

IES Report

BoxRail® | 207 | Wide Batwing, up | 120° Flywing, down | 90 CRI | SO

207-BX-XX-4-48-XX-XX-XX-XX-X-X-Z-SO-359-G1G2-X-BL-X

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	100	103	106	106
Total Lumens, 4' rail length (1219mm)	5009	5168	5273	5326
Lumens per foot (305mm)	1252	1292	1318	1331
Lumens per foot UP (305mm)	589	607	620	626
Lumens per foot DOWN (305mm)	663	684	698	705
Input Power (W), 4' rail length (1219mm)	50.5	50.5	50.1	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: L022010914



Report No: L022010914

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-G1G2-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-G1G2-BL
Driver Model Number:	MEAN WELL HLG-40H-36A (2 DRIVERS)

Test Summary

Total Lumens:	5272.96
Efficacy:	105.22
Color Redering Index:	94.2
Correlated Color Temperature:	3372
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.4202
Input Power (W):	50.11
Input Power Factor:	0.9938
Current ATHD (%):	8.4%

Test Condition

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

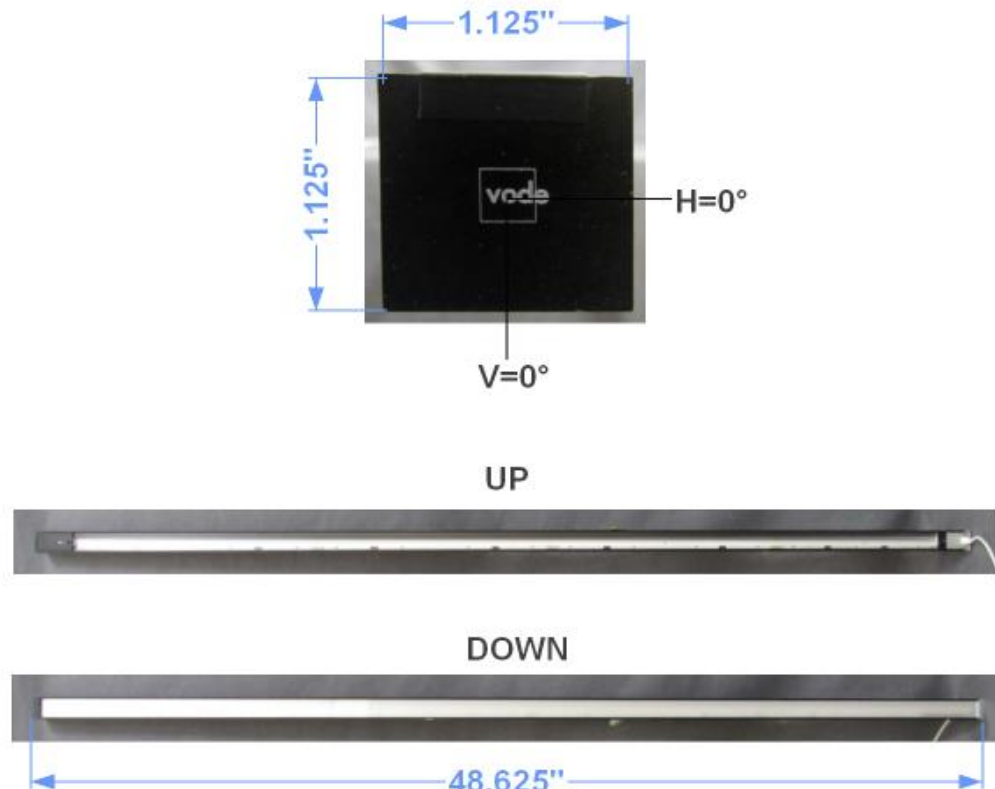
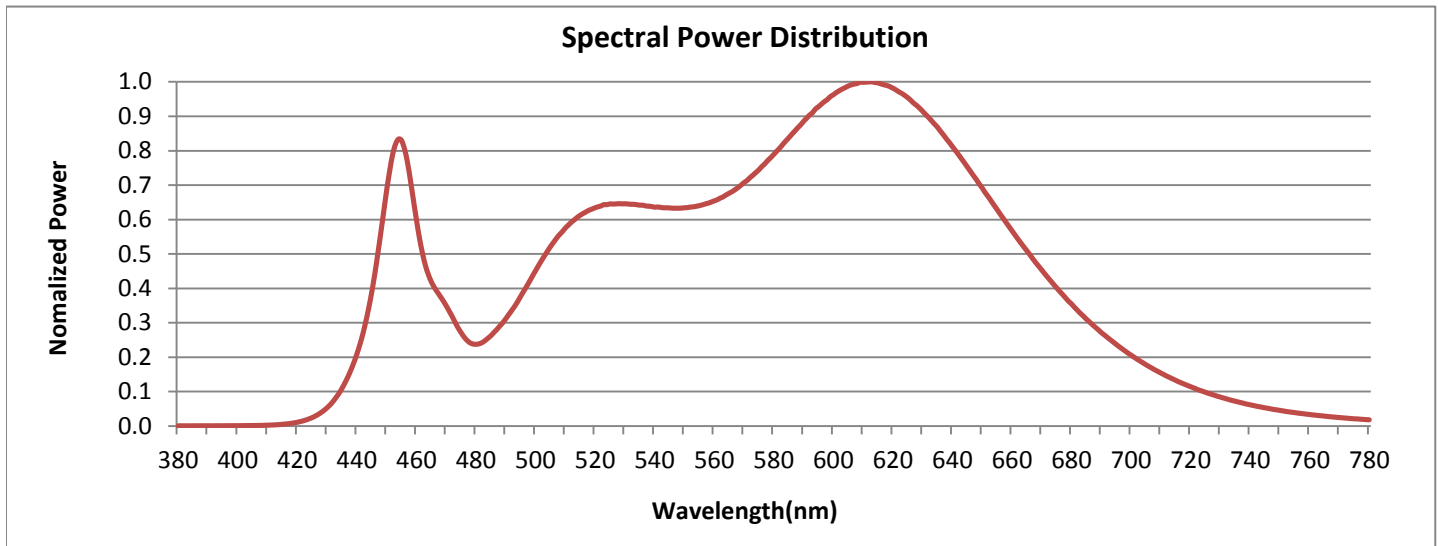


