



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : BPEN-PRO-LED35-MO.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] BPEN-LED35-MO  
 [TESTLAB] IN TERTEK  
 [ISSUEDATE] 8-13-18  
 [MANUFAC] PRUDENTIAL  
 [\_TOTALLUMINAIRELUMENS] 5093.7

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	8405
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	129
Total Luminaire Watts	65
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.24
Spacing Criterion (90-270)	1.24
Spacing Criterion (Diagonal)	1.38
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	2.13 ft
Luminous Width (90-270)	0.17 ft
Luminous Height	0.15 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	60726	38493	34765
55	60912	33916	30048
65	62561	29201	25433
75	67374	23971	20385
85	88814	17965	14792

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**CANDELA TABULATION**

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>	<u>202.5</u>
<b>0.0</b>	2283.105	2283.105	2283.105	2283.105	2283.105	2283.105	2283.105	2283.105	2283.105	2283.105
<b>2.5</b>	2272.050	2270.235	2274.855	2275.515	2276.340	2277.165	2282.280	2287.065	2291.025	2287.065
<b>5.0</b>	2265.450	2267.265	2271.720	2278.815	2277.165	2271.885	2270.565	2279.970	2279.310	2279.970
<b>7.5</b>	2266.275	2249.280	2261.655	2257.860	2254.560	2258.190	2264.295	2260.830	2253.075	2260.830
<b>10.0</b>	2242.515	2232.615	2234.760	2234.925	2239.050	2232.450	2243.670	2248.125	2232.450	2248.125
<b>12.5</b>	2215.125	2212.980	2208.195	2210.010	2215.785	2204.400	2214.960	2226.840	2205.720	2226.840
<b>15.0</b>	2182.620	2179.320	2175.855	2180.805	2182.950	2172.885	2185.590	2194.830	2174.040	2194.830
<b>17.5</b>	2144.505	2139.060	2136.090	2147.970	2142.195	2144.010	2157.375	2153.250	2138.400	2153.250
<b>20.0</b>	2099.790	2094.840	2097.645	2102.760	2099.460	2100.780	2119.425	2117.280	2095.500	2117.280
<b>22.5</b>	2050.290	2047.815	2050.785	2062.170	2057.715	2046.330	2070.585	2066.625	2047.650	2066.625
<b>25.0</b>	1999.965	1996.830	1984.290	1995.840	2015.475	1992.045	2012.835	2011.680	1996.665	2011.680
<b>27.5</b>	1939.905	1927.365	1927.860	1939.740	1942.545	1938.090	1956.900	1955.250	1954.755	1955.250
<b>30.0</b>	1885.125	1867.140	1866.480	1882.815	1882.155	1881.495	1898.160	1898.985	1899.645	1898.985
<b>32.5</b>	1823.250	1803.945	1803.450	1822.755	1821.435	1822.920	1845.855	1840.575	1837.275	1840.575
<b>35.0</b>	1762.695	1742.235	1746.030	1768.635	1763.025	1772.760	1780.845	1785.960	1772.595	1785.960
<b>37.5</b>	1698.015	1680.195	1679.865	1701.645	1699.005	1708.905	1720.455	1726.560	1711.215	1726.560
<b>40.0</b>	1635.315	1617.660	1619.475	1638.615	1644.390	1642.905	1661.055	1666.335	1652.970	1666.335
<b>42.5</b>	1573.110	1553.475	1557.600	1579.875	1577.565	1582.020	1601.655	1605.285	1594.890	1605.285
<b>45.0</b>	1511.235	1492.095	1494.570	1518.660	1518.000	1524.105	1542.255	1545.390	1541.430	1545.390
<b>47.5</b>	1449.690	1429.560	1435.830	1458.765	1458.435	1464.540	1482.690	1493.415	1486.155	1493.415
<b>50.0</b>	1388.805	1367.850	1372.470	1398.045	1399.860	1406.460	1424.445	1429.890	1426.260	1429.890
