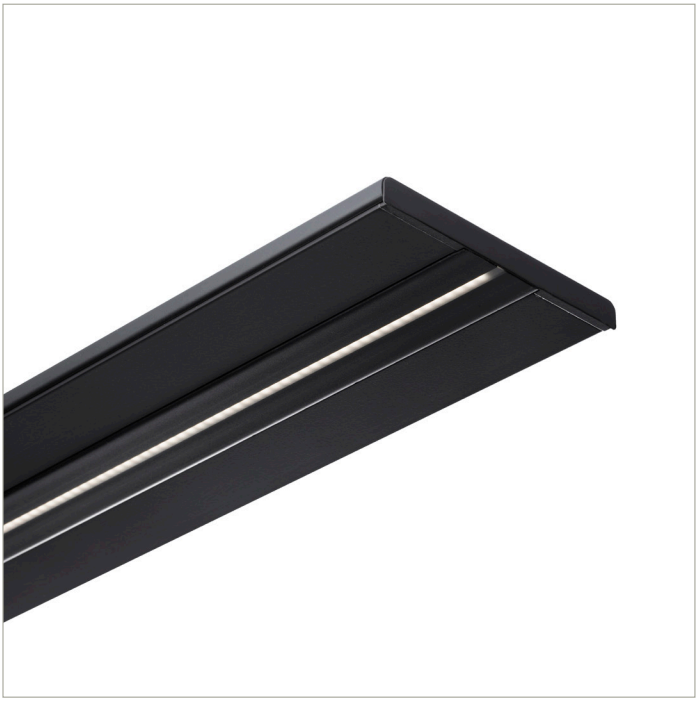
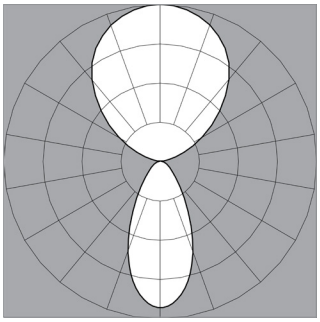
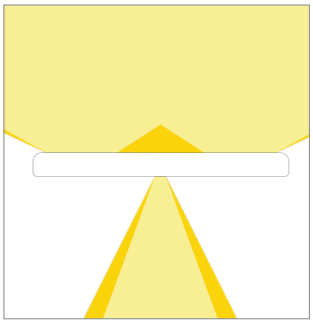






IES Report

ZipThree® | Ceiling Cable | 707 | Symmetric, up | 40° Symmetric, down | 90 CRI | SO

707-Z3-XX-4-48-CC-XX-XX-XX-X-0-Z-SO-359-U1S1-0-BL-X

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	76	78	80	83
Total Lumens, 4’ rail length (1219mm)	3877	4000	4081	4163
Lumens per foot (305mm)	969	1000	1020	1041
Lumens per foot UP (305mm)	708	730	745	760
Lumens per foot DOWN (305mm)	261	270	275	281
Input Power (W), 4’ rail length (1219mm)	51.3	51.3	51.3	51.3
Watts per foot (305mm)	12.9	12.9	12.9	12.9
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.

* R9: ~74 @ 3500K

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

NVLAP TESTING
NVLAP LAB CODE 200927-0

Report No: L031805807R01 **Issue Date: 4/12/2018**

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

Model Number: 707-Z3-CC-Z-SO-359-U1S1-BL

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.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 3/29/18

Date of Tests: 4/4/18 - 4/9/18

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	1/9/19
BK PRECISION	1747	PS-DC04	1/10/19
Fluke Digital Thermometer	52K/J	MT-TP05	1/10/19
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.

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

NVLAP TESTING
NVLAP LAB CODE 200927-0

Test Summary	
Manufacturer:	Vode Lighting
Model Number:	707-Z3-CC-Z-SO-359-U1S1-BL
Driver Model Number:	MEAN WELL HLG-40H-36A(2 DRIVERS)
Total Lumens:	4081.24
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.43
Input Power (W):	51.34
Input Power Factor:	0.99
Current ATHD @ 120V(%):	9%
Current ATHD @ 277V(%):	N/A
Efficacy:	79
Color Rendering Index (CRI):	96
Correlated Color Temperature (K):	3389
Chromaticity Coordinate x:	0.4116
Chromaticity Coordinate y:	0.3935
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:35
Total Operating Time (Hours):	1:35

