

IES Report

BoxRail[®] | 207 | Wide Batwing, up | 40° Symmetric, down | 90 CRI | SO

207-BX-XX-4-48-XX-XX-XX-XX-X-X-Z-SO-359-G1S1-X-BL-X

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	63	65	66	67
Total Lumens, 4' rail length (1219mm)	3138	3237	3303	3336
Lumens per foot (305mm)	784	809	826	834
Lumens per foot UP (305mm)	578	596	608	615
Lumens per foot DOWN (305mm)	206	213	217	219
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: L022010911



Report No: L022010911

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-G1S1-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: 2/14/20

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

Manufacturer:	Vode Lighting
Model Number:	207-BX-48-Z-SO-359-G1S1-BL
Driver Model Number:	MEAN WELL HLG-40H-36A (2 DRIVERS)

Test Summary

Total Lumens:	3302.96
Efficacy:	65.80
Color Redering Index:	94.0
Correlated Color Temperature:	3439
Input Voltage (VAC/60Hz):	120.03
Input Current (Amp):	0.4208
Input Power (W):	50.20
Input Power Factor:	0.9938
Current ATHD (%):	8.4%

Test Condition

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

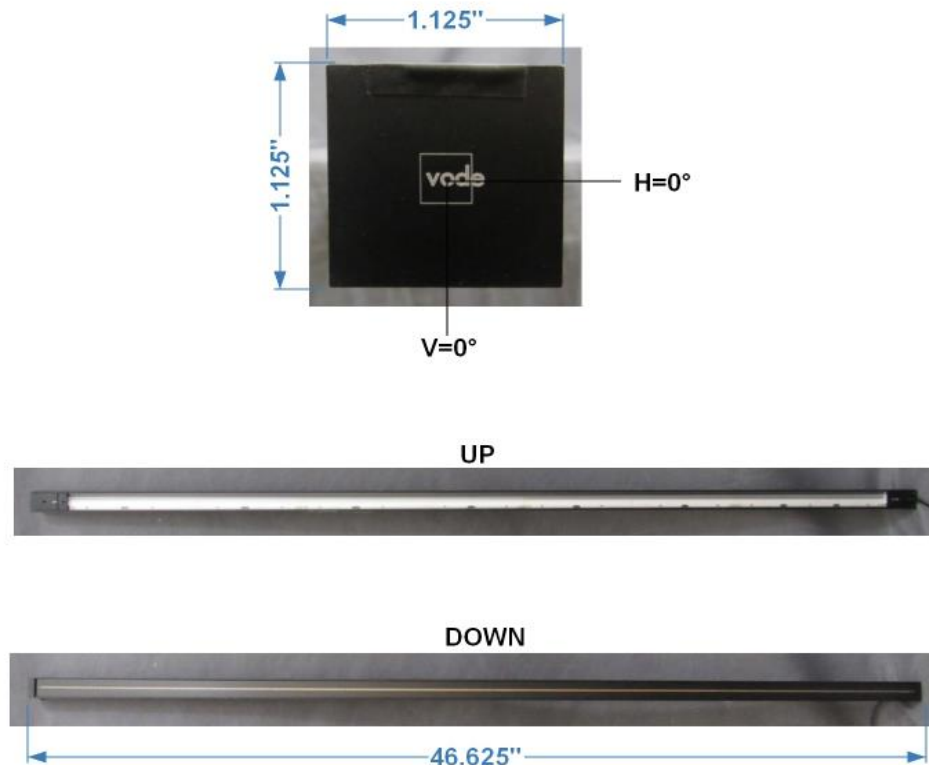
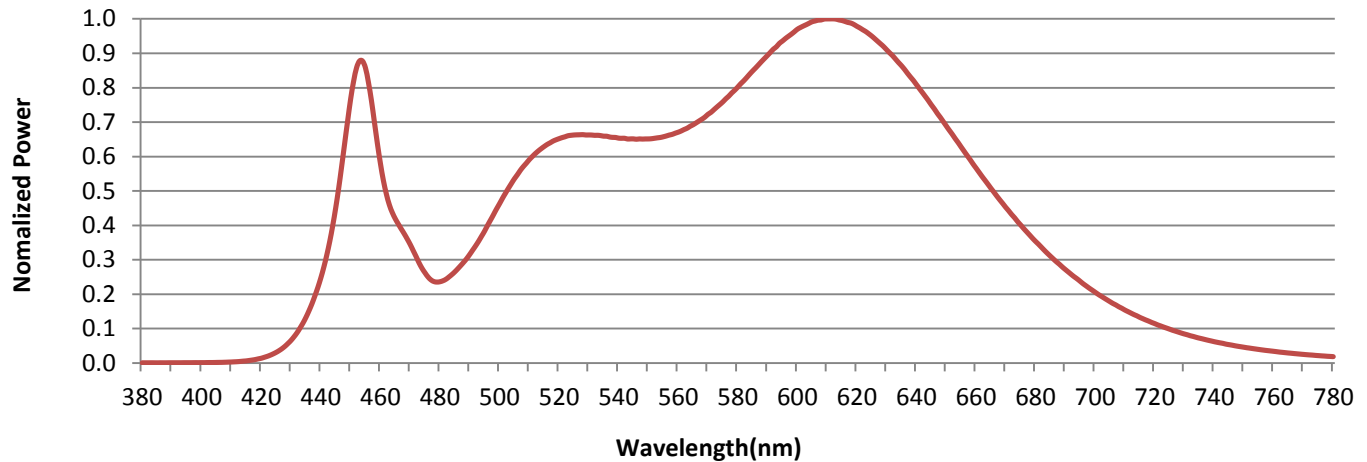


