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

NVLAP TESTING
NVLAP LAB CODE 200927-0

Report No: L121706452 **Issue Date: 1/15/2018**

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

Model Number: 804/K2-HI-15/DIM1-8-1400 with FR-P-1-WH trim

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.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 1/2/18

Date of Tests: 1/9/18 - 1/15/18

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	1/9/19
BK PRECISION	1747	PS-DC04	1/10/19
Fluke Digital Thermometer	52K/J	MT-TP05	1/10/19
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.

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Test Summary	
Manufacturer:	Number Eight Lighting Company
Model Number:	804/K2-HI-15/DIM1-8-1400 with FR-P-1-WH trim
Driver Model Number:	IntuitiveSystems ISD-701-1400-20-D
Total Lumens:	1091.48
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.17
Input Power (W):	20.32
Input Power Factor:	0.99
Current ATHD @ 120V(%):	7%
Current ATHD @ 277V(%):	N/A
Efficacy:	54
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:40
Total Operating Time (Hours):	1:10

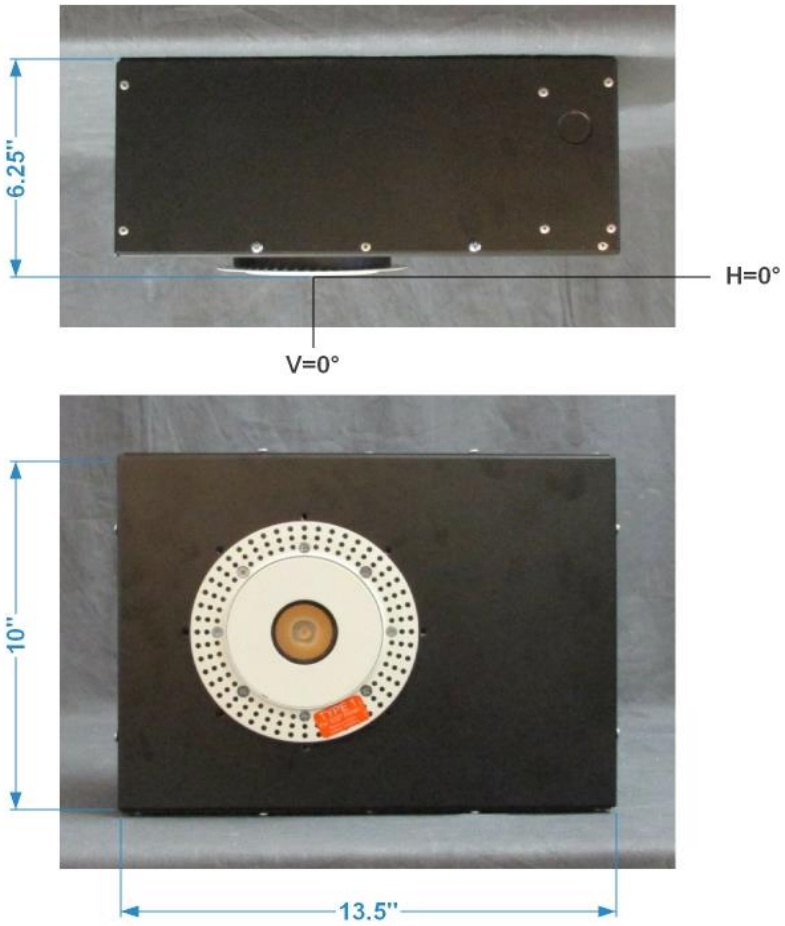

FIG. 1 LUMINAIRE

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

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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 : Joseph Shin

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.

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Photometric Test Report

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L121706452.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L121706452
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 1/15/2018
[MANUFAC] Number Eight Lighting Company
[LUMCAT] 804/K2-HI-15/DIM1-8-1400 with FR-P-1-WH trim
[LUMINAIRE] LED Recessed Downlight, 15° Beam Spread, 0° Aiming Angle,
[MORE] 1.75" Dia. Aperture Trim
[BALLASTCAT] IntuitiveSystems ISD-701-1400-20-D
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[INPUT] 120VAC, 20.32W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1091
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	54
Total Luminaire Watts	20.32
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.30
Spacing Criterion (90-270)	0.30
Spacing Criterion (Diagonal)	0.32
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.15 ft (Diameter)
Luminous Width (90-270)	0.15 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	5164	5164	5164
55	1061	1061	1061
65	0	0	0
75	0	0	0
85	0	0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L121706452.IES

CANDELA TABULATION

	0
0.0	7679
1.0	7599
2.0	7353
3.0	6973
4.0	6475
5.0	5900
6.0	5271
7.0	4636
8.0	4034
9.0	3479
10.0	2995
12.0	2219
14.0	1662
16.0	1262
18.0	955
20.0	712
22.5	480
25.0	317
27.5	216
30.0	148
35.0	57
40.0	18
45.0	6
50.0	3
55.0	1
60.0	1
65.0	0
70.0	0
75.0	0
80.0	0
85.0	0
90.0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L121706452.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	881.42	N.A.	80.80
0-30	1040.94	N.A.	95.40
0-40	1083.64	N.A.	99.30
0-60	1091.24	N.A.	100.00
0-80	1091.48	N.A.	100.00
0-90	1091.48	N.A.	100.00
10-90	628.47	N.A.	57.60
20-40	202.22	N.A.	18.50
20-50	208.49	N.A.	19.10
40-70	7.84	N.A.	0.70
60-80	0.24	N.A.	0.00
70-80	0.00	N.A.	0.00
80-90	0.00	N.A.	0.00
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	1091.48	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	463.01
10-20	418.41
20-30	159.52
30-40	42.70
40-50	6.26
50-60	1.33
60-70	0.24
70-80	0.00
80-90	0.00
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 : L121706452.IES

