

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-BL-X

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	65	67	69	69
Total Lumens, 4' rail length (1219mm)	3273	3377	3446	3480
Lumens per foot (305mm)	818	844	861	870
Lumens per foot UP (305mm)	576	594	606	612
Lumens per foot DOWN (305mm)	242	250	255	258
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: L022010912



Report No: L022010912

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-G1S2-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-G1S2-BL
Driver Model Number:	MEAN WELL HLG-40H-36A (2 DRIVERS)

Test Summary

Total Lumens:	3445.65
Efficacy:	68.28
Color Redering Index:	94.0
Correlated Color Temperature:	3440
Input Voltage (VAC/60Hz):	119.99
Input Current (Amp):	0.4232
Input Power (W):	50.47
Input Power Factor:	0.9939
Current ATHD (%):	8.3%

Test Condition

Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	1:00
Total Operating Time (Hours):	2:35

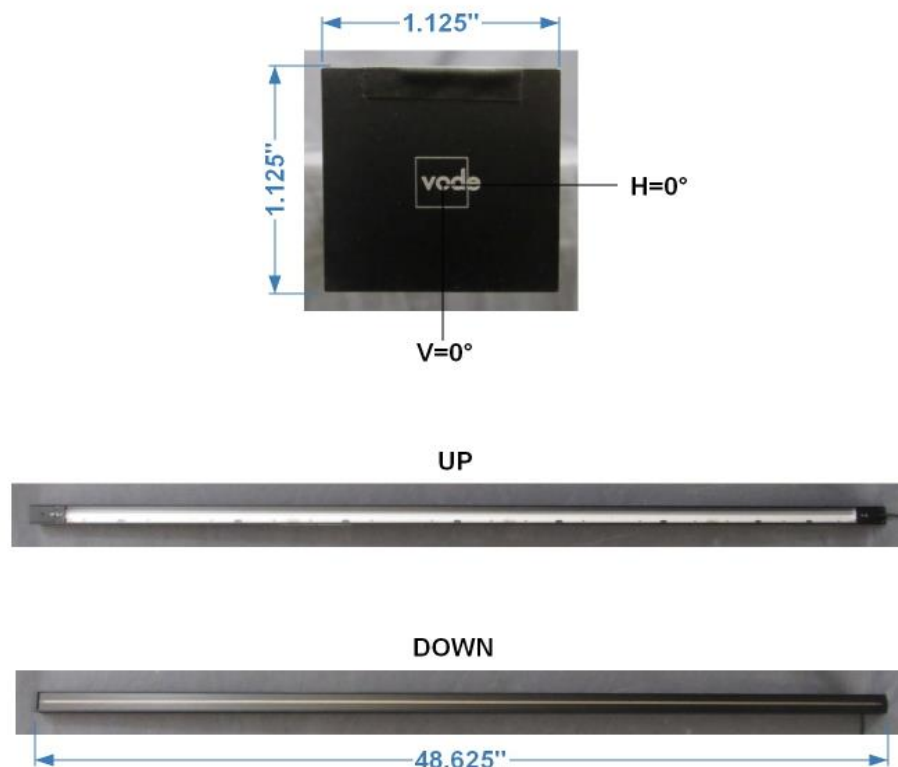
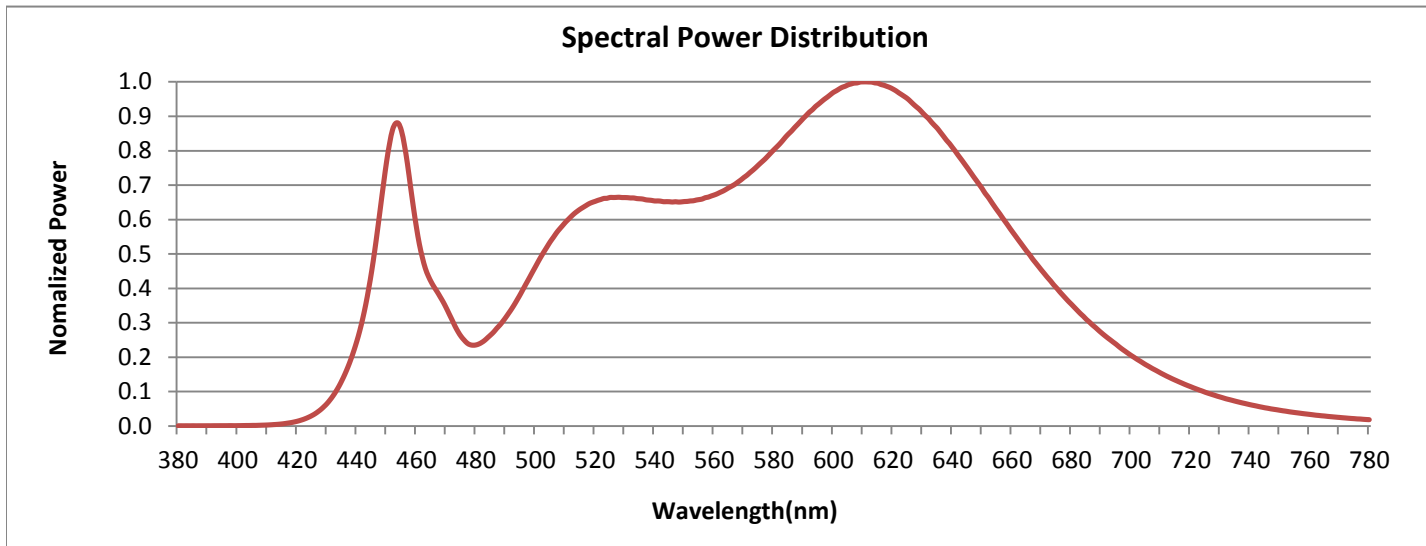


