

## IES Report

BoxRail<sup>®</sup> | 207 | Wide Batwing, up | Diffuse, down | 90 CRI | HO

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

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	82	84	86	87
Total Lumens, 4' rail length (1219mm)	8378	8643	8819	8907
Lumens per foot (305mm)	2095	2161	2205	2227
Lumens per foot UP (305mm)	1216	1255	1281	1293
Lumens per foot DOWN (305mm)	878	906	924	933
Input Power (W), 4' rail length (1219mm)	103.1	103.1	103.1	103.1
Watts per foot (305mm)	25.8	25.8	25.8	25.8
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: L022010903



**Report No:** L022010903

**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-HO-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

<b>Manufacturer:</b>	Vode Lighting
<b>Model Number:</b>	207-BX-48-Z-HO-359-G1D1
<b>Driver Model Number:</b>	MEAN WELL HLG-60H-36A (2 DRIVERS)

### Test Summary

<b>Total Lumens:</b>	8743.89
<b>Efficacy:</b>	84.79
<b>Color Redering Index:</b>	93.5
<b>Correlated Color Temperature:</b>	3420
<b>Input Voltage (VAC/60Hz):</b>	120.00
<b>Input Current (Amp):</b>	0.8617
<b>Input Power (W):</b>	103.13
<b>Input Power Factor:</b>	0.9973
<b>Current ATHD (%):</b>	4.8%

### Test Condition

<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:40
<b>Total Operating Time (Hours):</b>	2:15

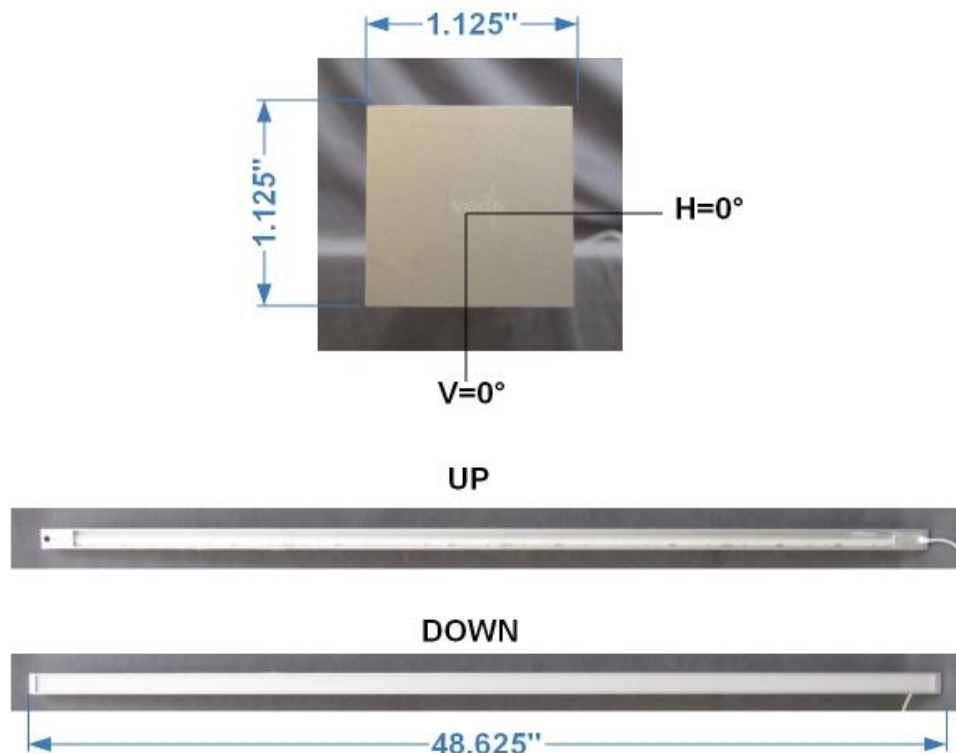
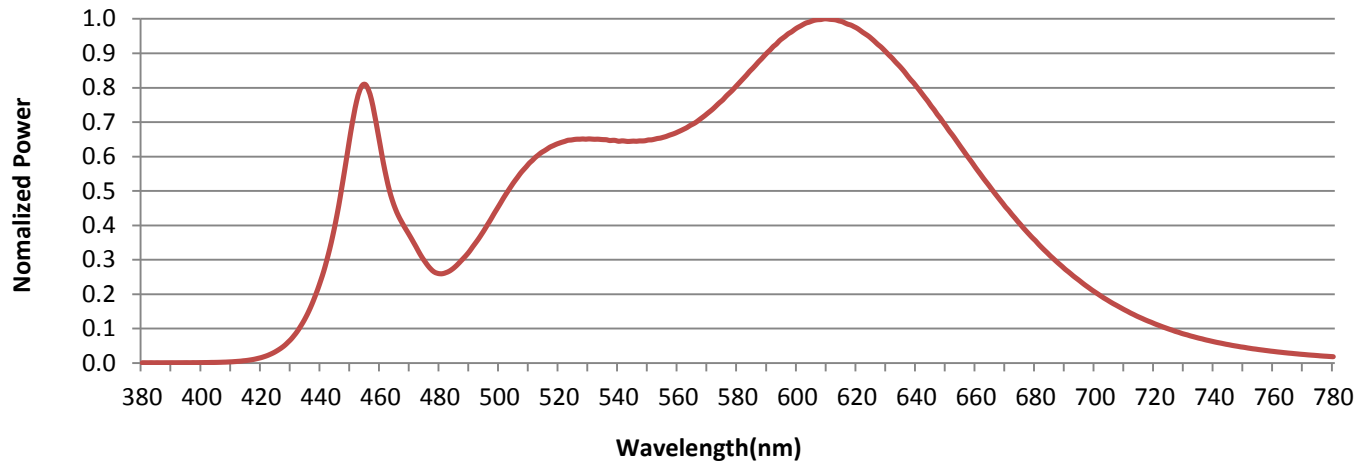


