



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

Report No: L081910665



**Report No:** L081910665

**Issue Date:** 9/12/2019

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

**Model Number:** 202-S-WD-3018-15-NFL/DIM1-2-SO/FLS-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:** 9/10/19 - 9/12/19

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

### Test Summary

<b>Total Lumens:</b>	572.17
<b>Efficacy:</b>	38.05
<b>Color Redering Index:</b>	96.6
<b>Correlated Color Temperature:</b>	2993
<b>Input Voltage (VAC/60Hz):</b>	119.96
<b>Input Current (Amp):</b>	0.1261
<b>Input Power (W):</b>	15.04
<b>Input Power Factor:</b>	0.9940
<b>Current ATHD (%):</b>	5.2%

### Test Condition

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

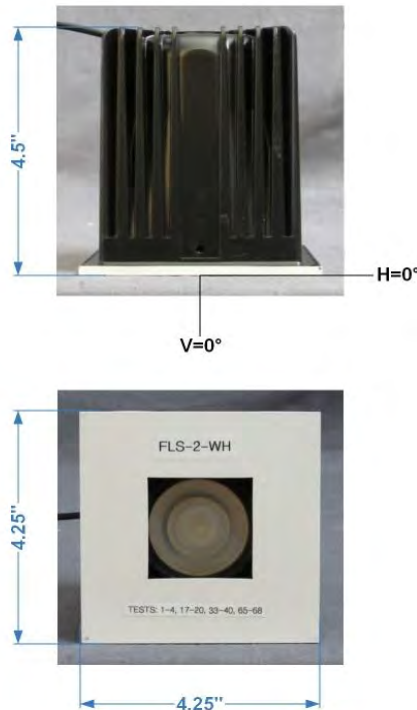
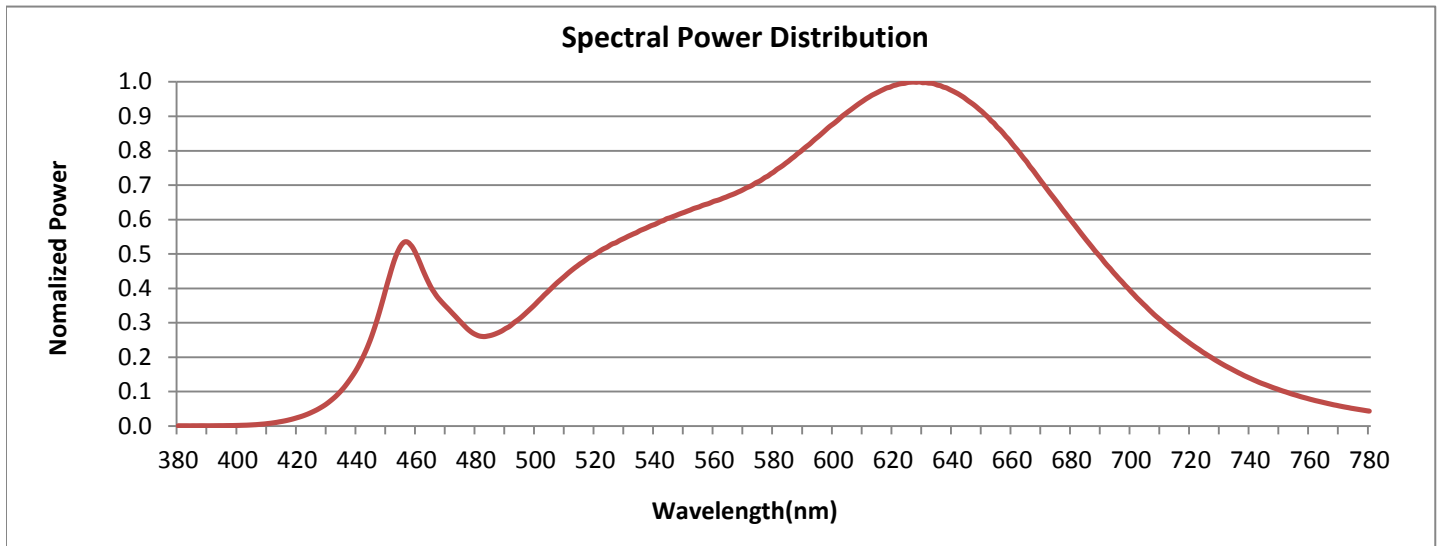


