02
.44	1.4155E-11	2.20	1.0527E-01	9.00	3.6273E-02
.46	6.0371E-11	2.40	1.2942E-01	9.20	3.4110E-02
.48	2.2609E-10	2.60	1.4931E-01	9.40	3.2097E-02
.50	7.5554E-10	2.80	1.6425E-01	9.60	3.0223E-02
.52	2.2833E-09	3.00	1.7428E-01	9.80	2.8477E-02
.54	6.3128E-09	3.20	1.7985E-01	10.00	2.6850E-02
.56	1.6123E-08	3.40	1.8164E-01	12.00	1.5442E-02
.58	3.8363E-08	3.60	1.8037E-01	14.00	9.4186E-03
.60	8.5663E-08	3.80	1.7675E-01	16.00	6.0382E-03
.62	1.8064E-07	4.00	1.7139E-01	18.00	4.0364E-03
.64	3.6175E-07	4.20	1.6481E-01	20.00	2.7950E-03
.66	6.9130E-07	4.40	1.5744E-01	22.00	1.9941E-03
.68	1.2660E-06	4.60	1.4960E-01	24.00	1.4595E-03
.70	2.2303E-06	4.80	1.4157E-01	26.00	1.0921E-03
.72	3.7925E-06	5.00	1.3354E-01	28.00	8.3307E-04
.74	6.2428E-06	5.20	1.2563E-01	30.00	6.4629E-04
.76	9.9746E-06	5.40	1.1796E-01		

900. DEGREES

WL	R	WL	R	WL	R
.10	4.4315E-61	.78	5.1774E-05	5.60	1.3205E-01
.12	6.6402E-50	.80	7.6149E-05	5.80	1.2304E-01
.14	5.6602E-42	.82	1.0957E-04	6.00	1.1460E-01
.16	4.5910E-36	.84	1.5452E-04	6.20	1.0672E-01
.18	1.6889E-31	.86	2.1385E-04	6.40	9.9383E-02
.20	7.1781E-28	.88	2.9085E-04	6.60	9.2563E-02
.22	6.3814E-25	.90	3.8922E-04	6.80	8.6235E-02
.24	1.7614E-22	.92	5.1306E-04	7.00	8.0371E-02
.26	1.9831E-20	.94	6.6686E-04	7.20	7.4941E-02
.28	1.1061E-18	.96	8.5546E-04	7.40	6.9915E-02
.30	3.5244E-17	.98	1.0839E-03	7.60	6.5264E-02
.32	7.1348E-16	1.00	1.3578E-03	7.80	6.0960E-02
.34	9.9544E-15	1.20	7.8359E-03	8.00	5.6979E-02
.36	1.0194E-13	1.40	2.4316E-02	8.20	5.3294E-02
.38	8.0538E-13	1.60	5.1982E-02	8.40	4.9882E-02
.40	5.1069E-12	1.80	8.7555E-02	8.60	4.6723E-02
.42	2.6838E-11	2.00	1.2569E-01	8.80	4.3795E-02
.44	1.1998E-10	2.20	1.6146E-01	9.00	4.1082E-02
.46	4.6630E-10	2.40	1.9159E-01	9.20	3.8565E-02
.48	1.6037E-09	2.60	2.1452E-01	9.40	3.6229E-02
.50	4.9553E-09	2.80	2.3003E-01	9.60	3.4059E-02
.52	1.3930E-08	3.00	2.3876E-01	9.80	3.2043E-02
.54	3.6019E-08	3.20	2.4171E-01	10.00	3.0169E-02
.56	8.6447E-08	3.40	2.4004E-01	12.00	1.7153E-02
.58	1.9412E-07	3.60	2.3486E-01	14.00	1.0379E-02
.60	4.1065E-07	3.80	2.2713E-01	16.00	6.6167E-03
.62	8.2328E-07	4.00	2.1766E-01	18.00	4.4043E-03
.64	1.5723E-06	4.20	2.0711E-01	20.00	3.0395E-03
.66	2.8738E-06	4.40	1.9597E-01	22.00	2.1627E-03
.68	5.0471E-06	4.60	1.8462E-01	24.00	1.5794E-03
.70	8.5470E-06	4.80	1.7335E-01	26.00	1.1797E-03
.72	1.4000E-05	5.00	1.6235E-01	28.00	8.9848E-04
.74	2.2247E-05	5.20	1.5174E-01	30.00	6.9611E-04
.76	3.4377E-05	5.40	1.4163E-01		

950. DEGREES

WL	R	WL	R	WL	R
.10	1.9985E-57	.78	1.5226E-04	5.60	1.5500E-01
.12	7.3676E-47	.80	2.1798E-04	5.80	1.4378E-01
.14	2.3064E-39	.82	3.0573E-04	6.00	1.3336E-01
.16	8.8260E-34	.84	4.2073E-04	6.20	1.2371E-01
.18	1.8101E-29	.86	5.6886E-04	6.40	1.1479E-01
.20	4.8205E-26	.88	7.5668E-04	6.60	1.0655E-01
.22	2.9235E-23	.90	9.9132E-04	6.80	9.8967E-02
.24	5.8673E-21	.92	1.2804E-03	7.00	9.1969E-02
.26	5.0443E-19	.94	1.6322E-03	7.20	8.5522E-02
.28	2.2330E-17	.96	2.0551E-03	7.40	7.9582E-02
.30	5.8229E-16	.98	2.5579E-03	7.60	7.4110E-02
.32	9.8927E-15	1.00	3.1496E-03	7.80	6.9067E-02
.34	1.1824E-13	1.20	1.5798E-02	8.00	6.4418E-02
.36	1.0553E-12	1.40	4.4352E-02	8.20	6.0131E-02
.38	7.3727E-12	1.60	8.7954E-02	8.40	5.6175E-02
.40	4.1850E-11	1.80	1.3974E-01	8.60	5.2522E-02
.42	1.9897E-10	2.00	1.9146E-01	8.80	4.9147E-02
.44	8.1213E-10	2.20	2.3676E-01	9.00	4.6027E-02
.46	2.9043E-09	2.40	2.7219E-01	9.20	4.3140E-02
.48	9.2560E-09	2.60	2.9673E-01	9.40	4.0467E-02
.50	2.6662E-08	2.80	3.1103E-01	9.60	3.7991E-02
.52	7.0259E-08	3.00	3.1655E-01	9.80	3.5695E-02
.54	1.7109E-07	3.20	3.1505E-01	10.00	3.3563E-02
.56	3.8840E-07	3.40	3.0824E-01	12.00	1.8890E-02
.58	8.2813E-07	3.60	2.9763E-01	14.00	1.1352E-02
.60	1.6691E-06	3.80	2.8449E-01	16.00	7.2005E-03
.62	3.1983E-06	4.00	2.6980E-01	18.00	4.7747E-03
.64	5.8548E-06	4.20	2.5433E-01	20.00	3.2855E-03
.66	1.0283E-05	4.40	2.3863E-01	22.00	2.3322E-03
.68	1.7394E-05	4.60	2.2311E-01	24.00	1.6999E-03
.70	2.8434E-05	4.80	2.0804E-01	26.00	1.2676E-03
.72	4.5048E-05	5.00	1.9361E-01	28.00	9.6409E-04
.74	6.9356E-05	5.20	1.7993E-01	30.00	7.4606E-04
.76	1.0401E-04	5.40	1.6705E-01		

1000. DEGREES

WL	R	WL	R	WL	R
.10	3.8857E-54	.78	4.0200E-04	5.60	1.7931E-01
.12	4.0546E-44	.80	5.6173E-04	5.80	1.6566E-01
.14	5.1530E-37	.82	7.6987E-04	6.00	1.5309E-01
.16	1.0028E-31	.84	1.0363E-03	6.20	1.4153E-01
.18	1.2156E-27	.86	1.3722E-03	6.40	1.3091E-01
.20	2.1255E-24	.88	1.7891E-03	6.60	1.2116E-01
.22	9.1367E-22	.90	2.2994E-03	6.80	1.1222E-01
.24	1.3764E-19	.92	2.9163E-03	7.00	1.0401E-01
.26	9.2834E-18	.94	3.6529E-03	7.20	9.6494E-02
.28	3.3376E-16	.96	4.5229E-03	7.40	8.9590E-02
.30	7.2676E-15	.98	5.5396E-03	7.60	8.3252E-02
.32	1.0545E-13	1.00	6.7164E-03	7.80	7.7431E-02
.34	1.0966E-12	1.20	2.9694E-02	8.00	7.2083E-02
.36	8.6487E-12	1.40	7.6178E-02	8.20	6.7165E-02
.38	5.4086E-11	1.60	1.4119E-01	8.40	6.2640E-02
.40	2.7790E-10	1.80	2.1285E-01	8.60	5.8473E-02
.42	1.2073E-09	2.00	2.7965E-01	8.80	5.4633E-02
.44	4.5401E-09	2.20	3.3419E-01	9.00	5.1091E-02
.46	1.5066E-08	2.40	3.7341E-01	9.20	4.7821E-02
.48	4.4831E-08	2.60	3.9746E-01	9.40	4.4800E-02
.50	1.2124E-07	2.80	4.0820E-01	9.60	4.2006E-02
.52	3.0140E-07	3.00	4.0821E-01	9.80	3.9420E-02
.54	6.9544E-07	3.20	4.0011E-01	10.00	3.7025E-02
.56	1.5016E-06	3.40	3.8627E-01	12.00	2.0652E-02
.58	3.0558E-06	3.60	3.6861E-01	14.00	1.2335E-02
.60	5.8969E-06	3.80	3.4868E-01	16.00	7.7889E-03
.62	1.0848E-05	4.00	3.2762E-01	18.00	5.1475E-03
.64	1.9115E-05	4.20	3.0627E-01	20.00	3.5326E-03
.66	3.2391E-05	4.40	2.8522E-01	22.00	2.5023E-03
.68	5.2973E-05	4.60	2.6487E-01	24.00	1.8207E-03
.70	8.3880E-05	4.80	2.4546E-01	26.00	1.3557E-03
.72	1.2895E-04	5.00	2.2716E-01	28.00	1.0298E-03
.74	1.9298E-04	5.20	2.1003E-01	30.00	7.9612E-04
.76	2.8172E-04	5.40	1.9408E-01		

1100. DEGREES

WL	R	WL	R	WL	R
.10	1.8622E-48	.78	2.1503E-03	5.60	2.3153E-01
.12	2.1966E-39	.80	2.8813E-03	5.80	2.1248E-01
.14	5.8831E-33	.82	3.7946E-03	6.00	1.9513E-01
.16	3.5611E-28	.84	4.9179E-03	6.20	1.7936E-01
.18	1.7404E-24	.86	6.2799E-03	6.40	1.6501E-01
.20	1.4714E-21	.88	7.9096E-03	6.60	1.5196E-01
.22	3.4903E-19	.90	9.8357E-03	6.80	1.4009E-01
.24	3.2037E-17	.92	1.2086E-02	7.00	1.2929E-01
.26	1.4208E-15	.94	1.4688E-02	7.20	1.1944E-01
.28	3.5663E-14	.96	1.7666E-02	7.40	1.1047E-01
.30	5.6874E-13	.98	2.1044E-02	7.60	1.0229E-01
.32	6.2838E-12	1.00	2.4842E-02	7.80	9.4819E-02
.34	5.1381E-11	1.20	8.8319E-02	8.00	8.7987E-02
.36	3.2725E-10	1.40	1.9391E-01	8.20	8.1737E-02
.38	1.6903E-09	1.60	3.1983E-01	8.40	7.6013E-02
.40	7.3120E-09	1.80	4.4038E-01	8.60	7.0764E-02
.42	2.7186E-08	2.00	5.3821E-01	8.80	6.5947E-02
.44	8.8738E-08	2.20	6.0633E-01	9.00	6.1522E-02
.46	2.5876E-07	2.40	6.4517E-01	9.20	5.7451E-02
.48	6.8396E-07	2.60	6.5903E-01	9.40	5.3703E-02
.50	1.6587E-06	2.80	6.5355E-01	9.60	5.0248E-02
.52	3.7288E-06	3.00	6.3419E-01	9.80	4.7060E-02
.54	7.8382E-06	3.20	6.0560E-01	10.00	4.4116E-02
.56	1.5522E-05	3.40	5.7145E-01	12.00	2.4235E-02
.58	2.9143E-05	3.60	5.3450E-01	14.00	1.4324E-02
.60	5.2166E-05	3.80	4.9668E-01	16.00	8.9770E-03
.62	8.9452E-05	4.00	4.5935E-01	18.00	5.8987E-03
.64	1.4756E-04	4.20	4.2338E-01	20.00	4.0300E-03
.66	2.3502E-04	4.40	3.8928E-01	22.00	2.8443E-03
.68	3.6260E-04	4.60	3.5737E-01	24.00	2.0635E-03
.70	5.4346E-04	4.80	3.2775E-01	26.00	1.5326E-03
.72	7.9326E-04	5.00	3.0044E-01	28.00	1.1618E-03
.74	1.1302E-03	5.20	2.7538E-01	30.00	8.9652E-04
.76	1.5749E-03	5.40	2.5245E-01		

1200. DEGREES

WL	R	WL	R	WL	R
.10	1.0089E-43	.78	8.6977E-03	5.60	2.8791E-01
.12	1.9346E-35	.80	1.1254E-02	5.80	2.6277E-01
.14	1.4154E-29	.82	1.4337E-02	6.00	2.4010E-01
.16	3.2376E-25	.84	1.8002E-02	6.20	2.1966E-01
.18	7.4227E-22	.86	2.2304E-02	6.40	2.0121E-01
.20	3.4250E-19	.88	2.7295E-02	6.60	1.8455E-01
.22	4.9499E-17	.90	3.3020E-02	6.80	1.6949E-01
.24	3.0066E-15	.92	3.9521E-02	7.00	1.5587E-01
.26	9.4024E-14	.94	4.6834E-02	7.20	1.4352E-01
.28	1.7493E-12	.96	5.4986E-02	7.40	1.3233E-01
.30	2.1520E-11	.98	6.3999E-02	7.60	1.2217E-01
.32	1.8947E-10	1.00	7.3888E-02	7.80	1.1293E-01
.34	1.2679E-09	1.20	2.1905E-01	8.00	1.0452E-01
.36	6.7582E-09	1.40	4.2246E-01	8.20	9.6862E-02
.38	2.9765E-08	1.60	6.3228E-01	8.40	8.9870E-02
.40	1.1155E-07	1.80	8.0737E-01	8.60	8.3481E-02
.42	3.6428E-07	2.00	9.2918E-01	8.80	7.7636E-02
.44	1.0567E-06	2.20	9.9682E-01	9.00	7.2282E-02
.46	2.7669E-06	2.40	1.0185E-00	9.20	6.7372E-02
.48	6.6259E-06	2.60	1.0057E-00	9.40	6.2864E-02
.50	1.4673E-05	2.80	9.6895E-01	9.60	5.8719E-02
.52	3.0333E-05	3.00	9.1724E-01	9.80	5.4905E-02
.54	5.8999E-05	3.20	8.5730E-01	10.00	5.1389E-02
.56	1.0871E-04	3.40	7.9397E-01	12.00	2.7882E-02
.58	1.9085E-04	3.60	7.3052E-01	14.00	1.6340E-02
.60	3.2089E-04	3.80	6.6904E-01	16.00	1.0177E-02
.62	5.1893E-04	4.00	6.1080E-01	18.00	6.6559E-03
.64	8.1027E-04	4.20	5.5649E-01	20.00	4.5306E-03
.66	1.2256E-03	4.40	5.0639E-01	22.00	3.1882E-03
.68	1.8013E-03	4.60	4.6054E-01	24.00	2.3073E-03
.70	2.5788E-03	4.80	4.1880E-01	26.00	1.7103E-03
.72	3.6049E-03	5.00	3.8094E-01	28.00	1.2942E-03
.74	4.9301E-03	5.20	3.4671E-01	30.00	9.9721E-04
.76	6.6089E-03	5.40	3.1580E-01		

1300. DEGREES

WL	R	WL	R	WL	R
.10	1.0218E-39	.78	2.8375E-02	5.60	3.4775E-01
.12	4.2125E-32	.80	3.5646E-02	5.80	3.1595E-01
.14	1.0280E-26	.82	4.4151E-02	6.00	2.8749E-01
.16	1.0320E-22	.84	5.3973E-02	6.20	2.6200E-01
.18	1.2469E-19	.86	6.5187E-02	6.40	2.3913E-01
.20	3.4468E-17	.88	7.7851E-02	6.60	2.1859E-01
.22	3.2756E-15	.90	9.2012E-02	6.80	2.0013E-01
.24	1.4029E-13	.92	1.0770E-01	7.00	1.8350E-01
.26	3.2646E-12	.94	1.2493E-01	7.20	1.6851E-01
.28	4.7142E-11	.96	1.4371E-01	7.40	1.5497E-01
.30	4.6562E-10	.98	1.6402E-01	7.60	1.4272E-01
.32	3.3827E-09	1.00	1.8583E-01	7.80	1.3163E-01
.34	1.9107E-08	1.20	4.7246E-01	8.00	1.2157E-01
.36	8.7595E-08	1.40	8.1653E-01	8.20	1.1243E-01
.38	3.3713E-07	1.60	1.1257E-00	8.40	1.0411E-01
.40	1.1191E-06	1.80	1.3488E-00	8.60	9.6536E-02
.42	3.2744E-06	2.00	1.4757E-00	8.80	8.9622E-02
.44	8.5965E-06	2.20	1.5193E-00	9.00	8.3305E-02
.46	2.0547E-05	2.40	1.5006E-00	9.20	7.7526E-02
.48	4.5261E-05	2.60	1.4400E-00	9.40	7.2230E-02
.50	9.2819E-05	2.80	1.3543E-00	9.60	6.7373E-02
.52	1.7873E-04	3.00	1.2558E-00	9.80	6.2911E-02
.54	3.2554E-04	3.20	1.1530E-00	10.00	5.8807E-02
.56	5.6434E-04	3.40	1.0513E-00	12.00	3.1580E-02
.58	9.3609E-04	3.60	9.5417E-01	14.00	1.8377E-02
.60	1.4926E-03	3.80	8.6338E-01	16.00	1.1386E-02
.62	2.2970E-03	4.00	7.7982E-01	18.00	7.4179E-03
.64	3.4236E-03	4.20	7.0371E-01	20.00	5.0337E-03
.66	4.9574E-03	4.40	6.3487E-01	22.00	3.5335E-03
.68	6.9925E-03	4.60	5.7292E-01	24.00	2.5520E-03
.70	9.6305E-03	4.80	5.1734E-01	26.00	1.8884E-03
.72	1.2978E-02	5.00	4.6758E-01	28.00	1.4269E-03
.74	1.7145E-02	5.20	4.2309E-01	30.00	1.0981E-03
.76	2.2242E-02	5.40	3.8331E-01		

1400. DEGREES

WL	R	WL	R	WL	R
.10	2.7714E-36	.78	7.8181E-02	5.60	4.1049E-01
.12	3.0594E-29	.80	9.5760E-02	5.80	3.7154E-01
.14	2.9131E-24	.82	1.1578E-01	6.00	3.3689E-01
.16	1.4437E-20	.84	1.3832E-01	6.20	3.0602E-01
.18	1.0075E-17	.86	1.6345E-01	6.40	2.7847E-01
.20	1.7950E-15	.88	1.9116E-01	6.60	2.5384E-01
.22	1.1909E-13	.90	2.2147E-01	6.80	2.3179E-01
.24	3.7809E-12	.92	2.5433E-01	7.00	2.1201E-01
.26	6.8286E-11	.94	2.8969E-01	7.20	1.9424E-01
.28	7.9358E-10	.96	3.2744E-01	7.40	1.7825E-01
.30	6.4933E-09	.98	3.6749E-01	7.60	1.6383E-01
.32	4.0011E-08	1.00	4.0970E-01	7.80	1.5081E-01
.34	1.9543E-07	1.20	9.1310E-01	8.00	1.3903E-01
.36	7.8737E-07	1.40	1.4365E-00	8.20	1.2835E-01
.38	2.6996E-06	1.60	1.8463E-00	8.40	1.1867E-01
.40	8.0760E-06	1.80	2.0952E-00	8.60	1.0986E-01
.42	2.1507E-05	2.00	2.1954E-00	8.80	1.0184E-01
.44	5.1835E-05	2.20	2.1825E-00	9.00	9.4540E-02
.46	1.1458E-04	2.40	2.0943E-00	9.20	8.7865E-02
.48	2.3496E-04	2.60	1.9618E-00	9.40	8.1762E-02
.50	4.5113E-04	2.80	1.8077E-00	9.60	7.6172E-02
.52	8.1746E-04	3.00	1.6472E-00	9.80	7.1047E-02
.54	1.4073E-03	3.20	1.4896E-00	10.00	6.6340E-02
.56	2.3154E-03	3.40	1.3406E-00	12.00	3.5318E-02
.58	3.6582E-03	3.60	1.2028E-00	14.00	2.0430E-02
.60	5.5739E-03	3.80	1.0773E-00	16.00	1.2603E-02
.62	8.2210E-03	4.00	9.6437E-01	18.00	8.1835E-03
.64	1.1774E-02	4.20	8.6326E-01	20.00	5.5388E-03
.66	1.6423E-02	4.40	7.7321E-01	22.00	3.8799E-03
.68	2.2363E-02	4.60	6.9323E-01	24.00	2.7973E-03
.70	2.9793E-02	4.80	6.2230E-01	26.00	2.0670E-03
.72	3.8910E-02	5.00	5.5944E-01	28.00	1.5599E-03
.74	4.9901E-02	5.20	5.0373E-01	30.00	1.1992E-03
.76	6.2940E-02	5.40	4.5433E-01		

1500. DEGREES

WL	R	WL	R	WL	R
.10	2.6196E-33	.78	1.8818E-01	5.60	4.7567E-01
.12	9.2311E-27	.80	2.2549E-01	5.80	4.2915E-01
.14	3.8882E-22	.82	2.6700E-01	6.00	3.8797E-01
.16	1.0452E-18	.84	3.1271E-01	6.20	3.5144E-01
.18	4.5324E-16	.86	3.6256E-01	6.40	3.1898E-01
.20	5.5189E-14	.88	4.1643E-01	6.60	2.9008E-01
.22	2.6817E-12	.90	4.7418E-01	6.80	2.6429E-01
.24	6.5676E-11	.92	5.3560E-01	7.00	2.4124E-01
.26	9.5229E-10	.94	6.0046E-01	7.20	2.2058E-01
.28	9.1682E-09	.96	6.6850E-01	7.40	2.0205E-01
.30	6.3726E-08	.98	7.3942E-01	7.60	1.8539E-01
.32	3.4043E-07	1.00	8.1291E-01	7.80	1.7037E-01
.34	1.4660E-06	1.20	1.6163E-00	8.00	1.5682E-01
.36	5.2810E-06	1.40	2.3444E-00	8.20	1.4457E-01
.38	1.6381E-05	1.60	2.8356E-00	8.40	1.3348E-01
.40	4.4780E-05	1.80	3.0704E-00	8.60	1.2342E-01
.42	1.0991E-04	2.00	3.0998E-00	8.80	1.1427E-01
.44	2.4597E-04	2.20	2.9902E-00	9.00	1.0594E-01
.46	5.0815E-04	2.40	2.7992E-00	9.20	9.8358E-02
.48	9.7928E-04	2.60	2.5684E-00	9.40	9.1428E-02
.50	1.7758E-03	2.80	2.3257E-00	9.60	8.5091E-02
.52	3.0527E-03	3.00	2.0878E-00	9.80	7.9289E-02
.54	5.0054E-03	3.20	1.8640E-00	10.00	7.3968E-02
.56	7.8701E-03	3.40	1.6588E-00	12.00	3.9089E-02
.58	1.1920E-02	3.60	1.4738E-00	14.00	2.2496E-02
.60	1.7461E-02	3.80	1.3087E-00	16.00	1.3826E-02
.62	2.4822E-02	4.00	1.1625E-00	18.00	8.9520E-03
.64	3.4346E-02	4.20	1.0335E-00	20.00	6.0455E-03
.66	4.6376E-02	4.40	9.2010E-01	22.00	4.2272E-03
.68	6.1251E-02	4.60	8.2037E-01	24.00	3.0432E-03
.70	7.9286E-02	4.80	7.3275E-01	26.00	2.2459E-03
.72	1.0077E-01	5.00	6.5574E-01	28.00	1.6932E-03
.74	1.2595E-01	5.20	5.8799E-01	30.00	1.3004E-03
.76	1.5504E-01	5.40	5.2832E-01		

