

## IES Report

**BoxRail® | 207 | Wide Batwing, up | 85° Asymmetric, down | 90 CRI | SO**

**207-BX-XX-4-48-XX-XX-XX-XX-X-X-Z-SO-359-G1A1-X-AL / WH-X**

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	82	85	87	88
Total Lumens, 4' rail length (1219mm)	4139	4270	4357	4400
Lumens per foot (305mm)	1035	1067	1089	1100
Lumens per foot UP (305mm)	644	664	677	684
Lumens per foot DOWN (305mm)	391	404	412	416
Input Power (W), 4' rail length (1219mm)	50.5	50.5	50.4	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: L022010904



**Report No:** L022010904

**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-G1A1

**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-G1A1
<b>Driver Model Number:</b>	MEAN WELL HLG-40H-36A (2 DRIVERS)

### Test Summary

<b>Total Lumens:</b>	4356.84
<b>Efficacy:</b>	86.51
<b>Color Redering Index:</b>	94.0
<b>Correlated Color Temperature:</b>	3386
<b>Input Voltage (VAC/60Hz):</b>	120.02
<b>Input Current (Amp):</b>	0.4222
<b>Input Power (W):</b>	50.36
<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>	0:50
<b>Total Operating Time (Hours):</b>	2:25

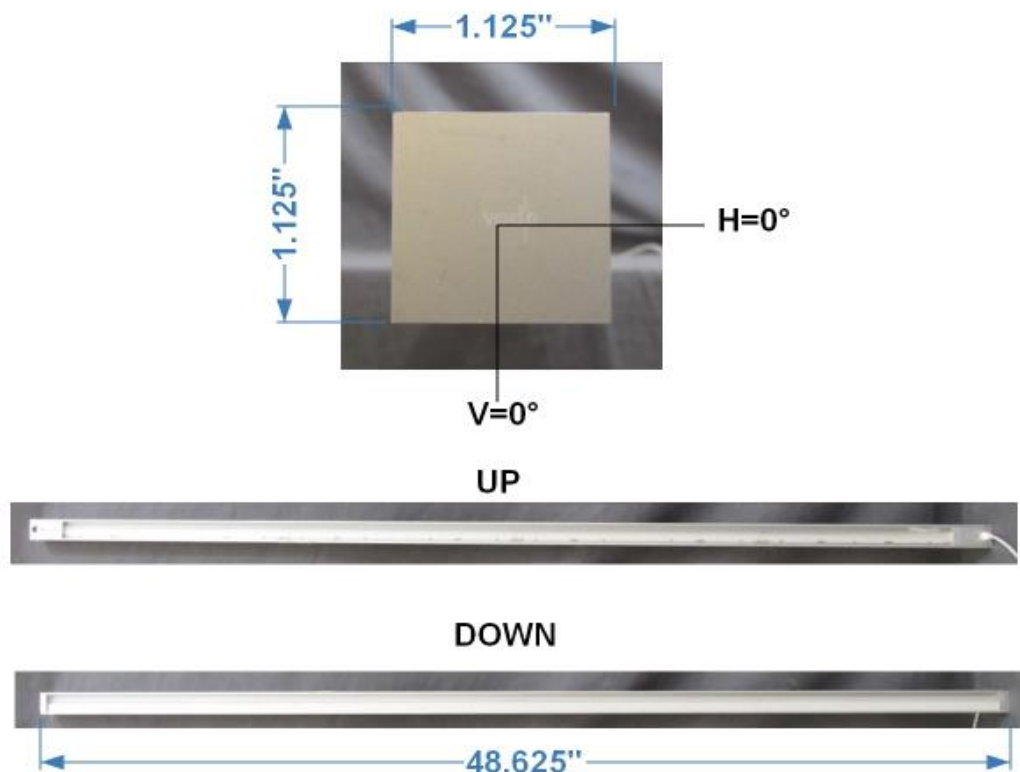
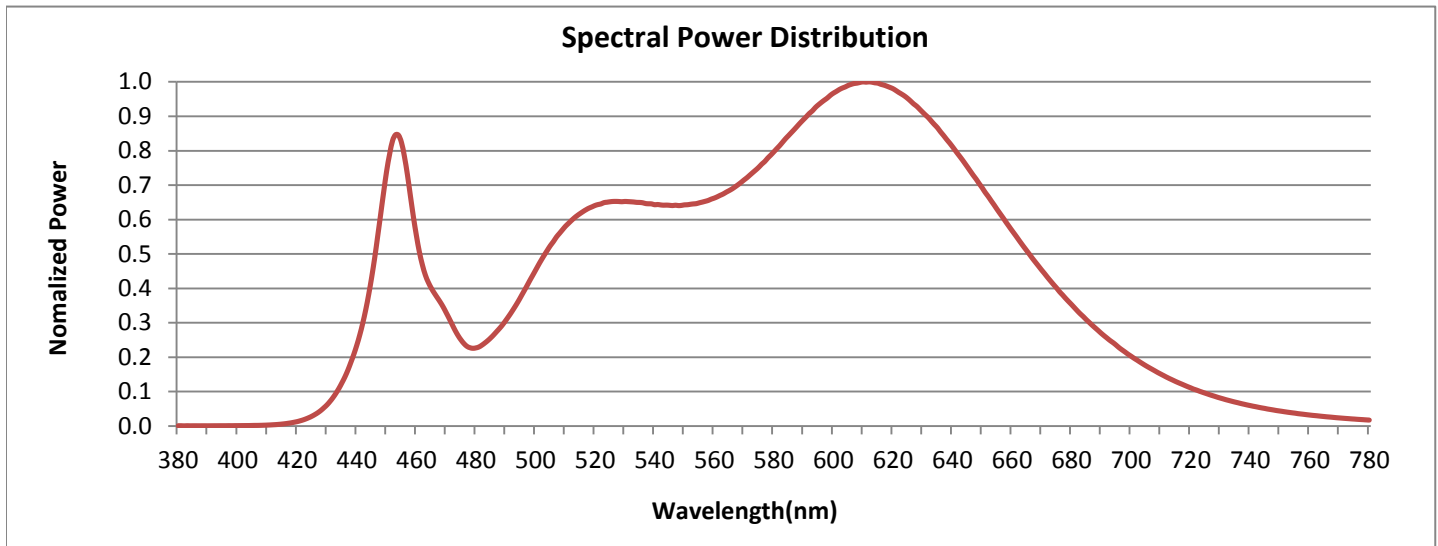