FIG. 1 LUMINAIRE

Colorimetry Test Results

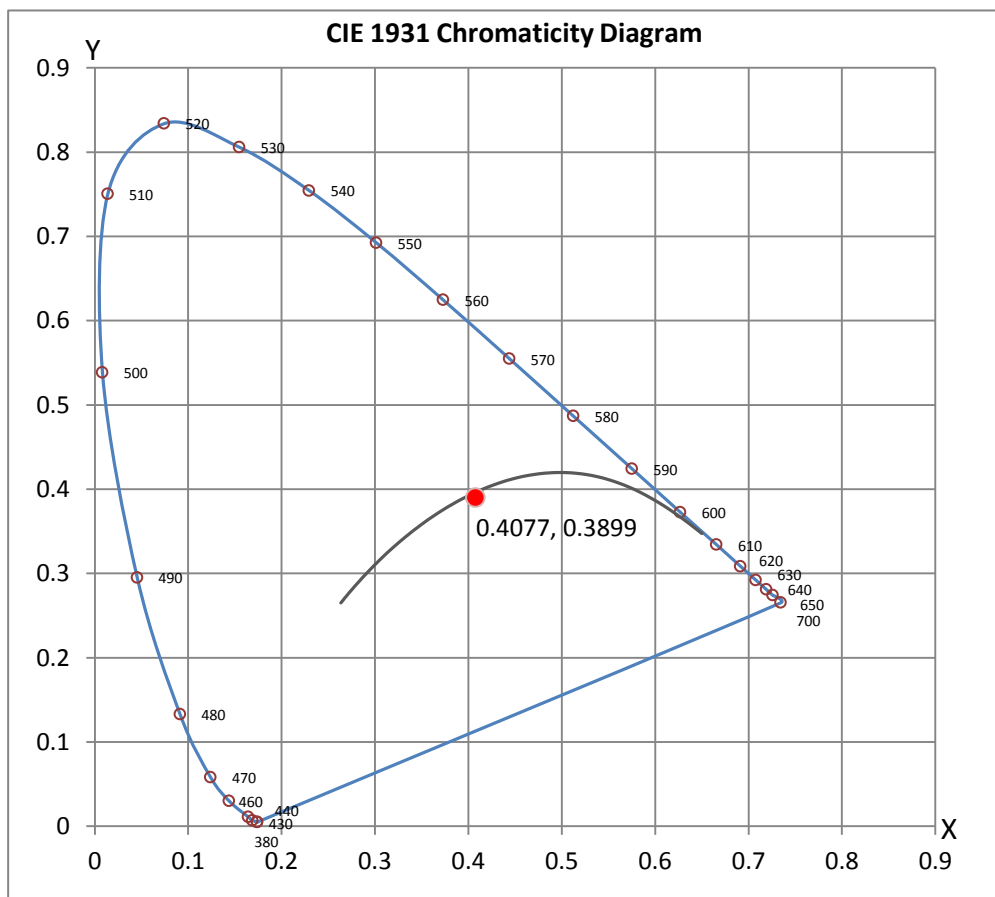


CRI & CCT

x	0.4077
y	0.3899
u'	0.2376
v'	0.5113
CRI	94.00
CCT	3440
Duv	-0.00088

R Values

R1	95.41
R2	97.59
R3	98.58
R4	96.50
R5	95.89
R6	96.22
R7	91.29
R8	80.80
R9	55.03
R10	94.29
R11	96.31
R12	78.48
R13	96.63
R14	98.98
R15	89.61





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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 : L022010912.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L022010912
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 2/24/2020
[MANUFAC] Vode Lighting
[LUMCAT] 207-BX-48-Z-SO-359-G1S2-BL
[LUMINAIRE] BoxRail LED, 48", 3500K, 90 CRI, zipper board, wide batwing lens up,
[MORE] 60° 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] 119.99VAC, 50.47W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3446
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	68
Total Luminaire Watts	50.47
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	1534	3568	14155
55	684	1605	8698
65	338	751	5132
75	161	332	3153
85	110	135	1414

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L022010912.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	975.88	975.88	975.88	975.88	975.88	975.88	975.88	975.88	975.88	975.88
5	944.20	943.57	943.21	943.02	943.13	943.49	944.10	944.96	946.06	947.39
10	848.80	847.89	848.89	851.12	854.78	859.84	866.24	871.46	878.12	886.06
15	708.90	707.98	711.62	717.82	726.40	734.92	746.51	761.07	778.46	796.03
20	546.53	545.55	552.14	561.59	572.42	587.83	606.75	626.63	650.24	673.70
25	391.29	392.13	399.18	408.73	423.15	440.49	460.60	484.69	510.60	540.59
30	262.87	264.13	270.78	280.70	294.30	310.43	328.74	352.11	381.27	410.47
35	169.66	170.84	175.96	184.66	195.06	207.42	222.08	245.25	268.60	296.54
40	107.46	108.52	112.30	118.33	125.89	134.03	147.41	163.87	181.65	206.53
