

Project Number
15.00608



HUBBELL
Lighting

Date
4/20/2015

LAB 1

Test Sample Description

Catalog Number: P5445-3130K9

Description: Outdoor Post Lantern (7" x 4.5" cone shape fixture) with HAL Module.

Test Method: IES LM-79-08 § 10

Preburn Time: 00:00

Time To Stabilize: 0:45

Total Operating Time: 1:15

Input Voltage (Volts): 120.1

Input Current (Amps): 0.066

Input Wattage (Watts): 7.5

Ambient Temp (°C): 25.0



Hubbell Lighting, Inc.

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

Checked: D. BLACK
Approved: M. WASHBURN

NVLAP[®]
NVLAP LAB CODE: 201003-0

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



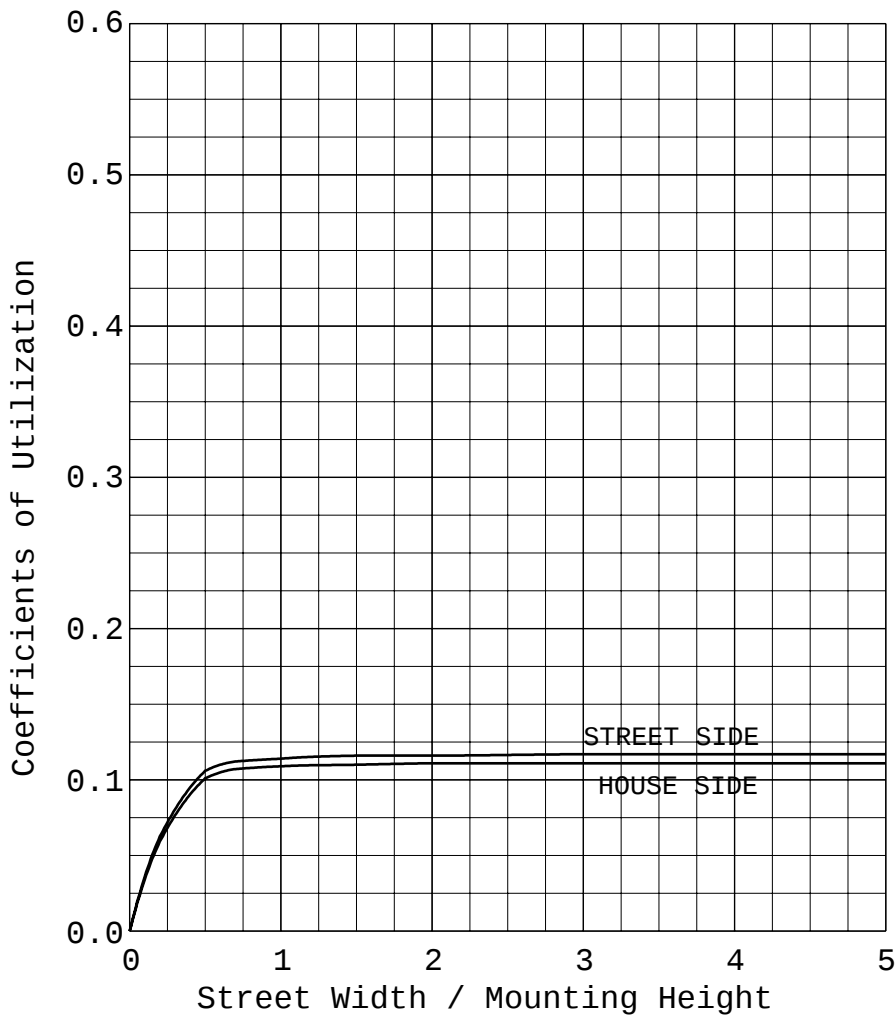
HUBBELL
Lighting

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



COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION

REPORT NUMBER: 15.00608
ISSUE DATE: 04/21/15 PAGE: 2 OF 12
PREPARED FOR: PROGRESS
CATALOG NUMBER: P5445-3130K9
LUMINAIRE: Outdoor Post Lantern (7" x 4.5" cone shape fixture).
LAMP CAT. NO.: 93049180-3130
LAMP: 20 - NICHIA 3000K LEDs (9W -HAL Module)
MOUNTING: POLE
NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	42.	11.9
DOWNWARD HOUSE SIDE	40.	11.2
DOWNWARD TOTAL	83.	23.1
UPWARD STREET SIDE	146.	40.9
UPWARD HOUSE SIDE	129.	36.0
UPWARD TOTAL	274.	76.9
TOTAL FLUX	357.	100.0

