



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : BS400LEDHTMOWT30120-277V\_S.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TESTLAB] Photopia 2017.2.1 see: [www.ltioptics.com/ies](http://www.ltioptics.com/ies)

[ISSUE DATE]

[TEST DATE] Mon Oct 30 17:42:43 2017

[TEST] 1

[MANUFACT] BEGHELLI

[LUMCAT]

[LUMINAIRE] BS400LEDHTMOWT30120-277V

[LAMP] LED 0.195W White 5630 package (65mA)

[LAMPCAT] SPMWHT541MP5WAT0S5

[OTHER]

IESNA:LM-63-2002

[TEST] 6,552

[TESTLAB] CSA Group

[ISSUE DATE] 7/24/2013 1:09:24 PM

[OTHER] Luminous shape: Rectangle

[OTHER] Luminous dimensions (feet)

[OTHER] 0 - 180 Axis: 4.2

[OTHER] 90 - 270 Axis: 0.6

[OTHER] Height: 0.1

### CHARACTERISTICS

Lumens Per Lamp	37.33 (192 lamps)
Total Lamp Lumens	7167.36
Luminaire Lumens	5358
Total Luminaire Efficiency	75 %
Luminaire Efficacy Rating (LER)	119
Total Luminaire Watts	45
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.80
Spacing Criterion (90-270)	1.80
Spacing Criterion (Diagonal)	1.96
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	1.45 ft
Luminous Width (90-270)	1.45 ft
Luminous Height	0.27 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	5117	5009	5180
55	6037	5580	6043
65	7311	6346	7313
75	8453	7077	8368
85	9408	7541	9268

