



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

Report No: L081910676



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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-3018-60-NFL/DIM1-2-SO/FLS-2-BV-WH

Test: Photometric/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-3018-60-NFL/DIM1-2-SO/FLS-2-BV-WH
Driver Model Number:	INTUITIVE SYSTEMS ISD-701-350-15-D

Photometric & Electrical Test Results

Total Lumens:	728.57
Efficacy:	48.38
Input Voltage (VAC/60Hz):	120.04
Input Current (Amp):	0.1262
Input Power (W):	15.06
Input Power Factor:	0.9941
Current ATHD (%):	5.1%

Test Condition

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

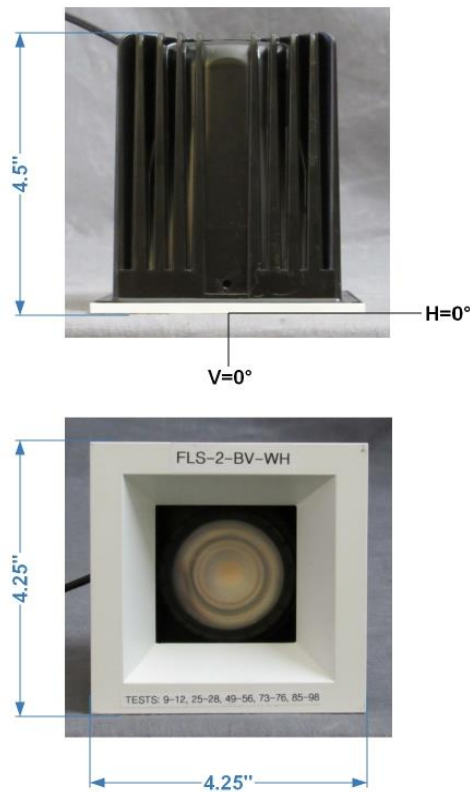


FIG. 1 LUMINAIRE

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: 9*



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Photometric Test Report

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081910676.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L081910676
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 9/12/2019
[MANUFAC] Number Eight Lighting Company
[LUMCAT] 202-S-BV-WD-3018-60-NFL/DIM1-2-SO/FLS-2-BV-WH
[LUMINAIRE] LED Recessed Adjustable Downlight, 0° Aiming Angle, 3000-1800K 90+ CRI, 60° 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] 120.04VAC, 15.06W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	729
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	48
Total Luminaire Watts	15.06
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.90
Spacing Criterion (90-270)	0.90
Spacing Criterion (Diagonal)	0.92
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	9111	18309	10939
55	1379	2760	1422
65	1756	1696	1843
75	1767	1790	1818
85	1557	1557	1557

