

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-BL-X

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	76	78	80	81
Total Lumens, 4' rail length (1219mm)	3802	3922	4002	4042
Lumens per foot (305mm)	951	981	1001	1011
Lumens per foot UP (305mm)	604	623	636	642
Lumens per foot DOWN (305mm)	347	358	365	368
Input Power (W), 4' rail length (1219mm)	50.5	50.5	50.3	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: L022010916



Report No: L022010916

Issue Date: 2/26/2020

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

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

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: 2/20/20

Date of Tests: 2/20/20 - 2/25/20

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

Manufacturer:	Vode Lighting
Model Number:	207-BX-48-Z-SO-359-G1WB-BL
Driver Model Number:	MEAN WELL HLG-40H-36A (2 DRIVERS)

Test Summary

Total Lumens:	4002.22
Efficacy:	79.64
Color Redering Index:	94.1
Correlated Color Temperature:	3406
Input Voltage (VAC/60Hz):	119.99
Input Current (Amp):	0.4214
Input Power (W):	50.25
Input Power Factor:	0.9939
Current ATHD (%):	8.4%

Test Condition

Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:50
Total Operating Time (Hours):	2:25

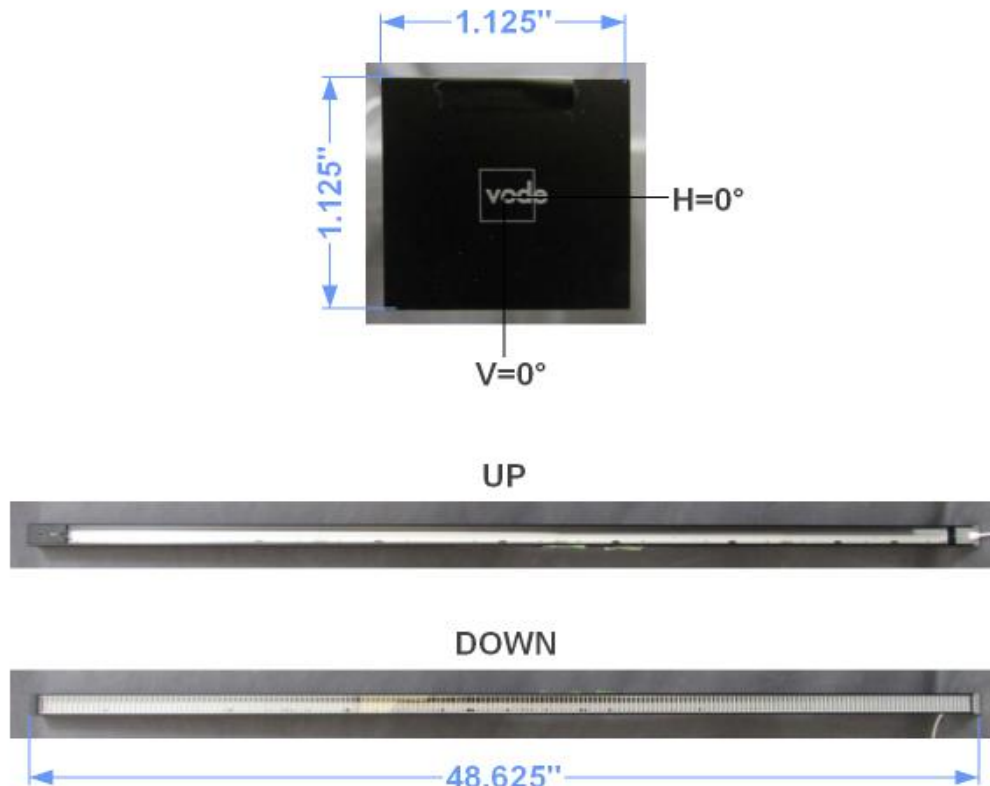
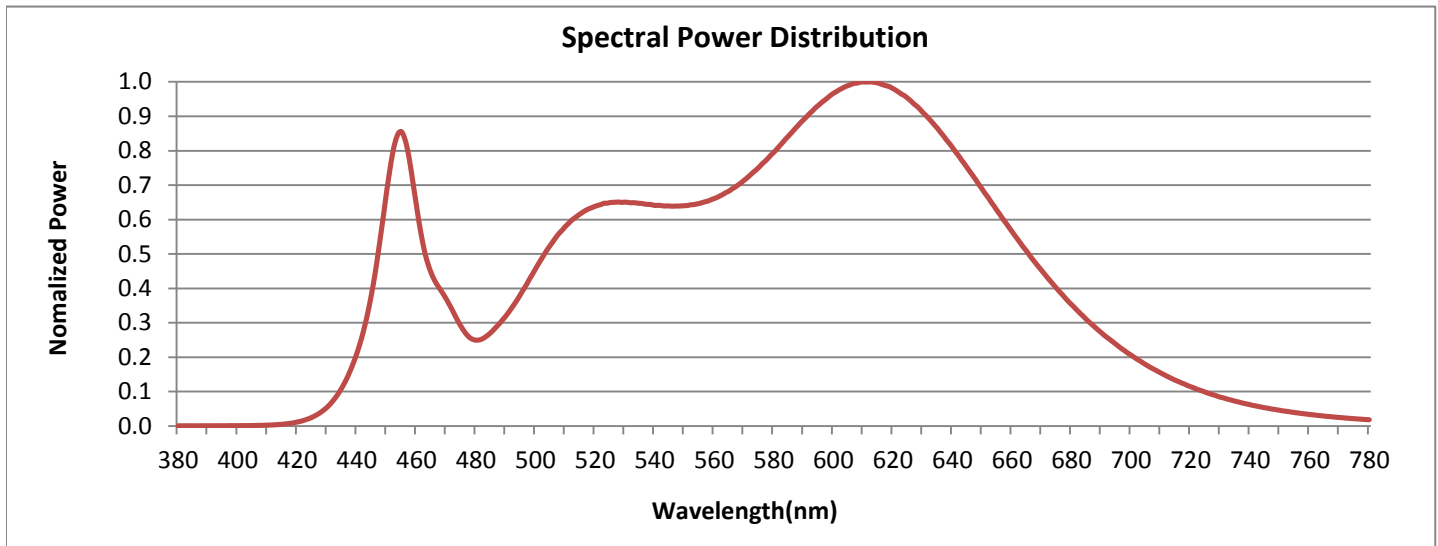


