

## IES Report

**BoxRail<sup>®</sup> | 207 | Wide Batwing, up | 40° Symmetric, down | 90 CRI | SO**

**207-BX-XX-4-48-XX-XX-XX-XX-X-X-Z-SO-359-G1S1-X-AL / WH-X**

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	75	77	79	79
Total Lumens, 4' rail length (1219mm)	3753	3872	3951	3990
Lumens per foot (305mm)	938	968	988	998
Lumens per foot UP (305mm)	653	673	687	694
Lumens per foot DOWN (305mm)	285	294	300	303
Input Power (W), 4' rail length (1219mm)	50.5	50.5	50.3	50.5
Watts per foot (305mm)	12.7	12.7	12.6	12.7
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: L022010907



**Report No:** L022010907

**Issue Date:** 2/21/2020

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

**Model Number:** 207-BX-48-Z-SO-359-G1S1

**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:** 2/14/20 - 2/21/20

**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-SO-359-G1S1
<b>Driver Model Number:</b>	MEAN WELL HLG-40H-36A (2 DRIVERS)

### Test Summary

<b>Total Lumens:</b>	3950.69
<b>Efficacy:</b>	78.57
<b>Color Redering Index:</b>	93.6
<b>Correlated Color Temperature:</b>	3382
<b>Input Voltage (VAC/60Hz):</b>	119.97
<b>Input Current (Amp):</b>	0.4217
<b>Input Power (W):</b>	50.28
<b>Input Power Factor:</b>	0.9939
<b>Current ATHD (%):</b>	8.4%

### Test Condition

<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:30
<b>Total Operating Time (Hours):</b>	2:05

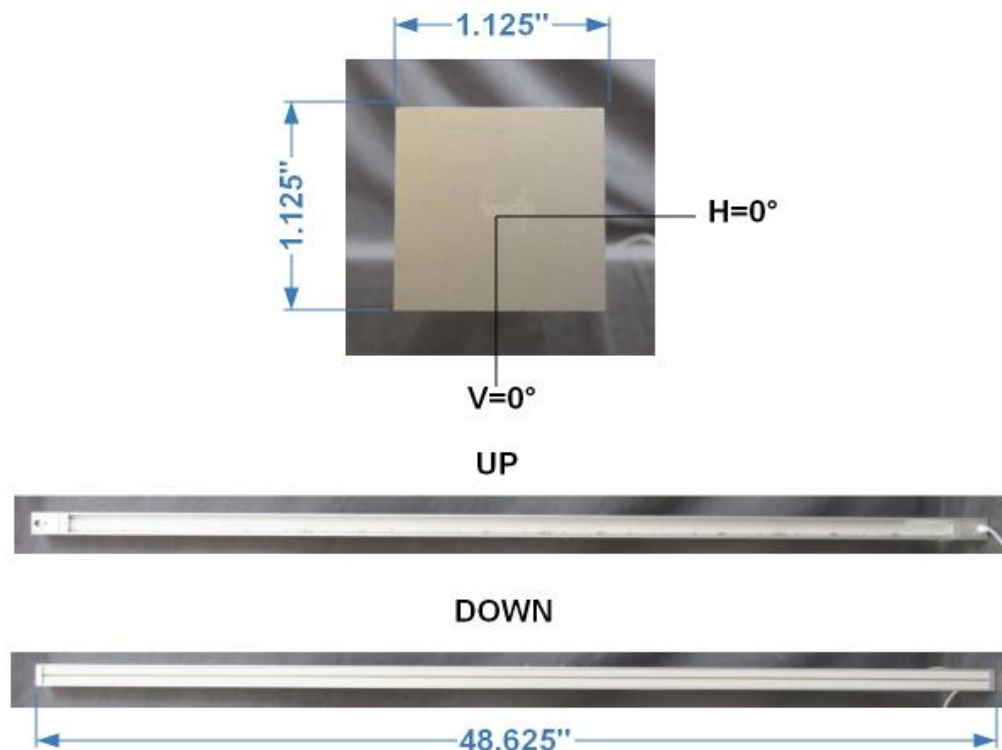
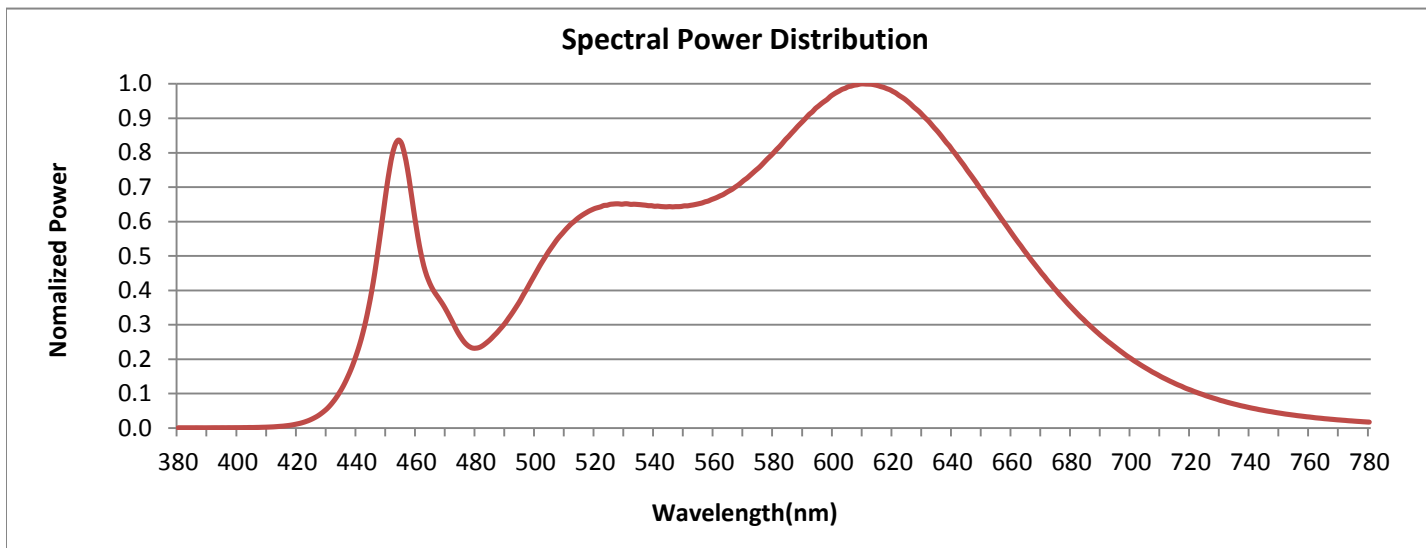


