



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

Report No: L121706449



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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 FS-P-1-WH trim

Test: Photometric/Colorimetric/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: 1/8/18 - 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.

Test Summary

Manufacturer:	Number Eight Lighting Company
Model Number:	804/K2-HI-15/DIM1-8-1400 with FS-P-1-WH trim
Driver Model Number:	IntuitiveSystems ISD-701-1400-20-D
Total Lumens:	1112.05
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:	55
Color Rendering Index (CRI):	93
Correlated Color Temperature (K):	2953
Chromaticity Coordinate x:	0.4414
Chromaticity Coordinate y:	0.4074
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:45
Total Operating Time (Hours):	1:20

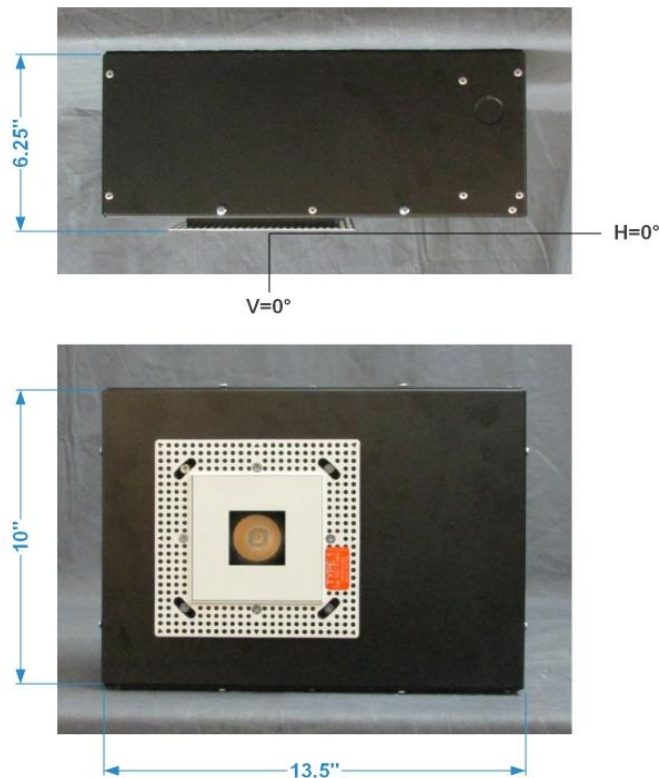
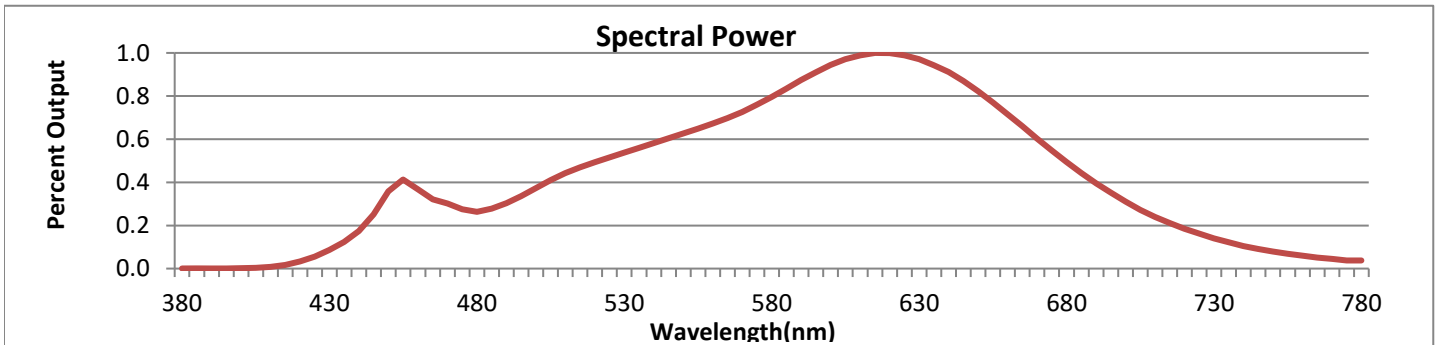


