



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

Report No: L081910658



**Report No:** L081910658

**Issue Date:** 9/9/2019

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

**Model Number:** 202-R-BV-HI-3000-15/DIM1-2-SO/FLR-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 - 9/9/19

**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

<b>Manufacturer:</b>	Number Eight Lighting Company
<b>Model Number:</b>	202-R-BV-HI-3000-15/DIM1-2-SO/FLR-2-BV-WH
<b>Driver Model Number:</b>	INTUITIVE SYSTEMS ISD-701-350-15-D

### Photometric & Electrical Test Results

<b>Total Lumens:</b>	896.71
<b>Efficacy:</b>	64.42
<b>Input Voltage (VAC/60Hz):</b>	119.97
<b>Input Current (Amp):</b>	0.1169
<b>Input Power (W):</b>	13.92
<b>Input Power Factor:</b>	0.9928
<b>Current ATHD (%):</b>	7.7%

### Test Condition

<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:45
<b>Total Operating Time (Hours):</b>	2:00

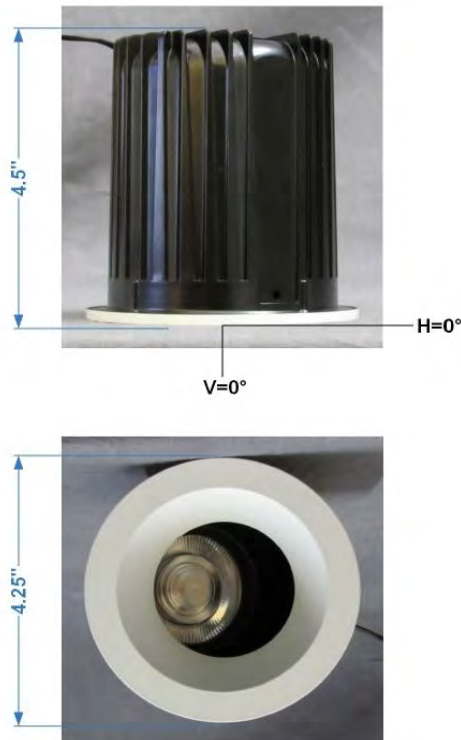


FIG. 1 LUMINAIRE

## 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 : L081910658.IES

### DESCRIPTION INFORMATION (From Photometric File)

[IESNA:LM-63-2002

[TEST] L081910658

[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)

[ISSUEDATE] 9/9/2019

[MANUFAC] Number Eight Lighting Company

[LUMCAT] 202-R-BV-HI-3000-15/DIM1-2-SO/FLR-2-BV-WH

[LUMINAIRE] LED Recessed Adjustable Downlight, 30° Aiming Angle, 3000K 90+ CRI, 15° Beam Spread,

[MORE] Standard Output 1% Dimming Driver, Round Flanged Bevel Trim, 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] 119.97VAC, 13.92W

[TEST PROCEDURE] IESNA:LM-79-08

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	897
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	64
Total Luminaire Watts	13.92
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	2.36
Spacing Criterion (90-270)	0.84
Spacing Criterion (Diagonal)	1.20
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.27 ft (Diameter)
Luminous Width (90-270)	0.27 ft (Diameter)
Luminous Height	0.00 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	245699	14609	2391
55	10151	2292	1965
65	889	889	2222
75	0	0	2177
85	0	0	0

