



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

Report No: L081910625



**Report No:** L081910625

**Issue Date:** 8/27/2019

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

**Model Number:** 201-S-BV-WD-3018-15-NFL/DIM1-2-SO/FLS-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 - 8/27/19

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

**Test Summary**

<b>Total Lumens:</b>	665.59
<b>Efficacy:</b>	44.33
<b>Color Redering Index:</b>	96.6
<b>Correlated Color Temperature:</b>	3028
<b>Input Voltage (VAC/60Hz):</b>	120.00
<b>Input Current (Amp):</b>	0.1257
<b>Input Power (W):</b>	15.02
<b>Input Power Factor:</b>	0.9953
<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

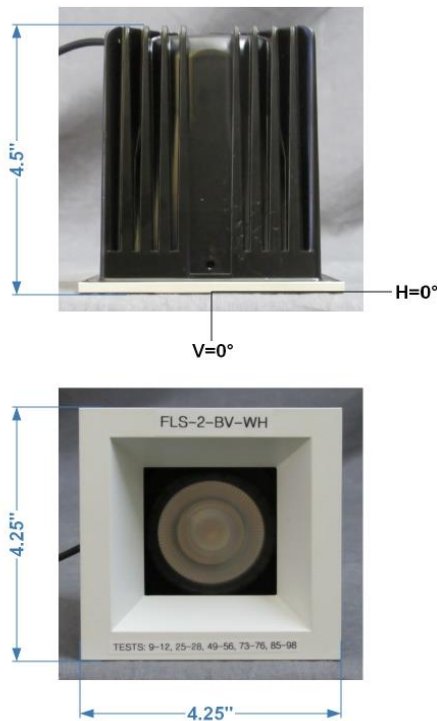
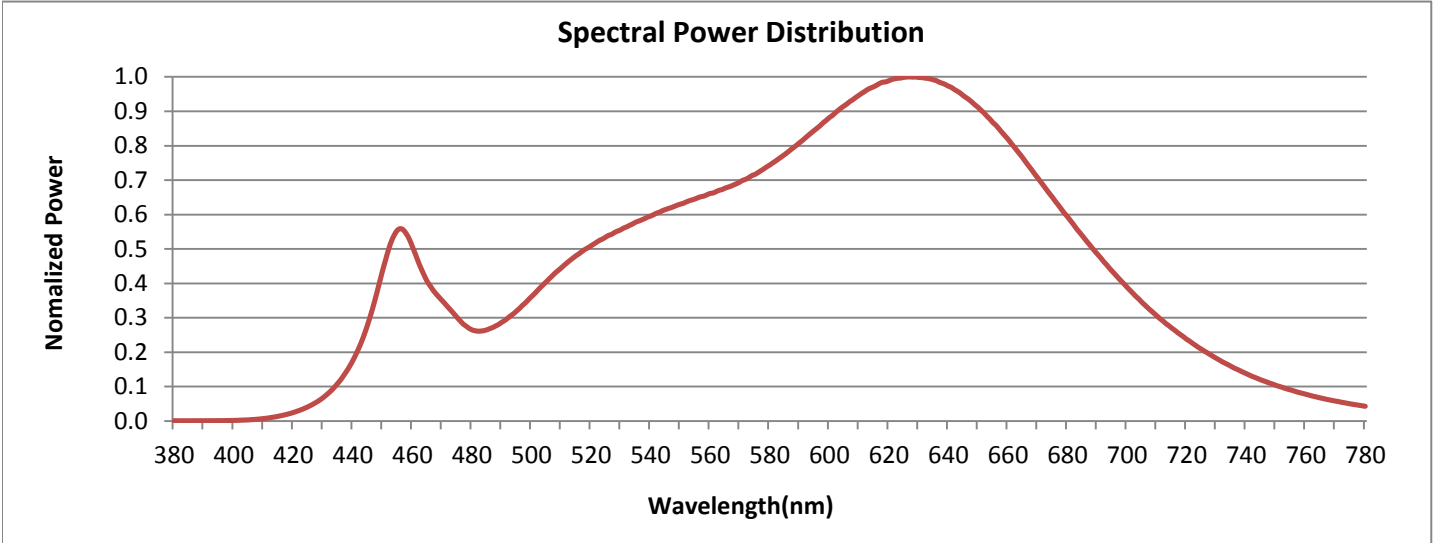


