

Project Number
17.02762



Date
10/16/2017

LAB 1
Sphere

Test Sample Description

Catalog Number: P5642-3130K
Description: 6" 29w LED Direct/Indirect Cylinder

Photometry

Test Method: IES LM-79-08 § 10
Preburn Time: 03:00
Time To Stabilize: 1:15
Total Operating Time: 4:31

Input Voltage (Volts): 120.3
Input Current (Amps): 0.530
Input Wattage (Watts): 59.4
Ambient Temp (°C): 25.2
PF @ 120V: 0.932

Sphere

Test Method: IES LM-79-08 § 9.1 & 12.1
Preburn Time: 0:30
Time To Stabilize: 1:26
Total Operating Time: 1:56

Input Voltage (Volts): 120.0
Input Current (Amps): 0.518
Input Wattage (Watts): 57.7
Ambient Temp (°C): 24.0



Hubbell Lighting, Inc.

701 Millennium Boulevard
Greenville, SC 29607
www.hubbellighting.com

Checked (sphere): B. LEE
Checked (photometry): D. ROBBINS
Approved: P. McCARTHY



This report shall not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.



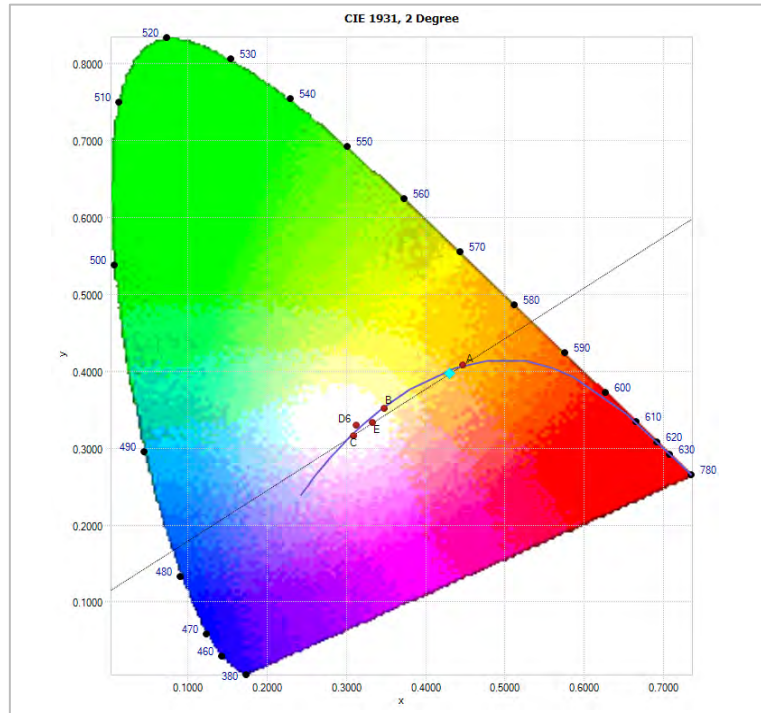
Lamp Cat#: NA
 Lamp Desc: 2 - NA 3000K LEDs
 Driver Desc: NA

