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Report No: L101605124

Date: 12/1/2016



NVLAP LAB CODE 200927-0

**Report No:** L101605124

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

**Model Number:** 803/J2-HI-15-XX/DIM1-8-1000 /FR-P-1-WH

**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. Catalog number is 803/J2-HI-15-XX/DIM1-8-1000 /FR-P-1-WH . Received in working and undamaged condition. No modifications were necessary.

**Testing Condition:** Fixture is tested with no special conditions.

**Sample Arrival Date:** 10/31/16

**Date of Tests:** 11/30/16 - 12/1/16

**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-GB	2/10/17
Xitron Power Analyzer	2802	MT-EL02-2	12/22/16
BK PRECISION	1747	PS-DC04	12/8/16
Fluke Digital Thermometer	52k/J	MT-TP02-GB	12/8/16
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**

<b>Manufacturer:</b>	Number Eight Lighting Company
<b>Model Number:</b>	803/J2-HI-15-XX/DIM1-8-1000 /FR-P-1-WH
<b>Driver Model Number:</b>	INTUITIVE SYSTEMS ISD-601-1050-15-D
<b>Total Lumens:</b>	722.71
<b>Input Voltage (VAC/60Hz):</b>	120.00
<b>Input Current (Amp):</b>	0.13
<b>Input Power (W):</b>	14.99
<b>Input Power Factor:</b>	0.98
<b>Current ATHD @ 120V(%):</b>	8%
<b>Current ATHD @ 277V(%):</b>	N/A
<b>Efficacy:</b>	48
<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:45
<b>Total Operating Time (Hours):</b>	1:55
<b>Off State Power(W):</b>	0.00

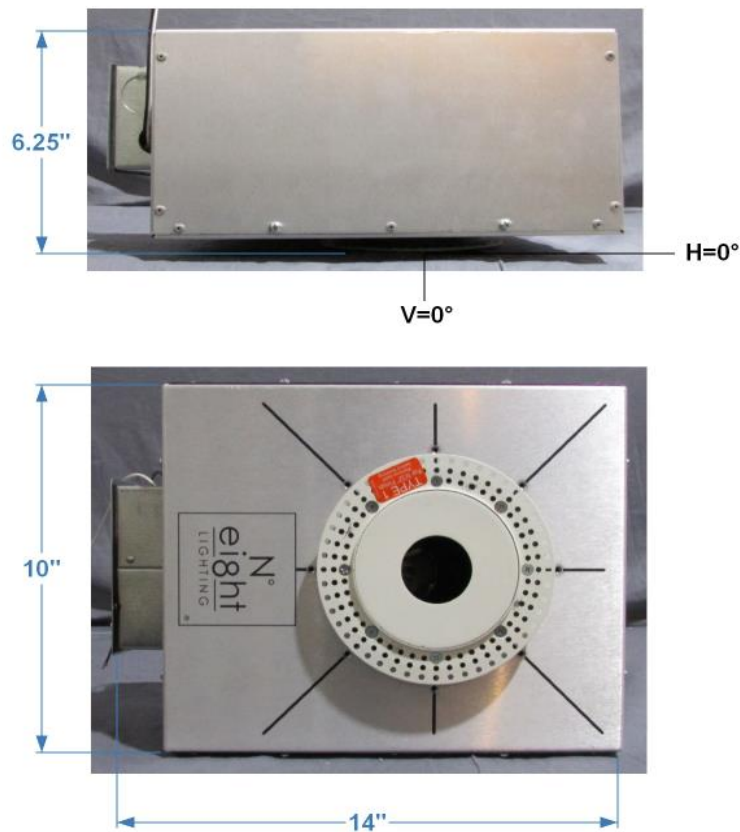


FIG.1 LUMINAIRE

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

## 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 : Keyur Patel

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 : L101605124.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
 [TEST] L101605124  
 [TESTLAB] LIGHT LABORATORY, INC.  
 [ISSUEDATE] 12/1/2016  
 [MANUFAC] NUMBER EIGHT LIGHTING COMPANY  
 [LUMCAT] 803/J2-HI-15-XX/DIM1-8-1000 /FR-P-1-WH  
 [LUMINAIRE] LED RECESSED ADJUSTABLE DOWNLIGHT, 90+ CRI,  
 [MORE] 15° BEAM SPREAD, 35° AIMING ANGLE, ?1.75" APERTURE TRIM  
 [BALLASTCAT] INTUITIVE SYSTEMS ISD-601-1050-15-D  
 [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, 14.99W  
 [TEST PROCEDURE] IESNA:LM-79-08

