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Report No: L011508301

Date: 1/29/2015



NVLAP LAB CODE 200927-0

Report No: L011508301

Report Prepared For: Dreamscape Lighting Mfg., Inc
 5521 W. Washington Blvd. Los Angeles, CA 90016

Model Number: DLED-9700-12

Test: Electrical and Photometric tests

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. Catalog number is DLED-9700-12. Received in working and undamaged condition. No modifications were necessary.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 1/23/15

Date of Tests: 1/27/15 - 1/27/15

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-S1	11/10/15
Xitron Power Analysis System	2503AH	MT-EL01	10/20/15
BK Precision DC Power Supply	1747	PSDC-04	01/08/16
Fluke Digital Thermometer	52k/J	MT-TP02-GC	01/05/16
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:	Dreamscape Lighting Mfg., Inc
Model Number:	DLED-9700-12
Driver Model Number:	L.T.F DA40W24VOC-0000
Total Lumens:	490.52
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.12
Input Power (W):	12.95
Input Power Factor:	0.90
Current ATHD @ 120V(%):	21%
Current ATHD @ 277V(%):	N/A
Efficacy:	38
Color Rendering Index (CRI):	97
Correlated Color Temperature (K):	2900
Chromaticity Coordinate x:	0.4407
Chromaticity Coordinate y:	0.3996
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	1:00
Total Operating Time (Hours):	1:50
Off State Power(W):	0.00

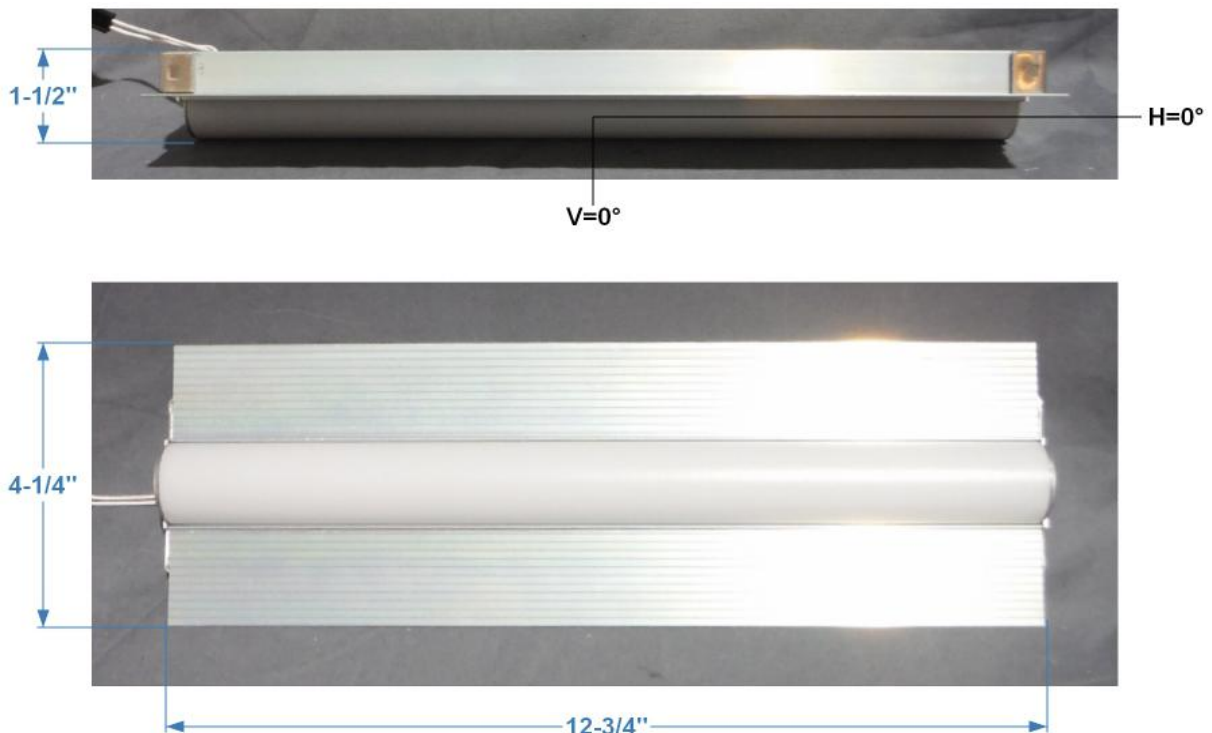
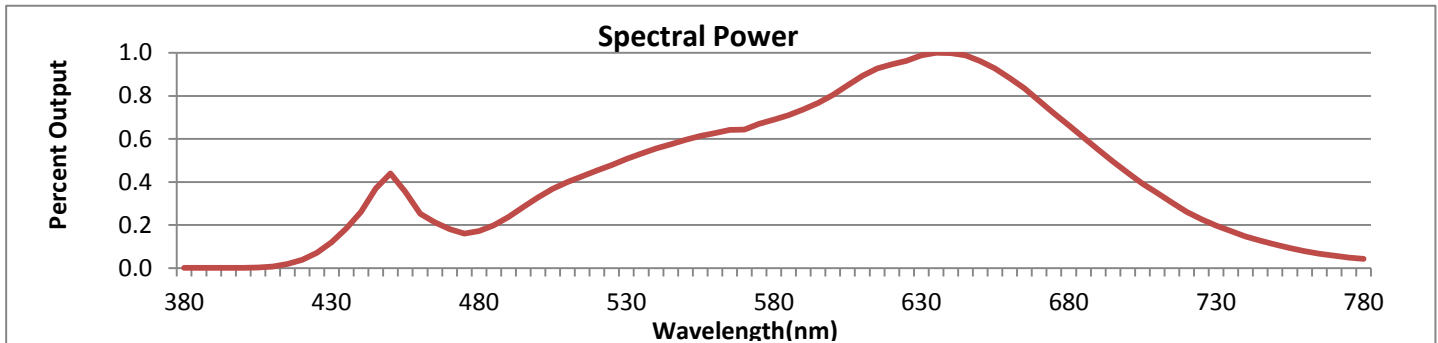


