

IES Report

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

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

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	77	80	81	82
Total Lumens, 4' rail length (1219mm)	2205	2274	2321	2344
Lumens per foot (305mm)	551	569	580	586
Lumens per foot UP (305mm)	320	330	337	340
Lumens per foot DOWN (305mm)	231	238	243	246
Input Power (W), 4' rail length (1219mm)	28.8	28.8	28.8	28.8
Watts per foot (305mm)	7.2	7.2	7.2	7.2
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: L022010901



Report No: L022010901

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-LO-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: 2/20/20 - 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-LO-359-G1D1
Driver Model Number:	eldoLED SOLOdrive 1061/M (2 DRIVERS)

Test Summary

Total Lumens:	2350.71
Efficacy:	81.72
Color Redering Index:	94.4
Correlated Color Temperature:	3401
Input Voltage (VAC/60Hz):	120.03
Input Current (Amp):	0.2709
Input Power (W):	28.76
Input Power Factor:	0.8847
Current ATHD (%):	8.5%

Test Condition

Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:30
Total Operating Time (Hours):	2:10

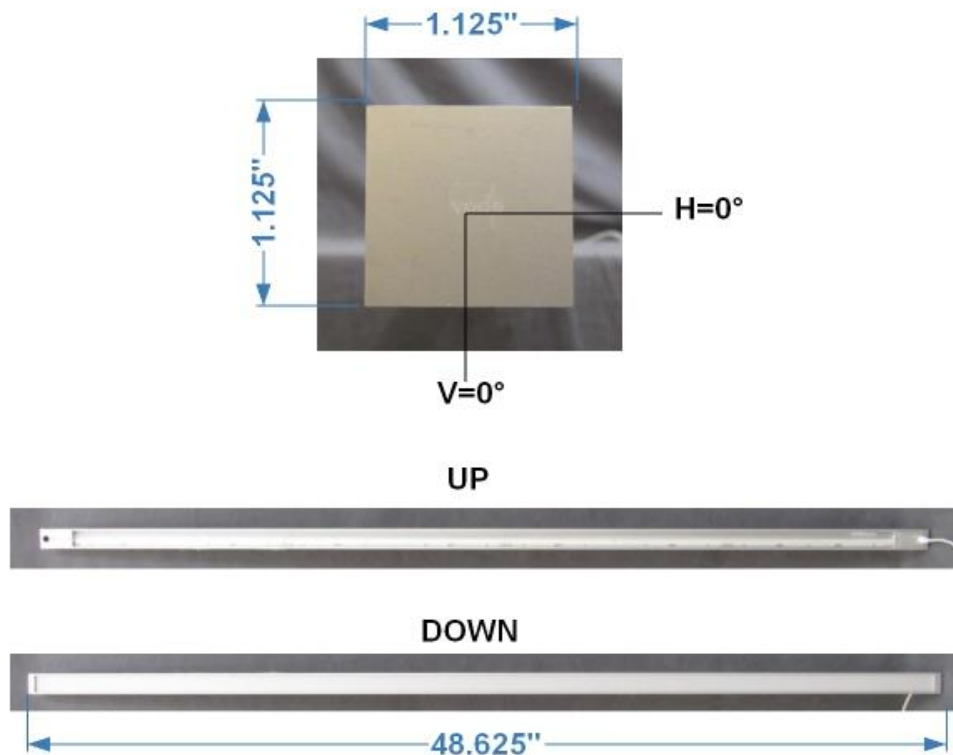
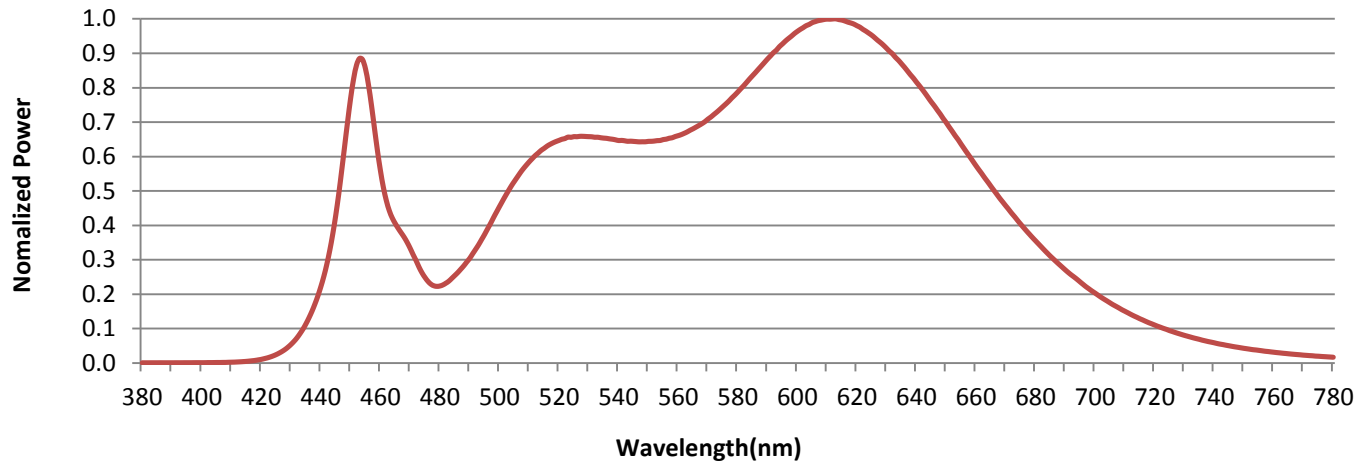