1600. DEGREES

WL	R	WL	R	WL	R
.10	1.0515E-30	.78	4.0586E-01	5.60	5.4292E-01
.12	1.3643E-24	.80	4.7706E-01	5.80	4.8847E-01
.14	2.8148E-20	.82	5.5466E-01	6.00	4.4047E-01
.16	4.4305E-17	.84	6.3841E-01	6.20	3.9805E-01
.18	1.2669E-14	.86	7.2800E-01	6.40	3.6049E-01
.20	1.1057E-12	.88	8.2304E-01	6.60	3.2715E-01
.22	4.0913E-11	.90	9.2309E-01	6.80	2.9750E-01
.24	7.9843E-10	.92	1.0276E-00	7.00	2.7106E-01
.26	9.5533E-09	.94	1.1362E-00	7.20	2.4744E-01
.28	7.8008E-08	.96	1.2483E-00	7.40	2.2629E-01
.30	4.7009E-07	.98	1.3632E-00	7.60	2.0732E-01
.32	2.2164E-06	1.00	1.4805E-00	7.80	1.9027E-01
.34	8.5491E-06	1.20	2.6644E-00	8.00	1.7490E-01
.36	2.7921E-05	1.40	3.5996E-00	8.20	1.6104E-01
.38	7.9341E-05	1.60	4.1292E-00	8.40	1.4851E-01
.40	2.0043E-04	1.80	4.2922E-00	8.60	1.3715E-01
.42	4.5810E-04	2.00	4.1955E-00	8.80	1.2685E-01
.44	9.6074E-04	2.20	3.9429E-00	9.00	1.1749E-01
.46	1.8706E-03	2.40	3.6126E-00	9.20	1.0897E-01
.48	3.4144E-03	2.60	3.2562E-00	9.40	1.0120E-01
.50	5.8901E-03	2.80	2.9043E-00	9.60	9.4109E-02
.52	9.6689E-03	3.00	2.5739E-00	9.80	8.7618E-02
.54	1.5191E-02	3.20	2.2727E-00	10.00	8.1673E-02
.56	2.2956E-02	3.40	2.0031E-00	12.00	4.2886E-02
.58	3.3511E-02	3.60	1.7648E-00	14.00	2.4572E-02
.60	4.7426E-02	3.80	1.5555E-00	16.00	1.5054E-02
.62	6.5280E-02	4.00	1.3727E-00	18.00	9.7231E-03
.64	8.7637E-02	4.20	1.2132E-00	20.00	6.5535E-03
.66	1.1502E-01	4.40	1.0743E-00	22.00	4.5752E-03
.68	1.4790E-01	4.60	9.5340E-01	24.00	3.2895E-03
.70	1.8669E-01	4.80	8.4792E-01	26.00	2.4250E-03
.72	2.3171E-01	5.00	7.5584E-01	28.00	1.8266E-03
.74	2.8317E-01	5.20	6.7534E-01	30.00	1.4017E-03
.76	3.4121E-01	5.40	6.0482E-01		

1700. DEGREES

WL	R	WL	R	WL	R
.10	2.0850E-28	.78	7.9967E-01	5.60	6.1193E-01
.12	1.1202E-22	.80	9.2416E-01	5.80	5.4924E-01
.14	1.2313E-18	.82	1.0572E-00	6.00	4.9417E-01
.16	1.2085E-15	.84	1.1983E-00	6.20	4.4566E-01
.18	2.3935E-13	.86	1.3466E-00	6.40	4.0284E-01
.20	1.5570E-11	.88	1.5013E-00	6.60	3.6493E-01
.22	4.5298E-10	.90	1.6615E-00	6.80	3.3130E-01
.24	7.2350E-09	.92	1.8263E-00	7.00	3.0139E-01
.26	7.3068E-08	.94	1.9947E-00	7.20	2.7473E-01
.28	5.1594E-07	.96	2.1659E-00	7.40	2.5090E-01
.30	2.7412E-06	.98	2.3390E-00	7.60	2.2957E-01
.32	1.1576E-05	1.00	2.5130E-00	7.80	2.1043E-01
.34	4.0513E-05	1.20	4.1417E-00	8.00	1.9322E-01
.36	1.2136E-04	1.40	5.2563E-00	8.20	1.7771E-01
.38	3.1918E-04	1.60	5.7553E-00	8.40	1.6371E-01
.40	7.5215E-04	1.80	5.7720E-00	8.60	1.5105E-01
.42	1.6141E-03	2.00	5.4845E-00	8.80	1.3958E-01
.44	3.1968E-03	2.20	5.0380E-00	9.00	1.2916E-01
.46	5.9074E-03	2.40	4.5305E-00	9.20	1.1969E-01
.48	1.0278E-02	2.60	4.0203E-00	9.40	1.1107E-01
.50	1.6966E-02	2.80	3.5392E-00	9.60	1.0320E-01
.52	2.6740E-02	3.00	3.1016E-00	9.80	9.6020E-02
.54	4.0458E-02	3.20	2.7124E-00	10.00	8.9442E-02
.56	5.9039E-02	3.40	2.3708E-00	12.00	4.6705E-02
.58	8.3420E-02	3.60	2.0735E-00	14.00	2.6658E-02
.60	1.1452E-01	3.80	1.8160E-00	16.00	1.6286E-02
.62	1.5322E-01	4.00	1.5934E-00	18.00	1.0496E-02
.64	2.0028E-01	4.20	1.4011E-00	20.00	7.0626E-03
.66	2.5636E-01	4.40	1.2351E-00	22.00	4.9239E-03
.68	3.2198E-01	4.60	1.0915E-00	24.00	3.5362E-03
.70	3.9749E-01	4.80	9.6715E-01	26.00	2.6044E-03
.72	4.8307E-01	5.00	8.5921E-01	28.00	1.9601E-03
.74	5.7876E-01	5.20	7.6533E-01	30.00	1.5032E-03
.76	6.8439E-01	5.40	6.8347E-01		

1800. DEGREES

WL	R	WL	R	WL	R
.10	2.2969E-26	.78	1.4612E-00	5.60	6.8245E-01
.12	5.6366E-21	.80	1.6634E-00	5.80	6.1125E-01
.14	3.5398E-17	.82	1.8760E-00	6.00	5.4889E-01
.16	2.2831E-14	.84	2.0975E-00	6.20	4.9413E-01
.18	3.2622E-12	.86	2.3266E-00	6.40	4.4590E-01
.20	1.6342E-10	.88	2.5618E-00	6.60	4.0331E-01
.22	3.8396E-09	.90	2.8017E-00	6.80	3.6561E-01
.24	5.1320E-08	.92	3.0449E-00	7.00	3.3215E-01
.26	4.4578E-07	.94	3.2898E-00	7.20	3.0238E-01
.28	2.7663E-06	.96	3.5351E-00	7.40	2.7582E-01
.30	1.3140E-05	.98	3.7796E-00	7.60	2.5209E-01
.32	5.0315E-05	1.00	4.0220E-00	7.80	2.3082E-01
.34	1.6150E-04	1.20	6.1310E-00	8.00	2.1173E-01
.36	4.4803E-04	1.40	7.3612E-00	8.20	1.9455E-01
.38	1.1000E-03	1.60	7.7348E-00	8.40	1.7906E-01
.40	2.4367E-03	1.80	7.5156E-00	8.60	1.6507E-01
.42	4.9446E-03	2.00	6.9653E-00	8.80	1.5241E-01
.44	9.3072E-03	2.20	6.2711E-00	9.00	1.4093E-01
.46	1.6418E-02	2.40	5.5473E-00	9.20	1.3051E-01
.48	2.7374E-02	2.60	4.8559E-00	9.40	1.2102E-01
.50	4.3450E-02	2.80	4.2258E-00	9.60	1.1237E-01
.52	6.6048E-02	3.00	3.6673E-00	9.80	1.0448E-01
.54	9.6642E-02	3.20	3.1802E-00	10.00	9.7266E-02
.56	1.3670E-01	3.40	2.7595E-00	12.00	5.0543E-02
.58	1.8765E-01	3.60	2.3981E-00	14.00	2.8751E-02
.60	2.5075E-01	3.80	2.0884E-00	16.00	1.7521E-02
.62	3.2709E-01	4.00	1.8233E-00	18.00	1.1270E-02
.64	4.1755E-01	4.20	1.5962E-00	20.00	7.5725E-03
.66	5.2270E-01	4.40	1.4014E-00	22.00	5.2730E-03
.68	6.4288E-01	4.60	1.2340E-00	24.00	3.7832E-03
.70	7.7812E-01	4.80	1.0899E-00	26.00	2.7840E-03
.72	9.2819E-01	5.00	9.6540E-01	28.00	2.0938E-03
.74	1.0925E-00	5.20	8.5759E-01	30.00	1.6047E-03
.76	1.2705E-00	5.40	7.6397E-01		

1900. DEGREES

WL	R	WL	R	WL	R
.10	1.5425E-24	.78	2.5059E-00	5.60	7.5427E-01
.12	1.8775E-19	.80	2.8145E-00	5.80	6.7433E-01
.14	7.1456E-16	.82	3.1337E-00	6.00	6.0450E-01
.16	3.1656E-13	.84	3.4613E-00	6.20	5.4332E-01
.18	3.3772E-11	.86	3.7949E-00	6.40	4.8957E-01
.20	1.3392E-09	.88	4.1325E-00	6.60	4.4221E-01
.22	2.5988E-08	.90	4.4717E-00	6.80	4.0035E-01
.24	2.9619E-07	.92	4.8107E-00	7.00	3.6328E-01
.26	2.2482E-06	.94	5.1474E-00	7.20	3.3034E-01
.28	1.2428E-05	.96	5.4801E-00	7.40	3.0101E-01
.30	5.3413E-05	.98	5.8070E-00	7.60	2.7484E-01
.32	1.8735E-04	1.00	6.1268E-00	7.80	2.5141E-01
.34	5.5663E-04	1.20	8.7100E-00	8.00	2.3041E-01
.36	1.4415E-03	1.40	9.9532E-00	8.20	2.1154E-01
.38	3.3284E-03	1.60	1.0081E+01	8.40	1.9455E-01
.40	6.9756E-03	1.80	9.5243E-00	8.60	1.7921E-01
.42	1.3463E-02	2.00	8.6338E-00	8.80	1.6535E-01
.44	2.4213E-02	2.20	7.6363E-00	9.00	1.5279E-01
.46	4.0974E-02	2.40	6.6575E-00	9.20	1.4139E-01
.48	6.5764E-02	2.60	5.7578E-00	9.40	1.3103E-01
.50	1.0078E-01	2.80	4.9601E-00	9.60	1.2160E-01
.52	1.4832E-01	3.00	4.2675E-00	9.80	1.1299E-01
.54	2.1062E-01	3.20	3.6733E-00	10.00	1.0513E-01
.56	2.8977E-01	3.40	3.1669E-00	12.00	5.4397E-02
.58	3.8758E-01	3.60	2.7367E-00	14.00	3.0851E-02
.60	5.0554E-01	3.80	2.3715E-00	16.00	1.8759E-02
.62	6.4471E-01	4.00	2.0614E-00	18.00	1.2046E-02
.64	8.0573E-01	4.20	1.7976E-00	20.00	8.0833E-03
.66	9.8876E-01	4.40	1.5727E-00	22.00	5.6226E-03
.68	1.1935E-00	4.60	1.3805E-00	24.00	4.0304E-03
.70	1.4192E-00	4.80	1.2157E-00	26.00	2.9637E-03
.72	1.6649E-00	5.00	1.0740E-00	28.00	2.2275E-03
.74	1.9291E-00	5.20	9.5183E-01	30.00	1.7063E-03
.76	2.2101E-00	5.40	8.4607E-01		

2000. DEGREES

WL	R	WL	R	WL	R
.10	6.8017E-23	.78	4.0719E-00	5.60	8.2722E-01
.12	4.4045E-18	.80	4.5183E-00	5.80	7.3833E-01
.14	1.0680E-14	.82	4.9730E-00	6.00	6.6087E-01
.16	3.3744E-12	.84	5.4328E-00	6.20	5.9316E-01
.18	2.7675E-10	.86	5.8945E-00	6.40	5.3377E-01
.20	8.8928E-09	.88	6.3550E-00	6.60	4.8154E-01
.22	1.4528E-07	.90	6.8114E-00	6.80	4.3547E-01
.24	1.4346E-06	.92	7.2611E-00	7.00	3.9472E-01
.26	9.6450E-06	.94	7.7018E-00	7.20	3.5857E-01
.28	4.8051E-05	.96	8.1312E-00	7.40	3.2643E-01
.30	1.8870E-04	.98	8.5475E-00	7.60	2.9778E-01
.32	6.1169E-04	1.00	8.9490E-00	7.80	2.7217E-01
.34	1.6951E-03	1.20	1.1949E+01	8.00	2.4924E-01
.36	4.1266E-03	1.40	1.3062E+01	8.20	2.2866E-01
.38	9.0150E-03	1.60	1.2803E+01	8.40	2.1014E-01
.40	1.7975E-02	1.80	1.1795E+01	8.60	1.9344E-01
.42	3.3164E-02	2.00	1.0483E+01	8.80	1.7836E-01
.44	5.7251E-02	2.20	9.1271E-00	9.00	1.6472E-01
.46	9.3323E-02	2.40	7.8550E-00	9.20	1.5234E-01
.48	1.4473E-01	2.60	6.7209E-00	9.40	1.4110E-01
.50	2.1492E-01	2.80	5.7379E-00	9.60	1.3087E-01
.52	3.0722E-01	3.00	4.8990E-00	9.80	1.2155E-01
.54	4.2464E-01	3.20	4.1892E-00	10.00	1.1304E-01
.56	5.6976E-01	3.40	3.5911E-00	12.00	5.8264E-02
.58	7.4452E-01	3.60	3.0878E-00	14.00	3.2955E-02
.60	9.5021E-01	3.80	2.6640E-00	16.00	1.9999E-02
.62	1.1873E-00	4.00	2.3066E-00	18.00	1.2824E-02
.64	1.4558E-00	4.20	2.0045E-00	20.00	8.5946E-03
.66	1.7548E-00	4.40	1.7482E-00	22.00	5.9726E-03
.68	2.0828E-00	4.60	1.5302E-00	24.00	4.2779E-03
.70	2.4377E-00	4.80	1.3442E-00	26.00	3.1436E-03
.72	2.8170E-00	5.00	1.1848E-00	28.00	2.3614E-03
.74	3.2180E-00	5.20	1.0477E-00	30.00	1.8080E-03
.76	3.6374E-00	5.40	9.2956E-01		

2100. DEGREES

WL	R	WL	R	WL	R
.10	2.0911E-21	.78	6.3178E-00	5.60	9.0116E-01
.12	7.6509E-17	.80	6.9338E-00	5.80	8.0315E-01
.14	1.2339E-13	.82	7.5525E-00	6.00	7.1791E-01
.16	2.8711E-11	.84	8.1693E-00	6.20	6.4354E-01
.18	1.8562E-09	.86	8.7800E-00	6.40	5.7843E-01
.20	4.9309E-08	.88	9.3808E-00	6.60	5.2126E-01
.22	6.8941E-07	.90	9.9681E-00	6.80	4.7091E-01
.24	5.9791E-06	.92	1.0539E+01	7.00	4.2643E-01
.26	3.6018E-05	.94	1.1090E+01	7.20	3.8704E-01
.28	1.6332E-04	.96	1.1620E+01	7.40	3.5205E-01
.30	5.9115E-04	.98	1.2127E+01	7.60	3.2089E-01
.32	1.7842E-03	1.00	1.2609E+01	7.80	2.9308E-01
.34	4.6429E-03	1.20	1.5910E+01	8.00	2.6820E-01
.36	1.0687E-02	1.40	1.6711E+01	8.20	2.4588E-01
.38	2.2206E-02	1.60	1.5903E+01	8.40	2.2582E-01
.40	4.2327E-02	1.80	1.4324E+01	8.60	2.0776E-01
.42	7.4973E-02	2.00	1.2508E+01	8.80	1.9145E-01
.44	1.2471E-01	2.20	1.0736E+01	9.00	1.7671E-01
.46	1.9652E-01	2.40	9.1338E-00	9.20	1.6335E-01
.48	2.9547E-01	2.60	7.7406E-00	9.40	1.5122E-01
.50	4.2642E-01	2.80	6.5554E-00	9.60	1.4019E-01
.52	5.9369E-01	3.00	5.5588E-00	9.80	1.3015E-01
.54	8.0083E-01	3.20	4.7256E-00	10.00	1.2098E-01
.56	1.0504E-00	3.40	4.0303E-00	12.00	6.2143E-02
.58	1.3439E-00	3.60	3.4501E-00	14.00	3.5065E-02
.60	1.6818E-00	3.80	2.9649E-00	16.00	2.1242E-02
.62	2.0632E-00	4.00	2.5583E-00	18.00	1.3602E-02
.64	2.4865E-00	4.20	2.2162E-00	20.00	9.1065E-03
.66	2.9489E-00	4.40	1.9276E-00	22.00	6.3228E-03
.68	3.4470E-00	4.60	1.6830E-00	24.00	4.5255E-03
.70	3.9767E-00	4.80	1.4750E-00	26.00	3.3236E-03
.72	4.5336E-00	5.00	1.2974E-00	28.00	2.4953E-03
.74	5.1127E-00	5.20	1.1452E-00	30.00	1.9096E-03
.76	5.7091E-00	5.40	1.0142E-00		

2200. DEGREES

WL	R	WL	R	WL	R
.10	4.7087E-20	.78	9.4188E-00	5.60	9.7596E-01
.12	1.0252E-15	.80	1.0234E+01	5.80	8.6867E-01
.14	1.1412E-12	.82	1.1042E+01	6.00	7.7553E-01
.16	2.0108E-10	.84	1.1837E+01	6.20	6.9440E-01
.18	1.0472E-08	.86	1.2613E+01	6.40	6.2350E-01
.20	2.3398E-07	.88	1.3366E+01	6.60	5.6132E-01
.22	2.8396E-06	.90	1.4092E+01	6.80	5.0663E-01
.24	2.1886E-05	.92	1.4788E+01	7.00	4.5839E-01
.26	1.1932E-04	.94	1.5451E+01	7.20	4.1570E-01
.28	4.9670E-04	.96	1.6078E+01	7.40	3.7783E-01
.30	1.6693E-03	.98	1.6669E+01	7.60	3.4415E-01
.32	4.7219E-03	1.00	1.7222E+01	7.80	3.1411E-01
.34	1.1603E-02	1.20	2.0645E+01	8.00	2.8726E-01
.36	2.5384E-02	1.40	2.0913E+01	8.20	2.6320E-01
.38	5.0397E-02	1.60	1.9379E+01	8.40	2.4159E-01
.40	9.2204E-02	1.80	1.7104E+01	8.60	2.2215E-01
.42	1.5737E-01	2.00	1.4699E+01	8.80	2.0461E-01
.44	2.5310E-01	2.20	1.2457E+01	9.00	1.8876E-01
.46	3.8676E-01	2.40	1.0488E+01	9.20	1.7440E-01
.48	5.6532E-01	2.60	8.8122E-00	9.40	1.6138E-01
.50	7.9495E-01	2.80	7.4092E-00	9.60	1.4955E-01
.52	1.0805E-00	3.00	6.2444E-00	9.80	1.3878E-01
.54	1.4256E-00	3.20	5.2805E-00	10.00	1.2896E-01
.56	1.8318E-00	3.40	4.4831E-00	12.00	6.6032E-02
.58	2.2992E-00	3.60	3.8223E-00	14.00	3.7178E-02
.60	2.8262E-00	3.80	3.2733E-00	16.00	2.2486E-02
.62	3.4096E-00	4.00	2.8156E-00	18.00	1.4381E-02
.64	4.0451E-00	4.20	2.4324E-00	20.00	9.6189E-03
.66	4.7272E-00	4.40	2.1103E-00	22.00	6.6734E-03
.68	5.4495E-00	4.60	1.8384E-00	24.00	4.7733E-03
.70	6.2052E-00	4.80	1.6079E-00	26.00	3.5037E-03
.72	6.9873E-00	5.00	1.4117E-00	28.00	2.6293E-03
.74	7.7883E-00	5.20	1.2439E-00	30.00	2.0114E-03
.76	8.6012E-00	5.40	1.1000E-00		

2300. DEGREES

WL	R	WL	R	WL	R
.10	8.0874E-19	.78	1.3563E+01	5.60	1.0515E-00
.12	1.0962E-14	.80	1.4604E+01	5.80	9.3481E-01
.14	8.6985E-12	.82	1.5622E+01	6.00	8.3366E-01
.16	1.1890E-09	.84	1.6608E+01	6.20	7.4569E-01
.18	5.0827E-08	.86	1.7559E+01	6.40	6.6891E-01
.20	9.6970E-07	.88	1.8468E+01	6.60	6.0167E-01
.22	1.0341E-05	.90	1.9333E+01	6.80	5.4260E-01
.24	7.1569E-05	.92	2.0149E+01	7.00	4.9055E-01
.26	3.5619E-04	.94	2.0915E+01	7.20	4.4455E-01
.28	1.3713E-03	.96	2.1630E+01	7.40	4.0377E-01
.30	4.3070E-03	.98	2.2291E+01	7.60	3.6754E-01
.32	1.1482E-02	1.00	2.2898E+01	7.80	3.3526E-01
.34	2.6779E-02	1.20	2.6195E+01	8.00	3.0642E-01
.36	5.5924E-02	1.40	2.5678E+01	8.20	2.8060E-01
.38	1.0650E-01	1.60	2.3225E+01	8.40	2.5743E-01
.40	1.8770E-01	1.80	2.0124E+01	8.60	2.3659E-01
.42	3.0971E-01	2.00	1.7048E+01	8.80	2.1781E-01
.44	4.8302E-01	2.20	1.4282E+01	9.00	2.0085E-01
.46	7.1763E-01	2.40	1.1912E+01	9.20	1.8550E-01
.48	1.0222E-00	2.60	9.9316E-00	9.40	1.7158E-01
.50	1.4038E-00	2.80	8.2962E-00	9.60	1.5894E-01
.52	1.8670E-00	3.00	6.9533E-00	9.80	1.4744E-01
.54	2.4137E-00	3.20	5.8521E-00	10.00	1.3696E-01
.56	3.0437E-00	3.40	4.9480E-00	12.00	6.9929E-02
.58	3.7540E-00	3.60	4.2036E-00	14.00	3.9295E-02
.60	4.5397E-00	3.80	3.5884E-00	16.00	2.3732E-02
.62	5.3938E-00	4.00	3.0779E-00	18.00	1.5161E-02
.64	6.3080E-00	4.20	2.6524E-00	20.00	1.0131E-02
.66	7.2731E-00	4.40	2.2960E-00	22.00	7.0241E-03
.68	8.2790E-00	4.60	1.9961E-00	24.00	5.0213E-03
.70	9.3152E-00	4.80	1.7426E-00	26.00	3.6838E-03
.72	1.0371E+01	5.00	1.5274E-00	28.00	2.7634E-03
.74	1.1438E+01	5.20	1.3439E-00	30.00	2.1132E-03
.76	1.2504E+01	5.40	1.1867E-00		

