

**IES Report**

**WingRail® | 107 | Diffuse | 90 CRI | LO**

107-WG-XX-4-48-XX-XX-XX-XX-X-X-Z-LO-359-D1-X-XX-X

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	56	58	59	61
Total Lumens, 4' rail length (1219mm)	837	863	881	899
Lumens per foot (305mm)	209	216	220	225
Input Power (W), 4' rail length (1219mm)	15.0	15.0	15.0	15.0
Watts per foot (305mm)	3.8	3.8	3.8	3.8
CRI	96	96	96	96

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: L091700110



**Report No:** L091700110

**Issue Date:** 9/21/2017

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

**Model Number:** 107-WG-48-Z-LO-359-D1

**Test:** Electrical and Photometric tests

**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.

**Testing Condition:** Fixture is tested with no special conditions.

**Sample Arrival Date:** 9/15/17

**Date of Tests:** 9/17/17 - 9/20/17

**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-S1	11/28/17
ITECH	IT6122	PS-DC03-S1	11/28/17
Fluke Digital Thermometer	52k/J	MT-TP02-GC	11/28/17
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

\*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

**Test Summary**

<b>Manufacturer:</b>	Vode Lighting
<b>Model Number:</b>	107-WG-48-Z-LO-359-D1
<b>Driver Model Number:</b>	eldoLED SOLOdrive 1061/M
<b>Total Lumens:</b>	880.94
<b>Input Voltage (VAC/60Hz):</b>	120.00
<b>Input Current (Amp):</b>	0.14
<b>Input Power (W):</b>	14.95
<b>Input Power Factor:</b>	0.89
<b>Current ATHD @ 120V(%):</b>	12%
<b>Current ATHD @ 277V(%):</b>	N/A
<b>Efficacy:</b>	59
<b>Color Rendering Index (CRI):</b>	96
<b>Correlated Color Temperature (K):</b>	3338
<b>Chromaticity Coordinate x:</b>	0.4136
<b>Chromaticity Coordinate y:</b>	0.3925
<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:55
<b>Total Operating Time (Hours):</b>	1:45

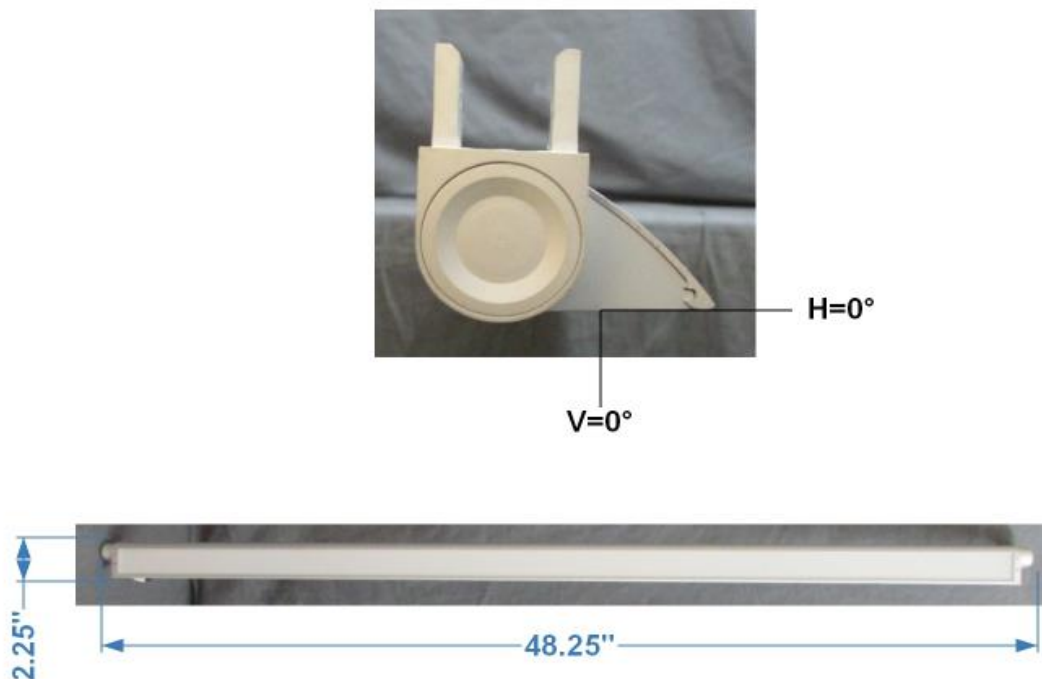
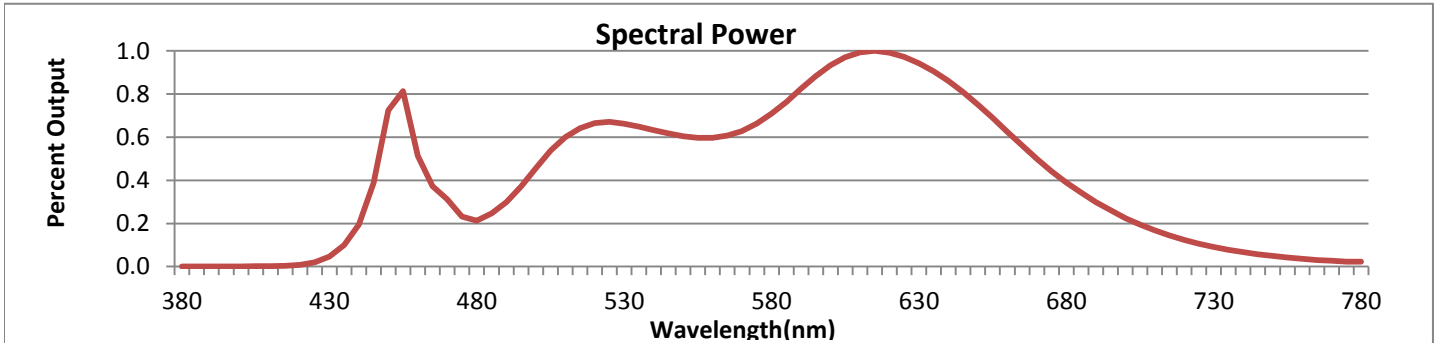


