



## IES Report

**ZipThree® | Ceiling Cable | 707 | Symmetric with EdgeGlow, up | 80° Symmetric, down | 90 CRI | SO**

707-Z3-XX-4-48-CC-XX-XX-XX-X-0-Z-SO-359-U2S7-0-AL / WH-X

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	113	116	119	124
Total Lumens, 4' rail length (1219mm)	5818	6002	6125	6186
Lumens per foot (305mm)	851	878	896	905
Lumens per foot UP (305mm)	603	622	635	641
Lumens per foot DOWN (305mm)	1455	1501	1531	1546
Input Power (W), 4' rail length (1219mm)	51.8	51.8	51.8	51.8
Watts per foot (305mm)	13	13	13	13
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](http://vode.com).



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

Report No: L121911556



**Report No:** L121911556

**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-U2S7-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

<b>Manufacturer:</b>	Vode Lighting
<b>Model Number:</b>	707-Z3-48-Z-CC-SO-359-U2S7-AL
<b>Driver Model Number:</b>	MEAN WELL HLG-40H-36A (2 DRIVERS)

### Test Summary

<b>Total Lumens:</b>	6124.67
<b>Efficacy:</b>	118.27
<b>Color Redering Index:</b>	94.1
<b>Correlated Color Temperature:</b>	3396
<b>Input Voltage (VAC/60Hz):</b>	120.03
<b>Input Current (Amp):</b>	0.4342
<b>Input Power (W):</b>	51.78
<b>Input Power Factor:</b>	0.9936
<b>Current ATHD (%):</b>	7.9%

