

## IES Report

**ZipWave® | 707 | Clear with EdgeSoft™, fixture in cove | 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	104	108	110	114
Total Lumens, 4' rail length (1219mm)	2745	2832	2890	2919
Lumens per foot (305mm)	686	708	722	730
Input Power (W), 4' rail length (1219mm)	26.4	26.4	26.5	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: L121911559



**Report No:** L121911559

**Issue Date:** 1/23/2020

**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>	2889.65
<b>Efficacy:</b>	109.25
<b>Color Redering Index:</b>	94.0
<b>Correlated Color Temperature:</b>	3346
<b>Input Voltage (VAC/60Hz):</b>	119.98
<b>Input Current (Amp):</b>	0.2233
<b>Input Power (W):</b>	26.45
<b>Input Power Factor:</b>	0.9873
<b>Current ATHD (%):</b>	10.8%

### Test Condition

<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:30
<b>Total Operating Time (Hours):</b>	2:10

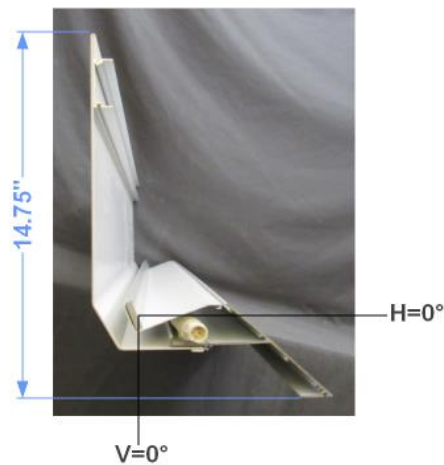
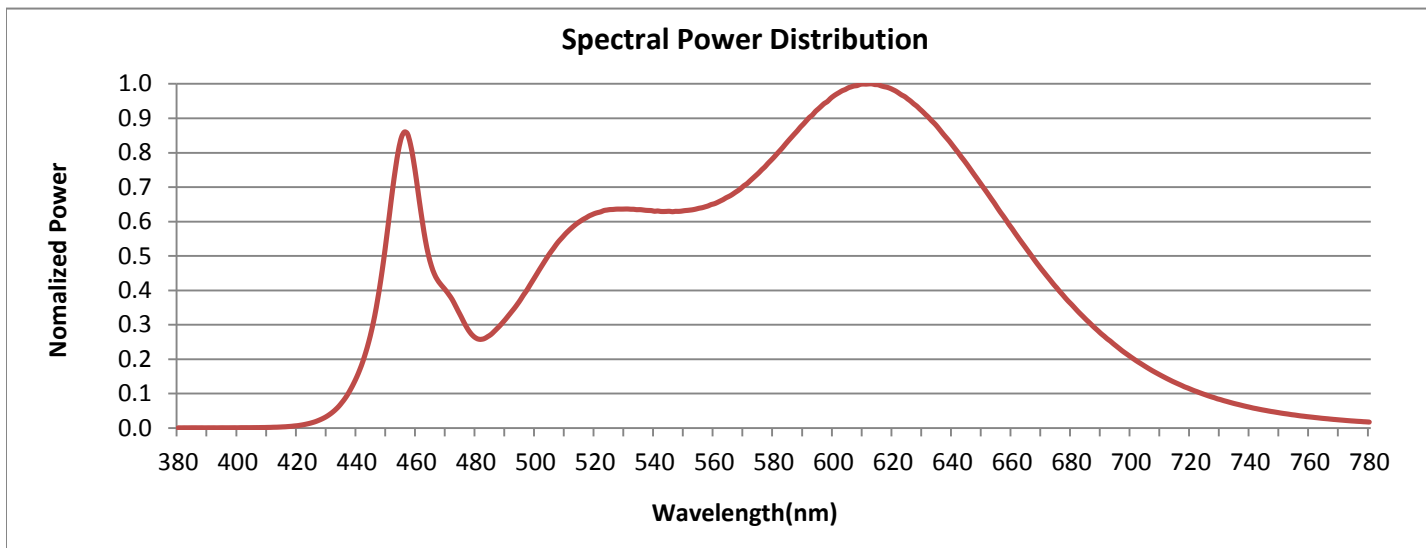


