



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

Report No: L061802504



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Issue Date: 6/11/2018

Report Prepared For: eLuminaire LLC
180 E Selandia Lane Carson, CA 90746

Model Number: eLPLS1-DP16050K7-XX

Test: Photometric/Colorimetric/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: 5/23/18

Date of Tests: 5/30/18 - 6/11/18

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:	eLuminaire LLC
Model Number:	eLPLS1-DP16050K7-XX
Driver Model Number:	MOONS' MU200H105AQ
Total Lumens:	15193.16
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	1.00
Input Power (W):	118.56
Input Power Factor:	0.99
Current ATHD @ 120V(%):	8%
Current ATHD @ 277V(%):	11% (0.46A, 116.09W, 0.91PF)
Efficacy:	128
Color Rendering Index (CRI):	73
Correlated Color Temperature (K):	4836
Chromaticity Coordinate x:	0.3509
Chromaticity Coordinate y:	0.3636
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:35
Total Operating Time (Hours):	0:55

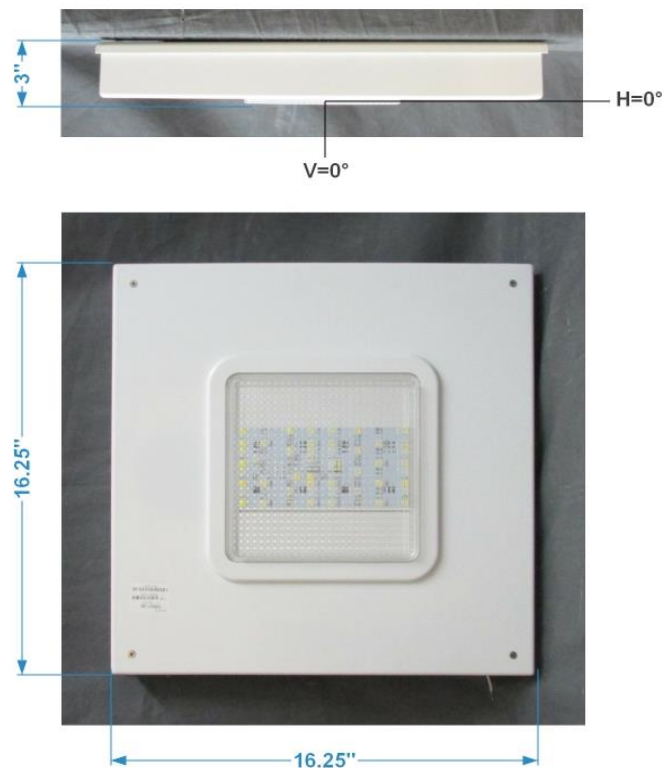
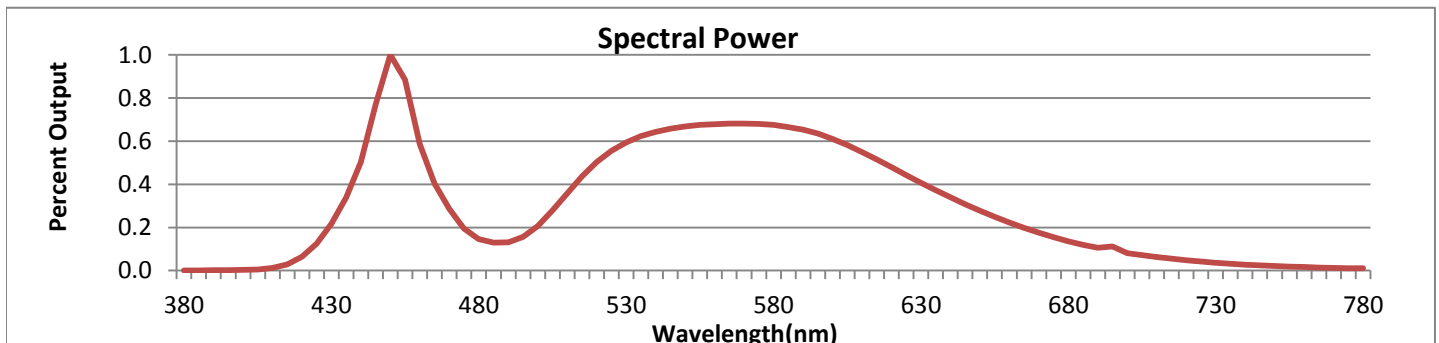