### Test Condition

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

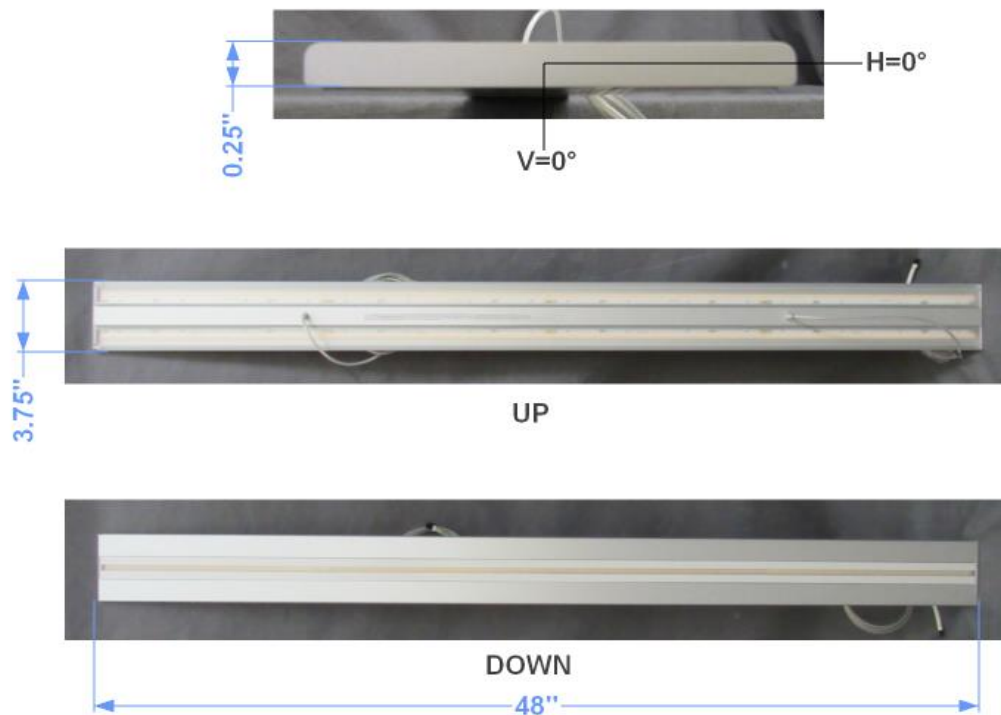
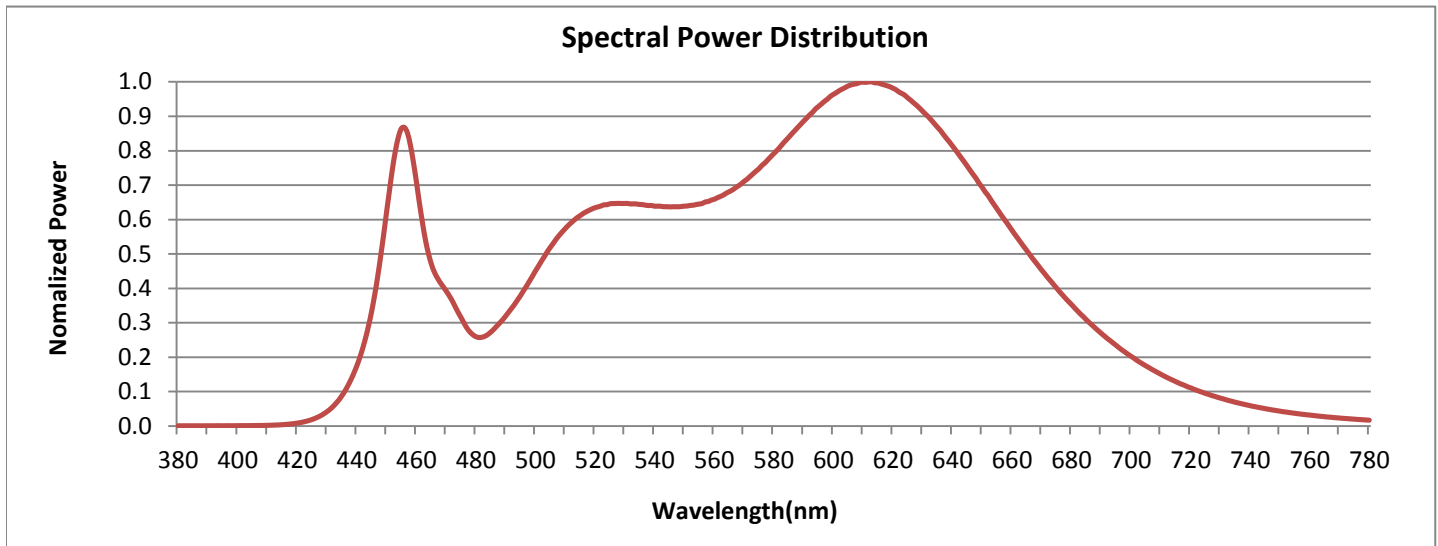


