

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-BL-X

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	65	67	68	69
Total Lumens, 4' rail length (1219mm)	3235	3337	3405	3439
Lumens per foot (305mm)	809	834	851	860
Lumens per foot UP (305mm)	594	613	625	632
Lumens per foot DOWN (305mm)	215	221	226	228
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: L022010915



Report No: L022010915

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-G1BB-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-G1BB-BL
Driver Model Number:	MEAN WELL HLG-40H-36A (2 DRIVERS)

Test Summary

Total Lumens:	3405.13
Efficacy:	67.65
Color Redering Index:	94.3
Correlated Color Temperature:	3418
Input Voltage (VAC/60Hz):	119.99
Input Current (Amp):	0.4220
Input Power (W):	50.33
Input Power Factor:	0.9939
Current ATHD (%):	8.4%

Test Condition

Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:45
Total Operating Time (Hours):	2:20

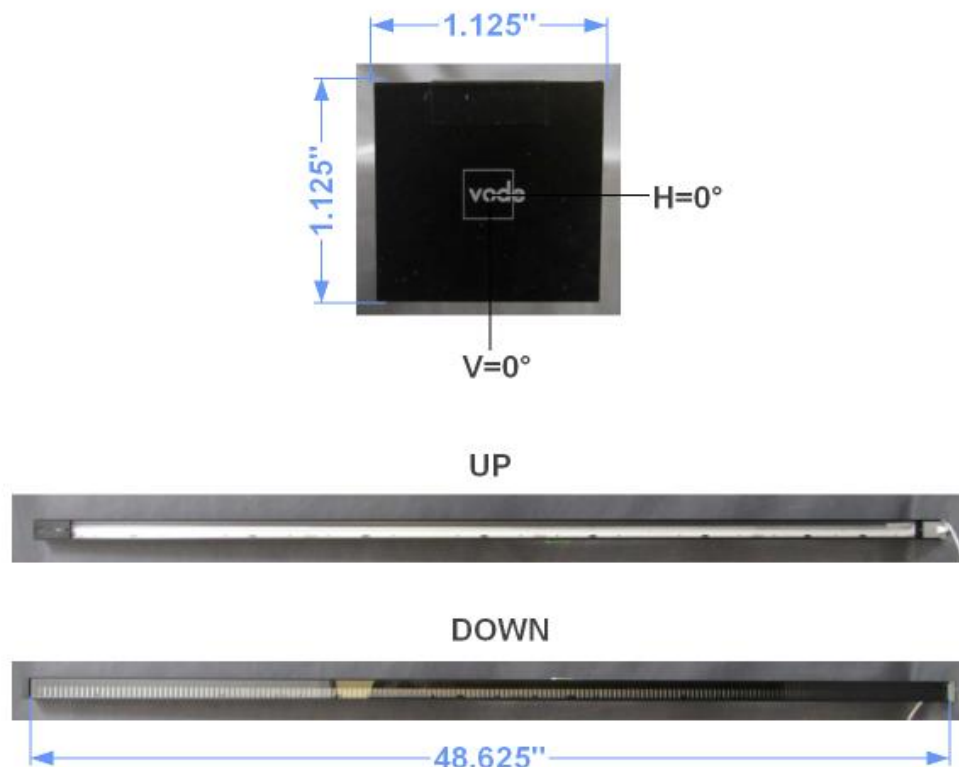
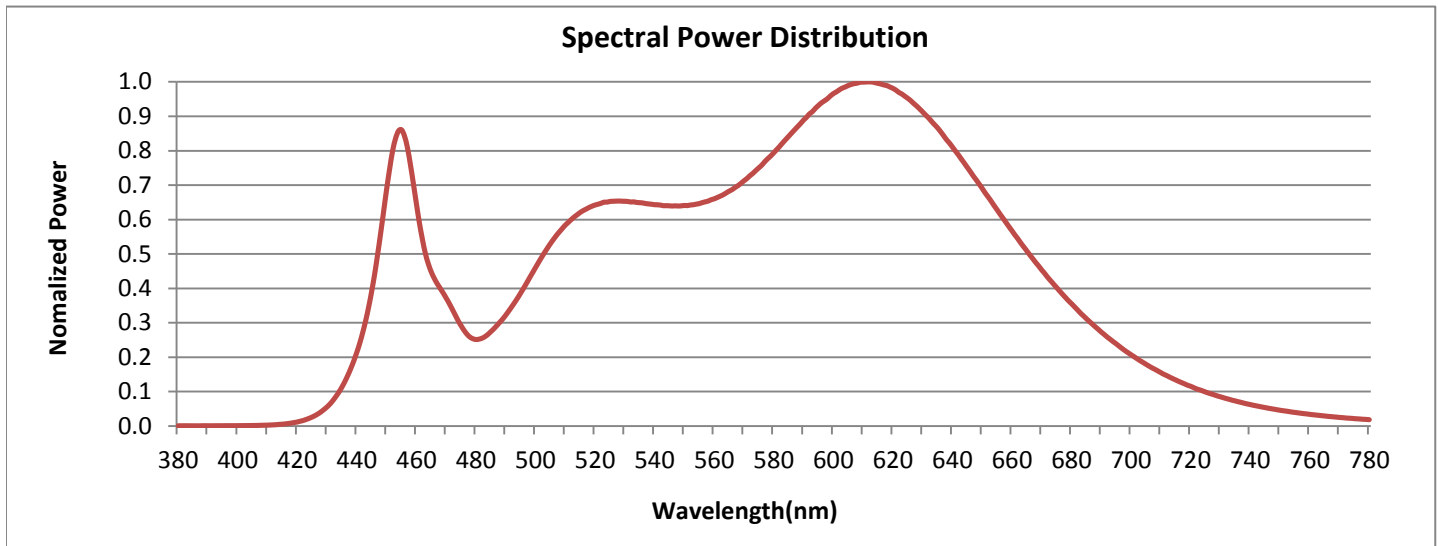


