



8165 E Kaiser Blvd. Anaheim, CA 92808  
 p. 714.282.2270  
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Test #: L051411201

Date: 6/9/2014



NVLAP LAB CODE 200927-0

**Test Report:** L051411201

**Model Number:** SPJ-720

**Report Prepared For:** SPJ LIGHTING INC.  
 2107 CHICO AVE SOUTH EL MONTE CA 91733

**Test:** Electrical and Photometric tests as required by the IESNA test standards.

**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 C82.77:2002:* Harmonic Emission Limits-Related Quality Requirements for Lighting Equipment

**Description of Sample:** Client submitted the sample. Catalog number is SPJ-720. Received in working and undamaged condition. No modifications were necessary.

**Testing Condition:** Fixture is tested with no special conditions.

**Sample Arrival Date:** 5/30/14

**Date of Tests:** 6/7/14 - 6/7/14

**Seasoning of Sample SSL:** 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**

<b>Manufacturer:</b>	SPJ LIGHTING INC.
<b>Model Number:</b>	SPJ-720
<b>LAMPCAT:</b>	N/A
<b>Driver Model Number:</b>	PERMALIGHT BRILLIA PS14-350C-DIM (TWO DRIVERS)
<b>Total Lumens:</b>	442.80
<b>Input Voltage (VAC/60Hz):</b>	120.00
<b>Input Current (Amp):</b>	0.28
<b>Input Power (W):</b>	31.73
<b>Input Power Factor:</b>	0.94
<b>Total Harmonic Distortion @ 120V(%):</b>	35%
<b>Total Harmonic Distortion @ 277V(%):</b>	N/A
<b>Efficacy:</b>	14
<b>Ambient Temperature (°F):</b>	77.0
<b>Stabilization Time (Hours):</b>	1:00
<b>Total Operating Time (Hours):</b>	2:10
<b>Off State Power(W):</b>	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.



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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**

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: 10*

\*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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# Photometric Test Report

**IES ROAD REPORT**  
**PHOTOMETRIC FILENAME : L051411201.IES**

## DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] L051411201  
 [TESTLAB] LIGHT LABORATORY, INC.  
 [ISSUEDATE] 6/9/2014  
 [MANUFAC] SPJ LIGHTING INC.  
 [LUMCAT] SPJ-720  
 [LUMINAIRE] 12"DIA. X 45-1/2"H. LED BOLLARD  
 [MORE] DIFFUSED LENS  
 [BALLASTCAT] PERMALIGHT BRILLIA PS14-350C-DIM (TWO DRIVERS)  
 [BALLAST] INPUT: 120VAC, 0.2A, 50-60HZ. OUTPUT: 17-40VDC, 0.35A  
 [LAMPPOSITION] 0,0  
 [LAMPCAT] N/A  
 [OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND  
 [MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.  
 [INPUT] 120VAC, 31.73w  
 [\_TEST PROCEDURE] IESNA:LM-79-08

## CHARACTERISTICS

IES Classification	Type V
Longitudinal Classification	Short
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	443
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	14
Total Luminaire Watts	31.73
Ballast Factor	1.00
Upward Waste Light Ratio	0.16
Maximum Candela	91.951
Maximum Candela Angle	0H 45V
Maximum Candela (<90 Degrees Vertical)	91.951
Maximum Candela Angle (<90 Degrees Vertical)	0H 45V
Maximum Candela At 90 Degrees Vertical	33.312 (7.5% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	34.157 (7.7% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

