



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

Report No: L081910634



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Issue Date: 9/6/2019

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

Model Number: 202-S-HI-3000-15/DIM1-2-SO/FLS-2-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: 8/28/19 - 9/6/19

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

Photometric & Electrical Test Results

Total Lumens:	797.06
Efficacy:	57.19
Input Voltage (VAC/60Hz):	120.03
Input Current (Amp):	0.1171
Input Power (W):	13.94
Input Power Factor:	0.9913
Current ATHD (%):	7.7%

Test Condition

Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	1:00
Total Operating Time (Hours):	2:20

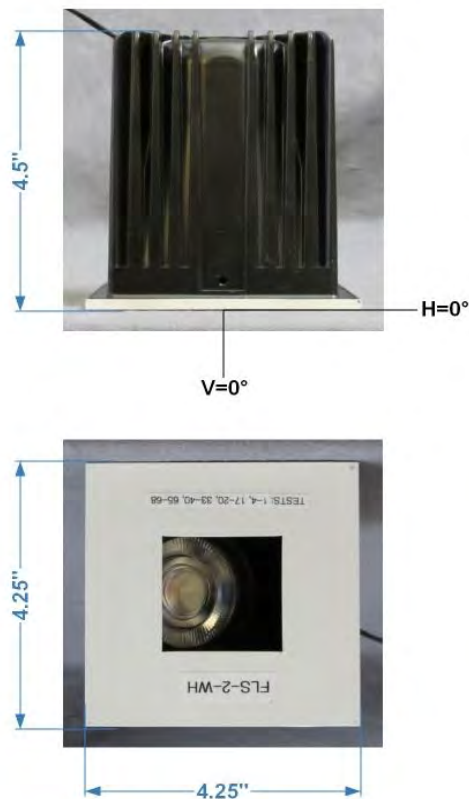


FIG. 1 LUMINAIRE

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 : L081910634.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L081910634
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 9/6/2019
[MANUFAC] Number Eight Lighting Company
[LUMCAT] 202-S-HI-3000-15/DIM1-2-SO/FLS-2-WH
[LUMINAIRE] LED Recessed Adjustable Downlight, 30° Aiming Angle, 3000K 90+ CRI, 15° Beam Spread
[MORE] Standard Output 1% Dimming Driver, Square Flanged Trim, 1.875" x 1.875" 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, 13.94W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	797
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	57
Total Luminaire Watts	13.94
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	2.42
Spacing Criterion (90-270)	0.96
Spacing Criterion (Diagonal)	1.18
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.15 ft
Luminous Width (90-270)	0.15 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	552227	35148	3380
55	44997	11666	833
65	7916	2262	0
75	0	0	0
85	0	0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081910634.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	93	93	93	93	93	93	93	93	93	93
2.5	114	113	113	113	112	111	110	109	107	106
5.0	154	153	151	151	149	146	143	139	135	132
7.5	205	205	202	198	193	187	180	172	164	156
10.0	299	298	289	279	264	249	231	214	198	182
12.5	553	542	512	467	414	361	313	273	241	213
15.0	1074	1050	981	865	737	596	477	377	298	246
17.0	1678	1625	1506	1314	1081	853	653	486	359	263
19.0	2447	2364	2159	1828	1478	1128	837	592	414	299
21.0	3452	3298	2939	2449	1892	1411	1006	694	467	319
23.0	4500	4326	3821	3135	2382	1648	1137	758	488	323
25.0	5370	5188	4573	3726	2703	1888	1223	788	503	320
27.0	6089	5894	5197	4088	3076	2027	1286	801	480	299
29.0	6312	6101	5318	4117	3088	2019	1254	761	456	242
31.0	5952	5749	4929	3812	2808	1856	1159	700	400	232
33.0	5128	4953	4200	3307	2286	1607	978	585	329	202
35.0	4396	4117	3468	2496	1879	1247	771	467	231	173
37.0	3506	3235	2603	2080	1488	966	611	360	209	142
39.0	2572	2400	1995	1513	1094	724	452	228	166	112
41.0	1890	1757	1445	1096	774	521	328	201	133	87
43.0	1301	1203	971	727	519	352	229	151	100	68
45.0	817	761	612	466	341	236	168	112	75	52
50.0	189	182	162	141	122	103	80	54	37	25
55.0	54	52	49	44	38	36	34	24	18	14
60.0	16	16	16	17	17	16	15	12	8	5
65.0	7	7	6	6	5	4	4	3	2	2
70.0	2	2	2	2	2	1	1	1	1	0
75.0	0	0	0	0	0	0	0	0	0	0
80.0	0	0	0	0	0	0	0	0	0	0
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	93	93	93	93	93	93	93	93	93	93
2.5	104	103	101	100	98	97	95	93	92	91
5.0	127	122	117	111	107	102	98	94	91	87
7.5	147	140	132	124	115	107	99	94	88	83
10.0	168	155	142	131	121	111	100	92	85	79
12.5	190	169	151	136	123	111	99	91	82	75
15.0	209	180	157	137	122	110	97	87	80	71
17.0	222	186	159	137	120	106	96	86	77	68
19.0	230	188	159	134	117	103	93	83	73	66
21.0	235	185	154	130	112	100	90	79	71	62
23.0	230	180	148	124	107	96	85	76	67	58
25.0	222	171	137	115	100	90	80	72	64	54
27.0	206	157	125	107	93	83	75	67	59	49
29.0	186	143	117	96	85	75	67	61	52	44
31.0	167	127	101	85	74	64	59	52	45	38
33.0	145	109	87	72	60	53	47	41	36	31
35.0	127	90	72	57	48	42	36	31	28	25
37.0	99	73	57	44	37	31	26	22	20	18
39.0	80	59	44	33	27	22	18	15	14	13

