



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

Report No: L101605135

Date: 12/13/2016



NVLAP LAB CODE 200927-0

Report No: L101605135

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

Model Number: 803/M2-S-HI-15-XX/DIM1-8-1000/FS-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/M2-S-HI-15-XX/DIM1-8-1000/FS-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: 12/13/16 - 12/13/16

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
ITECH	IT6122	PS-DC03-S1	11/28/17
Fluke Digital Thermometer	52k/J	MT-TP02-GC	11/28/17
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:	803/M2-S-HI-15-XX/DIM1-8-1000/FS-P-1-WH
Driver Model Number:	INTUITIVE SYSTEMS ISD-601-1050-15D
Total Lumens:	711.63
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.13
Input Power (W):	15.12
Input Power Factor:	0.98
Current ATHD @ 120V(%):	8%
Current ATHD @ 277V(%):	N/A
Efficacy:	47
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:45
Total Operating Time (Hours):	2:10
Off State Power(W):	0.00

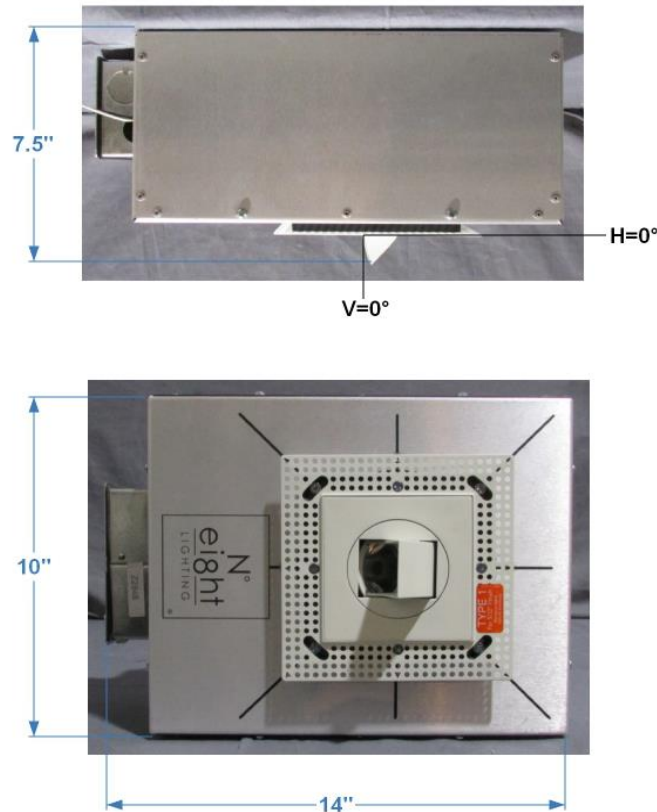


FIG.1 LUMINAIRE

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

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: 12*



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Photometric Test Report

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101605135.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L101605135
 [TESTLAB] LIGHT LABORATORY, INC.
 [ISSUE DATE] 12/13/2016
 [MANUFAC] Number Eight Lighting Company
 [LUMCAT] 803/M2-S-HI-15-XX/DIM1-8-1000/FS-P-1-WH
 [LUMINAIRE] LED Recessed Adjustable Mirror-Reflector Downlight,
 [MORE] 90+ CRI, 15° Beam Spread, 45° Aiming Angle
 [BALLASTCAT] INTUITIVE SYSTEMS ISD-601-1050-15D
 [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,15.12W
 [_TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	712
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	47
Total Luminaire Watts	15.12
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.72
Spacing Criterion (90-270)	0.98
Spacing Criterion (Diagonal)	1.46
Basic Luminous Shape	Unknown
Luminous Length (0-180)	0.00 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	0	0
55	0	0	0
65	0	0	0
75	0	0	0
85	0	0	0

**IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101605135.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	30	30	30	30	30	30	30	30	30	30
5	37	37	37	37	37	36	36	36	36	35
10	54	53	53	52	51	49	48	46	45	43
15	45	45	46	47	49	51	53	54	53	51
20	14	14	14	17	18	22	27	33	38	42
25	10	10	10	10	10	11	11	12	15	23
30	6	6	6	6	6	8	9	9	10	14
32	5	5	5	5	6	7	8	8	9	10
34	5	5	5	5	5	7	7	8	8	9
36	5	5	5	5	5	6	6	7	8	8
38	4	4	5	5	5	5	6	6	7	8
40	2	2	2	3	4	5	5	6	7	7
41	2	2	2	2	3	4	5	6	6	7
42	2	2	2	2	3	3	5	6	6	7
43	2	2	2	2	3	3	4	5	6	7
44	2	2	2	2	3	3	4	5	6	7
45	2	2	2	2	2	3	3	4	6	7
46	2	2	2	2	2	3	3	4	5	6
47	2	2	2	2	2	3	3	4	5	6
48	2	2	2	2	2	3	3	4	5	6
49	2	2	2	2	2	3	3	4	5	6
50	1	2	2	2	2	3	3	4	4	5
52	1	1	2	2	2	2	3	4	4	5
54	1	1	2	2	2	2	3	3	4	5
56	1	1	1	2	2	2	3	3	4	5
58	1	1	1	2	2	2	3	3	4	5
60	1	1	1	2	2	2	2	3	4	4
62	1	1	1	1	2	2	2	3	3	4
64	1	1	1	1	2	2	2	3	3	4
66	1	1	1	1	2	2	2	3	3	4
68	1	1	1	1	2	2	2	3	3	4
70	1	1	1	1	1	2	2	2	3	4
72	1	1	1	1	1	2	2	2	3	4
74	1	1	1	1	1	2	2	2	3	3
76	1	1	1	1	1	2	2	2	3	3
78	1	1	1	1	1	1	2	2	3	3
80	1	1	1	1	1	1	2	2	3	3
85	1	1	1	1	1	1	1	2	2	3
90	0	0	0	0	1	1	1	1	1	2
95	0	0	0	1	1	1	1	1	1	2
100	0	0	0	1	1	1	1	1	1	2
105	0	0	1	1	1	1	1	1	1	2
110	1	1	1	1	1	1	1	1	1	2
115	1	1	1	1	1	1	1	1	2	2
120	2	2	2	2	2	2	2	2	2	2
125	2	2	3	3	3	3	3	3	3	3
130	3	3	3	4	5	5	5	5	4	4
135	3	3	4	6	7	8	8	8	7	6
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

IES INDOOR REPORT
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CANDELA TABULATION - (Cont.)

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									
	50	55	60	65	70	75	80	85	90	95
0	30	30	30	30	30	30	30	30	30	30
5	35	35	34	34	33	32	31	31	30	30
10	42	40	38	36	34	33	31	30	29	28
15	47	44	41	38	35	32	30	28	27	26
20	44	43	41	37	33	31	28	26	24	24
25	30	33	33	32	29	26	24	22	21	21
30	17	22	23	22	21	20	19	18	18	19
32	14	17	19	19	18	17	16	16	17	17
34	11	14	15	15	14	14	14	14	15	16
36	10	11	13	13	13	12	13	13	14	16
38	9	10	11	11	11	11	12	13	14	16
40	8	9	10	10	10	11	11	12	14	15
41	8	9	9	10	10	10	11	12	13	16
42	8	9	9	9	10	10	11	12	13	15
43	8	8	9	9	9	10	10	11	13	15
44	7	8	9	9	9	9	10	11	13	15
45	7	8	8	9	9	9	10	11	13	15
46	7	8	8	8	9	9	9	11	12	15
47	7	8	8	8	8	8	9	11	12	15
48	7	7	8	8	8	8	9	10	12	15
49	7	7	8	8	8	8	9	10	12	15
50	6	7	8	8	8	8	8	10	12	15
52	6	7	7	8	8	8	8	9	11	15
54	6	6	7	7	7	7	8	9	11	14
56	5	6	7	7	7	7	7	8	11	13
58	5	6	7	7	7	7	7	8	10	12
60	5	6	6	7	7	6	7	8	10	12
62	5	6	6	6	6	6	6	7	9	11
64	5	5	6	6	6	6	6	7	9	11
66	5	5	6	6	6	6	6	6	8	10
68	4	5	6	6	6	5	5	6	7	9
70	4	5	6	6	6	5	5	5	7	9
72	4	5	5	6	5	5	5	5	6	8
74	4	5	5	5	5	5	5	5	6	8
76	4	5	5	5	5	5	4	4	5	8
78	4	5	5	5	5	5	4	4	5	7
80	4	4	5	5	5	5	4	4	5	7
85	3	4	4	4	4	4	4	4	4	6
90	2	3	3	3	3	3	3	3	3	5
95	2	3	3	3	3	3	3	3	3	4
100	2	3	3	3	3	3	3	3	3	4
105	2	3	3	3	3	3	3	3	3	3
110	2	3	3	3	3	3	3	3	3	3
115	2	3	3	3	3	3	3	3	3	3
120	2	3	3	3	3	3	3	3	3	3
125	3	3	3	3	3	3	3	3	3	3
130	4	3	3	3	3	3	3	3	3	3
135	5	4	4	4	3	3	3	3	3	3
140	0	0	0	0	0	0	0	0	0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101605135.IES