FIG. 1 LUMINAIRE

## Colorimetry Test Results

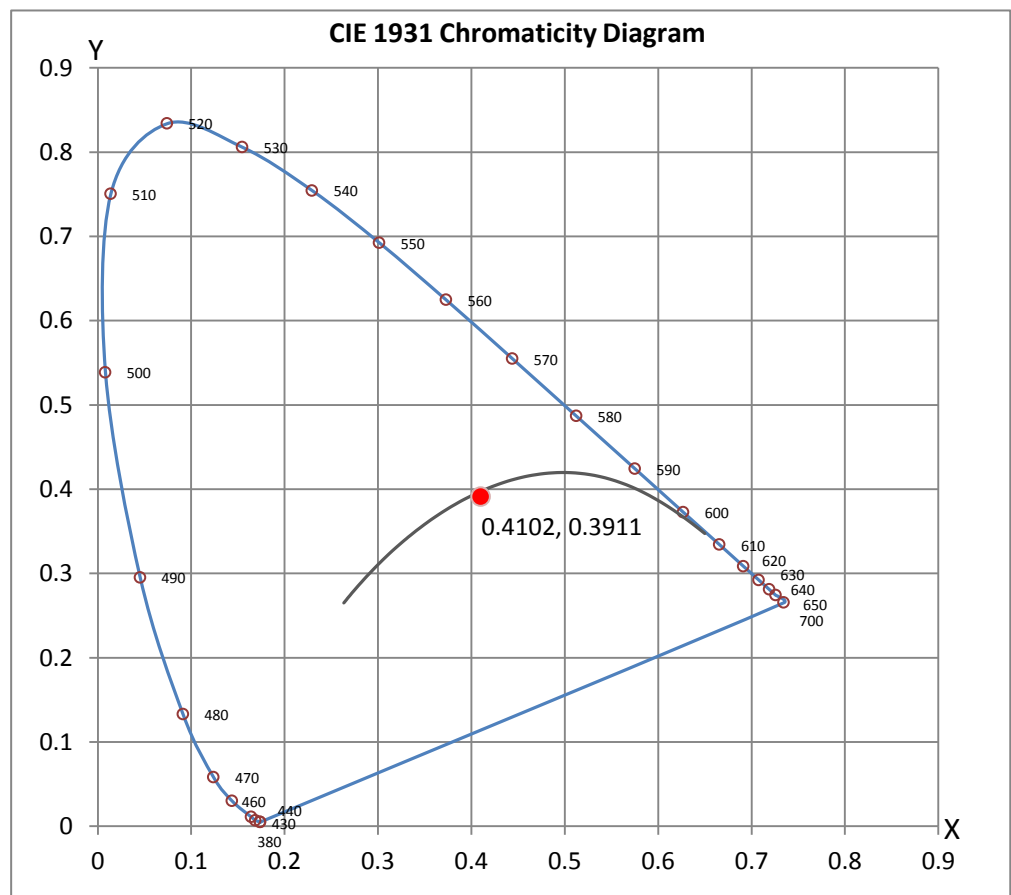


### CRI & CCT

x	0.4102
y	0.3911
u'	0.2387
v'	0.5121
CRI	94.10
CCT	3396
Duv	-0.00088

### R Values

R1	96.09
R2	98.93
R3	98.00
R4	96.43
R5	96.23
R6	95.73
R7	90.41
R8	80.79
R9	56.90
R10	97.25
R11	97.79
R12	77.44
R13	97.75
R14	99.61
R15	90.28





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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*



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## Photometric Test Report

### IES INDOOR REPORT

PHOTOMETRIC FILENAME : L121911556.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L121911556  
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)  
[ISSUEDATE] 1/21/2020  
[MANUFAC] VODE LIGHTING  
[LUMCAT] 707-Z3-48-Z-CC-SO-359-U2S7-AL  
[LUMINAIRE] ZipThree LED Suspended, 48", 3500K, 90 CRI, zipper board, symmetric lens with edgeglow up/80°  
[MORE] symmetric 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] 120.03VAC, 51.78W  
[TEST PROCEDURE] IESNA:LM-79-08

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	6125
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	118
Total Luminaire Watts	51.78
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	7588	8168	7692
55	4783	5606	5721
65	3082	3806	4428
75	2059	2608	3429
85	1015	1291	2142

