



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

Report No: L081910636



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

Photometric & Electrical Test Results

Total Lumens:	840.38
Efficacy:	60.27
Input Voltage (VAC/60Hz):	119.98
Input Current (Amp):	0.1172
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

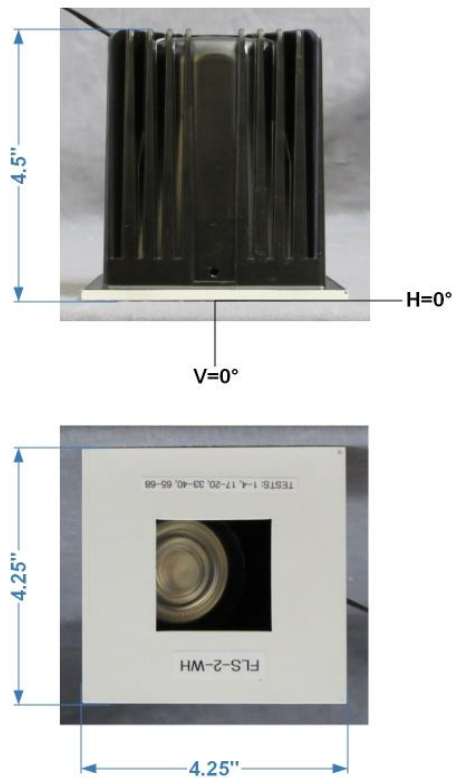


FIG. 1 LUMINAIRE

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 : L081910636.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L081910636
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 9/6/2019
[MANUFAC] Number Eight Lighting Company
[LUMCAT] 202-S-HI-3000-25/DIM1-2-SO/FLS-2-WH
[LUMINAIRE] LED Recessed Adjustable Downlight, 30° Aiming Angle, 3000K 90+ CRI, 25° 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] 119.98VAC, 13.94W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	840
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	60
Total Luminaire Watts	13.94
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	2.42
Spacing Criterion (90-270)	0.74
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	734726	63537	4731
55	104160	17499	833
65	18095	3393	0
75	0	0	0
85	0	0	0

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	189	189	189	189	189	189	189	189	189	189
2.5	239	239	237	236	236	233	231	228	225	222
5.0	344	343	340	336	330	322	313	303	292	279
7.5	502	499	490	479	461	442	420	398	373	348
10.0	760	753	734	704	665	622	572	523	472	425
12.5	1148	1132	1095	1035	954	866	774	681	590	511
15.0	1625	1606	1543	1444	1311	1167	1007	857	719	598
17.0	2034	2003	1919	1792	1615	1410	1205	1002	810	651
19.0	2415	2367	2267	2105	1884	1642	1378	1119	888	695
21.0	2721	2692	2571	2387	2131	1831	1522	1213	931	712
23.0	2999	2943	2817	2597	2305	1978	1621	1265	959	710
25.0	3196	3146	3004	2773	2447	2063	1670	1279	939	681
27.0	3296	3237	3080	2831	2501	2085	1652	1250	908	641
29.0	3303	3240	3089	2823	2457	2033	1603	1184	829	572
31.0	3230	3159	2982	2716	2345	1917	1468	1072	749	505
33.0	3094	3030	2844	2553	2164	1733	1317	937	629	424
35.0	2896	2831	2625	2322	1939	1514	1123	781	525	351
37.0	2622	2544	2343	2045	1675	1277	915	624	419	262
39.0	2280	2210	2018	1734	1387	1034	735	492	322	220
41.0	1902	1829	1639	1377	1081	806	567	376	253	169
43.0	1481	1427	1268	1055	821	600	417	264	189	126
45.0	1087	1037	915	752	584	432	308	212	141	94
50.0	388	371	330	282	232	186	138	94	63	45
55.0	125	120	108	94	79	66	53	39	29	21
60.0	44	43	39	35	30	25	21	17	12	8
65.0	16	15	13	12	10	8	7	6	4	3
70.0	6	5	5	4	3	3	2	2	1	1
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	189	189	189	189	189	189	189	189	189	189
2.5	218	214	211	207	203	199	195	191	187	183
5.0	267	254	243	232	221	210	200	190	181	173
7.5	325	302	279	255	236	217	201	186	173	160
10.0	381	343	300	275	246	221	197	179	162	145
12.5	440	378	328	286	251	217	191	169	150	132
15.0	495	408	339	286	245	211	180	157	137	120
17.0	521	419	342	282	238	203	172	148	128	110
19.0	541	422	336	274	227	191	162	137	118	101
21.0	537	409	322	261	214	179	151	128	109	93
23.0	525	391	293	241	197	164	138	117	99	84
25.0	489	359	271	219	178	149	125	106	90	75
27.0	448	325	248	194	158	131	110	95	80	67
29.0	399	267	216	169	137	114	95	82	70	59
31.0	340	246	184	142	114	95	79	67	58	51
33.0	262	204	152	117	93	75	62	53	46	40
35.0	239	169	123	91	71	56	46	39	34	30
37.0	194	134	95	68	52	40	32	27	23	21
39.0	150	107	71	51	38	29	23	19	16	14

