

Project Number
16.02500



Date
9/14/2016

Lab 6
Sphere

Test Sample Description

Catalog Number: P560029-03130
Description: 1-Lt. LED Wall Lantern 9W LED SAMPLE "A" WITH DIFFUSED LENS

Photometry

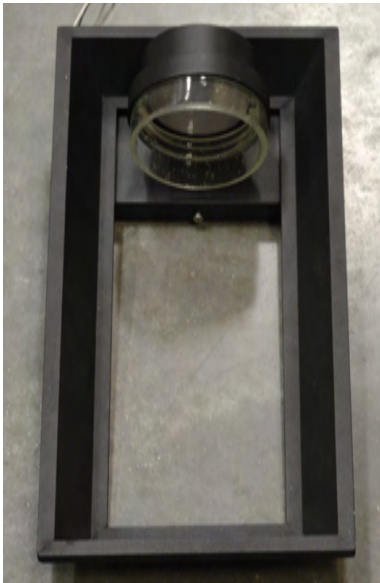
Test Method: IES LM-79-08 § 10
Preburn Time: 00:30
Time To Stabilize: 1:14
Total Operating Time: 1:45

Input Voltage (Volts): 120.0
Input Current (Amps): 0.079
Input Wattage (Watts): 9.4
Ambient Temp (°C): 24.2

Sphere

Test Method: IES LM-79-08 § 9.1 & 12.1
Preburn Time: 0:30
Time To Stabilize: 1:31
Total Operating Time: 2:01

Input Voltage (Volts): 120.0
Input Current (Amps): 0.079
Input Wattage (Watts): 9.4
Ambient Temp (°C): 24.3



Hubbell Lighting, Inc.