**IES ROAD REPORT**  
**PHOTOMETRIC FILENAME : L051411201.IES**

**LUMINAIRE CLASSIFICATION SYSTEM (LCS)**

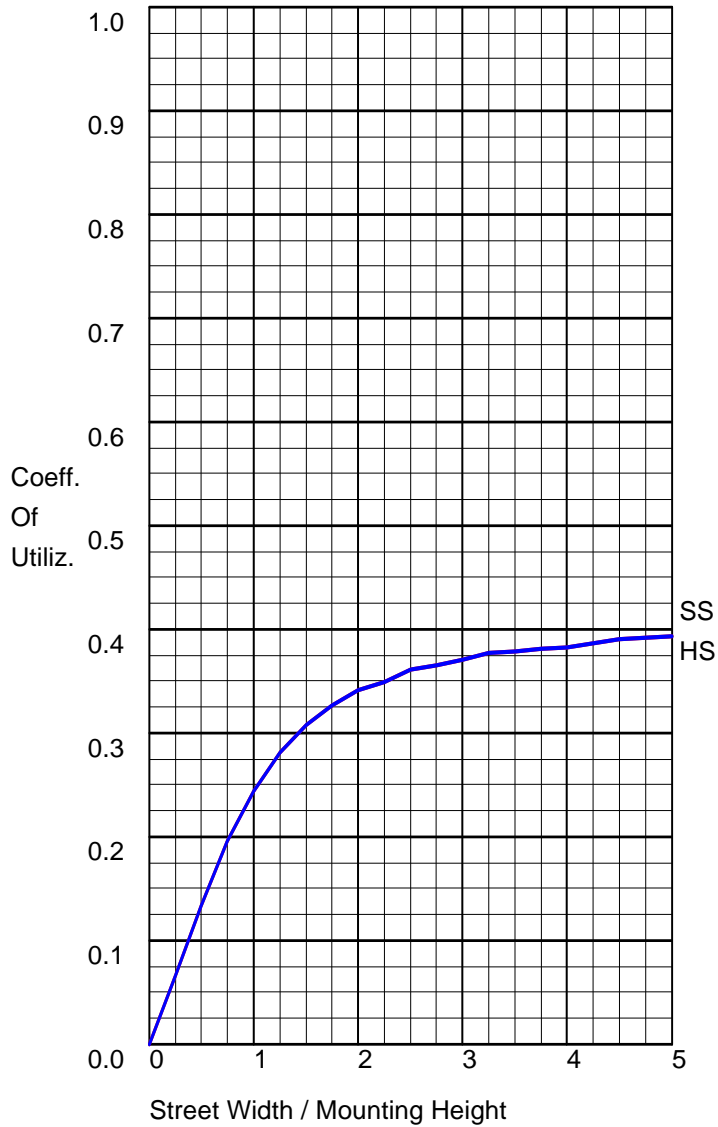
	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	21.1	N.A.	4.8
FM - Front-Medium (30-60)	94.8	N.A.	21.4
FH - Front-High (60-80)	52.9	N.A.	11.9
FVH - Front-Very High (80-90)	18.3	N.A.	4.1
BL - Back-Low (0-30)	21.1	N.A.	4.8
BM - Back-Medium (30-60)	94.8	N.A.	21.4
BH - Back-High (60-80)	52.9	N.A.	11.9
BVH - Back-Very High (80-90)	18.3	N.A.	4.1
UL - Uplight-Low (90-100)	31.8	N.A.	7.2
UH - Uplight-High (100-180)	37.0	N.A.	8.4
Total	443.0	N.A.	100.0
BUG Rating	B0-U2-G1		

IES ROAD REPORT  
PHOTOMETRIC FILENAME : L051411201.IES

CANDELA TABULATION

Vert. Angles	Horizontal Angles
	<u>0</u>
0	0.000
5	42.357
10	40.179
15	42.004
20	48.228
25	56.447
30	65.333
35	75.155
40	84.857
45	91.951
50	88.757
55	81.970
60	73.098
65	62.370
70	51.227
75	40.673
80	34.157
85	33.276
90	33.312
95	29.627
100	24.003
105	19.262
110	15.025
115	9.570
120	4.880
125	2.684
130	2.288
135	2.081
140	1.920
145	1.765
150	1.620
155	1.496
160	1.386
165	1.289
170	1.226
175	1.123
180	0.000

