



IES INDOOR REPORT

PHOTOMETRIC FILENAME : WPCL-L97-840-BZ.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from Q2017082202 scaled from 5K

[TESTLAB] QSSI

[ISSUEDATE] 2017-8-22

[MANUFAC]

[LUMCAT] WPCL-L97-840-BZ

[LUMINAIRE] WPC45Q WITH ONE 81W QSSI LED ARRAY, TYPE IV OPTIC

[LAMPCAT] SAMSUNG 351B LEDs

[LAMP] 112 SAMSUNG 351B LEDs

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	9700
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	104
Total Luminaire Watts	93
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	3.10
Spacing Criterion (90-270)	2.52
Spacing Criterion (Diagonal)	2.64
Basic Luminous Shape	Point
Luminous Length (0-180)	0.00 m
Luminous Width (90-270)	0.00 m
Luminous Height	0.00 m

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	0	0	0
55	0	0	0
65	0	0	0
75	0	0	0
85	0	0	0

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CANDELA TABULATION

	<u>0</u>	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>	<u>45</u>
0	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674
5	1687.973	1665.745	1657.662	1636.109	1635.434	1612.533	1606.471	1588.284	1572.792	1533.725
10	1952.013	1941.237	1906.884	1887.351	1879.268	1866.470	1848.957	1831.444	1795.745	1766.781
15	2135.899	2135.225	2108.956	2090.769	2079.319	2054.396	2033.516	2019.371	1984.345	1955.382
20	2231.546	2245.691	2242.997	2254.447	2263.205	2236.261	2222.790	2201.235	2178.334	2155.433
25	2325.173	2329.214	2339.318	2354.810	2348.074	2332.583	2327.867	2323.825	2323.825	2292.841
30	2464.602	2447.763	2465.276	2445.742	2401.961	2383.774	2392.530	2400.613	2420.147	2416.779
35	2657.245	2652.529	2640.405	2610.095	2548.799	2508.385	2518.489	2573.721	2608.074	2604.706
40	2845.845	2843.824	2831.699	2806.104	2833.720	2857.296	2833.720	2798.695	2864.704	2765.690
45	3096.414	3103.823	3126.051	3104.497	3099.781	3113.253	3086.310	2996.725	2899.057	2860.663
50	3537.604	3538.277	3529.521	3473.614	3437.242	3415.014	3363.149	3237.191	3095.740	2992.683
55	3864.960	3885.167	3904.028	3895.271	3942.421	4004.389	3941.747	3790.194	3633.925	3389.417
60	3460.143	3471.594	3595.531	3670.298	3944.441	4112.161	4202.420	4255.633	4243.508	4102.731
65	2571.701	2628.954	2740.093	2940.819	3150.299	3289.729	3637.966	3855.530	3998.327	3937.033
70	2636.363	2612.789	2545.431	2497.608	2441.028	2380.406	2296.883	2294.862	2463.256	2603.358
75	2317.090	2237.608	2104.915	1908.905	1528.337	1298.109	1292.653	1194.312	1060.271	987.997
80	1188.316	1173.431	1067.007	814.888	623.526	440.045	353.155	291.051	276.973	273.134
85	419.164	411.485	273.740	199.647	150.611	121.984	107.772	87.228	89.518	96.995
90	4.109	5.051	5.995	6.399	6.466	5.590	5.187	5.995	6.332	5.726
95	3.233	3.233	3.300	3.435	3.570	3.839	4.109	4.445	4.850	5.389
100	2.560	2.560	2.560	2.627	2.829	3.166	3.502	4.041	4.513	5.119
105	2.021	2.021	2.021	2.155	2.357	2.762	3.233	3.772	4.311	4.984
110	1.617	1.751	1.818	2.021	2.223	2.560	3.031	3.502	3.974	4.580
115	1.549	1.549	1.684	1.886	2.088	2.357	2.762	3.166	3.638	4.109
120	1.549	1.617	1.684	1.886	2.021	2.290	2.560	2.963	3.368	3.907
125	1.684	1.684	1.751	2.021	2.155	2.357	2.627	3.031	3.368	3.907
130	2.021	2.021	2.155	2.223	2.425	2.694	2.963	3.233	3.638	4.109
135	2.425	2.493	2.560	2.627	2.829	3.031	3.300	3.638	3.974	4.311
140	3.099	3.166	3.300	3.368	3.570	3.705	3.907	4.244	4.513	4.917
145	4.513	4.648	4.648	4.850	4.984	5.254	5.523	5.860	6.129	6.534
150	7.746	7.948	7.948	8.150	8.217	8.487	8.824	8.959	9.362	9.498
155	13.472	13.404	13.673	13.943	13.943	14.212	14.212	14.617	14.885	15.021
160	21.150	21.016	21.217	21.016	21.352	21.555	21.487	21.689	21.622	21.891
165	26.673	26.808	27.212	26.943	27.078	27.212	27.078	27.212	27.145	27.212
170	29.031	29.166	29.166	29.300	29.368	29.300	29.368	29.435	29.300	29.300
175	29.300	29.300	29.502	29.502	29.502	29.638	29.638	29.570	29.638	29.570
180	26.991	26.991	26.991	26.991	26.991	26.991	26.991	26.991	26.991	26.991

