



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

Report No: L081910601



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Issue Date: 8/21/2019

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

Model Number: 201-S-HI-3000-15/DIM1-2-SO/ FLS-2-WH

Test: Photometric/Colorimetric/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. Received in working and undamaged condition. No modifications were necessary.

Special Test Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 8/16/19

Date of Tests: 8/19/19 - 8/21/19

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-S4	1/9/21
BK PRECISION	1747	PS-DC04	1/10/21
Fluke Digital Thermometer	52K/J	MT-TP05	1/10/21
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

General Information

Manufacturer:	Number Eight Lighting Company
Model Number:	201-S-HI-3000-15/DIM1-2-SO/ FLS-2-WH
Driver Model Number:	INTUITIVE SYSTEMS ISD-701-350-15-D

Test Summary

Total Lumens:	973.40
Efficacy:	68.49
Color Redering Index:	91.5
Correlated Color Temperature:	3059
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.1193
Input Power (W):	14.21
Input Power Factor:	0.9932
Current ATHD (%):	5.6%

Test Condition

Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	1:00
Total Operating Time (Hours):	2:00

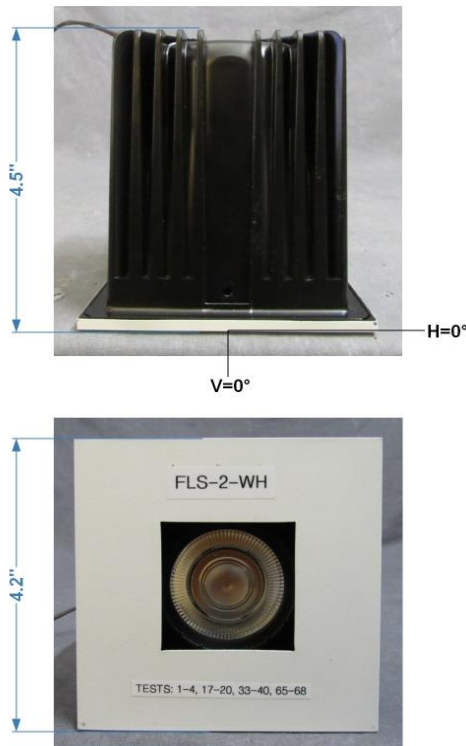
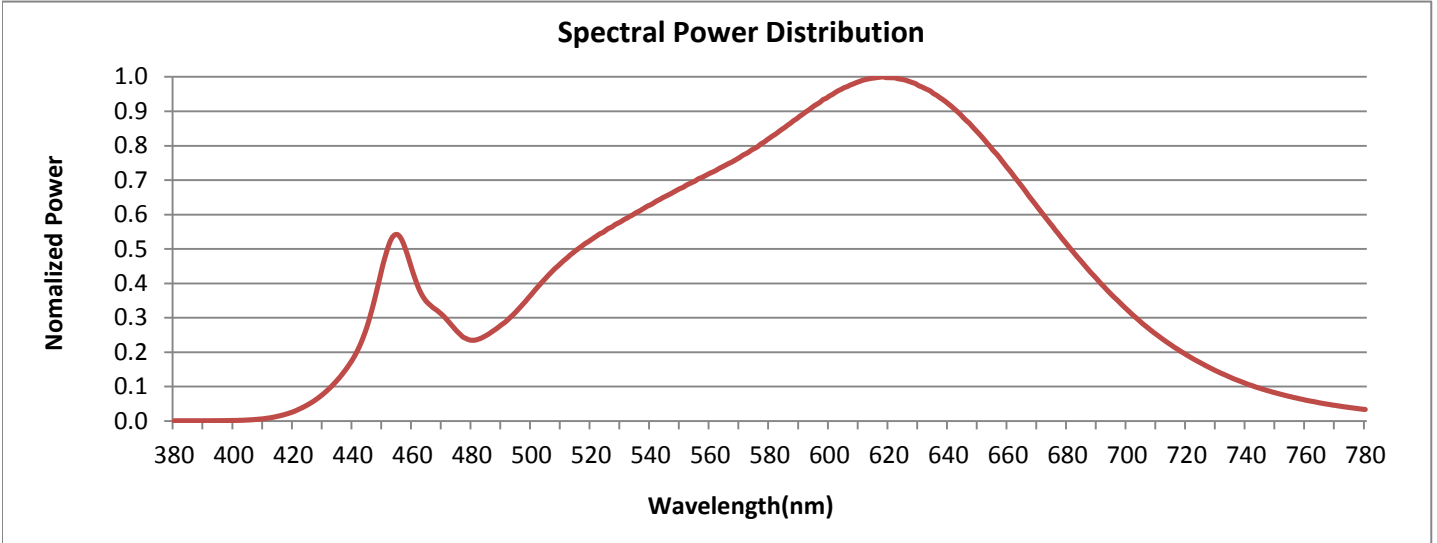


