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Report No: L101605132

Date: 12/12/2016



NVLAP LAB CODE 200927-0

Report No: L101605132

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

Model Number: 803/L2-R-HI-40-XX/DIM1-8-1000 /FR-P-1-WH

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 803/L2-R-HI-40-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: 12/8/16 - 12/12/16

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

Manufacturer:	Number Eight Lighting Company
Model Number:	803/L2-R-HI-40-XX/DIM1-8-1000 /FR-P-1-WH
Driver Model Number:	INTUITIVE SYSTEMS ISD-601-1050-15D
Total Lumens:	288.61
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.13
Input Power (W):	15.12
Input Power Factor:	0.98
Current ATHD @ 120V(%):	7%
Current ATHD @ 277V(%):	N/A
Efficacy:	19
Color Rendering Index (CRI):	93
Correlated Color Temperature (K):	2924
Chromaticity Coordinate x:	0.4440
Chromaticity Coordinate y:	0.4088
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	1:00
Total Operating Time (Hours):	1:55
Off State Power(W):	0.00

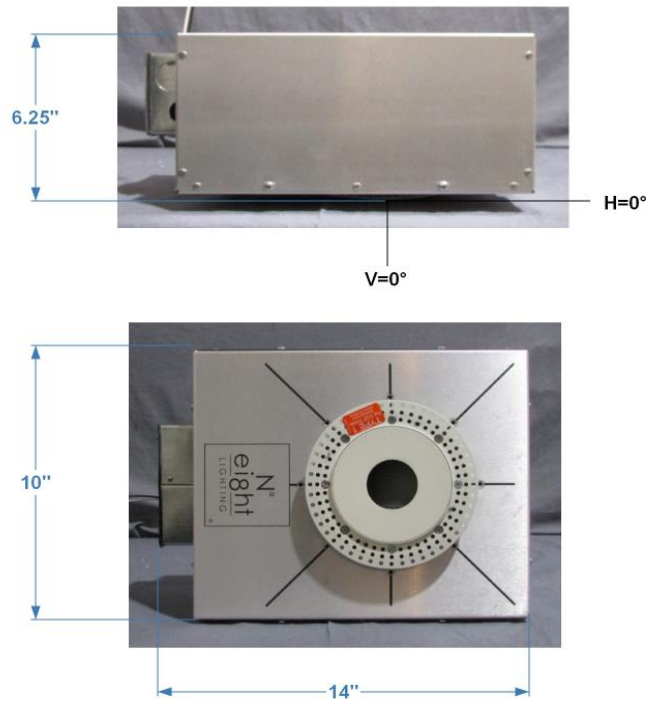
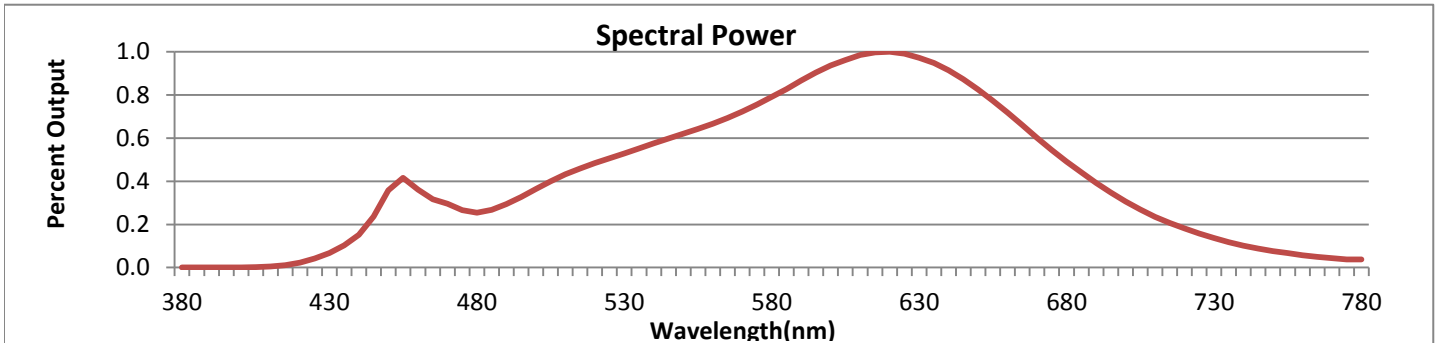