TOTAL INPUT WATTS = 7.5
EFFICACY = 47.6 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.hubbelllighting.com

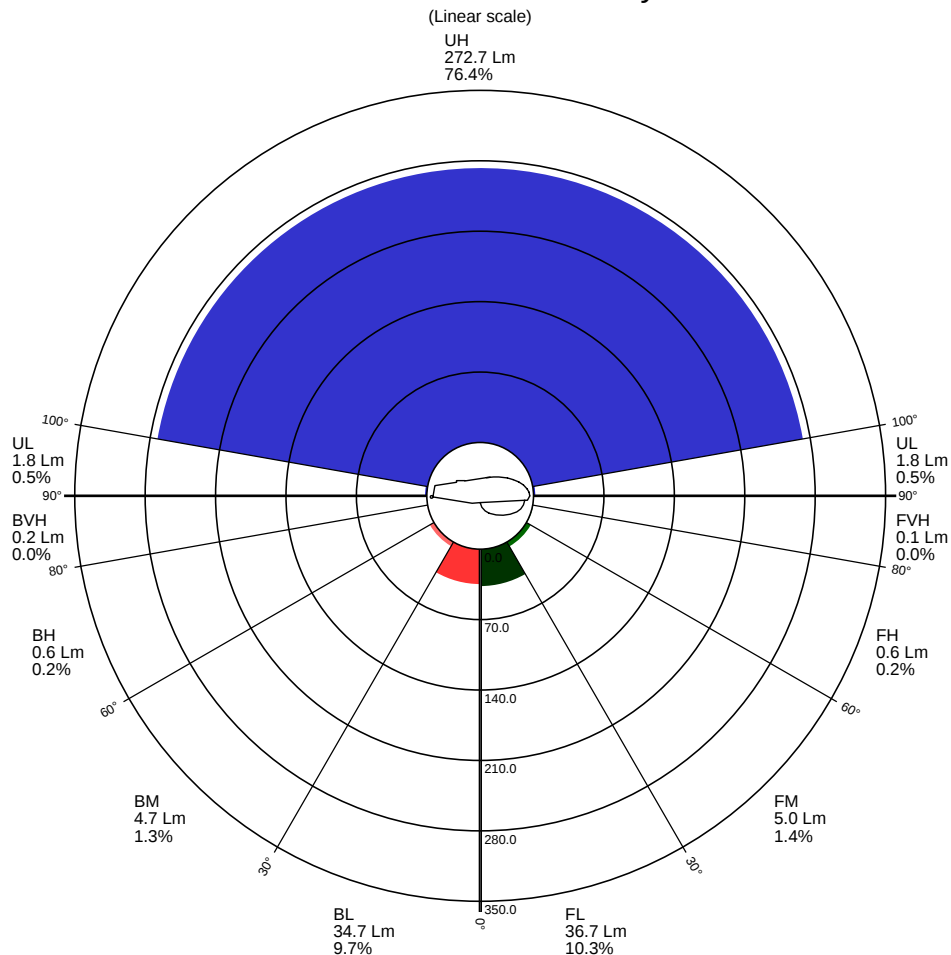


REPORT NUMBER: 15.00608
ISSUE DATE: 04/21/15
PREPARED FOR: PROGRESS

PAGE: 3 OF 12

BUG Rating:			Zone Ratings		
Zonal Summary			B	U	G
		Lumens	% of Fixture		
Forward		42	11.9		
FL	(0° - 30°)	36.7	10.3		
FM	(30° - 60°)	5.0	1.4		
FH	(60° - 80°)	0.6	0.2		
FVH	(80° - 90°)	0.1	0.0		
Backward		40	11.2		
BL	(0° - 30°)	34.7	9.7		
BM	(30° - 60°)	4.7	1.3		
BH	(60° - 80°)	0.6	0.2		
BVH	(80° - 90°)	0.2	0.0		
Upward		274	76.9		
UL	(90° - 100°)	1.8	0.5		
UH	(100° - 180°)	272.7	76.4		
Trapped Light		0	0.0		
Total Flux		357	100.0		