<b>52.5</b>	1325.940	1306.470	1312.905	1336.500	1338.645	1346.895	1364.880	1369.995	1363.890	1369.995
<b>55.0</b>	1263.405	1243.770	1251.195	1276.605	1276.935	1288.815	1302.675	1312.740	1305.645	1312.740
<b>57.5</b>	1200.045	1181.400	1186.515	1215.060	1216.380	1226.445	1240.635	1249.710	1250.040	1249.710
<b>60.0</b>	1130.910	1115.235	1123.485	1149.225	1151.535	1161.435	1179.090	1189.320	1181.730	1189.320
<b>62.5</b>	1064.745	1047.750	1056.495	1083.060	1085.205	1095.600	1112.100	1121.175	1113.585	1121.175
<b>65.0</b>	998.910	981.585	988.020	1017.720	1018.215	1027.125	1044.945	1054.845	1046.760	1054.845
<b>67.5</b>	931.260	912.450	922.020	949.740	951.720	958.650	977.130	986.040	980.925	986.040
<b>70.0</b>	861.795	843.480	853.545	880.770	884.565	887.370	907.170	917.730	910.140	917.730
<b>72.5</b>	789.030	773.025	782.925	813.450	813.285	816.915	837.375	844.470	836.880	844.470
<b>75.0</b>	721.380	704.055	713.130	744.150	741.180	745.800	765.105	773.025	762.960	773.025
<b>77.5</b>	655.710	635.250	643.665	674.685	671.055	673.530	696.135	701.745	693.165	701.745
<b>80.0</b>	583.770	567.600	576.345	608.685	601.095	603.405	627.825	632.775	620.070	632.775
<b>82.5</b>	519.585	502.425	509.025	540.045	535.425	533.610	559.185	563.805	550.770	563.805
<b>85.0</b>	454.905	437.745	444.840	474.540	467.115	463.980	492.855	494.835	476.520	494.835
<b>87.5</b>	382.965	353.430	356.730	386.925	376.530	362.505	383.955	381.975	358.050	381.975
<b>90.0</b>	243.375	221.430	224.235	254.925	243.210	229.845	252.120	247.500	225.720	247.500
<b>92.5</b>	222.420	204.105	205.920	236.940	224.730	214.005	234.630	231.165	210.870	231.165
<b>95.0</b>	254.430	237.270	236.775	260.865	244.860	241.560	275.385	282.975	275.880	282.975
<b>97.5</b>	260.700	237.600	241.230	267.135	265.815	245.355	260.700	264.000	256.905	264.000
<b>100.0</b>	216.315	207.075	216.645	252.780	250.140	233.970	238.095	226.545	205.260	226.545
<b>102.5</b>	194.040	190.575	204.765	236.775	233.310	222.255	225.555	209.385	181.005	209.385
<b>105.0</b>	189.585	183.315	195.030	226.545	223.080	211.035	218.790	201.300	175.725	201.300
<b>107.5</b>	188.430	177.045	189.750	217.800	213.345	206.085	212.850	194.205	179.190	194.205
<b>110.0</b>	187.110	178.365	182.325	207.405	199.980	198.990	203.610	186.285	178.860	186.285
<b>112.5</b>	179.025	169.455	170.445	191.730	184.635	185.790	190.245	172.260	170.115	172.260
<b>115.0</b>	164.340	160.545	161.865	172.920	170.445	168.300	168.300	158.895	158.235	158.895
<b>117.5</b>	158.730	151.140	149.160	159.555	157.575	151.470	150.975	148.830	148.005	148.830
<b>120.0</b>	153.780	144.870	138.765	149.820	146.025	138.270	141.900	140.745	138.930	140.745
<b>122.5</b>	141.570	135.795	127.380	143.055	133.650	124.740	134.475	130.515	133.155	130.515
<b>125.0</b>	134.970	130.185	121.440	133.485	123.585	114.345	126.060	123.090	122.760	123.090
<b>127.5</b>	129.195	121.605	114.345	127.710	114.345	105.435	118.800	114.840	116.820	114.840
<b>130.0</b>	122.595	114.510	108.240	121.605	107.085	99.000	112.365	108.735	113.520	108.735
<b>132.5</b>	116.325	110.550	106.095	111.870	101.145	95.040	105.270	103.785	108.240	103.785

