



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : TCA\_IES\_HBX1505K-UNV.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST]

[TESTLAB] Centre Testing International Corporation

[TESTDATE] 2019-03-21

[ISSUEDATE] 2019-03-21 09:58:48

[NEARFIELD]

[LAMPPOSITION] 0,0

[OTHER] EVERFINE GO-R5000\_V2 SYSTEM

[MANUFAC] Tamlite Lighting Canada

[MORE] 10 Perdue Crt. Caledon, ON

[LUMCAT] HBX15050K-UNV

[LUMINAIRE] 3ft 150W LED Linear Highbay

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	21088
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	134
Total Luminaire Watts	156.7
Ballast Factor	0.99
CIE Type	Direct
Spacing Criterion (0-180)	1.34
Spacing Criterion (90-270)	1.30
Spacing Criterion (Diagonal)	1.44
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	0.90 m
Luminous Width (90-270)	0.41 m
Luminous Height	0.07 m

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	19469	18115	16840
55	18126	16059	15068
65	12562	12723	12047
75	7957	6120	6826
85	546	409	949

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**CANDELA TABULATION**

	<u>0</u>	<u>10</u>	<u>20</u>	<u>30</u>	<u>40</u>	<u>50</u>	<u>60</u>	<u>70</u>	<u>80</u>	<u>90</u>
0	7389.952	7389.952	7389.952	7389.952	7389.952	7389.952	7389.952	7389.952	7389.952	7389.952
1	7382.556	7393.943	7417.934	7398.032	7390.077	7406.484	7393.003	7409.367	7398.777	7400.143
2	7376.338	7392.702	7400.116	7392.941	7401.775	7409.979	7380.720	7396.267	7404.719	7389.935
3	7380.179	7417.331	7409.730	7413.668	7394.946	7421.934	7407.939	7418.449	7399.850	7394.680
4	7389.190	7417.881	7410.511	7410.777	7398.068	7422.830	7399.903	7424.373	7393.677	7383.496
5	7416.480	7423.380	7420.213	7396.631	7389.633	7416.125	7405.775	7427.788	7384.276	7364.960
6	7421.393	7410.333	7430.031	7401.615	7393.340	7433.473	7401.899	7395.070	7388.365	7364.738
7	7404.746	7414.990	7429.455	7425.313	7372.436	7420.417	7380.400	7405.801	7374.467	7355.931
8	7410.200	7406.174	7432.878	7415.832	7381.190	7409.101	7381.039	7389.243	7377.775	7343.390
9	7396.702	7407.353	7415.442	7406.617	7398.768	7403.478	7393.571	7383.602	7347.293	7322.983
10	7361.102	7404.595	7416.799	7397.846	7388.959	7405.952	7389.775	7358.831	7334.193	7299.019
11	7354.663	7394.263	7405.189	7397.606	7379.496	7382.573	7385.199	7347.426	7313.236	7295.551
12	7353.173	7392.693	7380.250	7388.791	7362.858	7402.404	7379.203	7346.539	7286.788	7260.013
13	7333.838	7376.161	7379.008	7378.281	7346.991	7381.279	7329.679	7325.244	7253.077	7230.878
14	7357.244	7382.121	7374.201	7359.833	7323.311	7390.955	7319.027	7295.356	7214.967	7207.632
15	7356.632	7390.999	7371.310	7366.308	7312.695	7349.217	7297.431	7283.090	7186.906	7195.775
16	7368.826	7391.957	7383.682	7320.118	7298.575	7330.619	7284.917	7261.290	7157.310	7139.102
17	7357.430	7389.917	7383.904	7332.410	7253.636	7298.229	7249.858	7217.991	7132.813	7104.583
18	7309.245	7394.724	7374.840	7349.714	7262.718	7278.779	7232.200	7171.509	7087.679	7063.378
19	7272.270	7330.903	7369.332	7334.131	7248.314	7266.310	7209.353	7124.477	7034.039	7016.701
20	7203.668	7271.613	7333.200	7308.615	7250.798	7239.366	7178.143	7075.848	6991.122	6985.269
21	7191.624	7207.916	7259.667	7276.447	7237.255	7229.565	7126.880	7051.245	6950.972	6932.135
22	7125.071	7169.026	7212.643	7213.122	7234.772	7229.264	7082.597	7013.082	6907.913	6896.987
23	7122.570	7141.239	7162.347	7164.121	7185.238	7194.409	7039.290	6947.682	6855.471	6843.516
24	7110.322	7122.304	7147.944	7116.424	7135.519	7177.646	7004.683	6885.040	6813.201	6780.155
25	7067.884	7084.531	7120.752	7087.777	7070.544	7134.978	6956.693	6853.014	6756.998	6725.957
26	7029.747	7039.476	7063.227	7047.982	6992.506	7112.060	6899.036	6803.516	6695.536	6663.457
27	6963.895	7001.233	7039.804	7018.386	6948.321	7055.396	6871.515	6718.888	6604.301	6610.970
28	6891.790	6934.609	7005.712	6987.335	6909.802	7034.545	6825.476	6663.821	6537.065	6533.810
29	6828.669	6850.522	6914.503	6909.882	6862.140	6949.633	6758.027	6598.572	6502.192	6484.507
30	6719.341	6758.932	6832.261	6851.409	6820.279	6865.103	6723.607	6536.169	6432.393	6407.356
31	6651.023	6666.650	6736.174	6792.368	6755.420	6799.206	6667.200	6476.321	6348.262	6346.426
32	6569.242	6597.197	6650.393	6683.333	6697.097	6730.560	6609.897	6390.514	6256.938	6266.631
33	6505.234	6516.657	6569.251	6608.017	6660.078	6687.492	6548.781	6330.071	6185.276	6190.349
34	6424.473	6437.519	6481.731	6511.363	6564.958	6611.307	6479.150	6234.614	6108.923	6108.462
35	6354.355	6395.667	6425.191	6422.557	6458.672	6559.335	6373.130	6161.392	6030.184	6033.971
36	6273.771	6342.683	6342.940	6338.195	6361.113	6482.929	6270.702	6081.296	5958.593	5956.518
37	6229.435	6279.119	6282.232	6267.075	6263.483	6396.686	6191.857	5985.387	5866.577	5858.187
38	6119.512	6185.258	6223.395	6184.496	6148.993	6295.367	6080.640	5946.328	5780.256	5759.475
39	6031.000	6095.699	6145.046	6099.735	6061.199	6219.191	5982.549	5843.243	5666.874	5676.648
40	5938.745	5997.599	6032.144	6045.492	5956.332	6097.234	5902.524	5753.453	5581.315	5578.903
41	5832.955	5876.431	5945.627	5951.862	5868.174	5946.567	5817.230	5683.300	5500.172	5490.904
42	5737.223	5764.974	5835.208	5850.046	5770.074	5847.997	5712.053	5586.636	5421.904	5384.858
43	5632.507	5679.672	5720.629	5730.509	5699.690	5725.152	5621.740	5510.753	5320.611	5286.917
44	5527.418	5569.448	5614.494	5637.757	5608.108	5616.436	5527.675	5403.234	5223.025	5194.520
45	5418.241	5467.747	5498.957	5515.152	5489.264	5508.997	5423.943	5288.798	5128.978	5092.819
46	5294.305	5368.193	5378.135	5384.317	5366.455	5386.969	5311.804	5174.991	5006.772	4982.054
47	5187.939	5245.792	5269.552	5278.155	5251.069	5273.525	5174.866	5037.379	4897.001	4866.979
48	5073.006	5116.925	5167.612	5164.738	5117.910	5155.275	5044.173	4916.974	4809.845	4772.187
49	4982.125	5022.213	5052.465	5041.654	5002.409	5048.022	4918.118	4807.663	4699.417	4647.188
50	4861.791	4881.258	4917.745	4911.555	4874.943	4905.151	4772.258	4685.945	4563.677	4535.527
51	4744.152	4761.181	4798.005	4784.941	4740.525	4796.568	4634.336	4572.147	4447.138	4424.762
52	4616.758	4653.963	4680.464	4648.447	4611.268	4660.367	4508.193	4467.138	4332.994	4297.501
53	4486.517	4512.902	4541.008	4517.230	4464.176	4502.534	4384.993	4356.054	4237.759	4178.461