FIG. 1 LUMINAIRE



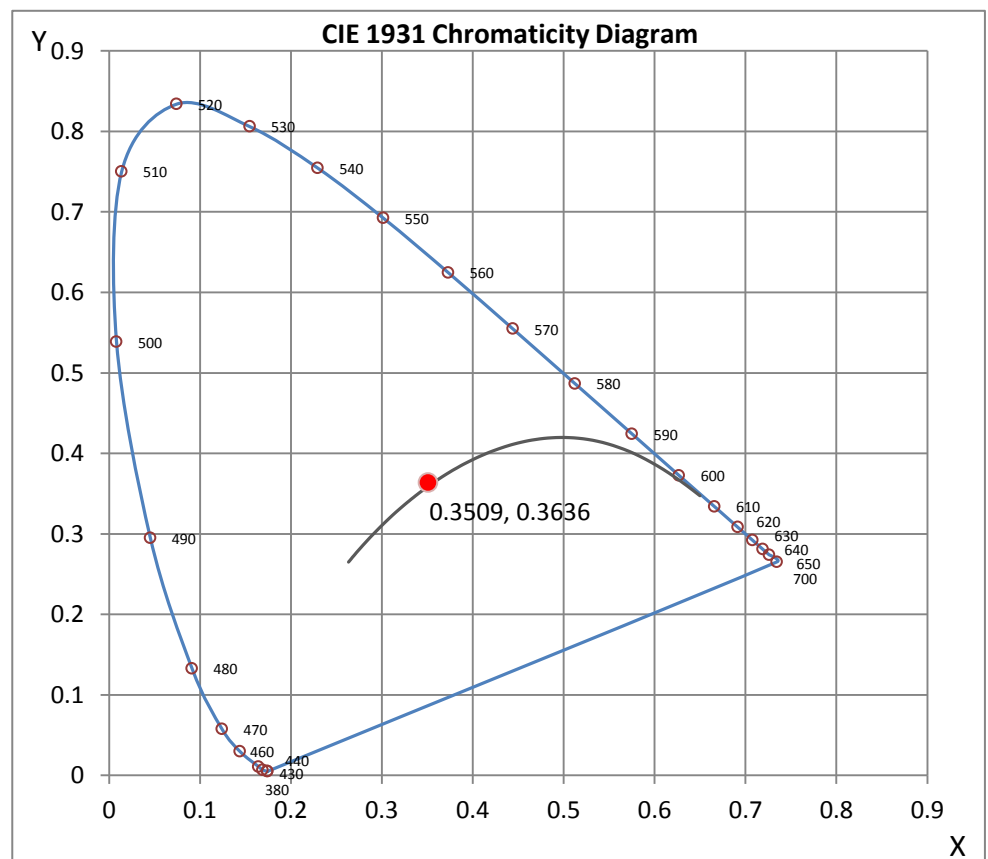
Wavelength	W/m ² nm	440	0.5030	510	0.3583	580	0.6756	650	0.2775	720	0.0481
380	0.0009	450	1.0000	520	0.5039	590	0.6528	660	0.2224	730	0.0363
390	0.0014	460	0.5864	530	0.5944	600	0.6106	670	0.1749	740	0.0279
400	0.0028	470	0.2869	540	0.6433	610	0.5502	680	0.1360	750	0.0214
410	0.0123	480	0.1462	550	0.6677	620	0.4800	690	0.1053	760	0.0166
420	0.0640	490	0.1304	560	0.6793	630	0.4072	700	0.0812	770	0.0128
430	0.2178	500	0.2068	570	0.6814	640	0.3396	710	0.0629	780	0.0111

CRI & CCT

x	0.3509
y	0.3636
u'	0.2107
v'	0.4912
CRI	72.90
CCT	4836
Duv	0.00367

R Values

R1	70.20
R2	78.06
R3	82.47
R4	72.40
R5	69.23
R6	68.02
R7	83.86
R8	58.89
R9	-22.13
R10	46.10
R11	67.15
R12	37.29
R13	71.46
R14	89.57



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*



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Photometric Test Report

IES INDOOR REPORT

PHOTOMETRIC FILENAME : L061802504.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L061802504
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUE DATE] 6/11/2018
[MANUFAC] eLuminaire LLC
[LUMCAT] eLPLS1-DP16050K7-XX
[LUMINAIRE] Canopy / Petroleum Light
[BALLASTCAT] MOONS' MU200H105AQ
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[INPUT] 120VAC, 118.56W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	15193
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	128
Total Luminaire Watts	118.56
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.26
Spacing Criterion (Diagonal)	1.32
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.56 ft
Luminous Width (90-270)	0.56 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	182586	184865	186369
55	143784	131229	132784
65	113516	106781	97450
75	87180	110764	71943
85	130232	160528	137315