FIG. 1 LUMINAIRE

## Colorimetry Test Results

**Spectral Power Distribution**



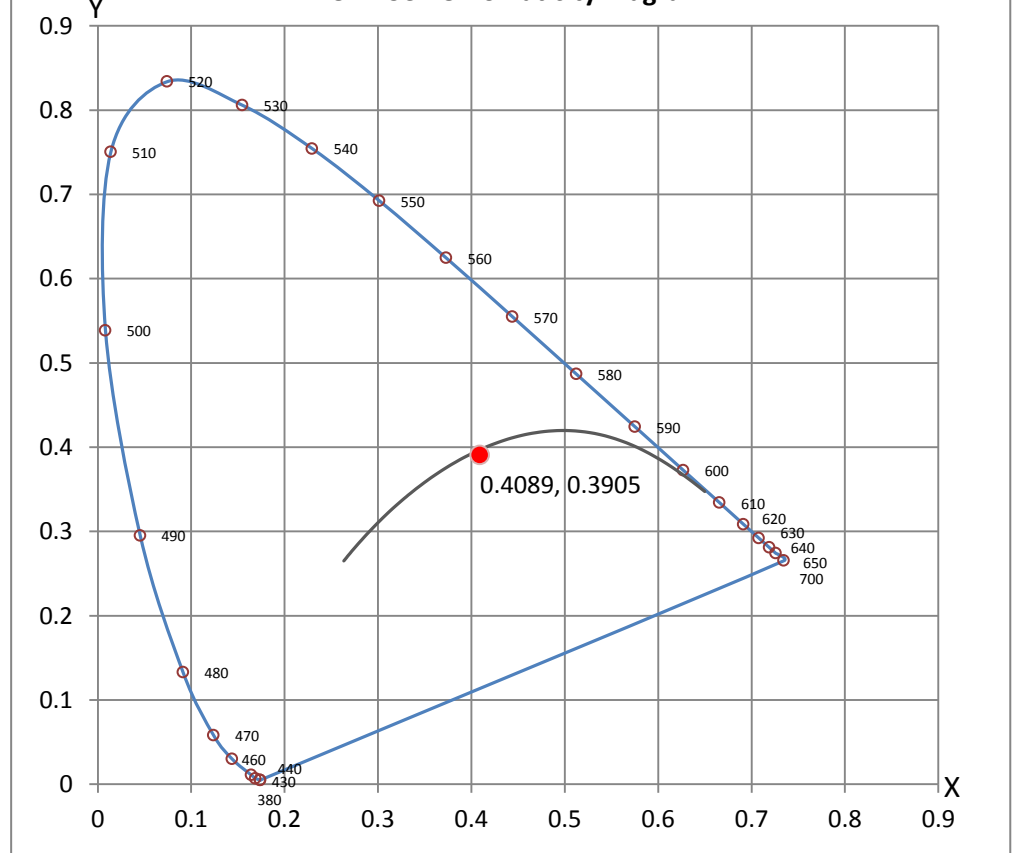
## CRI & CCT

x	0.4089
y	0.3905
u'	0.2381
v'	0.5117
CRI	93.50
CCT	3420
Duv	-0.00087

## R Values

R1	94.84
R2	97.91
R3	98.26
R4	95.67
R5	95.36
R6	96.22
R7	90.37
R8	79.40
R9	52.72
R10	95.06
R11	97.36
R12	79.01
R13	96.33
R14	99.57
R15	88.87