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**CANDELA TABULATION - (Cont.)**

<b>135.0</b>	108.405	107.580	101.970	106.425	98.670	94.050	101.145	105.270	111.045	105.270
<b>137.5</b>	110.385	106.095	100.320	102.300	95.535	92.730	96.855	105.435	108.240	105.435
<b>140.0</b>	115.005	106.260	97.845	103.290	94.380	89.595	103.290	104.775	103.950	104.775
<b>142.5</b>	110.715	99.990	93.555	101.970	89.430	85.800	105.765	99.660	99.495	99.660
<b>145.0</b>	105.105	93.060	89.100	97.680	83.655	80.850	100.155	94.380	94.380	94.380
<b>147.5</b>	95.040	86.790	82.830	91.245	77.220	76.065	93.060	89.595	86.625	89.595
<b>150.0</b>	85.965	79.860	78.210	82.170	72.435	72.435	86.625	81.345	80.850	81.345
<b>152.5</b>	79.530	72.435	72.435	76.560	65.010	68.475	77.880	76.725	74.580	76.725
<b>155.0</b>	73.260	66.660	66.660	66.330	61.050	64.020	70.455	68.805	69.630	68.805
<b>157.5</b>	64.845	59.400	59.235	62.040	53.955	56.265	64.020	62.370	63.855	62.370
<b>160.0</b>	57.585	50.985	54.450	54.945	47.685	51.480	56.760	54.285	53.955	54.285
<b>162.5</b>	48.675	45.705	47.355	46.365	42.240	45.705	49.005	49.500	47.190	49.500
<b>165.0</b>	43.230	38.940	41.085	39.600	38.280	40.095	42.405	41.415	40.590	41.415
<b>167.5</b>	35.475	32.670	32.835	34.320	31.845	33.990	34.320	35.640	34.650	35.640
<b>170.0</b>	28.050	30.030	27.885	28.545	26.895	28.545	28.710	30.525	27.720	30.525
<b>172.5</b>	23.265	20.790	22.935	22.440	20.955	23.760	21.945	22.275	24.420	22.275
<b>175.0</b>	18.315	17.985	17.160	18.645	16.170	18.645	18.645	17.820	19.800	17.820
<b>177.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>180.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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