Vert. Angles **Horizontal Angles**

	<u>50</u>	<u>55</u>	<u>60</u>	<u>65</u>	<u>70</u>	<u>75</u>	<u>80</u>	<u>85</u>	<u>90</u>	<u>95</u>
0	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674
5	1498.699	1466.367	1446.834	1394.969	1352.533	1303.363	1250.151	1204.348	1110.721	1083.105
10	1729.734	1692.688	1649.579	1605.798	1536.420	1463.000	1392.275	1308.078	1169.322	1084.452
15	1914.967	1884.656	1838.180	1774.190	1710.875	1634.087	1550.565	1437.404	1266.991	1139.685
20	2107.609	2063.827	2002.532	1950.666	1875.900	1792.377	1692.015	1564.036	1358.596	1219.166
25	2269.940	2234.240	2183.049	2126.469	2060.459	1974.241	1856.366	1698.077	1482.533	1314.814
30	2395.898	2365.587	2319.111	2274.655	2224.137	2143.982	2005.900	1854.345	1626.004	1430.669
35	2624.239	2566.986	2512.426	2469.318	2374.344	2280.044	2158.127	2009.941	1772.843	1572.792
40	2814.860	2734.705	2789.937	2676.778	2540.042	2387.815	2282.738	2153.412	1935.848	1753.983
45	2820.248	2800.042	2741.441	2693.618	2610.095	2523.877	2451.805	2360.199	2150.717	1991.755
50	2923.979	2847.192	2733.358	2647.814	2611.441	2593.255	2590.561	2542.063	2387.815	2225.484
55	3223.719	3070.144	2915.223	2767.037	2699.680	2703.047	2752.891	2767.037	2625.586	2476.727
60	3869.675	3578.692	3285.014	3015.585	2830.352	2841.130	2923.979	3005.481	2905.119	2800.042

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CANDELA TABULATION - (Cont.)

65	3759.883	3522.111	3282.993	3157.035	3045.222	3111.905	3195.429	3291.749	3233.149	3108.538
70	2546.105	2393.878	2298.230	2431.597	2536.001	2754.239	3117.968	3408.278	3489.781	3317.345
75	988.940	1088.560	1071.721	1090.716	1190.944	1321.887	1621.289	2401.286	2923.305	2944.860
80	328.030	352.346	392.423	384.139	383.397	414.786	568.361	821.220	1221.861	1314.814
85	99.622	123.466	113.362	116.259	99.016	90.933	96.793	88.305	376.527	385.957
90	7.207	6.804	7.207	7.679	8.150	8.555	8.824	8.756	10.710	10.845
95	5.995	6.601	7.207	7.746	8.285	8.756	9.093	9.430	11.249	11.585
100	5.860	6.534	7.207	7.881	8.487	8.891	9.295	9.565	11.182	11.653
105	5.658	6.332	6.871	7.544	8.083	8.487	8.891	9.161	10.440	11.046
110	5.187	5.860	6.466	7.140	7.746	8.217	8.555	8.891	9.901	10.373
115	4.715	5.456	6.129	6.804	7.410	7.948	8.352	8.756	9.565	10.036
120	4.513	5.187	5.860	6.668	7.274	7.746	8.217	8.689	9.161	9.632
125	4.445	5.119	5.928	6.668	7.342	7.948	8.420	8.891	9.228	9.700
130	4.715	5.321	6.062	6.804	7.477	8.083	8.487	8.959	9.700	10.238
135	4.783	5.321	5.928	6.534	7.072	7.544	7.948	8.352	9.834	10.440
140	5.321	5.726	6.196	6.668	7.140	7.611	7.948	8.352	10.238	10.777
145	6.804	7.274	7.544	8.016	8.420	8.756	9.093	9.430	11.114	11.653
150	9.901	10.373	10.575	11.182	11.383	11.518	12.057	12.192	12.730	13.202
155	15.357	15.694	15.762	16.099	16.435	16.435	16.705	16.906	16.705	16.906
160	22.093	21.959	22.161	22.362	22.161	22.295	22.362	22.093	22.295	22.295
165	27.212	27.010	27.078	27.010	26.741	26.673	26.539	26.269	25.933	25.865
170	29.166	29.099	29.031	28.761	28.627	28.424	28.223	28.021	27.010	27.010
175	29.435	29.300	29.166	29.099	28.963	28.761	28.694	28.493	26.337	26.472
180	26.991	26.991	26.991	26.991	26.991	26.991	26.991	26.991	26.991	26.991

