



IES Report

ZipThree® | Ceiling Cable | 707 | Symmetric with EdgeGlow, up | Soft Diffuse, down | 90 CRI | SO

707-Z3-XX-4-48-CC-XX-XX-XX-X-0-Z-SO-359-U2D2-0-AL / WH-X

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	119	123	125	126
Total Lumens, 4' rail length (1219mm)	6124	6318	6447	6511
Lumens per foot (305mm)	1531	1579	1612	1628
Lumens per foot UP (305mm)	860	888	906	915
Lumens per foot DOWN (305mm)	671	692	706	713
Input Power (W), 4' rail length (1219mm)	51.7	51.7	51.7	51.7
Watts per foot (305mm)	13.0	13.0	13.0	13.0
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: L121911557



Report No: L121911557

Issue Date: 1/22/2020

Report Prepared For: Vode Lighting
21684 8th Street East, Suite 700, Sonoma, CA 95476

Model Number: 707-Z3-48-Z-CC-SO-359-U2D2-AL

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: 12/16/19

Date of Tests: 1/10/20 - 1/22/20

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:	707-Z3-48-Z-CC-SO-359-U2D2-AL
Driver Model Number:	MEAN WELL HLG-40H-36A (2 DRIVERS)

Test Summary

Total Lumens:	6446.80
Efficacy:	124.67
Color Redering Index:	94.2
Correlated Color Temperature:	3389
Input Voltage (VAC/60Hz):	120.05
Input Current (Amp):	0.4335
Input Power (W):	51.71
Input Power Factor:	0.9936
Current ATHD (%):	8.1%

Test Condition

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

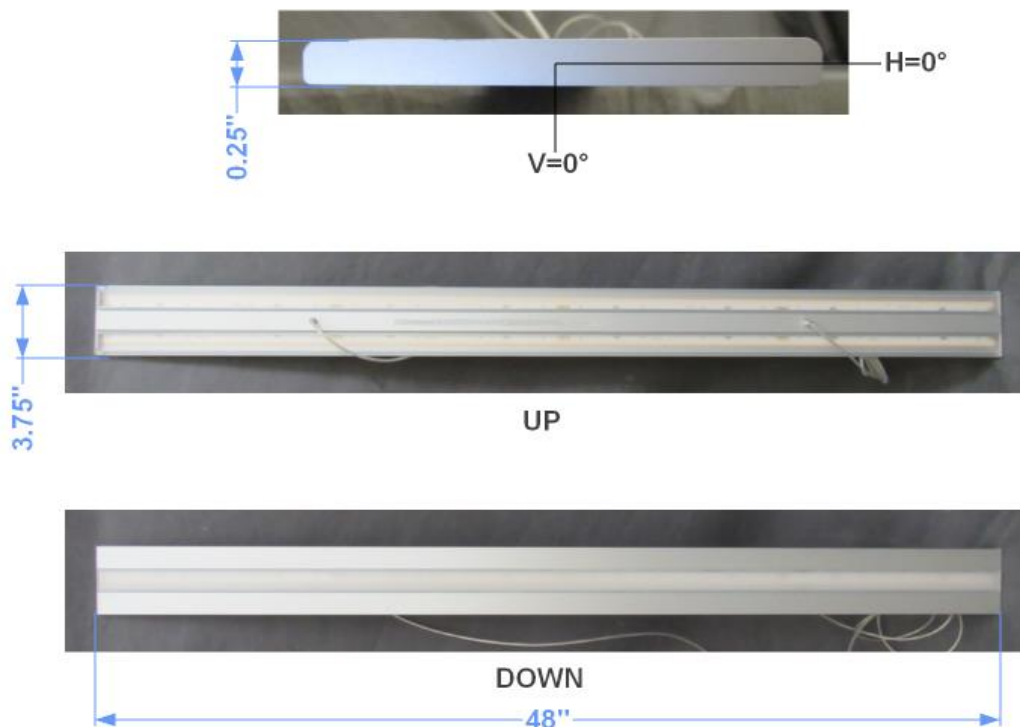
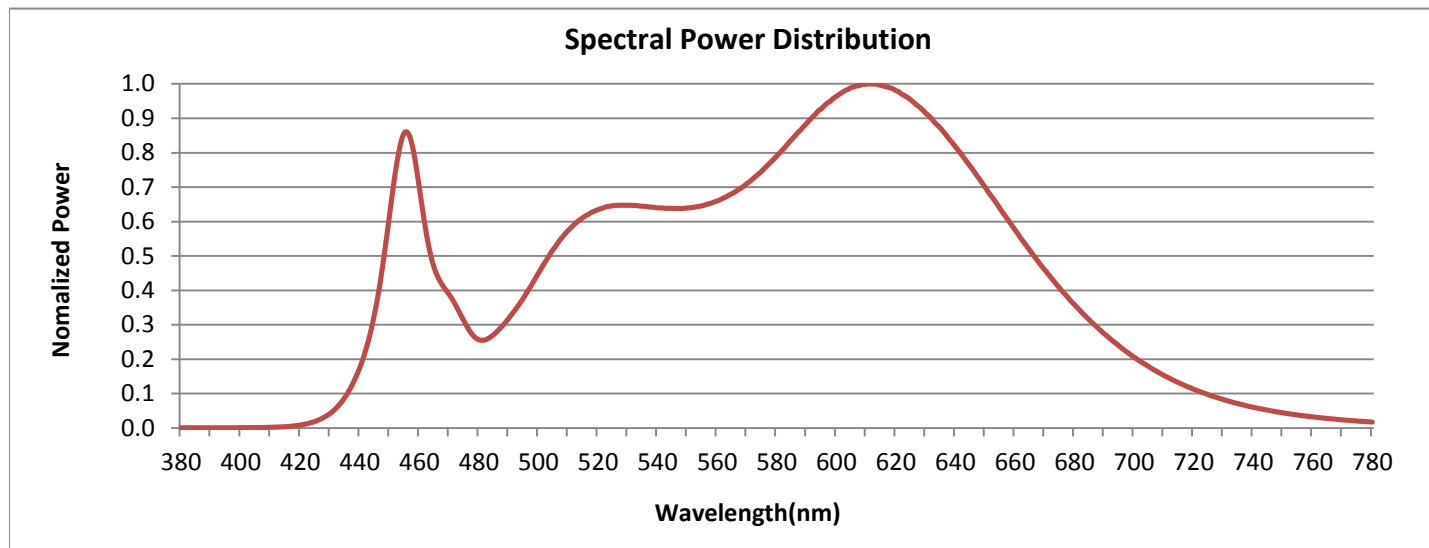