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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>0.0</b>	703.59	703.59	703.59	703.59	703.59	703.59	703.59	703.59	703.59	703.59
<b>2.5</b>	656.52	709.62	687.20	687.98	697.17	711.00	692.62	706.39	686.60	682.57
<b>5.0</b>	696.68	697.30	687.76	701.15	693.55	687.40	691.60	701.32	681.29	692.59
<b>7.5</b>	699.73	710.96	710.60	711.01	711.36	719.39	704.13	709.80	690.67	705.11
<b>10.0</b>	718.52	717.68	726.47	730.16	727.23	734.55	721.64	712.38	718.79	722.16
<b>12.5</b>	739.56	735.56	743.39	738.60	732.86	736.02	735.80	743.42	741.98	742.58
<b>15.0</b>	759.25	759.07	758.00	758.13	765.91	760.38	763.34	773.26	758.47	759.71
<b>17.5</b>	766.45	767.87	763.35	771.71	769.48	778.28	777.06	786.58	780.90	780.93
<b>20.0</b>	792.02	785.71	790.92	798.57	792.65	791.52	798.00	803.20	811.63	812.52
<b>22.5</b>	800.09	801.12	800.57	808.71	808.55	816.02	819.16	821.64	830.62	829.87
<b>25.0</b>	801.26	810.45	815.33	816.64	826.26	831.13	841.70	839.43	846.06	843.44
<b>27.5</b>	816.80	821.99	814.19	823.77	835.31	841.83	848.16	861.29	857.71	858.55
<b>30.0</b>	821.23	817.36	829.31	834.55	844.79	847.99	864.43	865.54	865.98	875.74
<b>32.5</b>	831.86	830.46	833.39	842.16	845.17	858.60	867.55	875.19	883.76	878.50
<b>35.0</b>	832.39	831.91	837.79	840.43	858.31	860.89	869.40	880.30	887.14	885.99
<b>37.5</b>	836.90	836.55	841.52	850.00	858.01	868.61	876.80	879.13	890.19	885.01
<b>40.0</b>	846.27	840.57	844.03	850.04	867.63	870.19	879.89	885.07	888.13	888.47
<b>42.5</b>	843.53	843.66	849.66	844.67	865.59	870.44	881.16	884.00	887.01	886.88
<b>45.0</b>	844.00	848.74	849.35	860.37	865.49	872.45	881.12	878.63	885.53	880.14
<b>47.5</b>	846.15	853.83	855.49	867.22	870.25	874.03	870.42	883.09	879.51	882.88
<b>50.0</b>	855.88	850.99	860.82	862.97	867.89	867.87	872.29	873.01	874.05	873.14
<b>52.5</b>	860.45	858.52	860.47	866.17	865.22	871.49	867.99	868.12	866.18	864.57
<b>55.0</b>	862.16	865.61	864.61	866.93	870.72	868.65	866.32	868.43	864.41	866.49
<b>57.5</b>	861.89	864.12	867.49	865.64	865.54	861.28	864.54	862.55	857.45	856.03
<b>60.0</b>	857.95	863.67	864.03	862.69	864.10	865.67	856.31	851.61	848.99	849.07
<b>62.5</b>	859.13	856.73	858.09	859.19	857.27	851.54	849.09	840.76	838.82	837.01
