

## IES Report

**WingRail® | 107 | Clear with EdgeSoft™ | 90 CRI | SO**

**107-WG-XX-4-48-XX-XX-XX-XX-X-X-Z-SO-359-C1-X-XX-X**

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	109	113	115	116
Total Lumens, 4' rail length (1219mm)	2616	2699	2754	2781
Lumens per foot (305mm)	654	675	688	695
Input Power (W), 4' rail length (1219mm)	24.0	24.0	24.0	24.0
Watts per foot (305mm)	6.0	6.0	6.0	6.0
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: L121911518



**Report No:** L121911518

**Issue Date:** 1/8/2020

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

**Model Number:** 107-WG-48-Z-SO-359-C1-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:** 1/2/20 - 1/8/20

**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>	107-WG-48-Z-SO-359-C1-AL
<b>Driver Model Number:</b>	MEAN WELL HLG-40H-36A

### Test Summary

<b>Total Lumens:</b>	2753.59
<b>Efficacy:</b>	114.73
<b>Color Redering Index:</b>	94.2
<b>Correlated Color Temperature:</b>	3430
<b>Input Voltage (VAC/60Hz):</b>	119.99
<b>Input Current (Amp):</b>	0.2014
<b>Input Power (W):</b>	24.00
<b>Input Power Factor:</b>	0.9933
<b>Current ATHD (%):</b>	8.6%

### Test Condition

<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:50
<b>Total Operating Time (Hours):</b>	1:35

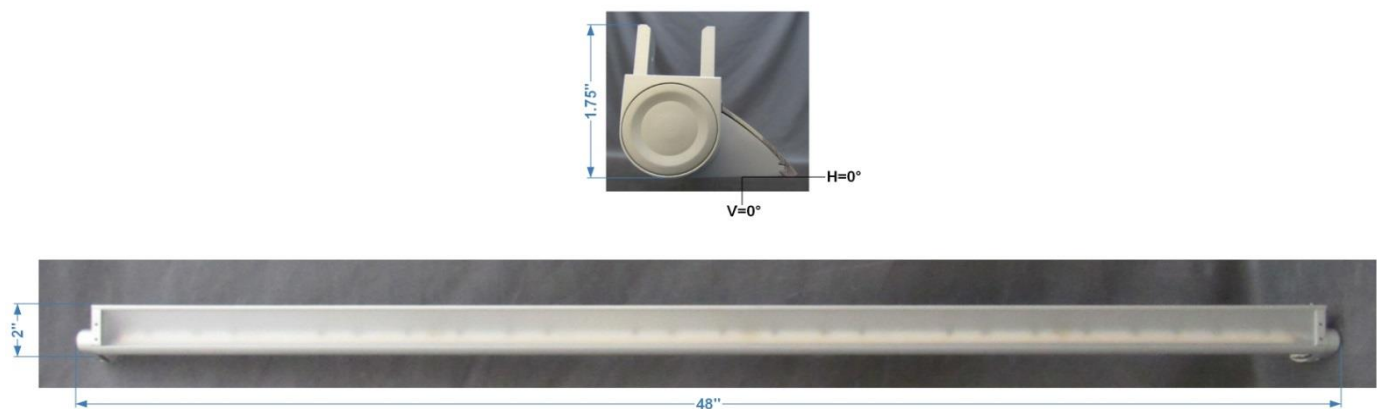
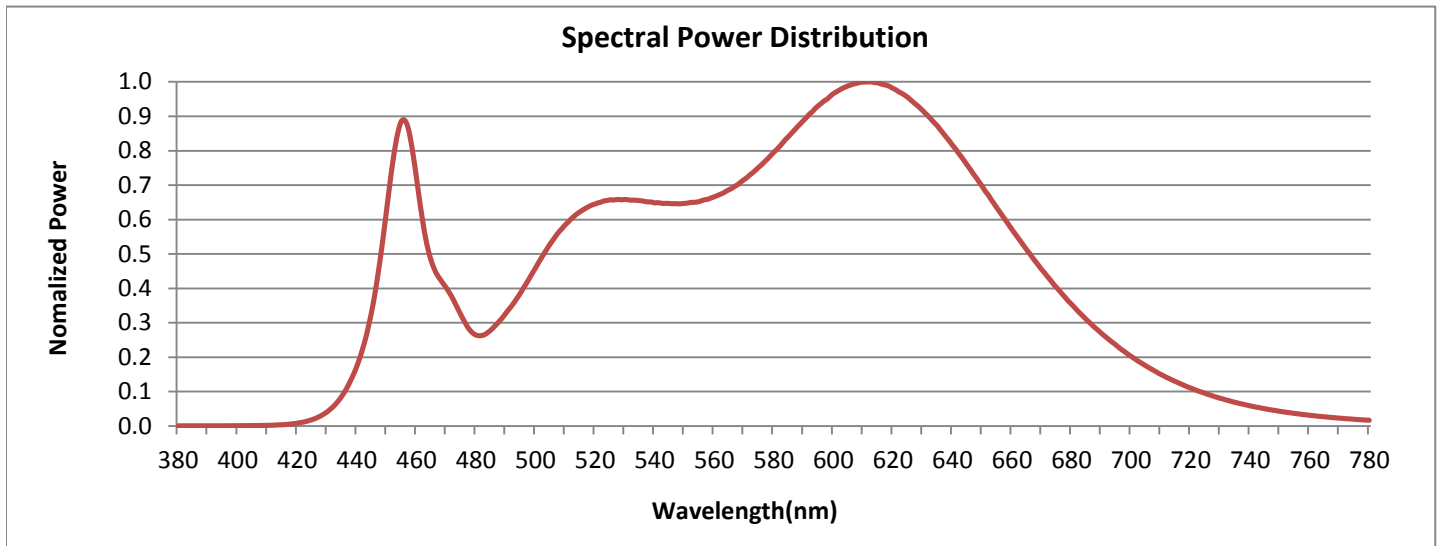