FIG. 1 LUMINAIRE

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



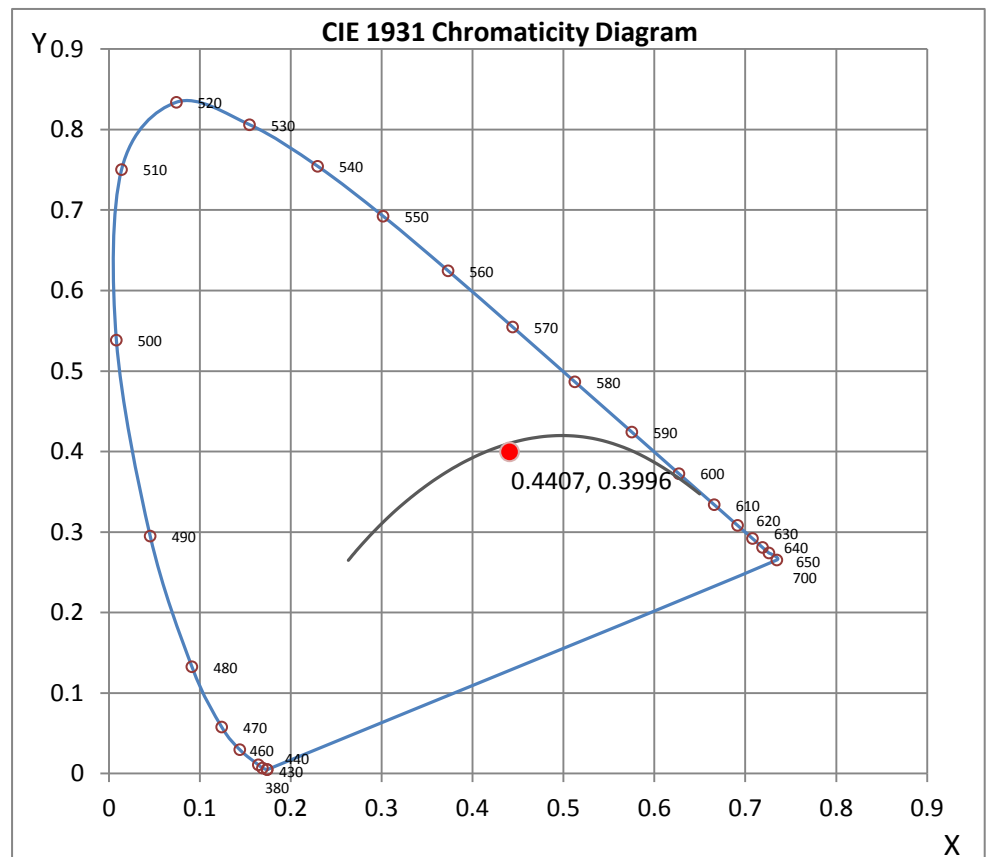
Wavelength	W/m ² nm	440	0.2620	510	0.4001	580	0.6897	650	0.9622	720	0.2614
380	0.0010	450	0.4402	520	0.4532	590	0.7370	660	0.8831	730	0.1975
390	0.0010	460	0.2519	530	0.5062	600	0.8047	670	0.7766	740	0.1472
400	0.0016	470	0.1810	540	0.5559	610	0.8932	680	0.6639	750	0.1090
410	0.0073	480	0.1715	550	0.5959	620	0.9472	690	0.5501	760	0.0785
420	0.0386	490	0.2373	560	0.6273	630	0.9880	700	0.4428	770	0.0579
430	0.1199	500	0.3282	570	0.6438	640	0.9986	710	0.3488	780	0.0422

