

## IES Report

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

**207-BX-XX-4-48-XX-XX-XX-XX-X-X-Z-SO-359-G1WB-X-AL / WH-X**

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	85	88	89	91
Total Lumens, 4' rail length (1219mm)	4280	4415	4505	4551
Lumens per foot (305mm)	1070	1104	1126	1138
Lumens per foot UP (305mm)	647	667	681	687
Lumens per foot DOWN (305mm)	423	437	446	450
Input Power (W), 4' rail length (1219mm)	50.5	50.5	50.8	50.5
Watts per foot (305mm)	12.7	12.7	12.7	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: L022010909



**Report No:** L022010909

**Issue Date:** 2/24/2020

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

**Model Number:** 207-BX-48-Z-SO-359-G1WB

**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 - 2/24/20

**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-G1WB
<b>Driver Model Number:</b>	MEAN WELL HLG-40H-36A (2 DRIVERS)

### Test Summary

<b>Total Lumens:</b>	4505.48
<b>Efficacy:</b>	88.76
<b>Color Redering Index:</b>	93.9
<b>Correlated Color Temperature:</b>	3412
<b>Input Voltage (VAC/60Hz):</b>	120.01
<b>Input Current (Amp):</b>	0.4255
<b>Input Power (W):</b>	50.76
<b>Input Power Factor:</b>	0.9941
<b>Current ATHD (%):</b>	8.3%

### Test Condition

<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:40
<b>Total Operating Time (Hours):</b>	2:15

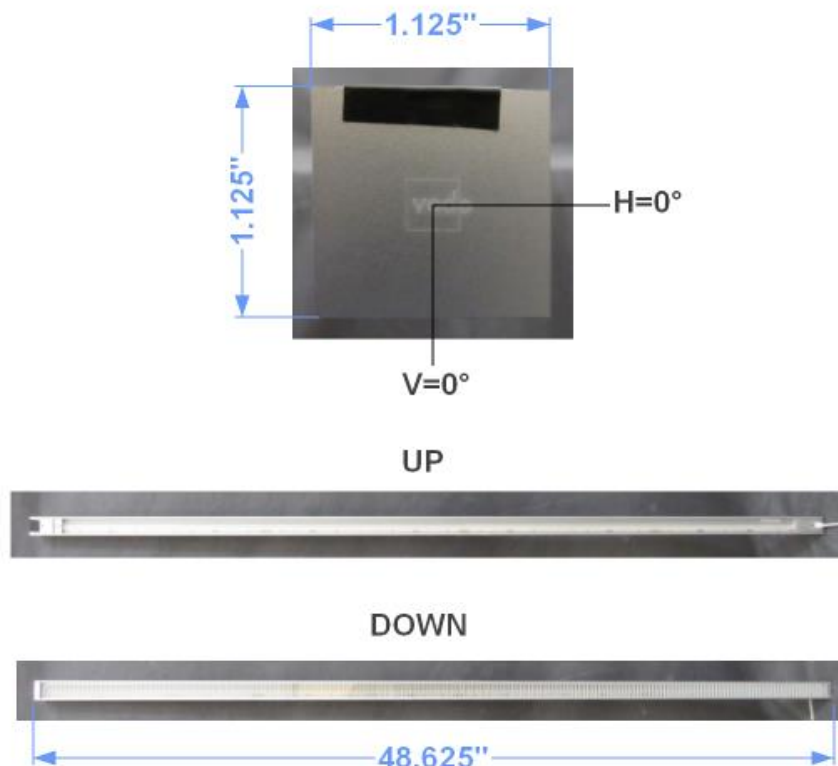
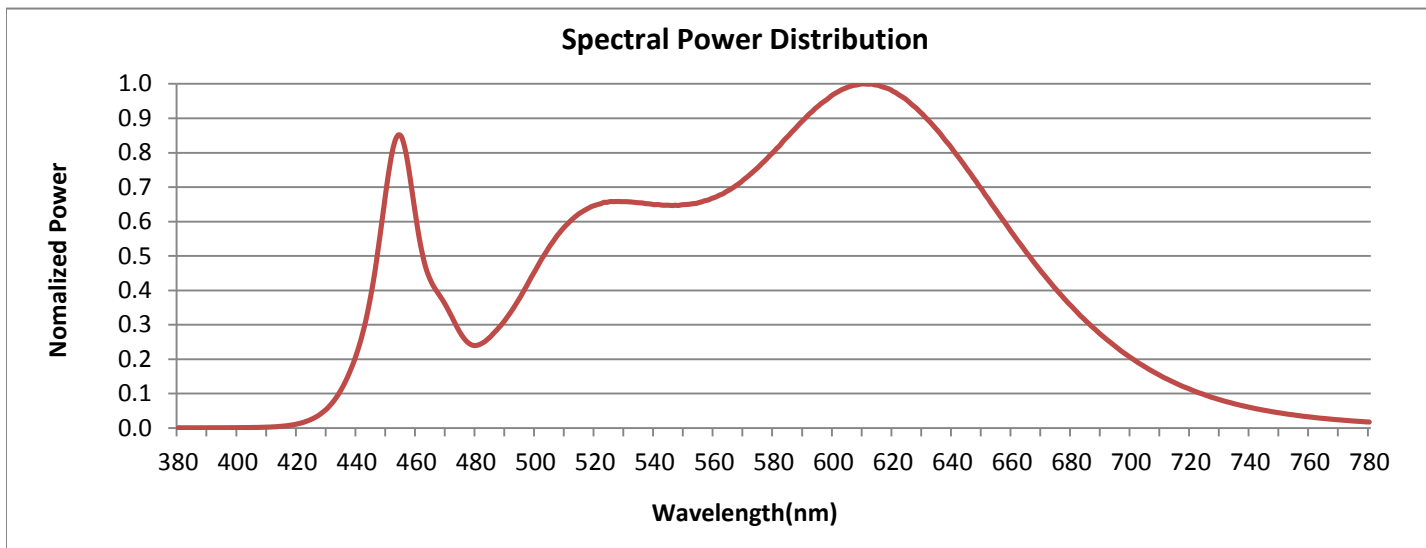