FIG. 1 LUMINAIRE

## Colorimetry Test Results

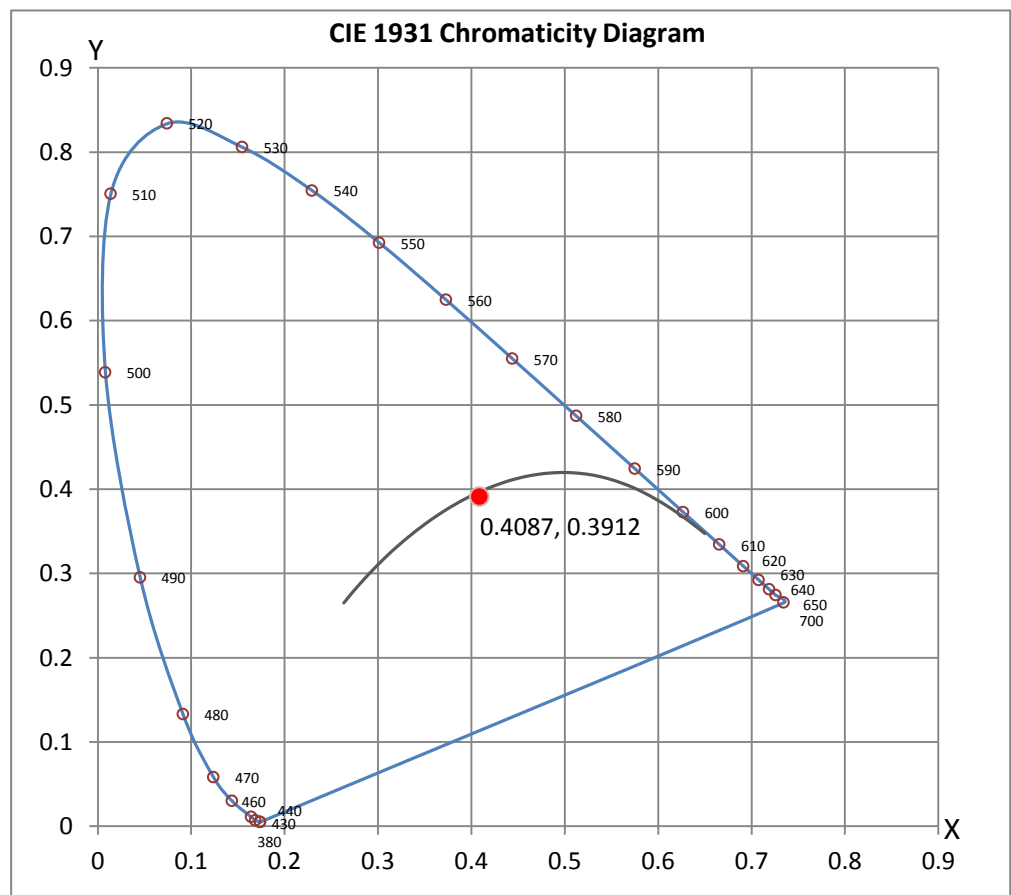


### CRI & CCT

x	0.4087
y	0.3912
u'	0.2377
v'	0.5120
CRI	94.20
CCT	3430
Duv	-0.00052

### R Values

R1	96.18
R2	98.93
R3	98.21
R4	96.52
R5	96.19
R6	95.88
R7	90.68
R8	81.23
R9	57.65
R10	97.15
R11	97.90
R12	76.91
R13	97.82
R14	99.61
R15	90.40





