



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : WPCL-L97-850-BZ.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] Q2017082202  
 [TESTLAB] QSSI  
 [ISSUEDATE] 2017-8-22  
 [MANUFAC]  
 [LUMCAT] WPC45QD1X81U5K  
 [LUMINAIRE] WPCL-L97-850-BZ  
 [LAMPCAT] SAMSUNG 351B LEDs  
 [LAMP] 112 SAMSUNG 351B LEDs

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	10402
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	112
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>
<b>0</b>	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862
<b>5</b>	1810.159	1786.322	1777.654	1754.540	1753.817	1729.258	1722.757	1703.254	1686.640	1644.745
<b>10</b>	2093.312	2081.755	2044.916	2023.969	2015.301	2001.576	1982.796	1964.015	1925.732	1894.671
<b>15</b>	2290.508	2289.786	2261.615	2242.112	2229.833	2203.106	2180.714	2165.545	2127.984	2096.924
<b>20</b>	2393.079	2408.248	2405.359	2417.638	2427.029	2398.135	2383.689	2360.574	2336.015	2311.456
<b>25</b>	2493.483	2497.817	2508.652	2525.265	2518.042	2501.429	2496.372	2492.038	2492.038	2458.811
<b>30</b>	2643.005	2624.947	2643.728	2622.780	2575.829	2556.326	2565.716	2574.384	2595.332	2591.720
<b>35</b>	2849.592	2844.535	2831.533	2799.029	2733.296	2689.957	2700.792	2760.023	2796.862	2793.250
<b>40</b>	3051.844	3049.677	3036.675	3009.227	3038.842	3064.124	3038.842	3001.281	3072.069	2965.887
<b>45</b>	3320.551	3328.497	3352.333	3329.219	3324.162	3338.609	3309.716	3213.646	3108.908	3067.735
<b>50</b>	3793.677	3794.399	3785.009	3725.055	3686.050	3662.213	3606.594	3471.518	3319.828	3209.312
<b>55</b>	4144.729	4166.399	4186.625	4177.234	4227.797	4294.251	4227.075	4064.551	3896.970	3634.764
<b>60</b>	3710.609	3722.889	3855.797	3935.976	4229.964	4409.824	4506.617	4563.681	4550.679	4399.711
<b>65</b>	2757.856	2819.254	2938.438	3153.693	3378.337	3527.859	3901.304	4134.617	4287.750	4222.019
<b>70</b>	2827.199	2801.918	2729.685	2678.400	2617.724	2552.714	2463.145	2460.978	2641.561	2791.805
<b>75</b>	2484.815	2399.580	2257.281	2047.083	1638.967	1392.074	1386.223	1280.763	1137.020	1059.514
<b>80</b>	1274.334	1258.371	1144.243	873.875	668.661	471.898	378.718	312.119	297.022	292.905
<b>85</b>	449.506	441.271	293.555	214.099	161.513	130.814	115.573	93.542	95.998	104.016
<b>90</b>	4.406	5.417	6.429	6.862	6.934	5.995	5.562	6.429	6.790	6.140
<b>95</b>	3.467	3.467	3.539	3.684	3.828	4.117	4.406	4.767	5.201	5.779
<b>100</b>	2.745	2.745	2.745	2.817	3.034	3.395	3.756	4.334	4.840	5.490
<b>105</b>	2.167	2.167	2.167	2.311	2.528	2.962	3.467	4.045	4.623	5.345
<b>110</b>	1.734	1.878	1.950	2.167	2.384	2.745	3.250	3.756	4.262	4.912
<b>115</b>	1.661	1.661	1.806	2.023	2.239	2.528	2.962	3.395	3.901	4.406
<b>120</b>	1.661	1.734	1.806	2.023	2.167	2.456	2.745	3.178	3.612	4.190
<b>125</b>	1.806	1.806	1.878	2.167	2.311	2.528	2.817	3.250	3.612	4.190
<b>130</b>	2.167	2.167	2.311	2.384	2.600	2.889	3.178	3.467	3.901	4.406
<b>135</b>	2.600	2.673	2.745	2.817	3.034	3.250	3.539	3.901	4.262	4.623
<b>140</b>	3.323	3.395	3.539	3.612	3.828	3.973	4.190	4.551	4.840	5.273
<b>145</b>	4.840	4.984	4.984	5.201	5.345	5.634	5.923	6.284	6.573	7.007
<b>150</b>	8.307	8.523	8.523	8.740	8.812	9.101	9.463	9.607	10.040	10.185
<b>155</b>	14.447	14.374	14.663	14.952	14.952	15.241	15.241	15.675	15.963	16.108
<b>160</b>	22.681	22.537	22.753	22.537	22.898	23.115	23.042	23.259	23.187	23.476
<b>165</b>	28.604	28.749	29.182	28.893	29.038	29.182	29.038	29.182	29.110	29.182
<b>170</b>	31.132	31.277	31.277	31.421	31.494	31.421	31.494	31.566	31.421	31.421
<b>175</b>	31.421	31.421	31.638	31.638	31.638	31.783	31.783	31.710	31.783	31.710
<b>180</b>	28.945	28.945	28.945	28.945	28.945	28.945	28.945	28.945	28.945	28.945