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54	4363.761	4376.098	4401.481	4390.616	4329.872	4374.342	4245.333	4234.770	4099.225	4053.399
55	4216.739	4258.743	4274.902	4255.116	4181.698	4229.883	4115.048	4095.376	3974.979	3926.227
56	4104.884	4102.454	4123.038	4101.921	4049.692	4085.363	3996.948	3973.321	3867.203	3804.296
57	3954.581	3971.299	3979.361	3965.711	3897.216	3937.002	3873.119	3831.426	3732.217	3665.735
58	3794.770	3803.284	3847.869	3812.978	3740.643	3809.298	3707.331	3664.901	3612.450	3534.660
59	3611.466	3634.419	3666.755	3657.478	3615.687	3663.456	3569.870	3507.645	3475.965	3394.832
60	3460.861	3469.313	3518.572	3511.956	3462.192	3515.468	3411.833	3362.522	3351.577	3254.994
61	3263.455	3288.732	3350.185	3337.901	3302.026	3363.418	3273.362	3180.707	3211.545	3115.094
62	3034.786	3079.796	3155.111	3176.246	3145.338	3213.115	3118.651	3040.834	3085.392	2971.434
63	2762.161	2820.715	2958.104	2992.676	2985.944	3049.127	2967.470	2894.788	2930.655	2824.599
64	2475.569	2522.849	2694.331	2823.287	2840.590	2901.786	2821.229	2745.869	2769.079	2683.777
65	2259.741	2273.941	2407.455	2605.863	2660.354	2740.947	2680.744	2590.067	2591.744	2539.443
66	2108.986	2115.966	2151.717	2355.846	2480.544	2592.577	2517.705	2433.866	2423.818	2384.023
67	1975.570	1980.749	2004.820	2059.639	2305.275	2429.938	2368.103	2275.874	2257.524	2233.888
68	1842.694	1845.781	1859.475	1891.447	2079.958	2248.699	2193.969	2110.387	2107.443	2077.395
69	1709.819	1710.812	1714.129	1726.165	1859.927	2070.477	2033.883	1967.286	1959.561	1937.069
70	1588.367	1580.509	1578.602	1560.873	1639.958	1879.137	1879.093	1827.041	1823.085	1778.279
71	1461.540	1451.864	1442.046	1424.761	1419.998	1687.629	1724.382	1686.813	1672.560	1631.195
72	1333.649	1326.634	1318.661	1289.836	1297.313	1496.112	1569.671	1546.585	1521.770	1482.746
73	1213.386	1202.690	1190.637	1169.786	1176.712	1238.529	1404.832	1398.863	1351.148	1335.396
74	1101.849	1090.852	1071.251	1051.003	1053.424	1084.014	1243.629	1253.438	1188.038	1190.557
75	968.282	964.468	959.661	937.152	944.362	967.360	1081.229	1099.729	1041.442	1055.491
76	850.777	840.027	833.775	832.639	832.462	845.952	874.342	961.852	908.177	916.434
77	716.846	718.699	713.777	716.393	732.455	735.480	689.476	832.249	781.660	788.392
78	536.353	552.148	585.833	599.784	629.389	636.023	590.640	691.321	659.348	666.062
79	323.559	338.423	394.671	482.580	523.227	539.829	494.331	568.538	550.002	553.381
80	168.573	188.324	229.122	298.123	417.890	445.916	407.282	439.219	455.938	448.142
81	88.894	99.546	118.667	172.759	262.398	348.428	332.126	311.595	368.312	355.700
82	62.651	66.447	71.635	91.688	146.392	244.403	262.114	240.971	279.480	271.924
83	50.580	52.425	53.817	59.546	77.329	127.137	193.442	182.923	202.674	197.557
84	41.117	41.897	42.394	45.259	49.489	66.979	109.656	135.288	135.997	136.689
85	32.647	32.869	33.276	34.483	36.345	41.578	54.394	90.473	82.517	89.009
86	25.241	25.321	25.498	25.906	26.669	29.401	31.742	43.813	48.806	51.227
87	17.374	17.339	17.410	17.924	18.572	20.558	20.753	21.720	26.474	26.855
88	8.018	7.991	8.319	9.082	9.596	11.459	12.257	12.026	11.734	13.170
89	0.585	0.772	0.754	0.798	1.082	1.659	2.270	2.874	3.982	6.563
90	0.443	0.443	0.506	0.568	0.665	0.851	1.029	1.286	1.401	3.486
91	0.381	0.443	0.443	0.497	0.603	0.789	0.967	1.197	1.295	3.991
92	0.381	0.381	0.381	0.497	0.603	0.789	0.967	1.188	1.295	4.603
93	0.381	0.381	0.381	0.497	0.603	0.789	0.967	1.188	1.295	5.286
94	0.381	0.381	0.381	0.497	0.603	0.789	0.967	1.188	1.295	6.022
95	0.381	0.381	0.381	0.497	0.603	0.789	0.967	1.188	1.410	6.811
96	0.381	0.381	0.381	0.497	0.665	0.789	0.967	1.251	1.579	7.601
97	0.443	0.443	0.443	0.497	0.665	0.905	0.967	1.428	1.632	8.612
98	0.506	0.506	0.506	0.745	0.780	0.851	1.206	1.659	1.916	9.596
99	0.745	0.754	0.754	0.931	0.789	0.967	1.508	1.667	2.031	10.625
100	0.816	0.816	0.887	0.878	0.843	1.206	1.685	1.783	2.466	11.512
101	0.816	0.940	0.825	0.869	1.029	1.570	1.685	1.969	2.537	12.550
102	0.816	1.135	0.825	0.993	1.321	1.632	1.809	2.084	2.590	13.658
103	0.940	1.259	1.011	1.304	1.561	1.756	1.871	2.200	2.599	14.590
104	1.126	1.508	1.321	1.614	1.632	1.880	2.049	2.501	2.652	15.609
105	1.499	1.827	1.632	1.747	1.809	1.996	2.164	2.625	2.652	16.461
106	1.694	1.898	1.765	1.871	1.933	2.058	2.474	2.625	2.874	17.454
107	1.880	2.084	1.889	1.933	2.111	2.244	2.767	2.678	3.157	18.403
108	2.137	2.270	2.270	2.182	2.235	2.599	2.714	2.865	3.211	19.246
109	2.200	2.643	2.705	2.483	2.528	2.847	2.776	2.980	3.379	19.352

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110	2.634	2.838	3.024	2.741	2.714	2.794	2.838	3.042	3.388	19.059
111	2.829	2.909	3.219	2.865	2.776	2.847	2.953	3.095	3.388	18.279
112	2.767	2.909	3.415	2.865	2.776	2.909	2.953	3.219	3.388	17.667
113	2.829	3.033	3.477	2.865	2.776	3.148	2.953	3.335	3.388	17.543
114	2.891	3.157	3.725	2.927	2.953	3.273	3.015	3.282	3.388	16.984
115	2.953	3.344	3.787	2.989	3.078	3.335	3.015	3.282	3.441	16.541
116	3.078	3.468	3.920	3.175	3.264	3.459	3.078	3.282	3.441	16.044
117	3.202	3.539	3.858	3.423	3.441	3.574	3.193	3.282	3.494	15.929
118	3.450	3.663	3.858	3.610	3.503	3.574	3.317	3.282	3.494	15.476
119	3.583	3.725	3.858	3.858	3.503	3.574	3.432	3.282	3.388	14.350
120	3.707	3.849	3.982	3.929	3.565	3.574	3.556	3.282	3.219	13.889
121	3.769	3.796	3.982	3.991	3.681	3.574	3.619	3.397	3.157	13.233
122	3.707	3.796	4.044	4.231	3.743	3.698	3.743	3.521	3.211	12.780
123	3.956	3.849	4.231	4.541	3.805	3.823	4.027	3.574	3.326	12.275
124	4.080	3.982	4.426	4.736	4.035	3.876	4.452	3.636	3.379	10.794
125	4.213	4.044	4.851	4.736	4.337	4.115	4.701	3.752	3.388	9.463
126	4.523	4.293	4.931	4.798	4.709	4.656	4.647	4.053	3.388	8.399
127	4.834	4.789	4.931	4.798	4.772	4.612	4.647	4.346	3.388	7.681
128	4.905	4.993	5.055	4.798	4.772	4.905	4.647	4.585	3.388	7.636
129	4.842	4.931	4.993	4.860	4.772	5.091	4.701	4.594	3.388	7.973
130	4.967	4.931	4.993	4.922	4.949	5.446	4.763	4.594	3.388	8.638
131	5.029	4.931	5.055	4.984	5.073	5.579	5.064	4.594	3.441	8.576
132	5.029	4.931	5.117	5.109	5.366	5.756	5.366	4.709	3.441	8.399
133	5.091	4.931	5.117	5.233	5.437	5.703	5.960	4.940	3.548	7.494
134	5.153	4.993	5.179	5.481	5.552	5.703	6.501	5.064	3.716	6.714
135	5.215	5.055	5.490	5.667	5.552	5.880	7.521	5.472	4.000	5.942
136	5.454	5.242	5.747	5.791	5.614	6.066	7.539	5.889	4.284	6.004
137	5.463	5.428	5.809	6.040	5.614	6.066	7.601	6.439	4.621	6.297
138	5.587	5.747	5.942	6.049	5.614	6.182	7.663	6.501	5.126	6.962
139	5.774	5.809	6.066	6.173	5.676	6.359	7.663	6.847	5.188	7.406
140	6.031	5.942	6.191	6.235	5.738	6.483	8.009	7.388	5.304	7.627
141	6.279	6.191	6.377	6.474	5.916	6.607	8.434	7.335	5.579	7.858
142	6.590	6.315	6.696	6.723	5.916	7.264	8.505	7.450	5.924	8.142
143	6.661	6.572	6.944	6.794	6.040	7.636	8.683	7.627	6.199	8.479
144	6.909	6.891	6.891	6.732	6.448	7.636	8.922	7.805	6.262	8.754
145	6.847	6.891	6.891	6.732	6.519	7.636	9.100	7.929	7.024	8.869
146	6.847	7.015	6.953	6.856	6.643	7.698	9.108	8.222	7.051	9.091
147	6.847	6.953	6.953	6.918	7.539	7.876	9.224	8.284	7.051	9.091
148	6.909	6.953	7.459	7.778	7.672	8.115	9.171	8.346	7.104	9.312
149	7.831	7.752	7.947	7.911	7.610	8.532	9.171	8.461	7.104	9.428
150	7.858	7.831	7.964	7.858	7.610	8.612	9.224	8.408	7.157	9.534
151	7.982	7.840	7.964	7.858	7.787	8.612	9.108	8.408	7.219	9.649
152	7.982	8.026	8.026	7.920	7.973	8.612	9.171	8.408	7.273	9.765
153	7.982	8.026	8.026	7.920	8.497	8.612	9.108	8.408	7.388	9.818
154	7.982	8.026	8.026	8.097	8.576	8.665	9.108	8.461	7.503	9.924
155	7.982	8.026	8.026	8.106	8.514	8.612	9.108	8.470	7.831	9.871
156	7.982	8.026	8.026	8.222	8.630	8.727	9.108	8.470	8.009	9.871
157	7.982	8.026	8.026	8.293	8.638	8.674	9.171	8.470	8.009	9.871
158	8.044	8.213	8.213	8.532	8.638	8.674	8.984	8.470	8.009	9.871
159	7.982	8.213	8.275	8.718	8.638	8.727	8.984	8.470	8.009	9.871
160	8.293	8.275	8.408	8.789	8.638	8.851	8.984	8.470	8.124	9.871
161	8.417	8.709	8.647	8.851	8.754	9.029	9.046	8.523	8.062	9.871
162	8.851	8.967	8.967	8.975	9.179	9.392	9.401	8.940	8.062	9.871
163	9.472	9.605	9.729	9.765	9.658	9.986	10.545	9.774	8.124	9.924
164	10.049	10.217	10.350	10.581	10.306	10.723	11.512	10.359	8.399	9.818
165	10.678	10.740	10.989	11.086	10.563	11.512	12.292	10.847	8.798	9.756

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**CANDELA TABULATION - (Cont.)**

166	10.802	11.246	11.432	11.459	10.927	12.355	12.479	11.139	8.798	9.756
167	11.246	11.689	11.867	11.831	11.468	12.665	12.904	11.326	8.851	9.756
168	11.618	12.062	12.381	12.638	12.177	13.215	13.321	11.734	8.967	9.756
169	12.062	12.443	12.825	12.966	12.505	13.632	13.623	12.213	9.020	9.756
170	12.754	12.887	13.197	13.525	12.984	14.235	14.102	12.284	9.020	9.756
171	13.197	13.259	13.578	14.013	13.463	14.669	14.581	12.284	9.020	9.756
172	13.632	13.711	13.898	14.332	13.942	15.379	14.891	12.284	9.020	9.756
173	13.951	13.960	14.093	14.643	14.315	15.397	15.255	12.284	9.020	9.756
174	14.199	14.341	14.403	14.767	14.315	15.583	15.379	12.284	9.020	9.756
175	14.448	14.776	14.918	14.714	14.315	15.645	15.326	12.284	9.020	9.596
176	14.643	14.971	14.980	14.714	14.315	15.583	15.317	12.284	9.020	9.587
177	14.643	14.918	14.980	14.776	14.315	15.583	15.317	12.284	9.020	9.481
178	14.643	14.980	14.980	14.838	14.315	15.583	15.317	12.159	9.020	9.481
179	14.767	15.042	14.980	15.024	14.315	15.583	15.379	11.982	9.020	9.481
180	14.918	14.918	14.918	14.918	14.918	14.918	14.918	14.918	14.918	14.918