FIG. 1 LUMINAIRE

\*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.



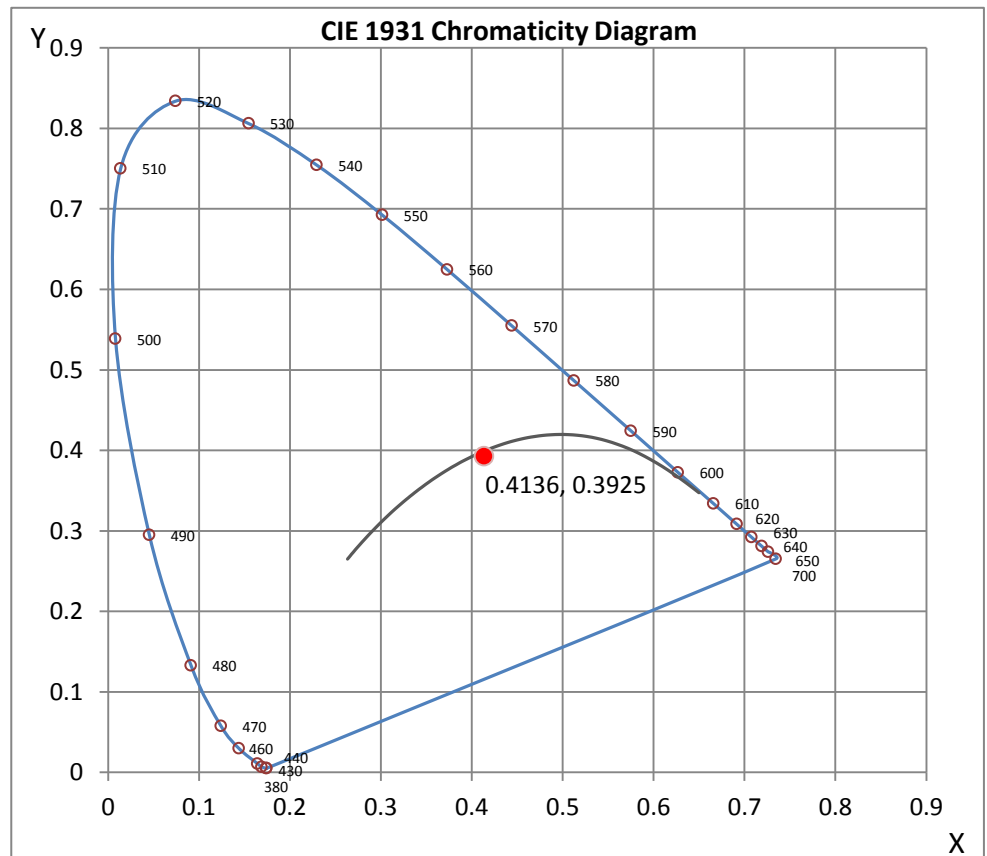
Wavelength	W/m <sup>2</sup> nm	440	0.1955	510	0.5998	580	0.7095	650	0.7517	720	0.1238
380	0.0009	450	0.7249	520	0.6653	590	0.8254	660	0.6257	730	0.0912
390	0.0008	460	0.5142	530	0.6631	600	0.9342	670	0.4987	740	0.0667
400	0.0012	470	0.3122	540	0.6325	610	0.9937	680	0.3897	750	0.0488
410	0.0022	480	0.2123	550	0.6038	620	0.9921	690	0.2985	760	0.0360
420	0.0086	490	0.2988	560	0.5963	630	0.9429	700	0.2250	770	0.0265
430	0.0458	500	0.4565	570	0.6285	640	0.8609	710	0.1680	780	0.0228