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L061802504.IES

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	6372	6372	6372	6372	6372	6372	6372	6372	6372	6372
5	6193	6196	6203	6210	6218	6227	6239	6254	6267	6280
10	5838	5839	5840	5835	5827	5828	5843	5859	5880	5900
15	5631	5627	5610	5588	5566	5531	5495	5470	5471	5484
20	5373	5357	5347	5331	5308	5294	5288	5286	5293	5301
25	5525	5508	5470	5404	5337	5257	5186	5122	5089	5108
30	5240	5228	5201	5166	5133	5122	5129	5129	5105	5049
35	4721	4716	4703	4697	4722	4757	4786	4805	4797	4772
40	4268	4270	4272	4274	4280	4294	4308	4334	4369	4382
45	3765	3773	3779	3775	3757	3742	3740	3761	3787	3812
50	3119	3124	3135	3129	3093	3044	3024	3021	3020	3027
55	2405	2397	2382	2379	2383	2373	2315	2231	2209	2195
60	1874	1877	1908	1883	1837	1832	1818	1761	1705	1653
65	1399	1398	1418	1434	1432	1400	1383	1404	1360	1316
70	954	957	983	1043	1061	1049	1072	1059	1052	1047
75	658	656	670	711	811	835	814	820	823	836
80	542	528	501	497	557	600	625	614	656	647
85	331	325	325	349	378	393	409	429	433	408
90	147	151	157	164	169	170	175	182	188	191
95	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0

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	6372	6372	6372	6372	6372	6372	6372	6372	6372
5	6291	6304	6317	6327	6333	6340	6348	6351	6352
10	5926	5969	6013	6064	6111	6144	6165	6177	6180
15	5511	5543	5593	5683	5775	5865	5954	5994	6006
20	5317	5340	5378	5433	5529	5663	5795	5900	5931
25	5160	5226	5269	5264	5270	5353	5517	5672	5741
30	4983	4949	4976	5032	5037	5032	5145	5317	5437
35	4742	4711	4697	4695	4721	4750	4797	4919	5011
40	4382	4369	4354	4361	4356	4342	4390	4445	4442
45	3833	3836	3817	3813	3833	3844	3878	3880	3843
50	3036	3046	3047	3051	3084	3116	3153	3124	3108
55	2175	2167	2208	2267	2272	2241	2229	2219	2221
60	1634	1651	1686	1676	1653	1678	1706	1678	1668

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L061802504.IES

CANDELA TABULATION - (Cont.)

65	1309	1309	1249	1231	1264	1260	1215	1196	1201
70	1017	983	974	929	927	899	834	803	798
75	811	791	764	775	749	632	569	545	543
80	657	619	630	605	552	476	461	488	506
85	441	454	440	428	407	374	343	340	349
90	202	206	206	201	196	185	171	156	148
95	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0

IES INDOOR REPORT
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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	2189.9	N.A.	14.40
0-30	4639.45	N.A.	30.50
0-40	7611.58	N.A.	50.10
0-60	12602.96	N.A.	83.00
0-80	14728.11	N.A.	96.90
0-90	15144.22	N.A.	99.70
10-90	14555.37	N.A.	95.80
20-40	5421.69	N.A.	35.70
20-50	8320.04	N.A.	54.80
40-70	6321.01	N.A.	41.60
60-80	2125.15	N.A.	14.00
70-80	795.51	N.A.	5.20
80-90	416.11	N.A.	2.70
90-110	48.94	N.A.	0.30
90-120	48.94	N.A.	0.30
90-130	48.94	N.A.	0.30
90-150	48.94	N.A.	0.30
90-180	48.94	N.A.	0.30
110-180	0.00	N.A.	0.00
0-180	15193.16	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	588.85
10-20	1601.05
20-30	2449.56
30-40	2972.13
40-50	2898.35
50-60	2093.02
60-70	1329.64
70-80	795.51
80-90	416.11
90-100	48.94
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

