

Project Number  
17.01494



**HUBBELL**  
Lighting

Date  
8/14/2017

LAB 1  
Sphere

### Test Sample Description

Catalog Number: P550026-020-30  
Description: 1-Lt. Led Hanging Lantern w/ inside Frost & outside Clear Seeded Glass

### Photometry

Test Method: IES LM-31-95  
Preburn Time: 0:05  
Time To Stabilize: 0:45  
Total Operating Time: 4:03  
  
Input Voltage (Volts): 120.0  
Input Current (Amps): 0.149  
Input Wattage (Watts): 17.6  
Ambient Temp (°C): 25.2

### Sphere

Test Method: IES LM-79-08 § 9.1 & 12.1  
Preburn Time: 0:05  
Time To Stabilize: 0:45  
Total Operating Time: 2:00  
  
Input Voltage (Volts): 120.0  
Input Current (Amps): 0.146  
Input Wattage (Watts): 17.3  
Ambient Temp (°C): 25.0  
PF @ 120V: 0.979  
THD @ 120V (%): 17.5



### 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.

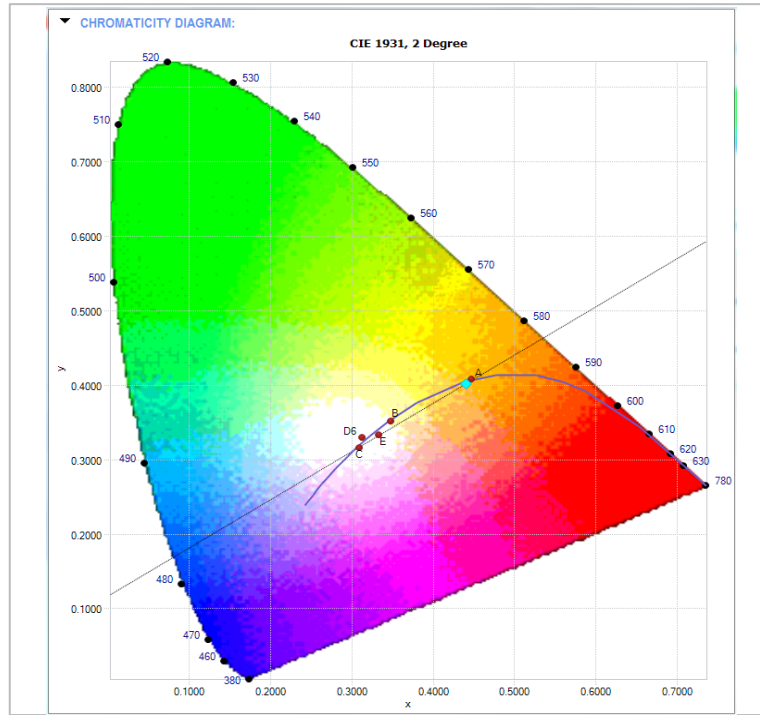


Lamp Cat#: 93047261-5230  
 Lamp Desc: 40 - Nichia 3000K LEDs  
 Driver Desc: n/a

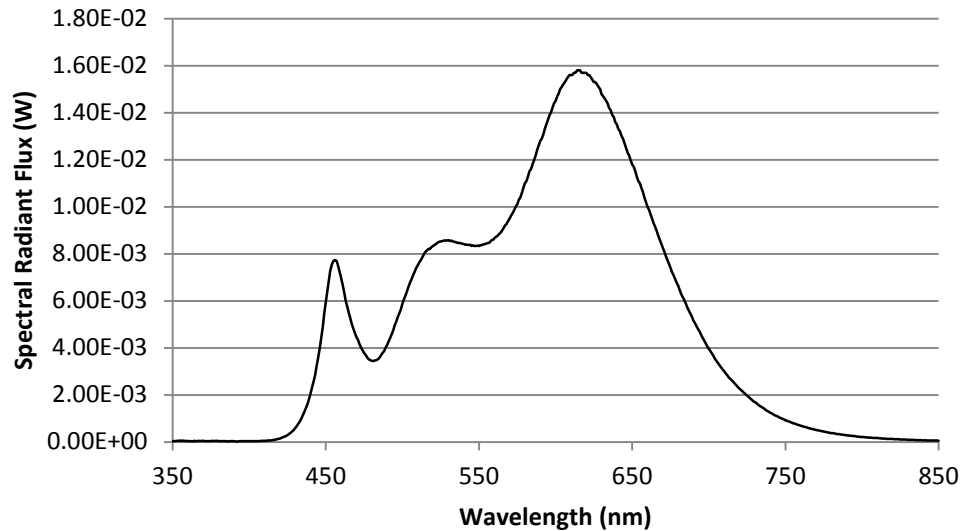
Efficacy: 41.9 LPW      S/P Ratio: 1.5 LM/LM

