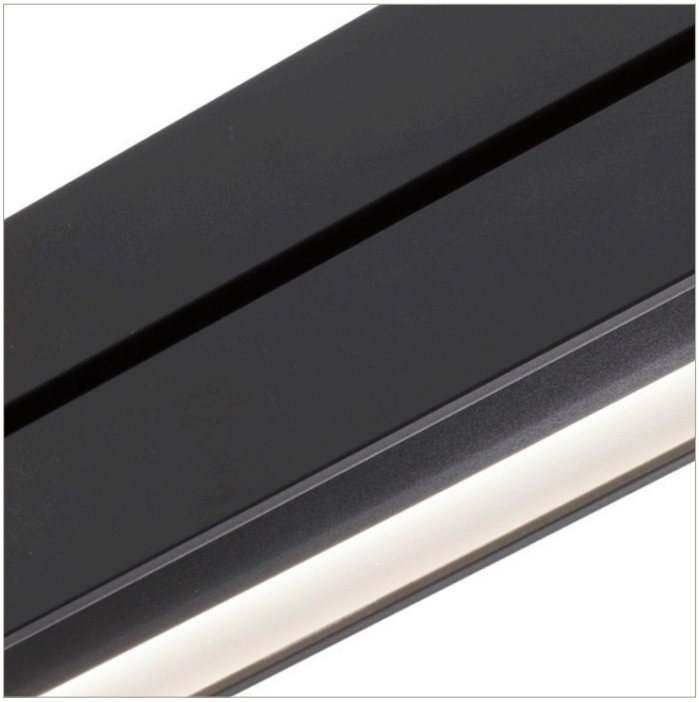
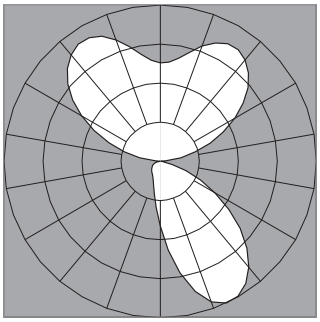
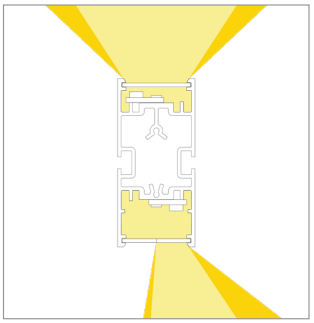
vode Adaptive architectural lighting systems







IES Report

DoubleBox™ | 107 | 120° Batwing, up | 85° Asymmetric, down | 90 CRI | SO

107-DB-XX-4-48-XX-XX-XX-XX-X-X-Z-SO-359-G1A1-X-BL-X

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	71	73	75	76
Total Lumens, 4' rail length (1219mm)	3405	3513	3584	3656
Lumens per foot (305mm)	851	878	896	914
Lumens per foot UP (305mm)	603	622	635	648
Lumens per foot DOWN (305mm)	248	256	261	267
Input Power (W), 4' rail length (1219mm)	48.12	48.12	48.12	48.12
Watts per foot (305mm)	12.1	12.1	12.1	12.1
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.

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

NVLAP TESTING
NVLAP LAB CODE 200927-0

Report No: L011800109 **Issue Date: 1/12/2018**

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

Model Number: 107-DB-48-Z-SO-359-G1A1-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: 1/5/18

Date of Tests: 1/10/18 - 1/12/18

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:	107-DB-48-Z-SO-359-G1A1-BL
Driver Model Number:	MEAN WELL HLG-40H-36A (2 DRIVERS)
Total Lumens:	3584.23
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.4
Input Power (W):	48.12
Input Power Factor:	0.99
Current ATHD @ 120V(%):	10%
Current ATHD @ 277V(%):	N/A
Efficacy:	74
Color Rendering Index (CRI):	96
Correlated Color Temperature (K):	3366
Chromaticity Coordinate x:	0.4118
Chromaticity Coordinate y:	0.3915
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:45
Total Operating Time (Hours):	2:20

