



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

Report No: L081910609



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Issue Date: 8/28/2019

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

Model Number: 201-S-BV-HI-3000-15/DIM1-2-SO/FLS-2-BV-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: 8/23/19 - 8/28/19

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-BV-HI-3000-15/DIM1-2-SO/FLS-2-BV-WH
Driver Model Number:	INTUITIVE SYSTEMS ISD-701-350-15-D

Test Summary

Total Lumens:	1042.62
Efficacy:	74.77
Color Redering Index:	91.8
Correlated Color Temperature:	3028
Input Voltage (VAC/60Hz):	120.04
Input Current (Amp):	0.1172
Input Power (W):	13.94
Input Power Factor:	0.9913
Current ATHD (%):	7.6%

Test Condition

Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:45
Total Operating Time (Hours):	1:45

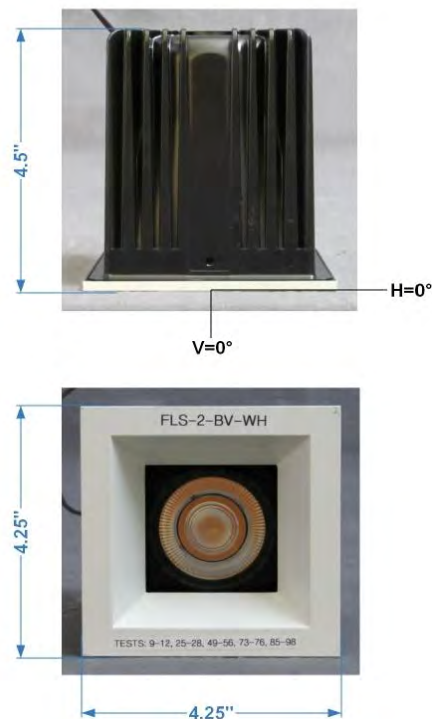
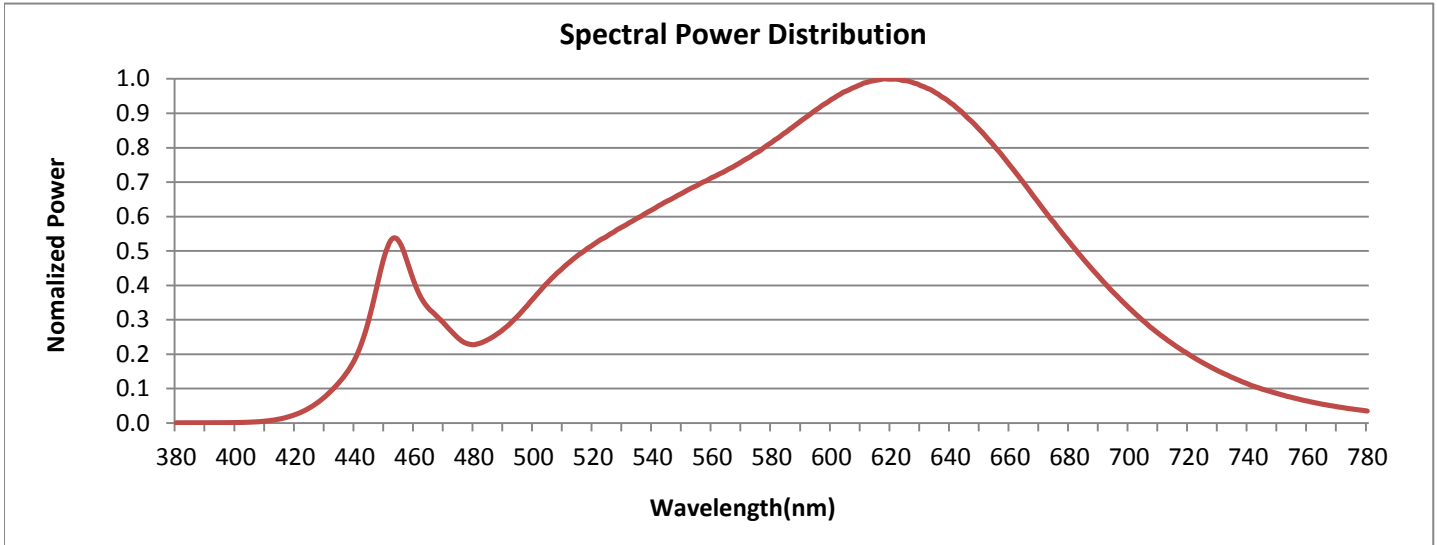