**Vert. Angles**      **Horizontal Angles**

	<u>100</u>	<u>110</u>	<u>120</u>	<u>130</u>	<u>140</u>	<u>150</u>	<u>160</u>	<u>170</u>	<u>180</u>	<u>190</u>
0	7389.952	7389.952	7389.952	7389.952	7389.952	7389.952	7389.952	7389.952	7389.952	7389.952
1	7390.697	7385.438	7398.201	7380.507	7395.770	7390.671	7388.702	7386.600	7378.077	7396.844
2	7395.496	7371.469	7387.407	7388.862	7398.316	7394.174	7403.664	7394.600	7371.931	7396.045
3	7391.558	7390.671	7397.766	7389.793	7397.890	7406.582	7405.597	7410.502	7370.618	7377.252
4	7376.276	7385.482	7406.670	7409.961	7405.367	7401.402	7403.637	7400.817	7391.416	7381.465
5	7379.815	7385.101	7399.673	7382.414	7402.103	7404.382	7405.243	7386.440	7360.809	7381.961
6	7374.104	7372.010	7398.334	7397.163	7397.668	7395.921	7417.189	7377.899	7374.139	7369.900
7	7349.749	7359.354	7392.356	7389.340	7393.775	7393.465	7411.744	7386.831	7380.365	7384.312
8	7339.195	7347.390	7381.988	7374.068	7385.092	7399.265	7407.362	7395.460	7346.211	7357.572
9	7327.976	7333.785	7370.946	7354.707	7376.250	7369.979	7379.097	7388.046	7350.406	7352.649
10	7295.710	7317.643	7357.190	7356.915	7369.190	7375.656	7379.877	7390.059	7361.465	7342.228
11	7295.666	7305.768	7334.362	7327.541	7368.826	7362.414	7385.890	7390.493	7351.204	7344.907
12	7271.782	7280.261	7313.165	7326.539	7347.115	7358.441	7385.695	7372.888	7334.973	7323.337
13	7237.645	7259.525	7282.114	7300.934	7336.641	7357.767	7375.682	7381.660	7326.619	7325.111
14	7227.676	7251.410	7269.777	7293.830	7331.293	7356.986	7375.789	7363.354	7322.477	7313.103
15	7162.950	7207.091	7235.738	7258.665	7316.198	7336.969	7355.816	7371.150	7313.369	7297.431
16	7146.738	7167.935	7216.306	7240.519	7294.717	7332.224	7340.827	7346.308	7309.723	7273.582
17	7119.297	7149.097	7191.739	7242.585	7282.983	7316.624	7314.823	7278.629	7252.235	7219.889
18	7068.797	7118.135	7166.161	7213.752	7259.676	7283.232	7260.421	7230.727	7168.369	7156.157
19	7039.201	7095.989	7134.445	7190.435	7231.596	7239.800	7196.209	7178.249	7126.703	7083.431
20	6997.898	7041.693	7102.490	7179.110	7212.581	7166.675	7162.063	7107.696	7053.986	7029.348
21	6933.802	6987.752	7063.653	7142.649	7136.210	7112.982	7082.180	7034.643	7012.080	6972.302
22	6899.789	6949.092	7021.641	7097.329	7085.045	7046.784	7044.833	6998.466	6960.613	6927.647
23	6851.134	6898.202	6994.874	7051.219	7021.791	6986.440	6994.085	6937.154	6918.201	6872.482
24	6785.619	6854.886	6941.624	7035.804	6960.657	6930.636	6939.833	6878.264	6848.784	6804.386
25	6742.586	6790.869	6897.537	6965.411	6884.038	6876.065	6857.440	6844.828	6780.022	6748.848
26	6683.519	6726.374	6851.444	6896.650	6820.527	6814.895	6818.815	6778.550	6726.179	6677.461
27	6611.937	6685.319	6797.202	6817.130	6743.305	6746.666	6753.078	6716.928	6676.264	6631.724
28	6544.976	6617.835	6738.542	6754.728	6675.342	6689.018	6690.889	6644.282	6602.775	6560.559
29	6483.186	6553.677	6659.235	6684.698	6601.250	6615.680	6610.092	6592.142	6535.371	6505.678
30	6424.189	6494.370	6603.201	6601.534	6544.222	6564.426	6560.728	6533.704	6482.175	6441.661
31	6360.811	6435.311	6539.415	6527.726	6477.944	6490.139	6498.361	6464.534	6423.134	6380.864
32	6282.241	6372.971	6452.038	6439.666	6402.460	6416.713	6425.901	6403.320	6381.991	6325.353
33	6207.227	6291.748	6368.944	6370.408	6331.677	6348.617	6348.617	6353.823	6321.823	6256.308
34	6126.421	6219.714	6271.891	6284.236	6247.563	6273.319	6272.742	6272.547	6263.155	6178.633
35	6062.707	6152.168	6184.691	6195.946	6167.325	6209.595	6201.382	6210.233	6200.850	6127.184
36	5974.939	6064.782	6081.855	6106.315	6081.127	6131.991	6142.838	6157.223	6151.334	6070.378

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**CANDELA TABULATION - (Cont.)**

37	5888.040	5999.001	5978.416	6059.301	5992.668	6059.398	6081.083	6092.143	6089.136	5999.586
38	5799.448	5887.721	5883.659	5952.811	5920.625	5978.442	6024.738	6023.639	6013.413	5927.880
39	5698.856	5795.838	5783.306	5846.711	5825.745	5909.654	5950.673	5952.598	5923.800	5847.571
40	5619.744	5707.237	5676.807	5754.801	5743.360	5836.733	5862.010	5894.142	5880.839	5784.521
41	5535.923	5595.771	5567.169	5645.190	5637.358	5756.877	5794.038	5854.010	5821.044	5736.177
42	5445.859	5479.188	5481.246	5550.185	5558.531	5672.541	5744.425	5778.491	5742.199	5673.322
43	5342.961	5375.776	5364.361	5451.615	5466.648	5594.007	5688.763	5647.983	5631.806	5553.395
44	5256.417	5260.098	5260.665	5346.978	5382.640	5525.573	5561.129	5540.127	5491.756	5433.300
45	5137.005	5144.162	5162.122	5232.346	5280.558	5444.475	5454.311	5373.931	5326.854	5278.501
46	5049.086	5046.195	5043.827	5129.164	5187.602	5346.588	5306.376	5216.790	5177.669	5120.739
47	4944.991	4909.426	4940.947	5017.264	5095.675	5215.744	5144.082	5077.538	5040.971	4980.289
48	4848.469	4794.972	4824.257	4890.872	5009.185	5079.321	4991.314	4976.751	4937.390	4870.677
49	4736.640	4679.613	4710.583	4797.934	4910.304	4911.333	4863.183	4849.250	4815.051	4759.283
50	4617.060	4562.258	4593.415	4689.058	4780.515	4761.864	4728.339	4722.157	4700.366	4633.813
51	4516.547	4433.356	4473.098	4558.081	4653.919	4612.909	4593.761	4606.674	4589.468	4526.135
52	4399.441	4306.609	4359.637	4453.489	4471.643	4481.763	4463.564	4487.005	4476.850	4407.866
53	4282.725	4169.814	4227.710	4376.541	4297.412	4343.371	4353.003	4354.351	4367.654	4284.889
54	4162.701	4049.142	4106.675	4257.980	4140.484	4197.751	4212.704	4218.549	4239.116	4158.080
55	4040.983	3920.178	3988.159	4111.731	3999.777	4073.753	4071.625	4094.445	4111.039	4033.142
56	3921.437	3784.988	3866.760	3976.407	3852.011	3934.297	3941.118	3969.835	3969.401	3895.903
57	3767.374	3644.316	3739.960	3787.169	3700.369	3801.413	3802.318	3820.481	3810.504	3758.673
58	3629.000	3503.654	3622.641	3628.556	3558.660	3655.624	3663.518	3671.136	3651.607	3621.257
59	3471.451	3362.939	3505.330	3469.943	3416.951	3509.845	3524.071	3521.419	3492.665	3462.307
60	3313.902	3220.139	3387.550	3311.277	3275.171	3363.959	3347.249	3351.232	3332.048	3286.514
61	3156.388	3084.248	3238.116	3150.482	3127.644	3214.773	3164.841	3196.405	3165.364	3113.835
62	3005.544	2942.592	3081.605	2999.443	2976.729	3044.958	3017.908	3016.037	2956.836	2932.446
63	2845.157	2798.374	2910.868	2858.780	2825.885	2872.403	2850.080	2720.140	2637.002	2664.061
64	2683.094	2658.864	2733.204	2708.743	2667.263	2713.515	2557.190	2424.448	2372.076	2355.553
65	2528.995	2510.087	2578.041	2556.667	2490.140	2533.128	2244.318	2226.474	2219.760	2166.306
66	2367.074	2360.617	2407.330	2404.049	2316.875	2245.063	2049.449	2078.282	2077.794	2017.502
67	2207.645	2224.939	2244.380	2249.631	2174.076	1950.364	1901.469	1942.054	1934.169	1881.700
68	2051.586	2100.028	2089.794	2090.565	1964.590	1775.263	1768.674	1804.708	1809.303	1753.659
69	1891.838	1963.561	1945.460	1920.351	1676.197	1633.590	1630.583	1674.192	1671.851	1628.765
70	1734.147	1806.225	1789.365	1766.971	1466.995	1505.974	1499.535	1532.004	1531.348	1491.730
71	1586.593	1643.754	1638.228	1615.781	1322.723	1378.047	1361.844	1383.795	1391.528	1348.416
72	1433.044	1484.839	1474.161	1348.948	1196.792	1256.028	1222.716	1271.336	1269.855	1232.534
73	1289.517	1327.175	1314.253	1147.879	1085.317	1117.875	1107.818	1146.886	1150.380	1109.725
74	1142.780	1176.553	1162.522	1011.235	970.827	1013.789	999.918	1037.274	1032.369	1007.279
75	1011.926	1043.110	1025.762	897.401	850.218	908.549	888.026	929.578	903.813	893.685
76	879.893	906.651	800.232	788.374	756.606	814.156	766.876	781.137	761.342	757.155
77	765.004	770.885	667.259	669.343	680.048	695.472	617.194	609.132	586.702	588.529
78	657.610	643.978	560.539	581.771	583.713	547.031	446.049	377.420	349.243	368.489
79	562.233	531.448	470.988	509.347	456.807	376.267	230.940	177.930	158.906	171.438
80	455.210	406.936	379.451	414.555	316.774	180.670	114.534	96.557	92.885	96.628
81	356.516	300.207	321.067	294.256	155.917	94.082	78.695	75.617	74.429	76.646
82	264.607	231.233	253.228	164.493	81.054	68.336	62.766	62.101	61.382	62.837
83	189.868	171.979	161.407	78.198	57.427	53.072	50.323	49.959	49.791	51.006
84	128.911	132.450	77.542	50.802	44.043	41.303	39.919	39.573	39.387	40.265
85	80.273	77.772	42.695	37.498	33.152	31.449	30.509	30.039	29.897	31.272
86	48.709	36.230	28.993	26.838	23.831	22.678	21.960	21.951	21.942	22.917
87	27.006	20.549	19.343	17.853	15.716	14.811	14.075	13.729	13.818	14.891
88	12.213	12.186	11.672	9.765	7.202	5.862	4.922	4.701	4.807	5.286
89	5.783	4.186	2.058	1.224	1.047	0.905	0.736	0.683	0.692	0.701
90	3.166	2.652	1.827	1.339	0.993	0.914	0.798	0.745	0.754	0.763
91	3.716	3.060	2.066	1.455	1.109	1.029	0.922	0.807	0.754	0.887
92	4.195	3.361	2.359	1.570	1.224	1.029	0.922	0.993	0.940	0.887