45	68.57	69.32	72.09	76.03	80.61	85.80	96.47	105.94	121.63	135.98
50	44.76	45.36	47.09	49.60	52.34	56.96	63.00	70.18	79.05	90.42
55	30.43	30.75	31.89	33.34	34.73	38.02	40.85	46.09	52.03	59.14
60	20.71	20.87	21.57	22.51	23.59	25.31	27.41	30.02	34.34	39.49
65	14.50	14.61	14.80	15.43	16.32	16.98	18.42	20.19	22.64	25.88
70	9.56	9.53	10.19	10.59	11.23	11.78	12.35	13.35	14.87	16.88
75	6.46	6.60	7.35	7.34	7.51	7.85	8.21	8.63	9.36	10.30
80	5.11	5.39	5.55	5.44	5.50	5.56	5.65	5.80	5.84	6.07
85	3.94	4.26	4.13	4.01	3.88	3.88	3.60	3.58	3.60	3.61
90	4.13	4.23	4.23	4.19	4.11	3.98	3.90	3.73	3.44	3.19
95	13.92	19.35	18.24	19.16	20.64	22.94	24.34	29.66	35.80	36.10
100	69.24	72.49	76.11	81.58	86.43	93.18	100.10	108.24	116.72	119.13
105	175.19	163.59	176.00	182.35	189.30	199.94	209.45	216.89	225.91	224.21
110	340.41	331.64	334.59	340.18	356.50	359.17	368.34	370.87	359.63	342.29
115	575.96	573.47	551.35	540.69	537.35	534.24	521.02	502.07	477.28	444.28
120	748.55	743.72	731.87	712.24	695.33	669.57	643.31	613.40	567.15	517.01
125	859.45	853.54	841.41	823.03	802.35	764.25	730.70	679.92	628.77	569.98
130	904.21	898.89	884.32	862.43	835.86	801.29	758.33	708.20	652.01	594.76
135	899.10	894.60	880.52	858.54	829.86	795.71	751.76	705.30	653.25	601.30
140	860.37	855.76	843.41	823.84	798.12	767.07	728.87	687.18	642.74	598.06
145	804.04	800.20	790.22	774.64	752.74	726.36	695.90	661.31	625.09	588.11
150	741.42	738.28	731.16	718.56	701.88	681.11	656.83	630.33	603.17	573.46
155	678.72	676.33	671.62	662.32	650.48	635.49	617.89	598.80	578.75	558.50
160	621.39	620.07	616.34	611.12	602.86	593.32	582.27	568.94	554.73	542.27
165	573.27	572.38	570.12	567.32	563.46	557.68	551.25	544.23	536.68	527.93
170	537.73	537.17	536.04	534.71	533.07	531.14	528.93	525.58	522.08	518.43
175	515.94	515.71	515.49	515.00	514.59	514.14	513.65	513.13	512.57	511.99
180	509.00	509.00	509.00	509.00	509.00	509.00	509.00	509.00	509.00	509.00