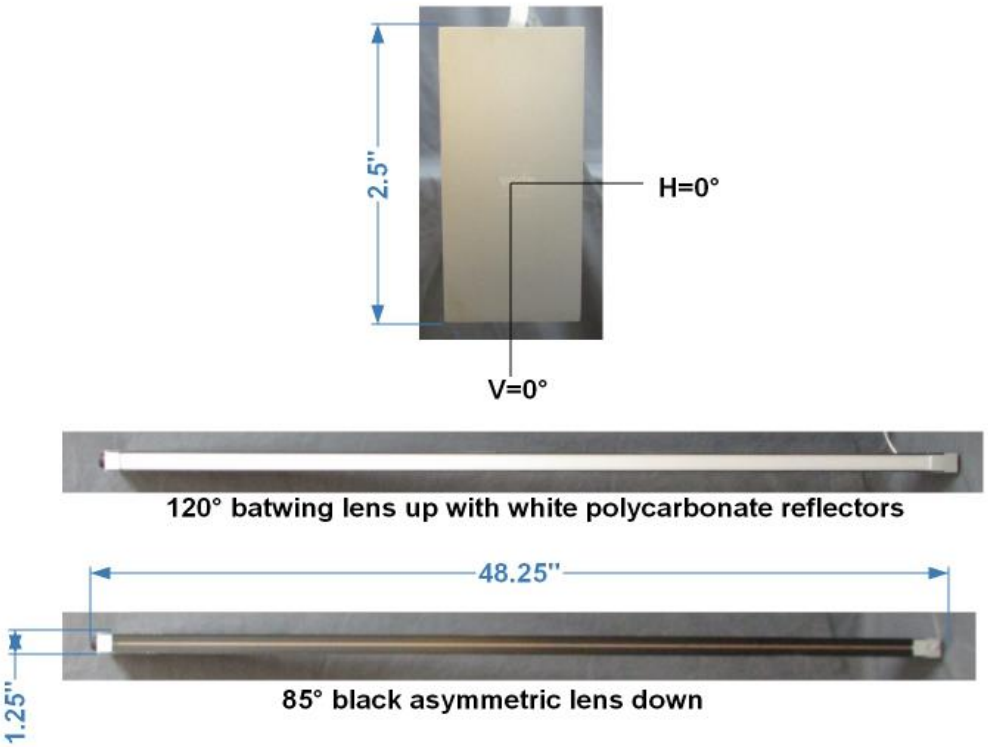


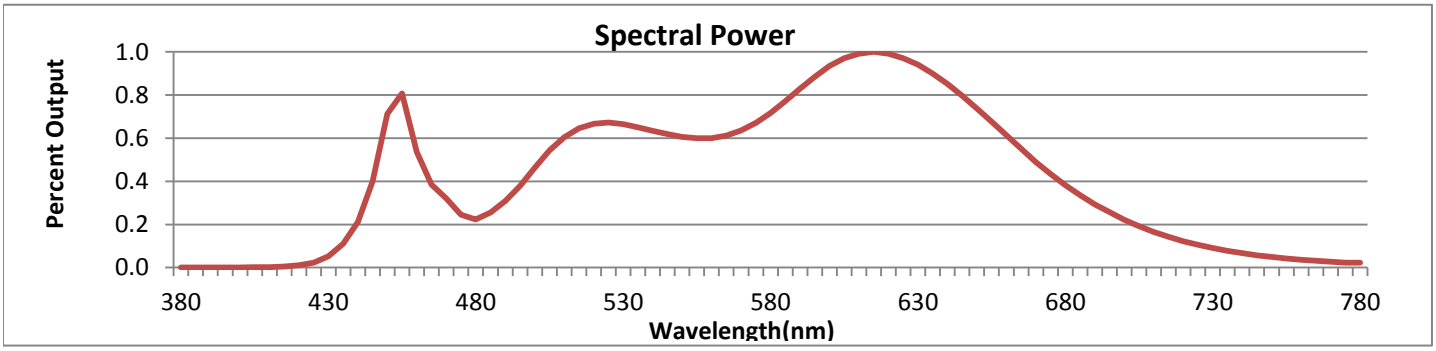
FIG. 1 LUMINAIRE

*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: L011800109

NVLAP TESTING
NVLAP LAB CODE 200927-0



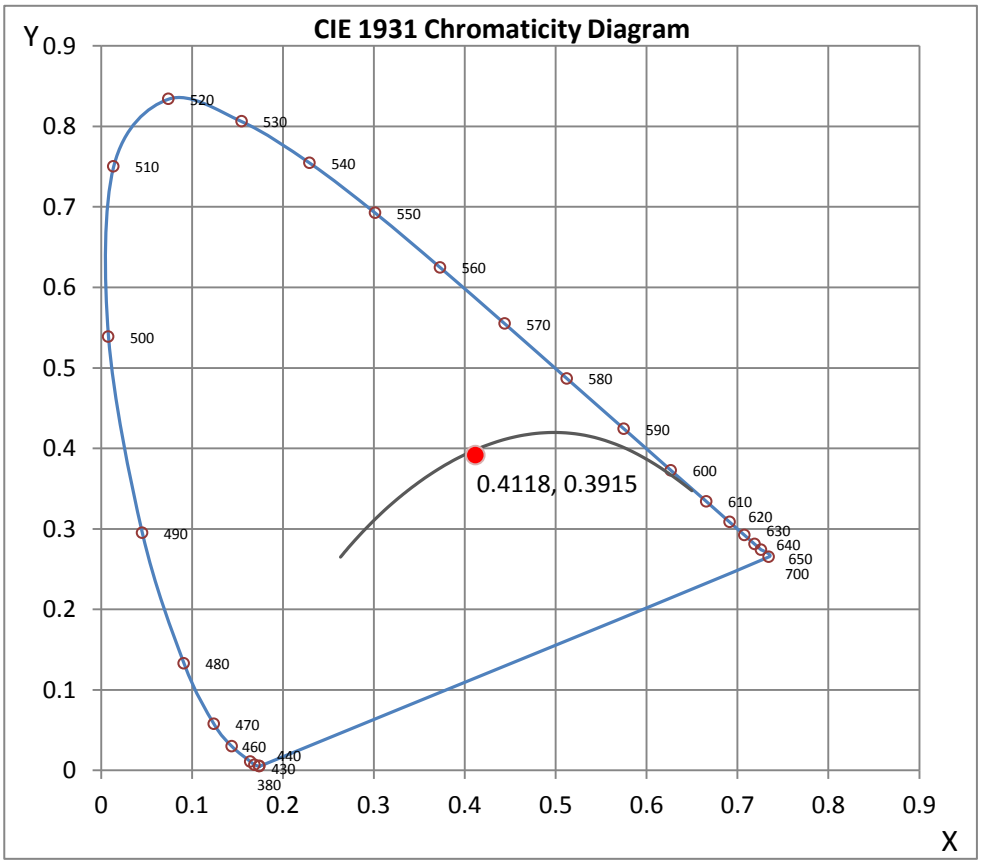
Wavelength	W/m²nm	440	0.2109	510	0.6046	580	0.7170	650	0.7387	720	0.1229
380	0.0008	450	0.7134	520	0.6665	590	0.8305	660	0.6142	730	0.0904
390	0.0010	460	0.5367	530	0.6660	600	0.9347	670	0.4893	740	0.0668
400	0.0012	470	0.3212	540	0.6346	610	0.9923	680	0.3826	750	0.0493
410	0.0024	480	0.2232	550	0.6065	620	0.9920	690	0.2932	760	0.0365
420	0.0102	490	0.3086	560	0.6005	630	0.9413	700	0.2216	770	0.0270
430	0.0523	500	0.4633	570	0.6349	640	0.8520	710	0.1657	780	0.0233

CRI & CCT

x	0.4118
y	0.3915
u'	0.2396
v'	0.5126
CRI	95.70
CCT	3366
Duv	-0.00103

R Values

R1	97.23
R2	98.66
R3	98.97
R4	95.37
R5	97.34
R6	94.12
R7	94.48
R8	89.24
R9	74.44
R10	97.80
R11	88.29
R12	82.74
R13	96.85
R14	98.48



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

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NVLAP TESTING
NVLAP LAB CODE 200927-0

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: 11*

*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 : L011800109.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L011800109
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 1/12/2018
[MANUFAC] Vode Lighting
[LUMCAT] 107-DB-48-Z-SO-359-G1A1-BL
[LUMINAIRE] DoubleBox LED, 48", 3500K, 90 CRI, zipper board,
[MORE] 120° batwing lens up with white polycarbonate reflectors/85° black asymmetric lens down, standard output
[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, 48.12W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3584
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	74
Total Luminaire Watts	48.12
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)	3.77 ft
Luminous Height	0.21 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	7489	8371	9348
55	4389	4931	5781
65	2023	2468	3798
75	356	848	2510
85	9	30	1162

