

Project Number
17.02764



Date
10/13/2017

Lab 6
Sphere

Test Sample Description

Catalog Number: P5674-2030K
Description: 5" 17W LED Down-Light Cylinder; Bronze

Photometry

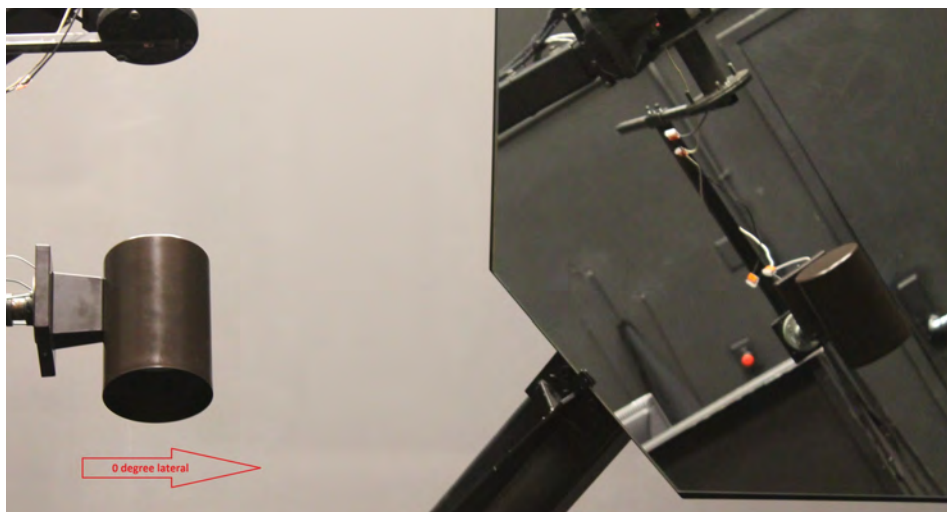
Test Method: IES LM-79-08 § 10
Preburn Time: 16:00
Time To Stabilize: 2:55
Total Operating Time: 23:45

Input Voltage (Volts): 119.9
Input Current (Amps): 0.152
Input Wattage (Watts): 16.9
Ambient Temp (°C): 24.1

Sphere

Test Method: IES LM-79-08 § 9.1 & 12.1
Preburn Time: 8:00
Time To Stabilize: 1:15
Total Operating Time: 9:15

Input Voltage (Volts): 120.0
Input Current (Amps): 0.151
Input Wattage (Watts): 16.8
Ambient Temp (°C): 24.0
PF @ 120V: 0.929
THD @ 120V (%): 40.9



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Checked (sphere): B.LEE
Checked (photometry): M.ELLMANN
Approved: P. McCARTHY



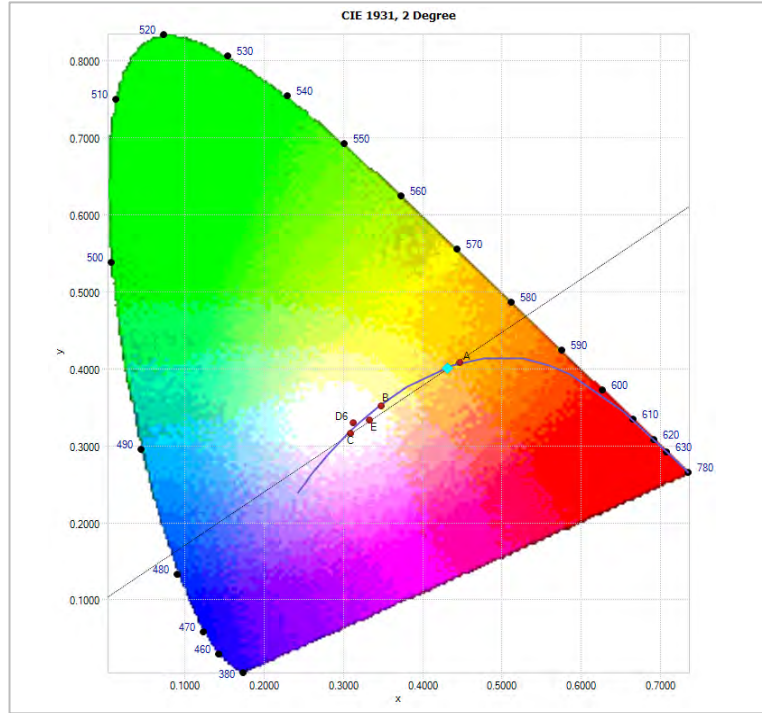
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Lamp Desc: 1 - 3000K LED Module

