

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: LUMIERE

Report Number: P871400

Luminaire Tested: **650-4-8LED-27-10-12-X**

Test Date: 2024-07-13

**Test Information**

Test Method: LM-79-08  
Report Number: P871400  
SCALED FROM G1-2405-109-3  
Test Lab: Cooper Lighting Solutions  
Test Date: 2024-07-13  
Issue Date: 7/13/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMIERE  
Catalog Number: 650-4-8LED-27-10-12-X  
Description: Boca with Four openings  
Light Source: Soraa  
SM16-04-10D-927-03  
Ballast/Driver: -

**Summary**

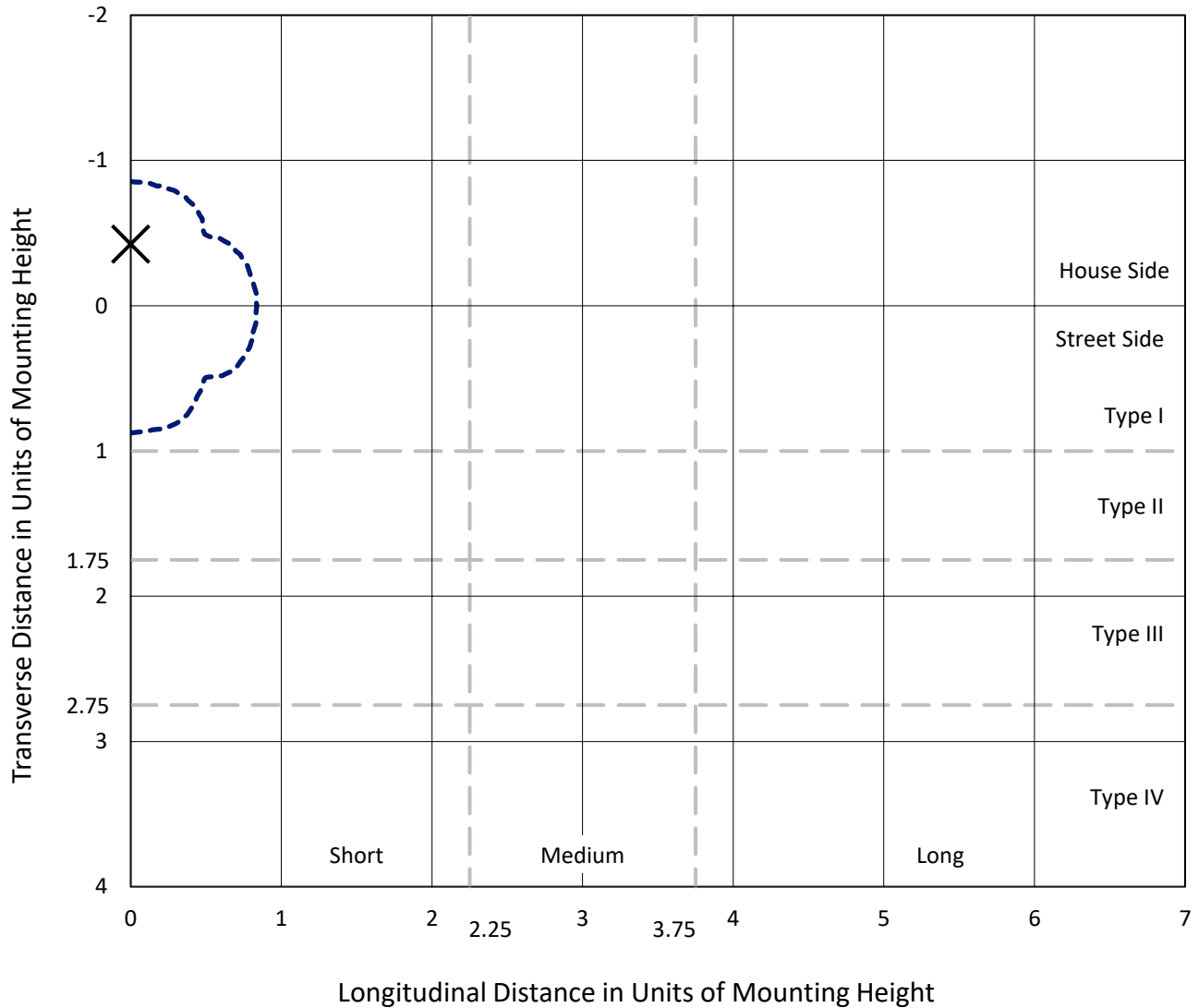
Lumens per Lamp: N/A  
Luminaire Lumens: 42.7 lumens  
Efficiency: N/A  
Efficacy: 6.9 lumens/watt  
Luminous Opening: Circular (Dia: 0.18' x H: 0')  
IES Classification: Type V - Short  
BUG Rating: B0 - U1 - G0  
  