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L081910658.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>
<b>0.0</b>	127	127	127	127	127	127	127	127	127	127
<b>2.5</b>	146	146	145	145	144	143	143	141	140	139
<b>5.0</b>	178	178	177	176	174	172	168	165	162	159
<b>7.5</b>	229	228	225	222	216	211	203	196	188	179
<b>10.0</b>	303	302	297	288	277	264	250	235	219	205
<b>12.5</b>	485	478	457	428	388	352	317	285	256	231
<b>15.0</b>	935	913	851	761	651	546	454	373	308	262
<b>17.0</b>	1491	1459	1352	1195	993	795	623	479	365	269
<b>19.0</b>	2234	2157	1975	1707	1389	1087	819	595	425	313
<b>21.0</b>	3162	3052	2738	2309	1830	1396	995	692	472	329
<b>23.0</b>	4287	4102	3607	2965	2281	1638	1152	769	515	343
<b>25.0</b>	5328	5094	4505	3665	2641	1872	1267	829	522	338
<b>27.0</b>	6107	5926	5181	4124	3091	2030	1319	832	522	319
<b>29.0</b>	6788	6530	5686	4387	3232	2089	1321	814	485	298
<b>31.0</b>	6915	6646	5775	4413	3210	1988	1215	731	426	237
<b>33.0</b>	6414	6152	5203	3981	2814	1780	1027	620	370	232
<b>35.0</b>	5299	5010	4247	3305	2203	1394	863	518	300	199
<b>37.0</b>	4104	3884	3243	2389	1716	1102	691	412	232	173
<b>39.0</b>	3100	2876	2455	1879	1285	848	536	320	198	143
<b>41.0</b>	2160	2046	1747	1331	941	609	382	225	153	112
<b>43.0</b>	1480	1386	1174	891	617	411	228	165	113	83
<b>45.0</b>	925	870	734	555	391	227	163	110	76	55
<b>50.0</b>	177	171	150	122	93	67	48	35	27	20
<b>55.0</b>	31	30	27	24	20	16	13	10	9	7
<b>60.0</b>	8	8	8	7	6	5	5	4	4	3
<b>65.0</b>	2	2	2	2	2	2	2	2	2	2
<b>70.0</b>	2	2	2	2	2	2	2	2	2	2
<b>75.0</b>	0	0	0	0	0	0	0	0	0	0
<b>80.0</b>	0	0	0	0	0	0	0	0	0	0
<b>85.0</b>	0	0	0	0	0	0	0	0	0	0
<b>90.0</b>	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>
<b>0.0</b>	127	127	127	127	127	127	127	127	127	127
<b>2.5</b>	138	137	135	134	133	131	130	129	127	126
<b>5.0</b>	154	151	147	142	139	135	131	128	125	122
<b>7.5</b>	172	164	156	149	142	136	130	125	121	117
<b>10.0</b>	190	177	164	153	144	135	127	121	115	111
<b>12.5</b>	208	187	169	154	143	131	122	115	109	105
<b>15.0</b>	226	196	172	153	139	126	117	109	103	96
<b>17.0</b>	236	200	172	150	134	122	112	105	97	89
<b>19.0</b>	245	201	169	146	129	116	108	99	91	83
<b>21.0</b>	246	198	165	140	123	112	102	94	84	78
<b>23.0</b>	247	192	158	134	117	106	98	86	79	73
<b>25.0</b>	239	184	150	128	113	102	91	81	74	68
<b>27.0</b>	224	175	143	121	108	96	85	77	70	62
<b>29.0</b>	209	161	132	114	103	89	79	72	64	55
<b>31.0</b>	189	147	122	107	93	81	73	65	55	48
<b>33.0</b>	170	131	111	96	82	73	64	54	46	39
<b>35.0</b>	149	120	100	86	73	65	54	44	36	29
<b>37.0</b>	128	104	88	73	62	51	40	31	24	19
<b>39.0</b>	109	89	72	58	46	35	26	21	17	15

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**CANDELA TABULATION - (Cont.)**

<b>41.0</b>	87	68	53	40	30	23	18	15	14	13
<b>43.0</b>	63	46	34	26	20	16	14	13	12	11
<b>45.0</b>	40	29	23	18	15	13	11	10	9	9
<b>50.0</b>	16	13	10	8	7	6	6	6	7	7
<b>55.0</b>	6	5	5	5	5	5	5	5	6	6
<b>60.0</b>	3	3	3	3	4	4	4	5	5	6
<b>65.0</b>	2	3	3	3	3	4	4	4	5	5
<b>70.0</b>	2	2	2	2	3	3	3	3	4	4
<b>75.0</b>	0	0	2	2	2	2	2	2	3	3
<b>80.0</b>	0	0	0	0	0	0	0	2	2	2
<b>85.0</b>	0	0	0	0	0	0	0	0	0	0
<b>90.0</b>	0	0	0	0	0	0	0	0	0	0