FIG. 1 LUMINAIRE

Colorimetry Test Results

Spectral Power Distribution



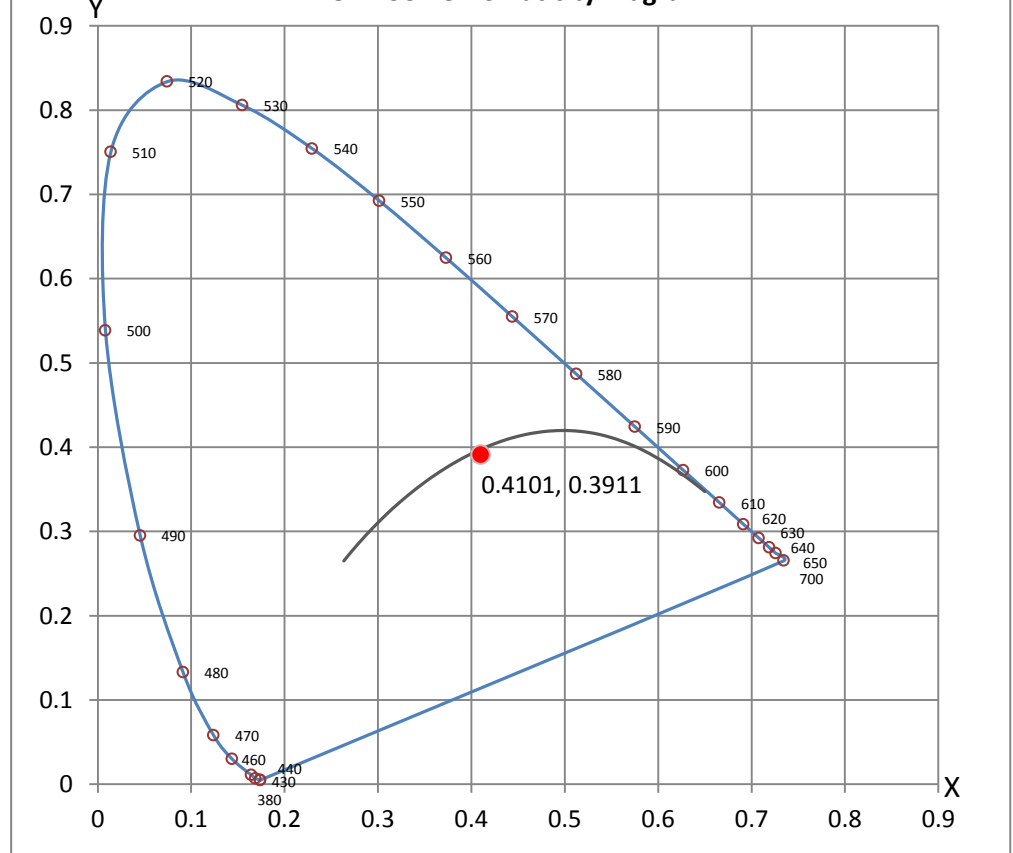
CRI & CCT

x	0.4101
y	0.3911
u'	0.2387
v'	0.5121
CRI	94.40
CCT	3401
Duv	-0.00086

R Values

R1	96.00
R2	97.83
R3	98.63
R4	97.10
R5	96.45
R6	96.27
R7	91.61
R8	81.58
R9	56.91
R10	94.79
R11	95.84
R12	78.41
R13	97.17
R14	98.83
R15	90.20