FIG. 1 LUMINAIRE

**Colorimetry Test Results**

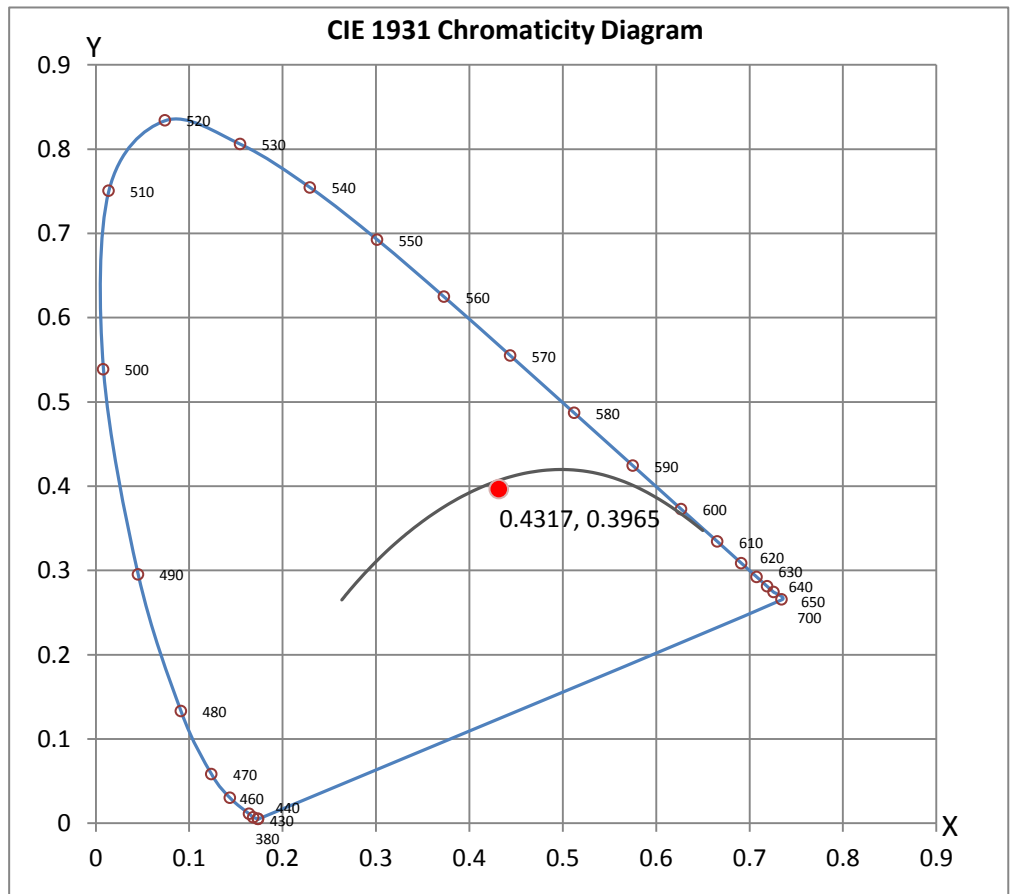


**CRI & CCT**

x	0.4317
y	0.3965
u'	0.2505
v'	0.5176
CRI	96.60
CCT	3028
Duv	-0.00233

**R Values**

R1	98.15
R2	99.16
R3	98.08
R4	97.32
R5	97.69
R6	96.91
R7	94.72
R8	90.78
R9	80.63
R10	96.85
R11	97.48
R12	83.48
R13	99.01
R14	98.04
R15	96.10



## 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 : L081910625.IES**

## DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L081910625  
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)  
[ISSUEDATE] 8/21/2019  
[MANUFAC] Number Eight Lighting Company  
[LUMCAT] 201-S-BV-WD-3018-15-NFL/DIM1-2-SO/FLS-2-BV-WH  
[LUMINAIRE] LED Recessed Fixed Position Downlight, 3000-1800K 90+ CRI, 15° Beam Spread,  
[MORE] NFL Lens, Standard Output 1% Dimming Driver, Square Flanged Bevel Trim, 2.25" x 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] 120.0VAC, 15.02W  
[TEST PROCEDURE] IESNA:LM-79-08

## CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	666
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	44
Total Luminaire Watts	15.02
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.48
Spacing Criterion (90-270)	0.50
Spacing Criterion (Diagonal)	0.50
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.27 ft
Luminous Width (90-270)	0.27 ft
Luminous Height	0.00 ft

## LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	2921	6571	2921
55	772	1543	772
65	698	698	698
75	1140	570	570
85	0	0	0

