



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

Report No: L081910656



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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-3000-60/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-3000-60/DIM1-2-SO/FLS-2-BV-WH
Driver Model Number:	INTUITIVE SYSTEMS ISD-701-350-15-D

Photometric & Electrical Test Results

Total Lumens:	1063.03
Efficacy:	75.93
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

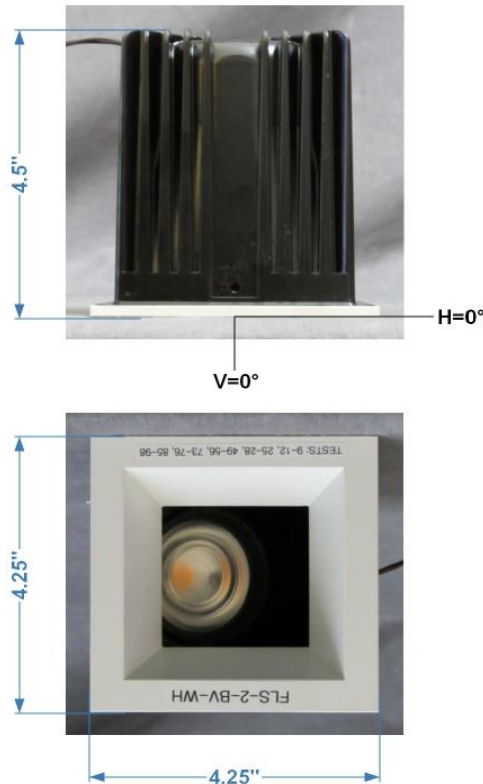


FIG. 1 LUMINAIRE

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 : L081910656.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L081910656
 [TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
 [ISSUE DATE] 9/10/2019
 [MANUFAC] Number Eight Lighting Company
 [LUMCAT] 202-S-BV-HI-3000-60/DIM1-2-SO/FLS-2-BV-WH
 [LUMINAIRE] LED Recessed Adjustable Downlight, 30° Aiming Angle, 3000K 90+ CRI, 60° 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	1063
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	76
Total Luminaire Watts	14
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	2.02
Spacing Criterion (90-270)	0.68
Spacing Criterion (Diagonal)	1.22
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	214876	84490	5424
55	84099	19546	2829
65	1396	1745	3141
75	1140	1710	2850
85	0	0	0

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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	699	699	699	699	699	699	699	699	699	699
2.5	810	811	810	808	803	800	796	790	785	778
5.0	953	949	946	941	934	923	915	901	888	872
7.5	1063	1064	1059	1051	1043	1029	1016	998	975	952
10.0	1153	1152	1151	1141	1127	1113	1095	1074	1046	1014
12.5	1222	1222	1216	1207	1195	1178	1159	1134	1103	1069
15.0	1283	1278	1272	1261	1247	1229	1207	1179	1145	1106
17.0	1303	1308	1305	1291	1279	1262	1239	1206	1169	1127
19.0	1326	1325	1320	1313	1301	1284	1261	1229	1191	1142
21.0	1333	1334	1332	1327	1318	1299	1277	1247	1202	1154
23.0	1343	1341	1341	1337	1326	1312	1288	1255	1209	1154
25.0	1345	1353	1344	1346	1333	1322	1295	1259	1211	1148
27.0	1350	1351	1353	1352	1345	1330	1304	1264	1211	1139
29.0	1355	1360	1362	1360	1353	1336	1308	1261	1197	1112
31.0	1367	1368	1371	1371	1358	1342	1307	1254	1177	1075
33.0	1377	1386	1382	1376	1367	1343	1302	1238	1140	1031
35.0	1388	1389	1389	1382	1367	1337	1288	1203	1094	977
37.0	1373	1369	1370	1365	1352	1322	1257	1160	1042	917
39.0	1355	1354	1354	1342	1322	1285	1209	1100	977	841
41.0	1313	1310	1305	1297	1282	1240	1144	1034	906	740
43.0	1223	1226	1231	1230	1221	1171	1072	955	804	570
45.0	1030	1035	1050	1073	1097	1072	985	864	645	405
50.0	479	476	475	482	511	550	572	437	247	159
55.0	327	321	304	279	249	212	176	138	105	76
60.0	69	65	58	52	53	52	50	43	34	18
65.0	4	4	4	4	5	6	7	7	6	5
70.0	3	3	3	3	3	3	4	4	4	4
75.0	2	2	2	2	2	3	3	3	3	3
80.0	1	1	2	2	2	2	2	2	2	2
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	699	699	699	699	699	699	699	699	699	699
2.5	771	762	754	746	738	725	718	706	695	687
5.0	855	838	818	798	776	753	729	708	682	659
7.5	927	900	869	837	802	766	729	692	656	618
10.0	984	946	907	865	818	770	721	670	618	567
12.5	1030	983	933	877	820	756	695	632	567	505
15.0	1062	1007	947	879	809	733	655	581	504	437
17.0	1075	1018	947	870	788	707	620	532	452	379
19.0	1086	1018	940	854	763	666	571	480	393	324
21.0	1087	1012	924	825	726	623	517	422	328	277
23.0	1083	996	898	789	680	562	456	360	287	234
25.0	1069	975	863	743	622	504	392	308	243	195
27.0	1046	936	813	683	555	432	322	256	203	165
29.0	1009	888	755	622	489	365	278	215	171	139
31.0	960	832	692	546	415	308	230	178	143	117
33.0	910	768	619	469	330	248	186	146	118	99
35.0	841	694	531	378	267	192	144	114	94	80
37.0	769	595	416	280	194	140	107	89	73	64
39.0	658	453	300	198	137	101	78	64	55	49

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CANDELA TABULATION - (Cont.)