FIG. 1 LUMINAIRE

## Colorimetry Test Results

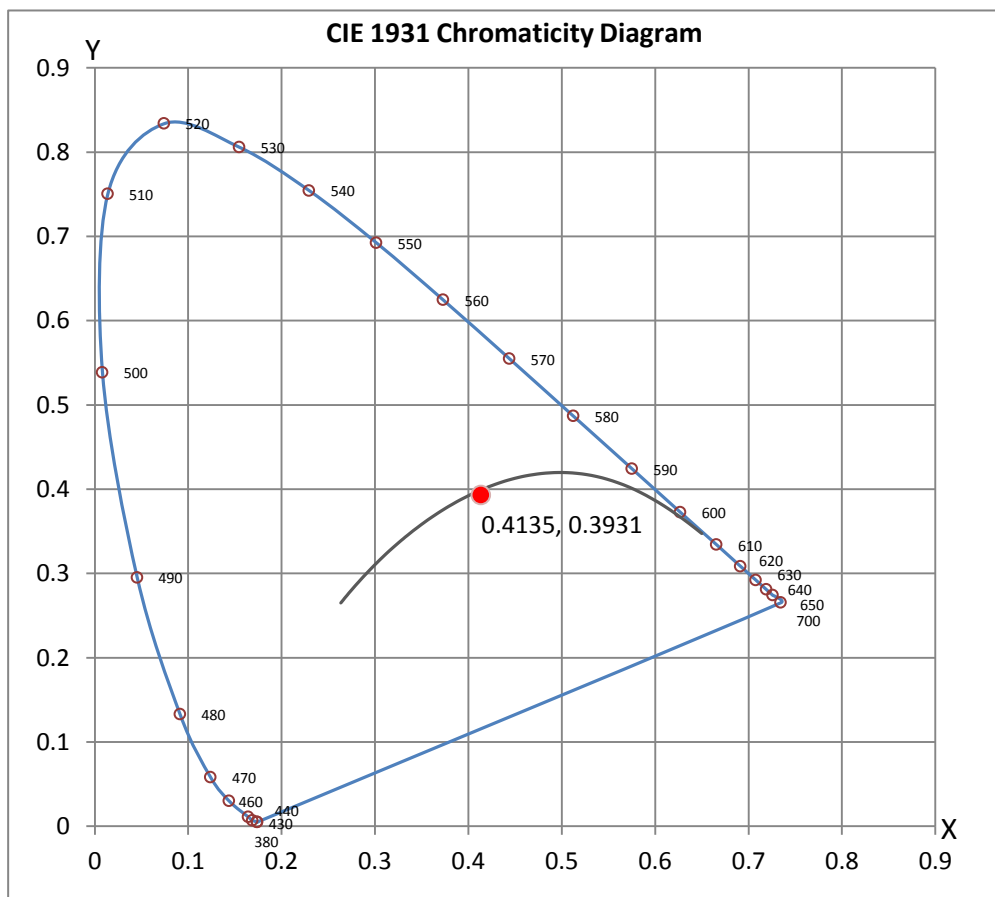


### CRI & CCT

x	0.4135
y	0.3931
u'	0.2401
v'	0.5135
CRI	94.00
CCT	3346
Duv	-0.00067

### R Values

R1	96.22
R2	99.25
R3	97.63
R4	96.21
R5	96.23
R6	95.54
R7	90.10
R8	80.68
R9	57.29
R10	98.03
R11	98.30
R12	77.37
R13	97.99
R14	99.52
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: 11*



