

## IES Report

**ZipWave® | 707 | Clear with EdgeSoft™ | 90 CRI | SO**

**707-Z9-4-48-AC / EL-XX-X-0-Z-SO-359-C1-0-AL-0**

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	107	111	113	114
Total Lumens, 4' rail length (1219mm)	2821	2911	2970	3000
Lumens per foot (305mm)	705	728	742	750
Input Power (W), 4' rail length (1219mm)	26.4	26.4	26.4	26.4
Watts per foot (305mm)	6.7	6.7	6.7	6.7
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: L121911558R01



**Report No:** L121911558R01

**Issue Date:** 1/29/2020

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

**Model Number:** 707-Z9-48-AC-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:** 1/18/20 - 1/23/20

**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-Z9-48-AC-Z-SO-359-C1-AL
<b>Driver Model Number:</b>	eldoLED ECOdrive 566/L

### Test Summary

<b>Total Lumens:</b>	2969.97
<b>Efficacy:</b>	112.31
<b>Color Redering Index:</b>	94.1
<b>Correlated Color Temperature:</b>	3347
<b>Input Voltage (VAC/60Hz):</b>	120.00
<b>Input Current (Amp):</b>	0.2230
<b>Input Power (W):</b>	26.44
<b>Input Power Factor:</b>	0.9884
<b>Current ATHD (%):</b>	10.2%

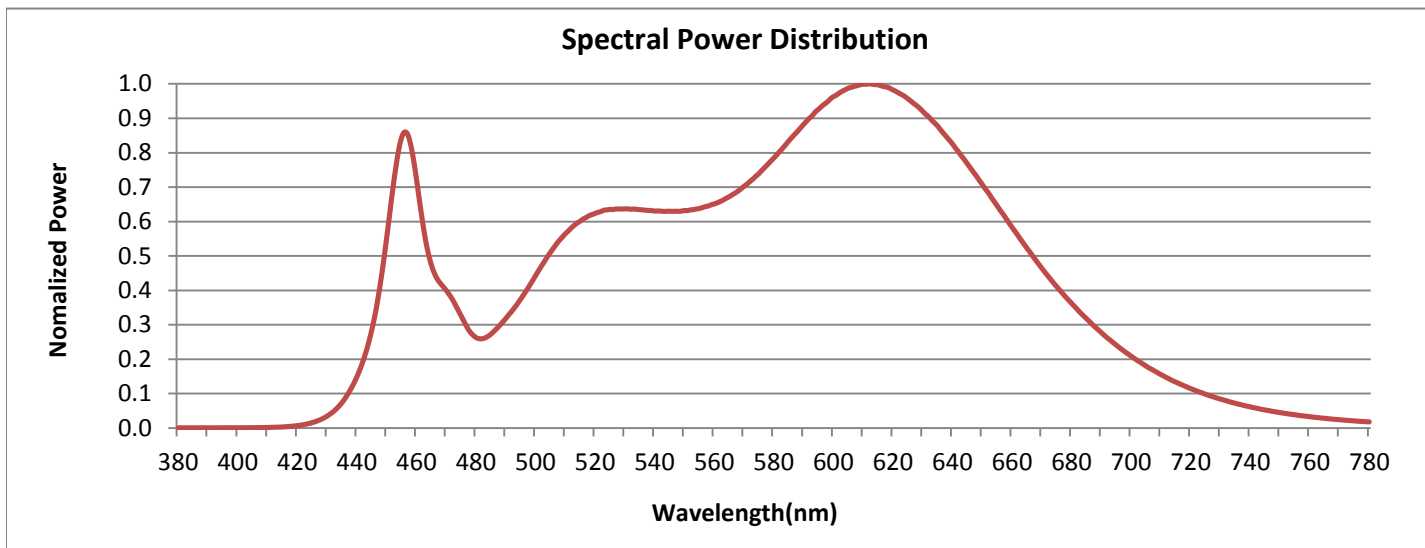
### Test Condition

<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:30
<b>Total Operating Time (Hours):</b>	1:20