41.0	511	309	201	133	96	73	58	49	43	39
43.0	324	214	138	98	73	56	45	38	33	31
45.0	235	150	104	74	55	42	34	28	26	24
50.0	111	79	51	33	23	17	15	14	14	15
55.0	50	26	15	11	8	8	9	10	11	12
60.0	12	7	6	6	6	7	8	9	10	11
65.0	5	5	5	6	6	6	7	8	9	10
70.0	4	4	5	5	5	6	6	7	7	8
75.0	3	3	4	4	4	4	4	5	5	6
80.0	2	2	2	2	2	3	3	3	3	4
85.0	0	0	0	0	0	0	0	0	0	2
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Horizontal Angles

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	699	699	699	699	699	699	699	699	699	699
2.5	677	667	656	649	638	630	623	614	609	601
5.0	637	611	591	568	547	528	510	494	480	466
7.5	582	545	512	481	453	425	400	379	360	345
10.0	518	474	430	393	358	330	305	284	267	253
12.5	449	397	351	314	280	254	233	215	200	188
15.0	377	325	282	248	220	198	180	165	153	143
17.0	320	272	235	205	182	164	149	135	125	117
19.0	273	231	198	173	153	137	124	113	105	97
21.0	230	193	166	145	129	115	105	96	89	83
23.0	194	164	140	123	109	98	89	82	76	71
25.0	162	137	118	105	93	85	77	71	65	61
27.0	138	117	102	90	81	73	67	61	57	54
29.0	117	100	88	79	70	64	59	54	51	48
31.0	100	87	77	69	62	56	52	48	45	43
33.0	87	75	67	61	55	50	46	43	41	39
35.0	71	64	58	53	49	45	42	39	37	35
37.0	58	53	50	47	43	40	38	35	34	32
39.0	46	44	42	40	38	36	34	32	31	29
41.0	37	36	35	34	33	32	31	29	27	26
43.0	30	30	30	30	30	29	28	26	25	25
45.0	24	24	25	26	26	26	25	24	24	24
50.0	16	17	18	19	20	21	21	22	23	24
55.0	13	15	16	17	18	19	21	22	23	23
60.0	12	13	15	16	17	18	19	21	22	23
65.0	11	12	13	14	16	17	18	19	20	22
70.0	9	10	11	12	13	15	16	17	18	20
75.0	7	7	8	9	10	11	12	13	15	16
80.0	4	5	5	6	6	7	8	9	10	10
85.0	2	2	2	3	3	4	4	4	5	5
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Horizontal Angles

Angles	<u>150</u>	<u>155</u>	<u>160</u>	<u>165</u>	<u>170</u>	<u>175</u>	<u>180</u>
0.0	699	699	699	699	699	699	699
2.5	596	592	590	585	585	581	581
5.0	455	445	439	433	428	424	423
7.5	331	321	312	305	300	298	296
10.0	240	231	223	217	213	210	209

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CANDELA TABULATION - (Cont.)

12.5	178	169	163	159	155	153	152
15.0	135	128	123	119	117	115	115
17.0	110	105	101	97	95	94	94
19.0	92	88	85	82	80	79	78
21.0	78	74	71	69	67	66	66
23.0	67	63	61	59	58	57	57
25.0	58	55	53	52	51	51	50
27.0	51	49	48	46	46	45	45
29.0	46	44	43	42	41	41	41
31.0	41	40	39	38	38	38	37
33.0	38	37	36	35	34	34	34
35.0	34	33	32	31	30	30	30
37.0	31	30	29	28	28	28	28
39.0	28	27	27	27	27	27	27
41.0	26	26	26	26	26	27	27
43.0	25	25	26	26	26	27	27
45.0	25	25	26	26	26	27	27
50.0	24	25	26	26	27	27	27
55.0	24	25	26	26	27	27	27
60.0	24	25	25	26	27	28	29
65.0	23	24	25	25	27	29	30
70.0	21	22	23	24	25	25	26
75.0	17	18	19	19	20	20	20
80.0	11	12	12	13	13	13	13
85.0	6	6	6	7	7	7	7
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	216.82	N.A.	20.40
0-30	460.64	N.A.	43.30
0-40	738.48	N.A.	69.50
0-60	1036.93	N.A.	97.50
0-80	1060.37	N.A.	99.80
0-90	1063.03	N.A.	100.00
10-90	998.85	N.A.	94.00
20-40	521.66	N.A.	49.10
20-50	753.24	N.A.	70.90
40-70	313.30	N.A.	29.50
60-80	23.44	N.A.	2.20
70-80	8.59	N.A.	0.80
80-90	2.65	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	1063.03	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	64.17
10-20	152.65
20-30	243.82
30-40	277.84
40-50	231.58
50-60	66.87
60-70	14.85
70-80	8.59
80-90	2.65
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

