



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : IHB4-LED-15L-LL-40.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] 3126

[TESTLAB] TUV SUD America

[ISSUEDATE] 04/19/21

[MANUFAC] LSI INDUSTRIES, INC

[LUMCAT] IHB4-LED-15L-LL-40

[OTHER] TEST PROCEDURE: IESNA LM-79-08

[ABSOLUTE] NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED

[OTHER] SCALED FROM ORIGINAL TEST DATA

[SEARCH\_SOURCETYPE] LED

[SEARCH\_APPLICATION] Indoor

[SEARCH\_COLORTEMP] 4000

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	15669
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	151
Total Luminaire Watts	103.58
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.26
Spacing Criterion (90-270)	1.32
Spacing Criterion (Diagonal)	1.44
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	4.00 ft
Luminous Width (90-270)	0.60 ft
Luminous Height	0.00 ft



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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	22982	23856	24395
55	22076	23022	23672
65	10633	20577	22006
75	9089	9344	18078
85	2674	4989	8966

**IES INDOOR REPORT**  
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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>	5404.44	5404.44	5404.44	5404.44	5404.44	5404.44	5404.44	5404.44	5404.44	5404.44
<b>2.5</b>	5402.77	5397.27	5374.49	5395.34	5409.61	5404.04	5392.66	5414.64	5418.13	5414.64
<b>5.0</b>	5385.88	5376.99	5358.00	5380.07	5399.47	5395.68	5389.27	5410.14	5407.25	5410.14
<b>7.5</b>	5362.01	5344.20	5330.22	5356.43	5380.71	5383.87	5374.89	5397.20	5388.33	5397.20
<b>10.0</b>	5346.02	5313.81	5289.84	5324.48	5349.57	5359.18	5353.41	5380.50	5373.37	5380.50
<b>12.5</b>	5295.04	5295.68	5249.28	5276.34	5310.21	5319.92	5324.11	5363.30	5366.63	5363.30
<b>15.0</b>	5198.85	5229.09	5222.48	5222.25	5262.82	5271.48	5288.85	5330.55	5330.83	5330.55
<b>17.5</b>	5114.83	5140.98	5166.62	5159.04	5206.83	5220.06	5253.87	5273.30	5277.18	5273.30
<b>20.0</b>	5039.66	5055.72	5085.23	5094.26	5136.84	5152.24	5198.52	5204.48	5206.49	5204.48
<b>22.5</b>	4938.87	4973.61	4984.91	5014.89	5061.18	5079.81	5123.40	5122.99	5126.60	5122.99
<b>25.0</b>	4819.33	4866.31	4880.13	4940.32	4970.60	4999.32	5034.10	5045.27	5072.47	5045.27
<b>27.5</b>	4697.87	4746.43	4781.89	4863.01	4868.54	4914.51	4925.77	4950.04	4960.18	4950.04
<b>30.0</b>	4583.36	4624.15	4659.67	4749.01	4757.19	4821.13	4820.61	4831.17	4850.07	4831.17
<b>32.5</b>	4441.53	4498.35	4530.51	4629.32	4638.52	4712.11	4724.59	4717.58	4736.48	4717.58
<b>35.0</b>	4296.75	4366.25	4395.97	4494.18	4512.41	4587.67	4596.96	4597.82	4644.19	4597.82
<b>37.5</b>	4159.63	4220.73	4252.62	4338.20	4365.62	4453.92	4448.20	4467.61	4519.19	4467.61
<b>40.0</b>	4011.33	4063.70	4094.39	4164.04	4186.99	4295.87	4298.49	4324.06	4391.24	4324.06
<b>42.5</b>	3827.65	3897.53	3930.97	3981.34	4023.77	4102.48	4145.15	4172.86	4237.99	4172.86
