

IES Report

BoxRail® | 207 | Wide Batwing, up | Diffuse, down | 90 CRI | SO

207-BX-XX-4-48-XX-XX-XX-XX-X-X-Z-SO-359-G1D1-X-AL / WH-X

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	88	91	92	93
Total Lumens, 4' rail length (1219mm)	4409	4549	4642	4688
Lumens per foot (305mm)	1102	1137	1160	1172
Lumens per foot UP (305mm)	640	660	674	681
Lumens per foot DOWN (305mm)	462	477	486	491
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: L022010902



Report No: L022010902

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-G1D1

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 - 2/21/20

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-G1D1
Driver Model Number:	MEAN WELL HLG-40H-36A (2 DRIVERS)

Test Summary

Total Lumens:	4641.57
Efficacy:	91.87
Color Redering Index:	94.2
Correlated Color Temperature:	3399
Input Voltage (VAC/60Hz):	119.97
Input Current (Amp):	0.4237
Input Power (W):	50.52
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

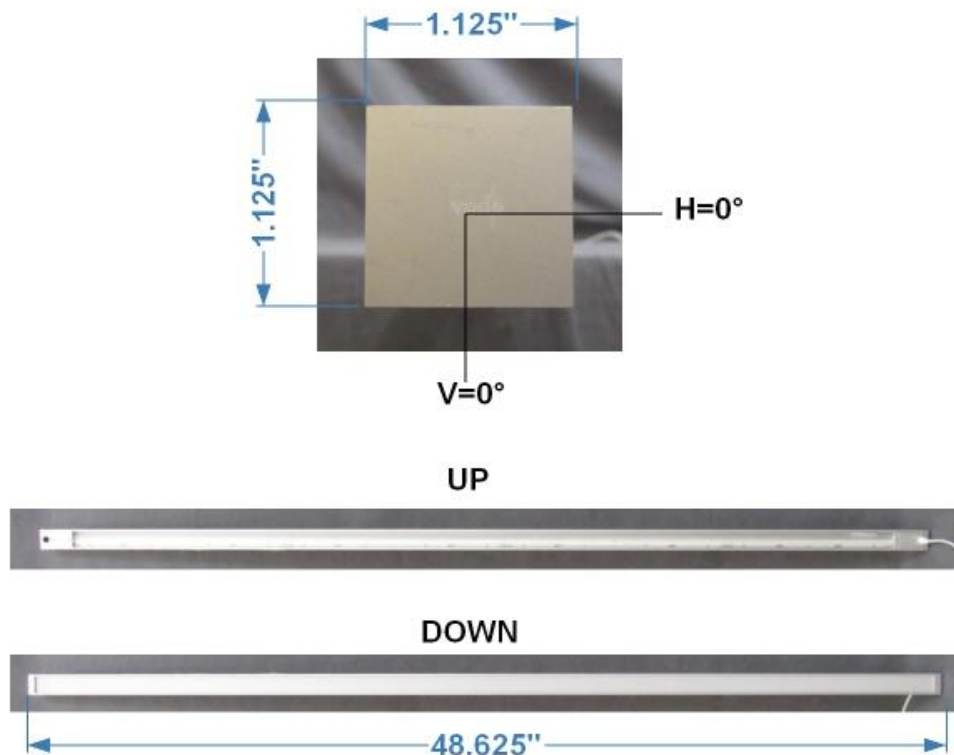
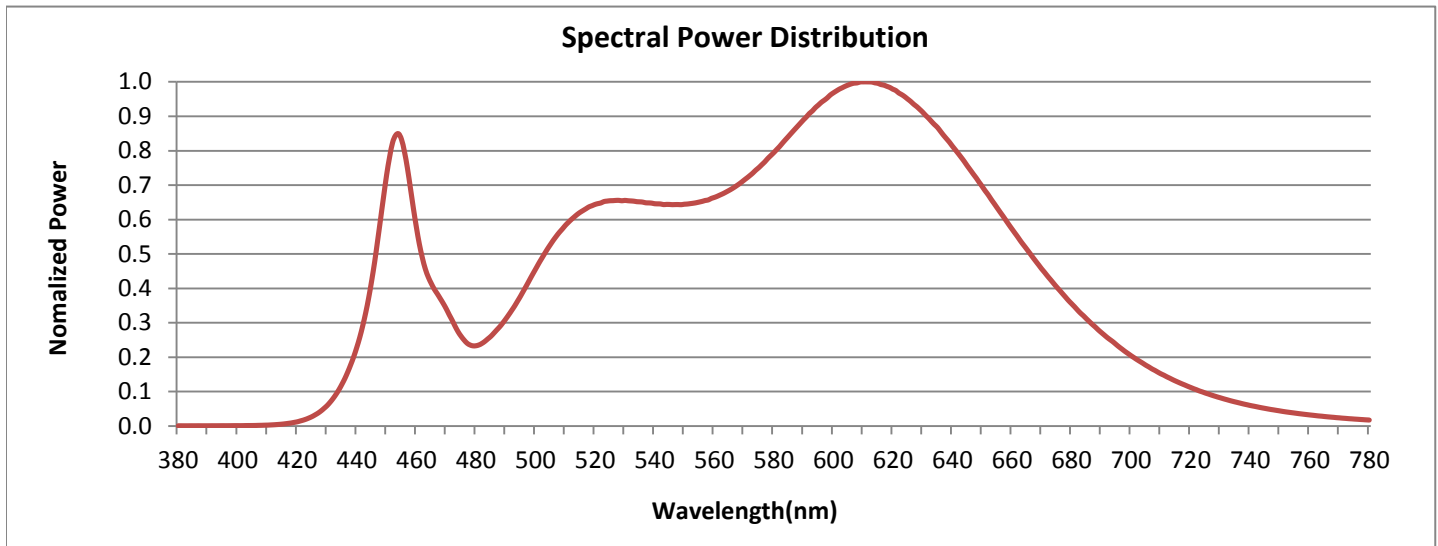