FIG. 1 LUMINAIRE

Colorimetry Test Results

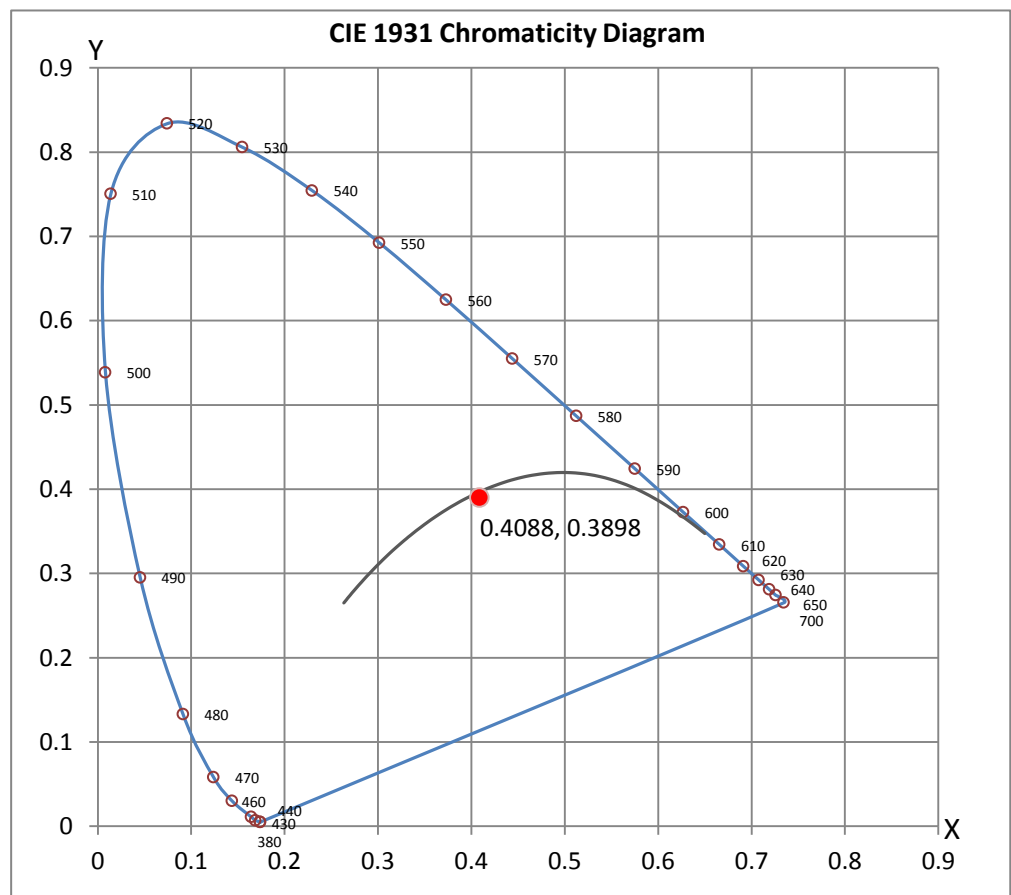


CRI & CCT

x	0.4088
y	0.3898
u'	0.2384
v'	0.5114
CRI	94.30
CCT	3418
Duv	-0.00116

R Values

R1	96.09
R2	98.57
R3	98.33
R4	96.93
R5	96.53
R6	95.91
R7	90.84
R8	81.04
R9	56.77
R10	96.60
R11	96.92
R12	78.72
R13	97.57
R14	99.48
R15	90.32





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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 : L022010915.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L022010915
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 2/26/2020
[MANUFAC] Vode Lighting
[LUMCAT] 207-BX-48-Z-SO-359-G1BB-BL
[LUMINAIRE] BoxRail LED, 48", 3500K, 90 CRI, zipper board, wide batwing lens up,
[MORE] black 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, 50.33W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3405
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	68
Total Luminaire Watts	50.33
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	425	1443	1116
55	292	326	511
65	210	116	228
75	100	97	240
85	139	113	307

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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	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070
5	1065	1058	1051	1045	1038	1031	1025	1019	1014	1009
10	1053	1039	1025	1012	999	986	975	955	936	919
15	1032	1010	990	971	949	917	886	858	832	807
20	1003	975	949	919	876	834	793	753	716	682
25	965	933	902	851	799	746	694	644	598	556
30	917	878	835	772	710	649	590	533	477	420
35	860	818	759	687	613	542	477	407	339	276
40	551	517	470	426	400	390	343	270	203	143
45	19	39	83	114	121	104	128	121	87	55