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 : L022010901.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L022010901
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 2/24/2020
[MANUFAC] Vode Lighting
[LUMCAT] 207-BX-48-Z-LO-359-G1D1
[LUMINAIRE] BoxRail LED, 48", 3500K, 90 CRI, zipper board, wide batwing lens up,
[MORE] diffuse lens down, low output, clear anodized finish
[BALLASTCAT] eldoLED SOLOdrive 1061/M (2 DRIVERS)
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[INPUT] 120.03VAC, 28.76W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2351
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	82
Total Luminaire Watts	28.76
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	5234	6164	10925
55	4019	4916	10378
65	2758	3451	9488
75	1415	1939	8103
85	194	390	5478

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L022010901.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	360.44	360.44	360.44	360.44	360.44	360.44	360.44	360.44	360.44	360.44
5	358.18	357.99	357.81	357.69	357.56	357.45	357.35	357.28	357.22	357.18
10	353.32	352.89	352.58	352.33	352.18	352.12	352.16	351.82	351.63	351.55
15	344.60	344.04	343.79	343.69	343.65	343.22	342.99	342.98	343.17	343.11
20	333.79	333.29	333.29	333.28	332.75	332.52	332.43	332.12	332.31	332.23
25	320.04	319.37	319.29	318.80	318.75	318.62	318.50	318.87	318.38	318.21
30	302.35	301.64	301.49	301.26	301.18	301.17	301.48	301.40	301.46	301.15
35	281.73	281.16	280.95	281.14	280.84	280.85	281.28	281.03	281.36	281.19
40	258.85	258.25	258.03	258.05	258.28	258.41	258.42	258.70	258.85	258.90
45	234.04	233.60	233.54	233.54	233.60	233.87	233.92	234.51	234.25	234.94
50	207.05	206.77	206.65	206.74	207.02	207.33	207.57	207.85	208.04	208.52
55	178.80	178.58	178.70	178.73	178.43	177.27	177.40	178.18	179.40	181.13
60	149.46	149.34	148.66	146.12	144.68	144.57	145.19	146.55	147.86	150.05
65	118.36	118.74	114.73	113.20	113.37	113.81	114.71	115.51	117.17	118.92
70	88.10	85.43	82.92	84.15	85.07	86.09	86.28	86.21	87.12	88.82
75	56.67	53.64	55.08	55.27	55.49	55.80	56.22	57.13	58.66	60.15
80	27.75	27.71	28.14	28.36	28.62	28.93	29.52	30.40	31.82	33.18
85	6.96	8.26	7.57	7.55	7.53	7.89	7.84	8.59	9.48	10.40
90	1.93	1.93	1.89	1.84	1.84	1.80	1.76	1.80	1.72	1.64
95	6.71	10.05	9.82	10.50	11.35	12.44	13.41	15.82	18.01	19.70
100	34.62	40.11	38.47	41.41	44.96	48.97	54.14	59.73	63.63	71.17
105	114.76	105.31	109.25	114.90	119.17	125.59	131.68	135.69	138.16	134.83
110	214.42	207.27	200.73	204.13	208.74	211.25	212.43	210.29	202.92	191.33
115	317.86	315.68	303.59	296.35	293.90	293.03	285.41	275.91	261.99	244.07
120	402.94	400.96	394.90	383.93	375.06	361.58	346.92	332.88	308.58	282.71
125	460.70	457.88	451.74	442.89	432.28	412.25	394.02	367.10	340.52	309.47
130	485.09	482.44	475.21	464.42	450.92	433.11	410.55	384.10	355.78	325.20
135	484.00	481.99	474.90	464.26	449.79	432.46	410.14	387.13	360.39	333.64
140	466.98	464.79	458.56	448.82	435.89	419.72	400.50	379.68	357.48	334.48
145	440.24	438.57	433.57	425.59	414.40	400.94	385.76	368.15	349.53	330.54
150	409.65	408.06	404.52	398.19	389.81	379.34	367.17	353.70	339.64	324.08
155	378.72	377.77	375.65	370.95	364.95	357.29	348.26	338.48	327.91	317.30
160	350.64	349.98	348.03	345.34	341.11	336.23	330.52	323.43	315.86	309.50
165	326.50	325.94	324.70	323.24	321.28	318.43	315.27	311.83	308.12	303.74
170	309.56	309.24	308.60	307.88	307.01	305.98	304.81	303.06	301.22	299.30
175	298.92	298.75	298.61	298.27	298.00	297.71	297.40	297.08	296.74	296.40
180	295.00	295.00	295.00	295.00	295.00	295.00	295.00	295.00	295.00	295.00

