

## IES Report

**BoxRail® | 207 | Wide Batwing, up | Black Baffle, down | 90 CRI | SO**

**207-BX-XX-4-48-XX-XX-XX-XX-X-X-Z-SO-359-G1BB-X-AL / WH-X**

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	68	71	72	73
Total Lumens, 4' rail length (1219mm)	3429	3537	3609	3645
Lumens per foot (305mm)	857	884	902	911
Lumens per foot UP (305mm)	642	663	676	683
Lumens per foot DOWN (305mm)	215	222	226	228
Input Power (W), 4' rail length (1219mm)	50.5	50.5	50.2	50.5
Watts per foot (305mm)	12.7	12.7	12.6	12.7
CRI	94	94	94	94

Due to the large number of options in Vode's product offering, most Vode IES reports are factored reports prepared from source reports. Source reports are the IES test reports prepared for Vode by an NVLAP accredited photometric test laboratory. Factored reports are based on data from the Vode source reports.

If the data above is in black, it is directly from a Vode source report. If it is in grey, it is factored from Vode source reports. Reference details on Vode source reports can be found on the [IES File Finder](#) page on [vode.com](#).



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

Report No: L022010905



**Report No:** L022010905

**Issue Date:** 2/21/2020

**Report Prepared For:** Vode Lighting  
21684 8th Street East, Suite 700, Sonoma, CA 95476

**Model Number:** 207-BX-48-Z-SO-359-G1BB

**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:** 2/14/20

**Date of Tests:** 2/14/20 - 2/21/20

**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>	Vode Lighting
<b>Model Number:</b>	207-BX-48-Z-SO-359-G1BB
<b>Driver Model Number:</b>	MEAN WELL HLG-40H-36A (2 DRIVERS)

### Test Summary

<b>Total Lumens:</b>	3609.29
<b>Efficacy:</b>	71.92
<b>Color Redering Index:</b>	94.1
<b>Correlated Color Temperature:</b>	3427
<b>Input Voltage (VAC/60Hz):</b>	119.98
<b>Input Current (Amp):</b>	0.4209
<b>Input Power (W):</b>	50.18
<b>Input Power Factor:</b>	0.9939
<b>Current ATHD (%):</b>	8.4%

### Test Condition

<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:35
<b>Total Operating Time (Hours):</b>	1:10

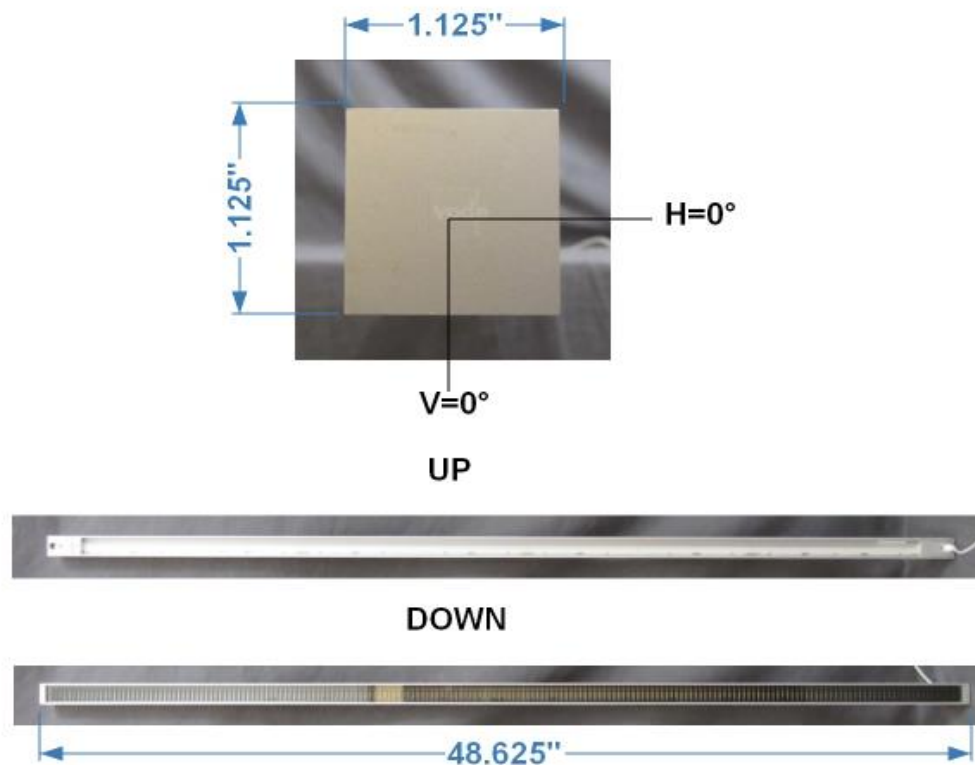
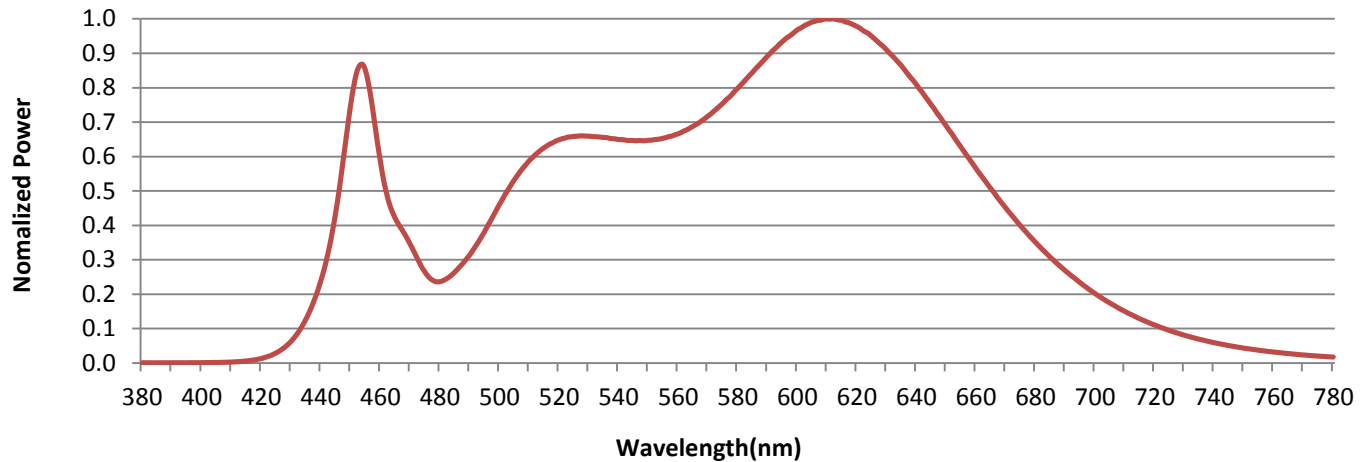