**Spectral Results**

Name	Value	Unit
$\Phi$	2.49	watts
$\Phi(v)$	725	lumens
$\Phi(v')$	1060	lm'
Chrom x	0.4404	
Chrom y	0.4026	
Chrom u	0.2535	
Chrom v	0.3475	
Duv	0.0014	
Chrom u'	0.2535	
Chrom v'	0.5213	
CCT	2927	K
Purity	53	%
$\lambda$ (dom)	583.5	nm
FWHM	158.8	nm
$\lambda$ (peak)	615.1	nm
$\lambda$ (center)	592.7	nm
$\lambda$ (centroid)	591.8	nm
SDCM	Cool White	
RA	95	
Corr. Coef.	0.001074602	
Correlation	0.0054	
R1	98.8	
R2	98.2	
R3	96.3	
R4	99.3	
R5	98.5	
R6	92.3	
R7	90.6	
R8	82.8	
R9	63.4	
R10	96.4	
R11	93.0	
R12	85.6	
R13	98.5	
R14	98.6	



**Spectral Distribution of Radiant Flux**



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**PREPARED FOR:** PROGRESS

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**LUMINAIRE:** 1-Lt. Led Hanging Lantern w/ inside Frost & outside Clear Seeded  
Glass

**LAMP CAT. NO.:** 93047261-5230

**LAMP:** 40- NICHIA 3000K LEDs

**MOUNTING:** Pendant

**NOTE:** DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.



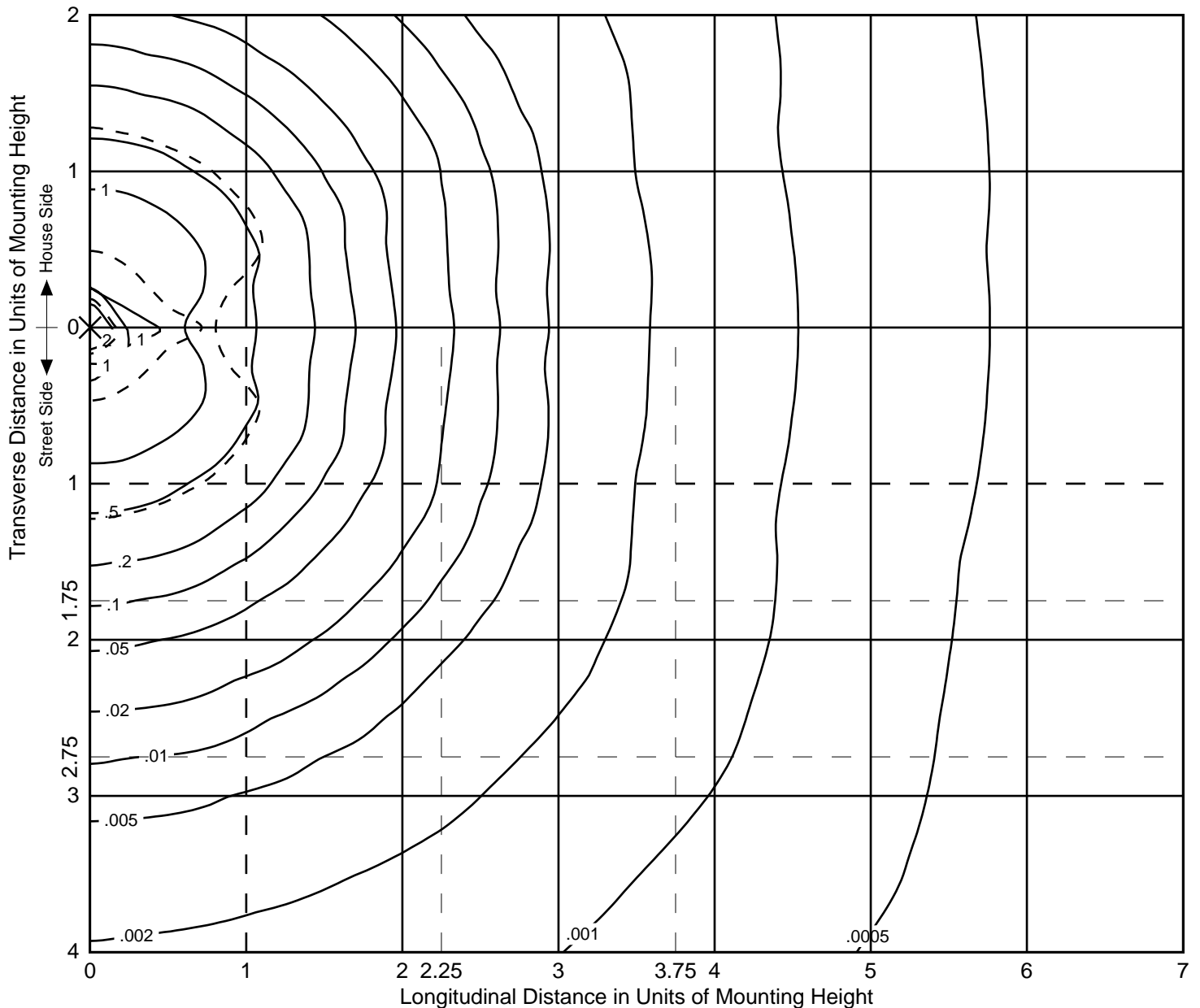
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### ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION Values based on 10-foot mounting height

