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Report No: L101605131

Date: 12/12/2016



NVLAP LAB CODE 200927-0

Report No: L101605131

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

Model Number: 803/L2-S-HI-40-XX/DIM1-8-1000 / FS-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-S-HI-40-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: 12/8/16 - 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-S-HI-40-XX/DIM1-8-1000 / FS-P-1-WH
Driver Model Number:	INTUITIVE SYSTEMS ISD-601-1050-15D
Total Lumens:	330.22
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.13
Input Power (W):	15.16
Input Power Factor:	0.98
Current ATHD @ 120V(%):	7%
Current ATHD @ 277V(%):	N/A
Efficacy:	22
Color Rendering Index (CRI):	93
Correlated Color Temperature (K):	2941
Chromaticity Coordinate x:	0.4430
Chromaticity Coordinate y:	0.4090
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	1:00
Total Operating Time (Hours):	1:55
Off State Power(W):	0.00

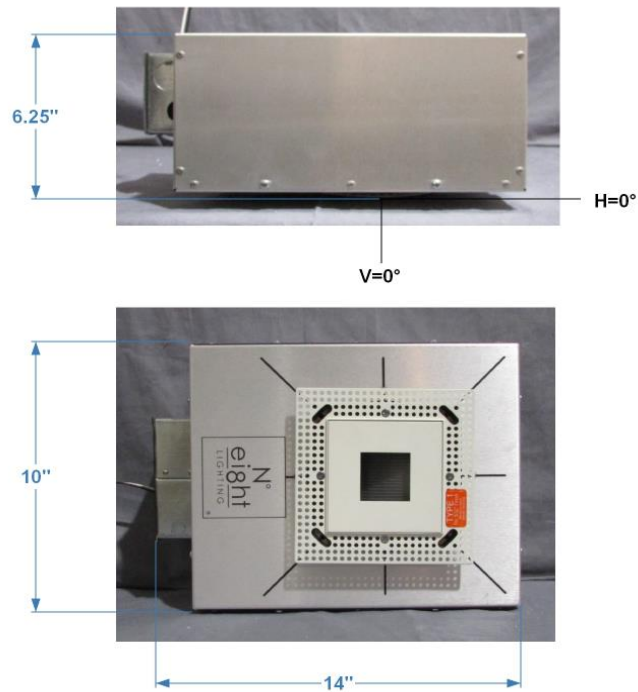
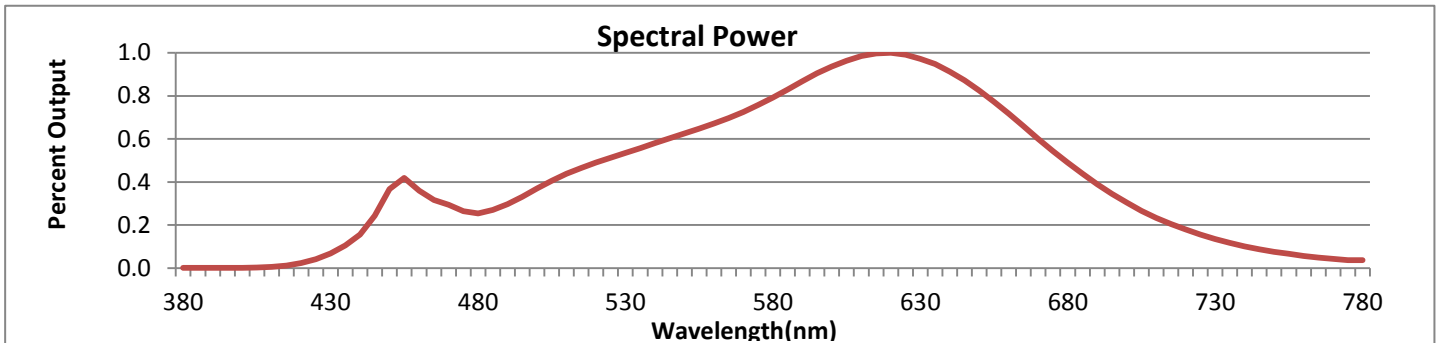