**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*



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www.lightlaboratory.com

## Photometric Test Report

### IES INDOOR REPORT

PHOTOMETRIC FILENAME : L022010903.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L022010903  
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)  
[ISSUEDATE] 2/24/2020  
[MANUFAC] Vode Lighting  
[LUMCAT] 207-BX-48-Z-HO-359-G1D1  
[LUMINAIRE] BoxRail LED, 48", 3500K, 90 CRI, zipper board, wide batwing lens up,  
[MORE] diffuse lens down, high output, clear anodized finish  
[BALLASTCAT] MEAN WELL HLG-60H-36A (2 DRIVERS)  
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND  
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.  
[INPUT] 120.0VAC, 103.13W  
[TEST PROCEDURE] IESNA:LM-79-08

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	8744
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	85
Total Luminaire Watts	103.13
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	19167	22590	40298
55	14745	17967	38090
65	10183	12537	35198
75	4920	6866	29467
85	862	1464	21776

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L022010903.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>	1333	1333	1333	1333	1333	1333	1333	1333	1333	1333
<b>5</b>	1326	1325	1324	1324	1324	1323	1323	1323	1323	1323
<b>10</b>	1307	1306	1305	1305	1305	1305	1306	1305	1304	1304
<b>15</b>	1274	1273	1273	1273	1273	1272	1272	1272	1274	1274
<b>20</b>	1231	1229	1230	1230	1229	1229	1229	1229	1230	1230
<b>25</b>	1176	1174	1175	1174	1174	1174	1174	1175	1174	1173
<b>30</b>	1110	1109	1109	1109	1108	1108	1109	1108	1108	1108
<b>35</b>	1034	1033	1033	1033	1033	1033	1034	1032	1033	1033
<b>40</b>	950	949	948	948	949	950	948	949	951	951
<b>45</b>	857	857	857	857	856	857	857	858	858	861
<b>50</b>	759	758	757	757	758	759	760	761	761	763
<b>55</b>	656	655	655	655	652	648	649	651	655	662
<b>60</b>	548	548	545	536	530	529	531	534	540	547
<b>65</b>	437	436	421	414	414	415	419	422	427	432
<b>70</b>	320	308	296	303	304	308	311	312	313	322
<b>75</b>	197	183	191	193	192	193	195	197	204	213
<b>80</b>	99	99	101	102	102	103	104	105	106	111
<b>85</b>	31	36	34	34	33	34	34	35	38	39
<b>90</b>	14	14	14	14	14	13	12	12	11	10
<b>95</b>	39	57	54	57	58	63	64	74	83	89
<b>100</b>	171	178	183	191	199	209	219	231	241	239
<b>105</b>	376	356	382	393	401	422	438	439	448	446
<b>110</b>	700	676	656	685	700	715	720	720	716	689
<b>115</b>	1081	1076	1050	1053	1040	1060	1044	1018	978	911
<b>120</b>	1502	1492	1467	1427	1404	1352	1305	1244	1154	1058
<b>125</b>	1723	1712	1689	1656	1616	1541	1476	1375	1277	1166
<b>130</b>	1821	1811	1782	1742	1692	1625	1540	1445	1338	1228
<b>135</b>	1827	1818	1792	1750	1696	1631	1548	1460	1360	1261
<b>140</b>	1771	1763	1739	1701	1653	1594	1521	1442	1358	1271
<b>145</b>	1679	1672	1652	1622	1579	1528	1470	1404	1334	1262
<b>150</b>	1567	1561	1547	1523	1491	1450	1404	1352	1299	1241
<b>155</b>	1452	1447	1438	1420	1397	1367	1333	1295	1256	1216
<b>160</b>	1344	1341	1334	1324	1307	1289	1267	1241	1213	1189
<b>165</b>	1252	1251	1246	1241	1233	1222	1209	1195	1180	1163
<b>170</b>	1184	1183	1181	1178	1175	1171	1167	1160	1153	1146
<b>175</b>	1143	1142	1142	1141	1140	1139	1138	1137	1136	1135
<b>180</b>	1129	1129	1129	1129	1129	1129	1129	1129	1129	1129