FIG. 1 LUMINAIRE

## Colorimetry Test Results

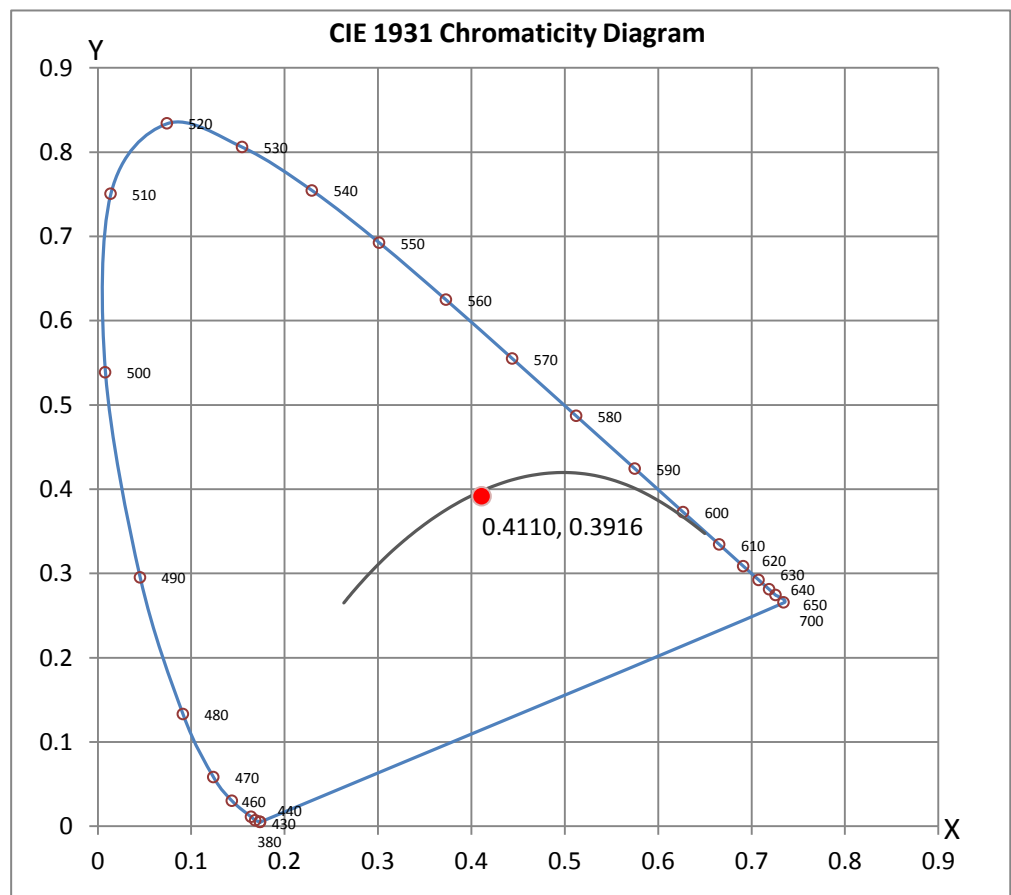


### CRI & CCT

x	0.4110
y	0.3916
u'	0.2391
v'	0.5125
CRI	94.00
CCT	3386
Duv	-0.00082

### R Values

R1	95.32
R2	97.56
R3	98.63
R4	96.49
R5	95.87
R6	96.29
R7	91.15
R8	80.47
R9	54.44
R10	94.27
R11	96.33
R12	78.92
R13	96.54
R14	99.01
R15	89.37





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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*



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## Photometric Test Report

### IES INDOOR REPORT

PHOTOMETRIC FILENAME : L022010904.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L022010904  
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)  
[ISSUEDATE] 2/21/2020  
[MANUFAC] Vode Lighting  
[LUMCAT] 207-BX-48-Z-SO-359-G1A1  
[LUMINAIRE] BoxRail LED, 48", 3500K, 90 CRI, zipper board, wide batwing lens up,  
[MORE] 85° asymmetric 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] 120.02VAC, 50.36W  
[TEST PROCEDURE] IESNA:LM-79-08

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4357
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	87
Total Luminaire Watts	50.36
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	18541	19022	15199
55	12182	12919	12375
65	6408	7603	9861
75	1549	3288	7546
85	223	263	3680