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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 : L121911518.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L121911518  
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)  
[ISSUEDATE] 1/8/2020  
[MANUFAC] Vode Lighting  
[LUMCAT] 107-WG-48-Z-SO-359-C1-AL  
[LUMINAIRE] WingRail LED, 48", 3500K, 90 CRI, zipper board, clear lens w/edge softening,  
[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] 119.99VAC, 24.0W  
[TEST PROCEDURE] IESNA:LM-79-08

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2754
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	115
Total Luminaire Watts	24
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.58
Spacing Criterion (90-270)	1.24
Spacing Criterion (Diagonal)	1.30
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.11 ft
Luminous Width (90-270)	3.84 ft
Luminous Height	0.00 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	37228	33808	24303
55	35509	32047	21305
65	30602	28253	17651
75	23411	22821	13476
85	9640	14313	7011

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L121911518.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</b>	1107	1107	1107	1107	1107	1107	1107	1107	1107	1107
<b>5</b>	1150	1149	1149	1148	1147	1144	1144	1142	1139	1136
<b>10</b>	1188	1187	1186	1185	1182	1179	1175	1171	1166	1160
<b>15</b>	1213	1213	1211	1208	1204	1199	1195	1187	1180	1172
<b>20</b>	1224	1223	1221	1218	1213	1207	1200	1191	1181	1171
<b>25</b>	1222	1221	1219	1215	1209	1201	1193	1182	1170	1156
<b>30</b>	1204	1204	1201	1196	1190	1182	1171	1158	1144	1128
<b>35</b>	1171	1169	1166	1160	1153	1144	1132	1118	1101	1084
<b>40</b>	1114	1113	1109	1104	1096	1086	1073	1058	1040	1020
<b>45</b>	1034	1032	1030	1025	1017	1006	993	977	959	939
<b>50</b>	928	927	924	920	913	903	891	875	858	838
<b>55</b>	800	799	796	793	788	780	770	756	740	722
<b>60</b>	655	655	654	652	648	643	635	625	612	597
<b>65</b>	508	507	507	506	504	501	496	489	480	469
<b>70</b>	365	365	365	365	365	363	361	357	352	345
<b>75</b>	238	238	238	239	240	240	239	238	236	232
<b>80</b>	124	125	126	127	129	130	131	132	132	131
<b>85</b>	33	33	34	36	37	40	42	45	47	49
<b>90</b>	0	0	0	0	0	0	0	0	0	0

**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>	<u>95</u>
<b>0</b>	1107	1107	1107	1107	1107	1107	1107	1107	1107	1107
<b>5</b>	1133	1130	1127	1123	1119	1114	1111	1106	1102	1098
<b>10</b>	1154	1147	1140	1131	1123	1115	1106	1097	1088	1078
<b>15</b>	1162	1151	1141	1129	1117	1104	1090	1077	1063	1048
<b>20</b>	1158	1145	1130	1114	1098	1082	1064	1045	1027	1007
<b>25</b>	1142	1124	1107	1089	1068	1048	1025	1002	978	953
<b>30</b>	1110	1090	1070	1048	1024	1000	973	947	918	889
<b>35</b>	1063	1041	1018	993	967	938	909	879	847	814
<b>40</b>	998	975	949	922	894	863	832	800	765	729
<b>45</b>	916	892	865	838	807	776	744	711	675	638
<b>50</b>	817	792	766	738	709	678	646	613	578	542
<b>55</b>	702	678	655	629	601	572	543	512	480	446
<b>60</b>	579	558	537	514	489	464	438	411	383	354
<b>65</b>	455	438	420	400	379	358	337	315	293	270
<b>70</b>	337	325	310	294	277	261	244	228	211	194
<b>75</b>	227	219	210	198	185	172	160	148	137	126
<b>80</b>	129	125	120	114	106	97	88	80	74	68
<b>85</b>	50	49	48	46	43	39	34	28	24	23
<b>90</b>	0	0	0	0	0	0	0	0	0	0