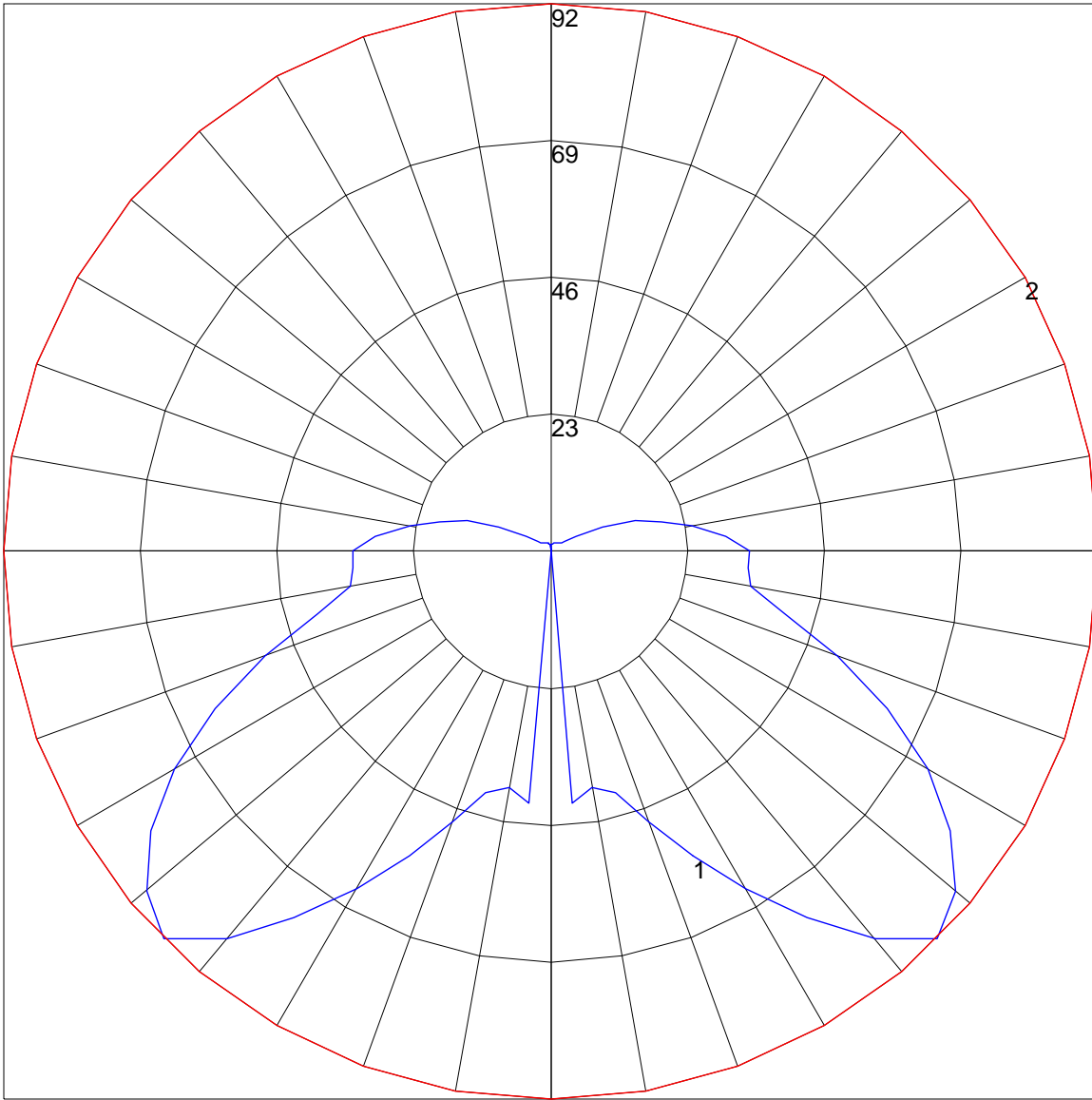
**COEFFICIENTS OF UTILIZATION**



**FLUX DISTRIBUTION**

	Lumens	Percent Of Luminaire
Downward Street Side	187.0	42.2
Downward House Side	187.0	42.2
Downward Total	374.0	84.4
Upward Street Side	34.4	7.8
Upward House Side	34.4	7.8
Upward Total	68.8	15.5
Total Flux	442.8	100.0