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L011800109.IES

CANDELA TABULATION

	0	5	10	15	20	25	30	35	40	45
0	526.79	526.79	526.79	526.79	526.79	526.79	526.79	526.79	526.79	526.79
5	664.29	663.97	663.64	658.63	654.71	649.81	643.98	637.27	629.71	621.38
10	770.08	769.18	765.05	760.16	753.77	745.92	736.68	724.68	711.65	697.62
15	831.36	829.85	825.51	820.52	813.74	803.68	792.59	780.57	767.71	752.45
20	850.79	848.83	845.65	841.28	833.25	825.03	815.92	803.91	792.24	772.69
25	836.35	833.79	831.88	826.08	820.31	812.66	804.05	796.85	778.58	759.37
30	789.85	787.71	786.07	781.59	776.74	770.90	764.70	753.46	739.27	722.11
35	721.26	719.18	717.17	715.37	710.49	705.20	698.73	686.34	674.96	657.12
40	636.39	635.23	632.89	630.35	627.78	623.71	613.91	604.18	591.44	573.34
45	538.41	538.57	537.47	536.01	533.00	528.57	520.17	511.89	496.06	480.71
50	436.28	435.89	435.90	435.07	432.37	429.31	423.48	413.07	393.64	373.53
55	335.30	335.52	336.83	337.02	331.37	333.59	328.71	320.13	308.01	294.03
60	242.47	242.87	244.45	245.30	245.39	243.94	240.19	234.99	226.39	213.20
65	158.93	160.17	162.31	164.00	165.22	165.52	164.03	160.69	155.53	148.18
70	87.36	88.91	91.54	93.60	96.73	98.72	99.45	98.93	96.85	93.95
75	27.90	30.44	34.55	35.40	38.96	42.66	45.40	47.62	50.84	49.73
80	1.83	4.64	3.84	4.80	5.80	6.91	7.97	10.80	11.89	15.20
85	0.66	0.95	1.02	1.06	1.07	1.08	1.00	1.01	1.17	1.66
90	0.92	1.00	1.00	1.00	0.91	0.91	0.91	0.91	0.91	0.91
95	25.41	40.96	42.70	45.87	48.58	50.86	52.27	58.27	54.10	49.21
100	126.71	132.75	135.76	138.62	140.25	140.78	140.64	139.16	133.10	126.05
105	229.68	234.29	237.82	239.66	241.35	242.72	241.10	235.94	229.02	215.87
110	341.61	345.39	348.58	350.18	351.95	350.59	348.54	341.49	328.65	308.54
115	459.19	461.21	463.43	464.09	463.89	462.08	455.85	445.25	430.45	405.74
120	573.45	574.00	575.39	575.07	574.06	567.92	559.38	549.42	523.77	492.80
125	679.24	679.07	678.54	676.03	673.15	663.39	653.56	632.21	606.19	573.44
130	768.42	767.69	765.63	759.96	753.38	742.41	726.12	703.52	672.30	633.50
135	838.50	837.12	832.94	825.55	815.67	803.49	781.10	758.09	720.67	683.08
140	887.50	884.94	878.80	869.38	857.45	842.64	817.99	788.81	754.46	711.99
145	913.07	909.70	902.47	891.60	876.06	857.52	835.13	802.53	768.49	728.59
150	911.08	907.57	900.69	887.07	870.44	850.64	827.96	798.96	765.37	728.65
155	880.19	876.57	870.68	857.61	841.73	822.51	800.40	776.87	747.02	716.01
160	823.89	821.81	815.32	806.87	792.98	777.14	759.07	738.05	716.05	694.60
165	753.48	752.10	747.57	742.29	734.88	723.36	710.78	697.28	682.98	667.34
170	685.55	684.64	682.27	679.56	676.18	672.15	667.49	660.55	653.32	645.76
175	637.22	636.84	636.46	635.35	634.43	633.36	632.16	630.84	629.41	627.88
180	615.00	615.00	615.00	615.00	615.00	615.00	615.00	615.00	615.00	615.00