FIG. 1 LUMINAIRE

## Colorimetry Test Results

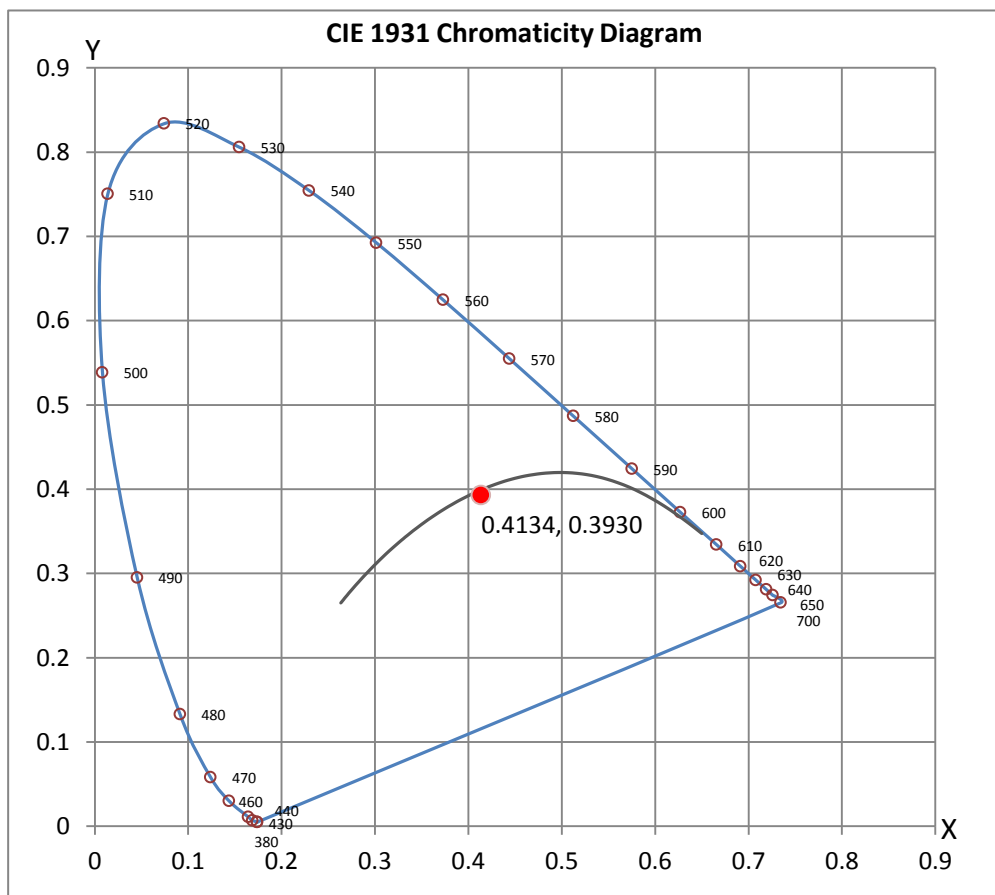


### CRI & CCT

x	0.4134
y	0.3930
u'	0.2400
v'	0.5134
CRI	94.10
CCT	3347
Duv	-0.00070

### R Values

R1	96.43
R2	99.34
R3	97.66
R4	96.41
R5	96.40
R6	95.48
R7	90.23
R8	81.08
R9	58.26
R10	98.30
R11	98.23
R12	77.46
R13	98.20
R14	99.52
R15	90.57





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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: 11*



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

## Photometric Test Report

### IES INDOOR REPORT

PHOTOMETRIC FILENAME : L121911558R01.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L121911558R01  
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)  
[ISSUEDATE] 1/29/2020  
[MANUFAC] Vode Lighting  
[LUMCAT] 707-Z9-48-AC-Z-SO-359-C1-AL  
[LUMINAIRE] ZipWave LED, ceiling cove, 48", 3500K, 90 CRI, zipper board, clear lens w/edgesoft,  
[MORE] standard output, clear anodized finish  
[BALLASTCAT] eldoLED ECOdrive 566/L  
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND  
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.  
[INPUT] 120.0VAC, 26.44W  
[TEST PROCEDURE] IESNA:LM-79-08

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2970
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	112
Total Luminaire Watts	26.44
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	Vertical Rectangle
Luminous Length (0-180)	0.00 ft
Luminous Width (90-270)	4.00 ft
Luminous Height	0.06 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  
PHOTOMETRIC FILENAME : L121911558R01.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>
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	75	75	81	87	92	97	103	108	113	119
95	1268	1262	1244	1218	1180	1130	1068	991	901	803
100	1342	1337	1319	1290	1252	1202	1139	1062	971	871
105	1374	1366	1350	1322	1281	1233	1165	1090	1005	910
110	1376	1371	1356	1330	1294	1248	1192	1127	1046	960
115	1394	1388	1373	1351	1316	1274	1221	1160	1086	1004
120	1403	1399	1385	1363	1333	1292	1242	1179	1103	1019
125	1399	1395	1380	1358	1327	1283	1231	1168	1091	1008
130	1365	1361	1348	1324	1293	1250	1197	1134	1058	977
135	1306	1302	1288	1264	1234	1191	1141	1078	1007	931
140	1222	1218	1204	1181	1151	1109	1061	1004	939	872
145	1113	1110	1095	1075	1047	1011	968	918	862	805
150	987	985	974	957	933	902	866	825	781	737
155	855	853	844	831	813	790	764	734	702	669
160	734	731	725	716	704	689	671	652	630	608
165	629	628	625	620	613	603	593	581	567	553
170	545	545	543	540	536	532	527	520	513	506
175	480	480	480	479	477	476	474	472	469	466
180	437	437	437	437	437	437	437	437	437	437