Input Watts (W): 6.22  
Input Voltage (V): 12.0  
Input Current (Ain): 0.518  
Voltage Rise (V): NR  
Power Factor: 1  
Total Harmonic Distortion (THDi): 0.0%  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

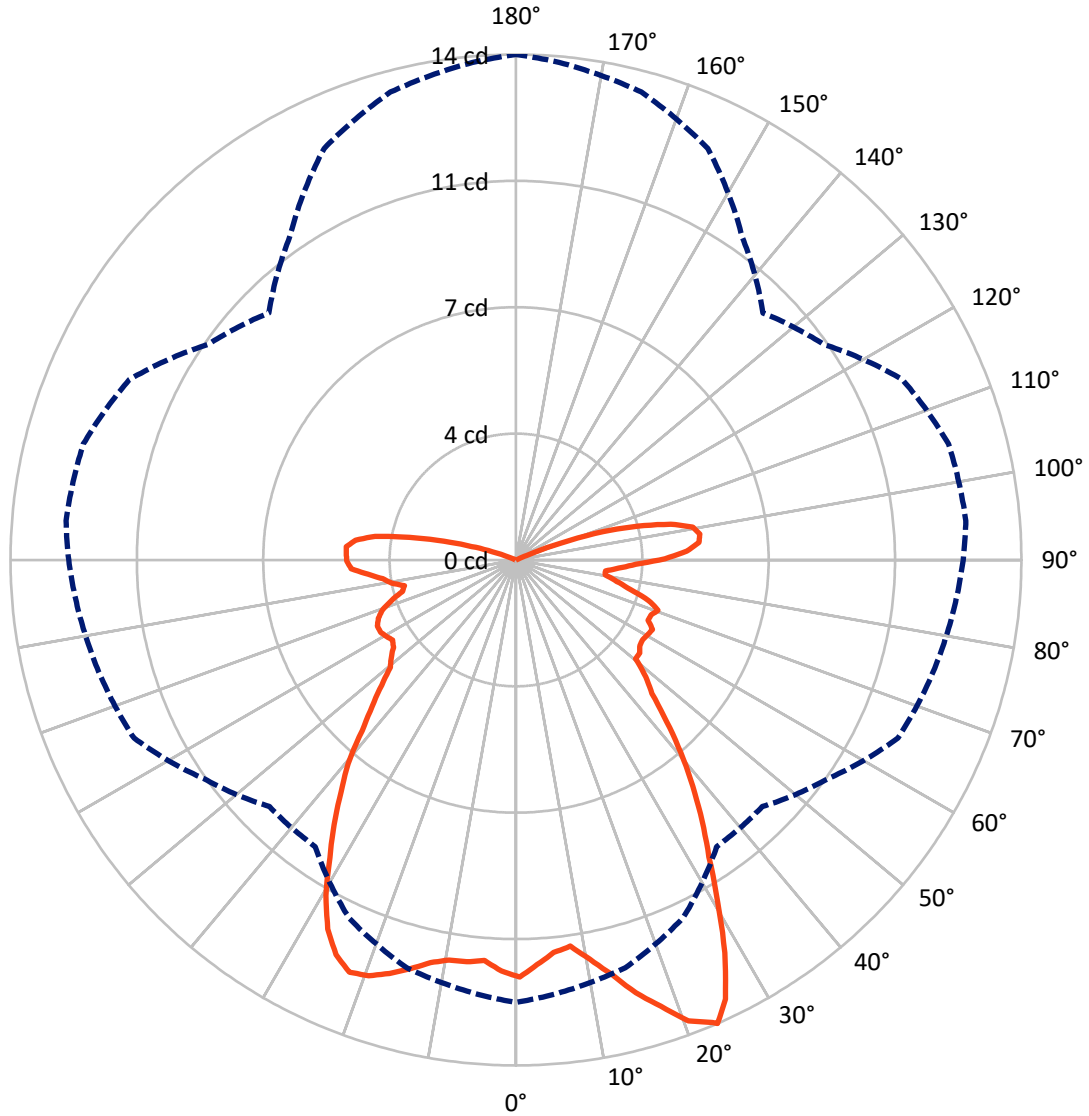
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0 fc  
 Type V - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 180-Deg Lateral      - - - Horizontal Cone Through 23-Deg Vertical