FIG. 1 LUMINAIRE

## Colorimetry Test Results

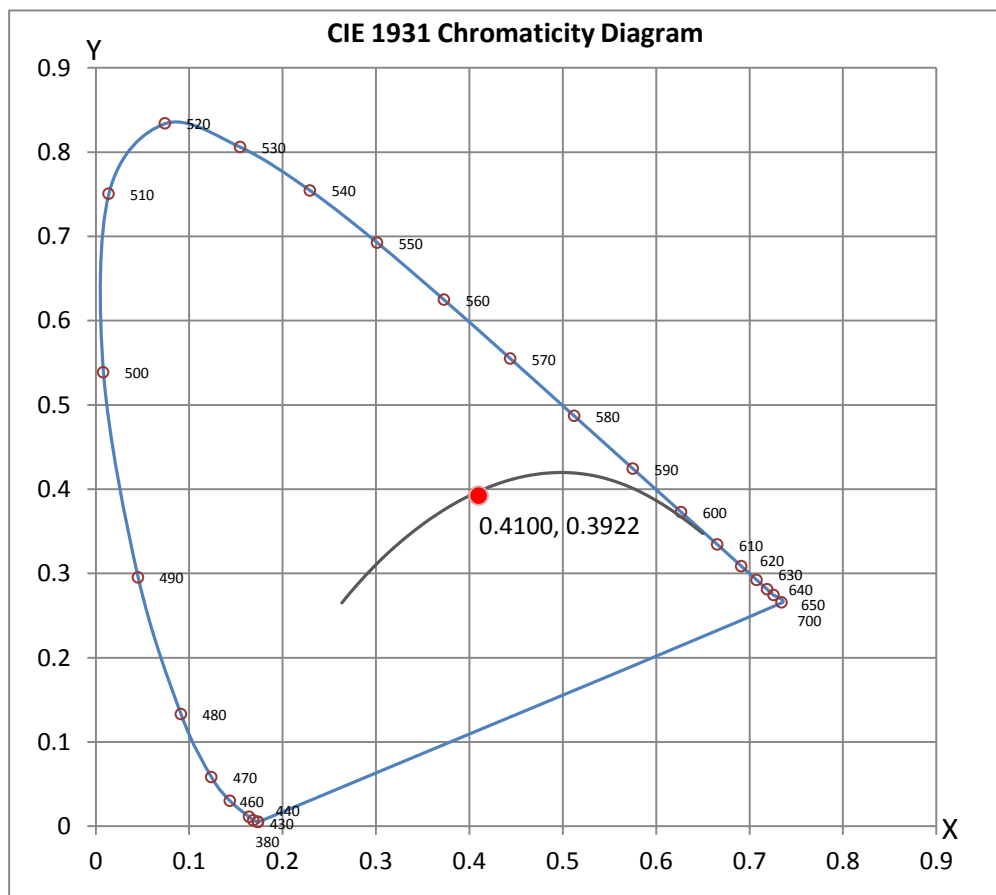


### CRI & CCT

x	0.4100
y	0.3922
u'	0.2382
v'	0.5126
CRI	93.90
CCT	3412
Duv	-0.00036

### R Values

R1	95.16
R2	97.74
R3	98.71
R4	96.30
R5	95.57
R6	96.35
R7	90.99
R8	80.24
R9	54.12
R10	94.63
R11	97.10
R12	77.97
R13	96.50
R14	99.30
R15	89.15





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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 : L022010909.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L022010909  
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)  
[ISSUEDATE] 2/24/2020  
[MANUFAC] Vode Lighting  
[LUMCAT] 207-BX-48-Z-SO-359-G1WB  
[LUMINAIRE] BoxRail LED, 48", 3500K, 90 CRI, zipper board, wide batwing lens up,  
[MORE] white baffle w/clear lens down, standard output  
[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] 120.01VAC, 50.76W  
[TEST PROCEDURE] IESNA:LM-79-08

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4505
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	89
Total Luminaire Watts	50.76
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	3936	8265	11806
55	3079	4749	9593
65	2237	2670	7586
75	674	1031	5031
85	278	300	1840

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L022010909.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>	1357	1357	1357	1357	1357	1357	1357	1357	1357	1357
<b>5</b>	1348	1343	1338	1333	1329	1324	1320	1316	1313	1310
<b>10</b>	1332	1322	1312	1303	1294	1286	1278	1261	1245	1231
<b>15</b>	1307	1293	1279	1266	1251	1223	1197	1173	1150	1129
<b>20</b>	1267	1248	1231	1210	1174	1140	1107	1075	1047	1018