2400. DEGREES

WL	R	WL	R	WL	R
.10	1.0960E-17	.78	1.8947E+01	5.60	1.1277E-00
.12	9.6212E-14	.80	2.0233E+01	5.80	1.0015E-00
.14	5.5977E-11	.82	2.1471E+01	6.00	8.9225E-01
.16	6.0630E-09	.84	2.2656E+01	6.20	7.9735E-01
.18	2.1626E-07	.86	2.3781E+01	6.40	7.1464E-01
.20	3.5697E-06	.88	2.4842E+01	6.60	6.4228E-01
.22	3.3816E-05	.90	2.5836E+01	6.80	5.7879E-01
.24	2.1202E-04	.92	2.6759E+01	7.00	5.2290E-01
.26	9.7066E-04	.94	2.7611E+01	7.20	4.7355E-01
.28	3.4787E-03	.96	2.8390E+01	7.40	4.2985E-01
.30	1.0268E-02	.98	2.9098E+01	7.60	3.9104E-01
.32	2.5928E-02	1.00	2.9734E+01	7.80	3.5650E-01
.34	5.7641E-02	1.20	3.2594E+01	8.00	3.2566E-01
.36	1.1535E-01	1.40	3.1006E+01	8.20	2.9808E-01
.38	2.1148E-01	1.60	2.7433E+01	8.40	2.7334E-01
.40	3.6014E-01	1.80	2.3376E+01	8.60	2.5110E-01
.42	5.7608E-01	2.00	1.9545E+01	8.80	2.3107E-01
.44	8.7345E-01	2.20	1.6204E+01	9.00	2.1299E-01
.46	1.2647E-00	2.40	1.3401E+01	9.20	1.9663E-01
.48	1.7595E-00	2.60	1.1094E+01	9.40	1.8181E-01
.50	2.3644E-00	2.80	9.2133E-00	9.60	1.6836E-01
.52	3.0820E-00	3.00	7.6835E-00	9.80	1.5612E-01
.54	3.9113E-00	3.20	6.4389E-00	10.00	1.4498E-01
.56	4.8479E-00	3.40	5.4238E-00	12.00	7.3834E-02
.58	5.8841E-00	3.60	4.5928E-00	14.00	4.1415E-02
.60	7.0097E-00	3.80	3.9095E-00	16.00	2.4980E-02
.62	8.2127E-00	4.00	3.3448E-00	18.00	1.5942E-02
.64	9.4794E-00	4.20	2.8758E-00	20.00	1.0644E-02
.66	1.0795E+01	4.40	2.4843E-00	22.00	7.3751E-03
.68	1.2146E+01	4.60	2.1559E-00	24.00	5.2694E-03
.70	1.3518E+01	4.80	1.8790E-00	26.00	3.8641E-03
.72	1.4897E+01	5.00	1.6444E-00	28.00	2.8974E-03
.74	1.6269E+01	5.20	1.4448E-00	30.00	2.2150E-03
.76	1.7622E+01	5.40	1.2742E-00		

2500. DEGREES

WL	R	WL	R	WL	R
.10	1.2057E-16	.78	2.5771E+01	5.60	1.2045E-00
.12	7.0973E-13	.80	2.7310E+01	5.80	1.0686E-00
.14	3.1038E-10	.82	2.8772E+01	6.00	9.5123E-01
.16	2.7138E-08	.84	3.0150E+01	6.20	8.4935E-01
.18	8.1952E-07	.86	3.1439E+01	6.40	7.6064E-01
.20	1.1840E-05	.88	3.2635E+01	6.60	6.8313E-01
.22	1.0057E-04	.90	3.3737E+01	6.80	6.1517E-01
.24	5.7587E-04	.92	3.4742E+01	7.00	5.5541E-01
.26	2.4413E-03	.94	3.5652E+01	7.20	5.0269E-01
.28	8.1914E-03	.96	3.6466E+01	7.40	4.5604E-01
.30	2.2837E-02	.98	3.7187E+01	7.60	4.1465E-01
.32	5.4856E-02	1.00	3.7817E+01	7.80	3.7783E-01
.34	1.1669E-01	1.20	3.9864E+01	8.00	3.4498E-01
.36	2.2456E-01	1.40	3.6896E+01	8.20	3.1562E-01
.38	3.9750E-01	1.60	3.1994E+01	8.40	2.8930E-01
.40	6.5589E-01	1.80	2.6849E+01	8.60	2.6565E-01
.42	1.0196E-00	2.00	2.2184E+01	8.80	2.4437E-01
.44	1.5063E-00	2.20	1.8218E+01	9.00	2.2516E-01
.46	2.1300E-00	2.40	1.4950E+01	9.20	2.0780E-01
.48	2.8998E-00	2.60	1.2298E+01	9.40	1.9208E-01
.50	3.8195E-00	2.80	1.0158E+01	9.60	1.7781E-01
.52	4.8878E-00	3.00	8.4329E-00	9.80	1.6483E-01
.54	6.0980E-00	3.20	7.0393E-00	10.00	1.5302E-01
.56	7.4393E-00	3.40	5.9096E-00	12.00	7.7746E-02
.58	8.8970E-00	3.60	4.9894E-00	14.00	4.3538E-02
.60	1.0454E+01	3.80	4.2359E-00	16.00	2.6228E-02
.62	1.2091E+01	4.00	3.6157E-00	18.00	1.6723E-02
.64	1.3788E+01	4.20	3.1023E-00	20.00	1.1158E-02
.66	1.5526E+01	4.40	2.6750E-00	22.00	7.7262E-03
.68	1.7284E+01	4.60	2.3175E-00	24.00	5.5175E-03
.70	1.9043E+01	4.80	2.0168E-00	26.00	4.0444E-03
.72	2.0786E+01	5.00	1.7626E-00	28.00	3.0316E-03
.74	2.2498E+01	5.20	1.5467E-00	30.00	2.3168E-03
.76	2.4164E+01	5.40	1.3624E-00		

2600. DEGREES

WL	R	WL	R	WL	R
.10	1.1030E-15	.78	3.4235E+01	5.60	1.2819E-00
.12	4.4895E-12	.80	3.6024E+01	5.80	1.1363E-00
.14	1.5085E-09	.82	3.7698E+01	6.00	1.0105E-00
.16	1.0824E-07	.84	3.9253E+01	6.20	9.0164E-01
.18	2.8030E-06	.86	4.0683E+01	6.40	8.0688E-01
.20	3.5811E-05	.88	4.1987E+01	6.60	7.2417E-01
.22	2.7509E-04	.90	4.3164E+01	6.80	6.5173E-01
.24	1.4483E-03	.92	4.4216E+01	7.00	5.8807E-01
.26	5.7195E-03	.94	4.5145E+01	7.20	5.3195E-01
.28	1.8059E-02	.96	4.5953E+01	7.40	4.8233E-01
.30	4.7763E-02	.98	4.6644E+01	7.60	4.3834E-01
.32	1.0955E-01	1.00	4.7224E+01	7.80	3.9923E-01
.34	2.2376E-01	1.20	4.8020E+01	8.00	3.6437E-01
.36	4.1530E-01	1.40	4.3340E+01	8.20	3.3321E-01
.38	7.1174E-01	1.60	3.6896E+01	8.40	3.0531E-01
.40	1.1406E-00	1.80	3.0533E+01	8.60	2.8025E-01
.42	1.7271E-00	2.00	2.4954E+01	8.80	2.5770E-01
.44	2.4912E-00	2.20	2.0316E+01	9.00	2.3737E-01
.46	3.4464E-00	2.40	1.6555E+01	9.20	2.1900E-01
.48	4.5988E-00	2.60	1.3538E+01	9.40	2.0236E-01
.50	5.9468E-00	2.80	1.1128E+01	9.60	1.8727E-01
.52	7.4815E-00	3.00	9.1999E-00	9.80	1.7356E-01
.54	9.1880E-00	3.20	7.6523E-00	10.00	1.6108E-01
.56	1.1046E+01	3.40	6.4043E-00	12.00	8.1664E-02
.58	1.3031E+01	3.60	5.3924E-00	14.00	4.5663E-02
.60	1.5118E+01	3.80	4.5672E-00	16.00	2.7478E-02
.62	1.7280E+01	4.00	3.8903E-00	18.00	1.7505E-02
.64	1.9487E+01	4.20	3.3316E-00	20.00	1.1672E-02
.66	2.1714E+01	4.40	2.8679E-00	22.00	8.0776E-03
.68	2.3936E+01	4.60	2.4808E-00	24.00	5.7658E-03
.70	2.6129E+01	4.80	2.1559E-00	26.00	4.2248E-03
.72	2.8272E+01	5.00	1.8818E-00	28.00	3.1658E-03
.74	3.0347E+01	5.20	1.6494E-00	30.00	2.4187E-03
.76	3.2339E+01	5.40	1.4514E-00		

2700. DEGREES

WL	R	WL	R	WL	R
.10	8.5643E-15	.78	4.4534E+01	5.60	1.3598E-00
.12	2.4772E-11	.80	4.6557E+01	5.80	1.2043E-00
.14	6.5217E-09	.82	4.8420E+01	6.00	1.0702E-00
.16	3.8971E-07	.84	5.0119E+01	6.20	9.5419E-01
.18	8.7527E-06	.86	5.1654E+01	6.40	8.5335E-01
.20	9.9788E-05	.88	5.3024E+01	6.60	7.6540E-01
.22	6.9835E-04	.90	5.4233E+01	6.80	6.8844E-01
.24	3.4022E-03	.92	5.5284E+01	7.00	6.2085E-01
.26	1.2581E-02	.94	5.6182E+01	7.20	5.6132E-01
.28	3.7548E-02	.96	5.6932E+01	7.40	5.0872E-01
.30	9.4580E-02	.98	5.7542E+01	7.60	4.6212E-01
.32	2.0787E-01	1.00	5.8018E+01	7.80	4.2071E-01
.34	4.0887E-01	1.20	5.7071E+01	8.00	3.8381E-01
.36	7.3387E-01	1.40	5.0328E+01	8.20	3.5086E-01
.38	1.2205E-00	1.60	4.2125E+01	8.40	3.2136E-01
.40	1.9041E-00	1.80	3.4417E+01	8.60	2.9488E-01
.42	2.8136E-00	2.00	2.7849E+01	8.80	2.7107E-01
.44	3.9693E-00	2.20	2.2492E+01	9.00	2.4960E-01
.46	5.3811E-00	2.40	1.8210E+01	9.20	2.3022E-01
.48	7.0484E-00	2.60	1.4813E+01	9.40	2.1267E-01
.50	8.9600E-00	2.80	1.2121E+01	9.60	1.9676E-01
.52	1.1096E+01	3.00	9.9829E-00	9.80	1.8231E-01
.54	1.3429E+01	3.20	8.2765E-00	10.00	1.6915E-01
.56	1.5928E+01	3.40	6.9071E-00	12.00	8.5587E-02
.58	1.8556E+01	3.60	5.8014E-00	14.00	4.7790E-02
.60	2.1276E+01	3.80	4.9029E-00	16.00	2.8729E-02
.62	2.4051E+01	4.00	4.1681E-00	18.00	1.8288E-02
.64	2.6845E+01	4.20	3.5634E-00	20.00	1.2186E-02
.66	2.9624E+01	4.40	3.0626E-00	22.00	8.4290E-03
.68	3.2359E+01	4.60	2.6455E-00	24.00	6.0141E-03
.70	3.5021E+01	4.80	2.2962E-00	26.00	4.4052E-03
.72	3.7588E+01	5.00	2.0019E-00	28.00	3.3000E-03
.74	4.0039E+01	5.20	1.7528E-00	30.00	2.5205E-03
.76	4.2359E+01	5.40	1.5409E-00		

2800. DEGREES

WL	R	WL	R	WL	R
.10	5.7442E-14	.78	5.6858E+01	5.60	1.4380E-00
.12	1.2099E-10	.80	5.9081E+01	5.80	1.2726E-00
.14	2.5394E-08	.82	6.1093E+01	6.00	1.1301E-00
.16	1.2803E-06	.84	6.2892E+01	6.20	1.0069E-00
.18	2.5195E-05	.86	6.4481E+01	6.40	9.0002E-01
.20	2.5843E-04	.88	6.5864E+01	6.60	8.0680E-01
.22	1.6587E-03	.90	6.7047E+01	6.80	7.2528E-01
.24	7.5189E-03	.92	6.8037E+01	7.00	6.5376E-01
.26	2.6158E-02	.94	6.8844E+01	7.20	5.9079E-01
.28	7.4094E-02	.96	6.9475E+01	7.40	5.3520E-01
.30	1.7836E-01	.98	6.9942E+01	7.60	4.8596E-01
.32	3.7679E-01	1.00	7.0253E+01	7.80	4.4224E-01
.34	7.1562E-01	1.20	6.7017E+01	8.00	4.0331E-01
.36	1.2451E-00	1.40	5.7848E+01	8.20	3.6856E-01
.38	2.0140E-00	1.60	4.7669E+01	8.40	3.3745E-01
.40	3.0643E-00	1.80	3.8489E+01	8.60	3.0955E-01
.42	4.4265E-00	2.00	3.0859E+01	8.80	2.8447E-01
.44	6.1174E-00	2.20	2.4743E+01	9.00	2.6187E-01
.46	8.1388E-00	2.40	1.9913E+01	9.20	2.4146E-01
.48	1.0478E+01	2.60	1.6119E+01	9.40	2.2300E-01
.50	1.3110E+01	2.80	1.3135E+01	9.60	2.0626E-01
.52	1.6000E+01	3.00	1.0780E+01	9.80	1.9107E-01
.54	1.9104E+01	3.20	8.9110E-00	10.00	1.7724E-01
.56	2.2375E+01	3.40	7.4173E-00	12.00	8.9515E-02
.58	2.5763E+01	3.60	6.2158E-00	14.00	4.9919E-02
.60	2.9219E+01	3.80	5.2426E-00	16.00	2.9980E-02
.62	3.2694E+01	4.00	4.4490E-00	18.00	1.9070E-02
.64	3.6145E+01	4.20	3.7974E-00	20.00	1.2700E-02
.66	3.9530E+01	4.40	3.2591E-00	22.00	8.7806E-03
.68	4.2815E+01	4.60	2.8117E-00	24.00	6.2626E-03
.70	4.5970E+01	4.80	2.4375E-00	26.00	4.5857E-03
.72	4.8970E+01	5.00	2.1229E-00	28.00	3.4342E-03
.74	5.1793E+01	5.20	1.8569E-00	30.00	2.6224E-03
.76	5.4427E+01	5.40	1.6309E-00		

2900. DEGREES

WL	R	WL	R	WL	R
.10	3.3788E-13	.78	7.1385E+01	5.60	1.5167E-00
.12	5.2969E-10	.80	7.3760E+01	5.80	1.3413E-00
.14	9.0035E-08	.82	7.5864E+01	6.00	1.1904E-00
.16	3.8751E-06	.84	7.7702E+01	6.20	1.0599E-00
.18	6.7429E-05	.86	7.9280E+01	6.40	9.4686E-01
.20	6.2678E-04	.88	8.0608E+01	6.60	8.4834E-01
.22	3.7116E-03	.90	8.1695E+01	6.80	7.6226E-01
.24	1.5732E-02	.92	8.2554E+01	7.00	6.8677E-01
.26	5.1712E-02	.94	8.3198E+01	7.20	6.2035E-01
.28	1.3951E-01	.96	8.3639E+01	7.40	5.6175E-01
.30	3.2197E-01	.98	8.3891E+01	7.60	5.0988E-01
.32	6.5551E-01	1.00	8.3968E+01	7.80	4.6383E-01
.34	1.2050E-00	1.20	7.7854E+01	8.00	4.2286E-01
.36	2.0369E-00	1.40	6.5885E+01	8.20	3.8629E-01
.38	3.2106E-00	1.60	5.3515E+01	8.40	3.5358E-01
.40	4.7722E-00	1.80	4.2741E+01	8.60	3.2425E-01
.42	6.7497E-00	2.00	3.3979E+01	8.80	2.9789E-01
.44	9.1508E-00	2.20	2.7061E+01	9.00	2.7415E-01
.46	1.1963E+01	2.40	2.1660E+01	9.20	2.5273E-01
.48	1.5157E+01	2.60	1.7454E+01	9.40	2.3335E-01
.50	1.8686E+01	2.80	1.4169E+01	9.60	2.1579E-01
.52	2.2497E+01	3.00	1.1591E+01	9.80	1.9984E-01
.54	2.6525E+01	3.20	9.5550E-00	10.00	1.8534E-01
.56	3.0705E+01	3.40	7.9343E-00	12.00	9.3448E-02
.58	3.4971E+01	3.60	6.6351E-00	14.00	5.2050E-02
.60	3.9260E+01	3.80	5.5859E-00	16.00	3.1232E-02
.62	4.3514E+01	4.00	4.7325E-00	18.00	1.9853E-02
.64	4.7679E+01	4.20	4.0335E-00	20.00	1.3214E-02
.66	5.1711E+01	4.40	3.4572E-00	22.00	9.1323E-03
.68	5.5569E+01	4.60	2.9790E-00	24.00	6.5111E-03
.70	5.9223E+01	4.80	2.5798E-00	26.00	4.7662E-03
.72	6.2647E+01	5.00	2.2446E-00	28.00	3.5685E-03
.74	6.5823E+01	5.20	1.9616E-00	30.00	2.7244E-03
.76	6.8738E+01	5.40	1.7215E-00		

3000. DEGREES

WL	R	WL	R	WL	R
.10	1.7660E-12	.78	8.8281E+01	5.60	1.5957E-00
.12	2.1016E-09	.80	9.0741E+01	5.80	1.4103E-00
.14	2.9338E-07	.82	9.2866E+01	6.00	1.2508E-00
.16	1.0894E-05	.84	9.4666E+01	6.20	1.1131E-00
.18	1.6899E-04	.86	9.6154E+01	6.40	9.9386E-01
.20	1.4329E-03	.88	9.7345E+01	6.60	8.9002E-01
.22	7.8710E-03	.90	9.8255E+01	6.80	7.9934E-01
.24	3.1337E-02	.92	9.8901E+01	7.00	7.1987E-01
.26	9.7686E-02	.94	9.9300E+01	7.20	6.4999E-01
.28	2.5184E-01	.96	9.9470E+01	7.40	5.8836E-01
.30	5.5877E-01	.98	9.9430E+01	7.60	5.3384E-01
.32	1.0990E-00	1.00	9.9195E+01	7.80	4.8547E-01
.34	1.9600E-00	1.20	8.9574E+01	8.00	4.4244E-01
.36	3.2246E-00	1.40	7.4424E+01	8.20	4.0406E-01
.38	4.9613E-00	1.60	5.9649E+01	8.40	3.6974E-01
.40	7.2156E-00	1.80	4.7162E+01	8.60	3.3898E-01
.42	1.0006E+01	2.00	3.7201E+01	8.80	3.1135E-01
.44	1.3326E+01	2.20	2.9443E+01	9.00	2.8646E-01
.46	1.7139E+01	2.40	2.3448E+01	9.20	2.6401E-01
.48	2.1392E+01	2.60	1.8815E+01	9.40	2.4371E-01
.50	2.6013E+01	2.80	1.5221E+01	9.60	2.2532E-01
.52	3.0921E+01	3.00	1.2415E+01	9.80	2.0863E-01
.54	3.6031E+01	3.20	1.0207E+01	10.00	1.9345E-01
.56	4.1255E+01	3.40	8.4574E-00	12.00	9.7384E-02
.58	4.6512E+01	3.60	7.0588E-00	14.00	5.4183E-02
.60	5.1724E+01	3.80	5.9325E-00	16.00	3.2485E-02
.62	5.6822E+01	4.00	5.0185E-00	18.00	2.0637E-02
.64	6.1746E+01	4.20	4.2715E-00	20.00	1.3729E-02
.66	6.6447E+01	4.40	3.6567E-00	22.00	9.4841E-03
.68	7.0883E+01	4.60	3.1474E-00	24.00	6.7596E-03
.70	7.5023E+01	4.80	2.7229E-00	26.00	4.9467E-03
.72	7.8845E+01	5.00	2.3669E-00	28.00	3.7027E-03
.74	8.2333E+01	5.20	2.0668E-00	30.00	2.8263E-03
.76	8.5479E+01	5.40	1.8124E-00		

3100. DEGREES

WL	R	WL	R	WL	R
.10	8.2965E-12	.78	1.0769E+02	5.60	1.6751E-00
.12	7.6290E-09	.80	1.1015E+02	5.80	1.4795E-00
.14	8.8585E-07	.82	1.1221E+02	6.00	1.3115E-00
.16	2.8649E-05	.84	1.1388E+02	6.20	1.1665E-00
.18	3.9915E-04	.86	1.1519E+02	6.40	1.0410E-00
.20	3.1058E-03	.88	1.1615E+02	6.60	9.3182E-01
.22	1.5901E-02	.90	1.1679E+02	6.80	8.3653E-01
.24	5.9705E-02	.92	1.1713E+02	7.00	7.5306E-01
.26	1.7711E-01	.94	1.1719E+02	7.20	6.7971E-01
.28	4.3761E-01	.96	1.1700E+02	7.40	6.1504E-01
.30	9.3584E-01	.98	1.1658E+02	7.60	5.5787E-01
.32	1.7823E-00	1.00	1.1595E+02	7.80	5.0716E-01
.34	3.0894E-00	1.20	1.0216E+02	8.00	4.6207E-01
.36	4.9559E-00	1.40	8.3448E+01	8.20	4.2187E-01
.38	7.4543E-00	1.60	6.6057E+01	8.40	3.8593E-01
.40	1.0623E+01	1.80	5.1743E+01	8.60	3.5374E-01
.42	1.4463E+01	2.00	4.0519E+01	8.80	3.2482E-01
.44	1.8941E+01	2.20	3.1884E+01	9.00	2.9879E-01
.46	2.3992E+01	2.40	2.5273E+01	9.20	2.7531E-01
.48	2.9528E+01	2.60	2.0202E+01	9.40	2.5409E-01
.50	3.5447E+01	2.80	1.6290E+01	9.60	2.3487E-01
.52	4.1637E+01	3.00	1.3249E+01	9.80	2.1743E-01
.54	4.7987E+01	3.20	1.0868E+01	10.00	2.0158E-01
.56	5.4386E+01	3.40	8.9861E-00	12.00	1.0132E-01
.58	6.0736E+01	3.60	7.4866E-00	14.00	5.6316E-02
.60	6.6945E+01	3.80	6.2820E-00	16.00	3.3739E-02
.62	7.2936E+01	4.00	5.3067E-00	18.00	2.1421E-02
.64	7.8643E+01	4.20	4.5111E-00	20.00	1.4244E-02
.66	8.4015E+01	4.40	3.8575E-00	22.00	9.8360E-03
.68	8.9011E+01	4.60	3.3168E-00	24.00	7.0082E-03
.70	9.3604E+01	4.80	2.8668E-00	26.00	5.1273E-03
.72	9.7775E+01	5.00	2.4899E-00	28.00	3.8371E-03
.74	1.0151E+02	5.20	2.1725E-00	30.00	2.9282E-03
.76	1.0482E+02	5.40	1.9038E-00		