	<u><b>225.0</b></u>	<u><b>247.5</b></u>	<u><b>270.0</b></u>	<u><b>292.5</b></u>	<u><b>315.0</b></u>	<u><b>337.5</b></u>	<u><b>360.0</b></u>
<b>0.0</b>	2283.105	2283.105	2283.105	2283.105	2283.105	2283.105	2283.105
<b>2.5</b>	2282.280	2277.165	2276.340	2275.515	2274.855	2270.235	2272.050
<b>5.0</b>	2270.565	2271.885	2277.165	2278.815	2271.720	2267.265	2265.450
<b>7.5</b>	2264.295	2258.190	2254.560	2257.860	2261.655	2249.280	2266.275
<b>10.0</b>	2243.670	2232.450	2239.050	2234.925	2234.760	2232.615	2242.515
<b>12.5</b>	2214.960	2204.400	2215.785	2210.010	2208.195	2212.980	2215.125
<b>15.0</b>	2185.590	2172.885	2182.950	2180.805	2175.855	2179.320	2182.620
<b>17.5</b>	2157.375	2144.010	2142.195	2147.970	2136.090	2139.060	2144.505
<b>20.0</b>	2119.425	2100.780	2099.460	2102.760	2097.645	2094.840	2099.790
<b>22.5</b>	2070.585	2046.330	2057.715	2062.170	2050.785	2047.815	2050.290
<b>25.0</b>	2012.835	1992.045	2015.475	1995.840	1984.290	1996.830	1999.965
<b>27.5</b>	1956.900	1938.090	1942.545	1939.740	1927.860	1927.365	1939.905
<b>30.0</b>	1898.160	1881.495	1882.155	1882.815	1866.480	1867.140	1885.125
<b>32.5</b>	1845.855	1822.920	1821.435	1822.755	1803.450	1803.945	1823.250
<b>35.0</b>	1780.845	1772.760	1763.025	1768.635	1746.030	1742.235	1762.695
<b>37.5</b>	1720.455	1708.905	1699.005	1701.645	1679.865	1680.195	1698.015
<b>40.0</b>	1661.055	1642.905	1644.390	1638.615	1619.475	1617.660	1635.315
<b>42.5</b>	1601.655	1582.020	1577.565	1579.875	1557.600	1553.475	1573.110
<b>45.0</b>	1542.255	1524.105	1518.000	1518.660	1494.570	1492.095	1511.235
<b>47.5</b>	1482.690	1464.540	1458.435	1458.765	1435.830	1429.560	1449.690
<b>50.0</b>	1424.445	1406.460	1399.860	1398.045	1372.470	1367.850	1388.805
<b>52.5</b>	1364.880	1346.895	1338.645	1336.500	1312.905	1306.470	1325.940
<b>55.0</b>	1302.675	1288.815	1276.935	1276.605	1251.195	1243.770	1263.405
<b>57.5</b>	1240.635	1226.445	1216.380	1215.060	1186.515	1181.400	1200.045
<b>60.0</b>	1179.090	1161.435	1151.535	1149.225	1123.485	1115.235	1130.910
<b>62.5</b>	1112.100	1095.600	1085.205	1083.060	1056.495	1047.750	1064.745
<b>65.0</b>	1044.945	1027.125	1018.215	1017.720	988.020	981.585	998.910
<b>67.5</b>	977.130	958.650	951.720	949.740	922.020	912.450	931.260
<b>70.0</b>	907.170	887.370	884.565	880.770	853.545	843.480	861.795
<b>72.5</b>	837.375	816.915	813.285	813.450	782.925	773.025	789.030
<b>75.0</b>	765.105	745.800	741.180	744.150	713.130	704.055	721.380
<b>77.5</b>	696.135	673.530	671.055	674.685	643.665	635.250	655.710
<b>80.0</b>	627.825	603.405	601.095	608.685	576.345	567.600	583.770

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**CANDELA TABULATION - (Cont.)**