FIG. 1 LUMINAIRE

Colorimetry Test Results

Spectral Power Distribution



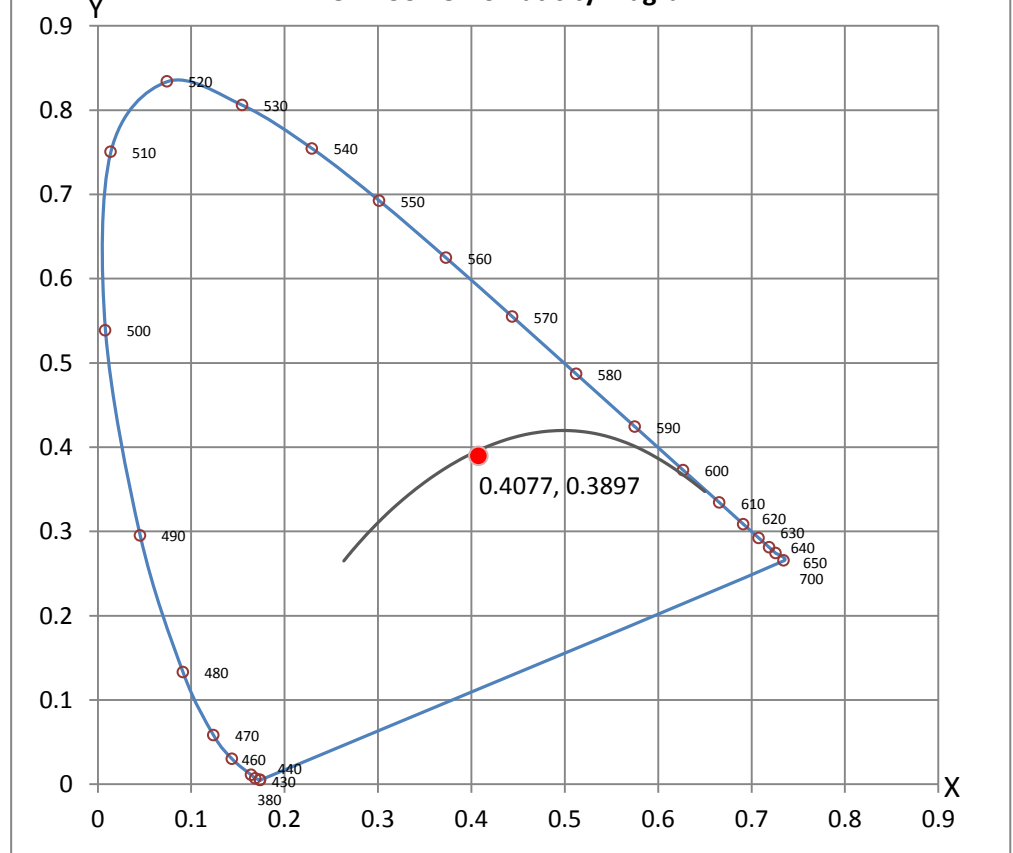
CRI & CCT

x	0.4077
y	0.3897
u'	0.2377
v'	0.5112
CRI	94.00
CCT	3439
Duv	-0.00097

R Values

R1	95.42
R2	97.61
R3	98.57
R4	96.51
R5	95.91
R6	96.20
R7	91.28
R8	80.82
R9	55.10
R10	94.35
R11	96.31
R12	78.54
R13	96.65
R14	98.99
R15	89.65

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*



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

Photometric Test Report

IES INDOOR REPORT

PHOTOMETRIC FILENAME : L022010911.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L022010911
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 2/24/2020
[MANUFAC] Vode Lighting
[LUMCAT] 207-BX-48-Z-SO-359-G1S1-BL
[LUMINAIRE] BoxRail LED, 48", 3500K, 90 CRI, zipper board, wide batwing lens up,
[MORE] 40° symmetric 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] 120.03VAC, 50.20W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3303
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	66
Total Luminaire Watts	50.2
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	1061	2627	14069
55	499	1243	8237
65	264	602	4699
75	132	271	2811
85	114	126	1285

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PHOTOMETRIC FILENAME : L022010911.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>
0	913.52	913.52	913.52	913.52	913.52	913.52	913.52	913.52	913.52	913.52
5	868.42	867.93	867.79	868.00	868.55	869.45	870.68	872.23	874.09	876.25
10	748.89	748.27	750.15	753.51	758.66	765.54	774.07	781.83	791.30	802.31
15	585.51	585.00	590.04	597.94	608.80	620.32	635.30	653.57	674.97	697.43
20	421.22	420.83	428.34	438.71	450.94	467.62	487.91	509.86	535.42	564.88
25	282.24	283.62	290.56	300.07	313.92	330.72	350.10	372.75	401.88	435.34
30	181.31	182.72	188.34	196.44	207.84	221.69	237.64	260.04	288.80	317.35
35	114.50	115.65	119.50	125.80	133.72	143.36	155.40	176.00	196.72	223.02