FIG. 1 LUMINAIRE

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



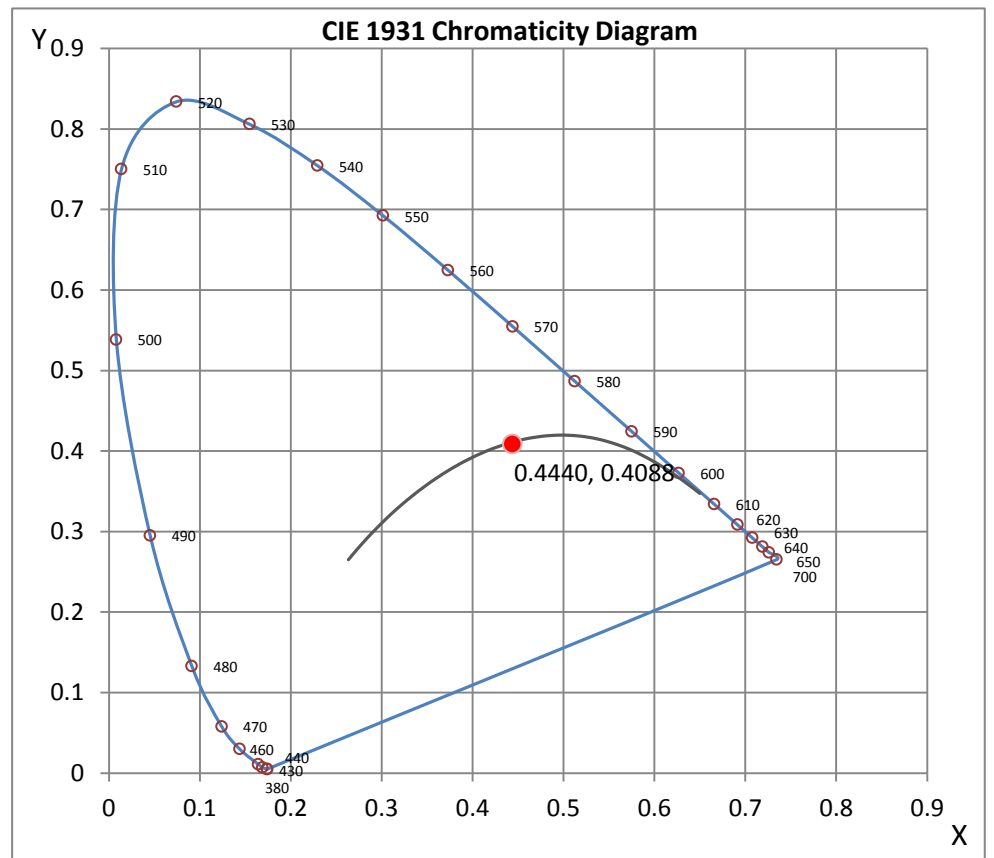
Wavelength	W/m ² nm	440	0.1524	510	0.4321	580	0.7907	650	0.8252	720	0.1811
380	0.0007	450	0.3576	520	0.4840	590	0.8668	660	0.7186	730	0.1364
390	0.0008	460	0.3617	530	0.5295	600	0.9364	670	0.6020	740	0.1017
400	0.0012	470	0.2953	540	0.5756	610	0.9852	680	0.4918	750	0.0769
410	0.0051	480	0.2544	550	0.6207	620	1.0000	690	0.3918	760	0.0576
420	0.0230	490	0.2945	560	0.6673	630	0.9729	700	0.3065	770	0.0430
430	0.0674	500	0.3639	570	0.7229	640	0.9139	710	0.2354	780	0.0373

CRI & CCT

x	0.4440
y	0.4088
u'	0.2531
v'	0.5243
CRI	92.50
CCT	2924
Duv	0.00094

R Values

R1	92.44
R2	96.87
R3	99.01
R4	91.89
R5	92.19
R6	96.54
R7	90.98
R8	79.70
R9	55.41
R10	91.85
R11	92.90
R12	82.73
R13	93.73
R14	99.46



*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: 11*



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Photometric Test Report

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101605132.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L101605132
 [TESTLAB] LIGHT LABORATORY, INC.
 [ISSUEDATE] 12/12/2016
 [MANUFAC] NUMBER EIGHT LIGHTING COMPANY
 [LUMCAT] 803/L2-R-HI-40-XX/DIM1-8-1000/FR-P-1-WH
 [LUMINAIRE] LED RECESSED WALL WASH DOWNLIGHT, 90+ CRI, 40° BEAM SPREAD, ?1.75" APERTURE TRIM
 [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	289
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	19
Total Luminaire Watts	15.12
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.40
Spacing Criterion (90-270)	0.76
Spacing Criterion (Diagonal)	0.84
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	3477	6136	25879
55	1549	2451	9156
65	1051	1397	4277
75	1387	1481	2257
85	3631	3770	3980