**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</b>	1333	1333	1333	1333	1333	1333	1333	1333	1333
<b>5</b>	1323	1323	1323	1323	1324	1324	1324	1325	1326
<b>10</b>	1304	1304	1305	1305	1304	1305	1305	1306	1307
<b>15</b>	1273	1272	1271	1272	1273	1273	1273	1274	1275
<b>20</b>	1229	1228	1228	1227	1227	1229	1228	1228	1230
<b>25</b>	1174	1173	1172	1173	1172	1173	1173	1173	1175
<b>30</b>	1107	1108	1108	1108	1110	1108	1109	1108	1111
<b>35</b>	1033	1034	1034	1035	1035	1035	1035	1035	1037
<b>40</b>	951	952	953	952	952	954	954	954	955
<b>45</b>	860	862	865	864	865	866	867	867	867
<b>50</b>	764	766	769	771	771	771	772	773	774
<b>55</b>	662	664	667	670	669	671	673	673	671
<b>60</b>	553	557	560	563	564	566	567	567	569

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

<b>65</b>	440	446	448	452	456	459	459	459	464
<b>70</b>	329	331	337	344	347	351	350	349	351
<b>75</b>	222	229	237	239	239	243	246	247	246
<b>80</b>	117	125	131	138	140	143	144	146	148
<b>85</b>	40	41	51	55	64	68	67	69	71
<b>90</b>	9	9	8	7	6	5	6	6	5
<b>95</b>	90	87	88	83	82	78	75	77	76
<b>100</b>	235	226	215	200	183	176	160	152	150
<b>105</b>	423	395	365	335	300	272	254	244	239
<b>110</b>	646	583	514	450	402	364	346	336	334
<b>115</b>	827	732	642	566	508	468	443	427	423
<b>120</b>	954	845	748	669	607	562	534	517	511
<b>125</b>	1047	937	839	757	694	648	618	601	594
<b>130</b>	1115	1012	919	838	773	728	696	678	672
<b>135</b>	1159	1065	980	907	846	801	771	752	743
<b>140</b>	1184	1103	1027	960	908	865	836	819	810
<b>145</b>	1191	1124	1061	1006	960	924	897	883	875
<b>150</b>	1186	1134	1083	1041	1002	976	952	942	936
<b>155</b>	1175	1136	1101	1067	1042	1020	1003	995	989
<b>160</b>	1163	1136	1110	1091	1073	1056	1048	1041	1036
<b>165</b>	1147	1134	1121	1108	1095	1089	1084	1080	1077
<b>170</b>	1139	1131	1123	1120	1117	1113	1111	1108	1106
<b>175</b>	1133	1132	1131	1130	1128	1127	1126	1125	1123
<b>180</b>	1129	1129	1129	1129	1129	1129	1129	1129	1129



**IES INDOOR REPORT**  
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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	484.89	N.A.	5.50
0-30	1025.67	N.A.	11.70
0-40	1672.28	N.A.	19.10
0-60	2925.84	N.A.	33.50
0-80	3589.7	N.A.	41.10
0-90	3649.68	N.A.	41.70
10-90	3523.89	N.A.	40.30
20-40	1187.39	N.A.	13.60
20-50	1851.27	N.A.	21.20
40-70	1686.49	N.A.	19.30
60-80	663.86	N.A.	7.60
70-80	230.93	N.A.	2.60
80-90	59.99	N.A.	0.70
90-110	496.50	N.A.	5.70
90-120	1293.48	N.A.	14.80
90-130	2315.88	N.A.	26.50
90-150	4090.09	N.A.	46.80
90-180	5094.21	N.A.	58.30
110-180	4597.71	N.A.	52.60
0-180	8743.89	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	125.80
10-20	359.09
20-30	540.78
30-40	646.61
40-50	663.88
50-60	589.68
60-70	432.93
70-80	230.93
80-90	59.99
90-100	96.94
100-110	399.56
110-120	796.98
120-130	1022.4
130-140	978.50
140-150	795.71
150-160	564.45
160-170	331.06
170-180	108.61