FIG. 1 LUMINAIRE

Colorimetry Test Results

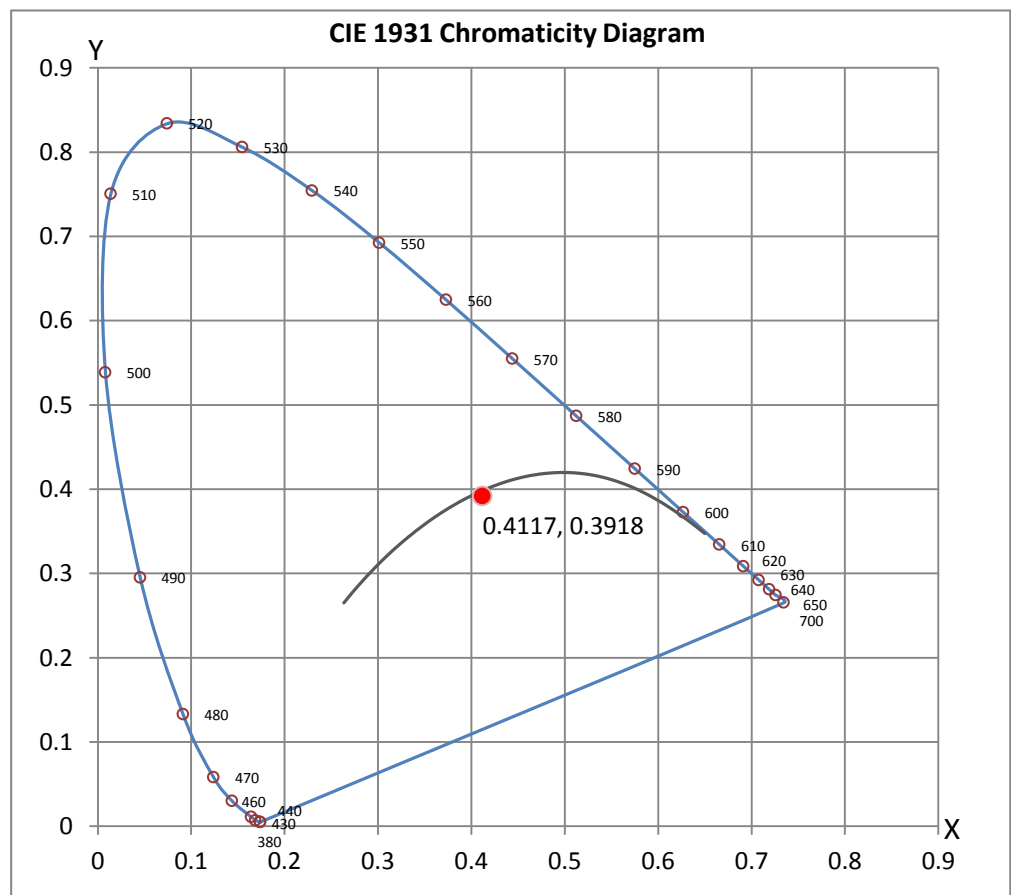


CRI & CCT

x	0.4117
y	0.3918
u'	0.2394
v'	0.5127
CRI	94.20
CCT	3372
Duv	-0.00088

R Values

R1	95.89
R2	98.30
R3	98.54
R4	96.93
R5	96.39
R6	96.13
R7	90.91
R8	80.74
R9	55.86
R10	95.96
R11	96.74
R12	78.99
R13	97.28
R14	99.38
R15	89.92





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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 : L022010914.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L022010914
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 2/26/2020
[MANUFAC] Vode Lighting
[LUMCAT] 207-BX-48-Z-SO-359-G1G2-BL
[LUMINAIRE] BoxRail LED, 48", 3500K, 90 CRI, zipper board, wide batwing lens up,
[MORE] 120° flywing 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] 120.0VAC, 50.11W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5273
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	105
Total Luminaire Watts	50.11
Ballast Factor	1.00
CIE Type	General Diffuse
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	19329	20009	23926
55	14086	15873	22797
65	8403	10039	20698
75	2575	4168	15795
85	205	391	5579