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

Checked (sphere): B. LEE
Checked (photometry): M. ELLMANN
Approved: D. BLACK



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

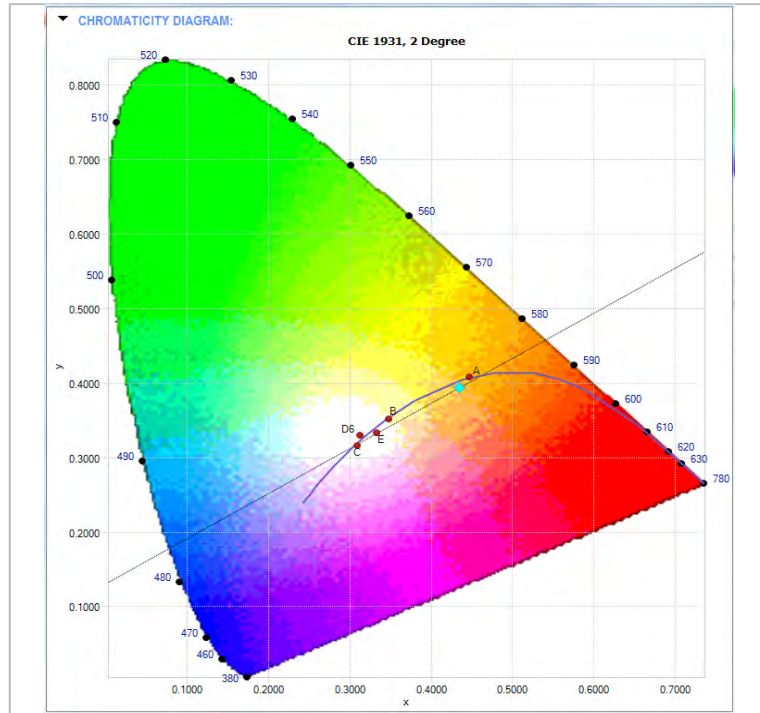


Lamp Cat#: 93070270-3XXX
 Lamp Desc: 20 - Nichia 3000K LEDs
 Driver Desc: n/a

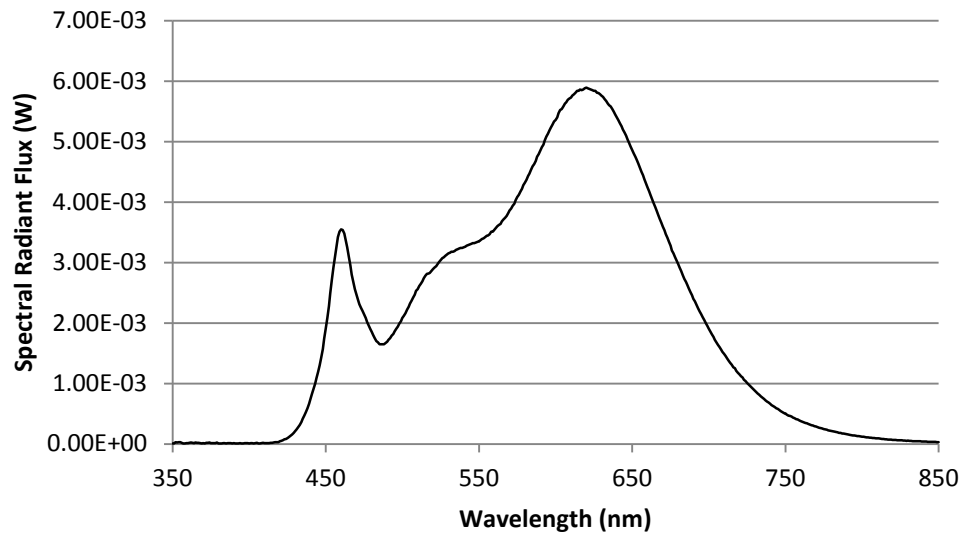
Efficacy: 29.7 LPW S/P Ratio: 1.5 LM/LM

Spectral Results

Name	Value	Unit
Φ	1.01	watts
$\Phi(v)$	279	lumens
$\Phi(v')$	418	lm'
Chrom x	0.4341	
Chrom y	0.3942	
Chrom u	0.2531	
Chrom v	0.3447	
Duv	0.0038	
Chrom u'	0.2531	
Chrom v'	0.517	
CCT	2963	K
Purity	48.6	%
λ (dom)	584.4	nm
FWHM	158.6	nm
λ (peak)	620.3	nm
λ (center)	601.3	nm
λ (centroid)	594.7	nm
SDCM	Cool White	
RA	94	
Corr. Coef.	0.003628126	
Correlation	0.0054	
R1	98.3	
R2	97.0	
R3	95.2	
R4	96.0	
R5	97.4	
R6	92.3	
R7	89.9	
R8	85.0	
R9	71.4	
R10	95.3	
R11	98.7	
R12	81.3	
R13	98.5	
R14	98.5	



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.