40	72.26	73.19	75.76	79.99	85.60	92.07	102.85	116.02	130.76	152.80
45	47.45	48.17	49.62	52.24	55.52	59.39	67.69	75.26	88.03	100.14
50	31.94	32.32	33.40	35.15	37.27	40.64	44.95	50.76	58.33	68.52
55	22.21	22.44	23.15	24.30	25.52	27.99	30.30	34.53	39.52	45.79
60	16.01	16.09	16.48	17.04	17.92	19.34	21.19	23.33	26.84	31.18
65	11.32	11.39	11.64	12.10	12.84	13.47	14.79	16.30	18.31	20.76
70	7.63	7.56	8.21	8.42	8.99	9.46	10.00	10.90	12.11	13.77
75	5.28	5.44	6.11	6.07	6.14	6.38	6.60	6.96	7.61	8.42
80	4.61	4.77	5.01	4.84	4.84	4.87	4.91	4.94	4.97	5.04
85	4.11	4.16	4.08	3.97	3.89	3.78	3.63	3.44	3.41	3.35
90	4.08	4.15	4.19	4.11	4.02	3.98	3.86	3.65	3.35	3.10
95	14.50	19.88	19.14	20.08	21.40	23.30	24.81	29.40	35.14	36.27
100	66.39	70.52	72.89	78.00	83.28	90.01	96.87	104.44	110.72	115.62
105	174.19	157.42	169.47	175.48	181.72	190.55	198.24	203.24	212.18	211.25
110	316.86	309.82	310.54	302.66	326.30	332.65	343.83	350.73	346.63	333.15
115	556.34	546.76	521.47	511.28	511.91	512.51	504.37	489.77	469.11	438.74
120	723.40	714.50	705.47	687.60	673.68	651.33	630.11	604.83	561.63	515.92
125	835.22	827.88	818.25	803.03	786.88	752.73	723.18	676.11	628.48	573.64
130	886.27	882.81	871.02	852.19	830.24	799.53	759.56	713.35	659.51	603.54
135	890.21	887.00	879.03	859.58	834.37	804.67	763.82	720.68	669.21	618.17
140	862.47	862.79	853.16	835.74	811.85	783.37	747.48	707.67	664.20	618.79
145	814.44	810.98	804.93	794.41	772.89	747.19	717.35	683.11	647.07	609.26
150	756.43	756.73	752.03	740.27	724.27	703.47	679.15	651.96	623.52	592.85
155	695.41	692.85	688.15	680.96	670.95	656.14	637.81	617.84	596.67	575.24
160	637.57	637.37	634.39	629.65	620.97	610.88	599.14	585.08	570.02	556.76
165	588.28	587.68	585.47	582.70	578.66	572.39	565.43	557.84	549.68	540.34
170	551.48	550.72	549.27	547.68	545.79	543.62	541.17	537.65	533.93	529.99
175	529.18	528.87	528.62	527.91	527.40	526.85	526.27	525.66	525.04	524.40
180	521.00	521.00	521.00	521.00	521.00	521.00	521.00	521.00	521.00	521.00