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081910636.IES

CANDELA TABULATION - (Cont.)

41.0	119	78	53	37	28	21	17	14	12	10
43.0	85	59	41	29	22	17	14	11	9	8
45.0	64	45	32	23	17	13	10	8	7	6
50.0	32	23	17	12	8	6	5	4	3	2
55.0	15	11	7	5	4	3	2	2	1	1
60.0	6	4	3	3	2	1	1	1	0	0
65.0	2	2	1	1	1	1	0	0	0	0
70.0	0	0	0	1	1	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. Horizontal Angles

Angles	100	105	110	115	120	125	130	135	140	145
0.0	189	189	189	189	189	189	189	189	189	189
2.5	179	175	172	168	165	162	160	157	155	154
5.0	164	157	150	143	138	133	128	124	120	117
7.5	148	138	129	121	114	107	102	96	91	87
10.0	132	121	111	101	93	86	79	73	68	64
12.5	118	106	94	84	75	67	60	54	49	45
15.0	105	92	80	69	59	51	45	39	34	31
17.0	95	82	69	58	49	41	35	30	26	24
19.0	89	73	60	49	40	32	27	23	21	19
21.0	78	64	52	41	32	26	21	19	17	16
23.0	70	56	44	34	25	20	17	16	14	13
25.0	62	49	37	27	20	17	15	13	12	11
27.0	55	42	31	22	16	14	12	11	10	9
29.0	48	37	25	17	13	12	10	9	8	7
31.0	41	30	20	14	11	10	9	8	6	5
33.0	33	25	16	11	10	8	7	6	4	3
35.0	26	19	12	9	8	7	5	4	3	2
37.0	18	14	10	8	7	5	4	2	2	2
39.0	12	10	8	7	5	4	2	2	1	1
41.0	9	8	6	5	4	2	2	1	1	1
43.0	7	6	5	4	3	2	1	1	1	0
45.0	5	4	4	3	1	1	1	1	0	0
50.0	2	1	1	1	1	0	0	0	0	0
55.0	1	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. Horizontal Angles

Angles	150	155	160	165	170	175	180
0.0	189	189	189	189	189	189	189
2.5	152	150	150	149	148	148	148
5.0	114	112	110	108	107	107	107
7.5	84	81	79	77	76	75	75
10.0	60	57	54	52	51	50	50

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CANDELA TABULATION - (Cont.)

12.5	41	39	36	35	34	33	33
15.0	28	26	25	24	23	23	23
17.0	22	21	20	19	19	19	19
19.0	18	17	16	16	16	15	15
21.0	15	14	14	13	13	13	13
23.0	12	12	11	11	11	10	10
25.0	10	10	9	8	8	8	8
27.0	8	7	7	6	6	5	5
29.0	6	5	4	4	4	3	3
31.0	4	3	3	3	3	3	3
33.0	3	2	2	2	2	2	2
35.0	2	2	2	1	1	1	1
37.0	1	1	1	1	1	1	1
39.0	1	1	1	0	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 : L081910636.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	120.01	N.A.	14.30
0-30	382.00	N.A.	45.50
0-40	670.28	N.A.	79.80
0-60	836.80	N.A.	99.60
0-80	840.39	N.A.	100.00
0-90	840.38	N.A.	100.00
10-90	819.08	N.A.	97.50
20-40	550.27	N.A.	65.50
20-50	693.62	N.A.	82.50
40-70	169.88	N.A.	20.20
60-80	3.58	N.A.	0.40
70-80	0.23	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	840.38	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	21.30
10-20	98.71
20-30	261.99
30-40	288.28
40-50	143.35
50-60	23.17
60-70	3.36
70-80	0.23
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