**CHARACTERISTICS**

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	723
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	48
Total Luminaire Watts	14.99
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	3.34
Spacing Criterion (90-270)	0.52
Spacing Criterion (Diagonal)	1.48
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.15 ft (Diameter)
Luminous Width (90-270)	0.15 ft (Diameter)
Luminous Height	0.00 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	1822770	51637	0
55	410380	7851	0
65	21393	1234	0
75	2351	0	0
85	0	0	0

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L101605124.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>
<b>0.0</b>	32	32	32	32	32	32	32	32	32	32
<b>3.5</b>	65	65	64	63	62	61	59	58	56	54
<b>7.0</b>	125	124	122	119	115	110	104	97	91	84
<b>10.0</b>	217	215	210	202	191	177	164	148	132	116
<b>13.0</b>	366	361	348	330	306	278	245	216	186	157
<b>15.5</b>	537	529	509	475	438	385	335	283	232	188
<b>18.0</b>	766	755	722	659	593	512	439	366	292	229
<b>20.0</b>	1013	994	946	861	755	631	529	427	338	256
<b>22.0</b>	1364	1330	1236	1100	953	781	616	492	375	278
<b>24.0</b>	1832	1768	1617	1393	1153	913	656	540	406	292
<b>26.0</b>	2446	2339	2059	1705	1378	1042	795	590	423	295
<b>28.0</b>	3177	2995	2591	2059	1560	1145	845	593	427	286
<b>30.0</b>	3994	3739	3099	2352	1725	1214	871	594	418	273
<b>32.0</b>	4736	4362	3517	2583	1855	1243	869	578	395	244
<b>33.0</b>	4985	4538	3641	2680	1834	1235	853	575	378	231
<b>34.0</b>	5101	4639	3754	2694	1821	1217	836	557	360	221
<b>35.0</b>	5114	4688	3699	2664	1787	1206	813	533	348	209
<b>36.0</b>	5018	4599	3619	2550	1761	1140	939	505	316	202
<b>37.0</b>	4833	4425	3477	2495	1689	1094	631	485	294	190
<b>38.0</b>	4554	4162	3303	2374	1579	1044	619	453	273	183
<b>40.0</b>	3871	3561	2905	2082	1396	929	593	391	228	130
<b>42.0</b>	3110	2907	2366	1727	1221	675	513	311	194	80
<b>44.0</b>	2411	2261	1883	1411	1015	610	413	244	152	69
<b>46.0</b>	1825	1723	1491	1143	961	513	312	193	78	51
<b>48.0</b>	1360	1296	1125	875	598	392	230	126	66	34
<b>50.0</b>	976	936	804	618	449	282	189	74	44	22
<b>52.0</b>	656	631	557	442	310	189	84	54	28	15
<b>54.5</b>	430	403	343	260	167	80	53	29	16	8
<b>57.0</b>	214	198	161	115	73	44	25	16	8	5
<b>60.0</b>	67	63	53	40	27	17	10	6	4	3
<b>63.0</b>	24	23	20	15	11	7	5	3	3	2
<b>66.5</b>	8	7	6	5	4	3	2	2	2	0
<b>70.0</b>	3	3	2	2	2	2	2	1	1	0
<b>75.0</b>	1	1	1	1	1	1	1	0	0	0
<b>80.0</b>	0	0	0	0	0	0	0	0	0	0
<b>85.0</b>	0	0	0	0	0	0	0	0	0	0
<b>90.0</b>	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>	<u>95</u>
<b>0.0</b>	32	32	32	32	32	32	32	32	32	32
<b>3.5</b>	51	49	46	44	41	39	36	34	31	29
<b>7.0</b>	77	69	63	56	50	44	38	33	28	24
<b>10.0</b>	101	88	72	64	54	44	36	30	24	19
<b>13.0</b>	132	108	88	69	56	43	34	26	19	16
<b>15.5</b>	152	120	93	70	54	40	30	22	16	12
<b>18.0</b>	182	131	96	70	51	35	25	17	13	10
<b>20.0</b>	190	138	100	69	48	32	21	15	10	8
<b>22.0</b>	198	140	97	66	42	27	18	14	9	7
<b>24.0</b>	200	138	81	58	37	23	15	10	8	6
<b>26.0</b>	200	132	78	52	31	19	14	9	7	6
<b>28.0</b>	193	124	73	44	27	16	10	7	6	5
<b>30.0</b>	189	111	65	37	21	14	8	6	5	5

