

Report No: L121706523 **Issue Date:** 1/22/2018

Report Prepared For: Number Eight Lighting Company
526 Portal Street, Cotati, CA 94931

Model Number: 804/M2-R-WD-40/WH/DIM1-8-1000-WD with FR-P-1-WH trim

Test: Photometric/Electrical Test

Standards Used: Appropriate part or all test guidelines were used for test performed:
IESNA LM79: 2008 Approved Methods for Electrical and Photometric Measurements of Solid-State Lighting Products
ANSI NEMA ANSLG C78.377: 2008 Specification of the Chromaticity of Solid State Lighting Products
ANSI C82.77:2002: Harmonic Emission Limits-Related Quality Requirements for Lighting Equipment

Description of Sample: Client submitted the sample. Received in working and undamaged condition. No modifications were necessary.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 1/2/18

Date of Tests: 1/18/18 - 1/22/18

Seasoning of Sample: No seasoning was performed in accordance with IESNA LM-79.

Equipment List

Equipment Used	Model No	Stock No	Calibration Due Date
Chroma Programmable AC Source	61604	PS-AC02	--
Yokogawa Digital Power Meter	WT210	MT-EL06-S4	1/9/19
BK PRECISION	1747	PS-DC04	1/10/19
Fluke Digital Thermometer	52K/J	MT-TP05	1/10/19
LLI Type C Goniophotometer System	RMG-C-MKII	CD-LL04-GC	--
LLI 2M Sphere	2MR97	CD-SN03-S2	--
LLI Spectroradiometer	SPR-3000	MT-SC01-S2	Before Use

*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

Test Summary

Manufacturer:	Number Eight Lighting Company
Model Number:	804/M2-R-WD-40/WH/DIM1-8-1000-WD with FR-P-1-WH trim
Driver Model Number:	IntuitiveSystems ISD-701-350-15-D
Total Lumens:	487.48
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.13
Input Power (W):	14.75
Input Power Factor:	0.98
Current ATHD @ 120V(%):	7%
Current ATHD @ 277V(%):	N/A
Efficacy:	33
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:40
Total Operating Time (Hours):	1:30