8165 E. Kaiser Blvd. Anaheim, CA 92808  
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## Photometric Test Report

### IES INDOOR REPORT

PHOTOMETRIC FILENAME : L121911559.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L121911559  
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)  
[ISSUEDATE] 1/23/2020  
[MANUFAC] Vode Lighting  
[LUMCAT] 707-Z9-48-AC-Z-SO-359-C1-AL  
[LUMINAIRE] ZipWave LED, 48", Armstrong ceiling cove part no. AXIDLCKE812, 3500K, 90 CRI, zipper board,  
[MORE] clear lens w/edgesoft, 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] 119.98VAC, 26.45W  
[TEST PROCEDURE] IESNA:LM-79-08

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2890
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	109
Total Luminaire Watts	26.45
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	1523	824
55	0	2708	711
65	0	3706	692
75	0	4789	696
85	0	6170	630

IES INDOOR REPORT  
PHOTOMETRIC FILENAME : L121911559.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>	8	8	8	8	8	8	8	8	8	8
<b>5</b>	8	8	8	8	8	8	8	8	8	8
<b>10</b>	8	8	8	8	8	8	8	8	8	9
<b>15</b>	9	9	9	9	9	9	9	9	9	9
<b>20</b>	9	9	9	9	9	9	9	9	9	9
<b>25</b>	9	9	9	9	9	9	9	10	10	10
<b>30</b>	9	9	9	9	9	9	10	10	10	10
<b>35</b>	13	13	13	13	12	12	11	11	11	11
<b>40</b>	26	26	25	23	22	19	17	15	14	13
<b>45</b>	34	34	34	33	31	30	29	25	21	17
<b>50</b>	44	44	43	42	40	38	36	34	31	27
<b>55</b>	53	53	52	51	50	48	46	43	38	35
<b>60</b>	62	62	61	60	59	57	55	52	48	44
<b>65</b>	69	69	68	68	67	67	64	61	58	53
<b>70</b>	77	77	76	75	74	75	73	71	68	63
<b>75</b>	85	85	84	83	82	81	82	81	78	73
<b>80</b>	92	92	91	90	90	89	92	92	89	86
<b>85</b>	96	96	96	98	101	102	103	102	101	97
<b>90</b>	97	98	102	107	107	113	111	116	113	109
<b>95</b>	235	361	739	473	709	585	612	748	765	644
<b>100</b>	1441	1343	1383	1388	1336	1283	1221	1134	1036	923
<b>105</b>	1508	1495	1479	1452	1407	1348	1275	1189	1090	977
<b>110</b>	1535	1522	1507	1472	1425	1367	1296	1215	1127	1029
<b>115</b>	1539	1533	1515	1480	1441	1392	1331	1259	1176	1085
<b>120</b>	1554	1543	1526	1499	1462	1416	1357	1289	1206	1111
<b>125</b>	1555	1548	1536	1504	1467	1420	1361	1291	1206	1112
<b>130</b>	1534	1520	1505	1480	1443	1393	1334	1264	1180	1089
<b>135</b>	1477	1462	1445	1420	1383	1337	1276	1209	1131	1044
<b>140</b>	1377	1372	1358	1332	1300	1251	1197	1131	1060	981
<b>145</b>	1260	1256	1240	1218	1187	1145	1094	1037	974	907
<b>150</b>	1124	1116	1103	1084	1057	1021	979	932	880	826
<b>155</b>	973	967	957	941	919	891	859	825	786	742
<b>160</b>	825	823	816	805	790	771	749	724	698	672
<b>165</b>	701	701	695	688	680	670	657	642	625	608
<b>170</b>	603	603	601	598	593	588	582	575	567	558
<b>175</b>	530	530	530	526	522	517	512	505	498	490
<b>180</b>	391	391	391	391	391	391	391	391	391	391

