



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

Report No: L081910652



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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-3000-25/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-3000-25/DIM1-2-SO/FLS-2-BV-WH
Driver Model Number:	INTUITIVE SYSTEMS ISD-701-350-15-D

Photometric & Electrical Test Results

Total Lumens:	914.14
Efficacy:	65.28
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.1177
Input Power (W):	14.00
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

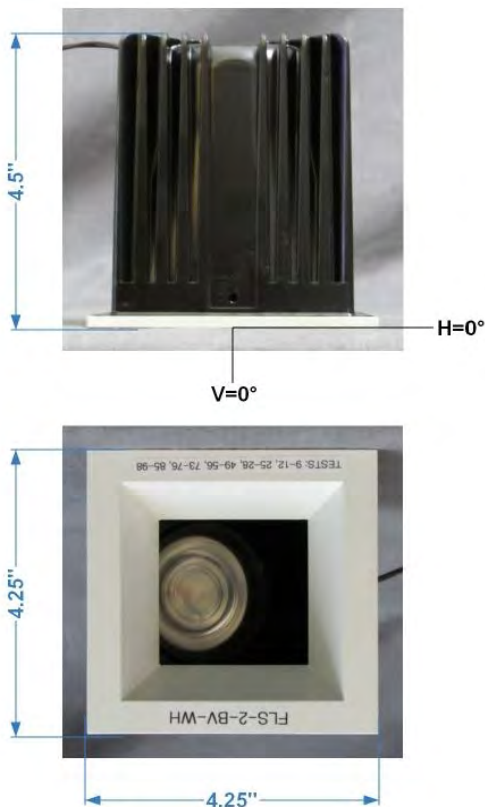


FIG. 1 LUMINAIRE

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 : L081910652.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L081910652
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 9/10/2019
[MANUFAC] Number Eight Lighting Company
[LUMCAT] 202-S-BV-HI-3000-25/DIM1-2-SO/FLS-2-BV-WH
[LUMINAIRE] LED Recessed Adjustable Downlight, 30° Aiming Angle, 3000K 90+ CRI, 25° 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, 14.0W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	914
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	65
Total Luminaire Watts	14
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	2.40
Spacing Criterion (90-270)	0.82
Spacing Criterion (Diagonal)	1.24
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	262024	31084	2712
55	29319	6172	1543
65	698	1047	1745
75	570	1140	1710
85	0	1693	1693

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081910652.IES

CANDELA TABULATION

	0	5	10	15	20	25	30	35	40	45
0.0	225	225	225	225	225	225	225	225	225	225
2.5	267	267	265	264	263	261	260	258	255	252
5.0	346	345	343	339	336	329	322	314	304	297
7.5	471	470	464	454	441	426	409	389	370	350
10.0	674	668	654	632	601	565	529	490	452	415
12.5	988	979	947	898	837	765	690	618	550	487
15.0	1422	1408	1351	1269	1154	1026	898	770	654	557
17.0	1807	1783	1714	1593	1439	1262	1078	903	747	611
19.0	2179	2144	2058	1919	1719	1493	1261	1030	823	656
21.0	2497	2455	2353	2185	1955	1690	1415	1128	891	688
23.0	2757	2717	2602	2419	2158	1851	1528	1201	913	693
25.0	2959	2912	2790	2581	2293	1960	1590	1233	929	689
27.0	3099	3057	2925	2701	2388	2010	1620	1230	897	651
29.0	3175	3120	2979	2737	2394	2004	1595	1184	855	606
31.0	3178	3135	2976	2721	2367	1946	1524	1108	777	547
33.0	3105	3043	2888	2616	2252	1827	1401	999	697	485
35.0	2940	2890	2730	2467	2095	1664	1246	878	599	420
37.0	2688	2623	2456	2195	1846	1453	1071	752	511	361
39.0	2389	2338	2178	1914	1568	1206	883	611	423	277
41.0	2047	1981	1822	1573	1268	963	696	495	348	250
43.0	1652	1598	1450	1238	992	745	536	386	268	197
45.0	1256	1208	1083	913	717	548	411	293	216	149
50.0	437	418	374	318	263	221	188	144	95	61
55.0	114	111	103	92	79	67	56	48	34	24
60.0	30	30	28	26	24	20	17	14	11	9
65.0	2	2	3	4	5	6	5	5	4	3
70.0	2	2	2	2	2	2	2	2	2	2
75.0	1	1	1	1	1	1	2	2	2	2
80.0	1	1	1	1	1	1	1	1	1	1
85.0	0	0	0	0	0	0	0	1	1	1
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles	Horizontal Angles									
	50	55	60	65	70	75	80	85	90	95
0.0	225	225	225	225	225	225	225	225	225	225
2.5	249	247	244	240	237	233	230	226	223	220
5.0	288	277	269	260	251	242	234	226	219	212
7.5	332	312	294	277	262	247	234	222	210	201
10.0	381	348	318	292	270	250	231	216	202	189
12.5	429	381	338	302	272	246	225	207	192	177
15.0	474	405	351	302	271	242	217	198	180	165
17.0	507	421	355	299	265	232	207	186	169	155
19.0	525	424	351	294	255	222	195	175	158	143
21.0	537	422	343	284	241	207	183	162	146	132
23.0	528	408	325	269	225	194	169	150	135	121
25.0	512	389	289	249	208	178	154	137	123	111
27.0	478	360	281	230	191	163	142	126	113	101
29.0	442	330	258	208	174	149	130	114	102	92
31.0	395	280	233	189	158	135	117	104	94	83
33.0	352	265	208	168	139	118	103	91	82	74
35.0	294	233	182	144	119	101	86	76	69	64
37.0	263	197	151	118	95	77	66	58	53	50
39.0	220	162	121	90	68	54	44	38	35	34