FIG. 1 LUMINAIRE

## Colorimetry Test Results

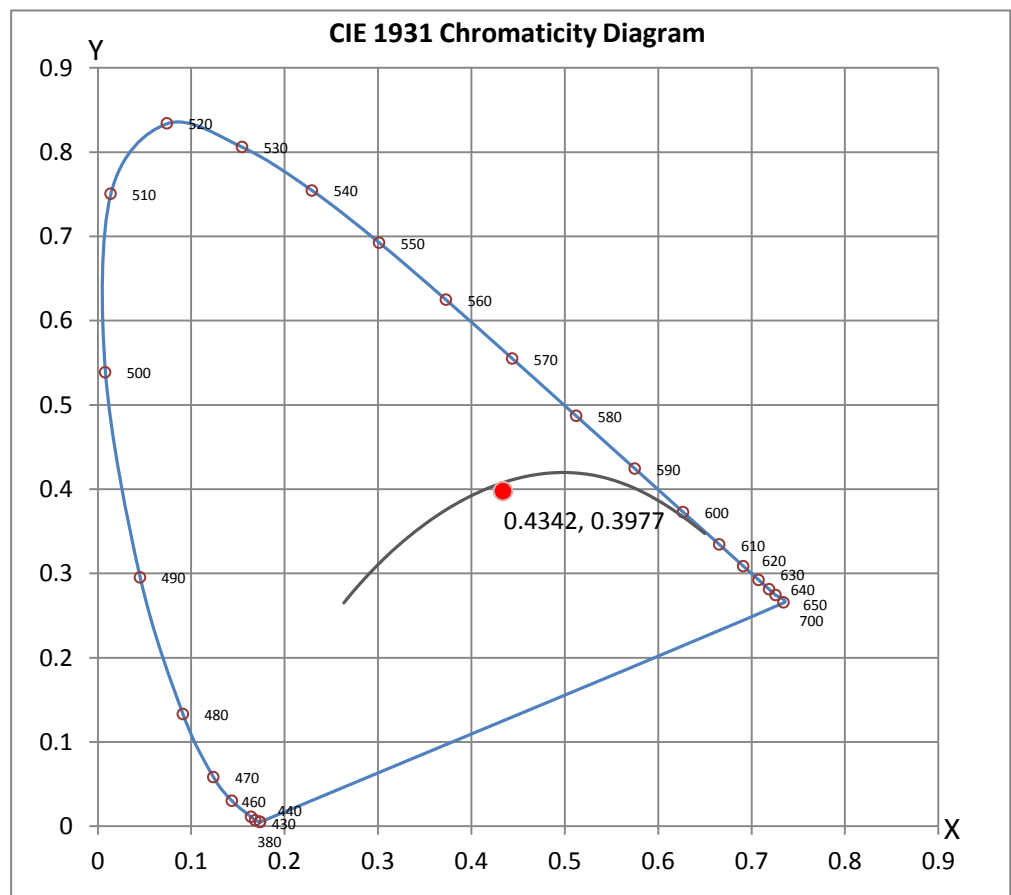


### CRI & CCT

x	0.4342
y	0.3977
u'	0.2516
v'	0.5184
CRI	96.60
CCT	2993
Duv	-0.00219

### R Values

R1	98.15
R2	99.26
R3	98.37
R4	97.28
R5	97.71
R6	96.89
R7	94.50
R8	90.52
R9	80.32
R10	97.25
R11	97.64
R12	83.89
R13	99.07
R14	98.23
R15	95.97





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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 : L081910665.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L081910665  
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)  
[ISSUEDATE] 9/12/2019  
[MANUFAC] Number Eight Lighting Company  
[LUMCAT] 202-S-WD-3018-15-NFL/DIM1-2-SO/FLS-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, Square Flanged Trim, 1.875" x 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] 119.96VAC, 15.04W  
[TEST PROCEDURE] IESNA:LM-79-08

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	572
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	38
Total Luminaire Watts	15.04
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.46
Spacing Criterion (90-270)	0.46
Spacing Criterion (Diagonal)	0.46
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	4393	6759	4731
55	833	833	833
65	0	0	0
75	0	0	0
85	0	0	0