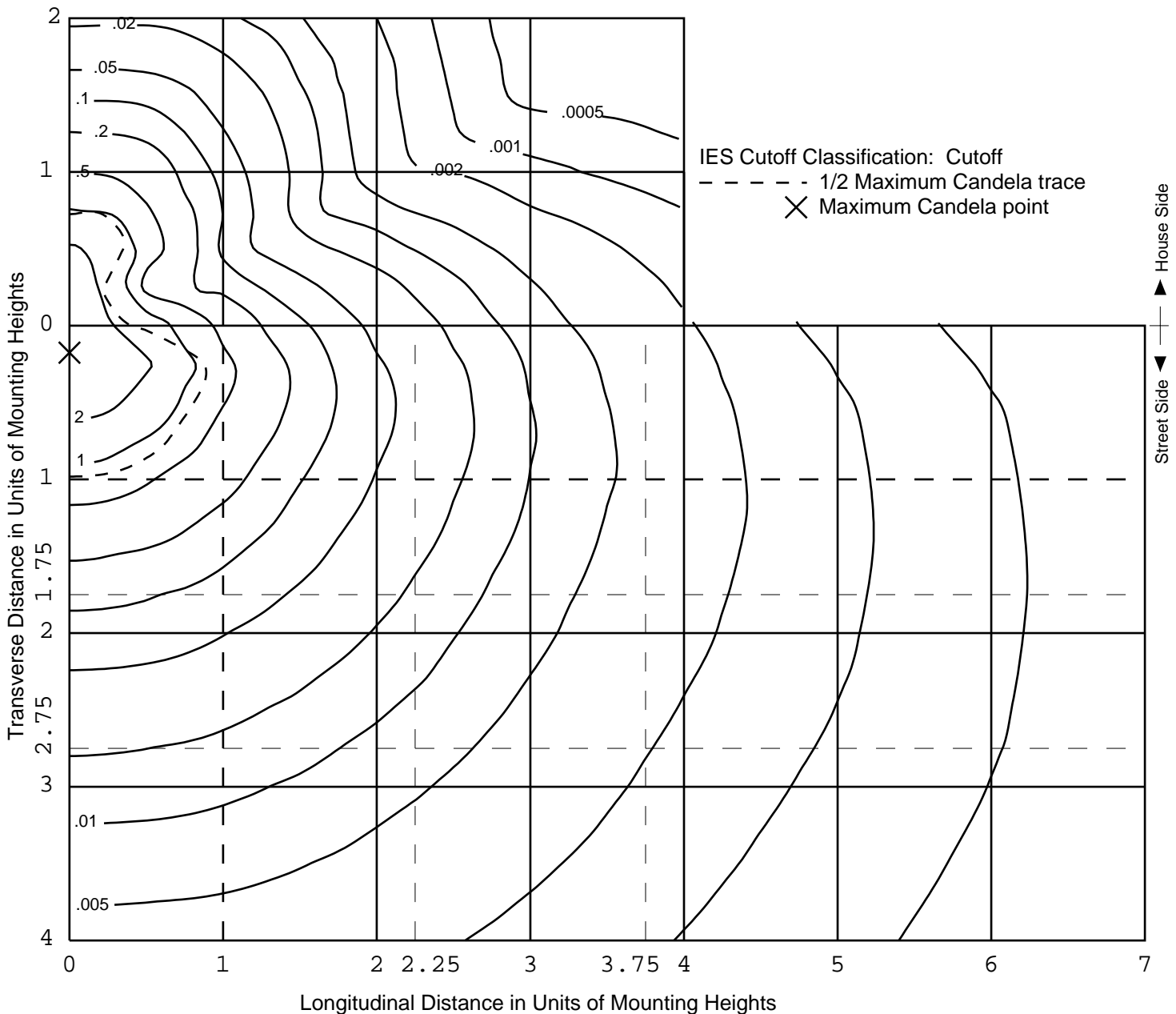
HUBBELL
Lighting

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



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

REPORT NUMBER: 16.02500
ISSUE DATE: 09/14/16 PAGE: 3 OF 11
PREPARED FOR: PROGRESS
CATALOG NUMBER: P560029-03130
LUMINAIRE: 1-Lt. LED Wall Lantern
LAMP CAT. NO.: 93070270-3XXX
LAMP: 20-Nichia 3000K LEDs
BALLAST CAT. NO.: N/A
BALLAST: 1-CC
Refractor Material : Clear Seeded
MOUNTING: Wall
NOTE: DATA SHOWN IS ABSOLUTE FOR THE
SAMPLE PROVIDED.