FIG. 1 LUMINAIRE

Colorimetry Test Results

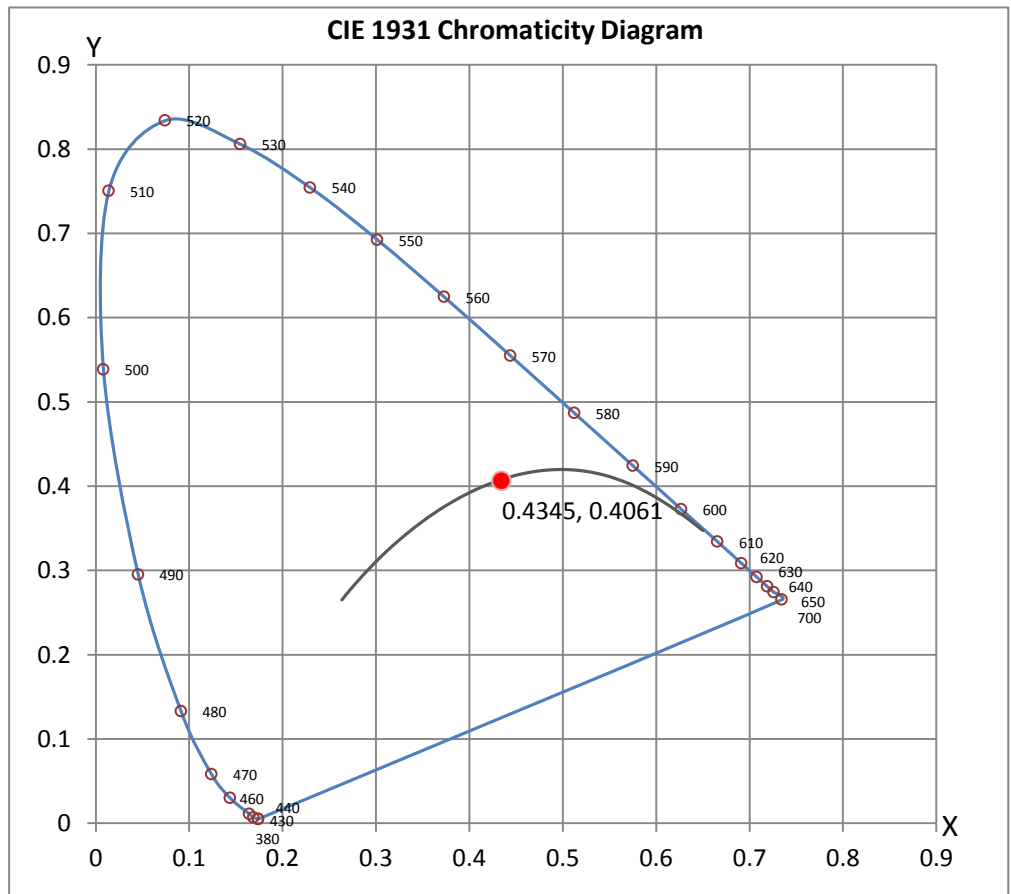


CRI & CCT

x	0.4345
y	0.4061
u'	0.2481
v'	0.5218
CRI	91.50
CCT	3059
Duv	0.00115

R Values

R1	91.29
R2	94.93
R3	97.18
R4	91.45
R5	90.72
R6	93.64
R7	92.30
R8	80.85
R9	56.00
R10	87.10
R11	91.46
R12	76.82
R13	92.16
R14	97.70
R15	87.42



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 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 : L081910601.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L081910601
 [TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
 [ISSUEDATE] 8/21/2019
 [MANUFAC] Number Eight Lighting Company
 [LUMCAT] 201-S-HI-3000-15/DIM1-2-SO/ FLS-2-WH
 [LUMINAIRE] LED Recessed Fixed Position Downlight, 3000K 90+ CRI, 15° Beam Spread,
 [MORE] Standard Output 1% Dimming Driver, Square Flanged Trim, 1.875" x 1.875" Aperture
 [BALLASTCAT] INTUITIVE SYSTEMS ISD-701-350-15-D
 [OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
 [MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
 [INPUT] 120.0VAC, 14.21W
 [TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	973
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	69
Total Luminaire Watts	14.21
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.34
Spacing Criterion (90-270)	0.32
Spacing Criterion (Diagonal)	0.32
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	7097	17236	7435
55	1667	4166	1667
65	0	0	0
75	0	0	0
85	0	0	0