<b>45.0</b>	3626.80	3720.94	3764.73	3820.26	3849.73	3932.23	3984.00	4011.91	4064.89	4011.91
<b>47.5</b>	3462.83	3535.34	3577.45	3629.45	3645.62	3763.82	3818.18	3840.34	3903.85	3840.34
<b>50.0</b>	3250.41	3353.94	3378.83	3409.54	3456.78	3580.03	3620.57	3659.81	3727.65	3659.81
<b>52.5</b>	3053.40	3143.14	3164.29	3204.15	3238.87	3362.40	3417.42	3466.39	3572.26	3466.39
<b>55.0</b>	2825.90	2938.52	2946.96	2963.26	3030.27	3116.36	3222.64	3271.44	3353.56	3271.44
<b>57.5</b>	2262.04	2720.58	2728.81	2747.04	2793.94	2895.02	3004.40	3069.34	3133.47	3069.34
<b>60.0</b>	1290.13	2043.89	2502.59	2513.12	2566.95	2662.50	2787.73	2852.43	2918.48	2852.43
<b>62.5</b>	1129.80	1268.78	2271.25	2269.47	2324.84	2429.25	2557.10	2543.82	2368.49	2543.82
<b>65.0</b>	1002.89	1065.56	1940.83	2024.79	2075.58	2187.04	2318.79	1734.95	1460.98	1734.95
<b>67.5</b>	864.14	938.20	1141.98	1777.07	1822.79	1935.95	2055.82	1132.07	1170.53	1132.07
<b>70.0</b>	751.83	811.49	799.07	1532.09	1560.78	1682.04	1445.21	999.12	1042.04	999.12
<b>72.5</b>	636.70	693.85	665.87	1275.45	1301.63	1437.01	823.36	869.21	897.08	869.21
<b>75.0</b>	525.00	575.18	539.71	1013.16	1044.25	1186.19	687.26	746.47	775.01	746.47
<b>77.5</b>	406.13	460.91	424.73	524.32	796.40	911.29	558.20	629.51	664.81	629.51
<b>80.0</b>	281.19	341.35	328.70	299.92	562.66	445.69	445.35	521.02	560.49	521.02
<b>82.5</b>	111.19	187.80	224.18	193.71	349.85	256.16	345.76	407.94	446.51	407.94
<b>85.0</b>	52.02	78.65	97.04	119.03	174.39	162.08	239.83	277.41	315.26	277.41
<b>87.5</b>	2.78	18.16	32.39	42.69	45.55	90.34	109.85	111.11	108.82	111.11
<b>90.0</b>	0.00	5.04	9.94	15.66	4.69	29.95	41.98	46.68	60.09	46.68
<b>92.5</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>95.0</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>97.5</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>100.0</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>102.5</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>105.0</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>107.5</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>110.0</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>112.5</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>115.0</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>117.5</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>120.0</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>122.5</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>125.0</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>127.5</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>130.0</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>132.5</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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**CANDELA TABULATION - (Cont.)**