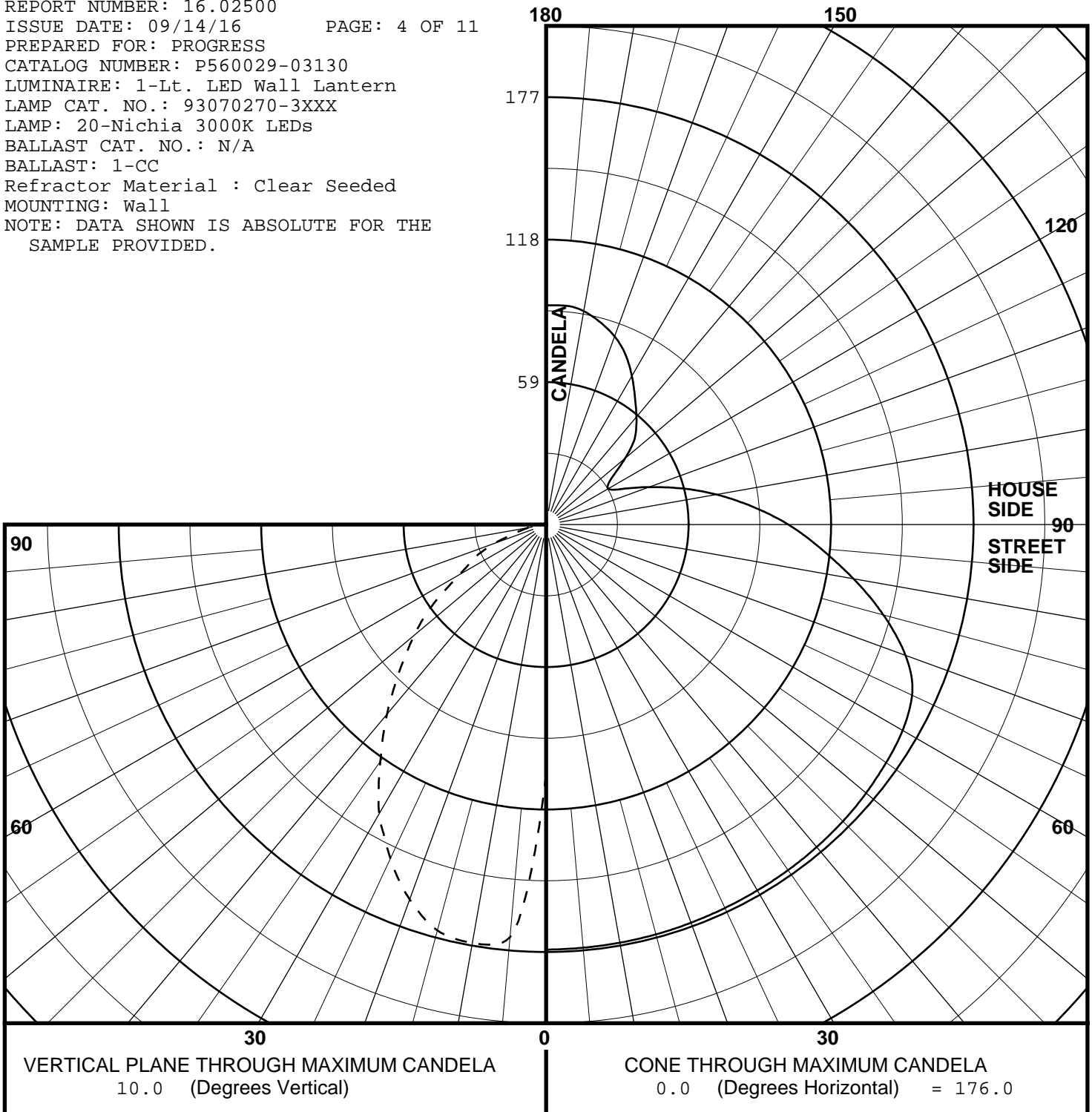
HUBBELL
Lighting

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



MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA

REPORT NUMBER: 16.02500
 ISSUE DATE: 09/14/16 PAGE: 4 OF 11
 PREPARED FOR: PROGRESS
 CATALOG NUMBER: P560029-03130
 LUMINAIRE: 1-Lt. LED Wall Lantern
 LAMP CAT. NO.: 93070270-3XXX
 LAMP: 20-Nichia 3000K LEDs
 BALLAST CAT. NO.: N/A
 BALLAST: 1-CC
 Refractor Material : Clear Seeded
 MOUNTING: Wall
 NOTE: DATA SHOWN IS ABSOLUTE FOR THE
 SAMPLE PROVIDED.





HUBBELL
Lighting

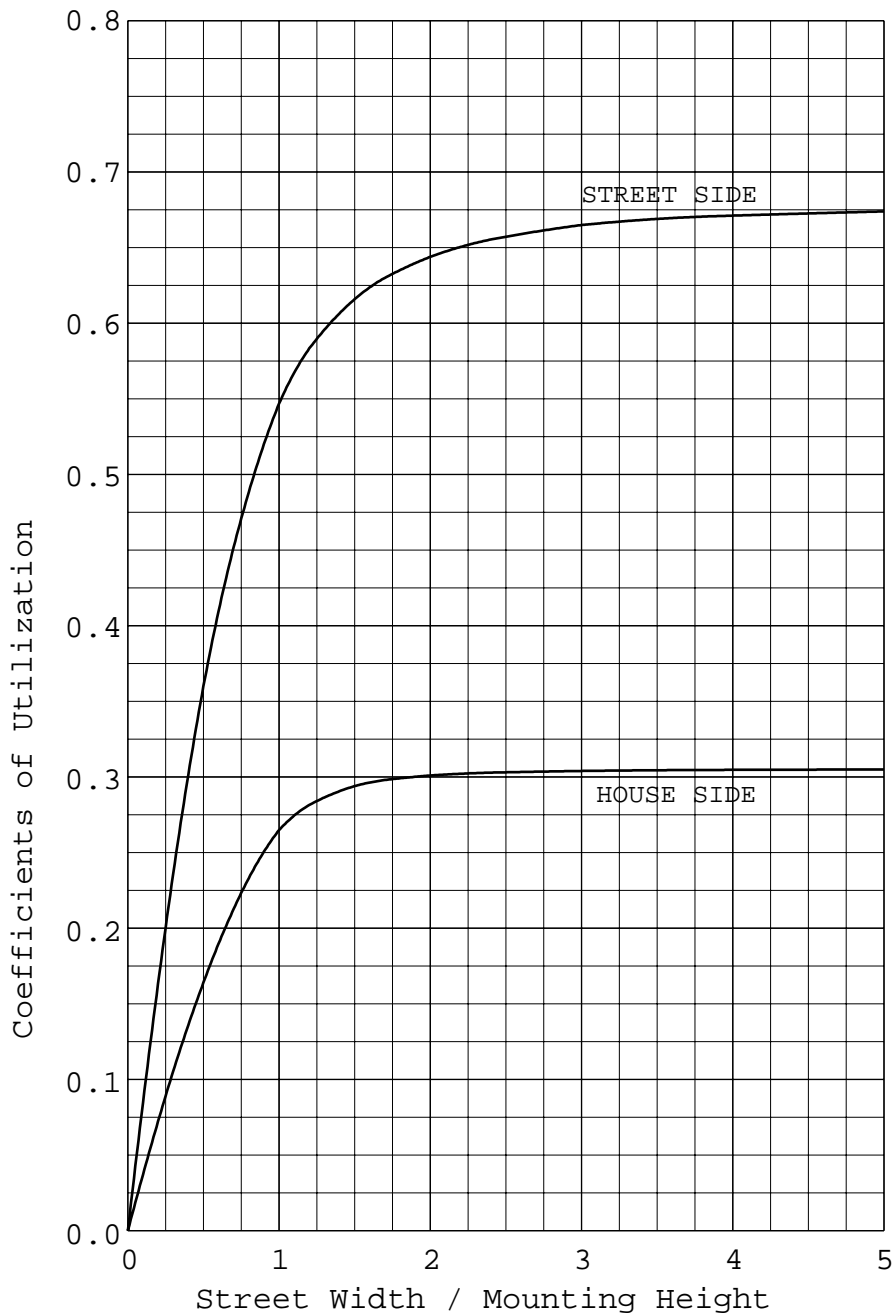
701 Millennium Blvd
Greenville, SC 29607
www.hubbellighting.com



