

IES Report

ZipThree® | 707 | Symmetric with EdgeGlow™, uplight only | 90 CRI | SO

707-Z3-4-48-XX-XX-X-0-Z-SO-359-U2-X-XX-X

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	133	137	140	141
Total Lumens, 4' rail length (1219mm)	3464	3574	3647	3683
Lumens per foot (305mm)	866	893	912	921
Input Power (W), 4' rail length (1219mm)	26.2	26.2	26.2	26.2
Watts per foot (305mm)	6.6	6.6	6.6	6.6
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: L121911542R01



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Issue Date: 1/2/2020

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

Model Number: 707-Z3-48-Z-SO-359-U2-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: 12/17/19 - 12/24/19

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-SO-359-U2-AL
Driver Model Number:	MEAN WELL HLG-40H-36A

Test Summary

Total Lumens:	3646.70
Efficacy:	139.34
Color Redering Index:	94.2
Correlated Color Temperature:	3415
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.2193
Input Power (W):	26.17
Input Power Factor:	0.9944
Current ATHD (%):	7.9%

Test Condition

Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:30
Total Operating Time (Hours):	1:30

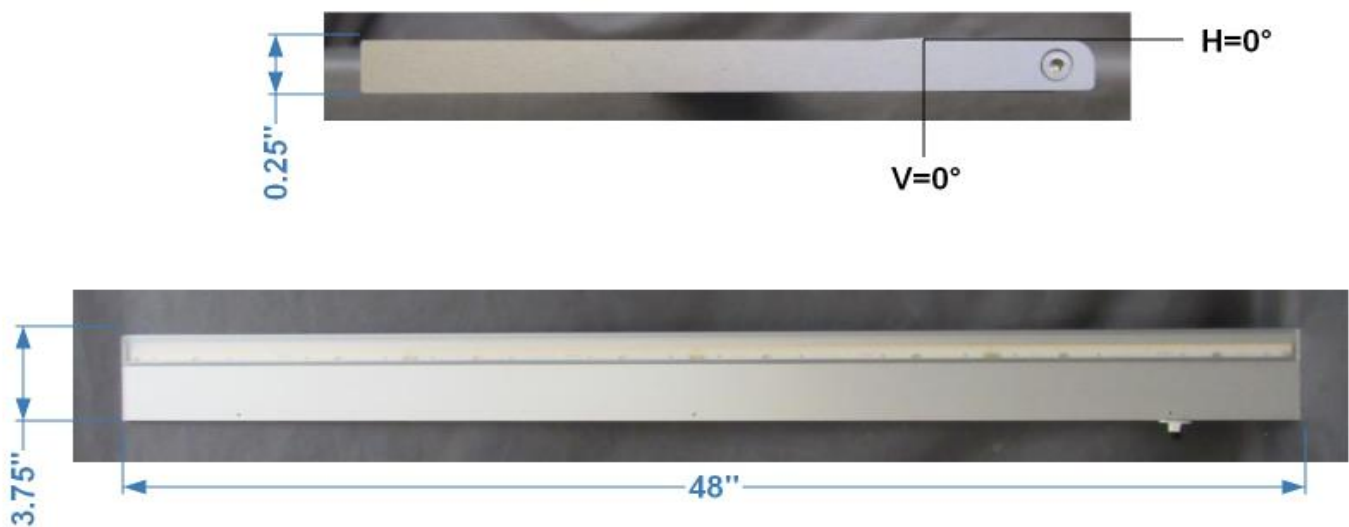
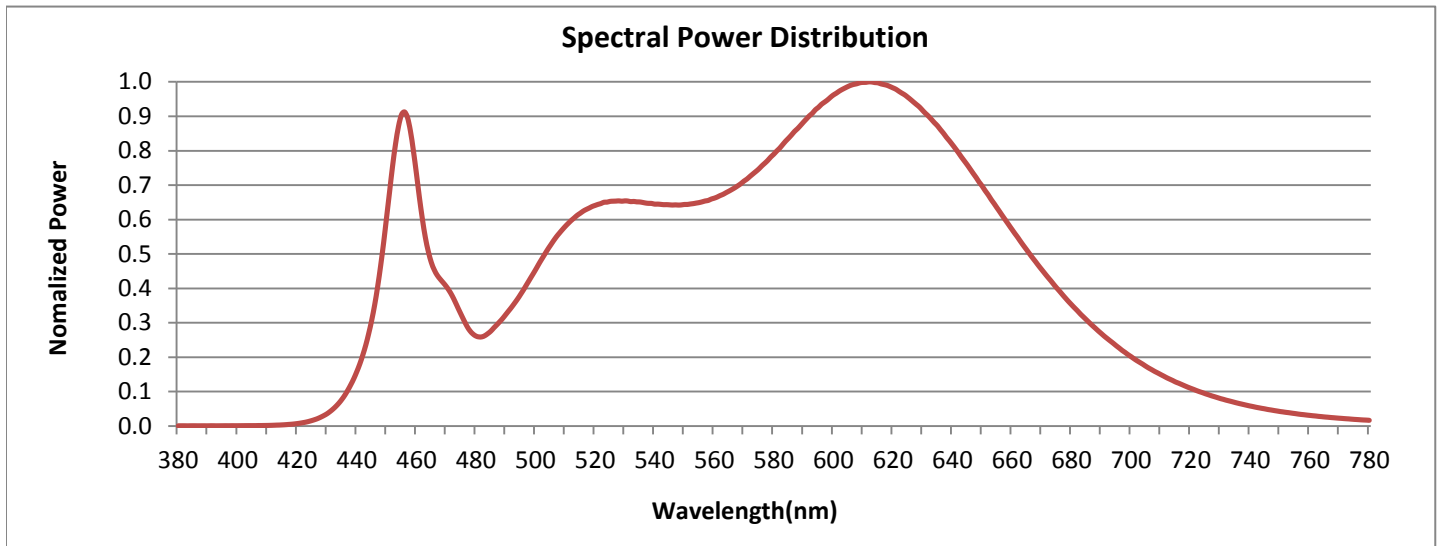


