



8165 E Kaiser Blvd. Anaheim, CA 92808
 p. 714.282.2270
 f. 714.676.5558

Report No: L111407202

Date: 12/11/2014



NVLAP LAB CODE 200927-0

Report No: L111407202

Report Prepared For: Cast Lighting
 1120-A Goffle Rd., Hawthorne, NJ., 07506

Model Number: CCPL2

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. Catalog number is CCPL2. Received in working and undamaged condition. No modifications were necessary.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 12/8/14

Date of Tests: 12/9/14 - 12/9/14

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	01/04/15
Xitron Power Analysis System	2503AH	MT-EL01	01/09/15
BK Precision DC Power Supply	1747	PSDC-04	01/08/15
Fluke Digital Thermometer	52k/J	MT-TP02-GC	01/04/15
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.

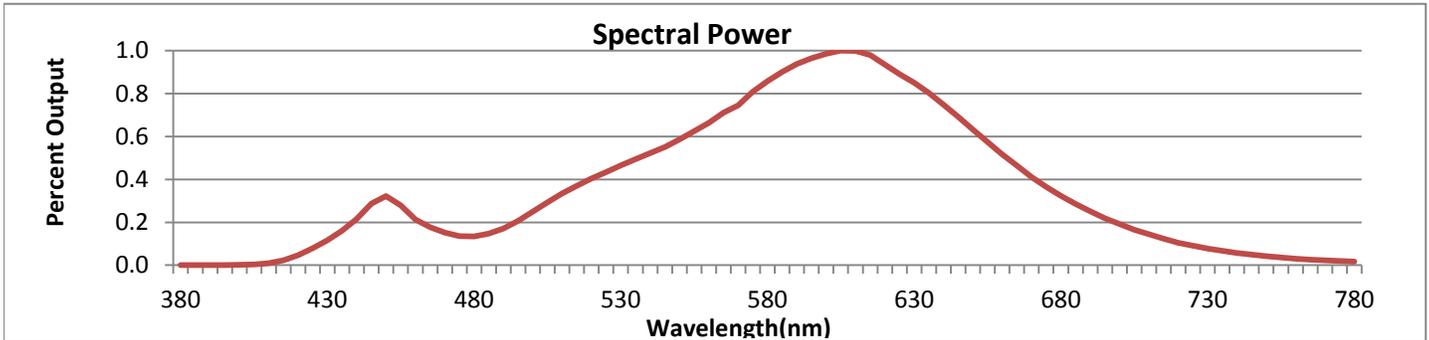
Test Summary

Manufacturer:	Cast Lighting
Model Number:	CCPL2
Driver Model Number:	N/A
Total Lumens:	113.80
Input Voltage (VAC/60Hz):	12.00
Input Current (Amp):	0.40
Input Power (W):	4.22
Input Power Factor:	0.89
Current ATHD @ 12V(%):	51%
Current ATHD @ 24V(%):	N/A
Efficacy:	27
Color Rendering Index (CRI):	82
Correlated Color Temperature (K):	2790
Chromaticity Coordinate x:	0.4557
Chromaticity Coordinate y:	0.4145
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:35
Total Operating Time (Hours):	1:10
Off State Power(W):	0.00



