

IES Report

BoxRail® | 207 | Wide Batwing, up | 60° Symmetric, down | 90 CRI | SO

207-BX-XX-4-48-XX-XX-XX-XX-X-X-Z-SO-359-G1S2-X-AL / WH-X

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	82	84	86	87
Total Lumens, 4' rail length (1219mm)	4101	4231	4317	4360
Lumens per foot (305mm)	1025	1058	1079	1090
Lumens per foot UP (305mm)	654	675	689	696
Lumens per foot DOWN (305mm)	371	383	391	394
Input Power (W), 4' rail length (1219mm)	50.5	50.5	50.5	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: L022010908



Report No: L022010908

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-G1S2

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

Manufacturer:	Vode Lighting
Model Number:	207-BX-48-Z-SO-359-G1S2
Driver Model Number:	MEAN WELL HLG-40H-36A (2 DRIVERS)

Test Summary

Total Lumens:	4316.88
Efficacy:	85.50
Color Redering Index:	93.6
Correlated Color Temperature:	3387
Input Voltage (VAC/60Hz):	120.02
Input Current (Amp):	0.4232
Input Power (W):	50.49
Input Power Factor:	0.9939
Current ATHD (%):	8.3%

Test Condition

Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:30
Total Operating Time (Hours):	2:05

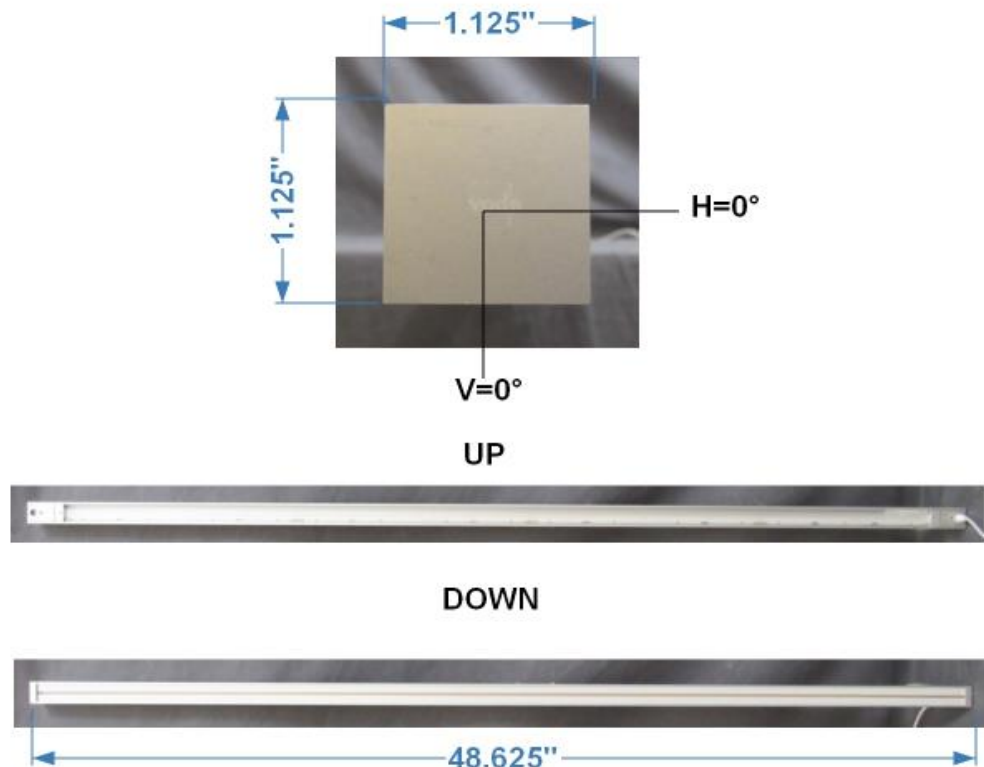
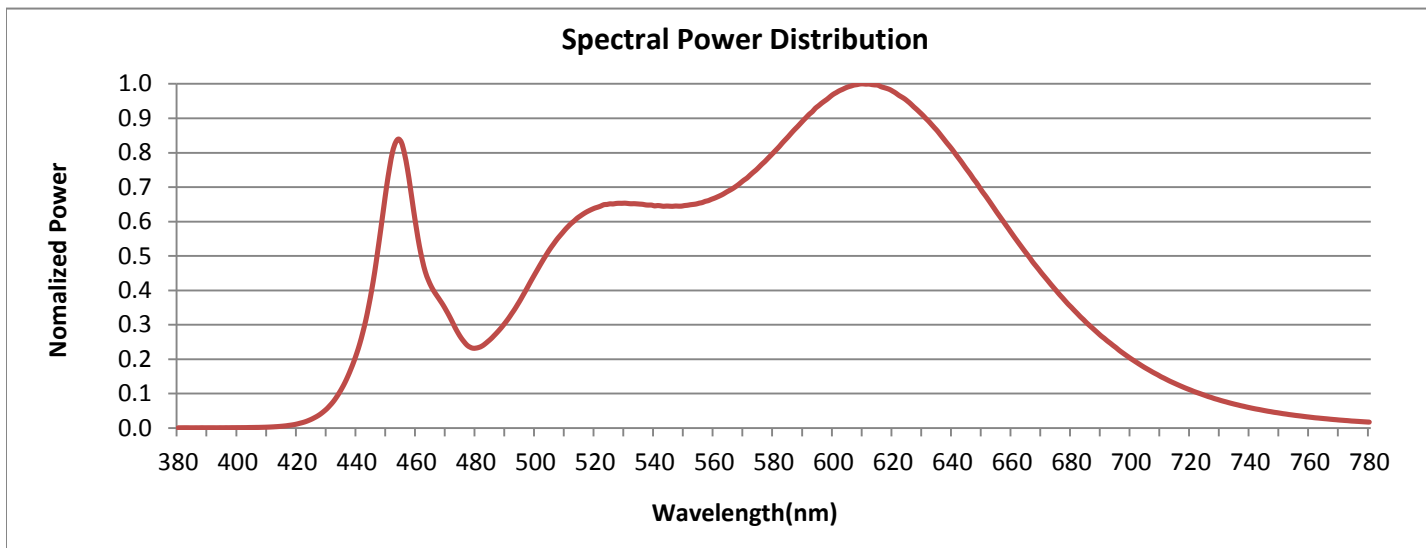