Zonal Lumen Summary





HUBBELL
Lighting

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

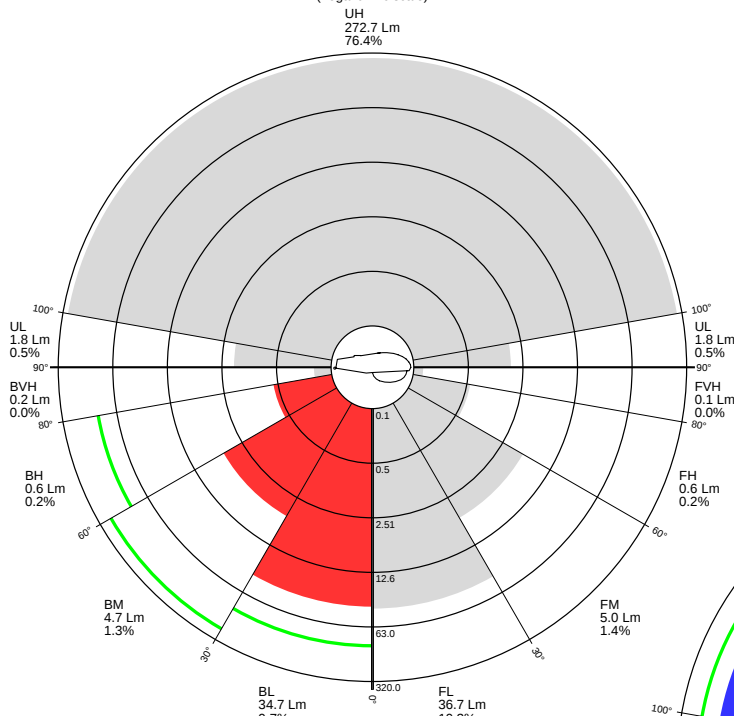
NVLAP
NVLAP LAB CODE: 201003-0

REPORT NUMBER: 15.00608
ISSUE DATE: 04/21/15
PREPARED FOR: PROGRESS

PAGE: 4 OF 12

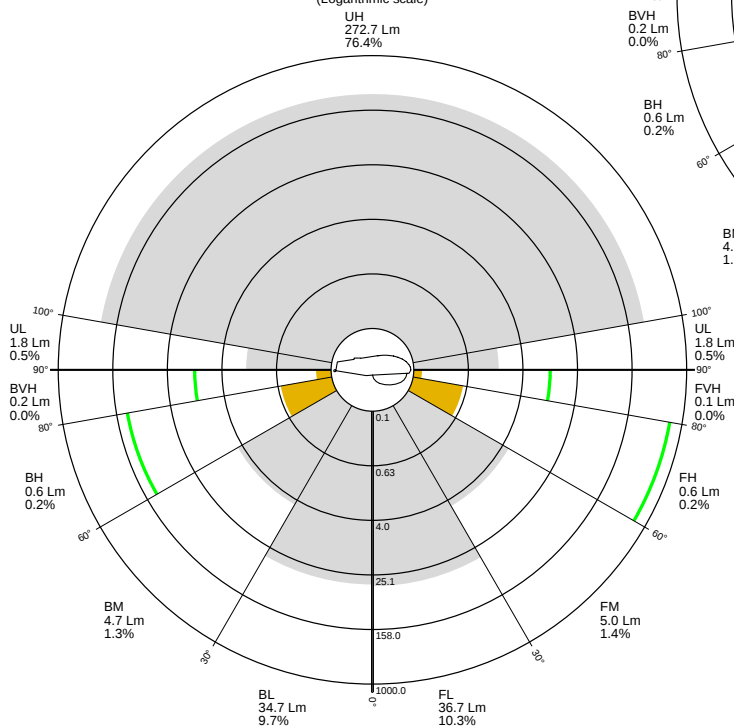
Backlight Rating Details

(Logarithmic scale)