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CANDELA TABULATION

	0	5	10	15	20	25	30	35	40	45
0	880.32	880.32	880.32	880.32	880.32	880.32	880.32	880.32	880.32	880.32
5	892.39	891.71	891.02	889.99	889.04	888.03	886.98	885.88	884.75	883.60
10	926.17	924.73	922.47	919.88	916.81	913.30	909.35	903.13	896.77	890.24
15	972.19	970.01	966.22	961.66	955.47	945.70	935.21	924.09	912.43	898.70
20	1014.44	1011.62	1006.87	1000.14	988.70	976.16	961.91	944.15	925.92	907.02
25	1039.75	1036.23	1031.70	1021.73	1010.00	994.75	976.79	958.34	932.54	905.71
30	1037.57	1034.66	1029.98	1020.25	1008.24	993.40	976.18	952.14	924.53	894.10
35	1007.57	1004.34	999.07	992.02	980.65	968.00	953.01	926.21	899.83	867.67
40	947.88	945.90	941.20	934.66	927.11	918.43	900.82	879.96	856.10	823.21
45	864.23	862.77	859.29	854.62	848.81	842.31	827.90	814.12	787.92	762.61
50	753.83	751.76	749.67	748.46	748.37	744.47	735.86	724.10	704.12	678.08
55	626.67	625.97	626.55	626.40	621.88	615.92	613.22	606.08	597.60	584.85
60	495.99	494.84	492.51	484.06	480.19	477.66	478.20	476.39	473.15	465.15
65	360.61	358.77	342.71	339.79	343.14	346.92	350.57	349.70	347.88	345.92
70	216.35	208.00	203.52	208.62	217.01	222.56	225.88	229.93	233.97	235.03
75	103.10	94.99	103.61	106.93	109.61	113.26	115.64	117.36	124.64	129.32
80	24.56	30.35	29.35	31.28	32.79	35.55	38.28	42.74	46.29	53.56
85	7.38	8.76	8.26	8.08	7.95	8.16	7.64	8.02	8.86	10.41
90	6.96	7.08	7.08	7.04	7.04	6.96	6.87	6.62	6.25	5.83
95	11.57	17.63	16.06	17.65	20.24	23.80	28.02	39.17	44.19	58.37
100	58.51	64.02	68.70	76.71	89.01	101.98	118.76	138.17	155.87	162.08
105	153.73	156.55	173.16	187.56	205.02	237.65	268.30	289.75	305.57	294.69
110	352.48	358.88	377.33	390.56	442.73	473.11	505.77	525.31	503.56	426.23
115	730.86	728.82	721.68	750.43	748.21	779.63	736.63	683.39	599.72	489.97
120	1067.92	1056.31	1025.00	988.84	963.79	889.61	818.62	722.61	612.63	508.70
125	1111.68	1099.33	1069.98	1026.22	973.03	887.74	798.13	704.98	610.03	521.77
130	1015.86	1007.99	985.45	947.47	892.54	828.24	758.41	682.99	609.33	541.78
135	921.40	916.42	897.56	868.23	828.15	778.60	726.38	668.88	611.65	555.96
140	849.47	844.87	830.28	807.33	777.27	740.50	697.48	653.10	606.73	561.25
145	784.09	779.89	768.24	750.08	725.07	695.81	663.00	625.32	587.68	549.20
150	709.57	706.00	697.43	682.50	663.06	639.67	613.15	584.28	554.31	522.64
155	625.91	623.44	617.97	607.73	594.40	577.80	558.36	536.84	515.96	494.54
160	551.40	550.04	546.41	540.97	532.62	522.73	511.15	497.39	482.35	469.64
165	496.57	495.54	493.42	490.58	486.72	481.17	474.87	467.87	460.21	451.36
170	459.44	458.85	457.83	456.51	454.85	452.86	450.54	447.14	443.55	439.77
175	436.47	436.18	435.81	435.45	435.00	434.50	433.96	433.38	432.77	432.13
180	428.00	428.00	428.00	428.00	428.00	428.00	428.00	428.00	428.00	428.00

Vert. Angles **Horizontal Angles**

	50	55	60	65	70	75	80	85	90
0	880.32	880.32	880.32	880.32	880.32	880.32	880.32	880.32	880.32
5	882.44	881.27	880.10	878.95	877.82	876.71	875.59	874.59	873.62
10	883.61	876.91	870.32	866.98	863.86	860.96	858.29	855.81	853.75
15	885.42	873.76	862.35	851.27	840.38	835.08	830.48	826.33	823.15
20	886.49	864.84	844.02	827.95	812.86	798.60	792.11	786.61	782.83
25	878.96	850.64	822.72	796.18	776.07	758.31	745.21	738.42	734.13
30	860.87	826.66	792.91	761.26	732.19	711.87	693.87	686.49	682.16
35	830.41	793.49	753.93	717.62	685.46	660.31	641.33	631.27	625.66
40	787.18	745.63	705.08	665.56	632.45	605.02	586.48	574.94	569.17
45	723.50	686.04	645.90	607.41	574.25	547.81	530.62	519.86	514.76
50	648.14	612.35	575.79	541.17	510.53	488.47	473.09	463.11	458.10
55	556.28	526.97	497.64	466.99	442.86	424.13	410.72	403.38	401.60
60	452.35	433.83	408.63	384.70	366.34	352.78	343.82	338.26	336.14

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CANDELA TABULATION - (Cont.)