Efficacy: 30.7 LPW S/P Ratio: 1.4 LM/LM

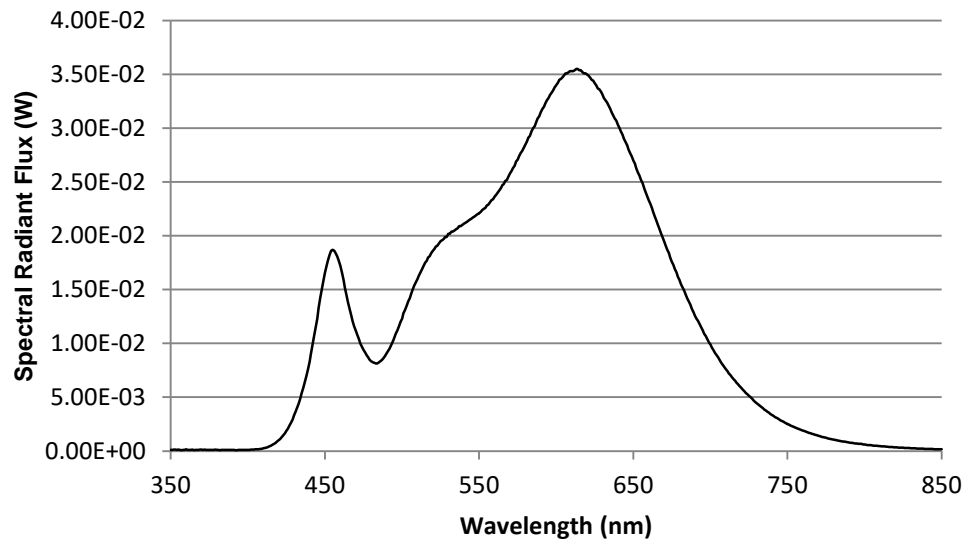
Spectral Results

Name	Value	Unit
Φ	6.02	watts
$\Phi(v)$	1771	lumens
$\Phi(v')$	2550	lm'
Chrom x	0.4306	
Chrom y	0.3973	
Chrom u	0.2494	
Chrom v	0.3452	
Duv	0.0019	
Chrom u'	0.2494	
Chrom v'	0.5177	
CCT	3051	K
Purity	48.5	%
λ (dom)	583.3	nm
FWHM	158.6	nm
λ (peak)	613.3	nm
λ (center)	595.4	nm
λ (centroid)	589.9	nm
SDCM	Cool White	
RA	91	
Corr. Coef.	0.001850256	
Correlation	0.0054	
R1	92.1	
R2	96.4	
R3	97.9	
R4	91.5	
R5	91.9	
R6	95.3	
R7	89.6	
R8	77.3	
R9	49.4	
R10	90.6	
R11	92.7	
R12	81.0	
R13	93.5	
R14	99.0	

Chromaticity Diagram



Spectral Distribution of Radiant Flux



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LUMINAIRE: 6" 29w LED Direct/Indirect Cylinder