3200. DEGREES

WL	R	WL	R	WL	R
.10	3.5383E-11	.78	1.2977E+02	5.60	1.7547E-00
.12	2.5549E-08	.80	1.3213E+02	5.80	1.5489E-00
.14	2.4962E-06	.82	1.3401E+02	6.00	1.3723E-00
.16	7.0927E-05	.84	1.3545E+02	6.20	1.2201E-00
.18	8.9348E-04	.86	1.3646E+02	6.40	1.0882E-00
.20	6.4140E-03	.88	1.3709E+02	6.60	9.7373E-01
.22	3.0743E-02	.90	1.3735E+02	6.80	8.7380E-01
.24	1.0926E-01	.92	1.3728E+02	7.00	7.8632E-01
.26	3.0940E-01	.94	1.3691E+02	7.20	7.0949E-01
.28	7.3461E-01	.96	1.3626E+02	7.40	6.4178E-01
.30	1.5176E-00	.98	1.3537E+02	7.60	5.8194E-01
.32	2.8043E-00	1.00	1.3425E+02	7.80	5.2889E-01
.34	4.7331E-00	1.20	1.1560E+02	8.00	4.8173E-01
.36	7.4147E-00	1.40	9.2940E+01	8.20	4.3970E-01
.38	1.0918E+01	1.60	7.2726E+01	8.40	4.0215E-01
.40	1.5266E+01	1.80	5.6474E+01	8.60	3.6851E-01
.42	2.0429E+01	2.00	4.3927E+01	8.80	3.3831E-01
.44	2.6337E+01	2.20	3.4380E+01	9.00	3.1113E-01
.46	3.2885E+01	2.40	2.7133E+01	9.20	2.8663E-01
.48	3.9946E+01	2.60	2.1611E+01	9.40	2.6448E-01
.50	4.7378E+01	2.80	1.7373E+01	9.60	2.4443E-01
.52	5.5035E+01	3.00	1.4095E+01	9.80	2.2624E-01
.54	6.2776E+01	3.20	1.1535E+01	10.00	2.0971E-01
.56	7.0470E+01	3.40	9.5201E-00	12.00	1.0526E-01
.58	7.7999E+01	3.60	7.9182E-00	14.00	5.8451E-02
.60	8.5262E+01	3.80	6.6344E-00	16.00	3.4993E-02
.62	9.2173E+01	4.00	5.5970E-00	18.00	2.2205E-02
.64	9.8665E+01	4.20	4.7523E-00	20.00	1.4759E-02
.66	1.0468E+02	4.40	4.0595E-00	22.00	1.0188E-02
.68	1.1020E+02	4.60	3.4872E-00	24.00	7.2569E-03
.70	1.1519E+02	4.80	3.0114E-00	26.00	5.3079E-03
.72	1.1963E+02	5.00	2.6135E-00	28.00	3.9714E-03
.74	1.2354E+02	5.20	2.2787E-00	30.00	3.0302E-03
.76	1.2692E+02	5.40	1.9955E-00		

3300. DEGREES

WL	R	WL	R	WL	R
.10	1.3820E-10	.78	1.5464E+02	5.60	1.8346E-00
.12	7.9523E-08	.80	1.5677E+02	5.80	1.6186E-00
.14	6.6062E-06	.82	1.5836E+02	6.00	1.4333E-00
.16	1.6620E-04	.84	1.5944E+02	6.20	1.2737E-00
.18	1.9046E-03	.86	1.6004E+02	6.40	1.1356E-00
.20	1.2676E-02	.88	1.6021E+02	6.60	1.0157E-00
.22	5.7111E-02	.90	1.5998E+02	6.80	9.1117E-01
.24	1.9276E-01	.92	1.5939E+02	7.00	8.1966E-01
.26	5.2253E-01	.94	1.5847E+02	7.20	7.3933E-01
.28	1.1950E-00	.96	1.5726E+02	7.40	6.6857E-01
.30	2.3900E-00	.98	1.5580E+02	7.60	6.0605E-01
.32	4.2929E-00	1.00	1.5410E+02	7.80	5.5065E-01
.34	7.0661E-00	1.20	1.2988E+02	8.00	5.0143E-01
.36	1.0825E+01	1.40	1.0288E+02	8.20	4.5757E-01
.38	1.5627E+01	1.60	7.9644E+01	8.40	4.1839E-01
.40	2.1461E+01	1.80	6.1347E+01	8.60	3.8331E-01
.42	2.8258E+01	2.00	4.7418E+01	8.80	3.5182E-01
.44	3.5897E+01	2.20	3.6928E+01	9.00	3.2350E-01
.46	4.4223E+01	2.40	2.9026E+01	9.20	2.9796E-01
.48	5.3060E+01	2.60	2.3041E+01	9.40	2.7489E-01
.50	6.2221E+01	2.80	1.8471E+01	9.60	2.5400E-01
.52	7.1524E+01	3.00	1.4949E+01	9.80	2.3506E-01
.54	8.0799E+01	3.20	1.2210E+01	10.00	2.1785E-01
.56	8.9890E+01	3.40	1.0058E+01	12.00	1.0921E-01
.58	9.8665E+01	3.60	8.3532E-00	14.00	6.0588E-02
.60	1.0701E+02	3.80	6.9892E-00	16.00	3.6247E-02
.62	1.1484E+02	4.00	5.8892E-00	18.00	2.2989E-02
.64	1.2209E+02	4.20	4.9949E-00	20.00	1.5274E-02
.66	1.2872E+02	4.40	4.2625E-00	22.00	1.0540E-02
.68	1.3469E+02	4.60	3.6584E-00	24.00	7.5056E-03
.70	1.3999E+02	4.80	3.1567E-00	26.00	5.4886E-03
.72	1.4462E+02	5.00	2.7376E-00	28.00	4.1057E-03
.74	1.4859E+02	5.20	2.3853E-00	30.00	3.1322E-03
.76	1.5192E+02	5.40	2.0875E-00		

3400. DEGREES

WL	R	WL	R	WL	R
.10	4.9824E-10	.78	1.8239E+02	5.60	1.9147E-00
.12	2.3152E-07	.80	1.8417E+02	5.80	1.6885E-00
.14	1.6510E-05	.82	1.8532E+02	6.00	1.4945E-00
.16	3.7043E-04	.84	1.8590E+02	6.20	1.3276E-00
.18	3.8835E-03	.86	1.8596E+02	6.40	1.1832E-00
.20	2.4068E-02	.88	1.8555E+02	6.60	1.0578E-00
.22	1.0229E-01	.90	1.8470E+02	6.80	9.4861E-01
.24	3.2890E-01	.92	1.8347E+02	7.00	8.5307E-01
.26	8.5568E-01	.94	1.8189E+02	7.20	7.6922E-01
.28	1.8892E-00	.96	1.8002E+02	7.40	6.9540E-01
.30	3.6648E-00	.98	1.7787E+02	7.60	6.3020E-01
.32	6.4090E-00	1.00	1.7550E+02	7.80	5.7245E-01
.34	1.0303E+01	1.20	1.4497E+02	8.00	5.2115E-01
.36	1.5458E+01	1.40	1.1325E+02	8.20	4.7546E-01
.38	2.1900E+01	1.60	8.6798E+01	8.40	4.3465E-01
.40	2.9573E+01	1.80	6.6354E+01	8.60	3.9813E-01
.42	3.8348E+01	2.00	5.0989E+01	8.80	3.6535E-01
.44	4.8044E+01	2.20	3.9524E+01	9.00	3.3587E-01
.46	5.8443E+01	2.40	3.0949E+01	9.20	3.0930E-01
.48	6.9311E+01	2.60	2.4490E+01	9.40	2.8530E-01
.50	8.0416E+01	2.80	1.9581E+01	9.60	2.6358E-01
.52	9.1534E+01	3.00	1.5813E+01	9.80	2.4389E-01
.54	1.0246E+02	3.20	1.2890E+01	10.00	2.2600E-01
.56	1.1303E+02	3.40	1.0601E+01	12.00	1.1316E-01
.58	1.2309E+02	3.60	8.7913E-00	14.00	6.2725E-02
.60	1.3253E+02	3.80	7.3464E-00	16.00	3.7503E-02
.62	1.4126E+02	4.00	6.1831E-00	18.00	2.3774E-02
.64	1.4922E+02	4.20	5.2389E-00	20.00	1.5789E-02
.66	1.5637E+02	4.40	4.4666E-00	22.00	1.0892E-02
.68	1.6270E+02	4.60	3.8303E-00	24.00	7.7544E-03
.70	1.6820E+02	4.80	3.3026E-00	26.00	5.6692E-03
.72	1.7289E+02	5.00	2.8621E-00	28.00	4.2401E-03
.74	1.7679E+02	5.20	2.4922E-00	30.00	3.2342E-03
.76	1.7995E+02	5.40	2.1799E-00		

3500. DEGREES

WL	R	WL	R	WL	R
.10	1.6693E-09	.78	2.1313E+02	5.60	1.9951E-00
.12	6.3412E-07	.80	2.1439E+02	5.80	1.7585E-00
.14	3.9158E-05	.82	2.1496E+02	6.00	1.5559E-00
.16	7.8867E-04	.84	2.1490E+02	6.20	1.3815E-00
.18	7.6022E-03	.86	2.1427E+02	6.40	1.2308E-00
.20	4.4055E-02	.88	2.1313E+02	6.60	1.1000E-00
.22	1.7723E-01	.90	2.1154E+02	6.80	9.8612E-01
.24	5.4433E-01	.92	2.0954E+02	7.00	8.8653E-01
.26	1.3623E-00	.94	2.0718E+02	7.20	7.9917E-01
.28	2.9095E-00	.96	2.0452E+02	7.40	7.2228E-01
.30	5.4838E-00	.98	2.0159E+02	7.60	6.5439E-01
.32	9.3515E-00	1.00	1.9843E+02	7.80	5.9428E-01
.34	1.4703E+01	1.20	1.6086E+02	8.00	5.4090E-01
.36	2.1628E+01	1.40	1.2404E+02	8.20	4.9337E-01
.38	3.0105E+01	1.60	9.4177E+01	8.40	4.5094E-01
.40	4.0010E+01	1.80	7.1487E+01	8.60	4.1296E-01
.42	5.1141E+01	2.00	5.4633E+01	8.80	3.7889E-01
.44	6.3239E+01	2.20	4.2164E+01	9.00	3.4826E-01
.46	7.6014E+01	2.40	3.2900E+01	9.20	3.2066E-01
.48	8.9170E+01	2.60	2.5958E+01	9.40	2.9573E-01
.50	1.0242E+02	2.80	2.0704E+01	9.60	2.7318E-01
.52	1.1550E+02	3.00	1.6685E+01	9.80	2.5273E-01
.54	1.2819E+02	3.20	1.3577E+01	10.00	2.3416E-01
.56	1.4029E+02	3.40	1.1148E+01	12.00	1.1711E-01
.58	1.5165E+02	3.60	9.2324E-00	14.00	6.4863E-02
.60	1.6215E+02	3.80	7.7057E-00	16.00	3.8758E-02
.62	1.7172E+02	4.00	6.4786E-00	18.00	2.4558E-02
.64	1.8030E+02	4.20	5.4840E-00	20.00	1.6304E-02
.66	1.8787E+02	4.40	4.6715E-00	22.00	1.1244E-02
.68	1.9443E+02	4.60	4.0030E-00	24.00	8.0031E-03
.70	2.0000E+02	4.80	3.4490E-00	26.00	5.8499E-03
.72	2.0461E+02	5.00	2.9871E-00	28.00	4.3745E-03
.74	2.0830E+02	5.20	2.5995E-00	30.00	3.3362E-03
.76	2.1112E+02	5.40	2.2725E-00		

3600. DEGREES

WL	R	WL	R	WL	R
.10	5.2295E-09	.78	2.4693E+02	5.60	2.0756E-00
.12	1.6422E-06	.80	2.4751E+02	5.80	1.8287E-00
.14	8.8522E-05	.82	2.4733E+02	6.00	1.6174E-00
.16	1.6100E-03	.84	2.4647E+02	6.20	1.4355E-00
.18	1.4336E-02	.86	2.4500E+02	6.40	1.2785E-00
.20	7.7976E-02	.88	2.4298E+02	6.60	1.1423E-00
.22	2.9783E-01	.90	2.4049E+02	6.80	1.0236E-00
.24	8.7599E-01	.92	2.3759E+02	7.00	9.2005E-01
.26	2.1135E-00	.94	2.3433E+02	7.20	8.2916E-01
.28	4.3746E-00	.96	2.3076E+02	7.40	7.4919E-01
.30	8.0240E-00	.98	2.2693E+02	7.60	6.7862E-01
.32	1.3361E+01	1.00	2.2289E+02	7.80	6.1614E-01
.34	2.0572E+01	1.20	1.7751E+02	8.00	5.6068E-01
.36	2.9702E+01	1.40	1.3522E+02	8.20	5.1131E-01
.38	4.0658E+01	1.60	1.0176E+02	8.40	4.6724E-01
.40	5.3230E+01	1.80	7.6739E+01	8.60	4.2781E-01
.42	6.7121E+01	2.00	5.8346E+01	8.80	3.9245E-01
.44	8.1980E+01	2.20	4.4847E+01	9.00	3.6066E-01
.46	9.7436E+01	2.40	3.4877E+01	9.20	3.3202E-01
.48	1.1312E+02	2.60	2.7443E+01	9.40	3.0617E-01
.50	1.2870E+02	2.80	2.1838E+01	9.60	2.8277E-01
.52	1.4388E+02	3.00	1.7564E+01	9.80	2.6157E-01
.54	1.5839E+02	3.20	1.4268E+01	10.00	2.4232E-01
.56	1.7204E+02	3.40	1.1699E+01	12.00	1.2106E-01
.58	1.8468E+02	3.60	9.6762E-00	14.00	6.7002E-02
.60	1.9619E+02	3.80	8.0670E-00	16.00	4.0014E-02
.62	2.0650E+02	4.00	6.7755E-00	18.00	2.5343E-02
.64	2.1559E+02	4.20	5.7302E-00	20.00	1.6820E-02
.66	2.2344E+02	4.40	4.8773E-00	22.00	1.1596E-02
.68	2.3008E+02	4.60	4.1763E-00	24.00	8.2520E-03
.70	2.3556E+02	4.80	3.5960E-00	26.00	6.0306E-03
.72	2.3991E+02	5.00	3.1125E-00	28.00	4.5089E-03
.74	2.4321E+02	5.20	2.7071E-00	30.00	3.4382E-03
.76	2.4553E+02	5.40	2.3654E-00		

3700. DEGREES

WL	R	WL	R	WL	R
.10	1.5402E-08	.78	2.8387E+02	5.60	2.1564E-00
.12	4.0399E-06	.80	2.8357E+02	5.80	1.8991E-00
.14	1.9148E-04	.82	2.8246E+02	6.00	1.6790E-00
.16	3.1626E-03	.84	2.8062E+02	6.20	1.4897E-00
.18	2.6126E-02	.86	2.7814E+02	6.40	1.3263E-00
.20	1.3382E-01	.88	2.7510E+02	6.60	1.1846E-00
.22	4.8663E-01	.90	2.7158E+02	6.80	1.0613E-00
.24	1.3739E-00	.92	2.6763E+02	7.00	9.5361E-01
.26	3.2021E-00	.94	2.6333E+02	7.20	8.5919E-01
.28	6.4340E-00	.96	2.5873E+02	7.40	7.7614E-01
.30	1.1501E+01	.98	2.5388E+02	7.60	7.0287E-01
.32	1.8726E+01	1.00	2.4884E+02	7.80	6.3803E-01
.34	2.8265E+01	1.20	1.9491E+02	8.00	5.8048E-01
.36	4.0095E+01	1.40	1.4679E+02	8.20	5.2926E-01
.38	5.4026E+01	1.60	1.0956E+02	8.40	4.8356E-01
.40	6.9734E+01	1.80	8.2104E+01	8.60	4.4268E-01
.42	8.6808E+01	2.00	6.2125E+01	8.80	4.0602E-01
.44	1.0479E+02	2.20	4.7568E+01	9.00	3.7307E-01
.46	1.2323E+02	2.40	3.6878E+01	9.20	3.4340E-01
.48	1.4168E+02	2.60	2.8943E+01	9.40	3.1661E-01
.50	1.5975E+02	2.80	2.2982E+01	9.60	2.9238E-01
.52	1.7711E+02	3.00	1.8451E+01	9.80	2.7042E-01
.54	1.9349E+02	3.20	1.4965E+01	10.00	2.5049E-01
.56	2.0868E+02	3.40	1.2254E+01	12.00	1.2501E-01
.58	2.2253E+02	3.60	1.0122E+01	14.00	6.9142E-02
.60	2.3495E+02	3.80	8.4301E-00	16.00	4.1270E-02
.62	2.4588E+02	4.00	7.0738E-00	18.00	2.6128E-02
.64	2.5532E+02	4.20	5.9774E-00	20.00	1.7335E-02
.66	2.6328E+02	4.40	5.0839E-00	22.00	1.1948E-02
.68	2.6983E+02	4.60	4.3502E-00	24.00	8.5008E-03
.70	2.7501E+02	4.80	3.7434E-00	26.00	6.2114E-03
.72	2.7892E+02	5.00	3.2382E-00	28.00	4.6433E-03
.74	2.8163E+02	5.20	2.8151E-00	30.00	3.5402E-03
.76	2.8325E+02	5.40	2.4585E-00		

3800. DEGREES

WL	R	WL	R	WL	R
.10	4.2855E-08	.78	3.2397E+02	5.60	2.2373E-00
.12	9.4782E-06	.80	3.2261E+02	5.80	1.9696E-00
.14	3.9772E-04	.82	3.2038E+02	6.00	1.7407E-00
.16	5.9953E-03	.84	3.1739E+02	6.20	1.5439E-00
.18	4.6129E-02	.86	3.1373E+02	6.40	1.3741E-00
.20	2.2322E-01	.88	3.0950E+02	6.60	1.2270E-00
.22	7.7484E-01	.90	3.0477E+02	6.80	1.0990E-00
.24	2.1044E-00	.92	2.9964E+02	7.00	9.8723E-01
.26	4.7465E-00	.94	2.9416E+02	7.20	8.8926E-01
.28	9.2726E-00	.96	2.8841E+02	7.40	8.0313E-01
.30	1.6177E+01	.98	2.8243E+02	7.60	7.2715E-01
.32	2.5783E+01	1.00	2.7628E+02	7.80	6.5994E-01
.34	3.8192E+01	1.20	2.1304E+02	8.00	6.0030E-01
.36	5.3278E+01	1.40	1.5872E+02	8.20	5.4723E-01
.38	7.0723E+01	1.60	1.1754E+02	8.40	4.9989E-01
.40	9.0065E+01	1.80	8.7575E+01	8.60	4.5756E-01
.42	1.1076E+02	2.00	6.5964E+01	8.80	4.1960E-01
.44	1.3224E+02	2.20	5.0326E+01	9.00	3.8550E-01
.46	1.5394E+02	2.40	3.8903E+01	9.20	3.5478E-01
.48	1.7536E+02	2.60	3.0458E+01	9.40	3.2706E-01
.50	1.9605E+02	2.80	2.4136E+01	9.60	3.0200E-01
.52	2.1566E+02	3.00	1.9344E+01	9.80	2.7928E-01
.54	2.3390E+02	3.20	1.5666E+01	10.00	2.5866E-01
.56	2.5057E+02	3.40	1.2811E+01	12.00	1.2897E-01
.58	2.6554E+02	3.60	1.0571E+01	14.00	7.1283E-02
.60	2.7872E+02	3.80	8.7948E-00	16.00	4.2527E-02
.62	2.9010E+02	4.00	7.3733E-00	18.00	2.6914E-02
.64	2.9970E+02	4.20	6.2256E-00	20.00	1.7851E-02
.66	3.0758E+02	4.40	5.2912E-00	22.00	1.2301E-02
.68	3.1382E+02	4.60	4.5246E-00	24.00	8.7497E-03
.70	3.1850E+02	4.80	3.8912E-00	26.00	6.3921E-03
.72	3.2174E+02	5.00	3.3643E-00	28.00	4.7777E-03
.74	3.2366E+02	5.20	2.9232E-00	30.00	3.6422E-03
.76	3.2436E+02	5.40	2.5518E-00		

3900. DEGREES

WL	R	WL	R	WL	R
.10	1.1314E-07	.78	3.6730E+02	5.60	2.3184E-00
.12	2.1285E-05	.80	3.6465E+02	5.80	2.0403E-00
.14	7.9570E-04	.82	3.6110E+02	6.00	1.8025E-00
.16	1.0998E-02	.84	3.5676E+02	6.20	1.5983E-00
.18	7.9108E-02	.86	3.5174E+02	6.40	1.4221E-00
.20	3.6270E-01	.88	3.4615E+02	6.60	1.2695E-00
.22	1.2046E-00	.90	3.4008E+02	6.80	1.1367E-00
.24	3.1537E-00	.92	3.3360E+02	7.00	1.0208E-00
.26	6.8951E-00	.94	3.2681E+02	7.20	9.1937E-01
.28	1.3115E+01	.96	3.1977E+02	7.40	8.3015E-01
.30	2.2359E+01	.98	3.1254E+02	7.60	7.5146E-01
.32	3.4922E+01	1.00	3.0517E+02	7.80	6.8187E-01
.34	5.0814E+01	1.20	2.3186E+02	8.00	6.2014E-01
.36	6.9771E+01	1.40	1.7100E+02	8.20	5.6522E-01
.38	9.1311E+01	1.60	1.2571E+02	8.40	5.1624E-01
.40	1.1480E+02	1.80	9.3145E+01	8.60	4.7245E-01
.42	1.3957E+02	2.00	6.9862E+01	8.80	4.3320E-01
.44	1.6489E+02	2.20	5.3119E+01	9.00	3.9793E-01
.46	1.9012E+02	2.40	4.0949E+01	9.20	3.6618E-01
.48	2.1469E+02	2.60	3.1987E+01	9.40	3.3752E-01
.50	2.3810E+02	2.80	2.5299E+01	9.60	3.1162E-01
.52	2.5997E+02	3.00	2.0243E+01	9.80	2.8815E-01
.54	2.8003E+02	3.20	1.6371E+01	10.00	2.6684E-01
.56	2.9807E+02	3.40	1.3371E+01	12.00	1.3293E-01
.58	3.1400E+02	3.60	1.1021E+01	14.00	7.3424E-02
.60	3.2778E+02	3.80	9.1612E-00	16.00	4.3784E-02
.62	3.3941E+02	4.00	7.6741E-00	18.00	2.7699E-02
.64	3.4895E+02	4.20	6.4747E-00	20.00	1.8367E-02
.66	3.5651E+02	4.40	5.4992E-00	22.00	1.2653E-02
.68	3.6219E+02	4.60	4.6996E-00	24.00	8.9986E-03
.70	3.6613E+02	4.80	4.0395E-00	26.00	6.5729E-03
.72	3.6846E+02	5.00	3.4907E-00	28.00	4.9121E-03
.74	3.6934E+02	5.20	3.0317E-00	30.00	3.7442E-03
.76	3.6891E+02	5.40	2.6453E-00		