**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>
<b>0</b>	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862
<b>5</b>	1607.184	1572.512	1551.565	1495.945	1450.438	1397.708	1340.644	1291.526	1191.122	1161.507
<b>10</b>	1854.943	1815.215	1768.986	1722.035	1647.635	1568.901	1493.056	1402.765	1253.965	1162.951
<b>15</b>	2053.584	2021.079	1971.239	1902.617	1834.718	1752.372	1662.804	1541.452	1358.703	1222.182
<b>20</b>	2260.170	2213.219	2147.487	2091.867	2011.689	1922.120	1814.493	1677.250	1456.939	1307.417
<b>25</b>	2434.252	2395.968	2341.071	2280.396	2209.607	2117.149	1990.741	1820.994	1589.848	1409.988
<b>30</b>	2569.328	2536.823	2486.982	2439.308	2385.134	2299.176	2151.099	1988.574	1743.704	1534.229
<b>35</b>	2814.197	2752.800	2694.291	2648.062	2546.213	2445.087	2314.345	2155.433	1901.172	1686.640
<b>40</b>	3018.617	2932.659	2991.890	2870.539	2723.906	2560.660	2447.976	2309.289	2075.976	1880.947
<b>45</b>	3024.395	3002.726	2939.883	2888.598	2799.029	2706.570	2629.281	2531.044	2306.399	2135.930
<b>50</b>	3135.634	3053.289	2931.215	2839.479	2800.473	2780.970	2778.081	2726.073	2560.660	2386.578
<b>55</b>	3457.071	3292.380	3126.244	2967.332	2895.099	2898.710	2952.162	2967.332	2815.642	2656.007
<b>60</b>	4149.786	3837.739	3522.803	3233.871	3035.230	3046.788	3135.634	3223.036	3115.409	3002.726

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**CANDELA TABULATION - (Cont.)**

65	4032.046	3777.063	3520.636	3385.560	3265.654	3337.164	3426.733	3530.026	3467.184	3333.553
70	2730.407	2567.161	2464.590	2607.611	2719.572	2953.607	3343.665	3654.990	3742.392	3557.475
75	1060.525	1167.357	1149.299	1169.669	1277.152	1417.573	1738.648	2575.106	3134.912	3158.027
80	351.775	377.851	420.829	411.945	411.150	444.811	609.502	880.665	1310.307	1409.988
85	106.833	132.403	121.568	124.674	106.183	97.515	103.799	94.697	403.782	413.895
90	7.729	7.296	7.729	8.235	8.740	9.174	9.463	9.390	11.485	11.630
95	6.429	7.079	7.729	8.307	8.885	9.390	9.751	10.113	12.063	12.424
100	6.284	7.007	7.729	8.451	9.101	9.535	9.968	10.257	11.991	12.496
105	6.068	6.790	7.368	8.090	8.668	9.101	9.535	9.824	11.196	11.846
110	5.562	6.284	6.934	7.657	8.307	8.812	9.174	9.535	10.618	11.124
115	5.056	5.851	6.573	7.296	7.946	8.523	8.957	9.390	10.257	10.763
120	4.840	5.562	6.284	7.151	7.801	8.307	8.812	9.318	9.824	10.329
125	4.767	5.490	6.357	7.151	7.873	8.523	9.029	9.535	9.896	10.402
130	5.056	5.706	6.501	7.296	8.018	8.668	9.101	9.607	10.402	10.979
135	5.129	5.706	6.357	7.007	7.584	8.090	8.523	8.957	10.546	11.196
140	5.706	6.140	6.645	7.151	7.657	8.162	8.523	8.957	10.979	11.557
145	7.296	7.801	8.090	8.596	9.029	9.390	9.751	10.113	11.918	12.496
150	10.618	11.124	11.341	11.991	12.207	12.352	12.930	13.074	13.652	14.158
155	16.469	16.830	16.903	17.264	17.625	17.625	17.914	18.130	17.914	18.130
160	23.692	23.548	23.765	23.981	23.765	23.909	23.981	23.692	23.909	23.909
165	29.182	28.965	29.038	28.965	28.677	28.604	28.460	28.171	27.810	27.737
170	31.277	31.205	31.132	30.843	30.699	30.482	30.266	30.049	28.965	28.965
175	31.566	31.421	31.277	31.205	31.060	30.843	30.771	30.555	28.243	28.388
180	28.945	28.945	28.945	28.945	28.945	28.945	28.945	28.945	28.945	28.945