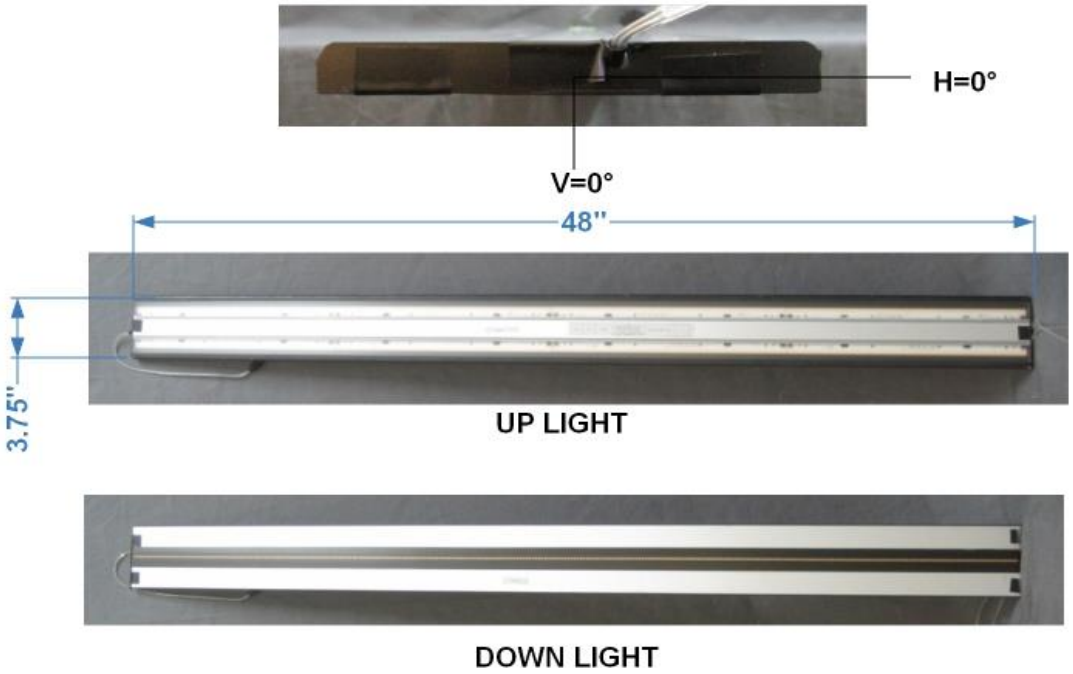


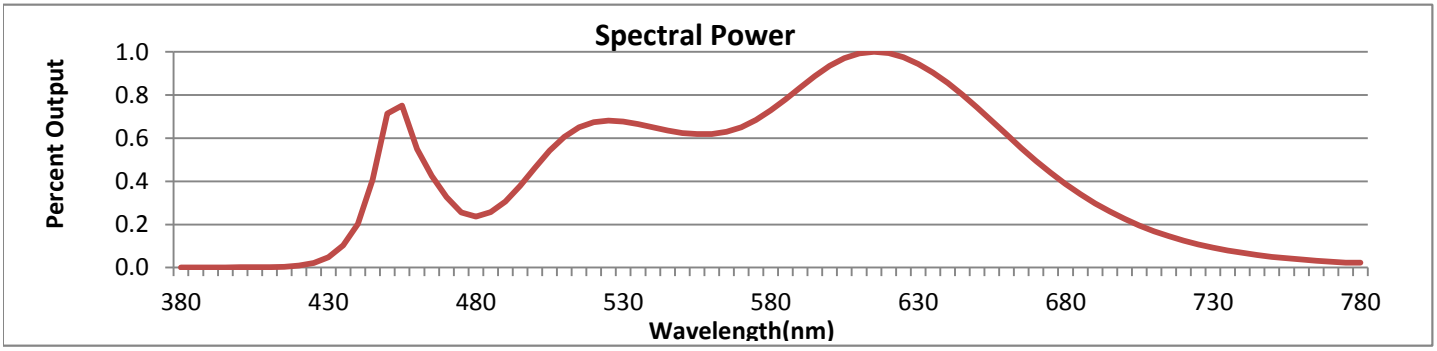
FIG. 1 LUMINAIRE

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

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

Report No: L031805807R01

NVLAP TESTING
NVLAP LAB CODE 200927-0



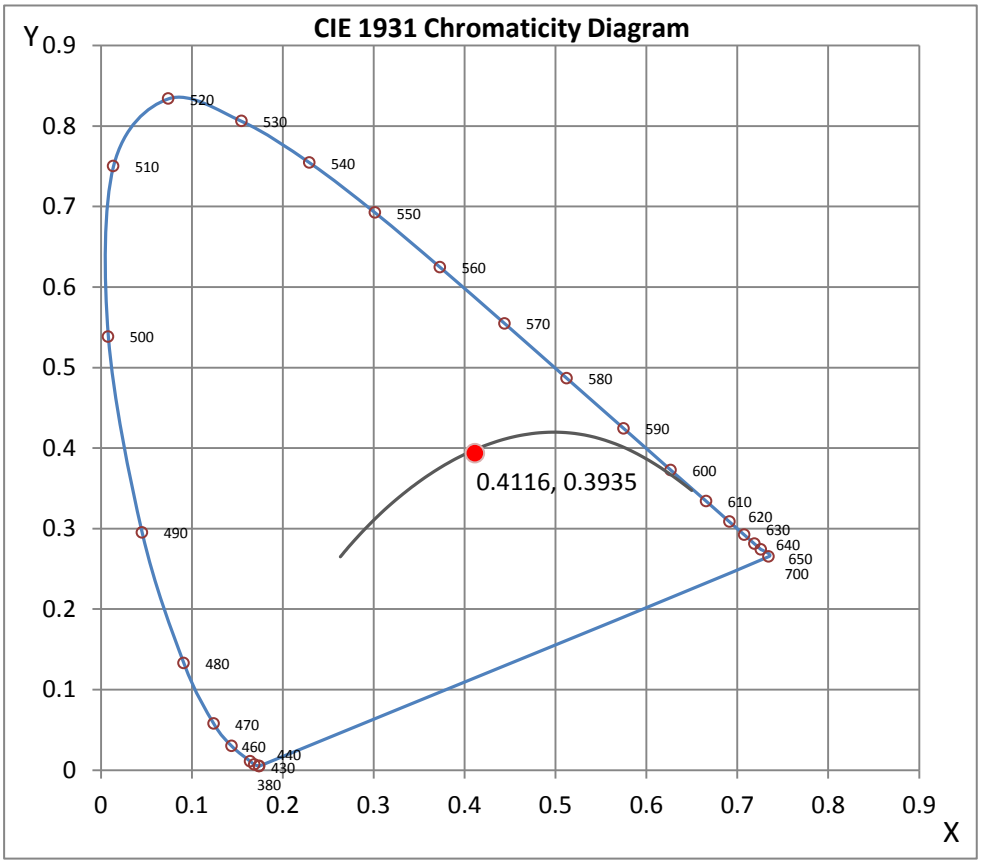
Wavelength	W/m²nm	440	0.2019	510	0.6066	580	0.7289	650	0.7425	720	0.1251
380	0.0010	450	0.7143	520	0.6748	590	0.8349	660	0.6173	730	0.0925
390	0.0010	460	0.5494	530	0.6769	600	0.9347	670	0.4945	740	0.0681
400	0.0012	470	0.3264	540	0.6507	610	0.9927	680	0.3877	750	0.0499
410	0.0023	480	0.2370	550	0.6241	620	0.9953	690	0.2976	760	0.0369
420	0.0090	490	0.3063	560	0.6186	630	0.9448	700	0.2254	770	0.0270
430	0.0478	500	0.4617	570	0.6511	640	0.8564	710	0.1688	780	0.0234

CRI & CCT

x	0.4116
y	0.3935
u'	0.2387
v'	0.5134
CRI	96.30
CCT	3389
Duv	-0.00012

R Values

R1	98.07
R2	99.42
R3	98.75
R4	96.51
R5	98.40
R6	95.35
R7	94.74
R8	88.99
R9	73.33
R10	99.66
R11	90.02
R12	81.27
R13	97.87
R14	98.24