4000. DEGREES

WL	R	WL	R	WL	R
.10	2.8457E-07	.78	4.1387E+02	5.60	2.3996E-00
.12	4.5907E-05	.80	4.0972E+02	5.80	2.1110E-00
.14	1.5376E-03	.82	4.0463E+02	6.00	1.8644E-00
.16	1.9574E-02	.84	3.9874E+02	6.20	1.6527E-00
.18	1.3205E-01	.86	3.9218E+02	6.40	1.4701E-00
.20	5.7521E-01	.88	3.8505E+02	6.60	1.3120E-00
.22	1.8320E-00	.90	3.7746E+02	6.80	1.1745E-00
.24	4.6314E-00	.92	3.6950E+02	7.00	1.0545E-00
.26	9.8311E-00	.94	3.6126E+02	7.20	9.4952E-01
.28	1.8232E+01	.96	3.5280E+02	7.40	8.5719E-01
.30	3.0406E+01	.98	3.4419E+02	7.60	7.7580E-01
.32	4.6588E+01	1.00	3.3548E+02	7.80	7.0382E-01
.34	6.6650E+01	1.20	2.5136E+02	8.00	6.3999E-01
.36	9.0146E+01	1.40	1.8361E+02	8.20	5.8323E-01
.38	1.1639E+02	1.60	1.3405E+02	8.40	5.3261E-01
.40	1.4458E+02	1.80	9.8810E+01	8.60	4.8735E-01
.42	1.7385E+02	2.00	7.3813E+01	8.80	4.4680E-01
.44	2.0336E+02	2.20	5.5944E+01	9.00	4.1037E-01
.46	2.3235E+02	2.40	4.3014E+01	9.20	3.7758E-01
.48	2.6019E+02	2.60	3.3528E+01	9.40	3.4799E-01
.50	2.8637E+02	2.80	2.6471E+01	9.60	3.2124E-01
.52	3.1047E+02	3.00	2.1148E+01	9.80	2.9701E-01
.54	3.3225E+02	3.20	1.7080E+01	10.00	2.7502E-01
.56	3.5153E+02	3.40	1.3935E+01	12.00	1.3689E-01
.58	3.6824E+02	3.60	1.1474E+01	14.00	7.5566E-02
.60	3.8238E+02	3.80	9.5290E-00	16.00	4.5041E-02
.62	3.9401E+02	4.00	7.9759E-00	18.00	2.8485E-02
.64	4.0324E+02	4.20	6.7245E-00	20.00	1.8882E-02
.66	4.1021E+02	4.40	5.7078E-00	22.00	1.3006E-02
.68	4.1507E+02	4.60	4.8751E-00	24.00	9.2476E-03
.70	4.1800E+02	4.80	4.1881E-00	26.00	6.7537E-03
.72	4.1916E+02	5.00	3.6174E-00	28.00	5.0466E-03
.74	4.1875E+02	5.20	3.1403E-00	30.00	3.8463E-03
.76	4.1693E+02	5.40	2.7390E-00		

4100. DEGREES

WL	R	WL	R	WL	R
.10	6.8423E-07	.78	4.6369E+02	5.60	2.4810E-00
.12	9.5366E-05	.80	4.5780E+02	5.80	2.1819E-00
.14	2.8774E-03	.82	4.5097E+02	6.00	1.9264E-00
.16	3.3870E-02	.84	4.4333E+02	6.20	1.7072E-00
.18	2.1499E-01	.86	4.3502E+02	6.40	1.5182E-00
.20	8.9194E-01	.88	4.2618E+02	6.60	1.3545E-00
.22	2.7297E-00	.90	4.1691E+02	6.80	1.2123E-00
.24	6.6753E-00	.92	4.0731E+02	7.00	1.0883E-00
.26	1.3776E+01	.94	3.9746E+02	7.20	9.7969E-01
.28	2.4941E+01	.96	3.8745E+02	7.40	8.8426E-01
.30	4.0735E+01	.98	3.7734E+02	7.60	8.0015E-01
.32	6.1284E+01	1.00	3.6719E+02	7.80	7.2580E-01
.34	8.6271E+01	1.20	2.7150E+02	8.00	6.5987E-01
.36	1.1502E+02	1.40	1.9654E+02	8.20	6.0124E-01
.38	1.4662E+02	1.60	1.4255E+02	8.40	5.4898E-01
.40	1.8005E+02	1.80	1.0456E+02	8.60	5.0227E-01
.42	2.1424E+02	2.00	7.7815E+01	8.80	4.6041E-01
.44	2.4824E+02	2.20	5.8800E+01	9.00	4.2282E-01
.46	2.8120E+02	2.40	4.5099E+01	9.20	3.8899E-01
.48	3.1241E+02	2.60	3.5082E+01	9.40	3.5846E-01
.50	3.4134E+02	2.80	2.7650E+01	9.60	3.3088E-01
.52	3.6760E+02	3.00	2.2058E+01	9.80	3.0589E-01
.54	3.9095E+02	3.20	1.7793E+01	10.00	2.8321E-01
.56	4.1126E+02	3.40	1.4501E+01	12.00	1.4085E-01
.58	4.2851E+02	3.60	1.1929E+01	14.00	7.7708E-02
.60	4.4276E+02	3.80	9.8982E-00	16.00	4.6299E-02
.62	4.5411E+02	4.00	8.2787E-00	18.00	2.9270E-02
.64	4.6274E+02	4.20	6.9751E-00	20.00	1.9398E-02
.66	4.6882E+02	4.40	5.9169E-00	22.00	1.3358E-02
.68	4.7256E+02	4.60	5.0510E-00	24.00	9.4965E-03
.70	4.7418E+02	4.80	4.3370E-00	26.00	6.9345E-03
.72	4.7390E+02	5.00	3.7444E-00	28.00	5.1810E-03
.74	4.7192E+02	5.20	3.2492E-00	30.00	3.9483E-03
.76	4.6846E+02	5.40	2.8329E-00		

4100. DEGREES

WL	R	WL	R	WL	R
.10	6.8423E-07	.78	4.6369E+02	5.60	2.4810E-00
.12	9.5366E-05	.80	4.5780E+02	5.80	2.1819E-00
.14	2.8774E-03	.82	4.5097E+02	6.00	1.9264E-00
.16	3.3870E-02	.84	4.4333E+02	6.20	1.7072E-00
.18	2.1499E-01	.86	4.3502E+02	6.40	1.5182E-00
.20	8.9194E-01	.88	4.2618E+02	6.60	1.3545E-00
.22	2.7297E-00	.90	4.1691E+02	6.80	1.2123E-00
.24	6.6753E-00	.92	4.0731E+02	7.00	1.0883E-00
.26	1.3776E+01	.94	3.9746E+02	7.20	9.7969E-01
.28	2.4941E+01	.96	3.8745E+02	7.40	8.8426E-01
.30	4.0735E+01	.98	3.7734E+02	7.60	8.0015E-01
.32	6.1284E+01	1.00	3.6719E+02	7.80	7.2580E-01
.34	8.6271E+01	1.20	2.7150E+02	8.00	6.5987E-01
.36	1.1502E+02	1.40	1.9654E+02	8.20	6.0124E-01
.38	1.4662E+02	1.60	1.4255E+02	8.40	5.4898E-01
.40	1.8005E+02	1.80	1.0456E+02	8.60	5.0227E-01
.42	2.1424E+02	2.00	7.7815E+01	8.80	4.6041E-01
.44	2.4824E+02	2.20	5.8800E+01	9.00	4.2282E-01
.46	2.8120E+02	2.40	4.5099E+01	9.20	3.8899E-01
.48	3.1241E+02	2.60	3.5082E+01	9.40	3.5846E-01
.50	3.4134E+02	2.80	2.7650E+01	9.60	3.3088E-01
.52	3.6760E+02	3.00	2.2058E+01	9.80	3.0589E-01
.54	3.9095E+02	3.20	1.7793E+01	10.00	2.8321E-01
.56	4.1126E+02	3.40	1.4501E+01	12.00	1.4085E-01
.58	4.2851E+02	3.60	1.1929E+01	14.00	7.7708E-02
.60	4.4276E+02	3.80	9.8982E-00	16.00	4.6299E-02
.62	4.5411E+02	4.00	8.2787E-00	18.00	2.9270E-02
.64	4.6274E+02	4.20	6.9751E-00	20.00	1.9398E-02
.66	4.6882E+02	4.40	5.9169E-00	22.00	1.3358E-02
.68	4.7256E+02	4.60	5.0510E-00	24.00	9.4965E-03
.70	4.7418E+02	4.80	4.3370E-00	26.00	6.9345E-03
.72	4.7390E+02	5.00	3.7444E-00	28.00	5.1810E-03
.74	4.7192E+02	5.20	3.2492E-00	30.00	3.9483E-03
.76	4.6846E+02	5.40	2.8329E-00		

4200. DEGREES

WL	R	WL	R	WL	R
.10	1.5778E-06	.78	5.1677E+02	5.60	2.5625E-00
.12	1.9133E-04	.80	5.0891E+02	5.80	2.2529E-00
.14	5.2264E-03	.82	5.0009E+02	6.00	1.9885E-00
.16	5.7096E-02	.84	4.9049E+02	6.20	1.7617E-00
.18	3.4199E-01	.86	4.8025E+02	6.40	1.5663E-00
.20	1.3544E-00	.88	4.6951E+02	6.60	1.3972E-00
.22	3.9908E-00	.90	4.5839E+02	6.80	1.2502E-00
.24	9.4552E-00	.92	4.4699E+02	7.00	1.1220E-00
.26	1.8998E+01	.94	4.3540E+02	7.20	1.0099E-00
.28	3.3613E+01	.96	4.2371E+02	7.40	9.1136E-01
.30	5.3818E+01	.98	4.1198E+02	7.60	8.2453E-01
.32	7.9569E+01	1.00	4.0027E+02	7.80	7.4779E-01
.34	1.1030E+02	1.20	2.9228E+02	8.00	6.7976E-01
.36	1.4507E+02	1.40	2.0977E+02	8.20	6.1928E-01
.38	1.8269E+02	1.60	1.5122E+02	8.40	5.6537E-01
.40	2.2188E+02	1.80	1.1040E+02	8.60	5.1719E-01
.42	2.6141E+02	2.00	8.1865E+01	8.80	4.7403E-01
.44	3.0018E+02	2.20	6.1683E+01	9.00	4.3528E-01
.46	3.3724E+02	2.40	4.7201E+01	9.20	4.0040E-01
.48	3.7186E+02	2.60	3.6647E+01	9.40	3.6894E-01
.50	4.0349E+02	2.80	2.8837E+01	9.60	3.4051E-01
.52	4.3177E+02	3.00	2.2973E+01	9.80	3.1477E-01
.54	4.5649E+02	3.20	1.8510E+01	10.00	2.9141E-01
.56	4.7758E+02	3.40	1.5069E+01	12.00	1.4481E-01
.58	4.9509E+02	3.60	1.2385E+01	14.00	7.9851E-02
.60	5.0913E+02	3.80	1.0268E+01	16.00	4.7556E-02
.62	5.1989E+02	4.00	8.5824E-00	18.00	3.0056E-02
.64	5.2758E+02	4.20	7.2265E-00	20.00	1.9914E-02
.66	5.3244E+02	4.40	6.1266E-00	22.00	1.3711E-02
.68	5.3475E+02	4.60	5.2273E-00	24.00	9.7455E-03
.70	5.3475E+02	4.80	4.4863E-00	26.00	7.1153E-03
.72	5.3272E+02	5.00	3.8716E-00	28.00	5.3155E-03
.74	5.2889E+02	5.20	3.3583E-00	30.00	4.0503E-03
.76	5.2350E+02	5.40	2.9270E-00		

4300. DEGREES

WL	R	WL	R	WL	R
.10	3.5000E-06	.78	5.7312E+02	5.60	2.6441E-00
.12	3.7163E-04	.80	5.6303E+02	5.80	2.3240E-00
.14	9.2330E-03	.82	5.5200E+02	6.00	2.0507E-00
.16	9.3941E-02	.84	5.4021E+02	6.20	1.8164E-00
.18	5.3240E-01	.86	5.2784E+02	6.40	1.6145E-00
.20	2.0172E-00	.88	5.1502E+02	6.60	1.4398E-00
.22	5.7324E-00	.90	5.0187E+02	6.80	1.2881E-00
.24	1.3177E+01	.92	4.8852E+02	7.00	1.1558E-00
.26	2.5809E+01	.94	4.7504E+02	7.20	1.0401E-00
.28	4.4677E+01	.96	4.6153E+02	7.40	9.3848E-01
.30	7.0188E+01	.98	4.4806E+02	7.60	8.4893E-01
.32	1.0206E+02	1.00	4.3467E+02	7.80	7.6980E-01
.34	1.3943E+02	1.20	3.1366E+02	8.00	6.9966E-01
.36	1.8101E+02	1.40	2.2329E+02	8.20	6.3732E-01
.38	2.2531E+02	1.60	1.6002E+02	8.40	5.8176E-01
.40	2.7079E+02	1.80	1.1632E+02	8.60	5.3212E-01
.42	3.1604E+02	2.00	8.5961E+01	8.80	4.8766E-01
.44	3.5979E+02	2.20	6.4594E+01	9.00	4.4774E-01
.46	4.0106E+02	2.40	4.9320E+01	9.20	4.1182E-01
.48	4.3906E+02	2.60	3.8222E+01	9.40	3.7943E-01
.50	4.7327E+02	2.80	3.0030E+01	9.60	3.5016E-01
.52	5.0337E+02	3.00	2.3893E+01	9.80	3.2365E-01
.54	5.2920E+02	3.20	1.9229E+01	10.00	2.9960E-01
.56	5.5078E+02	3.40	1.5639E+01	12.00	1.4878E-01
.58	5.6822E+02	3.60	1.2843E+01	14.00	8.1995E-02
.60	5.8171E+02	3.80	1.0640E+01	16.00	4.8814E-02
.62	5.9150E+02	4.00	8.8870E-00	18.00	3.0842E-02
.64	5.9789E+02	4.20	7.4785E-00	20.00	2.0430E-02
.66	6.0119E+02	4.40	6.3368E-00	22.00	1.4063E-02
.68	6.0170E+02	4.60	5.4040E-00	24.00	9.9945E-03
.70	5.9976E+02	4.80	4.6359E-00	26.00	7.2961E-03
.72	5.9565E+02	5.00	3.9991E-00	28.00	5.4499E-03
.74	5.8967E+02	5.20	3.4675E-00	30.00	4.1524E-03
.76	5.8208E+02	5.40	3.0212E-00		

4400. DEGREES

WL	R	WL	R	WL	R
.10	7.4874E-06	.78	6.3271E+02	5.60	2.7259E-00
.12	7.0038E-04	.80	6.2013E+02	5.80	2.3952E-00
.14	1.5894E-02	.82	6.0665E+02	6.00	2.1130E-00
.16	1.5110E-01	.84	5.9247E+02	6.20	1.8711E-00
.18	8.1230E-01	.86	5.7775E+02	6.40	1.6627E-00
.20	2.9505E-00	.88	5.6266E+02	6.60	1.4825E-00
.22	8.0994E-00	.90	5.4732E+02	6.80	1.3261E-00
.24	1.8090E+01	.92	5.3185E+02	7.00	1.1897E-00
.26	3.4578E+01	.94	5.1634E+02	7.20	1.0703E-00
.28	5.8619E+01	.96	5.0088E+02	7.40	9.6562E-01
.30	9.0439E+01	.98	4.8554E+02	7.60	8.7335E-01
.32	1.2944E+02	1.00	4.7038E+02	7.80	7.9182E-01
.34	1.7438E+02	1.20	3.3562E+02	8.00	7.1958E-01
.36	2.2359E+02	1.40	2.3709E+02	8.20	6.5538E-01
.38	2.7523E+02	1.60	1.6897E+02	8.40	5.9817E-01
.40	3.2751E+02	1.80	1.2231E+02	8.60	5.4707E-01
.42	3.7879E+02	2.00	9.0099E+01	8.80	5.0130E-01
.44	4.2772E+02	2.20	6.7530E+01	9.00	4.6021E-01
.46	4.7322E+02	2.40	5.1454E+01	9.20	4.2325E-01
.48	5.1452E+02	2.60	3.9807E+01	9.40	3.8992E-01
.50	5.5113E+02	2.80	3.1230E+01	9.60	3.5980E-01
.52	5.8279E+02	3.00	2.4817E+01	9.80	3.3254E-01
.54	6.0942E+02	3.20	1.9952E+01	10.00	3.0780E-01
.56	6.3113E+02	3.40	1.6212E+01	12.00	1.5274E-01
.58	6.4811E+02	3.60	1.3302E+01	14.00	8.4139E-02
.60	6.6065E+02	3.80	1.1012E+01	16.00	5.0072E-02
.62	6.6908E+02	4.00	9.1924E-00	18.00	3.1628E-02
.64	6.7378E+02	4.20	7.7311E-00	20.00	2.0946E-02
.66	6.7513E+02	4.40	6.5475E-00	22.00	1.4416E-02
.68	6.7349E+02	4.60	5.5810E-00	24.00	1.0243E-02
.70	6.6924E+02	4.80	4.7858E-00	26.00	7.4770E-03
.72	6.6272E+02	5.00	4.1267E-00	28.00	5.5844E-03
.74	6.5427E+02	5.20	3.5770E-00	30.00	4.2545E-03
.76	6.4417E+02	5.40	3.1155E-00		

4500. DEGREES

WL	R	WL	R	WL	R
.10	1.5485E-05	.78	6.9553E+02	5.60	2.8077E-00
.12	1.2832E-03	.80	6.8020E+02	5.80	2.4664E-00
.14	2.6709E-02	.82	6.6403E+02	6.00	2.1753E-00
.16	2.3796E-01	.84	6.4722E+02	6.20	1.9258E-00
.18	1.2163E-00	.86	6.2996E+02	6.40	1.7110E-00
.20	4.2432E-00	.88	6.1241E+02	6.60	1.5253E-00
.22	1.1269E+01	.90	5.9471E+02	6.80	1.3641E-00
.24	2.4487E+01	.92	5.7696E+02	7.00	1.2235E-00
.26	4.5729E+01	.94	5.5928E+02	7.20	1.1006E-00
.28	7.5989E+01	.96	5.4173E+02	7.40	9.9278E-01
.30	1.1522E+02	.98	5.2440E+02	7.60	8.9778E-01
.32	1.6244E+02	1.00	5.0734E+02	7.80	8.1386E-01
.34	2.1594E+02	1.20	3.5814E+02	8.00	7.3951E-01
.36	2.7361E+02	1.40	2.5116E+02	8.20	6.7344E-01
.38	3.3325E+02	1.60	1.7806E+02	8.40	6.1459E-01
.40	3.9278E+02	1.80	1.2838E+02	8.60	5.6202E-01
.42	4.5038E+02	2.00	9.4278E+01	8.80	5.1494E-01
.44	5.0458E+02	2.20	7.0490E+01	9.00	4.7269E-01
.46	5.5428E+02	2.40	5.3603E+01	9.20	4.3468E-01
.48	5.9873E+02	2.60	4.1401E+01	9.40	4.0041E-01
.50	6.3749E+02	2.80	3.2436E+01	9.60	3.6945E-01
.52	6.7038E+02	3.00	2.5745E+01	9.80	3.4143E-01
.54	6.9744E+02	3.20	2.0677E+01	10.00	3.1600E-01
.56	7.1887E+02	3.40	1.6786E+01	12.00	1.5671E-01
.58	7.3497E+02	3.60	1.3763E+01	14.00	8.6283E-02
.60	7.4612E+02	3.80	1.1386E+01	16.00	5.1331E-02
.62	7.5277E+02	4.00	9.4986E-00	18.00	3.2414E-02
.64	7.5535E+02	4.20	7.9842E-00	20.00	2.1462E-02
.66	7.5433E+02	4.40	6.7586E-00	22.00	1.4768E-02
.68	7.5014E+02	4.60	5.7584E-00	24.00	1.0492E-02
.70	7.4321E+02	4.80	4.9359E-00	26.00	7.6578E-03
.72	7.3394E+02	5.00	4.2546E-00	28.00	5.7189E-03
.74	7.2269E+02	5.20	3.6866E-00	30.00	4.3565E-03
.76	7.0978E+02	5.40	3.2099E-00		

4600. DEGREES

WL	R	WL	R	WL	R
.10	3.1030E-05	.78	7.6156E+02	5.60	2.8897E-00
.12	2.2902E-03	.80	7.4321E+02	5.80	2.5378E-00
.14	4.3881E-02	.82	7.2409E+02	6.00	2.2377E-00
.16	3.6743E-01	.84	7.0444E+02	6.20	1.9806E-00
.18	1.7895E-00	.86	6.8443E+02	6.40	1.7594E-00
.20	6.0065E-00	.88	6.6423E+02	6.60	1.5681E-00
.22	1.5456E+01	.90	6.4398E+02	6.80	1.4021E-00
.24	3.2713E+01	.92	6.2380E+02	7.00	1.2574E-00
.26	5.9744E+01	.94	6.0380E+02	7.20	1.1309E-00
.28	9.7400E+01	.96	5.8404E+02	7.40	1.0199E-00
.30	1.4527E+02	.98	5.6460E+02	7.60	9.2223E-01
.32	2.0185E+02	1.00	5.4553E+02	7.80	8.3591E-01
.34	2.6492E+02	1.20	3.8119E+02	8.00	7.5945E-01
.36	3.3189E+02	1.40	2.6547E+02	8.20	6.9152E-01
.38	4.0015E+02	1.60	1.8726E+02	8.40	6.3101E-01
.40	4.6735E+02	1.80	1.3451E+02	8.60	5.7698E-01
.42	5.3148E+02	2.00	9.8494E+01	8.80	5.2860E-01
.44	5.9100E+02	2.20	7.3472E+01	9.00	4.8518E-01
.46	6.4479E+02	2.40	5.5765E+01	9.20	4.4612E-01
.48	6.9216E+02	2.60	4.3005E+01	9.40	4.1091E-01
.50	7.3274E+02	2.80	3.3648E+01	9.60	3.7911E-01
.52	7.6649E+02	3.00	2.6677E+01	9.80	3.5032E-01
.54	7.9354E+02	3.20	2.1405E+01	10.00	3.2421E-01
.56	8.1423E+02	3.40	1.7363E+01	12.00	1.6068E-01
.58	8.2897E+02	3.60	1.4225E+01	14.00	8.8428E-02
.60	8.3827E+02	3.80	1.1761E+01	16.00	5.2589E-02
.62	8.4265E+02	4.00	9.8056E-00	18.00	3.3201E-02
.64	8.4267E+02	4.20	8.2380E-00	20.00	2.1978E-02
.66	8.3884E+02	4.40	6.9701E-00	22.00	1.5121E-02
.68	8.3169E+02	4.60	5.9361E-00	24.00	1.0741E-02
.70	8.2170E+02	4.80	5.0862E-00	26.00	7.8387E-03
.72	8.0931E+02	5.00	4.3827E-00	28.00	5.8534E-03
.74	7.9491E+02	5.20	3.7963E-00	30.00	4.4586E-03
.76	7.7889E+02	5.40	3.3045E-00		

4700. DEGREES

WL	R	WL	R	WL	R
.10	6.0368E-05	.78	8.3075E+02	5.60	2.9717E-00
.12	3.9877E-03	.80	8.0911E+02	5.80	2.6092E-00
.14	7.0587E-02	.82	7.8681E+02	6.00	2.3002E-00
.16	5.5695E-01	.84	7.6408E+02	6.20	2.0355E-00
.18	2.5901E-00	.86	7.4111E+02	6.40	1.8077E-00
.20	8.3779E-00	.88	7.1807E+02	6.60	1.6109E-00
.22	2.0916E+01	.90	6.9511E+02	6.80	1.4401E-00
.24	4.3166E+01	.92	6.7234E+02	7.00	1.2913E-00
.26	7.7171E+01	.94	6.4987E+02	7.20	1.1612E-00
.28	1.2353E+02	.96	6.2776E+02	7.40	1.0471E-00
.30	1.8135E+02	.98	6.0610E+02	7.60	9.4669E-01
.32	2.4852E+02	1.00	5.8492E+02	7.80	8.5797E-01
.34	3.2221E+02	1.20	4.0477E+02	8.00	7.7940E-01
.36	3.9929E+02	1.40	2.8003E+02	8.20	7.0961E-01
.38	4.7677E+02	1.60	1.9660E+02	8.40	6.4745E-01
.40	5.5199E+02	1.80	1.4071E+02	8.60	5.9194E-01
.42	6.2280E+02	2.00	1.0274E+02	8.80	5.4225E-01
.44	6.8759E+02	2.20	7.6476E+01	9.00	4.9766E-01
.46	7.4529E+02	2.40	5.7941E+01	9.20	4.5756E-01
.48	7.9527E+02	2.60	4.4616E+01	9.40	4.2142E-01
.50	8.3729E+02	2.80	3.4866E+01	9.60	3.8877E-01
.52	8.7143E+02	3.00	2.7613E+01	9.80	3.5922E-01
.54	8.9798E+02	3.20	2.2135E+01	10.00	3.3242E-01
.56	9.1741E+02	3.40	1.7941E+01	12.00	1.6465E-01
.58	9.3028E+02	3.60	1.4689E+01	14.00	9.0574E-02
.60	9.3720E+02	3.80	1.2137E+01	16.00	5.3848E-02
.62	9.3882E+02	4.00	1.0113E+01	18.00	3.3987E-02
.64	9.3579E+02	4.20	8.4922E-00	20.00	2.2494E-02
.66	9.2871E+02	4.40	7.1820E-00	22.00	1.5474E-02
.68	9.1817E+02	4.60	6.1141E-00	24.00	1.0990E-02
.70	9.0470E+02	4.80	5.2368E-00	26.00	8.0195E-03
.72	8.8881E+02	5.00	4.5109E-00	28.00	5.9878E-03
.74	8.7093E+02	5.20	3.9062E-00	30.00	4.5607E-03
.76	8.5146E+02	5.40	3.3992E-00		