**CRI & CCT**

x	0.4136
y	0.3925
u'	0.2404
v'	0.5132
CRI	95.60
CCT	3338
Duv	-0.00095

**R Values**

R1	96.96
R2	98.67
R3	98.77
R4	94.84
R5	97.09
R6	94.16
R7	94.84
R8	89.87
R9	75.65
R10	97.87
R11	87.64
R12	82.54
R13	96.62
R14	98.25



\*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

## 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 Released by:



Jeff Ahn  
Engineering Manager

Test Report Reviewed by:



Steve Kang  
Quality Assurance

*\*Attached are photometric data reports. Total number of pages: 9*



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

# Photometric Test Report

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L091700110.IES**

## DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] L091700110  
 [TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)  
 [ISSUEDATE] 9/21/2017  
 [MANUFAC] Vode Lighting  
 [LUMCAT] 107-WG-48-Z-LO-359-D1  
 [LUMINAIRE] WingRail LED, 48", 3500K, 90 CRI, zipper board,  
 [MORE] diffuse lens, low output  
 [BALLASTCAT] eldoLED SOLOdrive 1061/M  
 [OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND  
 [MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.  
 [INPUT] 120VAC, 14.95W  
 [TEST PROCEDURE] IESNA:LM-79-08

## CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	881
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	59
Total Luminaire Watts	14.95
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.26
Spacing Criterion (90-270)	1.26
Spacing Criterion (Diagonal)	1.38
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.13 ft
Luminous Width (90-270)	3.83 ft
Luminous Height	0.00 ft

## LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	6270	6266	6267
55	6013	6016	6038
65	5572	5608	5653
75	4747	4840	4934
85	3477	3251	3477