**Vert.
Angles**

Horizontal Angles

	<u>100</u>	<u>105</u>	<u>110</u>	<u>115</u>	<u>120</u>	<u>125</u>	<u>130</u>	<u>135</u>	<u>140</u>	<u>145</u>
0	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674
5	1042.691	1012.380	990.152	962.535	947.717	933.571	914.712	907.976	895.852	892.484
10	1006.318	955.126	914.038	879.013	856.785	842.640	824.453	814.349	808.287	800.878
15	1026.525	951.085	899.220	858.131	829.842	807.614	787.407	774.608	763.158	755.075
20	1075.022	969.271	897.198	850.048	814.349	789.427	768.547	747.665	734.195	723.417
25	1140.359	1003.624	907.976	850.048	812.329	784.039	758.443	732.847	718.702	704.557
30	1225.903	1056.836	936.266	862.847	819.738	785.386	754.402	726.785	705.904	690.412
35	1384.192	1194.918	1027.198	912.018	847.354	803.573	761.811	735.541	711.293	691.086
40	1587.611	1382.844	1194.244	1042.691	905.955	832.536	794.142	761.137	730.153	699.169
45	1801.133	1583.570	1373.415	1222.535	1039.323	894.504	835.230	789.427	743.624	705.904
50	2028.801	1803.154	1568.751	1376.782	1187.509	1035.281	894.504	815.023	759.117	713.313
55	2288.127	2024.760	1751.962	1508.129	1332.327	1199.633	1037.975	897.198	806.940	735.541
60	2567.659	2238.956	1893.412	1653.621	1587.611	1583.570	1498.026	1361.291	1173.364	956.473
65	2809.471	2406.675	2009.267	1771.496	1661.704	1529.010	1398.337	1236.680	1008.338	829.168
70	2961.699	2460.561	1929.785	1633.414	1473.777	1275.073	1079.064	755.748	464.765	361.708
75	2626.934	2028.801	1434.036	1068.960	815.023	571.863	361.035	212.041	37.451	9.295
80	1132.949	639.220	365.750	386.630	37.855	12.866	8.285	7.611	7.410	7.410
85	182.269	31.254	11.721	9.834	9.430	9.228	9.026	9.026	9.026	9.026
90	10.912	11.046	11.114	11.046	10.912	10.845	10.710	10.777	10.710	10.710
95	11.855	12.124	12.259	12.259	12.259	12.192	12.124	12.124	12.057	12.057
100	12.057	12.394	12.663	12.798	12.866	12.866	12.933	12.933	12.933	12.933
105	11.518	11.989	12.394	12.663	12.798	12.798	12.933	13.000	13.134	13.202
110	10.979	11.518	11.922	12.192	12.327	12.394	12.394	12.528	12.663	12.798
115	10.575	11.114	11.518	11.855	11.855	11.855	11.855	11.855	11.989	12.124
120	10.238	10.777	11.114	11.316	11.451	11.383	11.383	11.383	11.451	11.653
125	10.238	10.777	11.182	11.383	11.451	11.518	11.518	11.585	11.653	11.788
130	10.912	11.316	11.721	11.989	12.124	12.259	12.327	12.394	12.528	12.663
135	11.046	11.518	11.922	12.259	12.528	12.798	13.000	13.202	13.337	13.606

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CANDELA TABULATION - (Cont.)

140	11.249	11.721	12.124	12.528	12.798	13.202	13.472	13.876	14.145	14.549
145	12.124	12.596	13.000	13.404	13.876	14.279	14.617	15.088	15.357	15.627
150	13.606	14.010	14.549	14.885	15.357	15.762	16.099	16.570	16.906	17.109
155	17.445	17.648	17.917	18.456	18.726	19.062	19.534	19.804	20.207	20.274
160	22.565	22.632	22.700	23.036	23.171	23.440	23.575	23.710	23.979	24.114
165	25.933	26.000	26.000	26.202	26.202	26.134	26.269	26.269	26.404	26.472
170	27.145	27.078	27.010	26.943	26.808	26.741	26.673	26.472	26.472	26.404
175	26.404	26.269	26.134	26.000	25.933	25.865	25.865	25.730	25.730	25.730
180	26.991	26.991	26.991	26.991	26.991	26.991	26.991	26.991	26.991	26.991