FIG. 1 LUMINAIRE

Colorimetry Test Results

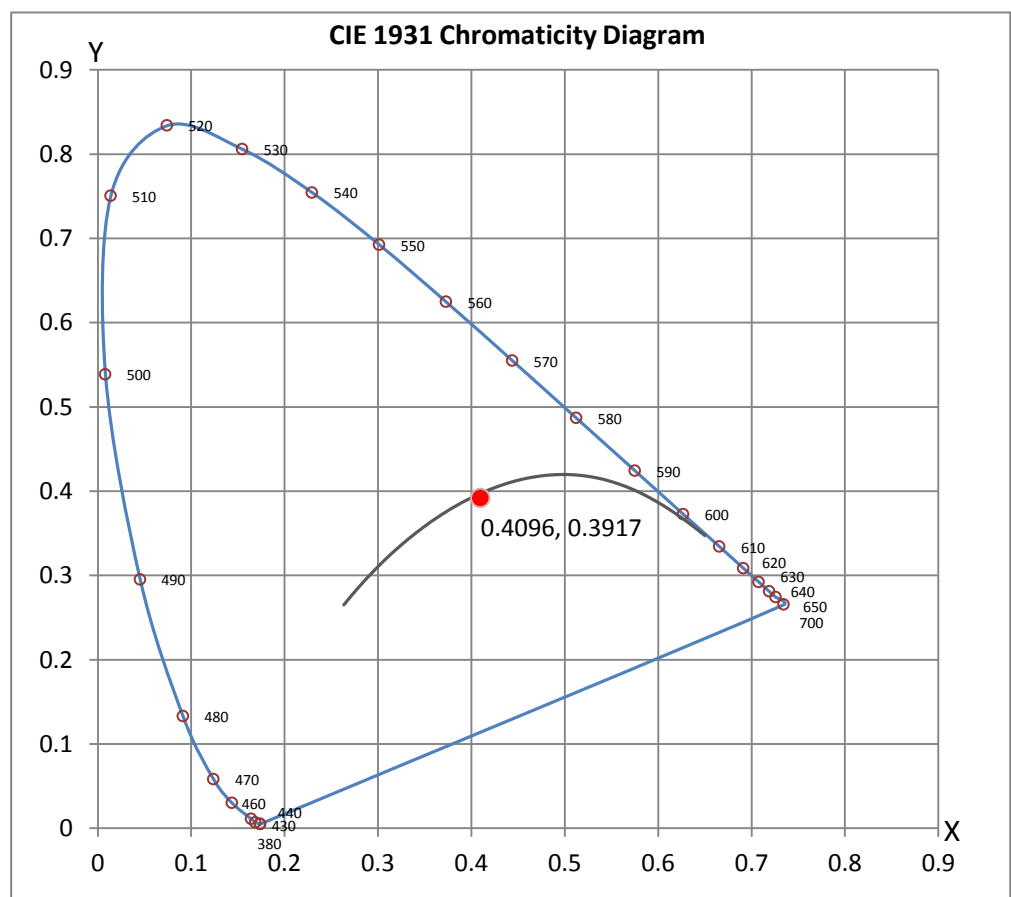


CRI & CCT

x	0.4096
y	0.3917
u'	0.2381
v'	0.5123
CRI	94.20
CCT	3415
Duv	-0.00049

R Values

R1	96.32
R2	99.08
R3	98.13
R4	96.51
R5	96.24
R6	95.76
R7	90.60
R8	81.32
R9	58.09
R10	97.47
R11	98.00
R12	76.53
R13	98.00
R14	99.61
R15	90.54





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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: 9*



8165 E. Kaiser Blvd. Anaheim, CA 92808
www.lightlaboratory.com

Photometric Test Report

IES INDOOR REPORT

PHOTOMETRIC FILENAME : L121911542R01.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L121911542R01
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 1/2/2020
[MANUFAC] Vode Lighting
[LUMCAT] 707-Z3-48-Z-SO-359-U2-AL
[LUMINAIRE] ZipThree LED, 48", 3500K, 90 CRI, zipper board, symmetric lens with edgeglow up,
[MORE] standard output, clear anodized finish
[BALLASTCAT] MEAN WELL HLG-40H-36A
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[INPUT] 120.0VAC, 26.17W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3647
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	139
Total Luminaire Watts	26.17
Ballast Factor	1.00
CIE Type	Indirect
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.07 ft
Luminous Width (90-270)	3.98 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	0	0	0
55	0	0	0
65	0	0	0
75	0	0	0
85	0	0	0

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	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0
95	59	59	58	58	57	56	55	54	53	51
100	116	116	116	116	115	115	114	113	113	112
105	190	190	190	190	190	190	190	190	190	190
110	279	279	280	280	280	281	281	282	283	283
115	383	383	384	384	385	386	387	388	389	391
120	500	500	500	501	502	503	505	507	509	510
125	624	624	625	626	627	629	630	632	635	637
130	750	750	751	752	753	755	757	759	761	764
135	871	871	872	873	874	876	877	879	881	884
140	981	981	981	983	984	985	986	988	990	992
145	1077	1078	1078	1079	1079	1080	1082	1083	1084	1086
150	1159	1159	1159	1159	1160	1161	1162	1162	1163	1164
155	1225	1225	1225	1225	1226	1226	1227	1228	1228	1229
160	1278	1278	1278	1278	1279	1279	1279	1279	1279	1280
165	1318	1318	1318	1318	1318	1318	1318	1318	1318	1318
170	1345	1345	1345	1345	1345	1345	1345	1345	1345	1346
175	1360	1360	1361	1360	1360	1360	1361	1361	1360	1361
180	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364

Vert. Horizontal Angles
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	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L121911542R01.IES

CANDELA TABULATION - (Cont.)