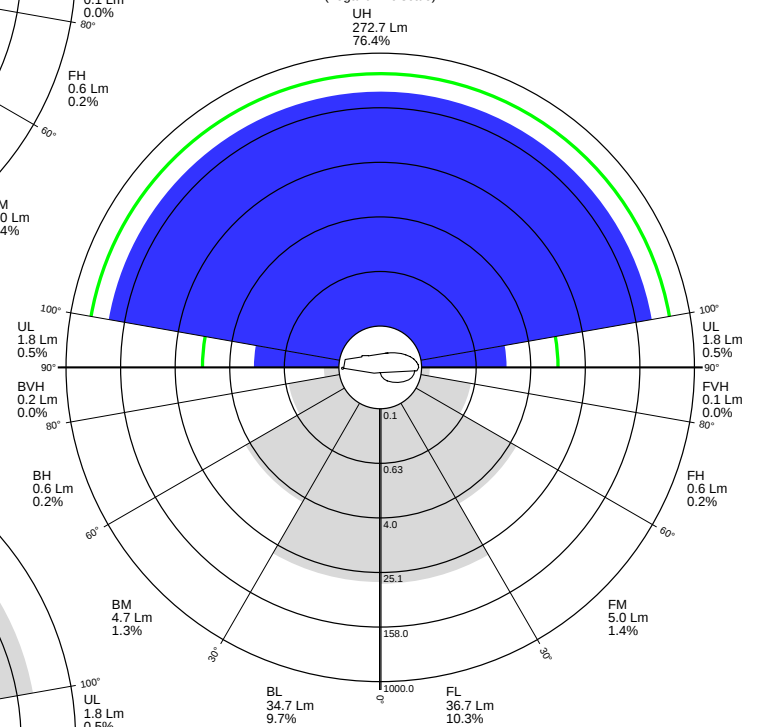
Glare Rating Details

(Logarithmic scale)



Uplight Rating Details

(Logarithmic scale)