FIG. 1 LUMINAIRE

Colorimetry Test Results

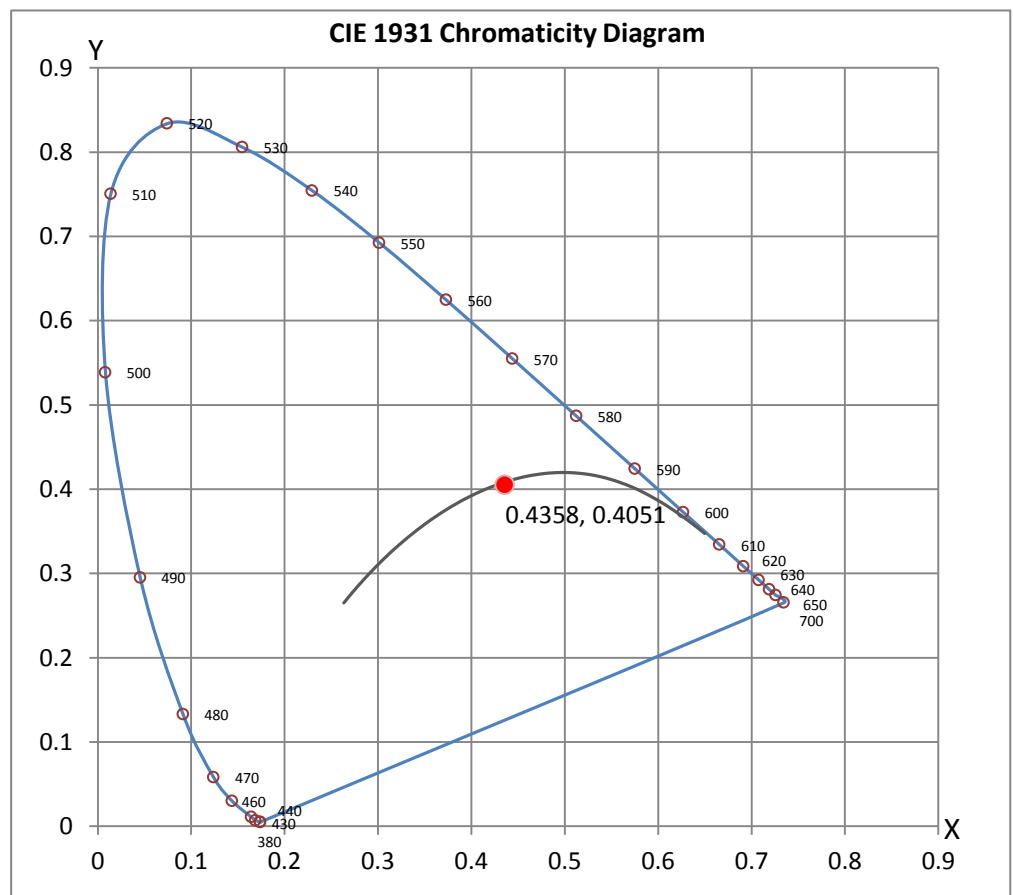


CRI & CCT

x	0.4358
y	0.4051
u'	0.2494
v'	0.5216
CRI	91.80
CCT	3028
Duv	0.00056

R Values

R1	91.65
R2	95.07
R3	96.96
R4	91.84
R5	91.14
R6	93.74
R7	92.44
R8	81.51
R9	57.73
R10	87.40
R11	91.88
R12	77.63
R13	92.46
R14	97.57
R15	88.01





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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 : L081910609.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L081910609
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 8/28/2019
[MANUFAC] Number Eight Lighting Company
[LUMCAT] 201-S-BV-HI-3000-15/DIM1-2-SO/FLS-2-BV-WH
[LUMINAIRE] LED Recessed Fixed Position Downlight, 3000K 90+ CRI, 15° Beam Spread,
[MORE] Standard Output 1% Dimming Driver, Square Flanged Bevel Trim, 2.25" x 2.25" 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] 120.04VAC, 13.94W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1043
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	75
Total Luminaire Watts	13.94
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.34
Spacing Criterion (90-270)	0.34
Spacing Criterion (Diagonal)	0.34
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.27 ft
Luminous Width (90-270)	0.27 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	2712	8658	2503
55	1029	1800	1029
65	1047	1047	1047
75	1140	1140	1140
85	1693	1693	1693