FIG. 1 LUMINAIRE

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



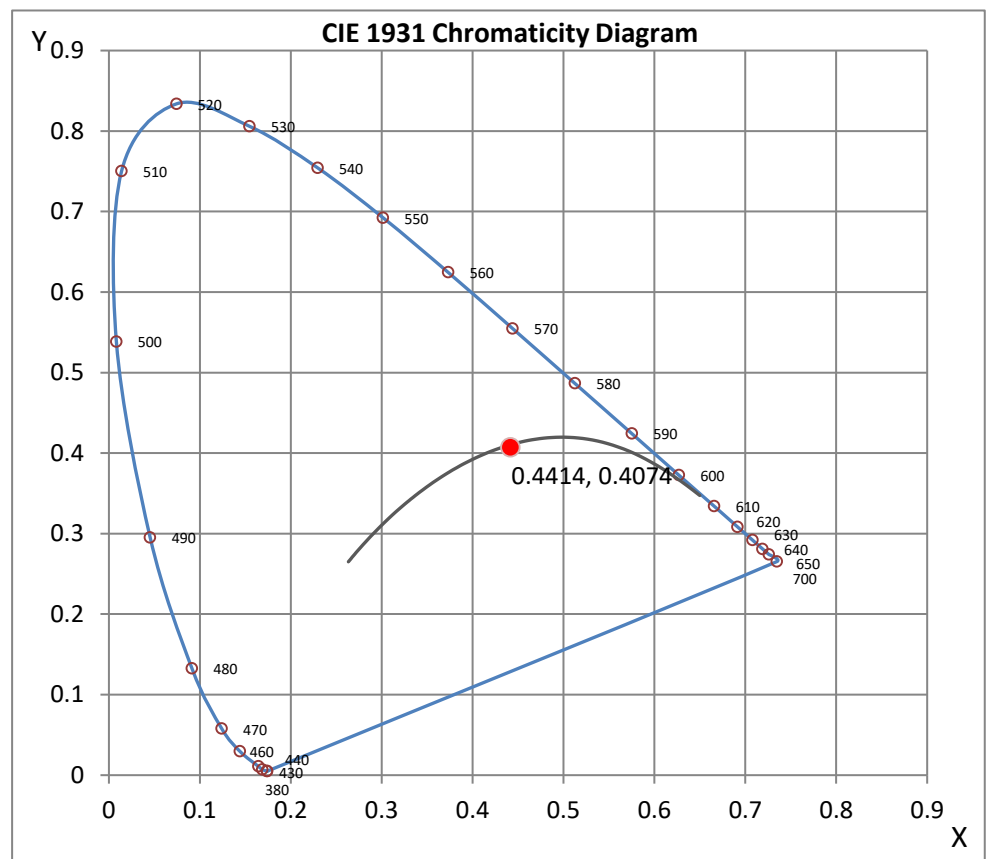
Wavelength	W/m ² nm	440	0.1738	510	0.4421	580	0.7952	650	0.8229	720	0.1852
380	0.0009	450	0.3581	520	0.4925	590	0.8738	660	0.7163	730	0.1404
390	0.0009	460	0.3673	530	0.5380	600	0.9442	670	0.6028	740	0.1049
400	0.0017	470	0.3010	540	0.5815	610	0.9894	680	0.4941	750	0.0794
410	0.0083	480	0.2626	550	0.6261	620	0.9993	690	0.3958	760	0.0596
420	0.0330	490	0.3032	560	0.6730	630	0.9709	700	0.3107	770	0.0445
430	0.0861	500	0.3733	570	0.7266	640	0.9112	710	0.2397	780	0.0382

CRI & CCT

x	0.4414
y	0.4074
u'	0.2520
v'	0.5234
CRI	92.50
CCT	2953
Duv	0.00072

R Values

R1	92.57
R2	96.97
R3	98.90
R4	92.17
R5	92.45
R6	96.67
R7	90.97
R8	79.70
R9	55.29
R10	92.13
R11	93.26
R12	84.13
R13	93.87
R14	99.54



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

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: 10*



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Photometric Test Report

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L121706449.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L121706449
[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 FS-P-1-WH trim
[LUMINAIRE] LED Recessed Downlight, 15° Beam Spread, 0° Aiming Angle,
[MORE] 1.75" x 1.75" 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	1112
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	55
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	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	6083	6083	6083
55	1667	1667	1667
65	1131	1131	1131
75	0	0	0
85	0	0	0

CANDELA TABULATION

	<u>0</u>
0.0	7684
1.0	7596
2.0	7350
3.0	6970
4.0	6476
5.0	5901
6.0	5280
7.0	4651
8.0	4053
9.0	3507
10.0	3025
12.0	2251
14.0	1689
16.0	1282
18.0	971
20.0	725
22.5	489
25.0	323
27.5	220
30.0	153
35.0	69
40.0	26
45.0	9
50.0	4
55.0	2
60.0	1
65.0	1
70.0	0
75.0	0
80.0	0
85.0	0
90.0	0

IES INDOOR REPORT
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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	889.02	N.A.	79.90
0-30	1051.67	N.A.	94.60
0-40	1100.21	N.A.	98.90
0-60	1111.31	N.A.	99.90
0-80	1112.05	N.A.	100.00
0-90	1112.05	N.A.	100.00
10-90	647.71	N.A.	58.20
20-40	211.18	N.A.	19.00
20-50	220.29	N.A.	19.80
40-70	11.84	N.A.	1.10
60-80	0.74	N.A.	0.10
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	1112.05	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	464.34
10-20	424.68
20-30	162.64
30-40	48.54
40-50	9.11
50-60	2.00
60-70	0.74
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