IES INDOOR REPORT  
PHOTOMETRIC FILENAME : L022010904.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>	659	659	659	659	659	659	659	659	659	659
<b>5</b>	827	826	826	819	814	808	801	792	783	772
<b>10</b>	977	976	970	963	954	943	929	912	894	874
<b>15</b>	1096	1094	1086	1077	1064	1047	1028	1007	984	958
<b>20</b>	1161	1158	1151	1141	1126	1109	1090	1067	1044	1010
<b>25</b>	1175	1171	1166	1155	1142	1126	1107	1089	1054	1018
<b>30</b>	1138	1134	1129	1120	1109	1096	1082	1056	1026	994
<b>35</b>	1063	1059	1054	1048	1037	1025	1011	986	964	933
<b>40</b>	956	953	949	943	935	924	907	889	868	839
<b>45</b>	829	827	823	818	810	801	786	773	748	725
<b>50</b>	686	685	682	679	674	666	655	639	620	597
<b>55</b>	542	540	541	539	535	530	522	507	493	476
<b>60</b>	402	402	403	404	403	399	394	386	374	362
<b>65</b>	275	277	279	280	281	281	279	276	270	262
<b>70</b>	160	162	166	169	173	176	178	180	178	175
<b>75</b>	62	66	72	75	80	88	93	97	100	102
<b>80</b>	10	16	14	16	18	21	24	29	33	39
<b>85</b>	8	8	8	8	8	7	7	6	6	7
<b>90</b>	9	9	9	9	8	8	8	7	7	6
<b>95</b>	21	29	29	30	32	36	38	44	50	54
<b>100</b>	90	96	101	107	116	124	134	144	151	157
<b>105</b>	204	210	218	227	237	252	265	272	276	269
<b>110</b>	372	373	384	392	404	413	421	418	404	380
<b>115</b>	575	573	574	578	579	580	571	551	525	486
<b>120</b>	757	754	746	742	738	718	695	665	614	561
<b>125</b>	885	879	868	854	838	807	775	725	673	615
<b>130</b>	940	935	922	903	879	846	804	755	699	642
<b>135</b>	941	937	923	904	878	846	803	757	705	653
<b>140</b>	905	901	890	872	849	819	782	742	698	654
<b>145</b>	853	849	840	825	805	781	752	719	683	647
<b>150</b>	795	792	785	773	758	739	716	691	664	635
<b>155</b>	738	736	731	722	711	698	681	663	643	624
<b>160</b>	687	686	682	677	669	660	650	637	623	611
<b>165</b>	644	643	641	638	634	629	623	616	609	601
<b>170</b>	612	611	610	609	607	606	604	600	597	594
<b>175</b>	593	593	593	592	592	592	591	591	590	590
<b>180</b>	590	590	590	590	590	590	590	590	590	590

Vert. 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>	659	659	659	659	659	659	659	659	659	659
<b>5</b>	761	749	737	723	710	696	681	667	652	639
<b>10</b>	852	830	807	780	752	724	696	667	638	611
<b>15</b>	928	893	857	820	783	742	700	659	617	579
<b>20</b>	972	931	889	839	788	739	686	634	583	534
<b>25</b>	983	939	888	839	781	724	666	606	547	491
<b>30</b>	956	914	868	810	755	691	630	564	500	442
<b>35</b>	896	858	808	756	697	637	576	511	448	389
<b>40</b>	807	766	723	675	619	564	504	446	389	335
<b>45</b>	692	658	622	577	531	482	429	378	327	281
<b>50</b>	574	544	511	477	439	396	347	301	270	231
<b>55</b>	455	430	402	373	341	313	283	251	218	188
<b>60</b>	345	318	298	282	265	245	221	195	172	148

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

<b>65</b>	252	241	229	215	200	183	167	147	130	114
<b>70</b>	170	164	158	150	140	130	119	106	95	87
<b>75</b>	102	101	102	99	93	88	80	69	63	57
<b>80</b>	43	46	50	48	46	44	41	37	34	32
<b>85</b>	9	9	9	11	12	13	13	13	12	12
<b>90</b>	5	5	4	3	3	3	2	2	2	2
<b>95</b>	56	55	61	52	46	43	40	37	37	37
<b>100</b>	153	143	130	114	99	92	85	80	80	80
<b>105</b>	252	229	203	178	158	144	133	127	128	130
<b>110</b>	348	312	276	242	214	195	185	177	176	181
<b>115</b>	439	388	339	299	268	246	233	224	223	228
<b>120</b>	505	448	393	349	318	295	279	272	271	274
<b>125</b>	551	492	440	393	362	338	322	314	312	317
<b>130</b>	582	527	478	436	401	378	359	346	344	355
<b>135</b>	600	551	507	469	437	414	400	391	388	395
<b>140</b>	609	567	529	495	468	446	433	426	422	429
<b>145</b>	611	576	546	518	495	477	464	459	456	463
<b>150</b>	609	582	557	536	517	504	492	489	487	493
<b>155</b>	604	584	567	550	538	527	519	517	515	520
<b>160</b>	599	585	573	563	554	546	543	541	540	545
<b>165</b>	593	586	580	573	567	565	563	562	561	564
<b>170</b>	590	586	583	582	580	580	579	578	578	580
<b>175</b>	590	589	589	589	588	588	588	587	587	588
<b>180</b>	590	590	590	590	590	590	590	590	590	590