Vert. Angles	Horizontal Angles									
	150	155	160	165	170	175	180	185	190	195
0	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674
5	889.790	881.033	883.727	886.421	882.380	883.727	877.665	876.318	889.116	890.463
10	798.184	797.510	792.121	794.142	796.836	791.448	783.365	784.712	799.531	801.552
15	749.686	749.013	738.236	739.583	735.541	732.847	726.785	729.479	740.257	749.686
20	715.334	709.272	700.515	695.801	692.433	686.370	679.635	682.329	689.739	699.169
25	693.107	680.982	668.858	661.448	653.365	643.935	638.547	642.589	647.977	660.101
30	676.267	662.122	647.977	638.547	627.096	616.992	611.604	615.646	623.729	635.853
35	672.225	654.713	637.200	625.075	610.257	600.153	592.744	599.480	608.236	621.034
40	672.899	647.303	625.075	606.889	594.091	585.335	581.967	584.661	593.418	605.542
45	672.899	639.220	611.604	589.376	581.967	587.356	581.967	589.376	583.314	590.723
50	668.184	627.770	592.744	569.842	560.413	571.863	560.413	569.842	565.128	578.599
55	665.490	609.584	563.780	537.511	524.713	518.651	515.957	517.978	525.386	548.962
60	767.199	542.226	442.537	405.491	383.936	375.180	374.506	377.201	383.936	418.289
65	707.925	398.755	361.035	224.233	214.062	208.942	208.201	209.279	212.579	268.014
70	247.807	111.544	82.850	47.285	42.637	42.368	38.596	41.021	40.212	49.507
75	7.746	6.735	6.332	5.928	5.590	5.389	5.321	5.254	5.254	5.456
80	7.342	7.207	7.005	6.804	6.534	6.534	6.399	6.332	6.265	6.265
85	9.026	8.891	8.756	8.555	8.352	8.150	8.083	8.016	8.016	8.016
90	10.710	10.575	10.440	10.238	10.171	9.968	9.767	9.767	9.767	9.700
95	12.057	11.989	11.855	11.721	11.518	11.383	11.249	11.114	11.046	11.046
100	12.933	12.866	12.663	12.596	12.394	12.124	11.989	11.855	11.855	11.922
105	13.202	13.067	12.933	12.798	12.596	12.461	12.394	12.259	12.259	12.259
110	12.866	12.798	12.798	12.798	12.730	12.663	12.663	12.528	12.461	12.394
115	12.259	12.394	12.461	12.528	12.596	12.528	12.528	12.461	12.327	12.259
120	11.721	11.855	11.989	12.057	12.057	12.057	12.124	11.989	11.922	11.788
125	11.989	12.057	12.124	12.192	12.192	12.259	12.327	12.259	12.124	12.057
130	12.730	12.866	12.866	12.933	12.933	13.000	13.067	13.000	13.000	13.000
135	13.673	13.808	13.808	13.808	13.876	13.943	14.010	13.943	13.876	13.808
140	14.751	14.954	15.088	15.088	15.155	15.155	15.155	15.021	14.954	14.751
145	15.963	16.099	16.300	16.368	16.368	16.502	16.502	16.435	16.368	16.166
150	17.445	17.513	17.783	18.051	18.187	18.321	18.321	18.254	18.254	18.051
155	20.813	20.948	21.083	21.150	21.420	21.487	21.622	21.622	21.487	21.555
160	24.383	24.451	24.518	24.788	24.788	24.855	25.057	25.057	25.124	24.855
165	26.539	26.539	26.673	26.741	26.808	26.876	26.876	27.010	27.078	27.212
170	26.404	26.404	26.337	26.404	26.337	26.404	26.539	26.606	26.808	27.010
175	25.730	25.663	25.663	25.663	25.730	25.798	25.865	26.000	26.134	26.337
180	26.991	26.991	26.991	26.991	26.991	26.991	26.991	26.991	26.991	26.991

Vert. Angles	Horizontal Angles									
	200	205	210	215	220	225	230	235	240	245
0	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674
5	905.281	907.976	909.323	920.774	928.857	944.349	965.230	986.784	1007.665	1042.017

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CANDELA TABULATION - (Cont.)