FIG. 1 LUMINAIRE

Colorimetry Test Results

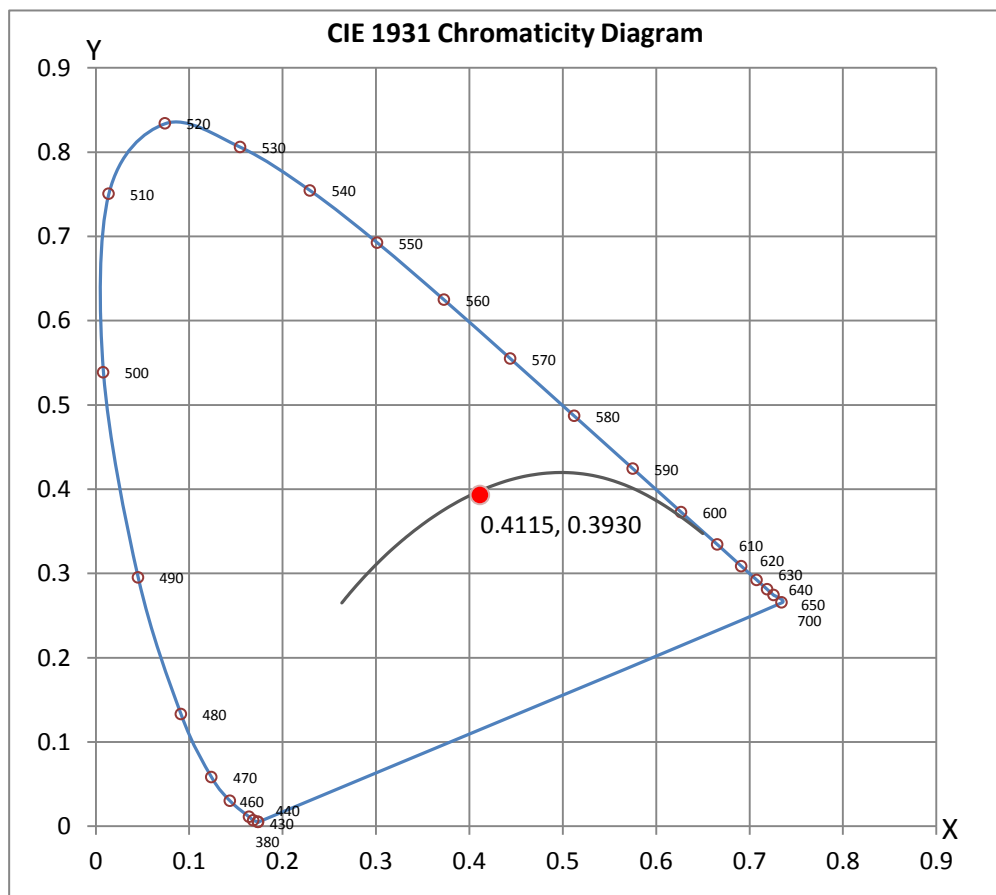


CRI & CCT

x	0.4115
y	0.3930
u'	0.2388
v'	0.5131
CRI	93.60
CCT	3387
Duv	-0.00032

R Values

R1	94.82
R2	97.43
R3	98.70
R4	96.01
R5	95.23
R6	96.32
R7	90.90
R8	79.75
R9	52.82
R10	93.86
R11	97.00
R12	77.85
R13	96.12
R14	99.15
R15	88.75





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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 : L022010908.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] L022010908

[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)

[ISSUEDATE] 2/21/2020

[MANUFAC] Vode Lighting

[LUMCAT] 207-BX-48-Z-SO-359-G1S2

[LUMINAIRE] BoxRail LED, 48", 3500K, 90 CRI, zipper board, wide batwing lens up,

[MORE] 60° symmetric 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] 120.02VAC, 50.49W

[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4317
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	85
Total Luminaire Watts	50.49
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	4048	7215	19847
55	2428	4234	14532
65	1515	2467	10393
75	749	1193	8265
85	139	263	3680

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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	1142	1142	1142	1142	1142	1142	1142	1142	1142	1142
5	1116	1115	1115	1115	1115	1115	1116	1116	1117	1118
10	1038	1037	1038	1040	1043	1047	1052	1056	1060	1066
15	914	914	918	923	931	938	947	959	974	988
20	760	760	768	777	786	800	817	835	856	875
25	596	599	607	617	632	649	670	695	717	743
30	448	452	461	471	486	503	524	549	578	606
35	330	333	340	352	364	379	397	422	447	475
40	243	247	252	260	270	282	298	318	338	365
45	181	184	188	194	201	209	223	236	255	275
50	138	140	143	147	151	158	167	178	191	207
55	108	109	111	114	115	120	125	135	145	156
60	85	86	86	86	87	90	95	100	108	117
65	65	65	64	64	65	67	71	75	79	85
70	45	43	44	45	47	48	50	52	55	60
75	30	29	30	31	31	31	31	32	35	37
80	15	15	17	17	17	18	19	19	20	20
85	5	6	6	5	5	5	5	5	6	7
90	5	5	5	5	5	5	5	5	4	4
95	22	29	28	30	32	34	35	42	43	46
100	93	95	98	103	108	113	119	126	131	136
105	208	197	211	218	223	230	237	239	243	240
110	387	378	373	379	393	399	399	401	393	371
115	623	623	596	590	585	585	569	548	522	485
120	809	807	795	770	750	726	697	669	620	570
125	943	935	917	898	879	834	798	743	689	630
130	998	990	969	945	915	878	830	777	718	659
135	991	986	969	940	910	874	829	781	727	673
140	953	948	931	908	881	849	810	768	723	678
145	898	893	882	865	840	812	781	747	711	674
150	836	833	826	811	794	772	748	722	695	665
155	776	773	769	759	747	732	714	695	675	655
160	721	719	716	711	703	693	683	669	655	643
165	675	674	672	669	665	660	654	647	640	631
170	641	640	639	638	636	634	632	628	625	622
175	619	619	619	618	618	617	617	616	615	615
180	611	611	611	611	611	611	611	611	611	611