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>	8	8	8	8	8	8	8	8	8	8
<b>5</b>	8	8	8	8	8	8	8	8	8	8
<b>10</b>	9	9	9	9	9	9	9	8	8	8
<b>15</b>	9	9	9	9	9	9	9	9	9	9
<b>20</b>	9	9	10	10	10	10	9	9	9	9
<b>25</b>	10	10	10	10	10	10	10	10	10	10
<b>30</b>	11	11	11	11	11	11	11	11	11	10
<b>35</b>	11	12	12	12	12	12	11	11	11	11
<b>40</b>	13	13	13	13	12	12	12	12	11	11
<b>45</b>	15	14	14	14	14	14	13	13	13	11
<b>50</b>	21	18	16	15	14	15	15	14	13	12
<b>55</b>	31	24	19	17	16	15	15	15	13	12
<b>60</b>	39	34	26	20	18	17	16	16	14	12

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

65	47	41	35	27	22	18	17	16	14	12
70	57	51	43	35	27	22	19	18	15	12
75	68	60	52	43	35	27	21	18	15	12
80	80	72	64	53	43	33	24	19	15	12
85	92	86	77	65	54	41	30	21	14	12
90	125	130	114	135	105	92	59	32	14	14
95	531	516	429	364	266	197	127	74	40	25
100	800	674	561	453	356	270	194	124	71	42
105	858	736	628	531	434	341	254	176	110	58
110	924	812	699	599	497	398	305	222	141	73
115	982	867	751	641	542	441	346	268	176	91
120	1007	895	779	666	571	473	382	306	218	106
125	1009	901	792	680	586	495	411	343	237	133
130	991	888	783	681	589	509	435	376	282	148
135	953	859	763	670	584	517	456	388	283	182
140	900	816	732	652	576	522	471	425	322	201
145	836	765	696	631	569	524	481	434	353	232
150	767	713	657	608	559	523	490	420	339	258
155	703	662	620	585	548	520	494	444	366	291
160	643	613	587	561	534	514	494	466	395	324
165	590	573	556	537	518	499	480	460	408	352
170	548	537	522	504	486	468	449	430	401	366
175	481	471	461	451	440	429	418	406	393	377
180	391	391	391	391	391	391	391	391	391	391

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	8	8	8	8	8	8	8	8	8	8
5	8	8	8	8	8	8	8	8	8	8
10	8	8	8	8	8	7	6	5	4	3
15	9	9	9	8	6	4	2	0	0	0
20	9	9	9	6	3	0	0	0	0	0
25	10	9	8	5	1	0	0	0	0	0
30	10	9	8	4	0	0	0	0	0	0
35	10	10	9	3	0	0	0	0	0	0
40	10	10	10	4	0	0	0	0	0	0
45	11	10	10	4	0	0	0	0	0	0
50	11	11	10	6	0	0	0	0	0	0
55	11	11	11	8	0	0	0	0	0	0
60	11	11	10	10	3	0	0	0	0	0
65	11	11	10	10	6	0	0	0	0	0
70	11	11	11	10	9	1	0	0	0	0
75	11	11	11	10	10	5	0	0	0	0
80	11	11	11	11	10	10	1	0	0	0
85	11	12	11	11	11	11	7	0	0	0
90	14	13	13	12	12	12	11	5	0	0
95	17	16	15	14	13	13	12	11	5	0
100	27	23	19	17	15	14	14	13	12	5
105	37	29	24	20	18	16	15	14	13	12
110	47	35	28	24	21	19	17	15	14	13
115	53	41	33	28	24	21	18	17	15	14
120	63	45	36	30	26	23	20	17	16	14
125	67	50	40	33	28	24	21	19	17	15
130	85	53	41	35	30	26	22	20	18	16
135	97	62	44	36	31	26	23	19	18	16



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

<b>140</b>	123	73	50	38	33	28	24	20	18	16
<b>145</b>	147	93	58	43	33	28	24	20	18	17
<b>150</b>	179	119	78	47	37	28	23	20	17	16
<b>155</b>	220	154	104	75	50	36	29	23	17	16
<b>160</b>	255	202	152	104	81	62	44	27	23	19
<b>165</b>	297	244	205	170	137	107	82	69	58	48
<b>170</b>	330	296	262	229	204	185	167	151	135	121
<b>175</b>	361	345	329	314	300	287	274	263	252	242
<b>180</b>	391	391	391	391	391	391	391	391	391	391