CRI & CCT

x	0.4407
y	0.3996
u'	0.2550
v'	0.5202
CRI	96.80
CCT	2900
Duv	-0.00227

R Values

R1	99.88
R2	97.91
R3	93.34
R4	95.00
R5	98.49
R6	96.81
R7	96.14
R8	96.69
R9	93.14
R10	93.51
R11	93.98
R12	89.80
R13	99.40
R14	95.21



*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 : Wilson Khounlavong

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: 11*



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Photometric Test Report

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L011508301.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L011508301
 [TESTLAB] LIGHT LABORATORY, INC.
 [ISSUEDATE] 1/29/2015
 [MANUFAC] DREAMSCAPE LIGHTING MFG., INC
 [LUMCAT] DLED-9700-12
 [LUMINAIRE] 12-3/4"L X 4-1/4"W X 1-1/2"H. LED LUMINAIRE
 [MORE] DIFFUSED LENS
 [BALLASTCAT] L.T.F DA40W24VOC-0000
 [BALLAST] INPUT: 120VAC, 0.38A, 50/60HZ. OUTPUT: 24VDC, 40W
 [LAMPPOSITION] 0,0
 [LAMPCAT] N/A
 [OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
 [MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
 [INPUT] 120VAC, 12.95W
 [TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	491
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	38
Total Luminaire Watts	12.95
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.24
Spacing Criterion (90-270)	1.44
Spacing Criterion (Diagonal)	1.50
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	1.04 ft
Luminous Width (90-270)	0.10 ft
Luminous Height	0.06 ft

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L011508301.IES

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	10571	9034	9343
55	9912	8568	9143
65	8975	8190	9021
75	7567	8029	9015
85	5062	7875	9006

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L011508301.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	117.33	117.33	117.33	117.33	117.33	117.33	117.33	117.33	117.33	117.33
5	115.41	115.53	115.72	115.87	116.04	116.34	116.81	117.20	117.37	117.40
10	114.00	114.10	114.35	114.53	114.79	115.20	115.76	116.18	116.45	116.56
15	111.37	111.51	111.80	112.06	112.36	112.90	113.55	114.09	114.44	114.63
20	107.77	107.92	108.25	108.63	109.03	109.61	110.32	110.99	111.47	111.88
25	103.08	103.29	103.71	104.13	104.65	105.40	106.25	107.01	107.72	108.37
30	97.69	97.87	98.36	98.91	99.55	100.44	101.39	102.43	103.52	104.66
35	91.20	91.47	92.01	92.66	93.48	94.48	95.79	97.37	98.92	100.41
40	84.27	84.55	85.14	85.89	86.89	88.22	90.12	92.05	93.99	95.87
45	76.46	76.73	77.42	78.37	79.66	81.63	83.81	86.12	88.26	90.51
50	68.31	68.67	69.39	70.56	72.45	74.62	77.23	79.85	82.51	85.00
55	59.51	59.91	60.76	62.32	64.63	67.31	70.12	73.16	76.11	79.09
60	50.46	50.89	51.90	54.04	56.72	59.78	62.98	66.46	70.10	73.01
65	41.22	41.68	43.02	45.57	48.70	52.16	55.86	59.62	63.35	66.86
70	31.87	32.43	34.35	37.31	40.83	44.80	48.82	52.91	57.02	60.85
75	23.02	23.64	26.15	29.66	33.59	38.10	42.48	46.86	50.99	54.98
80	14.02	14.89	18.14	22.20	26.86	31.49	36.11	40.62	44.53	48.42
85	7.08	8.56	12.04	16.60	21.27	25.69	30.06	34.39	38.28	41.92
90	2.06	3.96	6.84	10.55	14.57	18.45	22.54	26.66	30.41	33.96
95	1.40	1.64	2.42	4.11	7.06	10.48	14.27	18.22	21.95	25.53
100	0.00	1.44	1.61	1.90	2.29	2.76	3.92	6.63	9.82	13.05
105	0.00	0.00	1.50	1.60	1.76	1.94	2.12	2.29	2.46	2.69
110	0.00	0.00	1.48	1.51	1.59	1.65	1.76	1.85	1.93	1.94
115	0.00	0.00	1.42	1.44	1.47	1.50	1.54	1.56	1.61	1.63
120	0.00	0.00	0.00	1.42	1.42	1.44	1.47	1.49	1.53	1.53
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50	1.51
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	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	117.33	117.33	117.33	117.33	117.33	117.33	117.33	117.33	117.33
5	117.41	117.47	117.60	117.77	117.93	118.05	118.17	118.27	118.31
10	116.62	116.73	116.89	117.08	117.24	117.42	117.57	117.65	117.66
15	114.86	115.12	115.42	115.66	115.86	116.08	116.22	116.32	116.33
20	112.26	112.66	113.09	113.53	113.90	114.21	114.45	114.59	114.63
25	109.03	109.78	110.61	111.35	111.98	112.50	112.83	113.05	113.13
30	105.78	106.86	107.97	108.94	109.79	110.45	110.88	111.14	111.27
35	101.93	103.40	104.58	105.71	106.75	107.55	108.14	108.46	108.57
40	97.46	99.25	100.89	102.39	103.60	104.60	105.28	105.66	105.81
45	92.67	94.72	96.74	98.30	99.63	100.82	101.66	102.07	102.23
50	87.39	89.88	92.04	94.54	95.59	96.81	97.76	98.31	98.45
55	81.90	84.45	86.99	89.23	90.94	92.38	93.46	94.04	94.18
60	76.15	79.01	81.75	84.06	86.00	87.58	88.67	89.28	89.46

