

Project Number
17.02763



Date
10/16/2017

LAB 1
Sphere

Test Sample Description

Catalog Number: P5642-8230K
Description: 6" 29W LED Direct / Indirect Cylinder

Photometry

Test Method: IES LM-79-08 § 10
Preburn Time: 00:90
Time To Stabilize: 3:35
Total Operating Time: 4:55

Input Voltage (Volts): 120.1
Input Current (Amps): 0.528
Input Wattage (Watts): 58.9
Ambient Temp (°C): 25.4
PF @ 120V: 0.931

Sphere

Test Method: IES LM-79-08 § 9.1 & 12.1
Preburn Time: 0:30
Time To Stabilize: 1:18
Total Operating Time: 1:48

Input Voltage (Volts): 120.0
Input Current (Amps): 0.523
Input Wattage (Watts): 58.3
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.


HUBBELL
Lighting

Lamp Cat#: NA

Lamp Desc: 2 - NA 3000K LEDs

Driver Desc: NA

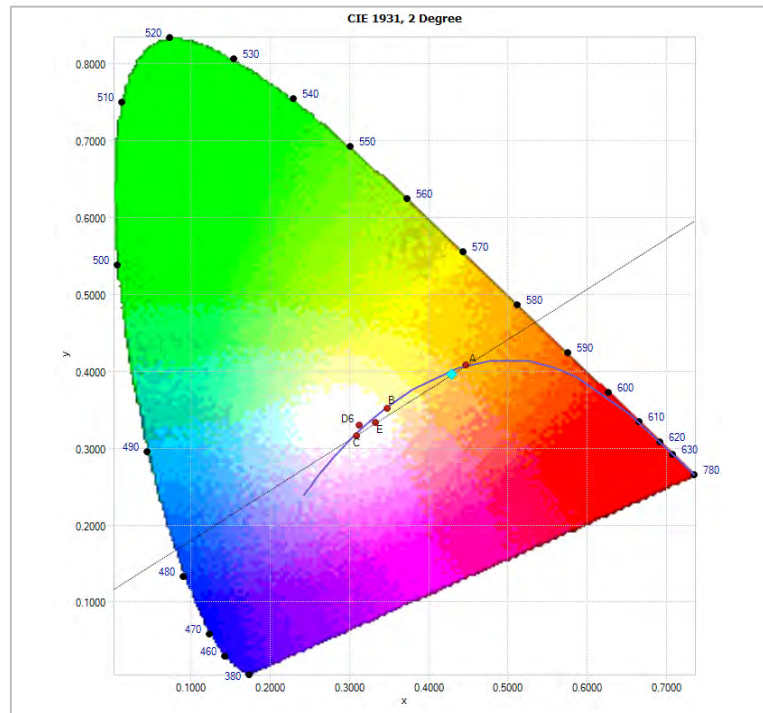
Efficacy: 34.7 LPW

S/P Ratio: 1.4 LM'/LM

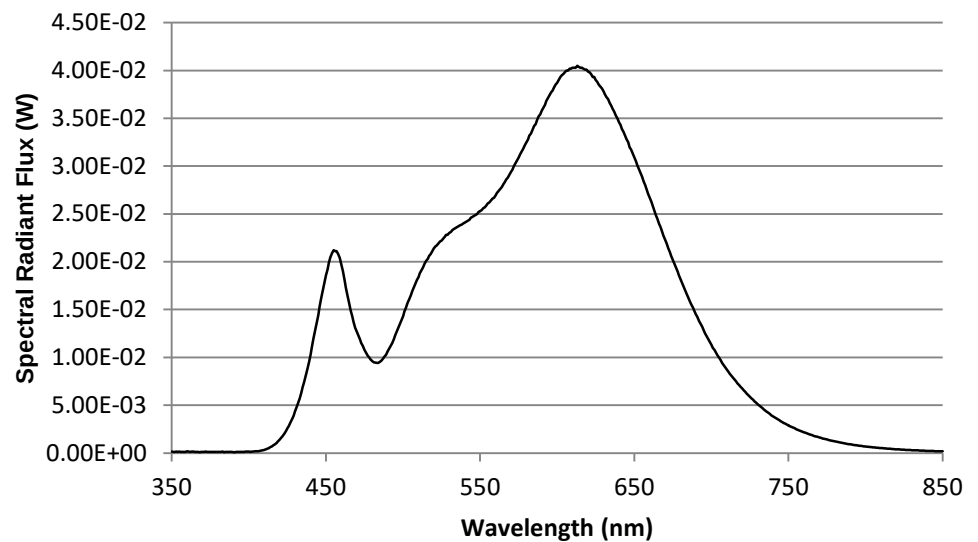
Spectral Results

Name	Value	Unit
Φ	6.90	watts
$\Phi(v)$	2023	lumens
$\Phi(v')$	2930	lm'
Chrom x	0.4293	
Chrom y	0.3961	
Chrom u	0.2491	
Chrom v	0.3447	
Duv	0.0021	
Chrom u'	0.2491	
Chrom v'	0.5171	
CCT	3064	K
Purity	47.8	%
λ (dom)	583.4	nm
FWHM	159.5	nm
λ (peak)	613.3	nm
λ (center)	595.2	nm
λ (centroid)	589.5	nm
SDCM	Cool White	
RA	92	
Corr. Coef.	0.002135716	
Correlation	0.0054	
R1	92.4	
R2	96.5	
R3	97.9	
R4	91.9	
R5	92.4	
R6	95.5	
R7	89.7	
R8	77.8	
R9	50.6	
R10	91.0	
R11	93.2	
R12	82.3	
R13	93.8	
R14	99.0	