IES Classification: (does not classify)  
Cutoff Classification (deprecated): Cutoff

- - - - - 1/2 Maximum Candela trace  
X Maximum Candela point





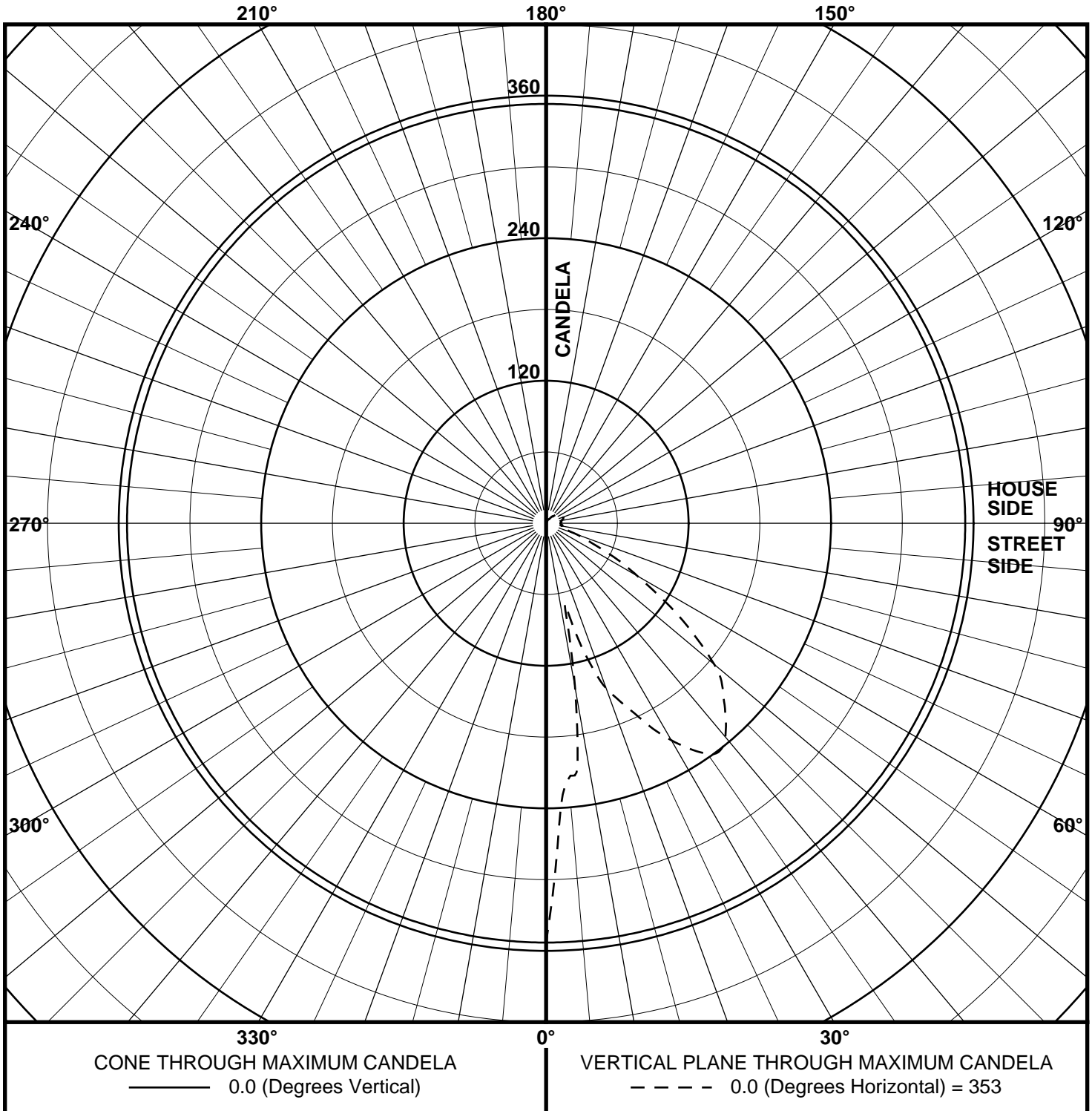
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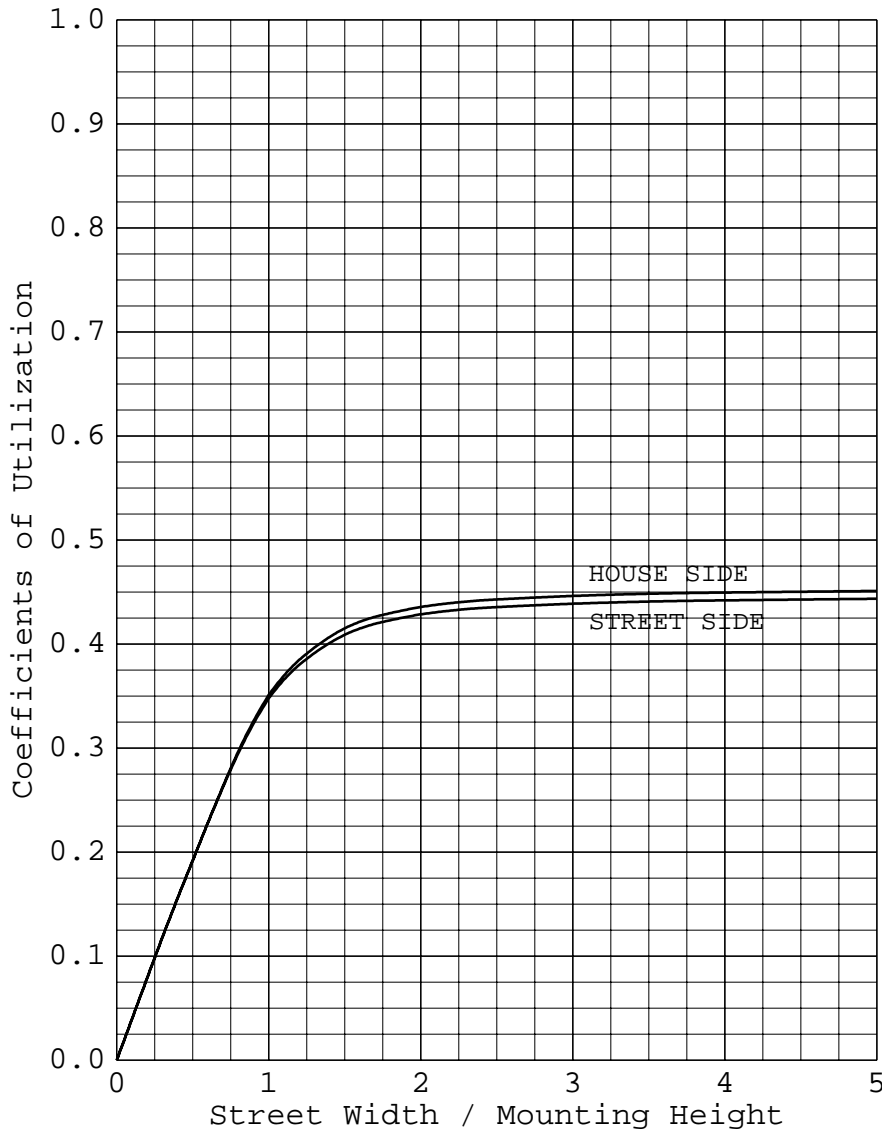
MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA





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**COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION**



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	308	45.1
DOWNWARD HOUSE SIDE	313	45.8
DOWNWARD TOTAL	620	91.0
UPWARD STREET SIDE	31	4.5
UPWARD HOUSE SIDE	31	4.5
UPWARD TOTAL	62	9.0
TOTAL FLUX	682	100.0
EFFICACY = 38.8 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				B0	U2	G0
Zonal Summary				Zone Ratings		
				B	U	G
Forward			Lumens			
			% of Fixture			
FL	(0° – 30°)	64.8	9.5			
FM	(30° – 60°)	203.2	29.8			
FH	(60° – 80°)	33.1	4.9			G0
FVH	(80° – 90°)	6.4	0.9			G0
Backward		313	45.8			
BL	(0° – 30°)	64.2	9.4	B0		
BM	(30° – 60°)	207.7	30.5	B0		
BH	(60° – 80°)	34.1	5.0	B0		G0
BVH	(80° – 90°)	6.5	0.9			G0
Upward		62	9.0			
UL	(90° – 100°)	13.1	1.9		U2	
UH	(100° – 180°)	48.6	7.1		U2	
Trapped Light		0	0.0			
Total Flux		682	100.0			



