



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

Report No: L081910669



**Report No:** L081910669

**Issue Date:** 9/6/2019

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

**Model Number:** 202-R-WD-3018-15-NFL/DIM1-2-SO/FLR-2-WH

**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.

**Special Test Condition:** Fixture is tested with no special conditions.

**Sample Arrival Date:** 8/16/19

**Date of Tests:** 9/3/19 - 9/6/19

**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

### General Information

<b>Manufacturer:</b>	Number Eight Lighting Company
<b>Model Number:</b>	202-R-WD-3018-15-NFL/DIM1-2-SO/FLR-2-WH
<b>Driver Model Number:</b>	INTUITIVE SYSTEMS ISD-701-350-15-D

### Test Summary

<b>Total Lumens:</b>	523.07
<b>Efficacy:</b>	35.73
<b>Color Redering Index:</b>	96.5
<b>Correlated Color Temperature:</b>	3028
<b>Input Voltage (VAC/60Hz):</b>	120.05
<b>Input Current (Amp):</b>	0.1229
<b>Input Power (W):</b>	14.64
<b>Input Power Factor:</b>	0.9922
<b>Current ATHD (%):</b>	7.2%

### Test Condition

<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	1:00
<b>Total Operating Time (Hours):</b>	2:00

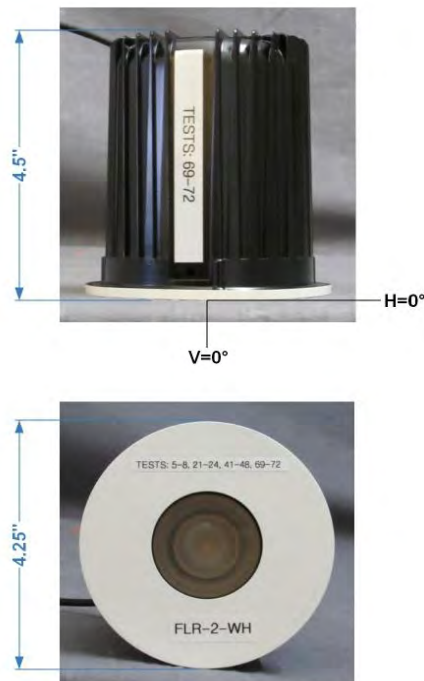
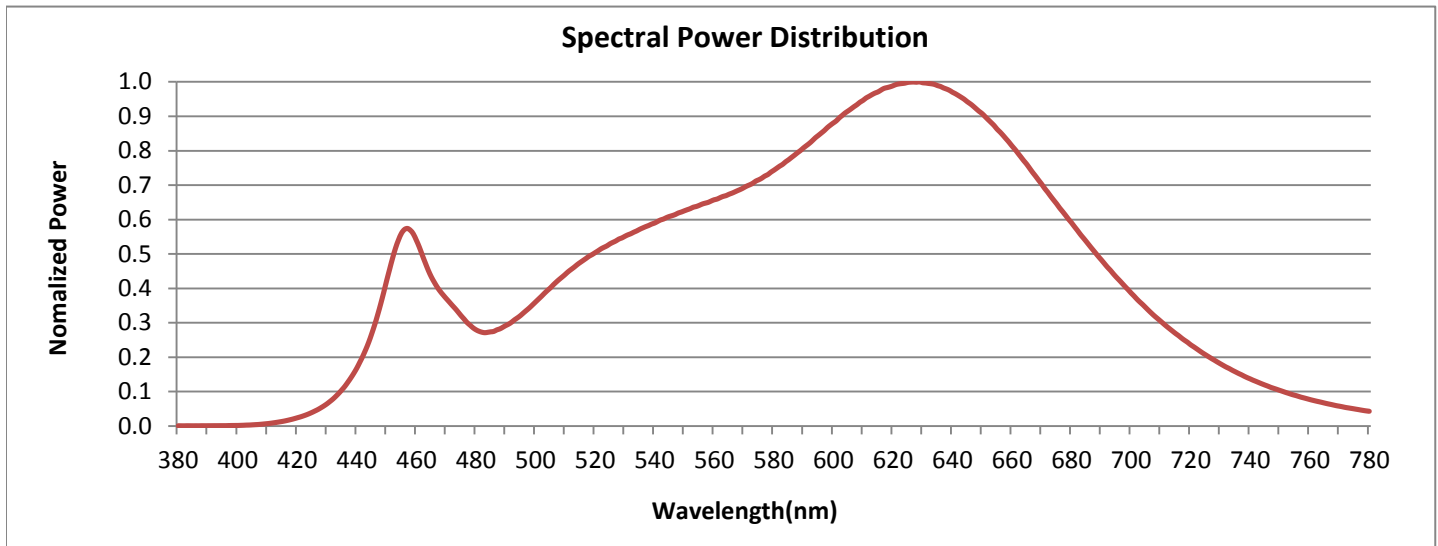


