



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

Report No: L081910673



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Issue Date: 9/12/2019

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

Model Number: 202-S-BV-WD-3018-15-NFL/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: 9/9/19 - 9/12/19

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-WD-3018-15-NFL/DIM1-2-SO/FLS-2-BV-WH
Driver Model Number:	INTUITIVE SYSTEMS ISD-701-350-15-D

Test Summary

Total Lumens:	669.19
Efficacy:	44.51
Color Redering Index:	96.5
Correlated Color Temperature:	3009
Input Voltage (VAC/60Hz):	120.03
Input Current (Amp):	0.1258
Input Power (W):	15.03
Input Power Factor:	0.9954
Current ATHD (%):	5.1%

Test Condition

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

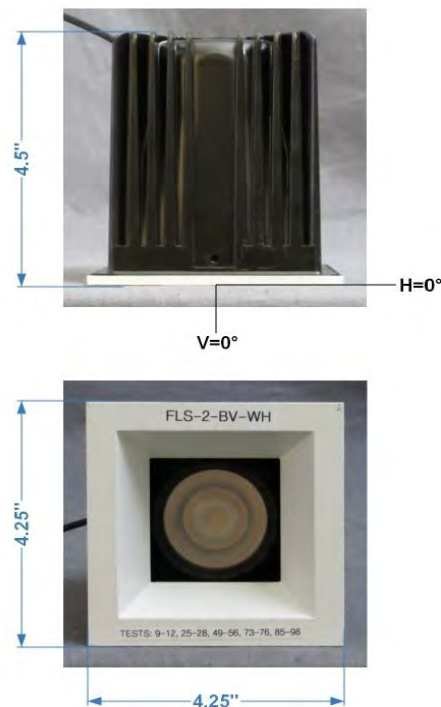
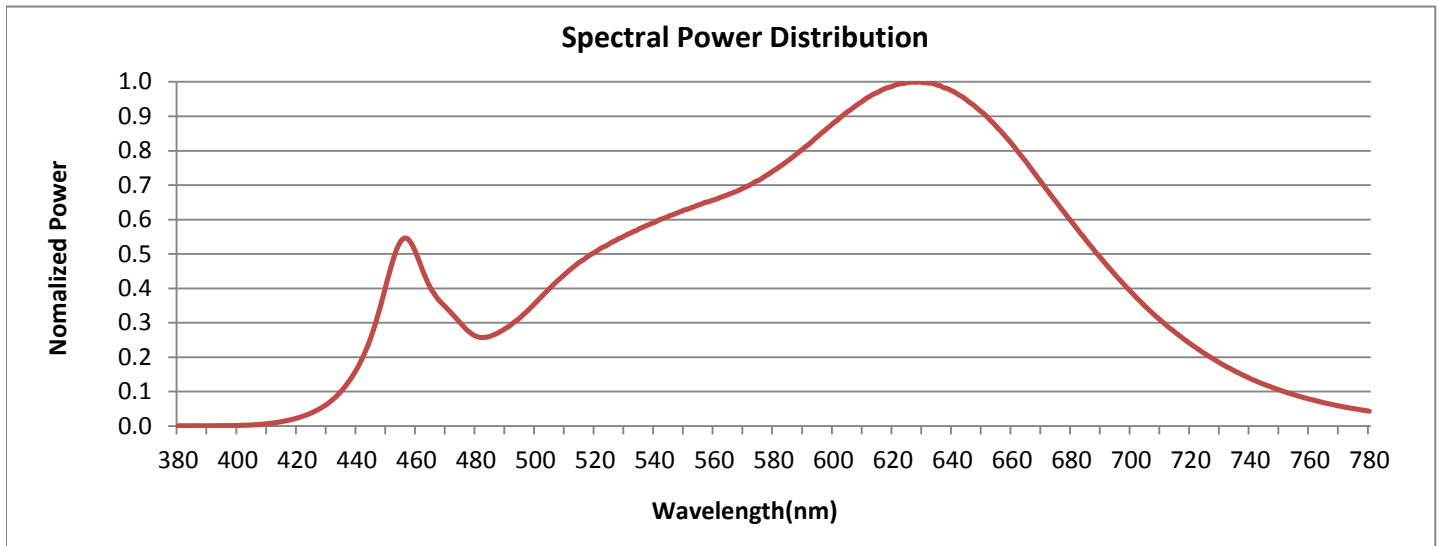