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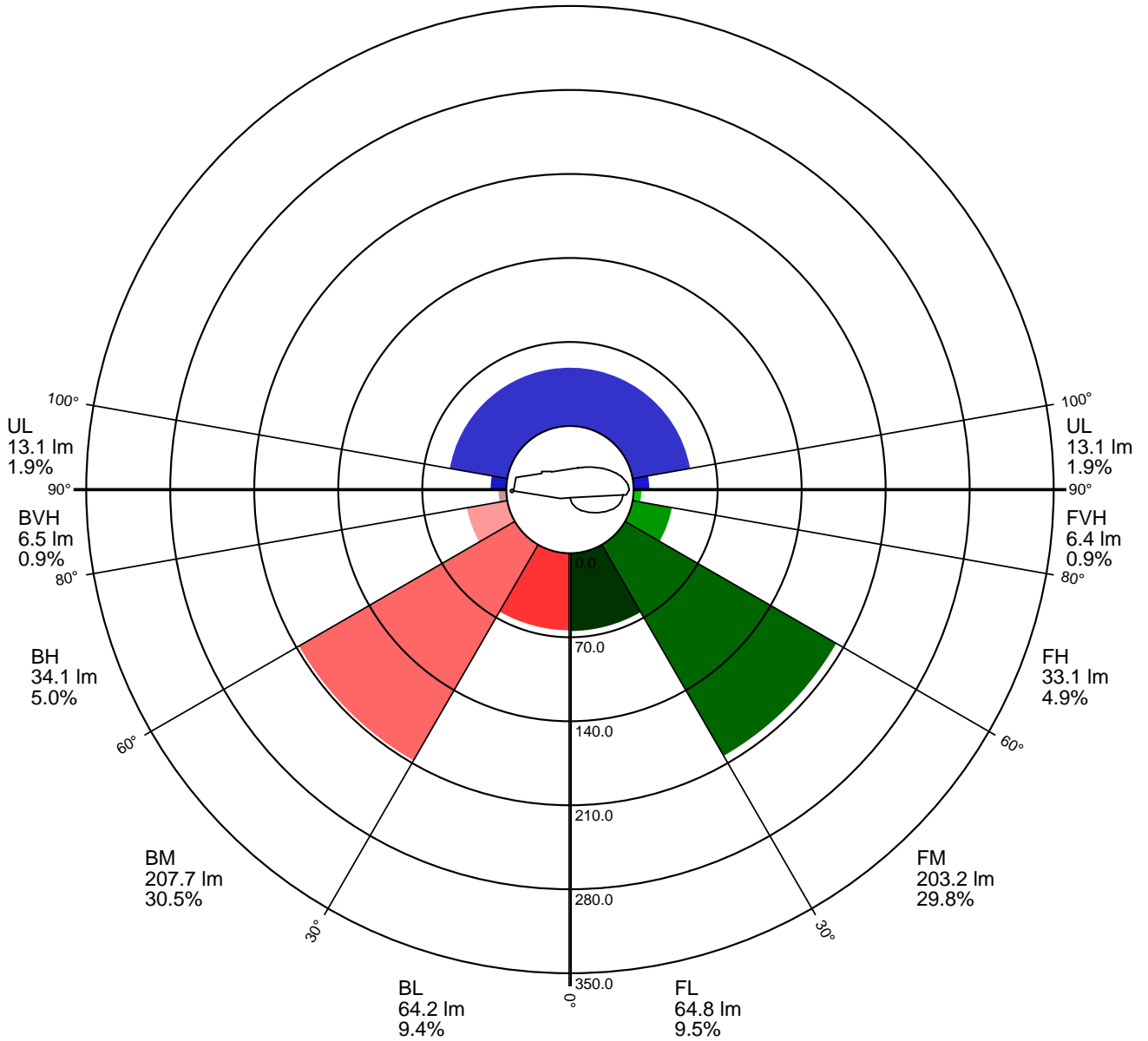
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## Zonal Lumen Summary

(Linear scale)