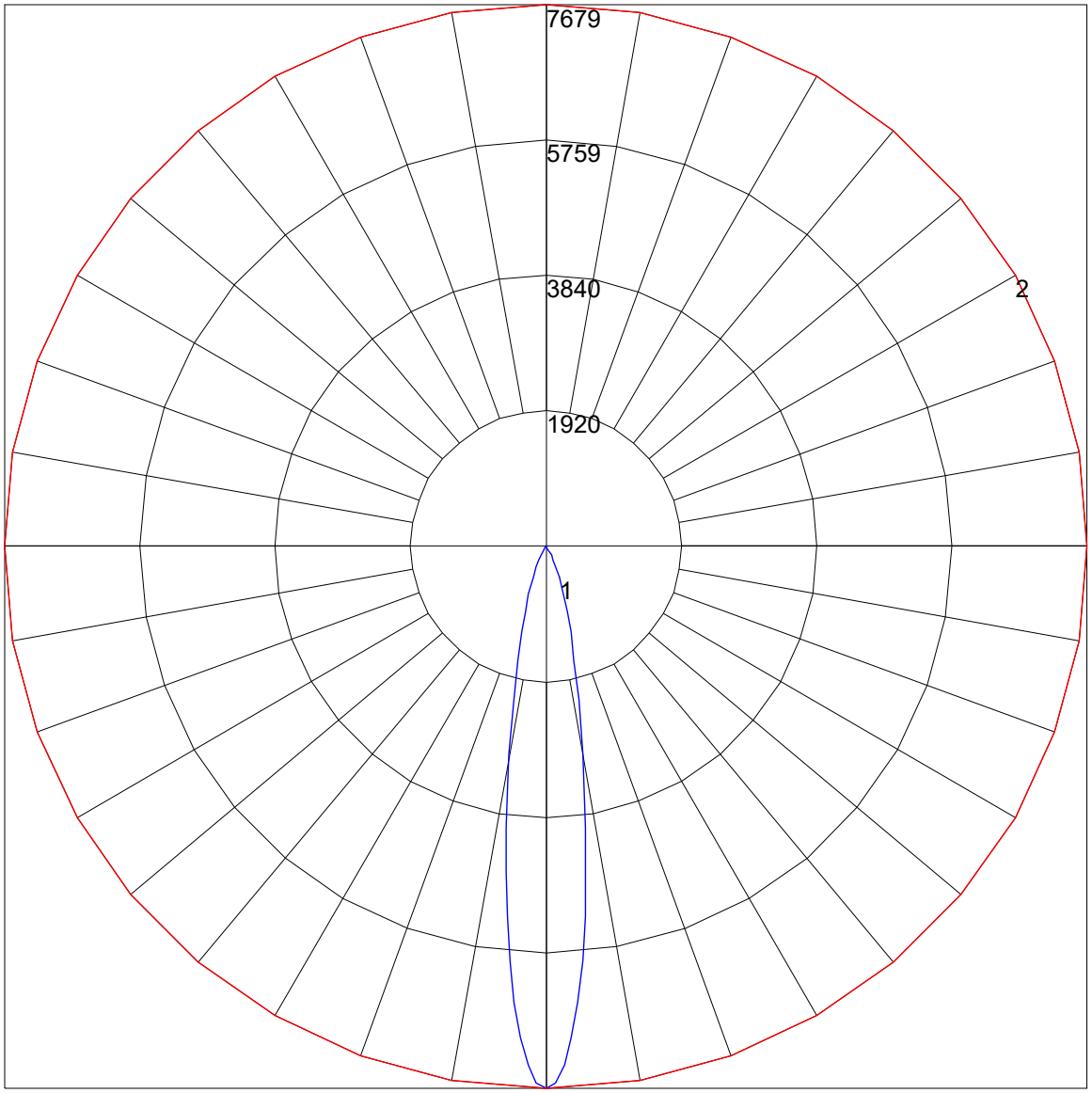
COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	110	113	111	109	108	107	106	105	103	103	102	100	99	99	97
2	112	108	105	103	110	107	104	102	103	101	100	101	99	98	98	97	96	94
3	108	104	100	98	107	103	99	97	100	98	95	98	96	94	96	94	93	91
4	105	100	96	93	104	99	96	93	97	94	92	95	93	91	94	92	90	89
5	102	97	93	90	101	96	92	90	94	91	89	93	90	88	91	89	87	86
6	100	94	90	87	98	93	89	87	92	88	86	90	88	86	89	87	85	84
7	97	91	87	84	96	90	87	84	89	86	84	88	85	83	87	85	83	82
8	95	88	84	82	94	88	84	82	87	84	81	86	83	81	85	83	81	80
9	92	86	82	80	92	86	82	80	85	82	79	84	81	79	83	81	79	78
10	90	84	80	78	89	84	80	78	83	80	77	82	79	77	82	79	77	76

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L121706452.IES

POLAR GRAPH



Maximum Candela = 7679 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.)

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L121706452.IES

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