FIG. 1 LUMINAIRE

Colorimetry Test Results

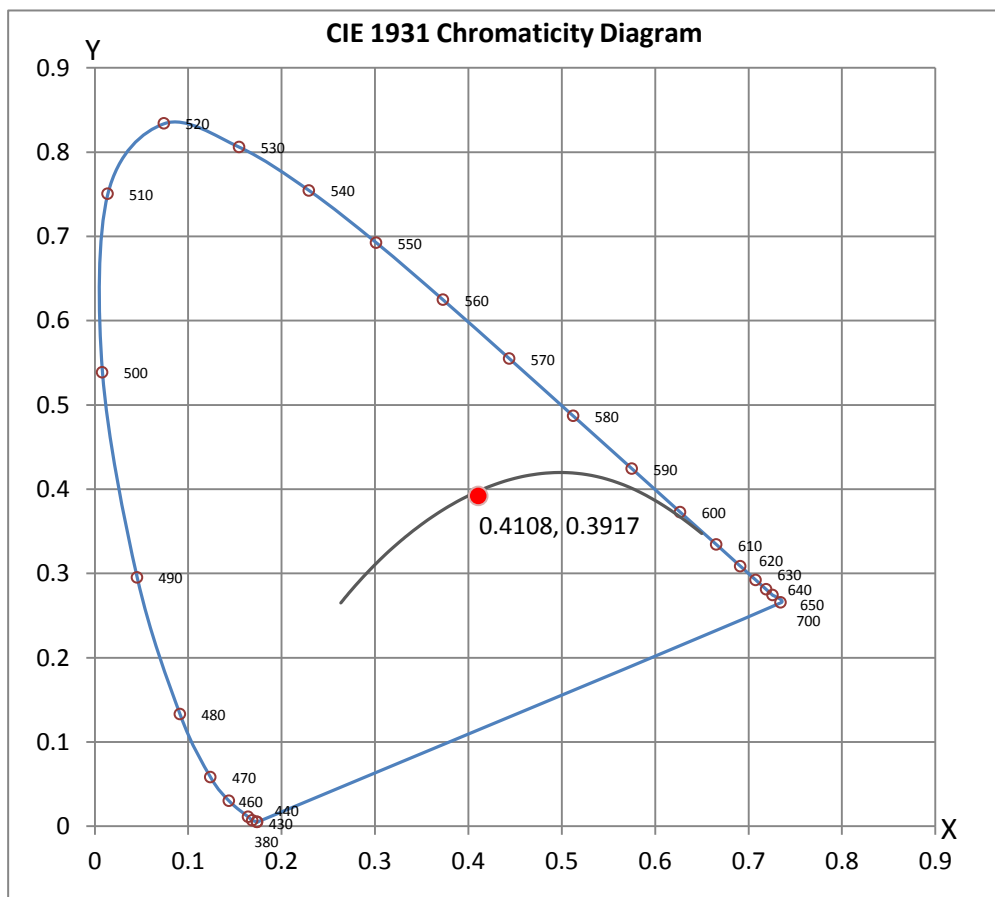


CRI & CCT

x	0.4108
y	0.3917
u'	0.2389
v'	0.5125
CRI	94.20
CCT	3389
Duv	-0.00074

R Values

R1	96.10
R2	98.86
R3	98.16
R4	96.53
R5	96.24
R6	95.86
R7	90.58
R8	80.98
R9	57.19
R10	97.06
R11	97.74
R12	77.54
R13	97.72
R14	99.60
R15	90.29





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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 : L121911557.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L121911557
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 1/22/2020
[MANUFAC] VODE LIGHTING
[LUMCAT] 707-Z3-48-Z-CC-SO-359-U2D2-AL
[LUMINAIRE] ZipThree LED Suspended, 48", 3500K, 90 CRI, zipper board, symmetric lens with edgeglow up/soft
[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] 120.05VAC, 51.71W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	6447
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	125
Total Luminaire Watts	51.71
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)	0.26 ft
Luminous Width (90-270)	3.98 ft
Luminous Height	0.02 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	8911	9044	9483
55	8375	8551	9156
65	7536	7786	8612
75	6083	6405	7567
85	3299	3730	5751

IES INDOOR REPORT
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CANDELA TABULATION

	0	5	10	15	20	25	30	35	40	45
0.0	972	972	972	972	972	972	972	972	972	972
1.0	972	972	972	972	972	972	972	972	972	972
3.0	971	971	971	971	971	971	971	971	971	971
5.0	969	969	969	969	969	969	969	969	969	969
7.0	964	965	965	965	965	965	965	965	965	965
9.0	960	960	960	960	960	960	960	960	960	960