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**CANDELA TABULATION - (Cont.)**

93	4.860	3.823	2.652	1.747	1.286	1.091	0.984	0.993	0.940	1.011
94	5.463	4.239	2.945	2.040	1.463	1.268	1.109	1.117	1.135	1.135
95	6.208	4.772	3.299	2.217	1.641	1.392	1.233	1.242	1.259	1.268
96	7.060	5.304	3.654	2.510	1.871	1.579	1.357	1.366	1.446	1.392
97	7.885	5.880	4.071	2.865	2.102	1.756	1.605	1.499	1.508	1.579
98	8.700	6.483	4.479	3.202	2.341	1.996	1.721	1.747	1.703	1.712
99	9.579	7.060	4.834	3.494	2.625	2.182	1.978	1.933	1.889	2.022
100	10.439	7.654	5.250	3.849	2.980	2.483	2.217	2.306	2.137	2.217
101	11.272	8.363	5.658	4.195	3.282	2.785	2.457	2.616	2.395	2.466
102	12.337	9.002	6.013	4.488	3.565	3.148	2.776	2.803	2.643	2.670
103	13.091	9.649	6.483	4.834	3.796	3.450	3.078	3.113	2.838	3.042
104	13.880	10.199	6.891	5.064	4.151	3.690	3.379	3.423	3.202	3.290
105	14.820	11.006	7.370	5.419	4.443	3.929	3.574	3.796	3.459	3.539
106	15.716	11.530	7.769	5.703	4.674	4.231	3.876	3.982	3.778	3.805
107	16.558	11.991	8.124	5.995	4.967	4.479	4.115	4.177	4.027	4.106
108	17.055	11.991	8.417	6.350	5.206	4.718	4.435	4.417	4.213	4.364
109	16.949	11.991	8.656	6.643	5.437	5.020	4.736	4.665	4.470	4.621
110	16.612	11.814	8.834	6.989	5.729	5.321	5.357	4.984	4.780	4.869
111	15.938	11.814	8.949	7.219	5.969	5.508	5.721	5.286	5.029	5.064
112	15.601	11.814	9.126	7.450	6.191	5.685	5.969	5.472	5.215	5.313
113	15.201	11.814	9.241	7.689	6.430	5.809	6.208	5.667	5.463	5.499
114	14.909	11.884	9.357	7.920	6.607	6.049	6.332	5.845	5.534	5.694
115	14.359	12.230	9.534	7.973	6.838	6.226	6.519	5.969	5.783	5.818
116	14.235	12.284	9.827	8.035	7.015	6.403	6.581	6.155	5.845	5.880
117	13.791	12.284	10.066	8.213	7.308	6.714	6.820	6.341	6.102	6.191
118	13.339	12.168	10.368	8.381	7.477	7.140	7.007	6.590	6.288	6.395
119	13.233	12.044	10.767	8.559	7.769	7.432	7.255	6.776	6.545	6.758
120	12.833	11.929	11.006	8.736	8.062	7.796	7.503	6.971	6.785	6.953
121	12.603	11.219	11.246	8.967	8.293	8.053	7.867	7.281	7.104	7.335
122	12.310	10.572	11.539	9.268	8.417	8.470	8.124	7.468	7.485	7.592
123	11.512	10.049	11.716	9.614	8.585	8.825	8.426	7.902	7.796	7.911
124	10.519	9.880	12.124	9.836	8.709	9.064	8.727	8.089	8.106	8.346
125	9.676	9.933	12.355	10.013	9.002	9.375	9.100	8.337	8.426	8.665
126	9.011	10.004	12.301	10.368	9.241	9.552	9.348	8.700	8.798	8.975
127	8.958	10.820	12.301	10.776	9.579	9.605	9.649	9.082	9.179	9.366
128	9.082	11.778	12.301	11.237	9.694	9.667	9.898	9.392	9.428	9.738
129	9.756	12.594	12.301	11.645	9.880	9.605	9.960	9.641	9.747	9.924
130	10.359	12.993	12.479	12.230	10.164	9.791	10.084	9.889	9.995	10.173
131	10.412	13.117	12.771	12.754	10.634	9.978	10.199	10.075	10.182	10.235
132	10.075	13.357	13.073	13.100	10.927	10.155	10.261	10.137	10.306	10.306
133	9.729	13.703	13.729	13.268	11.166	10.403	10.386	10.261	10.430	10.368
134	9.401	14.359	14.536	13.392	11.512	10.758	10.519	10.386	10.563	10.616
135	9.348	15.237	14.714	13.561	11.858	11.122	10.758	10.634	10.749	10.616
136	9.641	16.062	14.838	13.685	12.097	11.423	10.882	10.820	10.873	10.811
137	10.084	16.816	15.006	13.915	12.381	11.787	11.317	10.944	10.935	11.069
138	10.474	16.754	15.246	14.093	12.559	12.088	11.680	11.264	11.255	11.441
139	10.705	16.754	15.485	14.261	12.674	12.452	11.929	11.565	11.503	11.698
140	10.865	16.754	15.964	14.386	12.798	12.638	12.230	11.876	11.876	12.080
141	10.927	16.754	16.425	14.554	12.975	12.816	12.603	12.248	12.257	12.452
142	11.033	16.754	16.718	14.607	13.144	12.931	12.789	12.381	12.505	12.709
143	11.033	16.754	17.126	14.669	13.321	13.002	12.966	12.683	12.762	12.896
144	11.033	16.754	17.366	14.847	13.499	13.179	13.277	12.878	12.887	13.144
145	11.033	16.754	17.711	14.847	13.729	13.295	13.277	13.055	13.011	13.206
146	11.033	16.754	17.889	15.077	13.907	13.481	13.525	13.179	13.135	13.463
147	11.033	16.754	18.128	15.308	14.137	13.543	13.587	13.304	13.321	13.649
148	11.033	16.754	18.306	15.423	14.315	13.782	13.649	13.499	13.454	13.845

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**CANDELA TABULATION - (Cont.)**

149	11.033	16.754	18.421	15.538	14.545	13.898	13.765	13.614	13.703	13.969
150	11.033	16.807	18.359	15.485	14.660	13.969	13.774	13.738	13.889	14.217
151	11.033	16.754	18.359	15.485	14.900	14.208	14.013	13.933	14.013	14.341
152	11.033	16.754	18.359	15.485	15.068	14.448	14.013	14.173	14.137	14.279
153	10.980	16.700	18.359	15.485	15.246	14.687	14.137	14.111	14.137	14.279
154	10.865	16.754	18.359	15.485	15.299	14.811	14.261	14.111	14.199	14.412
155	10.811	16.638	18.359	15.538	15.476	14.989	14.323	14.173	14.199	14.474
156	10.696	16.514	18.421	15.538	15.414	15.113	14.510	14.173	14.323	14.412
157	10.359	16.399	18.288	15.601	15.414	15.228	14.572	14.306	14.394	14.536
158	10.075	16.159	17.951	15.725	15.423	15.228	14.749	14.492	14.519	14.660
159	9.853	16.035	17.711	16.009	15.476	15.290	14.873	14.607	14.519	14.723
160	9.907	15.574	17.711	16.186	15.476	15.352	14.873	14.731	14.519	14.723
161	9.853	15.343	17.711	16.709	15.592	15.468	14.873	14.669	14.519	14.723
162	9.853	15.104	17.773	16.940	15.654	15.476	14.935	14.669	14.519	14.723
163	9.853	14.864	17.711	17.232	15.592	15.538	14.997	14.669	14.519	14.723
164	9.853	14.563	17.596	17.401	15.592	15.769	15.122	14.731	14.519	14.723
165	9.853	14.084	17.179	17.472	15.654	15.831	15.370	14.802	14.519	14.723
166	9.853	13.392	17.064	17.871	15.716	15.964	15.485	14.935	14.590	14.785
167	9.853	12.922	17.011	18.279	16.186	16.266	15.742	15.414	14.838	14.918
168	9.907	12.337	17.002	18.448	16.532	16.621	16.168	15.547	15.148	14.980
169	9.738	11.920	16.824	18.217	16.762	16.984	16.594	15.858	15.335	15.166
170	9.738	11.281	16.523	18.270	16.762	17.099	16.656	15.973	15.459	15.361
171	9.738	10.873	16.115	18.040	16.762	17.099	16.532	15.911	15.654	15.547
172	9.791	10.457	15.707	17.871	16.762	17.099	16.532	15.911	15.840	15.485
173	9.685	10.173	15.175	17.578	16.762	17.162	16.532	15.911	15.964	15.485
174	9.685	10.111	14.882	17.339	16.647	16.975	16.532	15.911	15.964	15.485
175	9.685	10.111	14.705	16.807	16.585	16.789	16.532	15.911	16.026	15.476
176	9.570	10.111	14.057	16.354	16.283	16.434	16.532	15.911	15.769	15.352
177	9.348	10.049	13.578	15.946	15.884	16.186	16.408	15.725	15.201	15.104
178	9.286	9.756	13.117	15.530	15.645	15.938	16.035	15.787	15.077	14.971
179	9.064	9.641	12.878	15.068	15.237	15.530	15.796	15.645	15.077	14.847
180	14.918	14.918	14.918	14.918	14.918	14.918	14.918	14.918	14.918	14.918