<b>25</b>	1216	1194	1173	1132	1089	1047	1005	967	925	886
<b>30</b>	1159	1133	1101	1048	997	947	895	842	792	742
<b>35</b>	1074	1044	999	942	885	830	774	709	650	592
<b>40</b>	636	619	600	597	615	646	614	552	497	439
<b>45</b>	176	198	240	276	285	287	350	345	336	315
<b>50</b>	152	156	164	173	184	202	216	230	235	233
<b>55</b>	137	139	143	149	154	162	169	171	173	175
<b>60</b>	123	123	122	120	120	123	124	126	128	130
<b>65</b>	96	94	88	86	85	85	86	87	89	92
<b>70</b>	56	54	52	52	53	53	53	54	56	59
<b>75</b>	27	26	29	28	28	28	28	28	30	32
<b>80</b>	17	18	17	17	16	16	15	15	15	15
<b>85</b>	10	11	11	11	11	10	10	9	9	8
<b>90</b>	4	4	4	4	4	4	4	4	4	4
<b>95</b>	22	28	27	28	29	31	34	42	42	46
<b>100</b>	90	94	96	101	107	113	119	127	134	134
<b>105</b>	210	196	210	216	221	233	240	246	254	251
<b>110</b>	387	377	373	377	397	401	402	405	399	377
<b>115</b>	621	618	595	586	584	583	571	551	524	489
<b>120</b>	802	797	786	766	750	724	697	667	618	567
<b>125</b>	923	917	905	888	867	827	792	739	686	626
<b>130</b>	979	973	959	936	909	873	827	776	718	657
<b>135</b>	982	977	963	940	911	876	831	784	729	674
<b>140</b>	951	946	933	913	886	854	814	771	725	677
<b>145</b>	899	894	884	867	844	816	785	748	709	670
<b>150</b>	836	832	824	811	793	771	745	717	688	655
<b>155</b>	771	768	762	752	740	723	704	684	662	640
<b>160</b>	709	708	704	698	689	679	667	653	638	624
<b>165</b>	658	657	655	652	647	641	634	627	619	609
<b>170</b>	620	620	619	617	615	613	611	608	604	600
<b>175</b>	598	598	597	597	596	596	595	595	594	593
<b>180</b>	590	590	590	590	590	590	590	590	590	590

