

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : ALX16LX-140L35KEX-AL16-FGR.IES****DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002

[TESTLAB] Photopia 2018.1.0 see: www.ltioptics.com/ies

[ISSUEDATE]

[TESTDATE] 7/27/2018

[UPDATE] 8/3/2018

[TEST] SP-00467\_20

[MANUFAC] Spectrum Lighting

[LUMCAT] ALX16LX-140L-35K-EX-AL16-FGR-xx

[LUMINAIRE] 16" Diam. Alum. Reflector LED Tech Pendant w/ Frosted Glass Ring

[OTHER] 22" outside diam. frosted, soda-lime glass ring, 16" diam. Open Center

[OTHER] Matte white, inside reflector finish

[OTHER] 73 Deg. Beam Angle

[OTHER] 98.5% Downlight, 1.5% Uplight

[LAMP] N/A

[LAMPCAT] N/A

[OTHER] Total Luminaire Watts is approximate

[OTHER] CCT Output Multipliers: 40K x 1.03, 30K x 0.979, 27K x 0.959

[OTHER] Adapted from Intertek LX-AL16 test luminaire ref. CRT1709151315-001-006

[OTHER] This report updated by Spectrum Lighting

**CHARACTERISTICS**

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	11646
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	104
Total Luminaire Watts	111.89
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.12
Spacing Criterion (90-270)	1.12
Spacing Criterion (Diagonal)	1.08
Basic Luminous Shape	Circular w/ Sides
Luminous Length (0-180)	1.33 ft (Diameter)
Luminous Width (90-270)	1.33 ft (Diameter)
Luminous Height	0.92 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	8497	8374	8393
55	6192	6188	6258
65	4270	4290	4241
75	2273	2257	2251
85	557	571	575