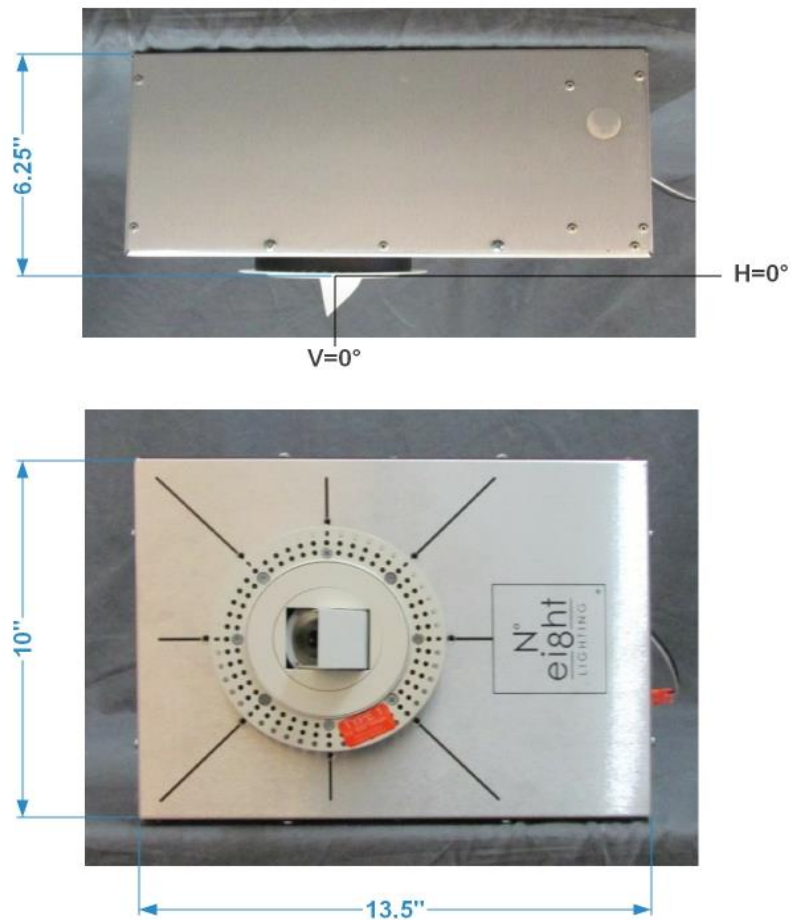


FIG. 1 LUMINAIRE

*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

Test Methods

Photometric Measurements - Goniophotometer

A Custom Light Laboratory Type C Rotating Mirror Goniophotometer was used to measure candelas(intensity) at each angle of distribution as defined by IESNA for the appropriate fixture type.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Spectral Measurements - Integrating Sphere

A Sensing Spectroradiometer SPR-3000, in conjunction with Light Laboratory 2 meter integrating sphere was used to measure chromaticity coordinates, correlated color temperature(CCT) and the color rendering index(CRI) for each sample.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Disclaimers:

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government.

Report Prepared by : Joseph Shin

Test Report Released by:



Jeff Ahn
Engineering Manager

Test Report Reviewed by:



Steve Kang
Quality Assurance

**Attached are photometric data reports. Total number of pages: 10*



8165 E. Kaiser Blvd. Anaheim, CA 92808
www.lightlaboratory.com

Photometric Test Report

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L121706523.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L121706523
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 1/22/2018
[MANUFAC] Number Eight Lighting Company
[LUMCAT] 804/M2-R-WD-40/WH/DIM1-8-1000-WD with FR-P-1-WH trim
[LUMINAIRE] LED Recessed Downlight, 40° Beam Spread, 45° Aiming Angle,
[MORE] Mirror Lens Accessory
[BALLASTCAT] IntuitiveSystems ISD-701-350-15-D
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[INPUT] 120VAC, 14.75W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	487
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	33
Total Luminaire Watts	14.75
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.70
Spacing Criterion (90-270)	0.84
Spacing Criterion (Diagonal)	1.46
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.06 ft
Luminous Width (90-270)	0.15 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	0	10139	27037
55	0	8333	26040
65	0	8482	22618
75	0	0	18466
85	0	0	27419

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>
0.0	53	53	53	53	53	53	53	53	53	53
5.0	66	66	66	65	65	65	64	63	62	61
10.0	84	84	83	83	82	80	78	76	73	70
15.0	70	71	71	73	74	76	77	78	76	74
20.0	25	25	26	28	31	36	42	50	56	60
22.5	16	16	17	18	19	23	26	31	40	48
25.0	8	8	8	9	10	14	20	22	26	34
27.5	7	7	7	7	8	9	13	17	20	24
30.0	6	6	6	6	7	7	10	13	16	19
32.0	5	5	6	6	6	6	8	11	14	16
34.0	5	5	5	5	6	6	7	10	12	13
36.0	0	0	0	4	5	6	6	8	10	12
38.0	0	0	0	0	3	4	6	7	9	10
40.0	0	0	0	0	0	3	4	6	8	9
41.0	0	0	0	0	0	3	4	5	7	8
42.0	0	0	0	0	0	0	3	4	6	8
43.0	0	0	0	0	0	0	3	4	6	7
44.0	0	0	0	0	0	0	3	4	5	7
45.0	0	0	0	0	0	0	3	4	5	6
46.0	0	0	0	0	0	0	3	4	5	5
47.0	0	0	0	0	0	0	3	4	4	5
48.0	0	0	0	0	0	0	3	3	4	5
49.0	0	0	0	0	0	0	0	3	4	5
50.0	0	0	0	0	0	0	0	3	4	5
52.0	0	0	0	0	0	0	0	3	4	4
54.0	0	0	0	0	0	0	0	3	3	4
56.0	0	0	0	0	0	0	0	0	3	4
58.0	0	0	0	0	0	0	0	0	3	4
60.0	0	0	0	0	0	0	0	0	3	3
62.5	0	0	0	0	0	0	0	0	0	3
65.0	0	0	0	0	0	0	0	0	0	3
67.5	0	0	0	0	0	0	0	0	0	3
70.0	0	0	0	0	0	0	0	0	0	3
75.0	0	0	0	0	0	0	0	0	0	0
80.0	0	0	0	0	0	0	0	0	0	0
85.0	0	0	0	0	0	0	0	0	0	0
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Horizontal Angles
 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>
0.0	53	53	53	53	53	53	53	53	53	53
5.0	60	59	58	57	56	55	54	54	53	52
10.0	68	65	61	59	56	54	52	50	49	49
15.0	71	66	62	58	53	50	47	45	44	43
20.0	61	60	56	52	48	44	41	39	37	36
22.5	52	53	51	47	43	40	38	36	34	33
25.0	42	45	45	42	39	36	34	32	31	30
27.5	33	37	38	37	34	32	30	29	28	28
30.0	25	30	31	31	29	27	26	25	25	25
32.0	20	25	27	27	26	24	23	23	23	24
34.0	17	21	23	23	22	21	21	21	21	22
36.0	14	17	19	20	19	19	19	19	20	21
38.0	11	14	16	17	17	16	17	17	19	20