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PHOTOMETRIC FILENAME : L081910676.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	801.03	801.03	801.03	801.03	801.03	801.03	801.03	801.03	801.03	801.03
1.0	802.11	801.86	801.57	802.57	802.07	803.03	801.69	802.36	802.57	802.70
3.0	798.93	799.93	799.98	799.35	799.98	799.98	799.47	799.93	800.77	799.35
5.0	792.98	794.02	793.44	793.90	793.65	793.65	793.56	793.56	795.49	793.60
7.0	785.18	785.10	784.97	784.55	783.84	783.59	784.64	782.92	782.88	783.55
9.0	769.92	772.19	770.72	771.64	771.27	770.85	771.22	771.22	770.85	770.47
11.0	755.51	754.46	754.54	754.17	753.20	754.21	753.16	752.07	752.40	751.48
13.0	733.21	733.88	733.50	732.92	732.87	731.74	731.53	730.74	730.65	729.98
15.0	707.56	707.73	708.57	707.56	706.89	706.76	706.13	705.34	704.42	704.62
17.0	678.98	679.52	678.68	678.22	677.51	677.13	675.50	676.04	675.37	674.74
19.5	634.97	634.80	634.25	634.76	635.64	634.84	635.05	633.58	633.42	633.21
22.5	563.47	565.02	565.48	566.86	568.75	572.52	574.87	576.67	578.01	577.93
25.5	486.51	487.35	488.65	490.62	494.14	497.54	503.24	507.85	512.37	513.97
29.0	398.33	398.88	400.47	402.69	405.42	409.31	414.72	420.17	425.32	427.63
33.0	266.23	268.61	275.53	286.13	298.75	311.53	319.37	323.48	325.03	326.49
37.5	120.79	122.22	127.41	136.59	151.81	171.25	192.71	213.12	226.24	230.35
42.5	65.89	66.10	66.89	68.61	70.29	73.30	79.59	93.93	114.80	127.12
47.5	21.46	22.38	24.35	28.63	34.16	37.64	40.36	43.25	45.89	48.41
55.0	5.36	5.45	5.36	5.41	5.41	5.66	6.45	8.05	9.35	10.73
65.0	5.03	4.99	4.90	4.86	4.78	4.82	4.82	4.82	4.86	4.86
75.0	3.10	3.14	3.14	3.14	3.23	3.23	3.23	3.23	3.19	3.14
85.0	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.92	0.92	0.92
90.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	801.03	801.03	801.03	801.03	801.03	801.03	801.03	801.03	801.03
1.0	801.99	801.82	802.15	802.32	802.99	802.20	801.78	801.74	802.03
3.0	799.81	799.09	801.19	799.64	800.35	799.47	798.93	799.81	799.35
5.0	793.94	793.19	794.61	793.14	791.47	792.05	793.81	793.23	791.97
7.0	784.97	781.83	781.24	780.70	782.71	782.46	782.33	781.95	782.58
9.0	769.13	768.67	768.37	768.33	767.91	768.16	766.78	766.74	767.24
11.0	751.19	751.15	748.80	750.69	749.93	749.43	749.18	749.09	748.88
13.0	728.81	729.27	728.64	728.39	727.76	727.72	727.89	727.68	727.84
15.0	703.37	703.79	702.57	703.12	702.28	702.95	702.78	702.40	703.28
17.0	674.74	674.78	674.95	673.57	674.28	674.28	673.74	673.86	673.69
19.5	633.50	633.54	632.79	632.08	631.61	630.86	630.23	630.23	630.94
22.5	576.92	576.96	574.91	573.15	570.76	569.75	568.24	568.16	567.82
25.5	513.38	510.99	506.97	503.66	500.35	497.29	495.48	494.81	494.56
29.0	428.34	426.50	423.14	418.41	415.81	414.38	412.96	412.21	410.07
33.0	328.72	331.15	329.01	320.88	311.70	301.47	292.80	287.01	285.25
37.5	229.09	221.38	206.84	186.47	169.66	156.71	147.66	142.29	140.49
42.5	122.09	105.28	90.70	81.35	77.03	74.98	74.02	73.56	73.18
47.5	48.12	45.60	42.96	40.15	36.80	34.12	32.94	32.06	31.69
55.0	10.23	8.55	7.88	6.45	5.74	5.62	5.57	5.57	5.53
65.0	4.90	4.82	4.86	4.90	4.90	4.99	5.16	5.24	5.28
75.0	3.23	3.27	3.31	3.31	3.35	3.27	3.27	3.23	3.19
85.0	0.92	0.92	1.01	0.96	1.01	0.92	0.92	0.92	0.92
90.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	259.60	N.A.	35.60
0-30	482.73	N.A.	66.30
0-40	632.75	N.A.	86.80
0-60	716.31	N.A.	98.30
0-80	726.07	N.A.	99.70
0-90	728.57	N.A.	100.00
10-90	667.72	N.A.	91.60
20-40	373.16	N.A.	51.20
20-50	442.69	N.A.	60.80
40-70	89.13	N.A.	12.20
60-80	9.77	N.A.	1.30
70-80	4.19	N.A.	0.60
80-90	2.50	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	728.57	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	60.86
10-20	198.74
20-30	223.13
30-40	150.02
40-50	69.53
50-60	14.02
60-70	5.57
70-80	4.19
80-90	2.50
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