FIG. 1 LUMINAIRE

## Colorimetry Test Results

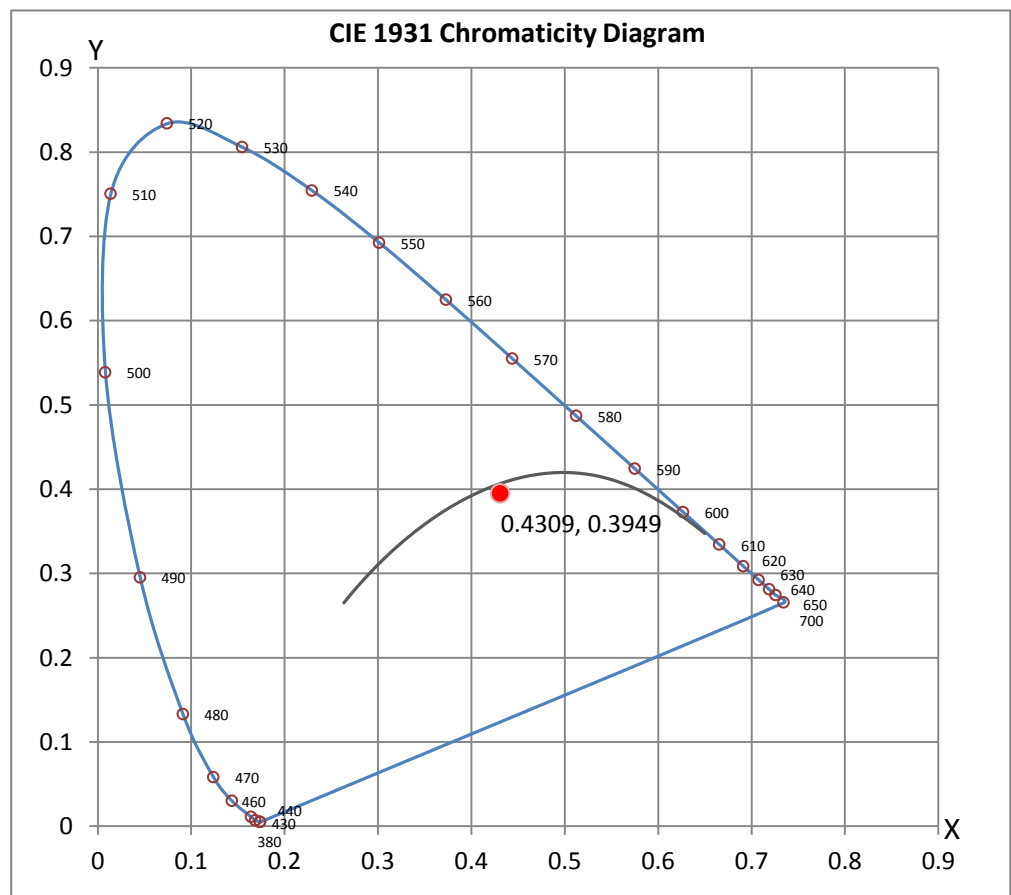


### CRI & CCT

x	0.4309
y	0.3949
u'	0.2506
v'	0.5168
CRI	96.50
CCT	3028
Duv	-0.00287

### R Values

R1	98.32
R2	99.13
R3	98.53
R4	97.13
R5	97.83
R6	96.42
R7	94.14
R8	90.56
R9	81.00
R10	98.05
R11	97.50
R12	83.35
R13	99.34
R14	98.49
R15	96.39





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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 : L081910669.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L081910669  
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)  
[ISSUEDATE] 9/6/2019  
[MANUFAC] Number Eight Lighting Company  
[LUMCAT] 202-R-WD-3018-15-NFL/DIM1-2-SO/FLR-2-WH  
[LUMINAIRE] LED Recessed Adjustable Downlight, 0° Aiming Angle, 3000-1800K 90+ CRI, 15° Beam Spread,  
[MORE] NFL Lens, Standard Output 1% Dimming Driver, Round Flanged Trim, 1.875" 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] 120.05VAC, 14.64W  
[TEST PROCEDURE] IESNA:LM-79-08

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	523
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	36
Total Luminaire Watts	14.64
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.44
