



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

Report No: L081910629



**Report No:** L081910629

**Issue Date:** 9/3/2019

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

**Model Number:** 201-R-BV-WD-3018-15-NFL/DIM1-2-SO/FLR-2-BV-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:** 8/22/19 - 9/3/19

**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>	201-R-BV-WD-3018-15-NFL/DIM1-2-SO/FLR-2-BV-WH
<b>Driver Model Number:</b>	INTUITIVE SYSTEMS ISD-701-350-15-D

**Test Summary**

<b>Total Lumens:</b>	661.96
<b>Efficacy:</b>	45.10
<b>Color Redering Index:</b>	96.4
<b>Correlated Color Temperature:</b>	3018
<b>Input Voltage (VAC/60Hz):</b>	120.02
<b>Input Current (Amp):</b>	0.1231
<b>Input Power (W):</b>	14.68
<b>Input Power Factor:</b>	0.9936
<b>Current ATHD (%):</b>	7.1%

**Test Condition**

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

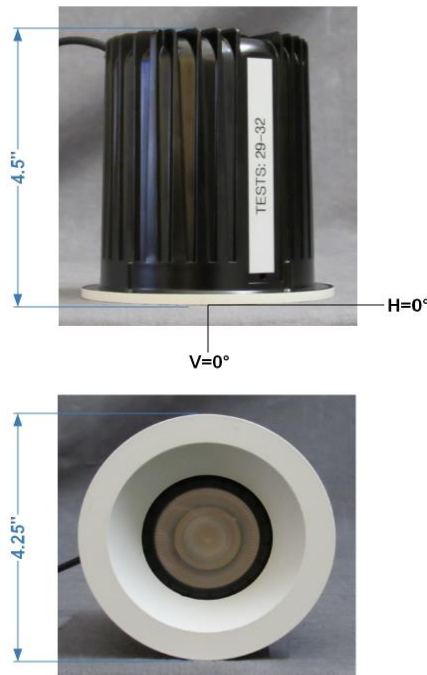
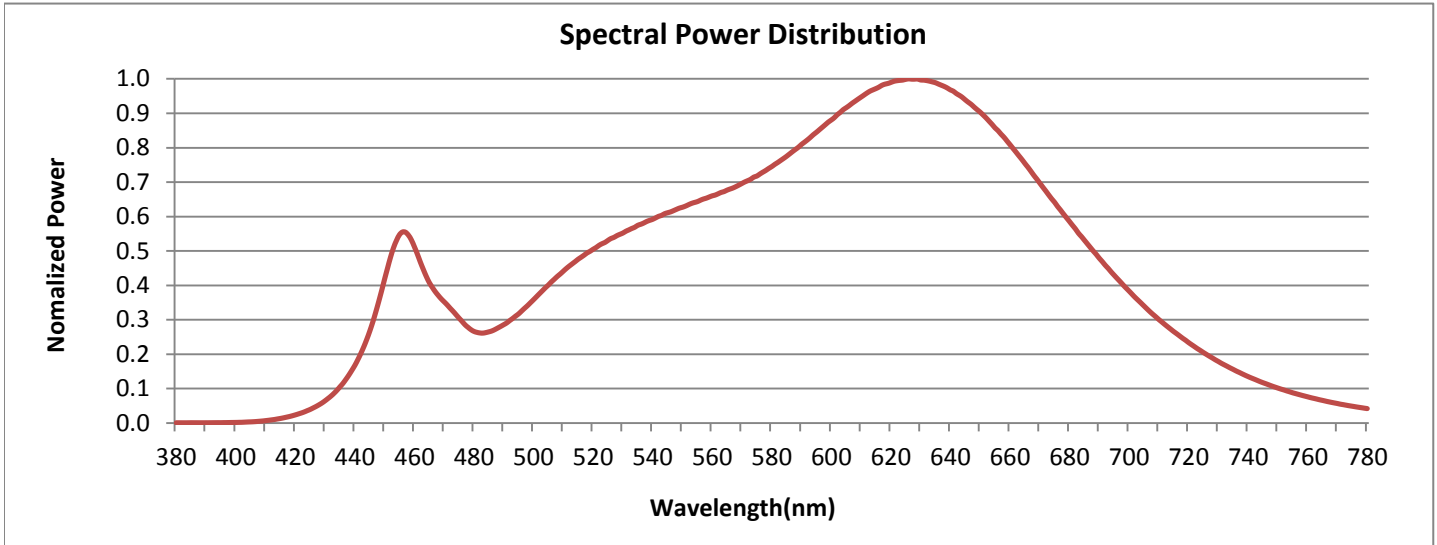