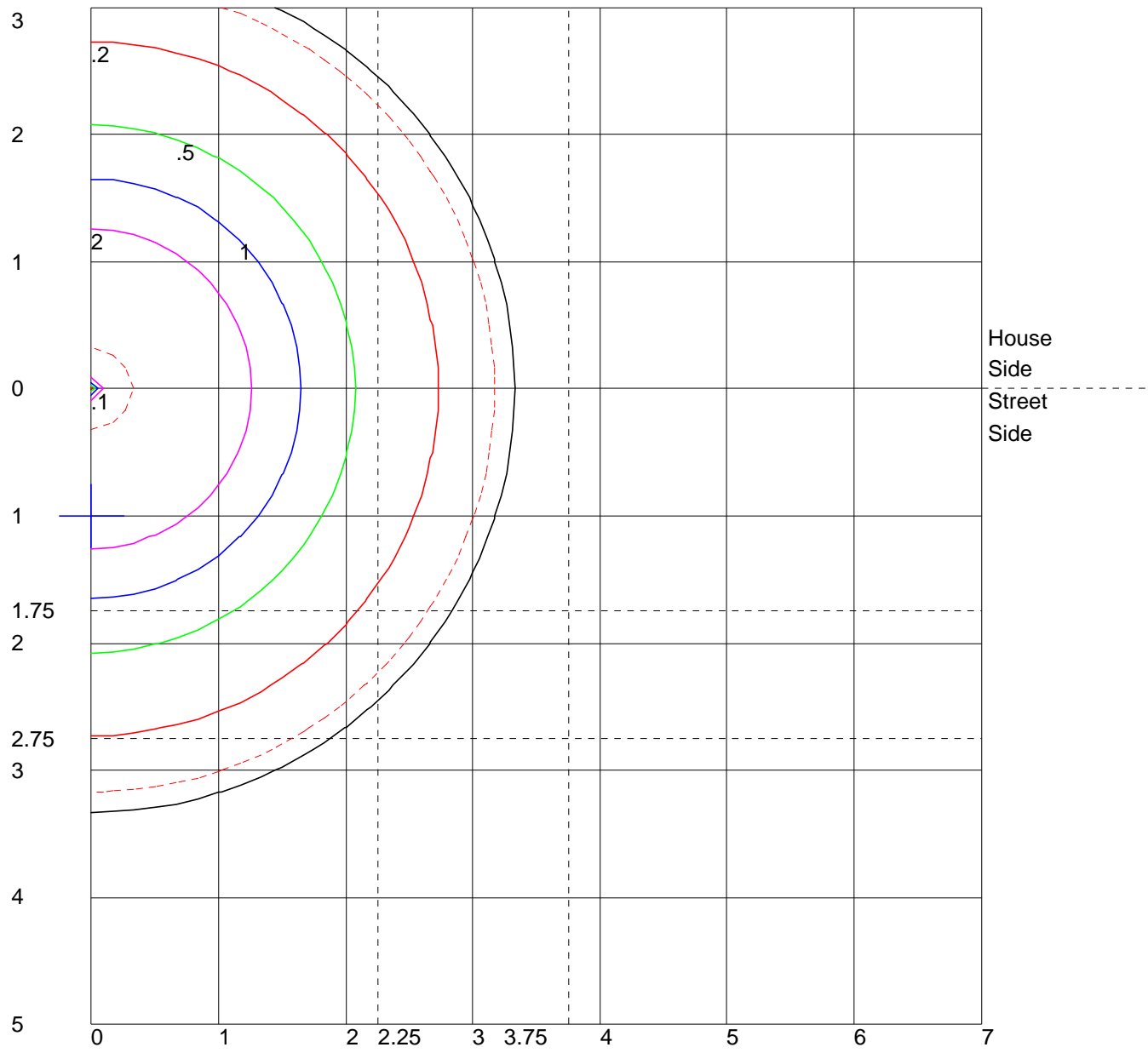
POLAR GRAPH



Maximum Candela = 91.951 Located At Horizontal Angle = 0, Vertical Angle = 45  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (45) (Through Max. Cd.)