Chromaticity Diagram



Spectral Distribution of Radiant Flux



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

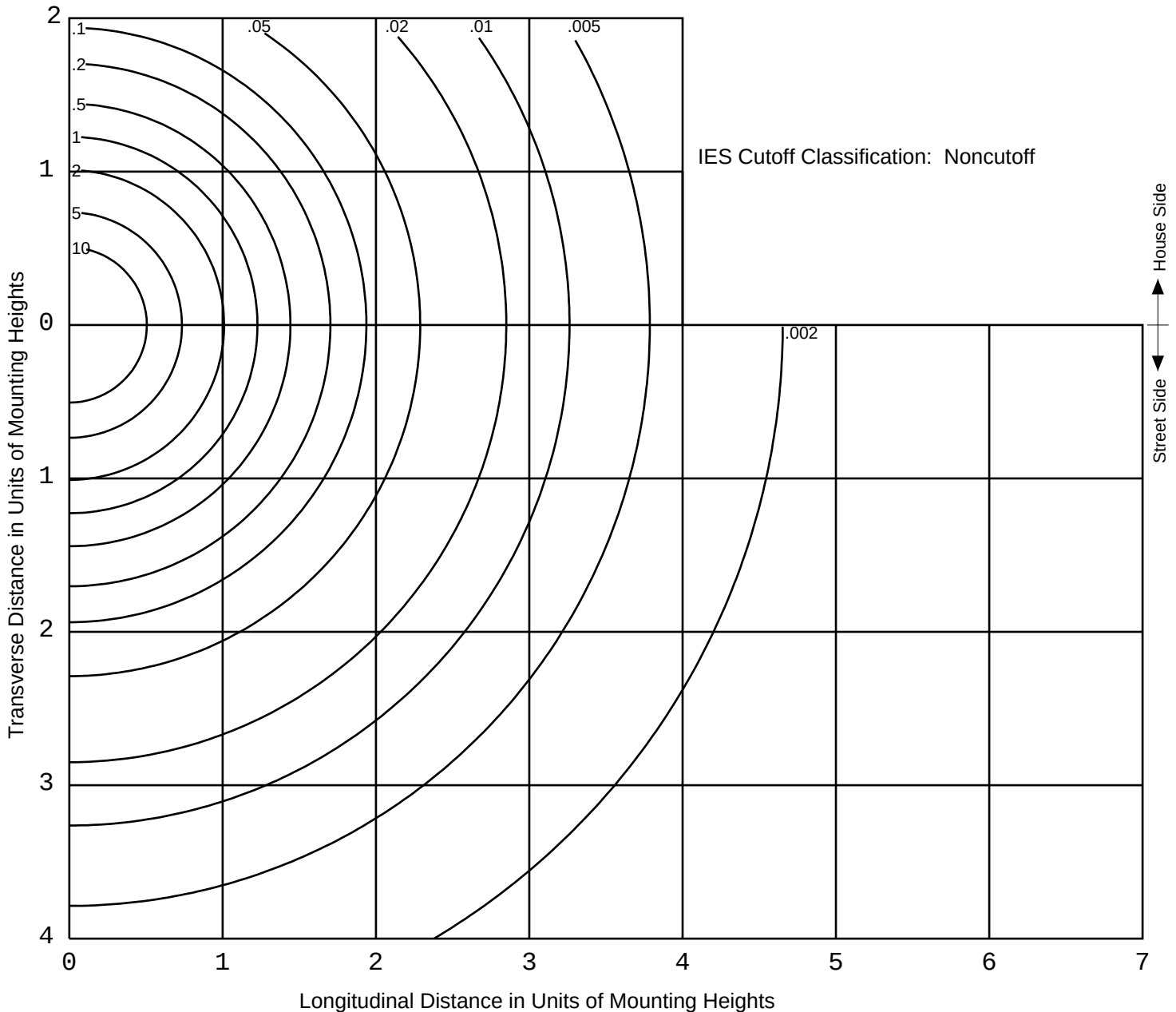


HUBBELL
Lighting

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

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

REPORT NUMBER: 17.02763
ISSUE DATE: 10/13/17 PAGE: 3 OF 10
PREPARED FOR: PROGRESS
CATALOG NUMBER: P5642-8230K
LUMINAIRE: 6" 29W LED Direct/Indirect
Cylinder
LAMP: 2- 3000K LED Modules
MOUNTING: Wall
NOTE: DATA SHOWN IS ABSOLUTE FOR THE
SAMPLE PROVIDED.