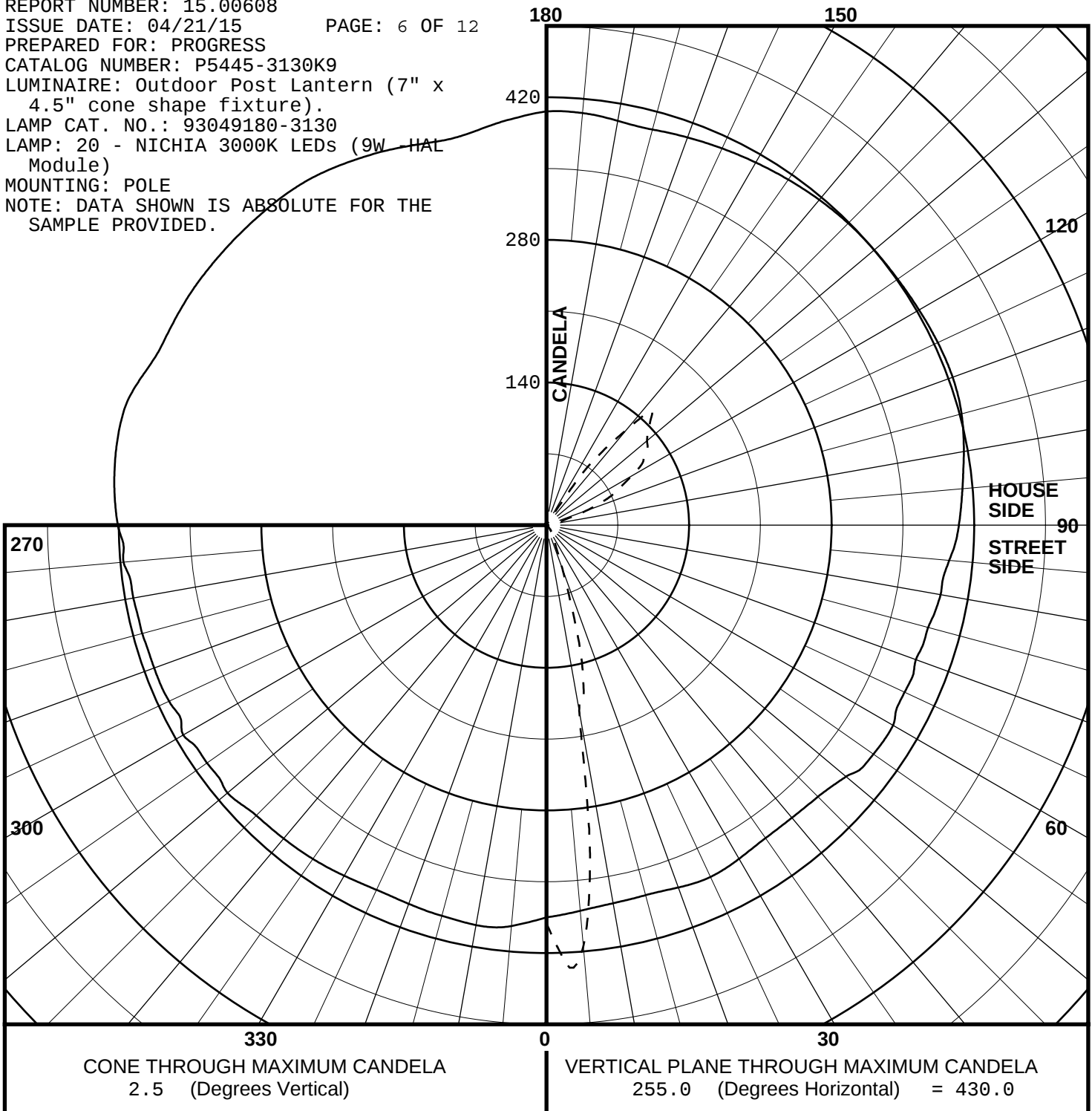
HUBBELL
Lighting

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



MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA

REPORT NUMBER: 15.00608
ISSUE DATE: 04/21/15 PAGE: 6 OF 12
PREPARED FOR: PROGRESS
CATALOG NUMBER: P5445-3130K9
LUMINAIRE: Outdoor Post Lantern (7" x
4.5" cone shape fixture).
LAMP CAT. NO.: 93049180-3130
LAMP: 20 - NICHIA 3000K LEDs (9W HAL
Module)
MOUNTING: POLE
NOTE: DATA SHOWN IS ABSOLUTE FOR THE
SAMPLE PROVIDED.