FIG. 1 LUMINAIRE

## Colorimetry Test Results

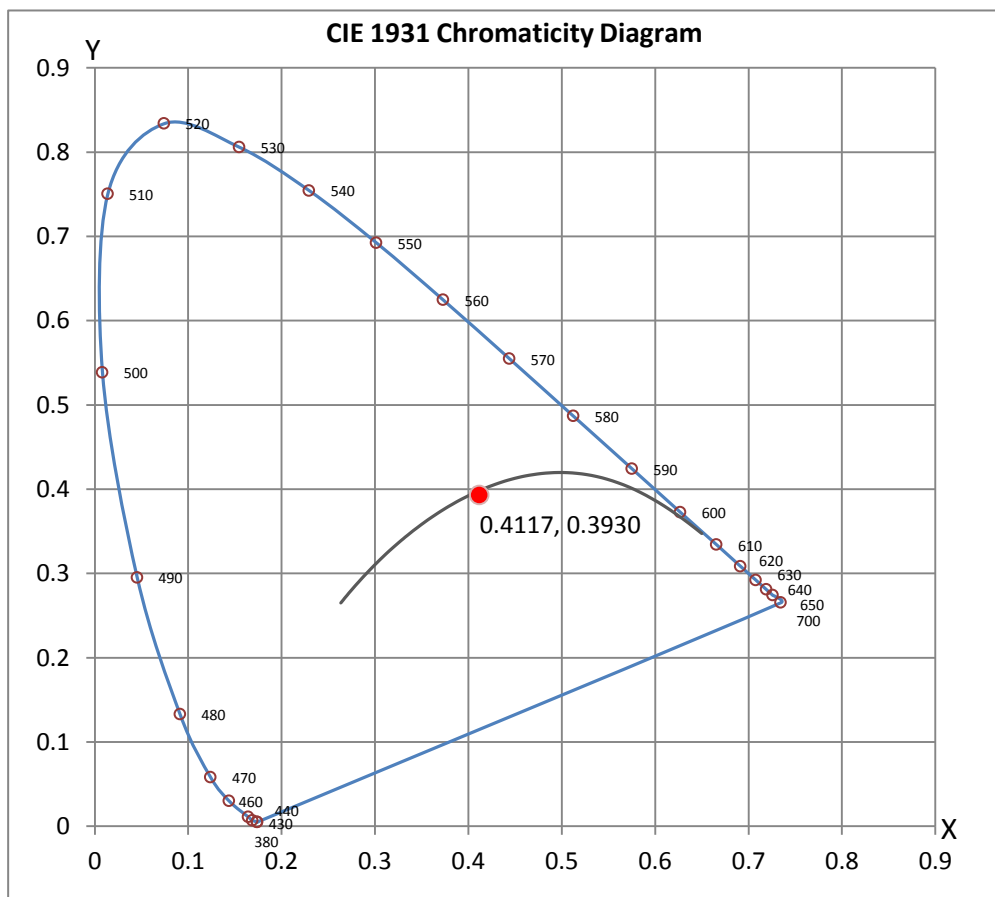


### CRI & CCT

x	0.4117
y	0.3930
u'	0.2389
v'	0.5132
CRI	93.60
CCT	3382
Duv	-0.00036

### R Values

R1	94.82
R2	97.47
R3	98.69
R4	95.98
R5	95.24
R6	96.32
R7	90.83
R8	79.67
R9	52.74
R10	93.97
R11	97.02
R12	77.94
R13	96.14
R14	99.19
R15	88.73





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

Report No: L022010907



## 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*



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

## Photometric Test Report

### IES INDOOR REPORT

PHOTOMETRIC FILENAME : L022010907.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L022010907  
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)  
[ISSUEDATE] 2/21/2020  
[MANUFAC] Vode Lighting  
[LUMCAT] 207-BX-48-Z-SO-359-G1S1  
[LUMINAIRE] BoxRail LED, 48", 3500K, 90 CRI, zipper board, wide batwing lens up,  
[MORE] 40° symmetric lens down, standard output, clear anodized finish  
[BALLASTCAT] MEAN WELL HLG-40H-36A (2 DRIVERS)  
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND  
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.  
[INPUT] 119.97VAC, 50.28W  
[TEST PROCEDURE] IESNA:LM-79-08

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3951
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	79
Total Luminaire Watts	50.28
Ballast Factor	1.00
CIE Type	Semi-Indirect
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	2617	4696	17291
55	1708	2850	11807
65	1118	1741	8420
75	599	870	5750
85	167	225	3067

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L022010907.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>	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014