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081910652.IES

CANDELA TABULATION - (Cont.)

41.0	178	125	88	61	45	35	29	25	23	23
43.0	135	91	60	41	31	24	21	19	17	17
45.0	102	62	41	30	23	19	16	14	13	13
50.0	41	27	19	13	11	9	8	8	8	8
55.0	16	11	8	7	6	5	5	6	6	6
60.0	7	5	4	4	4	4	4	5	5	6
65.0	3	3	3	4	4	4	4	4	5	5
70.0	2	3	3	3	3	3	3	4	4	4
75.0	2	2	2	2	2	2	2	3	3	3
80.0	1	1	1	1	1	1	1	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>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	225	225	225	225	225	225	225	225	225	225
2.5	217	214	211	209	206	203	201	199	197	195
5.0	205	199	192	187	181	176	171	167	163	160
7.5	191	181	172	165	158	151	146	141	137	133
10.0	178	166	156	147	139	133	127	122	118	115
12.5	164	151	141	132	124	118	112	107	103	100
15.0	151	139	128	119	112	106	100	95	90	86
17.0	141	129	118	110	102	96	90	85	80	76
19.0	130	118	108	100	94	87	81	76	72	66
21.0	119	108	98	91	85	78	73	68	63	58
23.0	109	98	89	83	76	71	65	60	55	50
25.0	99	90	82	76	69	63	58	52	47	43
27.0	91	82	75	68	62	56	51	45	41	37
29.0	83	75	68	62	56	50	44	39	35	31
31.0	75	68	63	56	50	44	39	33	30	27
33.0	68	62	57	51	45	39	33	28	25	23
35.0	59	55	51	46	40	34	28	24	22	20
37.0	48	47	44	41	35	29	24	21	19	17
39.0	34	35	36	34	30	24	20	18	16	13
41.0	23	24	26	26	24	20	17	15	13	12
43.0	17	17	18	19	19	17	15	12	11	11
45.0	13	13	14	15	15	14	12	11	11	10
50.0	8	9	9	9	10	10	10	10	10	10
55.0	7	7	8	8	8	9	9	9	10	10
60.0	6	6	7	7	8	8	9	9	9	10
65.0	5	6	6	7	7	8	8	8	9	9
70.0	5	5	5	6	6	7	7	7	8	8
75.0	3	4	4	4	5	5	5	6	6	7
80.0	2	2	3	3	3	3	4	4	4	5
85.0	1	1	1	1	1	2	2	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	225	225	225	225	225	225	225
2.5	193	192	191	190	190	190	189
5.0	158	155	153	152	151	151	150
7.5	131	128	126	125	124	123	123
10.0	112	109	107	106	105	104	105

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081910652.IES

CANDELA TABULATION - (Cont.)

12.5	97	93	90	88	86	85	86
15.0	82	79	77	75	74	73	73
17.0	73	69	66	64	62	62	61
19.0	63	60	57	55	53	52	52
21.0	54	51	48	46	45	44	44
23.0	46	43	41	39	38	37	37
25.0	40	37	34	33	32	31	31
27.0	33	31	29	28	27	27	26
29.0	28	27	25	24	23	23	23
31.0	25	23	22	21	20	20	20
33.0	21	20	19	18	17	17	16
35.0	18	17	15	14	14	14	13
37.0	15	13	13	13	13	13	13
39.0	13	12	12	12	12	12	12
41.0	12	11	11	11	11	11	11
43.0	11	11	11	11	11	11	11
45.0	11	11	11	11	11	11	11
50.0	11	11	11	11	11	11	11
55.0	10	11	11	11	11	12	12
60.0	10	11	11	11	12	12	13
65.0	10	10	10	11	11	13	14
70.0	9	9	10	10	10	11	11
75.0	7	8	8	8	8	8	8
80.0	5	5	5	6	6	6	6
85.0	3	3	3	3	3	3	3
90.0	0	0	0	0	0	0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081910652.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	121.80	N.A.	13.30
0-30	381.90	N.A.	41.80
0-40	696.35	N.A.	76.20
0-60	901.75	N.A.	98.60
0-80	912.73	N.A.	99.80
0-90	914.14	N.A.	100.00
10-90	890.40	N.A.	97.40
20-40	574.55	N.A.	62.90
20-50	750.34	N.A.	82.10
40-70	212.39	N.A.	23.20
60-80	10.98	N.A.	1.20
70-80	3.99	N.A.	0.40
80-90	1.41	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	914.14	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	23.73
10-20	98.06
20-30	260.11
30-40	314.44
40-50	175.79
50-60	29.62
60-70	6.99
70-80	3.99
80-90	1.41
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