<b>Vert. Angles</b>	<b>Horizontal Angles</b>									
	<b><u>100</u></b>	<b><u>105</u></b>	<b><u>110</u></b>	<b><u>115</u></b>	<b><u>120</u></b>	<b><u>125</u></b>	<b><u>130</u></b>	<b><u>135</u></b>	<b><u>140</u></b>	<b><u>145</u></b>
<b>0.0</b>	127	127	127	127	127	127	127	127	127	127
<b>2.5</b>	124	123	122	121	120	119	118	117	117	116
<b>5.0</b>	119	117	115	113	112	110	109	108	107	105
<b>7.5</b>	114	111	108	106	102	98	95	92	90	88
<b>10.0</b>	107	104	98	93	89	87	84	82	80	78
<b>12.5</b>	99	93	88	84	81	78	75	72	70	68
<b>15.0</b>	89	84	80	76	72	69	66	64	62	58
<b>17.0</b>	83	79	74	70	66	64	59	54	51	50
<b>19.0</b>	78	73	69	65	59	53	51	49	47	46
<b>21.0</b>	73	67	63	56	51	49	47	43	40	39
<b>23.0</b>	67	61	54	50	47	44	40	39	37	35
<b>25.0</b>	61	53	49	46	41	39	36	33	31	29
<b>27.0</b>	54	49	45	40	37	34	31	28	26	25
<b>29.0</b>	49	44	39	35	31	28	25	23	21	20
<b>31.0</b>	42	37	32	28	24	21	19	18	17	17
<b>33.0</b>	33	28	23	20	18	17	16	16	16	16
<b>35.0</b>	23	20	17	16	16	15	15	15	14	14
<b>37.0</b>	17	16	15	14	14	14	13	13	12	12
<b>39.0</b>	14	14	13	13	12	11	11	11	11	11
<b>41.0</b>	12	12	11	10	10	11	11	11	11	11
<b>43.0</b>	10	10	10	10	10	10	10	10	11	11
<b>45.0</b>	9	9	9	9	9	10	10	10	11	11
<b>50.0</b>	7	7	8	8	9	9	10	10	10	11
<b>55.0</b>	7	7	8	8	9	9	10	10	10	11
<b>60.0</b>	6	7	7	8	8	9	9	10	10	11
<b>65.0</b>	6	6	7	7	8	9	9	10	10	10
<b>70.0</b>	5	5	6	6	7	7	8	8	9	9
<b>75.0</b>	3	4	4	4	5	5	6	6	6	7
<b>80.0</b>	2	2	3	3	3	3	4	4	4	5
<b>85.0</b>	0	0	0	0	2	2	2	2	2	2
<b>90.0</b>	0	0	0	0	0	0	0	0	0	0

<b>Vert. Angles</b>	<b>Horizontal Angles</b>						
	<b><u>150</u></b>	<b><u>155</u></b>	<b><u>160</u></b>	<b><u>165</u></b>	<b><u>170</u></b>	<b><u>175</u></b>	<b><u>180</u></b>
<b>0.0</b>	127	127	127	127	127	127	127
<b>2.5</b>	115	115	115	114	114	114	114
<b>5.0</b>	104	102	100	100	99	99	99
<b>7.5</b>	87	86	85	85	84	84	84
<b>10.0</b>	77	75	74	73	72	71	71

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**CANDELA TABULATION - (Cont.)**

12.5	66	65	64	64	63	62	62
15.0	54	52	51	51	50	50	50
17.0	49	48	47	47	46	46	46
19.0	43	41	40	39	39	39	39
21.0	38	37	36	35	35	34	34
23.0	33	31	30	29	29	28	28
25.0	28	26	25	25	24	24	24
27.0	23	22	22	21	21	21	21
29.0	19	19	18	18	17	17	17
31.0	17	16	16	16	16	16	16
33.0	15	15	15	15	15	15	15
35.0	14	13	13	13	13	13	13
37.0	12	12	12	12	12	12	12
39.0	12	12	12	12	12	12	12
41.0	11	11	11	12	12	12	12
43.0	11	11	11	12	12	12	12
45.0	11	11	11	12	12	12	12
50.0	11	11	12	12	12	12	12
55.0	11	11	12	12	12	12	12
60.0	11	11	12	12	12	12	12
65.0	11	11	11	12	12	12	12
70.0	10	10	10	10	10	11	11
75.0	7	7	8	8	8	8	8
80.0	5	5	5	5	5	6	6
85.0	3	3	3	3	3	3	3
90.0	0	0	0	0	0	0	0

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	73.12	N.A.	8.20
0-30	361.87	N.A.	40.40
0-40	748.70	N.A.	83.50
0-60	886.14	N.A.	98.80
0-80	895.68	N.A.	99.90
0-90	896.71	N.A.	100.00
10-90	883.64	N.A.	98.50
20-40	675.58	N.A.	75.30
20-50	800.05	N.A.	89.20
40-70	143.37	N.A.	16.00
60-80	9.54	N.A.	1.10
70-80	3.61	N.A.	0.40
80-90	1.03	N.A.	0.10
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	896.71	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	13.07
10-20	60.06
20-30	288.74
30-40	386.83
40-50	124.47
50-60	12.97
60-70	5.94
70-80	3.61
80-90	1.03
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