FIG. 1 LUMINAIRE

Colorimetry Test Results

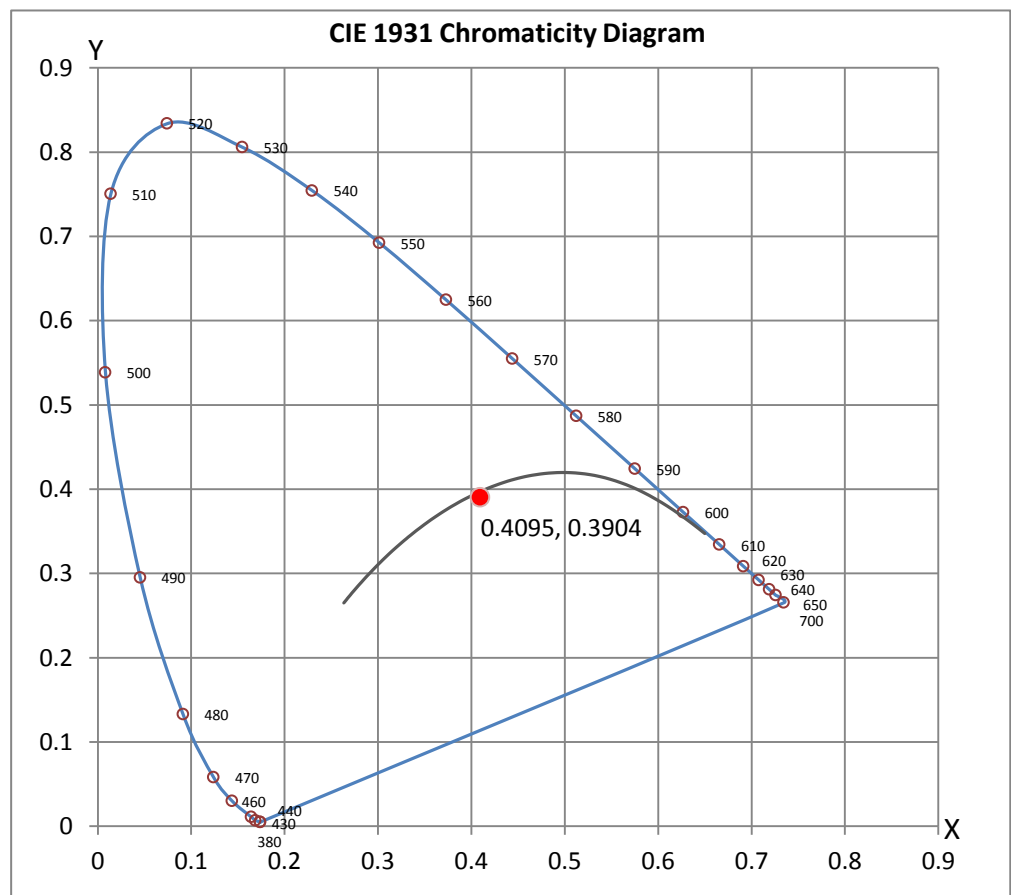


CRI & CCT

x	0.4095
y	0.3904
u'	0.2386
v'	0.5118
CRI	94.10
CCT	3406
Duv	-0.00104

R Values

R1	95.81
R2	98.43
R3	98.32
R4	96.62
R5	96.23
R6	95.99
R7	90.68
R8	80.59
R9	55.74
R10	96.23
R11	97.12
R12	78.54
R13	97.29
R14	99.50
R15	89.95





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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*



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

Photometric Test Report

IES INDOOR REPORT

PHOTOMETRIC FILENAME : L022010916.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L022010916
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 2/26/2020
[MANUFAC] Vode Lighting
[LUMCAT] 207-BX-48-Z-SO-359-G1WB-BL
[LUMINAIRE] BoxRail LED, 48", 3500K, 90 CRI, zipper board, wide batwing lens up,
[MORE] white baffle w/clear lens down, standard output, black 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] 119.99VAC, 50.25W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4002
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	80
Total Luminaire Watts	50.25
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	2438	6008	8552
55	1528	3365	6812
65	1328	1712	5158
75	300	580	3354
85	111	150	1227

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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>
0	1243	1243	1243	1243	1243	1243	1243	1243	1243	1243
5	1240	1233	1227	1221	1215	1209	1204	1198	1194	1189
10	1227	1215	1203	1191	1180	1169	1159	1140	1122	1106
15	1204	1186	1168	1151	1132	1103	1075	1049	1024	1002
20	1170	1146	1124	1098	1058	1021	985	951	919	890
25	1128	1100	1074	1027	978	932	889	849	802	758
30	1072	1040	1002	943	887	834	781	725	672	624
35	995	958	905	840	778	716	654	593	537	480
40	586	570	549	540	541	544	498	442	390	334
45	109	131	176	220	238	241	273	272	253	229
50	75	82	94	106	119	142	158	169	171	169
55	68	73	81	90	99	110	118	121	123	124
60	64	66	69	72	76	80	83	84	86	89
65	57	55	52	51	52	53	54	56	57	59
70	31	30	30	30	30	31	31	32	34	36
75	12	12	13	13	13	14	14	15	17	18
80	5	6	5	6	6	6	6	6	6	7
85	4	4	4	4	4	4	4	4	4	4
90	4	4	4	4	4	4	4	4	4	4
95	7	15	14	15	18	22	27	37	42	55
100	60	64	67	74	86	99	114	133	150	156
105	161	164	175	188	203	235	264	283	304	298
110	389	389	401	411	453	478	510	529	506	439
115	770	761	732	746	741	758	717	666	590	490
120	1016	1005	972	932	904	840	778	696	605	515
125	1019	1012	992	961	914	848	778	703	624	544
130	961	955	939	914	876	826	766	703	635	571
135	909	904	889	867	835	793	748	697	645	592
140	857	852	840	823	799	769	732	692	650	609
145	812	808	798	784	764	740	712	679	645	608
150	761	757	749	736	720	700	678	651	620	587
155	696	693	687	677	663	647	627	606	581	554
160	623	621	616	610	599	587	573	556	537	520
165	553	552	549	545	539	531	523	513	502	489
170	497	496	495	493	490	488	484	479	474	469
175	461	461	460	460	459	459	458	457	456	456
180	449	449	449	449	449	449	449	449	449	449