<b>Vert. Angles</b>	<b>Horizontal Angles</b>									
	<b><u>100</u></b>	<b><u>105</u></b>	<b><u>110</u></b>	<b><u>115</u></b>	<b><u>120</u></b>	<b><u>125</u></b>	<b><u>130</u></b>	<b><u>135</u></b>	<b><u>140</u></b>	<b><u>145</u></b>
<b>0</b>	659	659	659	659	659	659	659	659	659	659
<b>5</b>	625	611	598	585	573	562	551	541	532	524
<b>10</b>	585	559	533	509	486	467	450	434	419	406
<b>15</b>	541	503	470	439	411	384	359	340	325	312
<b>20</b>	487	444	405	370	335	312	291	270	252	240
<b>25</b>	437	390	348	309	280	253	232	216	201	189
<b>30</b>	385	339	295	262	231	209	190	174	164	155
<b>35</b>	335	290	251	218	193	173	158	146	137	131
<b>40</b>	286	243	211	183	162	146	134	126	119	114
<b>45</b>	240	203	176	154	136	124	116	109	105	101
<b>50</b>	198	170	146	129	117	107	100	96	92	90
<b>55</b>	161	139	122	108	98	92	87	84	81	79
<b>60</b>	129	113	100	90	82	77	74	71	68	67
<b>65</b>	100	89	80	72	67	63	60	58	57	56
<b>70</b>	75	67	60	55	52	50	48	46	45	44
<b>75</b>	51	45	41	39	38	35	33	31	29	27
<b>80</b>	28	25	25	23	21	19	17	16	16	17
<b>85</b>	11	9	9	9	8	7	7	7	7	8
<b>90</b>	1	2	2	2	2	2	2	2	2	2
<b>95</b>	38	33	33	36	37	35	36	33	31	27
<b>100</b>	85	92	103	107	114	115	115	107	104	99
<b>105</b>	135	146	162	183	207	224	233	229	225	212
<b>110</b>	187	199	219	248	282	315	342	370	387	383
<b>115</b>	237	251	275	305	345	396	445	486	520	545
<b>120</b>	285	302	326	358	402	459	518	570	620	664
<b>125</b>	329	346	370	406	452	508	569	636	697	748
<b>130</b>	368	387	413	449	494	546	604	667	729	790
<b>135</b>	407	425	451	485	525	573	626	684	740	795



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L022010904.IES**

**CANDELA TABULATION - (Cont.)**

<b>140</b>	441	459	483	513	551	593	638	688	736	784
<b>145</b>	473	489	510	536	568	603	641	681	721	760
<b>150</b>	501	516	532	554	578	607	637	668	701	730
<b>155</b>	527	538	551	566	586	607	629	652	675	697
<b>160</b>	550	555	566	577	589	604	620	635	649	665
<b>165</b>	568	573	577	585	593	601	609	619	629	638
<b>170</b>	582	585	588	590	593	598	602	607	611	616
<b>175</b>	589	591	592	593	594	595	596	597	598	599
<b>180</b>	590	590	590	590	590	590	590	590	590	590