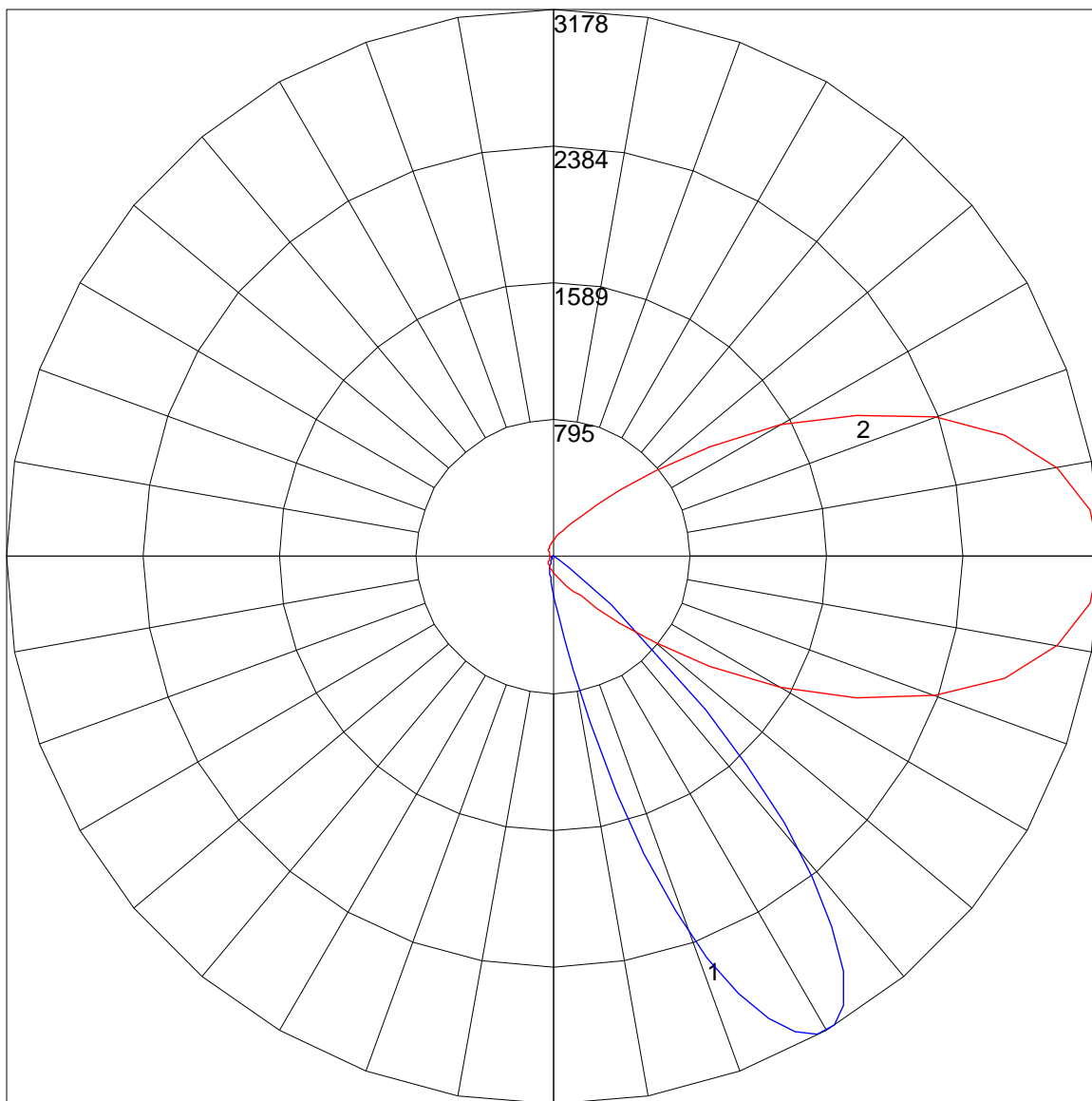
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PHOTOMETRIC FILENAME : L081910652.IES

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	100	98	99	97	95	95	94	93	91
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	83	82
3	98	90	84	79	96	89	83	78	86	81	77	83	79	76	81	78	75	73
4	91	82	75	70	89	81	75	70	79	73	69	76	72	68	74	70	67	65
5	85	75	68	62	83	74	67	62	72	66	61	70	65	61	68	64	60	58
6	79	68	61	56	78	67	61	55	66	60	55	64	59	55	63	58	54	52
7	74	63	55	50	72	62	55	50	60	54	49	59	53	49	58	53	49	47
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	43
9	65	53	46	41	63	52	45	41	51	45	40	50	44	40	49	44	40	38
10	61	49	42	37	59	48	41	37	47	41	37	46	41	37	46	40	36	35

POLAR GRAPH



Maximum Candela = 3178 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.)