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

NVLAP TESTING
NVLAP LAB CODE 200927-0

Report No: L081910626 **Issue Date: 8/27/2019**

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

Model Number: 201-S-BV-WD-3018-25-NFL/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: 8/22/19 - 8/27/19

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-WD-3018-25-NFL/DIM1-2-SO/FLS-2-BV-WH
Driver Model Number:	INTUITIVE SYSTEMS ISD-701-350-15-D

Photometric & Electrical Test Results	
Total Lumens:	645.93
Efficacy:	42.98
Input Voltage (VAC/60Hz):	120.02
Input Current (Amp):	0.1260
Input Power (W):	15.03
Input Power Factor:	0.9940
Current ATHD (%):	5.1%

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

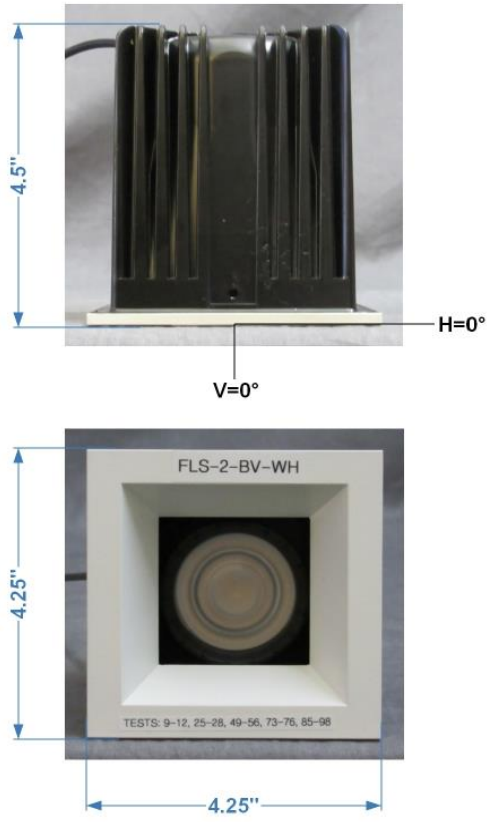

FIG. 1 LUMINAIRE

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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^{o}C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25^{o}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^{o}C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25^{o}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 : L081910626.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L081910626
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 8/27/2019
[MANUFAC] Number Eight Lighting Company
[LUMCAT] 201-S-BV-WD-3018-25-NFL/DIM1-2-SO/FLS-2-BV-WH
[LUMINAIRE] LED Recessed Fixed Position Downlight, 3000-1800K 90+ CRI, 25° Beam Spread,
[MORE] NFL Lens, 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, 15.03W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	646
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	43
Total Luminaire Watts	15.03
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.62
Spacing Criterion (90-270)	0.60
Spacing Criterion (Diagonal)	0.62
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	5633	9701	5215
55	1029	2057	1286
65	1047	1047	1047
75	1140	1140	1140
85	0	0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081910626.IES

