

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-AL / WH-X

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	106	110	113	113
Total Lumens, 4' rail length (1219mm)	5348	5517	5630	5686
Lumens per foot (305mm)	1337	1379	1407	1421
Lumens per foot UP (305mm)	656	676	690	697
Lumens per foot DOWN (305mm)	681	703	717	724
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: L022012001



Report No: L022012001

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

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 - 2/26/20

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

Test Summary

Total Lumens:	5629.70
Efficacy:	112.22
Color Redering Index:	93.7
Correlated Color Temperature:	3375
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.4207
Input Power (W):	50.17
Input Power Factor:	0.9939
Current ATHD (%):	8.4%

Test Condition

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

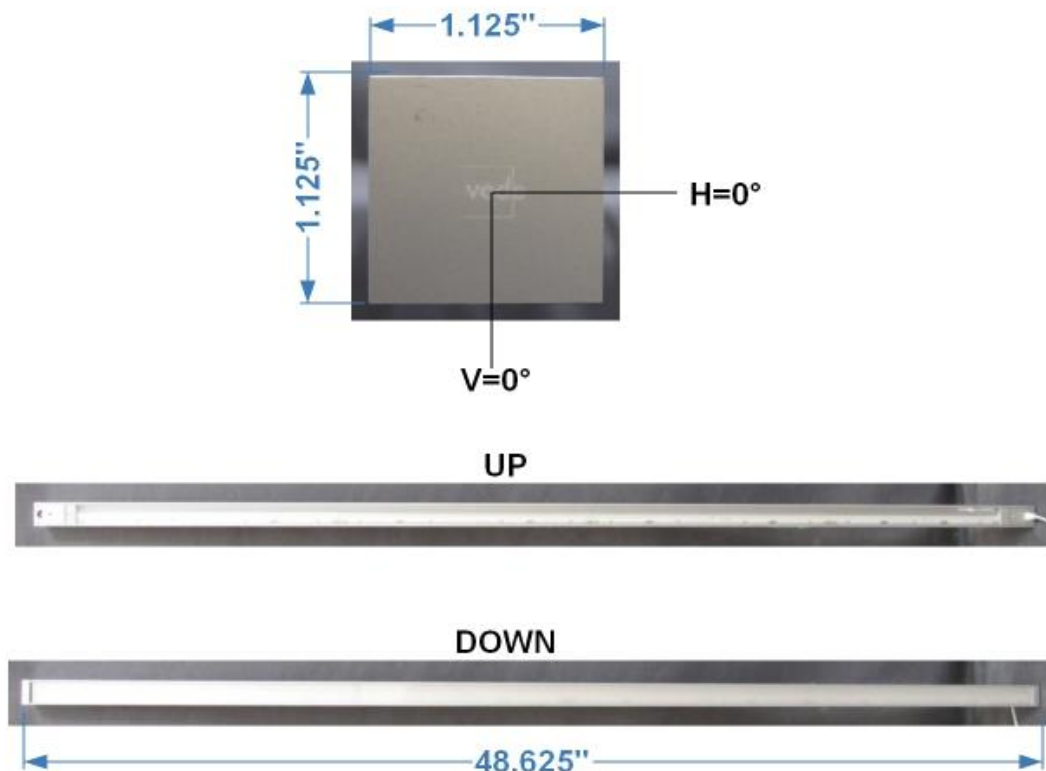
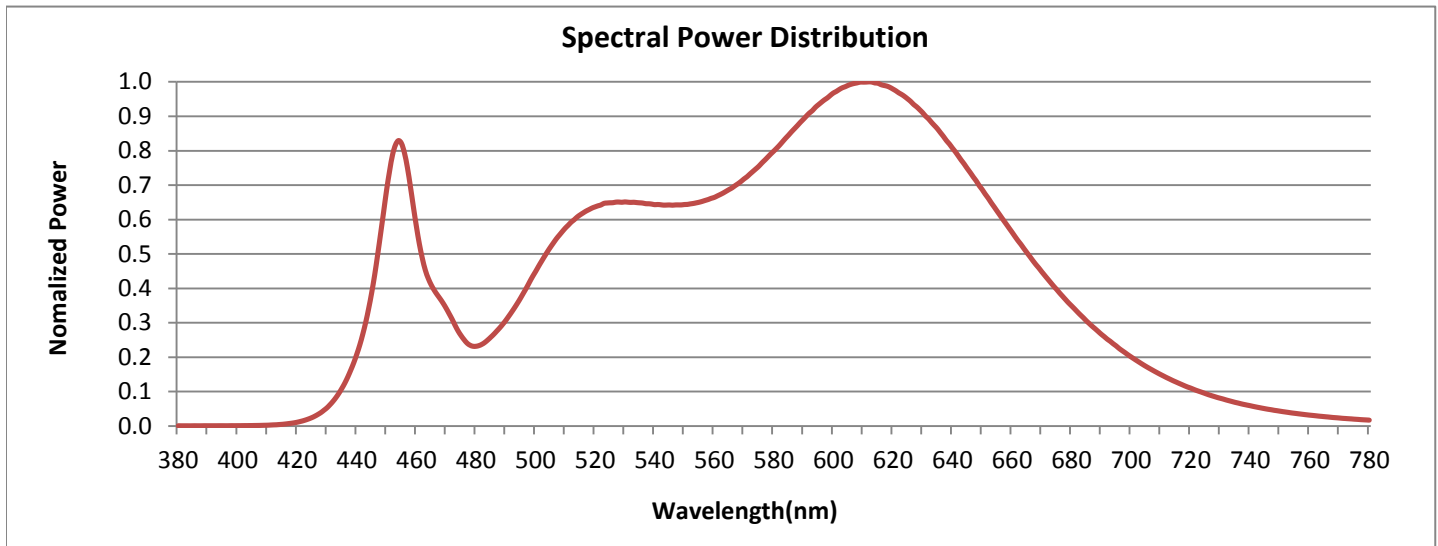