Vert. Angles **Horizontal Angles**

	50	55	60	65	70	75	80	85	90	95
0	526.79	526.79	526.79	526.79	526.79	526.79	526.79	526.79	526.79	526.79
5	612.33	602.64	592.38	581.62	570.46	558.96	547.20	535.33	523.38	510.56
10	682.72	667.06	651.14	628.70	606.15	583.13	559.80	536.28	512.84	487.76
15	732.75	707.68	682.00	655.89	629.50	596.00	561.98	527.95	494.40	458.09
20	749.56	725.33	700.63	665.14	630.01	595.36	551.88	508.26	465.75	420.38
25	741.23	714.96	683.50	653.30	611.97	570.26	525.75	475.02	426.48	375.50
30	700.34	676.37	648.31	610.69	575.05	528.39	484.93	429.58	377.90	324.49
35	635.80	614.34	583.53	550.30	511.40	468.54	421.89	370.81	320.27	269.43
40	553.17	528.27	499.80	468.32	429.11	388.79	346.78	302.57	256.17	211.89
45	458.60	435.60	407.61	377.27	346.07	312.63	273.69	234.28	195.72	159.33
50	364.27	343.86	318.07	291.14	265.01	234.94	202.96	171.40	142.08	116.11
55	276.82	257.36	236.71	214.44	191.91	168.41	145.01	122.37	100.39	84.61
60	199.83	184.60	168.61	151.77	134.50	117.33	100.75	85.70	77.14	59.77

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L011800109.IES

CANDELA TABULATION - (Cont.)

65	137.43	125.74	114.69	103.03	92.07	83.11	73.81	58.68	50.40	42.20
70	87.38	80.88	73.84	66.76	59.76	53.09	46.45	39.93	34.96	29.82
75	48.16	46.26	42.65	39.41	35.63	31.54	28.20	25.30	22.01	19.50
80	17.81	18.52	18.57	17.79	16.98	15.69	14.26	13.33	12.12	11.09
85	2.35	2.86	2.97	3.03	3.90	4.52	4.40	4.75	4.65	4.42
90	0.91	0.75	0.83	0.83	0.75	0.75	0.83	0.75	0.83	1.08
95	47.13	42.03	35.70	31.42	28.86	26.46	23.62	24.36	23.92	22.54
100	117.36	104.50	92.70	85.28	79.68	76.89	74.94	73.72	74.65	72.57
105	200.15	180.90	160.52	145.23	133.86	125.27	121.45	120.36	117.83	117.33
110	287.70	261.25	233.38	211.38	195.71	183.68	177.47	173.54	172.22	171.64
115	369.91	339.13	307.26	277.80	255.67	240.11	231.21	226.96	223.62	222.98
120	456.29	417.13	375.57	335.16	311.31	295.82	284.27	276.29	273.77	274.34
125	527.93	481.67	435.42	388.84	361.88	343.94	331.61	323.81	320.11	320.12
130	589.33	538.60	490.15	446.85	412.71	389.55	374.00	364.89	361.29	360.70
135	632.92	583.34	534.28	492.03	457.23	431.75	415.20	404.60	399.16	400.77
140	666.88	617.66	571.47	529.55	496.48	470.04	452.40	441.05	434.78	436.59
145	684.71	641.86	598.89	560.80	528.80	504.36	486.44	476.12	469.24	470.82
150	690.58	652.37	615.58	583.61	553.93	534.56	517.04	508.54	501.87	503.02
155	684.80	654.36	625.78	598.15	577.74	559.54	545.53	537.39	530.69	532.10
160	672.21	649.12	626.90	610.32	594.27	578.78	570.57	563.14	556.68	558.68
165	652.74	640.28	627.82	615.45	603.22	596.55	590.57	584.84	579.68	581.13
170	637.96	629.96	622.00	617.54	613.25	609.07	605.02	601.10	597.45	598.39
175	626.25	624.56	622.80	620.99	619.14	617.27	615.35	613.50	611.65	612.08
180	615.00	615.00	615.00	615.00	615.00	615.00	615.00	615.00	615.00	615.00