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081910634.IES

CANDELA TABULATION - (Cont.)

41.0	62	45	32	25	20	15	12	10	9	8
43.0	49	34	25	19	14	11	9	8	7	6
45.0	36	26	20	15	11	9	7	6	5	4
50.0	19	15	10	7	5	4	3	2	2	2
55.0	9	6	4	3	2	2	1	1	1	1
60.0	3	2	2	1	1	1	1	0	0	0
65.0	1	1	1	1	2	1	1	0	0	0
70.0	0	0	0	1	1	1	0	0	0	0
75.0	0	0	0	0	0	0	0	0	0	0
80.0	0	0	0	0	0	0	0	0	0	0
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>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	93	93	93	93	93	93	93	93	93	93
2.5	89	88	87	85	84	82	81	79	78	78
5.0	84	80	76	74	72	70	68	66	65	64
7.5	78	73	70	67	64	62	60	58	56	53
10.0	73	69	65	61	57	53	49	45	42	39
12.5	69	64	59	54	48	43	38	33	30	27
15.0	65	59	52	45	39	33	28	24	21	19
17.0	62	54	46	39	32	26	22	19	16	14
19.0	58	49	40	33	26	21	17	15	13	11
21.0	54	44	35	28	21	17	14	12	10	10
23.0	48	39	30	23	18	14	11	10	9	8
25.0	44	35	26	20	14	11	9	8	8	7
27.0	40	31	23	16	11	9	8	7	7	6
29.0	36	27	19	13	9	8	7	6	6	5
31.0	32	24	16	11	8	7	6	5	5	4
33.0	26	20	13	9	7	6	5	4	3	2
35.0	21	16	10	7	6	5	4	3	2	2
37.0	16	12	8	6	5	4	3	2	2	1
39.0	12	9	6	5	5	3	2	1	1	1
41.0	8	7	5	5	4	2	1	1	1	1
43.0	5	5	4	4	3	1	1	1	1	0
45.0	4	4	3	3	1	1	1	0	0	0
50.0	1	1	1	1	1	0	0	0	0	0
55.0	0	0	0	0	0	0	0	0	0	0
60.0	0	0	0	0	0	0	0	0	0	0
65.0	0	0	0	0	0	0	0	0	0	0
70.0	0	0	0	0	0	0	0	0	0	0
75.0	0	0	0	0	0	0	0	0	0	0
80.0	0	0	0	0	0	0	0	0	0	0
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>150</u>	<u>155</u>	<u>160</u>	<u>165</u>	<u>170</u>	<u>175</u>	<u>180</u>
0.0	93	93	93	93	93	93	93
2.5	77	76	76	75	75	75	75
5.0	64	63	62	62	62	61	61
7.5	51	50	48	47	46	46	45
10.0	36	34	33	31	31	30	30