4800. DEGREES

WL	R	WL	R	WL	R
.10	1.1423E-04	.78	9.0308E+02	5.60	3.0538E-00
.12	6.7849E-03	.80	8.7788E+02	5.80	2.6807E-00
.14	1.1131E-01	.82	8.5214E+02	6.00	2.3627E-00
.16	8.2971E-01	.84	8.2610E+02	6.20	2.0904E-00
.18	3.6914E-00	.86	7.9996E+02	6.40	1.8561E-00
.20	1.1524E+01	.88	7.7389E+02	6.60	1.6538E-00
.22	2.7950E+01	.90	7.4805E+02	6.80	1.4782E-00
.24	5.6305E+01	.92	7.2253E+02	7.00	1.3253E-00
.26	9.8625E+01	.94	6.9745E+02	7.20	1.1916E-00
.28	1.5513E+02	.96	6.7287E+02	7.40	1.0743E-00
.30	2.2431E+02	.98	6.4886E+02	7.60	9.7117E-01
.32	3.0334E+02	1.00	6.2546E+02	7.80	8.8005E-01
.34	3.8870E+02	1.20	4.2885E+02	8.00	7.9936E-01
.36	4.7670E+02	1.40	2.9482E+02	8.20	7.2770E-01
.38	5.6393E+02	1.60	2.0604E+02	8.40	6.6389E-01
.40	6.4746E+02	1.80	1.4697E+02	8.60	6.0691E-01
.42	7.2501E+02	2.00	1.0703E+02	8.80	5.5592E-01
.44	7.9496E+02	2.20	7.9499E+01	9.00	5.1016E-01
.46	8.5629E+02	2.40	6.0129E+01	9.20	4.6901E-01
.48	9.0849E+02	2.60	4.6235E+01	9.40	4.3192E-01
.50	9.5148E+02	2.80	3.6088E+01	9.60	3.9843E-01
.52	9.8550E+02	3.00	2.8552E+01	9.80	3.6812E-01
.54	1.0109E+03	3.20	2.2868E+01	10.00	3.4063E-01
.56	1.0286E+03	3.40	1.8521E+01	12.00	1.6862E-01
.58	1.0390E+03	3.60	1.5153E+01	14.00	9.2719E-02
.60	1.0430E+03	3.80	1.2513E+01	16.00	5.5107E-02
.62	1.0413E+03	4.00	1.0421E+01	18.00	3.4773E-02
.64	1.0347E+03	4.20	8.7469E-00	20.00	2.3010E-02
.66	1.0239E+03	4.40	7.3943E-00	22.00	1.5826E-02
.68	1.0095E+03	4.60	6.2924E-00	24.00	1.1239E-02
.70	9.9221E+02	4.80	5.3877E-00	26.00	8.2004E-03
.72	9.7243E+02	5.00	4.6394E-00	28.00	6.1223E-03
.74	9.5071E+02	5.20	4.0162E-00	30.00	4.6627E-03
.76	9.2747E+02	5.40	3.4940E-00		

4900. DEGREES

WL	R	WL	R	WL	R
.10	2.1060E-04	.78	9.7851E+02	5.60	3.1360E-00
.12	1.1296E-02	.80	9.4946E+02	5.80	2.7522E-00
.14	1.7232E-01	.82	9.2003E+02	6.00	2.4252E-00
.16	1.2161E-00	.84	8.9045E+02	6.20	2.1453E-00
.18	5.1854E-00	.86	8.6094E+02	6.40	1.9046E-00
.20	1.5648E+01	.88	8.3166E+02	6.60	1.6966E-00
.22	3.6910E+01	.90	8.0276E+02	6.80	1.5163E-00
.24	7.2652E+01	.92	7.7434E+02	7.00	1.3592E-00
.26	1.2478E+02	.94	7.4651E+02	7.20	1.2219E-00
.28	1.9301E+02	.96	7.1933E+02	7.40	1.1016E-00
.30	2.7505E+02	.98	6.9285E+02	7.60	9.9566E-01
.32	3.6725E+02	1.00	6.6713E+02	7.80	9.0214E-01
.34	4.6534E+02	1.20	4.5340E+02	8.00	8.1934E-01
.36	5.6502E+02	1.40	3.0983E+02	8.20	7.4581E-01
.38	6.6247E+02	1.60	2.1560E+02	8.40	6.8034E-01
.40	7.5452E+02	1.80	1.5328E+02	8.60	6.2189E-01
.42	8.3879E+02	2.00	1.1135E+02	8.80	5.6958E-01
.44	9.1369E+02	2.20	8.2542E+01	9.00	5.2266E-01
.46	9.7829E+02	2.40	6.2328E+01	9.20	4.8046E-01
.48	1.0322E+03	2.60	4.7862E+01	9.40	4.4244E-01
.50	1.0756E+03	2.80	3.7315E+01	9.60	4.0810E-01
.52	1.1089E+03	3.00	2.9494E+01	9.80	3.7702E-01
.54	1.1327E+03	3.20	2.3603E+01	10.00	3.4885E-01
.56	1.1479E+03	3.40	1.9102E+01	12.00	1.7259E-01
.58	1.1553E+03	3.60	1.5619E+01	14.00	9.4865E-02
.60	1.1558E+03	3.80	1.2890E+01	16.00	5.6366E-02
.62	1.1503E+03	4.00	1.0730E+01	18.00	3.5560E-02
.64	1.1396E+03	4.20	9.0020E-00	20.00	2.3527E-02
.66	1.1245E+03	4.40	7.6069E-00	22.00	1.6179E-02
.68	1.1058E+03	4.60	6.4709E-00	24.00	1.1488E-02
.70	1.0842E+03	4.80	5.5387E-00	26.00	8.3813E-03
.72	1.0601E+03	5.00	4.7679E-00	28.00	6.2568E-03
.74	1.0342E+03	5.20	4.1264E-00	30.00	4.7648E-03
.76	1.0068E+03	5.40	3.5889E-00		

5000. DEGREES

WL	R	WL	R	WL	R
.10	3.7888E-04	.78	1.0569E+03	5.60	3.2183E-00
.12	1.8427E-02	.80	1.0238E+03	5.80	2.8238E-00
.14	2.6212E-01	.82	9.9045E+02	6.00	2.4878E-00
.16	1.7554E-00	.84	9.5710E+02	6.20	2.2003E-00
.18	7.1859E-00	.86	9.2401E+02	6.40	1.9531E-00
.20	2.0988E+01	.88	8.9132E+02	6.60	1.7395E-00
.22	4.8203E+01	.90	8.5919E+02	6.80	1.5544E-00
.24	9.2794E+01	.92	8.2772E+02	7.00	1.3932E-00
.26	1.5641E+02	.94	7.9700E+02	7.20	1.2523E-00
.28	2.3805E+02	.96	7.6709E+02	7.40	1.1288E-00
.30	3.3453E+02	.98	7.3804E+02	7.60	1.0201E-00
.32	4.4124E+02	1.00	7.0989E+02	7.80	9.2424E-01
.34	5.5309E+02	1.20	4.7842E+02	8.00	8.3932E-01
.36	6.6518E+02	1.40	3.2506E+02	8.20	7.6392E-01
.38	7.7324E+02	1.60	2.2526E+02	8.40	6.9680E-01
.40	8.7393E+02	1.80	1.5966E+02	8.60	6.3688E-01
.42	9.6480E+02	2.00	1.1570E+02	8.80	5.8326E-01
.44	1.0443E+03	2.20	8.5602E+01	9.00	5.3516E-01
.46	1.1117E+03	2.40	6.4538E+01	9.20	4.9192E-01
.48	1.1669E+03	2.60	4.9495E+01	9.40	4.5295E-01
.50	1.2101E+03	2.80	3.8547E+01	9.60	4.1776E-01
.52	1.2420E+03	3.00	3.0439E+01	9.80	3.8593E-01
.54	1.2635E+03	3.20	2.4340E+01	10.00	3.5706E-01
.56	1.2756E+03	3.40	1.9685E+01	12.00	1.7656E-01
.58	1.2793E+03	3.60	1.6086E+01	14.00	9.7012E-02
.60	1.2756E+03	3.80	1.3268E+01	16.00	5.7625E-02
.62	1.2656E+03	4.00	1.1039E+01	18.00	3.6346E-02
.64	1.2503E+03	4.20	9.2576E-00	20.00	2.4043E-02
.66	1.2305E+03	4.40	7.8198E-00	22.00	1.6532E-02
.68	1.2071E+03	4.60	6.6497E-00	24.00	1.1738E-02
.70	1.1806E+03	4.80	5.6899E-00	26.00	8.5622E-03
.72	1.1519E+03	5.00	4.8967E-00	28.00	6.3913E-03
.74	1.1214E+03	5.20	4.2367E-00	30.00	4.8669E-03
.76	1.0896E+03	5.40	3.6839E-00		

5500. DEGREES

WL	R	WL	R	WL	R
.10	5.1834E-03	.78	1.4934E+03	5.60	3.6307E-00
.12	1.6301E-01	.80	1.4354E+03	5.80	3.1827E-00
.14	1.6983E-00	.82	1.3786E+03	6.00	2.8016E-00
.16	9.0043E-00	.84	1.3230E+03	6.20	2.4758E-00
.18	3.0736E+01	.86	1.2689E+03	6.40	2.1959E-00
.20	7.7632E+01	.88	1.2165E+03	6.60	1.9545E-00
.22	1.5830E+02	.90	1.1657E+03	6.80	1.7453E-00
.24	2.7599E+02	.92	1.1167E+03	7.00	1.5633E-00
.26	4.2780E+02	.94	1.0696E+03	7.20	1.4044E-00
.28	6.0598E+02	.96	1.0242E+03	7.40	1.2652E-00
.30	8.0017E+02	.98	9.8067E+02	7.60	1.1428E-00
.32	9.9949E+02	1.00	9.3889E+02	7.80	1.0348E-00
.34	1.1941E+03	1.20	6.0980E+02	8.00	9.3935E-01
.36	1.3762E+03	1.40	4.0403E+02	8.20	8.5458E-01
.38	1.5399E+03	1.60	2.7496E+02	8.40	7.7916E-01
.40	1.6819E+03	1.80	1.9225E+02	8.60	7.1188E-01
.42	1.8002E+03	2.00	1.3786E+02	8.80	6.5169E-01
.44	1.8947E+03	2.20	1.0114E+02	9.00	5.9774E-01
.46	1.9662E+03	2.40	7.5735E+01	9.20	5.4924E-01
.48	2.0161E+03	2.60	5.7754E+01	9.40	5.0557E-01
.50	2.0465E+03	2.80	4.4764E+01	9.60	4.6615E-01
.52	2.0594E+03	3.00	3.5206E+01	9.80	4.3049E-01
.54	2.0573E+03	3.20	2.8053E+01	10.00	3.9818E-01
.56	2.0423E+03	3.40	2.2619E+01	12.00	1.9642E-01
.58	2.0165E+03	3.60	1.8433E+01	14.00	1.0774E-01
.60	1.9818E+03	3.80	1.5169E+01	16.00	6.3923E-02
.62	1.9399E+03	4.00	1.2593E+01	18.00	4.0280E-02
.64	1.8925E+03	4.20	1.0540E+01	20.00	2.6625E-02
.66	1.8407E+03	4.40	8.8886E-00	22.00	1.8296E-02
.68	1.7858E+03	4.60	7.5469E-00	24.00	1.2983E-02
.70	1.7287E+03	4.80	6.4484E-00	26.00	9.4668E-03
.72	1.6703E+03	5.00	5.5423E-00	28.00	7.0639E-03
.74	1.6112E+03	5.20	4.7896E-00	30.00	5.3773E-03
.76	1.5521E+03	5.40	4.1602E-00		

6000. DEGREES

WL	R	WL	R	WL	R
.10	4.5854E-02	.78	1.9983E+03	5.60	4.0445E-00
.12	1.0027E-00	.80	1.9087E+03	5.80	3.5427E-00
.14	8.0590E-00	.82	1.8223E+03	6.00	3.1162E-00
.16	3.5170E+01	.84	1.7390E+03	6.20	2.7520E-00
.18	1.0318E+02	.86	1.6591E+03	6.40	2.4394E-00
.20	2.3090E+02	.88	1.5824E+03	6.60	2.1699E-00
.22	4.2643E+02	.90	1.5092E+03	6.80	1.9366E-00
.24	6.8454E+02	.92	1.4391E+03	7.00	1.7338E-00
.26	9.8948E+02	.94	1.3724E+03	7.20	1.5568E-00
.28	1.3201E+03	.96	1.3087E+03	7.40	1.4019E-00
.30	1.6551E+03	.98	1.2481E+03	7.60	1.2657E-00
.32	1.9758E+03	1.00	1.1904E+03	7.80	1.1456E-00
.34	2.2682E+03	1.20	7.5034E+02	8.00	1.0395E-00
.36	2.5230E+03	1.40	4.8709E+02	8.20	9.4539E-01
.38	2.7353E+03	1.60	3.2664E+02	8.40	8.6165E-01
.40	2.9037E+03	1.80	2.2588E+02	8.60	7.8698E-01
.42	3.0293E+03	2.00	1.6059E+02	8.80	7.2022E-01
.44	3.1150E+03	2.20	1.1701E+02	9.00	6.6039E-01
.46	3.1648E+03	2.40	8.7134E+01	9.20	6.0664E-01
.48	3.1830E+03	2.60	6.6139E+01	9.40	5.5825E-01
.50	3.1742E+03	2.80	5.1064E+01	9.60	5.1459E-01
.52	3.1428E+03	3.00	4.0027E+01	9.80	4.7511E-01
.54	3.0928E+03	3.20	3.1803E+01	10.00	4.3934E-01
.56	3.0279E+03	3.40	2.5579E+01	12.00	2.1630E-01
.58	2.9515E+03	3.60	2.0799E+01	14.00	1.1848E-01
.60	2.8663E+03	3.80	1.7083E+01	16.00	7.0223E-02
.62	2.7748E+03	4.00	1.4158E+01	18.00	4.4215E-02
.64	2.6790E+03	4.20	1.1831E+01	20.00	2.9207E-02
.66	2.5807E+03	4.40	9.9632E-00	22.00	2.0060E-02
.68	2.4811E+03	4.60	8.4484E-00	24.00	1.4229E-02
.70	2.3815E+03	4.80	7.2104E-00	26.00	1.0371E-02
.72	2.2828E+03	5.00	6.1906E-00	28.00	7.7366E-03
.74	2.1857E+03	5.20	5.3447E-00	30.00	5.8878E-03
.76	2.0907E+03	5.40	4.6382E-00		

6500. DEGREES

WL	R	WL	R	WL	R
.10	2.9006E-01	.78	2.5646E+03	5.60	4.4593E-00
.12	4.6644E-00	.80	2.4369E+03	5.80	3.9035E-00
.14	3.0095E+01	.82	2.3151E+03	6.00	3.4316E-00
.16	1.1139E+02	.84	2.1991E+03	6.20	3.0288E-00
.18	2.8753E+02	.86	2.0887E+03	6.40	2.6834E-00
.20	5.8074E+02	.88	1.9839E+03	6.60	2.3858E-00
.22	9.8628E+02	.90	1.8845E+03	6.80	2.1283E-00
.24	1.4764E+03	.92	1.7903E+03	7.00	1.9046E-00
.26	2.0117E+03	.94	1.7011E+03	7.20	1.7095E-00
.28	2.5516E+03	.96	1.6167E+03	7.40	1.5387E-00
.30	3.0620E+03	.98	1.5367E+03	7.60	1.3888E-00
.32	3.5180E+03	1.00	1.4612E+03	7.80	1.2566E-00
.34	3.9046E+03	1.20	8.9843E+02	8.00	1.1398E-00
.36	4.2152E+03	1.40	5.7346E+02	8.20	1.0363E-00
.38	4.4496E+03	1.60	3.7991E+02	8.40	9.4424E-01
.40	4.6117E+03	1.80	2.6033E+02	8.60	8.6217E-01
.42	4.7085E+03	2.00	1.8377E+02	8.80	7.8882E-01
.44	4.7480E+03	2.20	1.3314E+02	9.00	7.2311E-01
.46	4.7389E+03	2.40	9.8689E+01	9.20	6.6410E-01
.48	4.6895E+03	2.60	7.4623E+01	9.40	6.1098E-01
.50	4.6076E+03	2.80	5.7428E+01	9.60	5.6307E-01
.52	4.5002E+03	3.00	4.4891E+01	9.80	5.1976E-01
.54	4.3734E+03	3.20	3.5583E+01	10.00	4.8053E-01
.56	4.2324E+03	3.40	2.8559E+01	12.00	2.3620E-01
.58	4.0815E+03	3.60	2.3180E+01	14.00	1.2923E-01
.60	3.9245E+03	3.80	1.9007E+01	16.00	7.6526E-02
.62	3.7642E+03	4.00	1.5730E+01	18.00	4.8151E-02
.64	3.6031E+03	4.20	1.3128E+01	20.00	3.1790E-02
.66	3.4430E+03	4.40	1.1042E+01	22.00	2.1825E-02
.68	3.2853E+03	4.60	9.3534E-00	24.00	1.5475E-02
.70	3.1313E+03	4.80	7.9750E-00	26.00	1.1276E-02
.72	2.9817E+03	5.00	6.8410E-00	28.00	8.4094E-03
.74	2.8372E+03	5.20	5.9014E-00	30.00	6.3984E-03
.76	2.6980E+03	5.40	5.1174E-00		

7000. DEGREES

WL	R	WL	R	WL	R
.10	1.4097E-00	.78	3.1854E+03	5.60	4.8749E-00
.12	1.7418E+01	.80	3.0136E+03	5.80	4.2650E-00
.14	9.3105E+01	.82	2.8511E+03	6.00	3.7475E-00
.16	2.9925E+02	.84	2.6977E+03	6.20	3.3061E-00
.18	6.9211E+02	.86	2.5528E+03	6.40	2.9277E-00
.20	1.2803E+03	.88	2.4163E+03	6.60	2.6020E-00
.22	2.0236E+03	.90	2.2876E+03	6.80	2.3202E-00
.24	2.8534E+03	.92	2.1663E+03	7.00	2.0756E-00
.26	3.6961E+03	.94	2.0521E+03	7.20	1.8623E-00
.28	4.4893E+03	.96	1.9447E+03	7.40	1.6758E-00
.30	5.1889E+03	.98	1.8435E+03	7.60	1.5120E-00
.32	5.7697E+03	1.00	1.7482E+03	7.80	1.3677E-00
.34	6.2219E+03	1.20	1.0528E+03	8.00	1.2402E-00
.36	6.5475E+03	1.40	6.6254E+02	8.20	1.1273E-00
.38	6.7559E+03	1.60	4.3447E+02	8.40	1.0269E-00
.40	6.8606E+03	1.80	2.9543E+02	8.60	9.3742E-01
.42	6.8770E+03	2.00	2.0731E+02	8.80	8.5748E-01
.44	6.8204E+03	2.20	1.4949E+02	9.00	7.8588E-01
.46	6.7052E+03	2.40	1.1037E+02	9.20	7.2159E-01
.48	6.5446E+03	2.60	8.3186E+01	9.40	6.6375E-01
.50	6.3499E+03	2.80	6.3843E+01	9.60	6.1158E-01
.52	6.1307E+03	3.00	4.9789E+01	9.80	5.6444E-01
.54	5.8949E+03	3.20	3.9386E+01	10.00	5.2175E-01
.56	5.6492E+03	3.40	3.1555E+01	12.00	2.5610E-01
.58	5.3987E+03	3.60	2.5573E+01	14.00	1.3998E-01
.60	5.1475E+03	3.80	2.0940E+01	16.00	8.2830E-02
.62	4.8989E+03	4.00	1.7309E+01	18.00	5.2088E-02
.64	4.6552E+03	4.20	1.4430E+01	20.00	3.4374E-02
.66	4.4183E+03	4.40	1.2124E+01	22.00	2.3589E-02
.68	4.1894E+03	4.60	1.0261E+01	24.00	1.6722E-02
.70	3.9693E+03	4.80	8.7417E-00	26.00	1.2181E-02
.72	3.7587E+03	5.00	7.4931E-00	28.00	9.0822E-03
.74	3.5578E+03	5.20	6.4594E-00	30.00	6.9090E-03
.76	3.3667E+03	5.40	5.5977E-00		

7500. DEGREES

WL	R	WL	R	WL	R
.10	5.5495E-00	.78	3.8544E+03	5.60	5.2913E-00
.12	5.4568E+01	.80	3.6330E+03	5.80	4.6271E-00
.14	2.4777E+02	.82	3.4250E+03	6.00	4.0639E-00
.16	7.0465E+02	.84	3.2299E+03	6.20	3.5837E-00
.18	1.4818E+03	.86	3.0469E+03	6.40	3.1724E-00
.20	2.5403E+03	.88	2.8753E+03	6.60	2.8184E-00
.22	3.7729E+03	.90	2.7144E+03	6.80	2.5124E-00
.24	5.0512E+03	.92	2.5636E+03	7.00	2.2468E-00
.26	6.2624E+03	.94	2.4223E+03	7.20	2.0153E-00
.28	7.3265E+03	.96	2.2898E+03	7.40	1.8129E-00
.30	8.1981E+03	.98	2.1656E+03	7.60	1.6353E-00
.32	8.8614E+03	1.00	2.0492E+03	7.80	1.4789E-00
.34	9.3211E+03	1.20	1.2124E+03	8.00	1.3407E-00
.36	9.5952E+03	1.40	7.5387E+02	8.20	1.2183E-00
.38	9.7083E+03	1.60	4.9009E+02	8.40	1.1096E-00
.40	9.6870E+03	1.80	3.3108E+02	8.60	1.0127E-00
.42	9.5578E+03	2.00	2.3115E+02	8.80	9.2618E-01
.44	9.3446E+03	2.20	1.6600E+02	9.00	8.4868E-01
.46	9.0685E+03	2.40	1.2215E+02	9.20	7.7912E-01
.48	8.7475E+03	2.60	9.1813E+01	9.40	7.1654E-01
.50	8.3961E+03	2.80	7.0300E+01	9.60	6.6012E-01
.52	8.0265E+03	3.00	5.4715E+01	9.80	6.0914E-01
.54	7.6480E+03	3.20	4.3207E+01	10.00	5.6299E-01
.56	7.2680E+03	3.40	3.4565E+01	12.00	2.7600E-01
.58	6.8921E+03	3.60	2.7975E+01	14.00	1.5073E-01
.60	6.5245E+03	3.80	2.2880E+01	16.00	8.9135E-02
.62	6.1681E+03	4.00	1.8892E+01	18.00	5.6025E-02
.64	5.8251E+03	4.20	1.5735E+01	20.00	3.6958E-02
.66	5.4967E+03	4.40	1.3210E+01	22.00	2.5354E-02
.68	5.1839E+03	4.60	1.1171E+01	24.00	1.7968E-02
.70	4.8868E+03	4.80	9.5101E-00	26.00	1.3086E-02
.72	4.6057E+03	5.00	8.1464E-00	28.00	9.7551E-03
.74	4.3402E+03	5.20	7.0184E-00	30.00	7.4196E-03
.76	4.0899E+03	5.40	6.0789E-00		

