



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

Report No: L081910655



**Report No:** L081910655

**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

<b>Manufacturer:</b>	Number Eight Lighting Company
<b>Model Number:</b>	202-S-BV-HI-3000-60/DIM1-2-SO/FLS-2-BV-WH
<b>Driver Model Number:</b>	INTUITIVE SYSTEMS ISD-701-350-15-D

### Photometric & Electrical Test Results

<b>Total Lumens:</b>	1151.14
<b>Efficacy:</b>	82.28
<b>Input Voltage (VAC/60Hz):</b>	120.00
<b>Input Current (Amp):</b>	0.1176
<b>Input Power (W):</b>	13.99
<b>Input Power Factor:</b>	0.9914
<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>	1:45

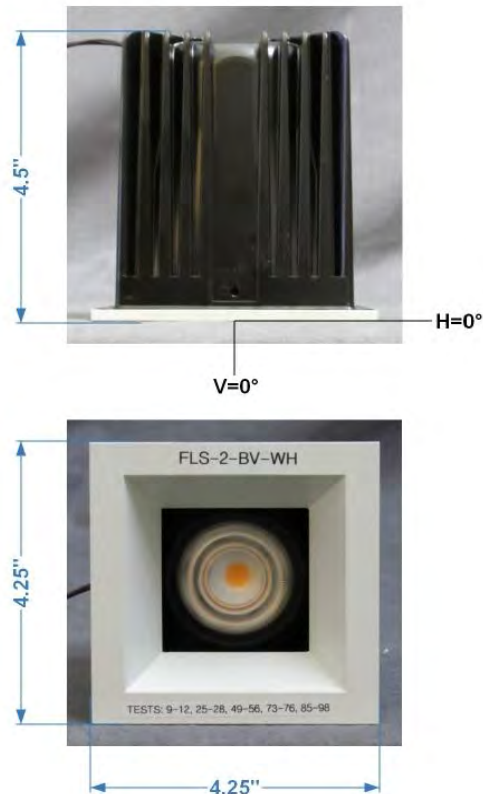


FIG. 1 LUMINAIRE

## 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: 9*



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## Photometric Test Report

### IES INDOOR REPORT

PHOTOMETRIC FILENAME : L081910655.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L081910655  
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)  
[ISSUEDATE] 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, 0° 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] 120.0VAC, 13.99W  
[TEST PROCEDURE] IESNA:LM-79-08

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1151
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	82
Total Luminaire Watts	13.99
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.96
Spacing Criterion (90-270)	0.96
Spacing Criterion (Diagonal)	0.88
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	6884	12413	6780
55	1029	1543	1029
65	1396	1396	1396
75	1140	1140	1710
85	1693	1693	1693

