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

Report No: L101605127
Date: 12/8/2016

NVLAP LAB CODE 200927-0

Report No: L101605127

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

Model Number: 803/K2-HI-15-XX/DIM1-8-1000/FS-P-1-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. Catalog number is 803/K2-HI-15-XX/DIM1-8-1000/FS-P-1-WH . Received in working and undamaged condition. No modifications were necessary.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 10/31/16

Date of Tests: 12/5/16 - 12/8/16

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-GB	2/10/17
Xitron Power Analyzer	2802	MT-EL02-2	12/22/16
BK PRECISION	1747	PS-DC04	12/8/16
Fluke Digital Thermometer	52k/J	MT-TP02-GB	12/8/16
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

*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

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

Report No: L101605127
Date: 12/8/2016

NVLAP LAB CODE 200927-0

Test Summary	
Manufacturer:	Number Eight Lighting Company
Model Number:	803/K2-HI-15-XX/DIM1-8-1000/FS-P-1-WH
Driver Model Number:	INTUITIVE SYSTEMS ISD-601-1050-15-D
Total Lumens:	992.82
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.13
Input Power (W):	15.03
Input Power Factor:	0.98
Current ATHD @ 120V(%):	8%
Current ATHD @ 277V(%):	N/A
Efficacy:	66
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:30
Total Operating Time (Hours):	1:20
Off State Power(W):	0.00

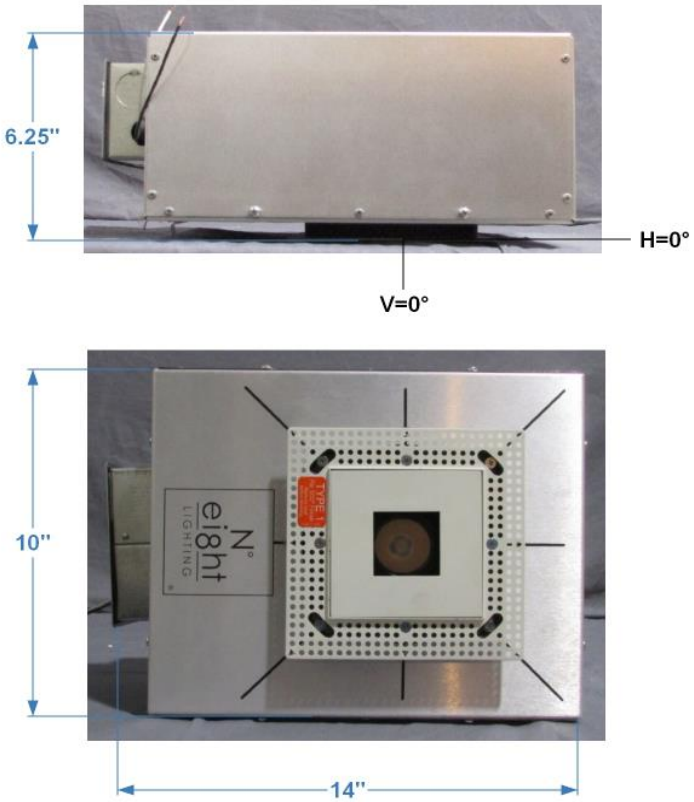


FIG.1 LUMINAIRE

*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

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

NVLAP LAB CODE 200927-0

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 Released by:

Jeff Ahn
Engineering Manager

Test Report Reviewed by:

Steve Kang
Quality Assurance

**Attached are photometric data reports. Total number of pages: 9*

*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

LIGHT LABORATORY INC.
8165 E. Kaiser Blvd. Anaheim, CA 92808
p. 714.282.2270
f. 714.676.5558

Photometric Test Report

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101605127.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L101605127
[TESTLAB] LIGHT LABORATORY, INC.
[ISSUEDATE] 12/08/2016
[MANUFAC] Number Eight Lighting Company
[LUMCAT] 803/K2-HI-15-XX/DIM1-8-1000/FS-P-1-WH
[LUMINAIRE] LED Recessed Fixed Position Downlight, 90+ CRI,
[MORE] 15° Beam Spread, 1.75" x 1.75" Aperture Trim
[BALLASTCAT] INTUITIVE SYSTEMS ISD-601-1050-15-D
[LAMPPOSITION] 0,0
[LAMPCAT] N/A
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[INPUT] 120VAC, 15.03W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	993
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	66
Total Luminaire Watts	15.03
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.30
Spacing Criterion (90-270)	0.32
Spacing Criterion (Diagonal)	0.32
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.15 ft
Luminous Width (90-270)	0.15 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	5745	9801	6083
55	2500	3333	2500
65	2262	3393	2262
75	3693	3693	3693
85	10968	10968	10968