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	975.88	975.88	975.88	975.88	975.88	975.88	975.88	975.88	975.88
5	948.94	950.69	952.64	954.77	957.07	959.51	962.05	964.74	967.50
10	895.21	905.50	916.63	919.40	922.72	926.55	930.86	935.56	940.84
15	811.63	824.27	838.74	854.93	873.72	877.90	883.17	889.26	896.75
20	697.64	722.64	749.00	766.95	787.16	810.49	816.25	823.63	833.63
25	574.00	604.18	633.56	665.87	688.97	712.76	731.01	737.75	748.55
30	444.04	479.92	514.56	547.72	582.27	605.33	631.36	637.11	648.30
35	328.55	361.55	396.34	430.59	462.90	490.07	514.15	524.28	532.79
40	230.21	256.12	285.83	318.43	346.35	373.50	394.04	407.92	418.28
45	157.06	177.73	203.05	227.41	252.12	276.08	290.61	299.61	304.53
50	103.15	119.44	137.95	157.53	177.49	194.53	207.69	216.81	220.54
55	69.50	80.49	92.41	106.18	120.35	132.56	142.30	149.38	153.23
60	45.87	52.72	62.75	71.38	81.50	90.92	97.54	101.10	102.94

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CANDELA TABULATION - (Cont.)