82.5	559.185	533.610	535.425	540.045	509.025	502.425	519.585
85.0	492.855	463.980	467.115	474.540	444.840	437.745	454.905
87.5	383.955	362.505	376.530	386.925	356.730	353.430	382.965
90.0	252.120	229.845	243.210	254.925	224.235	221.430	243.375
92.5	234.630	214.005	224.730	236.940	205.920	204.105	222.420
95.0	275.385	241.560	244.860	260.865	236.775	237.270	254.430
97.5	260.700	245.355	265.815	267.135	241.230	237.600	260.700
100.0	238.095	233.970	250.140	252.780	216.645	207.075	216.315
102.5	225.555	222.255	233.310	236.775	204.765	190.575	194.040
105.0	218.790	211.035	223.080	226.545	195.030	183.315	189.585
107.5	212.850	206.085	213.345	217.800	189.750	177.045	188.430
110.0	203.610	198.990	199.980	207.405	182.325	178.365	187.110
112.5	190.245	185.790	184.635	191.730	170.445	169.455	179.025
115.0	168.300	168.300	170.445	172.920	161.865	160.545	164.340
117.5	150.975	151.470	157.575	159.555	149.160	151.140	158.730
120.0	141.900	138.270	146.025	149.820	138.765	144.870	153.780
122.5	134.475	124.740	133.650	143.055	127.380	135.795	141.570
125.0	126.060	114.345	123.585	133.485	121.440	130.185	134.970
127.5	118.800	105.435	114.345	127.710	114.345	121.605	129.195
130.0	112.365	99.000	107.085	121.605	108.240	114.510	122.595
132.5	105.270	95.040	101.145	111.870	106.095	110.550	116.325
135.0	101.145	94.050	98.670	106.425	101.970	107.580	108.405
137.5	96.855	92.730	95.535	102.300	100.320	106.095	110.385
140.0	103.290	89.595	94.380	103.290	97.845	106.260	115.005
142.5	105.765	85.800	89.430	101.970	93.555	99.990	110.715
145.0	100.155	80.850	83.655	97.680	89.100	93.060	105.105
147.5	93.060	76.065	77.220	91.245	82.830	86.790	95.040
150.0	86.625	72.435	72.435	82.170	78.210	79.860	85.965
152.5	77.880	68.475	65.010	76.560	72.435	72.435	79.530
155.0	70.455	64.020	61.050	66.330	66.660	66.660	73.260
157.5	64.020	56.265	53.955	62.040	59.235	59.400	64.845
160.0	56.760	51.480	47.685	54.945	54.450	50.985	57.585
162.5	49.005	45.705	42.240	46.365	47.355	45.705	48.675
165.0	42.405	40.095	38.280	39.600	41.085	38.940	43.230
167.5	34.320	33.990	31.845	34.320	32.835	32.670	35.475
170.0	28.710	28.545	26.895	28.545	27.885	30.030	28.050
172.5	21.945	23.760	20.955	22.440	22.935	20.790	23.265
175.0	18.645	18.645	16.170	18.645	17.160	17.985	18.315
177.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
180.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	831.14	N.A.	9.90
0-30	1753.02	N.A.	20.90
0-40	2858.08	N.A.	34.00
0-60	5178.31	N.A.	61.60
0-80	6971.47	N.A.	82.90
0-90	7460.52	N.A.	88.80
10-90	7244.7	N.A.	86.20
20-40	2026.93	N.A.	24.10
20-50	3202.16	N.A.	38.10
40-70	3329.84	N.A.	39.60
60-80	1793.15	N.A.	21.30
70-80	783.54	N.A.	9.30
80-90	489.06	N.A.	5.80
90-110	482.86	N.A.	5.70
90-120	648.42	N.A.	7.70
90-130	761.58	N.A.	9.10
90-150	900.04	N.A.	10.70
90-180	944.95	N.A.	11.20
110-180	462.09	N.A.	5.50
0-180	8405.47	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	215.82
10-20	615.32
20-30	921.88
30-40	1105.06
40-50	1175.22
50-60	1145.01
60-70	1009.61
70-80	783.54
80-90	489.06
90-100	263.39
100-110	219.47
110-120	165.57
120-130	113.16
130-140	80.66
140-150	57.80
150-160	31.24
160-170	11.84
170-180	1.83