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101605132.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>
0.0	306.83	306.83	306.83	306.83	306.83	306.83	306.83	306.83	306.83	306.83
5.0	243.39	243.63	244.21	245.10	246.57	248.23	250.38	252.92	255.65	258.63
10.0	175.42	175.60	176.59	178.29	180.73	183.49	187.27	191.61	196.33	201.84
15.0	115.28	115.73	116.91	118.90	121.73	125.44	129.66	134.74	140.84	147.65
20.0	69.36	69.62	70.81	72.63	75.41	78.93	83.28	88.06	94.13	101.12
25.0	38.65	38.91	39.74	41.24	43.22	46.16	49.48	53.87	58.87	64.60
30.0	21.43	21.62	22.14	23.05	24.45	26.23	28.65	31.72	35.36	39.71
35.0	11.48	11.58	11.86	12.38	13.17	14.24	15.60	17.81	20.09	23.06
37.5	8.77	8.82	9.04	9.41	10.00	10.80	11.86	13.15	14.96	17.72
40.0	6.75	6.80	6.97	7.25	7.64	8.26	8.98	9.95	11.31	13.01
42.5	5.22	5.25	5.37	5.58	5.86	6.28	6.82	7.53	8.44	9.62
45.0	4.04	4.05	4.14	4.30	4.51	4.78	5.17	5.69	6.31	7.13
47.5	3.13	3.17	3.24	3.36	3.50	3.72	3.97	4.35	4.78	5.34
50.0	2.44	2.45	2.52	2.61	2.71	2.89	3.08	3.32	3.64	4.05
52.5	1.88	1.91	1.97	2.04	2.10	2.23	2.38	2.56	2.78	3.04
55.0	1.46	1.50	1.53	1.57	1.64	1.70	1.83	1.97	2.10	2.31
57.5	1.18	1.18	1.20	1.24	1.29	1.36	1.43	1.53	1.64	1.79
60.0	0.94	0.97	0.99	1.03	1.04	1.11	1.17	1.22	1.32	1.43
62.5	0.84	0.84	0.85	0.87	0.90	0.92	0.97	1.03	1.08	1.15
65.0	0.73	0.73	0.75	0.77	0.78	0.82	0.84	0.87	0.90	0.97
67.5	0.66	0.64	0.68	0.68	0.70	0.71	0.73	0.77	0.78	0.84
70.0	0.59	0.59	0.61	0.61	0.63	0.63	0.64	0.66	0.68	0.73
72.5	0.59	0.59	0.59	0.59	0.61	0.61	0.61	0.63	0.63	0.64
75.0	0.59	0.57	0.57	0.59	0.59	0.59	0.59	0.61	0.61	0.63
77.5	0.56	0.56	0.57	0.57	0.56	0.57	0.57	0.59	0.61	0.61
80.0	0.56	0.54	0.54	0.54	0.56	0.57	0.56	0.57	0.57	0.59
85.0	0.52	0.50	0.50	0.52	0.52	0.54	0.52	0.54	0.54	0.54
90.0	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>	<u>95</u>
0.0	306.83	306.83	306.83	306.83	306.83	306.83	306.83	306.83	306.83	306.83
5.0	262.14	265.81	269.69	274.00	278.58	283.19	287.90	293.17	297.95	303.00
10.0	208.05	214.73	221.37	229.58	237.32	245.43	254.31	263.48	272.49	281.55
15.0	154.86	162.60	171.75	181.42	191.11	201.35	212.54	224.09	235.51	247.65
20.0	108.13	116.60	125.99	136.10	146.25	157.47	168.79	180.55	193.34	206.31
25.0	71.45	78.81	87.31	96.09	106.06	116.58	127.24	138.32	150.43	162.86
30.0	45.06	51.24	57.60	65.64	73.57	82.11	91.71	101.80	111.96	122.50
35.0	26.58	30.70	35.72	41.43	47.38	53.99	61.43	69.50	77.90	86.82
37.5	20.18	23.62	27.71	32.39	37.38	43.20	49.27	55.93	63.43	71.57
40.0	15.10	17.97	21.18	24.73	28.96	33.74	38.61	44.49	50.98	57.90
42.5	11.20	13.08	16.70	18.59	21.74	25.53	29.64	34.28	39.81	45.57
45.0	8.23	9.60	11.13	13.25	16.77	18.56	21.86	25.72	30.07	34.98
47.5	6.11	6.97	8.12	9.55	11.24	13.13	16.84	18.89	22.11	26.52
50.0	4.51	5.11	5.86	6.77	7.84	9.27	11.03	13.24	16.05	19.41
52.5	3.37	3.77	4.30	4.91	5.74	6.75	7.95	9.44	11.46	14.11
55.0	2.56	2.89	3.27	3.77	4.40	5.10	6.07	7.22	8.63	10.38
57.5	1.98	2.23	2.52	2.91	3.36	3.93	4.64	5.55	6.73	8.17
60.0	1.57	1.74	1.97	2.26	2.59	3.03	3.57	4.26	5.20	6.40
62.5	1.25	1.39	1.55	1.74	2.02	2.31	2.73	3.27	3.93	4.85
65.0	1.03	1.11	1.22	1.37	1.53	1.79	2.07	2.47	2.97	3.67
67.5	0.85	0.90	0.97	1.06	1.18	1.36	1.57	1.84	2.21	2.70
70.0	0.75	0.78	0.84	0.89	0.97	1.06	1.20	1.37	1.62	1.97