FIG. 1 LUMINAIRE

Colorimetry Test Results

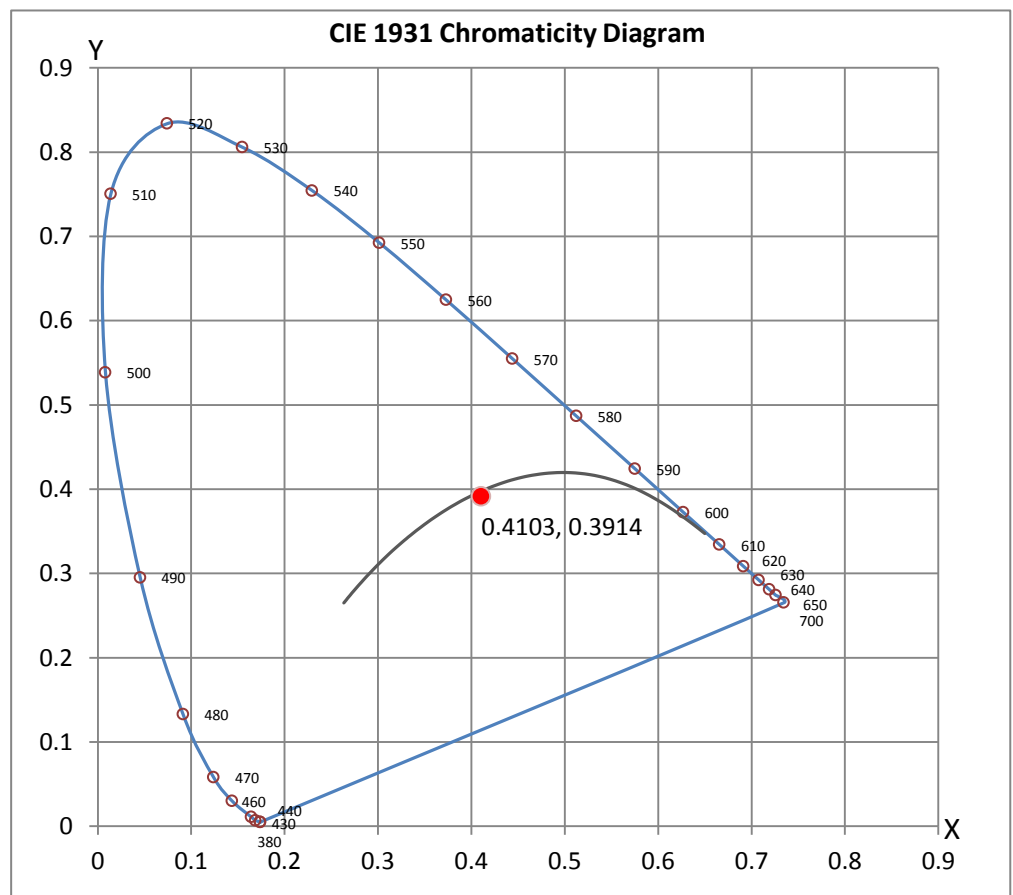


CRI & CCT

x	0.4103
y	0.3914
u'	0.2387
v'	0.5123
CRI	94.20
CCT	3399
Duv	-0.00077

R Values

R1	95.59
R2	97.81
R3	98.68
R4	96.73
R5	96.07
R6	96.29
R7	91.24
R8	80.84
R9	55.43
R10	94.78
R11	96.46
R12	78.73
R13	96.85
R14	99.08
R15	89.70





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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 : L022010902.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L022010902
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 2/24/2020
[MANUFAC] Vode Lighting
[LUMCAT] 207-BX-48-Z-SO-359-G1D1
[LUMINAIRE] BoxRail LED, 48", 3500K, 90 CRI, zipper board, wide batwing lens up,
[MORE] diffuse 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] 119.97VAC, 50.52W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4642
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	92
Total Luminaire Watts	50.52
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	10298	12118	21518
55	7904	9666	19747
65	5155	6795	18745
75	2424	3374	16036
85	413	791	11054