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>
0	1243	1243	1243	1243	1243	1243	1243	1243	1243
5	1185	1181	1178	1175	1173	1172	1170	1170	1170
10	1092	1079	1068	1058	1049	1042	1038	1034	1034
15	981	962	945	931	920	910	902	897	896
20	860	832	808	786	768	755	742	732	730
25	718	685	656	631	609	592	580	571	570
30	580	539	498	462	433	408	389	376	375
35	422	369	342	322	306	292	283	278	277
40	299	267	253	245	238	233	229	227	225
45	219	210	204	198	193	190	187	185	184
50	168	164	160	158	156	153	151	150	150
55	125	124	123	123	122	121	120	119	120
60	92	91	93	93	93	93	93	92	92

IES INDOOR REPORT
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CANDELA TABULATION - (Cont.)

65	62	63	67	68	68	68	69	69	68
70	38	40	42	44	46	46	47	47	47
75	19	21	23	25	27	27	28	29	28
80	8	8	9	10	11	12	13	13	13
85	4	3	3	3	3	3	3	4	4
90	3	3	3	2	2	2	1	1	2
95	58	53	41	34	26	24	29	29	28
100	155	133	106	84	74	71	73	76	75
105	272	220	165	130	114	111	114	115	116
110	358	273	211	176	162	159	164	168	170
115	395	316	260	227	212	209	214	219	221
120	434	362	311	279	264	260	262	266	269
125	474	413	365	332	313	304	301	302	303
130	510	461	419	386	362	345	332	324	320
135	544	499	459	426	397	372	350	335	327
140	567	526	486	449	415	384	359	343	334
145	569	531	491	455	420	391	366	353	344
150	553	518	484	452	421	398	376	368	361
155	526	499	473	446	426	408	394	387	381
160	501	481	461	447	432	417	412	406	402
165	478	468	458	447	437	433	429	425	422
170	463	457	451	448	446	443	441	439	437
175	455	454	453	452	451	450	449	448	447
180	449	449	449	449	449	449	449	449	449

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	397.91	N.A.	9.90
0-30	761.26	N.A.	19.00
0-40	1091.27	N.A.	27.30
0-60	1372.11	N.A.	34.30
0-80	1454.26	N.A.	36.30
0-90	1459.33	N.A.	36.50
10-90	1347.57	N.A.	33.70
20-40	693.36	N.A.	17.30
20-50	873.35	N.A.	21.80
40-70	340.80	N.A.	8.50
60-80	82.15	N.A.	2.10
70-80	22.18	N.A.	0.60
80-90	5.07	N.A.	0.10
90-110	261.88	N.A.	6.50
90-120	727.92	N.A.	18.20
90-130	1263.15	N.A.	31.60
90-150	2106.28	N.A.	52.60
90-180	2542.89	N.A.	63.50
110-180	2281.01	N.A.	57.00
0-180	4002.22	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	111.76
10-20	286.15
20-30	363.34
30-40	330.02
40-50	179.99
50-60	100.84
60-70	59.97
70-80	22.18
80-90	5.07
90-100	44.63
100-110	217.25
110-120	466.04
120-130	535.24
130-140	471.10
140-150	372.02
150-160	253.16
160-170	139.62
170-180	43.83