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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>
0.0	7638.02	7638.02	7638.02	7638.02	7638.02	7638.02	7638.02	7638.02	7638.02	7638.02
2.5	7654.05	7625.74	7637.71	7623.22	7620.02	7623.22	7637.71	7625.74	7654.05	7625.74
5.0	7670.08	7613.45	7637.39	7608.41	7602.01	7608.41	7637.39	7613.45	7670.08	7613.45
7.5	7572.49	7512.17	7548.38	7551.44	7544.78	7551.44	7548.38	7512.17	7572.49	7512.17
10.0	7474.90	7410.89	7459.36	7494.47	7487.55	7494.47	7459.36	7410.89	7474.90	7410.89
12.5	7279.26	7282.46	7272.27	7304.86	7288.93	7304.86	7272.27	7282.46	7279.26	7282.46
15.0	7083.62	7154.03	7085.17	7115.25	7090.31	7115.25	7085.17	7154.03	7083.62	7154.03
17.5	6808.35	6868.38	6834.95	6850.35	6819.60	6850.35	6834.95	6868.38	6808.35	6868.38
20.0	6533.07	6582.72	6584.73	6585.44	6548.89	6585.44	6584.73	6582.72	6533.07	6582.72
22.5	6295.44	6316.37	6314.13	6349.98	6305.23	6349.98	6314.13	6316.37	6295.44	6316.37
25.0	6057.81	6050.01	6043.52	6114.51	6061.56	6114.51	6043.52	6050.01	6057.81	6050.01
27.5	5841.01	5833.33	5845.57	5870.42	5848.99	5870.42	5845.57	5833.33	5841.01	5833.33
30.0	5624.20	5616.64	5647.62	5626.33	5636.42	5626.33	5647.62	5616.64	5624.20	5616.64
32.5	5025.68	5026.98	5046.23	5038.18	5042.60	5038.18	5046.23	5026.98	5025.68	5026.98
35.0	4427.15	4437.32	4444.84	4450.02	4448.78	4450.02	4444.84	4437.32	4427.15	4437.32
37.5	3495.17	3521.58	3528.14	3535.43	3545.32	3535.43	3528.14	3521.58	3495.17	3521.58
40.0	2563.18	2605.84	2611.44	2620.83	2641.86	2620.83	2611.44	2605.84	2563.18	2605.84
42.5	2011.52	2020.88	2025.06	2036.63	2041.95	2036.63	2025.06	2020.88	2011.52	2020.88
45.0	1459.85	1435.91	1438.68	1452.43	1442.04	1452.43	1438.68	1435.91	1459.85	1435.91
47.5	1335.45	1327.02	1325.39	1327.61	1325.83	1327.61	1325.39	1327.02	1335.45	1327.02
50.0	1211.05	1218.12	1212.09	1202.78	1209.61	1202.78	1212.09	1218.12	1211.05	1218.12
52.5	1123.50	1124.93	1123.72	1113.76	1128.35	1113.76	1123.72	1124.93	1123.50	1124.93
55.0	1035.94	1031.73	1035.34	1024.74	1047.08	1024.74	1035.34	1031.73	1035.94	1031.73
57.5	938.09	943.53	944.01	934.92	952.67	934.92	944.01	943.53	938.09	943.53
60.0	840.24	855.34	852.68	845.10	858.27	845.10	852.68	855.34	840.24	855.34
62.5	756.88	764.55	764.69	757.54	763.61	757.54	764.69	764.55	756.88	764.55
65.0	673.52	673.75	676.69	669.98	668.95	669.98	676.69	673.75	673.52	673.75
67.5	584.57	584.15	587.54	578.41	582.88	578.41	587.54	584.15	584.57	584.15
70.0	495.62	494.55	498.38	486.84	496.80	486.84	498.38	494.55	495.62	494.55
72.5	410.72	409.98	410.98	404.47	409.73	404.47	410.98	409.98	410.72	409.98
75.0	325.81	325.40	323.58	322.09	322.66	322.09	323.58	325.40	325.81	325.40
77.5	252.64	253.15	251.30	248.98	252.93	248.98	251.30	253.15	252.64	253.15
80.0	179.47	180.89	179.02	175.86	183.20	175.86	179.02	180.89	179.47	180.89
82.5	124.42	125.31	125.09	122.39	127.44	122.39	125.09	125.31	124.42	125.31
85.0	69.37	69.73	71.15	68.91	71.68	68.91	71.15	69.73	69.37	69.73
87.5	37.07	37.24	37.74	36.28	38.20	36.28	37.74	37.24	37.07	37.24
90.0	4.77	4.75	4.33	3.65	4.71	3.65	4.33	4.75	4.77	4.75
92.5	7.31	7.76	6.86	6.93	8.09	6.93	6.86	7.76	7.31	7.76
95.0	9.84	10.76	9.38	10.21	11.47	10.21	9.38	10.76	9.84	10.76
97.5	18.08	19.58	18.21	18.75	19.38	18.75	18.21	19.58	18.08	19.58
100.0	26.31	28.40	27.03	27.29	27.29	27.29	27.03	28.40	26.31	28.40
102.5	32.13	32.44	32.58	32.12	32.38	32.12	32.58	32.44	32.13	32.44
105.0	37.95	36.47	38.12	36.94	37.46	36.94	38.12	36.47	37.95	36.47
107.5	35.60	35.84	37.20	35.40	36.60	35.40	37.20	35.84	35.60	35.84
110.0	33.25	35.20	36.27	33.86	35.73	33.86	36.27	35.20	33.25	35.20
112.5	33.31	34.70	34.02	33.81	34.64	33.81	34.02	34.70	33.31	34.70
115.0	33.37	34.19	31.76	33.75	33.54	33.75	31.76	34.19	33.37	34.19
117.5	31.35	31.37	29.56	31.83	30.86	31.83	29.56	31.37	31.35	31.37
120.0	29.32	28.55	27.36	29.90	28.18	29.90	27.36	28.55	29.32	28.55
122.5	28.11	27.02	26.62	28.76	27.14	28.76	26.62	27.02	28.11	27.02
125.0	26.90	25.49	25.88	27.61	26.10	27.61	25.88	25.49	26.90	25.49
127.5	24.06	24.27	23.75	25.26	25.59	25.26	23.75	24.27	24.06	24.27
130.0	21.22	23.04	21.62	22.90	25.08	22.90	21.62	23.04	21.22	23.04
132.5	23.46	22.66	21.96	23.60	24.12	23.60	21.96	22.66	23.46	22.66

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**CANDELA TABULATION - (Cont.)**