FIG. 1 LUMINAIRE

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



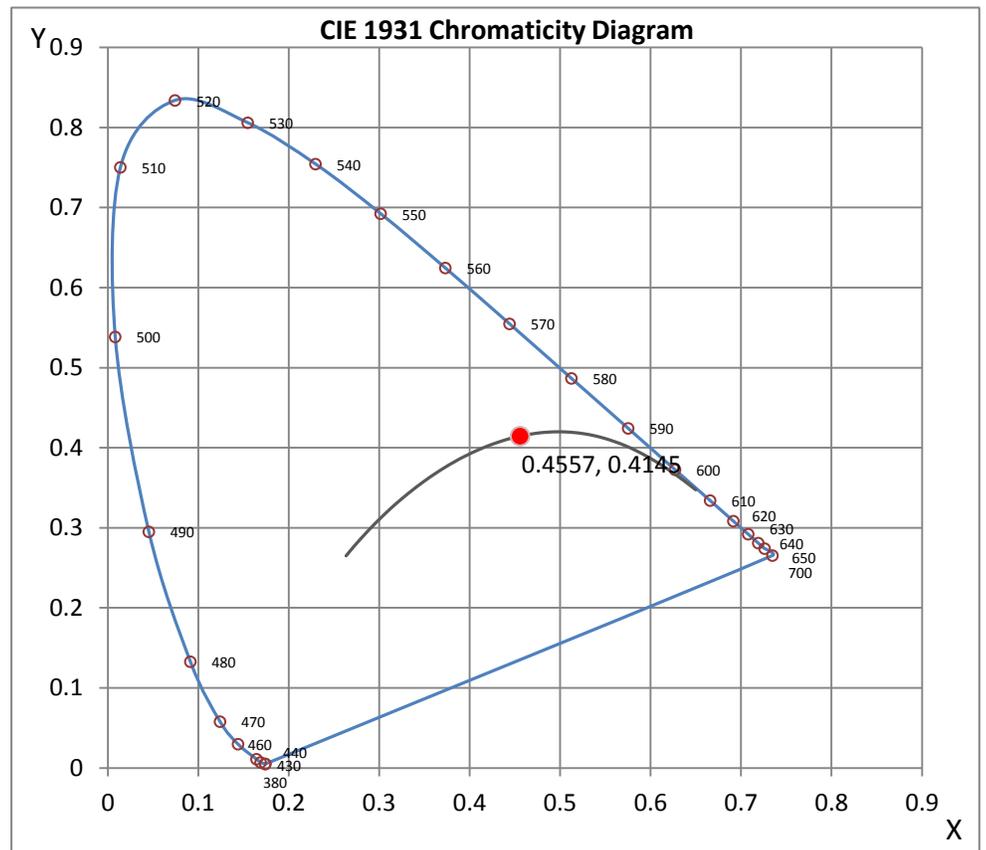
Wavelength	W/m ² nm	440	0.2159	510	0.3338	580	0.8578	650	0.6330	720	0.1047
380	0.0007	450	0.3232	520	0.4039	590	0.9390	660	0.5173	730	0.0778
390	0.0008	460	0.2134	530	0.4646	600	0.9851	670	0.4120	740	0.0574
400	0.0020	470	0.1525	540	0.5228	610	0.9994	680	0.3242	750	0.0422
410	0.0095	480	0.1341	550	0.5861	620	0.9354	690	0.2510	760	0.0303
420	0.0464	490	0.1712	560	0.6638	630	0.8511	700	0.1913	770	0.0226
430	0.1168	500	0.2497	570	0.7456	640	0.7479	710	0.1444	780	0.0167

CRI & CCT

x	0.4557
y	0.4145
u'	0.2581
v'	0.5282
CRI	81.70
CCT	2790
Duv	0.00183

R Values

R1	79.55
R2	88.66
R3	96.90
R4	80.16
R5	78.89
R6	85.67
R7	84.10
R8	59.51
R9	8.47
R10	73.95
R11	78.55
R12	68.92
R13	81.28
R14	97.99



*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 : Wilson Khounlavong

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*



8165 E. Kaiser Blvd. Anaheim, CA 92808
 p. 714.282.2270
 f. 714.676.5558

Photometric Test Report

IES ROAD REPORT
PHOTOMETRIC FILENAME : L111407202.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L111407202
 [TESTLAB] LIGHT LABORATORY, INC.
 [ISSUEDATE] 12/11/2014
 [MANUFAC] CAST LIGHTING
 [LUMCAT] CCPL2
 [LUMINAIRE] 5-1/2"DIA X 25-3/4"H. LED LUMINAIRE
 [MORE] CLEAR LENS
 [BALLASTCAT] N.A.
 [BALLAST] N.A.
 [LAMPPOSITION] 0,0
 [LAMPCAT] N/A
 [OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
 [MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
 [INPUT] 12VAC, 4.22W
 [TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

IES Classification	Type V
Longitudinal Classification	Very Short
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	114
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	27
Total Luminaire Watts	4.22
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Maximum Candela	45.99
Maximum Candela Angle	0H 5V
Maximum Candela (<90 Degrees Vertical)	45.99
Maximum Candela Angle (<90 Degrees Vertical)	0H 5V
Maximum Candela At 90 Degrees Vertical	0 (0.0% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	2.62 (2.3% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