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>
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

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L121911558R01.IES**

**CANDELA TABULATION - (Cont.)**

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	125	130	131	127	114	92	63	31	5	4
95	691	578	462	350	264	184	124	75	35	24
100	757	638	518	414	329	255	183	120	76	51
105	806	697	591	491	398	310	230	165	115	83
110	866	763	656	547	447	350	277	211	158	121
115	906	800	692	585	485	393	316	252	198	159
120	921	818	708	602	507	422	348	287	236	196
125	911	813	710	611	523	445	375	317	270	232
130	887	794	702	612	531	461	398	344	301	265
135	848	766	683	604	534	472	414	368	329	295
140	799	729	658	591	531	479	429	388	353	323
145	745	687	629	575	526	481	439	405	374	347
150	689	644	599	556	517	481	447	418	392	368
155	634	601	567	535	506	478	451	428	407	387
160	585	561	538	515	493	473	453	435	418	402
165	539	524	509	494	479	465	452	438	427	415
170	498	490	481	473	465	456	448	440	432	424
175	463	460	456	454	450	446	443	439	436	432
180	437	437	437	437	437	437	437	437	437	437

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>
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	4	4	4	4	4	3	3	3	3	3
95	19	16	14	12	11	10	9	8	7	6
100	47	41	36	32	29	26	24	23	21	20
105	78	73	66	60	54	50	47	44	41	39
110	108	105	98	91	84	79	74	70	66	63
115	138	135	131	124	117	110	104	99	94	90
120	171	163	160	155	149	142	136	130	125	121
125	205	189	187	184	179	174	168	162	157	152
130	238	219	211	210	207	203	197	192	188	183
135	270	250	236	232	231	228	225	221	217	213



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

<b>140</b>	299	279	264	253	251	250	248	245	243	240
<b>145</b>	326	307	292	280	271	268	268	267	265	263
<b>150</b>	349	333	318	306	297	289	284	283	283	282
<b>155</b>	370	355	342	332	322	314	308	302	298	296
<b>160</b>	389	377	365	355	347	340	333	327	323	319
<b>165</b>	404	394	385	377	370	364	358	353	348	344
<b>170</b>	418	411	405	399	393	389	384	380	377	374
<b>175</b>	429	426	423	420	417	414	412	409	407	406
<b>180</b>	437	437	437	437	437	437	437	437	437	437

<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>	0	0	0	0	0	0	0
<b>5</b>	0	0	0	0	0	0	0
<b>10</b>	0	0	0	0	0	0	0
<b>15</b>	0	0	0	0	0	0	0
<b>20</b>	0	0	0	0	0	0	0
<b>25</b>	0	0	0	0	0	0	0
<b>30</b>	0	0	0	0	0	0	0
<b>35</b>	0	0	0	0	0	0	0
<b>40</b>	0	0	0	0	0	0	0
<b>45</b>	0	0	0	0	0	0	0
<b>50</b>	0	0	0	0	0	0	0
<b>55</b>	0	0	0	0	0	0	0
<b>60</b>	0	0	0	0	0	0	0
<b>65</b>	0	0	0	0	0	0	0
<b>70</b>	0	0	0	0	0	0	0
<b>75</b>	0	0	0	0	0	0	0
<b>80</b>	0	0	0	0	0	0	0
<b>85</b>	0	0	0	0	0	0	0
<b>90</b>	3	3	3	3	2	2	2
<b>95</b>	6	5	5	4	4	4	4
<b>100</b>	19	18	17	16	16	15	15
<b>105</b>	37	36	35	34	33	32	32
<b>110</b>	61	58	57	55	54	54	53
<b>115</b>	87	85	83	81	80	79	79
<b>120</b>	117	114	111	109	108	107	106
<b>125</b>	148	144	141	139	138	137	136
<b>130</b>	179	176	173	170	169	168	168
<b>135</b>	209	206	203	201	199	199	198
<b>140</b>	237	234	232	231	229	228	228
<b>145</b>	261	260	258	257	256	255	255
<b>150</b>	281	280	279	278	278	278	278
<b>155</b>	296	295	294	295	294	294	294
<b>160</b>	316	313	311	309	309	308	308
<b>165</b>	342	339	337	335	334	333	333
<b>170</b>	371	369	367	366	364	364	364
<b>175</b>	404	403	402	401	400	400	400
<b>180</b>	437	437	437	437	437	437	437