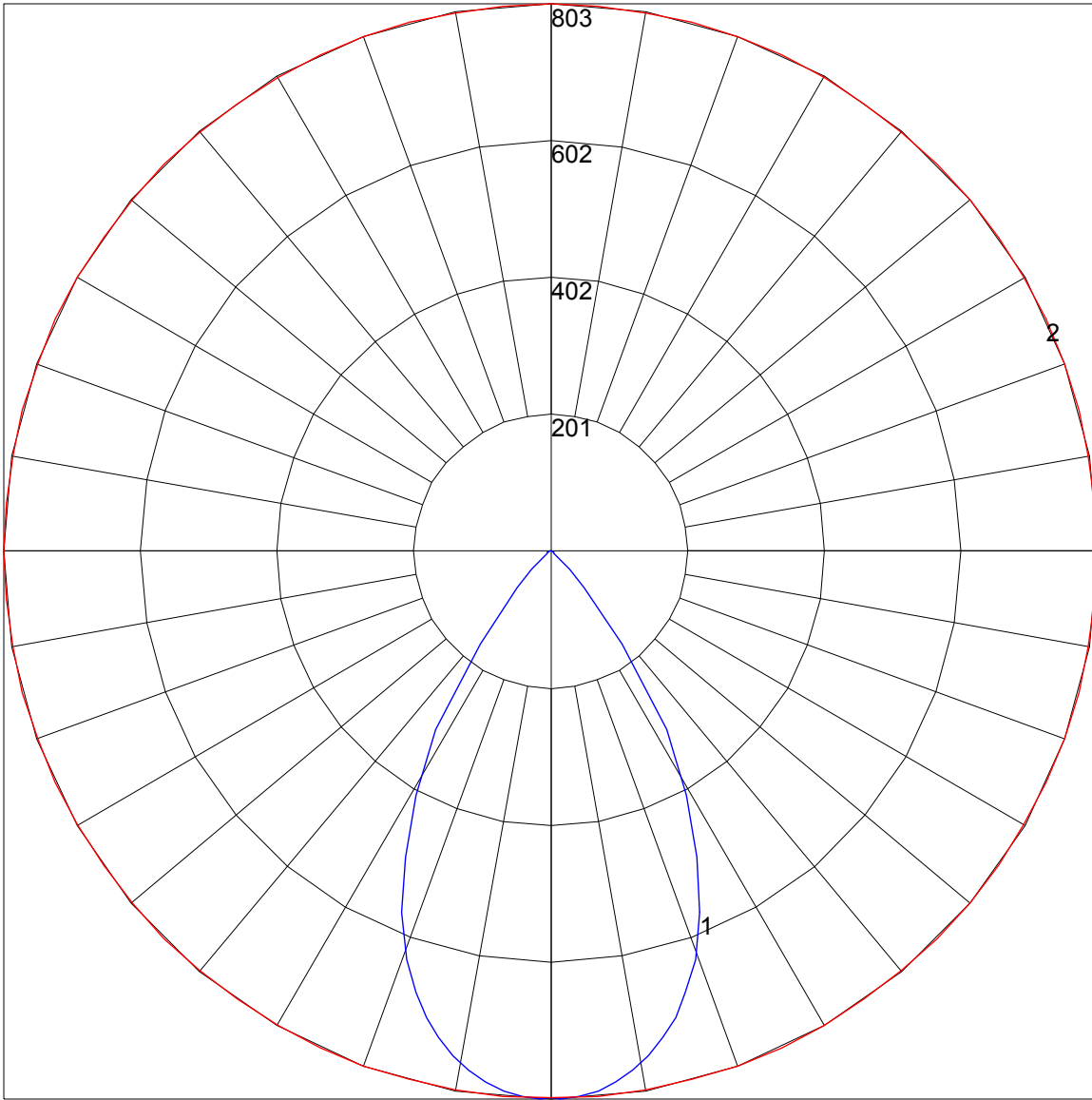
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	113	110	107	105	110	108	105	103	104	102	100	100	99	97	97	95	94	92
2	107	102	98	94	105	100	96	93	97	94	91	94	91	89	91	89	87	85
3	101	94	89	85	99	93	88	84	90	86	83	88	84	82	86	83	80	79
4	96	88	82	77	94	87	81	77	84	80	76	82	78	75	81	77	74	73
5	91	82	76	71	89	81	75	71	79	74	70	77	73	70	76	72	69	67
6	86	76	70	66	84	76	70	65	74	69	65	73	68	64	71	67	64	63
7	81	72	65	61	80	71	65	61	70	64	60	68	64	60	67	63	60	58
8	77	67	61	57	76	67	61	56	65	60	56	64	60	56	63	59	56	54
9	73	63	57	53	72	63	57	53	62	56	53	61	56	52	60	55	52	51
10	70	60	54	50	69	59	53	49	58	53	49	57	53	49	57	52	49	48

POLAR GRAPH



Maximum Candela = 803.03 Located At Horizontal Angle = 25, Vertical Angle = 1
1 - Vertical Plane Through Horizontal Angles (25 - 205) (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