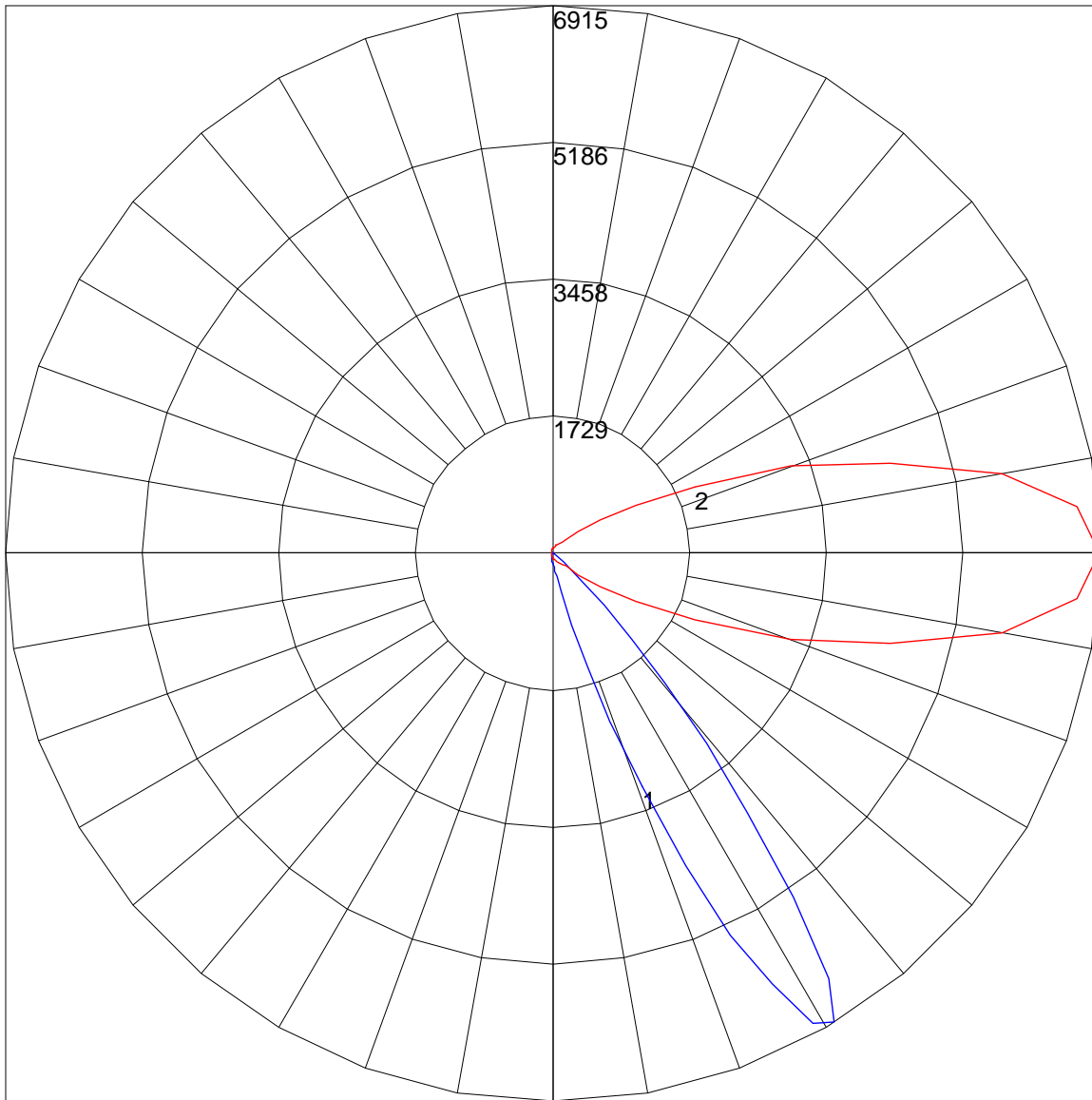
**IES INDOOR REPORT**  
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	103	110	107	104	102	103	101	99	99	97	96	95	94	93	91
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	84	82
3	98	90	84	79	96	89	83	79	86	81	77	84	80	76	81	78	75	73
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	66
5	85	75	68	62	83	74	67	62	72	66	62	70	65	61	69	64	60	59
6	79	68	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53
7	74	62	55	50	72	62	55	50	60	54	49	59	53	49	58	53	49	47
8	69	57	50	45	67	57	49	45	55	49	44	54	48	44	53	48	44	42
9	64	52	45	40	63	52	45	40	51	44	40	50	44	40	49	44	40	38
10	60	48	41	36	59	48	41	36	47	40	36	46	40	36	45	40	36	34

POLAR GRAPH



Maximum Candela = 6915 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.)