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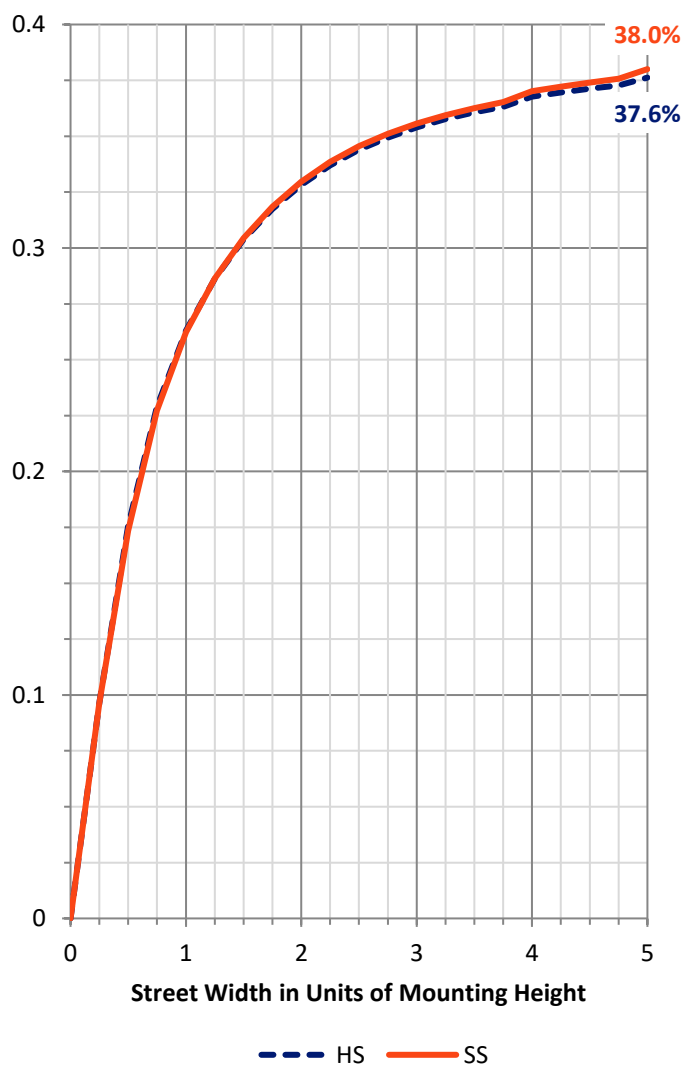
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	17.1	4.3	21.4
	% Fixture	40.2	10.0	50.2
<b>Street Side</b>	Lumens	17.5	3.7	21.3
	% Fixture	41.1	8.7	49.8
<b>Total</b>	Lumens	34.7	8.0	42.7
	% Fixture	81.3	18.7	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1.1	2.5
10°-20°	3.3	7.6
20°-30°	5.2	12.1
30°-40°	5.1	12.0
40°-50°	4.3	10.1
50°-60°	4.0	9.4
60°-70°	4.4	10.3
70°-80°	3.6	8.4
80°-90°	3.8	9.0
90°-100°	5.1	12.0
100°-110°	2.8	6.5
110°-120°	0.1	0.3
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	34.7	81.3
0°-180°	42.7	100.0