IES INDOOR REPORT
 PHOTOMETRIC FILENAME : L081910634.IES

CANDELA TABULATION - (Cont.)

12.5	25	23	22	20	20	19	19
15.0	17	16	15	14	13	13	13
17.0	13	12	11	11	11	10	10
19.0	10	10	10	9	9	9	9
21.0	9	9	8	8	8	8	8
23.0	8	7	7	7	7	7	7
25.0	7	6	6	6	5	5	5
27.0	6	5	5	4	4	4	4
29.0	4	4	3	2	2	2	2
31.0	3	2	2	2	2	2	2
33.0	2	2	2	1	1	1	1
35.0	1	1	1	1	1	1	1
37.0	1	1	1	1	1	1	1
39.0	1	1	1	1	0	0	0
41.0	1	0	0	0	0	0	0
43.0	0	0	0	0	0	0	0
45.0	0	0	0	0	0	0	0
50.0	0	0	0	0	0	0	0
55.0	0	0	0	0	0	0	0
60.0	0	0	0	0	0	0	0
65.0	0	0	0	0	0	0	0
70.0	0	0	0	0	0	0	0
75.0	0	0	0	0	0	0	0
80.0	0	0	0	0	0	0	0
85.0	0	0	0	0	0	0	0
90.0	0	0	0	0	0	0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081910634.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	68.03	N.A.	8.50
0-30	352.22	N.A.	44.20
0-40	679.04	N.A.	85.20
0-60	795.18	N.A.	99.80
0-80	797.06	N.A.	100.00
0-90	797.06	N.A.	100.00
10-90	787.00	N.A.	98.70
20-40	611.01	N.A.	76.70
20-50	715.20	N.A.	89.70
40-70	117.90	N.A.	14.80
60-80	1.88	N.A.	0.20
70-80	0.12	N.A.	0.00
80-90	0.00	N.A.	0.00
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	797.06	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	10.06
10-20	57.98
20-30	284.19
30-40	326.82
40-50	104.19
50-60	11.96
60-70	1.76
70-80	0.12
80-90	0.00
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