FIG. 1 LUMINAIRE

Colorimetry Test Results

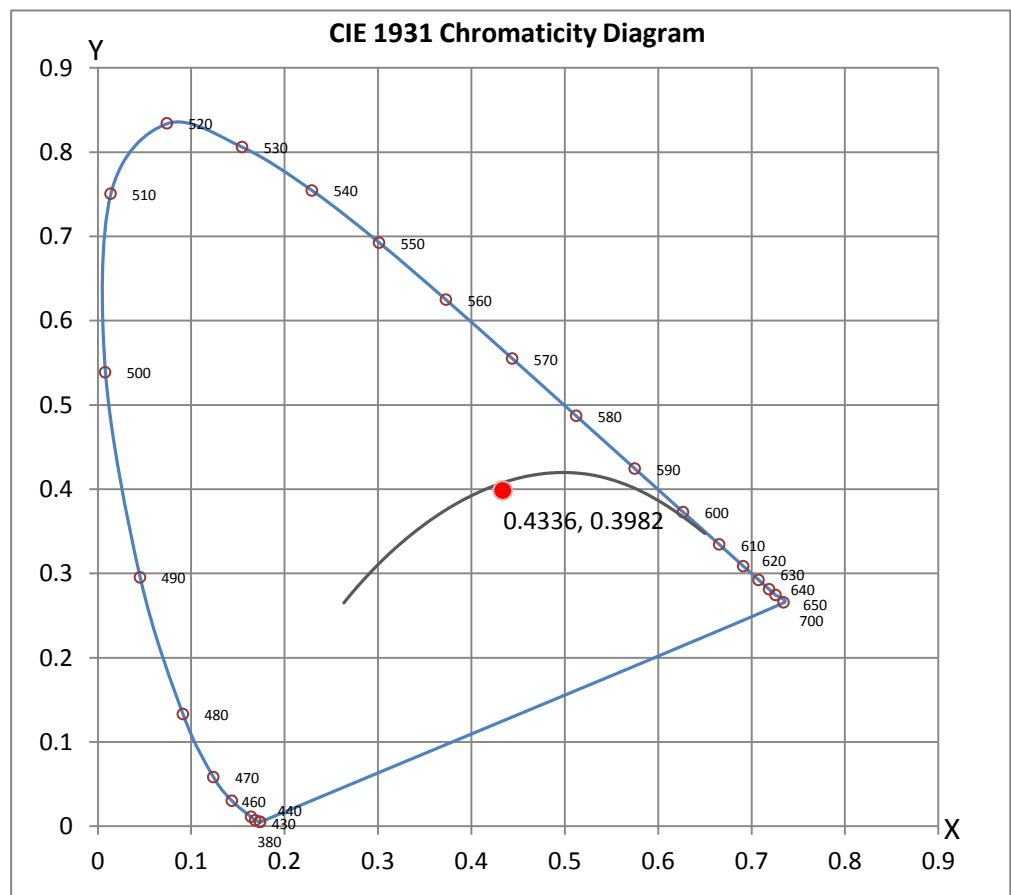


CRI & CCT

x	0.4336
y	0.3982
u'	0.2510
v'	0.5185
CRI	96.50
CCT	3009
Duv	-0.00191

R Values

R1	98.00
R2	99.17
R3	98.15
R4	97.25
R5	97.49
R6	97.05
R7	94.71
R8	90.54
R9	80.03
R10	96.65
R11	97.60
R12	83.31
R13	98.86
R14	98.05
R15	95.77