LAMP: 2- 3000K LED Modules

MOUNTING: Wall

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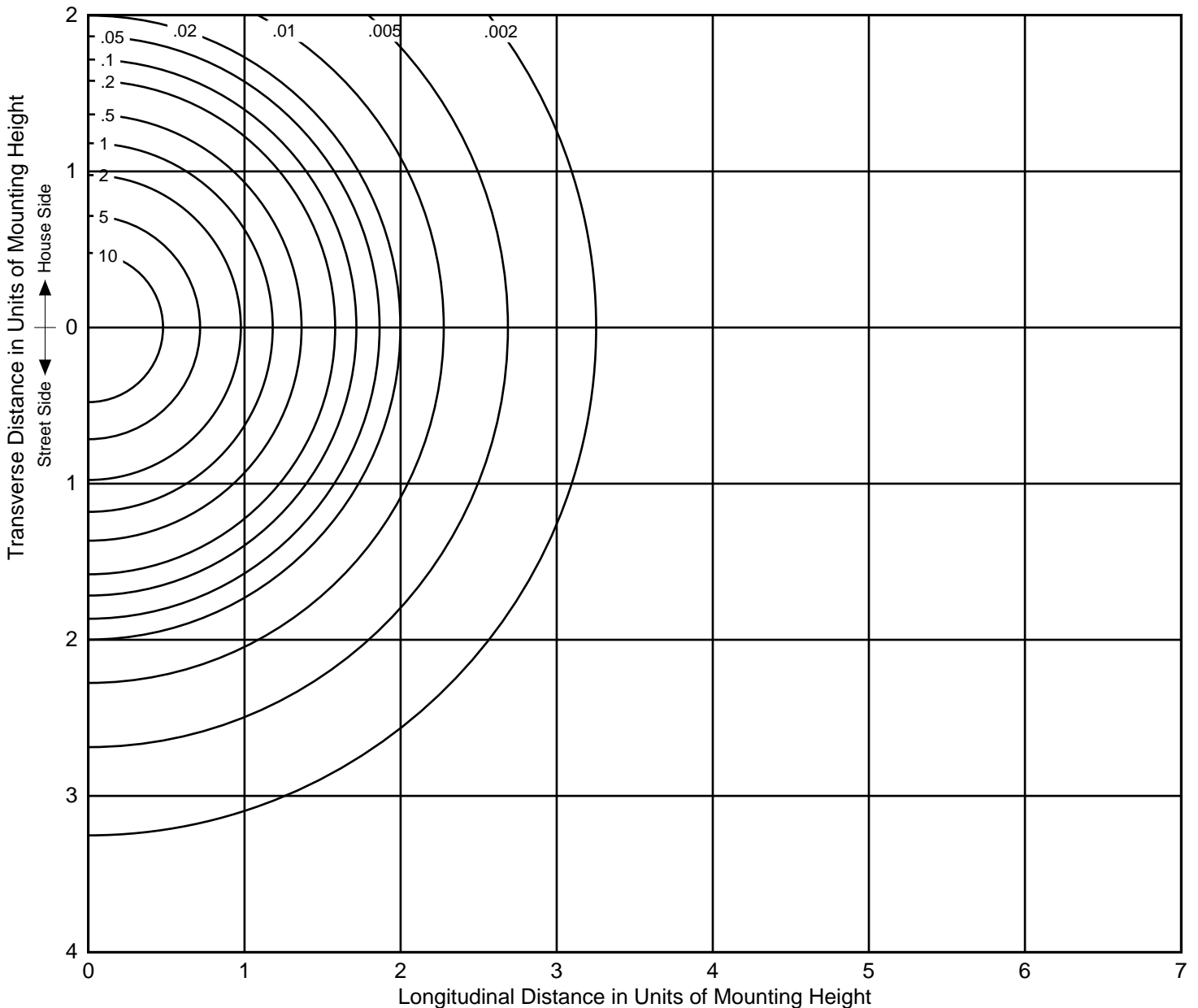
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ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION Values based on 6-foot mounting height