**Coefficient of Utilization**



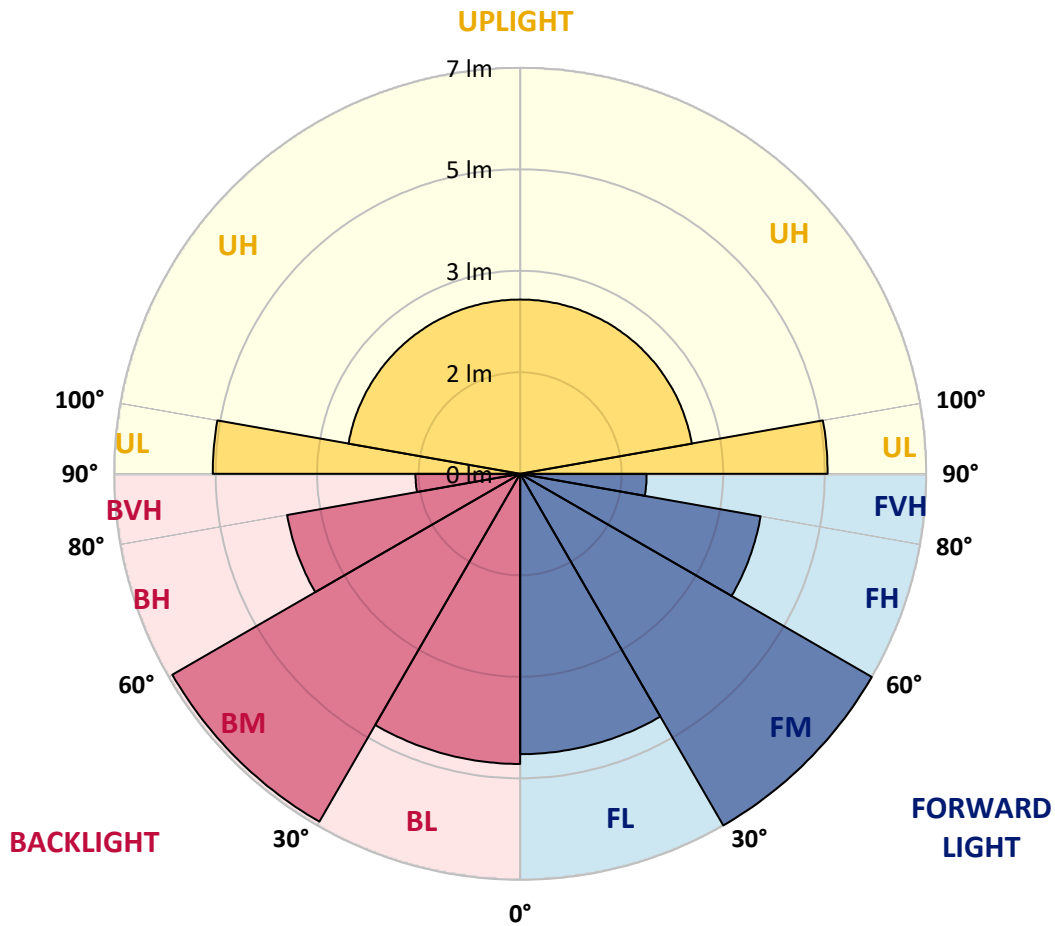
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	4.7	10.9			
FM (30°-60°)	6.7	15.8			
FH (60°-80°)	4.1	9.5			G0/660
FVH (80°-90°)	2.1	4.9			G0/10
BL (0°-30°)	4.8	11.3	B0/110		
BM (30°-60°)	6.7	15.6	B0/220		
BH (60°-80°)	3.9	9.2	B0/110		G0/660
BVH (80°-90°)	1.7	4.1			G0/10
UL (90°-100°)	5.1	12.0		U1/10	
UH (100°-180°)	2.9	6.8		U1/10	