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	913.52	913.52	913.52	913.52	913.52	913.52	913.52	913.52	913.52
5	878.69	881.40	884.34	887.50	890.86	894.39	898.01	901.83	905.72
10	814.78	828.61	843.42	848.30	853.76	859.77	866.28	873.17	880.66
15	718.45	736.80	757.04	779.01	803.73	811.36	820.07	829.56	840.42
20	596.16	628.78	662.69	688.51	716.54	747.77	758.00	769.67	783.76
25	471.59	508.42	547.23	588.45	620.85	653.73	679.38	691.02	706.39
30	353.00	392.74	432.58	475.72	519.67	552.62	587.95	597.70	612.34
35	254.96	289.49	327.20	365.24	408.74	446.06	478.29	494.75	508.90
40	175.52	205.98	236.50	270.19	306.00	337.83	361.72	381.98	401.94
45	119.94	140.47	165.18	195.28	224.36	251.49	273.93	291.23	302.69
50	79.85	95.30	113.71	134.28	156.47	177.04	193.98	206.54	213.67
55	54.35	64.18	75.99	90.47	106.03	120.05	131.93	141.07	145.10
60	36.53	42.65	50.63	60.45	71.01	81.08	89.12	93.29	95.81

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CANDELA TABULATION - (Cont.)