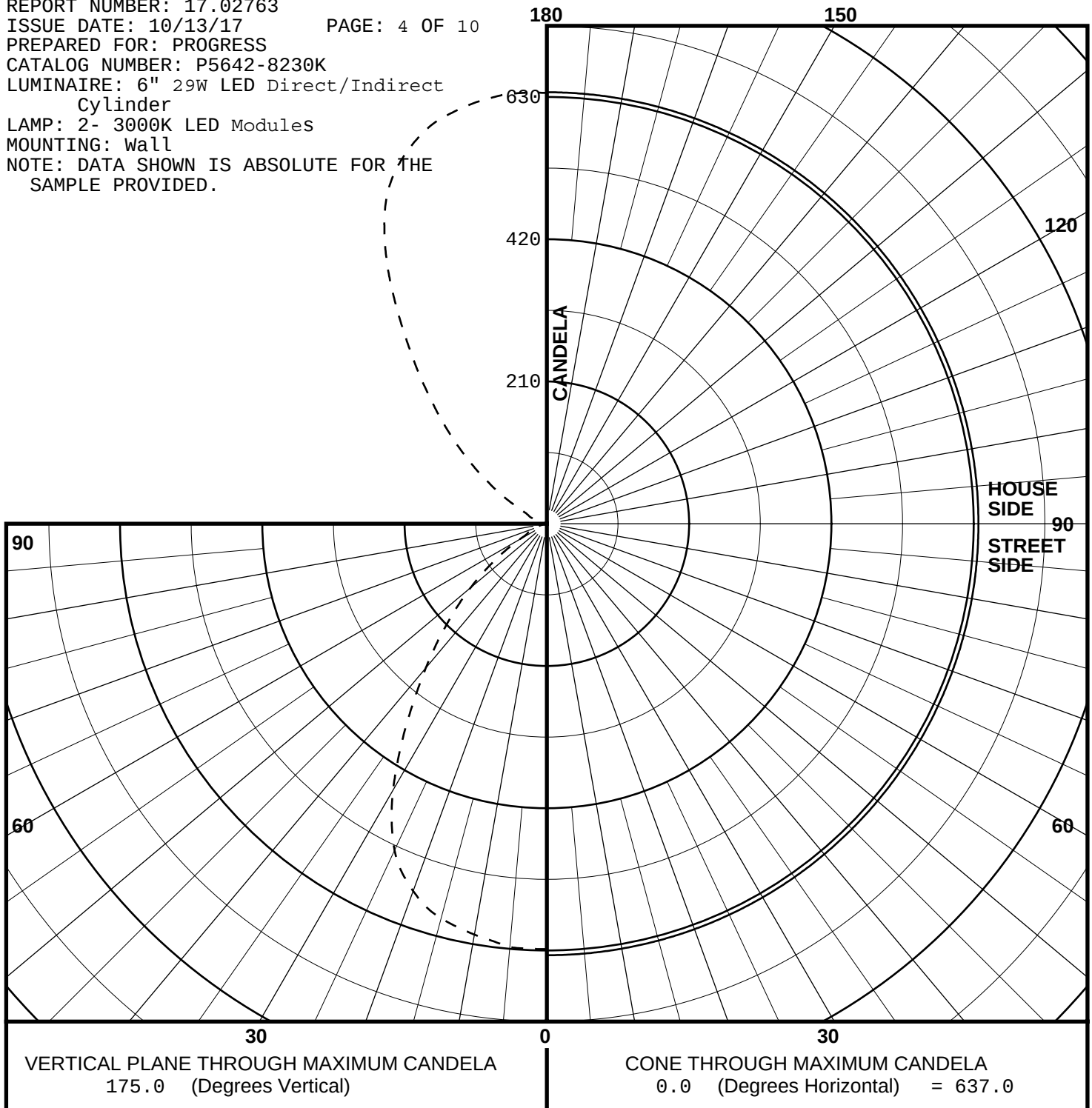


HUBBELL
Lighting

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

MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA

REPORT NUMBER: 17.02763
ISSUE DATE: 10/13/17 PAGE: 4 OF 10
PREPARED FOR: PROGRESS
CATALOG NUMBER: P5642-8230K
LUMINAIRE: 6" 29W LED Direct/Indirect
Cylinder
LAMP: 2- 3000K LED Modules
MOUNTING: Wall
NOTE: DATA SHOWN IS ABSOLUTE FOR THE
SAMPLE PROVIDED.