*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: 10*

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

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

Photometric Test Report

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L031805807R01.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L031805807R01
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 4/12/2018
[MANUFAC] Vode Lighting
[LUMCAT] 707-Z3-CC-Z-SO-359-U1S1-BL
[LUMINAIRE] ZipThree Suspended, 48", 3500K, 90 CRI, zipper board,
[MORE] symmetric lens up/40° symmetric lens down, standard output, black 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] 120VAC, 51.34W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4081
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	79
Total Luminaire Watts	51.34
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)	0.25 ft
Luminous Width (90-270)	3.98 ft
Luminous Height	0.02 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	580	1572	6311
55	254	625	3106
65	153	317	1442
75	96	205	779
85	65	73	352

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L031805807R01.IES

CANDELA TABULATION

	0	5	10	15	20	25	30	35	40	45
0.0	1103	1103	1103	1103	1103	1103	1103	1103	1103	1103
1.0	1101	1101	1102	1102	1102	1102	1102	1102	1102	1102
3.0	1091	1091	1092	1092	1093	1093	1094	1094	1095	1096
5.0	1070	1070	1071	1072	1073	1075	1077	1079	1082	1084
7.0	1037	1038	1039	1041	1043	1047	1051	1055	1060	1065
9.0	993	993	995	999	1004	1010	1016	1024	1032	1040
11.0	937	938	941	946	954	962	972	983	995	1007
13.0	869	871	875	882	892	904	918	933	950	967
15.0	795	797	803	811	824	840	857	877	899	921
17.0	712	715	721	732	747	766	788	813	840	868
19.5	606	609	616	629	647	669	695	726	760	795
22.5	480	483	491	505	525	549	580	615	654	697
25.5	364	367	375	389	409	434	465	503	546	593
29.0	253	256	263	275	292	315	345	381	423	473
33.0	161	163	168	177	191	209	233	264	302	346
37.5	94	95	99	105	114	127	143	165	194	229
42.5	52	53	55	58	64	71	82	96	114	138
47.5	30	30	31	33	36	41	47	56	66	80
55.0	15	15	15	16	18	19	22	25	30	36
65.0	7	7	7	7	8	9	10	11	12	14
75.0	3	3	3	3	3	4	4	5	5	6
85.0	1	1	1	1	1	1	1	1	1	1
90.0	0	0	1	1	1	1	1	1	1	1
95.0	24	24	25	25	25	25	25	26	26	27
100.0	65	65	65	66	66	67	68	70	71	72
105.0	117	117	117	118	120	121	123	126	128	131
110.0	182	183	184	185	187	190	193	196	200	204
115.0	263	263	264	266	269	272	276	280	285	290
120.0	357	357	358	361	364	368	372	378	383	389
125.0	463	464	465	468	471	476	481	486	493	499
130.0	578	578	580	583	586	591	596	601	608	614
135.0	695	695	697	699	703	707	711	716	722	727
140.0	807	808	809	811	814	817	820	824	828	832
145.0	907	908	909	910	912	914	916	919	921	924
150.0	992	992	992	993	994	995	997	998	1000	1001
155.0	1059	1059	1059	1060	1060	1061	1062	1063	1064	1065
160.0	1112	1112	1112	1113	1113	1113	1114	1115	1115	1116
165.0	1153	1153	1153	1153	1154	1154	1155	1155	1156	1157
170.0	1184	1183	1184	1184	1184	1184	1185	1185	1186	1186
175.0	1203	1203	1203	1203	1204	1204	1204	1204	1204	1204
180.0	1211	1211	1211	1211	1211	1211	1211	1211	1211	1211

Vert. Angles	**Horizontal Angles**								
	50	**55**	**60**	**65**	**70**	**75**	**80**	**85**	**90**
0.0	1103	1103	1103	1103	1103	1103	1103	1103	1103
1.0	1102	1102	1102	1102	1103	1103	1103	1103	1102
3.0	1097	1098	1099	1099	1100	1101	1101	1101	1101
5.0	1086	1089	1091	1093	1095	1096	1097	1097	1097
7.0	1070	1074	1078	1083	1086	1089	1090	1092	1092
9.0	1048	1056	1063	1069	1075	1079	1082	1084	1085
11.0	1020	1031	1042	1052	1060	1067	1072	1074	1076
13.0	984	1001	1016	1030	1042	1051	1058	1062	1063
15.0	944	966	986	1005	1021	1033	1042	1048	1049

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L031805807R01.IES

CANDELA TABULATION - (Cont.)