65	24.27	28.54	33.89	39.87	46.11	52.26	57.67	60.60	61.95
70	15.94	18.71	22.11	25.78	29.45	33.20	36.55	38.40	39.40
75	9.69	11.31	13.40	15.59	17.73	19.84	21.63	22.78	23.47
80	5.44	5.96	6.85	7.89	9.05	10.12	11.18	11.69	11.65
85	3.13	2.86	3.06	3.35	3.50	3.49	3.99	4.33	4.19
90	2.81	2.52	2.31	2.01	1.84	1.59	1.34	1.51	1.59
95	38.25	42.17	42.33	36.95	32.50	30.07	32.34	32.58	31.94
100	113.07	109.61	107.40	95.94	87.51	81.72	79.10	76.89	75.36
105	208.16	197.43	179.73	158.45	140.77	127.67	118.81	113.69	112.91
110	311.48	281.70	249.00	218.01	192.63	174.93	164.31	157.92	155.75
115	399.92	354.51	309.39	271.55	241.77	220.28	207.18	199.21	196.48
120	465.38	408.51	360.80	319.11	287.73	264.56	248.84	239.77	237.73
125	512.88	456.08	405.07	360.40	327.71	303.14	286.26	276.71	273.60
130	546.09	491.02	441.35	397.95	362.52	337.64	320.67	311.08	307.30
135	564.66	514.39	468.17	428.25	394.59	370.39	354.17	343.41	338.06
140	572.51	528.53	487.75	451.70	422.83	398.52	383.28	373.68	368.58
145	571.06	534.42	500.56	470.25	445.47	425.75	410.59	402.75	398.17
150	563.76	535.24	507.41	484.63	463.09	448.81	435.51	429.97	425.91
155	553.34	532.36	512.98	493.90	480.35	468.23	459.14	454.52	451.06
160	543.00	528.42	514.13	504.06	494.27	484.80	480.71	477.23	474.53
165	531.71	524.66	517.59	510.53	503.55	500.33	497.60	495.07	492.97
170	525.87	521.60	517.34	515.26	513.32	511.47	509.74	508.11	506.72
175	523.75	523.09	522.43	521.78	521.14	520.50	519.86	519.28	518.70
180	521.00	521.00	521.00	521.00	521.00	521.00	521.00	521.00	521.00

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	277.10	N.A.	8.40
0-30	490.35	N.A.	14.80
0-40	657.67	N.A.	19.90
0-60	822.72	N.A.	24.90
0-80	864.59	N.A.	26.20
0-90	869.21	N.A.	26.30
10-90	787.41	N.A.	23.80
20-40	380.57	N.A.	11.50
20-50	486.98	N.A.	14.70
40-70	194.24	N.A.	5.90
60-80	41.87	N.A.	1.30
70-80	12.68	N.A.	0.40
80-90	4.62	N.A.	0.10
90-110	228.95	N.A.	6.90
90-120	612.99	N.A.	18.60
90-130	1107.46	N.A.	33.50
90-150	1962.99	N.A.	59.40
90-180	2433.75	N.A.	73.70
110-180	2204.8	N.A.	66.80
0-180	3302.96	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	81.79
10-20	195.31
20-30	213.25
30-40	167.31
40-50	106.41
50-60	58.64
60-70	29.19
70-80	12.68
80-90	4.62
90-100	41.99
100-110	186.96
110-120	384.04
120-130	494.47
130-140	473.90
140-150	381.62
150-160	266.54
160-170	154.03
170-180	50.19