FIG. 1 LUMINAIRE

Colorimetry Test Results

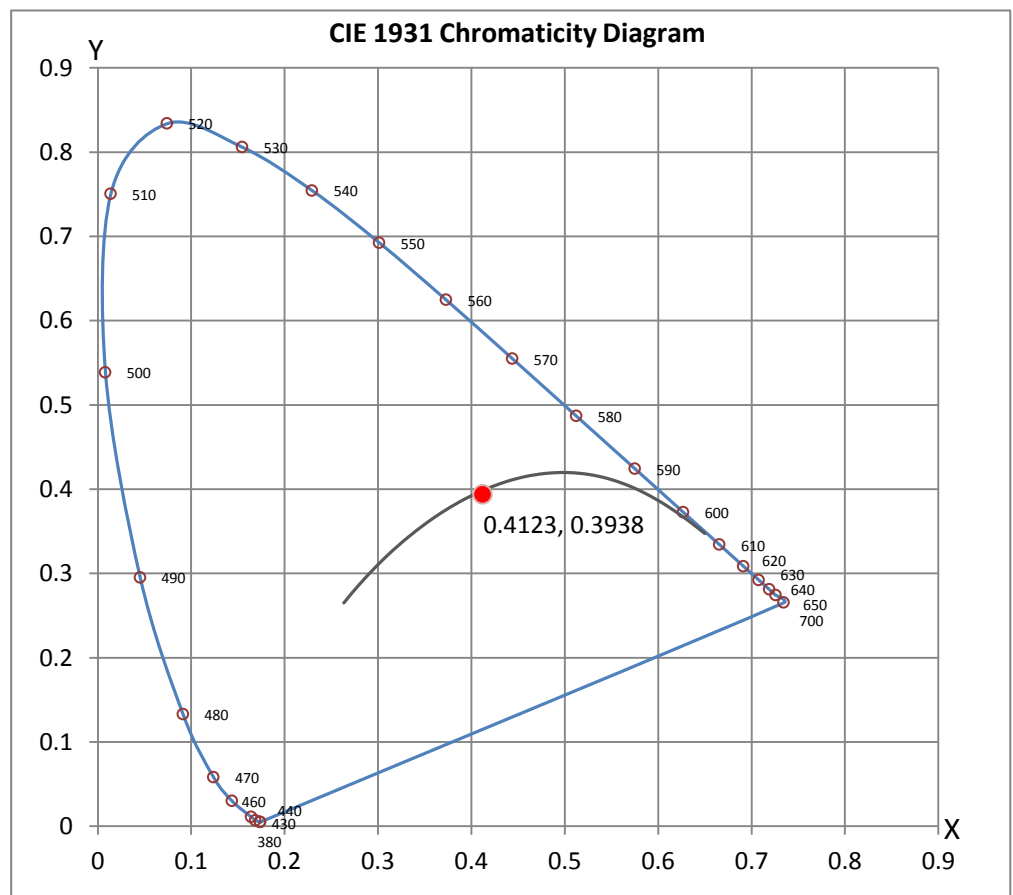


CRI & CCT

x	0.4123
y	0.3938
u'	0.2390
v'	0.5136
CRI	93.70
CCT	3375
Duv	-0.00013

R Values

R1	94.85
R2	97.49
R3	98.75
R4	96.04
R5	95.24
R6	96.38
R7	90.86
R8	79.68
R9	52.75
R10	94.01
R11	97.14
R12	77.81
R13	96.16
R14	99.22
R15	88.69





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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 : L022012001.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L022012001
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 2/26/2020
[MANUFAC] Vode Lighting
[LUMCAT] 207-BX-48-Z-SO-359-G1G2
[LUMINAIRE] BoxRail LED, 48", 3500K, 90 CRI, zipper board, wide batwing lens up,
[MORE] 120° flywing 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] 120.01VAC, 50.17W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5630
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	112
Total Luminaire Watts	50.17
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	19572	20395	24826
55	14445	16160	23596
65	8313	10443	21378
75	2667	4256	16306
85	301	498	6018