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CANDELA TABULATION - (Cont.)

72.5	0.66	0.70	0.73	0.75	0.82	0.87	0.96	1.06	1.24	1.44
75.0	0.63	0.64	0.66	0.68	0.71	0.75	0.80	0.87	0.96	1.08
77.5	0.61	0.63	0.63	0.63	0.64	0.66	0.70	0.73	0.77	0.84
80.0	0.59	0.61	0.59	0.61	0.61	0.63	0.64	0.64	0.66	0.70
85.0	0.56	0.56	0.56	0.56	0.57	0.57	0.57	0.57	0.57	0.59
90.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Vert. Horizontal Angles
Angles

	100	105	110	115	120	125	130	135	140	145
0.0	306.83	306.83	306.83	306.83	306.83	306.83	306.83	306.83	306.83	306.83
5.0	307.81	312.82	317.40	321.88	326.35	330.18	334.15	337.90	341.45	344.56
10.0	291.05	300.46	309.41	318.28	326.60	334.95	342.49	350.08	357.03	362.98
15.0	259.36	271.62	283.71	295.10	306.42	317.85	328.27	338.20	347.83	356.70
20.0	218.95	231.76	245.72	258.30	270.65	283.60	295.33	306.37	317.17	326.79
25.0	175.02	187.35	200.36	213.35	226.35	237.72	249.37	260.21	269.69	277.88
30.0	133.75	145.33	156.53	168.31	179.21	189.98	199.58	208.36	215.49	221.56
35.0	95.82	105.36	115.97	125.04	134.46	143.09	150.58	156.32	161.73	165.92
37.5	79.78	88.39	98.01	106.83	115.07	122.65	128.86	133.99	138.50	141.96
40.0	65.08	71.24	81.33	89.64	97.21	104.13	109.54	114.16	117.68	120.51
42.5	52.18	59.19	66.13	72.01	80.88	86.58	91.82	95.85	98.93	101.36
45.0	40.79	47.05	53.47	59.59	65.60	70.49	76.02	79.80	82.55	84.79
47.5	31.17	36.39	42.51	48.00	53.24	58.28	62.72	66.06	68.87	71.71
50.0	23.17	27.59	32.82	37.90	42.73	47.24	51.15	54.56	57.41	59.60
52.5	17.27	20.99	24.98	29.57	34.18	38.09	41.83	45.17	47.92	50.09
55.0	12.63	15.57	18.92	22.72	26.58	30.56	33.93	37.08	39.76	42.02
57.5	9.81	11.78	14.42	17.53	20.77	24.30	27.53	30.40	33.10	35.50
60.0	7.79	9.36	11.27	13.57	16.52	19.29	22.35	25.24	27.69	29.95
62.5	6.05	7.50	9.10	10.84	12.89	15.53	18.07	20.65	23.15	25.36
65.0	4.57	5.65	7.11	8.61	10.26	12.26	14.52	16.78	19.10	21.22
67.5	3.36	4.24	5.31	6.63	8.14	9.64	11.46	13.55	15.55	17.43
70.0	2.45	3.10	3.91	4.92	6.14	7.58	9.04	10.66	12.51	14.28
72.5	1.76	2.17	2.78	3.57	4.49	5.69	6.96	8.35	9.84	11.32
75.0	1.24	1.51	1.91	2.45	3.18	4.00	5.06	6.24	7.43	8.70
77.5	0.94	1.04	1.27	1.58	2.09	2.70	3.46	4.30	5.27	6.31
80.0	0.73	0.80	0.90	1.10	1.36	1.70	2.21	2.80	3.48	4.17
85.0	0.61	0.61	0.66	0.73	0.85	0.99	1.20	1.43	1.65	1.91
90.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Vert. Horizontal Angles
Angles