REPORT NUMBER: 16.02500
ISSUE DATE: 09/14/16
PREPARED FOR: PROGRESS

PAGE: 5 OF 11

COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	179.	68.1
DOWNWARD HOUSE SIDE	80.	30.6
DOWNWARD TOTAL	259.	98.7
UPWARD STREET SIDE	3.	1.2
UPWARD HOUSE SIDE	0.	0.1
UPWARD TOTAL	3.	1.3
TOTAL FLUX	263.	100.0
TOTAL INPUT WATTS = 9.42		
EFFICACY = 27.9 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 Millennium Blvd
Greenville, SC 29607
www.hubbellighting.com

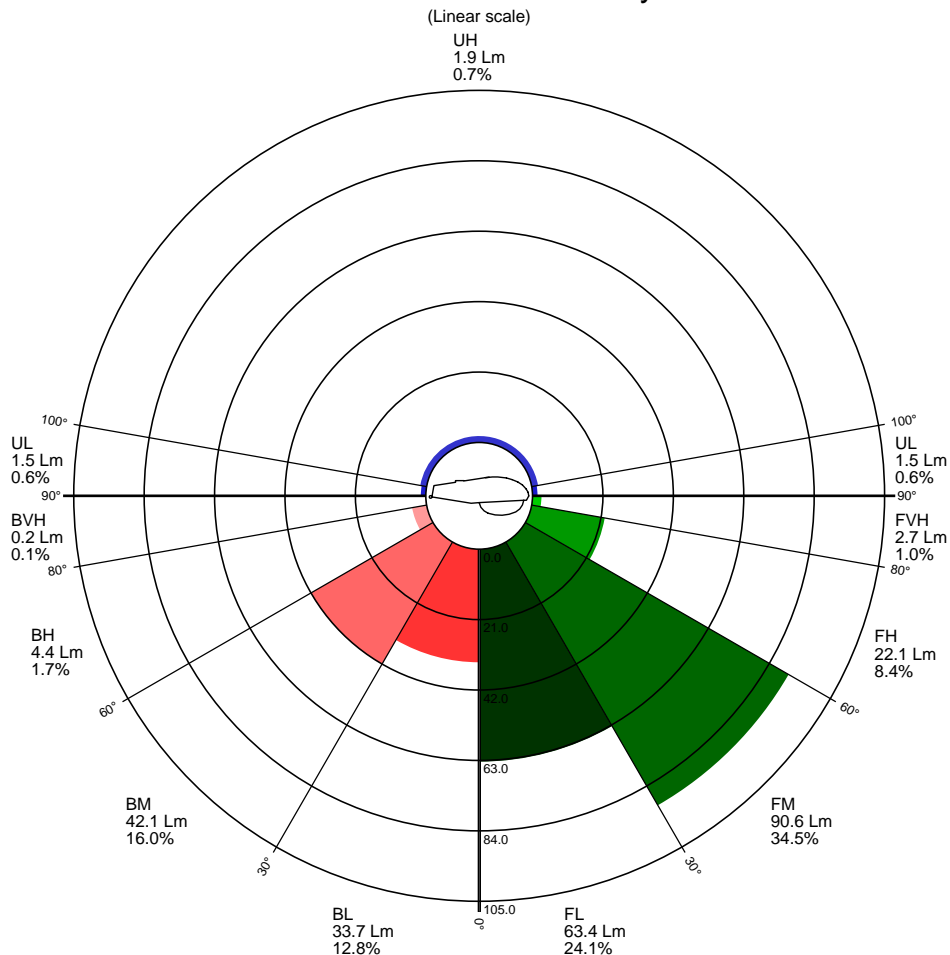


REPORT NUMBER: 16.02500
ISSUE DATE: 09/14/16
PREPARED FOR: PROGRESS

PAGE: 6 OF 11

BUG Rating:			B0 U1 G0		
Zonal Summary			Lumens	% of Fixture	Zone Ratings
			B U G		
Forward			179	68.1	
FL	(0° - 30°)		63.4	24.1	
FM	(30° - 60°)		90.6	34.5	
FH	(60° - 80°)		22.1	8.4	G0
FVH	(80° - 90°)		2.7	1.0	G0
Backward			80	30.6	
BL	(0° - 30°)		33.7	12.8	B0
BM	(30° - 60°)		42.1	16.0	B0
BH	(60° - 80°)		4.4	1.7	B0
BVH	(80° - 90°)		0.2	0.1	G0
Upward			3	1.3	
UL	(90° - 100°)		1.5	0.6	U1
UH	(100° - 180°)		1.9	0.7	U1
Trapped Light			0	0.0	
Total Flux			263	100.0	