17.0	898	925	951	975	995	1011	1023	1030	1033
19.5	831	867	900	932	958	979	995	1004	1007
22.5	742	787	829	871	905	933	954	966	970
25.5	645	697	749	799	841	877	903	918	922
29.0	528	587	647	705	757	799	831	851	858
33.0	400	460	522	586	646	698	735	759	767
37.5	273	326	385	447	511	567	609	635	643
42.5	168	208	253	308	363	409	456	482	491
47.5	100	127	156	195	235	275	308	331	339
55.0	45	56	71	89	110	130	149	162	166
65.0	17	21	26	31	38	45	51	55	57
75.0	7	8	10	11	13	15	17	18	19
85.0	1	2	2	2	2	3	3	3	3
90.0	1	1	1	1	1	0	0	0	0
95.0	27	27	27	28	28	28	28	27	27
100.0	73	75	76	77	78	78	79	79	79
105.0	133	136	138	140	142	144	144	145	145
110.0	208	211	215	218	221	223	224	225	225
115.0	295	300	305	309	312	315	317	318	319
120.0	395	401	407	411	415	418	420	422	423
125.0	506	512	517	522	526	529	532	534	535
130.0	620	626	631	635	639	642	645	647	648
135.0	732	737	741	744	748	751	754	756	757
140.0	835	839	842	845	848	850	853	855	856
145.0	926	928	931	933	935	938	940	942	943
150.0	1003	1005	1006	1009	1011	1013	1015	1016	1017
155.0	1066	1068	1069	1071	1073	1074	1076	1077	1078
160.0	1118	1119	1120	1121	1123	1124	1126	1126	1126
165.0	1158	1159	1160	1161	1162	1162	1163	1164	1164
170.0	1187	1187	1188	1188	1189	1189	1190	1190	1190
175.0	1204	1205	1205	1205	1205	1205	1205	1206	1205
180.0	1211	1211	1211	1211	1211	1211	1211	1211	1211

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L031805807R01.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	342.88	N.A.	8.40
0-30	620.86	N.A.	15.20
0-40	825.63	N.A.	20.20
0-60	1039.58	N.A.	25.50
0-80	1094.73	N.A.	26.80
0-90	1100.61	N.A.	27.00
10-90	1017.73	N.A.	24.90
20-40	482.74	N.A.	11.80
20-50	635.63	N.A.	15.60
40-70	253.47	N.A.	6.20
60-80	55.15	N.A.	1.40
70-80	15.64	N.A.	0.40
80-90	5.88	N.A.	0.10
90-110	175.88	N.A.	4.30
90-120	466.30	N.A.	11.40
90-130	913.40	N.A.	22.40
90-150	2048.77	N.A.	50.20
90-180	2980.63	N.A.	73.00
110-180	2804.75	N.A.	68.70
0-180	4081.24	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	82.88
10-20	260.00
20-30	277.98
30-40	204.77
40-50	152.89
50-60	61.07
60-70	39.51
70-80	15.64
80-90	5.88
90-100	34.13
100-110	141.76
110-120	290.42
120-130	447.10
130-140	558.86
140-150	576.51
150-160	490.90
160-170	326.57
170-180	114.40