**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	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862
5	1118.167	1085.662	1061.825	1032.209	1016.318	1001.149	980.924	973.701	960.699	957.087
10	1079.161	1024.264	980.202	942.641	918.804	903.635	884.132	873.297	866.796	858.850
15	1100.831	1019.930	964.311	920.248	889.911	866.074	844.404	830.679	818.400	809.732
20	1152.839	1039.433	962.143	911.580	873.297	846.571	824.179	801.786	787.340	775.782
25	1222.905	1076.272	973.701	911.580	871.130	840.792	813.344	785.895	770.726	755.557
30	1314.641	1133.336	1004.039	925.305	879.076	842.237	809.010	779.394	757.002	740.388
35	1484.388	1281.413	1101.553	978.035	908.691	861.740	816.955	788.784	762.781	741.111
40	1702.532	1482.943	1280.691	1118.167	971.534	892.800	851.627	816.233	783.006	749.779
45	1931.510	1698.198	1472.831	1311.029	1114.555	959.254	895.689	846.571	797.452	757.002
50	2175.658	1933.677	1682.307	1476.442	1273.468	1110.221	959.254	874.019	814.066	764.947
55	2453.755	2171.324	1878.780	1617.297	1428.769	1286.470	1113.110	962.143	865.351	788.784
60	2753.522	2401.025	2030.469	1773.320	1702.532	1698.198	1606.462	1459.829	1258.299	1025.708
65	3012.838	2580.885	2154.710	1899.728	1781.988	1639.689	1499.557	1326.198	1081.328	889.188
70	3176.085	2638.671	2069.475	1751.650	1580.458	1367.371	1157.173	810.454	498.408	387.891
75	2817.087	2175.658	1537.840	1146.338	874.019	613.258	387.169	227.390	40.162	9.968
80	1214.959	685.491	392.225	414.617	40.595	13.797	8.885	8.162	7.946	7.946
85	195.463	33.516	12.569	10.546	10.113	9.896	9.679	9.679	9.679	9.679
90	11.702	11.846	11.918	11.846	11.702	11.630	11.485	11.557	11.485	11.485
95	12.713	13.002	13.146	13.146	13.146	13.074	13.002	13.002	12.930	12.930
100	12.930	13.291	13.580	13.724	13.797	13.797	13.869	13.869	13.869	13.869
105	12.352	12.857	13.291	13.580	13.724	13.724	13.869	13.941	14.085	14.158
110	11.774	12.352	12.785	13.074	13.219	13.291	13.291	13.435	13.580	13.724
115	11.341	11.918	12.352	12.713	12.713	12.713	12.713	12.713	12.857	13.002
120	10.979	11.557	11.918	12.135	12.280	12.207	12.207	12.207	12.280	12.496
125	10.979	11.557	11.991	12.207	12.280	12.352	12.352	12.424	12.496	12.641
130	11.702	12.135	12.569	12.857	13.002	13.146	13.219	13.291	13.435	13.580
135	11.846	12.352	12.785	13.146	13.435	13.724	13.941	14.158	14.302	14.591

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**CANDELA TABULATION - (Cont.)**

<b>140</b>	12.063	12.569	13.002	13.435	13.724	14.158	14.447	14.880	15.169	15.602
<b>145</b>	13.002	13.508	13.941	14.374	14.880	15.313	15.675	16.180	16.469	16.758
<b>150</b>	14.591	15.024	15.602	15.963	16.469	16.903	17.264	17.769	18.130	18.347
<b>155</b>	18.708	18.925	19.214	19.792	20.081	20.442	20.948	21.237	21.670	21.742
<b>160</b>	24.198	24.270	24.343	24.704	24.848	25.137	25.282	25.426	25.715	25.859
<b>165</b>	27.810	27.882	27.882	28.099	28.099	28.026	28.171	28.171	28.315	28.388
<b>170</b>	29.110	29.038	28.965	28.893	28.749	28.677	28.604	28.388	28.388	28.315
<b>175</b>	28.315	28.171	28.026	27.882	27.810	27.737	27.737	27.593	27.593	27.593
<b>180</b>	28.945	28.945	28.945	28.945	28.945	28.945	28.945	28.945	28.945	28.945