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CANDELA TABULATION - (Cont.)

40.0	10	12	14	15	15	14	15	16	18	20
41.0	9	11	13	14	14	14	14	15	17	19
42.0	9	10	12	13	13	13	13	15	17	19
43.0	8	9	11	12	12	12	13	14	16	19
44.0	8	9	10	11	11	12	12	14	16	19
45.0	7	8	10	10	11	11	12	13	16	19
46.0	7	8	9	10	10	10	11	13	15	18
47.0	6	7	8	9	9	10	10	13	15	18
48.0	6	7	8	9	9	9	10	12	15	18
49.0	6	7	8	8	8	9	10	12	14	17
50.0	5	6	7	8	8	8	9	11	14	17
52.0	5	6	7	7	7	8	8	10	13	17
54.0	5	5	6	7	7	7	8	10	13	16
56.0	5	5	6	6	6	7	7	9	12	16
58.0	4	5	5	6	6	6	7	8	11	15
60.0	4	4	5	5	6	6	6	7	10	14
62.5	4	4	5	5	5	5	5	6	10	13
65.0	3	4	4	5	5	5	5	5	8	12
67.5	3	3	4	4	4	4	4	4	7	11
70.0	3	3	4	4	4	3	3	3	6	9
75.0	3	3	3	3	3	3	3	2	4	7
80.0	0	0	0	0	0	2	2	2	3	6
85.0	0	0	0	0	0	0	0	0	2	4
90.0	0	0	0	0	0	0	0	0	0	2

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>
0.0	53	53	53	53	53	53	53	53	53	53
5.0	52	51	51	50	49	49	48	47	47	46
10.0	48	47	46	45	43	41	39	38	37	36
15.0	42	40	39	37	35	33	32	30	29	29
20.0	35	34	33	31	30	29	28	29	34	44
22.5	32	31	30	30	29	28	29	35	48	67
25.0	30	29	29	28	28	28	32	44	65	94
27.5	28	28	28	28	28	30	37	55	84	118
30.0	26	27	28	28	29	31	39	64	102	145
32.0	25	26	28	29	30	32	43	68	112	159
34.0	24	26	28	29	31	33	44	76	123	178
36.0	24	26	28	30	32	34	43	82	138	201
38.0	23	25	28	30	33	36	44	79	142	213
40.0	22	25	28	31	34	37	44	75	147	225
41.0	22	25	28	31	34	38	43	78	152	236
42.0	22	25	28	31	35	39	44	76	145	230
43.0	22	25	29	31	35	39	44	77	145	232
44.0	22	25	29	32	36	40	45	71	142	230
45.0	22	26	29	32	36	41	46	73	139	227
46.0	22	25	29	32	36	41	46	72	136	223
47.0	21	25	29	32	37	42	46	68	128	215
48.0	21	25	29	33	37	42	47	67	124	209
49.0	21	25	29	33	37	42	47	65	124	208
50.0	21	25	29	33	38	43	48	63	113	193
52.0	21	25	29	33	38	43	47	59	102	176
54.0	20	25	29	33	38	43	47	56	95	163
56.0	20	24	28	33	37	42	46	52	80	138
58.0	19	23	28	32	36	41	45	50	71	120

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CANDELA TABULATION - (Cont.)