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CANDELA TABULATION

	0	5	10	15	20	25	30	35	40	45
0	909.66	909.66	909.66	909.66	909.66	909.66	909.66	909.66	909.66	909.66
5	921.90	921.27	920.62	919.65	918.74	917.76	916.73	915.65	914.53	913.37
10	956.27	954.86	952.64	950.08	947.04	943.56	939.63	933.28	926.79	920.13
15	1002.28	1000.28	996.64	992.22	986.09	976.12	965.43	954.12	942.28	928.28
20	1043.86	1041.08	1036.36	1029.68	1018.09	1005.48	991.20	973.39	955.07	935.81
25	1066.49	1062.80	1058.23	1048.17	1036.47	1021.42	1003.88	986.10	960.23	933.33
30	1060.21	1056.95	1052.17	1042.59	1030.93	1016.50	999.90	977.01	949.98	919.92
35	1024.08	1020.88	1015.76	1009.09	998.67	986.93	972.55	946.79	921.11	889.68
40	961.38	959.19	954.52	948.26	940.93	932.04	915.57	896.20	873.37	841.40
45	875.12	874.16	870.73	866.26	860.50	854.26	840.08	826.46	801.59	777.33
50	768.08	766.39	764.07	762.08	760.17	755.07	746.39	734.20	715.61	690.21
55	642.68	641.02	641.22	641.45	639.14	631.83	628.83	620.17	610.43	595.42
60	509.32	508.42	506.50	498.20	496.18	493.91	493.27	492.63	487.54	478.41
65	356.76	357.71	351.58	348.24	348.95	355.28	356.26	354.71	358.25	359.85
70	216.35	211.27	211.38	213.33	223.32	226.10	230.96	234.98	239.85	241.33
75	106.79	100.72	108.79	110.89	113.58	117.42	120.46	123.57	130.04	132.05
80	29.84	35.33	33.62	35.54	37.57	39.09	41.79	47.02	49.30	56.37
85	10.81	11.68	11.75	11.64	11.55	11.51	11.10	11.24	11.97	13.27
90	6.50	6.54	6.50	6.50	6.45	6.33	6.25	6.04	5.74	5.45
95	21.38	26.19	26.24	27.69	29.36	32.14	35.74	42.56	45.89	54.00
100	77.71	78.71	81.41	86.77	93.35	101.58	112.25	124.02	134.36	140.65
105	172.09	160.87	174.48	184.31	194.36	212.03	228.26	243.90	263.03	264.41
110	344.94	336.28	340.22	348.27	383.93	406.21	425.76	443.69	446.11	414.75
115	659.53	648.55	626.03	632.42	643.99	664.12	657.25	635.12	594.59	533.01
120	949.22	934.79	916.73	896.47	885.12	847.54	810.01	756.11	674.00	591.60
125	1094.57	1084.67	1063.23	1034.15	1002.31	938.24	877.14	796.69	716.16	630.62
130	1097.84	1094.16	1073.80	1040.92	997.94	943.73	877.29	805.48	728.61	655.66
135	1046.46	1044.53	1028.84	1000.14	960.78	912.29	856.45	796.13	732.89	670.73
140	981.58	980.29	967.40	944.47	913.08	873.83	827.77	779.30	727.46	675.46
145	912.51	910.65	900.88	883.96	858.43	827.58	792.03	750.20	707.61	663.81
150	836.82	835.29	828.28	813.77	793.70	768.56	739.55	707.48	673.89	637.86
155	751.73	750.20	745.34	734.58	720.29	702.08	680.58	656.93	632.27	606.91
160	671.35	670.36	666.28	660.20	650.67	639.20	625.63	609.35	591.56	576.69
165	606.22	605.27	602.82	599.60	595.14	588.73	581.41	573.22	564.23	553.88
170	563.13	562.39	561.09	559.52	557.60	555.33	552.75	549.06	545.17	541.07
175	538.40	538.06	537.68	537.17	536.65	536.08	535.47	534.81	534.12	533.39
180	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00

Vert. Angles **Horizontal Angles**

	50	55	60	65	70	75	80	85	90
0	909.66	909.66	909.66	909.66	909.66	909.66	909.66	909.66	909.66
5	912.19	911.00	909.80	908.60	907.42	906.25	905.05	904.00	902.95
10	913.36	906.51	899.77	896.33	893.14	890.19	887.49	884.98	882.92
15	914.71	902.81	891.23	880.05	869.10	863.97	859.58	855.66	852.74
20	914.98	893.16	872.25	856.13	840.98	826.63	820.24	814.82	811.17
25	906.69	878.35	850.34	823.79	803.49	785.47	772.19	765.34	761.04
30	887.12	852.96	819.14	787.45	758.40	737.77	719.54	711.86	707.31
35	853.42	817.24	777.92	741.85	709.83	684.72	665.68	655.47	649.72
40	806.85	766.45	726.50	687.27	654.33	627.10	608.69	597.17	591.30
45	739.96	703.88	664.62	626.48	593.75	568.27	550.75	539.46	534.13
50	661.08	627.39	591.80	557.87	527.25	505.77	490.10	479.73	475.20
55	566.98	538.00	509.65	480.54	456.02	438.47	425.89	417.78	415.68
60	462.90	442.56	417.28	393.16	373.92	360.13	351.23	344.84	343.60

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CANDELA TABULATION - (Cont.)