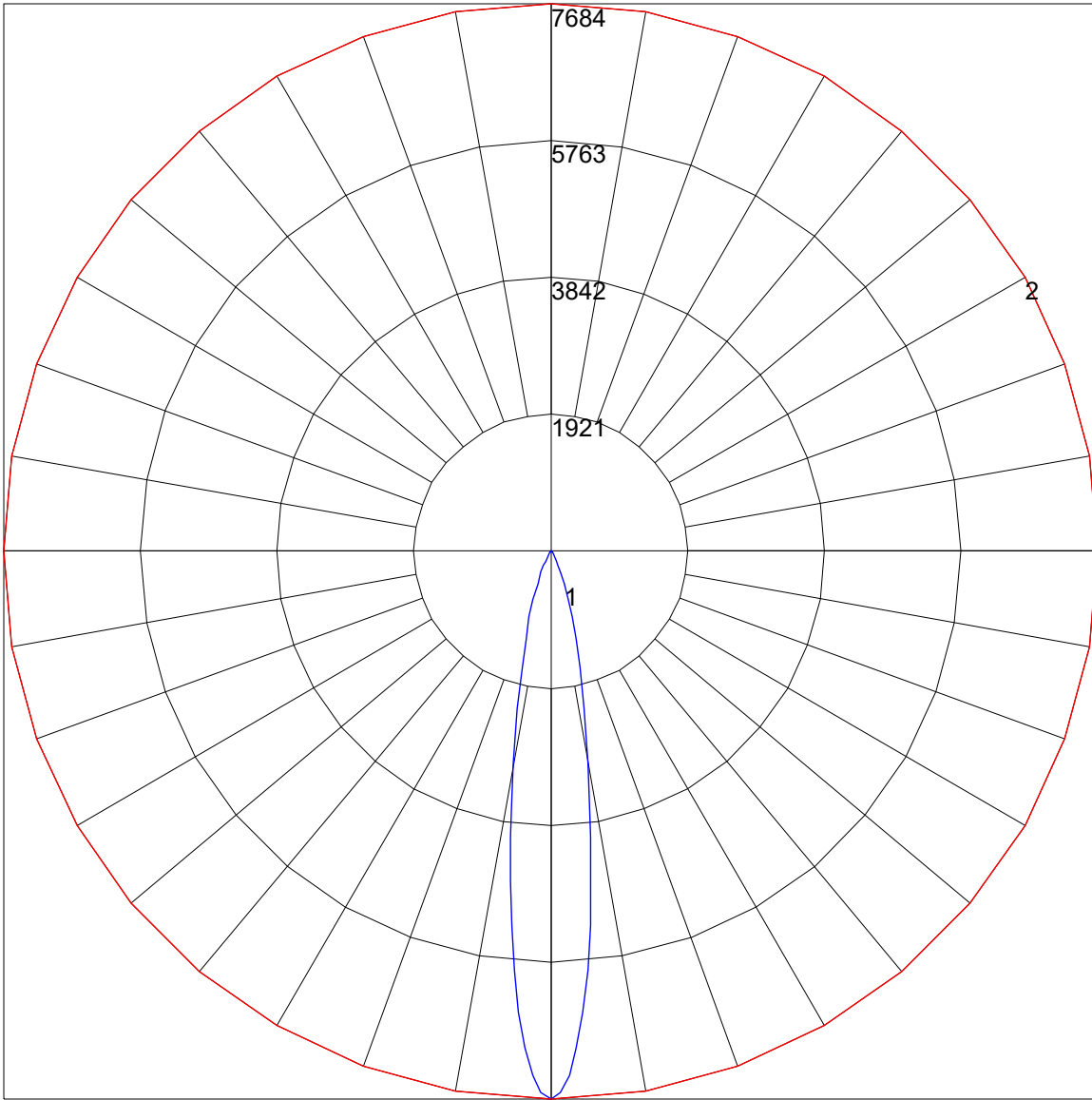
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	0
1	115	113	111	110	113	111	109	108	107	106	105	103	102	101	100	99	99	97	0
2	112	108	105	103	109	106	104	102	103	101	99	100	99	97	98	96	95	94	0
3	108	104	100	97	106	102	99	97	100	97	95	98	95	94	96	94	92	91	0
4	105	100	96	93	103	99	95	93	97	94	92	95	93	91	93	91	90	88	0
5	102	96	92	89	101	96	92	89	94	91	88	92	90	88	91	89	87	86	0
6	99	93	89	86	98	93	89	86	91	88	86	90	87	85	89	86	85	84	0
7	97	90	86	84	96	90	86	83	89	85	83	88	85	83	87	84	82	81	0
8	94	88	84	81	93	87	84	81	87	83	81	86	83	80	85	82	80	79	0
9	92	86	82	79	91	85	81	79	84	81	79	84	81	78	83	80	78	77	0
10	90	83	80	77	89	83	79	77	82	79	77	82	79	77	81	78	76	76	0

POLAR GRAPH



Maximum Candela = 7684 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.)

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

