



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

Report No: L081910649



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Issue Date: 9/10/2019

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

Model Number: 202-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: 9/3/19 - 9/10/19

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:	202-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:	1043.20
Efficacy:	74.47
Color Redering Index:	91.7
Correlated Color Temperature:	2982
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.1177
Input Power (W):	14.01
Input Power Factor:	0.9914
Current ATHD (%):	7.6%

Test Condition

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

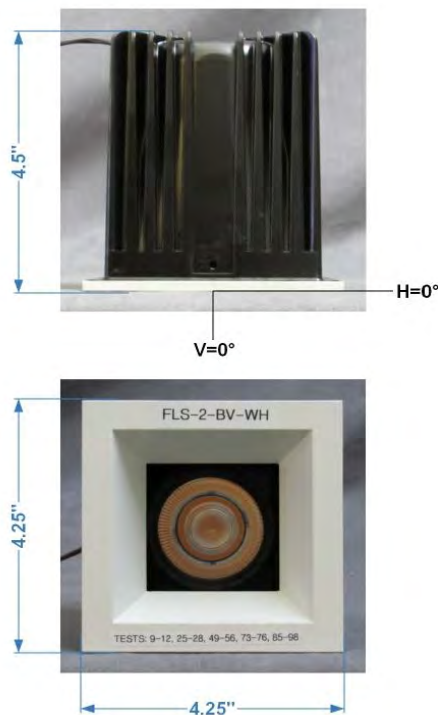
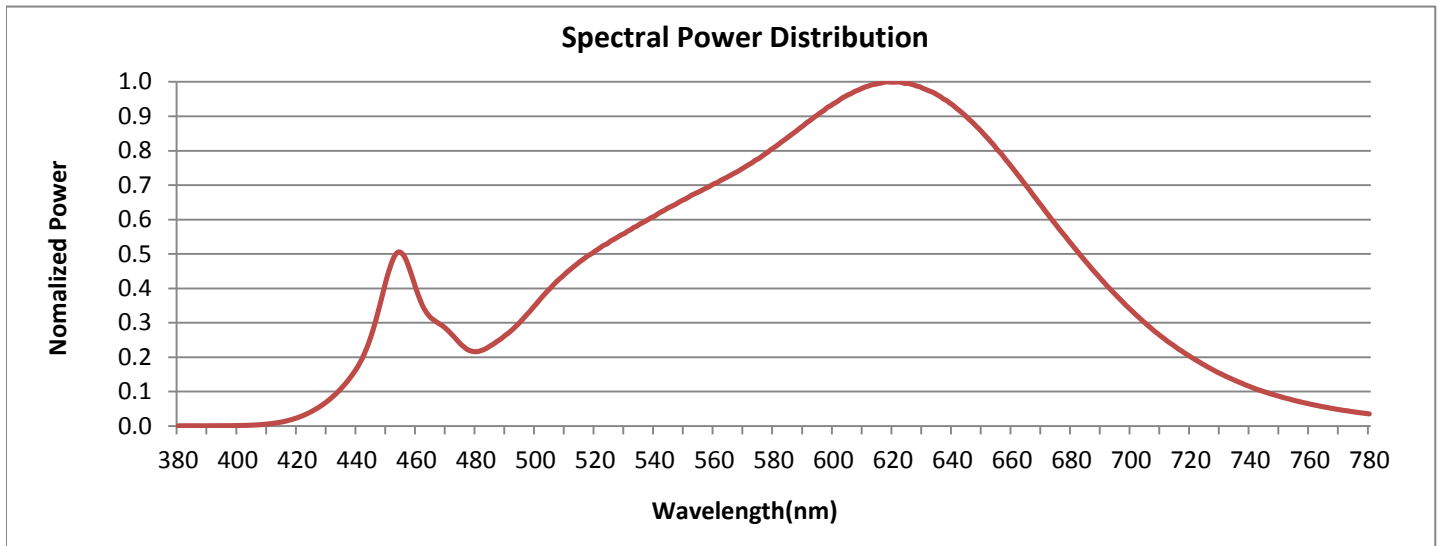