CANDELA TABULATION - (Cont.)

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. Horizontal Angles
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	30	30	30	30	30	30	30	30	30	30
5	30	29	29	28	28	27	27	26	26	26
10	28	27	26	26	26	26	26	25	25	25
15	25	25	25	24	24	23	23	24	24	24
20	23	23	23	22	22	22	23	23	25	28
25	21	21	21	21	21	22	23	26	34	47
30	19	20	20	21	21	23	26	32	49	126
32	18	19	20	21	22	23	26	35	57	128
34	18	19	20	21	22	24	28	36	62	137
36	17	19	20	21	23	25	28	38	77	150
38	17	19	20	22	23	25	29	39	62	159
40	17	19	21	22	24	26	30	39	62	142
41	17	19	21	22	24	27	31	40	60	146
42	17	19	21	23	24	27	31	39	59	135
43	17	19	21	23	25	27	31	39	57	136
44	17	19	21	23	25	28	32	39	57	135
45	17	19	21	23	25	28	32	38	54	134
46	17	19	21	23	25	28	32	38	52	133
47	17	19	21	23	25	28	32	37	51	132
48	17	19	21	23	26	28	31	37	49	129
49	17	19	21	23	26	28	31	36	49	125
50	17	19	21	23	26	28	31	36	46	122
52	16	19	21	23	25	28	30	34	42	65
54	16	18	21	23	25	27	30	33	39	56
56	16	18	20	22	24	27	29	31	35	48
58	15	18	20	22	24	26	28	30	33	41
60	15	17	19	21	23	25	27	28	30	35
62	15	17	19	20	22	24	26	27	28	31
64	14	16	18	20	21	23	25	26	26	28
66	13	15	17	19	21	22	24	25	25	25
68	12	14	16	18	20	21	23	23	23	23
70	11	14	16	17	19	20	22	23	22	22
72	11	13	15	17	18	20	21	22	22	21
74	10	12	14	16	17	19	20	21	21	21
76	10	12	14	15	17	18	20	20	20	20
78	9	11	13	15	16	18	19	20	19	19
80	9	11	13	14	15	17	18	19	19	18
85	8	9	11	12	13	15	16	16	16	16
90	6	8	9	10	11	12	13	14	14	14
95	5	6	7	8	9	9	10	11	11	12
100	4	5	6	6	5	4	3	3	2	2
105	3	4	3	3	2	2	1	1	1	1
110	3	3	3	3	2	2	1	1	1	1
115	3	3	3	3	2	2	1	1	1	1

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101605135.IES

CANDELA TABULATION - (Cont.)