Vert. Angles	**Horizontal Angles**									
	100	**105**	**110**	**115**	**120**	**125**	**130**	**135**	**140**	**145**
0	526.79	526.79	526.79	526.79	526.79	526.79	526.79	526.79	526.79	526.79
5	497.86	485.41	473.24	461.46	450.17	439.45	429.38	420.04	411.49	403.81
10	463.08	438.85	415.27	392.50	370.70	352.74	335.97	320.43	306.25	293.54
15	422.56	387.72	356.08	326.18	299.33	273.77	249.66	230.76	215.81	201.80
20	376.26	335.06	297.50	262.78	229.23	205.14	183.12	162.03	143.47	132.89
25	326.25	281.88	241.08	203.01	175.65	148.92	127.67	112.85	98.86	87.03
30	273.26	229.91	187.15	156.86	127.50	107.81	90.91	77.21	69.00	60.81
35	221.75	179.90	144.54	115.87	94.63	77.47	65.51	56.21	49.29	44.80
40	171.82	135.47	108.40	84.96	69.41	57.49	48.43	42.72	37.75	34.90
45	127.82	100.22	79.38	63.91	51.59	43.78	38.14	33.51	31.17	28.87
50	93.23	73.84	58.35	48.23	40.60	34.86	31.00	28.57	26.63	25.38
55	68.33	54.88	44.80	37.26	32.37	29.01	26.56	24.77	23.62	22.70
60	49.22	41.08	34.77	30.02	26.63	24.42	22.98	21.60	20.59	19.91
65	35.93	30.87	27.05	24.20	22.04	20.52	19.28	18.23	17.80	17.48
70	26.05	22.92	20.63	18.80	17.50	16.47	15.72	15.20	15.01	14.92
75	17.54	16.09	14.52	13.66	13.18	12.64	12.24	11.84	11.72	11.75
80	10.21	9.38	9.17	8.88	8.66	8.46	8.19	8.20	8.34	8.36
85	4.36	4.24	4.51	4.62	4.24	4.01	3.81	3.66	3.67	3.67
90	1.00	0.91	0.91	0.91	1.08	1.08	1.08	1.08	1.08	1.16
95	23.78	25.36	27.49	30.86	33.15	35.73	39.44	42.85	39.93	39.45
100	74.17	75.21	78.21	82.78	90.23	97.17	106.30	112.12	113.21	115.94
105	119.95	122.54	126.50	136.12	150.73	165.59	179.02	189.82	197.47	201.20
110	173.50	178.68	185.95	199.16	218.93	241.09	261.31	278.04	290.99	290.70
115	225.78	232.45	243.65	261.57	288.03	320.26	351.23	371.22	384.84	392.10
120	277.89	284.54	297.04	317.26	347.59	388.96	428.21	457.90	481.91	498.13
125	323.82	332.24	346.70	370.45	408.47	450.73	494.54	539.46	571.16	593.11
130	365.26	375.49	392.79	422.56	460.58	504.42	552.38	596.12	634.32	664.82
135	406.21	416.61	436.76	466.07	502.94	547.45	594.24	642.83	679.69	715.40

CANDELA TABULATION - (Cont.)

140	442.37	453.30	474.50	501.92	538.86	580.81	626.38	670.36	712.46	745.28
145	475.79	488.49	507.32	533.09	566.24	604.76	644.13	685.04	723.21	757.07
150	505.87	519.04	533.78	557.65	583.85	616.36	650.65	684.93	719.03	751.14
155	534.95	544.21	557.91	573.74	596.90	621.19	647.65	675.31	703.23	730.72
160	561.64	564.95	576.79	588.78	601.37	620.01	639.63	658.61	676.78	696.18
165	583.15	585.42	587.96	597.56	606.89	616.42	626.08	638.04	651.08	662.66
170	599.62	601.00	602.57	604.30	606.19	612.22	618.25	624.15	629.86	635.34
175	612.53	613.06	613.58	614.13	614.69	615.26	615.85	616.44	617.04	617.63
180	615.00	615.00	615.00	615.00	615.00	615.00	615.00	615.00	615.00	615.00