10	807.614	815.023	822.432	831.863	844.660	860.826	877.665	900.567	930.877	970.618
15	754.402	763.831	775.282	789.427	806.940	825.801	847.354	876.992	908.649	954.453
20	707.925	716.008	732.174	748.340	769.220	791.448	819.064	857.458	895.852	949.737
25	673.573	688.391	705.904	725.437	749.013	773.262	804.246	844.660	897.198	963.209
30	651.345	668.184	691.086	716.681	743.624	771.241	808.961	856.785	914.038	996.887
35	641.241	661.448	688.391	720.049	753.728	788.080	835.230	898.546	984.763	1103.312
40	625.749	652.692	689.065	726.112	769.220	817.718	877.665	983.416	1120.825	1281.136
45	611.604	641.914	683.003	730.153	780.670	843.313	950.411	1104.659	1287.871	1476.471
50	602.847	634.506	680.308	738.909	805.593	905.955	1074.348	1262.949	1445.487	1638.803
55	583.987	641.914	726.112	831.863	952.432	1123.519	1292.586	1425.953	1586.264	1784.967
60	501.139	709.272	946.370	1159.892	1379.477	1555.279	1695.382	1782.947	1852.325	1950.666
65	361.035	444.558	694.453	848.702	1086.473	1363.311	1508.803	1660.356	1819.320	1986.366
70	93.829	120.233	347.563	364.403	532.796	879.686	1167.975	1357.922	1564.036	1770.149
75	5.726	6.332	7.140	9.228	32.534	361.035	389.325	562.434	817.718	1112.069
80	6.332	6.332	6.466	6.466	6.399	6.601	7.140	13.876	41.493	369.118
85	8.083	8.016	8.016	8.016	7.881	7.746	7.746	7.746	8.016	8.420
90	9.632	9.700	9.565	9.498	9.228	9.161	9.161	9.161	9.228	9.362
95	11.046	11.046	10.845	10.710	10.507	10.373	10.306	10.306	10.373	10.440
100	11.855	11.855	11.721	11.585	11.316	11.114	11.046	11.046	11.114	11.046
105	12.259	12.192	12.057	11.922	11.721	11.518	11.383	11.316	11.249	11.182
110	12.327	12.192	11.989	11.721	11.518	11.316	11.182	11.182	11.114	11.046
115	12.124	11.855	11.721	11.316	11.114	10.979	10.912	10.912	10.845	10.845
120	11.653	11.451	11.249	10.979	10.777	10.643	10.575	10.575	10.575	10.507
125	11.989	11.788	11.518	11.383	11.114	10.979	10.845	10.845	10.710	10.643
130	12.866	12.663	12.528	12.327	12.124	11.855	11.653	11.518	11.316	11.182
135	13.741	13.606	13.472	13.202	13.000	12.798	12.528	12.259	11.989	11.721
140	14.617	14.482	14.347	14.145	13.943	13.741	13.472	13.134	12.866	12.461
145	16.166	16.031	15.829	15.694	15.357	15.088	14.684	14.347	13.943	13.539
150	17.984	17.715	17.513	17.244	17.041	16.705	16.435	15.896	15.627	15.290
155	21.352	21.285	21.150	20.813	20.881	20.544	20.611	20.274	19.938	19.668
160	24.922	24.989	24.855	24.788	24.721	24.721	24.383	24.855	24.855	25.057
165	27.212	27.212	27.279	27.347	27.415	27.684	27.751	28.021	28.155	28.290
170	27.078	27.279	27.549	27.684	27.954	28.155	28.424	28.694	28.963	29.166
175	26.606	26.808	27.078	27.279	27.415	27.617	27.751	27.954	28.155	28.357
180	26.991	26.991	26.991	26.991	26.991	26.991	26.991	26.991	26.991	26.991

Vert. Horizontal Angles

	<u>250</u>	<u>255</u>	<u>260</u>	<u>265</u>	<u>270</u>	<u>275</u>	<u>280</u>	<u>285</u>	<u>290</u>	<u>295</u>
0	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674
5	1068.960	1103.986	1137.664	1180.773	1207.042	1258.908	1304.710	1348.493	1400.358	1428.648
10	1019.789	1088.493	1161.913	1249.477	1326.938	1405.747	1490.616	1559.321	1607.144	1673.155
15	1017.095	1110.721	1218.493	1343.104	1460.305	1559.994	1667.093	1750.615	1817.972	1873.879
20	1027.198	1143.053	1273.053	1427.974	1562.689	1714.243	1828.076	1921.703	1990.407	2051.702
25	1051.447	1194.918	1352.533	1524.295	1692.688	1862.428	1991.755	2089.422	2183.722	2238.956
30	1124.193	1313.466	1504.761	1678.543	1851.651	2025.433	2185.744	2273.308	2348.074	2397.245
35	1289.892	1498.699	1704.139	1870.511	2057.091	2199.889	2346.053	2423.514	2484.809	2534.654
40	1500.047	1720.978	1922.377	2095.484	2280.044	2377.039	2489.524	2555.535	2637.711	2781.855
45	1698.077	1937.195	2141.961	2313.722	2525.224	2617.503	2669.369	2723.254	2768.384	2886.259
50	1883.309	2162.168	2388.489	2562.270	2775.793	2826.985	2822.270	2800.715	2802.736	2859.316
55	2042.272	2389.162	2650.508	2835.068	3032.424	3040.507	2976.518	2908.487	2899.057	2992.683
60	2214.707	2598.643	2917.243	3138.175	3316.672	3245.947	3125.377	3014.238	3045.896	3253.356
65	2306.986	2766.363	3152.320	3419.728	3552.422	3436.567	3275.584	3186.672	3227.760	3374.599
70	2193.152	2815.534	3287.709	3606.308	3629.210	3420.402	3140.870	2829.005	2692.270	2660.612
75	1476.471	2246.365	2793.980	3038.486	2546.105	2323.152	1682.584	1287.534	1270.694	1238.835
80	367.097	685.697	1377.456	1308.078	910.401	797.510	611.065	449.745	401.921	422.802

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CANDELA TABULATION - (Cont.)