IES INDOOR REPORT
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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	711.67	711.67	711.67	711.67	711.67	711.67	711.67	711.67	711.67	711.67
5	708.15	707.85	707.56	707.35	707.15	706.98	706.85	706.75	706.69	706.67
10	698.09	697.49	697.12	696.88	696.81	696.90	697.15	696.58	696.24	696.12
15	681.49	680.72	680.51	680.60	680.74	679.94	679.59	679.69	680.24	680.26
20	658.27	657.27	657.38	657.55	656.73	656.68	657.01	656.69	657.17	657.11
25	628.77	628.00	628.41	627.69	627.69	627.49	627.43	628.55	627.35	626.88
30	594.06	593.27	593.40	592.89	592.82	592.79	593.02	592.57	592.45	592.14
35	553.74	553.07	552.80	553.11	552.80	553.02	553.45	552.40	552.52	552.43
40	509.40	508.88	508.26	508.07	508.32	508.59	508.16	508.45	509.09	509.18
45	460.45	460.38	460.05	459.92	459.73	460.08	459.95	460.90	460.63	461.88
50	408.06	407.50	407.32	407.43	407.76	408.18	408.42	409.41	409.28	409.85
55	351.64	351.14	351.73	351.98	350.36	348.10	349.45	351.14	353.57	356.14
60	290.37	289.72	288.17	283.79	282.46	283.18	285.59	289.41	292.66	297.03
65	221.21	220.95	213.82	211.56	213.28	214.80	219.25	222.68	228.12	234.13
70	153.32	147.79	146.14	148.02	151.65	152.92	154.29	156.60	161.56	167.53
75	97.07	91.35	96.50	97.18	96.54	96.23	95.94	96.46	100.67	104.66
80	51.97	52.86	54.02	54.02	53.89	53.87	53.94	54.32	56.98	56.17
85	14.84	19.56	18.47	18.63	18.86	19.10	18.69	19.70	20.45	21.07
90	6.89	6.96	6.87	6.79	6.58	6.41	6.16	5.83	5.49	5.07
95	22.72	27.95	26.37	26.97	27.88	29.41	30.17	36.23	39.69	42.36
100	87.76	92.11	94.28	98.77	104.55	110.71	117.81	123.81	131.83	132.53
105	210.65	196.21	209.98	215.48	221.76	232.02	239.80	246.36	252.57	250.98
110	392.72	379.80	381.10	389.40	402.82	403.54	417.51	407.22	396.92	372.27
115	628.18	625.60	603.44	592.03	586.67	583.41	567.41	544.96	516.47	481.20
120	799.43	794.43	783.42	762.71	743.69	717.08	688.83	656.77	607.42	555.75
125	910.83	905.01	891.50	874.43	853.09	812.83	776.50	723.86	671.10	611.69
130	958.45	953.31	938.58	916.29	889.14	853.00	807.09	757.28	700.31	641.74
135	957.94	953.61	939.84	918.17	888.20	853.47	809.57	764.06	711.45	658.91
140	926.93	922.51	910.02	890.60	864.79	832.71	794.81	753.55	709.43	664.09
145	877.97	874.03	864.05	848.62	826.75	800.13	769.09	733.84	697.27	659.96
150	820.97	817.41	810.11	797.53	780.75	759.55	734.63	707.60	680.00	649.99
155	761.79	759.20	754.37	744.75	732.61	717.08	698.81	679.19	658.81	638.19
160	706.13	704.76	700.80	695.37	686.73	676.88	665.56	651.95	637.67	624.88
165	658.44	657.43	654.93	651.98	647.98	642.01	635.38	628.13	620.32	611.28
170	622.81	622.26	621.05	619.70	618.03	616.07	613.82	610.26	606.57	602.72
175	601.44	601.18	600.97	600.34	599.87	599.36	598.81	598.22	597.60	596.95
180	594.00	594.00	594.00	594.00	594.00	594.00	594.00	594.00	594.00	594.00

Vert. 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	711.67	711.67	711.67	711.67	711.67	711.67	711.67	711.67	711.67
5	706.68	706.73	706.82	706.94	707.10	707.30	707.49	707.77	708.06
10	696.19	696.47	696.92	696.61	696.46	696.48	696.66	696.96	697.50
15	679.92	679.31	679.13	679.39	680.15	679.81	679.85	680.18	681.07
20	656.61	656.10	656.19	655.38	655.27	655.91	655.38	655.35	656.34
25	627.49	626.88	625.96	626.09	625.55	625.82	626.15	625.54	626.42
30	591.97	592.02	591.99	591.30	591.80	591.32	592.05	591.32	592.55
35	552.36	553.07	552.69	552.59	552.39	552.37	552.58	552.29	552.90
40	509.25	509.44	509.33	508.91	508.75	509.60	509.38	509.08	509.06
45	461.28	462.13	462.59	462.08	462.34	463.27	463.24	463.16	462.96
50	410.45	411.91	412.39	412.31	412.00	412.29	412.48	412.38	412.00
55	355.10	355.16	359.17	359.79	357.00	354.11	351.42	349.14	347.87
60	299.41	302.26	303.53	304.04	303.39	303.47	304.20	304.57	305.12

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CANDELA TABULATION - (Cont.)