65	30.11	35.15	40.83	46.93	53.15	58.83	63.59	66.34	67.65
70	19.37	22.61	26.46	30.43	34.00	37.62	40.96	42.83	43.67
75	11.69	13.58	15.87	18.14	20.63	22.71	24.50	25.59	26.32
80	6.54	7.16	8.20	9.04	10.14	11.60	12.69	13.20	13.41
85	3.36	3.18	3.48	3.93	3.82	3.91	4.37	4.79	4.61
90	2.85	2.56	2.31	2.05	1.80	1.59	1.34	1.22	1.26
95	38.51	40.69	39.29	36.34	31.45	30.39	30.64	32.29	33.03
100	117.96	115.96	107.16	95.58	86.15	81.08	78.97	76.72	76.45
105	218.12	199.82	178.78	155.60	138.86	126.42	117.34	112.57	112.41
110	313.82	280.49	245.66	214.36	189.95	172.86	162.20	156.71	154.49
115	397.75	347.14	304.63	267.67	238.28	217.41	204.86	197.63	195.06
120	463.50	406.62	355.77	314.29	282.81	260.21	245.38	237.25	235.46
125	507.19	448.99	396.28	351.26	320.00	297.55	282.06	273.26	270.50
130	535.51	479.78	430.39	386.95	352.45	330.96	316.17	306.89	303.28
135	548.94	499.81	455.07	417.14	385.36	361.20	346.10	337.42	334.96
140	553.12	512.02	473.53	439.06	412.15	390.03	375.88	367.05	362.54
145	551.67	517.25	485.81	457.46	434.28	416.08	402.50	395.88	392.38
150	545.63	519.10	493.47	472.47	452.58	439.55	427.55	422.82	419.54
155	537.82	518.10	500.12	482.62	470.28	459.25	451.01	446.87	443.85
160	529.34	515.63	502.24	492.95	483.98	475.28	471.60	468.41	465.98
165	519.85	513.28	506.72	500.21	493.72	490.78	488.23	485.85	483.92
170	514.64	510.76	506.89	505.12	503.47	501.90	500.43	499.04	497.83
175	511.39	510.76	510.12	509.48	508.83	508.18	507.51	506.90	506.30
180	509.00	509.00	509.00	509.00	509.00	509.00	509.00	509.00	509.00

IES INDOOR REPORT
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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	310.55	N.A.	9.00
0-30	564.94	N.A.	16.40
0-40	769.03	N.A.	22.30
0-60	966.67	N.A.	28.10
0-80	1015.93	N.A.	29.50
0-90	1020.94	N.A.	29.60
10-90	932.10	N.A.	27.10
20-40	458.48	N.A.	13.30
20-50	586.57	N.A.	17.00
40-70	232.04	N.A.	6.70
60-80	49.26	N.A.	1.40
70-80	14.87	N.A.	0.40
80-90	5.02	N.A.	0.10
90-110	235.54	N.A.	6.80
90-120	628.53	N.A.	18.20
90-130	1125.79	N.A.	32.70
90-150	1965.66	N.A.	57.00
90-180	2424.71	N.A.	70.40
110-180	2189.17	N.A.	63.50
0-180	3445.65	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	88.84
10-20	221.70
20-30	254.39
30-40	204.09
40-50	128.09
50-60	69.56
60-70	34.39
70-80	14.87
80-90	5.02
90-100	42.31
100-110	193.22
110-120	392.99
120-130	497.26
130-140	467.79
140-150	372.08
150-160	259.56
160-170	150.44
170-180	49.04