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101605127.IES

CANDELA TABULATION

	0	5	10	15	20	25	30	35	40	45
0.0	6988	6988	6988	6988	6988	6988	6988	6988	6988	6988
1.0	6940	6938	6942	6940	6942	6941	6938	6936	6937	6941
3.0	6510	6511	6512	6512	6514	6511	6510	6509	6509	6510
5.0	5639	5638	5641	5641	5648	5649	5652	5656	5664	5663
7.0	4477	4479	4481	4487	4490	4493	4500	4504	4512	4518
9.0	3333	3334	3332	3338	3342	3349	3356	3363	3366	3372
11.0	2405	2399	2404	2403	2411	2419	2427	2432	2437	2439
13.0	1703	1703	1704	1707	1712	1718	1725	1730	1731	1732
15.0	1244	1246	1249	1249	1256	1261	1265	1268	1270	1270
17.0	899	901	904	907	915	917	919	923	927	925
19.5	586	586	589	591	597	599	603	608	613	613
22.5	346	348	350	351	354	356	359	362	366	367
25.5	221	219	220	221	219	224	227	228	229	231
29.0	135	134	134	136	135	136	138	138	139	141
33.0	71	71	71	72	73	75	77	78	79	79
37.5	31	31	32	33	34	36	38	40	42	42
42.5	11	11	12	13	13	15	16	18	19	20
47.5	6	6	6	6	6	7	7	8	9	9
55.0	3	3	3	3	3	3	4	4	4	4
65.0	2	2	2	2	2	2	3	3	3	3
75.0	2	2	2	2	2	2	2	2	2	2
85.0	2	2	2	2	2	2	2	2	2	2
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	6988	6988	6988	6988	6988	6988	6988	6988	6988
1.0	6936	6935	6937	6936	6935	6933	6934	6932	6936
3.0	6509	6509	6509	6509	6506	6508	6507	6505	6503
5.0	5665	5670	5672	5674	5676	5678	5681	5684	5682
7.0	4525	4527	4530	4530	4532	4533	4533	4533	4529
9.0	3378	3382	3382	3381	3379	3376	3375	3374	3374
11.0	2444	2443	2445	2440	2437	2434	2430	2428	2430
13.0	1734	1732	1733	1726	1721	1714	1711	1713	1712
15.0	1270	1268	1265	1259	1254	1245	1246	1248	1246
17.0	925	921	916	910	907	902	905	903	903
19.5	613	605	599	595	596	592	592	588	587
22.5	366	362	356	357	356	353	353	351	351
25.5	230	227	226	225	225	225	223	222	220
29.0	139	137	137	135	135	135	133	133	133
33.0	78	78	77	75	74	72	71	71	70
37.5	42	41	39	37	35	33	32	31	31
42.5	19	18	16	15	14	13	12	12	12
47.5	9	8	7	7	6	6	6	6	6
55.0	4	4	4	3	3	3	3	3	3
65.0	3	3	3	3	2	2	2	2	2
75.0	2	2	2	2	2	2	2	2	2
85.0	2	2	2	2	2	2	2	2	2
90.0	0	0	0	0	0	0	0	0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101605127.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	802.22	N.A.	80.80
0-30	929.03	N.A.	93.60
0-40	968.55	N.A.	97.60
0-60	985.06	N.A.	99.20
0-80	990.11	N.A.	99.70
0-90	992.82	N.A.	100.00
10-90	604.81	N.A.	60.90
20-40	166.33	N.A.	16.80
20-50	179.53	N.A.	18.10
40-70	19.27	N.A.	1.90
60-80	5.05	N.A.	0.50
70-80	2.29	N.A.	0.20
80-90	2.70	N.A.	0.30
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	992.82	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	388.01
10-20	414.21
20-30	126.80
30-40	39.53
40-50	13.20
50-60	3.31
60-70	2.77
70-80	2.29
80-90	2.70
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 : L101605127.IES