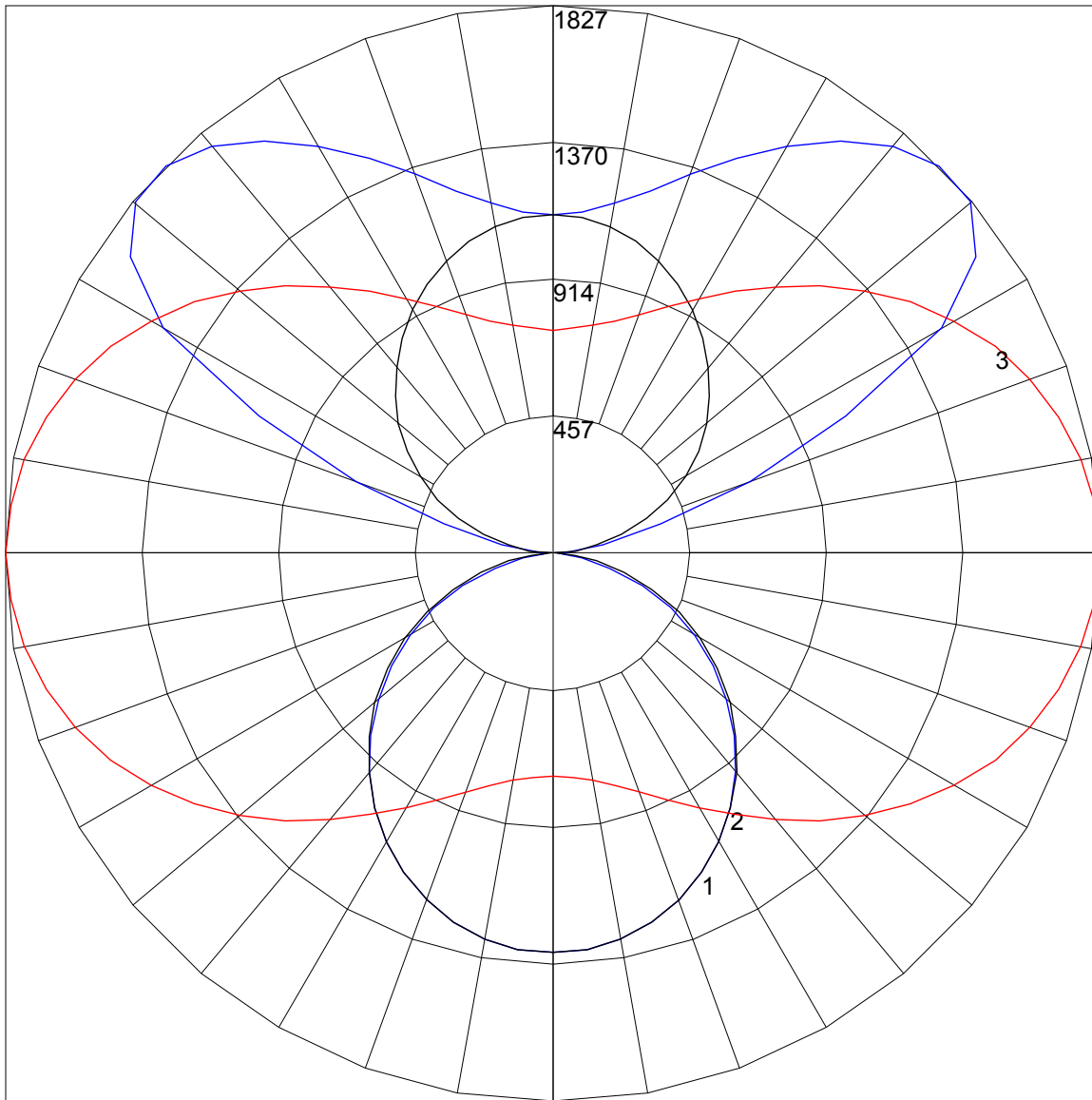
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	49	49	49	42
1	96	92	88	84	87	84	80	78	69	67	65	55	54	52	43	42	41	35
2	87	80	74	69	79	73	68	64	60	57	53	49	46	44	38	36	34	29
3	80	70	63	57	72	64	58	53	53	49	45	43	40	37	33	31	29	25
4	73	62	54	48	66	57	50	45	47	42	38	38	34	31	30	27	25	21
5	67	55	47	41	61	51	44	38	42	37	33	34	30	27	27	24	22	18
6	61	49	41	36	56	45	38	33	38	32	28	31	27	24	24	21	19	16
7	57	44	37	31	52	41	34	29	34	29	25	28	24	21	22	19	17	14
8	52	40	33	27	48	37	30	26	31	26	22	26	21	19	20	17	15	13
9	49	37	29	24	44	34	27	23	28	23	20	23	19	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 = 1827 Located At Horizontal Angle = 0, Vertical Angle = 135  
# 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 (135) (Through Max. Cd.)