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L121911558R01.IES**

**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	13.59	N.A.	0.50
10-90	13.59	N.A.	0.50
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	13.59	N.A.	0.50
90-110	799.77	N.A.	26.90
90-120	1303.44	N.A.	43.90
90-130	1795.21	N.A.	60.40
90-150	2558.45	N.A.	86.10
90-180	2956.38	N.A.	99.50
110-180	2156.61	N.A.	72.60
0-180	2969.97	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	13.59
90-100	328.22
100-110	471.55
110-120	503.67
120-130	491.77
130-140	429.67
140-150	333.57
150-160	226.80
160-170	129.15
170-180	41.98

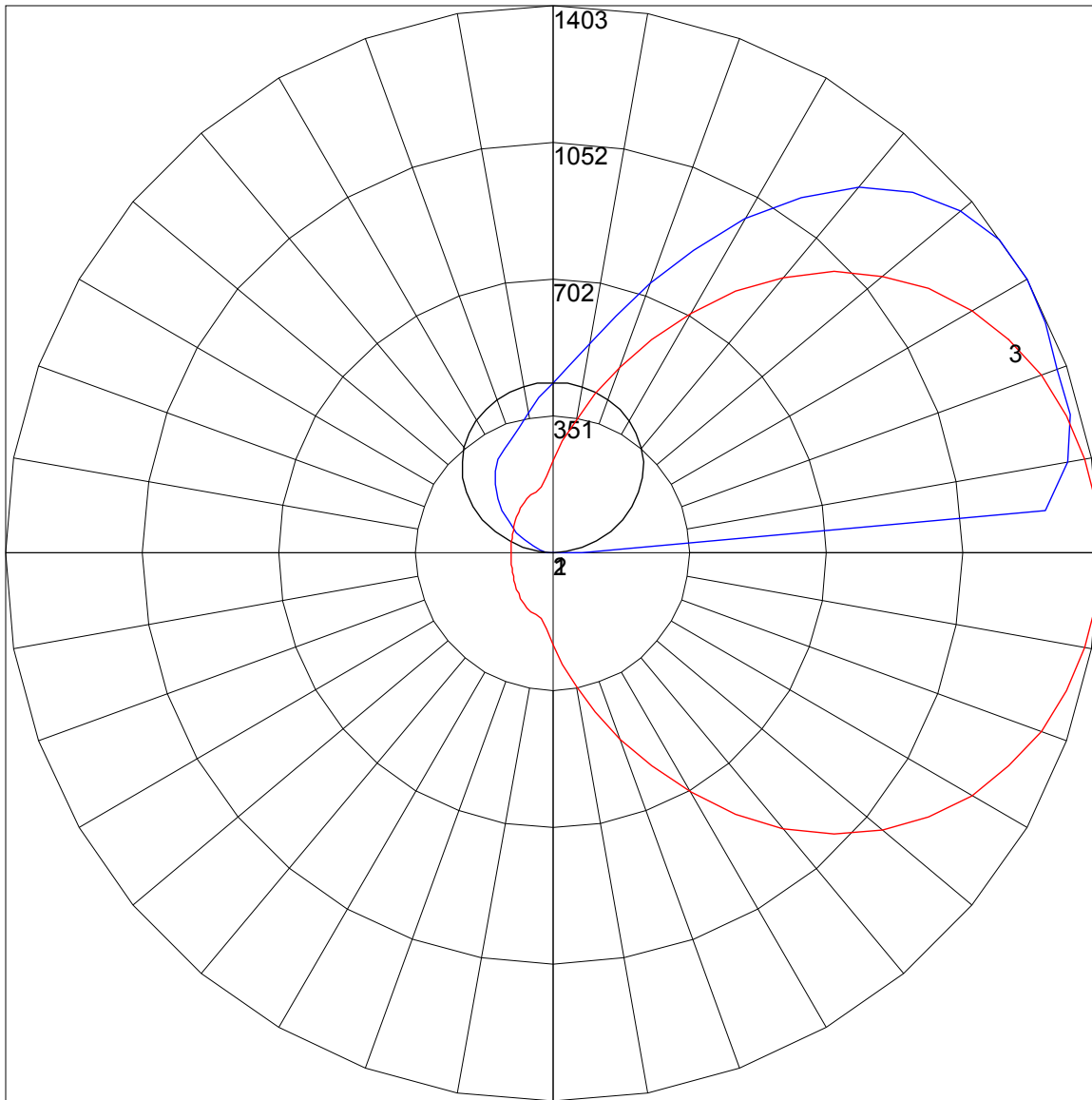
**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L121911558R01.IES**

**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	82	82	82	82	56	56	56	32	32	32	11	11	11	0
1	87	82	79	76	74	71	68	65	48	47	45	28	27	26	9	9	9	0
2	79	72	66	62	67	62	57	53	42	39	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	15	6	6	5	0
5	60	49	42	36	51	42	36	32	29	25	22	17	15	13	6	5	4	0
6	55	44	36	31	47	38	31	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 = 1403 Located At Horizontal Angle = 0, Vertical Angle = 120

# 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 (120) (Through Max. Cd.)