FIG. 1 LUMINAIRE

**Colorimetry Test Results**

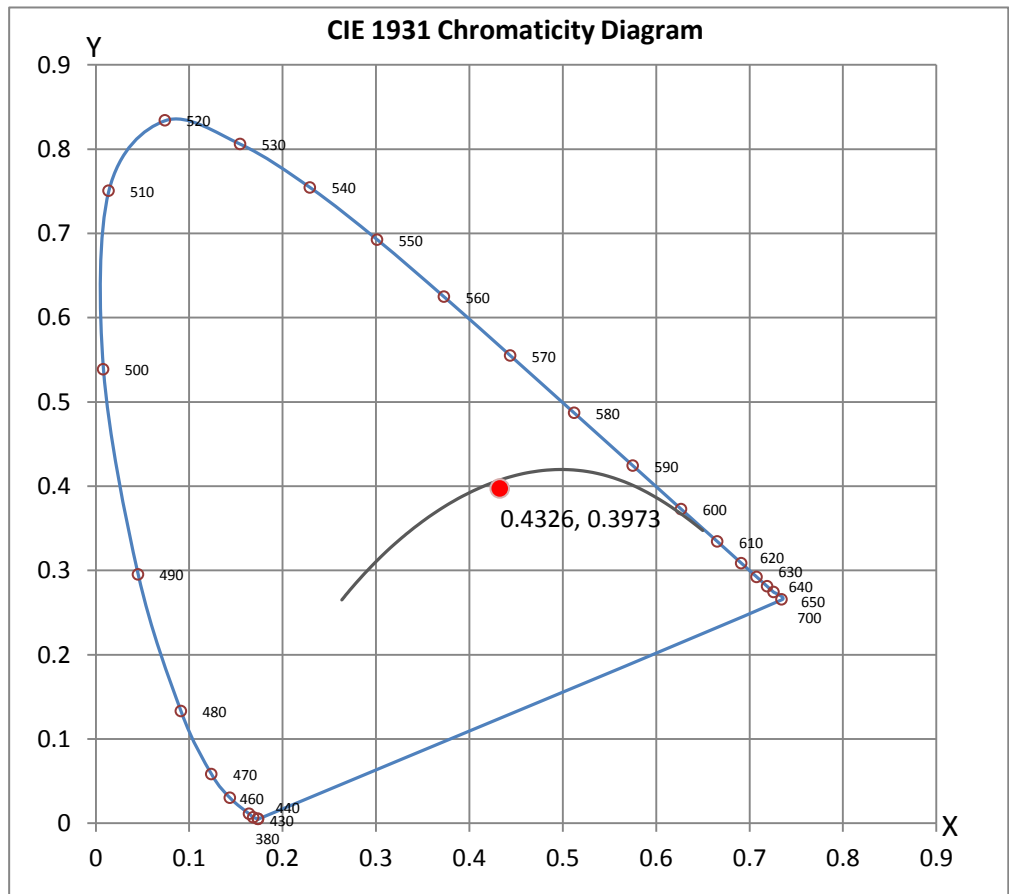


**CRI & CCT**

x	0.4326
y	0.3973
u'	0.2507
v'	0.5180
CRI	96.40
CCT	3018
Duv	-0.00213

**R Values**

R1	97.84
R2	99.16
R3	98.29
R4	96.91
R5	97.34
R6	96.92
R7	94.37
R8	90.06
R9	79.20
R10	96.73
R11	97.35
R12	83.14
R13	98.76
R14	98.19
R15	95.62



## 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 : L081910629.IES**

## DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L081910629  
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)  
[ISSUE DATE] 9/3/2019  
[MANUFAC] Number Eight Lighting Company  
[LUMCAT] 201-R-BV-WD-3018-15-NFL/DIM1-2-SO/FLR-2-BV-WH  
[LUMINAIRE] LED Recessed Fixed Position Downlight, 3000-1800K 90+ CRI, 15° Beam Spread,  
[MORE] NFL Lens, Standard Output 1% Dimming Driver, Round Flanged Bevel Trim, 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, 14.68W  
[TEST PROCEDURE] IESNA:LM-79-08

## CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	662
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	45
Total Luminaire Watts	14.68
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.48
Spacing Criterion (90-270)	0.48
Spacing Criterion (Diagonal)	0.50
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.27 ft (Diameter)
Luminous Width (90-270)	0.27 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	3453	3453	3453
55	982	982	982
65	889	889	889
75	726	726	726
85	0	0	0

CANDELA TABULATION

	<u>0</u>
0.0	2194
1.0	2196
3.0	2151
5.0	2043
7.0	1883
9.0	1684
11.0	1466
13.0	1242
15.0	1027
17.0	828
19.5	609
22.5	404
25.5	261
29.0	157
33.0	89
37.5	45
42.5	17
47.5	9
55.0	3
65.0	2
75.0	1
85.0	0
90.0	0