<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>	8	8	8	8	8	8	8
<b>5</b>	8	8	8	8	8	8	8
<b>10</b>	2	2	1	1	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>	0	0	0	0	0	0	0
<b>95</b>	0	0	0	0	0	0	0
<b>100</b>	0	0	0	0	0	0	0
<b>105</b>	8	2	0	0	0	0	0
<b>110</b>	12	11	8	4	2	0	0
<b>115</b>	12	11	11	10	9	1	0
<b>120</b>	13	12	11	10	10	0	0
<b>125</b>	13	12	11	11	8	0	0
<b>130</b>	14	13	12	11	6	0	0
<b>135</b>	14	13	12	11	5	0	0
<b>140</b>	14	13	12	11	4	0	0
<b>145</b>	15	13	12	12	11	11	10
<b>150</b>	15	14	12	12	11	11	11
<b>155</b>	15	14	13	12	11	11	11
<b>160</b>	17	15	14	13	12	12	12
<b>165</b>	40	33	28	24	21	19	18
<b>170</b>	108	98	89	83	78	75	74
<b>175</b>	234	226	220	215	211	209	208
<b>180</b>	391	391	391	391	391	391	391

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L121911559.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	2.47	N.A.	0.10
0-30	5.33	N.A.	0.20
0-40	10.13	N.A.	0.40
0-60	36.30	N.A.	1.30
0-80	96.29	N.A.	3.30
0-90	143.99	N.A.	5.00
10-90	143.28	N.A.	5.00
20-40	7.66	N.A.	0.30
20-50	17.24	N.A.	0.60
40-70	51.31	N.A.	1.80
60-80	59.99	N.A.	2.10
70-80	34.85	N.A.	1.20
80-90	47.70	N.A.	1.70
90-110	749.50	N.A.	25.90
90-120	1255.36	N.A.	43.40
90-130	1731.02	N.A.	59.90
90-150	2420.85	N.A.	83.80
90-180	2745.66	N.A.	95.00
110-180	1996.17	N.A.	69.10
0-180	2889.65	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	0.71
10-20	1.76
20-30	2.86
30-40	4.80
40-50	9.58
50-60	16.59
60-70	25.14
70-80	34.85
80-90	47.70
90-100	259.38
100-110	490.12
110-120	505.86
120-130	475.66
130-140	397.63
140-150	292.20
150-160	186.46
160-170	102.80
170-180	35.56