FIG. 1 LUMINAIRE

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



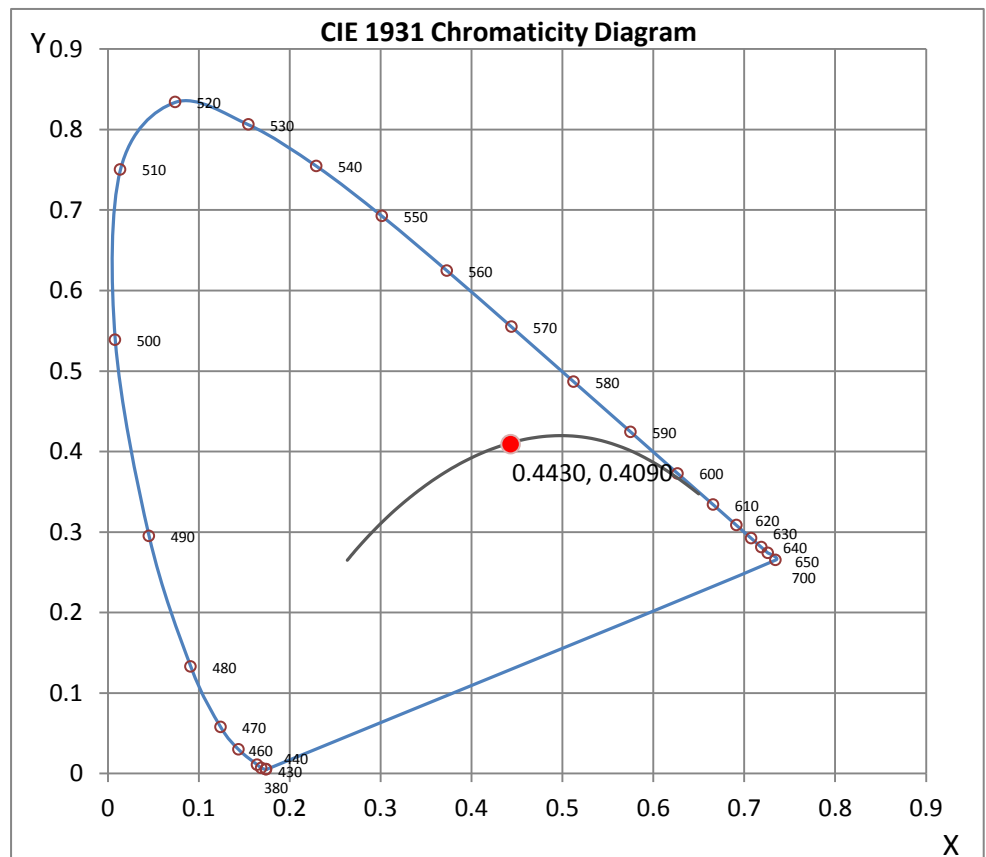
Wavelength	W/m ² nm	440	0.1565	510	0.4380	580	0.7928	650	0.8250	720	0.1796
380	0.0008	450	0.3676	520	0.4905	590	0.8682	660	0.7182	730	0.1351
390	0.0008	460	0.3595	530	0.5350	600	0.9359	670	0.6011	740	0.1003
400	0.0013	470	0.2938	540	0.5809	610	0.9854	680	0.4903	750	0.0759
410	0.0051	480	0.2543	550	0.6259	620	1.0000	690	0.3898	760	0.0568
420	0.0231	490	0.2972	560	0.6713	630	0.9726	700	0.3042	770	0.0426
430	0.0686	500	0.3694	570	0.7256	640	0.9130	710	0.2333	780	0.0365

CRI & CCT

x	0.4430
y	0.4090
u'	0.2523
v'	0.5242
CRI	92.50
CCT	2941
Duv	0.00114

R Values

R1	92.45
R2	96.75
R3	99.15
R4	92.03
R5	92.18
R6	96.43
R7	91.18
R8	79.89
R9	55.56
R10	91.60
R11	93.07
R12	82.53
R13	93.69
R14	99.36



*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 : L101605131.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L101605131
 [TESTLAB] LIGHT LABORATORY, INC.
 [ISSUEDATE] 12/12/2016
 [MANUFAC] NUMBER EIGHT LIGHTING COMPANY
 [LUMCAT] 803/L2-S-HI-40-XX/DIM1-8-1000/FS-P-1-WH
 [LUMINAIRE] LED RECESSED WALL WASH DOWNLIGHT, 90+ CRI, 40° BEAM SPREAD, 1.75" X 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, 15.16W
 [TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	330
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	22
Total Luminaire Watts	15.16
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.42
Spacing Criterion (90-270)	0.80
Spacing Criterion (Diagonal)	0.86
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.15 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	4488	8544	28335
55	1942	3666	12624
65	1142	1538	6684
75	1477	1256	2862
85	3619	3510	3894