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L081910665.IES**

**CANDELA TABULATION**

	<u>0</u>	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>	<u>45</u>
<b>0.0</b>	2185	2185	2185	2185	2185	2185	2185	2185	2185	2185
<b>1.0</b>	2193	2192	2194	2194	2196	2195	2194	2195	2194	2194
<b>3.0</b>	2135	2135	2136	2137	2138	2138	2137	2138	2138	2138
<b>5.0</b>	2003	2002	2002	2003	2004	2004	2003	2002	2002	2001
<b>7.0</b>	1818	1818	1818	1818	1818	1815	1813	1811	1809	1808
<b>9.0</b>	1600	1600	1598	1595	1593	1589	1587	1584	1581	1581
<b>11.0</b>	1367	1367	1365	1362	1358	1355	1350	1345	1342	1340
<b>13.0</b>	1143	1141	1138	1135	1128	1123	1117	1112	1106	1102
<b>15.0</b>	933	932	927	922	915	909	902	895	890	888
<b>17.0</b>	738	738	734	730	724	718	712	706	702	700
<b>19.5</b>	530	530	528	525	521	516	513	511	509	508
<b>22.5</b>	324	324	323	323	323	323	324	328	331	334
<b>25.5</b>	195	195	196	196	197	200	204	207	210	213
<b>29.0</b>	105	105	105	107	109	112	116	119	122	125
<b>33.0</b>	48	48	49	50	52	56	59	63	66	68
<b>37.5</b>	20	20	20	21	22	24	26	30	33	35
<b>42.5</b>	9	9	9	10	10	10	11	12	13	14
<b>47.5</b>	4	4	4	4	4	5	5	6	6	6
<b>55.0</b>	1	1	1	1	1	1	1	1	1	1
<b>65.0</b>	0	0	0	0	0	0	0	0	0	0
<b>75.0</b>	0	0	0	0	0	0	0	0	0	0
<b>85.0</b>	0	0	0	0	0	0	0	0	0	0
<b>90.0</b>	0	0	0	0	0	0	0	0	0	0

**Vert. Angles**      **Horizontal Angles**

	<u>50</u>	<u>55</u>	<u>60</u>	<u>65</u>	<u>70</u>	<u>75</u>	<u>80</u>	<u>85</u>	<u>90</u>
<b>0.0</b>	2185	2185	2185	2185	2185	2185	2185	2185	2185
<b>1.0</b>	2193	2194	2191	2191	2190	2190	2191	2191	2191
<b>3.0</b>	2138	2137	2135	2134	2135	2134	2134	2134	2135
<b>5.0</b>	2000	1999	1997	1998	1996	1998	1998	1998	1998
<b>7.0</b>	1807	1806	1805	1804	1804	1805	1805	1806	1807
<b>9.0</b>	1579	1577	1576	1577	1578	1579	1580	1582	1581
<b>11.0</b>	1338	1336	1337	1337	1339	1341	1343	1342	1344
<b>13.0</b>	1101	1100	1100	1102	1105	1107	1111	1109	1114
<b>15.0</b>	886	886	886	889	893	898	901	903	908
<b>17.0</b>	699	700	701	703	707	713	717	722	725
<b>19.5</b>	508	508	509	511	514	518	524	524	521
<b>22.5</b>	335	336	338	342	346	350	354	358	362
<b>25.5</b>	215	215	215	215	216	218	221	222	223
<b>29.0</b>	126	125	124	123	121	121	121	122	122
<b>33.0</b>	68	67	64	62	59	58	57	57	57
<b>37.5</b>	34	31	29	26	25	24	23	23	23
<b>42.5</b>	14	12	11	11	11	10	10	10	10
<b>47.5</b>	6	6	5	5	5	4	4	4	4
<b>55.0</b>	1	1	1	1	1	1	1	1	1
<b>65.0</b>	0	0	0	0	0	0	0	0	0
<b>75.0</b>	0	0	0	0	0	0	0	0	0
<b>85.0</b>	0	0	0	0	0	0	0	0	0
<b>90.0</b>	0	0	0	0	0	0	0	0	0

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L081910665.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	412.98	N.A.	72.20
0-30	528.32	N.A.	92.30
0-40	560.27	N.A.	97.90
0-60	571.69	N.A.	99.90
0-80	572.17	N.A.	100.00
0-90	572.17	N.A.	100.00
10-90	426.37	N.A.	74.50
20-40	147.29	N.A.	25.70
20-50	156.84	N.A.	27.40
40-70	11.89	N.A.	2.10
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	572.17	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	145.79
10-20	267.19
20-30	115.34
30-40	31.95
40-50	9.55
50-60	1.87
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 : L081910665.IES**

