



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

Report No: L081910650



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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/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

Photometric & Electrical Test Results

Total Lumens:	933.86
Efficacy:	66.77
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.1176
Input Power (W):	13.99
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):	2:00

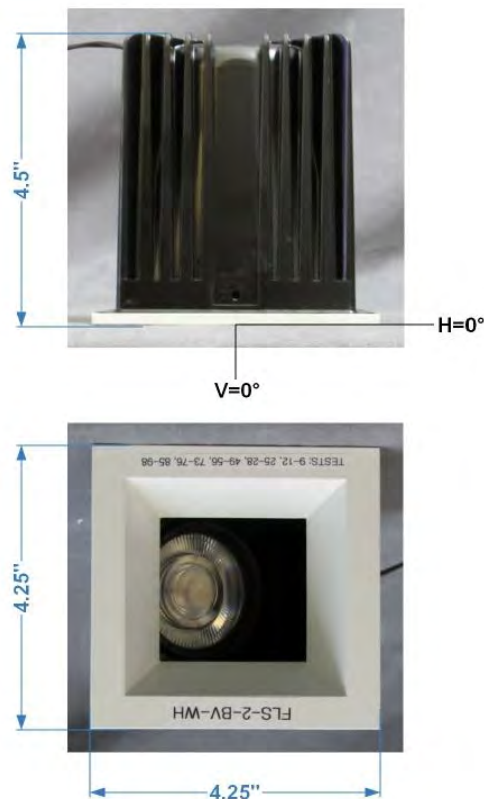


FIG. 1 LUMINAIRE

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: 10*



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Photometric Test Report

IES INDOOR REPORT

PHOTOMETRIC FILENAME : L081910650.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L081910650
[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, 30° 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] 120VAC, 13.99W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	934
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	67
Total Luminaire Watts	13.99
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	2.34
Spacing Criterion (90-270)	0.92
Spacing Criterion (Diagonal)	1.20
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	196309	15855	1878
55	7201	3601	1286
65	698	698	1396
75	570	570	1140
85	0	0	1693

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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	136	136	136	136	136	136	136	136	136	136
2.5	156	156	156	155	155	154	153	152	151	149
5.0	192	192	191	189	187	184	181	177	173	170
7.5	252	251	248	243	237	229	220	211	201	193
10.0	340	337	331	321	306	291	275	257	238	220
12.5	575	565	535	490	440	390	348	310	278	251
15.0	1093	1066	992	879	743	603	484	377	322	278
17.0	1723	1675	1533	1336	1106	865	647	481	369	299
19.0	2538	2454	2225	1908	1537	1164	846	587	399	314
21.0	3655	3477	3070	2534	1983	1461	1019	702	432	327
23.0	4847	4656	4102	3290	2410	1732	1180	749	447	326
25.0	5775	5589	5010	3920	2859	1938	1277	780	457	317
27.0	6776	6375	5599	4206	3141	2061	1308	771	448	302
29.0	7410	6952	5953	4767	3270	2077	1279	718	415	274
31.0	7423	6989	5872	4244	3105	1957	1175	657	372	250
33.0	6669	6321	5434	4014	2707	1716	1002	588	320	219
35.0	5502	5294	4522	3305	2220	1409	811	439	269	195
37.0	4330	4078	3306	2399	1674	1051	642	349	231	173
39.0	3200	2960	2404	1799	1221	752	447	273	195	150
41.0	2242	2079	1689	1255	854	493	319	219	167	127
43.0	1519	1395	1129	834	564	364	245	180	138	100
45.0	941	861	686	504	353	251	190	150	112	76
50.0	167	162	144	122	106	102	99	79	49	32
55.0	28	28	29	29	28	26	25	26	21	14
60.0	7	7	7	7	7	7	8	7	6	4
65.0	2	2	2	2	3	3	3	3	3	2
70.0	2	2	2	2	2	2	2	2	2	2
75.0	1	1	1	1	1	1	1	1	1	1
80.0	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>	<u>95</u>
0.0	136	136	136	136	136	136	136	136	136	136
2.5	148	146	145	143	142	140	138	137	135	134
5.0	166	161	157	153	149	145	140	137	133	130
7.5	184	176	168	161	153	147	140	135	130	125
10.0	204	189	177	166	155	146	138	131	125	120
12.5	224	202	183	169	156	145	135	127	120	115
15.0	242	210	187	169	154	141	130	122	116	111
17.0	251	214	186	166	150	136	126	117	112	108
19.0	254	212	183	162	145	131	121	114	109	103
21.0	255	209	178	155	138	125	115	109	104	96
23.0	249	201	169	147	130	117	110	105	97	88
25.0	237	190	161	138	121	111	105	98	89	82
27.0	224	178	149	128	114	105	99	90	82	75
29.0	206	164	138	119	107	100	93	83	76	70
31.0	188	151	127	110	101	94	85	76	70	65
33.0	170	139	116	102	94	85	77	68	63	59
35.0	152	124	105	92	82	73	63	58	53	51
37.0	136	108	90	78	66	55	47	43	41	41
39.0	115	89	74	59	46	36	30	27	26	26

IES INDOOR REPORT
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CANDELA TABULATION - (Cont.)