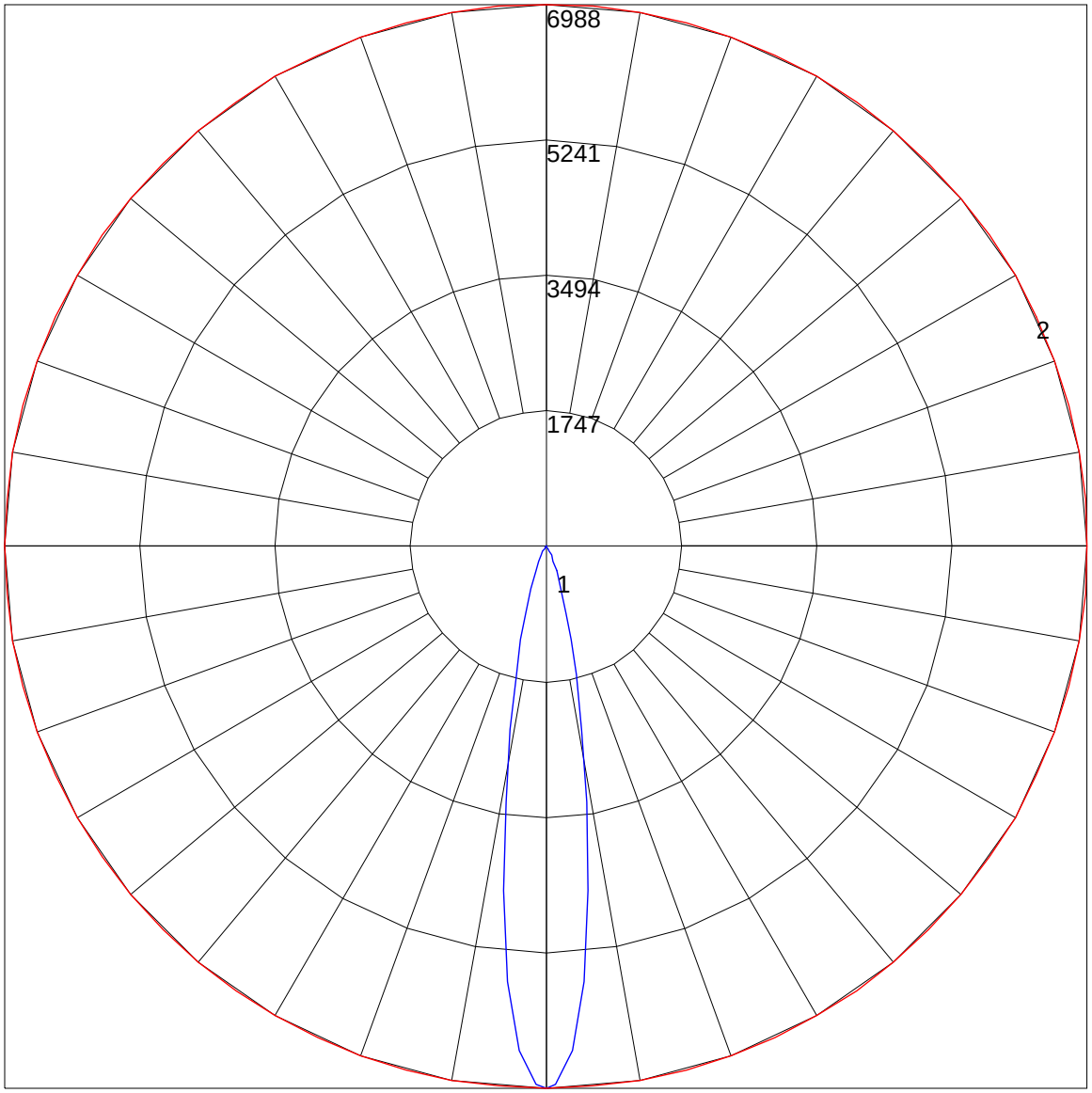
COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	115	113	111	109	113	111	109	107	107	105	104	103	102	101	100	99	98	96
2	111	108	105	102	109	106	103	101	103	101	99	100	98	97	97	96	95	93
3	108	103	99	97	106	102	98	96	99	97	94	97	95	93	95	93	91	90
4	104	99	95	92	103	98	94	92	96	93	91	94	92	90	93	90	89	87
5	101	96	91	88	100	95	91	88	93	90	87	92	89	87	90	88	86	85
6	99	92	88	85	97	92	88	85	90	87	85	89	86	84	88	85	84	82
7	96	90	85	83	95	89	85	82	88	84	82	87	84	82	86	83	81	80
8	93	87	83	80	92	86	83	80	86	82	80	85	82	79	84	81	79	78
9	91	85	81	78	90	84	80	78	83	80	78	83	80	77	82	79	77	76
10	89	82	78	76	88	82	78	76	81	78	76	81	78	75	80	77	75	74

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101605127.IES

POLAR GRAPH



Maximum Candela = 6988 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)

SAMPLE Illuminance cone diagram

Mounting Height = 12 ft.