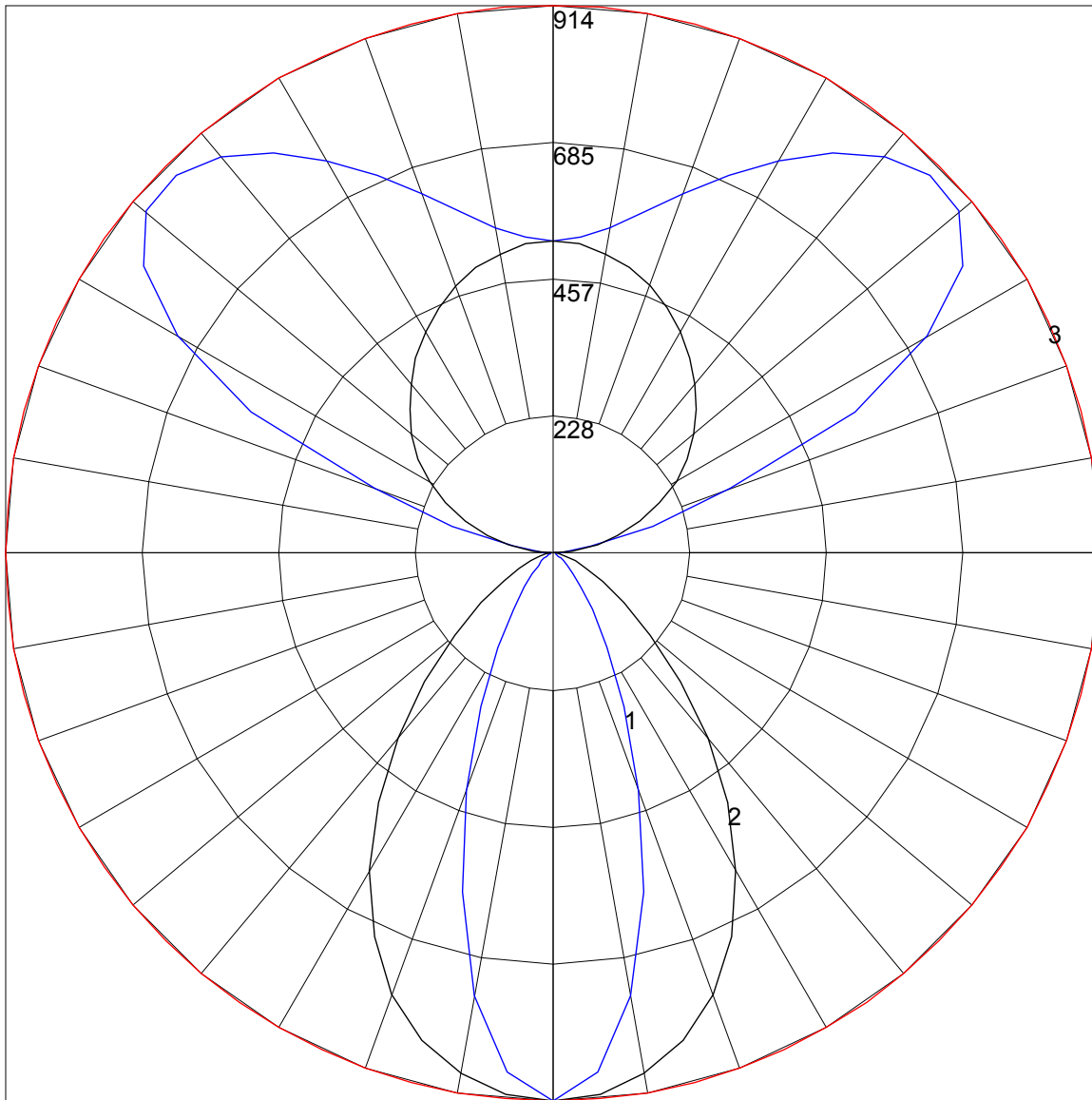
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	34	34	34	26
1	93	90	86	83	83	80	77	75	63	61	59	47	45	44	32	31	31	24
2	86	79	74	69	77	71	67	63	56	53	51	42	40	39	29	28	27	22
3	79	71	64	59	70	64	58	54	50	47	44	38	36	34	27	26	24	20
4	73	63	56	51	65	57	51	46	45	41	38	35	32	30	25	23	22	18
5	67	57	50	44	60	51	45	41	41	37	34	32	29	27	23	21	20	16
6	62	51	44	39	56	47	40	36	38	33	30	29	26	24	21	20	18	15
7	58	47	39	34	52	42	36	32	34	30	27	27	24	22	20	18	17	14
8	54	43	36	31	48	39	33	29	32	27	24	25	22	20	18	17	15	13
9	50	39	32	28	45	36	30	26	29	25	22	23	20	18	17	16	14	12
10	47	36	29	25	42	33	27	23	27	23	20	22	19	17	16	15	13	11

POLAR GRAPH



Maximum Candela = 913.52 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.)