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L081910655.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>	1347	1347	1347	1347	1347	1347	1347	1347	1347	1347
<b>1.0</b>	1343	1345	1347	1347	1345	1344	1342	1346	1345	1346
<b>3.0</b>	1346	1344	1346	1347	1345	1345	1345	1347	1345	1344
<b>5.0</b>	1347	1348	1347	1348	1346	1347	1348	1347	1348	1348
<b>7.0</b>	1347	1347	1347	1346	1347	1349	1349	1348	1348	1349
<b>9.0</b>	1339	1343	1342	1343	1341	1345	1343	1343	1343	1345
<b>11.0</b>	1334	1333	1334	1334	1333	1335	1334	1335	1335	1336
<b>13.0</b>	1314	1315	1315	1315	1316	1315	1316	1316	1317	1317
<b>15.0</b>	1286	1285	1287	1288	1288	1288	1287	1287	1287	1288
<b>17.0</b>	1248	1248	1250	1249	1248	1247	1246	1247	1246	1246
<b>19.5</b>	1186	1185	1185	1185	1184	1184	1183	1182	1181	1181
<b>22.5</b>	1078	1077	1079	1078	1077	1077	1077	1077	1074	1074
<b>25.5</b>	915	915	918	921	924	927	930	931	932	933
<b>29.0</b>	685	685	689	693	697	701	707	713	718	719
<b>33.0</b>	331	335	348	369	395	421	437	443	446	448
<b>37.5</b>	115	116	118	124	134	153	176	199	216	222
<b>42.5</b>	51	51	52	54	56	58	62	70	81	87
<b>47.5</b>	15	15	15	18	21	24	26	29	32	32
<b>55.0</b>	4	4	4	4	4	4	5	6	6	6
<b>65.0</b>	4	4	4	4	4	4	4	4	4	4
<b>75.0</b>	2	2	2	3	3	3	3	3	3	2
<b>85.0</b>	1	1	1	1	1	1	1	1	1	1
<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>
<b>0.0</b>	1347	1347	1347	1347	1347	1347	1347	1347	1347
<b>1.0</b>	1345	1344	1346	1346	1344	1344	1344	1343	1347
<b>3.0</b>	1345	1345	1345	1345	1344	1344	1346	1346	1344
<b>5.0</b>	1348	1348	1348	1348	1348	1348	1347	1347	1348
<b>7.0</b>	1347	1349	1350	1350	1349	1350	1349	1351	1350
<b>9.0</b>	1343	1345	1348	1346	1346	1348	1347	1347	1346
<b>11.0</b>	1336	1337	1337	1338	1338	1339	1338	1339	1340
<b>13.0</b>	1317	1317	1320	1320	1320	1321	1320	1321	1319
<b>15.0</b>	1289	1289	1290	1291	1290	1295	1294	1291	1294
<b>17.0</b>	1248	1250	1251	1252	1253	1255	1256	1255	1256
<b>19.5</b>	1182	1184	1184	1186	1188	1188	1188	1188	1188
<b>22.5</b>	1076	1076	1075	1075	1073	1073	1070	1069	1068
<b>25.5</b>	932	928	924	920	914	912	908	907	908
<b>29.0</b>	716	710	703	698	693	689	684	681	682
<b>33.0</b>	447	444	438	421	395	368	348	335	330
<b>37.5</b>	218	201	177	152	133	123	117	115	115
<b>42.5</b>	80	69	62	58	56	54	52	51	51
<b>47.5</b>	31	29	26	24	21	17	15	14	14
<b>55.0</b>	6	6	5	4	4	4	4	4	4
<b>65.0</b>	4	4	4	4	4	4	4	4	4
<b>75.0</b>	2	3	3	3	3	3	3	3	3
<b>85.0</b>	1	1	1	1	1	1	1	1	1
<b>90.0</b>	0	0	0	0	0	0	0	0	0

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L081910655.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	466.12	N.A.	40.50
0-30	875.24	N.A.	76.00
0-40	1078.06	N.A.	93.70
0-60	1141.27	N.A.	99.10
0-80	1148.85	N.A.	99.80
0-90	1151.14	N.A.	100.00
10-90	1046.96	N.A.	90.90
20-40	611.94	N.A.	53.20
20-50	666.47	N.A.	57.90
40-70	67.32	N.A.	5.80
60-80	7.58	N.A.	0.70
70-80	3.47	N.A.	0.30
80-90	2.30	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	1151.14	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	104.18
10-20	361.94
20-30	409.12
30-40	202.82
40-50	54.53
50-60	8.68
60-70	4.11
70-80	3.47
80-90	2.30
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