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L121911556.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>
<b>0.0</b>	1319	1319	1319	1319	1319	1319	1319	1319	1319	1319
<b>1.0</b>	1319	1319	1319	1319	1319	1319	1319	1319	1319	1319
<b>3.0</b>	1318	1318	1318	1318	1318	1318	1318	1318	1317	1317
<b>5.0</b>	1314	1314	1314	1314	1314	1314	1314	1314	1314	1314
<b>7.0</b>	1308	1308	1308	1308	1308	1308	1308	1308	1308	1307
<b>9.0</b>	1300	1299	1299	1299	1299	1299	1299	1299	1298	1298
<b>11.0</b>	1289	1289	1289	1289	1289	1288	1288	1288	1287	1287
<b>13.0</b>	1275	1275	1274	1274	1275	1274	1274	1273	1273	1272
<b>15.0</b>	1259	1258	1258	1258	1258	1258	1257	1256	1256	1255
<b>17.0</b>	1239	1238	1238	1238	1238	1238	1237	1236	1235	1233
<b>19.5</b>	1209	1209	1209	1209	1209	1209	1208	1207	1205	1203
<b>22.5</b>	1165	1165	1166	1166	1166	1166	1165	1164	1161	1158
<b>25.5</b>	1112	1112	1112	1113	1114	1114	1114	1112	1109	1104
<b>29.0</b>	1036	1036	1038	1040	1041	1042	1042	1040	1037	1031
<b>33.0</b>	932	933	935	938	941	944	945	943	939	933
<b>37.5</b>	796	798	801	806	811	816	818	818	815	808
<b>42.5</b>	634	635	640	646	654	661	666	668	666	660
<b>47.5</b>	478	480	485	492	501	509	515	519	520	516
<b>55.0</b>	293	294	298	304	312	320	326	331	334	335
<b>65.0</b>	146	146	149	152	156	161	165	169	172	174
<b>75.0</b>	66	66	67	69	70	72	74	76	78	79
<b>85.0</b>	16	16	16	17	17	17	18	18	18	18
<b>90.0</b>	22	22	21	21	20	19	17	16	15	13
<b>95.0</b>	49	49	49	48	48	47	46	45	45	44
<b>100.0</b>	92	92	93	93	93	94	95	96	97	98
<b>105.0</b>	157	158	158	159	161	163	165	167	169	171
<b>110.0</b>	241	242	243	244	246	249	251	253	256	260
<b>115.0</b>	342	342	343	345	347	350	354	359	365	370
<b>120.0</b>	463	463	465	467	471	475	480	485	490	496
<b>125.0</b>	599	599	601	603	606	610	614	619	624	630
<b>130.0</b>	735	735	737	739	741	745	749	754	759	764
<b>135.0</b>	865	865	866	868	871	874	877	880	883	885
<b>140.0</b>	982	982	982	984	985	986	987	989	990	992
<b>145.0</b>	1077	1077	1078	1078	1079	1079	1080	1081	1082	1082
<b>150.0</b>	1156	1156	1156	1156	1156	1157	1157	1158	1158	1158
<b>155.0</b>	1219	1219	1219	1219	1219	1219	1219	1220	1220	1220
<b>160.0</b>	1269	1269	1269	1269	1269	1269	1269	1269	1269	1269
<b>165.0</b>	1307	1306	1307	1307	1307	1307	1307	1307	1307	1307
<b>170.0</b>	1333	1333	1333	1333	1333	1333	1333	1333	1333	1333
<b>175.0</b>	1348	1348	1348	1348	1348	1348	1348	1348	1348	1348
<b>180.0</b>	1352	1352	1352	1352	1352	1352	1352	1352	1352	1352

**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>
<b>0.0</b>	1319	1319	1319	1319	1319	1319	1319	1319	1319
<b>1.0</b>	1319	1319	1319	1319	1319	1319	1319	1319	1319
<b>3.0</b>	1318	1317	1317	1318	1317	1318	1317	1317	1318
<b>5.0</b>	1313	1313	1313	1313	1313	1313	1313	1313	1313
<b>7.0</b>	1308	1307	1307	1307	1307	1306	1306	1306	1306
<b>9.0</b>	1298	1298	1297	1297	1297	1296	1297	1296	1296
<b>11.0</b>	1286	1286	1285	1284	1284	1284	1283	1283	1283
<b>13.0</b>	1271	1270	1269	1268	1267	1267	1266	1266	1266
<b>15.0</b>	1253	1252	1251	1249	1248	1247	1246	1245	1245