135.0	25.70	22.27	22.30	24.30	23.16	24.30	22.30	22.27	25.70	22.27
137.5	28.51	25.56	26.40	25.50	26.04	25.50	26.40	25.56	28.51	25.56
140.0	31.31	28.85	30.50	26.69	28.91	26.69	30.50	28.85	31.31	28.85
142.5	30.76	31.70	30.56	30.60	31.86	30.60	30.56	31.70	30.76	31.70
145.0	30.21	34.55	30.62	34.50	34.81	34.50	30.62	34.55	30.21	34.55
147.5	30.48	33.69	30.20	32.84	32.17	32.84	30.20	33.69	30.48	33.69
150.0	30.74	32.83	29.78	31.17	29.52	31.17	29.78	32.83	30.74	32.83
152.5	31.48	33.59	30.06	30.54	29.65	30.54	30.06	33.59	31.48	33.59
155.0	32.21	34.35	30.33	29.91	29.77	29.91	30.33	34.35	32.21	34.35
157.5	30.51	31.87	31.46	29.37	31.64	29.37	31.46	31.87	30.51	31.87
160.0	28.80	29.38	32.59	28.82	33.50	28.82	32.59	29.38	28.80	29.38
162.5	30.94	28.89	31.77	29.16	31.24	29.16	31.77	28.89	30.94	28.89
165.0	33.07	28.39	30.94	29.50	28.97	29.50	30.94	28.39	33.07	28.39
167.5	31.94	24.87	28.70	27.45	28.00	27.45	28.70	24.87	31.94	24.87
170.0	30.81	21.35	26.45	25.39	27.03	25.39	26.45	21.35	30.81	21.35
172.5	24.15	21.25	23.84	23.28	27.19	23.28	23.84	21.25	24.15	21.25
175.0	17.49	21.15	21.22	21.17	27.34	21.17	21.22	21.15	17.49	21.15
177.5	20.83	22.66	22.69	22.67	25.75	22.67	22.69	22.66	20.83	22.66
180.0	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00

**Vert. Angles**      **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	7638.02	7638.02	7638.02	7638.02	7638.02	7638.02	7638.02
2.5	7637.71	7623.22	7620.02	7623.22	7637.71	7625.74	7654.05
5.0	7637.39	7608.41	7602.01	7608.41	7637.39	7613.45	7670.08
7.5	7548.38	7551.44	7544.78	7551.44	7548.38	7512.17	7572.49
10.0	7459.36	7494.47	7487.55	7494.47	7459.36	7410.89	7474.90
12.5	7272.27	7304.86	7288.93	7304.86	7272.27	7282.46	7279.26
15.0	7085.17	7115.25	7090.31	7115.25	7085.17	7154.03	7083.62
17.5	6834.95	6850.35	6819.60	6850.35	6834.95	6868.38	6808.35
20.0	6584.73	6585.44	6548.89	6585.44	6584.73	6582.72	6533.07
22.5	6314.13	6349.98	6305.23	6349.98	6314.13	6316.37	6295.44
25.0	6043.52	6114.51	6061.56	6114.51	6043.52	6050.01	6057.81
27.5	5845.57	5870.42	5848.99	5870.42	5845.57	5833.33	5841.01
30.0	5647.62	5626.33	5636.42	5626.33	5647.62	5616.64	5624.20
32.5	5046.23	5038.18	5042.60	5038.18	5046.23	5026.98	5025.68
35.0	4444.84	4450.02	4448.78	4450.02	4444.84	4437.32	4427.15
37.5	3528.14	3535.43	3545.32	3535.43	3528.14	3521.58	3495.17
40.0	2611.44	2620.83	2641.86	2620.83	2611.44	2605.84	2563.18
42.5	2025.06	2036.63	2041.95	2036.63	2025.06	2020.88	2011.52
45.0	1438.68	1452.43	1442.04	1452.43	1438.68	1435.91	1459.85
47.5	1325.39	1327.61	1325.83	1327.61	1325.39	1327.02	1335.45
50.0	1212.09	1202.78	1209.61	1202.78	1212.09	1218.12	1211.05
52.5	1123.72	1113.76	1128.35	1113.76	1123.72	1124.93	1123.50
55.0	1035.34	1024.74	1047.08	1024.74	1035.34	1031.73	1035.94
57.5	944.01	934.92	952.67	934.92	944.01	943.53	938.09
60.0	852.68	845.10	858.27	845.10	852.68	855.34	840.24
62.5	764.69	757.54	763.61	757.54	764.69	764.55	756.88
65.0	676.69	669.98	668.95	669.98	676.69	673.75	673.52
67.5	587.54	578.41	582.88	578.41	587.54	584.15	584.57
70.0	498.38	486.84	496.80	486.84	498.38	494.55	495.62
72.5	410.98	404.47	409.73	404.47	410.98	409.98	410.72
75.0	323.58	322.09	322.66	322.09	323.58	325.40	325.81
77.5	251.30	248.98	252.93	248.98	251.30	253.15	252.64
80.0	179.02	175.86	183.20	175.86	179.02	180.89	179.47

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**CANDELA TABULATION - (Cont.)**