<b>65.0</b>	850.64	848.14	849.24	849.49	844.53	840.69	833.41	829.78	825.07	825.90
<b>67.5</b>	836.91	835.82	827.80	832.32	830.35	822.00	815.55	814.29	806.70	805.44
<b>70.0</b>	803.13	807.28	811.70	807.24	803.36	799.70	789.86	791.05	782.12	782.36
<b>72.5</b>	772.08	775.83	775.74	776.12	772.87	769.31	758.55	761.46	750.78	752.85
<b>75.0</b>	729.96	732.40	731.73	734.88	737.54	729.96	726.43	724.52	720.76	715.10
<b>77.5</b>	679.20	685.17	679.61	683.94	690.73	683.82	681.00	679.36	676.68	675.32
<b>80.0</b>	619.57	625.63	627.58	628.19	629.21	637.88	634.42	631.08	630.08	627.41
<b>82.5</b>	566.72	564.24	569.92	575.87	577.36	576.22	577.42	574.43	577.81	576.26
<b>85.0</b>	505.47	503.75	509.10	511.21	515.28	519.57	519.02	521.19	518.31	519.52
<b>87.5</b>	450.23	447.54	446.29	451.51	451.83	458.98	459.25	463.83	461.01	461.14
<b>90.0</b>	392.25	389.94	389.80	398.93	397.03	401.00	404.98	404.61	407.76	407.85
<b>92.5</b>	338.75	337.97	337.98	339.66	344.93	348.34	350.34	352.99	350.31	352.54
<b>95.0</b>	292.24	291.99	290.26	293.02	292.36	295.36	298.73	299.81	302.39	303.75
<b>97.5</b>	252.87	248.83	248.03	246.27	246.58	248.28	249.56	252.24	251.85	254.54
<b>100.0</b>	211.09	213.97	210.13	206.74	207.77	208.98	207.64	208.39	207.69	212.17
<b>102.5</b>	182.29	178.98	177.51	174.04	171.45	171.66	171.91	171.44	171.70	172.31
<b>105.0</b>	149.81	150.27	148.35	143.86	141.99	138.62	138.22	136.66	138.44	137.18
<b>107.5</b>	126.06	124.91	123.09	118.77	115.03	111.75	108.31	108.80	109.00	109.98
<b>110.0</b>	103.22	102.87	99.90	98.16	92.63	88.11	85.18	84.23	83.57	83.66
<b>112.5</b>	82.30	84.87	81.44	76.99	74.10	69.07	65.50	63.60	63.80	62.40
<b>115.0</b>	66.94	66.37	63.73	61.79	58.56	52.96	48.41	46.77	46.79	44.12
<b>117.5</b>	53.86	51.31	49.69	48.12	43.74	40.58	35.66	33.55	31.07	31.84
<b>120.0</b>	39.76	39.36	39.06	37.03	33.06	30.05	26.06	22.32	21.21	20.24
<b>122.5</b>	31.10	30.28	28.46	26.49	24.41	20.68	18.43	15.15	12.63	12.25
<b>125.0</b>	21.47	21.96	19.96	19.08	17.07	14.64	11.81	9.87	7.62	5.87
<b>127.5</b>	14.85	14.85	14.51	13.30	11.75	9.89	8.00	5.60	3.48	2.74
<b>130.0</b>	10.22	9.66	9.28	8.47	7.34	5.92	4.59	2.80	2.00	1.81
<b>132.5</b>	6.12	6.32	5.76	4.91	4.21	3.24	1.89	1.67	1.71	1.73