**Vert. Angles**      **Horizontal Angles**

	<u>200</u>	<u>210</u>	<u>220</u>	<u>230</u>	<u>240</u>	<u>250</u>	<u>260</u>	<u>270</u>	<u>280</u>	<u>290</u>
0	7389.952	7389.952	7389.952	7389.952	7389.952	7389.952	7389.952	7389.952	7389.952	7389.952
1	7378.423	7385.722	7375.540	7407.965	7408.391	7383.531	7396.959	7380.711	7392.383	7383.106
2	7388.312	7380.879	7383.975	7405.101	7382.431	7384.746	7387.194	7395.513	7388.817	7372.126
3	7375.230	7374.538	7379.256	7389.890	7384.223	7402.396	7381.855	7379.966	7400.214	7376.906
4	7391.318	7361.767	7371.869	7386.813	7377.101	7385.394	7394.680	7376.232	7387.762	7370.503
5	7376.977	7366.476	7363.133	7396.968	7378.786	7367.665	7381.704	7389.704	7377.536	7356.330
6	7379.664	7338.831	7353.873	7378.902	7352.330	7370.201	7362.139	7375.097	7367.789	7358.086
7	7369.669	7335.435	7341.164	7368.294	7354.255	7344.481	7358.689	7360.862	7359.008	7325.359
8	7351.621	7336.508	7338.477	7362.840	7328.251	7337.386	7336.605	7340.117	7342.361	7303.098
9	7338.353	7318.504	7333.687	7340.729	7308.854	7342.849	7316.482	7343.772	7334.441	7307.870
10	7332.880	7298.690	7322.167	7334.628	7308.375	7308.162	7312.721	7308.065	7302.300	7302.132
11	7336.197	7292.766	7300.624	7303.276	7270.691	7298.309	7274.256	7304.668	7282.336	7279.117
12	7313.023	7271.055	7276.021	7285.449	7259.986	7275.542	7247.756	7277.653	7248.900	7260.944
13	7298.345	7267.871	7267.294	7276.207	7254.842	7247.942	7227.215	7230.328	7226.506	7216.493
14	7290.717	7248.385	7258.230	7257.290	7208.830	7235.969	7200.821	7215.898	7196.759	7211.544
15	7281.901	7249.237	7259.986	7231.251	7182.826	7185.265	7171.837	7182.506	7155.110	7190.072
16	7253.423	7203.863	7251.773	7226.550	7150.472	7140.920	7125.638	7128.131	7127.501	7134.321
17	7211.029	7187.464	7226.754	7202.355	7133.461	7126.676	7094.260	7084.043	7088.637	7111.821
18	7151.554	7147.359	7227.313	7183.136	7092.149	7089.213	7051.210	7050.190	7034.776	7052.700
19	7096.459	7097.648	7199.012	7168.591	7062.039	7052.141	7010.182	7006.448	7005.934	7007.113



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**CANDELA TABULATION - (Cont.)**

20	7027.201	7053.330	7160.281	7153.620	7031.184	7014.412	6979.264	6970.121	6968.019	6969.934
21	6951.513	6992.258	7125.364	7121.443	6999.929	6958.821	6910.069	6906.317	6891.461	6924.942
22	6907.869	6915.842	7051.414	7099.936	6959.433	6928.206	6881.776	6863.613	6850.903	6876.278
23	6845.999	6838.620	6982.919	7079.041	6935.567	6881.980	6825.263	6825.733	6800.971	6843.365
24	6790.461	6772.510	6918.193	7037.073	6886.309	6812.749	6772.333	6778.967	6753.912	6786.541
25	6741.114	6708.787	6854.584	6962.405	6854.673	6775.473	6723.101	6717.265	6710.002	6745.620
26	6673.027	6662.650	6764.404	6908.206	6806.186	6727.598	6670.969	6658.836	6655.617	6676.894
27	6603.343	6604.106	6709.124	6837.902	6763.677	6683.856	6605.888	6578.776	6601.818	6602.350
28	6543.770	6553.455	6657.116	6783.756	6705.895	6608.168	6554.067	6509.607	6524.107	6544.355
29	6479.283	6481.864	6581.596	6700.086	6653.825	6557.978	6487.230	6433.573	6437.750	6504.134
30	6405.334	6411.445	6528.258	6640.894	6595.600	6502.423	6410.238	6363.020	6367.995	6409.617
31	6340.501	6332.306	6444.313	6553.810	6533.278	6430.504	6349.060	6301.052	6316.972	6340.998
32	6275.359	6273.292	6353.991	6508.471	6442.096	6365.237	6274.241	6225.391	6232.787	6275.758
33	6199.582	6186.509	6284.396	6441.005	6360.891	6292.893	6207.901	6168.265	6166.288	6213.187
34	6123.379	6106.892	6224.938	6364.040	6268.334	6243.359	6120.745	6067.833	6111.087	6139.184
35	6064.977	6030.007	6147.060	6282.463	6181.010	6172.150	6040.703	5988.260	6011.798	6074.396
36	5984.721	5967.108	6070.698	6183.697	6090.706	6096.027	5955.294	5898.258	5948.146	5973.875
37	5917.450	5892.049	5974.620	6118.404	6006.717	6012.020	5877.939	5823.164	5853.966	5900.537
38	5857.185	5817.425	5874.675	6016.588	5911.304	5923.108	5786.065	5714.137	5751.680	5825.159
39	5798.543	5722.305	5762.296	5945.494	5830.720	5826.596	5710.944	5647.256	5659.318	5750.216
40	5707.042	5648.728	5695.690	5841.221	5723.760	5748.629	5618.627	5542.433	5581.155	5688.124
41	5636.702	5592.765	5605.261	5753.932	5628.152	5648.941	5530.673	5443.872	5494.567	5622.174
42	5583.914	5502.026	5494.541	5655.513	5543.835	5533.476	5431.544	5356.060	5380.423	5498.647
43	5513.689	5414.063	5420.946	5557.289	5445.859	5431.926	5343.147	5245.437	5305.950	5410.596
44	5410.542	5346.916	5322.588	5462.745	5344.814	5330.837	5218.830	5144.570	5220.329	5305.063
45	5295.068	5277.295	5222.990	5353.142	5247.282	5215.114	5122.805	5049.485	5099.311	5194.183
46	5154.752	5181.199	5124.189	5243.291	5138.450	5094.558	5037.681	4923.448	4998.045	5077.166
47	4996.103	5061.122	5029.237	5127.825	5018.045	4988.573	4918.818	4828.106	4892.806	4948.547
48	4857.844	4917.550	4950.685	5024.102	4914.739	4858.811	4798.883	4718.592	4779.141	4836.567
49	4737.518	4762.910	4832.700	4913.054	4794.821	4733.669	4686.335	4602.727	4678.229	4742.786
50	4615.853	4623.232	4729.989	4799.300	4667.843	4601.361	4578.107	4492.858	4543.766	4631.543
51	4484.894	4489.736	4587.606	4672.908	4538.879	4486.738	4462.411	4369.428	4439.076	4507.607
52	4358.785	4347.806	4410.430	4560.954	4426.536	4347.158	4347.256	4240.482	4322.804	4394.873
53	4242.859	4212.686	4259.816	4464.894	4283.257	4226.487	4224.269	4124.458	4186.532	4291.221
54	4119.784	4086.587	4112.254	4353.916	4157.716	4097.443	4089.141	4001.604	4050.286	4166.426
55	3993.817	3951.388	3960.940	4208.589	4044.229	3959.973	3979.387	3876.534	3936.869	4030.145
56	3860.152	3819.541	3800.925	4041.550	3919.273	3810.566	3853.802	3741.423	3812.987	3876.773
57	3726.479	3687.695	3661.593	3854.459	3787.941	3670.037	3727.304	3614.827	3686.391	3738.328
58	3592.672	3555.600	3522.270	3685.761	3656.618	3529.507	3611.475	3472.010	3580.681	3596.034
59	3453.731	3411.452	3382.743	3517.073	3525.286	3388.969	3464.950	3349.866	3450.431	3423.691
60	3292.483	3276.413	3230.063	3348.447	3393.927	3232.777	3318.425	3196.760	3329.228	3271.322
61	3110.349	3118.261	3090.048	3185.071	3255.624	3083.556	3171.891	3062.306	3173.310	3115.901
62	2950.858	2952.774	2952.756	3027.140	3093.073	2943.621	3011.966	2918.442	3026.262	2954.592
63	2775.447	2775.908	2812.253	2874.079	2915.879	2781.824	2843.393	2768.343	2855.623	2800.555
64	2519.612	2616.240	2656.904	2714.269	2735.927	2641.286	2686.420	2611.628	2686.385	2647.130
65	2211.627	2447.037	2484.925	2558.414	2558.813	2488.393	2522.734	2475.835	2518.574	2511.000
66	2008.793	2166.165	2311.315	2405.707	2398.586	2333.585	2351.890	2326.942	2366.826	2343.021
67	1855.865	1886.835	2148.356	2246.163	2214.385	2195.636	2195.707	2179.078	2209.232	2190.581
68	1729.411	1705.926	1943.863	2081.696	2052.446	2057.626	2036.952	2029.387	2090.805	2029.547
69	1603.622	1565.751	1672.321	1909.203	1904.361	1922.462	1874.330	1874.020	1938.728	1884.529
70	1475.952	1434.942	1449.301	1745.384	1752.115	1777.640	1712.134	1724.683	1789.871	1744.506
71	1341.099	1316.435	1307.539	1569.511	1589.254	1612.978	1554.745	1575.463	1637.918	1604.597
72	1195.435	1183.426	1182.805	1347.999	1437.071	1458.534	1402.925	1426.251	1485.912	1464.573
73	1078.896	1053.008	1066.001	1116.439	1282.466	1296.745	1258.804	1289.473	1321.561	1322.120
74	973.337	944.353	944.442	978.313	1129.121	1150.061	1115.481	1147.826	1156.819	1185.768
75	863.894	843.522	824.267	862.271	976.690	1003.864	977.328	1003.013	1006.073	1040.343

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**CANDELA TABULATION - (Cont.)**