50	15	15	14	14	13	19	19	23	26	27
55	13	13	12	11	9	9	8	9	10	12
60	12	11	10	9	8	7	6	5	5	6
65	9	9	8	7	6	6	5	4	4	4
70	6	6	6	6	5	5	4	4	3	3
75	4	4	5	4	4	4	4	3	3	3
80	5	5	5	5	4	4	4	3	3	2
85	5	5	5	5	5	5	4	4	4	3
90	4	4	4	4	4	4	4	4	4	4
95	8	14	12	13	15	19	22	36	41	47
100	55	60	64	71	82	96	113	134	152	162
105	158	156	172	187	204	235	265	284	315	313
110	381	386	406	409	470	503	543	569	538	459
115	824	819	796	808	810	835	786	723	629	506
120	1147	1133	1095	1046	1016	931	849	740	623	514
125	1144	1133	1102	1052	987	901	806	710	613	524
130	1020	1012	988	949	894	829	758	682	609	541
135	915	909	891	861	821	770	719	662	607	553
140	837	831	817	795	766	730	689	646	601	556
145	771	767	755	738	714	686	654	617	580	542
150	698	695	687	672	653	631	605	576	546	515
155	617	614	609	599	586	570	550	528	508	487
160	544	542	539	533	525	515	504	490	475	463
165	489	488	486	484	480	475	469	462	455	446
170	454	454	453	452	450	448	446	443	440	436
175	434	434	433	433	433	432	432	431	431	430
180	427	427	427	427	427	427	427	427	427	427

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	1070	1070	1070	1070	1070	1070	1070	1070	1070	
5	1004	1000	996	993	991	989	987	987	987	
10	903	889	877	866	856	849	843	839	839	
15	783	760	741	724	710	699	690	685	684	
20	651	624	600	577	559	546	533	524	522	
25	517	479	444	414	389	369	355	344	343	
30	367	321	280	246	219	196	180	168	167	
35	218	165	138	117	95	79	70	67	69	
40	107	77	63	55	47	41	39	37	36	
45	49	41	36	32	29	27	25	24	24	
50	28	25	23	21	19	17	16	15	15	
55	14	14	13	12	11	10	9	9	9	
60	6	7	7	7	6	6	5	5	5	

IES INDOOR REPORT
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CANDELA TABULATION - (Cont.)