IES Classification: Type V
Cutoff Classification (deprecated): Noncutoff





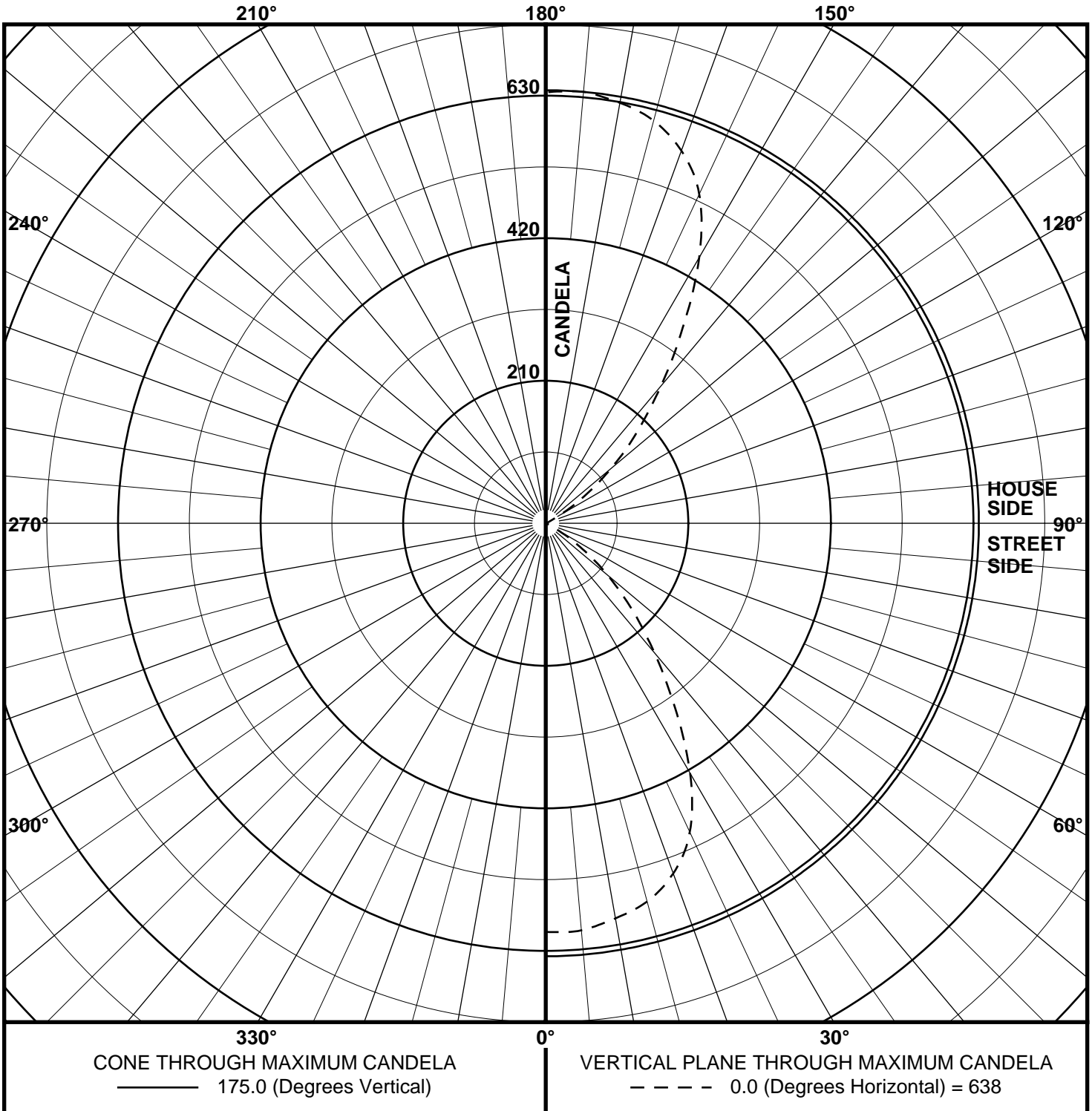
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MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA





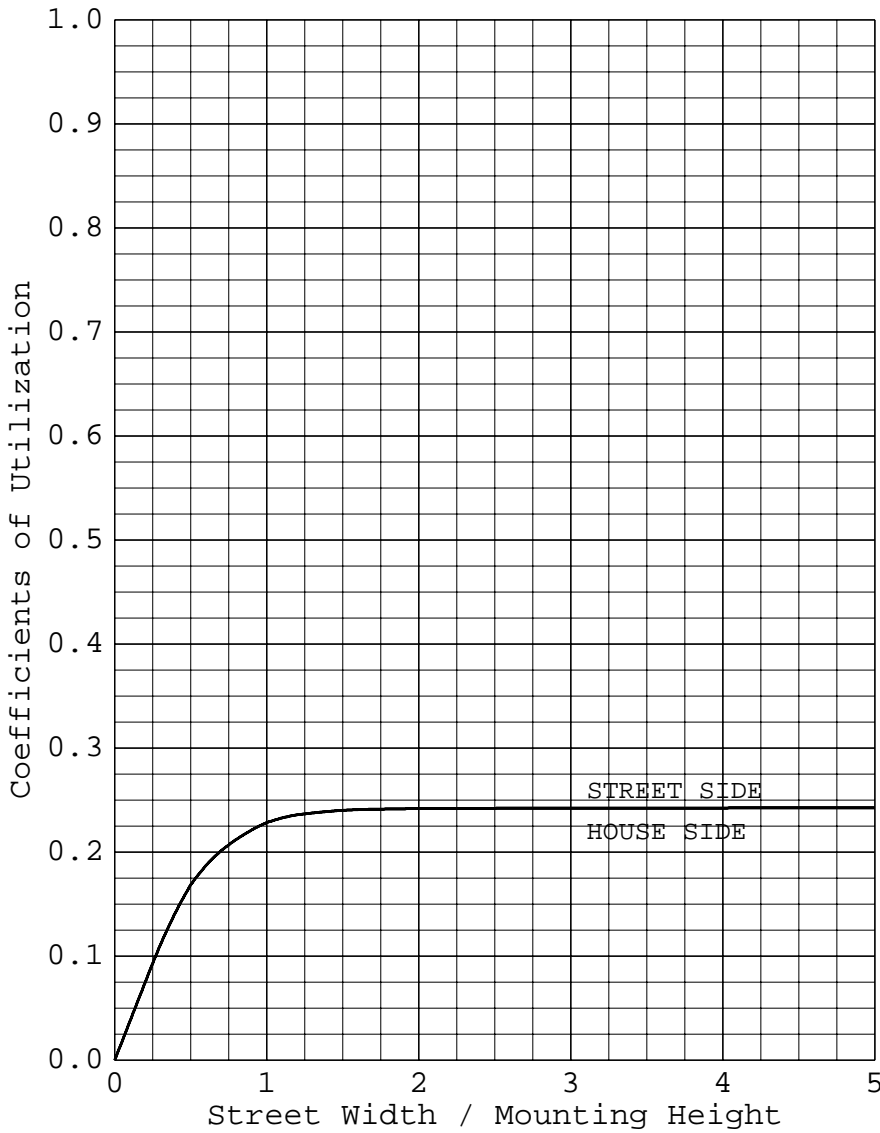
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COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	433	24.3
DOWNWARD HOUSE SIDE	433	24.3
DOWNWARD TOTAL	865	48.5
UPWARD STREET SIDE	459	25.7
UPWARD HOUSE SIDE	459	25.7
UPWARD TOTAL	918	51.5
TOTAL FLUX	1783	100.0
EFFICACY = 30.0 lm/W		

ALL CANDELA AND LUMENS IN THIS REPORT ARE BASED ON ABSOLUTE PHOTOMETRY. THE COEFFICIENT OF UTILIZATION VALUES ARE BASED ON THE TOTAL ABSOLUTE LUMEN OUTPUT OF THIS LUMINAIRE SAMPLE.



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BUG Rating			B1	U4	G0	
Zonal Summary			Zone Ratings			
		Lumens	% of Fixture	B	U	G
Forward						
FL	(0° – 30°)	223.6	12.5			
FM	(30° – 60°)	203.7	11.4			
FH	(60° – 80°)	5.3	0.3			G0
FVH	(80° – 90°)	0.1	0.0			G0
Backward						
BL	(0° – 30°)	223.6	12.5	B1		
BM	(30° – 60°)	203.7	11.4	B0		
BH	(60° – 80°)	5.3	0.3	B0		G0
BVH	(80° – 90°)	0.1	0.0			G0
Upward						
UL	(90° – 100°)	0.4	0.0		U1	
UH	(100° – 180°)	917.4	51.5		U4	
Trapped Light						
Total Flux			1783	100.0		



