

Project Number
17.01439



HUBBELL
Lighting

Date
5/18/2017

LAB 1
Sphere

Test Sample Description

Catalog Number: P540026-020-30

Description: 1-Lt. Led Post Lantern w/ Frost inside & Clear Seeded Etched outside Refractors

Photometry

Test Method: IES LM-31-95
Preburn Time: 0:05
Time To Stabilize: 11:54
Total Operating Time: 12:59

Input Voltage (Volts): 120.3
Input Current (Amps): 0.077
Input Wattage (Watts): 9.2
Ambient Temp (°C): 24.4



Sphere

Test Method: IES LM-79-08 § 9.1 & 12.1
Preburn Time: 1:00
Time To Stabilize: 1:17
Total Operating Time: 2:17

Input Voltage (Volts): 120.0
Input Current (Amps): 0.077
Input Wattage (Watts): 9.2
Ambient Temp (°C): 24.2
PF @ 120V: 0.991
THD @ 120V (%): 12.1

Hubbell Lighting, Inc.

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

Checked (sphere): B. LEE
Checked (photometry): M. HALL / 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#: 93070270-3330

Lamp Desc: 20 - Nichia 3000K LEDs

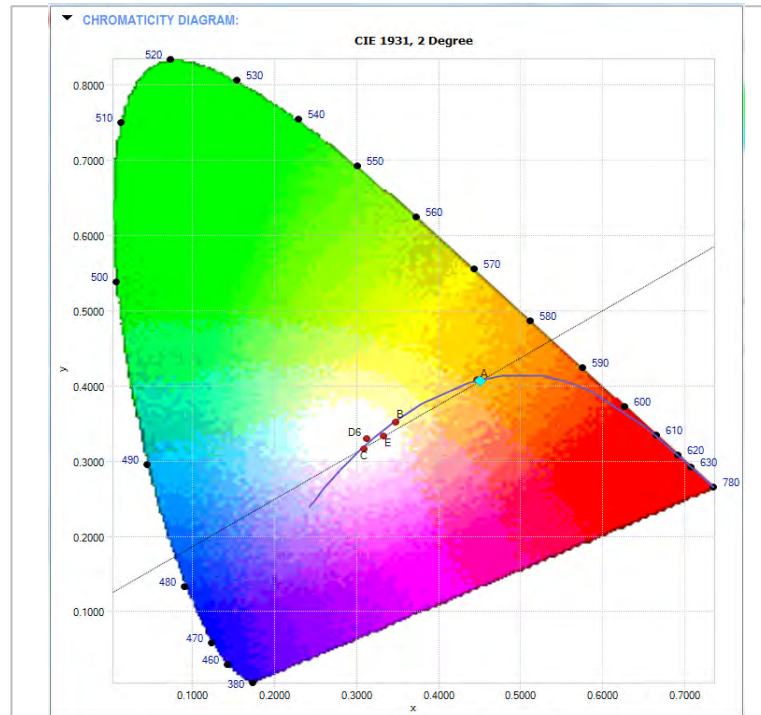
Driver Desc: N/A

Efficacy: 28.2 LPW

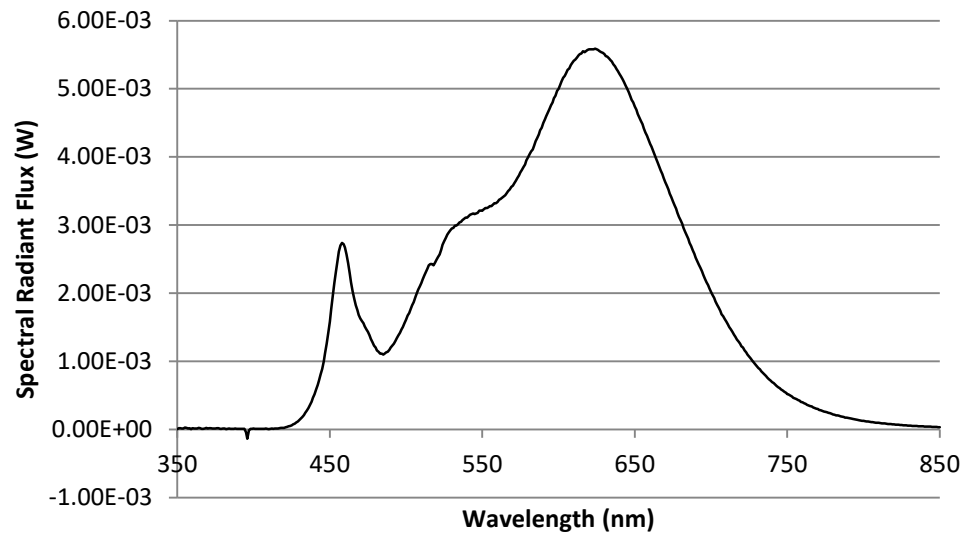
S/P Ratio: 1.3 LM/LM

Spectral Results

Name	Value	Unit
Φ	0.93	watts
$\Phi(v)$	259	lumens
$\Phi(v')$	349	lm'
Chrom x	0.4509	
Chrom y	0.407	
Chrom u	0.2583	
Chrom v	0.3497	
Duv	0.0006	
Chrom u'	0.2583	
Chrom v'	0.5246	
CCT	2799	K
Purity	57.5	%
λ (dom)	583.9	nm
FWHM	159.3	nm
λ (peak)	623.5	nm
λ (center)	605.4	nm
λ (centroid)	601.6	nm
SDCM	Cool White	
RA	95	
Corr. Coef.	0.000571684	
Correlation	0.0054	
R1	96.5	
R2	98.8	
R3	98.6	
R4	95.5	
R5	95.5	
R6	96.9	
R7	92.4	
R8	84.6	
R9	66.5	
R10	94.8	
R11	97.0	
R12	80.4	
R13	97.7	
R14	98.1	



Spectral Distribution of Radiant Flux





HUBBELL
Lighting

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

REPORT NUMBER: 17.01439

PAGE: 3 OF 12

ISSUE DATE: 05/17/17

PREPARED FOR: PROGRESS

CATALOG NUMBER: P540026-020-30

LUMINAIRE: 1-Lt. Led Post Lantern w/ Frost inside & Clear Seeded Etched
outside Refractors

LAMP CAT. NO.: 93070270-3330

LAMP: 20- NICHIA 3000K LEDs

MOUNTING: Pole

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.