120	3	3	3	3	2	2	1	1	1	1
125	3	3	3	3	2	2	1	1	1	1
130	3	3	3	3	2	2	1	1	1	1
135	3	3	3	3	2	2	1	1	1	1
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. Horizontal Angles

Angles	150	155	160	165	170	175	180
0	30	30	30	30	30	30	30
5	26	26	26	26	26	26	26
10	25	25	25	25	25	25	25
15	24	25	25	26	27	27	27
20	32	36	42	47	51	53	54
25	70	107	167	239	305	358	376
30	156	318	526	774	929	1188	1244
32	233	464	730	1016	1396	1650	1750
34	301	576	929	1201	1790	2166	2327
36	336	669	1041	1601	2225	2812	3071
38	355	700	1183	1853	2686	3449	3833
40	356	753	1285	2050	3090	4085	4562
41	353	739	1310	2115	3242	4334	4798
42	356	723	1312	2179	3345	4533	5032
43	344	703	1302	2188	3462	4583	5194
44	327	711	1256	2159	3387	4616	5231
45	304	658	1250	2196	3294	4527	5137
46	286	617	1189	2165	3140	4337	4857
47	255	570	1114	1725	2931	3987	4540
48	229	550	1028	1605	2734	3641	4138
49	204	498	925	1473	2404	3260	3677
50	182	442	871	1339	2113	2844	3191
52	150	346	689	1101	1622	2060	2285
54	126	266	531	840	1098	1511	1649
56	128	173	380	617	871	1058	1138
58	65	131	264	421	581	696	694
60	51	91	176	280	397	482	517
62	41	66	113	183	253	307	325
64	32	47	77	106	145	164	169
66	28	35	49	64	76	80	85
68	24	28	34	41	48	53	56
70	23	24	27	30	35	38	40
72	22	22	24	26	28	31	31
74	21	21	22	24	25	27	28
76	20	20	21	22	24	25	25
78	19	19	20	21	22	23	23
80	18	18	19	20	21	20	20
85	16	16	17	17	17	17	17
90	14	13	13	13	13	12	12

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101605135.IES

CANDELA TABULATION - (Cont.)

95	12	12	12	12	12	12	12
100	5	8	9	11	11	12	12
105	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101605135.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	12.41	N.A.	1.70
0-30	47.02	N.A.	6.60
0-40	221.47	N.A.	31.10
0-60	651.20	N.A.	91.50
0-80	689.16	N.A.	96.80
0-90	697.98	N.A.	98.10
10-90	694.92	N.A.	97.70
20-40	209.06	N.A.	29.40
20-50	510.52	N.A.	71.70
40-70	456.23	N.A.	64.10
60-80	37.96	N.A.	5.30
70-80	11.45	N.A.	1.60
80-90	8.83	N.A.	1.20
90-110	8.26	N.A.	1.20
90-120	9.97	N.A.	1.40
90-130	11.91	N.A.	1.70
90-150	13.64	N.A.	1.90
90-180	13.64	N.A.	1.90
110-180	5.38	N.A.	0.80
0-180	711.63	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	3.06
10-20	9.35
20-30	34.62
30-40	174.45
40-50	301.45
50-60	128.28
60-70	26.50
70-80	11.45
80-90	8.83
90-100	5.92
100-110	2.34
110-120	1.71
120-130	1.94
130-140	1.73
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