Efficacy: 31.6 LPW S/P Ratio: 1.5 LM/LM

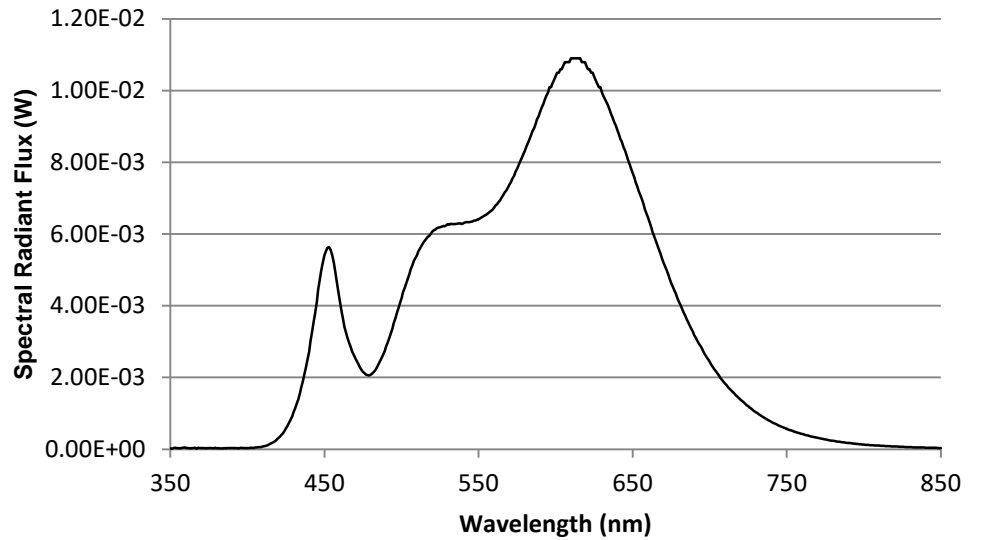
Chromaticity Diagram



Spectral Results

Name	Value	Unit
Φ	1.75	watts
$\Phi(v)$	531	lumens
$\Phi(v')$	772	lm'
Chrom x	0.4318	
Chrom y	0.4014	
Chrom u	0.2484	
Chrom v	0.3464	
Duv	0.0004	
Chrom u'	0.2484	
Chrom v'	0.5196	
CCT	3064	K
Purity	50.1	%
λ (dom)	582.7	nm
FWHM	157.6	nm
λ (peak)	612.9	nm
λ (center)	589.2	nm
λ (centroid)	586.7	nm
SDCM	Cool White	
RA	93	
Corr. Coef.	0.000375744	
Correlation	0.0054	
R1	93.9	
R2	96.9	
R3	98.7	
R4	95.2	
R5	94.4	
R6	96.8	
R7	90.2	
R8	77.5	
R9	48.4	
R10	92.9	
R11	96.6	
R12	85.4	
R13	95.2	
R14	99.3	

Spectral Distribution of Radiant Flux



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LUMINAIRE: 5" 17W LED Down-Light Cylinder; Bronze

LAMP: 1 - 3000K LED Module

MOUNTING: Wall

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.