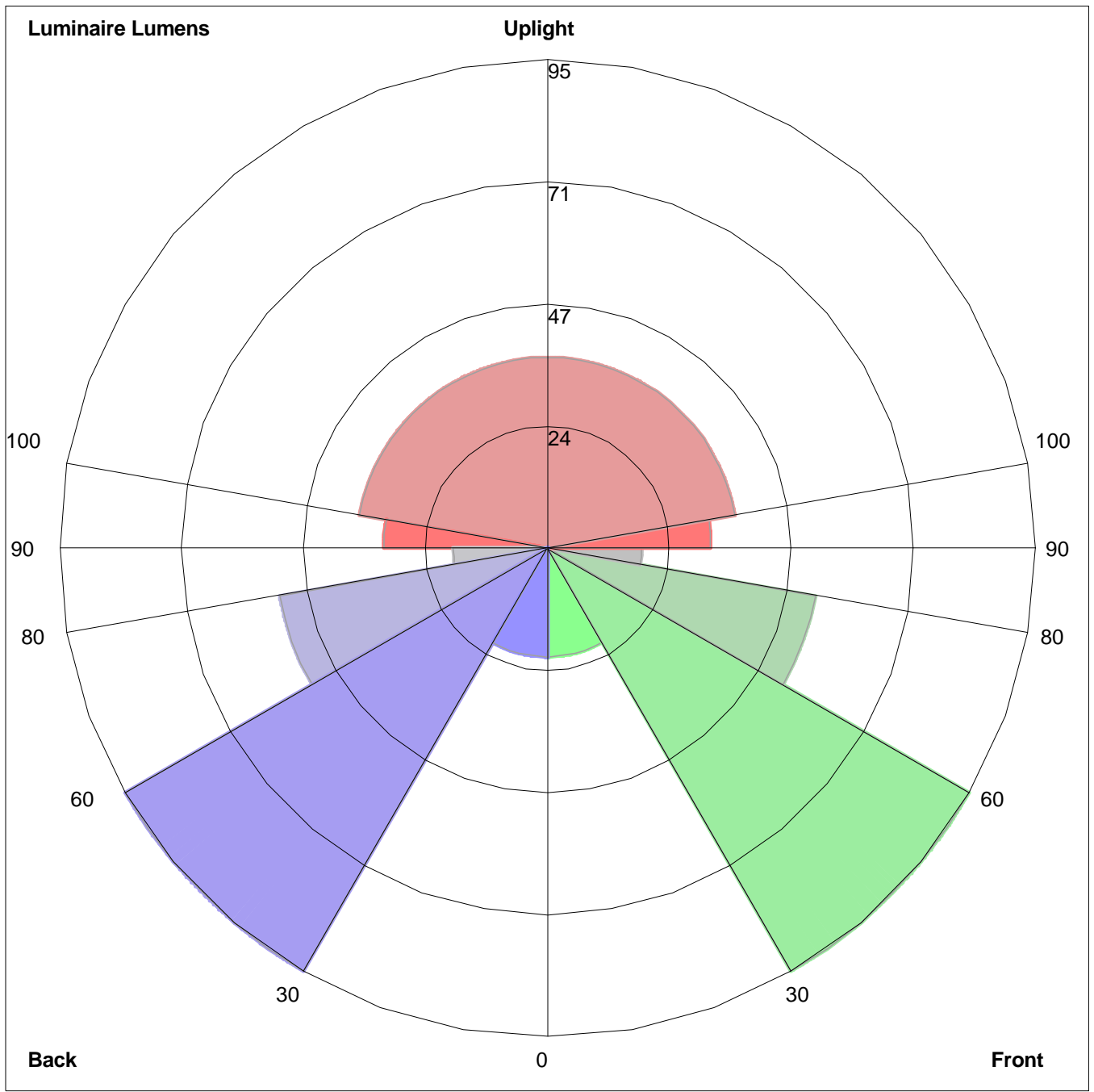


ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE



Distance In Units Of Mounting Height  
 Values Based On 3.25 Foot Mounting Height  
 1/2 Maximum Candela Trace Shown As Dashed Curve  
 (+) = Maximum Candela Point

LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:  
 Front: Low=21.1, Medium=94.8, High=52.9, Very High=18.3  
 Back: Low=21.1, Medium=94.8, High=52.9, Very High=18.3  
 Uplight: Low=31.8, High=37.0

BUG Rating : B0-U2-G1