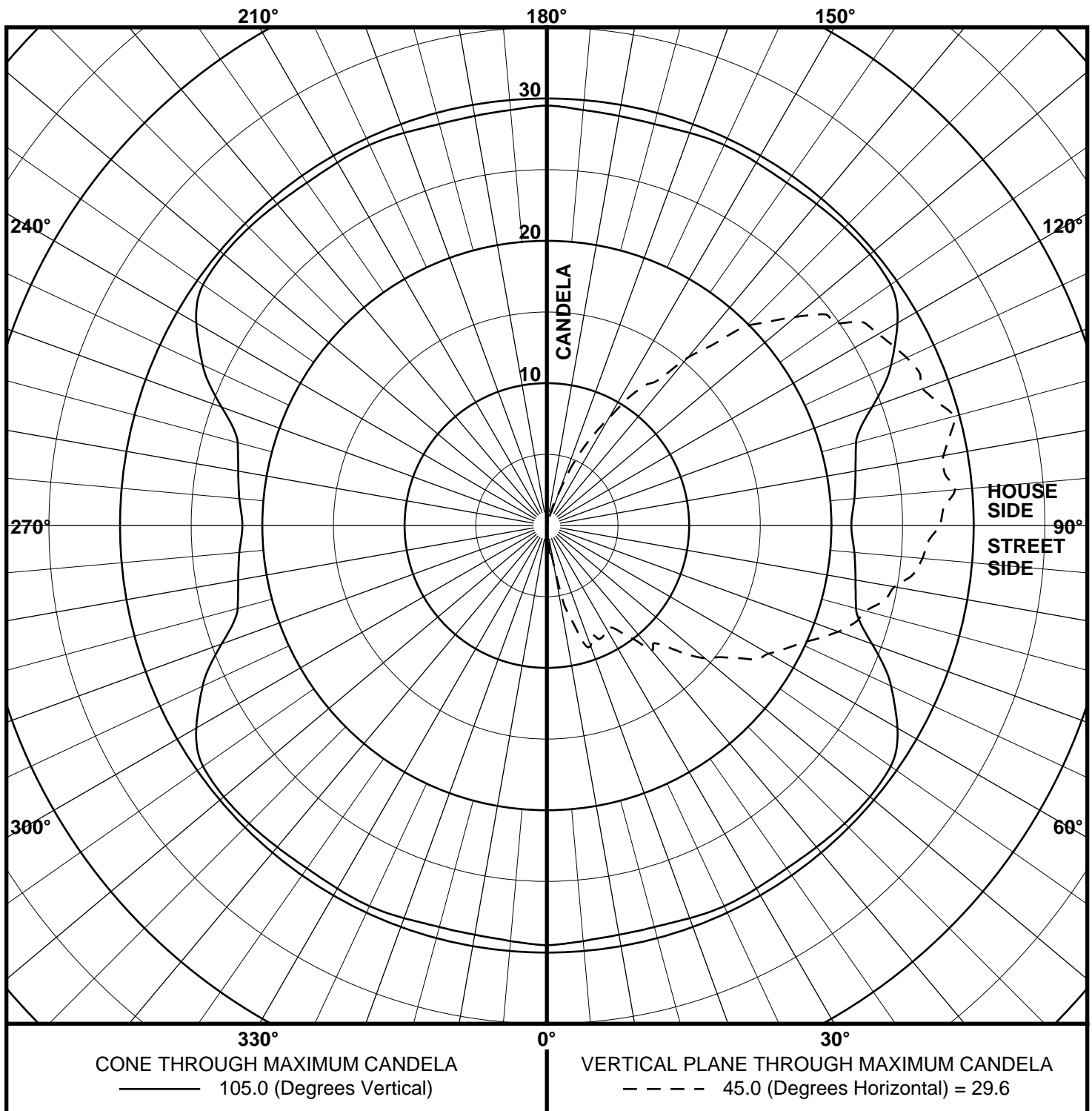
HUBBELL
Lighting

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

REPORT NUMBER: 17.01439
ISSUE DATE: 05/17/17
PREPARED FOR: PROGRESS
CATALOG NUMBER: P540026-020-30

PAGE: 5 OF 12

MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA

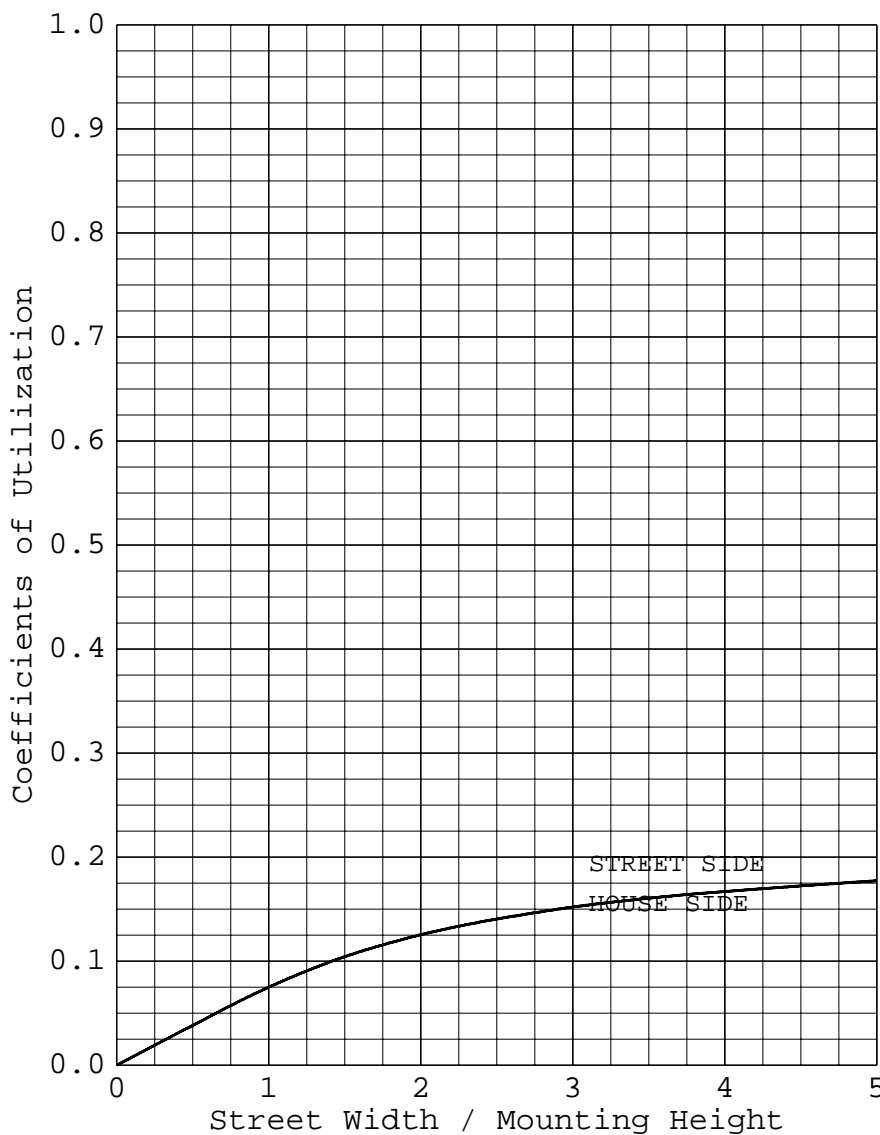




REPORT NUMBER: 17.01439
ISSUE DATE: 05/17/17
PREPARED FOR: PROGRESS
CATALOG NUMBER: P540026-020-30

PAGE: 6 OF 12

COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	51	22.3
DOWNWARD HOUSE SIDE	51	22.3
DOWNWARD TOTAL	103	44.5
UPWARD STREET SIDE	64	27.7
UPWARD HOUSE SIDE	64	27.7
UPWARD TOTAL	128	55.5
TOTAL FLUX	230	100.0
EFFICACY = 13.0 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.



HUBBELL
Lighting

701 Millennium Blvd
Greenville, SC 29607
www.hubbelllighting.com

REPORT NUMBER: 17.01439
ISSUE DATE: 05/17/17
PREPARED FOR: PROGRESS
CATALOG NUMBER: P540026-020-30

PAGE: 7 OF 12

BUG Rating			B0	U3	G1		
Zonal Summary			Lumens	% of Fixture	Zone Ratings		
					B	U	G
Forward			51	22.3			
FL	(0° – 30°)		2.9	1.3			
FM	(30° – 60°)		14.2	6.2			
FH	(60° – 80°)		20.7	9.0			G0
FVH	(80° – 90°)		13.4	5.8			G1
Backward			51	22.3			
BL	(0° – 30°)		2.9	1.3	B0		
BM	(30° – 60°)		14.2	6.2	B0		
BH	(60° – 80°)		20.7	9.0	B0		G0
BVH	(80° – 90°)		13.4	5.8			G1
Upward			128	55.5			
UL	(90° – 100°)		28.7	12.4		U2	
UH	(100° – 180°)		99.2	43.0		U3	
Trapped Light			0	0.0			
Total Flux			230	100.0			