41.0	93	73	53	37	27	21	18	16	16	16
43.0	72	50	34	24	18	15	13	12	12	12
45.0	51	34	23	17	14	11	10	9	9	9
50.0	23	15	10	7	6	5	5	6	6	6
55.0	8	5	4	4	4	4	4	4	5	5
60.0	4	3	3	3	3	3	3	4	4	5
65.0	2	2	3	3	3	3	3	3	4	4
70.0	2	2	2	3	3	3	3	3	3	4
75.0	2	2	2	2	2	2	2	2	2	2
80.0	1	1	1	1	1	1	1	1	1	1
85.0	0	0	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>100</u>	<u>105</u>	<u>110</u>	<u>115</u>	<u>120</u>	<u>125</u>	<u>130</u>	<u>135</u>	<u>140</u>	<u>145</u>
0.0	136	136	136	136	136	136	136	136	136	136
2.5	132	131	130	129	127	126	125	124	124	123
5.0	127	124	121	119	117	115	114	113	112	111
7.5	121	117	115	113	111	108	105	103	100	98
10.0	115	113	110	107	102	98	94	90	88	85
12.5	111	108	104	97	92	87	83	80	77	75
15.0	108	103	94	88	83	78	74	71	69	65
17.0	103	95	87	81	76	72	68	65	60	56
19.0	96	88	81	75	70	66	62	57	54	51
21.0	88	82	74	69	64	60	55	52	49	46
23.0	82	75	68	63	59	54	50	48	45	41
25.0	75	69	63	58	54	50	47	42	39	35
27.0	70	64	58	54	50	46	41	36	33	29
29.0	65	60	55	51	46	41	36	32	28	24
31.0	61	56	52	47	41	36	31	27	23	21
33.0	56	53	47	42	37	32	27	23	20	17
35.0	51	47	42	38	34	28	23	20	17	15
37.0	41	39	38	35	30	24	20	16	15	14
39.0	28	30	32	31	26	21	17	14	13	11
41.0	17	19	22	24	22	17	14	13	11	10
43.0	12	13	14	17	17	14	12	10	10	10
45.0	10	10	11	12	13	12	11	9	9	9
50.0	6	7	7	8	8	8	8	8	9	9
55.0	5	6	6	7	7	8	8	8	8	9
60.0	5	5	6	6	7	7	8	8	8	8
65.0	4	5	5	6	6	7	7	7	8	8
70.0	4	4	5	5	5	6	6	6	7	7
75.0	3	3	3	4	4	4	5	5	5	6
80.0	2	2	2	2	3	3	3	3	4	4
85.0	1	1	1	1	1	1	1	2	2	2
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles	Horizontal Angles						
	<u>150</u>	<u>155</u>	<u>160</u>	<u>165</u>	<u>170</u>	<u>175</u>	<u>180</u>
0.0	136	136	136	136	136	136	136
2.5	122	122	121	121	121	121	121
5.0	110	109	107	107	106	106	106
7.5	96	95	93	92	92	91	91
10.0	83	81	80	79	78	78	78

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CANDELA TABULATION - (Cont.)

12.5	73	71	70	69	67	67	67
15.0	61	59	57	55	55	54	54
17.0	54	52	51	50	49	48	47
19.0	49	46	45	44	43	43	43
21.0	44	42	40	38	36	35	35
23.0	38	35	33	31	30	29	29
25.0	31	29	27	26	25	24	24
27.0	26	24	23	22	21	21	20
29.0	22	21	19	18	17	17	17
31.0	19	17	16	16	16	15	15
33.0	16	15	15	14	14	14	14
35.0	14	14	13	12	11	11	11
37.0	13	11	11	11	11	11	11
39.0	10	10	10	10	10	10	10
41.0	10	10	10	10	10	10	10
43.0	9	9	10	10	10	10	10
45.0	9	9	9	10	10	10	10
50.0	9	9	9	10	10	10	10
55.0	9	9	9	10	10	10	10
60.0	9	9	9	10	10	11	11
65.0	8	9	9	9	10	11	12
70.0	8	8	9	9	9	9	9
75.0	6	7	7	7	7	7	7
80.0	4	5	5	5	5	5	5
85.0	2	2	3	3	3	3	3
90.0	0	0	0	0	0	0	0

IES INDOOR REPORT
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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	80.94	N.A.	8.70
0-30	390.41	N.A.	41.80
0-40	786.35	N.A.	84.20
0-60	924.10	N.A.	99.00
0-80	932.68	N.A.	99.90
0-90	933.86	N.A.	100.00
10-90	919.73	N.A.	98.50
20-40	705.41	N.A.	75.50
20-50	829.15	N.A.	88.80
40-70	142.89	N.A.	15.30
60-80	8.58	N.A.	0.90
70-80	3.44	N.A.	0.40
80-90	1.18	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	933.86	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	14.12
10-20	66.81
20-30	309.48
30-40	395.93
40-50	123.74
50-60	14.02
60-70	5.14
70-80	3.44
80-90	1.18
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