Zonal Lumen Summary





HUBBELL
Lighting

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



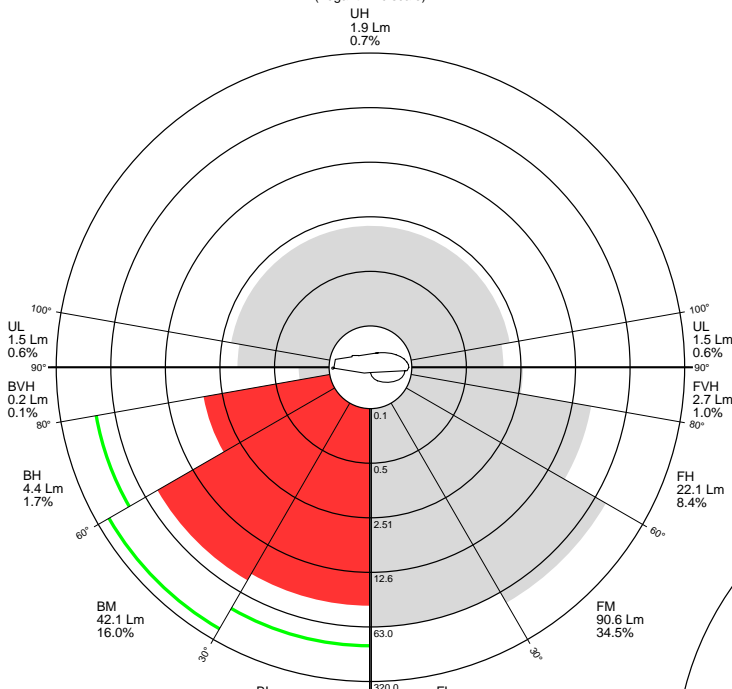
NVLAP LAB CODE: 201003-0

REPORT NUMBER: 16.02500
ISSUE DATE: 09/14/16
PREPARED FOR: PROGRESS

PAGE: 7 OF 11

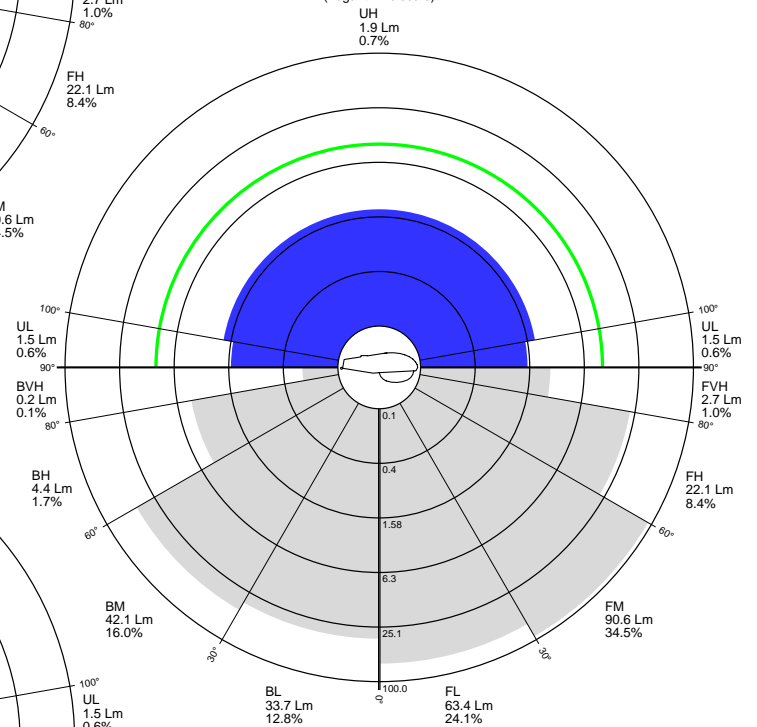
Backlight Rating Details

(Logarithmic scale)