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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 : L081910673.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L081910673
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 9/12/2019
[MANUFAC] Number Eight Lighting Company
[LUMCAT] 202-S-BV-WD-3018-15-NFL/DIM1-2-SO/FLS-2-BV-WH
[LUMINAIRE] LED Recessed Adjustable Downlight, 0° Aiming Angle, 3000-1800K 90+ CRI, 15° Beam Spread,
[MORE] NFL Lens, 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] 120.03VAC, 15.03W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	669
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	45
Total Luminaire Watts	15.03
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.48
Spacing Criterion (90-270)	0.50
Spacing Criterion (Diagonal)	0.50
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	1773	4485	1878
55	514	772	514
65	698	698	698
75	570	570	570
85	0	0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081910673.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	2171	2171	2171	2171	2171	2171	2171	2171	2171	2171
1.0	2173	2173	2173	2173	2173	2172	2173	2173	2173	2173
3.0	2125	2127	2127	2127	2127	2128	2128	2128	2128	2130
5.0	2015	2017	2017	2019	2017	2018	2020	2021	2024	2024
7.0	1854	1853	1856	1856	1858	1860	1864	1866	1868	1872
9.0	1654	1654	1655	1657	1661	1663	1668	1671	1676	1680
11.0	1436	1436	1439	1440	1444	1448	1452	1459	1463	1470
13.0	1212	1212	1214	1216	1221	1226	1232	1238	1244	1251
15.0	996	996	999	1002	1006	1012	1018	1024	1031	1039
17.0	796	797	799	803	807	813	820	827	835	842
19.5	585	586	588	591	595	601	607	614	621	627
22.5	391	392	393	396	398	403	407	412	416	421
25.5	255	255	256	258	260	263	266	269	271	274
29.0	152	152	153	155	157	160	162	163	165	166
33.0	80	80	81	84	88	92	94	96	97	98
37.5	32	32	33	36	39	44	49	54	57	58
42.5	12	13	13	14	15	16	18	23	29	32
47.5	5	5	5	6	6	7	8	9	10	11
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	2171	2171	2171	2171	2171	2171	2171	2171	2171
1.0	2171	2172	2172	2173	2173	2173	2172	2174	2172
3.0	2131	2131	2129	2131	2131	2130	2133	2133	2132
5.0	2026	2030	2030	2030	2033	2033	2035	2035	2037
7.0	1874	1878	1880	1884	1886	1887	1889	1891	1890
9.0	1686	1690	1694	1699	1702	1705	1707	1708	1708
11.0	1475	1481	1486	1492	1495	1498	1502	1504	1506
13.0	1258	1265	1271	1277	1282	1287	1290	1291	1292
15.0	1047	1054	1060	1066	1070	1074	1077	1078	1079
17.0	849	856	860	863	868	872	874	875	876
19.5	632	636	640	645	648	651	653	655	655
22.5	425	429	432	435	438	440	442	443	444
25.5	277	280	283	284	287	288	290	290	290
29.0	167	169	170	171	172	172	172	172	172
33.0	98	99	98	97	95	92	91	90	89
37.5	58	55	52	47	42	39	37	36	35
42.5	30	24	19	16	15	15	14	13	13
47.5	10	9	8	7	6	6	5	5	5
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
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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	451.46	N.A.	67.50
0-30	597.65	N.A.	89.30
0-40	646.03	N.A.	96.50
0-60	665.08	N.A.	99.40
0-80	668.65	N.A.	99.90
0-90	669.19	N.A.	100.00
10-90	519.98	N.A.	77.70
20-40	194.57	N.A.	29.10
20-50	210.61	N.A.	31.50
40-70	21.07	N.A.	3.10
60-80	3.57	N.A.	0.50
70-80	1.54	N.A.	0.20
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	669.19	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	149.21
10-20	302.25
20-30	146.19
30-40	48.38
40-50	16.04
50-60	3.01
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