HUBBELL
Lighting

701 Millennium Blvd
Greenville, SC 29607
www.hubbelllighting.com

REPORT NUMBER: 17.01439

ISSUE DATE: 05/17/17

PREPARED FOR: PROGRESS

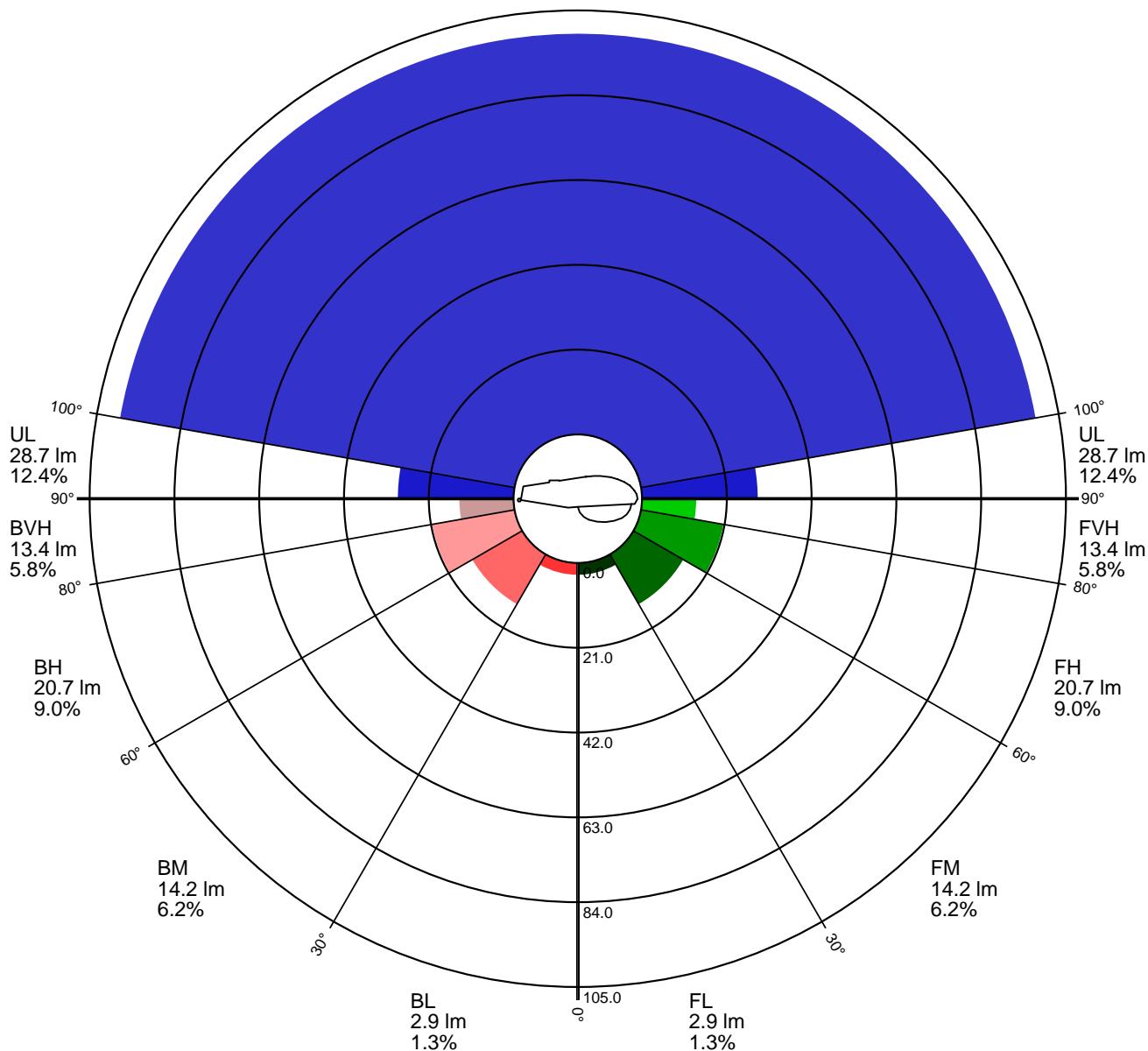
CATALOG NUMBER: P540026-020-30

PAGE: 8 OF 12

Zonal Lumen Summary

(Linear scale)