60.0	18	23	27	31	35	39	44	48	63	105
62.5	17	22	26	30	33	37	42	45	52	81
65.0	16	20	24	28	31	36	40	42	45	65
67.5	15	19	23	26	30	34	38	40	41	49
70.0	13	17	21	25	28	32	36	38	39	40
75.0	11	15	19	22	25	29	32	34	34	34
80.0	9	12	16	19	22	26	29	30	31	30
85.0	7	10	14	16	19	22	25	27	27	26
90.0	5	8	11	13	16	19	21	22	22	22

Vert. Horizontal Angles
Angles

	<u>150</u>	<u>155</u>	<u>160</u>	<u>165</u>	<u>170</u>	<u>175</u>	<u>180</u>
0.0	53	53	53	53	53	53	53
5.0	46	45	45	45	44	44	44
10.0	35	34	33	32	32	32	31
15.0	28	28	29	30	32	32	32
20.0	57	73	91	106	118	125	127
22.5	94	120	147	170	188	198	202
25.0	126	160	198	235	268	284	288
27.5	157	204	253	306	357	388	394
30.0	194	251	317	392	480	532	539
32.0	218	293	383	488	610	697	716
34.0	245	337	469	594	750	860	880
36.0	278	380	534	692	916	1036	1062
38.0	298	421	602	803	1048	1232	1264
40.0	322	459	677	908	1183	1380	1413
41.0	338	477	701	943	1243	1436	1471
42.0	335	485	714	967	1252	1469	1508
43.0	336	491	724	979	1270	1491	1529
44.0	339	496	732	993	1301	1515	1551
45.0	335	480	708	974	1293	1518	1560
46.0	331	483	717	985	1307	1526	1567
47.0	320	475	707	978	1281	1520	1564
48.0	313	452	695	966	1290	1509	1554
49.0	311	452	678	950	1270	1489	1532
50.0	300	438	658	926	1213	1434	1486
52.0	266	391	597	835	1114	1302	1337
54.0	246	356	515	710	951	1121	1149
56.0	217	307	433	594	786	944	977
58.0	182	254	363	500	669	799	821
60.0	158	219	300	410	522	630	647
62.5	124	172	232	305	396	469	488
65.0	100	137	184	244	305	357	370
67.5	76	106	141	183	230	262	272
70.0	53	76	103	133	165	182	187
75.0	34	38	44	50	53	54	55
80.0	30	30	31	31	30	30	30
85.0	27	27	28	28	27	27	27
90.0	22	22	22	21	21	20	20

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L121706523.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	19.51	N.A.	4.00
0-30	51.35	N.A.	10.50
0-40	138.08	N.A.	28.30
0-60	401.81	N.A.	82.40
0-80	476.21	N.A.	97.70
0-90	487.48	N.A.	100.00
10-90	482.32	N.A.	98.90
20-40	118.57	N.A.	24.30
20-50	264.59	N.A.	54.30
40-70	317.95	N.A.	65.20
60-80	74.40	N.A.	15.30
70-80	20.18	N.A.	4.10
80-90	11.27	N.A.	2.30
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	487.48	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	5.15
10-20	14.36
20-30	31.84
30-40	86.73
40-50	146.02
50-60	117.71
60-70	54.22
70-80	20.18
80-90	11.27
90-100	0.00
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