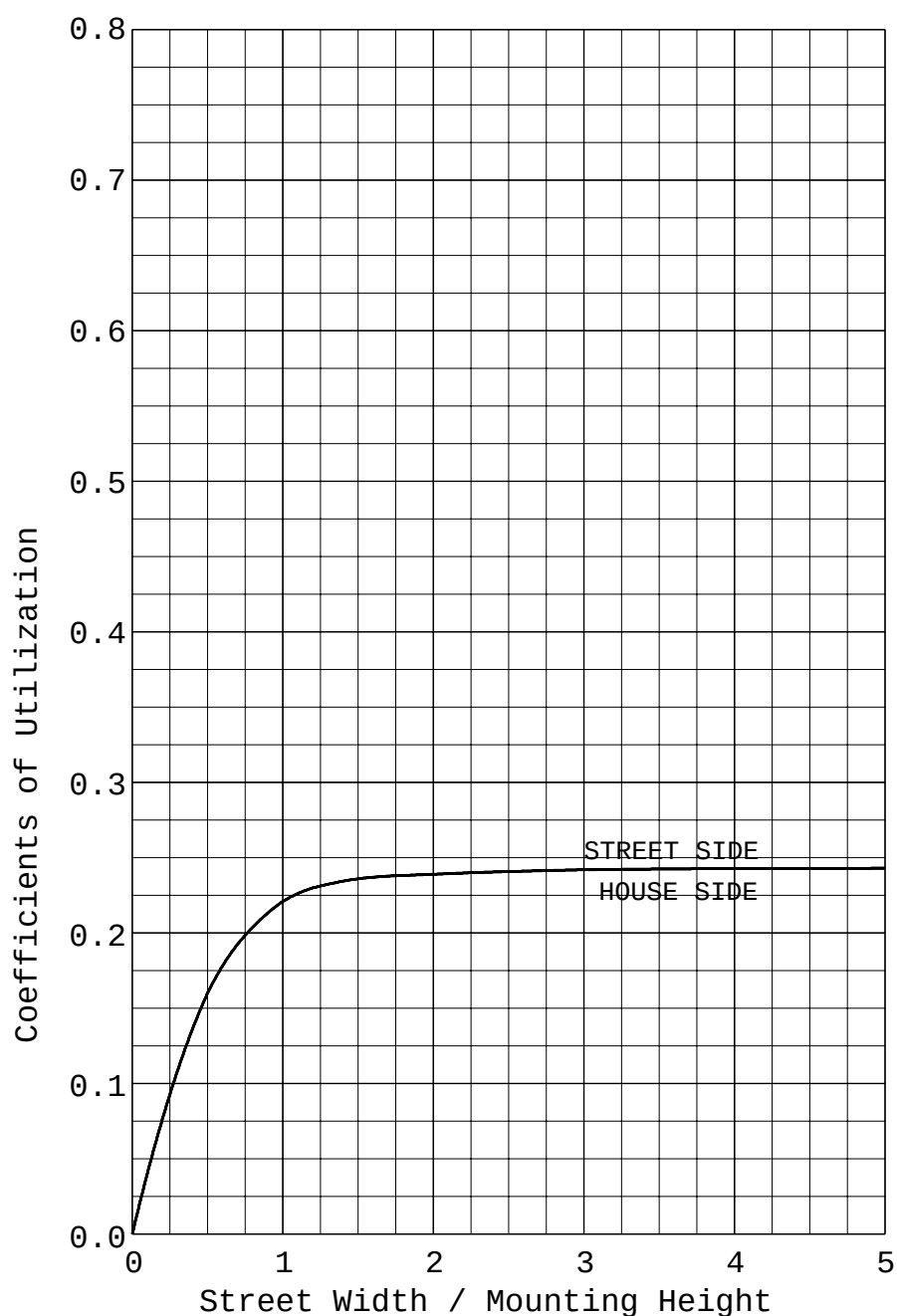
HUBBELL
Lighting

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

REPORT NUMBER: 17.02763
ISSUE DATE: 10/13/17
PREPARED FOR: PROGRESS

PAGE: 5 OF 10

COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	494.	24.3
DOWNWARD HOUSE SIDE	494.	24.3
DOWNWARD TOTAL	988.	48.7
UPWARD STREET SIDE	521.	25.7
UPWARD HOUSE SIDE	521.	25.7
UPWARD TOTAL	1041.	51.3
TOTAL FLUX	2029.	100.0
TOTAL INPUT WATTS = 58.9		
EFFICACY = 34.4 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.

THIS REPORT IS BASED ON PUBLISHED INDUSTRY PROCEDURES. FIELD PERFORMANCE MAY DIFFER FROM LABORATORY PERFORMANCE.