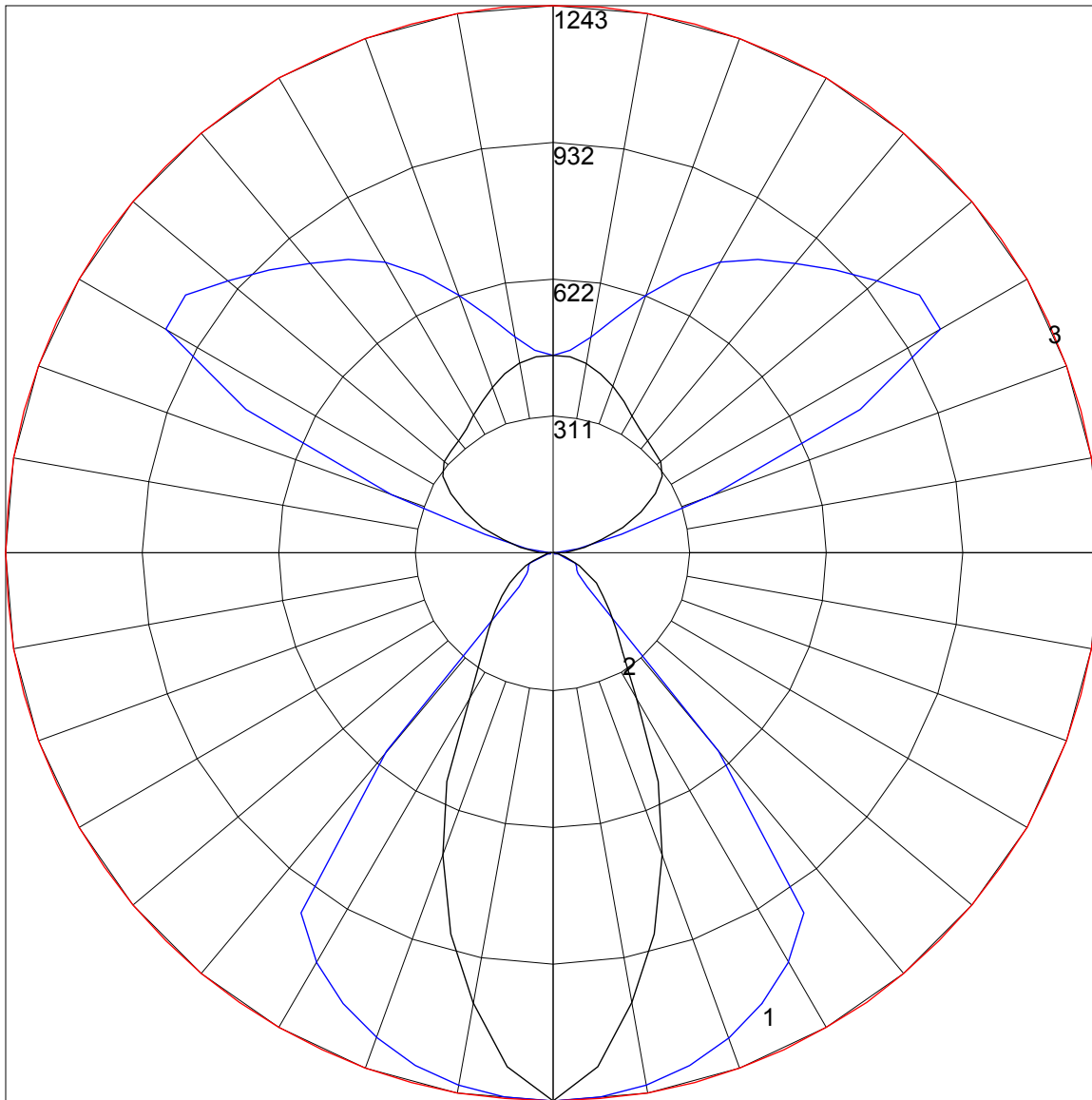
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	36
1	96	92	89	86	87	84	81	78	68	66	64	54	52	51	40	40	39	33
2	88	82	76	72	80	75	70	66	61	58	55	49	47	45	37	36	35	30
3	81	73	67	61	74	67	61	57	55	51	48	44	42	39	34	32	31	27
4	75	66	59	53	68	60	54	49	50	46	42	40	37	35	31	30	28	24
5	69	59	52	47	63	54	48	43	45	41	37	37	34	31	29	27	25	22
6	64	54	46	41	59	49	43	38	41	37	33	34	31	28	27	25	23	20
7	60	49	42	37	55	45	39	34	38	33	30	31	28	25	25	23	21	18
8	56	45	38	33	51	41	35	31	35	30	27	29	26	23	23	21	19	17
9	52	41	34	30	48	38	32	28	32	28	25	27	24	21	22	20	18	16
10	49	38	31	27	45	35	29	25	30	26	22	25	22	20	20	18	17	15

POLAR GRAPH



Maximum Candela = 1243 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.)