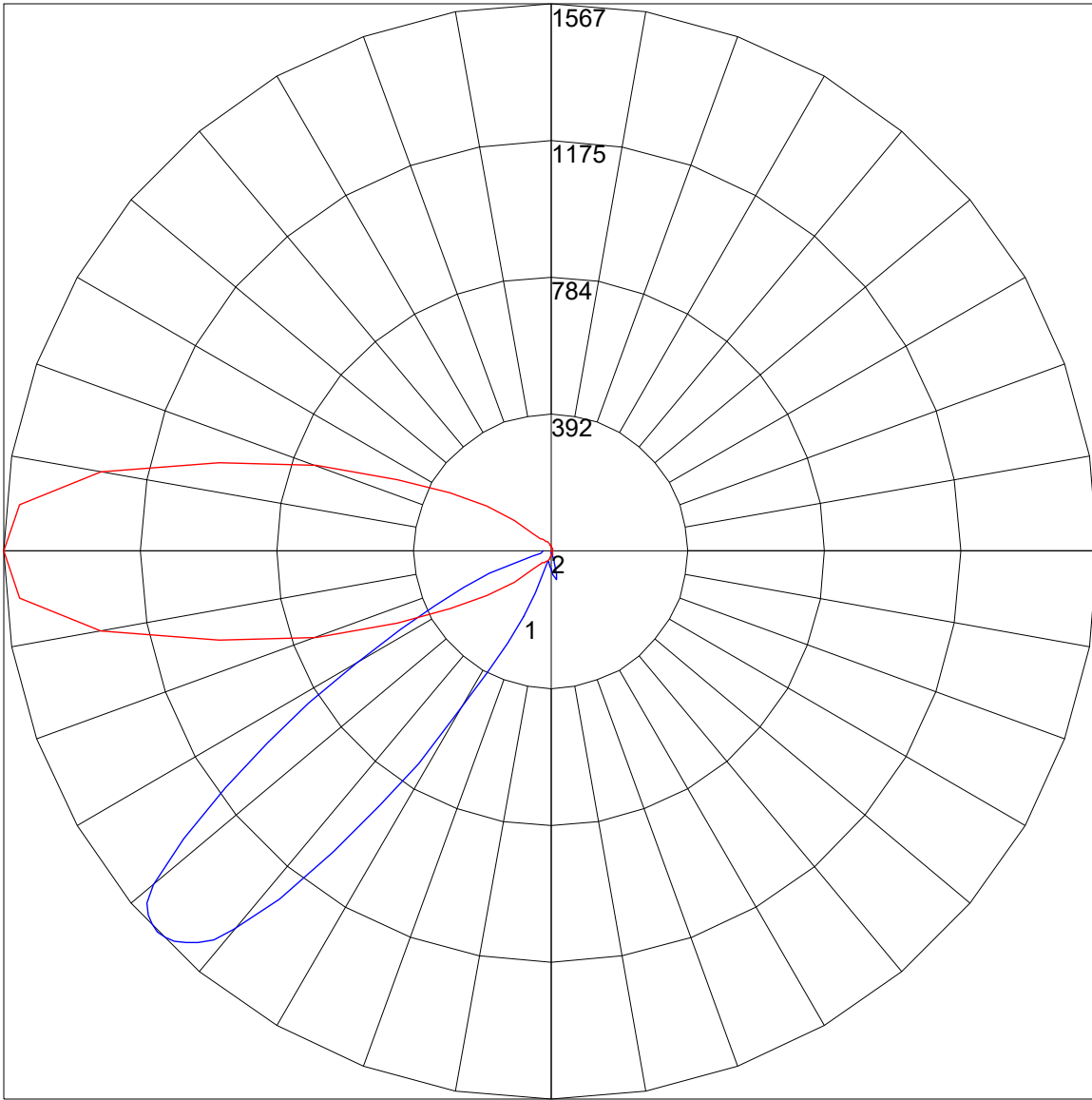
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PHOTOMETRIC FILENAME : L121706523.IES

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	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	89	82	76	95	87	80	75	84	78	73	80	75	71	77	73	70	67
3	88	77	68	61	86	75	67	60	72	65	59	69	63	58	67	62	57	55
4	80	67	57	50	77	65	56	49	63	55	49	60	53	48	58	52	47	45
5	72	58	48	41	70	57	48	41	55	47	40	53	45	40	51	44	39	37
6	66	51	41	34	63	50	41	34	48	40	34	46	39	33	45	38	33	31
7	60	45	35	29	58	44	35	29	43	34	28	41	34	28	40	33	28	26
8	55	40	31	24	53	39	31	24	38	30	24	37	29	24	35	29	24	22
9	51	36	27	21	49	35	27	21	34	26	21	33	26	21	32	25	20	18
10	47	33	24	18	46	32	24	18	31	23	18	30	23	18	29	22	18	16

POLAR GRAPH



Maximum Candela = 1567 Located At Horizontal Angle = 180, Vertical Angle = 46
1 - Vertical Plane Through Horizontal Angles (180 - 0) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (46) (Through Max. Cd.)