76	745.599	751.249	725.910	756.198	792.747	872.284	842.768	871.104	868.727	898.988
77	596.857	642.896	643.180	640.874	632.182	748.801	721.342	750.699	743.905	772.836
78	436.577	507.635	552.290	542.304	533.639	625.717	606.835	628.324	625.743	642.905
79	227.162	345.971	440.993	472.780	450.315	509.054	513.879	519.564	517.746	525.045
80	111.563	167.979	308.100	383.788	362.733	402.963	424.798	417.863	427.867	408.754
81	79.209	91.182	154.968	286.345	293.954	285.449	333.129	328.242	343.133	291.675
82	64.540	68.070	81.683	167.340	228.590	221.911	248.855	248.944	262.425	221.441
83	52.496	55.218	59.263	81.338	157.540	167.145	184.218	185.282	187.446	168.954
84	41.782	43.857	47.706	54.766	82.881	119.838	127.847	127.554	128.725	123.226
85	32.709	34.163	37.170	42.252	46.252	78.473	81.107	84.043	80.761	82.216
86	24.292	25.188	27.636	31.920	32.735	39.955	50.269	51.227	50.358	45.400
87	16.248	17.525	19.237	22.235	22.926	23.485	29.259	28.815	29.747	24.407
88	6.776	7.814	9.419	12.647	13.818	13.978	15.858	15.299	15.485	14.421
89	0.825	0.993	1.091	1.756	3.157	5.650	7.814	6.625	6.421	5.401
90	0.825	1.055	1.144	1.455	1.933	2.803	3.335	1.472	1.401	1.330
91	0.949	1.064	1.153	1.517	2.173	3.228	3.902	1.401	1.348	1.295
92	1.073	1.126	1.268	1.703	2.412	3.583	4.417	1.401	1.348	1.233
93	1.073	1.251	1.392	1.889	2.838	4.062	5.020	1.401	1.348	1.233
94	1.206	1.375	1.508	2.129	3.148	4.541	5.756	1.401	1.410	1.233
95	1.330	1.437	1.756	2.368	3.565	5.082	6.572	1.570	1.410	1.233
96	1.455	1.623	1.996	2.670	3.920	5.676	7.352	1.623	1.579	1.348
97	1.579	1.809	2.182	3.095	4.355	6.217	8.186	1.845	1.685	1.579
98	1.836	2.058	2.483	3.397	4.825	6.980	9.082	2.129	1.854	1.641
99	2.022	2.315	2.776	3.707	5.135	7.645	9.986	2.403	2.137	1.765
100	2.279	2.563	3.148	4.000	5.561	8.293	10.900	2.519	2.581	1.933
101	2.537	2.936	3.441	4.319	5.987	9.020	11.822	2.634	2.537	2.058
102	2.856	3.246	3.690	4.674	6.474	9.676	12.869	2.581	2.537	2.111
103	3.157	3.556	3.938	4.976	6.998	10.394	13.880	2.634	2.537	2.288
104	3.486	3.805	4.231	5.277	7.370	11.095	14.554	2.803	2.537	2.466
105	3.743	4.053	4.470	5.703	7.964	11.822	15.512	2.971	2.696	2.581
106	4.248	4.310	4.896	6.004	8.275	12.709	16.487	3.086	2.865	2.643
107	4.745	4.550	5.135	6.368	8.807	13.295	17.091	3.246	3.033	2.811
108	5.250	4.807	5.446	6.732	9.117	13.233	17.933	3.308	3.148	3.051
109	5.561	5.117	5.676	7.042	9.472	13.170	17.924	3.308	3.264	3.175
110	5.756	5.428	5.978	7.406	9.596	13.055	17.694	3.308	3.317	3.228
111	5.942	5.676	6.235	7.760	9.774	13.055	16.745	3.423	3.326	3.352
112	6.004	6.004	6.528	8.071	9.898	13.055	16.346	3.477	3.326	3.468
113	6.128	6.554	6.767	8.248	10.022	13.055	16.009	3.423	3.326	3.415
114	6.262	6.989	6.944	8.310	10.377	13.064	15.450	3.423	3.379	3.468
115	6.386	7.734	7.131	8.497	10.563	13.472	15.113	3.477	3.379	3.468
116	6.519	7.982	7.255	8.674	10.980	13.587	14.829	3.477	3.379	3.468
117	6.829	7.982	7.672	8.798	11.343	13.534	14.660	3.477	3.379	3.468
118	7.077	8.106	7.858	8.975	11.831	13.233	14.199	3.477	3.379	3.406
119	7.335	8.355	8.222	9.100	12.124	13.117	13.641	3.370	3.432	3.406
120	7.592	8.479	8.576	9.401	12.488	12.984	13.357	3.086	3.157	3.352
121	7.849	8.665	9.241	9.649	12.727	12.638	12.966	3.033	3.157	3.406
122	8.159	8.860	9.667	10.075	12.727	11.796	12.567	3.033	3.211	3.521
123	8.470	9.171	10.031	10.430	12.727	11.086	11.929	3.033	3.211	3.530
124	8.851	9.543	10.208	10.989	12.727	10.971	10.581	3.033	3.264	3.645
125	9.171	9.667	10.510	11.530	12.727	10.971	9.738	3.033	3.211	3.876
126	9.552	9.853	10.749	12.257	12.727	11.228	8.913	3.033	3.211	4.053
127	9.862	9.978	10.873	12.984	12.789	11.929	8.630	3.033	3.211	4.408
128	9.986	10.040	10.873	13.765	12.798	13.135	8.692	3.033	3.211	4.523
129	10.111	10.164	10.935	14.137	13.100	14.261	8.975	3.086	3.264	4.816
130	10.244	10.288	11.237	14.563	13.782	14.971	9.880	3.033	3.379	4.993
131	10.306	10.474	11.547	14.856	14.785	15.397	10.324	3.246	3.494	5.463

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**CANDELA TABULATION - (Cont.)**

132	10.368	10.661	11.911	14.918	15.210	16.159	10.324	3.477	3.831	6.093
133	10.492	11.033	12.328	14.918	15.645	16.771	10.261	4.097	4.319	7.095
134	10.625	11.476	12.692	14.918	16.283	17.658	10.155	4.647	4.834	7.406
135	10.998	11.849	12.984	15.033	17.011	18.545	10.155	5.357	5.348	7.406
136	11.193	12.292	13.233	14.980	17.250	19.263	10.155	5.712	5.570	7.583
137	11.636	12.594	13.472	14.980	17.312	19.671	10.377	5.995	5.960	7.698
138	12.080	12.975	13.658	14.980	17.499	19.663	10.492	6.173	6.075	7.822
139	12.452	13.339	13.889	14.980	17.738	19.370	10.492	6.173	6.191	7.876
140	12.709	13.587	13.960	14.980	18.048	19.015	10.492	6.173	6.137	7.876
141	12.966	13.658	14.199	14.980	18.518	18.838	10.545	6.173	6.137	7.876
142	13.339	13.845	14.439	15.033	18.944	18.838	10.545	6.226	6.137	7.938
143	13.525	14.093	14.616	15.033	19.370	18.838	10.545	6.173	6.137	8.168
144	13.649	14.217	14.856	15.104	19.734	18.838	10.661	6.279	6.519	8.230
145	13.845	14.465	14.980	15.281	19.973	18.838	10.714	6.226	7.033	8.230
146	13.969	14.590	15.042	15.343	20.328	18.838	10.882	6.226	7.042	8.346
147	14.226	14.652	15.281	15.645	20.328	18.838	10.882	6.501	7.042	8.293
148	14.350	14.776	15.405	15.822	20.328	18.838	10.891	6.953	7.095	8.293
149	14.474	14.900	15.459	16.009	20.328	18.838	11.051	6.953	7.095	8.293
150	14.474	14.962	15.521	16.310	20.328	18.838	11.166	7.007	7.095	8.293
151	14.660	15.148	15.645	16.372	20.328	18.838	11.281	7.122	7.095	8.293
152	14.660	15.343	15.583	16.372	20.328	18.838	11.388	7.069	7.095	8.293
153	14.793	15.521	15.583	16.372	20.328	18.891	11.397	7.069	7.095	8.293
154	14.980	15.592	15.583	16.310	20.328	18.722	11.450	7.122	7.095	8.293
155	14.980	15.707	15.645	16.310	20.141	18.660	11.512	7.122	7.148	8.293
156	15.042	15.707	15.583	16.310	20.195	18.660	11.787	7.175	7.210	8.293
157	15.228	15.769	15.459	16.186	19.778	18.598	11.902	7.290	7.264	8.293
158	15.166	15.583	15.459	16.186	19.175	18.598	12.071	7.512	7.379	8.293
159	15.166	15.512	15.397	16.115	18.997	18.660	12.071	7.627	7.539	8.293
160	15.166	15.335	15.343	15.822	18.997	18.722	12.071	7.743	7.769	8.293
161	15.166	15.335	15.343	15.583	19.059	18.900	12.355	7.743	7.769	8.346
162	15.166	15.335	15.343	15.645	18.882	19.077	12.576	7.743	7.991	8.461
163	15.166	15.335	15.343	15.583	18.926	19.255	12.807	7.743	7.938	9.516
164	15.166	15.335	15.343	15.583	18.456	19.255	13.366	8.018	8.381	10.102
165	15.166	15.397	15.397	15.583	18.270	19.255	13.366	8.186	8.665	10.625
166	15.175	15.335	15.343	15.645	18.217	19.255	13.366	8.186	8.780	10.989
167	15.423	15.468	15.521	15.645	18.217	19.255	13.366	8.470	8.949	11.281
168	15.361	15.654	15.459	15.645	18.217	19.255	13.366	8.638	9.117	11.627
169	15.370	15.831	15.397	15.645	18.217	19.308	13.366	8.692	9.233	11.929
170	15.672	15.769	15.397	15.645	18.155	19.015	13.410	8.807	9.233	11.991
171	15.734	15.769	15.397	15.645	18.155	18.776	13.082	8.807	9.233	11.991
172	15.672	15.769	15.397	15.645	17.907	18.705	12.798	8.860	9.233	12.106
173	15.672	15.769	15.397	15.645	17.614	18.119	12.567	8.807	9.233	12.053
174	15.672	15.769	15.397	15.645	17.250	17.880	12.346	8.807	9.233	12.053
175	15.672	15.822	15.397	15.521	17.011	17.348	12.062	8.807	9.233	12.053
176	15.601	15.450	15.397	15.397	16.700	16.993	11.787	8.807	9.233	12.053
177	15.290	15.148	15.343	15.210	16.399	16.558	11.618	8.807	9.233	12.106
178	15.104	15.148	15.335	14.731	16.150	16.150	11.610	8.860	9.233	12.168
179	15.042	14.953	15.219	14.483	15.858	15.911	11.388	8.860	9.233	12.168
180	14.918	14.918	14.918	14.918	14.918	14.918	14.918	14.918	14.918	14.918

**Vert. Horizontal Angles**

	<u>300</u>	<u>310</u>	<u>320</u>	<u>330</u>	<u>340</u>	<u>350</u>	<u>360</u>
0	7389.952	7389.952	7389.952	7389.952	7389.952	7389.952	7389.952
1	7394.396	7376.365	7396.782	7399.265	7381.314	7407.717	7382.556
2	7380.179	7384.755	7383.247	7380.498	7398.360	7390.085	7376.338

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**CANDELA TABULATION - (Cont.)**