65	341.39	329.22	314.48	302.12	291.84	283.36	278.26	274.26	272.85
70	234.18	231.46	226.40	220.29	215.16	209.17	205.72	204.05	202.77
75	134.11	139.61	140.03	136.92	135.42	134.71	131.03	129.71	131.86
80	54.31	59.03	62.68	68.54	74.98	75.01	73.62	72.35	72.51
85	11.76	12.10	12.79	14.73	15.75	16.79	17.29	17.73	18.19
90	5.37	4.86	4.36	3.86	3.35	2.85	2.43	2.31	2.43
95	59.09	55.12	49.19	32.72	25.45	24.08	26.91	29.74	31.52
100	154.94	130.60	102.03	75.94	69.61	74.58	75.23	75.69	75.19
105	260.58	208.08	156.20	124.45	112.99	111.75	113.78	117.10	120.29
110	342.78	263.78	203.91	171.68	159.58	158.88	163.76	168.73	171.34
115	380.10	302.01	250.46	220.49	208.37	207.32	211.91	217.78	221.04
120	414.25	336.55	297.70	271.03	257.95	255.25	258.54	263.22	266.23
125	448.56	389.08	347.30	319.15	303.21	296.94	296.01	297.49	298.75
130	479.72	430.56	391.80	362.60	341.37	330.11	322.73	317.89	315.51
135	505.89	462.02	424.95	394.77	371.11	352.33	338.02	328.03	322.30
140	517.08	478.27	442.55	411.04	384.83	362.22	345.35	334.53	328.42
145	511.64	477.01	444.29	415.12	389.89	369.28	352.58	343.77	338.06
150	493.37	464.90	437.49	414.69	392.37	377.76	363.47	357.75	352.98
155	471.96	451.44	432.84	413.81	400.44	388.34	379.14	374.38	370.50
160	456.47	442.40	428.44	418.67	408.97	399.15	395.42	391.97	389.20
165	443.10	436.32	429.47	422.60	415.48	412.69	410.09	407.66	405.63
170	435.82	431.74	427.61	425.79	424.03	422.35	420.75	419.22	417.86
175	431.46	430.77	430.06	429.35	428.63	427.92	427.18	426.50	425.83
180	428.00	428.00	428.00	428.00	428.00	428.00	428.00	428.00	428.00

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	339.01	N.A.	6.40
0-30	751.68	N.A.	14.30
0-40	1275.98	N.A.	24.20
0-60	2313.05	N.A.	43.90
0-80	2771.68	N.A.	52.60
0-90	2793.45	N.A.	53.00
10-90	2708.92	N.A.	51.40
20-40	936.97	N.A.	17.80
20-50	1491.4	N.A.	28.30
40-70	1359.59	N.A.	25.80
60-80	458.63	N.A.	8.70
70-80	136.11	N.A.	2.60
80-90	21.77	N.A.	0.40
90-110	260.58	N.A.	4.90
90-120	727.06	N.A.	13.80
90-130	1271.38	N.A.	24.10
90-150	2078.23	N.A.	39.40
90-180	2479.51	N.A.	47.00
110-180	2218.93	N.A.	42.10
0-180	5272.96	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	84.53
10-20	254.48
20-30	412.67
30-40	524.30
40-50	554.43
50-60	482.63
60-70	322.53
70-80	136.11
80-90	21.77
90-100	46.48
100-110	214.11
110-120	466.48
120-130	544.33
130-140	458.26
140-150	348.59
150-160	231.00
160-170	128.84
170-180	41.44