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L101605124.IES**

**CANDELA TABULATION - (Cont.)**

<b>32.0</b>	178	81	53	30	17	10	7	6	5	4
<b>33.0</b>	162	78	47	26	15	9	7	5	5	4
<b>34.0</b>	134	75	43	23	15	8	6	5	4	4
<b>35.0</b>	124	69	38	20	14	8	6	5	4	4
<b>36.0</b>	113	62	34	18	11	7	5	5	4	4
<b>37.0</b>	84	55	29	15	9	6	5	4	4	4
<b>38.0</b>	79	49	25	15	8	6	5	4	4	4
<b>40.0</b>	69	37	19	13	7	5	4	0	0	0
<b>42.0</b>	52	27	15	8	6	0	0	0	0	0
<b>44.0</b>	37	19	11	6	5	0	0	0	0	0
<b>46.0</b>	25	15	7	5	4	0	0	0	0	0
<b>48.0</b>	16	9	6	4	0	0	0	0	0	0
<b>50.0</b>	14	7	5	0	0	0	0	0	0	0
<b>52.0</b>	7	5	4	0	0	0	0	0	0	0
<b>54.5</b>	5	4	3	0	0	0	0	0	0	0
<b>57.0</b>	4	3	0	0	0	0	0	0	0	0
<b>60.0</b>	3	0	0	0	0	0	0	0	0	0
<b>63.0</b>	2	0	0	0	0	0	0	0	0	0
<b>66.5</b>	0	0	0	0	0	0	0	0	0	0
<b>70.0</b>	0	0	0	0	0	0	0	0	0	0
<b>75.0</b>	0	0	0	0	0	0	0	0	0	0
<b>80.0</b>	0	0	0	0	0	0	0	0	0	0
<b>85.0</b>	0	0	0	0	0	0	0	0	0	0
<b>90.0</b>	0	0	0	0	0	0	0	0	0	0

<b>Vert. Angles</b>	<b>Horizontal Angles</b>									
	<b><u>100</u></b>	<b><u>105</u></b>	<b><u>110</u></b>	<b><u>115</u></b>	<b><u>120</u></b>	<b><u>125</u></b>	<b><u>130</u></b>	<b><u>135</u></b>	<b><u>140</u></b>	<b><u>145</u></b>
<b>0.0</b>	32	32	32	32	32	32	32	32	32	32
<b>3.5</b>	27	25	24	22	21	20	18	17	16	16
<b>7.0</b>	21	18	16	14	13	11	10	9	9	8
<b>10.0</b>	16	13	11	10	9	8	7	6	6	5
<b>13.0</b>	12	10	9	7	7	6	5	5	4	4
<b>15.5</b>	10	8	7	6	5	5	4	4	3	3
<b>18.0</b>	8	7	6	5	5	4	4	3	3	3
<b>20.0</b>	7	6	5	5	4	4	3	3	2	2
<b>22.0</b>	6	5	5	4	4	3	3	3	2	2
<b>24.0</b>	5	5	4	4	3	3	3	2	2	2
<b>26.0</b>	5	4	4	4	3	3	3	2	2	2
<b>28.0</b>	5	4	4	3	3	3	2	2	2	2
<b>30.0</b>	4	4	4	3	3	3	2	2	2	2
<b>32.0</b>	4	4	3	3	3	3	2	2	2	1
<b>33.0</b>	4	4	3	3	3	3	2	2	2	0
<b>34.0</b>	4	4	3	3	3	2	2	2	1	0
<b>35.0</b>	4	4	3	3	3	0	0	0	0	0
<b>36.0</b>	4	4	0	0	0	0	0	0	0	0
<b>37.0</b>	4	4	0	0	0	0	0	0	0	0
<b>38.0</b>	4	3	0	0	0	0	0	0	0	0
<b>40.0</b>	0	0	0	0	0	0	0	0	0	0
<b>42.0</b>	0	0	0	0	0	0	0	0	0	0
<b>44.0</b>	0	0	0	0	0	0	0	0	0	0
<b>46.0</b>	0	0	0	0	0	0	0	0	0	0
<b>48.0</b>	0	0	0	0	0	0	0	0	0	0
<b>50.0</b>	0	0	0	0	0	0	0	0	0	0
<b>52.0</b>	0	0	0	0	0	0	0	0	0	0
<b>54.5</b>	0	0	0	0	0	0	0	0	0	0