135.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
137.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
142.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
147.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
152.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
157.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
162.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
172.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
177.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**Vert. Horizontal Angles**

	<u>225.0</u>	<u>247.5</u>	<u>270.0</u>	<u>292.5</u>	<u>315.0</u>	<u>337.5</u>	<u>360.0</u>
0.0	5404.44	5404.44	5404.44	5404.44	5404.44	5404.44	5404.44
2.5	5392.66	5404.04	5409.61	5395.34	5374.49	5397.27	5402.77
5.0	5389.27	5395.68	5399.47	5380.07	5358.00	5376.99	5385.88
7.5	5374.89	5383.87	5380.71	5356.43	5330.22	5344.20	5362.01
10.0	5353.41	5359.18	5349.57	5324.48	5289.84	5313.81	5346.02
12.5	5324.11	5319.92	5310.21	5276.34	5249.28	5295.68	5295.04
15.0	5288.85	5271.48	5262.82	5222.25	5222.48	5229.09	5198.85
17.5	5253.87	5220.06	5206.83	5159.04	5166.62	5140.98	5114.83
20.0	5198.52	5152.24	5136.84	5094.26	5085.23	5055.72	5039.66
22.5	5123.40	5079.81	5061.18	5014.89	4984.91	4973.61	4938.87
25.0	5034.10	4999.32	4970.60	4940.32	4880.13	4866.31	4819.33
27.5	4925.77	4914.51	4868.54	4863.01	4781.89	4746.43	4697.87
30.0	4820.61	4821.13	4757.19	4749.01	4659.67	4624.15	4583.36
32.5	4724.59	4712.11	4638.52	4629.32	4530.51	4498.35	4441.53
35.0	4596.96	4587.67	4512.41	4494.18	4395.97	4366.25	4296.75
37.5	4448.20	4453.92	4365.62	4338.20	4252.62	4220.73	4159.63
40.0	4298.49	4295.87	4186.99	4164.04	4094.39	4063.70	4011.33
42.5	4145.15	4102.48	4023.77	3981.34	3930.97	3897.53	3827.65
45.0	3984.00	3932.23	3849.73	3820.26	3764.73	3720.94	3626.80
47.5	3818.18	3763.82	3645.62	3629.45	3577.45	3535.34	3462.83
50.0	3620.57	3580.03	3456.78	3409.54	3378.83	3353.94	3250.41
52.5	3417.42	3362.40	3238.87	3204.15	3164.29	3143.14	3053.40
55.0	3222.64	3116.36	3030.27	2963.26	2946.96	2938.52	2825.90
57.5	3004.40	2895.02	2793.94	2747.04	2728.81	2720.58	2262.04
60.0	2787.73	2662.50	2566.95	2513.12	2502.59	2043.89	1290.13
62.5	2557.10	2429.25	2324.84	2269.47	2271.25	1268.78	1129.80
65.0	2318.79	2187.04	2075.58	2024.79	1940.83	1065.56	1002.89
67.5	2055.82	1935.95	1822.79	1777.07	1141.98	938.20	864.14
70.0	1445.21	1682.04	1560.78	1532.09	799.07	811.49	751.83
72.5	823.36	1437.01	1301.63	1275.45	665.87	693.85	636.70
75.0	687.26	1186.19	1044.25	1013.16	539.71	575.18	525.00
77.5	558.20	911.29	796.40	524.32	424.73	460.91	406.13
80.0	445.35	445.69	562.66	299.92	328.70	341.35	281.19

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**CANDELA TABULATION - (Cont.)**

82.5	345.76	256.16	349.85	193.71	224.18	187.80	111.19
85.0	239.83	162.08	174.39	119.03	97.04	78.65	52.02
87.5	109.85	90.34	45.55	42.69	32.39	18.16	2.78
90.0	41.98	29.95	4.69	15.66	9.94	5.04	0.00
92.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
102.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
107.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
117.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
122.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
132.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
137.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
142.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
147.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
152.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
157.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
162.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
172.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
177.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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

Zone	Lumens	%Lamp	%Fixt
0-20	1998.58	N.A.	12.80
0-30	4285.61	N.A.	27.40
0-40	7101.01	N.A.	45.30
0-60	12808.77	N.A.	81.70
0-80	15466.39	N.A.	98.70
0-90	15665.54	N.A.	100.00
10-90	15152.72	N.A.	96.70
20-40	5102.43	N.A.	32.60
20-50	8083.82	N.A.	51.60
40-70	7520.00	N.A.	48.00
60-80	2657.63	N.A.	17.00
70-80	845.39	N.A.	5.40
80-90	199.15	N.A.	1.30
90-110	3.15	N.A.	0.00
90-120	3.15	N.A.	0.00
90-130	3.15	N.A.	0.00
90-150	3.15	N.A.	0.00
90-180	3.15	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	15668.69	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	512.82
10-20	1485.77
20-30	2287.02
30-40	2815.41
40-50	2981.4
50-60	2726.36
60-70	1812.24
70-80	845.39
80-90	199.15
90-100	3.15
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