65	238.91	243.14	244.93	245.80	246.79	247.22	247.03	246.60	247.11
70	174.42	181.33	185.65	187.59	188.75	189.42	189.94	189.60	190.03
75	110.56	117.79	124.19	127.82	130.98	133.02	132.17	131.96	133.87
80	57.65	61.77	67.69	70.52	79.68	81.23	81.25	80.61	79.97
85	21.36	21.85	24.08	24.84	25.92	28.17	31.85	35.13	36.04
90	4.69	4.19	3.86	3.52	3.14	2.81	2.64	2.43	2.43
95	42.99	53.19	51.95	41.69	38.78	39.04	38.27	36.85	37.64
100	132.32	131.77	122.04	108.71	99.63	91.59	84.39	81.64	81.98
105	244.09	225.11	203.12	177.19	157.78	143.37	133.03	127.79	126.99
110	338.05	307.34	273.78	239.33	213.43	196.02	183.44	177.08	176.79
115	434.67	383.23	337.06	297.41	267.24	246.59	232.36	224.77	224.15
120	500.44	441.82	391.04	350.33	317.63	295.31	281.68	272.89	269.33
125	548.64	490.45	438.91	396.26	362.10	338.66	324.57	316.05	311.83
130	583.46	529.01	480.30	438.35	404.42	378.95	361.79	350.91	342.76
135	605.93	556.85	511.67	474.14	442.97	419.31	403.68	393.96	389.95
140	618.40	576.72	537.62	502.90	475.75	453.44	438.54	429.46	425.24
145	623.31	588.68	556.37	527.36	503.63	484.97	470.98	463.66	459.44
150	621.81	594.69	568.42	546.79	526.45	512.80	500.28	495.12	491.63
155	617.08	596.88	578.39	560.38	547.41	535.94	527.38	522.93	519.71
160	611.37	597.09	583.29	573.42	563.90	554.74	550.73	547.33	544.77
165	602.89	596.01	589.12	582.28	575.53	572.46	569.90	567.57	565.73
170	598.75	594.70	590.69	588.77	587.01	585.37	583.86	582.44	581.24
175	596.28	595.59	594.88	594.17	593.46	592.75	592.03	591.36	590.71
180	594.00	594.00	594.00	594.00	594.00	594.00	594.00	594.00	594.00

IES INDOOR REPORT
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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	259.01	N.A.	5.60
0-30	547.94	N.A.	11.80
0-40	893.69	N.A.	19.30
0-60	1565.21	N.A.	33.70
0-80	1914.75	N.A.	41.30
0-90	1945.77	N.A.	41.90
10-90	1878.59	N.A.	40.50
20-40	634.68	N.A.	13.70
20-50	990.43	N.A.	21.30
40-70	901.20	N.A.	19.40
60-80	349.54	N.A.	7.50
70-80	119.87	N.A.	2.60
80-90	31.02	N.A.	0.70
90-110	270.39	N.A.	5.80
90-120	701.64	N.A.	15.10
90-130	1239.5	N.A.	26.70
90-150	2168.43	N.A.	46.70
90-180	2695.8	N.A.	58.10
110-180	2425.4	N.A.	52.30
0-180	4641.57	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