65	352.32	336.50	320.78	307.91	298.07	290.48	286.11	283.45	281.82
70	240.55	238.60	233.11	225.34	218.81	213.91	211.72	210.45	209.23
75	136.44	140.85	143.23	140.74	138.05	137.23	134.44	134.08	136.13
80	56.49	60.16	64.79	72.23	75.38	75.16	73.50	73.13	73.35
85	14.27	14.80	15.56	16.90	17.33	18.24	18.15	18.53	19.62
90	4.99	4.61	4.19	3.77	3.44	3.06	2.68	2.77	2.68
95	56.79	56.94	52.45	40.45	35.29	34.82	36.83	37.89	38.73
100	139.01	132.09	116.87	100.01	91.68	87.23	83.76	82.41	83.15
105	253.42	228.60	195.69	165.21	147.15	137.66	132.70	131.27	132.95
110	361.63	310.75	262.89	223.77	201.59	191.20	186.61	185.23	185.42
115	453.71	374.69	320.36	281.88	257.44	244.50	238.75	236.72	238.31
120	508.97	431.83	376.62	334.89	310.27	296.76	290.46	286.91	285.51
125	551.76	483.49	428.86	385.12	358.46	342.85	333.86	328.77	326.24
130	585.75	527.39	477.30	436.17	404.40	383.81	369.83	361.32	357.51
135	611.91	558.63	511.63	472.45	440.54	416.35	399.62	388.99	384.42
140	624.00	577.34	533.90	495.36	464.62	438.96	421.53	410.71	405.12
145	620.86	580.67	541.78	507.52	479.22	456.88	439.72	431.02	425.74
150	603.82	570.53	538.57	512.79	487.92	472.00	456.73	451.09	446.62
155	580.49	556.46	535.02	513.49	498.79	485.48	475.50	470.75	466.98
160	561.35	545.02	528.92	518.40	507.96	497.48	493.52	489.92	487.02
165	544.50	537.19	529.77	522.32	514.67	511.69	509.04	506.58	504.54
170	536.79	532.36	527.89	525.91	524.03	522.24	520.55	518.95	517.53
175	532.64	531.87	531.08	530.28	529.49	528.69	527.89	527.15	526.42
180	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	350.18	N.A.	6.20
0-30	775.28	N.A.	13.80
0-40	1312.91	N.A.	23.30
0-60	2374.11	N.A.	42.20
0-80	2844.66	N.A.	50.50
0-90	2868.52	N.A.	51.00
10-90	2781.15	N.A.	49.40
20-40	962.73	N.A.	17.10
20-50	1529.31	N.A.	27.20
40-70	1391.46	N.A.	24.70
60-80	470.55	N.A.	8.40
70-80	140.29	N.A.	2.50
80-90	23.85	N.A.	0.40
90-110	263.78	N.A.	4.70
90-120	724.00	N.A.	12.90
90-130	1313.86	N.A.	23.30
90-150	2269.01	N.A.	40.30
90-180	2761.19	N.A.	49.00
110-180	2497.4	N.A.	44.40
0-180	5629.7	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	87.36
10-20	262.82
20-30	425.10
30-40	537.63
40-50	566.58
50-60	494.61
60-70	330.26
70-80	140.29
80-90	23.85
90-100	50.80
100-110	212.98
110-120	460.22
120-130	589.86
130-140	536.55
140-150	418.60
150-160	282.60
160-170	158.45
170-180	51.12