UH
99.2 lm
43.0%





HUBBELL
Lighting

701 Millennium Blvd
Greenville, SC 29607
www.hubbelllighting.com

REPORT NUMBER: 17.01439

PAGE: 9 OF 12

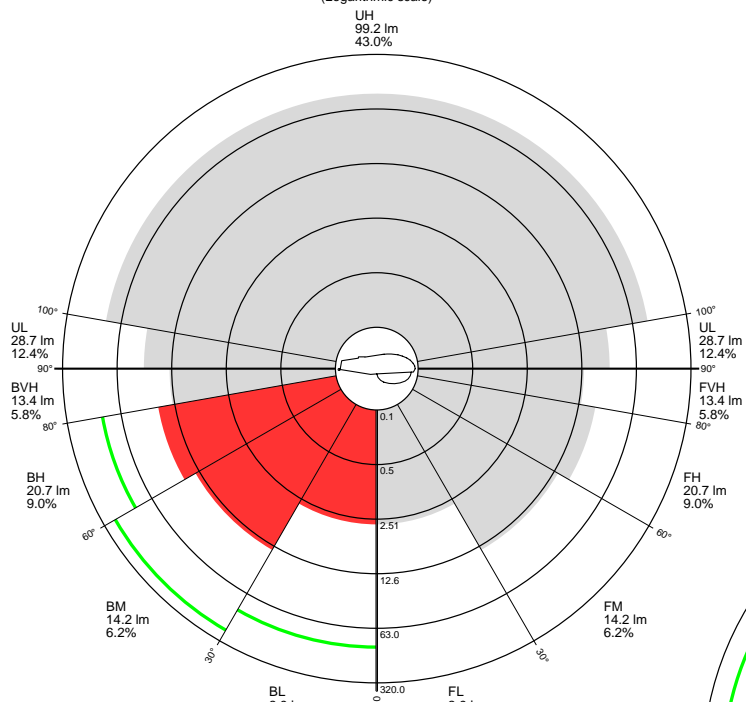
ISSUE DATE: 05/17/17

PREPARED FOR: PROGRESS

CATALOG NUMBER: P540026-020-30

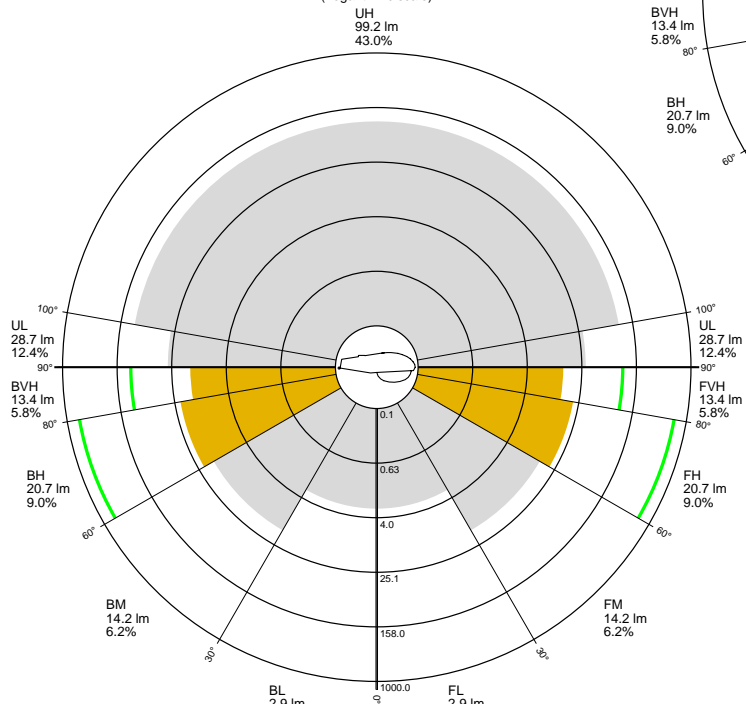
Backlight Rating Details

(Logarithmic scale)



