



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

Report No: L081910638



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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-3000-40/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-3000-40/DIM1-2-SO/FLS-2-WH
Driver Model Number:	INTUITIVE SYSTEMS ISD-701-350-15-D

Photometric & Electrical Test Results

Total Lumens:	1003.57
Efficacy:	71.89
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.1174
Input Power (W):	13.96
Input Power Factor:	0.9914
Current ATHD (%):	7.7%

Test Condition

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

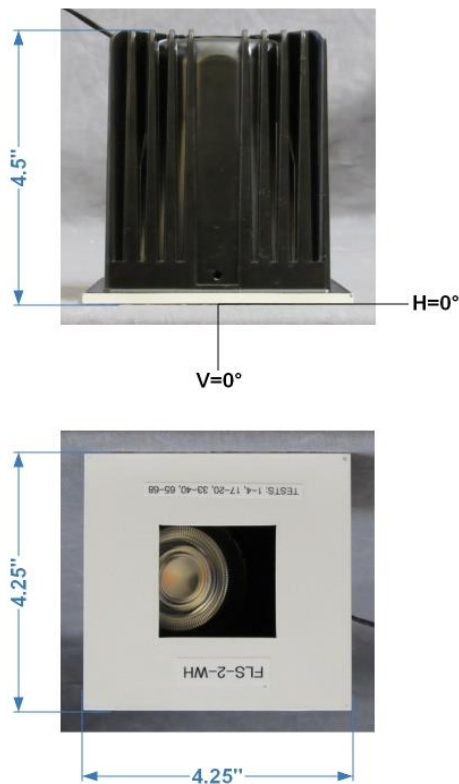


FIG. 1 LUMINAIRE

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 : L081910638.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L081910638
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUE DATE] 9/6/2019
[MANUFAC] Number Eight Lighting Company
[LUMCAT] 202-S-HI-3000-40/DIM1-2-SO/FLS-2-WH
[LUMINAIRE] LED Recessed Adjustable Downlight, 30° Aiming Angle, 3000K 90+ CRI, 40° 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] 120.0VAC, 13.96W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1004
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	72
Total Luminaire Watts	13.96
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	2.74
Spacing Criterion (90-270)	0.70
Spacing Criterion (Diagonal)	1.26
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	1336971	76379	3380
55	244150	16666	833
65	21488	2262	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	186	186	186	186	186	186	186	186	186	186
2.5	250	252	251	250	241	239	235	232	227	223
5.0	390	394	390	386	362	350	337	324	309	294
7.5	642	634	622	603	561	533	502	465	428	388
10.0	960	951	930	894	820	765	705	639	572	506
12.5	1353	1344	1304	1230	1135	1046	948	841	728	626
15.0	1740	1724	1682	1591	1475	1349	1207	1049	891	742
17.0	2022	2004	1932	1851	1725	1572	1398	1205	1006	821
19.0	2259	2235	2159	2066	1938	1760	1557	1337	1108	878
21.0	2423	2372	2330	2249	2110	1914	1691	1436	1163	910
23.0	2491	2474	2440	2369	2237	2034	1783	1506	1210	928
25.0	2534	2549	2525	2456	2332	2123	1856	1545	1212	905
27.0	2564	2568	2564	2498	2400	2179	1884	1551	1202	877
29.0	2577	2591	2585	2530	2427	2196	1896	1527	1142	808
31.0	2590	2607	2606	2540	2424	2179	1854	1469	1078	741
33.0	2600	2607	2591	2522	2381	2112	1767	1361	957	637
35.0	2632	2621	2567	2462	2286	1999	1647	1231	847	542
37.0	2653	2614	2539	2399	2171	1856	1476	1066	703	400
39.0	2607	2566	2456	2270	2008	1670	1285	889	577	343
41.0	2469	2418	2291	2085	1817	1452	1072	718	398	241
43.0	2261	2208	2058	1853	1563	1198	854	554	313	170
45.0	1978	1930	1781	1585	1288	960	665	382	207	113
50.0	966	935	858	742	583	395	268	136	76	47
55.0	293	277	240	192	144	116	80	48	31	20
60.0	87	84	74	62	48	36	26	18	12	7
65.0	19	19	17	14	11	9	7	4	3	2
70.0	6	3	3	3	2	2	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. 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	186	186	186	186	186	186	186	186	186	186
2.5	219	214	210	206	202	198	193	189	185	181
5.0	278	264	249	235	222	210	199	189	179	171
7.5	352	319	288	261	239	217	199	184	170	157
10.0	442	381	328	286	249	221	196	176	159	142
12.5	530	441	364	302	253	216	189	166	146	128
15.0	606	488	388	310	252	210	179	154	133	113
17.0	657	507	392	308	247	201	170	145	122	102
19.0	680	516	385	293	233	190	158	133	111	91
21.0	689	501	352	277	219	179	148	122	101	82
23.0	673	483	340	253	200	164	135	110	90	73
25.0	644	445	314	233	184	150	122	99	82	66
27.0	599	393	281	208	165	133	108	87	72	59
29.0	547	349	248	187	148	117	94	80	64	54
31.0	474	313	217	163	127	100	81	66	56	48
33.0	382	262	185	138	104	81	63	53	46	40
35.0	340	217	149	105	78	56	44	37	33	30
37.0	266	165	111	77	49	34	26	22	19	18
39.0	198	121	78	46	29	21	16	13	11	10