Vert. Angles	**Horizontal Angles**						
	150	**155**	**160**	**165**	**170**	**175**	**180**
0	526.79	526.79	526.79	526.79	526.79	526.79	526.79
5	397.05	391.26	386.50	382.79	380.18	378.69	378.32
10	282.42	272.30	263.94	257.42	252.81	250.14	249.44
15	189.43	178.83	170.10	162.88	157.65	154.61	153.78
20	123.47	114.83	107.58	101.95	97.65	95.06	94.33
25	80.56	74.93	70.07	66.05	63.18	61.31	60.78
30	54.92	51.55	48.60	46.13	44.30	43.15	42.85
35	40.42	38.26	36.57	35.14	34.04	33.39	33.22
40	32.56	30.70	29.73	28.89	28.26	27.86	27.73
45	27.63	26.33	25.72	25.28	24.93	24.63	24.58
50	24.46	23.85	23.30	22.98	22.77	22.59	22.59
55	22.19	21.72	21.44	21.25	21.04	20.91	20.93
60	19.53	19.32	19.35	19.42	19.55	19.50	19.60
65	17.29	17.23	17.18	17.30	17.42	17.83	17.94
70	15.12	15.21	15.19	15.10	14.76	15.07	15.45
75	11.90	12.22	12.62	12.88	12.70	11.98	12.95
80	8.61	8.80	9.11	9.39	9.70	9.27	9.80
85	3.76	3.88	3.95	4.16	4.38	4.63	4.32
90	1.16	1.16	1.16	1.16	1.08	1.08	0.96
95	37.46	36.67	36.32	36.81	37.88	40.79	36.70
100	115.23	116.48	118.21	120.06	121.60	119.85	143.65
105	202.80	206.23	210.18	213.51	213.09	214.17	242.80
110	300.45	305.93	306.71	304.61	309.20	335.63	346.76
115	399.37	403.21	406.56	414.84	433.08	453.97	454.71
120	505.24	514.01	525.49	540.48	553.55	557.13	558.34
125	617.12	626.28	639.55	645.87	649.68	652.52	654.66
130	688.44	705.26	717.17	724.60	730.53	735.36	737.20
135	739.41	762.68	775.89	786.29	794.73	800.81	802.30
140	774.33	799.72	814.30	826.56	836.79	844.29	846.97
145	790.02	812.31	830.51	846.05	857.61	865.40	868.73
150	779.76	802.65	822.34	838.66	851.87	858.74	862.25
155	752.52	773.25	791.43	806.30	818.45	824.11	827.54
160	714.65	730.43	744.43	756.89	764.76	769.91	773.07
165	673.53	683.59	692.75	698.86	703.34	706.61	708.64
170	640.62	644.09	647.13	649.73	651.86	653.51	654.66
175	618.21	618.79	619.34	619.87	620.38	620.85	621.28
180	615.00	615.00	615.00	615.00	615.00	615.00	615.00

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L011800109.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	187.90	N.A.	5.20
0-30	388.28	N.A.	10.80
0-40	607.61	N.A.	17.00
0-60	933.97	N.A.	26.10
0-80	1040.41	N.A.	29.00
0-90	1045.28	N.A.	29.20
10-90	995.85	N.A.	27.80
20-40	419.71	N.A.	11.70
20-50	610.86	N.A.	17.00
40-70	403.38	N.A.	11.30
60-80	106.45	N.A.	3.00
70-80	29.43	N.A.	0.80
80-90	4.86	N.A.	0.10
90-110	246.17	N.A.	6.90
90-120	597.35	N.A.	16.70
90-130	1056.85	N.A.	29.50
90-150	1973.08	N.A.	55.00
90-180	2538.95	N.A.	70.80
110-180	2292.78	N.A.	64.00
0-180	3584.23	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	49.42
10-20	138.48
20-30	200.38
30-40	219.33
40-50	191.15
50-60	135.21
60-70	77.02
70-80	29.43
80-90	4.86
90-100	49.85
100-110	196.32
110-120	351.18
120-130	459.50
130-140	484.92
140-150	431.31
150-160	319.91
160-170	186.24
170-180	59.72

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	102	102	102	102	92	92	92	92	72	72	72	54	54	54	37	37	37	29
1	94	90	86	83	84	81	78	75	64	62	60	48	47	46	33	33	32	26
2	86	79	73	68	77	71	66	62	56	53	50	43	41	39	30	29	28	22
3	78	70	63	57	70	63	57	52	50	46	43	38	35	33	27	25	24	19
4	72	62	54	49	64	56	50	45	45	40	37	34	31	29	24	23	21	17
5	66	55	48	42	59	50	43	39	40	35	32	31	28	25	22	20	19	15
6	61	49	42	36	54	45	38	34	36	31	28	28	25	22	20	18	17	13
7	56	45	37	32	50	41	34	29	33	28	25	25	22	20	19	16	15	12
8	52	40	33	28	47	37	30	26	30	25	22	23	20	18	17	15	13	11
9	48	37	30	25	44	34	27	23	27	23	19	21	18	16	16	14	12	10
10	45	34	27	22	41	31	25	21	25	21	18	20	17	14	15	13	11	9