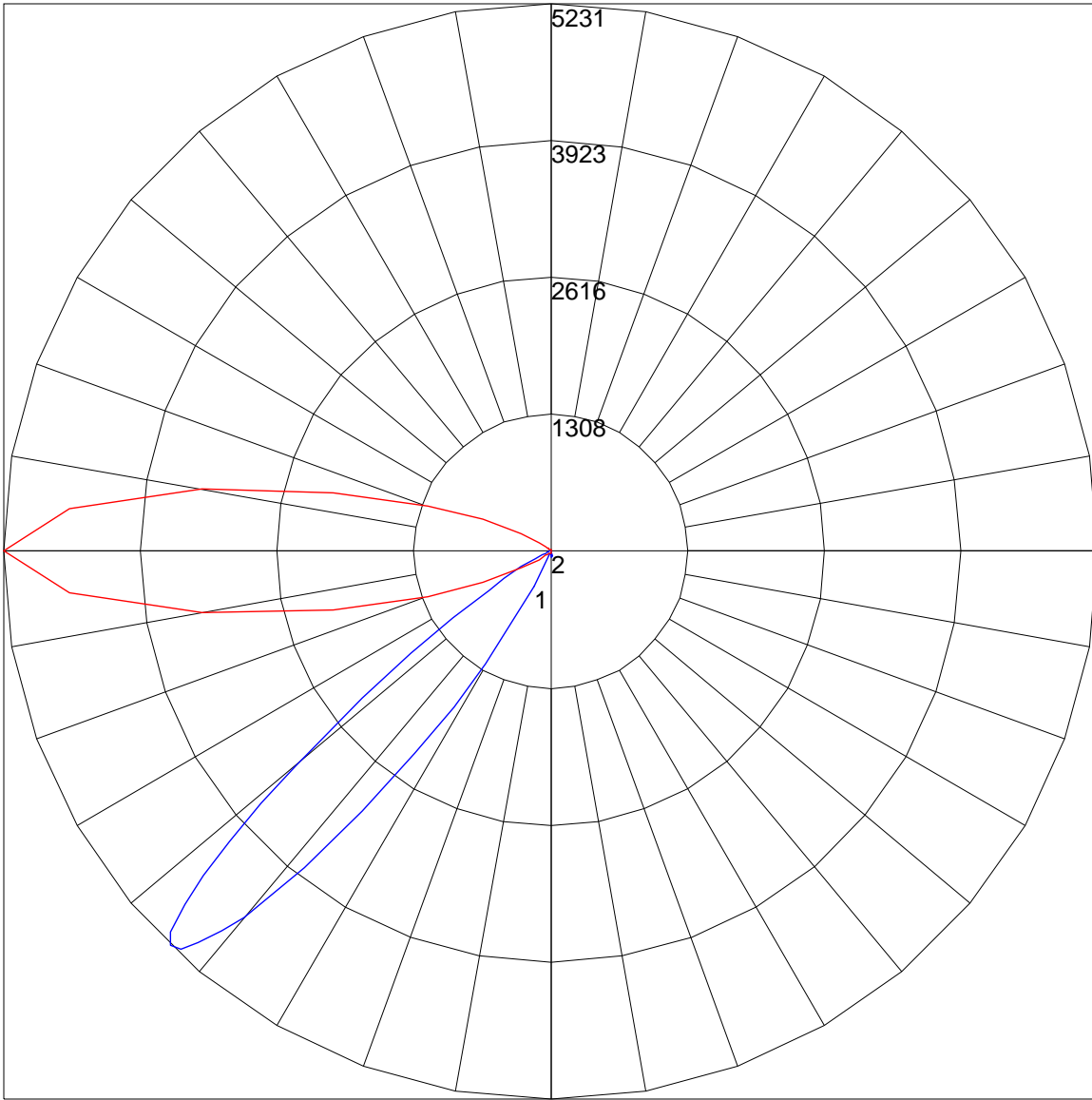
IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101605135.IES

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	110	110	110	105	105	105	100	100	100	98
1	109	105	101	97	106	102	99	96	98	95	92	94	91	89	90	88	86	84
2	100	92	85	80	97	90	84	79	86	81	77	82	78	75	79	76	73	70
3	90	80	72	66	88	78	71	65	75	69	64	72	67	62	69	65	61	59
4	82	70	61	54	79	68	60	54	66	58	53	63	57	52	61	55	51	49
5	74	61	52	45	72	60	51	45	57	50	44	55	49	43	53	47	43	40
6	67	54	44	38	65	53	44	37	50	43	37	49	42	36	47	41	36	34
7	61	47	38	32	60	46	38	31	45	37	31	43	36	31	41	35	30	28
8	56	42	33	27	54	41	32	26	40	32	26	38	31	26	37	30	26	24
9	52	37	28	23	50	37	28	22	35	28	22	34	27	22	33	26	22	20
10	48	33	25	19	46	33	25	19	32	24	19	30	24	19	29	23	19	17

POLAR GRAPH



Maximum Candela = 5231 Located At Horizontal Angle = 180, Vertical Angle = 44
1 - Vertical Plane Through Horizontal Angles (180 - 0) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (44) (Through Max. Cd.)