	150	155	160	165	170	175	180
0.0	306.83	306.83	306.83	306.83	306.83	306.83	306.83
5.0	347.43	349.87	351.76	353.26	354.34	355.03	355.43
10.0	368.70	373.45	377.57	380.83	383.24	384.46	385.11
15.0	363.66	370.76	376.41	380.58	384.04	385.78	386.57
20.0	334.96	341.90	347.75	352.23	355.49	357.43	358.01
25.0	285.17	291.19	295.55	299.15	301.80	303.31	303.71
30.0	226.76	230.78	234.02	236.26	238.00	238.94	239.36
35.0	168.85	171.51	173.53	174.97	175.86	176.45	176.74
37.5	144.46	146.41	148.10	149.25	149.94	150.36	150.55
40.0	122.77	124.37	125.87	126.76	127.21	127.50	127.66
42.5	103.40	104.83	105.90	106.76	107.19	107.31	107.45
45.0	86.62	87.90	88.96	89.68	90.13	90.25	90.27
47.5	72.96	74.30	75.24	75.99	76.39	76.56	76.60
50.0	61.31	62.67	63.69	64.44	64.96	65.15	65.19

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PHOTOMETRIC FILENAME : L101605132.IES

CANDELA TABULATION - (Cont.)

52.5	51.95	53.40	54.42	55.27	55.83	56.04	56.11
55.0	43.93	45.45	46.65	47.46	48.11	48.35	48.42
57.5	37.39	38.98	40.23	41.06	41.73	42.00	42.09
60.0	31.99	33.65	34.84	35.74	36.40	36.70	36.77
62.5	27.29	28.89	30.19	31.08	31.72	32.05	32.14
65.0	23.03	24.59	25.92	26.82	27.50	27.85	27.93
67.5	19.20	20.77	21.90	22.89	23.57	23.93	24.04
70.0	15.83	17.22	18.44	19.36	20.02	20.42	20.56
72.5	12.78	14.05	15.20	16.09	16.75	17.15	17.25
75.0	9.97	11.15	12.07	12.92	13.57	13.91	14.02
77.5	7.27	8.26	9.15	9.86	10.40	10.71	10.78
80.0	4.97	5.74	6.38	6.96	7.39	7.65	7.72
85.0	2.17	2.42	2.66	2.89	3.08	3.18	3.20
90.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101605132.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	95.42	N.A.	33.10
0-30	169.66	N.A.	58.80
0-40	225.30	N.A.	78.10
0-60	274.54	N.A.	95.10
0-80	287.46	N.A.	99.60
0-90	288.61	N.A.	100.00
10-90	260.82	N.A.	90.40
20-40	129.88	N.A.	45.00
20-50	162.35	N.A.	56.30
40-70	58.11	N.A.	20.10
60-80	12.92	N.A.	4.50
70-80	4.06	N.A.	1.40
80-90	1.15	N.A.	0.40
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	288.61	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	27.79
10-20	67.62
20-30	74.25
30-40	55.63
40-50	32.47
50-60	16.77
60-70	8.87
70-80	4.06
80-90	1.15
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