FIG. 1 LUMINAIRE

Colorimetry Test Results

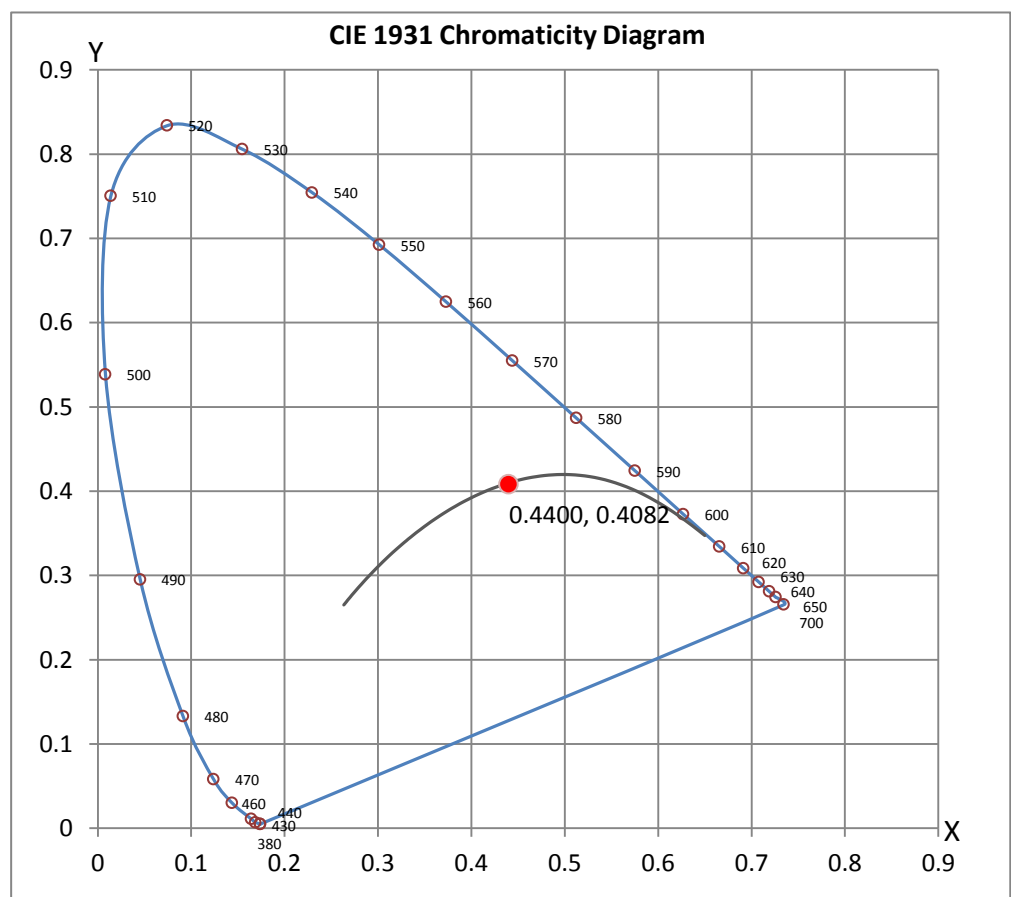


CRI & CCT

x	0.4400
y	0.4082
u'	0.2508
v'	0.5235
CRI	91.70
CCT	2982
Duv	0.00122

R Values

R1	91.47
R2	94.92
R3	97.02
R4	91.80
R5	90.92
R6	93.73
R7	92.50
R8	81.23
R9	57.08
R10	87.13
R11	91.90
R12	77.45
R13	92.27
R14	97.57
R15	87.62