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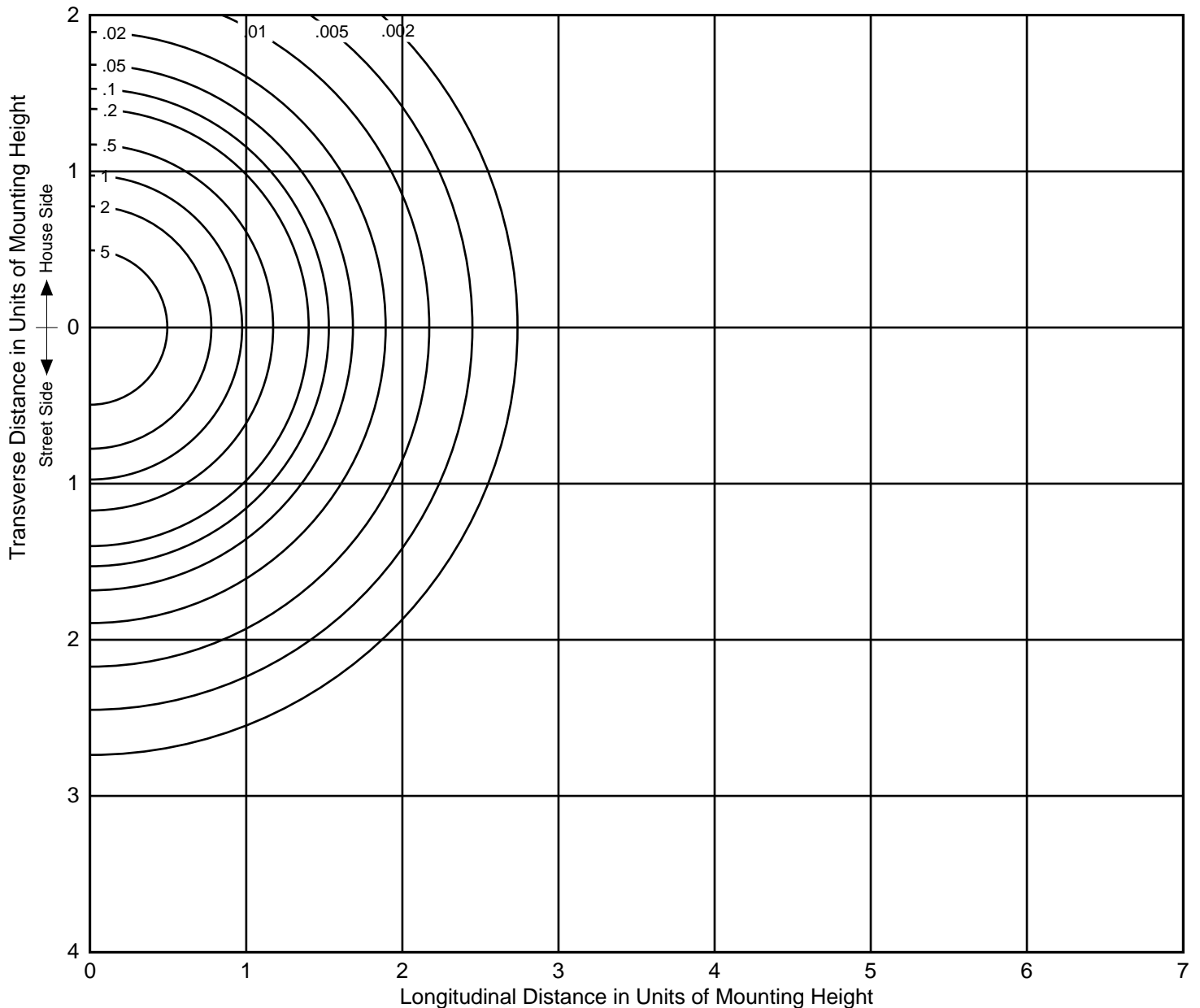
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ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION Values based on 6.5-foot mounting height