85	11.182	36.777	173.108	357.667	67.088	98.813	106.896	114.642	110.871	128.383
90	9.430	9.362	9.295	9.093	9.834	9.700	9.632	9.093	8.622	8.016
95	10.440	10.306	10.104	9.834	10.238	9.901	9.362	8.824	8.150	7.544
100	10.979	10.777	10.440	10.104	9.968	9.498	9.026	8.555	7.948	7.274
105	10.979	10.643	10.238	9.767	9.093	8.689	8.352	7.948	7.477	6.871
110	10.912	10.440	9.968	9.498	8.622	8.285	7.948	7.611	7.072	6.466
115	10.643	10.306	9.834	9.362	8.420	8.016	7.611	7.274	6.735	6.129
120	10.373	9.968	9.565	9.026	8.217	7.813	7.410	7.005	6.534	5.860
125	10.440	10.171	9.700	9.161	8.420	7.948	7.544	7.072	6.466	5.793
130	10.979	10.643	10.171	9.700	8.420	7.881	7.342	6.804	6.265	5.658
135	11.383	10.912	10.507	10.036	7.746	7.207	6.668	6.265	5.793	5.321
140	12.057	11.653	11.249	10.777	7.813	7.342	6.938	6.466	6.062	5.658
145	13.067	12.798	12.327	11.922	8.689	8.352	8.016	7.544	7.207	6.735
150	14.751	14.684	14.279	13.876	10.979	10.710	10.507	10.104	9.700	9.430
155	19.601	19.332	19.196	18.860	15.155	14.885	14.751	14.684	14.347	14.279
160	24.989	24.922	24.922	24.788	20.544	20.477	20.274	20.140	20.274	20.611
165	28.424	28.560	28.627	28.761	24.046	24.316	24.518	24.653	24.788	25.057
170	29.368	29.502	29.705	29.772	25.596	25.798	26.067	26.269	26.539	26.876
175	28.493	28.493	28.694	28.761	26.134	26.134	26.269	26.539	26.808	27.078
180	26.991	26.991	26.991	26.991	26.991	26.991	26.991	26.991	26.991	26.991

**Vert.
Angles**

Horizontal Angles

	<u>300</u>	<u>305</u>	<u>310</u>	<u>315</u>	<u>320</u>	<u>325</u>	<u>330</u>	<u>335</u>	<u>340</u>	<u>345</u>
0	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674	1190.674
5	1465.021	1493.311	1534.399	1577.507	1566.730	1595.694	1619.942	1626.678	1643.517	1639.476
10	1713.569	1748.594	1785.641	1832.791	1835.485	1865.123	1873.879	1891.392	1902.169	1904.863
15	1916.988	1956.728	1989.734	2012.635	2031.495	2049.682	2067.195	2076.624	2092.790	2096.158
20	2090.096	2140.614	2172.945	2201.909	2226.831	2238.956	2249.733	2261.184	2254.447	2264.551
25	2294.189	2323.825	2337.971	2351.442	2365.587	2350.095	2348.747	2346.053	2336.623	2339.318
30	2439.680	2468.644	2472.012	2463.929	2453.152	2420.147	2393.878	2393.203	2418.126	2467.970
35	2586.519	2650.508	2641.752	2627.607	2615.483	2584.498	2579.110	2577.089	2624.913	2663.980
40	2855.275	2848.539	2942.839	2864.704	2932.062	2915.896	2998.746	3004.808	2951.596	2910.508
45	2953.616	2986.621	3016.932	3025.688	3108.538	3237.864	3337.553	3340.247	3274.237	3255.377
50	2946.881	3029.057	3113.253	3241.232	3385.376	3483.044	3567.915	3604.961	3633.251	3643.355
55	3146.258	3280.972	3481.023	3690.505	3893.924	4045.478	4095.322	4119.571	4096.668	4060.296
60	3490.454	3774.028	4096.668	4330.399	4407.859	4378.223	4280.555	4147.861	3984.183	3784.805
65	3523.459	3735.634	4050.866	4186.255	4163.353	4032.006	3693.199	3416.360	3119.988	2872.114
70	2629.628	2740.093	2872.787	2888.953	2663.307	2439.680	2366.261	2414.758	2451.131	2513.100
75	1173.700	1218.224	1063.369	935.929	986.852	1046.463	1254.125	1331.519	1306.125	1991.755
80	415.392	388.314	330.724	273.336	260.471	298.123	348.035	424.351	541.013	768.951
85	125.958	131.616	110.871	102.249	94.300	102.249	121.984	141.249	173.512	205.507
90	7.342	6.601	7.072	5.523	5.928	7.746	4.850	4.580	9.632	5.860
95	6.804	6.062	5.389	4.783	4.378	4.041	3.705	3.570	3.368	3.233
100	6.466	5.726	4.984	4.378	3.974	3.638	3.300	3.099	2.829	2.762
105	6.196	5.456	4.715	4.176	3.638	3.233	2.963	2.627	2.425	2.223
110	5.793	5.119	4.445	3.839	3.435	2.963	2.627	2.290	2.021	1.886
115	5.456	4.648	4.109	3.502	3.099	2.694	2.357	2.088	1.886	1.684
120	5.119	4.445	3.839	3.300	2.896	2.560	2.290	2.021	1.818	1.684
125	5.051	4.378	3.772	3.300	2.963	2.560	2.290	2.088	1.954	1.818
130	5.051	4.378	3.907	3.502	3.099	2.829	2.560	2.357	2.223	2.088
135	4.850	4.311	3.907	3.570	3.300	3.031	2.829	2.762	2.627	2.493
140	5.254	4.850	4.445	4.176	3.839	3.638	3.435	3.300	3.233	3.099
145	6.466	6.129	5.793	5.523	5.254	5.051	4.783	4.648	4.513	4.513
150	9.161	8.891	8.689	8.285	8.217	7.813	7.813	7.813	7.544	7.679
155	14.010	13.943	13.606	13.606	13.539	13.337	13.337	13.404	13.202	13.269