IES INDOOR REPORT
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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	7646	7646	7646	7646	7646	7646	7646	7646	7646	7646
1.0	7695	7695	7693	7693	7694	7695	7692	7683	7684	7689
3.0	7071	7075	7068	7069	7062	7065	7060	7055	7058	7070
5.0	6076	6079	6079	6080	6079	6082	6082	6079	6084	6089
7.0	5155	5157	5156	5156	5153	5151	5144	5137	5134	5138
9.0	3972	3972	3963	3947	3927	3905	3888	3875	3870	3881
11.0	2781	2775	2762	2738	2707	2674	2639	2607	2586	2579
13.0	1868	1865	1855	1831	1801	1770	1741	1714	1703	1701
15.0	1202	1198	1187	1171	1151	1130	1112	1096	1088	1086
17.0	716	715	710	701	692	682	672	665	662	661
19.5	366	366	365	363	360	357	354	353	351	350
22.5	218	218	218	219	219	218	218	218	217	217
25.5	148	148	149	149	149	150	152	153	154	153
29.0	94	95	96	98	101	105	108	110	112	112
33.0	59	60	61	63	66	71	75	80	84	85
37.5	31	31	32	34	38	43	49	56	61	63
42.5	13	13	13	14	15	17	21	26	33	36
47.5	8	8	8	8	9	9	9	10	13	15
55.0	2	2	2	2	2	2	3	4	5	5
65.0	0	0	0	0	0	0	0	0	0	0
75.0	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. 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>
0.0	7646	7646	7646	7646	7646	7646	7646	7646	7646
1.0	7696	7694	7702	7702	7695	7694	7694	7694	7697
3.0	7075	7078	7084	7074	7070	7068	7069	7070	7077
5.0	6089	6090	6084	6079	6073	6073	6072	6079	6080
7.0	5145	5143	5150	5145	5133	5128	5127	5136	5134
9.0	3896	3909	3916	3921	3928	3934	3946	3959	3963
11.0	2586	2607	2635	2656	2679	2705	2727	2744	2749
13.0	1707	1714	1734	1753	1774	1798	1816	1827	1827
15.0	1090	1098	1111	1120	1132	1148	1164	1172	1175
17.0	666	668	673	677	683	690	700	705	706
19.5	351	351	352	352	353	355	358	359	359
22.5	217	216	215	214	212	212	212	212	212
25.5	153	151	150	148	147	146	145	144	144
29.0	111	109	106	102	99	96	95	93	93
33.0	83	78	74	69	66	63	61	60	60
37.5	60	55	48	42	37	34	32	31	31
42.5	32	25	20	17	15	14	14	14	14
47.5	13	10	10	9	9	9	9	8	8
55.0	5	4	3	2	2	2	2	2	2
65.0	0	0	0	0	0	0	0	0	0
75.0	0	0	0	0	0	0	0	0	0
85.0	0	0	0	0	0	0	0	0	0
90.0	0	0	0	0	0	0	0	0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081910601.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	835.51	N.A.	85.80
0-30	915.78	N.A.	94.10
0-40	951.33	N.A.	97.70
0-60	972.06	N.A.	99.90
0-80	973.40	N.A.	100.00
0-90	973.40	N.A.	100.00
10-90	541.97	N.A.	55.70
20-40	115.81	N.A.	11.90
20-50	132.54	N.A.	13.60
40-70	22.07	N.A.	2.30
60-80	1.34	N.A.	0.10
70-80	0.00	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	973.40	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	431.42
10-20	404.09
20-30	80.26
30-40	35.55
40-50	16.72
50-60	4.01
60-70	1.34
70-80	0.00
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