82.5	125.09	122.39	127.44	122.39	125.09	125.31	124.42
85.0	71.15	68.91	71.68	68.91	71.15	69.73	69.37
87.5	37.74	36.28	38.20	36.28	37.74	37.24	37.07
90.0	4.33	3.65	4.71	3.65	4.33	4.75	4.77
92.5	6.86	6.93	8.09	6.93	6.86	7.76	7.31
95.0	9.38	10.21	11.47	10.21	9.38	10.76	9.84
97.5	18.21	18.75	19.38	18.75	18.21	19.58	18.08
100.0	27.03	27.29	27.29	27.29	27.03	28.40	26.31
102.5	32.58	32.12	32.38	32.12	32.58	32.44	32.13
105.0	38.12	36.94	37.46	36.94	38.12	36.47	37.95
107.5	37.20	35.40	36.60	35.40	37.20	35.84	35.60
110.0	36.27	33.86	35.73	33.86	36.27	35.20	33.25
112.5	34.02	33.81	34.64	33.81	34.02	34.70	33.31
115.0	31.76	33.75	33.54	33.75	31.76	34.19	33.37
117.5	29.56	31.83	30.86	31.83	29.56	31.37	31.35
120.0	27.36	29.90	28.18	29.90	27.36	28.55	29.32
122.5	26.62	28.76	27.14	28.76	26.62	27.02	28.11
125.0	25.88	27.61	26.10	27.61	25.88	25.49	26.90
127.5	23.75	25.26	25.59	25.26	23.75	24.27	24.06
130.0	21.62	22.90	25.08	22.90	21.62	23.04	21.22
132.5	21.96	23.60	24.12	23.60	21.96	22.66	23.46
135.0	22.30	24.30	23.16	24.30	22.30	22.27	25.70
137.5	26.40	25.50	26.04	25.50	26.40	25.56	28.51
140.0	30.50	26.69	28.91	26.69	30.50	28.85	31.31
142.5	30.56	30.60	31.86	30.60	30.56	31.70	30.76
145.0	30.62	34.50	34.81	34.50	30.62	34.55	30.21
147.5	30.20	32.84	32.17	32.84	30.20	33.69	30.48
150.0	29.78	31.17	29.52	31.17	29.78	32.83	30.74
152.5	30.06	30.54	29.65	30.54	30.06	33.59	31.48
155.0	30.33	29.91	29.77	29.91	30.33	34.35	32.21
157.5	31.46	29.37	31.64	29.37	31.46	31.87	30.51
160.0	32.59	28.82	33.50	28.82	32.59	29.38	28.80
162.5	31.77	29.16	31.24	29.16	31.77	28.89	30.94
165.0	30.94	29.50	28.97	29.50	30.94	28.39	33.07
167.5	28.70	27.45	28.00	27.45	28.70	24.87	31.94
170.0	26.45	25.39	27.03	25.39	26.45	21.35	30.81
172.5	23.84	23.28	27.19	23.28	23.84	21.25	24.15
175.0	21.22	21.17	27.34	21.17	21.22	21.15	17.49
177.5	22.69	22.67	25.75	22.67	22.69	22.66	20.83
180.0	24.00	24.00	24.00	24.00	24.00	24.00	24.00

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	2711.15	N.A.	23.30
0-30	5514.62	N.A.	47.40
0-40	8167.26	N.A.	70.10
0-60	10374.32	N.A.	89.10
0-80	11387.85	N.A.	97.80
0-90	11475.93	N.A.	98.50
10-90	10754.36	N.A.	92.30
20-40	5456.1	N.A.	46.90
20-50	6740.36	N.A.	57.90
40-70	2872.45	N.A.	24.70
60-80	1013.52	N.A.	8.70
70-80	348.14	N.A.	3.00
80-90	88.09	N.A.	0.80
90-110	50.42	N.A.	0.40
90-120	82.76	N.A.	0.70
90-130	106.15	N.A.	0.90
90-150	144.91	N.A.	1.20
90-180	169.82	N.A.	1.50
110-180	119.40	N.A.	1.00
0-180	11645.75	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	721.58
10-20	1989.58
20-30	2803.47
30-40	2652.63
40-50	1284.26
50-60	922.80
60-70	665.39
70-80	348.14
80-90	88.09
90-100	14.22
100-110	36.20
110-120	32.34
120-130	23.39
130-140	18.98
140-150	19.78
150-160	14.39
160-170	8.29
170-180	2.23