65	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0
95	50	48	47	45	44	42	41	41	40
100	111	110	109	108	107	106	105	104	104
105	190	189	189	189	188	188	188	187	187
110	284	284	285	285	286	286	286	286	286
115	392	393	395	396	397	397	398	398	398
120	512	514	516	518	519	521	521	522	522
125	639	642	644	646	648	650	651	651	651
130	766	768	771	773	775	777	777	778	778
135	886	888	890	892	894	895	896	897	896
140	994	995	997	999	1000	1001	1002	1002	1002
145	1087	1088	1090	1090	1091	1092	1092	1093	1093
150	1165	1166	1167	1168	1168	1169	1169	1169	1169
155	1229	1230	1230	1230	1231	1231	1231	1231	1231
160	1280	1281	1281	1281	1281	1281	1281	1281	1282
165	1319	1319	1319	1319	1319	1319	1319	1320	1319
170	1346	1345	1346	1346	1346	1346	1346	1346	1345
175	1361	1361	1361	1361	1361	1361	1361	1361	1361
180	1364	1364	1364	1364	1364	1364	1364	1364	1364

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	0.00	N.A.	0.00
0-30	0.00	N.A.	0.00
0-40	0.00	N.A.	0.00
0-60	0.00	N.A.	0.00
0-80	0.00	N.A.	0.00
0-90	0.00	N.A.	0.00
10-90	0.00	N.A.	0.00
20-40	0.00	N.A.	0.00
20-50	0.00	N.A.	0.00
40-70	0.00	N.A.	0.00
60-80	0.00	N.A.	0.00
70-80	0.00	N.A.	0.00
80-90	0.00	N.A.	0.00
90-110	261.53	N.A.	7.20
90-120	651.24	N.A.	17.90
90-130	1221.3	N.A.	33.50
90-150	2579.34	N.A.	70.70
90-180	3646.7	N.A.	100.00
110-180	3385.18	N.A.	92.80
0-180	3646.7	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	0.00
10-20	0.00
20-30	0.00
30-40	0.00
40-50	0.00
50-60	0.00
60-70	0.00
70-80	0.00
80-90	0.00
90-100	57.73
100-110	203.80
110-120	389.71
120-130	570.07
130-140	680.23
140-150	677.81
150-160	565.82
160-170	372.16
170-180	129.38