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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 : L081910649.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L081910649
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 9/10/2019
[MANUFAC] Number Eight Lighting Company
[LUMCAT] 202-S-BV-HI-3000-15/DIM1-2-SO/FLS-2-BV-WH
[LUMINAIRE] LED Recessed Adjustable Downlight, 0° Aiming Angle, 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] 120.0VAC, 14.01W
[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)	74
Total Luminaire Watts	14.01
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	1669	5841	1669
55	514	772	514
65	698	698	698
75	570	570	570
85	0	0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081910649.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	7441	7441	7441	7441	7441	7441	7441	7441	7441	7441
1.0	7476	7467	7474	7471	7464	7463	7467	7470	7466	7469
3.0	7061	7062	7061	7070	7065	7070	7061	7051	7055	7058
5.0	6161	6172	6169	6166	6165	6162	6159	6167	6173	6163
7.0	5312	5311	5308	5309	5306	5308	5295	5296	5293	5296
9.0	4116	4107	4100	4096	4088	4087	4080	4079	4078	4081
11.0	2826	2826	2826	2834	2835	2850	2859	2863	2870	2873
13.0	1931	1937	1934	1935	1943	1951	1957	1962	1968	1970
15.0	1277	1274	1277	1278	1283	1286	1289	1289	1292	1293
17.0	798	797	797	799	799	800	801	800	800	802
19.5	428	428	427	429	428	428	428	429	428	428
22.5	248	247	248	249	250	251	252	253	253	253
25.5	170	170	170	171	173	174	176	178	179	180
29.0	117	117	118	121	124	126	129	131	133	133
33.0	71	71	74	77	83	90	95	98	99	100
37.5	27	28	29	32	38	46	57	67	74	76
42.5	12	12	12	13	14	15	16	22	35	44
47.5	4	4	4	4	5	5	7	9	11	12
55.0	2	2	2	2	2	2	2	3	3	3
65.0	2	2	2	2	2	2	2	2	2	2
75.0	1	1	1	1	1	1	1	1	1	1
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	7441	7441	7441	7441	7441	7441	7441	7441	7441
1.0	7474	7472	7476	7468	7462	7469	7465	7464	7468
3.0	7056	7049	7058	7061	7066	7071	7073	7066	7072
5.0	6172	6176	6174	6180	6174	6182	6177	6182	6195
7.0	5295	5298	5304	5299	5304	5306	5309	5310	5313
9.0	4081	4082	4086	4091	4101	4104	4104	4107	4107
11.0	2872	2867	2858	2858	2852	2845	2838	2833	2840
13.0	1970	1968	1963	1959	1951	1945	1936	1937	1937
15.0	1293	1288	1283	1282	1281	1274	1275	1272	1271
17.0	803	799	798	798	798	796	795	794	794
19.5	429	430	430	430	430	430	429	429	431
22.5	253	253	253	251	250	250	249	248	248
25.5	181	180	178	177	175	174	173	173	173
29.0	133	132	130	128	126	124	121	119	118
33.0	99	99	96	92	84	79	74	72	72
37.5	74	67	58	47	38	33	30	29	28
42.5	35	23	17	15	14	13	12	12	12
47.5	11	9	7	6	5	5	4	4	4
55.0	3	3	2	2	2	2	2	2	2
65.0	2	2	2	2	2	2	2	2	2
75.0	1	1	1	1	1	1	1	1	1
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 : L081910649.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	881.88	N.A.	84.50
0-30	976.85	N.A.	93.60
0-40	1019.81	N.A.	97.80
0-60	1039.09	N.A.	99.60
0-80	1042.66	N.A.	99.90
0-90	1043.2	N.A.	100.00
10-90	604.30	N.A.	57.90
20-40	137.93	N.A.	13.20
20-50	154.41	N.A.	14.80
40-70	21.30	N.A.	2.00
60-80	3.57	N.A.	0.30
70-80	1.54	N.A.	0.10
80-90	0.54	N.A.	0.10
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	1043.2	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	438.89
10-20	442.99
20-30	94.97
30-40	42.96
40-50	16.48
50-60	2.80
60-70	2.03
70-80	1.54
80-90	0.54
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