65	3	4	4	4	4	3	3	3	3
70	3	3	2	2	2	2	2	2	2
75	2	2	2	2	2	2	1	1	2
80	2	2	2	1	1	1	1	1	1
85	3	3	2	2	1	1	1	1	1
90	3	3	3	2	2	2	1	1	2
95	58	53	41	33	25	24	29	29	28
100	158	133	106	83	74	72	73	76	75
105	281	220	165	129	114	111	112	115	116
110	363	271	209	173	158	157	161	166	169
115	395	309	252	220	206	204	210	215	219
120	419	344	294	268	255	252	255	261	265
125	450	388	343	316	300	293	292	295	297
130	478	426	387	359	339	325	318	315	314
135	502	458	420	390	367	348	334	325	320
140	512	473	436	405	379	357	342	332	326
145	505	470	437	408	384	365	349	341	336
150	485	457	430	409	388	374	361	355	351
155	464	444	427	409	396	385	377	373	369
160	450	437	424	415	406	397	394	391	388
165	439	432	426	420	413	411	408	406	404
170	433	429	426	424	422	421	419	418	417
175	430	429	428	428	427	427	426	425	425
180	427	427	427	427	427	427	427	427	427

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	325.54	N.A.	9.60
0-30	596.91	N.A.	17.50
0-40	812.33	N.A.	23.90
0-60	891.73	N.A.	26.20
0-80	899.87	N.A.	26.40
0-90	903.19	N.A.	26.50
10-90	808.75	N.A.	23.80
20-40	486.78	N.A.	14.30
20-50	555.49	N.A.	16.30
40-70	84.39	N.A.	2.50
60-80	8.14	N.A.	0.20
70-80	3.16	N.A.	0.10
80-90	3.32	N.A.	0.10
90-110	263.59	N.A.	7.70
90-120	754.51	N.A.	22.20
90-130	1306.9	N.A.	38.40
90-150	2105.22	N.A.	61.80
90-180	2501.94	N.A.	73.50
110-180	2238.35	N.A.	65.70
0-180	3405.13	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	94.43
10-20	231.11
20-30	271.37
30-40	215.41
40-50	68.71
50-60	10.70
60-70	4.98
70-80	3.16
80-90	3.32
90-100	43.66
100-110	219.93
110-120	490.91
120-130	552.40
130-140	454.57
140-150	343.75
150-160	227.97
160-170	127.53
170-180	41.22

