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

NVLAP TESTING
NVLAP LAB CODE 200927-0

Report No: L081910612 **Issue Date: 8/28/2019**

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

Model Number: 201-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: 8/23/19 - 8/28/19

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

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General Information	
Manufacturer:	Number Eight Lighting Company
Model Number:	201-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:	1182.60
Efficacy:	84.68
Input Voltage (VAC/60Hz):	120.02
Input Current (Amp):	0.1174
Input Power (W):	13.97
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):	1:45

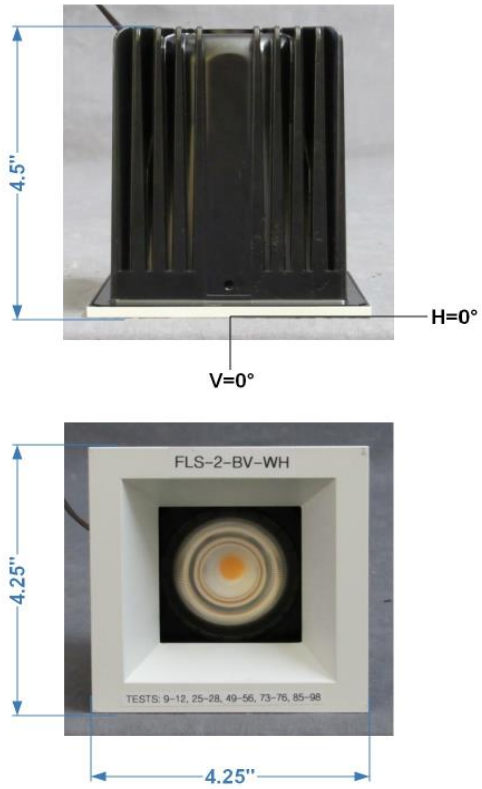

FIG. 1 LUMINAIRE

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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 : L081910612.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L081910612
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 8/28/2019
[MANUFAC] Number Eight Lighting Company
[LUMCAT] 201-S-BV-HI-3000-60/DIM1-2-SO/FLS-2-BV-WH
[LUMINAIRE] LED Recessed Fixed Position Downlight, 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] 120.02VAC, 13.97W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1183
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	85
Total Luminaire Watts	13.97
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.92
Spacing Criterion (90-270)	0.94
Spacing Criterion (Diagonal)	0.86
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	8866	15020	8449
55	1286	3086	1286
65	1396	1396	1396
75	1710	1710	1710
85	1693	1693	1693

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081910612.IES

CANDELA TABULATION

	0	5	10	15	20	25	30	35	40	45
0.0	1423	1423	1423	1423	1423	1423	1423	1423	1423	1423
1.0	1422	1422	1422	1421	1422	1422	1420	1418	1418	1418
3.0	1424	1424	1424	1423	1424	1423	1423	1422	1420	1419
5.0	1429	1426	1425	1426	1427	1427	1426	1424	1421	1422
7.0	1425	1424	1424	1424	1423	1425	1423	1422	1421	1424
9.0	1413	1413	1415	1413	1413	1411	1415	1416	1420	1412
11.0	1394	1393	1395	1394	1395	1394	1394	1399	1399	1399
13.0	1364	1365	1364	1363	1363	1366	1366	1368	1370	1369
15.0	1327	1326	1325	1327	1326	1326	1327	1329	1329	1328
17.0	1277	1276	1274	1279	1278	1278	1279	1280	1282	1282
19.5	1194	1197	1198	1196	1198	1199	1199	1201	1202	1205
22.5	1066	1067	1069	1068	1070	1073	1075	1076	1080	1082
25.5	895	898	897	901	903	905	909	913	920	921
29.0	672	671	671	672	674	675	679	683	689	690
33.0	395	397	399	401	405	408	411	412	415	415
37.5	143	145	151	160	172	185	197	204	207	207
42.5	57	58	59	60	63	68	76	88	98	102
47.5	28	28	29	29	30	32	34	37	40	42
55.0	5	5	5	6	7	8	8	10	11	12
65.0	4	4	4	4	4	4	4	4	4	4
75.0	3	3	3	3	3	3	3	3	3	3
85.0	1	1	1	1	1	1	1	1	1	1
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles **Horizontal Angles**