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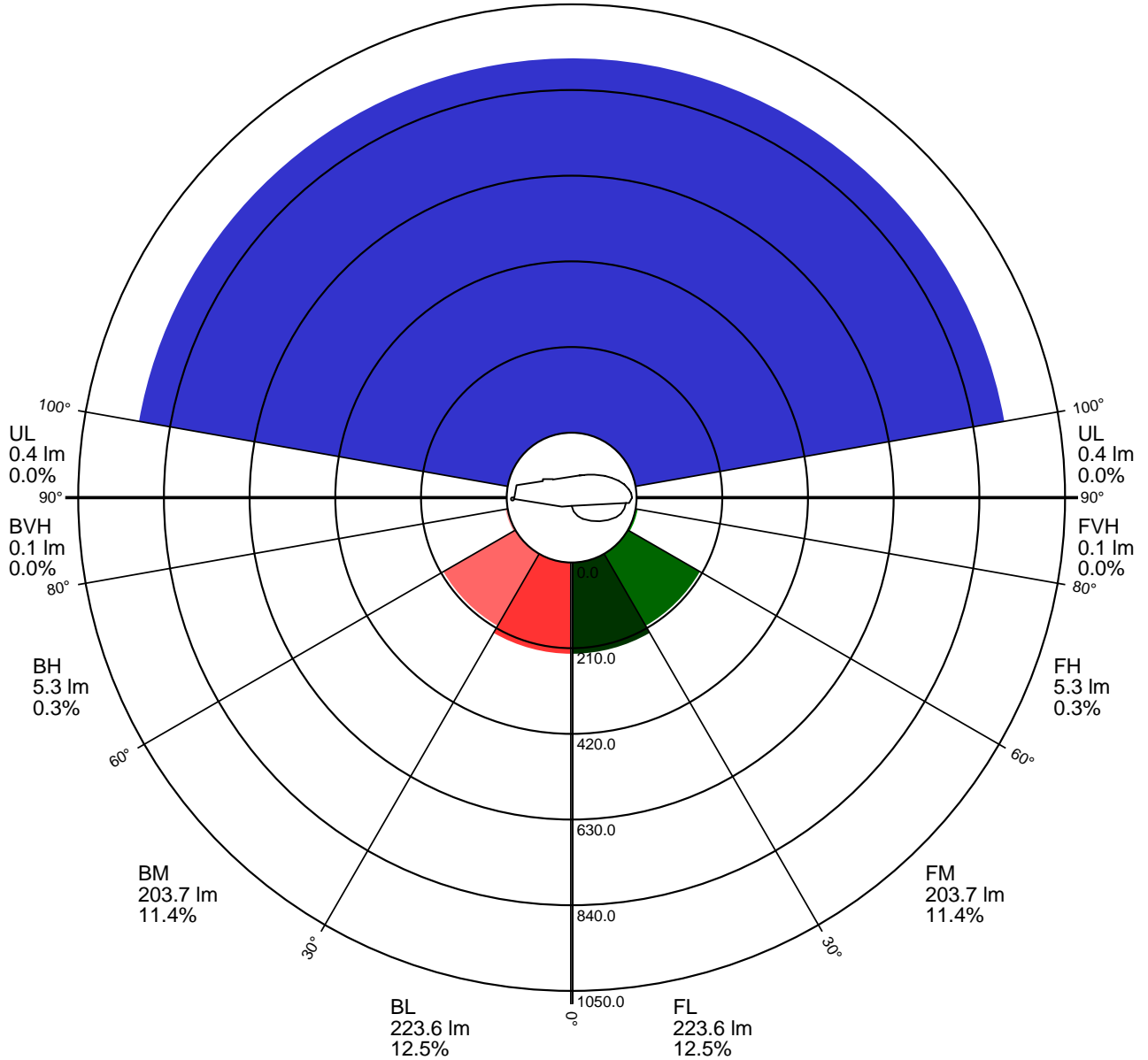
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Zonal Lumen Summary

(Linear scale)