FIG. 1 LUMINAIRE

## Colorimetry Test Results

**Spectral Power Distribution**



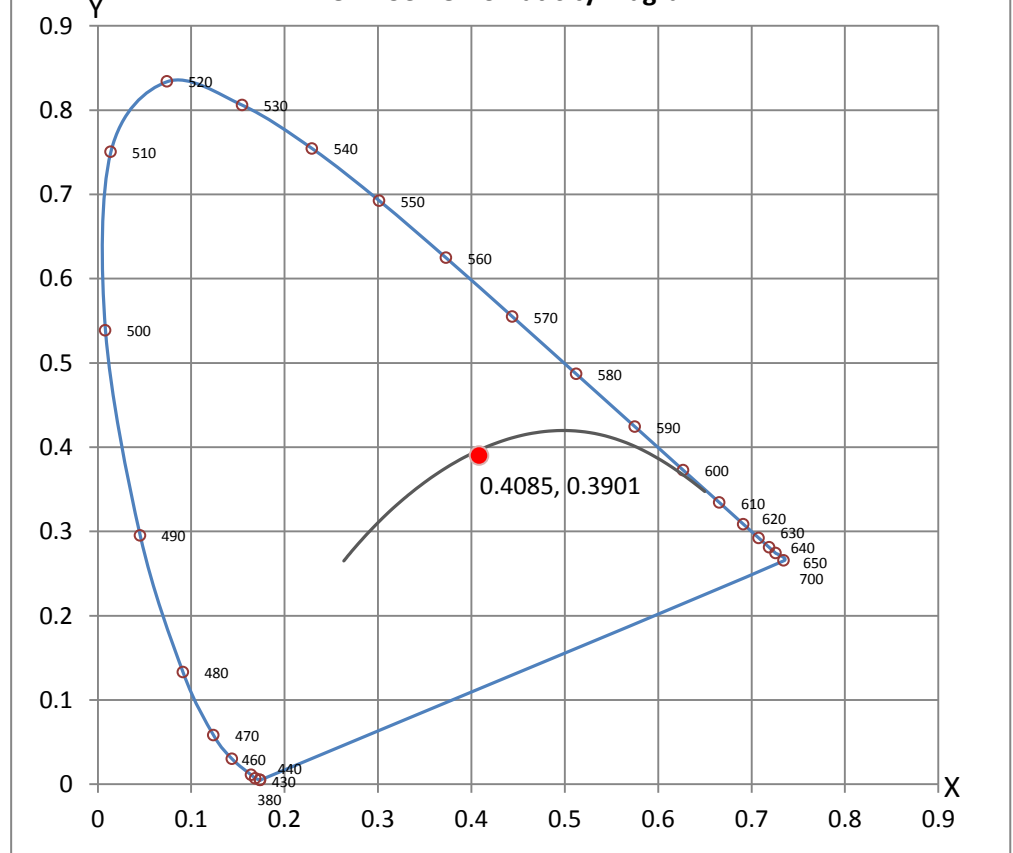
### CRI & CCT

x	0.4085
y	0.3901
u'	0.2380
v'	0.5115
CRI	94.10
CCT	3427
Duv	-0.00096

### R Values

R1	95.55
R2	97.78
R3	98.62
R4	96.64
R5	96.05
R6	96.21
R7	91.18
R8	80.77
R9	55.19
R10	94.75
R11	96.40
R12	78.67
R13	96.81
R14	99.09
R15	89.71

**CIE 1931 Chromaticity Diagram**





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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 : L022010905.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L022010905  
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)  
[ISSUEDATE] 2/21/2020  
[MANUFAC] Vode Lighting  
[LUMCAT] 207-BX-48-Z-SO-359-G1BB  
[LUMINAIRE] BoxRail LED, 48", 3500K, 90 CRI, zipper board, wide batwing lens up,  
[MORE] black baffle w/clear lens down, standard output, clear anodized finish  
[BALLASTCAT] MEAN WELL HLG-40H-36A (2 DRIVERS)  
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND  
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.  
[INPUT] 119.98VAC, 50.18W  
[TEST PROCEDURE] IESNA:LM-79-08

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3609
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	72
Total Luminaire Watts	50.18
Ballast Factor	1.00
CIE Type	Semi-Indirect
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	0.08 ft
Luminous Width (90-270)	4.00 ft
Luminous Height	0.09 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	537	1338	1162
55	450	434	624
65	350	232	303
75	225	193	240
85	223	188	307

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L022010905.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</b>	1091	1091	1091	1091	1091	1091	1091	1091	1091	1091