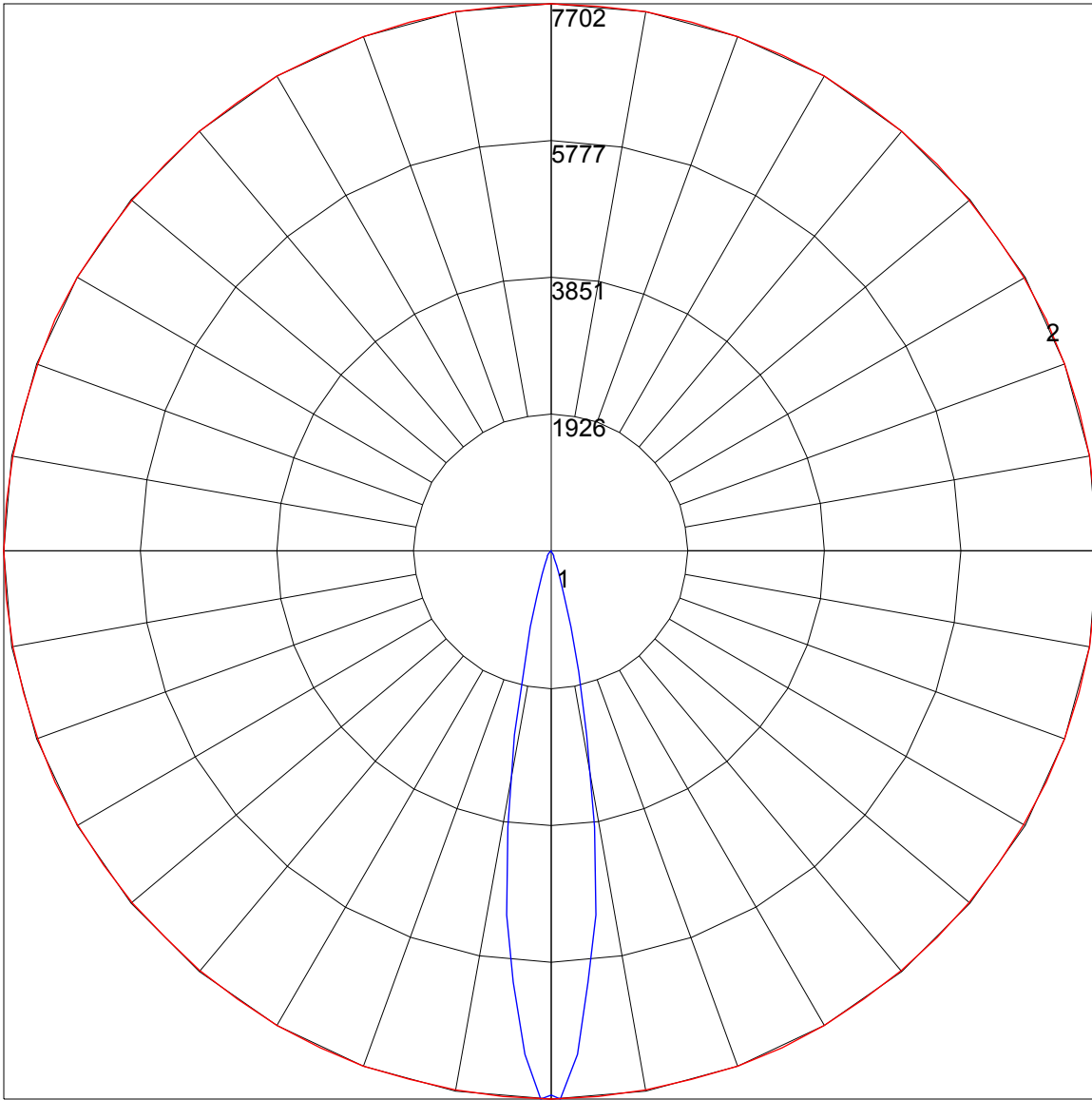
IES INDOOR REPORT
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC RW	80				70				50			30			10			0
	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
1	115	113	111	110	113	111	110	108	107	106	105	104	103	102	100	99	99	97
2	112	108	106	103	110	107	104	102	104	102	100	101	99	98	98	97	96	94
3	109	104	101	98	107	103	100	97	100	98	96	98	96	94	96	94	93	92
4	105	100	97	94	104	99	96	93	97	95	92	96	93	91	94	92	90	89
5	103	97	93	90	101	96	93	90	95	92	89	93	91	89	92	90	88	87
6	100	94	90	88	99	94	90	87	92	89	87	91	88	86	90	88	86	85
7	98	92	88	85	97	91	87	85	90	87	84	89	86	84	88	86	84	83
8	95	89	85	83	94	89	85	83	88	85	82	87	84	82	86	84	82	81
9	93	87	83	81	92	87	83	81	86	83	80	85	82	80	84	82	80	79
10	91	85	81	79	90	85	81	79	84	81	79	83	80	78	83	80	78	77

POLAR GRAPH



Maximum Candela = 7702 Located At Horizontal Angle = 60, Vertical Angle = 1
1 - Vertical Plane Through Horizontal Angles (60 - 240) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (1) (Through Max. Cd.)

ILLUMINANCE CONE DIAGRAM: BEAM (50%)
MOUNT HEIGHT(Ft): 12