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L101605124.IES**

**CANDELA TABULATION - (Cont.)**

57.0	0	0	0	0	0	0	0	0	0	0
60.0	0	0	0	0	0	0	0	0	0	0
63.0	0	0	0	0	0	0	0	0	0	0
66.5	0	0	0	0	0	0	0	0	0	0
70.0	0	0	0	0	0	0	0	0	0	0
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>150</u>	<u>155</u>	<u>160</u>	<u>165</u>	<u>170</u>	<u>175</u>	<u>180</u>
0.0	32	32	32	32	32	32	32
3.5	15	14	14	13	13	13	13
7.0	8	7	7	6	6	6	6
10.0	5	4	4	4	4	4	4
13.0	3	3	3	3	3	3	3
15.5	3	2	2	2	2	2	2
18.0	2	2	2	2	2	2	2
20.0	2	2	2	2	1	1	1
22.0	2	2	1	1	0	0	0
24.0	2	2	0	0	0	0	0
26.0	2	2	0	0	0	0	0
28.0	2	1	0	0	0	0	0
30.0	1	0	0	0	0	0	0
32.0	0	0	0	0	0	0	0
33.0	0	0	0	0	0	0	0
34.0	0	0	0	0	0	0	0
35.0	0	0	0	0	0	0	0
36.0	0	0	0	0	0	0	0
37.0	0	0	0	0	0	0	0
38.0	0	0	0	0	0	0	0
40.0	0	0	0	0	0	0	0
42.0	0	0	0	0	0	0	0
44.0	0	0	0	0	0	0	0
46.0	0	0	0	0	0	0	0
48.0	0	0	0	0	0	0	0
50.0	0	0	0	0	0	0	0
52.0	0	0	0	0	0	0	0
54.5	0	0	0	0	0	0	0
57.0	0	0	0	0	0	0	0
60.0	0	0	0	0	0	0	0
63.0	0	0	0	0	0	0	0
66.5	0	0	0	0	0	0	0
70.0	0	0	0	0	0	0	0
75.0	0	0	0	0	0	0	0
80.0	0	0	0	0	0	0	0
85.0	0	0	0	0	0	0	0
90.0	0	0	0	0	0	0	0

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L101605124.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	40.16	N.A.	5.60
0-30	192.36	N.A.	26.60
0-40	498.31	N.A.	69.00
0-60	720.12	N.A.	99.60
0-80	722.71	N.A.	100.00
0-90	722.71	N.A.	100.00
10-90	718.18	N.A.	99.40
20-40	458.15	N.A.	63.40
20-50	640.09	N.A.	88.60
40-70	224.18	N.A.	31.00
60-80	2.59	N.A.	0.40
70-80	0.22	N.A.	0.00
80-90	0.00	N.A.	0.00
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	722.71	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	4.53
10-20	35.63
20-30	152.20
30-40	305.95
40-50	181.93
50-60	39.87
60-70	2.38
70-80	0.22
80-90	0.00
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