**IES INDOOR REPORT**  
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**CANDELA TABULATION - (Cont.)**

17.0	1231	1230	1228	1226	1224	1222	1221	1220	1220
19.5	1200	1197	1194	1191	1188	1186	1184	1183	1183
22.5	1154	1150	1145	1140	1136	1133	1130	1128	1128
25.5	1099	1093	1087	1080	1074	1069	1065	1063	1062
29.0	1024	1016	1007	999	991	984	979	976	975
33.0	924	914	903	892	882	874	867	863	862
37.5	798	787	775	763	751	742	735	731	729
42.5	651	641	629	618	608	600	593	589	588
47.5	510	503	494	486	479	473	468	465	464
55.0	334	331	329	326	324	322	320	319	318
65.0	176	177	179	180	181	181	182	182	182
75.0	81	82	83	84	85	86	86	86	87
85.0	19	19	19	19	19	19	19	19	19
90.0	12	10	9	8	7	5	5	4	4
95.0	43	42	42	42	42	41	41	41	41
100.0	99	100	100	100	101	102	103	104	103
105.0	172	174	176	179	181	183	184	184	184
110.0	264	269	272	276	280	282	283	283	283
115.0	376	381	386	391	394	396	397	397	398
120.0	502	508	514	517	520	522	523	524	524
125.0	636	642	645	648	651	652	653	654	654
130.0	768	771	774	776	777	778	779	779	780
135.0	887	889	891	893	893	894	895	895	895
140.0	993	994	995	996	997	997	997	998	998
145.0	1083	1084	1084	1084	1085	1085	1085	1085	1086
150.0	1159	1159	1159	1159	1159	1160	1160	1160	1160
155.0	1220	1220	1220	1220	1221	1221	1221	1221	1221
160.0	1269	1270	1270	1270	1270	1270	1270	1270	1270
165.0	1307	1307	1307	1307	1307	1307	1307	1307	1308
170.0	1333	1333	1333	1333	1333	1333	1333	1333	1333
175.0	1348	1348	1348	1348	1348	1348	1348	1348	1348
180.0	1352	1352	1352	1352	1352	1352	1352	1352	1352



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L121911556.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	455.18	N.A.	7.40
0-30	929.87	N.A.	15.20
0-40	1390.24	N.A.	22.70
0-60	2120.15	N.A.	34.60
0-80	2479.4	N.A.	40.50
0-90	2539.62	N.A.	41.50
10-90	2438.34	N.A.	39.80
20-40	935.05	N.A.	15.30
20-50	1404.12	N.A.	22.90
40-70	962.05	N.A.	15.70
60-80	359.25	N.A.	5.90
70-80	127.12	N.A.	2.10
80-90	60.22	N.A.	1.00
90-110	239.32	N.A.	3.90
90-120	609.78	N.A.	10.00
90-130	1171.49	N.A.	19.10
90-150	2525.91	N.A.	41.20
90-180	3585.04	N.A.	58.50
110-180	3345.72	N.A.	54.60
0-180	6124.67	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	101.28
10-20	353.90
20-30	474.69
30-40	460.36
40-50	469.07
50-60	260.85
60-70	232.13
70-80	127.12
80-90	60.22
90-100	54.38
100-110	184.94
110-120	370.45
120-130	561.71
130-140	678.79
140-150	675.63
150-160	562.01
160-170	368.93
170-180	128.19