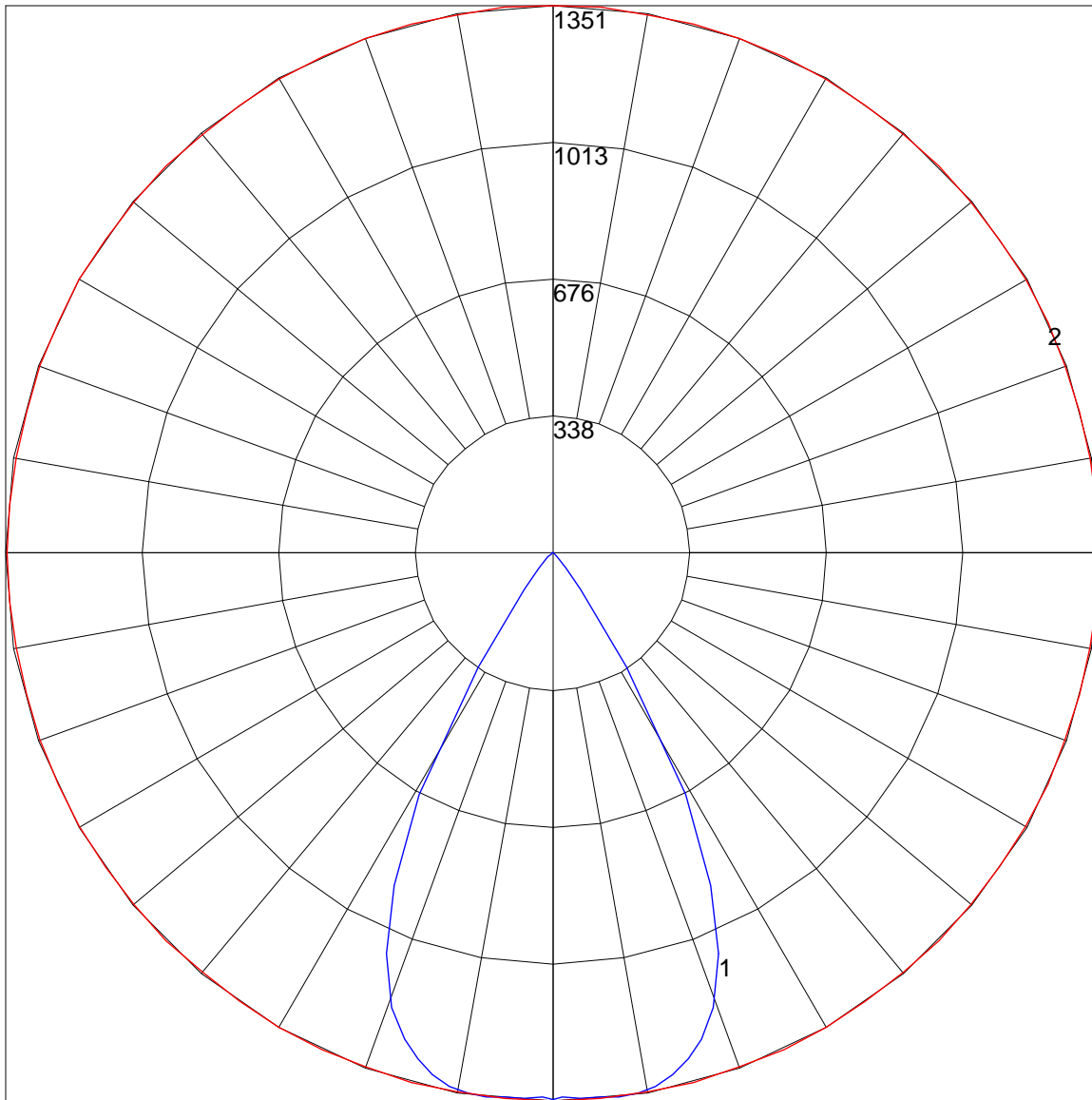
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	114	111	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95	94
2	108	103	99	96	106	101	98	95	98	95	93	95	93	91	93	91	89	87
3	103	96	91	88	101	95	91	87	92	89	85	90	87	84	88	85	83	81
4	98	90	85	81	96	89	84	80	87	83	79	85	81	78	83	80	77	76
5	93	85	79	75	91	84	78	74	82	77	74	80	76	73	79	75	72	71
6	88	80	74	69	87	79	73	69	77	72	69	76	72	68	75	71	68	66
7	84	75	69	65	83	74	69	65	73	68	64	72	67	64	71	67	64	62
8	80	71	65	61	79	70	65	61	69	64	60	68	63	60	67	63	60	59
9	76	67	61	57	75	66	61	57	65	60	57	64	60	57	64	59	56	55
10	73	63	58	54	72	63	57	54	62	57	53	61	57	53	60	56	53	52

POLAR GRAPH



Maximum Candela = 1351 Located At Horizontal Angle = 85, Vertical Angle = 7  
# 1 - Vertical Plane Through Horizontal Angles (85 - 265) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (7) (Through Max. Cd.)



ILLUMINANCE CONE DIAGRAM: BEAM (50%)  
MOUNT HEIGHT(Ft): 12