3	7374.290	7378.591	7393.092	7389.092	7394.830	7390.733	7380.179
4	7367.248	7374.751	7398.227	7372.028	7395.416	7364.596	7389.190
5	7374.033	7371.469	7391.407	7392.587	7401.535	7389.926	7416.480
6	7372.977	7368.241	7401.429	7385.961	7378.547	7389.376	7421.393
7	7372.968	7363.150	7387.487	7361.430	7368.321	7390.697	7404.746
8	7361.944	7341.714	7384.755	7347.958	7376.170	7375.026	7410.200
9	7321.058	7345.536	7369.882	7345.058	7355.417	7370.077	7396.702
10	7320.127	7345.616	7359.479	7327.550	7334.965	7347.514	7361.102
11	7299.542	7311.630	7345.652	7319.781	7322.663	7345.270	7354.663
12	7269.813	7302.655	7323.311	7284.961	7323.204	7324.233	7353.173
13	7241.911	7261.990	7293.910	7266.044	7301.458	7313.573	7333.838
14	7218.852	7282.797	7289.688	7251.490	7281.343	7301.333	7357.244
15	7195.695	7227.401	7273.121	7234.301	7272.128	7315.506	7356.632
16	7172.653	7214.710	7241.024	7216.838	7293.821	7325.847	7368.826
17	7136.264	7179.189	7222.107	7206.045	7288.606	7313.927	7357.430
18	7106.348	7159.323	7215.783	7218.204	7263.498	7299.409	7309.245
19	7052.052	7134.534	7189.158	7220.413	7242.665	7241.831	7272.270
20	7039.281	7107.900	7184.697	7190.976	7187.172	7182.373	7203.668
21	6981.242	7076.815	7167.287	7148.920	7120.991	7131.350	7191.624
22	6952.888	7067.662	7167.819	7072.371	7051.573	7093.364	7125.071
23	6901.084	7026.323	7086.925	7032.603	7007.255	7057.462	7122.570
24	6854.939	6989.623	7061.063	6966.467	6988.985	7025.561	7110.322
25	6800.368	6971.699	6954.050	6929.146	6934.387	6985.987	7067.884
26	6753.318	6953.482	6915.177	6873.874	6896.464	6959.646	7029.747
27	6716.511	6885.200	6862.628	6832.403	6829.449	6892.064	6963.895
28	6683.625	6824.234	6822.700	6768.581	6771.819	6803.286	6891.790
29	6631.653	6726.782	6760.404	6729.850	6715.563	6722.959	6828.669
30	6587.077	6661.878	6712.352	6661.009	6635.617	6643.023	6719.341
31	6541.491	6608.123	6652.690	6583.822	6528.063	6537.287	6651.023
32	6486.343	6558.697	6561.331	6488.348	6424.118	6470.246	6569.242
33	6388.678	6492.676	6495.691	6369.973	6349.991	6397.157	6505.234
34	6300.963	6449.014	6408.216	6298.755	6263.882	6338.515	6424.473
35	6209.045	6375.702	6302.205	6195.236	6197.914	6275.119	6354.355
36	6120.692	6296.006	6200.593	6117.003	6115.912	6199.333	6273.771
37	6020.446	6209.489	6086.804	6022.867	6066.840	6153.791	6229.435
38	5945.015	6107.016	5979.551	5940.811	6010.699	6055.265	6119.512
39	5856.360	6015.089	5877.921	5852.706	5918.842	5942.665	6031.000
40	5771.253	5909.025	5761.400	5798.907	5812.725	5850.791	5938.745
41	5707.423	5793.240	5678.147	5707.432	5698.129	5744.097	5832.955
42	5623.975	5664.817	5567.435	5590.814	5594.947	5644.977	5737.223
43	5510.097	5539.134	5465.025	5460.102	5490.337	5558.513	5632.507
44	5424.937	5434.027	5374.880	5358.357	5362.854	5444.653	5527.418
45	5323.085	5318.509	5247.920	5249.898	5258.563	5339.120	5418.241
46	5208.294	5199.824	5135.311	5138.184	5136.535	5217.713	5294.305
47	5082.212	5087.409	5003.216	5017.646	5047.587	5121.635	5187.939
48	4956.725	4981.123	4874.908	4896.708	4910.295	4999.189	5073.006
49	4820.541	4870.748	4736.844	4774.768	4796.071	4879.813	4982.125
50	4687.559	4744.232	4609.485	4651.489	4679.568	4758.600	4861.791
51	4561.956	4584.812	4469.834	4515.190	4555.615	4657.201	4744.152
52	4406.181	4439.875	4360.781	4393.481	4439.910	4536.165	4616.758
53	4280.117	4294.858	4224.668	4267.559	4296.605	4401.188	4486.517
54	4152.537	4159.526	4081.186	4139.597	4184.110	4273.333	4363.761
55	4019.590	4007.635	3955.645	4007.449	4039.422	4134.480	4216.739
56	3899.176	3875.301	3814.734	3862.121	3925.038	4009.631	4104.884
57	3749.121	3721.991	3673.930	3725.663	3782.433	3862.928	3954.581
58	3591.386	3577.293	3516.417	3593.834	3631.634	3719.721	3794.770

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**CANDELA TABULATION - (Cont.)**

59	3441.864	3446.174	3379.958	3462.901	3488.045	3538.775	3611.466
60	3285.947	3291.703	3225.132	3301.015	3316.944	3385.129	3460.861
61	3134.473	3138.109	3079.618	3132.832	3148.353	3211.208	3263.455
62	2988.498	2987.771	2938.539	2980.197	2975.620	3003.709	3034.786
63	2838.994	2829.876	2781.584	2815.899	2778.525	2769.372	2762.161
64	2681.108	2668.203	2611.211	2652.594	2533.864	2451.720	2475.569
65	2537.128	2516.064	2440.962	2462.611	2239.848	2224.070	2259.741
66	2381.601	2365.247	2274.304	2209.153	2003.081	2057.448	2108.986
67	2227.982	2206.013	2100.268	1933.309	1863.412	1926.125	1975.570
68	2073.350	2037.804	1894.321	1758.616	1723.770	1795.272	1842.694
69	1903.713	1886.543	1661.997	1585.653	1595.001	1664.428	1709.819
70	1750.590	1709.571	1429.035	1456.254	1470.232	1542.106	1588.367
71	1597.741	1531.951	1272.072	1329.507	1354.110	1427.403	1461.540
72	1457.177	1325.623	1153.174	1207.789	1241.758	1302.457	1333.649
73	1296.488	1104.102	1037.575	1100.013	1113.228	1179.125	1213.386
74	1139.312	962.783	925.977	984.494	999.989	1067.233	1101.849
75	984.184	847.247	825.163	878.084	895.627	939.484	968.282
76	805.899	739.887	722.132	779.825	779.452	826.298	850.777
77	634.799	646.621	630.231	673.725	668.261	701.254	716.846
78	531.253	550.499	537.098	570.365	542.978	544.521	536.353
79	445.650	465.419	449.543	451.246	374.023	339.177	323.559
80	372.791	384.409	355.221	291.329	210.089	179.925	168.573
81	297.697	302.876	234.026	155.004	103.803	92.158	88.894
82	232.474	213.867	121.789	78.863	67.511	64.416	62.651
83	170.640	112.619	63.777	57.498	54.269	52.105	50.580
84	105.860	58.766	47.697	45.746	43.405	41.782	41.117
85	51.148	42.287	37.037	35.307	34.438	33.330	32.647
86	33.622	30.953	28.035	27.494	26.944	25.951	25.241
87	23.494	22.350	20.532	19.893	19.184	18.048	17.374
88	15.006	13.853	11.290	10.244	9.543	8.461	8.018
89	3.840	2.865	1.933	1.277	0.834	0.585	0.585
90	0.958	0.914	0.665	0.603	0.497	0.435	0.443
91	0.940	0.816	0.585	0.541	0.372	0.435	0.381
92	0.940	0.763	0.585	0.541	0.372	0.435	0.381
93	0.940	0.754	0.585	0.541	0.372	0.435	0.381
94	0.940	0.754	0.585	0.541	0.372	0.435	0.381
95	0.940	0.816	0.585	0.541	0.372	0.435	0.381
96	0.940	0.816	0.639	0.541	0.372	0.435	0.381
97	1.002	0.816	0.639	0.603	0.426	0.435	0.443
98	1.295	0.869	0.816	0.780	0.550	0.435	0.506
99	1.463	1.047	0.763	0.843	0.860	0.798	0.745
100	1.588	1.224	0.878	0.843	0.922	0.807	0.816
101	1.703	1.446	1.047	0.905	0.984	0.807	0.816
102	1.703	1.570	1.286	1.029	0.922	0.931	0.816
103	1.942	1.632	1.517	1.384	1.047	1.055	0.940
104	2.004	1.738	1.579	1.632	1.348	1.242	1.126
105	2.235	1.978	1.694	1.747	1.650	1.605	1.499
106	2.528	2.093	1.862	1.756	1.783	1.738	1.694
107	2.705	2.155	2.040	1.871	1.960	1.987	1.880
108	2.705	2.501	2.279	2.111	2.208	2.111	2.137
109	2.705	2.678	2.510	2.297	2.634	2.297	2.200
110	2.882	2.678	2.678	2.705	2.758	2.545	2.634
111	2.945	2.678	2.625	2.776	2.829	2.794	2.829
112	3.175	2.900	2.625	2.723	2.829	2.794	2.767
113	3.290	2.971	2.687	2.776	3.069	2.794	2.829
114	3.299	3.140	2.856	2.962	3.131	2.856	2.891

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**CANDELA TABULATION - (Cont.)**

115	3.352	3.202	2.971	3.193	3.379	2.918	2.953
116	3.299	3.423	3.157	3.503	3.627	3.042	3.078
117	3.415	3.494	3.211	3.565	3.565	3.352	3.202
118	3.468	3.494	3.441	3.627	3.627	3.477	3.450
119	3.592	3.610	3.503	3.743	3.627	3.539	3.583
120	3.530	3.548	3.619	3.867	3.752	3.725	3.707
121	3.530	3.610	3.796	3.929	3.805	3.734	3.769
122	3.707	3.663	4.204	4.106	3.929	3.787	3.707
123	3.823	3.778	4.381	4.523	3.991	3.858	3.956
124	3.938	3.902	4.550	4.772	4.301	4.044	4.080
125	4.115	4.301	4.674	4.718	4.364	4.168	4.213
126	4.514	4.479	4.612	4.709	4.479	4.408	4.523
127	4.585	4.825	4.612	4.709	4.789	4.718	4.834
128	5.002	5.295	4.612	4.709	4.851	4.727	4.905
129	5.694	5.410	4.612	4.709	4.798	4.789	4.842
130	6.412	5.472	4.612	4.709	4.789	4.851	4.967
131	7.344	5.472	4.727	4.709	4.789	4.976	5.029
132	7.583	5.472	4.958	4.772	4.789	4.913	5.029
133	8.168	5.472	5.304	5.020	4.789	4.913	5.091
134	8.293	5.525	5.313	5.313	4.789	4.913	5.153
135	8.239	5.641	5.375	5.561	5.162	5.029	5.215
136	8.301	5.703	5.428	5.800	5.401	5.100	5.454
137	8.301	5.933	5.428	6.102	5.525	5.401	5.463
138	8.301	6.279	5.543	6.466	5.898	5.596	5.587
139	8.301	6.341	5.552	6.643	6.022	5.721	5.774
140	8.417	6.341	5.605	6.590	6.501	6.022	6.031
141	8.417	6.457	5.721	6.590	6.696	6.332	6.279
142	8.417	7.086	5.898	6.590	6.696	6.705	6.590
143	8.709	7.157	6.359	6.643	6.758	6.838	6.661
144	8.878	7.273	6.421	6.705	6.944	6.776	6.909
145	9.179	7.273	7.344	6.953	7.370	6.838	6.847
146	9.179	7.503	7.361	7.556	7.672	6.838	6.847
147	9.241	7.743	7.361	7.672	7.805	6.900	6.847
148	9.179	8.142	7.361	7.672	7.805	7.574	6.909
149	9.233	8.204	7.361	7.618	7.743	7.822	7.831
150	9.295	8.434	7.361	7.672	7.743	7.893	7.858
151	9.241	8.727	7.477	7.618	7.743	7.955	7.982
152	9.241	8.958	7.707	7.618	7.743	7.955	7.982
153	9.241	9.082	8.053	7.672	7.743	7.955	7.982
154	9.241	9.020	8.177	7.734	7.743	7.955	7.982
155	9.241	9.135	8.461	7.973	7.805	7.955	7.982
156	9.241	9.082	8.869	8.576	7.929	7.955	7.982
157	9.295	9.082	9.046	8.638	8.293	7.955	7.982
158	9.179	9.135	9.171	8.878	8.541	8.204	8.044
159	9.064	9.135	9.171	8.940	8.727	8.390	7.982
160	9.002	9.197	9.171	9.002	8.789	8.700	8.293
161	9.002	9.135	9.171	9.064	8.851	8.763	8.417
162	9.525	9.428	9.454	9.304	9.401	9.126	8.851
163	10.669	10.066	10.040	10.022	9.942	9.756	9.472
164	11.689	10.528	10.448	10.572	10.616	10.430	10.049
165	12.284	11.157	10.802	10.998	11.051	10.873	10.678
166	12.878	11.805	11.042	11.228	11.539	11.308	10.802
167	13.357	12.328	11.547	11.716	11.858	11.618	11.246
168	13.871	12.922	11.964	12.310	12.470	11.805	11.618
169	14.182	13.383	12.488	12.798	12.656	12.186	12.062
170	14.536	13.782	12.904	13.233	12.958	12.621	12.754