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





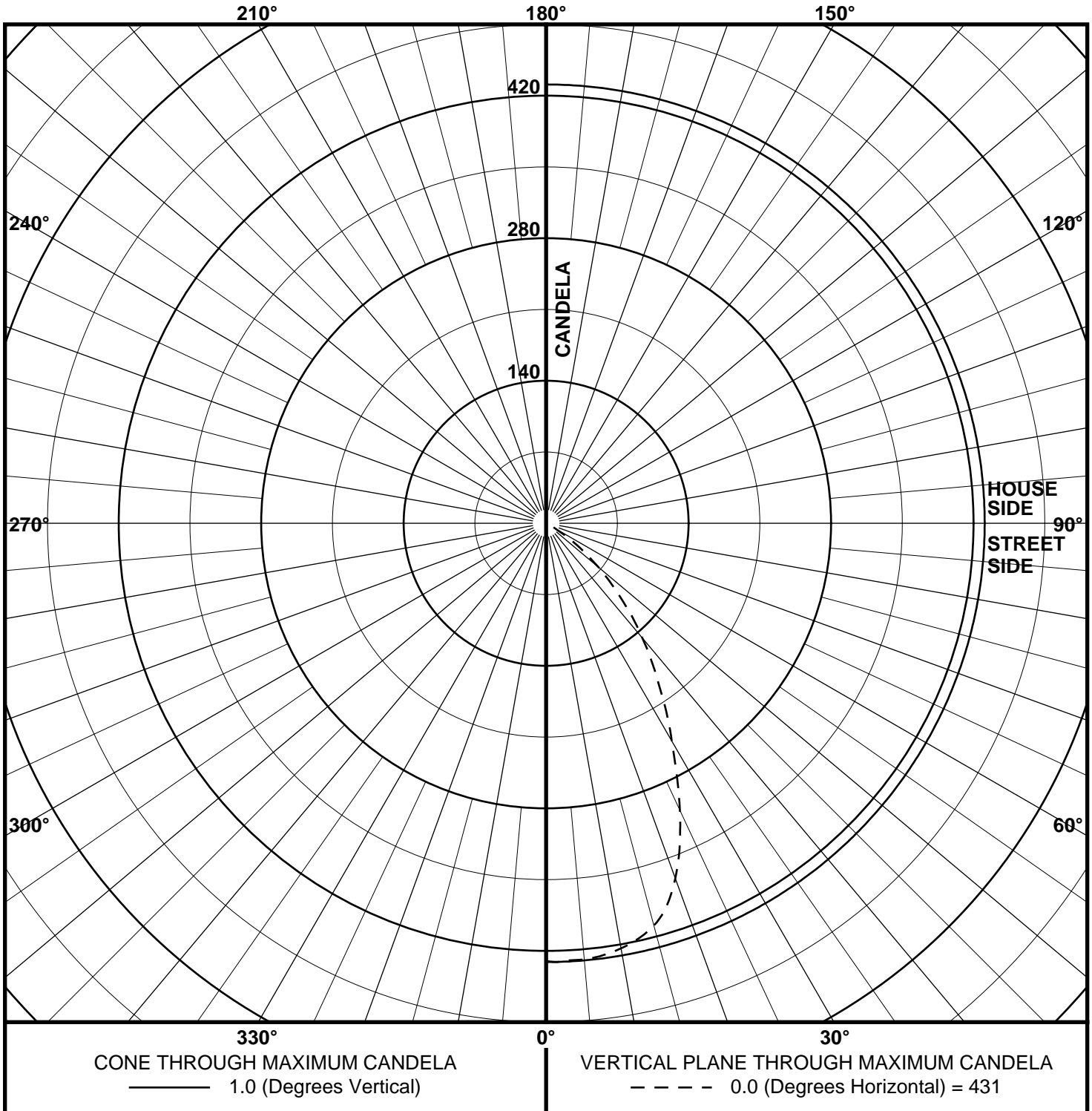
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MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA





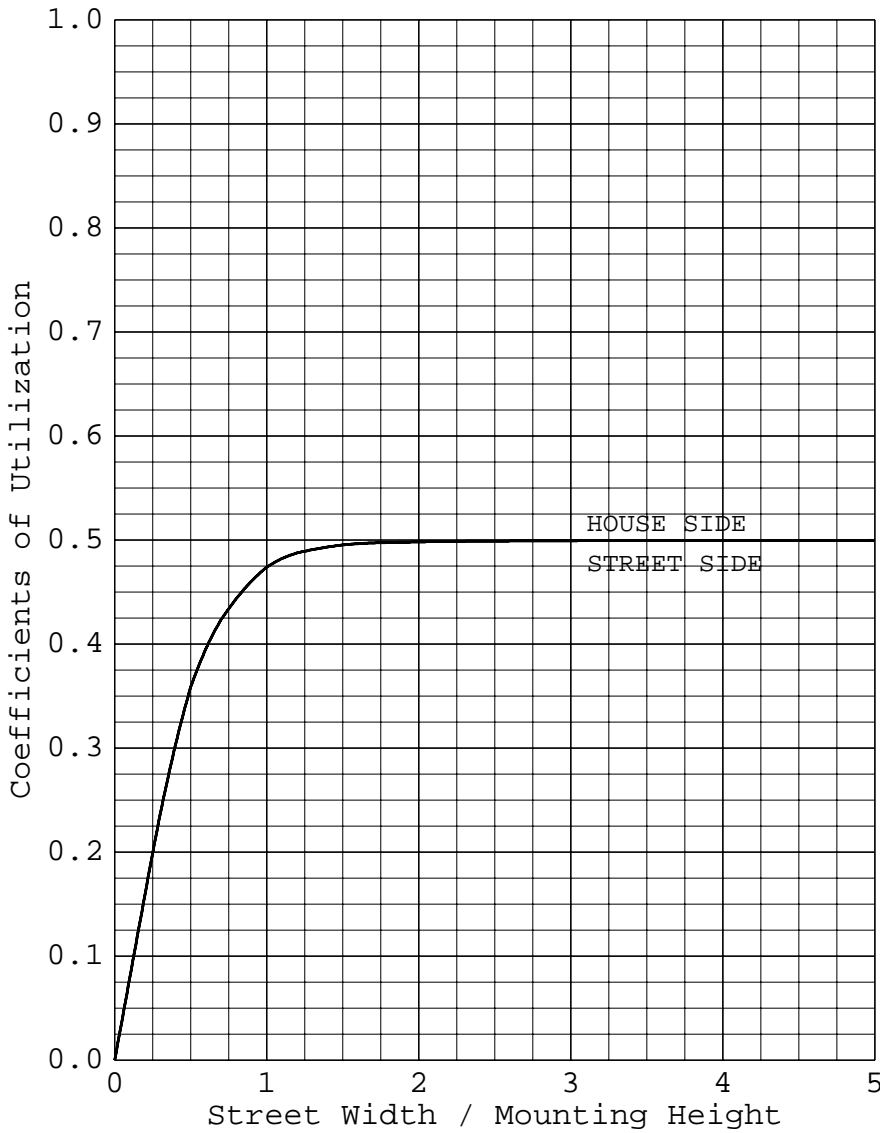
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COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	269	50.0
DOWNWARD HOUSE SIDE	269	50.0
DOWNWARD TOTAL	537	100.0
UPWARD STREET SIDE	0	0.0
UPWARD HOUSE SIDE	0	0.0
UPWARD TOTAL	0	0.0
TOTAL FLUX	537	100.0
EFFICACY = 31.8 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 Zonal Summary	Lumens	% of Fixture	Zone Ratings		
			B1	U0	G0
			B	U	G
Forward	269	50.0			
FL (0° – 30°)	148.4	27.6			
FM (30° – 60°)	116.9	21.8			
FH (60° – 80°)	3.4	0.6			G0
FVH (80° – 90°)	0.0	0.0			G0
Backward	269	50.0			
BL (0° – 30°)	148.4	27.6	B1		
BM (30° – 60°)	116.9	21.8	B0		
BH (60° – 80°)	3.4	0.6	B0		G0
BVH (80° – 90°)	0.0	0.0			G0
Upward	0	0.0			
UL (90° – 100°)	0.0	0.0		U0	
UH (100° – 180°)	0.0	0.0		U0	
Trapped Light	0	0.0			
Total Flux	537	100.0			