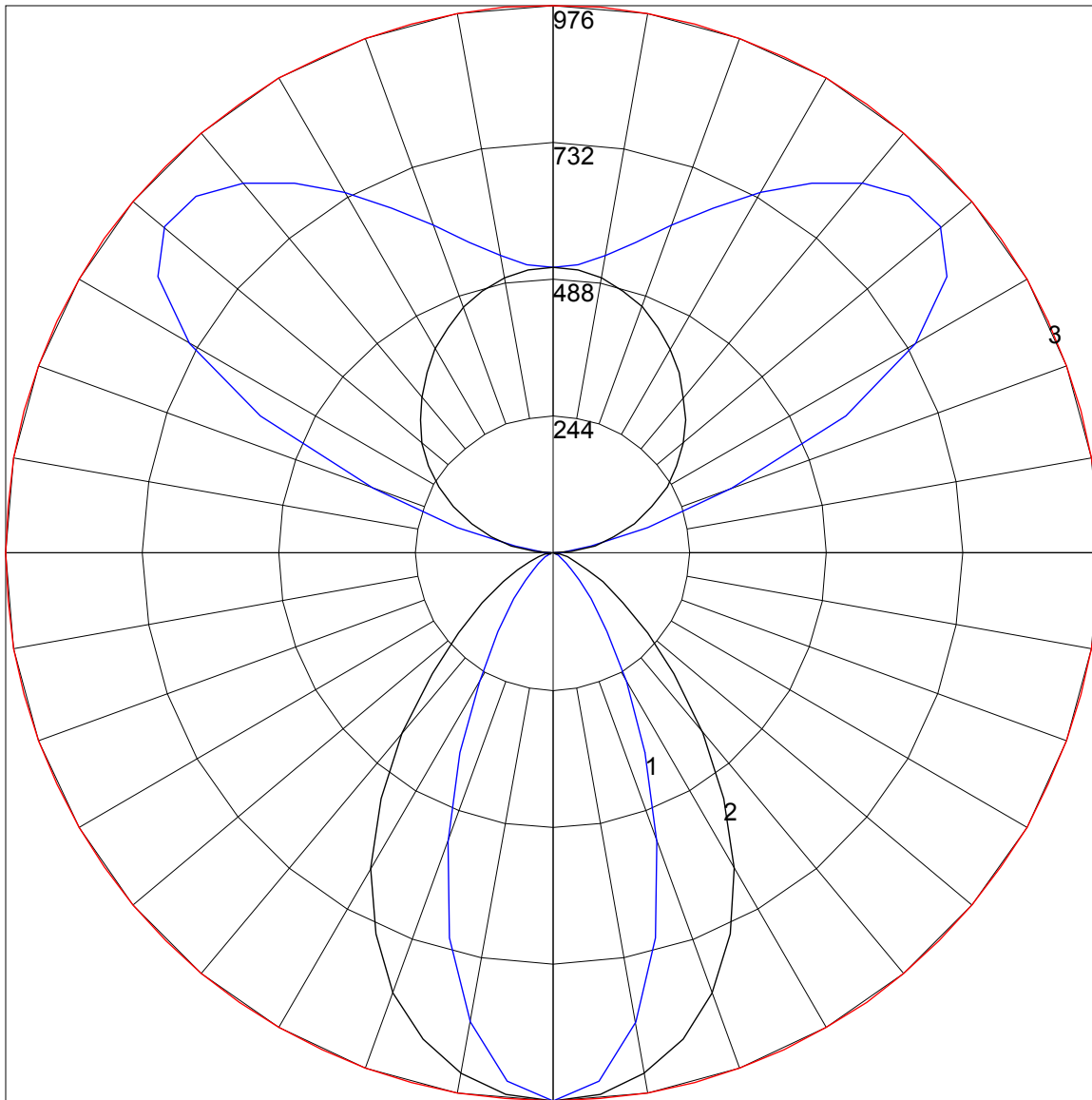
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	92	92	92	92	72	72	72	54	54	54	37	37	37	30
1	94	90	87	84	84	81	79	76	64	63	61	49	48	47	34	34	33	27
2	87	80	75	70	78	72	68	64	58	55	52	44	42	41	32	31	30	24
3	80	71	65	60	72	65	59	55	52	48	45	40	38	36	29	28	27	22
4	73	64	57	52	66	58	52	48	47	43	39	37	34	32	27	25	24	20
5	68	58	50	45	61	52	46	42	43	38	35	33	31	28	25	23	22	18
6	63	52	45	40	57	48	41	37	39	34	31	31	28	25	23	21	20	17
7	58	47	40	35	53	43	37	33	36	31	28	28	25	23	21	20	18	15
8	54	43	36	32	49	40	34	29	33	28	25	26	23	21	20	18	17	14
9	51	40	33	28	46	36	31	27	30	26	23	24	21	19	19	17	16	13
10	48	37	30	26	43	34	28	24	28	24	21	23	20	18	18	16	14	12

POLAR GRAPH



Maximum Candela = 975.88 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.)