UH
917.4 lm
51.5%





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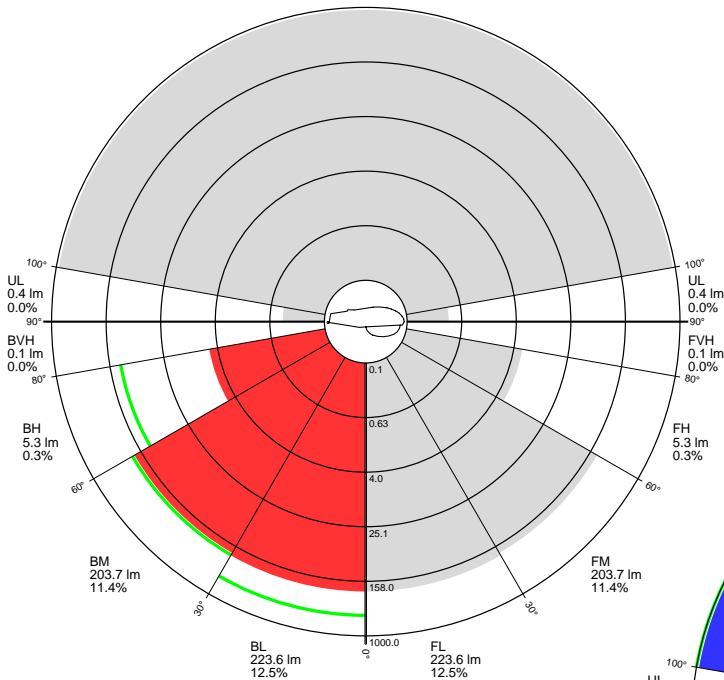
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Backlight Rating Details

(Logarithmic scale)

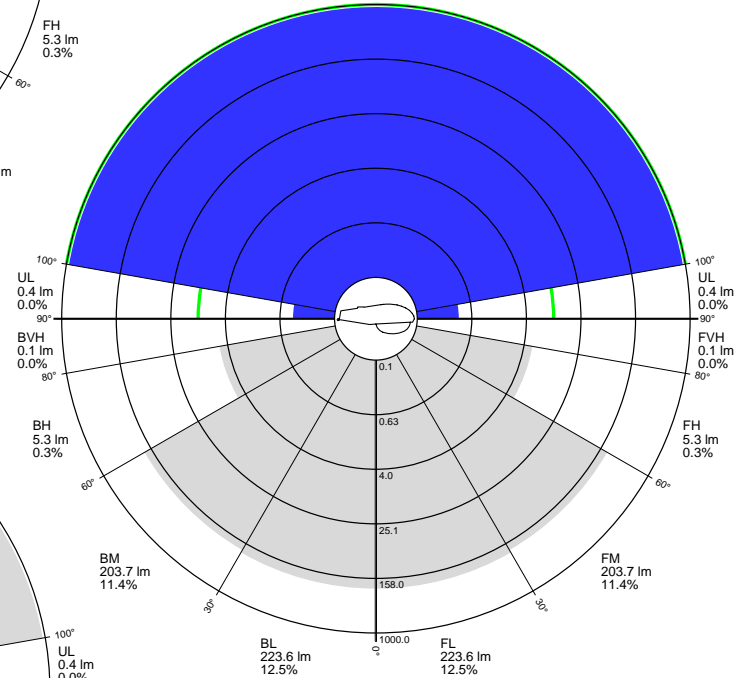
UH
917.4 lm
51.5%



Uplight Rating Details

(Logarithmic scale)

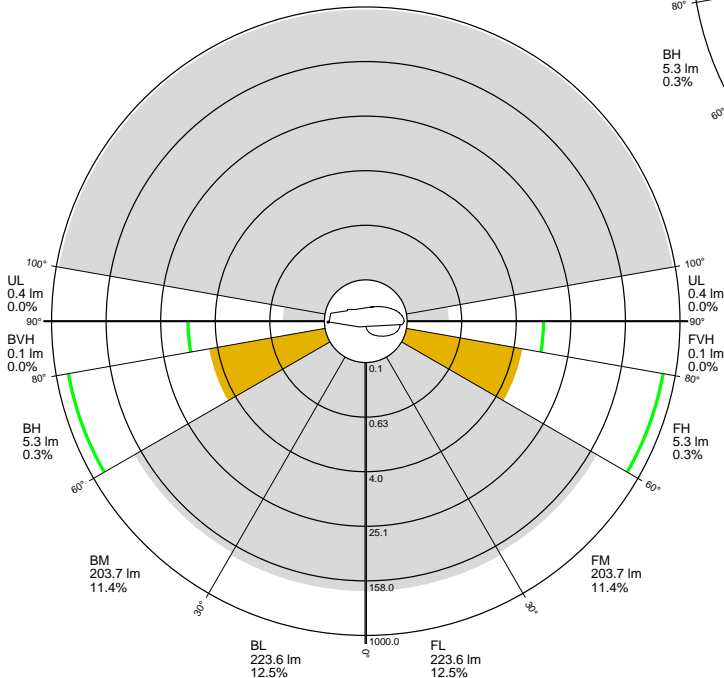
UH
917.4 lm
51.5%



Glare Rating Details

(Logarithmic scale)