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**CANDELA TABULATION - (Cont.)**

135.0	2.99	3.00	2.90	2.38	1.82	1.73	1.75	1.71	1.50	1.56
137.5	1.51	1.51	1.53	1.70	1.60	1.32	1.39	1.59	1.42	1.52
140.0	1.53	1.33	1.30	1.30	1.41	1.59	1.45	1.38	1.29	1.46
142.5	0.97	1.26	1.21	1.02	1.24	1.22	1.32	1.28	1.16	1.38
145.0	1.07	0.98	1.02	1.00	0.97	1.19	1.20	1.14	1.04	1.00
147.5	0.92	1.02	0.90	1.03	1.22	1.02	0.93	1.21	0.93	1.02
150.0	0.76	0.69	0.86	0.83	0.78	0.79	0.87	0.98	0.88	0.97
152.5	0.84	0.64	0.69	0.59	0.64	0.75	0.70	0.78	0.64	0.71
155.0	0.53	0.61	0.58	0.59	0.60	0.76	0.69	0.66	0.61	0.66
157.5	0.38	0.49	0.29	0.39	0.60	0.44	0.47	0.41	0.61	0.50
160.0	0.39	0.49	0.42	0.35	0.43	0.49	0.39	0.39	0.35	0.43
162.5	0.39	0.34	0.33	0.36	0.28	0.27	0.23	0.22	0.27	0.19
165.0	0.14	0.36	0.29	0.13	0.21	0.15	0.11	0.19	0.22	0.22
167.5	0.29	0.16	0.12	0.13	0.25	0.22	0.05	0.14	0.18	0.22
170.0	0.00	0.14	0.06	0.05	0.15	0.07	0.10	0.06	0.02	0.12
172.5	0.14	0.03	0.00	0.02	0.07	0.05	0.08	0.08	0.20	0.10
175.0	0.10	0.04	0.08	0.00	0.00	0.03	0.06	0.00	0.03	0.00
177.5	0.00	0.41	0.00	0.01	0.08	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. 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>
0.0	703.59	703.59	703.59	703.59	703.59	703.59	703.59	703.59	703.59
2.5	683.65	707.18	676.27	698.86	672.10	685.38	694.11	681.08	692.62
5.0	705.50	690.07	691.56	703.85	693.76	689.55	700.31	693.67	706.44
7.5	708.10	707.62	708.07	703.03	707.57	696.14	703.73	707.94	711.95
10.0	719.48	717.24	715.18	724.90	711.49	729.59	719.38	728.17	718.86
12.5	733.67	735.18	736.61	733.27	732.69	737.04	735.98	737.13	729.45
15.0	760.60	761.29	759.15	767.79	758.02	759.79	758.65	750.55	763.47
17.5	786.90	783.90	784.50	777.49	772.85	774.73	769.76	772.87	769.64
20.0	799.80	803.50	801.93	799.59	792.53	781.43	793.71	791.72	788.69
22.5	825.34	827.28	819.69	812.46	807.47	801.64	800.49	793.32	794.08
25.0	842.58	842.58	834.79	833.22	822.47	816.90	811.59	805.13	808.29
27.5	858.18	853.05	849.92	841.17	829.21	817.56	814.35	812.96	812.49
30.0	875.49	864.81	851.42	849.21	845.85	830.40	826.99	823.72	819.24
32.5	875.38	877.41	870.72	856.94	845.88	842.45	833.02	832.17	830.95
35.0	882.39	878.98	874.60	867.33	858.01	842.66	837.55	833.73	832.52
37.5	885.55	881.55	876.47	872.01	853.36	847.76	840.15	831.87	837.87
40.0	886.67	883.38	882.62	871.66	859.17	856.76	843.38	840.80	844.22
42.5	878.60	886.21	875.75	872.85	865.28	856.04	857.08	845.33	845.65
45.0	888.15	888.20	872.39	871.80	867.90	859.32	857.68	847.27	854.39
47.5	878.96	879.46	880.09	874.16	868.75	863.07	855.72	850.92	851.90
50.0	873.02	874.43	877.20	872.14	869.78	866.63	862.39	864.00	849.98
52.5	872.33	877.66	871.41	871.55	873.69	866.81	863.53	861.08	856.26
55.0	863.97	866.38	868.62	871.33	869.53	865.09	865.65	867.65	863.03
57.5	855.91	858.26	863.27	865.57	871.94	870.56	869.16	867.04	864.08
60.0	849.60	850.53	858.70	861.52	864.34	858.76	864.59	863.19	862.02
62.5	838.64	843.60	848.25	848.36	854.82	854.39	859.23	856.91	859.54
65.0	822.01	826.88	833.18	838.85	845.85	846.88	842.60	845.59	850.87
67.5	804.42	814.34	812.24	823.24	824.53	826.37	828.86	827.61	823.61
70.0	783.67	785.02	789.28	796.05	802.06	800.79	802.52	803.40	802.52
72.5	751.72	756.30	761.51	766.16	767.65	770.01	766.31	765.76	766.93
75.0	716.06	718.66	722.55	724.74	728.23	727.77	724.81	721.95	722.63
77.5	673.26	679.68	676.45	682.87	679.13	678.13	675.75	675.10	672.45
80.0	629.48	629.97	630.55	625.99	627.52	625.89	620.60	622.47	613.15