HUBBELL
Lighting

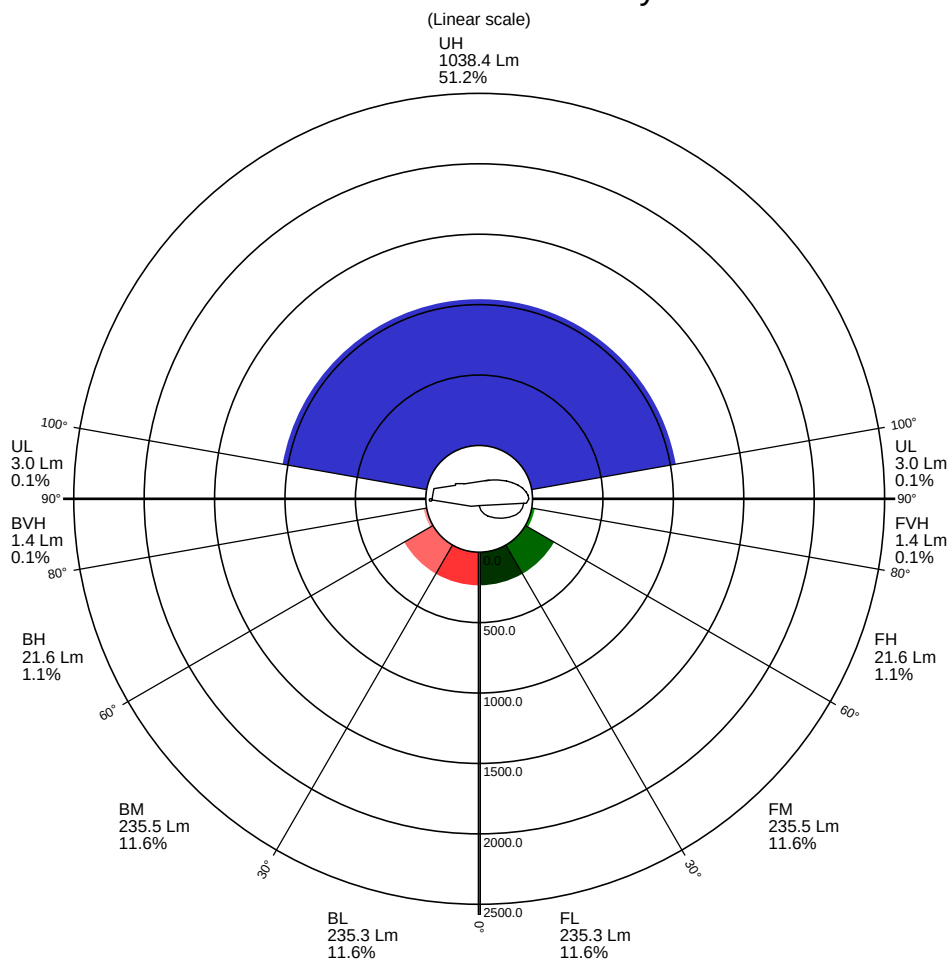
701 Millenium Blvd
Greenville, SC 29607
www.hubbellighting.com

REPORT NUMBER: 17.02763
ISSUE DATE: 10/13/17
PREPARED FOR: PROGRESS

PAGE: 6 OF 10

BUG Rating:			Zone Ratings		
Zonal Summary			B	U	G
		Lumens	% of Fixture		
Forward		494	24.3		
FL	(0° - 30°)	235.3	11.6		
FM	(30° - 60°)	235.5	11.6		
FH	(60° - 80°)	21.6	1.1		
FVH	(80° - 90°)	1.4	0.1		
Backward		494	24.3		
BL	(0° - 30°)	235.3	11.6		
BM	(30° - 60°)	235.5	11.6		
BH	(60° - 80°)	21.6	1.1		
BVH	(80° - 90°)	1.4	0.1		
Upward		1041	51.3		
UL	(90° - 100°)	3.0	0.1		
UH	(100° - 180°)	1038.4	51.2		
Trapped Light		0	0.0		
Total Flux		2029	100.0		