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

	<u><b>150</b></u>	<u><b>155</b></u>	<u><b>160</b></u>	<u><b>165</b></u>	<u><b>170</b></u>	<u><b>175</b></u>	<u><b>180</b></u>	<u><b>185</b></u>	<u><b>190</b></u>	<u><b>195</b></u>
<b>0</b>	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862
<b>5</b>	954.198	944.808	947.697	950.586	946.252	947.697	941.196	939.751	953.476	954.920
<b>10</b>	855.961	855.239	849.460	851.627	854.516	848.738	840.070	841.514	857.406	859.573
<b>15</b>	803.953	803.231	791.674	793.118	788.784	785.895	779.394	782.283	793.841	803.953
<b>20</b>	767.114	760.613	751.223	746.167	742.555	736.054	728.831	731.720	739.666	749.779
<b>25</b>	743.278	730.276	717.274	709.328	700.660	690.547	684.769	689.103	694.881	707.883
<b>30</b>	725.219	710.050	694.881	684.769	672.489	661.654	655.876	660.210	668.878	681.880
<b>35</b>	720.885	702.105	683.324	670.322	654.431	643.596	635.650	642.874	652.264	665.988
<b>40</b>	721.608	694.159	670.322	650.819	637.095	627.705	624.093	626.982	636.373	649.375
<b>45</b>	721.608	685.491	655.876	632.039	624.093	629.872	624.093	632.039	625.538	633.483
<b>50</b>	716.551	673.212	635.650	611.091	600.979	613.258	600.979	611.091	606.035	620.481
<b>55</b>	713.662	653.709	604.590	576.419	562.695	556.194	553.305	555.472	563.417	588.699
<b>60</b>	822.734	581.476	474.571	434.843	411.728	402.338	401.615	404.505	411.728	448.567
<b>65</b>	759.169	427.619	387.169	240.464	229.557	224.067	223.272	224.428	227.967	287.415
<b>70</b>	265.745	119.618	88.847	50.708	45.723	45.435	41.390	43.990	43.123	53.091
<b>75</b>	8.307	7.223	6.790	6.357	5.995	5.779	5.706	5.634	5.634	5.851
<b>80</b>	7.873	7.729	7.512	7.296	7.007	7.007	6.862	6.790	6.718	6.718
<b>85</b>	9.679	9.535	9.390	9.174	8.957	8.740	8.668	8.596	8.596	8.596
<b>90</b>	11.485	11.341	11.196	10.979	10.907	10.690	10.474	10.474	10.474	10.402
<b>95</b>	12.930	12.857	12.713	12.569	12.352	12.207	12.063	11.918	11.846	11.846
<b>100</b>	13.869	13.797	13.580	13.508	13.291	13.002	12.857	12.713	12.713	12.785
<b>105</b>	14.158	14.013	13.869	13.724	13.508	13.363	13.291	13.146	13.146	13.146
<b>110</b>	13.797	13.724	13.724	13.724	13.652	13.580	13.580	13.435	13.363	13.291
<b>115</b>	13.146	13.291	13.363	13.435	13.508	13.435	13.435	13.363	13.219	13.146
<b>120</b>	12.569	12.713	12.857	12.930	12.930	12.930	13.002	12.857	12.785	12.641
<b>125</b>	12.857	12.930	13.002	13.074	13.074	13.146	13.219	13.146	13.002	12.930
<b>130</b>	13.652	13.797	13.797	13.869	13.869	13.941	14.013	13.941	13.941	13.941
<b>135</b>	14.663	14.808	14.808	14.808	14.880	14.952	15.024	14.952	14.880	14.808
<b>140</b>	15.819	16.036	16.180	16.180	16.252	16.252	16.252	16.108	16.036	15.819
<b>145</b>	17.119	17.264	17.480	17.553	17.553	17.697	17.697	17.625	17.553	17.336
<b>150</b>	18.708	18.781	19.070	19.358	19.503	19.647	19.647	19.575	19.575	19.358
<b>155</b>	22.320	22.464	22.609	22.681	22.970	23.042	23.187	23.187	23.042	23.115
<b>160</b>	26.148	26.221	26.293	26.582	26.582	26.654	26.871	26.871	26.943	26.654
<b>165</b>	28.460	28.460	28.604	28.677	28.749	28.821	28.821	28.965	29.038	29.182
<b>170</b>	28.315	28.315	28.243	28.315	28.243	28.315	28.460	28.532	28.749	28.965
<b>175</b>	27.593	27.521	27.521	27.521	27.593	27.665	27.737	27.882	28.026	28.243
<b>180</b>	28.945	28.945	28.945	28.945	28.945	28.945	28.945	28.945	28.945	28.945

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

	<u><b>200</b></u>	<u><b>205</b></u>	<u><b>210</b></u>	<u><b>215</b></u>	<u><b>220</b></u>	<u><b>225</b></u>	<u><b>230</b></u>	<u><b>235</b></u>	<u><b>240</b></u>	<u><b>245</b></u>
<b>0</b>	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862
<b>5</b>	970.811	973.701	975.145	987.425	996.093	1012.707	1035.099	1058.213	1080.606	1117.444