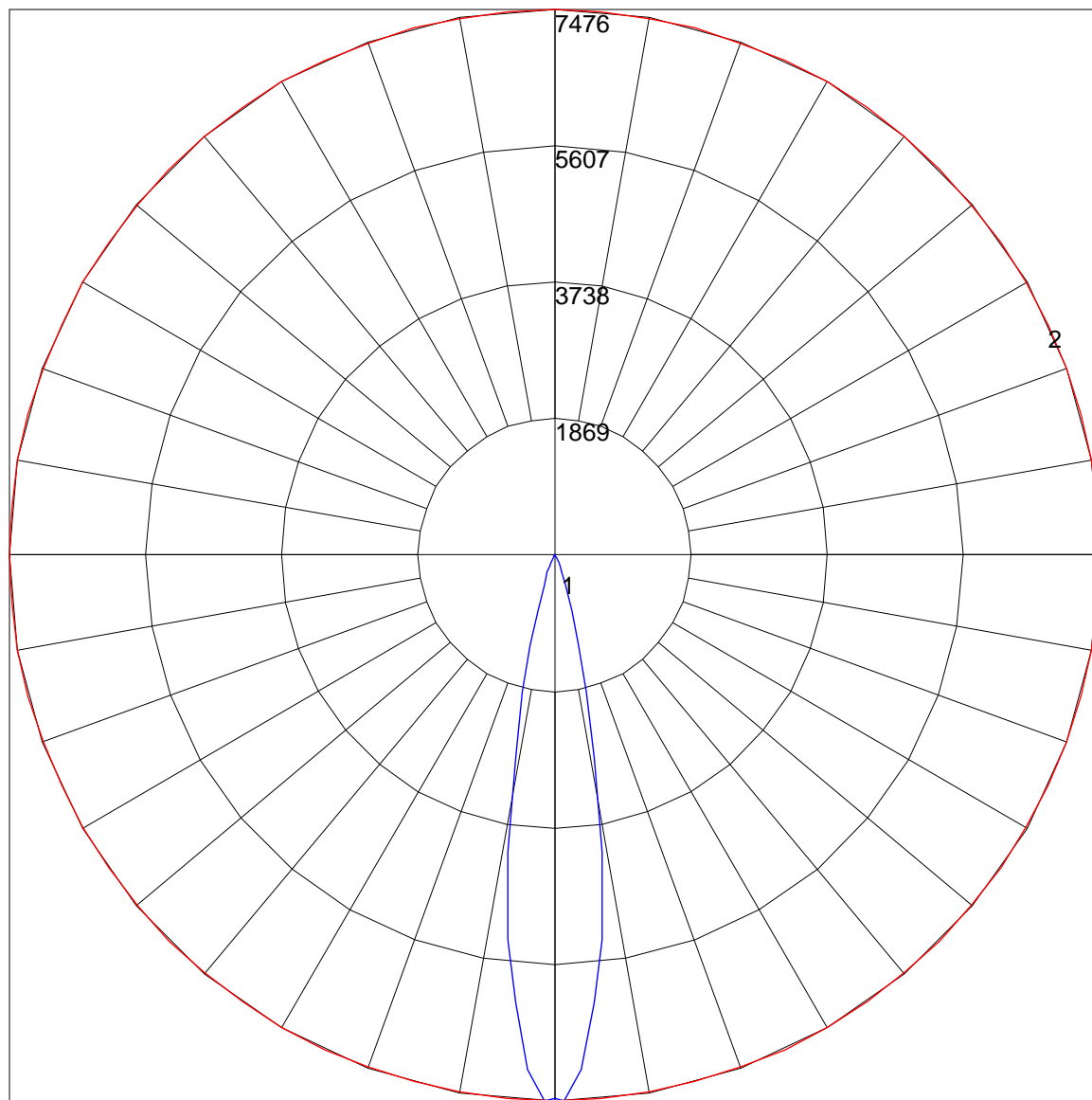
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	110	113	111	109	108	107	106	105	103	102	101	100	99	99	97
2	112	108	105	103	110	106	104	102	103	101	99	100	99	97	98	97	95	94
3	108	104	100	97	106	102	99	97	100	97	95	98	96	94	96	94	92	91
4	105	100	96	93	104	99	95	93	97	94	92	95	93	91	93	91	90	89
5	102	97	93	90	101	96	92	89	94	91	89	93	90	88	91	89	87	86
6	99	94	90	87	98	93	89	86	92	88	86	90	88	85	89	87	85	84
7	97	91	87	84	96	90	87	84	89	86	84	88	85	83	87	85	83	82
8	95	88	84	82	94	88	84	82	87	84	81	86	83	81	85	83	81	80
9	92	86	82	80	92	86	82	80	85	82	79	84	81	79	84	81	79	78
10	90	84	80	78	90	84	80	78	83	80	77	82	79	77	82	79	77	76

POLAR GRAPH



Maximum Candela = 7476 Located At Horizontal Angle = 0, Vertical Angle = 1
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (1) (Through Max. Cd.)

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