**IES INDOOR REPORT**  
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**CANDELA TABULATION**

	<b>0</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>
<b>0.0</b>	2173	2173	2173	2173	2173	2173	2173	2173	2173	2173
<b>1.0</b>	2169	2170	2171	2172	2173	2172	2172	2173	2173	2173
<b>3.0</b>	2115	2117	2119	2121	2123	2122	2123	2121	2123	2124
<b>5.0</b>	1999	2000	2003	2006	2008	2008	2009	2008	2008	2011
<b>7.0</b>	1832	1834	1838	1841	1843	1844	1845	1844	1846	1851
<b>9.0</b>	1628	1630	1633	1639	1641	1642	1645	1644	1646	1653
<b>11.0</b>	1410	1412	1415	1421	1423	1426	1429	1430	1430	1438
<b>13.0</b>	1188	1189	1191	1197	1200	1203	1207	1208	1209	1218
<b>15.0</b>	976	977	980	985	988	991	995	995	996	1006
<b>17.0</b>	782	783	785	790	793	796	799	801	802	810
<b>19.5</b>	574	576	578	582	585	587	591	592	593	601
<b>22.5</b>	384	384	386	389	391	393	396	396	398	403
<b>25.5</b>	250	251	252	254	255	257	259	258	259	263
<b>29.0</b>	153	153	154	155	156	157	158	158	158	160
<b>33.0</b>	90	91	92	93	95	96	96	96	96	97
<b>37.5</b>	47	48	49	51	54	57	59	60	61	61
<b>42.5</b>	19	19	20	21	24	27	32	36	39	40
<b>47.5</b>	9	9	10	10	11	12	13	16	20	23
<b>55.0</b>	3	3	4	4	4	4	4	5	6	6
<b>65.0</b>	2	2	2	2	2	2	2	2	2	2
<b>75.0</b>	2	2	1	2	2	1	1	1	1	1
<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**