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	360.44	360.44	360.44	360.44	360.44	360.44	360.44	360.44	360.44
5	357.16	357.15	357.17	357.21	357.26	357.33	357.42	357.54	357.68
10	351.59	351.76	352.02	351.88	351.83	351.86	351.99	352.17	352.48
15	342.91	342.71	342.77	343.09	343.69	343.49	343.46	343.56	343.93
20	331.84	331.53	331.62	331.79	332.26	333.09	332.73	332.53	332.78
25	318.53	318.13	317.68	317.86	317.96	318.44	318.76	318.37	318.70
30	300.80	300.73	300.61	300.37	300.80	300.49	300.72	300.47	301.26
35	280.92	281.17	280.62	280.56	280.69	280.70	280.67	280.50	280.81
40	258.98	258.85	258.68	258.62	258.47	258.66	258.58	258.53	258.68
45	234.70	235.04	234.93	234.75	234.94	234.93	234.99	235.08	235.04
50	209.02	209.27	209.15	209.20	209.71	209.55	209.41	209.33	209.48
55	181.52	181.82	181.84	182.09	182.06	182.19	182.36	182.38	182.82
60	152.15	153.37	153.50	153.73	153.78	153.92	154.17	154.18	154.57

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CANDELA TABULATION - (Cont.)

65	121.20	122.99	123.94	124.34	124.56	124.85	124.90	125.11	125.07
70	90.62	92.60	94.32	95.03	95.22	95.88	95.84	96.23	96.06
75	61.94	63.48	65.20	66.17	66.62	66.45	66.74	67.44	67.65
80	34.57	35.83	37.30	38.45	39.40	39.34	39.99	39.71	40.24
85	10.96	11.87	13.06	14.40	15.73	16.37	16.85	17.35	17.86
90	1.55	1.47	1.38	1.26	1.09	0.96	1.01	0.96	1.01
95	21.88	22.22	21.69	21.09	21.32	20.20	19.19	18.57	18.61
100	73.38	68.81	63.97	56.83	50.67	45.74	41.49	40.07	39.31
105	125.80	115.07	102.26	90.51	80.27	73.56	66.19	63.75	63.37
110	175.14	156.44	137.54	120.45	107.16	97.37	91.66	88.39	88.18
115	220.48	194.69	169.97	149.50	133.94	122.80	116.01	112.13	111.82
120	254.25	224.80	197.62	175.68	159.30	147.97	140.59	135.83	134.29
125	278.46	248.72	221.75	199.03	182.48	170.47	162.38	157.50	155.24
130	295.06	267.26	242.07	220.39	203.06	190.96	182.41	177.20	174.86
135	305.53	280.35	257.21	237.81	221.73	210.05	201.77	196.46	194.31
140	310.83	289.47	269.38	251.43	237.55	226.14	218.45	213.71	211.41
145	312.02	294.58	277.76	262.72	250.59	241.11	233.95	230.28	228.25
150	309.60	296.04	282.85	271.75	261.23	254.49	248.35	245.49	243.43
155	306.61	296.53	287.34	278.30	271.76	265.96	261.61	259.29	257.59
160	303.10	296.33	289.67	284.74	279.97	275.35	273.43	271.83	270.67
165	299.60	296.12	292.67	289.28	285.94	284.40	283.08	281.87	280.90
170	297.32	295.27	293.24	292.30	291.44	290.63	289.89	289.20	288.61
175	296.04	295.68	295.32	294.95	294.59	294.23	293.87	293.54	293.22
180	295.00	295.00	295.00	295.00	295.00	295.00	295.00	295.00	295.00

IES INDOOR REPORT
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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	130.92	N.A.	5.60
0-30	277.61	N.A.	11.80
0-40	453.32	N.A.	19.30
0-60	794.94	N.A.	33.80
0-80	978.29	N.A.	41.60
0-90	994.03	N.A.	42.30
10-90	960.07	N.A.	40.80
20-40	322.41	N.A.	13.70
20-50	503.15	N.A.	21.40
40-70	460.31	N.A.	19.60
60-80	183.35	N.A.	7.80
70-80	64.66	N.A.	2.80
80-90	15.74	N.A.	0.70
90-110	137.33	N.A.	5.80
90-120	355.66	N.A.	15.10
90-130	627.62	N.A.	26.70
90-150	1094.58	N.A.	46.60
90-180	1356.68	N.A.	57.70
110-180	1219.35	N.A.	51.90
0-180	2350.71	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