UH  
48.6 lm  
7.1%



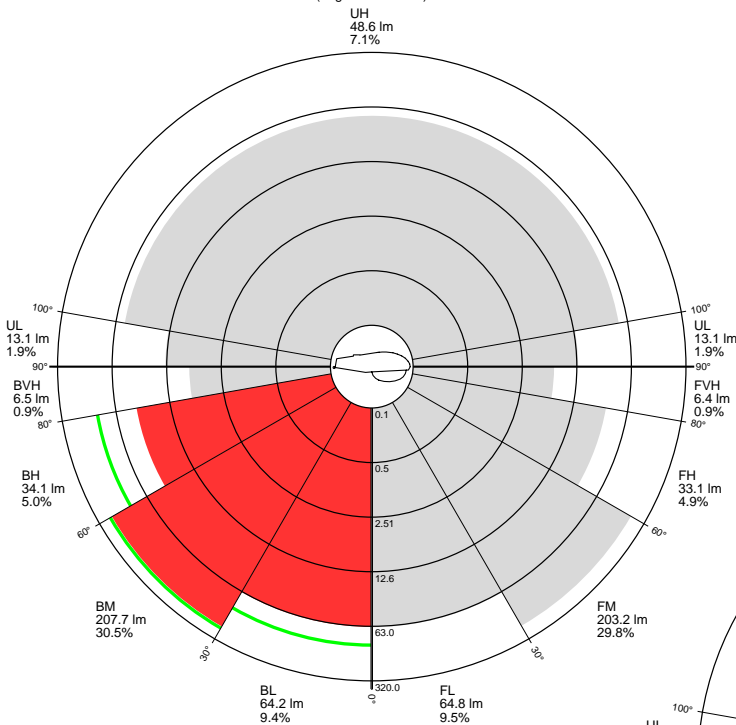




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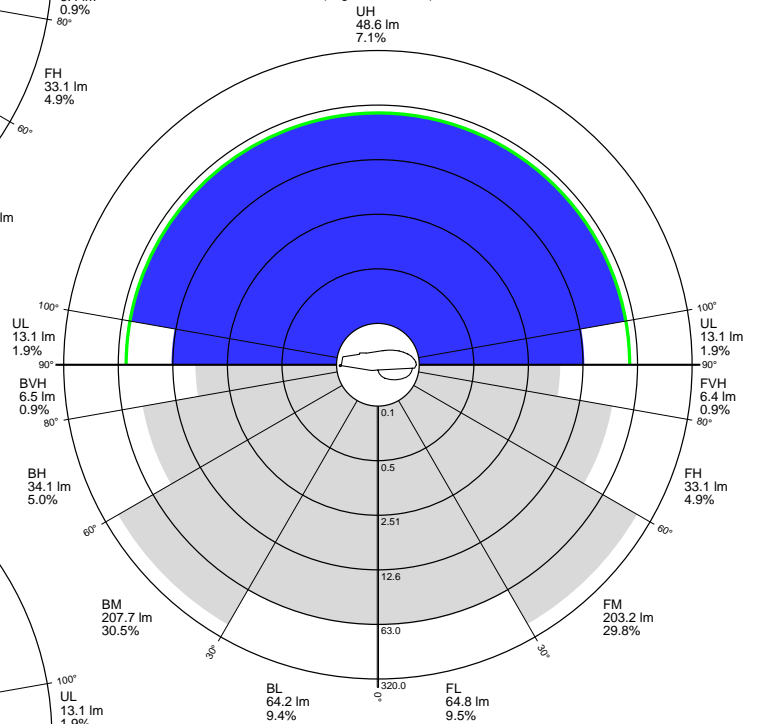
### Backlight Rating Details

(Logarithmic scale)