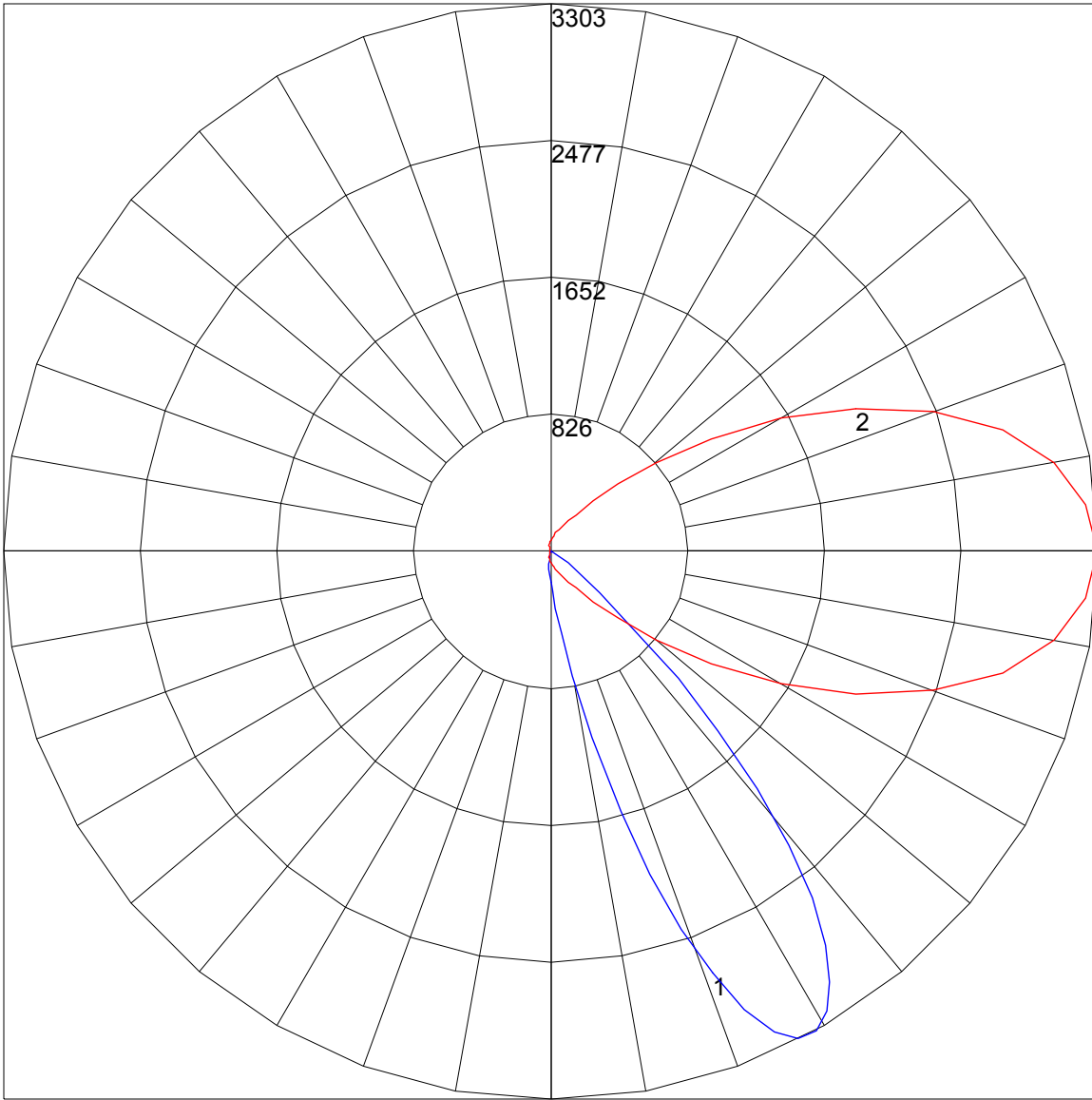
IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081910636.IES

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	113	109	106	104	110	107	105	102	103	101	99	99	98	96	96	95	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	77	71	90	82	76	71	80	74	70	78	73	69	76	72	68	67
5	86	76	69	64	84	75	68	64	73	67	63	71	66	62	70	65	62	60
6	80	70	62	57	79	69	62	57	67	61	57	66	60	56	64	59	56	54
7	75	64	57	52	74	63	56	51	62	56	51	60	55	51	59	54	50	49
8	70	59	52	47	69	58	51	46	57	51	46	56	50	46	55	50	46	44
9	66	54	47	42	64	54	47	42	53	46	42	52	46	42	51	45	42	40
10	62	50	43	38	60	50	43	38	49	42	38	48	42	38	47	42	38	36

POLAR GRAPH



Maximum Candela = 3303 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.)