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CANDELA TABULATION - (Cont.)

41.0	137	81	49	30	20	15	12	10	9	8
43.0	96	56	34	22	16	12	10	8	7	6
45.0	73	40	25	17	13	10	8	7	5	4
50.0	30	19	13	10	7	4	3	2	2	1
55.0	14	9	5	3	2	2	1	1	1	0
60.0	4	2	2	1	1	1	1	0	0	0
65.0	1	1	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	186	186	186	186	186	186	186	186	186	186
2.5	177	173	169	165	162	158	155	153	150	148
5.0	162	153	145	137	130	123	117	112	107	102
7.5	144	132	121	111	101	92	85	77	71	66
10.0	128	113	99	86	75	65	57	50	44	39
12.5	110	95	81	66	54	44	37	31	27	24
15.0	94	81	63	49	38	30	24	20	18	17
17.0	84	67	51	38	28	22	18	16	15	13
19.0	74	56	42	30	22	17	15	13	12	11
21.0	65	48	34	24	17	14	12	11	10	10
23.0	57	41	28	19	14	12	11	10	9	8
25.0	51	36	22	15	12	10	9	8	8	7
27.0	46	30	18	12	10	9	8	7	6	6
29.0	41	26	14	10	9	8	7	6	5	4
31.0	36	21	11	9	8	7	6	5	3	2
33.0	31	17	9	8	7	6	5	3	2	1
35.0	22	12	8	7	6	5	3	2	1	1
37.0	14	9	7	6	5	3	2	1	1	1
39.0	9	7	6	5	4	2	1	1	1	1
41.0	6	6	5	4	2	1	1	1	1	0
43.0	5	5	4	3	1	1	1	0	0	0
45.0	4	3	3	2	1	1	0	0	0	0
50.0	1	1	1	0	0	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. Horizontal Angles

Angles	150	155	160	165	170	175	180
0.0	186	186	186	186	186	186	186
2.5	146	144	142	141	140	140	140
5.0	99	96	93	91	89	88	88
7.5	61	58	55	53	51	50	50
10.0	35	33	31	29	28	27	27

**IES INDOOR REPORT
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CANDELA TABULATION - (Cont.)

12.5	21	20	19	18	18	17	17
15.0	15	15	14	14	13	13	13
17.0	13	12	12	11	11	11	11
19.0	11	10	10	10	10	9	9
21.0	9	9	9	8	8	8	8
23.0	8	7	7	7	6	6	6
25.0	6	6	6	5	5	4	4
27.0	5	4	3	3	3	2	2
29.0	3	2	2	2	2	1	1
31.0	2	1	1	1	1	1	1
33.0	1	1	1	1	1	1	1
35.0	1	1	1	1	1	1	1
37.0	1	1	1	0	0	0	0
39.0	0	0	0	0	0	0	0
41.0	0	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 : L081910638.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	130.36	N.A.	13.00
0-30	388.70	N.A.	38.70
0-40	709.41	N.A.	70.70
0-60	999.02	N.A.	99.50
0-80	1003.57	N.A.	100.00
0-90	1003.57	N.A.	100.00
10-90	980.83	N.A.	97.70
20-40	579.05	N.A.	57.70
20-50	821.45	N.A.	81.90
40-70	294.00	N.A.	29.30
60-80	4.55	N.A.	0.50
70-80	0.15	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	1003.57	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	22.74
10-20	107.63
20-30	258.34
30-40	320.71
40-50	242.40
50-60	47.20
60-70	4.40
70-80	0.15
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