<b>5</b>	1086	1077	1069	1061	1053	1046	1038	1032	1025	1020
<b>10</b>	1073	1056	1040	1024	1009	994	981	958	938	919
<b>15</b>	1051	1028	1006	984	959	923	889	857	827	799
<b>20</b>	1021	989	959	926	879	833	790	749	711	675
<b>25</b>	983	945	908	852	794	738	686	637	587	540
<b>30</b>	935	892	842	772	704	640	575	512	455	405
<b>35</b>	878	833	766	685	609	532	456	389	328	266
<b>40</b>	534	497	444	403	384	377	331	262	190	130
<b>45</b>	24	44	82	106	103	89	123	110	80	51
<b>50</b>	22	22	21	20	20	24	23	27	28	29
<b>55</b>	20	20	19	17	16	15	14	14	15	16
<b>60</b>	19	18	17	15	13	12	11	10	10	10
<b>65</b>	15	15	14	13	11	11	10	9	8	8
<b>70</b>	12	12	11	11	10	9	9	8	7	7
<b>75</b>	9	9	10	9	8	8	7	7	6	6
<b>80</b>	10	10	9	9	8	8	7	6	6	5
<b>85</b>	8	9	9	9	8	8	7	7	6	5
<b>90</b>	6	6	6	5	5	5	5	5	4	4
<b>95</b>	24	29	28	28	29	30	31	35	41	41
<b>100</b>	87	90	93	97	102	108	115	121	126	128
<b>105</b>	201	185	201	207	212	221	230	235	241	241
<b>110</b>	373	361	351	364	376	379	386	391	388	368
<b>115</b>	600	595	569	570	566	567	556	539	515	481
<b>120</b>	790	785	774	752	736	710	685	655	610	561
<b>125</b>	909	904	892	876	855	814	781	732	682	624
<b>130</b>	969	963	949	928	902	865	820	772	715	657
<b>135</b>	978	974	959	938	910	875	829	781	727	673
<b>140</b>	953	948	935	915	888	857	817	773	725	676
<b>145</b>	902	898	887	871	848	820	788	751	712	672
<b>150</b>	839	836	828	814	796	774	748	719	690	658
<b>155</b>	773	770	765	755	742	726	707	687	665	643
<b>160</b>	711	710	706	700	691	681	669	655	640	626
<b>165</b>	660	659	656	653	649	643	636	628	620	610
<b>170</b>	621	620	619	618	616	614	611	608	604	600
<b>175</b>	597	597	596	596	595	595	594	594	593	592
<b>180</b>	588	588	588	588	588	588	588	588	588	588