<b>5</b>	976	975	975	975	976	976	977	979	980	982
<b>10</b>	868	867	869	872	877	883	891	897	905	915
<b>15</b>	711	711	716	724	734	745	759	776	796	817
<b>20</b>	543	543	551	562	575	592	613	636	662	689
<b>25</b>	394	396	403	414	428	447	468	492	522	556
<b>30</b>	282	284	290	299	312	327	344	368	399	429
<b>35</b>	203	204	209	217	227	239	252	274	297	324
<b>40</b>	151	152	156	161	168	175	188	203	219	242
<b>45</b>	117	118	120	124	128	133	142	151	165	179
<b>50</b>	94	94	96	98	100	104	109	116	125	137
<b>55</b>	76	77	77	79	80	82	85	91	97	105
<b>60</b>	62	62	62	62	62	64	67	70	74	80
<b>65</b>	48	49	48	47	48	49	51	53	56	60
<b>70</b>	35	33	34	35	35	36	38	39	41	43
<b>75</b>	24	23	24	24	23	24	24	24	26	27
<b>80</b>	15	14	15	15	15	15	15	15	15	15
<b>85</b>	6	6	6	6	5	6	5	5	6	6
<b>90</b>	6	6	5	5	5	5	5	5	4	4
<b>95</b>	22	30	30	31	33	34	36	43	44	47
<b>100</b>	93	94	97	101	106	111	118	125	129	134
<b>105</b>	204	188	202	209	214	222	228	234	236	235
<b>110</b>	369	359	352	353	373	382	385	389	375	364
<b>115</b>	605	599	572	569	564	569	557	541	517	482
<b>120</b>	788	785	774	750	733	711	687	660	618	570
<b>125</b>	917	911	899	883	867	825	793	743	692	633
<b>130</b>	983	977	962	940	914	878	833	783	725	665
<b>135</b>	987	982	968	945	917	883	838	791	737	683
<b>140</b>	956	951	939	919	893	861	822	780	734	688
<b>145</b>	906	902	892	875	853	825	794	758	721	682
<b>150</b>	846	842	835	822	804	783	758	731	702	672
<b>155</b>	784	781	776	767	754	739	721	701	680	659
<b>160</b>	727	726	722	717	708	698	687	673	658	645
<b>165</b>	680	679	676	673	669	663	656	649	641	632
<b>170</b>	644	643	642	640	638	636	634	630	627	623
<b>175</b>	621	621	621	620	619	619	618	618	617	616
<b>180</b>	613	613	613	613	613	613	613	613	613	613