Spacing Criterion (90-270)	0.44
Spacing Criterion (Diagonal)	0.46
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.16 ft (Diameter)
Luminous Width (90-270)	0.16 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	4917	4917	4917
55	932	932	932
65	0	0	0
75	0	0	0
85	0	0	0

IES INDOOR REPORT  
PHOTOMETRIC FILENAME : L081910669.IES

CANDELA TABULATION

	<u>0</u>
0.0	2084
1.0	2086
3.0	2024
5.0	1872
7.0	1673
9.0	1448
11.0	1226
13.0	1016
15.0	828
17.0	657
19.5	476
22.5	307
25.5	190
29.0	105
33.0	50
37.5	21
42.5	9
47.5	4
55.0	1
65.0	0
75.0	0
85.0	0
90.0	0

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L081910669.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	380.26	N.A.	72.70
0-30	485.58	N.A.	92.80
0-40	513.19	N.A.	98.10
0-60	522.60	N.A.	99.90
0-80	523.07	N.A.	100.00
0-90	523.07	N.A.	100.00
10-90	387.28	N.A.	74.00
20-40	132.93	N.A.	25.40
20-50	140.74	N.A.	26.90
40-70	9.88	N.A.	1.90
60-80	0.47	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	523.07	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	135.79
10-20	244.47
20-30	105.32
30-40	27.61
40-50	7.80
50-60	1.60
60-70	0.47
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 : L081910669.IES**