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101605131.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	336.00	336.00	336.00	336.00	336.00	336.00	336.00	336.00	336.00	336.00
5.0	272.96	273.06	273.64	274.87	276.26	278.12	280.51	283.13	286.04	289.20
10.0	202.52	202.92	204.17	206.15	208.52	211.81	215.77	220.38	225.34	230.71
15.0	138.69	139.02	140.44	142.69	145.70	149.80	154.69	160.29	166.62	173.44
20.0	87.52	87.97	89.24	91.54	94.67	98.88	103.73	109.56	116.25	123.68
25.0	51.69	52.11	53.12	54.96	57.64	61.07	65.31	70.27	76.46	83.61
30.0	30.54	30.73	31.52	32.82	34.68	37.15	40.18	44.00	48.87	54.65
35.0	17.57	18.09	18.47	19.27	20.44	21.97	24.09	26.78	30.02	33.85
37.5	13.74	13.86	14.23	14.82	15.76	17.53	18.92	21.10	23.65	26.84
40.0	10.85	10.92	11.17	11.67	12.40	13.39	14.64	17.11	18.66	21.15
42.5	8.52	8.58	8.80	9.17	9.74	10.51	11.46	12.66	14.30	17.08
45.0	6.64	6.70	6.87	7.18	7.62	8.19	8.96	9.84	11.08	12.64
47.5	5.22	5.25	5.39	5.64	5.95	6.42	6.99	7.71	8.63	9.74
50.0	4.04	4.07	4.19	4.37	4.63	4.96	5.43	6.00	6.70	7.53
52.5	3.10	3.11	3.22	3.36	3.57	3.83	4.17	4.61	5.15	5.79
55.0	2.33	2.35	2.42	2.52	2.68	2.87	3.15	3.46	3.88	4.40
57.5	1.77	1.77	1.84	1.90	2.00	2.14	2.33	2.57	2.91	3.32
60.0	1.39	1.39	1.43	1.46	1.53	1.60	1.74	1.93	2.17	2.51
62.5	1.15	1.15	1.17	1.18	1.20	1.27	1.34	1.44	1.62	1.84
65.0	1.01	1.01	1.01	1.01	1.03	1.03	1.08	1.11	1.22	1.36
67.5	0.90	0.90	0.90	0.89	0.90	0.90	0.89	0.92	0.96	1.01
70.0	0.84	0.84	0.84	0.84	0.84	0.80	0.80	0.80	0.80	0.84
72.5	0.84	0.82	0.82	0.78	0.77	0.75	0.75	0.73	0.73	0.75
75.0	0.80	0.82	0.78	0.78	0.75	0.73	0.71	0.70	0.68	0.68
77.5	0.80	0.78	0.78	0.75	0.73	0.71	0.68	0.68	0.68	0.66
80.0	0.77	0.77	0.75	0.75	0.71	0.70	0.68	0.66	0.66	0.66
85.0	0.66	0.68	0.68	0.66	0.66	0.66	0.64	0.64	0.64	0.64
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