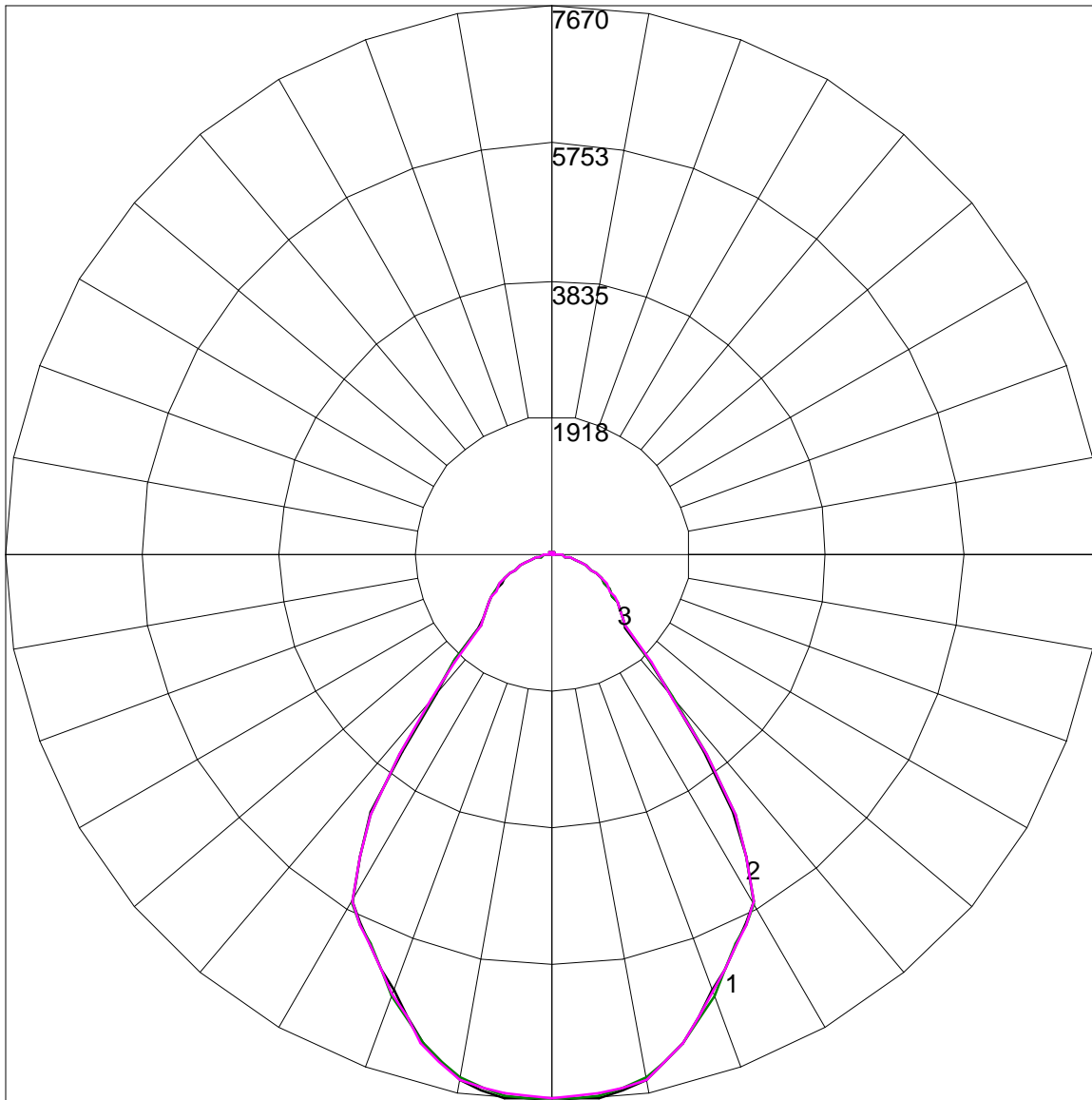
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	110	110	110	105	105	105	101	101	101	99
1	111	107	104	101	108	105	102	99	100	98	96	96	94	93	93	91	90	88
2	103	97	91	87	101	95	90	86	91	87	84	88	85	82	85	82	80	78
3	96	88	81	76	94	86	80	75	83	78	74	80	76	72	78	74	71	69
4	90	80	73	67	88	79	72	67	76	70	66	74	69	65	72	67	64	62
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	66	62	58	56
6	79	67	60	55	77	67	60	54	65	59	54	63	58	53	61	57	53	51
7	74	62	55	50	72	62	55	50	60	54	49	59	53	49	57	52	48	47
8	69	58	51	46	68	57	50	45	56	50	45	55	49	45	53	48	45	43
9	65	54	47	42	64	53	47	42	52	46	42	51	45	41	50	45	41	40
10	62	50	43	39	61	50	43	39	49	43	39	48	42	38	47	42	38	37

POLAR GRAPH



Maximum Candela = 7670.08 Located At Horizontal Angle = 0, Vertical Angle = 5

# 1 - Vertical Plane Through Horizontal Angles (0 - 180)

# 2 - Vertical Plane Through Horizontal Angles (45 - 225)

# 3 - Vertical Plane Through Horizontal Angles (90 - 270)