8000. DEGREES

WL	R	WL	R	WL	R
.10	1.8406E+01	.78	4.5657E+03	5.60	5.7082E-00
.12	1.4820E+02	.80	4.2897E+03	5.80	4.9896E-00
.14	5.8343E+02	.82	4.0320E+03	6.00	4.3806E-00
.16	1.4908E+03	.84	3.7915E+03	6.20	3.8616E-00
.18	2.8846E+03	.86	3.5670E+03	6.40	3.4173E-00
.20	4.6267E+03	.88	3.3574E+03	6.60	3.0350E-00
.22	6.5075E+03	.90	3.1619E+03	6.80	2.7047E-00
.24	8.3263E+03	.92	2.9793E+03	7.00	2.4181E-00
.26	9.9353E+03	.94	2.8089E+03	7.20	2.1684E-00
.28	1.1249E+04	.96	2.6497E+03	7.40	1.9502E-00
.30	1.2236E+04	.98	2.5010E+03	7.60	1.7587E-00
.32	1.2903E+04	1.00	2.3620E+03	7.80	1.5901E-00
.34	1.3282E+04	1.20	1.3764E+03	8.00	1.4413E-00
.36	1.3413E+04	1.40	8.4707E+02	8.20	1.3094E-00
.38	1.3341E+04	1.60	5.4658E+02	8.40	1.1923E-00
.40	1.3111E+04	1.80	3.6718E+02	8.60	1.0880E-00
.42	1.2759E+04	2.00	2.5522E+02	8.80	9.9492E-01
.44	1.2321E+04	2.20	1.8265E+02	9.00	9.1152E-01
.46	1.1824E+04	2.40	1.3402E+02	9.20	8.3668E-01
.48	1.1289E+04	2.60	1.0049E+02	9.40	7.6936E-01
.50	1.0735E+04	2.80	7.6789E+01	9.60	7.0868E-01
.52	1.0175E+04	3.00	5.9663E+01	9.80	6.5386E-01
.54	9.6200E+03	3.20	4.7044E+01	10.00	6.0424E-01
.56	9.0761E+03	3.40	3.7585E+01	12.00	2.9592E-01
.58	8.5494E+03	3.60	3.0384E+01	14.00	1.6149E-01
.60	8.0435E+03	3.80	2.4825E+01	16.00	9.5441E-02
.62	7.5606E+03	4.00	2.0479E+01	18.00	5.9963E-02
.64	7.1022E+03	4.20	1.7043E+01	20.00	3.9542E-02
.66	6.6686E+03	4.40	1.4297E+01	22.00	2.7120E-02
.68	6.2599E+03	4.60	1.2082E+01	24.00	1.9214E-02
.70	5.8756E+03	4.80	1.0279E+01	26.00	1.3991E-02
.72	5.5150E+03	5.00	8.8009E-00	28.00	1.0427E-02
.74	5.1772E+03	5.20	7.5783E-00	30.00	7.9302E-03
.76	4.8612E+03	5.40	6.5607E-00		

8500. DEGREES

WL	R	WL	R	WL	R
.10	5.3019E+01	.78	5.3144E+03	5.60	6.1255E-00
.12	3.5789E+02	.80	4.9794E+03	5.80	5.3525E-00
.14	1.2421E+03	.82	4.6680E+03	6.00	4.6976E-00
.16	2.8879E+03	.84	4.3786E+03	6.20	4.1398E-00
.18	5.1923E+03	.86	4.1097E+03	6.40	3.6624E-00
.20	7.8531E+03	.88	3.8597E+03	6.60	3.2518E-00
.22	1.0527E+04	.90	3.6273E+03	6.80	2.8971E-00
.24	1.2942E+04	.92	3.4110E+03	7.00	2.5895E-00
.26	1.4931E+04	.94	3.2097E+03	7.20	2.3216E-00
.28	1.6425E+04	.96	3.0223E+03	7.40	2.0875E-00
.30	1.7428E+04	.98	2.8477E+03	7.60	1.8822E-00
.32	1.7985E+04	1.00	2.6850E+03	7.80	1.7014E-00
.34	1.8164E+04	1.20	1.5442E+03	8.00	1.5419E-00
.36	1.8037E+04	1.40	9.4186E+02	8.20	1.4006E-00
.38	1.7675E+04	1.60	6.0382E+02	8.40	1.2751E-00
.40	1.7139E+04	1.80	4.0364E+02	8.60	1.1634E-00
.42	1.6481E+04	2.00	2.7950E+02	8.80	1.0636E-00
.44	1.5744E+04	2.20	1.9941E+02	9.00	9.7439E-01
.46	1.4960E+04	2.40	1.4595E+02	9.20	8.9426E-01
.48	1.4157E+04	2.60	1.0921E+02	9.40	8.2221E-01
.50	1.3354E+04	2.80	8.3307E+01	9.60	7.5726E-01
.52	1.2563E+04	3.00	6.4629E+01	9.80	6.9860E-01
.54	1.1796E+04	3.20	5.0894E+01	10.00	6.4551E-01
.56	1.1060E+04	3.40	4.0614E+01	12.00	3.1584E-01
.58	1.0357E+04	3.60	3.2800E+01	14.00	1.7224E-01
.60	9.6927E+03	3.80	2.6775E+01	16.00	1.0174E-01
.62	9.0655E+03	4.00	2.2070E+01	18.00	6.3901E-02
.64	8.4764E+03	4.20	1.8354E+01	20.00	4.2126E-02
.66	7.9246E+03	4.40	1.5387E+01	22.00	2.8885E-02
.68	7.4090E+03	4.60	1.2995E+01	24.00	2.0461E-02
.70	6.9280E+03	4.80	1.1050E+01	26.00	1.4896E-02
.72	6.4799E+03	5.00	9.4562E-00	28.00	1.1100E-02
.74	6.0628E+03	5.20	8.1389E-00	30.00	8.4409E-03
.76	5.6750E+03	5.40	7.0431E-00		

9000. DEGREES

WL	R	WL	R	WL	R
.10	1.3578E+02	.78	6.0960E+03	5.60	6.5432E-00
.12	7.8359E+02	.80	5.6979E+03	5.80	5.7156E-00
.14	2.4316E+03	.82	5.3294E+03	6.00	5.0148E-00
.16	5.1982E+03	.84	4.9882E+03	6.20	4.4182E-00
.18	8.7555E+03	.86	4.6723E+03	6.40	3.9076E-00
.20	1.2569E+04	.88	4.3795E+03	6.60	3.4687E-00
.22	1.6146E+04	.90	4.1082E+03	6.80	3.0897E-00
.24	1.9159E+04	.92	3.8565E+03	7.00	2.7610E-00
.26	2.1452E+04	.94	3.6229E+03	7.20	2.4749E-00
.28	2.3003E+04	.96	3.4059E+03	7.40	2.2249E-00
.30	2.3876E+04	.98	3.2043E+03	7.60	2.0057E-00
.32	2.4171E+04	1.00	3.0169E+03	7.80	1.8128E-00
.34	2.4004E+04	1.20	1.7153E+03	8.00	1.6426E-00
.36	2.3486E+04	1.40	1.0379E+03	8.20	1.4918E-00
.38	2.2713E+04	1.60	6.6167E+02	8.40	1.3580E-00
.40	2.1766E+04	1.80	4.4043E+02	8.60	1.2388E-00
.42	2.0711E+04	2.00	3.0395E+02	8.80	1.1324E-00
.44	1.9597E+04	2.20	2.1627E+02	9.00	1.0372E-00
.46	1.8462E+04	2.40	1.5794E+02	9.20	9.5186E-01
.48	1.7335E+04	2.60	1.1797E+02	9.40	8.7507E-01
.50	1.6235E+04	2.80	8.9848E+01	9.60	8.0586E-01
.52	1.5174E+04	3.00	6.9611E+01	9.80	7.4336E-01
.54	1.4163E+04	3.20	5.4754E+01	10.00	6.8680E-01
.56	1.3205E+04	3.40	4.3651E+01	12.00	3.3576E-01
.58	1.2304E+04	3.60	3.5221E+01	14.00	1.8300E-01
.60	1.1460E+04	3.80	2.8729E+01	16.00	1.0805E-01
.62	1.0672E+04	4.00	2.3664E+01	18.00	6.7840E-02
.64	9.9383E+03	4.20	1.9667E+01	20.00	4.4711E-02
.66	9.2563E+03	4.40	1.6478E+01	22.00	3.0650E-02
.68	8.6235E+03	4.60	1.3909E+01	24.00	2.1707E-02
.70	8.0371E+03	4.80	1.1822E+01	26.00	1.5801E-02
.72	7.4941E+03	5.00	1.0112E+01	28.00	1.1773E-02
.74	6.9915E+03	5.20	8.7001E-00	30.00	8.9515E-03
.76	6.5264E+03	5.40	7.5259E-00		

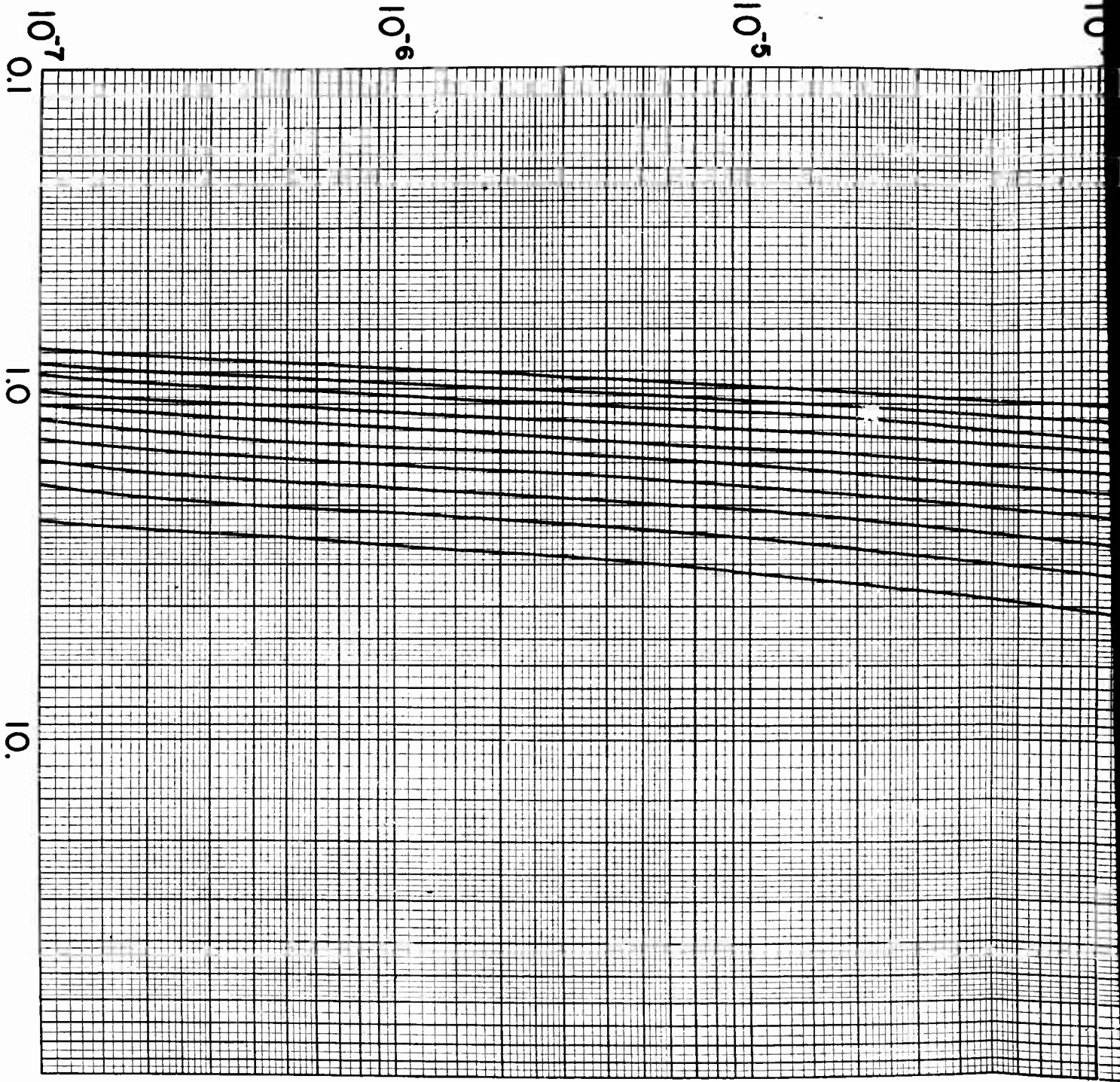
9500. DEGREES

WL	R	WL	R	WL	R
.10	3.1496E+02	.78	6.9067E+03	5.60	6.9612E-00
.12	1.5798E+03	.80	6.4418E+03	5.80	6.0791E-00
.14	4.4352E+03	.82	6.0131E+03	6.00	5.3323E-00
.16	8.7954E+03	.84	5.6175E+03	6.20	4.6967E-00
.18	1.3974E+04	.86	5.2522E+03	6.40	4.1530E-00
.20	1.9146E+04	.88	4.9147E+03	6.60	3.6857E-00
.22	2.3676E+04	.90	4.6027E+03	6.80	3.2824E-00
.24	2.7219E+04	.92	4.3140E+03	7.00	2.9327E-00
.26	2.9673E+04	.94	4.0467E+03	7.20	2.6283E-00
.28	3.1103E+04	.96	3.7991E+03	7.40	2.3624E-00
.30	3.1655E+04	.98	3.5695E+03	7.60	2.1293E-00
.32	3.1505E+04	1.00	3.3563E+03	7.80	1.9242E-00
.34	3.0824E+04	1.20	1.8890E+03	8.00	1.7432E-00
.36	2.9763E+04	1.40	1.1352E+03	8.20	1.5831E-00
.38	2.8449E+04	1.60	7.2005E+02	8.40	1.4408E-00
.40	2.6980E+04	1.80	4.7747E+02	8.60	1.3142E-00
.42	2.5433E+04	2.00	3.2855E+02	8.80	1.2012E-00
.44	2.3863E+04	2.20	2.3322E+02	9.00	1.1001E-00
.46	2.2311E+04	2.40	1.6999E+02	9.20	1.0094E-00
.48	2.0804E+04	2.60	1.2676E+02	9.40	9.2794E-01
.50	1.9361E+04	2.80	9.6409E+01	9.60	8.5446E-01
.52	1.7993E+04	3.00	7.4606E+01	9.80	7.8812E-01
.54	1.6705E+04	3.20	5.8623E+01	10.00	7.2809E-01
.56	1.5500E+04	3.40	4.6693E+01	12.00	3.5568E-01
.58	1.4378E+04	3.60	3.7646E+01	14.00	1.9376E-01
.60	1.3336E+04	3.80	3.0685E+01	16.00	1.1436E-01
.62	1.2371E+04	4.00	2.5260E+01	18.00	7.1779E-02
.64	1.1479E+04	4.20	2.0981E+01	20.00	4.7295E-02
.66	1.0655E+04	4.40	1.7570E+01	22.00	3.2416E-02
.68	9.8967E+03	4.60	1.4825E+01	24.00	2.2954E-02
.70	9.1969E+03	4.80	1.2595E+01	26.00	1.6706E-02
.72	8.5522E+03	5.00	1.0768E+01	28.00	1.2446E-02
.74	7.9582E+03	5.20	9.2618E-00	30.00	9.4622E-03
.76	7.4110E+03	5.40	8.0091E-00		

10000. DEGREES

WL	R	WL	R	WL	R
.10	6.7164E+02	.78	7.7431E+03	5.60	7.3795E-00
.12	2.9694E+03	.80	7.2083E+03	5.80	6.4427E-00
.14	7.6178E+03	.82	6.7165E+03	6.00	5.6500E-00
.16	1.4119E+04	.84	6.2640E+03	6.20	4.9754E-00
.18	2.1285E+04	.86	5.8473E+03	6.40	4.3985E-00
.20	2.7965E+04	.88	5.4633E+03	6.60	3.9029E-00
.22	3.3419E+04	.90	5.1091E+03	6.80	3.4751E-00
.24	3.7341E+04	.92	4.7821E+03	7.00	3.1043E-00
.26	3.9746E+04	.94	4.4800E+03	7.20	2.7817E-00
.28	4.0820E+04	.96	4.2006E+03	7.40	2.4999E-00
.30	4.0821E+04	.98	3.9420E+03	7.60	2.2529E-00
.32	4.0011E+04	1.00	3.7025E+03	7.80	2.0357E-00
.34	3.8627E+04	1.20	2.0652E+03	8.00	1.8440E-00
.36	3.6861E+04	1.40	1.2335E+03	8.20	1.6743E-00
.38	3.4868E+04	1.60	7.7889E+02	8.40	1.5237E-00
.40	3.2762E+04	1.80	5.1475E+02	8.60	1.3897E-00
.42	3.0627E+04	2.00	3.5326E+02	8.80	1.2701E-00
.44	2.8522E+04	2.20	2.5023E+02	9.00	1.1631E-00
.46	2.6487E+04	2.40	1.8207E+02	9.20	1.0671E-00
.48	2.4546E+04	2.60	1.3557E+02	9.40	9.8082E-01
.50	2.2716E+04	2.80	1.0298E+02	9.60	9.0308E-01
.52	2.1003E+04	3.00	7.9612E+01	9.80	8.3289E-01
.54	1.9408E+04	3.20	6.2499E+01	10.00	7.6939E-01
.56	1.7931E+04	3.40	4.9741E+01	12.00	3.7561E-01
.58	1.6566E+04	3.60	4.0075E+01	14.00	2.0452E-01
.60	1.5309E+04	3.80	3.2645E+01	16.00	1.2067E-01
.62	1.4153E+04	4.00	2.6858E+01	18.00	7.5718E-02
.64	1.3091E+04	4.20	2.2297E+01	20.00	4.9880E-02
.66	1.2116E+04	4.40	1.8664E+01	22.00	3.4181E-02
.68	1.1222E+04	4.60	1.5741E+01	24.00	2.4201E-02
.70	1.0401E+04	4.80	1.3368E+01	26.00	1.7611E-02
.72	9.6494E+03	5.00	1.1426E+01	28.00	1.3119E-02
.74	8.9590E+03	5.20	9.8239E-00	30.00	9.9729E-03
.76	8.3252E+03	5.40	8.4927E-00		

WATTS - CM⁻² - S⁻¹



WAVELENGTH (MICRONS)

FIG 1 - 300 - 750 ° K

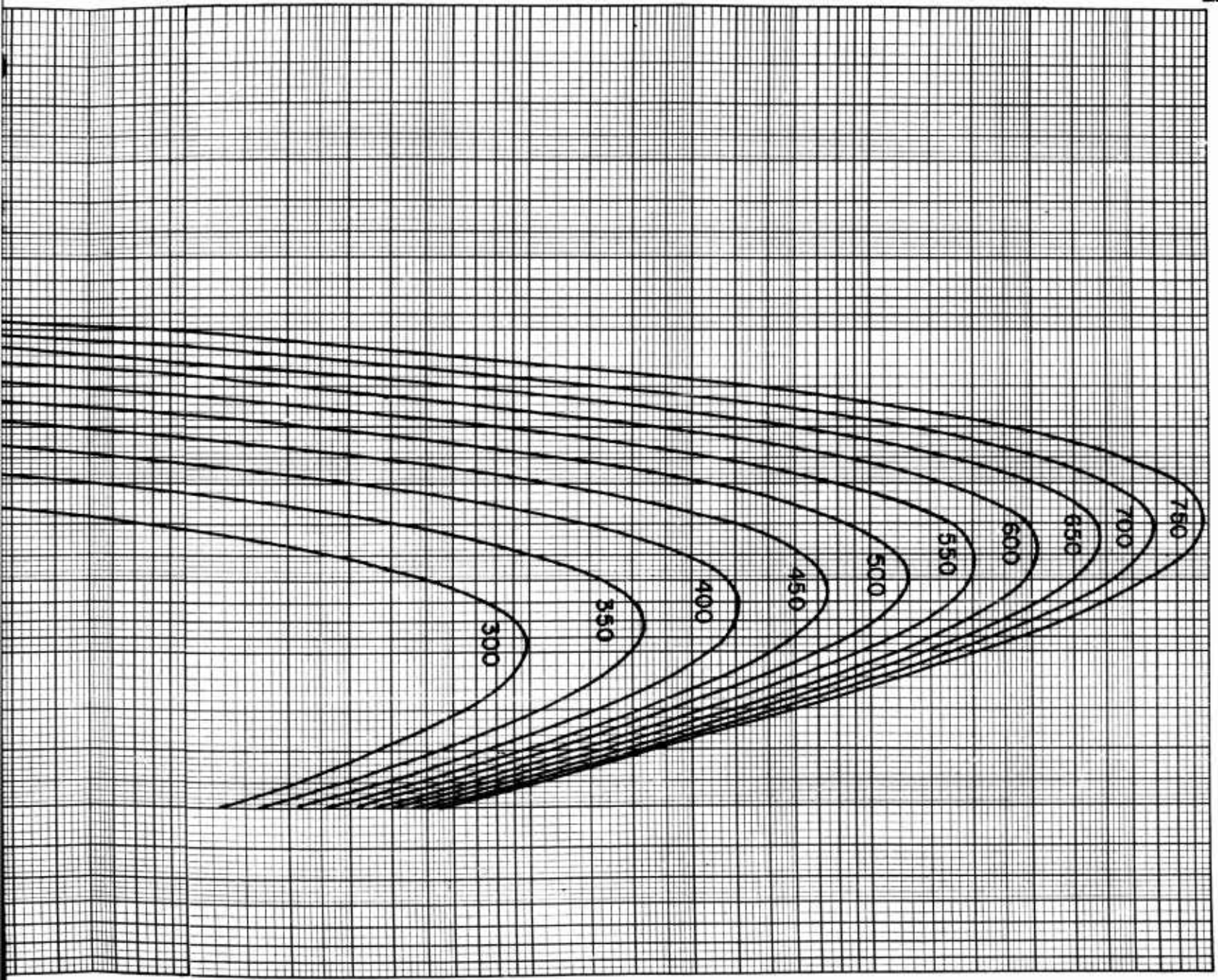
S - CM⁻² - STER⁻¹ - MICRON⁻¹

10⁻⁴

10⁻³

10⁻²

10⁻¹



1

WATTS - CM⁻² - STER

10⁻²

10⁻³

10⁻⁴

10⁻⁵

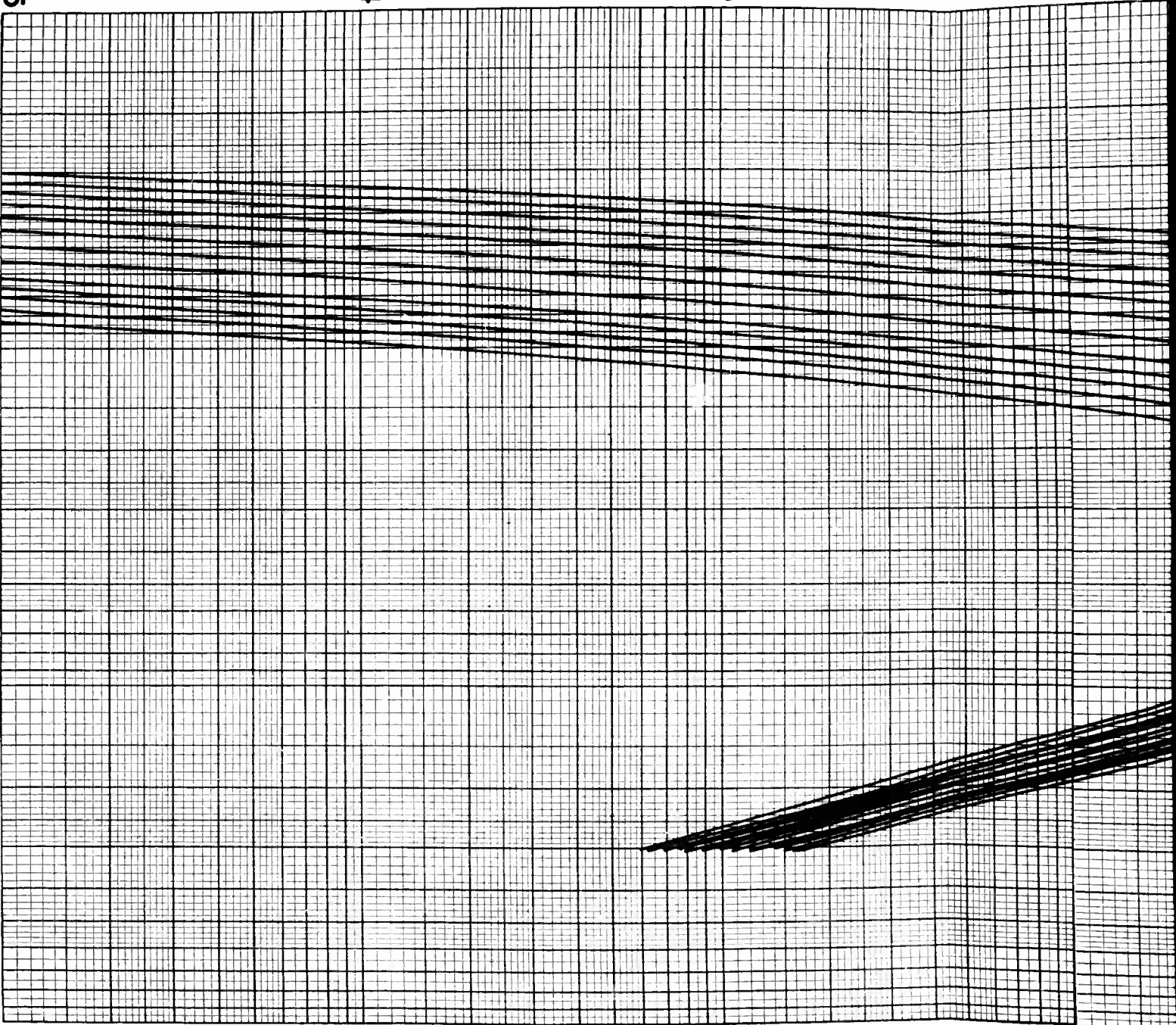
0.1

1.0

10.