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081910609.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	7243	7243	7243	7243	7243	7243	7243	7243	7243	7243
1.0	7261	7259	7261	7263	7267	7270	7273	7273	7271	7268
3.0	6801	6802	6801	6801	6796	6788	6787	6782	6773	6775
5.0	5973	5971	5973	5972	5969	5963	5961	5959	5952	5950
7.0	5102	5104	5104	5103	5102	5101	5104	5105	5104	5101
9.0	3992	3991	3992	3992	3993	3988	3992	3997	3998	4005
11.0	2950	2949	2948	2941	2923	2911	2898	2891	2879	2877
13.0	1994	1994	1992	1986	1975	1964	1956	1952	1950	1948
15.0	1267	1267	1267	1266	1262	1259	1257	1257	1260	1264
17.0	769	768	768	769	769	768	769	772	775	780
19.5	403	403	404	405	405	405	407	409	411	413
22.5	237	237	237	238	239	240	241	243	244	245
25.5	164	164	165	165	167	168	169	171	172	173
29.0	120	120	121	122	123	124	125	126	126	127
33.0	86	86	88	90	93	96	97	97	97	98
37.5	49	50	53	56	61	66	71	74	76	77
42.5	17	18	18	19	22	26	34	44	51	54
47.5	9	9	10	10	11	12	13	15	21	29
55.0	4	4	4	4	4	4	5	5	6	7
65.0	3	3	3	3	3	3	3	3	3	3
75.0	2	2	2	2	2	2	2	2	2	2
85.0	1	1	1	1	1	1	1	1	1	1
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	7243	7243	7243	7243	7243	7243	7243	7243	7243
1.0	7265	7268	7265	7265	7264	7264	7263	7265	7264
3.0	6766	6764	6760	6756	6756	6751	6747	6751	6750
5.0	5949	5948	5942	5940	5937	5937	5935	5935	5934
7.0	5104	5107	5106	5112	5112	5114	5112	5113	5115
9.0	4008	4013	4019	4028	4036	4039	4045	4047	4047
11.0	2873	2866	2860	2857	2855	2851	2847	2845	2846
13.0	1949	1947	1950	1957	1960	1962	1964	1966	1967
15.0	1267	1272	1277	1285	1289	1293	1296	1298	1298
17.0	783	786	790	794	797	799	798	799	799
19.5	415	416	418	419	419	418	418	417	416
22.5	245	245	245	245	245	244	244	243	243
25.5	173	173	173	172	172	171	170	170	170
29.0	127	128	128	128	127	126	125	124	124
33.0	98	99	100	99	97	94	91	89	89
37.5	77	76	73	67	61	55	51	49	48
42.5	51	43	34	26	21	18	17	16	16
47.5	21	15	13	12	11	10	9	8	8
55.0	6	5	4	4	4	4	4	4	4
65.0	3	3	3	3	3	3	3	3	3
75.0	2	2	2	2	2	2	2	2	2
85.0	1	1	1	1	1	1	1	1	1
90.0	0	0	0	0	0	0	0	0	0

IES INDOOR REPORT
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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	865.10	N.A.	83.00
0-30	957.09	N.A.	91.80
0-40	1004.29	N.A.	96.30
0-60	1034.57	N.A.	99.20
0-80	1040.73	N.A.	99.80
0-90	1042.62	N.A.	100.00
10-90	618.69	N.A.	59.30
20-40	139.20	N.A.	13.40
20-50	163.79	N.A.	15.70
40-70	33.86	N.A.	3.20
60-80	6.16	N.A.	0.60
70-80	2.57	N.A.	0.20
80-90	1.89	N.A.	0.20
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	1042.62	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	423.93
10-20	441.17
20-30	91.99
30-40	47.20
40-50	24.59
50-60	5.69
60-70	3.58
70-80	2.57
80-90	1.89
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