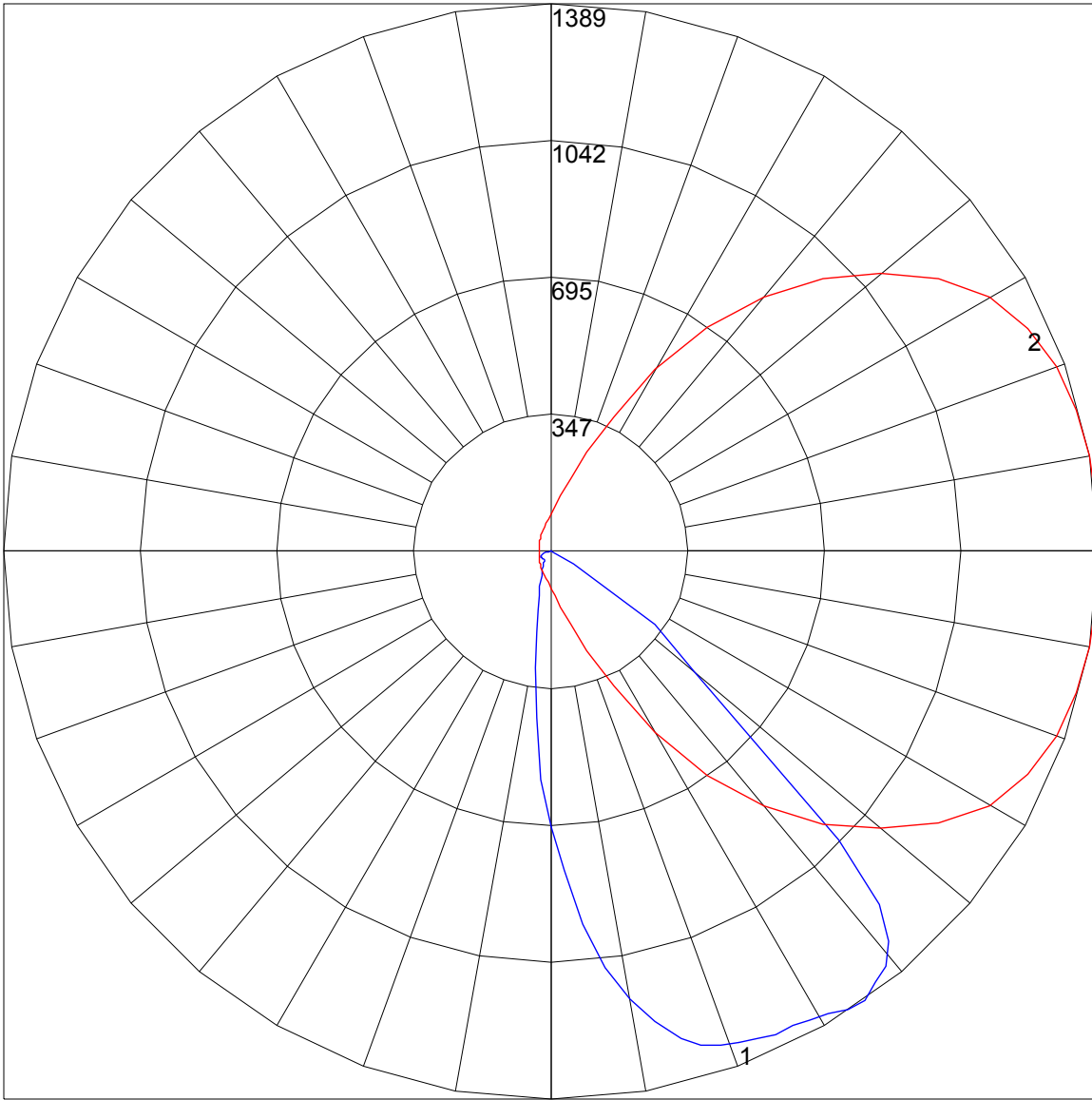
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	106	104	101	102	100	98	99	97	95	95	94	92	91
2	105	99	94	90	102	97	92	89	94	90	87	91	87	85	88	85	83	81
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73
4	91	82	75	70	89	81	74	69	78	73	68	76	71	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	80	69	61	56	78	68	61	56	66	60	55	65	59	55	63	58	54	53
7	74	63	56	51	73	62	55	50	61	55	50	60	54	50	58	53	49	48
8	70	58	51	46	68	58	51	46	56	50	46	55	50	45	54	49	45	43
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41	40
10	62	50	43	38	61	50	43	38	49	43	38	48	42	38	47	42	38	36

POLAR GRAPH



Maximum Candela = 1389 Located At Horizontal Angle = 5, Vertical Angle = 35
1 - Vertical Plane Through Horizontal Angles (5 - 185) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (35) (Through Max. Cd.)