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L091700110.IES**

**CANDELA TABULATION**

	<b>0</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>
<b>0</b>	310.26	310.26	310.26	310.26	310.26	310.26	310.26	310.26	310.26	310.26
<b>5</b>	308.73	308.81	308.77	308.81	308.81	308.73	308.86	308.69	308.86	308.86
<b>10</b>	304.50	304.50	304.54	304.66	304.58	304.62	304.66	304.58	304.75	304.70
<b>15</b>	297.85	297.69	297.52	297.73	297.77	297.73	297.77	297.65	297.56	297.73
<b>20</b>	287.89	288.01	287.81	287.89	288.05	288.05	288.26	288.14	287.97	287.93
<b>25</b>	276.10	275.93	275.68	275.77	275.97	275.81	275.77	275.72	275.68	275.68
<b>30</b>	261.40	261.36	261.19	261.28	261.32	261.23	261.32	261.19	261.28	261.15
<b>35</b>	244.46	244.59	244.46	244.46	244.54	244.42	244.42	244.34	244.34	244.34
<b>40</b>	225.86	225.82	225.74	225.74	225.69	225.74	225.65	225.69	225.69	225.57
<b>45</b>	205.27	205.31	205.18	205.27	205.18	205.14	205.18	205.35	205.18	205.14
<b>50</b>	183.10	183.01	183.05	183.05	183.14	183.18	183.14	183.18	183.22	183.22
<b>55</b>	159.68	159.60	159.47	159.56	159.60	159.64	159.68	159.80	159.76	159.76
<b>60</b>	134.85	134.81	134.64	134.73	134.77	134.89	134.98	135.02	135.14	135.18
<b>65</b>	109.03	109.03	108.99	109.07	109.03	109.24	109.28	109.40	109.53	109.73
<b>70</b>	82.95	82.91	82.83	82.95	82.95	83.12	83.33	83.45	83.66	83.74
<b>75</b>	56.88	56.92	56.88	56.96	57.05	57.21	57.34	57.54	57.71	58.00
<b>80</b>	32.63	32.68	32.59	32.68	32.68	32.80	32.84	33.01	33.22	33.46
<b>85</b>	14.03	13.91	13.78	13.74	13.66	13.62	13.49	13.37	13.24	13.12
<b>90</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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

	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>80</b>	<b>85</b>	<b>90</b>
<b>0</b>	310.26	310.26	310.26	310.26	310.26	310.26	310.26	310.26	310.26
<b>5</b>	308.77	309.02	308.73	308.98	308.90	308.86	308.81	308.90	308.81
<b>10</b>	304.70	304.62	304.58	304.50	304.70	304.66	304.70	304.70	304.58
<b>15</b>	297.65	297.56	297.60	297.60	297.56	297.40	297.40	297.60	297.60
<b>20</b>	287.81	287.93	287.76	287.93	287.93	287.72	287.72	287.76	287.64
<b>25</b>	275.56	275.56	275.47	275.60	275.56	275.56	275.56	275.47	275.52
<b>30</b>	261.03	261.07	260.94	261.03	261.03	260.82	261.11	261.03	260.98
<b>35</b>	244.21	244.29	244.21	244.17	244.05	244.05	244.09	244.13	244.29
<b>40</b>	225.45	225.53	225.65	225.53	225.69	225.53	225.45	225.61	225.69
<b>45</b>	205.14	205.10	205.18	205.23	205.10	205.10	205.27	205.18	205.18
<b>50</b>	183.18	183.26	183.30	183.26	183.30	183.22	183.35	183.39	183.43
<b>55</b>	159.89	159.97	160.01	160.01	160.14	160.18	160.14	160.26	160.34
<b>60</b>	135.39	135.52	135.60	135.56	135.68	135.81	135.93	135.93	135.85
<b>65</b>	109.86	110.11	110.15	110.23	110.40	110.48	110.52	110.61	110.61
<b>70</b>	83.95	84.24	84.37	84.49	84.61	84.74	84.82	84.86	84.86
<b>75</b>	58.17	58.33	58.62	58.79	58.92	59.04	59.08	59.12	59.12
<b>80</b>	33.63	33.84	34.17	34.42	34.50	34.67	34.71	34.75	34.79
<b>85</b>	13.08	13.08	13.20	13.37	13.58	13.78	13.91	13.99	14.03
<b>90</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L091700110.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	113.33	N.A.	12.90
0-30	240.37	N.A.	27.30
0-40	393.21	N.A.	44.60
0-60	694.28	N.A.	78.80
0-80	864.42	N.A.	98.10
0-90	880.94	N.A.	100.00
10-90	851.59	N.A.	96.70
20-40	279.88	N.A.	31.80
20-50	438.14	N.A.	49.70
40-70	409.65	N.A.	46.50
60-80	170.15	N.A.	19.30
70-80	61.57	N.A.	7.00
80-90	16.52	N.A.	1.90
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	880.94	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	29.35
10-20	83.98
20-30	127.04
30-40	152.84
40-50	158.25
50-60	142.81
60-70	108.58
70-80	61.57
80-90	16.52
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