HUBBELL
Lighting

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



REPORT NUMBER: 15.00608
ISSUE DATE: 04/21/15
PREPARED FOR: PROGRESS

PAGE: 7 OF 12

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
	180.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	175.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	165.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	155.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	145.0	66.	62.	63.	55.	32.	24.	41.	57.	46.
	135.0	142.	145.	144.	123.	81.	92.	73.	120.	132.
	125.0	121.	117.	117.	90.	61.	74.	60.	93.	110.
	115.0	86.	88.	85.	64.	42.	54.	40.	54.	78.
	105.0	26.	25.	25.	17.	12.	14.	12.	11.	16.
	95.0	1.	1.	2.	2.	2.	2.	2.	2.	2.
	90.0	1.	1.	1.	1.	1.	1.	1.	1.	1.
	87.5	0.	0.	0.	1.	1.	0.	1.	1.	1.
	85.0	0.	0.	0.	0.	0.	0.	0.	1.	0.
	82.5	0.	0.	0.	0.	0.	0.	0.	0.	0.
V	80.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
E	77.5	0.	0.	0.	0.	0.	0.	0.	0.	0.
R	75.0	0.	0.	0.	1.	1.	0.	1.	1.	0.
T	72.5	0.	0.	1.	1.	1.	0.	1.	1.	1.
I	70.0	0.	1.	1.	1.	1.	1.	1.	1.	1.
C	67.5	0.	0.	1.	1.	1.	1.	1.	1.	1.
A	65.0	1.	1.	1.	1.	1.	1.	1.	1.	1.
L	62.5	1.	1.	1.	1.	1.	1.	1.	1.	1.
	60.0	1.	1.	2.	2.	2.	1.	1.	1.	1.
A	57.5	1.	2.	2.	2.	2.	1.	1.	1.	1.
N	55.0	1.	2.	2.	3.	2.	1.	1.	1.	1.
G	52.5	2.	2.	3.	3.	3.	2.	2.	2.	1.
L	50.0	2.	3.	4.	4.	3.	2.	2.	2.	1.
E	47.5	3.	4.	5.	5.	4.	2.	3.	3.	2.
	45.0	4.	5.	6.	7.	6.	3.	4.	4.	3.
	42.5	6.	6.	8.	9.	8.	3.	6.	5.	5.
	40.0	7.	8.	10.	10.	9.	4.	7.	6.	6.
	37.5	9.	10.	12.	12.	11.	5.	9.	8.	7.
	35.0	12.	13.	15.	15.	13.	6.	11.	9.	9.
	30.0	18.	20.	22.	22.	18.	11.	17.	14.	13.
	25.0	32.	33.	37.	35.	27.	19.	28.	26.	21.
	20.0	64.	64.	70.	65.	51.	44.	50.	54.	52.
	15.0	137.	136.	145.	125.	113.	117.	98.	127.	132.
	10.0	253.	259.	253.	225.	225.	217.	232.	252.	213.
	5.0	397.	387.	372.	360.	369.	378.	390.	394.	380.
	2.5<<	385.	380.	376.	381.	375.	377.	392.	388.	388.
	0.0	391.	391.	391.	391.	391.	391.	391.	391.	391.

CONE OF MAXIMUM CANDELA



HUBBELL
Lighting

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



REPORT NUMBER: 15.00608
ISSUE DATE: 04/21/15
PREPARED FOR: PROGRESS

PAGE: 8 OF 12

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	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	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
145.0	43.	46.	47.	32.	1.	8.	34.	40.	48.	49.
135.0	129.	129.	130.	101.	71.	82.	79.	112.	132.	131.
125.0	105.	109.	106.	85.	49.	67.	65.	84.	105.	111.
115.0	74.	71.	65.	53.	30.	53.	35.	48.	59.	63.
105.0	18.	18.	14.	9.	11.	12.	7.	9.	11.	11.
95.0	2.	2.	2.	2.	2.	2.	2.	2.	2.	1.
90.0	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
87.5	1.	1.	1.	1.	1.	0.	1.	1.	1.	1.
85.0	0.	0.	1.	1.	0.	0.	0.	1.	0.	0.
82.5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
V 80.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
E 77.5	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
R 75.0	0.	0.	0.	1.	1.	0.	1.	1.	0.	0.
T 72.5	0.	0.	0.	1.	1.	0.	1.	1.	1.	0.
I 70.0	0.	0.	1.	1.	1.	0.	1.	1.	1.	1.
C 67.5	0.	0.	0.	0.	1.	0.	1.	1.	1.	0.
A 65.0	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
L 62.5	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
60.0	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
A 57.5	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
N 55.0	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
G 52.5	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.
L 50.0	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.
E 47.5	2.	2.	2.	1.	2.	1.	2.	2.	2.	3.
45.0	3.	3.	3.	3.	3.	1.	3.	3.	4.	4.
42.5	4.	4.	4.	4.	5.	1.	4.	5.	5.	5.
40.0	5.	5.	5.	5.	5.	1.	5.	6.	6.	7.
37.5	6.	6.	6.	6.	5.	1.	5.	7.	7.	8.
35.0	8.	8.	8.	8.	6.	2.	6.	8.	9.	10.
30.0	12.	12.	12.	11.	7.	2.	8.	11.	13.	15.
25.0	19.	18.	17.	17.	10.	4.	11.	17.	21.	24.
20.0	44.	41.	38.	34.	23.	14.	25.	34.	40.	46.
15.0	116.	119.	120.	101.	69.	56.	67.	79.	87.	104.
10.0	198.	190.	178.	178.	176.	173.	163.	168.	203.	247.
5.0	390.	388.	379.	377.	377.	392.	394.	395.	369.	354.
2.5<<	405.	410.	422.	424.	421.	419.	414.	408.	402.	406.
0.0	391.	391.	391.	391.	391.	391.	391.	391.	391.	391.