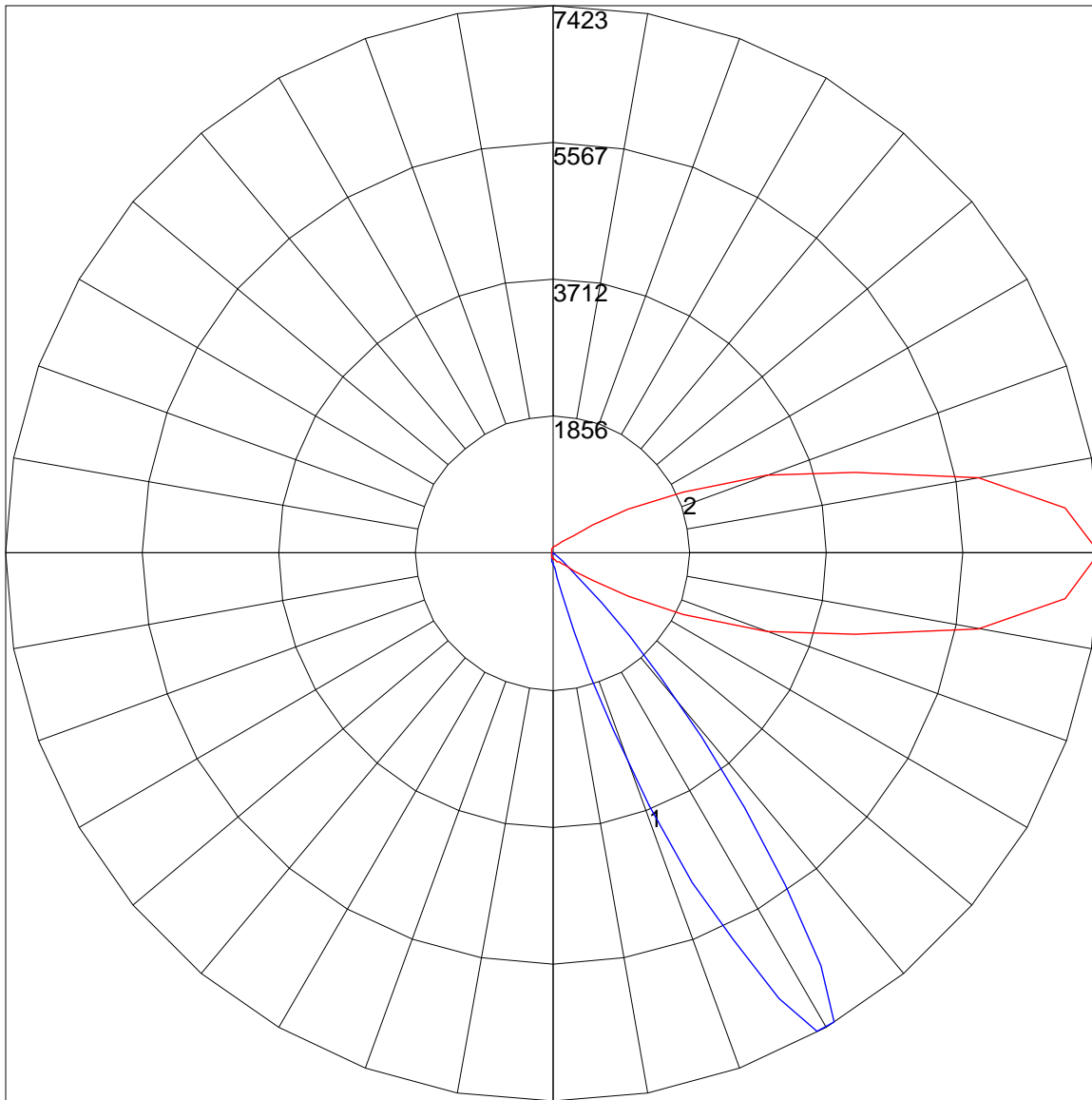
IES INDOOR REPORT
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC	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	112	109	106	103	110	107	104	102	103	101	99	99	97	96	96	94	93	91
2	105	99	95	91	103	98	93	89	94	91	87	91	88	86	88	86	84	82
3	98	91	85	80	96	89	84	79	86	82	78	84	80	77	82	78	75	74
4	92	83	76	71	90	81	75	70	79	74	69	77	72	69	75	71	68	66
5	86	75	68	63	84	74	68	63	72	66	62	71	65	61	69	64	61	59
6	80	69	61	56	78	68	61	56	66	60	56	65	59	55	63	58	55	53
7	74	63	55	50	73	62	55	50	61	54	50	59	54	50	58	53	49	48
8	69	58	50	45	68	57	50	45	56	49	45	55	49	45	53	48	44	43
9	65	53	46	41	63	52	45	41	51	45	40	50	44	40	49	44	40	38
10	60	49	41	37	59	48	41	37	47	41	37	46	40	36	45	40	36	35

POLAR GRAPH



Maximum Candela = 7423 Located At Horizontal Angle = 0, Vertical Angle = 31
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (31) (Through Max. Cd.)