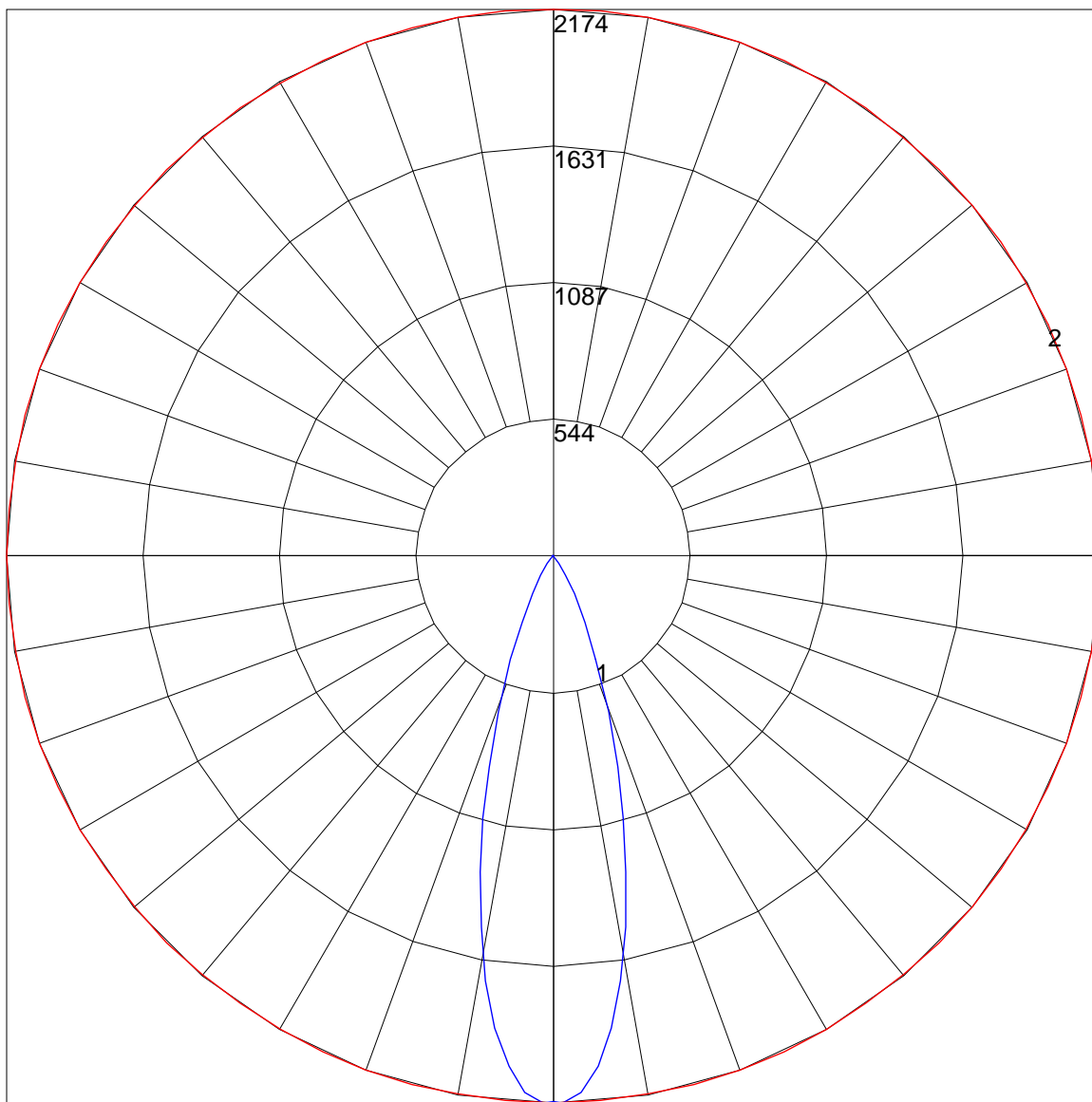
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95
2	110	106	103	100	108	104	101	99	101	99	96	98	96	94	95	94	92	91
3	106	100	96	93	104	99	95	92	97	94	91	94	92	90	92	90	88	87
4	102	96	91	88	100	95	90	87	93	89	86	91	88	85	89	86	84	83
5	98	91	87	83	97	90	86	83	89	85	82	87	84	81	86	83	81	79
6	94	87	82	79	93	87	82	79	85	81	78	84	80	78	83	80	77	76
7	91	84	79	75	90	83	79	75	82	78	75	81	77	75	80	77	74	73
8	88	80	76	72	87	80	75	72	79	75	72	78	74	72	77	74	71	70
9	85	77	73	69	84	77	72	69	76	72	69	75	72	69	74	71	69	68
10	82	74	70	67	81	74	70	67	73	69	66	73	69	66	72	69	66	65

POLAR GRAPH



Maximum Candela = 2174 Located At Horizontal Angle = 85, Vertical Angle = 1
1 - Vertical Plane Through Horizontal Angles (85 - 265) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (1) (Through Max. Cd.)

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