**IES INDOOR REPORT
PHOTOMETRIC FILENAME : L011508301.IES**

CANDELA TABULATION - (Cont.)

65	70.33	73.51	76.23	78.74	80.70	82.29	83.46	84.10	84.31
70	64.34	67.50	70.43	72.90	74.98	76.63	77.86	78.53	78.73
75	58.52	61.71	64.71	67.15	69.30	70.96	72.16	72.82	73.09
80	52.05	55.28	58.08	60.59	62.75	64.35	65.54	66.28	66.39
85	45.44	48.59	51.33	53.78	55.92	57.51	58.69	59.41	59.65
90	37.41	40.49	43.23	45.68	47.76	49.34	50.54	51.26	51.47
95	29.03	32.15	34.97	37.50	39.68	41.32	42.57	43.31	43.54
100	16.00	18.65	21.20	23.35	25.20	26.69	27.76	28.37	28.58
105	3.87	5.93	8.07	9.92	11.50	12.82	13.73	14.23	14.39
110	1.94	1.94	1.92	1.87	1.77	1.74	1.94	2.06	2.06
115	1.65	1.65	1.64	1.60	1.54	1.49	1.43	1.37	1.35
120	1.54	1.54	1.52	1.49	1.47	1.43	1.41	0.00	0.00
125	1.50	1.50	1.48	1.47	1.44	0.00	0.00	0.00	0.00
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	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	43.43	N.A.	8.90
0-30	93.44	N.A.	19.00
0-40	156.22	N.A.	31.80
0-60	295.55	N.A.	60.30
0-80	414.54	N.A.	84.50
0-90	456.27	N.A.	93.00
10-90	445.12	N.A.	90.70
20-40	112.79	N.A.	23.00
20-50	182.29	N.A.	37.20
40-70	203.70	N.A.	41.50
60-80	118.99	N.A.	24.30
70-80	54.62	N.A.	11.10
80-90	41.73	N.A.	8.50
90-110	32.33	N.A.	6.60
90-120	33.73	N.A.	6.90
90-130	34.26	N.A.	7.00
90-150	34.26	N.A.	7.00
90-180	34.26	N.A.	7.00
110-180	1.92	N.A.	0.40
0-180	490.52	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	11.15
10-20	32.28
20-30	50.01
30-40	62.78
40-50	69.50
50-60	69.84
60-70	64.37
70-80	54.62
80-90	41.73
90-100	25.21
100-110	7.12
110-120	1.40
120-130	0.52
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