CANDELA TABULATION

	0	5	10	15	20	25	30	35	40	45
0.0	1337	1337	1337	1337	1337	1337	1337	1337	1337	1337
1.0	1341	1341	1342	1341	1341	1341	1341	1341	1341	1341
3.0	1326	1325	1326	1327	1326	1326	1327	1327	1328	1327
5.0	1286	1287	1286	1289	1287	1288	1287	1288	1287	1289
7.0	1227	1227	1229	1230	1229	1229	1229	1228	1227	1229
9.0	1152	1152	1152	1154	1153	1152	1151	1150	1150	1152
11.0	1062	1063	1063	1063	1064	1063	1061	1058	1058	1059
13.0	963	963	964	965	964	963	961	959	957	960
15.0	859	860	860	860	860	858	857	853	852	853
17.0	753	754	754	754	753	752	750	747	744	746
19.5	625	625	626	626	624	623	621	618	616	617
22.5	483	484	484	484	484	482	481	478	475	475
25.5	362	362	362	362	362	362	361	358	356	356
29.0	248	248	249	250	250	250	250	248	247	247
33.0	155	156	157	158	160	161	161	160	160	160
37.5	85	86	88	90	93	96	98	99	100	100
42.5	37	37	38	40	42	47	51	56	59	61
47.5	17	17	17	18	19	20	22	25	29	32
55.0	4	5	5	5	6	6	7	7	8	8
65.0	3	3	3	3	3	3	3	3	3	3
75.0	2	2	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**								
	50	**55**	**60**	**65**	**70**	**75**	**80**	**85**	**90**
0.0	1337	1337	1337	1337	1337	1337	1337	1337	1337
1.0	1341	1342	1341	1343	1341	1342	1343	1341	1343
3.0	1328	1329	1328	1328	1328	1328	1328	1329	1329
5.0	1290	1290	1290	1289	1289	1289	1288	1290	1289
7.0	1231	1231	1230	1229	1227	1227	1227	1229	1229
9.0	1153	1154	1152	1150	1149	1147	1148	1150	1149
11.0	1062	1062	1059	1058	1055	1054	1054	1056	1056
13.0	960	961	957	956	953	951	951	953	953
15.0	853	853	850	848	845	843	843	844	845
17.0	746	745	742	739	735	733	733	734	734
19.5	616	615	612	608	604	602	602	603	604
22.5	475	474	470	466	463	461	460	461	461
25.5	355	354	351	347	344	342	342	342	342
29.0	246	245	243	240	237	234	233	233	232
33.0	160	159	157	154	152	149	148	147	146
37.5	100	99	96	93	89	85	83	81	81
42.5	59	55	50	45	41	37	36	35	34
47.5	29	24	21	19	18	17	16	16	16
55.0	8	7	7	6	6	5	5	5	5
65.0	3	3	3	3	3	3	3	3	3
75.0	2	2	2	2	2	2	2	2	2
85.0	0	0	0	0	0	0	0	0	0
90.0	0	0	0	0	0	0	0	0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081910626.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	339.47	N.A.	52.60
0-30	511.55	N.A.	79.20
0-40	592.06	N.A.	91.70
0-60	637.94	N.A.	98.80
0-80	644.85	N.A.	99.80
0-90	645.93	N.A.	100.00
10-90	549.25	N.A.	85.00
20-40	252.59	N.A.	39.10
20-50	289.82	N.A.	44.90
40-70	50.21	N.A.	7.80
60-80	6.91	N.A.	1.10
70-80	2.57	N.A.	0.40
80-90	1.08	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	645.93	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	96.67
10-20	242.80
20-30	172.08
30-40	80.51
40-50	37.23
50-60	8.65
60-70	4.33
70-80	2.57
80-90	1.08
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 : L081910626.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	114	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94
2	109	104	100	97	106	102	99	96	99	96	94	96	94	92	93	91	90	88
3	104	98	93	89	102	96	92	88	94	90	87	91	88	86	89	87	84	83
4	99	92	87	83	97	91	86	82	89	85	81	87	83	80	85	82	79	78
5	94	87	81	77	93	86	81	77	84	80	76	82	79	76	81	78	75	74
6	90	82	77	73	89	81	76	72	80	75	72	78	74	71	77	74	71	70
7	86	78	72	68	85	77	72	68	76	71	68	75	71	68	74	70	67	66
8	83	74	69	65	82	73	68	65	72	68	64	71	67	64	71	67	64	63
9	79	71	65	61	78	70	65	61	69	64	61	68	64	61	67	64	61	60
10	76	67	62	58	75	67	62	58	66	61	58	65	61	58	65	61	58	57