**IES INDOOR REPORT**  
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**CANDELA TABULATION - (Cont.)**

10	866.074	874.019	881.965	892.078	905.802	923.138	941.196	965.755	998.260	1040.877
15	809.010	819.122	831.402	846.571	865.351	885.577	908.691	940.474	974.423	1023.542
20	759.169	767.837	785.173	802.509	824.901	848.738	878.353	919.526	960.699	1018.485
25	722.330	738.221	757.002	777.949	803.231	829.235	862.462	905.802	962.143	1032.932
30	698.493	716.551	741.111	768.559	797.452	827.068	867.518	918.804	980.202	1069.048
35	687.658	709.328	738.221	772.171	808.287	845.126	895.689	963.588	1056.046	1183.176
40	671.045	699.938	738.944	778.672	824.901	876.909	941.196	1054.602	1201.957	1373.872
45	655.876	688.380	732.443	783.006	837.180	904.357	1019.208	1184.621	1381.095	1583.347
50	646.485	680.435	729.553	792.396	863.907	971.534	1152.116	1354.369	1550.120	1757.429
55	626.260	688.380	778.672	892.078	1021.375	1204.846	1386.151	1529.172	1701.087	1914.174
60	537.414	760.613	1014.874	1243.852	1479.332	1667.860	1818.104	1912.007	1986.407	2091.867
65	387.169	476.738	744.722	910.136	1165.118	1461.996	1618.019	1780.543	1951.013	2130.151
70	100.621	128.936	372.722	390.781	571.363	943.363	1252.520	1456.217	1677.250	1898.283
75	6.140	6.790	7.657	9.896	34.889	387.169	417.507	603.146	876.909	1192.567
80	6.790	6.790	6.934	6.934	6.862	7.079	7.657	14.880	44.496	395.837
85	8.668	8.596	8.596	8.596	8.451	8.307	8.307	8.307	8.596	9.029
90	10.329	10.402	10.257	10.185	9.896	9.824	9.824	9.824	9.896	10.040
95	11.846	11.846	11.630	11.485	11.268	11.124	11.052	11.052	11.124	11.196
100	12.713	12.713	12.569	12.424	12.135	11.918	11.846	11.846	11.918	11.846
105	13.146	13.074	12.930	12.785	12.569	12.352	12.207	12.135	12.063	11.991
110	13.219	13.074	12.857	12.569	12.352	12.135	11.991	11.991	11.918	11.846
115	13.002	12.713	12.569	12.135	11.918	11.774	11.702	11.702	11.630	11.630
120	12.496	12.280	12.063	11.774	11.557	11.413	11.341	11.341	11.341	11.268
125	12.857	12.641	12.352	12.207	11.918	11.774	11.630	11.630	11.485	11.413
130	13.797	13.580	13.435	13.219	13.002	12.713	12.496	12.352	12.135	11.991
135	14.736	14.591	14.447	14.158	13.941	13.724	13.435	13.146	12.857	12.569
140	15.675	15.530	15.386	15.169	14.952	14.736	14.447	14.085	13.797	13.363
145	17.336	17.191	16.975	16.830	16.469	16.180	15.747	15.386	14.952	14.519
150	19.286	18.997	18.781	18.492	18.275	17.914	17.625	17.047	16.758	16.397
155	22.898	22.826	22.681	22.320	22.392	22.031	22.103	21.742	21.381	21.092
160	26.726	26.798	26.654	26.582	26.510	26.510	26.148	26.654	26.654	26.871
165	29.182	29.182	29.254	29.327	29.399	29.688	29.760	30.049	30.193	30.338
170	29.038	29.254	29.543	29.688	29.977	30.193	30.482	30.771	31.060	31.277
175	28.532	28.749	29.038	29.254	29.399	29.616	29.760	29.977	30.193	30.410
180	28.945	28.945	28.945	28.945	28.945	28.945	28.945	28.945	28.945	28.945