**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</b>	1357	1357	1357	1357	1357	1357	1357	1357	1357
<b>5</b>	1307	1304	1302	1301	1299	1299	1298	1298	1299
<b>10</b>	1218	1207	1197	1188	1181	1175	1171	1169	1170
<b>15</b>	1108	1090	1073	1060	1050	1041	1036	1033	1034
<b>20</b>	989	960	936	914	897	884	875	869	870
<b>25</b>	851	816	783	756	733	716	704	694	694
<b>30</b>	697	657	620	587	560	537	520	510	509
<b>35</b>	538	491	456	428	406	391	380	372	369
<b>40</b>	397	355	334	325	319	315	311	307	306
<b>45</b>	300	289	280	272	266	262	258	255	254
<b>50</b>	234	230	225	221	217	213	211	209	208
<b>55</b>	177	176	177	176	174	172	170	169	169
<b>60</b>	132	133	134	135	135	134	133	132	132

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L022010909.IES**

**CANDELA TABULATION - (Cont.)**

<b>65</b>	94	96	98	99	99	100	99	99	100
<b>70</b>	61	65	68	67	68	70	70	72	76
<b>75</b>	34	36	39	40	40	42	42	42	42
<b>80</b>	15	16	17	18	19	19	20	20	20
<b>85</b>	8	8	7	7	6	6	6	6	6
<b>90</b>	3	3	3	2	2	2	2	2	1
<b>95</b>	46	50	50	43	38	38	39	37	37
<b>100</b>	133	131	122	109	101	93	85	83	82
<b>105</b>	244	228	207	181	160	145	134	129	128
<b>110</b>	345	314	279	243	216	198	185	178	178
<b>115</b>	443	391	342	302	271	249	234	226	225
<b>120</b>	511	452	399	354	320	297	283	273	269
<b>125</b>	561	501	447	399	363	340	326	316	311
<b>130</b>	597	539	488	443	406	382	363	350	342
<b>135</b>	618	566	519	478	444	419	403	393	388
<b>140</b>	629	583	542	505	476	453	437	428	423
<b>145</b>	630	593	559	528	503	483	469	461	457
<b>150</b>	625	597	569	546	524	510	498	492	489
<b>155</b>	618	597	577	558	545	533	524	520	516
<b>160</b>	610	595	581	571	561	551	548	544	542
<b>165</b>	600	593	586	579	572	569	567	564	562
<b>170</b>	596	591	587	585	584	582	580	579	578
<b>175</b>	593	592	591	591	590	589	589	588	587
<b>180</b>	590	590	590	590	590	590	590	590	590



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L022010909.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	444.44	N.A.	9.90
0-30	862.82	N.A.	19.20
0-40	1257.13	N.A.	27.90
0-60	1641.75	N.A.	36.40
0-80	1772.76	N.A.	39.30
0-90	1782.86	N.A.	39.60
10-90	1659.61	N.A.	36.80
20-40	812.69	N.A.	18.00
20-50	1048.3	N.A.	23.30
40-70	477.37	N.A.	10.60
60-80	131.00	N.A.	2.90
70-80	38.25	N.A.	0.80
80-90	10.11	N.A.	0.20
90-110	271.52	N.A.	6.00
90-120	704.78	N.A.	15.60
90-130	1250.85	N.A.	27.80
90-150	2194.88	N.A.	48.70
90-180	2722.62	N.A.	60.40
110-180	2451.1	N.A.	54.40
0-180	4505.48	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	123.25
10-20	321.19
20-30	418.38
30-40	394.31
40-50	235.60
50-60	149.02
60-70	92.75
70-80	38.25
80-90	10.11
90-100	51.12
100-110	220.40
110-120	433.26
120-130	546.07
130-140	521.87
140-150	422.16
150-160	297.42
160-170	173.52
170-180	56.81