IES ROAD REPORT
PHOTOMETRIC FILENAME : L111407202.IES

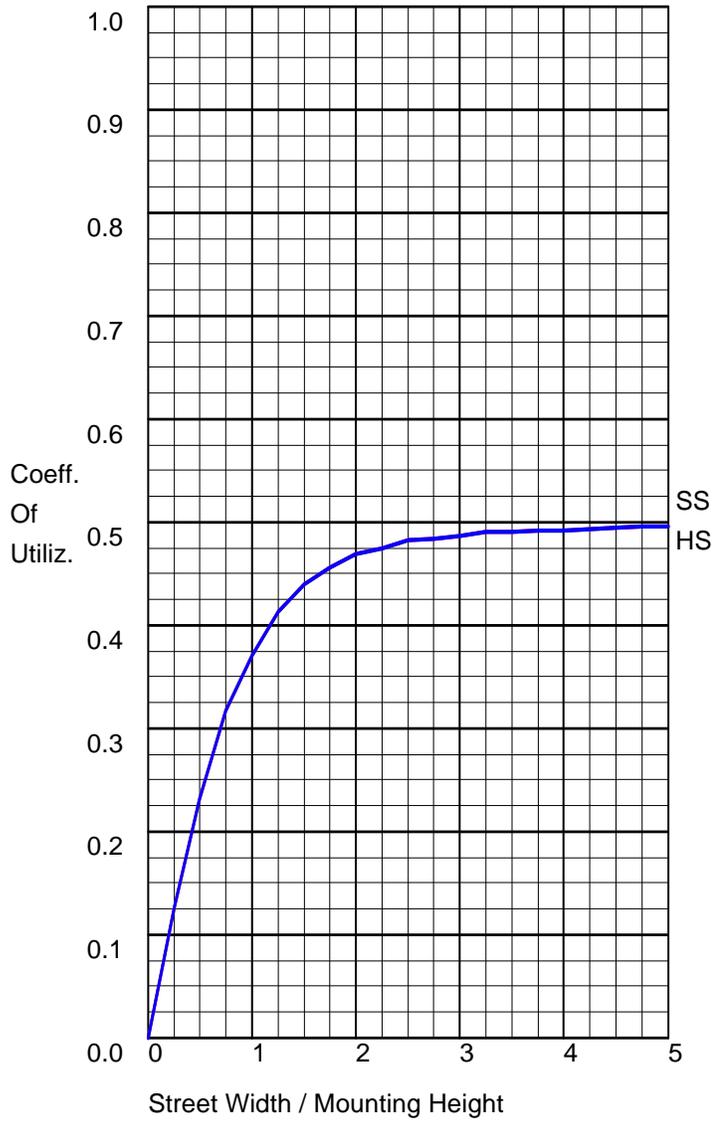
LUMINAIRE CLASSIFICATION SYSTEM (LCS)

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	14.3	N.A.	12.6
FM - Front-Medium (30-60)	32.3	N.A.	28.4
FH - Front-High (60-80)	9.6	N.A.	8.5
FVH - Front-Very High (80-90)	0.7	N.A.	0.6
BL - Back-Low (0-30)	14.3	N.A.	12.6
BM - Back-Medium (30-60)	32.3	N.A.	28.4
BH - Back-High (60-80)	9.6	N.A.	8.5
BVH - Back-Very High (80-90)	0.7	N.A.	0.6
UL - Uplight-Low (90-100)	0.0	N.A.	0.0
UH - Uplight-High (100-180)	0.0	N.A.	0.0
Total	113.8	N.A.	100.0
BUG Rating	B0-U0-G0		

CANDELA TABULATION

Vert. Angles	Horizontal Angles
	<u>0</u>
0	0.00
5	45.99
10	40.35
15	34.18
20	32.63
25	32.41
30	32.26
35	31.83
40	31.04
45	29.75
50	27.82
55	24.81
60	19.68
65	13.88
70	8.45
75	4.85
80	2.62
85	1.20
90	0.00