IES INDOOR REPORT
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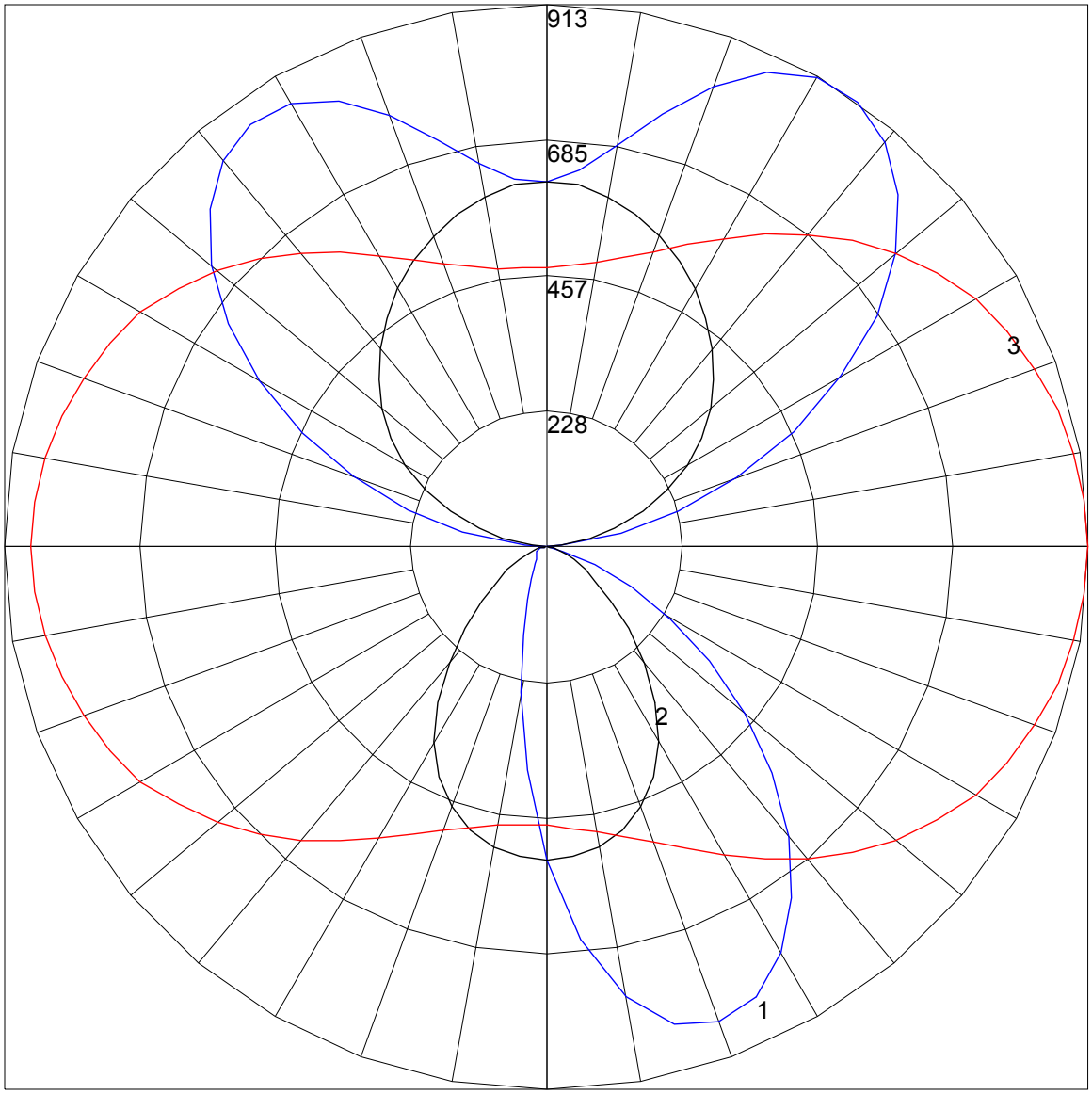
POLAR GRAPH



Maximum Candela = 913.07 Located At Horizontal Angle = 0, Vertical Angle = 145
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 (145) (Through Max. Cd.)