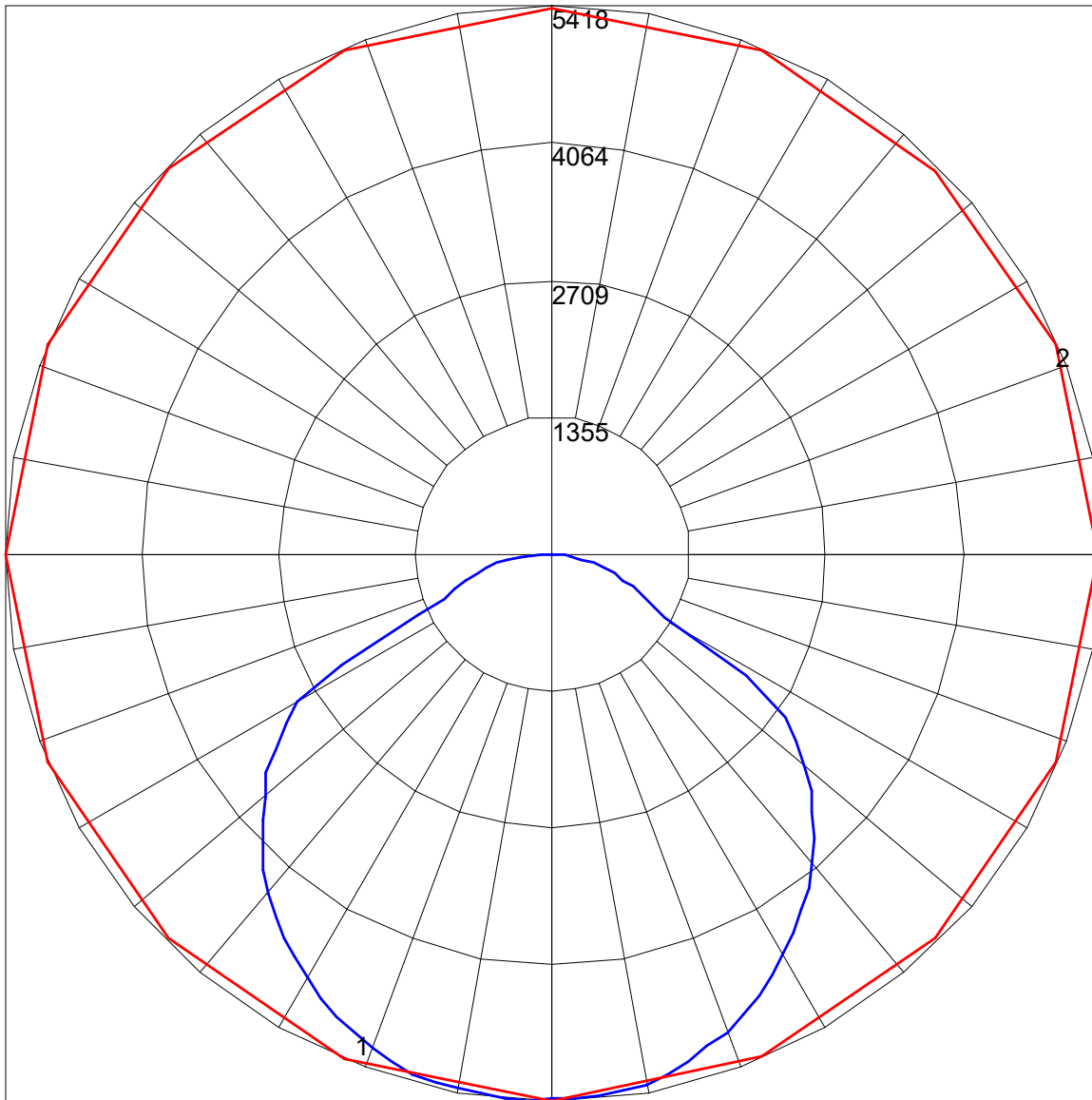
**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : IHB4-LED-15L-LL-40.IES**

**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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	101	97	107	102	99	95	98	95	92	94	92	89	91	89	87	85
2	99	91	85	79	97	90	83	78	86	81	76	83	78	75	80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	60
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	68	56	48	42	54	47	41	53	46	41	51	45	41	38
7	65	52	43	37	63	51	43	37	49	42	36	48	41	36	47	41	36	34
8	61	47	39	33	59	46	38	33	45	38	32	44	37	32	43	37	32	30
9	57	43	35	29	55	43	35	29	41	34	29	40	34	29	39	33	29	27
10	53	40	32	27	52	39	32	27	38	31	26	37	31	26	36	30	26	24

POLAR GRAPH



Maximum Candela = 5418.13 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.)