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L031805807R01.IES

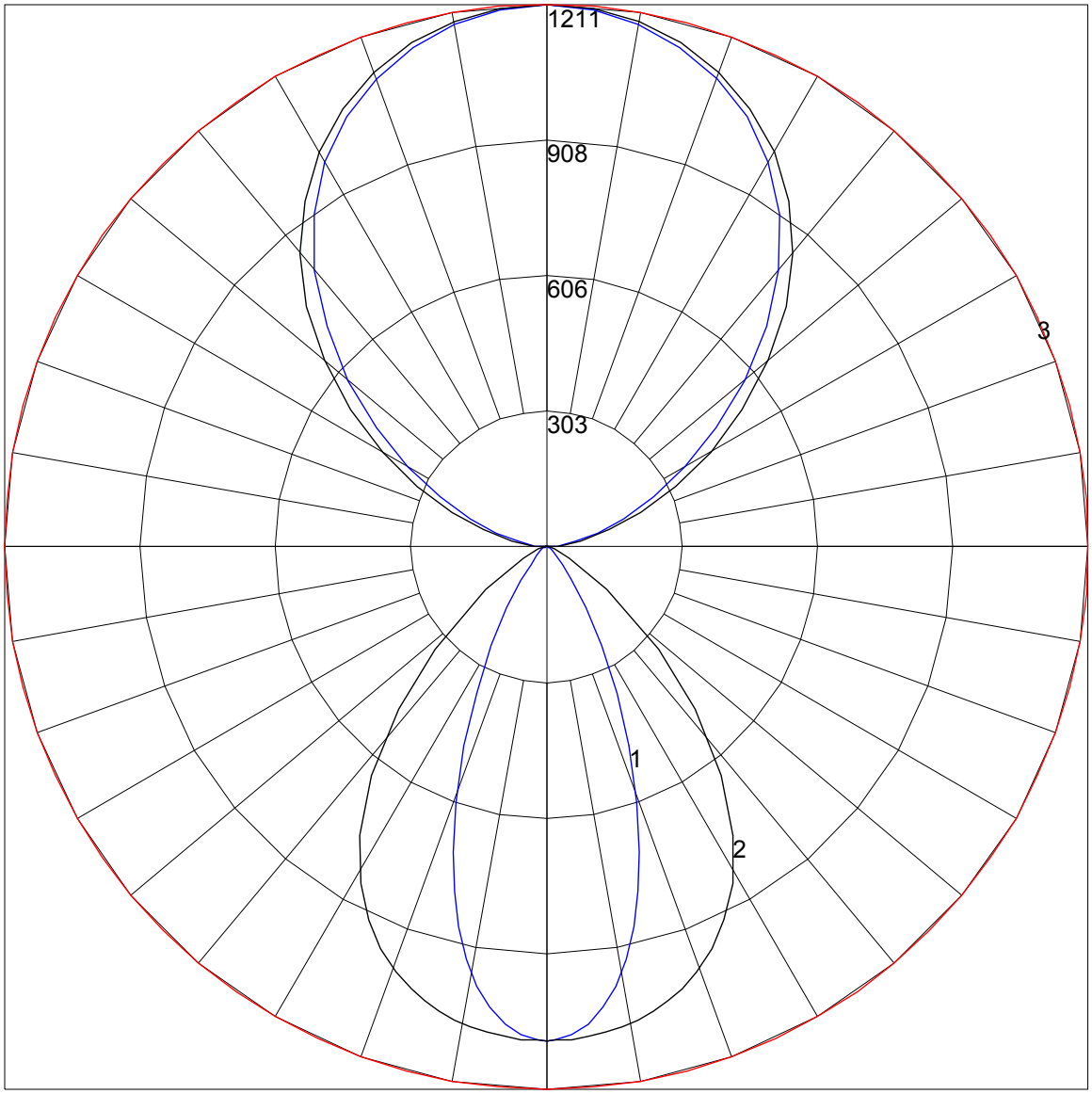
COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	91	91	91	91	71	71	71	52	52	52	35	35	35	27
1	94	90	86	83	84	80	78	75	63	61	59	47	46	45	32	32	31	24
2	86	79	74	70	77	71	67	63	56	53	51	42	41	39	30	29	28	22
3	79	71	64	59	71	64	58	54	51	47	44	38	36	34	27	26	25	20
4	73	63	56	51	65	57	51	47	46	42	38	35	32	30	25	24	22	18
5	67	57	50	44	60	52	45	41	41	37	34	32	29	27	23	22	20	17
6	62	51	44	39	56	47	40	36	38	33	30	29	26	24	21	20	19	15
7	58	47	40	34	52	42	36	32	34	30	27	27	24	22	20	18	17	14
8	54	43	36	31	48	39	33	29	32	27	24	25	22	20	19	17	16	13
9	50	39	32	28	45	36	30	26	29	25	22	23	20	18	17	16	14	12
10	47	36	29	25	42	33	27	23	27	23	20	22	19	17	16	15	13	11

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L031805807R01.IES

POLAR GRAPH



Maximum Candela = 1211 Located At Horizontal Angle = 0, Vertical Angle = 180
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 (180) (Through Max. Cd.)