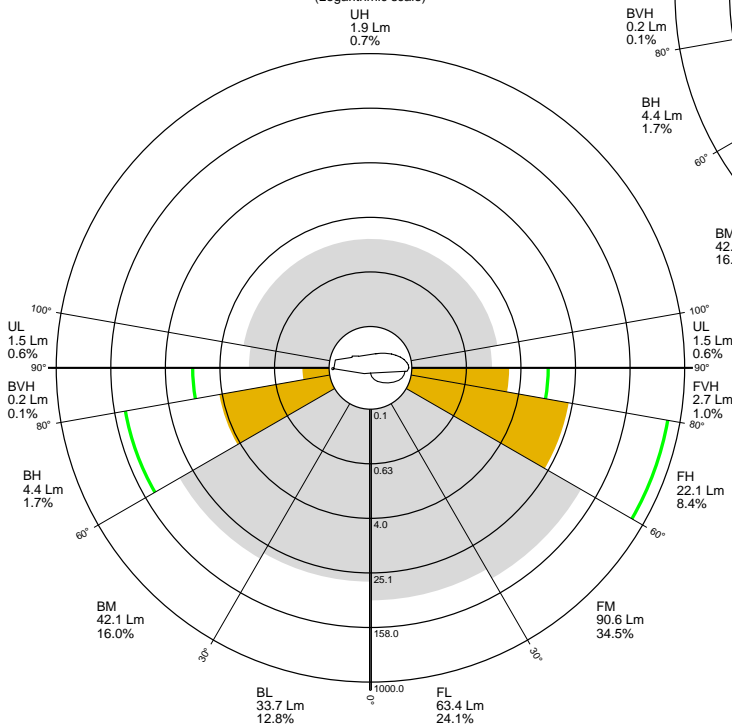
Uplight Rating Details

(Logarithmic scale)



Glare Rating Details

(Logarithmic scale)





HUBBELL
Lighting

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



REPORT NUMBER: 16.02500
ISSUE DATE: 09/14/16
PREPARED FOR: PROGRESS

PAGE: 8 OF 11

CANDELA TABULATION
STREET SIDE

	LATERAL ANGLE									
	0.0	5.0	15.0	25.0	35.0	45.0	55.0	65.0	75.0	85.0
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	1.	1.	1.	1.	0.	0.	0.	1.	0.	0.
	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.
	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.
	1.	1.	1.	1.	0.	0.	0.	0.	0.	0.
	1.	1.	1.	1.	0.	0.	0.	0.	0.	0.
	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.
	2.	2.	2.	2.	1.	1.	1.	1.	1.	1.
	3.	3.	3.	3.	3.	3.	3.	3.	2.	2.
	4.	4.	4.	4.	4.	4.	4.	3.	3.	2.
	4.	4.	4.	4.	4.	4.	4.	4.	3.	2.
	5.	5.	6.	5.	5.	5.	5.	5.	4.	3.
V	6.	6.	6.	6.	6.	6.	6.	6.	5.	4.
E	8.	8.	8.	8.	8.	8.	8.	8.	7.	5.
R	10.	10.	10.	10.	10.	10.	10.	9.	9.	7.
T	13.	13.	13.	14.	13.	13.	13.	12.	12.	9.
I	17.	17.	18.	18.	18.	18.	16.	16.	15.	11.
C	23.	23.	23.	23.	23.	23.	22.	21.	20.	15.
A	28.	28.	29.	29.	29.	29.	27.	27.	26.	20.
L	33.	33.	33.	34.	33.	33.	32.	31.	31.	23.
	37.	36.	37.	38.	37.	37.	35.	35.	34.	25.
A	41.	42.	42.	43.	43.	42.	40.	39.	39.	29.
N	48.	48.	49.	49.	49.	48.	46.	46.	44.	33.
G	55.	56.	56.	55.	55.	55.	53.	53.	50.	37.
L	64.	64.	64.	62.	62.	62.	61.	60.	56.	41.
E	71.	71.	71.	70.	70.	69.	68.	68.	63.	46.
	78.	78.	79.	78.	79.	77.	76.	75.	70.	52.
	86.	86.	87.	87.	88.	86.	83.	82.	79.	58.
	94.	95.	95.	97.	96.	95.	91.	91.	88.	65.
	103.	103.	104.	106.	104.	103.	101.	100.	95.	71.
	111.	111.	113.	115.	113.	112.	111.	110.	102.	77.
	120.	120.	122.	123.	122.	121.	121.	118.	110.	81.
	138.	138.	139.	140.	140.	139.	135.	134.	126.	91.
	153.	153.	153.	154.	153.	151.	150.	147.	138.	102.
	165.	165.	166.	165.	165.	163.	162.	160.	151.	111.
	174.	174.	174.	173.	173.	172.	171.	169.	157.	116.
	176.	176.	176.	175.	175.	174.	172.	167.	145.	114.
	172.	172.	171.	170.	168.	164.	152.	136.	122.	109.
	103.	103.	103.	103.	103.	103.	103.	103.	103.	103.