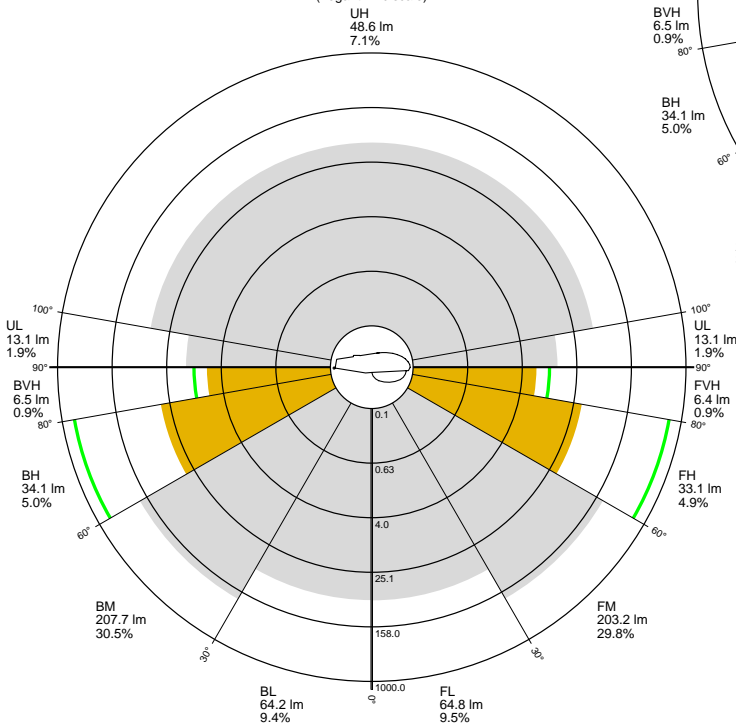
### Uplight Rating Details

(Logarithmic scale)



### Glare Rating Details

(Logarithmic scale)





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CANDELA TABULATION

	LATERAL ANGLE										
	0.0	5.0	15.0	25.0	35.0	45.0	55.0	65.0	75.0	85.0	90.0
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	2.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
	4.	5.	5.	5.	5.	5.	5.	5.	4.	4.	3.
	8.	9.	9.	9.	9.	9.	9.	8.	6.	6.	6.
	12.	12.	13.	13.	13.	13.	13.	11.	9.	9.	9.
	15.	15.	15.	15.	16.	16.	15.	13.	12.	11.	11.
	15.	15.	15.	16.	15.	16.	15.	13.	11.	11.	11.
	13.	14.	14.	14.	13.	13.	13.	12.	10.	10.	10.
	12.	12.	12.	12.	12.	12.	12.	11.	9.	9.	9.
	12.	12.	12.	13.	12.	13.	12.	11.	9.	9.	9.
	12.	12.	12.	12.	12.	12.	12.	11.	9.	8.	9.
	13.	13.	13.	12.	13.	12.	12.	11.	9.	9.	9.
V	14.	13.	14.	14.	14.	14.	13.	12.	10.	10.	10.
E	13.	13.	13.	13.	13.	13.	13.	11.	10.	10.	10.
R	14.	13.	13.	13.	14.	13.	13.	12.	10.	10.	10.
T	13.	13.	13.	13.	13.	13.	13.	12.	10.	10.	10.
I	17.	17.	17.	17.	17.	16.	16.	15.	13.	11.	11.
C	27.	26.	27.	25.	26.	26.	26.	25.	22.	17.	18.
A	38.	38.	38.	38.	39.	39.	39.	37.	30.	28.	28.
L	52.	52.	53.	52.	54.	53.	53.	52.	40.	39.	40.
	72.	70.	70.	69.	71.	70.	70.	68.	53.	53.	54.
A	89.	89.	89.	87.	91.	90.	91.	86.	66.	68.	71.
N	111.	111.	110.	109.	112.	111.	112.	109.	82.	85.	87.
G	137.	134.	135.	133.	137.	136.	136.	132.	99.	101.	105.
L	161.	161.	160.	160.	161.	161.	161.	157.	117.	118.	123.
E	185.	185.	184.	183.	186.	184.	186.	181.	138.	134.	138.
	201.	200.	200.	200.	203.	204.	205.	201.	152.	146.	150.
	212.	212.	212.	213.	216.	217.	219.	213.	163.	157.	160.
	224.	224.	224.	225.	227.	227.	229.	223.	170.	164.	167.
	235.	234.	235.	236.	238.	238.	238.	233.	177.	170.	174.
	241.	240.	242.	244.	245.	244.	245.	240.	182.	175.	180.
	237.	235.	236.	239.	239.	240.	239.	231.	173.	174.	180.
	225.	224.	224.	227.	227.	226.	225.	216.	160.	167.	172.
	211.	210.	210.	211.	212.	210.	209.	202.	149.	157.	162.
	177.	178.	177.	178.	180.	180.	181.	174.	131.	138.	141.
	148.	148.	146.	149.	149.	151.	147.	140.	110.	117.	120.
	95.	97.	95.	95.	97.	99.	101.	102.	91.	87.	88.
	140.	136.	132.	126.	137.	134.	131.	131.	134.	137.	138.
	216.	216.	218.	219.	221.	221.	222.	219.	217.	212.	213.
	353.	353.	353.	353.	353.	353.	353.	353.	353.	353.	353.