**Vert. 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</b>	1091	1091	1091	1091	1091	1091	1091	1091	1091
<b>5</b>	1015	1010	1006	1003	1001	999	998	998	998
<b>10</b>	903	888	875	863	854	847	842	839	839
<b>15</b>	774	751	731	715	702	691	683	678	679
<b>20</b>	640	607	578	555	537	523	512	504	503
<b>25</b>	498	460	426	398	376	358	345	336	334
<b>30</b>	357	312	271	234	204	179	161	150	150
<b>35</b>	207	153	125	103	86	72	60	53	50
<b>40</b>	99	66	51	47	43	40	38	36	35
<b>45</b>	48	41	36	33	30	28	26	25	25
<b>50</b>	29	27	25	23	21	19	18	17	17
<b>55</b>	17	17	16	15	14	13	12	11	11
<b>60</b>	11	11	11	10	9	8	8	7	7

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L022010905.IES**

**CANDELA TABULATION - (Cont.)**

<b>65</b>	8	7	7	7	6	6	5	5	4
<b>70</b>	6	6	5	5	5	4	4	3	3
<b>75</b>	5	5	4	4	4	3	3	2	2
<b>80</b>	5	4	4	3	3	3	2	2	1
<b>85</b>	5	4	4	3	2	2	2	1	1
<b>90</b>	3	3	3	2	2	2	2	1	1
<b>95</b>	43	48	48	41	39	38	38	37	37
<b>100</b>	129	129	119	107	101	92	85	81	81
<b>105</b>	235	223	202	179	160	145	133	129	128
<b>110</b>	339	310	277	243	216	198	185	178	176
<b>115</b>	437	388	343	303	271	249	234	226	225
<b>120</b>	509	452	400	357	322	299	284	274	270
<b>125</b>	561	503	449	403	366	342	327	317	312
<b>130</b>	598	542	491	446	410	382	364	352	344
<b>135</b>	619	569	521	481	447	422	405	394	389
<b>140</b>	629	585	544	508	479	455	439	429	424
<b>145</b>	632	595	562	531	506	486	470	462	457
<b>150</b>	628	600	572	548	526	512	499	493	489
<b>155</b>	620	599	579	560	546	534	525	519	515
<b>160</b>	612	597	582	571	561	551	547	543	540
<b>165</b>	601	594	587	579	572	569	566	563	561
<b>170</b>	595	591	587	585	583	581	579	577	576
<b>175</b>	591	591	590	589	588	587	586	586	585
<b>180</b>	588	588	588	588	588	588	588	588	588



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L022010905.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	326.06	N.A.	9.00
0-30	593.48	N.A.	16.40
0-40	803.09	N.A.	22.30
0-60	883.73	N.A.	24.50
0-80	899.17	N.A.	24.90
0-90	904.58	N.A.	25.10
10-90	809.14	N.A.	22.40
20-40	477.03	N.A.	13.20
20-50	543.18	N.A.	15.00
40-70	89.61	N.A.	2.50
60-80	15.43	N.A.	0.40
70-80	6.46	N.A.	0.20
80-90	5.41	N.A.	0.10
90-110	263.21	N.A.	7.30
90-120	688.36	N.A.	19.10
90-130	1230.64	N.A.	34.10
90-150	2175.98	N.A.	60.30
90-180	2704.72	N.A.	74.90
110-180	2441.51	N.A.	67.60
0-180	3609.29	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	95.44
10-20	230.62
20-30	267.42
30-40	209.61
40-50	66.14
50-60	14.49
60-70	8.97
70-80	6.46
80-90	5.41
90-100	49.64
100-110	213.57
110-120	425.15
120-130	542.28
130-140	521.64
140-150	423.69
150-160	298.32
160-170	173.72
170-180	56.71