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L081910629.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	449.92	N.A.	68.00
0-30	590.84	N.A.	89.30
0-40	637.70	N.A.	96.30
0-60	657.51	N.A.	99.30
0-80	661.42	N.A.	99.90
0-90	661.96	N.A.	100.00
10-90	511.71	N.A.	77.30
20-40	187.78	N.A.	28.40
20-50	203.74	N.A.	30.80
40-70	22.18	N.A.	3.40
60-80	3.92	N.A.	0.60
70-80	1.54	N.A.	0.20
80-90	0.54	N.A.	0.10
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	661.96	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	150.26
10-20	299.66
20-30	140.92
30-40	46.86
40-50	15.96
50-60	3.85
60-70	2.37
70-80	1.54
80-90	0.54
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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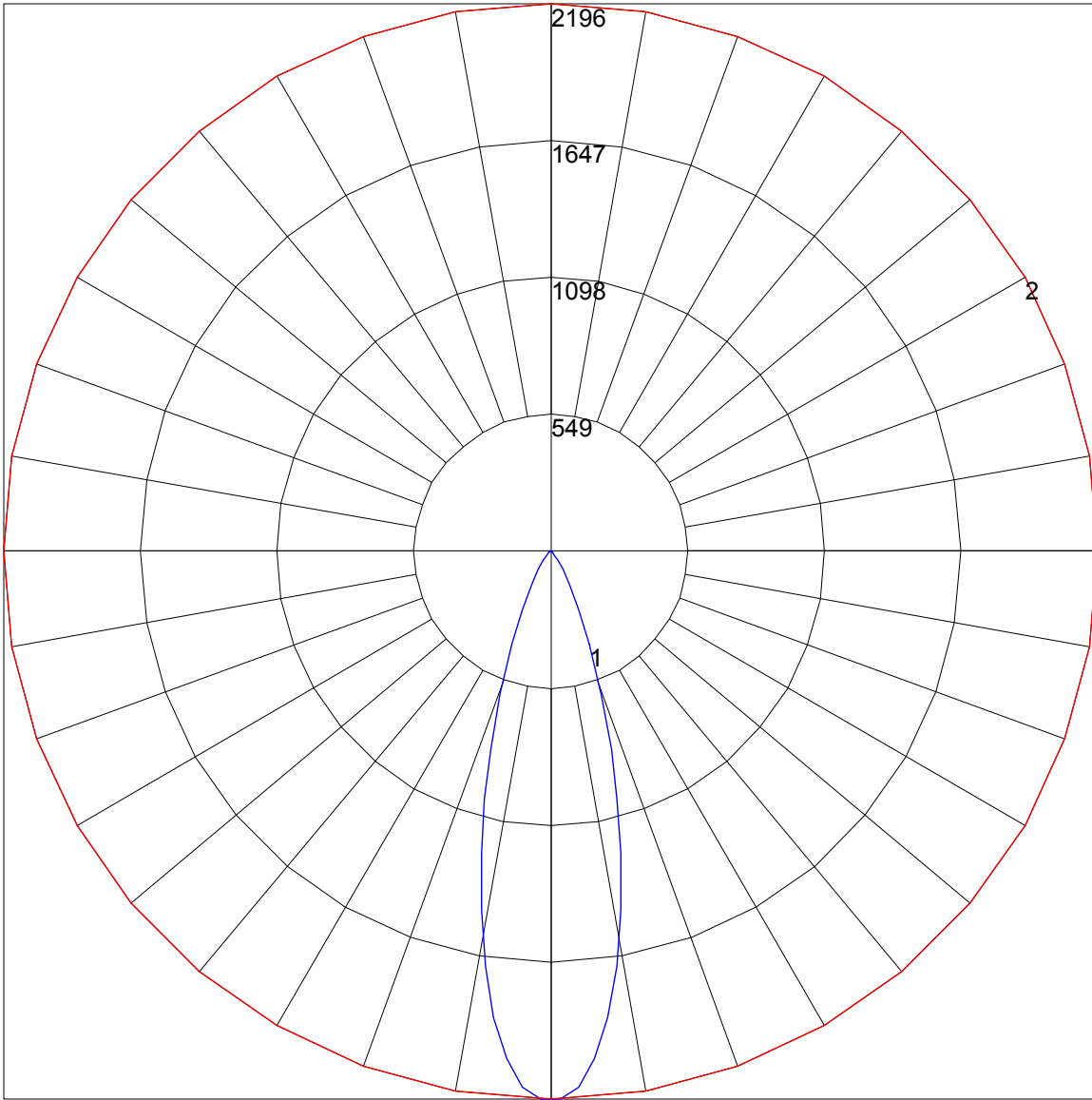
**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95
2	110	106	103	100	108	104	101	99	101	99	96	98	96	94	95	94	92	91
3	106	100	96	93	104	99	95	92	97	93	91	94	92	90	92	90	88	87
4	102	96	91	88	100	95	90	87	93	89	86	91	88	85	89	86	84	83
5	98	91	87	83	97	90	86	83	89	85	82	87	84	81	86	83	81	79
6	95	87	83	79	93	87	82	79	85	81	78	84	80	78	83	80	77	76
7	91	84	79	76	90	83	79	75	82	78	75	81	77	75	80	77	74	73
8	88	80	76	72	87	80	75	72	79	75	72	78	74	72	77	74	71	70
9	85	77	73	70	84	77	72	69	76	72	69	75	72	69	75	71	69	68
10	82	75	70	67	81	74	70	67	73	69	67	73	69	66	72	69	66	65



POLAR GRAPH



Maximum Candela = 2196 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