**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>	1014	1014	1014	1014	1014	1014	1014	1014	1014
<b>5</b>	984	986	989	991	994	997	1000	1003	1006
<b>10</b>	926	938	951	955	959	964	970	976	983
<b>15</b>	836	852	869	888	910	917	924	932	942
<b>20</b>	718	747	778	800	824	852	860	869	881
<b>25</b>	592	627	662	699	727	755	776	785	798
<b>30</b>	465	505	543	582	621	648	678	686	699
<b>35</b>	355	388	428	466	504	536	564	577	587
<b>40</b>	267	298	329	362	394	422	448	464	473
<b>45</b>	201	224	250	278	306	331	352	365	372
<b>50</b>	151	168	188	209	231	250	266	277	281
<b>55</b>	115	127	140	156	172	186	198	206	208
<b>60</b>	87	95	105	116	127	137	147	152	154

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L022010907.IES**

**CANDELA TABULATION - (Cont.)**

<b>65</b>	65	71	78	85	92	99	104	108	111
<b>70</b>	46	51	55	60	65	72	75	75	77
<b>75</b>	30	32	36	38	42	45	46	48	48
<b>80</b>	16	17	19	20	22	24	25	26	26
<b>85</b>	6	6	7	7	8	8	8	9	10
<b>90</b>	4	3	3	2	2	2	2	2	2
<b>95</b>	51	55	54	51	40	37	37	38	38
<b>100</b>	130	127	121	108	98	93	87	83	82
<b>105</b>	229	219	201	180	162	149	138	132	132
<b>110</b>	343	311	279	248	222	203	191	184	182
<b>115</b>	440	391	347	308	277	256	241	234	231
<b>120</b>	518	461	408	361	328	306	291	281	279
<b>125</b>	570	511	458	410	377	352	335	327	324
<b>130</b>	606	550	500	456	420	396	379	367	363
<b>135</b>	628	578	531	492	459	435	418	407	403
<b>140</b>	640	597	557	521	492	469	454	444	439
<b>145</b>	644	608	575	545	521	501	487	479	474
<b>150</b>	643	615	588	565	543	529	516	511	507
<b>155</b>	637	617	597	579	565	553	544	540	536
<b>160</b>	631	617	602	592	583	573	569	565	563
<b>165</b>	623	616	609	602	595	592	589	586	584
<b>170</b>	619	614	610	608	606	605	603	601	600
<b>175</b>	616	615	614	614	613	612	611	611	610
<b>180</b>	613	613	613	613	613	613	613	613	613



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L022010907.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	320.13	N.A.	8.10
0-30	584.61	N.A.	14.80
0-40	810.90	N.A.	20.50
0-60	1088.39	N.A.	27.50
0-80	1192.33	N.A.	30.20
0-90	1201.82	N.A.	30.40
10-90	1109.82	N.A.	28.10
20-40	490.77	N.A.	12.40
20-50	656.41	N.A.	16.60
40-70	346.90	N.A.	8.80
60-80	103.94	N.A.	2.60
70-80	34.53	N.A.	0.90
80-90	9.49	N.A.	0.20
90-110	266.65	N.A.	6.70
90-120	694.62	N.A.	17.60
90-130	1244.67	N.A.	31.50
90-150	2204.58	N.A.	55.80
90-180	2748.87	N.A.	69.60
110-180	2482.22	N.A.	62.80
0-180	3950.69	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	92.01
10-20	228.13
20-30	264.47
30-40	226.29
40-50	165.64
50-60	111.85
60-70	69.41
70-80	34.53
80-90	9.49
90-100	52.32
100-110	214.34
110-120	427.97
120-130	550.06
130-140	529.61
140-150	430.30
150-160	305.59
160-170	179.70
170-180	59.00