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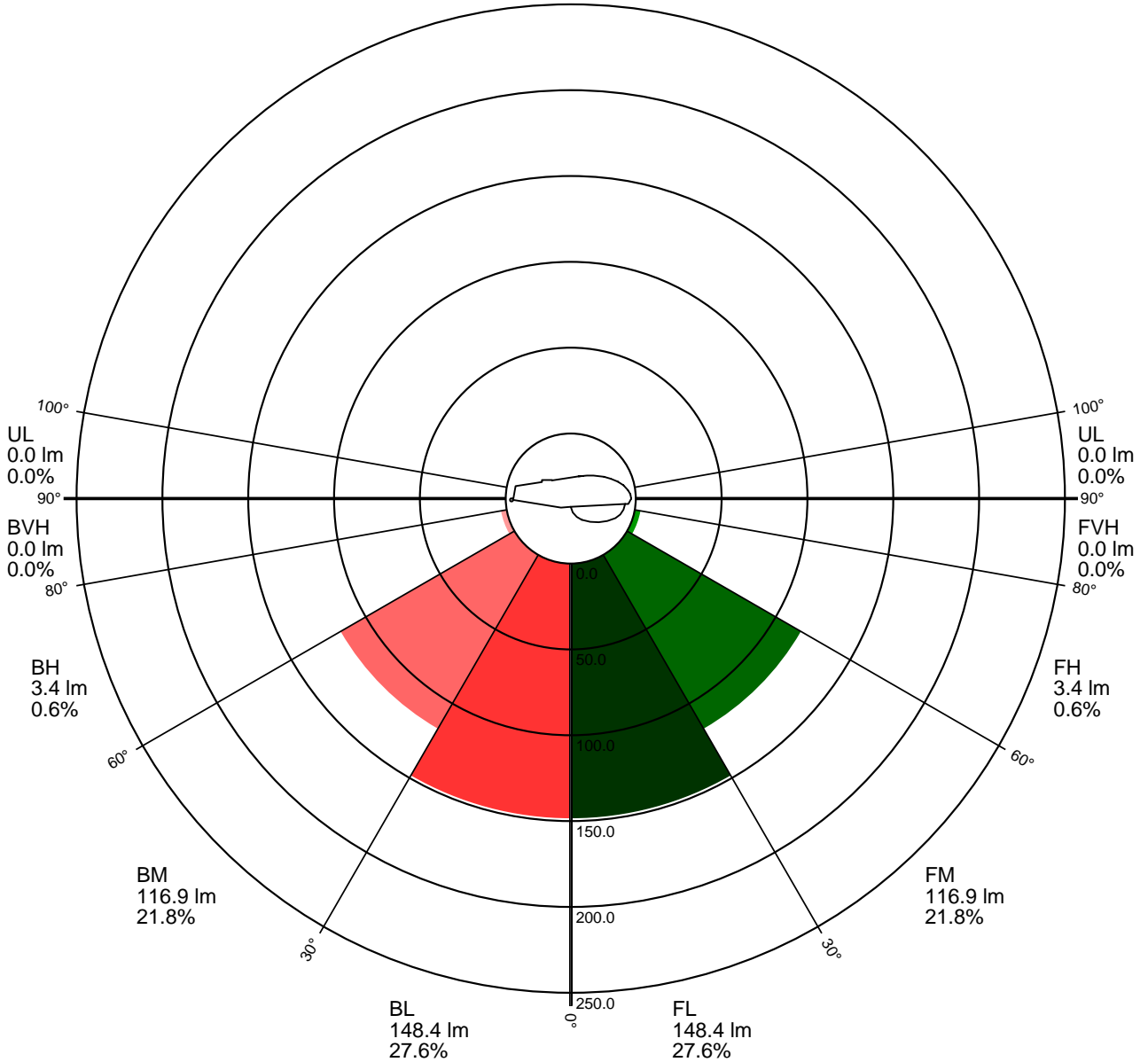
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Zonal Lumen Summary