**Vert. Angles**      **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	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862
5	1146.338	1183.899	1220.015	1266.244	1294.415	1350.035	1399.153	1446.105	1501.724	1532.062
10	1093.608	1167.285	1246.019	1339.922	1422.990	1507.503	1598.516	1672.194	1723.479	1794.268
15	1090.718	1191.122	1306.695	1440.326	1566.011	1672.916	1787.767	1877.335	1949.568	2009.522
20	1101.553	1225.794	1365.204	1531.339	1675.806	1838.330	1960.403	2060.807	2134.485	2200.217
25	1127.557	1281.413	1450.438	1634.633	1815.215	1997.242	2135.930	2240.667	2341.793	2401.025
30	1205.569	1408.543	1613.685	1800.046	1985.685	2172.046	2343.961	2437.864	2518.042	2570.772
35	1383.262	1607.184	1827.495	2005.910	2205.996	2359.130	2515.875	2598.943	2664.675	2718.128
40	1608.629	1845.553	2061.530	2247.168	2445.087	2549.103	2669.731	2740.520	2828.644	2983.223
45	1820.994	2077.421	2297.009	2481.203	2708.015	2806.974	2862.594	2920.380	2968.776	3095.184
50	2019.634	2318.679	2561.382	2747.743	2976.722	3031.619	3026.563	3003.448	3005.615	3066.291
55	2190.104	2562.104	2842.368	3040.287	3251.929	3260.597	3191.976	3119.021	3108.908	3209.312
60	2375.021	2786.749	3128.411	3365.335	3556.753	3480.908	3351.611	3232.427	3266.376	3488.854
65	2473.980	2966.609	3380.504	3667.269	3809.568	3685.327	3512.691	3417.343	3461.405	3618.873
70	2351.906	3019.339	3525.693	3867.354	3891.914	3667.991	3368.225	3033.786	2887.153	2853.203
75	1583.347	2408.970	2996.225	3258.430	2730.407	2491.316	1804.380	1380.734	1362.675	1328.509
80	393.670	735.332	1477.165	1402.765	976.301	855.239	655.298	482.300	431.014	453.407

**IES INDOOR REPORT**  
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**CANDELA TABULATION - (Cont.)**

85	11.991	39.439	185.639	383.557	71.944	105.966	114.634	122.941	118.896	137.676
90	10.113	10.040	9.968	9.751	10.546	10.402	10.329	9.751	9.246	8.596
95	11.196	11.052	10.835	10.546	10.979	10.618	10.040	9.463	8.740	8.090
100	11.774	11.557	11.196	10.835	10.690	10.185	9.679	9.174	8.523	7.801
105	11.774	11.413	10.979	10.474	9.751	9.318	8.957	8.523	8.018	7.368
110	11.702	11.196	10.690	10.185	9.246	8.885	8.523	8.162	7.584	6.934
115	11.413	11.052	10.546	10.040	9.029	8.596	8.162	7.801	7.223	6.573
120	11.124	10.690	10.257	9.679	8.812	8.379	7.946	7.512	7.007	6.284
125	11.196	10.907	10.402	9.824	9.029	8.523	8.090	7.584	6.934	6.212
130	11.774	11.413	10.907	10.402	9.029	8.451	7.873	7.296	6.718	6.068
135	12.207	11.702	11.268	10.763	8.307	7.729	7.151	6.718	6.212	5.706
140	12.930	12.496	12.063	11.557	8.379	7.873	7.440	6.934	6.501	6.068
145	14.013	13.724	13.219	12.785	9.318	8.957	8.596	8.090	7.729	7.223
150	15.819	15.747	15.313	14.880	11.774	11.485	11.268	10.835	10.402	10.113
155	21.020	20.731	20.586	20.225	16.252	15.963	15.819	15.747	15.386	15.313
160	26.798	26.726	26.726	26.582	22.031	21.959	21.742	21.598	21.742	22.103
165	30.482	30.627	30.699	30.843	25.787	26.076	26.293	26.437	26.582	26.871
170	31.494	31.638	31.855	31.927	27.449	27.665	27.954	28.171	28.460	28.821
175	30.555	30.555	30.771	30.843	28.026	28.026	28.171	28.460	28.749	29.038
180	28.945	28.945	28.945	28.945	28.945	28.945	28.945	28.945	28.945	28.945