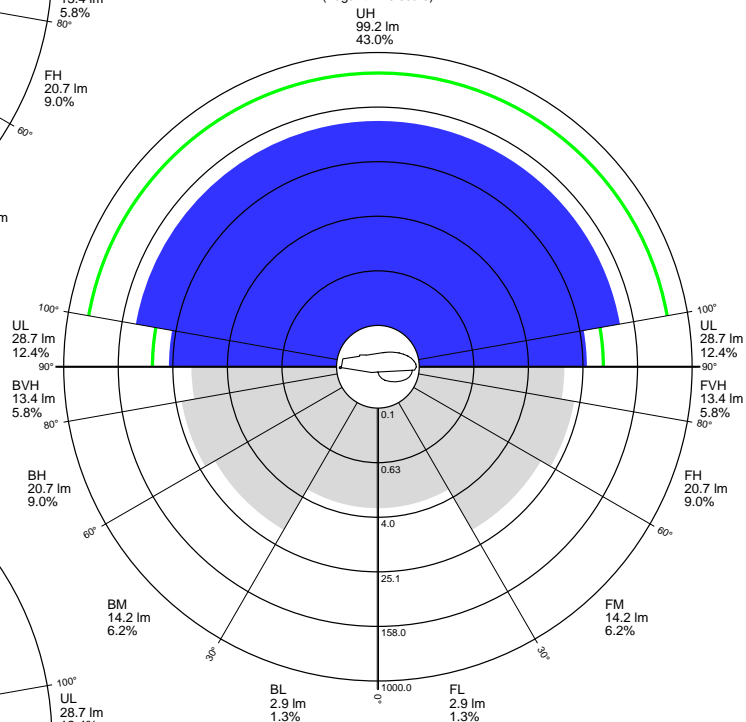
Glare Rating Details

(Logarithmic scale)



Uplight Rating Details

(Logarithmic scale)





HUBBELL
Lighting

701 Millennium Blvd
Greenville, SC 29607
www.hubbelllighting.com

REPORT NUMBER: 17.01439

PAGE: 10 OF 12

ISSUE DATE: 05/17/17

PREPARED FOR: PROGRESS

CATALOG NUMBER: P540026-020-30

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
VERTICAL ANGLE	180.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	175.0	0.1	0.4	0.3	0.7	0.7	1.0	0.7	0.7	0.6	0.5	0.4
	165.0	0.0	0.0	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
	155.0	5.6	6.1	6.3	6.1	6.0	5.9	6.0	5.4	4.4	4.5	4.2
	145.0	11.8	12.1	12.2	12.0	12.1	12.0	11.8	10.8	9.0	8.6	8.4
	135.0	19.8	19.9	20.0	20.0	20.0	19.8	20.0	18.2	15.3	14.6	14.6
	125.0	24.7	24.6	24.9	24.7	24.8	24.8	24.8	22.6	18.8	18.1	18.0
	115.0	27.9	27.8	27.8	27.8	27.8	27.9	27.7	25.4	21.1	20.2	20.1
	105.0<<	29.5	29.3	29.2	29.5	29.4	29.6	29.5	26.7	22.5	21.7	21.4
	95.0	28.5	28.8	28.5	28.6	28.7	28.8	28.8	26.1	21.7	20.9	21.2
	92.5	28.1	27.6	27.9	27.9	27.8	27.9	27.9	25.2	21.2	20.6	20.5
	90.0	27.6	27.6	27.3	27.5	27.5	27.6	27.4	24.7	20.9	20.2	20.4
	87.5	26.8	26.8	26.9	27.0	26.9	26.8	27.0	24.4	20.3	19.9	19.7
	85.0	26.5	26.4	26.2	26.5	26.7	26.5	26.5	24.0	20.0	19.3	19.6
	82.5	25.9	26.0	25.9	26.2	26.1	26.0	26.2	23.6	20.0	19.2	19.0
	80.0	24.7	24.6	24.6	24.8	24.7	24.8	24.7	22.2	18.6	18.0	18.0
	77.5	24.5	24.6	24.5	24.4	24.4	24.3	24.6	22.1	18.5	17.9	18.0