PLANE OF MAXIMUM CANDELA

CONE OF MAXIMUM CANDELA

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CANDELA TABULATION

	HOUSE SIDE		LATERAL ANGLE							
	95.0	105.0	115.0	125.0	135.0	145.0	155.0	165.0	175.0	180.0
180.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
175.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
165.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
155.0	1.	1.	1.	1.	1.	1.	1.	2.	1.	1.
145.0	4.	4.	5.	5.	5.	5.	5.	5.	5.	5.
135.0	7.	7.	8.	9.	9.	9.	9.	9.	9.	9.
125.0	9.	10.	12.	13.	13.	13.	13.	13.	13.	13.
115.0	11.	12.	14.	15.	15.	16.	15.	15.	15.	15.
105.0	11.	12.	14.	15.	16.	15.	15.	15.	15.	15.
95.0	10.	10.	12.	13.	13.	14.	13.	13.	14.	13.
92.5	9.	9.	11.	12.	12.	12.	12.	12.	12.	12.
90.0	9.	10.	12.	12.	12.	13.	13.	13.	12.	12.
87.5	8.	9.	11.	12.	12.	12.	12.	12.	12.	12.
85.0	9.	9.	11.	12.	13.	13.	13.	12.	12.	12.
V 82.5	10.	10.	12.	13.	14.	13.	13.	14.	14.	14.
E 80.0	10.	11.	12.	13.	14.	13.	14.	13.	13.	14.
R 77.5	10.	10.	12.	13.	13.	14.	13.	14.	13.	13.
T 75.0	10.	10.	12.	13.	13.	13.	14.	13.	13.	13.
I 72.5	12.	13.	15.	16.	16.	16.	15.	15.	16.	16.
C 70.0	17.	22.	26.	27.	27.	27.	27.	26.	28.	28.
A 67.5	27.	31.	40.	42.	42.	42.	41.	41.	41.	42.
L 65.0	38.	41.	54.	56.	56.	55.	55.	55.	57.	57.
62.5	52.	53.	70.	73.	73.	73.	71.	72.	74.	74.
A 60.0	67.	66.	88.	92.	93.	94.	91.	92.	94.	95.
N 57.5	86.	82.	108.	113.	115.	115.	115.	115.	118.	118.
G 55.0	102.	99.	134.	140.	140.	140.	142.	139.	143.	143.
L 52.5	119.	121.	163.	169.	171.	169.	167.	166.	170.	170.
E 50.0	136.	142.	188.	193.	198.	194.	193.	193.	196.	197.
47.5	147.	157.	202.	209.	215.	212.	211.	211.	215.	215.
45.0	159.	164.	214.	222.	225.	227.	226.	225.	227.	225.
42.5	166.	170.	222.	230.	232.	236.	233.	235.	234.	234.
40.0	174.	179.	231.	238.	242.	245.	242.	244.	246.	245.
37.5	178.	184.	236.	241.	246.	247.	246.	246.	247.	245.
35.0	174.	178.	228.	234.	237.	238.	235.	236.	235.	235.
32.5	165.	164.	217.	224.	223.	221.	220.	222.	220.	219.
30.0	155.	148.	205.	210.	207.	204.	205.	204.	203.	202.
25.0	137.	122.	164.	171.	175.	175.	173.	173.	169.	169.
20.0	118.	108.	141.	150.	151.	149.	148.	144.	143.	141.
15.0	89.	93.	102.	105.	108.	105.	105.	112.	116.	117.
10.0	143.	142.	148.	146.	149.	143.	138.	131.	129.	124.
5.0	212.	210.	209.	210.	210.	208.	207.	206.	206.	206.
0.0<<	353.	353.	353.	353.	353.	353.	353.	353.	353.	353.

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5-DEGREE  
ZONAL LUMEN SUMMARY

0- 5	6
5- 10	13
10- 15	12
15- 20	20
20- 25	32
25- 30	46
30- 35	62
35- 40	76
40- 45	80
45- 50	78
50- 55	67
55- 60	49
60- 65	33
65- 70	19
70- 75	9
75- 80	7
80- 85	7
85- 90	6
90- 95	6
95-100	7
100-105	7
105-110	7
110-115	7
115-120	7
120-125	6
125-130	5
130-135	4
135-140	3
140-145	2
145-150	1
150-155	0
155-160	0
160-165	0
165-170	0
170-175	0
175-180	0

10-DEGREE  
ZONAL LUMEN SUMMARY

0- 10	19
10- 20	32
20- 30	78
30- 40	137
40- 50	158
50- 60	116
60- 70	52
70- 80	15
80- 90	13
90-100	13
100-110	15
110-120	14
120-130	11
130-140	6
140-150	3
150-160	1
160-170	0
170-180	0

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17.01494



**HUBBELL**  
Lighting

Date  
8/14/2017

### *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	031159372	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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