**Vert. Angles**      **Horizontal Angles**

	<u>100</u>	<u>105</u>	<u>110</u>	<u>115</u>	<u>120</u>	<u>125</u>	<u>130</u>	<u>135</u>	<u>140</u>	<u>145</u>
<b>0</b>	1107	1107	1107	1107	1107	1107	1107	1107	1107	1107
<b>5</b>	1094	1091	1086	1082	1078	1074	1072	1068	1065	1062
<b>10</b>	1069	1059	1051	1042	1033	1025	1017	1010	1002	996
<b>15</b>	1034	1019	1005	991	976	962	948	935	923	912
<b>20</b>	987	967	945	925	905	885	865	845	827	810
<b>25</b>	929	903	876	850	822	794	767	741	716	693
<b>30</b>	858	828	796	762	727	693	659	627	597	570
<b>35</b>	780	743	705	667	626	587	550	514	484	455

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

<b>40</b>	692	652	610	568	524	484	447	414	386	362
<b>45</b>	599	557	514	472	429	392	359	330	307	290
<b>50</b>	504	463	423	384	345	313	287	263	247	234
<b>55</b>	412	375	339	306	274	248	227	211	199	190
<b>60</b>	325	295	265	238	213	193	178	167	159	152
<b>65</b>	247	223	200	179	161	147	137	129	123	119
<b>70</b>	177	161	144	129	116	107	100	95	91	89
<b>75</b>	115	104	93	84	76	71	67	64	62	60
<b>80</b>	62	56	51	46	42	39	37	36	35	34
<b>85</b>	22	20	18	16	15	15	15	14	14	14
<b>90</b>	0	0	0	0	0	0	0	0	0	0

<b>Vert. Angles</b>	<b>Horizontal Angles</b>						
	<b><u>150</u></b>	<b><u>155</u></b>	<b><u>160</u></b>	<b><u>165</u></b>	<b><u>170</u></b>	<b><u>175</u></b>	<b><u>180</u></b>
<b>0</b>	1107	1107	1107	1107	1107	1107	1107
<b>5</b>	1060	1058	1056	1055	1054	1053	1053
<b>10</b>	990	985	980	977	974	973	973
<b>15</b>	901	893	885	879	875	872	872
<b>20</b>	795	781	770	760	754	750	749
<b>25</b>	672	654	639	627	619	613	612
<b>30</b>	546	526	510	498	489	484	482
<b>35</b>	433	415	402	391	384	380	378
<b>40</b>	344	330	320	312	307	304	303
<b>45</b>	276	266	259	253	250	248	247
<b>50</b>	225	218	212	209	206	205	204
<b>55</b>	183	178	175	172	170	170	169
<b>60</b>	148	145	142	140	139	138	138
<b>65</b>	116	114	112	110	109	109	109
<b>70</b>	87	85	84	83	82	82	82
<b>75</b>	59	58	57	57	56	56	56
<b>80</b>	34	34	33	33	33	33	33
<b>85</b>	14	14	14	14	14	14	14
<b>90</b>	0	0	0	0	0	0	0



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L121911518.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	401.15	N.A.	14.60
0-30	837.49	N.A.	30.40
0-40	1341.26	N.A.	48.70
0-60	2264.05	N.A.	82.20
0-80	2716.43	N.A.	98.70
0-90	2753.59	N.A.	100.00
10-90	2648.98	N.A.	96.20
20-40	940.11	N.A.	34.10
20-50	1438.79	N.A.	52.30
40-70	1220.21	N.A.	44.30
60-80	452.39	N.A.	16.40
70-80	154.96	N.A.	5.60
80-90	37.16	N.A.	1.30
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	2753.59	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	104.62
10-20	296.54
20-30	436.33
30-40	503.78
40-50	498.69
50-60	424.10
60-70	297.43
70-80	154.96
80-90	37.16
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