	50	55	60	65	70	75	80	85	90
0.0	1423	1423	1423	1423	1423	1423	1423	1423	1423
1.0	1417	1418	1418	1417	1415	1415	1414	1420	1420
3.0	1422	1422	1419	1421	1418	1416	1416	1415	1418
5.0	1422	1423	1424	1422	1423	1419	1420	1419	1418
7.0	1424	1420	1419	1419	1418	1416	1416	1417	1421
9.0	1413	1413	1412	1411	1415	1411	1409	1411	1418
11.0	1396	1397	1393	1396	1394	1393	1392	1391	1396
13.0	1365	1368	1360	1363	1361	1364	1362	1359	1373
15.0	1328	1328	1326	1327	1326	1327	1329	1339	1341
17.0	1281	1280	1277	1278	1282	1280	1281	1290	1288
19.5	1206	1202	1199	1198	1196	1199	1211	1211	1208
22.5	1082	1081	1074	1072	1067	1066	1079	1077	1082
25.5	919	918	910	906	901	910	910	908	903
29.0	690	688	682	679	674	679	679	678	679
33.0	416	417	413	411	407	404	400	397	395
37.5	206	204	197	184	168	155	145	139	138
42.5	97	86	75	66	61	58	56	55	55
47.5	40	36	34	32	29	28	27	27	26
55.0	11	10	8	7	6	5	5	5	5
65.0	4	4	4	4	4	4	4	4	4
75.0	3	3	3	3	3	3	3	3	3
85.0	1	1	1	1	1	1	1	1	1
90.0	0	0	0	0	0	0	0	0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081910612.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	483.00	N.A.	40.80
0-30	889.18	N.A.	75.20
0-40	1094.81	N.A.	92.60
0-60	1171.14	N.A.	99.00
0-80	1180.17	N.A.	99.80
0-90	1182.6	N.A.	100.00
10-90	1072.76	N.A.	90.70
20-40	611.82	N.A.	51.70
20-50	675.41	N.A.	57.10
40-70	81.75	N.A.	6.90
60-80	9.03	N.A.	0.80
70-80	3.60	N.A.	0.30
80-90	2.43	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	1182.6	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	109.84
10-20	373.15
20-30	406.18
30-40	205.64
40-50	63.60
50-60	12.73
60-70	5.43
70-80	3.60
80-90	2.43
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 : L081910612.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	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93
2	108	103	99	96	106	101	98	95	98	95	93	95	93	91	92	90	89	87
3	103	96	91	87	101	95	90	87	92	88	85	90	87	84	88	85	83	81
4	97	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77	76
5	93	84	79	74	91	83	78	74	82	77	73	80	76	73	78	75	72	71
6	88	79	73	69	87	79	73	69	77	72	68	76	71	68	74	71	68	66
7	84	75	69	65	83	74	68	64	73	68	64	72	67	64	70	66	63	62
8	80	70	65	61	79	70	64	60	69	64	60	68	63	60	67	63	60	58
9	76	67	61	57	75	66	61	57	65	60	57	64	60	56	63	59	56	55
10	73	63	57	54	72	63	57	53	62	57	53	61	56	53	60	56	53	52

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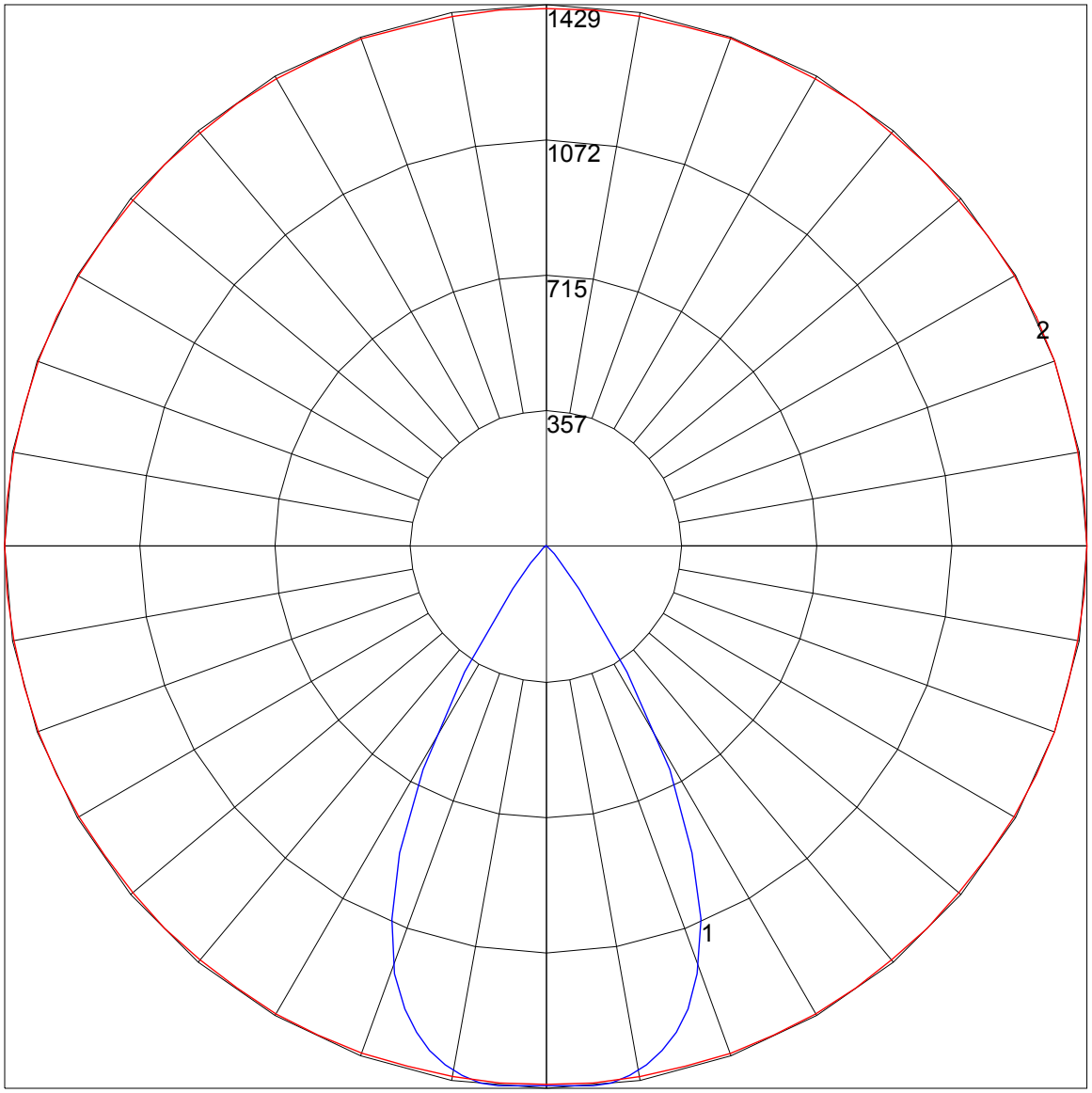
POLAR GRAPH



Maximum Candela = 1429 Located At Horizontal Angle = 0, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)

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