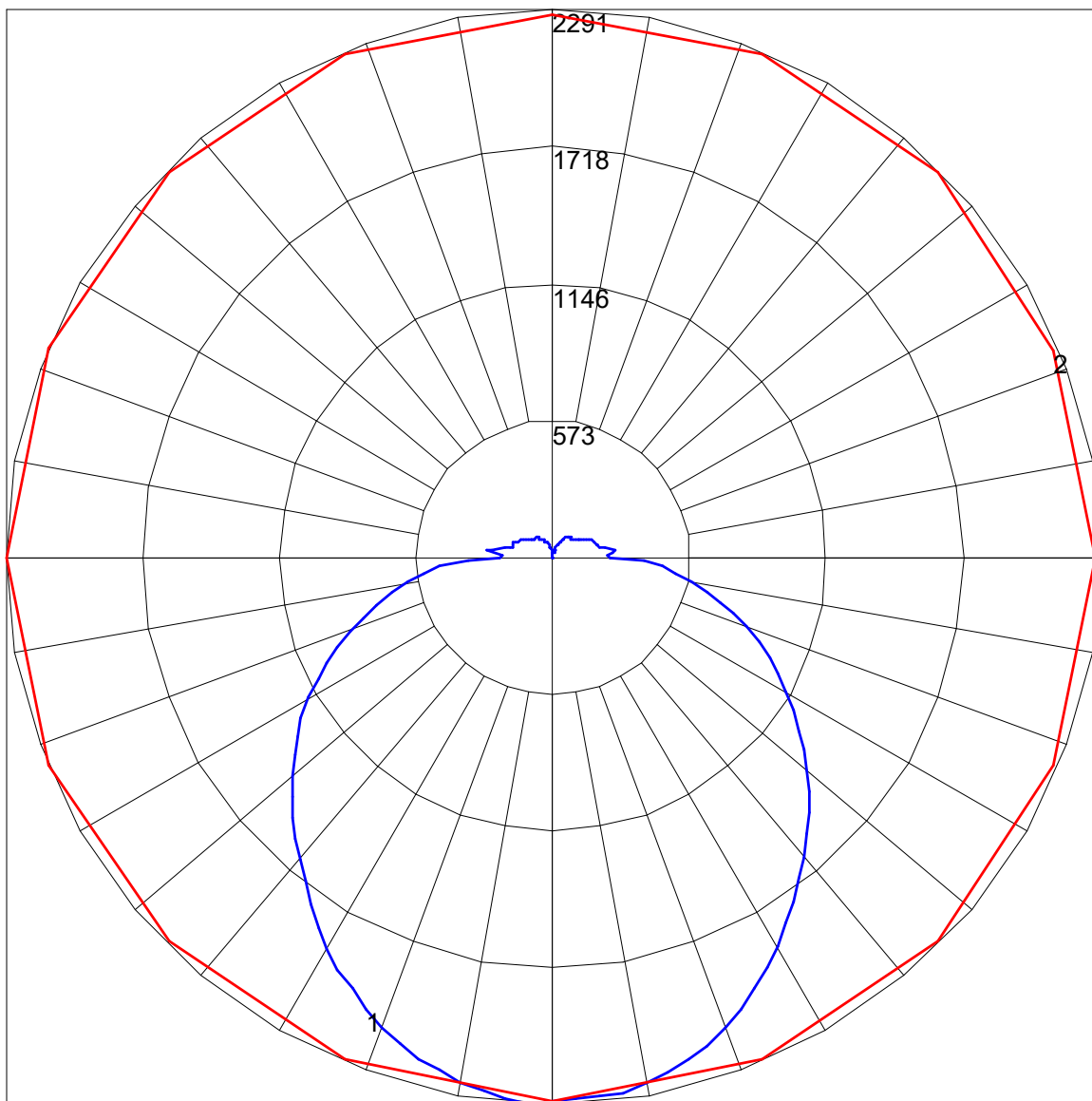
**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : BPEN-PRO-LED35-MO.IES**

**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	116	116	116	116	112	112	112	112	105	105	105	98	98	98	92	92	92	89
1	104	98	93	89	100	95	90	86	88	85	81	83	80	77	77	75	73	70
2	94	84	77	70	90	82	75	69	76	70	65	71	66	62	66	63	59	56
3	85	73	65	58	81	71	63	56	66	60	54	62	56	52	58	53	49	46
4	77	65	55	48	74	63	54	47	59	51	45	55	49	44	51	46	42	39
5	71	58	48	41	68	56	47	40	52	45	39	49	43	37	46	41	36	34
6	65	52	42	36	63	50	41	35	47	40	34	44	38	33	42	36	32	29
7	61	47	38	31	58	45	37	31	43	35	30	40	34	29	38	32	28	26
8	56	43	34	28	54	41	33	27	39	32	27	37	30	26	35	29	25	23
9	53	39	31	25	51	38	30	25	36	29	24	34	28	23	32	27	22	20
10	49	36	28	23	47	35	27	22	33	26	22	32	25	21	30	24	20	19

POLAR GRAPH



Maximum Candela = 2291.025 Located At Horizontal Angle = 180, Vertical Angle = 2.5  
# 1 - Vertical Plane Through Horizontal Angles (180 - 0) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)