(Linear scale)

UH
0.0 lm
0.0%





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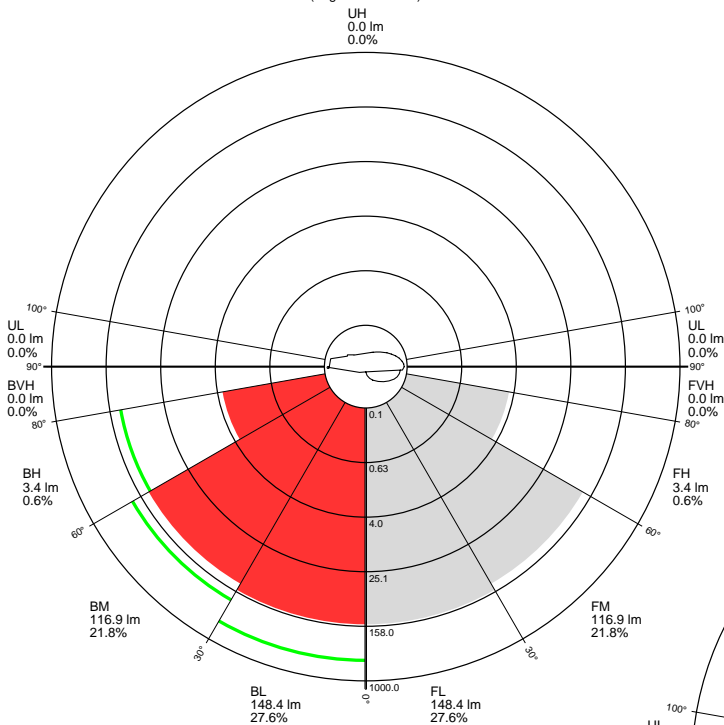
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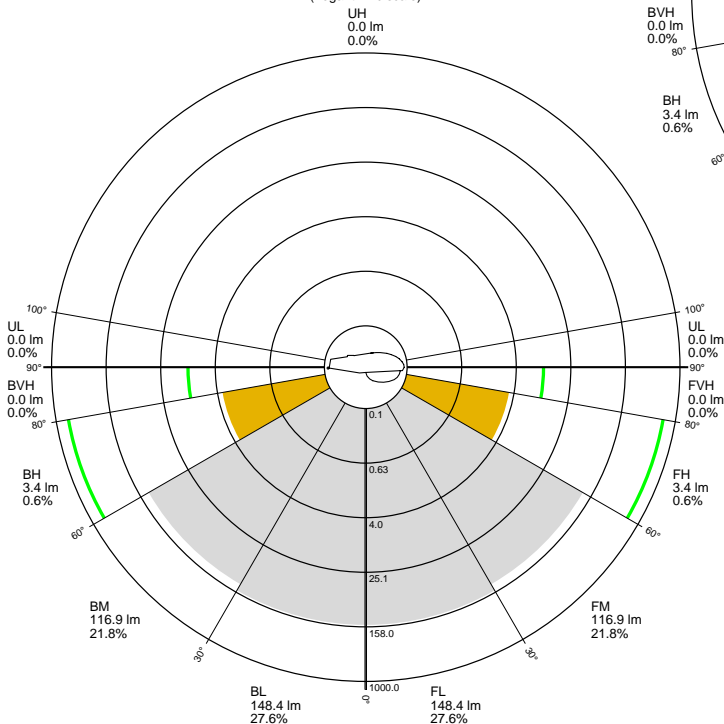
Backlight Rating Details