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CANDELA TABULATION - (Cont.)

160	20.342	20.544	20.342	20.477	20.679	20.477	20.611	20.813	20.679	20.813
165	25.327	25.528	25.596	25.798	25.798	26.067	26.202	26.269	26.404	26.606
170	27.145	27.279	27.549	27.818	28.021	28.223	28.424	28.493	28.627	28.694
175	27.347	27.549	27.751	27.885	28.088	28.155	28.290	28.560	28.829	29.031
180	26.991	26.991	26.991	26.991	26.991	26.991	26.991	26.991	26.991	26.991

Vert. Angles **Horizontal Angles**

	<u>350</u>	<u>355</u>	<u>360</u>
0	1190.674	1190.674	1190.674
5	1654.968	1669.787	1687.973
10	1914.967	1922.377	1952.013
15	2110.977	2118.386	2135.899
20	2268.593	2241.650	2231.546
25	2349.422	2342.012	2325.173
30	2490.198	2497.608	2464.602
35	2688.902	2679.472	2657.245
40	2899.730	2869.419	2845.845
45	3233.822	3163.771	3096.414
50	3674.339	3652.784	3537.604
55	4022.576	3954.545	3864.960
60	3688.484	3522.785	3460.143
65	2703.047	2614.809	2571.701
70	2584.498	2655.224	2636.363
75	2189.784	2276.675	2317.090
80	990.960	1212.498	1188.316
85	237.233	362.113	419.164
90	4.176	4.445	4.109
95	3.233	3.233	3.233
100	2.627	2.627	2.560
105	2.088	2.021	2.021
110	1.751	1.684	1.617
115	1.549	1.482	1.549
120	1.549	1.549	1.549
125	1.684	1.617	1.684
130	2.021	2.021	2.021
135	2.425	2.425	2.425
140	3.099	3.099	3.099
145	4.513	4.445	4.513
150	7.679	7.611	7.746
155	13.134	13.337	13.472
160	20.611	20.813	21.150
165	26.539	26.741	26.673
170	28.896	29.031	29.031
175	29.099	29.233	29.300
180	26.991	26.991	26.991

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	516.01	N.A.	5.30
0-30	1228.85	N.A.	12.70
0-40	2315.65	N.A.	23.90
0-60	5979.44	N.A.	61.60
0-80	9467.69	N.A.	97.60
0-90	9634.93	N.A.	99.30
10-90	9515.00	N.A.	98.10
20-40	1799.65	N.A.	18.60
20-50	3352.63	N.A.	34.60
40-70	5941.32	N.A.	61.30
60-80	3488.26	N.A.	36.00
70-80	1210.72	N.A.	12.50
80-90	167.23	N.A.	1.70
90-110	18.32	N.A.	0.20
90-120	26.22	N.A.	0.30
90-130	33.28	N.A.	0.30
90-150	46.67	N.A.	0.50
90-180	64.58	N.A.	0.70
110-180	46.26	N.A.	0.50
0-180	9699.51	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	119.92
10-20	396.08
20-30	712.84
30-40	1086.81
40-50	1552.98
50-60	2110.8
60-70	2277.54
70-80	1210.72
80-90	167.23
90-100	9.34
100-110	8.99
110-120	7.90
120-130	7.06
130-140	6.69
140-150	6.70
150-160	7.98
160-170	7.30
170-180	2.63