**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	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862	1276.862
5	1571.068	1601.406	1645.468	1691.697	1680.139	1711.200	1737.203	1744.427	1762.485	1758.151
10	1837.607	1875.168	1914.897	1965.460	1968.349	2000.132	2009.522	2028.302	2039.860	2042.749
15	2055.751	2098.368	2133.763	2158.322	2178.547	2198.050	2216.831	2226.943	2244.279	2247.891
20	2241.390	2295.565	2330.236	2361.296	2388.023	2401.025	2412.582	2424.862	2417.638	2428.473
25	2460.256	2492.038	2507.207	2521.654	2536.823	2520.209	2518.764	2515.875	2505.762	2508.652
30	2616.279	2647.339	2650.951	2642.283	2630.726	2595.332	2567.161	2566.438	2593.165	2646.617
35	2773.747	2842.368	2832.978	2817.809	2804.807	2771.580	2765.802	2763.634	2814.920	2856.815
40	3061.957	3054.733	3155.859	3072.069	3144.302	3126.966	3215.813	3222.314	3165.250	3121.188
45	3167.417	3202.811	3235.316	3244.706	3333.553	3472.240	3579.145	3582.034	3511.246	3491.021
50	3160.194	3248.318	3338.609	3475.852	3630.430	3735.168	3826.182	3865.910	3896.248	3907.083
55	3374.003	3518.469	3733.001	3957.646	4175.790	4338.314	4391.766	4417.770	4393.210	4354.205
60	3743.114	4047.215	4393.210	4643.859	4726.927	4695.145	4590.407	4448.108	4272.582	4058.772
65	3778.508	4006.042	4344.092	4489.281	4464.722	4323.867	3960.535	3663.657	3345.832	3080.015
70	2819.976	2938.438	3080.737	3098.073	2856.093	2616.279	2537.545	2589.553	2628.559	2695.013
75	1258.660	1306.406	1140.342	1003.677	1058.286	1122.212	1344.906	1427.902	1400.670	2135.930
80	445.461	416.423	354.664	293.122	279.325	319.703	373.228	455.068	580.175	824.612
85	135.076	141.143	118.896	109.650	101.126	109.650	130.814	151.473	186.072	220.383
90	7.873	7.079	7.584	5.923	6.357	8.307	5.201	4.912	10.329	6.284
95	7.296	6.501	5.779	5.129	4.695	4.334	3.973	3.828	3.612	3.467
100	6.934	6.140	5.345	4.695	4.262	3.901	3.539	3.323	3.034	2.962
105	6.645	5.851	5.056	4.478	3.901	3.467	3.178	2.817	2.600	2.384
110	6.212	5.490	4.767	4.117	3.684	3.178	2.817	2.456	2.167	2.023
115	5.851	4.984	4.406	3.756	3.323	2.889	2.528	2.239	2.023	1.806
120	5.490	4.767	4.117	3.539	3.106	2.745	2.456	2.167	1.950	1.806
125	5.417	4.695	4.045	3.539	3.178	2.745	2.456	2.239	2.095	1.950
130	5.417	4.695	4.190	3.756	3.323	3.034	2.745	2.528	2.384	2.239
135	5.201	4.623	4.190	3.828	3.539	3.250	3.034	2.962	2.817	2.673
140	5.634	5.201	4.767	4.478	4.117	3.901	3.684	3.539	3.467	3.323
145	6.934	6.573	6.212	5.923	5.634	5.417	5.129	4.984	4.840	4.840
150	9.824	9.535	9.318	8.885	8.812	8.379	8.379	8.379	8.090	8.235
155	15.024	14.952	14.591	14.591	14.519	14.302	14.302	14.374	14.158	14.230

**IES INDOOR REPORT**  
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**CANDELA TABULATION - (Cont.)**

160	21.814	22.031	21.814	21.959	22.176	21.959	22.103	22.320	22.176	22.320
165	27.160	27.376	27.449	27.665	27.665	27.954	28.099	28.171	28.315	28.532
170	29.110	29.254	29.543	29.832	30.049	30.266	30.482	30.555	30.699	30.771
175	29.327	29.543	29.760	29.904	30.121	30.193	30.338	30.627	30.916	31.132
180	28.945	28.945	28.945	28.945	28.945	28.945	28.945	28.945	28.945	28.945

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

	<u>350</u>	<u>355</u>	<u>360</u>
0	1276.862	1276.862	1276.862
5	1774.765	1790.656	1810.159
10	2053.584	2061.530	2093.312
15	2263.782	2271.728	2290.508
20	2432.807	2403.914	2393.079
25	2519.487	2511.541	2493.483
30	2670.454	2678.400	2643.005
35	2883.541	2873.428	2849.592
40	3109.630	3077.125	3051.844
45	3467.906	3392.784	3320.551
50	3940.310	3917.195	3793.677
55	4313.754	4240.799	4144.729
60	3955.479	3777.786	3710.609
65	2898.710	2804.085	2757.856
70	2771.580	2847.425	2827.199
75	2348.294	2441.475	2484.815
80	1062.692	1300.266	1274.334
85	254.405	388.325	449.506
90	4.478	4.767	4.406
95	3.467	3.467	3.467
100	2.817	2.817	2.745
105	2.239	2.167	2.167
110	1.878	1.806	1.734
115	1.661	1.589	1.661
120	1.661	1.661	1.661
125	1.806	1.734	1.806
130	2.167	2.167	2.167
135	2.600	2.600	2.600
140	3.323	3.323	3.323
145	4.840	4.767	4.840
150	8.235	8.162	8.307
155	14.085	14.302	14.447
160	22.103	22.320	22.681
165	28.460	28.677	28.604
170	30.988	31.132	31.132
175	31.205	31.349	31.421
180	28.945	28.945	28.945