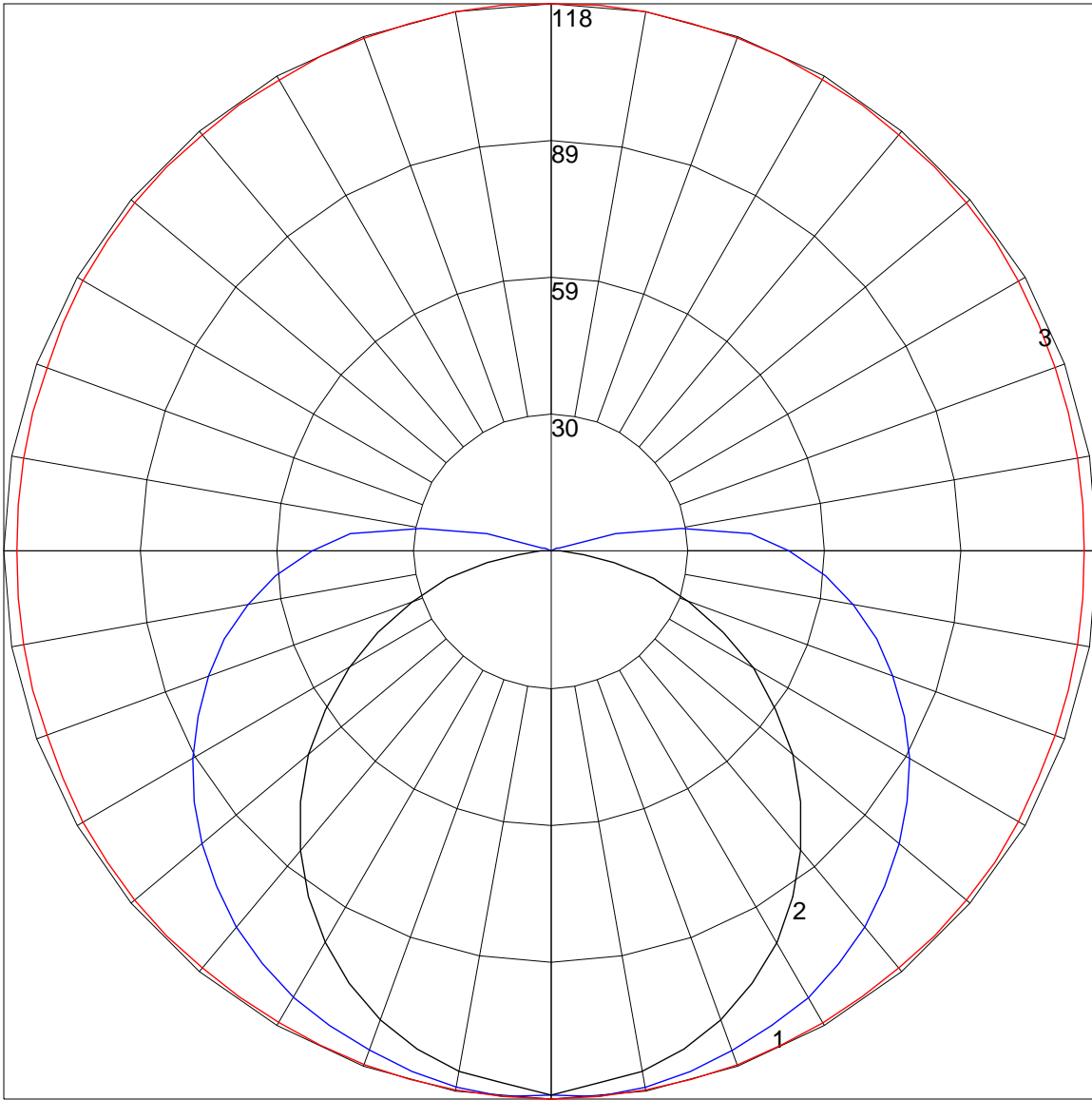
IES INDOOR REPORT
PHOTOMETRIC FILENAME : L011508301.IES

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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	96	96	96	93
1	103	97	91	86	100	94	89	84	88	84	80	83	80	77	78	76	73	70
2	93	83	74	68	89	80	73	66	75	69	64	71	66	61	67	62	59	56
3	84	72	62	55	80	69	61	54	65	58	52	61	55	50	58	53	48	45
4	76	63	53	45	73	61	52	45	57	50	43	54	47	42	51	45	41	38
5	70	56	46	39	67	54	45	38	51	43	37	48	41	36	46	40	35	32
6	64	50	40	33	62	48	39	33	46	38	32	43	36	31	41	35	30	28
7	59	45	36	29	57	44	35	29	42	34	28	39	32	27	37	31	27	24
8	55	41	32	26	53	40	31	25	38	30	25	36	29	24	34	28	24	22
9	51	37	29	23	50	36	28	23	35	27	22	33	26	22	32	26	21	19
10	48	34	26	21	47	34	26	20	32	25	20	31	24	20	29	23	19	17

POLAR GRAPH



Maximum Candela = 118.31 Located At Horizontal Angle = 90, Vertical Angle = 5

1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)

2 - Vertical Plane Through Horizontal Angles (0 - 180)

3 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)