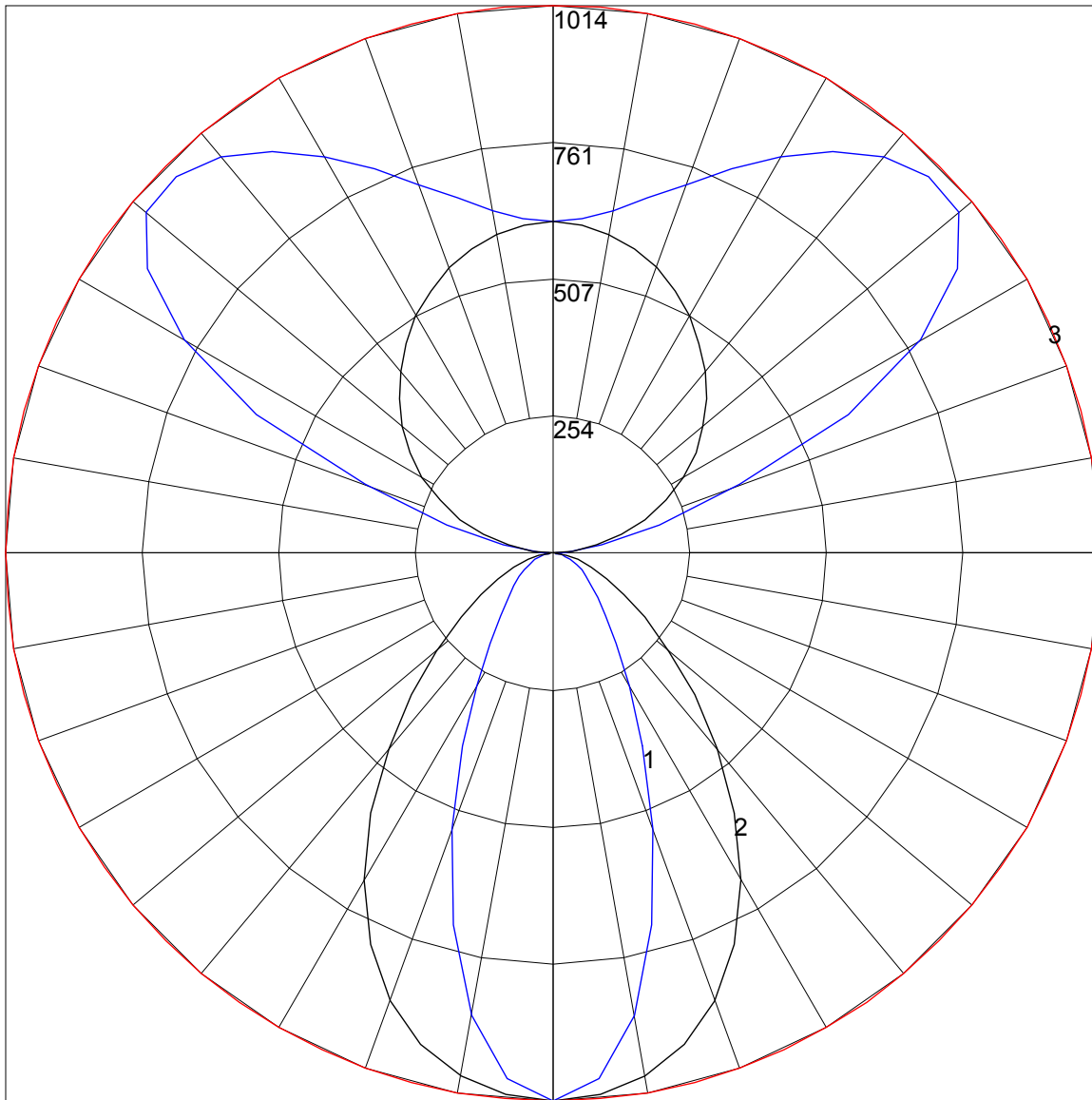
**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L022010907.IES**

**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	102	102	102	102	92	92	92	92	72	72	72	55	55	55	38	38	38	30
1	94	90	87	84	84	81	78	76	64	63	61	49	48	47	35	34	34	27
2	86	80	74	70	77	72	67	63	57	54	52	44	42	40	32	30	30	24
3	79	71	64	59	71	64	58	54	51	48	44	40	37	35	29	27	26	21
4	73	63	56	51	65	57	51	46	46	42	39	36	33	31	26	25	23	19
5	67	57	49	44	60	52	45	40	42	37	34	33	30	27	24	22	21	17
6	62	51	44	38	56	47	40	36	38	33	30	30	27	24	22	20	19	16
7	58	46	39	34	52	42	36	32	35	30	27	28	24	22	21	19	17	14
8	54	42	35	30	48	39	33	28	32	27	24	25	22	20	19	17	16	13
9	50	39	32	27	45	36	30	25	29	25	22	24	20	18	18	16	15	12
10	47	36	29	25	42	33	27	23	27	23	20	22	19	17	17	15	14	12

POLAR GRAPH



Maximum Candela = 1014 Located At Horizontal Angle = 0, Vertical Angle = 0

# 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 (0) (Through Max. Cd.)