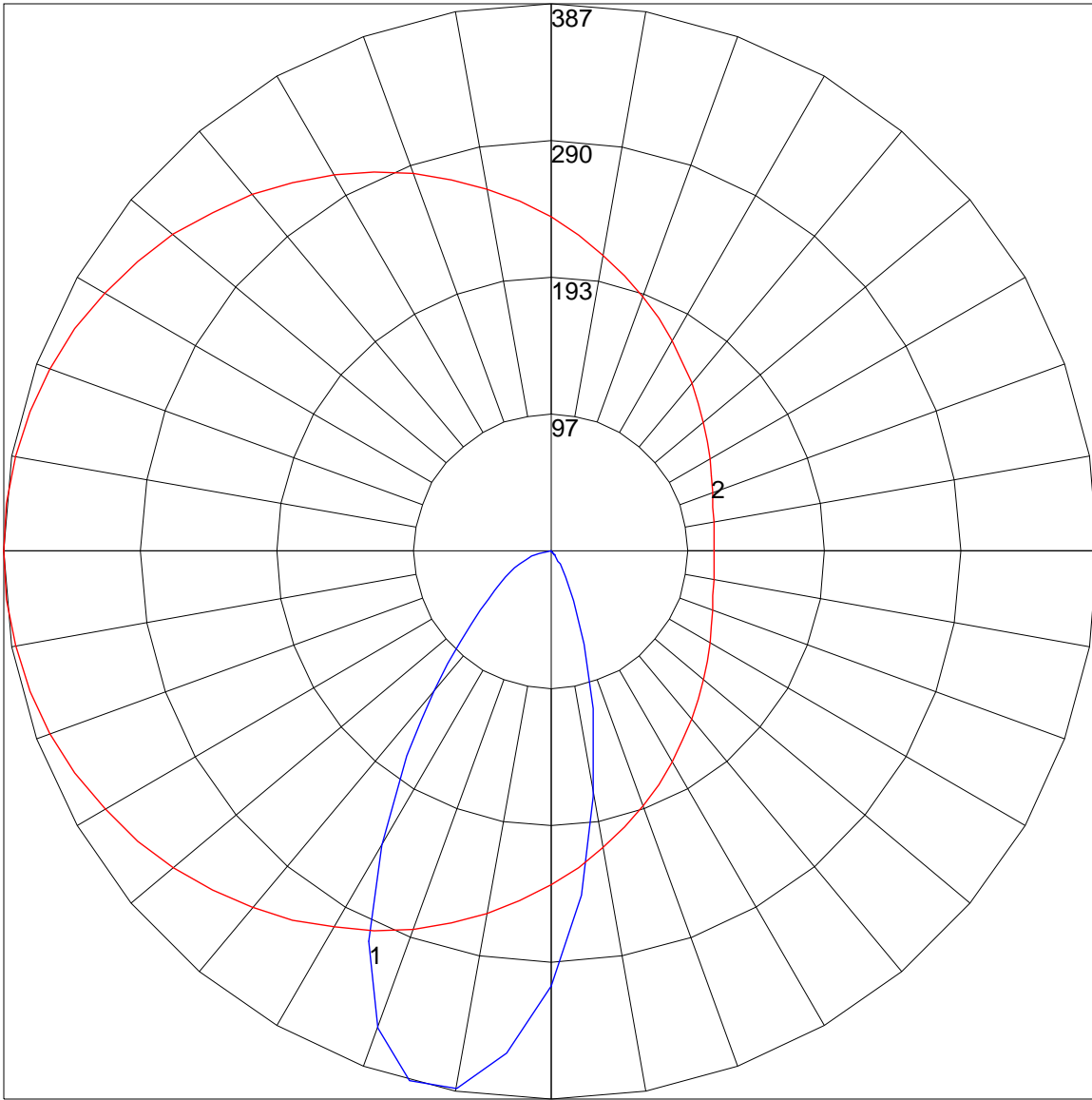
IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101605132.IES

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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	109	106	103	110	107	104	102	103	101	99	99	97	96	96	94	93	91
2	106	100	95	91	103	98	94	90	95	91	88	92	89	86	89	87	84	83
3	99	92	86	81	97	90	85	81	88	83	79	85	81	78	83	80	77	75
4	93	85	78	74	92	84	78	73	81	76	72	79	75	71	77	74	71	69
5	88	79	72	67	86	78	71	67	76	70	66	74	69	65	72	68	65	63
6	83	73	66	62	82	72	66	61	71	65	61	69	64	60	68	63	60	58
7	79	68	61	57	77	67	61	57	66	60	56	65	60	56	64	59	56	54
8	74	64	57	53	73	63	57	53	62	56	52	61	56	52	60	55	52	50
9	71	60	54	49	69	59	53	49	58	53	49	58	52	49	57	52	48	47
10	67	57	50	46	66	56	50	46	55	50	46	54	49	46	54	49	45	44

POLAR GRAPH



Maximum Candela = 386.57 Located At Horizontal Angle = 180, Vertical Angle = 15
1 - Vertical Plane Through Horizontal Angles (180 - 0) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (15) (Through Max. Cd.)