	75.0	23.2	23.1	23.1	23.0	23.2	23.2	23.1	21.0	17.5	16.9	16.9
	72.5	22.9	22.6	22.5	22.4	22.6	22.7	22.7	20.5	17.2	16.4	16.5
	70.0	21.9	21.6	21.9	21.9	21.9	21.8	21.9	19.8	16.8	16.1	15.9
VERTICAL ANGLE	67.5	20.7	20.9	20.5	20.6	20.7	20.7	20.8	18.9	15.7	15.1	15.2
	65.0	19.8	19.6	19.9	19.8	19.7	19.6	19.7	18.1	15.0	14.3	14.0
	62.5	18.9	18.9	18.6	18.6	18.9	18.8	19.0	17.2	14.5	13.4	13.1
	60.0	18.1	17.8	18.2	18.2	17.9	18.0	18.1	16.5	13.8	12.7	12.2
	57.5	17.8	17.7	17.5	17.6	17.5	17.5	17.6	16.2	13.7	12.4	11.9
	55.0	16.4	16.6	16.3	16.4	16.3	16.2	16.4	15.0	12.6	11.4	11.0
	52.5	15.2	15.4	15.3	15.1	15.2	15.2	15.3	14.3	12.1	10.8	10.5
	50.0	14.4	14.7	14.6	14.3	14.3	14.5	14.5	13.5	11.4	10.0	9.9
	47.5	13.4	13.4	13.5	13.5	13.3	13.4	13.3	12.5	11.0	9.6	9.2
	45.0	12.4	12.4	12.3	12.2	12.2	12.1	12.3	11.4	10.1	8.6	8.5
	42.5	11.2	11.3	11.3	11.3	11.1	11.2	11.1	10.4	9.4	8.2	7.7
	40.0	11.3	11.5	11.4	11.2	11.2	11.4	11.5	10.9	9.6	8.6	8.0
	37.5	10.1	10.0	9.9	9.9	9.9	10.1	10.0	9.5	8.5	7.6	7.3
	35.0	9.1	9.2	9.2	9.1	9.0	9.2	9.2	8.7	8.0	7.1	6.7
	32.5	8.1	8.4	8.4	8.4	8.6	8.5	8.5	8.1	7.6	6.8	6.3
	30.0	8.3	8.3	8.3	8.4	8.4	8.5	8.5	8.2	7.8	6.8	6.4
	25.0	8.2	8.1	8.3	8.5	8.7	8.8	8.7	8.5	8.3	7.3	7.0
	20.0	8.4	8.3	8.5	8.7	8.8	9.0	8.9	8.8	8.4	7.1	6.7
	15.0	7.8	7.6	7.5	7.6	7.2	7.0	6.8	6.4	6.1	5.3	5.1
	10.0	3.2	3.2	3.3	3.2	3.2	2.8	2.6	2.7	2.5	2.1	2.1
	5.0	1.8	1.6	1.3	1.3	1.5	1.9	1.6	1.3	0.9	1.1	1.2
	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