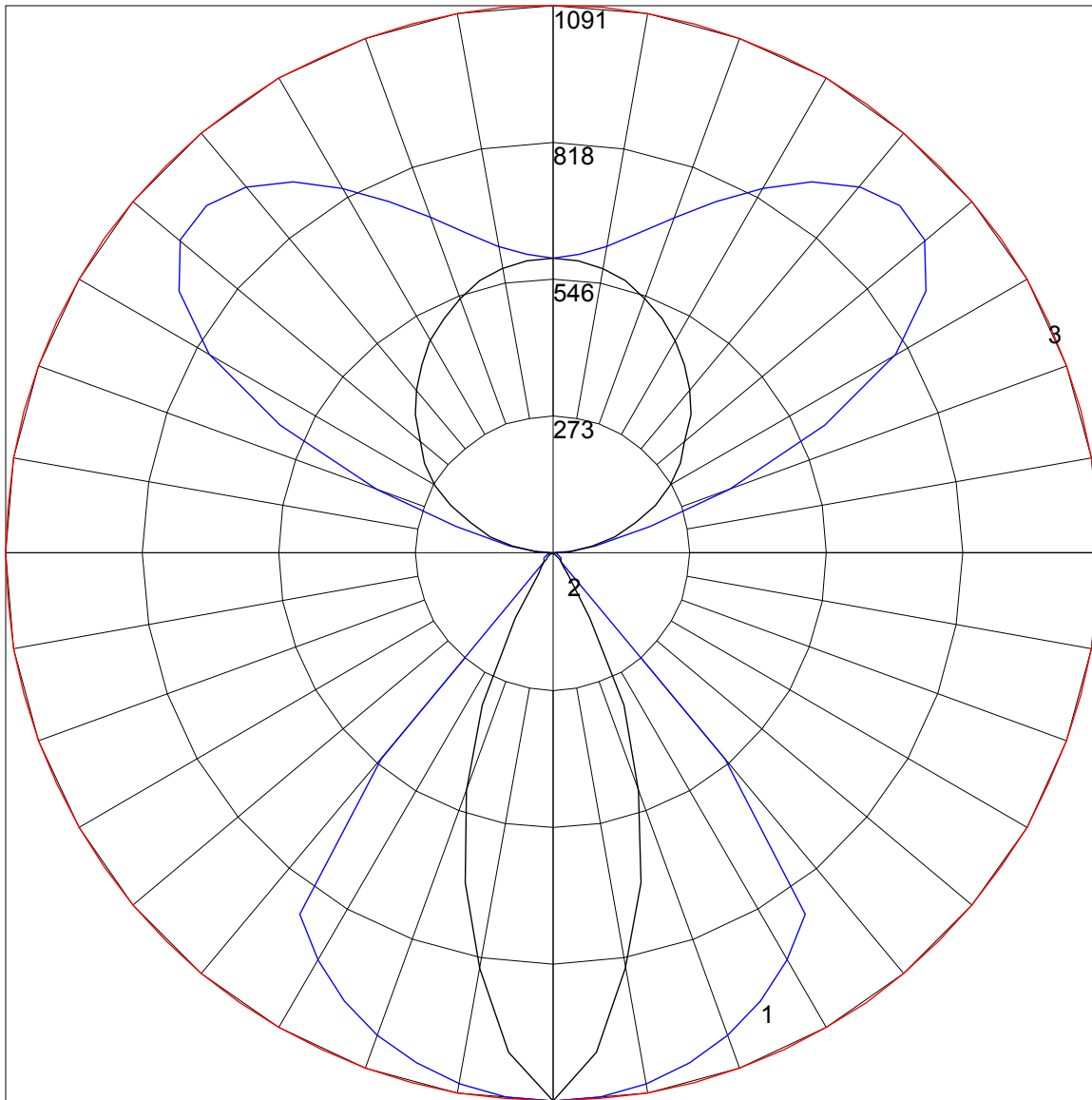
**IES INDOOR REPORT**  
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	101	101	101	101	90	90	90	90	69	69	69	51	51	51	33	33	33	25
1	93	89	86	83	83	80	77	75	62	60	59	46	45	44	31	30	30	23
2	86	80	74	70	77	71	67	63	56	53	51	42	40	39	29	28	27	21
3	79	71	65	60	71	64	59	54	51	47	44	38	36	34	27	26	25	20
4	73	64	57	52	65	58	52	47	46	42	39	35	33	31	25	24	23	18
5	68	58	50	45	60	52	46	42	42	38	34	32	30	27	23	22	21	17
6	63	52	45	40	56	47	41	37	38	34	31	30	27	25	22	20	19	16
7	58	47	40	36	52	43	37	33	35	31	28	27	25	23	20	19	18	15
8	54	43	37	32	49	40	34	30	32	28	25	25	23	21	19	17	16	14
9	51	40	33	29	46	37	31	27	30	26	23	24	21	19	18	16	15	13
10	48	37	30	26	43	34	28	24	28	24	21	22	19	18	17	15	14	12

POLAR GRAPH



Maximum Candela = 1091 Located At Horizontal Angle = 0, Vertical Angle = 0

# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)

# 2 - Vertical Plane Through Horizontal Angles (90 - 270)

# 3 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)