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**CANDELA TABULATION - (Cont.)**

82.5	574.85	568.83	575.37	573.57	569.09	569.62	565.80	563.94	556.87
85.0	519.45	517.86	518.80	512.07	511.50	511.09	502.20	501.06	497.96
87.5	459.07	459.26	459.58	455.57	452.08	446.99	445.94	443.45	444.31
90.0	404.46	403.24	402.33	399.98	398.88	390.23	389.12	387.32	388.41
92.5	350.72	348.45	348.72	345.84	342.20	338.63	338.05	336.00	337.89
95.0	299.58	299.21	295.73	293.60	289.09	289.84	291.30	292.77	291.51
97.5	252.21	252.57	249.26	249.11	247.22	248.53	246.85	248.59	252.17
100.0	210.73	211.45	208.27	208.86	206.41	208.26	211.78	214.61	214.53
102.5	171.04	170.61	172.41	169.42	173.79	172.93	176.46	180.20	178.59
105.0	139.81	137.33	137.15	139.61	139.89	143.28	147.80	149.77	150.50
107.5	109.91	108.79	109.29	110.43	114.03	118.90	122.79	123.96	124.43
110.0	83.67	85.02	86.38	88.28	91.94	96.33	99.89	101.43	102.22
112.5	62.33	64.70	65.28	69.39	74.04	78.15	81.57	83.06	84.65
115.0	46.28	48.03	49.35	52.53	57.22	61.68	63.98	65.25	66.72
117.5	32.20	33.23	35.88	40.74	43.95	48.04	49.67	52.36	51.20
120.0	21.17	22.23	26.19	30.03	33.23	36.99	39.20	40.37	40.13
122.5	12.51	15.26	18.36	22.30	24.26	27.30	28.93	29.61	30.06
125.0	7.17	9.69	12.24	15.01	17.24	19.91	20.61	21.55	21.36
127.5	4.04	5.74	7.74	9.56	11.60	13.29	14.06	14.76	15.82
130.0	2.01	3.00	4.21	5.80	7.40	8.20	9.81	10.44	10.26
132.5	1.74	1.65	2.08	2.87	3.85	5.18	6.13	6.26	6.07
135.0	1.46	1.54	1.63	1.56	1.95	2.47	2.40	3.31	3.06
137.5	1.57	1.60	1.39	1.60	1.56	1.53	1.59	1.48	1.57
140.0	1.14	1.18	1.28	1.30	1.24	1.44	1.26	1.27	1.06
142.5	1.32	1.23	1.40	1.22	1.24	1.11	1.24	1.26	1.27
145.0	1.06	1.12	1.20	1.21	1.15	1.13	1.15	1.02	0.91
147.5	0.96	0.95	0.91	1.03	0.97	1.10	1.07	0.89	0.89
150.0	0.85	0.78	0.89	0.82	0.75	0.74	0.73	0.87	0.79
152.5	0.79	0.73	0.80	0.74	0.64	0.66	0.76	0.55	0.56
155.0	0.76	0.72	0.62	0.63	0.53	0.51	0.66	0.62	0.59
157.5	0.52	0.58	0.44	0.61	0.42	0.52	0.70	0.41	0.53
160.0	0.35	0.44	0.38	0.33	0.31	0.39	0.39	0.38	0.31
162.5	0.35	0.22	0.41	0.32	0.34	0.26	0.28	0.33	0.42
165.0	0.13	0.17	0.22	0.11	0.29	0.23	0.32	0.28	0.28
167.5	0.06	0.10	0.18	0.23	0.27	0.27	0.17	0.20	0.31
170.0	0.07	0.05	0.04	0.19	0.04	0.08	0.12	0.10	0.07
172.5	0.04	0.18	0.02	0.11	0.13	0.04	0.00	0.17	0.00
175.0	0.00	0.09	0.09	0.06	0.03	0.10	0.06	0.08	0.26
177.5	0.00	0.10	0.00	0.06	0.07	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