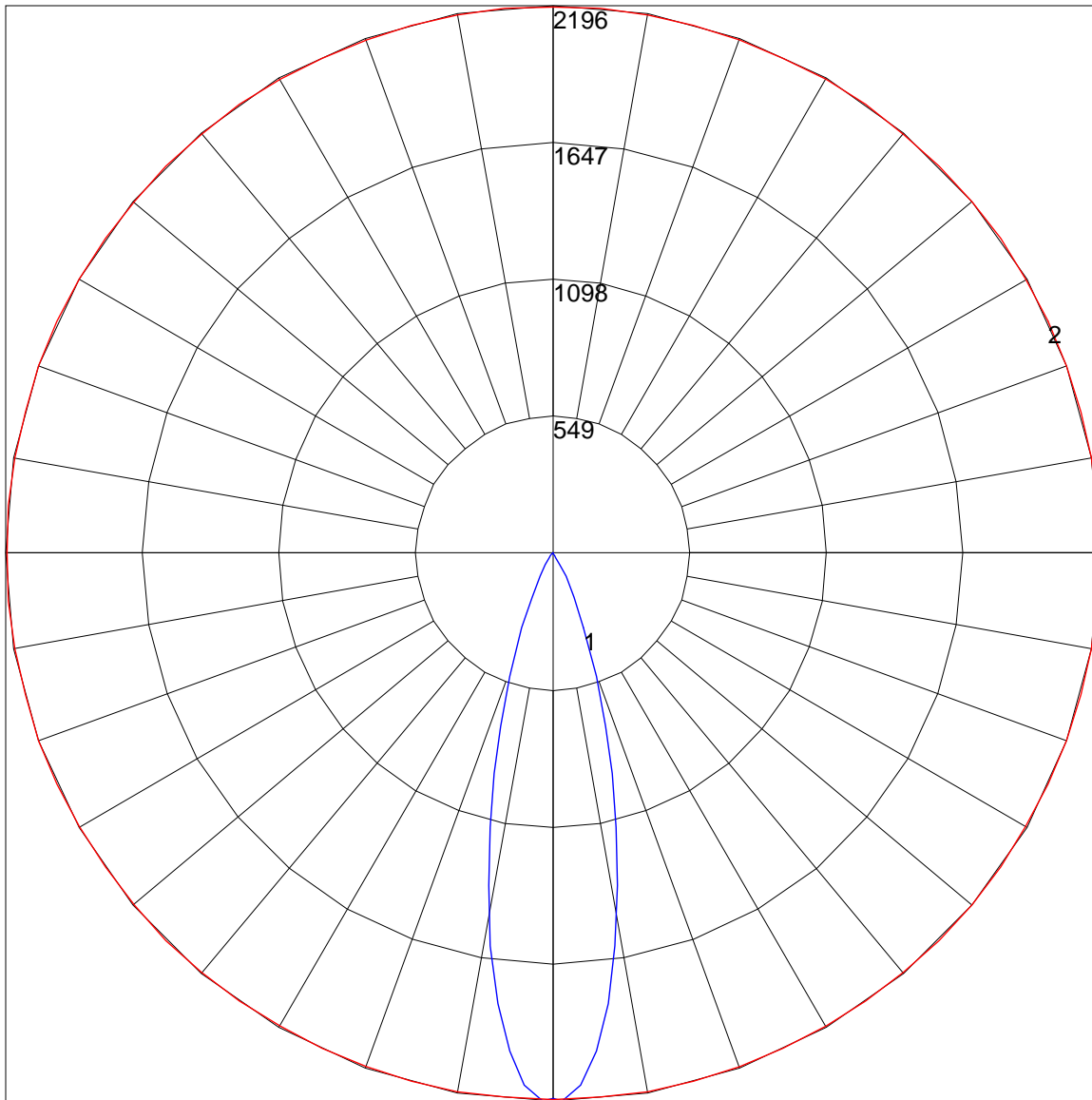
**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	103	101	108	105	102	100	102	100	97	99	97	95	96	95	93	92
3	107	102	98	95	105	100	97	94	98	95	92	95	93	91	93	91	90	88
4	103	97	93	89	101	96	92	89	94	91	88	92	89	87	90	88	86	85
5	99	93	88	85	98	92	88	85	90	87	84	89	86	83	87	85	83	81
6	96	89	85	81	95	88	84	81	87	83	80	86	82	80	85	82	79	78
7	93	86	81	78	92	85	81	78	84	80	77	83	79	77	82	79	77	75
8	90	83	78	75	89	82	78	75	81	77	74	80	77	74	79	76	74	73
9	87	80	75	72	86	79	75	72	78	75	72	78	74	72	77	74	71	70
10	84	77	73	70	83	77	72	69	76	72	69	75	72	69	75	71	69	68



POLAR GRAPH



Maximum Candela = 2196 Located At Horizontal Angle = 20, Vertical Angle = 1  
# 1 - Vertical Plane Through Horizontal Angles (20 - 200) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (1) (Through Max. Cd.)

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