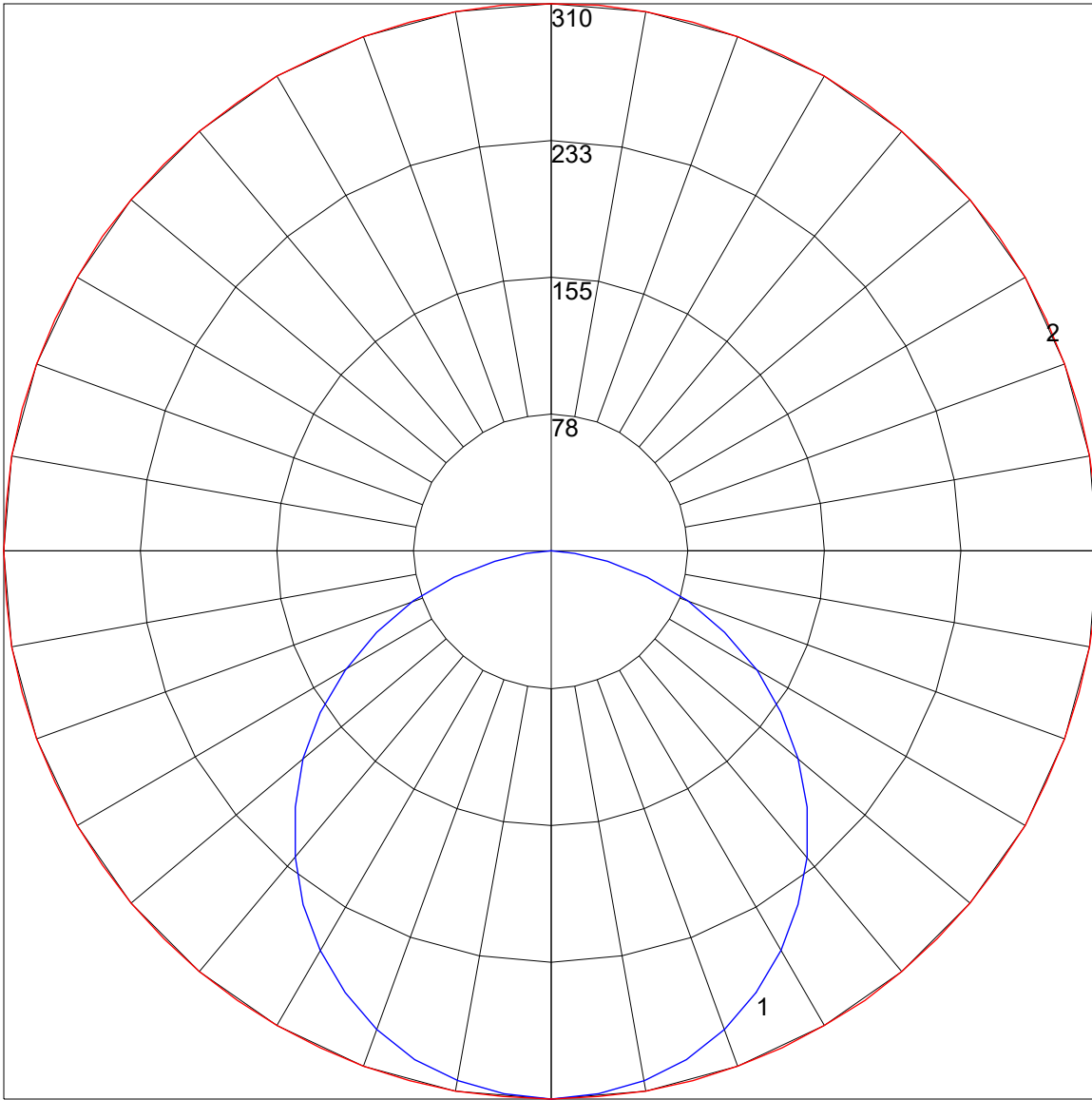
**IES INDOOR REPORT**  
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	104	100	96	106	102	98	94	97	94	91	93	91	88	90	88	86	84
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	58
4	82	70	61	55	80	69	61	54	66	59	54	64	58	53	62	57	52	50
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	43
6	70	56	47	41	68	56	47	41	54	46	40	52	45	40	50	44	40	38
7	65	51	42	36	63	50	42	36	49	41	36	47	41	36	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	32	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	52	39	31	26	38	31	26	37	31	26	36	30	26	24

POLAR GRAPH



Maximum Candela = 310.26 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)