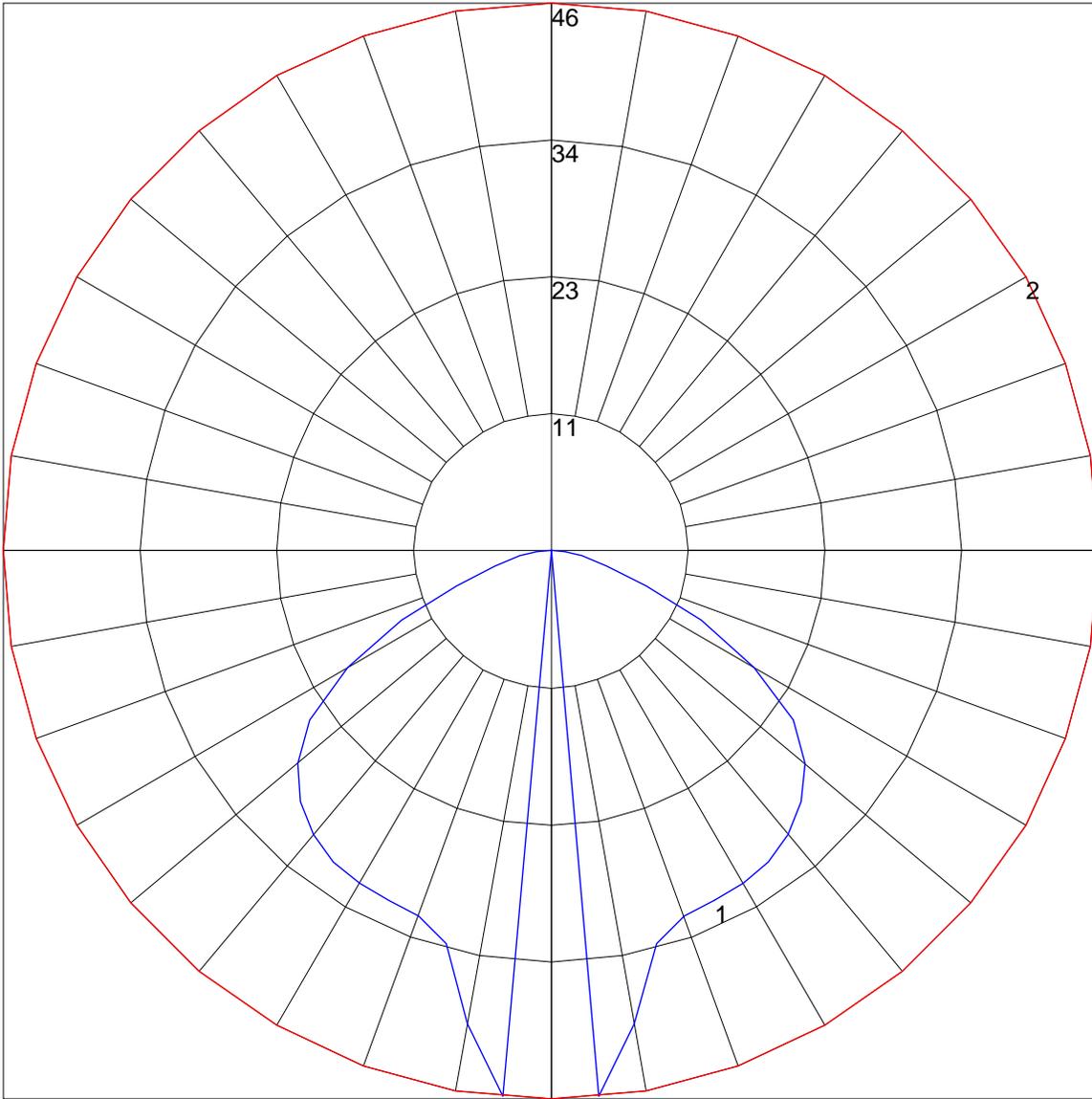
COEFFICIENTS OF UTILIZATION



FLUX DISTRIBUTION

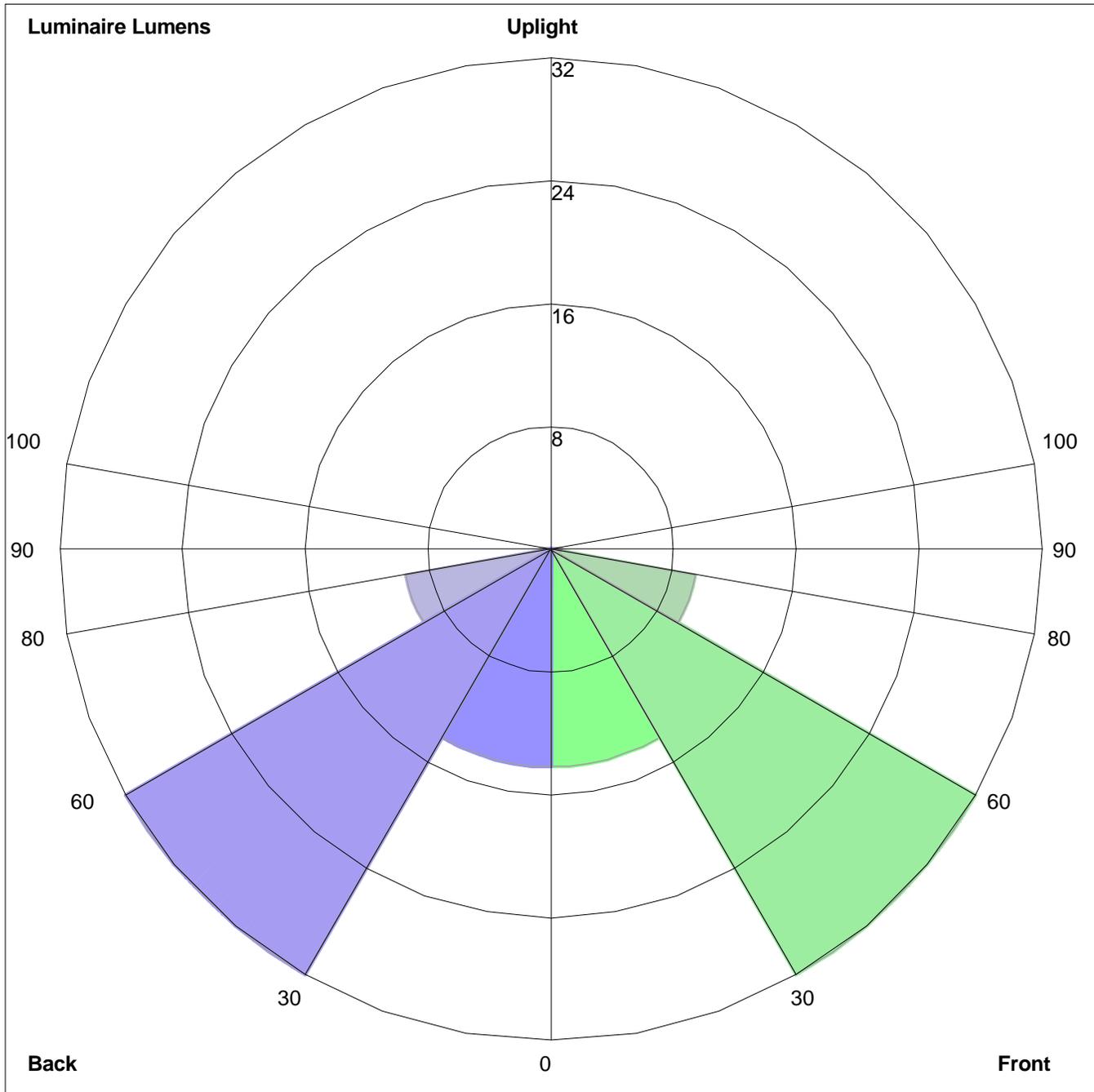
	Lumens	Percent Of Luminaire
Downward Street Side	56.9	50.0
Downward House Side	56.9	50.0
Downward Total	113.8	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	113.8	100.0

POLAR GRAPH



Maximum Candela = 45.99 Located At Horizontal Angle = 0, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)

LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:
 Front: Low=14.3, Medium=32.3, High=9.6, Very High=0.7
 Back: Low=14.3, Medium=32.3, High=9.6, Very High=0.7
 Uplight: Low=0.0, High=0.0

BUG Rating : B0-U0-G0