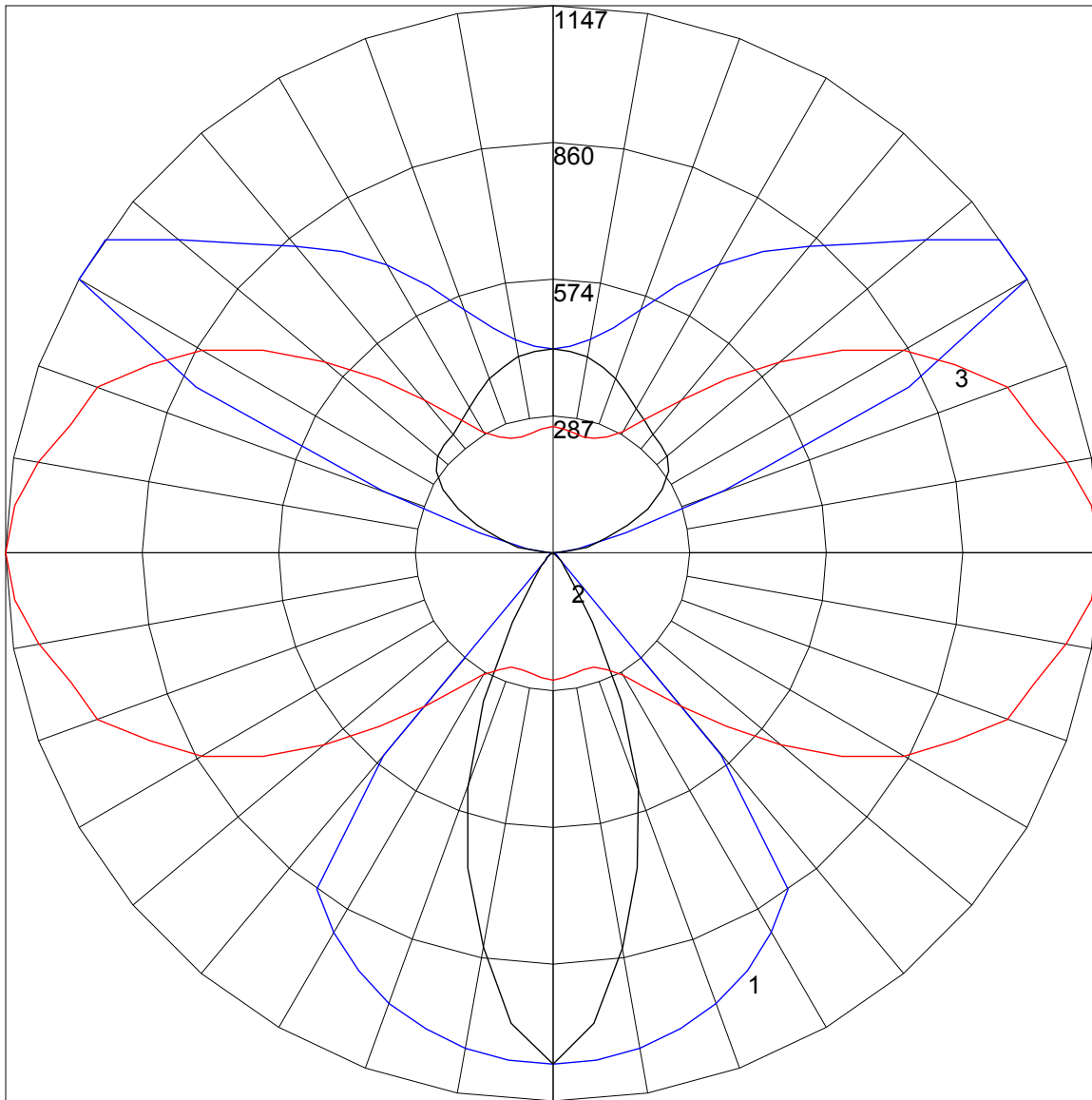
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	102	102	102	102	91	91	91	91	70	70	70	52	52	52	35	35	35	27
1	94	90	87	84	84	81	78	75	63	61	60	47	46	45	32	32	31	25
2	86	80	75	70	77	72	68	64	57	54	52	43	41	40	30	29	28	23
3	80	72	65	60	71	65	59	55	51	48	45	39	37	35	28	27	26	21
4	74	64	58	52	66	58	53	48	47	43	40	36	34	32	26	25	24	20
5	68	58	51	46	61	53	47	42	43	38	35	33	31	28	24	23	22	18
6	63	53	46	41	57	48	42	38	39	35	32	31	28	26	23	21	20	17
7	59	48	41	36	53	44	38	34	36	32	29	28	26	24	21	20	19	16
8	55	44	37	33	49	40	34	30	33	29	26	26	24	22	20	18	17	15
9	51	41	34	29	46	37	31	27	31	27	24	25	22	20	19	17	16	14
10	48	37	31	27	44	34	29	25	29	24	22	23	20	18	18	16	15	13

POLAR GRAPH



Maximum Candela = 1147 Located At Horizontal Angle = 0, Vertical Angle = 120

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 (120) (Through Max. Cd.)