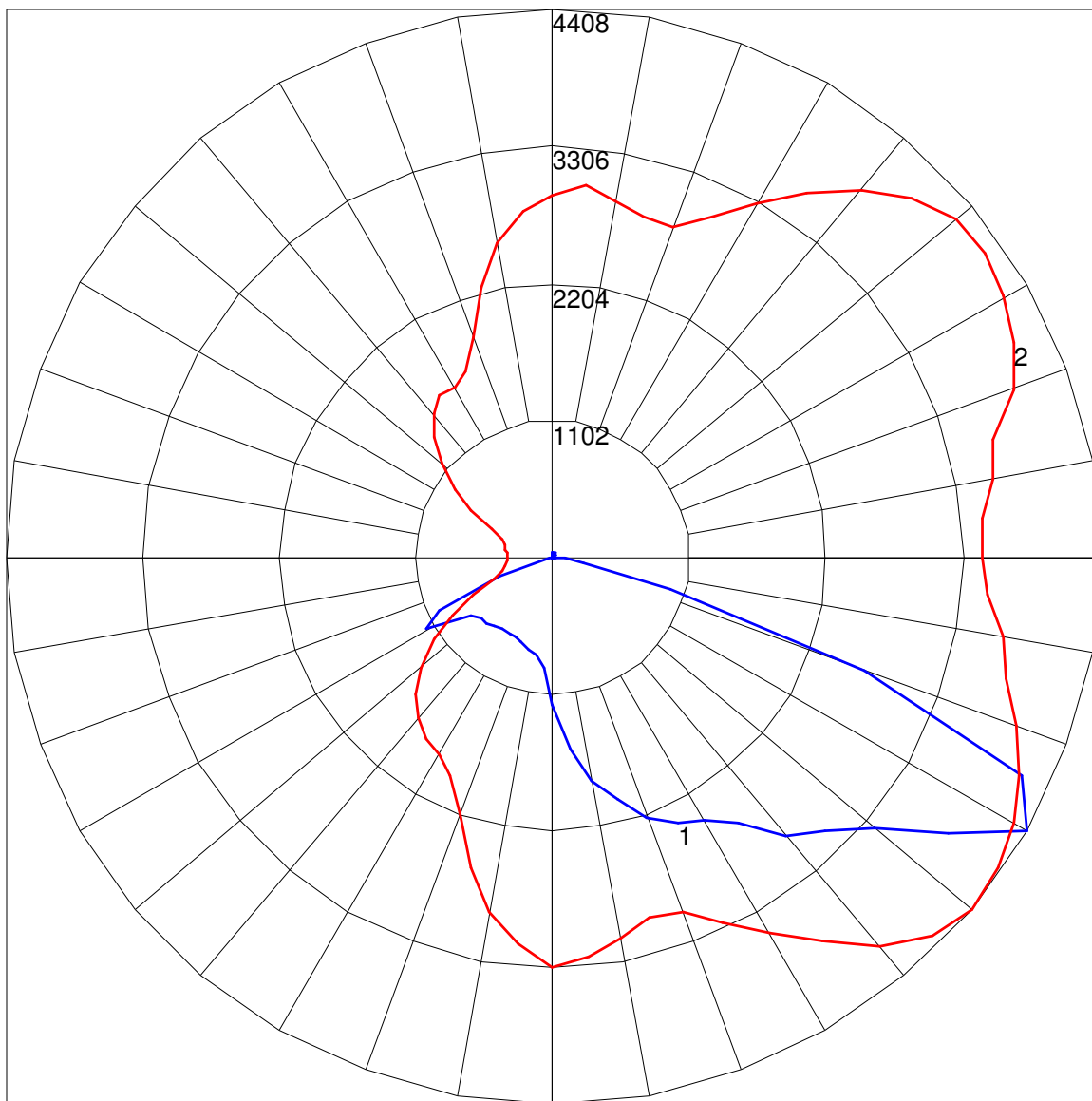
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	101	101	101	99
1	106	100	95	90	103	98	93	89	93	89	86	89	86	83	85	83	80	78
2	94	84	75	68	91	82	74	67	78	71	66	74	69	64	71	66	62	60
3	83	71	61	53	81	69	60	52	66	58	51	63	56	50	60	54	49	47
4	75	61	50	42	72	59	49	42	56	48	41	54	46	40	51	45	40	37
5	68	53	42	34	65	51	41	34	49	40	33	47	39	33	45	38	32	30
6	62	46	36	28	59	45	35	28	43	34	28	41	33	27	39	33	27	25
7	57	41	31	24	55	40	31	24	38	30	24	37	29	23	35	28	23	21
8	52	37	27	21	50	36	27	21	35	26	20	33	26	20	32	25	20	18
9	48	33	24	18	47	33	24	18	31	23	18	30	23	18	29	22	17	15
10	45	30	22	16	44	30	21	16	29	21	16	28	21	16	27	20	15	13

POLAR GRAPH



Maximum Candela = 4407.859 Located At Horizontal Angle = 320, Vertical Angle = 60
1 - Vertical Plane Through Horizontal Angles (320 - 140) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (60) (Through Max. Cd.)