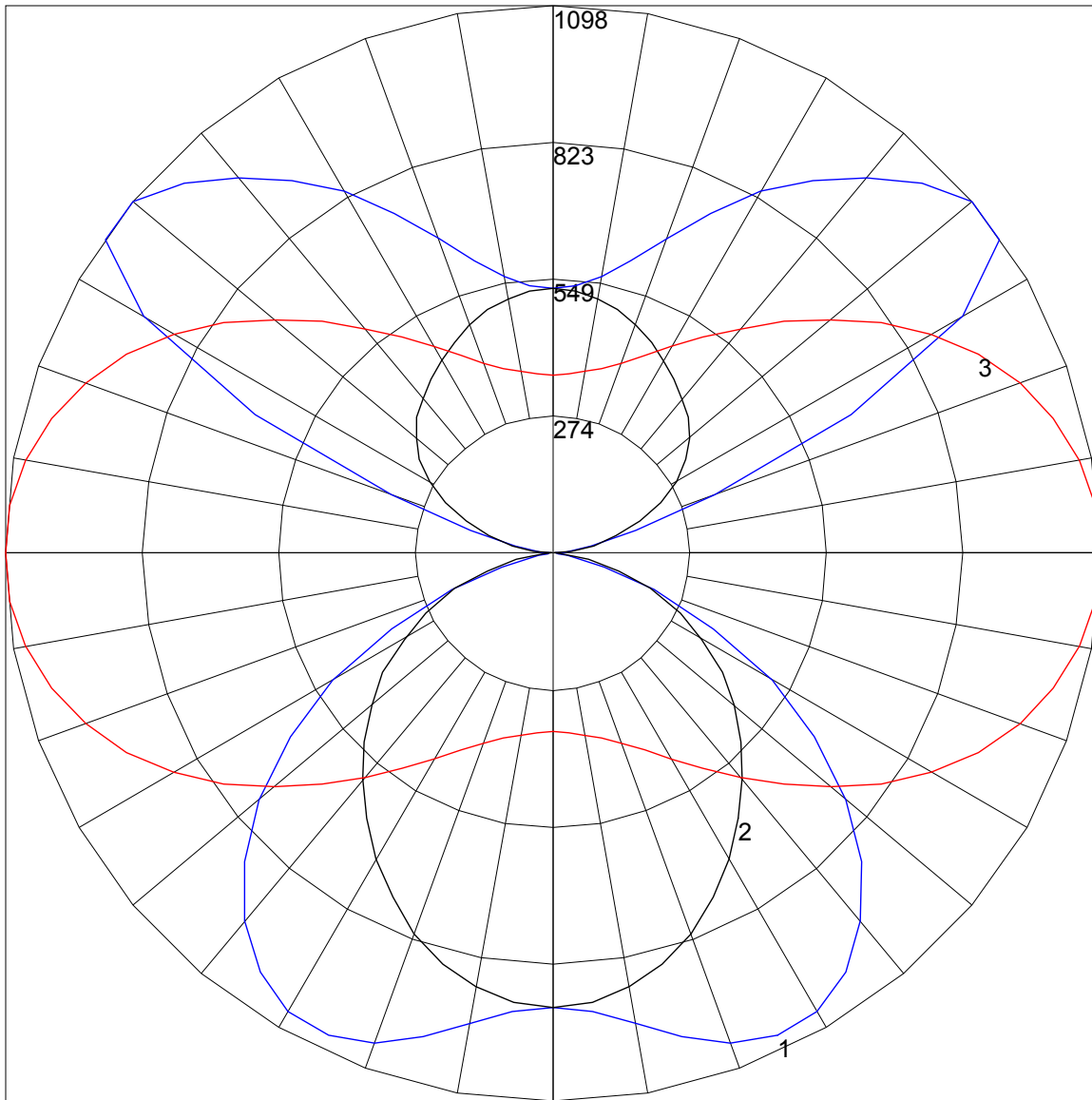
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	98	94	90	87	91	87	84	81	74	72	69	62	60	59	51	50	49	43
2	89	82	76	71	82	76	71	66	65	61	58	54	52	49	45	43	41	36
3	82	72	65	59	75	67	60	55	57	52	48	48	44	41	40	37	35	31
4	75	64	56	50	69	59	52	47	51	45	41	43	39	35	35	32	30	26
5	68	57	49	42	63	53	45	40	45	40	35	38	34	30	32	28	26	23
6	63	51	43	37	58	47	40	35	41	35	31	34	30	27	29	25	23	20
7	58	46	38	32	53	43	35	30	37	31	27	31	27	23	26	23	20	17
8	54	41	34	28	50	39	32	27	33	28	24	28	24	21	24	20	18	15
9	50	38	30	25	46	35	28	24	30	25	21	26	22	19	22	18	16	14
10	47	34	27	22	43	32	26	21	28	23	19	24	20	17	20	17	14	12

POLAR GRAPH



Maximum Candela = 1097.84 Located At Horizontal Angle = 0, Vertical Angle = 130

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 (130) (Through Max. Cd.)