Zonal Lumen Summary





HUBBELL
Lighting

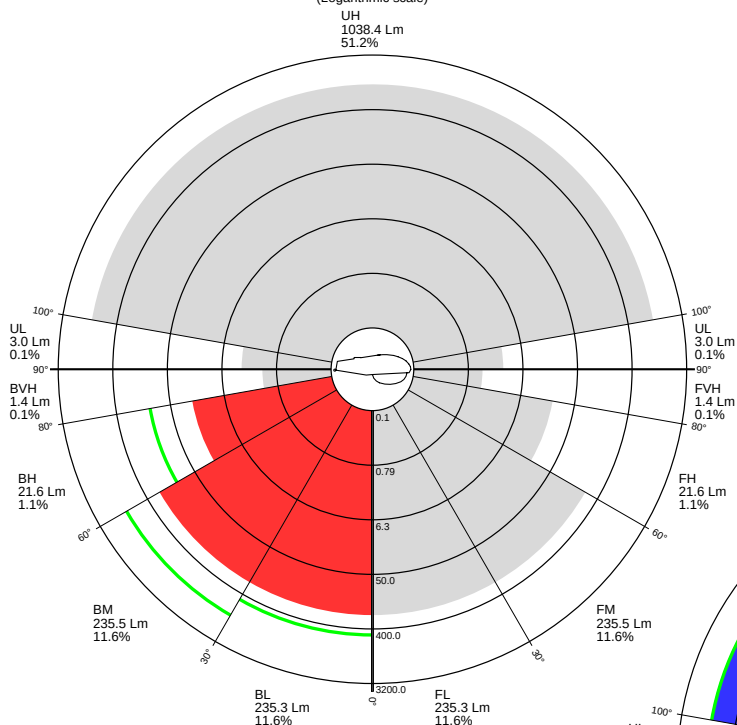
701 Millenium Blvd
Greenville, SC 29607
www.hubbellighting.com

REPORT NUMBER: 17.02763
ISSUE DATE: 10/13/17
PREPARED FOR: PROGRESS

PAGE: 7 OF 10

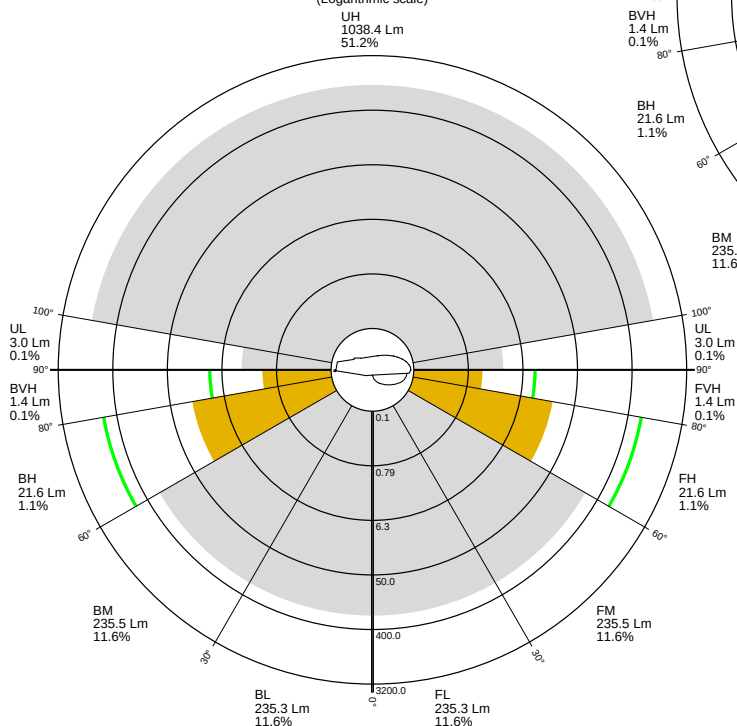
Backlight Rating Details

(Logarithmic scale)