**Vert.  
Angles**

**Horizontal Angles**

	<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>	659	659	659	659	659	659	659
<b>5</b>	516	510	505	501	499	497	497
<b>10</b>	395	385	376	370	365	363	362
<b>15</b>	300	289	281	274	269	266	266
<b>20</b>	230	221	214	208	203	201	200
<b>25</b>	181	175	169	165	161	159	159
<b>30</b>	148	144	140	137	135	134	133
<b>35</b>	126	123	121	119	117	117	117
<b>40</b>	111	108	107	106	106	105	105
<b>45</b>	99	97	97	97	97	97	97
<b>50</b>	89	88	88	88	89	89	89
<b>55</b>	78	78	79	80	81	81	81
<b>60</b>	66	66	67	68	71	73	73
<b>65</b>	55	55	55	56	57	62	63
<b>70</b>	44	44	44	43	41	44	48
<b>75</b>	27	27	27	29	29	26	31
<b>80</b>	17	18	19	20	21	20	21
<b>85</b>	8	9	9	10	10	10	11
<b>90</b>	2	2	2	2	2	2	1
<b>95</b>	25	25	25	26	26	28	26
<b>100</b>	94	91	90	87	85	83	83
<b>105</b>	205	202	198	198	195	174	213
<b>110</b>	391	377	384	355	364	384	403
<b>115</b>	567	583	591	599	626	687	695
<b>120</b>	697	727	763	797	839	858	863
<b>125</b>	805	844	895	924	943	958	965
<b>130</b>	844	893	932	959	982	998	1004
<b>135</b>	846	893	928	954	978	993	998
<b>140</b>	828	868	898	924	945	959	964
<b>145</b>	797	829	856	879	896	907	911
<b>150</b>	758	784	806	824	838	846	849
<b>155</b>	718	737	753	766	776	782	784
<b>160</b>	680	692	703	712	718	721	723
<b>165</b>	646	653	660	664	667	670	671
<b>170</b>	620	623	625	627	629	630	631
<b>175</b>	600	601	601	602	603	603	604
<b>180</b>	590	590	590	590	590	590	590

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L022010904.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	245.74	N.A.	5.60
0-30	526.86	N.A.	12.10
0-40	856.33	N.A.	19.70
0-60	1412.24	N.A.	32.40
0-80	1633.67	N.A.	37.50
0-90	1646.96	N.A.	37.80
10-90	1584.33	N.A.	36.40
20-40	610.60	N.A.	14.00
20-50	922.91	N.A.	21.20
40-70	710.24	N.A.	16.30
60-80	221.43	N.A.	5.10
70-80	67.09	N.A.	1.50
80-90	13.29	N.A.	0.30
90-110	268.40	N.A.	6.20
90-120	702.19	N.A.	16.10
90-130	1247.89	N.A.	28.60
90-150	2183.98	N.A.	50.10
90-180	2709.88	N.A.	62.20
110-180	2441.48	N.A.	56.00
0-180	4356.84	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