	<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	336.00	336.00	336.00	336.00	336.00	336.00	336.00	336.00	336.00	336.00
5.0	292.44	296.28	300.35	304.47	309.00	313.66	318.23	322.93	327.76	332.53
10.0	236.96	243.58	250.96	258.42	266.64	275.17	283.57	292.16	301.17	310.25
15.0	181.68	190.43	199.06	209.56	219.58	230.59	241.41	252.49	264.09	275.08
20.0	132.25	141.05	151.00	161.79	173.18	183.96	196.19	208.73	220.29	232.97
25.0	91.14	99.47	108.95	119.21	129.44	140.78	152.01	164.08	175.80	188.14
30.0	60.93	67.97	75.99	84.30	93.62	103.57	113.40	123.57	134.51	145.58
35.0	38.66	44.14	49.81	56.53	63.80	71.52	79.76	87.88	96.93	105.76
37.5	30.73	35.15	40.09	46.09	51.95	58.30	65.47	72.48	80.67	88.93
40.0	24.30	27.79	32.07	36.86	41.76	47.05	53.13	59.67	66.04	73.99
42.5	18.87	21.78	25.22	28.99	32.87	37.17	42.13	47.36	53.38	59.85
45.0	14.35	17.22	19.39	22.14	25.34	28.82	32.59	36.87	41.92	47.50
47.5	11.15	12.73	14.61	17.29	19.31	21.98	24.94	28.42	32.56	37.31
50.0	8.61	9.79	11.03	12.63	14.26	16.96	18.82	21.53	24.92	28.68
52.5	6.56	7.43	8.54	9.76	11.17	12.63	14.45	16.61	18.85	21.79
55.0	5.01	5.74	6.63	7.65	8.75	10.07	11.50	13.24	15.15	17.41
57.5	3.83	4.42	5.13	5.90	6.82	7.93	9.13	10.54	12.23	14.12
60.0	2.91	3.39	3.90	4.59	5.31	6.14	7.17	8.40	9.76	11.34
62.5	2.14	2.51	2.96	3.48	4.05	4.78	5.58	6.54	7.64	9.03
65.0	1.57	1.83	2.16	2.54	3.03	3.60	4.23	4.99	5.91	6.99
67.5	1.11	1.30	1.50	1.81	2.16	2.57	3.10	3.71	4.42	5.25
70.0	0.87	0.94	1.08	1.29	1.53	1.84	2.21	2.64	3.20	3.86

IES INDOOR REPORT
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CANDELA TABULATION - (Cont.)

72.5	0.75	0.78	0.85	0.96	1.10	1.30	1.55	1.86	2.28	2.75
75.0	0.70	0.71	0.73	0.78	0.87	0.96	1.11	1.30	1.55	1.84
77.5	0.68	0.68	0.68	0.70	0.75	0.80	0.85	0.96	1.08	1.24
80.0	0.66	0.66	0.68	0.68	0.70	0.73	0.77	0.82	0.87	0.92
85.0	0.64	0.64	0.64	0.66	0.66	0.68	0.70	0.70	0.71	0.73
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	336.00	336.00	336.00	336.00	336.00	336.00	336.00	336.00	336.00	336.00
5.0	337.12	341.76	346.39	350.81	354.84	358.86	362.27	365.70	368.76	371.43
10.0	318.79	327.24	335.95	344.46	352.69	359.80	367.14	373.99	379.87	385.63
15.0	286.70	298.40	309.41	320.60	331.33	340.70	350.25	359.43	367.63	375.10
20.0	245.79	258.57	271.17	282.87	294.09	305.48	315.85	325.27	334.56	342.04
25.0	200.01	211.98	224.97	236.03	247.81	258.80	269.05	277.36	285.29	291.83
30.0	156.39	167.39	178.66	189.68	199.75	209.04	217.23	224.26	230.07	234.68
35.0	115.50	125.38	134.79	144.11	152.76	159.58	165.98	170.99	175.14	178.20
37.5	97.82	106.95	115.61	124.11	131.54	138.31	143.61	148.03	151.47	154.08
40.0	81.61	89.59	98.29	105.76	112.44	118.53	123.24	127.12	130.36	132.79
42.5	66.63	72.67	81.73	88.23	94.67	100.09	104.56	108.20	111.14	113.56
45.0	53.45	59.73	66.42	71.94	78.60	83.71	87.83	91.50	94.30	96.58
47.5	42.40	48.21	53.90	59.62	65.01	69.45	72.25	77.48	80.25	82.46
50.0	33.27	38.30	43.27	48.51	53.45	57.80	61.71	65.33	68.18	70.44
52.5	25.43	29.69	34.32	38.73	43.08	47.40	51.15	54.63	57.67	60.09
55.0	19.91	22.82	26.75	30.65	34.58	38.59	42.40	45.55	48.63	51.17
57.5	16.14	18.35	20.99	24.21	27.86	31.41	34.82	38.23	41.06	43.52
60.0	13.15	15.11	17.13	19.53	22.21	25.55	28.72	31.95	34.75	37.22
62.5	10.52	12.18	14.07	15.85	18.04	20.68	23.71	26.44	29.31	31.86
65.0	8.16	9.53	11.11	12.84	14.66	16.58	19.05	21.81	24.37	26.75
67.5	6.21	7.29	8.49	9.97	11.51	13.27	15.18	17.53	19.91	22.14
70.0	4.57	5.41	6.38	7.46	8.77	10.31	11.93	13.76	15.95	18.12
72.5	3.27	3.86	4.57	5.41	6.44	7.58	9.04	10.68	12.44	14.30
75.0	2.23	2.64	3.13	3.69	4.37	5.27	6.40	7.69	9.20	10.84
77.5	1.43	1.67	1.95	2.28	2.71	3.29	4.02	4.97	6.14	7.43
80.0	1.01	1.11	1.24	1.39	1.60	1.84	2.23	2.80	3.55	4.47
85.0	0.75	0.77	0.78	0.80	0.84	0.89	0.92	1.03	1.17	1.30
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	336.00	336.00	336.00	336.00	336.00	336.00	336.00
5.0	374.13	376.23	377.80	379.00	379.92	380.43	380.65
10.0	390.88	395.63	398.72	401.68	403.40	404.53	404.69
15.0	382.10	387.73	392.50	396.60	399.09	400.34	400.51
20.0	349.10	354.93	359.52	363.33	365.71	367.35	367.43
25.0	297.05	301.34	305.33	308.06	309.97	311.03	311.01
30.0	238.50	241.44	243.46	245.39	246.77	247.43	247.29
35.0	180.81	182.80	184.26	185.13	186.05	186.50	186.45
37.5	156.45	158.17	159.47	160.17	160.88	161.32	161.19
40.0	134.79	136.34	137.49	138.13	138.62	139.04	138.97
42.5	115.23	116.69	117.83	118.46	118.76	119.03	118.93
45.0	98.34	99.61	100.67	101.21	101.42	101.61	101.50
47.5	84.30	85.52	86.41	86.96	87.22	87.36	87.31
50.0	72.51	73.76	74.56	75.21	75.48	75.62	75.55

**IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101605131.IES**

CANDELA TABULATION - (Cont.)

52.5	61.85	63.22	64.20	64.82	65.22	65.40	65.29
55.0	53.07	54.47	55.55	56.30	56.68	56.86	56.80
57.5	45.66	47.22	48.26	49.06	49.50	49.67	49.64
60.0	39.41	41.01	42.19	42.94	43.39	43.55	43.55
62.5	33.83	35.57	36.79	37.52	37.92	38.12	38.09
65.0	28.91	30.58	31.67	32.44	32.85	33.06	33.05
67.5	24.19	25.78	26.98	27.67	28.12	28.30	28.32
70.0	19.98	21.48	22.65	23.38	23.79	23.98	23.97
72.5	16.09	17.57	18.56	19.32	19.71	19.85	19.90
75.0	12.33	13.62	14.63	15.24	15.60	15.71	15.76
77.5	8.68	9.79	10.68	11.22	11.50	11.55	11.55
80.0	5.46	6.37	6.99	7.41	7.60	7.65	7.65
85.0	1.53	1.77	2.02	2.14	2.24	2.30	2.30
90.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101605131.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	104.71	N.A.	31.70
0-30	187.25	N.A.	56.70
0-40	251.19	N.A.	76.10
0-60	312.38	N.A.	94.60
0-80	329.08	N.A.	99.70
0-90	330.22	N.A.	100.00
10-90	299.76	N.A.	90.80
20-40	146.48	N.A.	44.40
20-50	185.94	N.A.	56.30
40-70	72.86	N.A.	22.10
60-80	16.70	N.A.	5.10
70-80	5.03	N.A.	1.50
80-90	1.15	N.A.	0.30
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	330.22	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	30.46
10-20	74.25
20-30	82.54
30-40	63.94
40-50	39.46
50-60	21.72
60-70	11.67
70-80	5.03
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