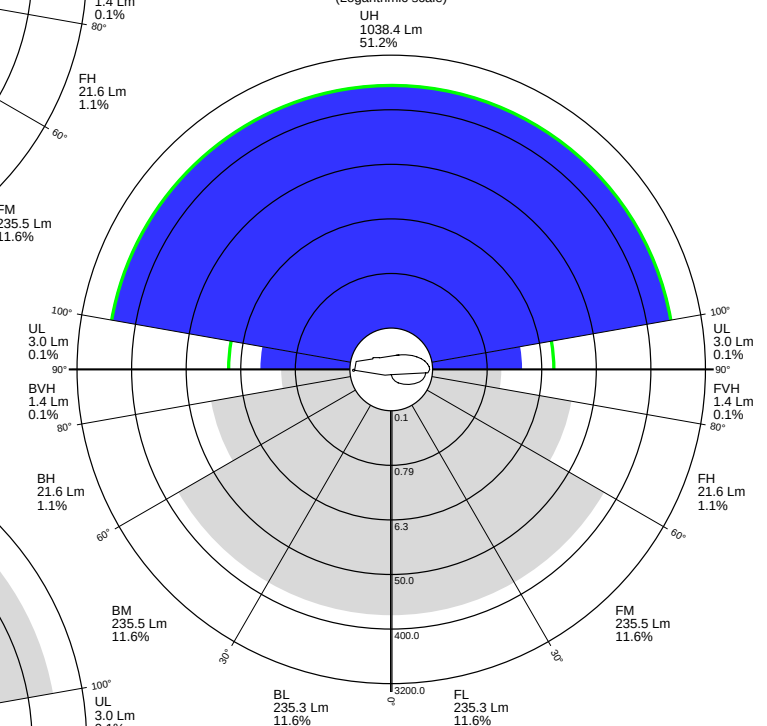
Glare Rating Details

(Logarithmic scale)



Uplight Rating Details

(Logarithmic scale)





HUBBELL
Lighting

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

REPORT NUMBER: 17.02763
ISSUE DATE: 10/13/17
PREPARED FOR: PROGRESS
CANDELA TABULATION -- TYPE V

PAGE: 8 OF 10

180.0	636.
175.0	637.<<
165.0	617.
155.0	550.
145.0	385.
135.0	224.
125.0	103.
115.0	31.
105.0	12.
95.0	3.
90.0	0.
87.5	1.
85.0	2.
82.5	4.
80.0	6.
77.5	8.
75.0	11.
72.5	15.
70.0	21.
67.5	26.
65.0	30.
62.5	34.
60.0	48.
57.5	69.
55.0	93.
52.5	119.
50.0	147.
47.5	177.
45.0	208.
42.5	242.
40.0	278.
37.5	317.
35.0	361.
30.0	454.
25.0	532.
20.0	577.
15.0	603.
10.0	616.
5.0	627.
0.0	628.

<< INDICATES MAXIMUM CANDELA



HUBBELL
Lighting

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

REPORT NUMBER: 17.02763
ISSUE DATE: 10/13/17
PREPARED FOR: PROGRESS

PAGE: 9 OF 10

**5-DEGREE
ZONAL LUMEN SUMMARY**

0- 5	15
5- 10	44
10- 15	72
15- 20	97
20- 25	117
25- 30	125
30- 35	120
35- 40	106
40- 45	90
45- 50	72
50- 55	52
55- 60	32
60- 65	18
65- 70	13
70- 75	8
75- 80	4
80- 85	2
85- 90	1
90- 95	1
95-100	2
100-105	5
105-110	9
110-115	14
115-120	20
120-125	37
125-130	57
130-135	77
135-140	96
140-145	113
145-150	127
150-155	130
155-160	120
160-165	100
165-170	74
170-175	45
175-180	15

**10-DEGREE
ZONAL LUMEN SUMMARY**

0- 10	59
0- 20	229
0- 30	471
0- 40	696
0- 50	858
0- 60	942
0- 70	972
0- 80	985
0- 90	988
0-100	991
0-110	1004
0-120	1037
0-130	1131
0-140	1304
0-150	1545
0-160	1795
0-170	1968
0-180	2029

Project Number
17.02763



HUBBELL
Lighting

Date
10/16/2017

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	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

Hubbell Lighting, Inc.

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