(Logarithmic scale)



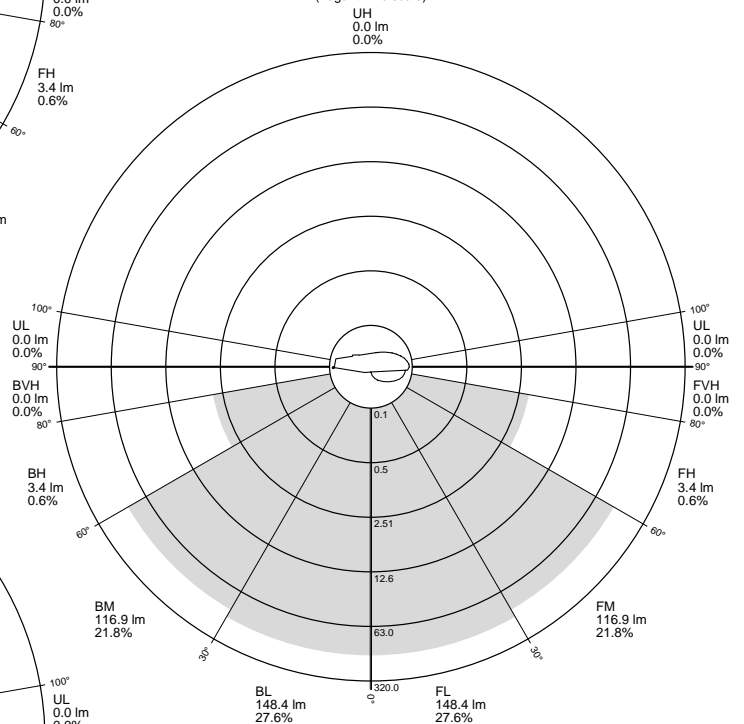
Glare Rating Details

(Logarithmic scale)



Uplight Rating Details

(Logarithmic scale)





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CANDELA TABULATION

	TYPE	V
	90.0	0.
	87.5	0.
	85.0	0.
	82.5	0.
	80.0	0.
	77.5	1.
	75.0	1.
	72.5	1.
	70.0	2.
	67.5	4.
	65.0	6.
	62.5	7.
V	60.0	10.
E	57.5	20.
R	55.0	35.
T	52.5	50.
I	50.0	67.
C	47.5	85.
A	45.0	104.
L	42.5	126.
	40.0	147.
A	37.5	170.
N	35.0	193.
G	32.5	220.
L	30.0	247.
E	27.5	278.
	25.0	311.
	22.5	343.
	20.0	371.
	17.5	394.
	15.0	409.
	12.5	418.
	10.0	424.
	7.5	428.
	5.0	430.
	2.5	430.
	1.0<<	431.
	0.0	430.

CONE OF MAXIMUM CANDELA



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5-DEGREE		
ZONAL	LUMEN	SUMMARY
0-	5	10
5-	10	31
10-	15	49
15-	20	65
20-	25	72
25-	30	70
30-	35	65
35-	40	57
40-	45	46
45-	50	34
50-	55	22
55-	60	10
60-	65	4
65-	70	2
70-	75	1
75-	80	0
80-	85	0
85-	90	0

10-DEGREE		
ZONAL	LUMEN	SUMMARY
0-	10	41
0-	20	155
0-	30	297
0-	40	418
0-	50	499
0-	60	531
0-	70	536
0-	80	537
0-	90	537

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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: 09/2/2016

Test Equipment Used

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>Goniophotometer</i>	ITL/HLI LAB 6 - Test Distance: 31.3'	N/A	N/A
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27076V	11/2/2017
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	1912745	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>Power Supply PF/THD</i>	Voltage-Regulated House Power	N/A	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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