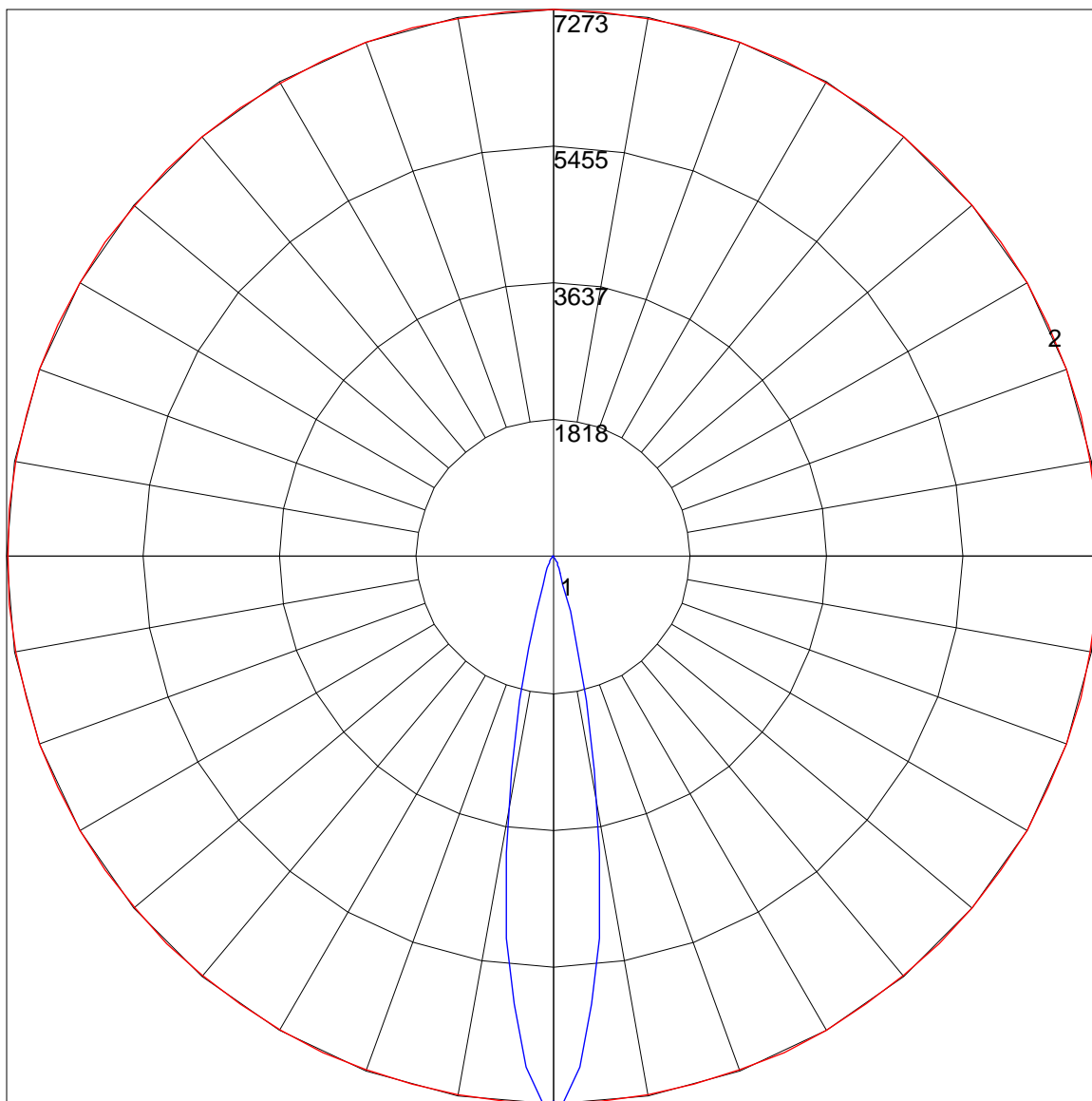
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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
1	115	113	111	109	113	111	109	107	107	105	104	103	102	101	100	99	98	96
2	111	108	105	102	109	106	103	101	103	101	99	100	98	97	97	96	95	93
3	108	103	99	97	106	102	98	96	99	97	94	97	95	93	95	93	92	90
4	104	99	95	92	103	98	94	92	96	93	91	94	92	90	93	90	89	88
5	101	96	92	89	100	95	91	88	93	90	88	92	89	87	90	88	86	85
6	99	93	88	86	97	92	88	85	91	87	85	89	86	84	88	86	84	83
7	96	90	86	83	95	89	85	83	88	85	82	87	84	82	86	83	81	80
8	94	87	83	80	93	87	83	80	86	82	80	85	82	80	84	81	79	78
9	91	85	81	78	90	84	81	78	84	80	78	83	80	78	82	80	77	77
10	89	83	79	76	88	82	79	76	82	78	76	81	78	76	81	78	76	75

POLAR GRAPH



Maximum Candela = 7273 Located At Horizontal Angle = 30, Vertical Angle = 1
1 - Vertical Plane Through Horizontal Angles (30 - 210) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (1) (Through Max. Cd.)