	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>80</b>	<b>85</b>	<b>90</b>
<b>0.0</b>	2173	2173	2173	2173	2173	2173	2173	2173	2173
<b>1.0</b>	2174	2174	2173	2174	2174	2173	2174	2175	2174
<b>3.0</b>	2125	2127	2127	2127	2127	2126	2127	2127	2128
<b>5.0</b>	2016	2019	2019	2019	2019	2019	2019	2021	2021
<b>7.0</b>	1857	1862	1862	1862	1862	1862	1862	1865	1866
<b>9.0</b>	1661	1667	1668	1668	1668	1667	1670	1673	1674
<b>11.0</b>	1449	1454	1454	1455	1457	1458	1458	1461	1462
<b>13.0</b>	1228	1234	1234	1235	1237	1238	1238	1241	1241
<b>15.0</b>	1015	1021	1021	1023	1024	1025	1026	1028	1029
<b>17.0</b>	819	825	825	826	827	828	828	831	832
<b>19.5</b>	607	612	612	613	614	614	614	616	617
<b>22.5</b>	408	412	412	412	412	412	411	413	413
<b>25.5</b>	267	269	269	269	269	268	268	269	269
<b>29.0</b>	162	163	163	163	163	162	161	161	161
<b>33.0</b>	97	98	98	97	96	95	93	93	93
<b>37.5</b>	61	61	59	58	55	52	50	49	49
<b>42.5</b>	40	37	32	28	25	22	20	20	19
<b>47.5</b>	21	16	13	12	11	11	10	10	9
<b>55.0</b>	5	5	5	4	4	4	4	3	3
<b>65.0</b>	2	2	2	2	2	2	2	2	2
<b>75.0</b>	1	1	1	1	1	1	1	1	1
<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 : L081910625.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	441.73	N.A.	66.40
0-30	582.08	N.A.	87.50
0-40	632.17	N.A.	95.00
0-60	660.33	N.A.	99.20
0-80	664.95	N.A.	99.90
0-90	665.59	N.A.	100.00
10-90	517.65	N.A.	77.80
20-40	190.43	N.A.	28.60
20-50	213.00	N.A.	32.00
40-70	31.14	N.A.	4.70
60-80	4.62	N.A.	0.70
70-80	1.64	N.A.	0.20
80-90	0.64	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	665.59	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	147.94
10-20	293.79
20-30	140.35
30-40	50.08
40-50	22.57
50-60	5.59
60-70	2.98
70-80	1.64
80-90	0.64
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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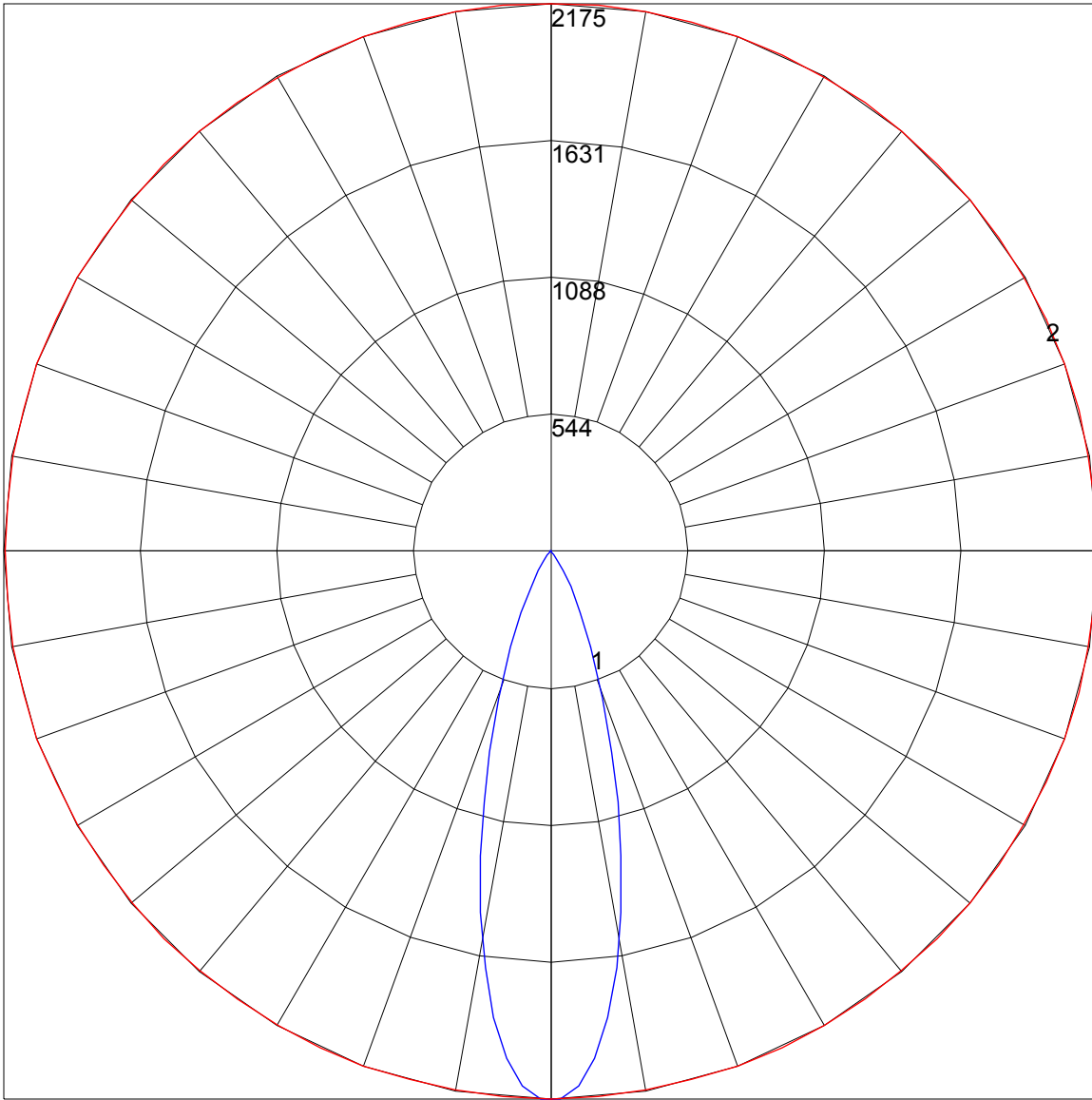
**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	102	99	108	104	101	98	101	98	96	98	96	94	95	93	92	90
3	105	100	96	92	104	99	95	92	96	93	90	94	91	89	92	89	88	86
4	101	95	90	87	100	94	90	86	92	88	85	90	87	84	88	86	84	82
5	97	91	86	82	96	90	85	82	88	84	81	86	83	80	85	82	80	79
6	94	87	82	78	93	86	81	78	84	80	77	83	80	77	82	79	76	75
7	91	83	78	75	89	82	78	74	81	77	74	80	76	74	79	76	73	72
8	87	80	75	71	86	79	74	71	78	74	71	77	73	71	76	73	70	69
9	84	76	72	68	83	76	71	68	75	71	68	74	71	68	74	70	68	67
10	82	74	69	66	81	73	69	66	73	68	66	72	68	65	71	68	65	64



POLAR GRAPH



Maximum Candela = 2175 Located At Horizontal Angle = 85, Vertical Angle = 1  
# 1 - Vertical Plane Through Horizontal Angles (85 - 265) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (1) (Through Max. Cd.)

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