CONE OF MAXIMUM CANDELA



HUBBELL
Lighting

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



REPORT NUMBER: 15.00608
ISSUE DATE: 04/21/15
PREPARED FOR: PROGRESS

PAGE: 9 OF 12

CANDELA TABULATION
HOUSE SIDE

LATERAL ANGLE

	180.0	185.0	195.0	205.0	215.0	225.0	235.0	245.0	255.0	265.0
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	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
145.0	49.	43.	49.	50.	34.	36.	39.	66.	67.	68.
135.0	129.	128.	131.	103.	80.	96.	84.	129.	144.	142.
125.0	113.	113.	114.	80.	65.	73.	60.	90.	117.	119.
115.0	67.	66.	63.	46.	45.	51.	43.	53.	73.	76.
105.0	12.	13.	9.	8.	6.	7.	6.	10.	16.	18.
95.0	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
90.0	1.	1.	1.	1.	1.	0.	1.	1.	1.	1.
87.5	0.	1.	1.	0.	1.	0.	0.	0.	0.	0.
85.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
82.5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
V 80.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
E 77.5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
R 75.0	0.	0.	0.	1.	1.	0.	0.	1.	0.	0.
T 72.5	0.	0.	1.	1.	1.	0.	0.	0.	0.	0.
I 70.0	0.	0.	1.	1.	1.	0.	1.	1.	0.	0.
C 67.5	0.	0.	1.	1.	1.	0.	1.	0.	0.	0.
A 65.0	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
L 62.5	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
60.0	1.	1.	2.	2.	2.	1.	1.	1.	1.	1.
A 57.5	1.	1.	2.	2.	2.	1.	1.	1.	1.	1.
N 55.0	2.	2.	2.	2.	2.	1.	1.	1.	1.	1.
G 52.5	2.	2.	3.	3.	2.	1.	2.	1.	1.	1.
L 50.0	2.	2.	3.	3.	3.	2.	2.	2.	1.	1.
E 47.5	3.	3.	4.	4.	4.	2.	3.	2.	2.	2.
45.0	4.	4.	6.	6.	5.	2.	4.	3.	3.	3.
42.5	6.	6.	7.	7.	7.	3.	5.	5.	5.	4.
40.0	7.	8.	9.	9.	8.	3.	6.	6.	6.	5.
37.5	9.	9.	11.	11.	10.	4.	7.	7.	7.	6.
35.0	11.	11.	13.	13.	13.	5.	9.	9.	9.	8.
30.0	16.	18.	21.	20.	19.	9.	13.	14.	13.	12.
25.0	27.	29.	34.	33.	31.	16.	22.	23.	20.	18.
20.0	51.	54.	61.	64.	57.	39.	44.	51.	46.	37.
15.0	118.	133.	124.	127.	122.	118.	93.	118.	130.	123.
10.0	237.	220.	203.	205.	225.	236.	256.	204.	185.	212.
5.0	353.	350.	361.	376.	389.	396.	412.	406.	415.	406.
2.5<<	406.	400.	391.	402.	412.	415.	417.	417.	430.	426.
0.0	391.	391.	391.	391.	391.	391.	391.	391.	391.	391.