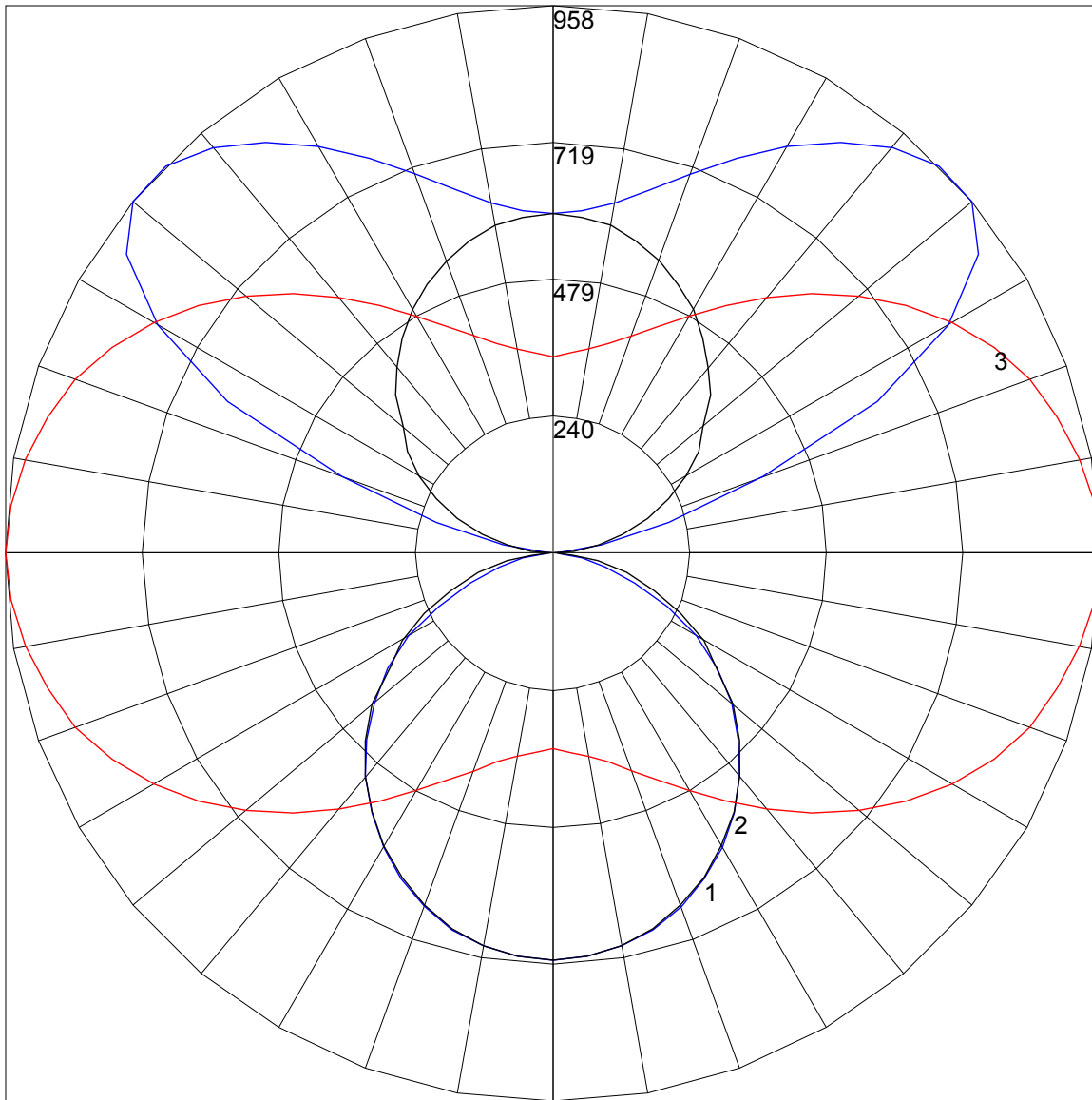
Zone	Lumens
0-10	67.18
10-20	191.83
20-30	288.93
30-40	345.75
40-50	355.75
50-60	315.77
60-70	229.68
70-80	119.87
80-90	31.02
90-100	50.68
100-110	219.71
110-120	431.25
120-130	537.86
130-140	512.29
140-150	416.64
150-160	296.23
160-170	174.01
170-180	57.13

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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49	42
1	96	92	88	84	87	84	81	78	69	67	65	56	54	53	43	42	41	35
2	87	80	74	69	79	73	68	64	60	57	53	49	46	44	38	36	35	30
3	80	70	63	57	72	64	58	53	53	49	45	43	40	37	33	31	29	25
4	73	62	54	48	66	57	50	45	47	42	38	38	35	32	30	27	25	21
5	67	55	47	41	61	51	44	38	42	37	33	34	30	27	27	24	22	18
6	61	49	41	36	56	45	38	33	38	33	28	31	27	24	24	21	19	16
7	57	45	37	31	52	41	34	29	34	29	25	28	24	21	22	19	17	14
8	53	40	33	27	48	37	30	26	31	26	22	26	22	19	20	17	15	13
9	49	37	29	24	45	34	27	23	29	23	20	23	20	17	19	16	14	11
10	46	34	27	22	42	31	25	20	26	21	18	22	18	15	17	14	12	10

POLAR GRAPH



Maximum Candela = 958.45 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.)