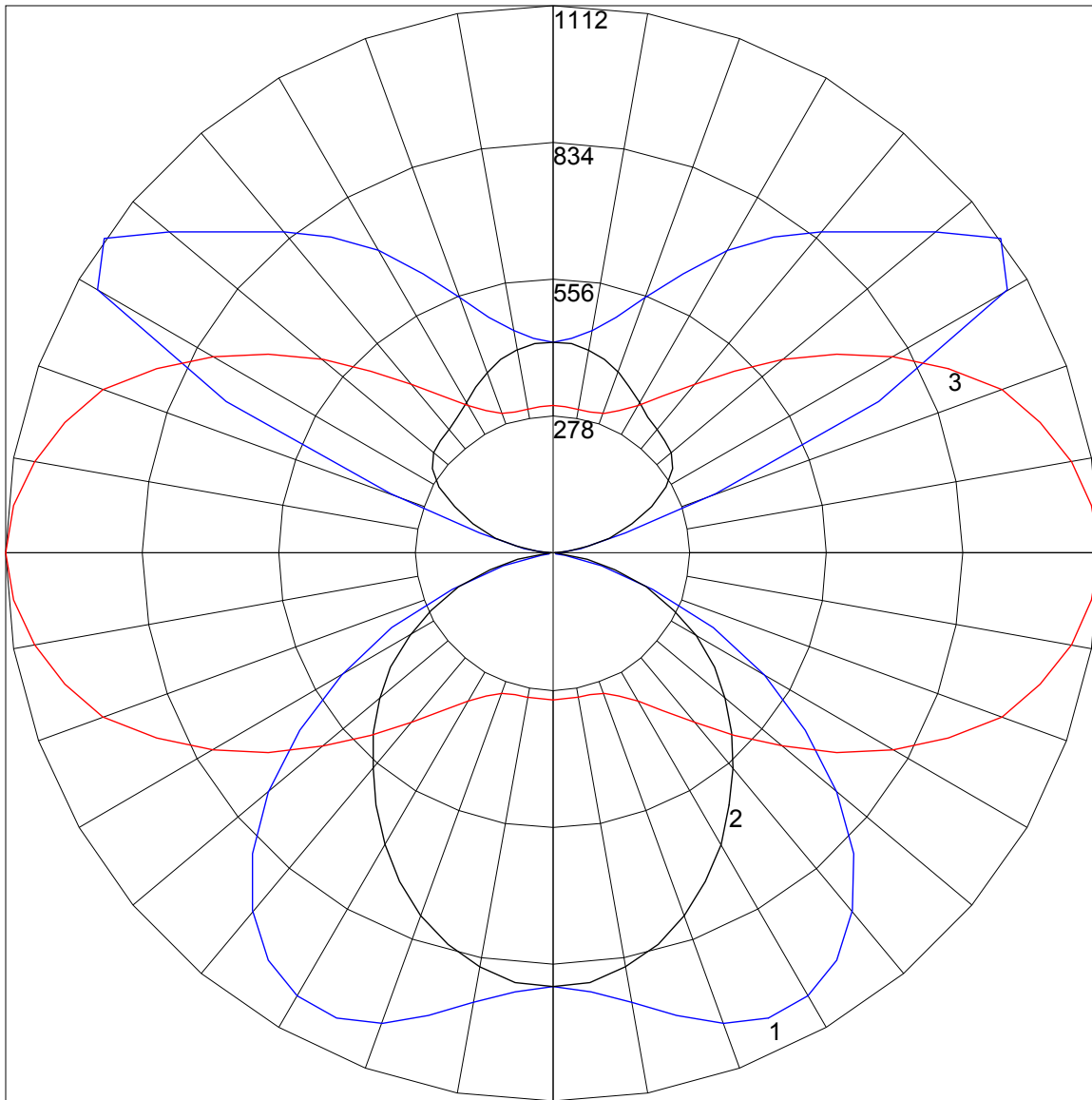
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53
1	99	94	91	87	91	88	84	81	75	73	70	63	62	60	52	51	50	45
2	90	83	76	71	83	77	71	67	66	62	58	56	53	50	46	44	42	38
3	82	72	65	59	76	67	61	56	58	53	49	49	45	42	41	38	36	32
4	75	64	56	50	69	60	53	47	51	46	42	44	39	36	36	33	31	27
5	69	57	49	43	63	53	46	40	46	40	36	39	35	31	33	29	27	24
6	63	51	43	37	58	48	40	35	41	35	31	35	31	27	29	26	23	20
7	58	46	38	32	54	43	36	31	37	31	27	32	27	24	27	23	21	18
8	54	42	34	28	50	39	32	27	34	28	24	29	24	21	24	21	18	16
9	50	38	30	25	46	35	29	24	31	25	21	27	22	19	23	19	16	14
10	47	35	27	23	43	33	26	21	28	23	19	25	20	17	21	17	15	13

POLAR GRAPH



Maximum Candela = 1111.68 Located At Horizontal Angle = 0, Vertical Angle = 125
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 (125) (Through Max. Cd.)