PLANE OF MAXIMUM CANDELA

CONE OF MAXIMUM CANDELA

THIS REPORT WITH THE USE OF THE NVLAP LOGO SHALL NOT BE USED BY THE CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NVLAP, NIST, OR ANY AGENCY OF THE FEDERAL GOVERNMENT.



HUBBELL
Lighting

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

REPORT NUMBER: 17.01439

PAGE: 11 OF 12

ISSUE DATE: 05/17/17

PREPARED FOR: PROGRESS

CATALOG NUMBER: P540026-020-30

5-DEGREE		
ZONAL	LUMEN	SUMMARY
0- 5		0
5- 10		0
10- 15		1
15- 20		1
20- 25		2
25- 30		2
30- 35		2
35- 40		3
40- 45		4
45- 50		5
50- 55		6
55- 60		7
60- 65		9
65- 70		10
70- 75		11
75- 80		12
80- 85		13
85- 90		14
90- 95		14
95-100		14
100-105		14
105-110		14
110-115		13
115-120		12
120-125		11
125-130		10
130-135		8
135-140		6
140-145		4
145-150		3
150-155		2
155-160		1
160-165		0
165-170		0
170-175		0
175-180		0

10-DEGREE		
ZONAL	LUMEN	SUMMARY
0- 10		0
10- 20		2
20- 30		4
30- 40		6
40- 50		9
50- 60		14
60- 70		18
70- 80		23
80- 90		27
90-100		29
100-110		28
110-120		26
120-130		21
130-140		14
140-150		7
150-160		3
160-170		0
170-180		0

Project Number
17.01439



HUBBELL
Lighting

Date
5/18/2017

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	176F4EB	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

Hubbell Lighting, Inc.

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