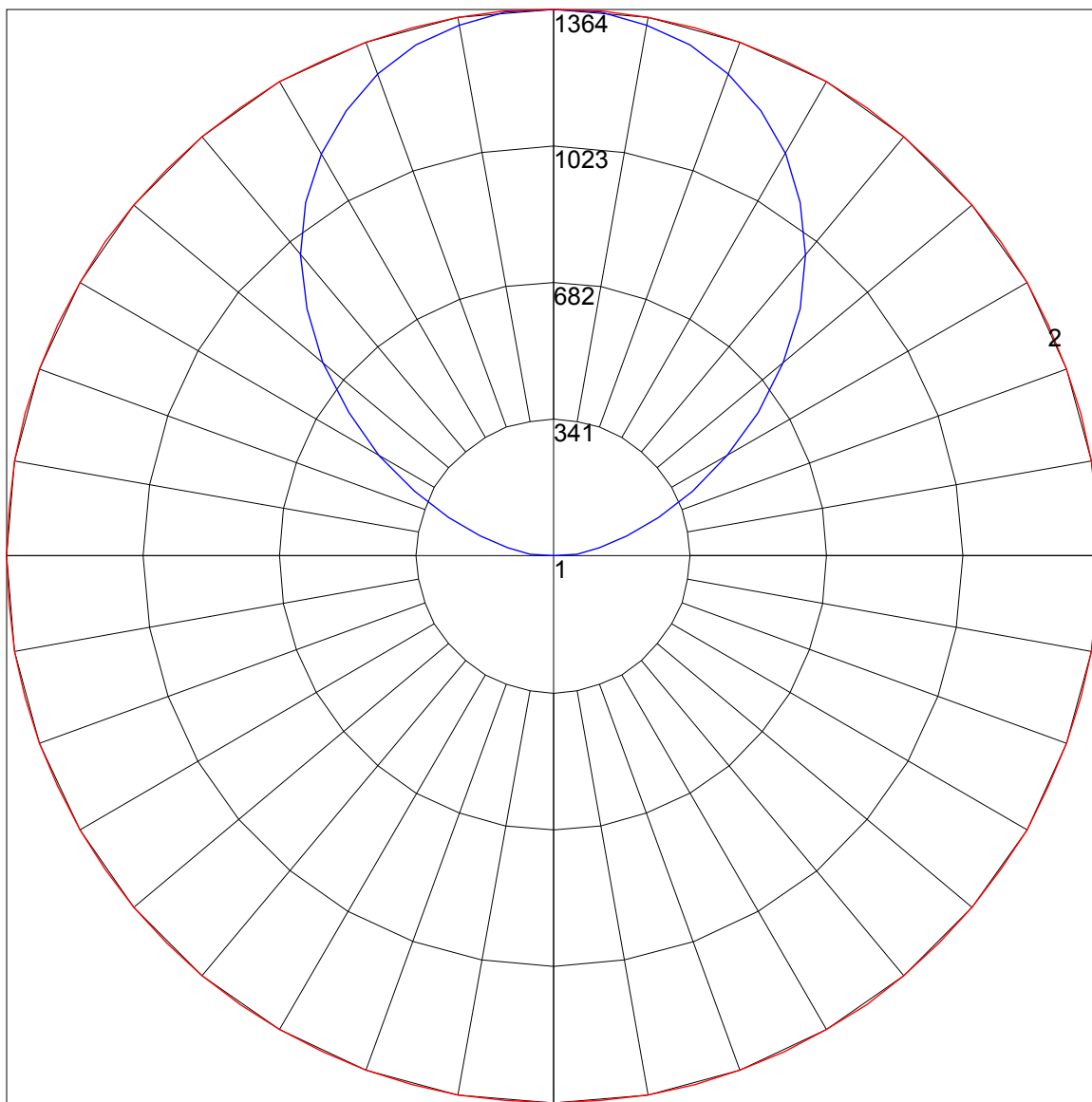
IES INDOOR REPORT
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	95	95	95	95	81	81	81	81	56	56	56	32	32	32	10	10	10	0
1	87	83	79	76	74	71	68	65	48	47	45	28	27	26	9	9	8	0
2	79	72	66	62	67	62	57	53	42	40	37	24	23	22	8	7	7	0
3	72	63	56	51	61	54	49	44	37	34	31	21	20	18	7	6	6	0
4	65	56	48	43	56	48	42	37	33	29	26	19	17	16	6	6	5	0
5	60	49	42	36	51	42	36	32	29	25	22	17	15	13	5	5	4	0
6	55	44	36	31	47	38	32	27	26	22	19	15	13	11	5	4	4	0
7	50	39	32	27	43	34	28	23	23	19	17	14	11	10	4	4	3	0
8	47	35	28	23	40	30	24	20	21	17	14	12	10	9	4	3	3	0
9	43	32	25	20	37	27	22	18	19	15	13	11	9	8	4	3	3	0
10	40	29	22	18	34	25	19	16	17	14	11	10	8	7	3	3	2	0

POLAR GRAPH



Maximum Candela = 1364 Located At Horizontal Angle = 0, Vertical Angle = 180
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (180) (Through Max. Cd.)