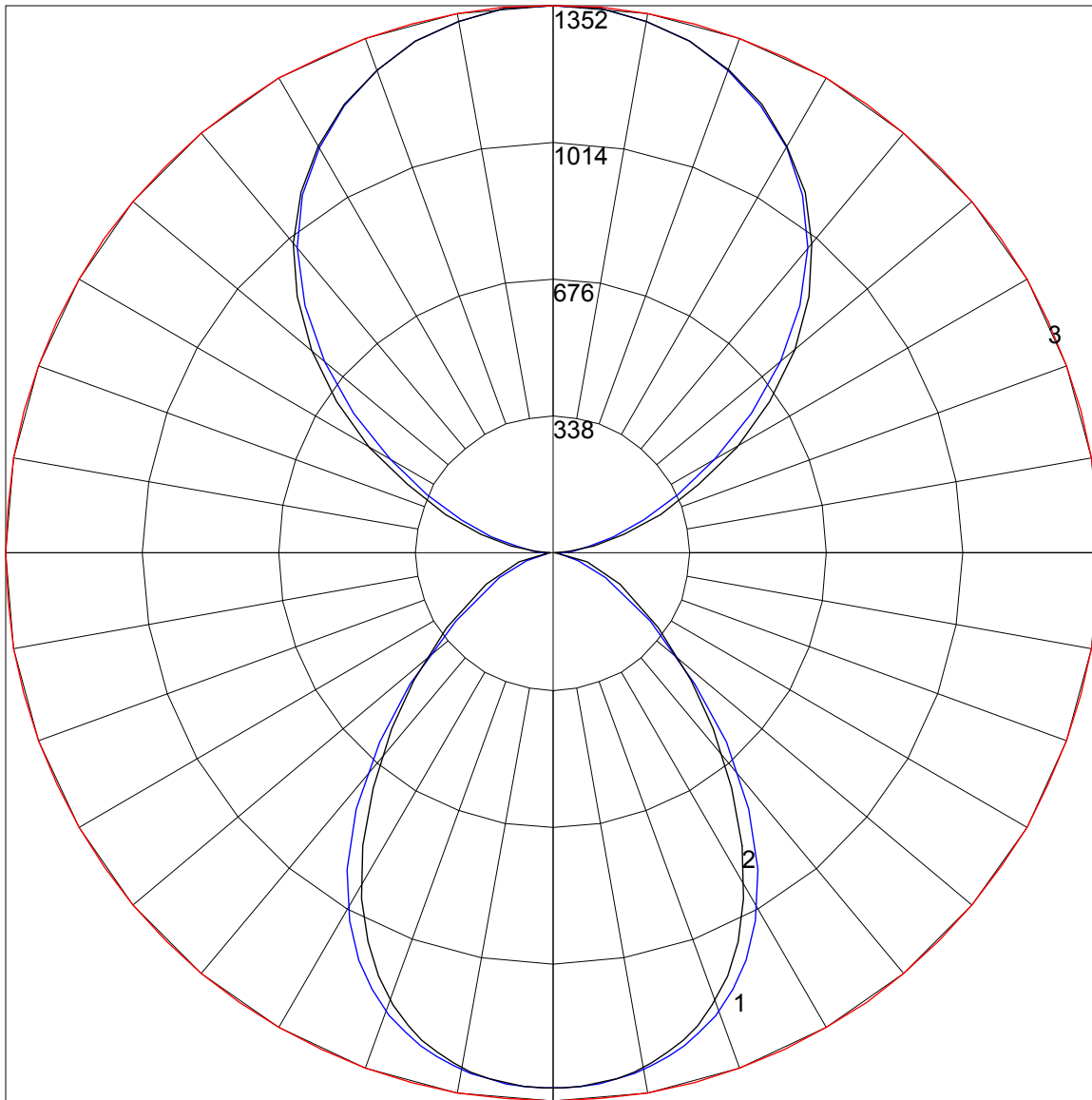
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	48	48	48	41
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	43	42	41	35
2	88	81	75	70	80	74	69	65	61	58	54	49	47	45	38	37	35	30
3	80	71	64	59	73	65	59	55	54	50	46	44	41	38	34	32	31	26
4	74	63	56	50	67	58	52	47	49	44	40	40	36	33	31	29	27	23
5	68	57	49	43	62	52	46	40	44	39	35	36	32	29	28	26	24	20
6	63	51	43	38	57	47	40	35	40	34	31	33	29	26	26	23	21	18
7	58	46	39	33	53	43	36	31	36	31	27	30	26	23	24	21	19	16
8	54	42	35	30	49	39	32	28	33	28	24	27	23	21	22	19	17	15
9	50	38	31	26	46	36	29	25	30	25	22	25	21	19	20	18	16	13
10	47	35	28	24	43	33	27	22	28	23	20	23	20	17	19	16	14	12

POLAR GRAPH



Maximum Candela = 1352 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.)