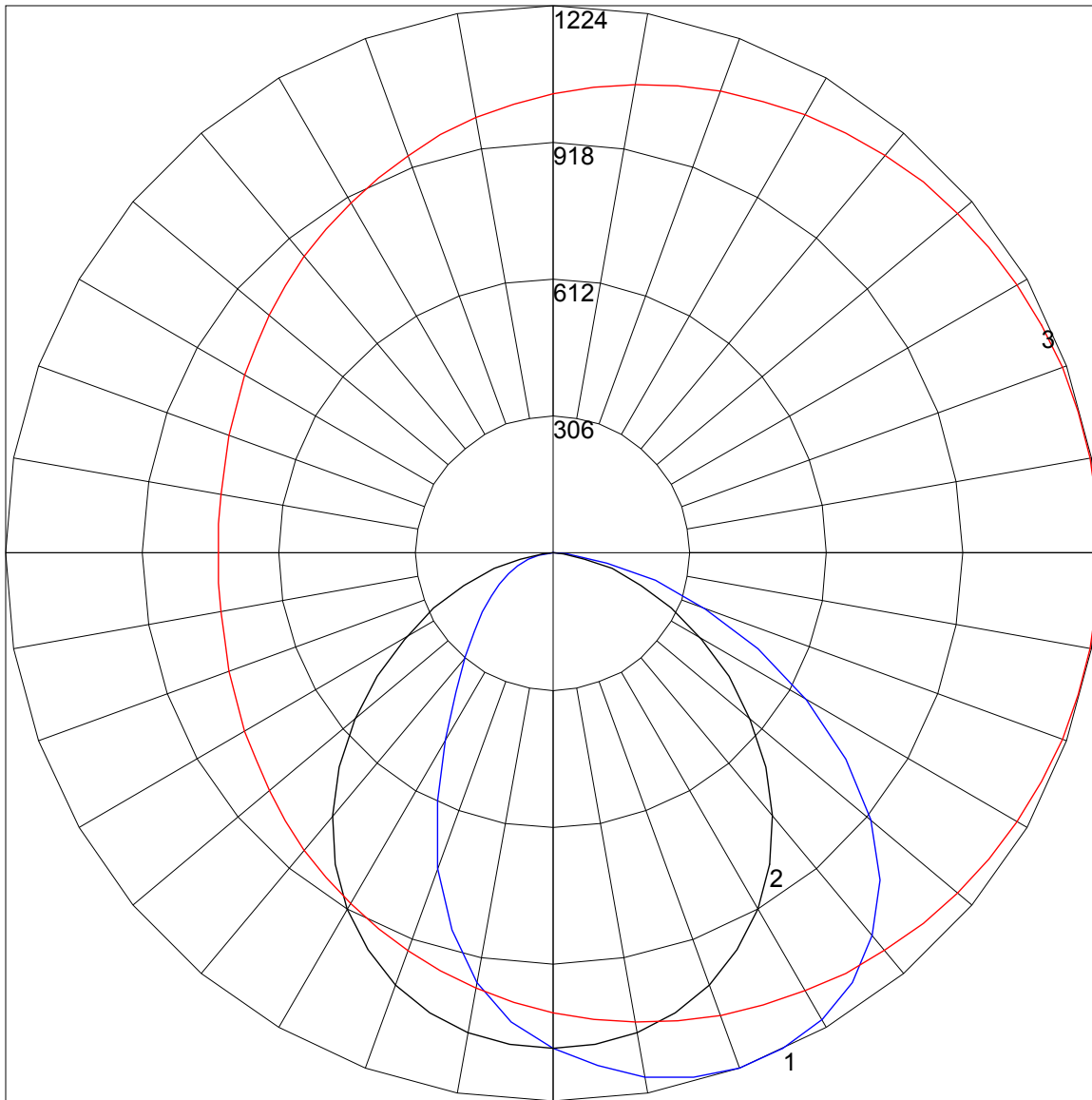
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	101	97	107	103	99	96	98	95	93	94	92	90	91	89	87	85
2	100	92	85	80	97	90	84	79	87	82	77	83	79	75	80	77	74	72
3	91	81	73	67	89	80	72	67	77	70	65	74	69	64	71	67	63	61
4	84	72	64	57	82	71	63	57	69	62	56	66	60	55	64	59	55	53
5	77	65	56	50	75	64	56	49	62	54	49	60	53	48	58	52	48	46
6	72	59	50	44	70	58	49	43	56	48	43	54	48	43	53	47	42	40
7	66	53	45	39	65	52	44	39	51	44	38	49	43	38	48	42	38	36
8	62	49	40	35	60	48	40	35	47	39	34	45	39	34	44	38	34	32
9	58	45	37	31	57	44	36	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	28	53	41	33	28	40	33	28	39	33	28	38	32	28	26

POLAR GRAPH



Maximum Candela = 1224 Located At Horizontal Angle = 0, Vertical Angle = 20

# 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 (20) (Through Max. Cd.)