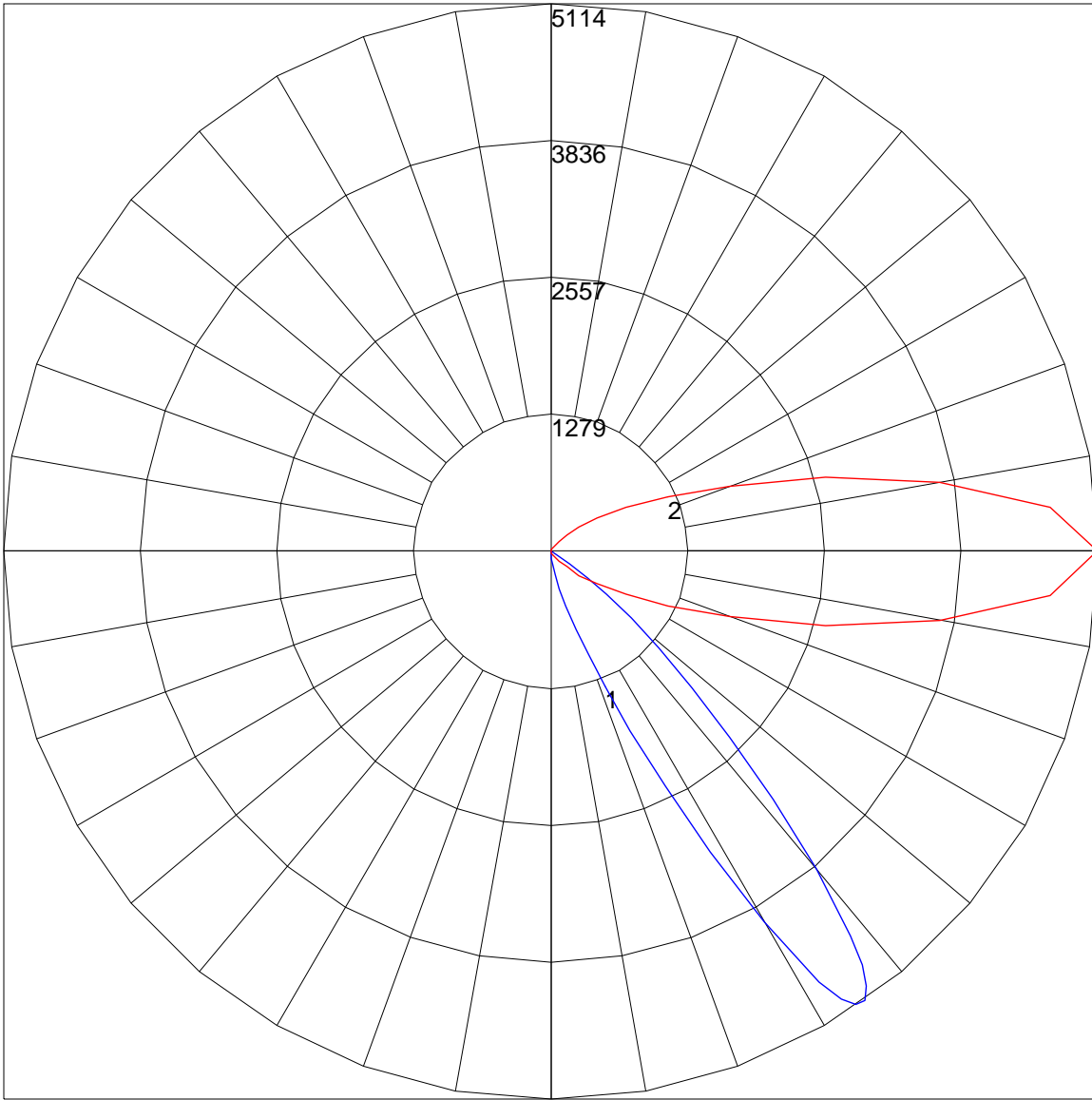
**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L101605124.IES**

**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	0
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90	0
2	104	98	93	88	102	96	91	87	93	89	85	89	86	83	87	84	82	80	0
3	96	88	81	76	94	87	80	76	84	79	74	81	77	73	79	75	72	70	0
4	89	79	72	66	87	78	71	66	76	70	65	73	68	64	71	67	63	62	0
5	82	71	64	58	80	70	63	58	68	62	57	66	61	56	65	60	56	54	0
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	59	53	49	47	0
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	42	0
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	38	37	0
9	60	48	40	35	59	47	40	35	46	39	34	45	39	34	44	38	34	32	0
10	56	43	36	31	55	43	36	31	42	35	31	41	35	30	40	34	30	29	0

POLAR GRAPH



Maximum Candela = 5114 Located At Horizontal Angle = 0, Vertical Angle = 35  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (35) (Through Max. Cd.)