11.0	953	953	953	953	953	953	953	953	953	953
13.0	945	945	945	945	945	945	945	945	945	945
15.0	936	936	936	936	936	936	936	935	935	935
17.0	925	925	925	925	925	925	925	925	925	925
19.5	910	910	910	910	910	910	909	909	909	909
22.5	889	889	889	889	889	888	888	888	888	888
25.5	865	865	865	865	865	865	865	864	864	864
29.0	835	835	834	834	834	834	834	834	833	833
33.0	795	795	795	795	795	795	794	794	794	793
37.5	746	746	746	746	746	745	745	745	744	744
42.5	686	686	686	686	685	685	685	684	684	684
47.5	620	620	620	620	620	619	619	619	618	618
55.0	513	513	513	513	513	513	512	512	512	511
65.0	357	357	357	357	357	357	356	356	356	356
75.0	195	195	195	195	194	194	194	194	194	194
85.0	52	52	52	52	52	52	52	52	52	52
90.0	26	26	26	25	24	23	22	20	18	16
95.0	58	58	57	57	56	55	54	53	52	50
100.0	104	104	104	104	105	105	105	106	106	107
105.0	172	172	172	173	174	175	177	178	179	180
110.0	254	254	255	257	258	261	263	266	268	271
115.0	355	356	357	359	361	364	367	370	374	378
120.0	473	473	475	477	479	483	487	492	497	502
125.0	604	605	606	608	612	615	620	624	629	634
130.0	741	741	742	744	747	750	754	758	761	764
135.0	871	871	872	874	875	878	880	882	884	886
140.0	986	986	987	988	989	990	991	992	993	995
145.0	1083	1083	1084	1084	1085	1085	1086	1087	1088	1088
150.0	1164	1164	1164	1164	1165	1165	1165	1166	1167	1167
155.0	1229	1229	1229	1230	1230	1230	1230	1230	1231	1231
160.0	1281	1281	1281	1282	1282	1282	1282	1282	1282	1282
165.0	1320	1320	1321	1320	1320	1320	1321	1321	1321	1321
170.0	1347	1348	1348	1348	1347	1348	1348	1348	1348	1348
175.0	1363	1363	1363	1363	1363	1363	1363	1363	1363	1363
180.0	1367	1367	1367	1367	1367	1367	1367	1367	1367	1367