PLANE OF MAXIMUM CANDELA

CONE OF MAXIMUM CANDELA



HUBBELL
Lighting

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



REPORT NUMBER: 15.00608
ISSUE DATE: 04/21/15
PREPARED FOR: PROGRESS

PAGE: 10 OF 12

CANDELA TABULATION
STREET SIDE

LATERAL ANGLE

	270.0	275.0	285.0	295.0	305.0	315.0	325.0	335.0	345.0	355.0	360.0
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	67.	70.	64.	64.	45.	33.	42.	65.	68.	68.	66.
135.0	142.	143.	141.	119.	79.	100.	82.	136.	145.	143.	142.
125.0	119.	116.	119.	96.	65.	79.	64.	98.	121.	121.	121.
115.0	82.	82.	82.	59.	46.	59.	44.	67.	86.	89.	86.
105.0	19.	17.	25.	16.	17.	17.	15.	18.	25.	30.	26.
95.0	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
90.0	0.	1.	1.	1.	1.	0.	1.	1.	1.	1.	1.
87.5	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
85.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
82.5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
V 80.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
E 77.5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
R 75.0	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
T 72.5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
I 70.0	0.	0.	0.	1.	0.	0.	1.	1.	1.	0.	0.
C 67.5	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
A 65.0	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
L 62.5	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
60.0	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
A 57.5	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
N 55.0	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
G 52.5	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.
L 50.0	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.
E 47.5	2.	1.	1.	1.	1.	1.	2.	2.	2.	3.	3.
45.0	3.	2.	2.	2.	2.	1.	3.	3.	3.	4.	4.
42.5	4.	4.	4.	4.	4.	1.	4.	4.	4.	5.	6.
40.0	5.	5.	5.	5.	5.	1.	5.	5.	6.	6.	7.
37.5	6.	7.	6.	7.	6.	2.	6.	6.	7.	8.	9.
35.0	8.	8.	8.	8.	8.	2.	7.	8.	9.	10.	12.
30.0	12.	12.	12.	11.	10.	3.	9.	11.	13.	16.	18.
25.0	18.	17.	17.	16.	13.	6.	12.	17.	22.	28.	32.
20.0	35.	34.	31.	30.	23.	17.	24.	39.	49.	61.	64.
15.0	120.	119.	119.	104.	82.	93.	90.	109.	131.	135.	137.
10.0	219.	218.	206.	187.	194.	207.	211.	213.	207.	224.	253.
5.0	408.	412.	412.	411.	407.	395.	389.	418.	413.	397.	397.
2.5<<	421.	417.	411.	409.	407.	403.	400.	395.	397.	395.	385.
0.0	391.	391.	391.	391.	391.	391.	391.	391.	391.	391.	391.

CONE OF MAXIMUM CANDELA



HUBBELL
Lighting

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



REPORT NUMBER: 15.00608
ISSUE DATE: 04/21/15
PREPARED FOR: PROGRESS

PAGE: 11 OF 12

5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	9
5- 10	21
10- 15	18
15- 20	12
20- 25	6
25- 30	4
30- 35	3
35- 40	2
40- 45	2
45- 50	1
50- 55	1
55- 60	1
60- 65	1
65- 70	0
70- 75	0
75- 80	0
80- 85	0
85- 90	0
90- 95	1
95-100	1
100-105	4
105-110	13
110-115	25
115-120	34
120-125	40
125-130	42
130-135	44
135-140	42
140-145	24
145-150	4
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	30
0- 20	61
0- 30	71
0- 40	77
0- 50	80
0- 60	81
0- 70	82
0- 80	82
0- 90	83
0-100	84
0-110	102
0-120	161
0-130	243
0-140	329
0-150	357
0-160	357
0-170	357
0-180	357

Project Number
15.00608



HUBBELL
Lighting

Date
4/20/2015

Goniophotometer Calibration

Calibration Lamp : GE 1000W, 120V, T6, CL (FEL)

Lamp Number: ITL78966-1000-38

Calibration Current: 8.300 Amps DC

Total Luminous Flux: 25753.0 Lumens

Calibration Date: 12/02/2014

Test Equipment Used

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
Goniophotometer	ITL / HLI LAB 1- Test Distance: 31.75'	N/A	
Power Analyzer	Yokogawa / WT 332	C2QA27071V	11/12/2015
Power Source	Voltage-Regulated House Power	N/A	N/A
Thermometer	National Instruments / USB-TC01	176F4E3	11/11/2015

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.