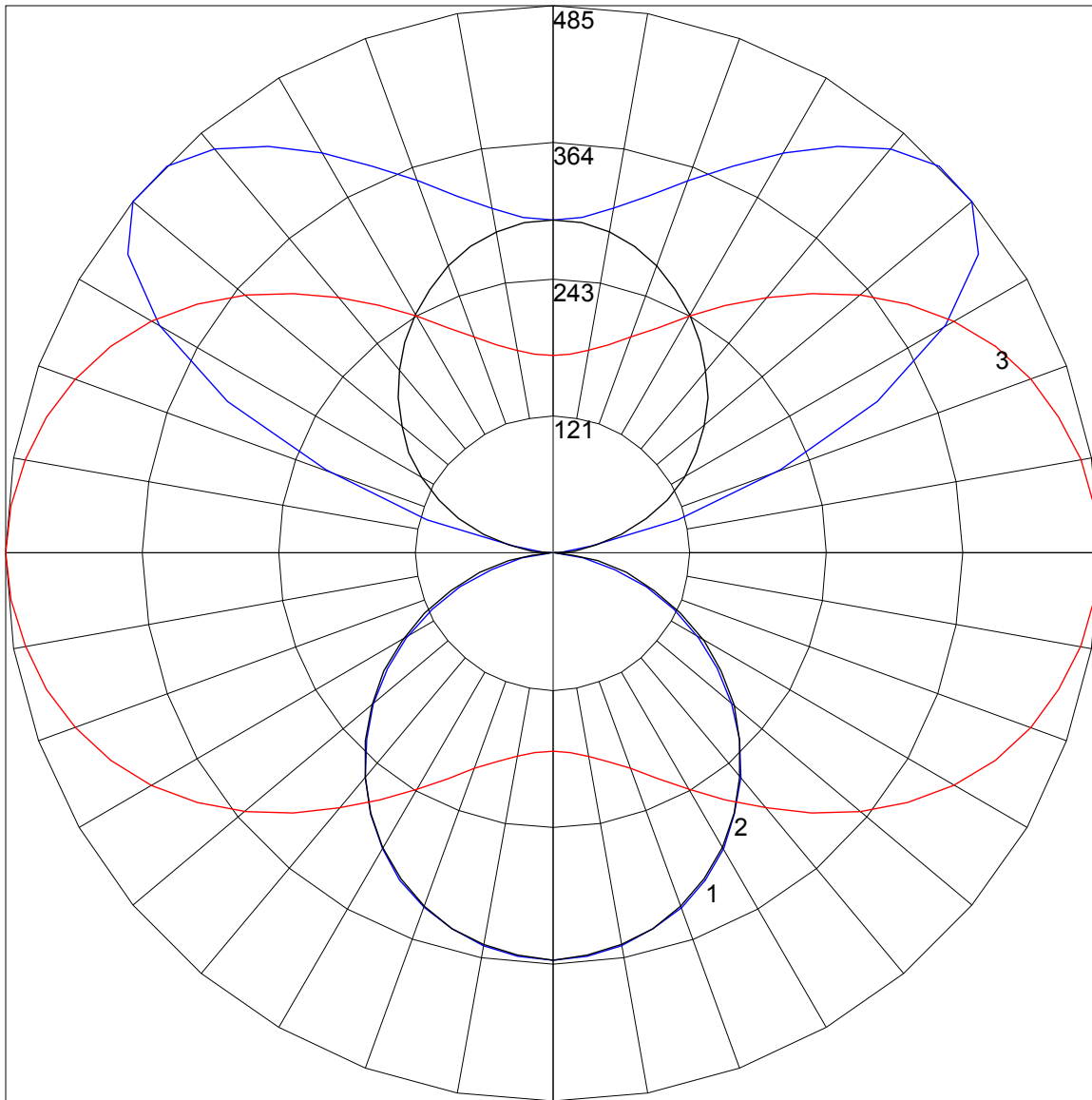
Zone	Lumens
0-10	33.96
10-20	96.95
20-30	146.69
30-40	175.71
40-50	180.74
50-60	160.88
60-70	118.69
70-80	64.66
80-90	15.74
90-100	23.70
100-110	113.63
110-120	218.32
120-130	271.96
130-140	258.45
140-150	208.51
150-160	147.35
160-170	86.38
170-180	28.37

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	88	84	81	78	69	67	65	56	54	53	43	42	41	36
2	87	80	74	69	80	73	68	64	61	57	54	49	46	44	38	36	35	30
3	80	70	63	57	72	64	58	53	53	49	45	43	40	37	34	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	19
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	24	20	17	19	16	14	11
10	46	34	26	22	42	31	25	20	26	21	18	22	18	15	17	14	12	10

POLAR GRAPH



Maximum Candela = 485.09 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.)