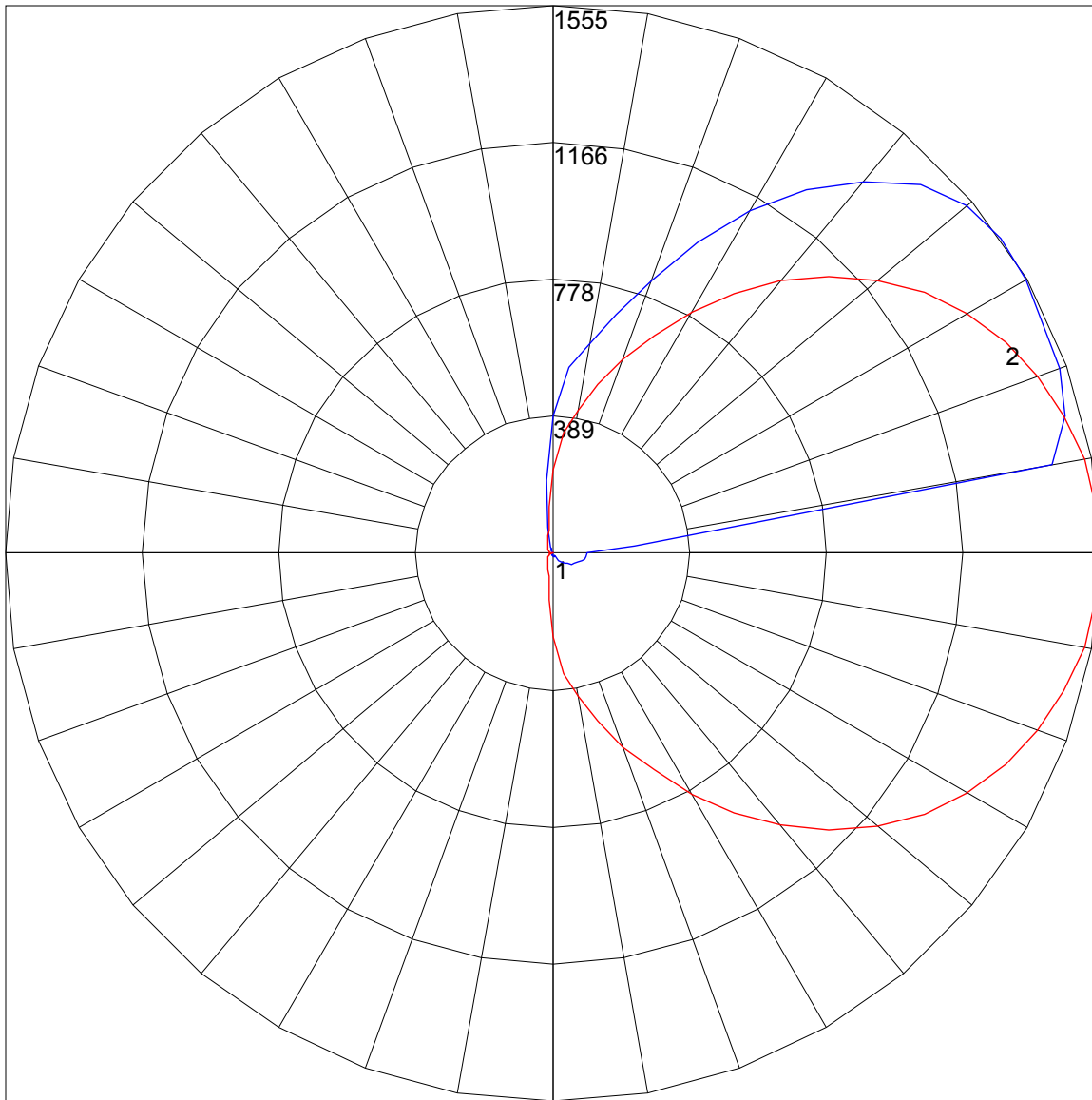
**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L121911559.IES**

**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	96	96	96	96	83	83	83	83	58	58	58	36	36	36	15	15	15	5
1	87	83	79	75	75	71	68	65	50	48	46	30	29	28	12	11	11	3
2	79	72	66	61	67	62	57	53	43	40	37	26	24	23	10	9	9	2
3	72	63	56	50	61	54	48	44	38	34	31	23	20	19	9	8	7	1
4	65	55	48	42	56	47	41	36	33	29	26	20	18	16	8	7	6	1
5	60	49	41	35	51	42	36	31	29	25	22	18	15	13	7	6	5	1
6	55	43	36	30	47	37	31	26	26	22	19	16	13	11	6	5	4	0
7	50	39	31	26	43	34	27	23	24	19	16	14	12	10	5	4	4	0
8	46	35	28	23	40	30	24	20	21	17	14	13	10	9	5	4	3	0
9	43	32	25	20	37	27	21	17	19	15	12	12	9	8	4	3	3	0
10	40	29	22	17	34	25	19	15	18	14	11	11	8	7	4	3	2	0

POLAR GRAPH



Maximum Candela = 1555 Located At Horizontal Angle = 0, Vertical Angle = 125  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (125) (Through Max. Cd.)