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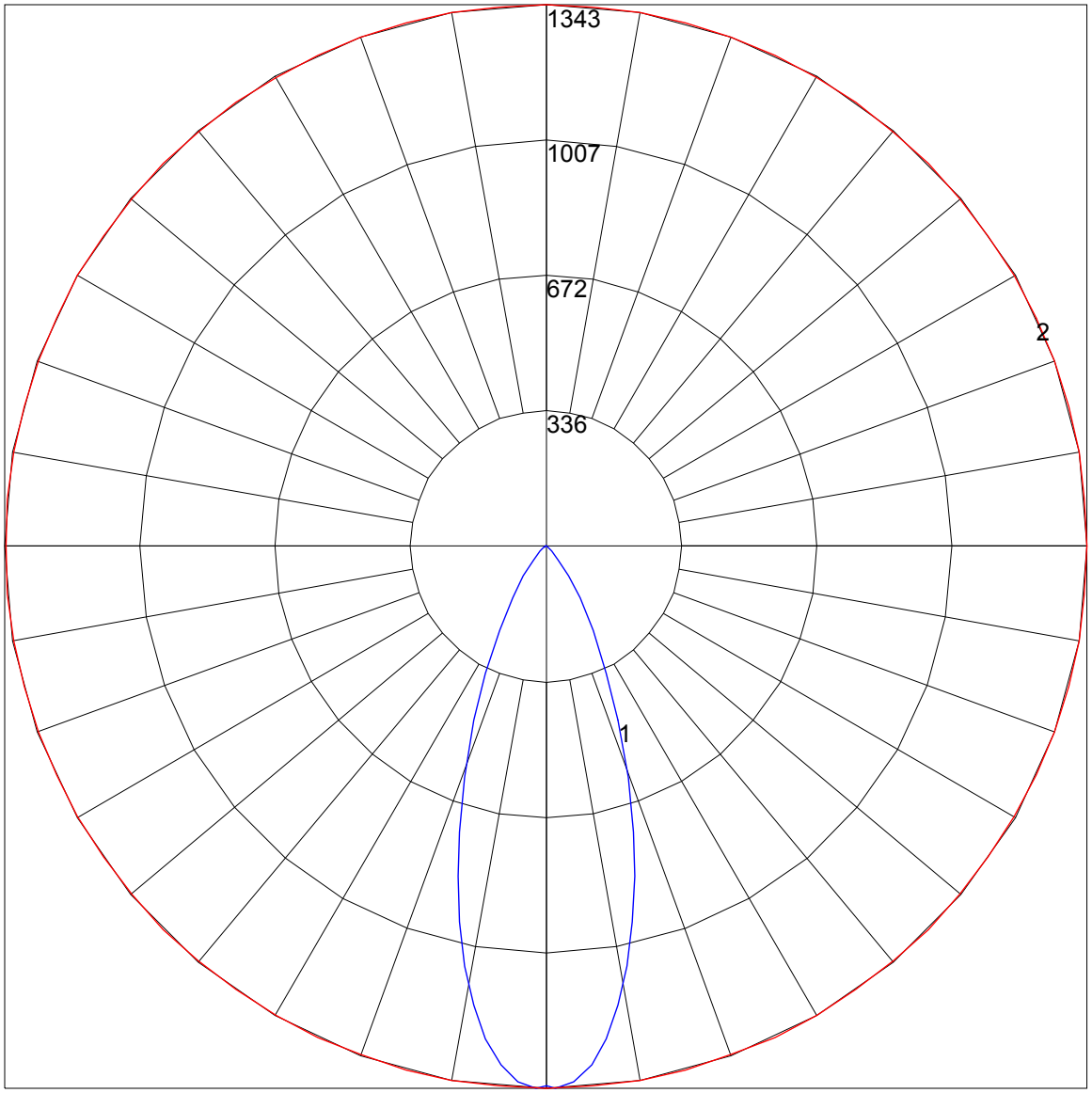
POLAR GRAPH



Maximum Candela = 1343 Located At Horizontal Angle = 65, Vertical Angle = 1
1 - Vertical Plane Through Horizontal Angles (65 - 245) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (1) (Through Max. Cd.)

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