PLANE OF MAXIMUM CANDELA

CONE OF MAXIMUM CANDELA



HUBBELL
Lighting

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



REPORT NUMBER: 16.02500
ISSUE DATE: 09/14/16
PREPARED FOR: PROGRESS

PAGE: 9 OF 11

CANDELA TABULATION
HOUSE SIDE

LATERAL ANGLE

	90.0	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.	0.
175.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
165.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
155.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
145.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
135.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
125.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
115.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
105.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95.0	1.	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.
90.0	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
87.5	2.	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.
85.0	2.	2.	1.	0.	0.	0.	0.	0.	0.	0.	0.
V 82.5	3.	2.	1.	0.	0.	0.	0.	0.	1.	0.	1.
E 80.0	4.	3.	1.	0.	0.	0.	0.	0.	0.	1.	0.
R 77.5	5.	4.	2.	1.	1.	1.	1.	1.	1.	1.	1.
T 75.0	7.	5.	2.	1.	1.	1.	1.	1.	1.	1.	1.
I 72.5	9.	6.	3.	1.	1.	2.	2.	2.	2.	2.	2.
C 70.0	11.	8.	3.	1.	2.	3.	3.	3.	3.	3.	3.
A 67.5	15.	11.	4.	1.	2.	4.	5.	6.	5.	4.	4.
L 65.0	18.	13.	6.	2.	3.	6.	8.	8.	8.	7.	6.
62.5	20.	15.	7.	3.	5.	8.	11.	12.	11.	9.	9.
A 60.0	23.	17.	8.	3.	7.	10.	14.	17.	14.	12.	12.
N 57.5	26.	20.	9.	4.	9.	12.	17.	22.	20.	18.	17.
G 55.0	29.	22.	10.	6.	11.	16.	22.	29.	27.	24.	24.
L 52.5	33.	25.	12.	7.	14.	20.	27.	35.	34.	32.	32.
E 50.0	37.	28.	14.	9.	18.	24.	32.	43.	42.	40.	40.
47.5	42.	33.	16.	10.	22.	29.	38.	50.	51.	49.	49.
45.0	48.	37.	18.	11.	25.	34.	45.	59.	60.	57.	57.
42.5	54.	42.	20.	12.	29.	40.	52.	69.	69.	65.	64.
40.0	59.	45.	21.	13.	32.	45.	60.	77.	78.	73.	72.
37.5	63.	48.	22.	14.	35.	50.	66.	85.	85.	82.	81.
35.0	67.	51.	24.	15.	38.	55.	72.	93.	92.	93.	92.
30.0	75.	58.	27.	18.	44.	65.	85.	112.	115.	113.	113.
25.0	84.	64.	30.	19.	50.	75.	100.	132.	134.	132.	132.
20.0	92.	70.	32.	20.	55.	82.	107.	142.	149.	149.	150.
15.0	98.	78.	40.	23.	48.	75.	96.	136.	151.	154.	154.
10.0<<	100.	86.	58.	35.	33.	52.	64.	78.	87.	91.	91.
5.0	102.	94.	79.	65.	55.	47.	39.	32.	29.	28.	28.
0.0	103.	103.	103.	103.	103.	103.	103.	103.	103.	103.	103.

CONE OF MAXIMUM CANDELA



HUBBELL
Lighting

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



REPORT NUMBER: 16.02500
ISSUE DATE: 09/14/16
PREPARED FOR: PROGRESS

PAGE: 10 OF 11

5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	2
5- 10	8
10- 15	14
15- 20	21
20- 25	25
25- 30	27
30- 35	28
35- 40	27
40- 45	25
45- 50	22
50- 55	18
55- 60	14
60- 65	11
65- 70	8
70- 75	5
75- 80	3
80- 85	2
85- 90	1
90- 95	1
95-100	1
100-105	0
105-110	0
110-115	0
115-120	0
120-125	0
125-130	0
130-135	0
135-140	0
140-145	0
145-150	0
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	10
0- 20	45
0- 30	97
0- 40	152
0- 50	198
0- 60	230
0- 70	249
0- 80	256
0- 90	259
0-100	261
0-110	262
0-120	262
0-130	262
0-140	262
0-150	262
0-160	263
0-170	263
0-180	263

Project Number
16.02500



HUBBELL
Lighting

Date
9/14/2016

Goniophotometer Calibration

Calibration Lamp: GE 1000W, 120V, T6, CL (FEL)
Lamp Number: ITL78966-1000-14
Calibration Current: 8.300 Amps DC
Total Luminous Flux: 23413.0 Lumens
Calibration Date: 07/18/2015

<i>Test Equipment Used</i>			
<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	11/10/2016
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	1912745	11/10/2016

Sphere Calibration

Calibration Lamp: EIKO 28V75W/E10
Lamp Number: SCL-1400-J136
Calibration Current: 2.679 Amps
Total Luminous Flux: 1427 Lumens

<i>Test Equipment Used - Color & SPD; THD & Power Factor</i>			
<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	11/10/2016
<i>LAMP Power Meter</i>	Yokogawa / WT332	C2QA27075V	11/10/2016
<i>Power Supply</i>	Chroma / 61602	616020002113	N/A
<i>Aux Lamp Supply</i>	Labsphere / LPS-100-0833	031159372	11/10/2016
<i>Cal Lamp Supply</i>	Labsphere / LPS-150-0268	1218148605	11/10/2016
<i>Spectrometer</i>	Labsphere / CDS 1100	0624117792	N/A

Hubbell Lighting, Inc.

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

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