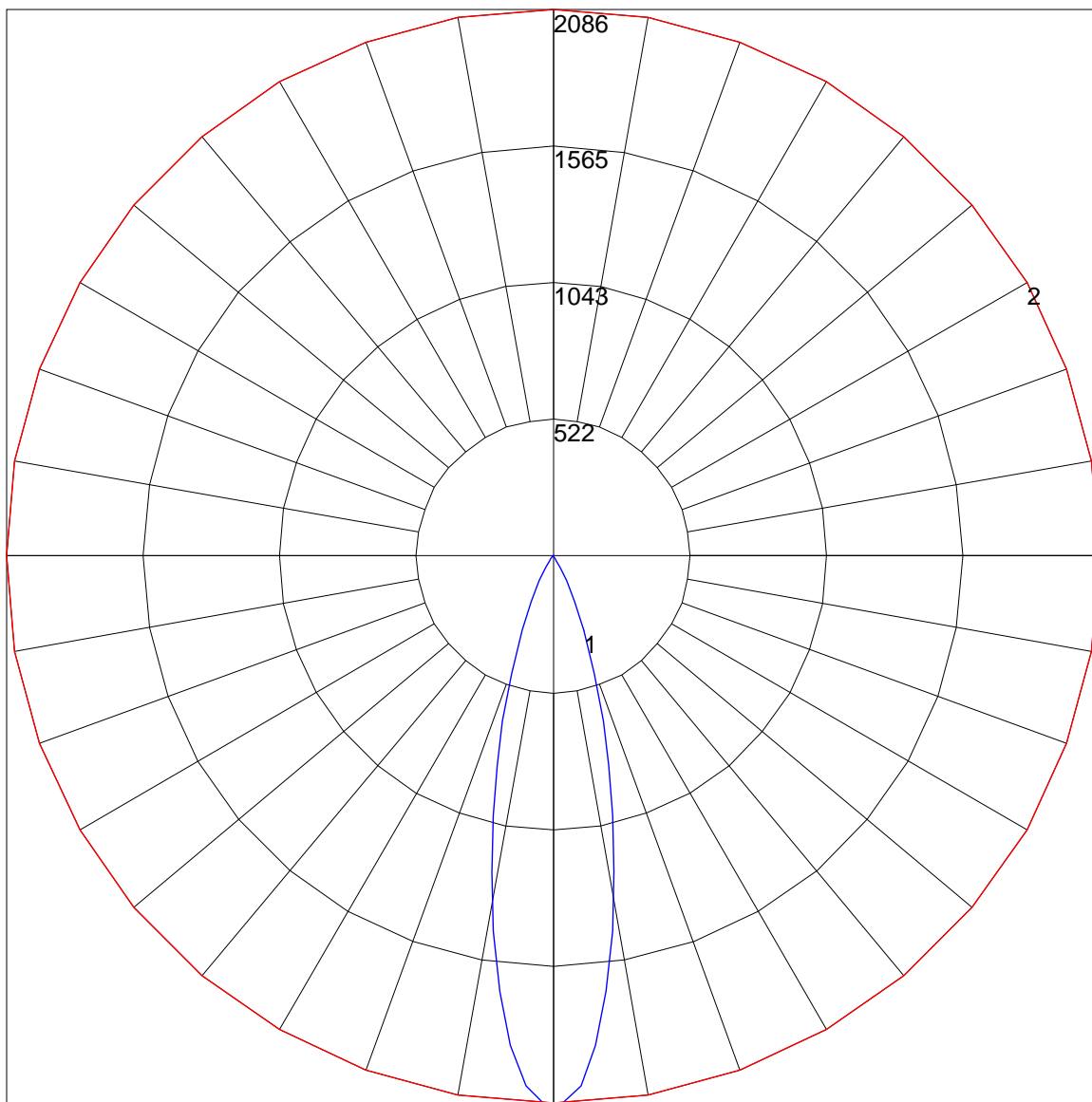
**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	112	110	109	112	110	109	107	106	105	104	103	102	101	99	98	98	96
2	111	107	104	101	109	105	102	100	102	100	98	99	97	96	96	95	94	92
3	107	102	98	95	105	100	97	94	98	95	92	96	93	91	93	91	90	88
4	103	97	93	90	101	96	92	89	94	91	88	92	89	87	90	88	86	85
5	99	93	89	85	98	92	88	85	91	87	84	89	86	84	88	85	83	82
6	96	89	85	82	95	89	84	81	87	84	81	86	83	80	85	82	80	79
7	93	86	81	78	92	85	81	78	84	80	78	83	80	77	82	79	77	76
8	90	83	78	75	89	82	78	75	81	78	75	80	77	74	80	77	74	73
9	87	80	75	72	86	80	75	72	79	75	72	78	74	72	77	74	72	71
10	85	77	73	70	84	77	73	70	76	72	70	76	72	70	75	72	69	68



POLAR GRAPH



Maximum Candela = 2086 Located At Horizontal Angle = 0, Vertical Angle = 1  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (1) (Through Max. Cd.)

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