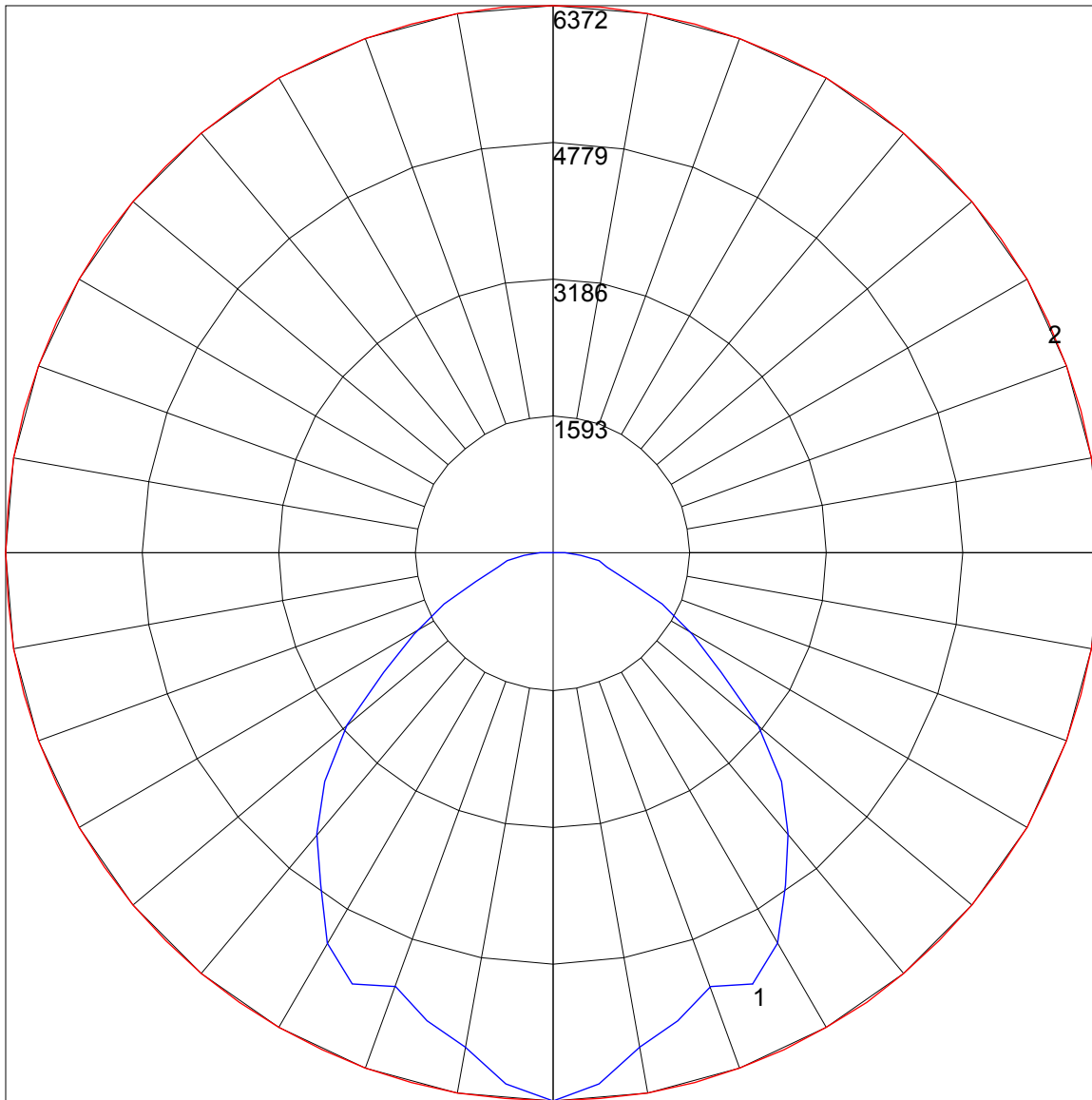
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	104	100	97	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	100	92	85	80	97	90	84	79	86	81	77	83	79	75	80	77	74	71
3	92	82	74	67	89	80	73	67	77	71	66	74	69	64	72	67	63	61
4	84	73	64	58	82	71	64	57	69	62	57	67	61	56	64	59	55	53
5	78	65	57	50	76	64	56	50	62	55	50	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	44	55	48	43	53	47	43	41
7	67	54	45	39	65	53	45	39	51	44	39	50	43	39	49	43	38	36
8	62	49	41	35	61	49	41	35	47	40	35	46	39	35	45	39	34	33
9	58	45	37	32	57	45	37	32	44	36	32	42	36	31	41	36	31	29
10	55	42	34	29	53	41	34	29	40	33	29	39	33	29	38	33	28	27

POLAR GRAPH



Maximum Candela = 6372 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)