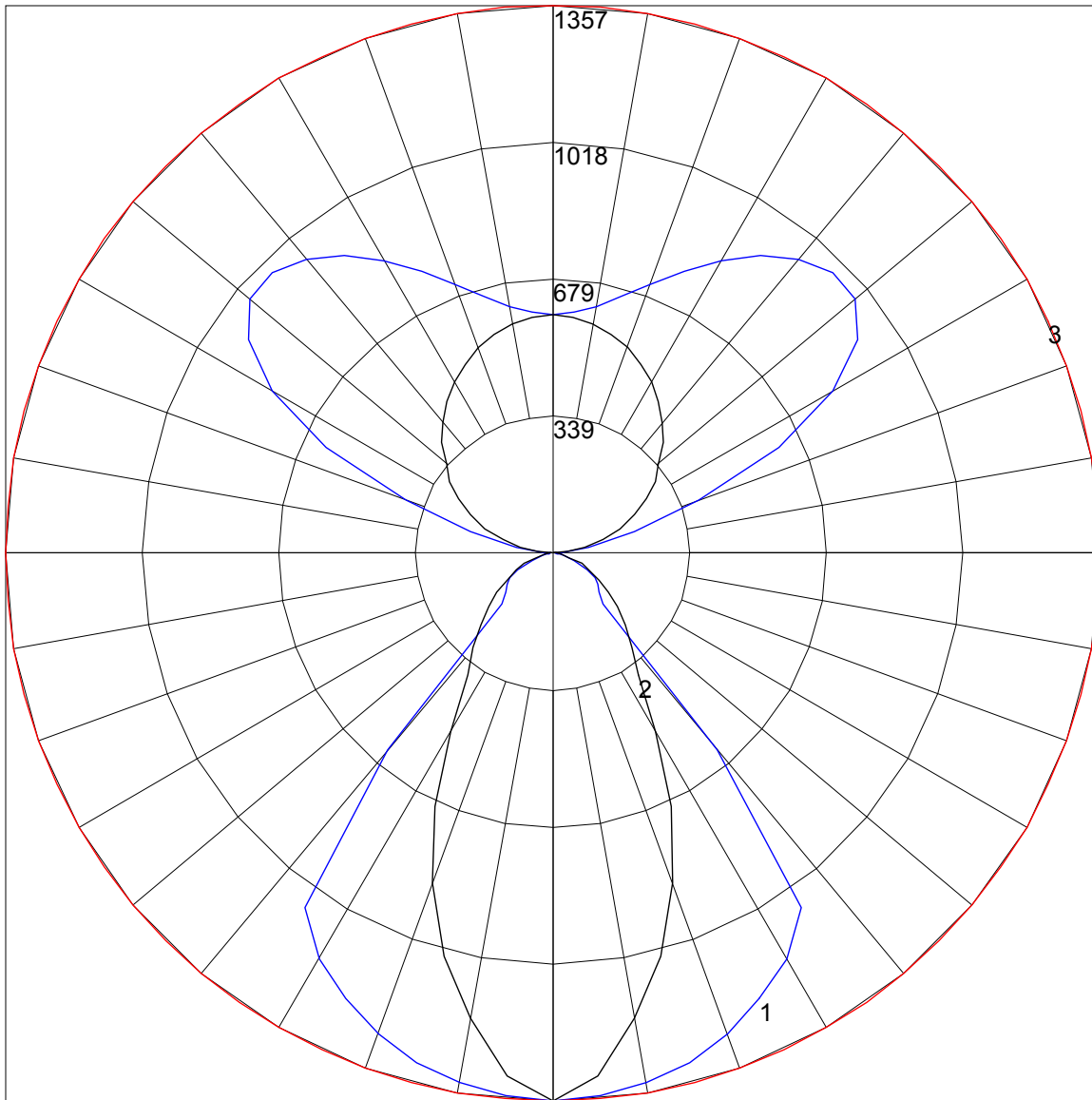
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	105	105	105	105	95	95	95	95	78	78	78	61	61	61	47	47	47	40
1	96	93	89	86	88	85	82	79	69	67	66	56	54	53	43	42	41	35
2	89	82	77	72	81	75	71	67	62	59	56	50	48	46	39	38	37	32
3	82	73	67	62	74	67	62	57	56	52	49	45	43	40	36	34	33	28
4	75	66	59	53	69	60	54	50	51	46	43	41	38	36	33	31	29	25
5	70	59	52	46	64	55	48	43	46	41	38	38	34	32	30	28	26	23
6	65	54	46	41	59	50	43	38	42	37	33	35	31	29	28	26	24	21
7	60	49	41	36	55	45	39	34	38	33	30	32	28	26	26	23	22	19
8	56	45	37	33	51	41	35	31	35	30	27	29	26	23	24	22	20	17
9	52	41	34	29	48	38	32	28	33	28	25	27	24	21	22	20	18	16
10	49	38	31	27	45	35	29	25	30	26	22	26	22	20	21	19	17	15

POLAR GRAPH



Maximum Candela = 1357 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.)