**IES INDOOR REPORT**  
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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	553.36	N.A.	5.30
0-30	1317.8	N.A.	12.70
0-40	2483.28	N.A.	23.90
0-60	6412.27	N.A.	61.60
0-80	10153.02	N.A.	97.60
0-90	10332.36	N.A.	99.30
10-90	10203.76	N.A.	98.10
20-40	1929.92	N.A.	18.60
20-50	3595.31	N.A.	34.60
40-70	6371.39	N.A.	61.30
60-80	3740.76	N.A.	36.00
70-80	1298.36	N.A.	12.50
80-90	179.34	N.A.	1.70
90-110	19.65	N.A.	0.20
90-120	28.12	N.A.	0.30
90-130	35.69	N.A.	0.30
90-150	50.05	N.A.	0.50
90-180	69.26	N.A.	0.70
110-180	49.61	N.A.	0.50
0-180	10401.62	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	128.60
10-20	424.75
20-30	764.44
30-40	1165.48
40-50	1665.39
50-60	2263.6
60-70	2442.4
70-80	1298.36
80-90	179.34
90-100	10.01
100-110	9.64
110-120	8.47
120-130	7.57
130-140	7.17
140-150	7.18
150-160	8.56
160-170	7.83
170-180	2.83



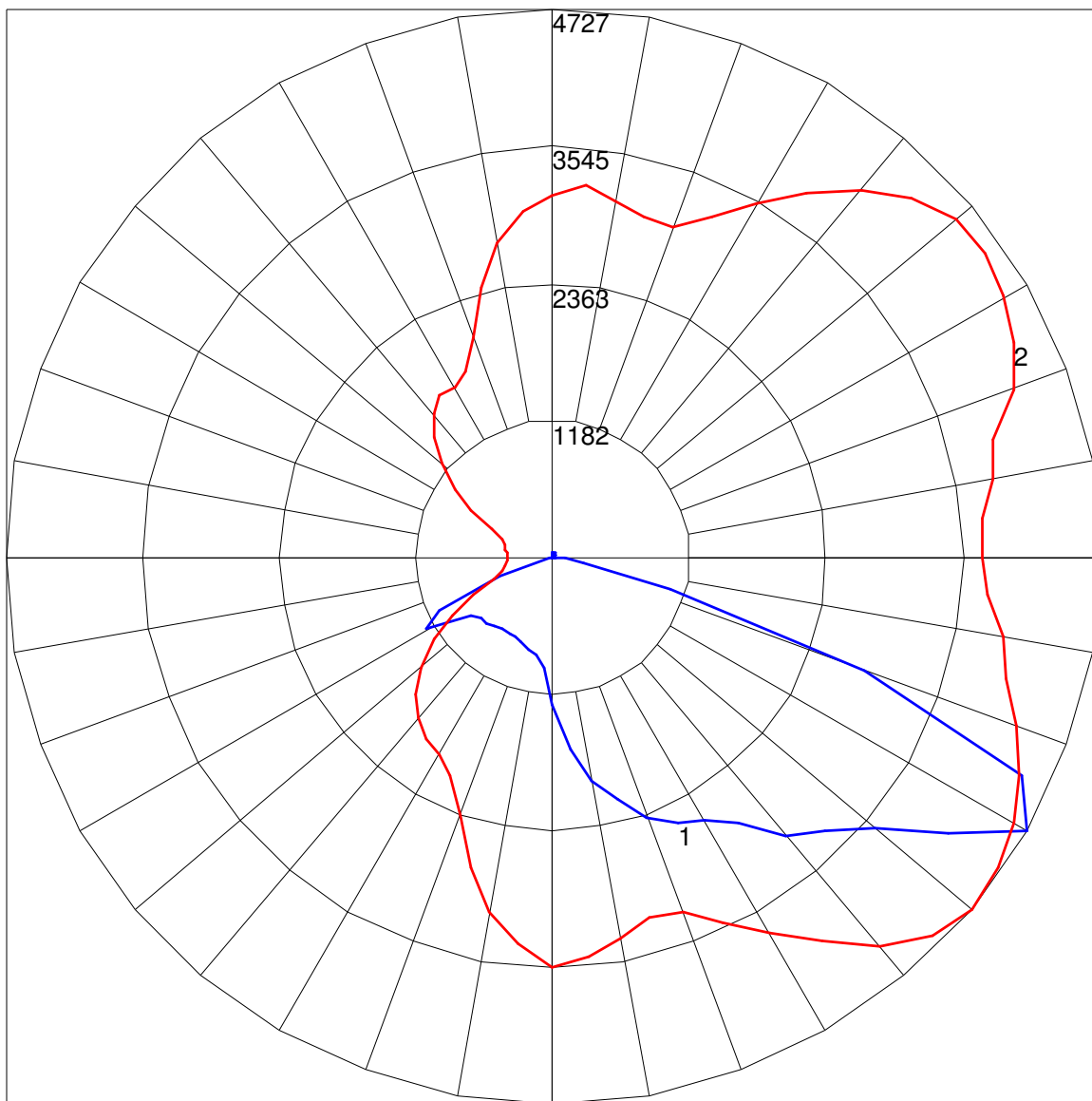
**IES INDOOR REPORT**  
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	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 = 4726.927 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.)