WAVELENGTH (MICRONS)

FIG 2 800-1800° K



2

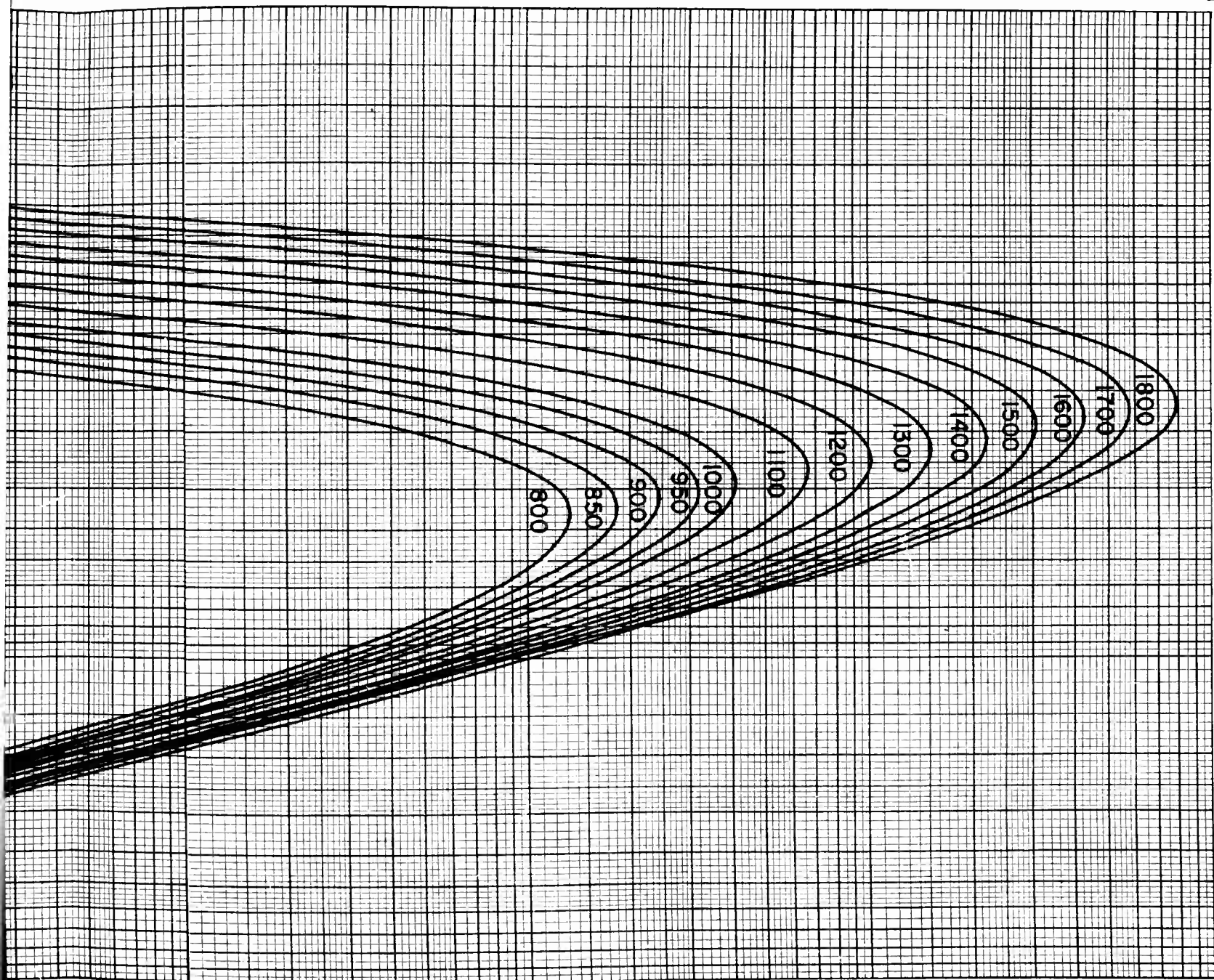
S - CM⁻² - STER⁻¹ - MICRON⁻¹

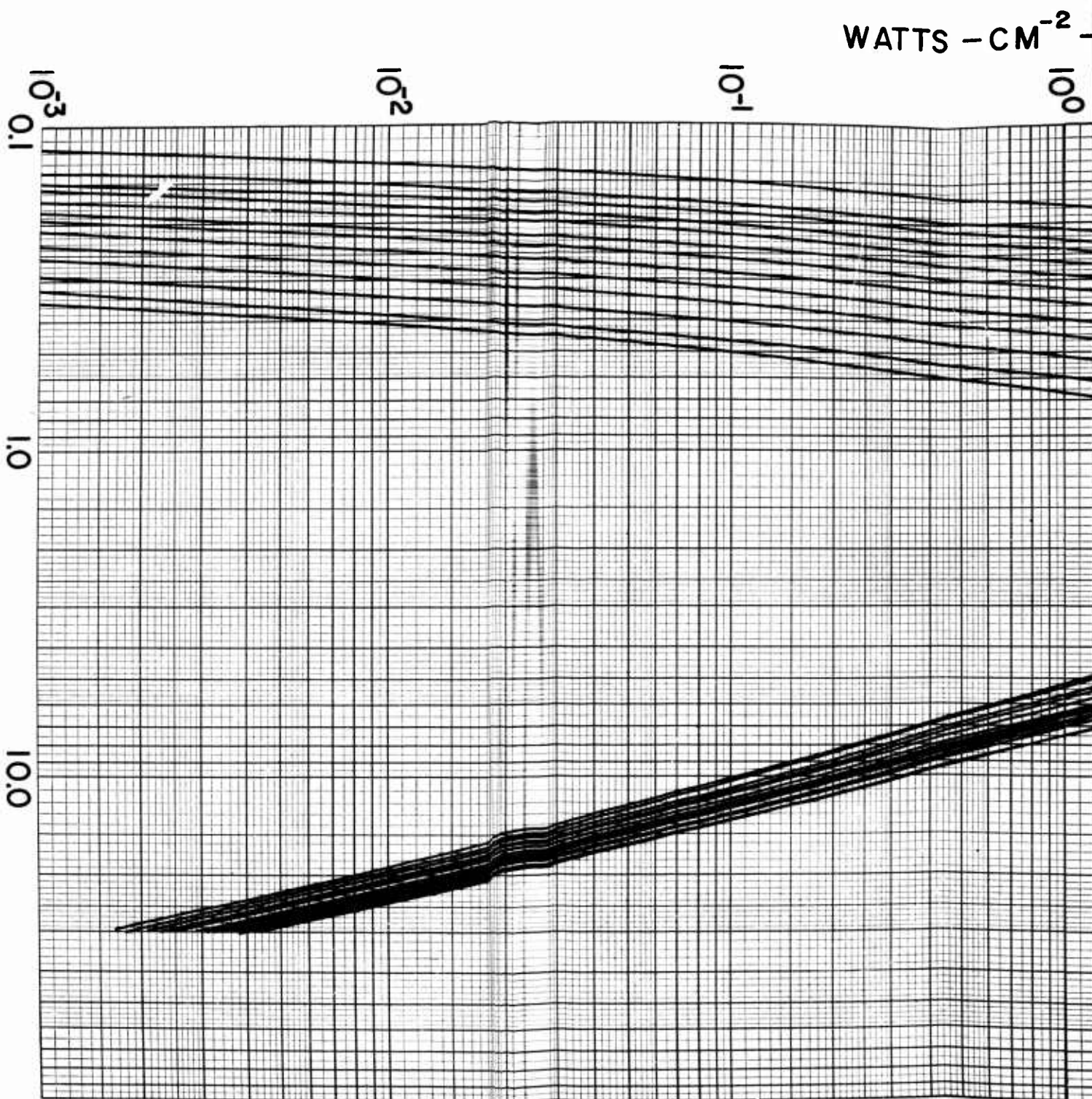
10⁻²

10⁻¹

10⁰

10¹





WAVELENGTH (MICRONS)
FIG 3 - 1900 - 4500 °K

2

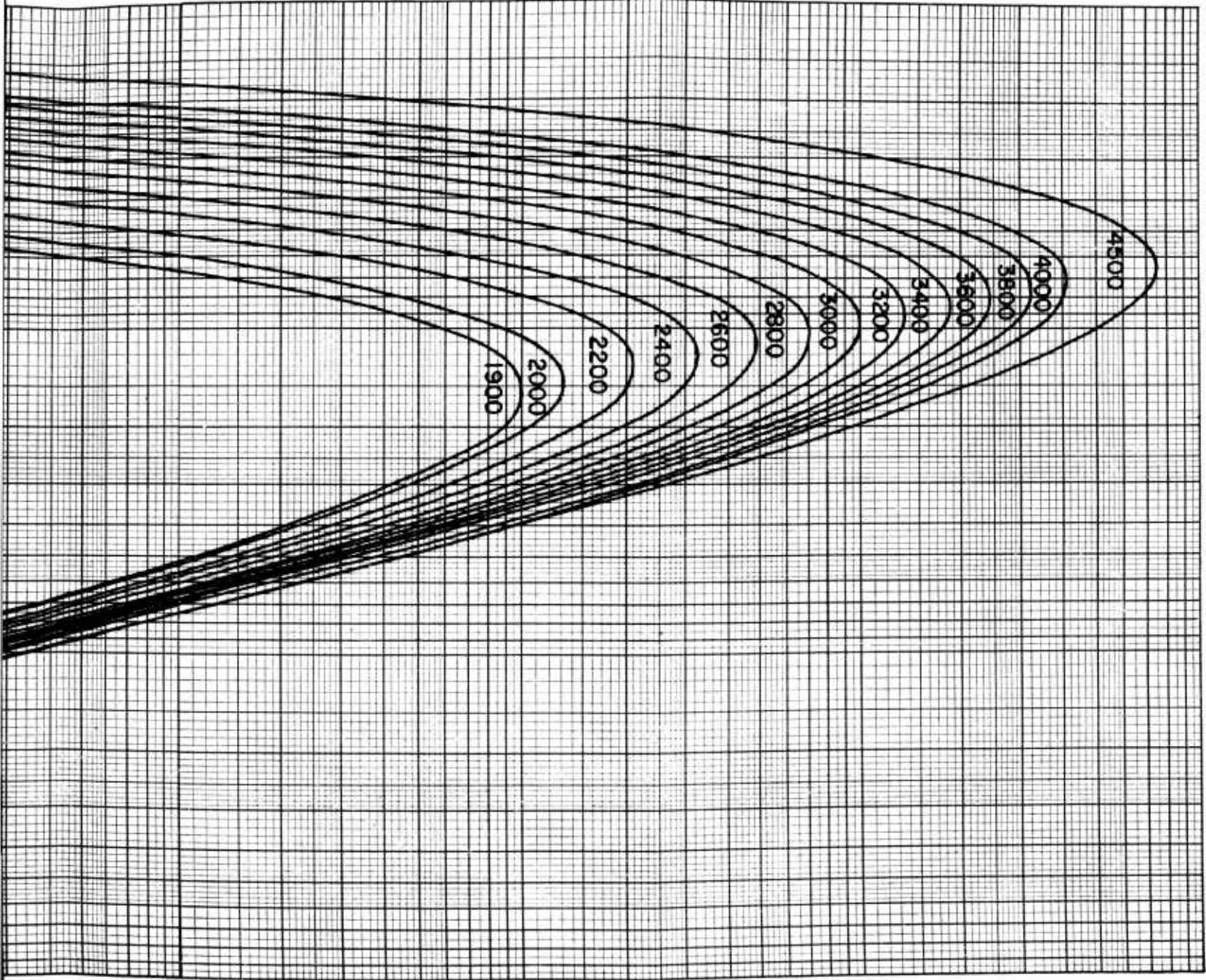
WATTS - CM⁻² - STER⁻¹ - MICRON⁻¹

10⁰

10¹

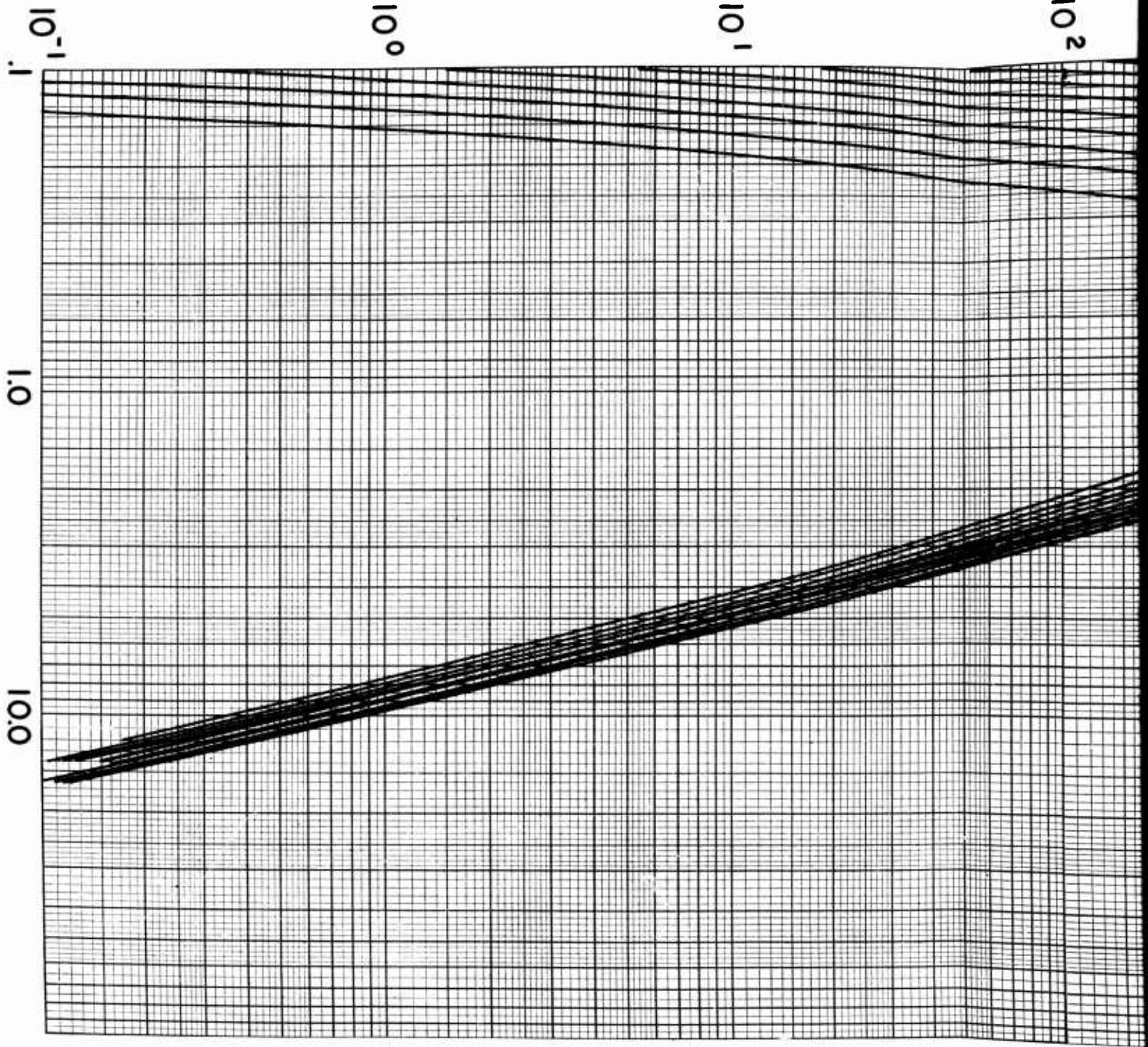
10²

10³



1

WATTS - CM⁻² - STER⁻¹ - MICRO



WAVELENGTH (MICRONS)

FIG. 4 - 5000 - 10000 °K

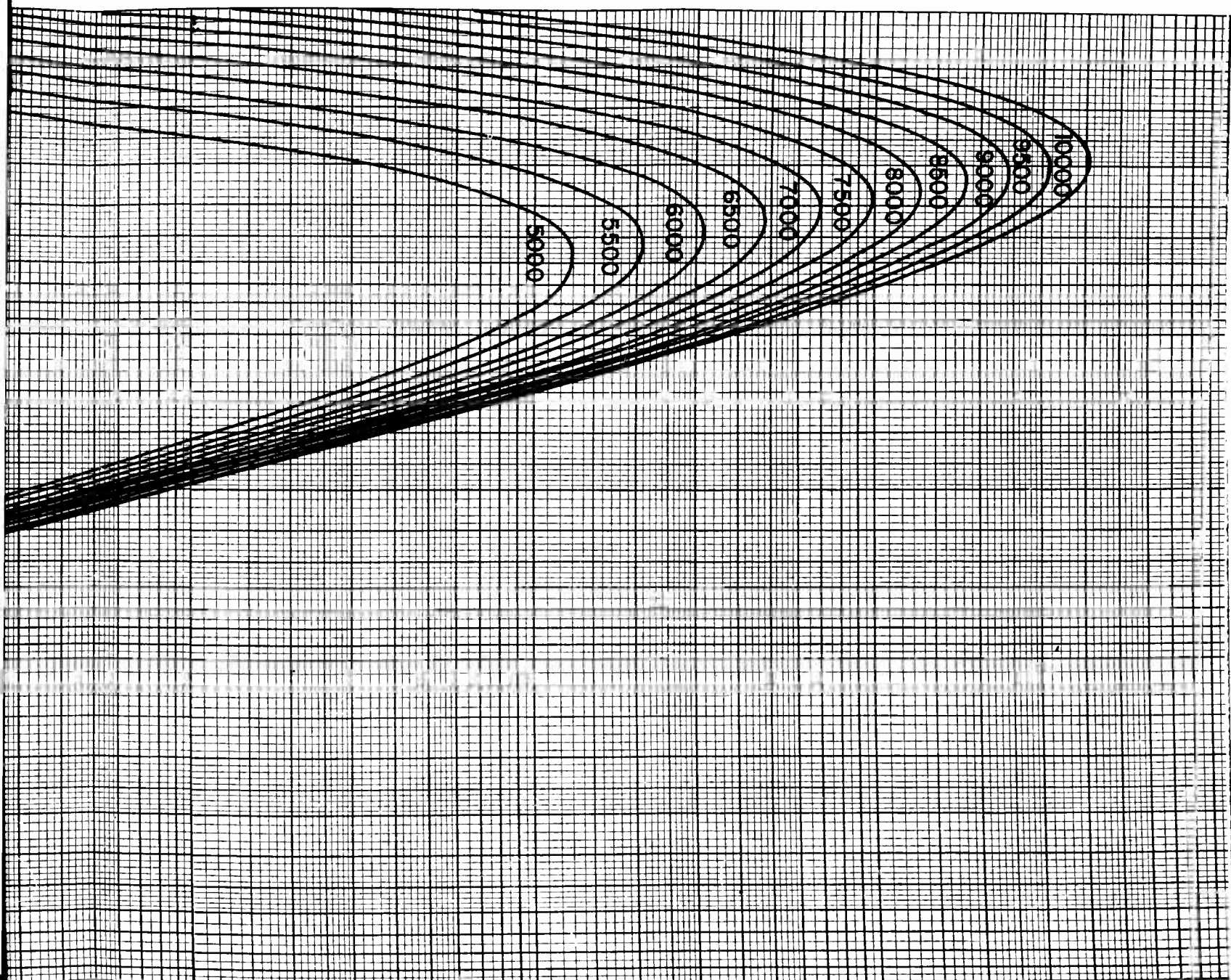
2

STER⁻¹ - MICRON⁻¹

10²

10³

10⁴





DEPARTMENT OF THE ARMY
US ARMY RESEARCH, DEVELOPMENT, AND ENGINEERING COMMAND
AVIATION AND MISSILE RESEARCH, DEVELOPMENT, AND ENGINEERING CENTER
5400 FOWLER ROAD
REDSTONE ARSENAL, AL 35898-5000

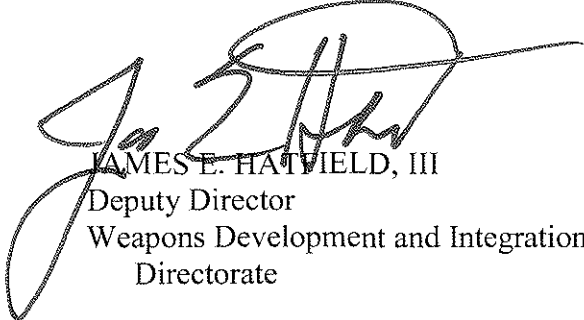
RDMR-WD

1 September 2015

MEMORANDUM FOR Defense Technical Information Center (DTIC-OQ), 8725 John J. Kingman Road, Fort Belvoir, VA 22060

SUBJECT: Request Change of Distribution Limitation for Document TN-AMSMI-RNR-1-63

1. Request a change of the distribution limitation for DTIC AD Number: TN-AMSMI-RNR-1-63, Document Title: Blackbody Radiation Tables. The new distribution should be "Public Release."
2. The reason for the new distribution is to make the document available to non-government/non-DOD contractor entities for university research and commercial purposes. The document has been reviewed by the source organization and determined to be suitable for public release.
3. Date of the new distribution should be August 26, 2015.
4. The point of contact for this action is Mr. Steven Vanstone, 256-842-9323.



JAMES E. HATFIELD, III
Deputy Director
Weapons Development and Integration
Directorate