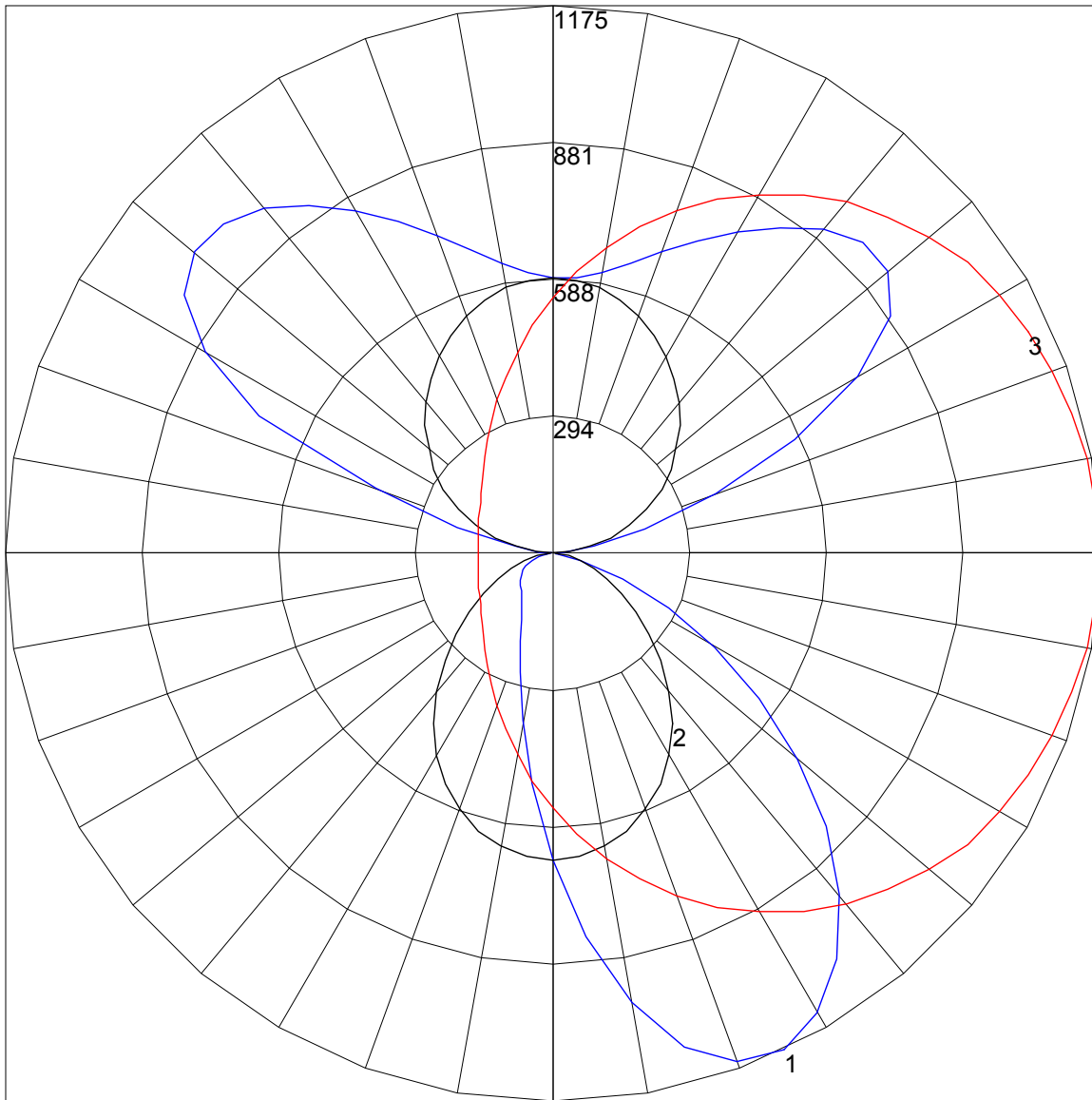
Zone	Lumens
0-10	62.63
10-20	183.11
20-30	281.12
30-40	329.47
40-50	312.32
50-60	243.59
60-70	154.33
70-80	67.09
80-90	13.29
90-100	50.12
100-110	218.29
110-120	433.78
120-130	545.70
130-140	518.04
140-150	418.06
150-160	295.69
160-170	173.38
170-180	56.84

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	104	104	104	104	95	95	95	95	77	77	77	60	60	60	45	45	45	38
1	95	91	88	84	87	83	80	77	68	66	64	53	52	51	40	39	39	33
2	87	80	74	69	79	73	68	64	60	56	53	47	45	43	36	34	33	28
3	80	71	64	58	72	64	58	54	53	48	45	42	39	37	32	30	28	24
4	73	63	55	49	66	57	51	46	47	42	38	38	34	31	29	26	25	21
5	67	56	48	42	61	51	44	39	42	37	33	34	30	27	26	24	22	18
6	62	50	42	37	56	46	39	34	38	33	29	30	27	24	24	21	19	16
7	57	45	37	32	52	41	35	30	34	29	25	28	24	21	22	19	17	14
8	53	41	33	28	48	38	31	26	31	26	23	25	22	19	20	17	15	13
9	49	37	30	25	45	34	28	23	29	24	20	23	20	17	18	16	14	12
10	46	34	27	22	42	31	25	21	26	21	18	21	18	15	17	14	12	10

POLAR GRAPH



Maximum Candela = 1175 Located At Horizontal Angle = 0, Vertical Angle = 25

# 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 (25) (Through Max. Cd.)