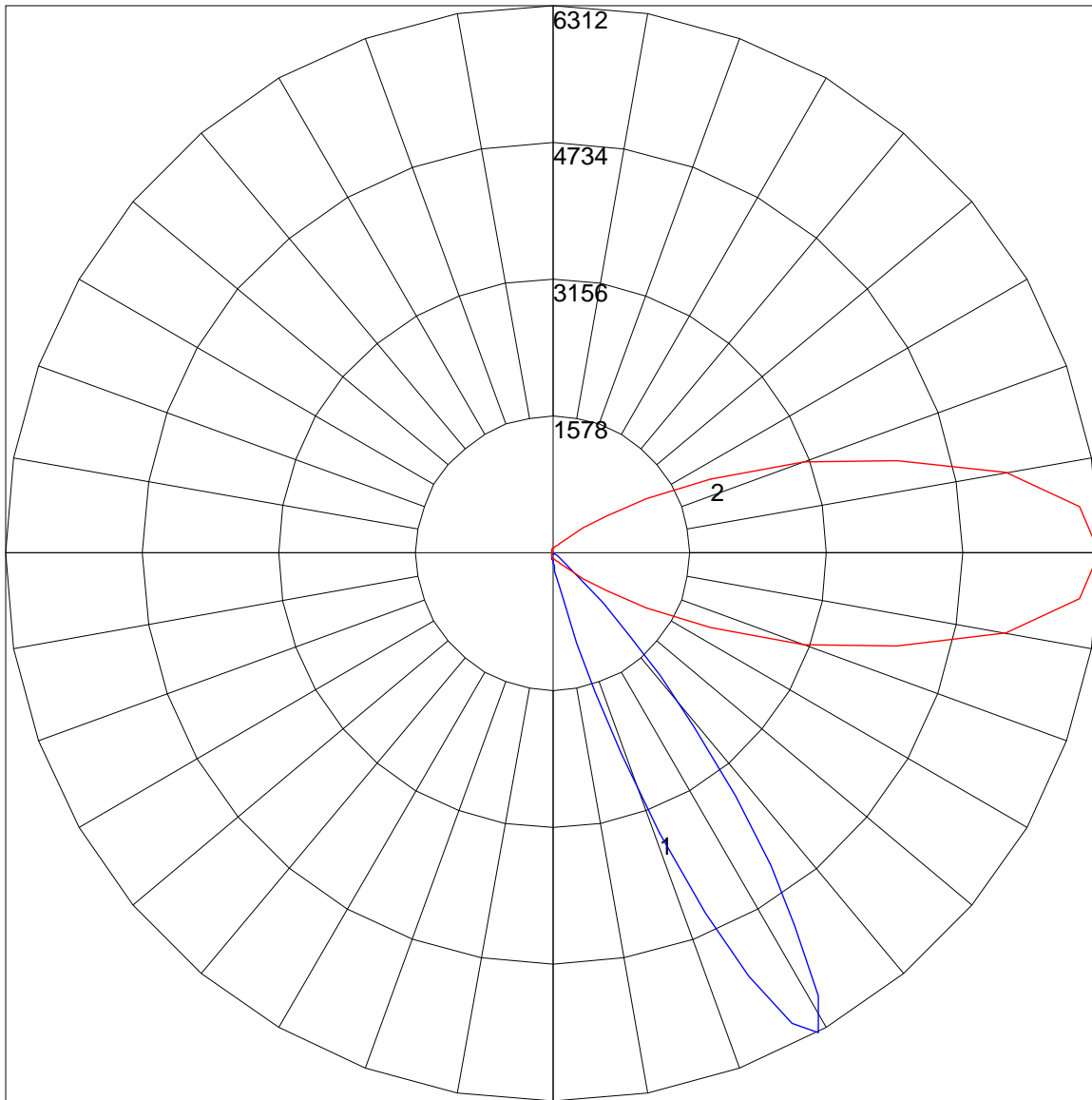
IES INDOOR REPORT
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	104	110	107	105	102	103	101	99	99	98	96	96	94	93	91
2	106	100	95	91	103	98	94	90	95	91	88	92	89	86	89	86	84	83
3	99	91	85	80	97	90	84	80	87	82	78	84	80	77	82	79	76	74
4	92	83	76	71	90	82	76	71	80	74	70	78	73	69	76	72	68	67
5	86	76	69	64	84	75	68	63	73	67	63	71	66	62	69	65	62	60
6	80	69	62	57	78	68	62	57	67	61	56	65	60	56	64	59	55	54
7	75	63	56	51	73	63	56	51	61	55	51	60	54	50	59	54	50	48
8	70	58	51	46	68	57	51	46	56	50	46	55	49	45	54	49	45	43
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39
10	61	49	42	37	60	49	42	37	48	41	37	47	41	37	46	41	37	35

POLAR GRAPH



Maximum Candela = 6312 Located At Horizontal Angle = 0, Vertical Angle = 29
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (29) (Through Max. Cd.)