Vert. Angles **Horizontal Angles**

	50	55	60	65	70	75	80	85	90
0.0	972	972	972	972	972	972	972	972	972
1.0	972	972	972	972	972	972	972	972	972
3.0	971	971	971	971	971	971	971	971	971
5.0	969	969	969	969	969	969	969	969	969
7.0	965	965	965	965	965	965	965	965	965
9.0	959	960	959	959	959	959	959	959	959
11.0	953	953	953	953	953	953	953	953	953
13.0	945	945	945	944	944	944	944	944	944
15.0	935	935	935	935	935	935	935	935	935

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CANDELA TABULATION - (Cont.)

17.0	924	924	924	924	924	924	924	924	924
19.5	909	908	908	908	909	908	908	908	908
22.5	888	887	887	887	887	887	887	887	887
25.5	864	863	863	863	863	863	863	863	862
29.0	833	832	832	832	832	832	832	831	831
33.0	793	793	792	792	792	792	792	792	792
37.5	744	743	743	743	742	742	742	742	742
42.5	683	683	682	682	682	682	682	681	681
47.5	618	617	617	617	616	616	616	616	616
55.0	511	510	510	510	510	510	509	509	509
65.0	355	355	355	355	355	354	354	354	354
75.0	193	193	193	193	193	192	192	192	192
85.0	52	52	51	51	51	51	51	51	51
90.0	14	12	10	8	7	5	4	3	2
95.0	48	47	46	44	43	41	41	40	40
100.0	106	106	105	104	104	104	104	104	103
105.0	181	182	183	184	186	186	186	186	185
110.0	273	276	279	282	283	284	284	283	283
115.0	383	387	391	393	395	395	395	395	395
120.0	507	511	514	516	518	518	519	519	519
125.0	638	641	643	645	646	647	648	648	648
130.0	767	769	771	772	774	774	775	775	776
135.0	888	889	890	892	893	893	894	894	894
140.0	996	997	998	999	999	1000	1000	1000	1000
145.0	1089	1090	1091	1091	1091	1092	1092	1092	1092
150.0	1167	1168	1168	1169	1169	1169	1169	1169	1169
155.0	1231	1232	1232	1232	1232	1232	1233	1233	1232
160.0	1282	1282	1283	1282	1283	1283	1283	1283	1283
165.0	1321	1321	1321	1321	1321	1321	1321	1321	1321
170.0	1348	1348	1348	1348	1348	1348	1348	1348	1348
175.0	1363	1363	1363	1363	1363	1363	1363	1364	1363
180.0	1367	1367	1367	1367	1367	1367	1367	1367	1367

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	339.22	N.A.	5.30
0-30	711.40	N.A.	11.00
0-40	1113.96	N.A.	17.30
0-60	1979.62	N.A.	30.70
0-80	2673.32	N.A.	41.50
0-90	2823.89	N.A.	43.80
10-90	2749.15	N.A.	42.60
20-40	774.74	N.A.	12.00
20-50	1278.5	N.A.	19.80
40-70	1276.76	N.A.	19.80
60-80	693.70	N.A.	10.80
70-80	282.60	N.A.	4.40
80-90	150.57	N.A.	2.30
90-110	253.38	N.A.	3.90
90-120	630.50	N.A.	9.80
90-130	1193.79	N.A.	18.50
90-150	2553.45	N.A.	39.60
90-180	3622.91	N.A.	56.20
110-180	3369.52	N.A.	52.30
0-180	6446.8	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	74.74
10-20	264.48
20-30	372.18
30-40	402.56
40-50	503.76
50-60	361.90
60-70	411.11
70-80	282.60
80-90	150.57
90-100	59.70
100-110	193.69
110-120	377.12
120-130	563.29
130-140	680.24
140-150	679.43
150-160	567.02
160-170	372.82
170-180	129.62