IES INDOOR REPORT  
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CANDELA TABULATION - (Cont.)

171	14.820	14.022	13.312	13.525	13.392	12.993	13.197
172	14.829	14.315	13.827	13.836	13.578	13.295	13.632
173	14.829	14.660	13.898	14.252	13.703	13.614	13.951
174	14.829	14.785	14.190	14.323	14.066	14.102	14.199
175	14.829	14.723	14.598	14.323	14.430	14.598	14.448
176	14.829	14.723	14.660	14.386	14.501	14.856	14.643
177	14.829	14.723	14.829	14.563	14.625	14.856	14.643
178	14.829	14.723	14.838	14.802	14.749	14.856	14.643
179	14.891	14.785	14.838	15.343	14.749	14.856	14.767
180	14.918	14.918	14.918	14.918	14.918	14.918	14.918

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	2756.7	N.A.	13.10
0-30	5927.19	N.A.	28.10
0-40	9811.06	N.A.	46.50
0-60	17498.76	N.A.	83.00
0-80	20954.24	N.A.	99.40
0-90	21044.76	N.A.	99.80
10-90	20340.84	N.A.	96.50
20-40	7054.36	N.A.	33.50
20-50	11126.15	N.A.	52.80
40-70	10137.33	N.A.	48.10
60-80	3455.48	N.A.	16.40
70-80	1005.85	N.A.	4.80
80-90	90.52	N.A.	0.40
90-110	7.06	N.A.	0.00
90-120	13.28	N.A.	0.10
90-130	19.67	N.A.	0.10
90-150	33.36	N.A.	0.20
90-180	43.68	N.A.	0.20
110-180	36.62	N.A.	0.20
0-180	21088.45	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	703.93
10-20	2052.78
20-30	3170.49
30-40	3883.87
40-50	4071.79
50-60	3615.91
60-70	2449.63
70-80	1005.85
80-90	90.52
90-100	2.18
100-110	4.88
110-120	6.21
120-130	6.40
130-140	6.94
140-150	6.74
150-160	5.38
160-170	3.60
170-180	1.34



**IES INDOOR REPORT**  
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	99	96	99	96	93	95	92	90	91	89	87	85
2	100	92	86	80	97	90	84	79	87	82	77	83	79	76	80	77	74	72
3	91	81	73	67	89	80	72	66	77	70	65	74	69	64	71	67	63	61
4	84	72	63	57	81	71	63	56	68	61	56	66	60	55	64	58	54	52
5	77	64	55	49	75	63	55	49	61	54	48	59	53	48	57	52	47	45
6	71	58	49	43	69	57	49	42	55	48	42	53	47	42	52	46	41	39
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35
8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

**IES INDOOR REPORT**  
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**UGR TABLE - CORRECTED**

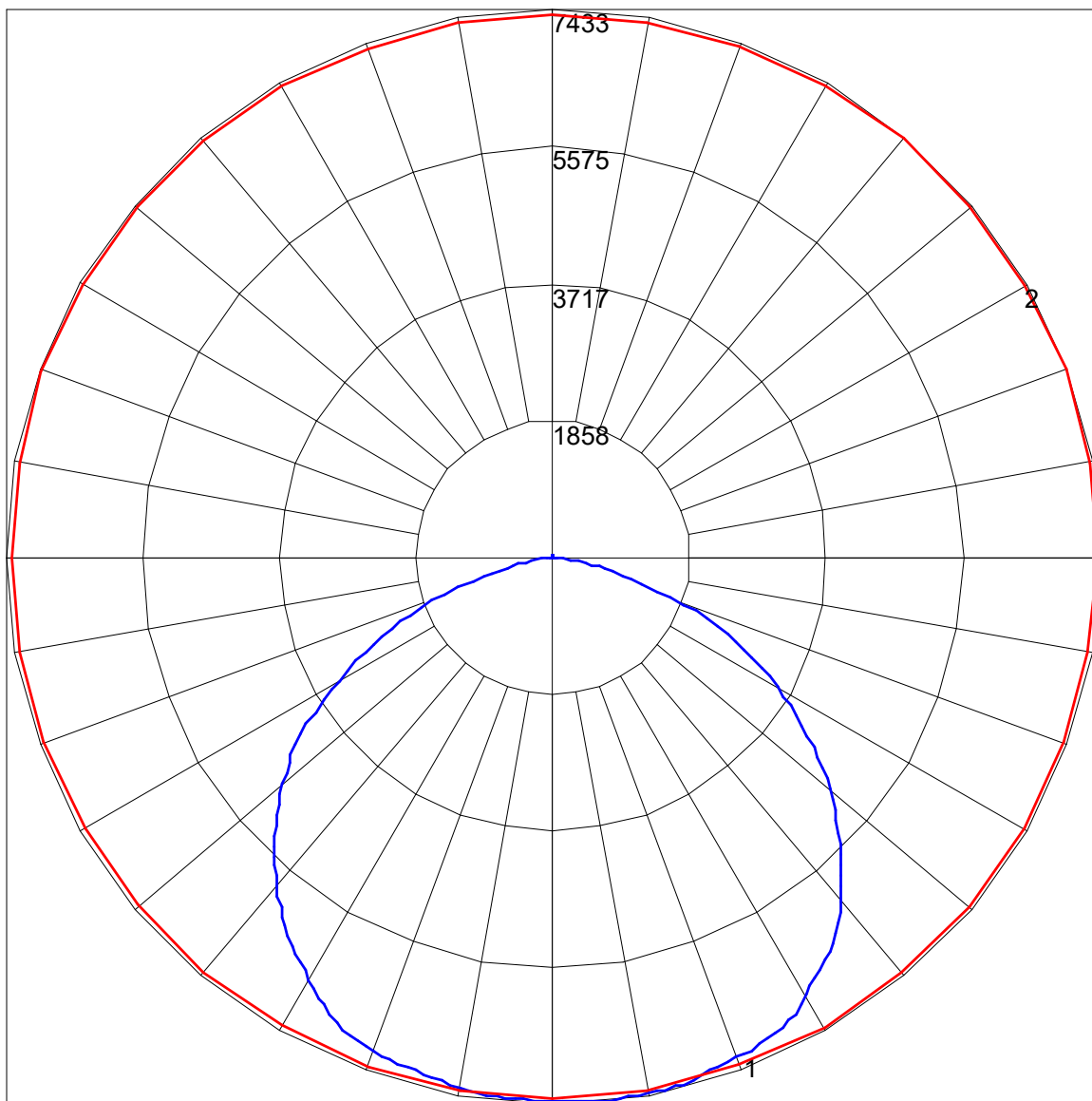
Reflectances

Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	21.9	23.5	22.3	23.9	24.2	21.9	23.5	22.3	23.8	24.1
	3H	22.9	24.3	23.2	24.6	25.0	23.3	24.7	23.7	25.1	25.4
	4H	23.2	24.5	23.6	24.9	25.2	23.7	25.0	24.1	25.4	25.7
	6H	23.2	24.5	23.6	24.8	25.2	23.8	25.1	24.2	25.4	25.8
	8H	23.2	24.4	23.6	24.8	25.2	23.8	25.0	24.2	25.4	25.8
	12H	23.1	24.3	23.6	24.7	25.1	23.8	24.9	24.2	25.3	25.7
4H	2H	22.4	23.8	22.8	24.1	24.5	22.4	23.8	22.8	24.1	24.5
	3H	23.5	24.6	23.9	25.0	25.4	24.0	25.1	24.4	25.5	25.9
	4H	23.8	24.8	24.2	25.2	25.7	24.4	25.4	24.8	25.8	26.3
	6H	23.9	24.8	24.4	25.2	25.7	24.6	25.5	25.0	25.9	26.4
	8H	23.9	24.7	24.3	25.1	25.6	24.6	25.4	25.1	25.9	26.3
	12H	23.8	24.6	24.3	25.1	25.5	24.6	25.3	25.1	25.8	26.3
8H	4H	23.9	24.8	24.4	25.2	25.7	24.4	25.3	24.9	25.7	26.2
	6H	24.0	24.7	24.5	25.2	25.7	24.7	25.4	25.2	25.8	26.3
	8H	24.0	24.6	24.5	25.1	25.6	24.7	25.3	25.2	25.8	26.3
	12H	24.0	24.5	24.5	25.0	25.6	24.7	25.2	25.2	25.7	26.3
12H	4H	23.9	24.7	24.4	25.1	25.6	24.4	25.2	24.9	25.7	26.1
	6H	24.0	24.6	24.5	25.1	25.6	24.6	25.3	25.2	25.7	26.3
	8H	24.0	24.5	24.5	25.0	25.6	24.7	25.2	25.2	25.7	26.3

Maximum UGR = 26.4

POLAR GRAPH



Maximum Candela = 7433.473 Located At Horizontal Angle = 50, Vertical Angle = 6  
# 1 - Vertical Plane Through Horizontal Angles (50 - 230) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (6) (Through Max. Cd.)