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	283.33	4.00	5.30
0-30	665.51	9.30	12.40
0-40	1204.58	16.80	22.50
0-60	2652.54	37.00	49.50
0-80	4242.31	59.20	79.20
0-90	4801.63	67.00	89.60
10-90	4734.34	66.10	88.40
20-40	921.26	12.90	17.20
20-50	1593.07	22.20	29.70
40-70	2276.03	31.80	42.50
60-80	1589.77	22.20	29.70
70-80	761.70	10.60	14.20
80-90	559.32	7.80	10.40
90-110	480.08	6.70	9.00
90-120	537.87	7.50	10.00
90-130	552.86	7.70	10.30
90-150	555.77	7.80	10.40
90-180	556.13	7.80	10.40
110-180	76.06	1.10	1.40
0-180	5357.77	74.80	100.00

Total Luminaire Efficiency = 74.80%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	67.29
10-20	216.04
20-30	382.18
30-40	539.08
40-50	671.81
50-60	776.15
60-70	828.07
70-80	761.70
80-90	559.32
90-100	325.71
100-110	154.36
110-120	57.80
120-130	14.99
130-140	2.21
140-150	0.70
150-160	0.29
160-170	0.07
170-180	0.01

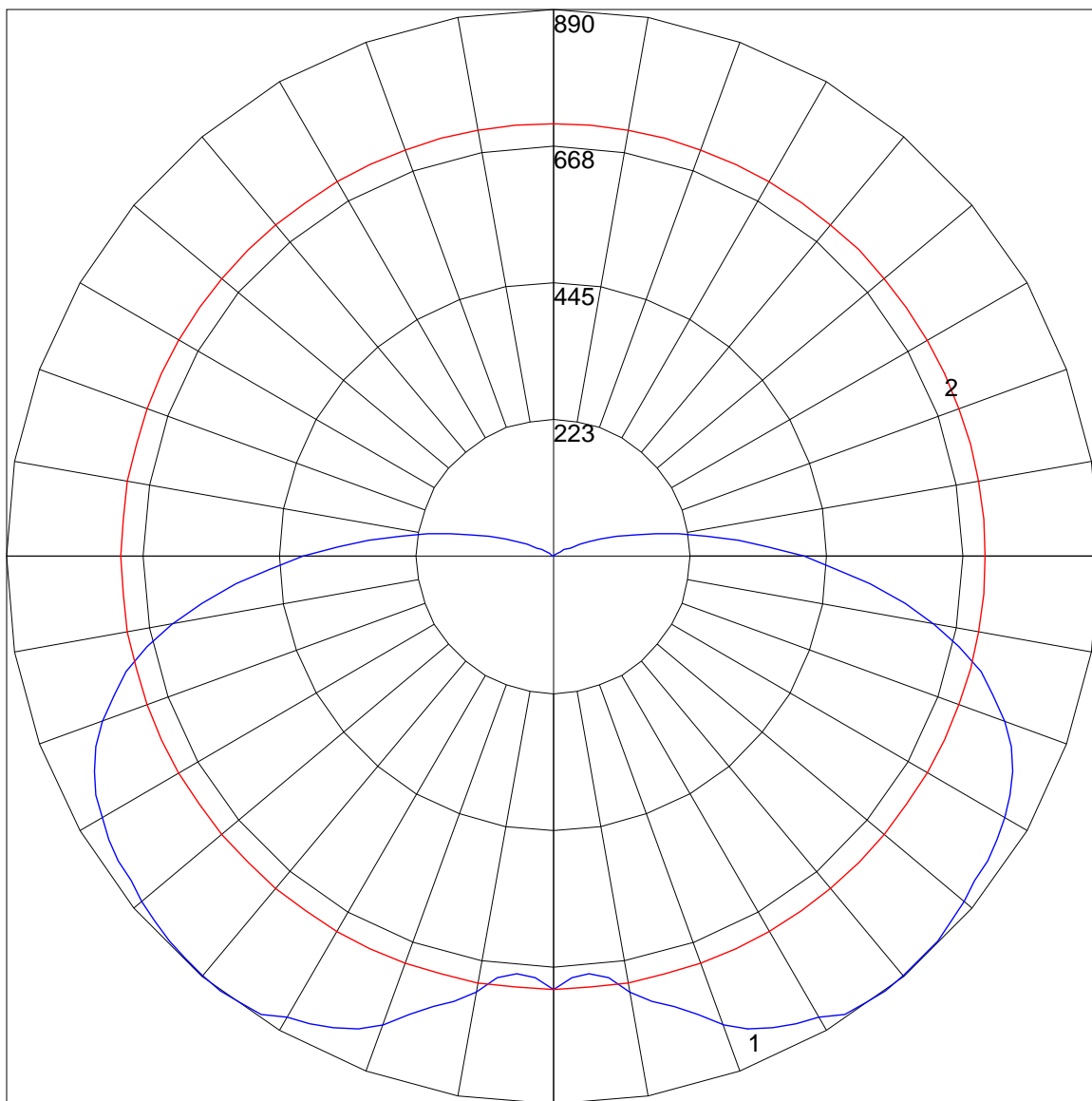
IES INDOOR REPORT  
 PHOTOMETRIC FILENAME : BS400LEDHTMOWT30120-277V\_S.IES

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	87	87	87	87	84	84	84	84	79	79	79	74	74	74	69	69	69	67
1	75	70	66	61	72	68	63	60	63	59	56	59	56	53	55	52	50	48
2	67	59	52	46	64	57	50	45	52	47	43	49	44	41	45	42	39	36
3	60	50	42	36	57	48	41	35	45	39	34	41	36	32	38	34	31	28
4	54	43	35	29	52	42	34	29	39	32	27	36	31	26	33	29	25	23
5	49	38	30	24	47	37	29	24	34	28	23	32	26	22	29	25	21	19
6	45	34	26	21	43	33	25	20	30	24	19	28	23	19	26	22	18	16
7	42	30	23	18	40	29	22	17	27	21	17	25	20	16	24	19	15	14
8	38	27	20	15	37	26	20	15	25	19	15	23	18	14	22	17	13	12
9	36	25	18	14	34	24	18	13	23	17	13	21	16	12	20	15	12	10
10	33	23	16	12	32	22	16	12	21	15	11	20	15	11	18	14	11	9

POLAR GRAPH



Maximum Candela = 890.19 Located At Horizontal Angle = 40, Vertical Angle = 37.5  
# 1 - Vertical Plane Through Horizontal Angles (40 - 220) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (0)