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>
0	1142	1142	1142	1142	1142	1142	1142	1142	1142
5	1120	1121	1123	1125	1127	1129	1131	1133	1136
10	1073	1081	1090	1092	1094	1097	1101	1105	1109
15	1000	1008	1019	1031	1045	1048	1051	1056	1062
20	894	913	935	947	962	979	982	986	993
25	771	796	819	845	861	877	890	894	904
30	636	667	697	721	748	763	782	785	795
35	507	538	569	598	622	642	659	666	673
40	390	417	445	474	499	523	536	544	548
45	298	321	344	368	391	408	416	422	427
50	224	245	265	284	303	316	326	334	339
55	170	183	198	213	228	239	247	253	256
60	127	136	148	158	168	177	184	187	189

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CANDELA TABULATION - (Cont.)

65	92	100	108	115	122	128	133	136	137
70	65	71	76	82	86	90	93	95	96
75	41	44	49	53	56	58	62	65	69
80	21	23	25	27	29	31	32	32	33
85	7	7	8	9	10	10	11	12	12
90	4	3	3	3	2	2	2	2	1
95	54	53	52	47	40	35	38	39	37
100	132	124	119	108	98	93	88	83	84
105	231	219	199	181	162	148	139	134	131
110	341	311	280	248	222	202	192	185	182
115	443	396	347	307	277	255	242	234	231
120	515	458	403	361	328	306	291	283	281
125	565	505	452	407	371	348	335	327	324
130	598	543	493	451	417	394	377	367	364
135	620	570	525	488	457	433	417	408	403
140	632	590	551	518	490	468	453	444	440
145	637	603	571	543	519	501	487	480	475
150	637	610	585	563	543	530	518	512	509
155	633	614	596	578	566	554	546	541	538
160	630	616	603	593	584	575	571	567	564
165	623	616	610	603	597	593	591	588	586
170	618	615	611	609	608	606	604	603	602
175	614	613	613	612	611	611	610	609	609
180	611	611	611	611	611	611	611	611	611

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	380.60	N.A.	8.80
0-30	722.75	N.A.	16.70
0-40	1030.44	N.A.	23.90
0-60	1412.31	N.A.	32.70
0-80	1551.13	N.A.	35.90
0-90	1562.29	N.A.	36.20
10-90	1456.89	N.A.	33.70
20-40	649.84	N.A.	15.10
20-50	878.10	N.A.	20.30
40-70	475.16	N.A.	11.00
60-80	138.82	N.A.	3.20
70-80	45.53	N.A.	1.10
80-90	11.16	N.A.	0.30
90-110	271.14	N.A.	6.30
90-120	707.11	N.A.	16.40
90-130	1259.92	N.A.	29.20
90-150	2212.55	N.A.	51.30
90-180	2754.59	N.A.	63.80
110-180	2483.45	N.A.	57.50
0-180	4316.88	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	105.40
10-20	275.20
20-30	342.15
30-40	307.69
40-50	228.26
50-60	153.61
60-70	93.29
70-80	45.53
80-90	11.16
90-100	52.06
100-110	219.09
110-120	435.97
120-130	552.81
130-140	526.34
140-150	426.29
150-160	303.83
160-170	179.34
170-180	58.87