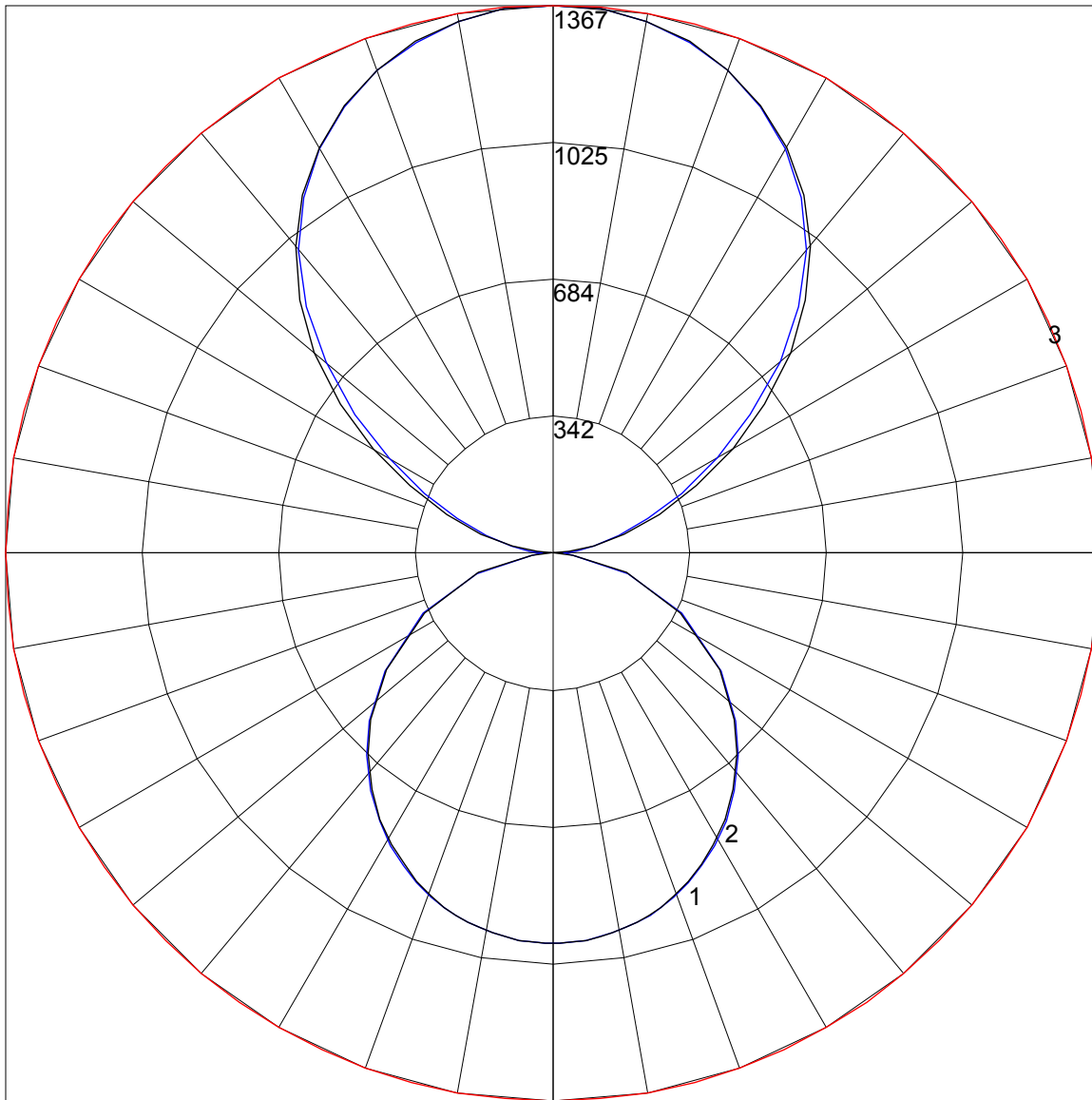
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	50	50	50	44
1	95	91	86	83	87	83	79	76	69	66	63	55	53	52	43	42	41	35
2	86	79	72	67	79	72	66	62	59	55	52	48	45	42	37	35	33	28
3	79	69	61	55	71	63	56	51	52	47	43	42	38	35	33	30	28	24
4	72	61	52	46	65	56	48	43	46	41	36	37	33	30	29	26	24	20
5	66	54	45	39	60	49	42	37	41	35	31	33	29	26	26	23	21	17
6	60	48	40	34	55	44	37	32	37	31	27	30	26	22	24	20	18	15
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	21	18	16	13
8	52	39	31	26	47	36	29	24	30	25	21	25	21	18	20	17	14	12
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13	11
10	45	33	25	21	41	30	24	19	26	20	17	21	17	14	17	14	12	10

POLAR GRAPH



Maximum Candela = 1367 Located At Horizontal Angle = 0, Vertical Angle = 180
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 (180) (Through Max. Cd.)