UH
917.4 lm
51.5%





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CANDELA TABULATION

	TYPE V
	180.0 635.
	175.0<< 638.
	165.0 614.
	155.0 535.
	145.0 352.
	135.0 190.
	125.0 69.
	115.0 6.
	105.0 2.
	95.0 0.
	92.5 0.
	90.0 0.
	87.5 0.
	85.0 0.
V	82.5 0.
E	80.0 1.
R	77.5 1.
T	75.0 2.
I	72.5 3.
C	70.0 4.
A	67.5 5.
L	65.0 6.
	62.5 9.
A	60.0 24.
N	57.5 44.
G	55.0 66.
L	52.5 92.
E	50.0 119.
	47.5 148.
	45.0 180.
	42.5 213.
	40.0 249.
	37.5 289.
	35.0 332.
	32.5 379.
	30.0 425.
	25.0 502.
	20.0 549.
	15.0 577.
	10.0 591.
	5.0 602.
	0.0 602.

CONE OF MAXIMUM CANDELA



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5-DEGREE ZONAL LUMEN SUMMARY		
0- 5		14
5- 10		43
10- 15		69
15- 20		93
20- 25		110
25- 30		118
30- 35		111
35- 40		96
40- 45		79
45- 50		60
50- 55		40
55- 60		21
60- 65		6
65- 70		3
70- 75		2
75- 80		1
80- 85		0
85- 90		0
90- 95		0
95-100		0
100-105		1
105-110		2
110-115		3
115-120		6
120-125		21
125-130		42
130-135		64
135-140		84
140-145		102
145-150		118
150-155		125
155-160		118
160-165		99
165-170		74
170-175		45
175-180		15

10-DEGREE ZONAL LUMEN SUMMARY		
0- 10		57
10- 20		162
20- 30		228
30- 40		208
40- 50		139
50- 60		61
60- 70		8
70- 80		2
80- 90		0
90-100		0
100-110		2
110-120		8
120-130		63
130-140		147
140-150		221
150-160		243
160-170		173
170-180		61

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Goniophotometer Calibration

Calibration Lamp: GE 1000W, 120V, T6, CL (FEL)

Lamp Number: ITL78966-1000-38

Calibration Current: 8.300 Amps DC

Total Luminous Flux: 25889.0 Lumens

Calibration Date: 07/10/2017

Test Equipment Used

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>Goniophotometer</i>	ITL/HLI LAB 1 - Test Distance: 31.74'	N/A	N/A
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27071V	11/2/2017
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	176F4E3	11/7/2017

Sphere Calibration

Calibration Lamp: EIKO 28V75W/E10

Lamp Number: SCL-1400-J136

Calibration Current: 2.679 Amps

Total Luminous Flux: 1427 Lumens

Test Equipment Used - Color & SPD; THD & Power Factor

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>3-Meter Sphere</i>	Labsphere / LMS-3M	N/A	Calibrated Weekly
<i>Thermometer</i>	National Instruments / USB TC01	1912751	11/2/2017
<i>LAMP Power Meter</i>	Yokogawa / WT332	C2QA27075V	11/1/2017
<i>Power Supply</i>	Chroma / 61602	616020002113	N/A
<i>Aux Lamp Supply</i>	Labsphere / LPS-100-0833	0331159372	10/31/2017
<i>Cal Lamp Supply</i>	Labsphere / LPS-150-0268	1218148505	12/1/2017
<i>Spectrometer</i>	Labsphere / CDS 1100	0624117792	N/A

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