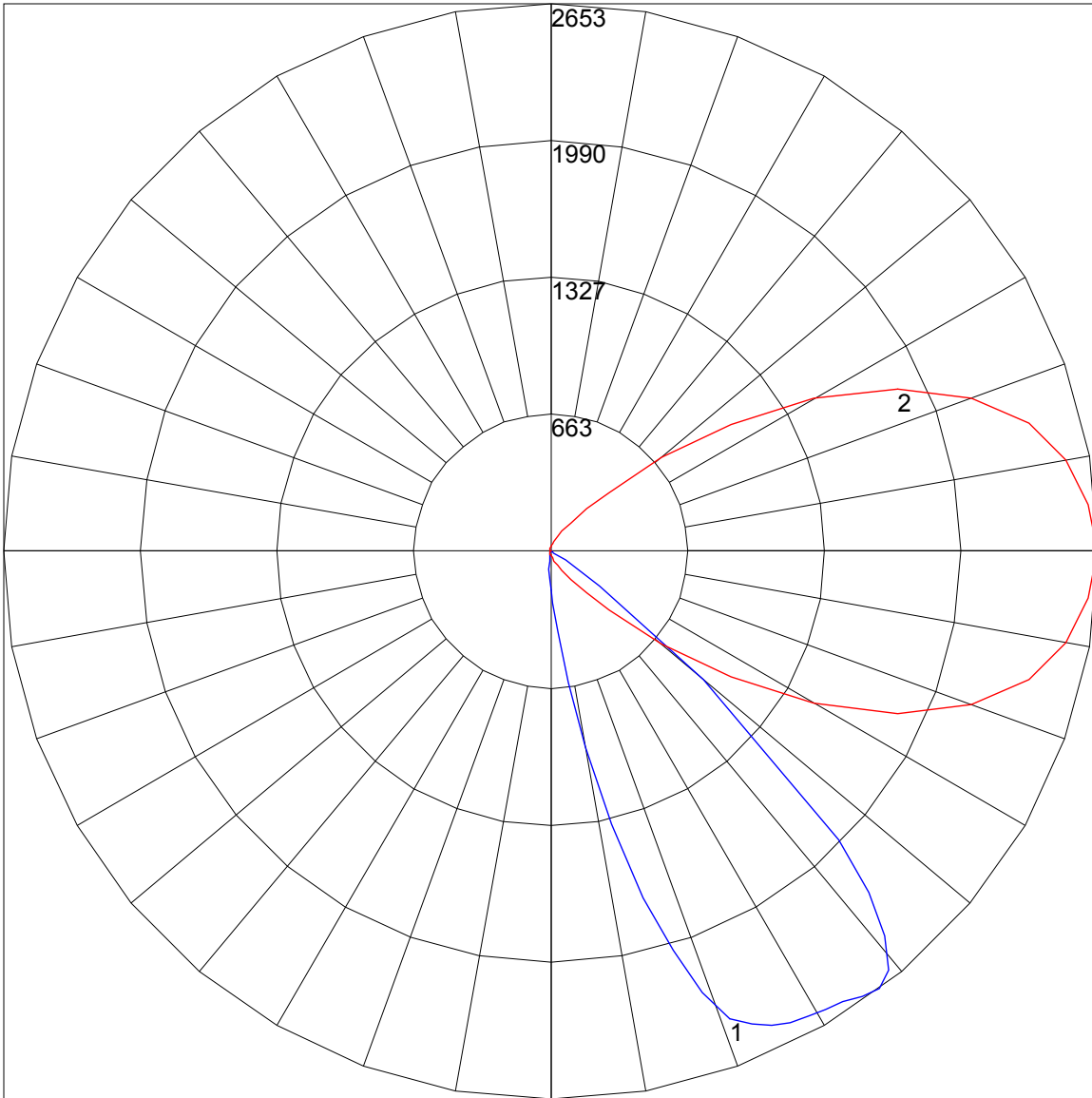
IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081910638.IES

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	101	103	100	98	99	97	95	95	94	93	91
2	105	99	94	90	102	97	92	89	94	90	87	91	87	85	88	85	83	81
3	98	90	83	78	95	88	82	78	85	81	77	83	79	75	80	77	74	72
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64
5	84	74	67	61	83	73	66	61	71	65	60	69	64	60	67	63	59	57
6	78	67	60	54	77	66	59	54	65	58	54	63	58	53	62	57	53	51
7	73	61	54	49	71	61	53	48	59	53	48	58	52	48	57	51	47	46
8	68	56	49	44	67	55	48	43	54	48	43	53	47	43	52	47	43	41
9	64	52	44	39	62	51	44	39	50	43	39	49	43	39	48	43	39	37
10	59	47	40	35	58	47	40	35	46	40	35	45	39	35	44	39	35	33

POLAR GRAPH



Maximum Candela = 2653 Located At Horizontal Angle = 0, Vertical Angle = 37
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (37) (Through Max. Cd.)