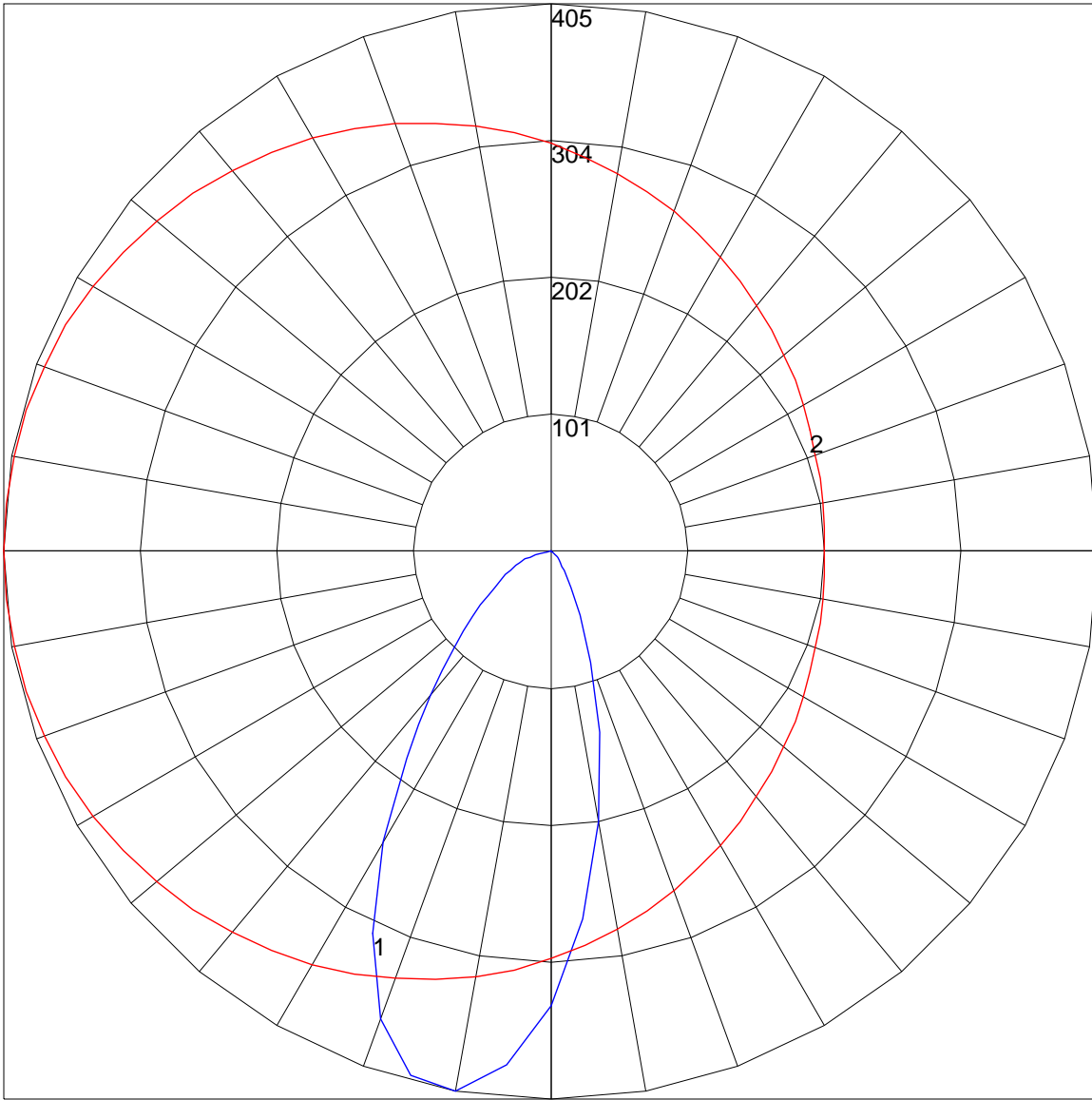
IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101605131.IES

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	95	94	93	91
2	105	100	95	91	103	98	93	90	95	91	88	91	88	86	89	86	84	82
3	99	91	86	81	97	90	85	80	87	83	79	85	81	78	82	79	76	75
4	93	84	78	73	91	83	77	72	81	76	71	79	74	71	77	73	70	68
5	88	78	71	66	86	77	70	66	75	69	65	73	68	65	72	67	64	62
6	83	72	65	60	81	71	65	60	70	64	60	68	63	59	67	62	59	57
7	78	67	60	56	76	67	60	56	65	59	55	64	59	55	63	58	55	53
8	74	63	56	52	72	62	56	51	61	55	51	60	55	51	59	54	51	49
9	70	59	52	48	69	59	52	48	58	52	48	57	51	48	56	51	47	46
10	66	56	49	45	65	55	49	45	54	49	45	53	48	45	53	48	44	43

POLAR GRAPH



Maximum Candela = 404.69 Located At Horizontal Angle = 180, Vertical Angle = 10
1 - Vertical Plane Through Horizontal Angles (180 - 0) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (10) (Through Max. Cd.)