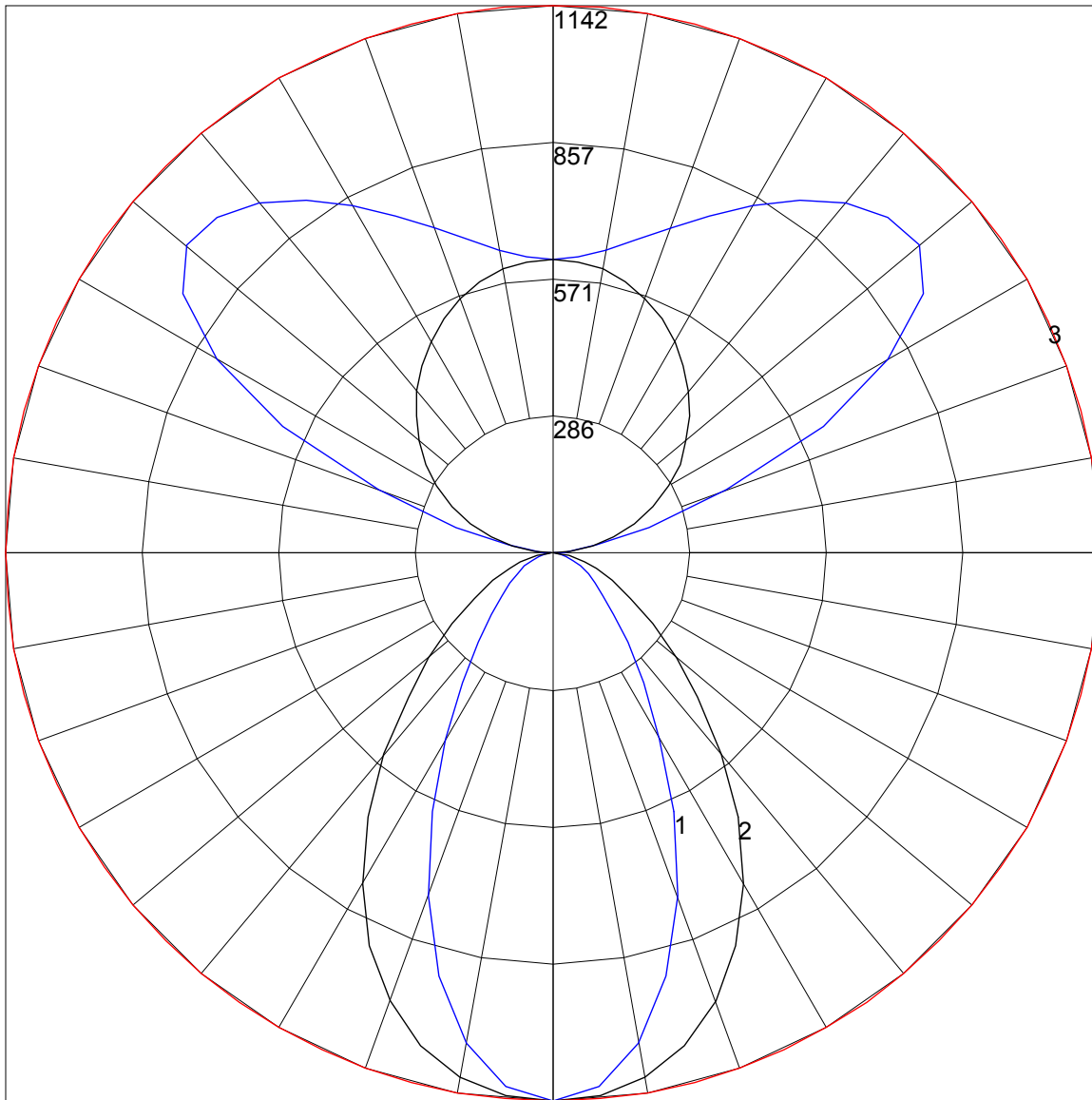
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	43	43	43	36
1	96	92	88	85	86	83	80	78	67	65	64	53	52	51	40	39	38	32
2	88	81	75	71	79	74	69	65	60	57	54	48	45	44	36	35	34	28
3	81	72	65	60	73	66	60	55	54	50	47	43	40	38	33	31	30	25
4	74	64	57	52	67	59	53	48	48	44	41	39	36	33	30	28	26	22
5	68	58	50	45	62	53	47	42	44	39	36	35	32	30	27	25	24	20
6	63	52	45	39	57	48	41	37	40	35	32	32	29	26	25	23	21	18
7	59	47	40	35	53	44	37	33	36	32	28	30	26	24	23	21	19	17
8	55	43	36	31	50	40	34	29	34	29	25	27	24	22	22	20	18	15
9	51	40	33	28	47	37	31	26	31	26	23	25	22	20	20	18	16	14
10	48	37	30	25	44	34	28	24	29	24	21	24	20	18	19	17	15	13

POLAR GRAPH



Maximum Candela = 1142 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.)