**BUG Rating: B0-U1-G0**

Type V Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7
2.5°	11.5	11.5	11.5	11.5	11.4	11.4	11.4	11.5	11.4	11.4	11.6
5°	11.3	11.3	11.2	11.0	11.1	11.0	11.0	10.9	11.1	11.1	11.1
7.5°	11.4	11.4	11.1	10.9	10.7	10.8	10.8	10.9	11.0	11.0	11.1
10°	11.4	11.5	11.2	10.9	10.7	10.7	10.9	11.1	11.3	11.4	11.3
12.5°	11.5	11.7	11.3	10.9	10.6	10.7	11.0	11.5	11.7	11.8	11.7
15°	11.8	11.9	11.6	11.1	10.4	10.5	11.0	11.6	12.0	12.2	12.1
17.5°	12.1	12.0	11.7	11.1	10.4	10.4	11.0	11.7	12.2	12.4	12.5
20°	12.4	12.4	11.9	11.2	10.2	10.2	11.0	12.1	12.4	12.7	12.7
22.5°	12.5	12.3	12.0	11.1	9.9	9.9	10.9	11.9	12.3	12.5	12.7
23°	12.4	12.2	11.8	11.1	9.8	9.8	10.7	11.8	12.1	12.4	12.5
25°	12.2	12.1	11.8	11.0	9.7	9.4	10.4	11.4	12.0	12.2	12.2
27.5°	11.6	11.6	11.4	10.5	9.1	8.8	9.8	10.8	11.2	11.2	11.5
30°	10.8	10.7	10.5	9.7	8.5	8.2	9.1	10.0	10.2	10.4	10.3
32.5°	9.8	9.7	9.6	9.1	7.9	7.6	8.4	9.2	9.2	9.4	9.3
35°	9.0	8.8	8.7	8.2	7.2	6.9	7.8	8.3	8.4	8.4	8.4
37.5°	8.1	8.1	8.0	7.8	6.8	6.6	7.2	7.5	7.6	7.7	7.8
40°	7.4	7.2	7.3	7.0	6.4	6.0	6.6	6.9	6.9	6.8	6.9
42.5°	6.4	6.4	6.5	6.4	6.0	5.7	6.1	6.3	6.2	6.2	6.0
45°	5.7	5.7	5.8	5.6	5.5	5.4	5.6	5.5	5.5	5.3	5.3
47.5°	5.1	5.2	5.1	5.2	5.2	5.1	5.3	5.1	5.0	4.9	5.0
50°	4.6	4.6	4.6	4.7	4.8	4.9	4.8	4.6	4.6	4.4	4.3
52.5°	4.4	4.4	4.4	4.5	4.7	4.8	4.6	4.6	4.3	4.3	4.2
55°	4.2	4.2	4.4	4.5	4.7	4.7	4.7	4.5	4.2	4.0	4.0
57.5°	4.1	4.2	4.3	4.6	4.8	4.8	4.7	4.4	4.1	4.0	4.0
60°	4.2	4.2	4.4	4.7	4.9	4.9	4.8	4.4	4.1	3.8	3.9
62.5°	4.3	4.3	4.4	4.8	5.0	4.9	5.0	4.6	4.3	4.0	3.9
65°	4.3	4.4	4.6	4.9	5.1	4.9	4.9	4.6	4.2	4.0	3.9
67.5°	4.2	4.2	4.5	4.7	4.8	4.7	4.9	4.6	4.2	4.0	3.8
70°	4.0	4.0	4.1	4.4	4.4	4.5	4.4	4.3	4.2	3.8	3.7
72.5°	3.7	3.6	3.8	4.0	3.9	3.8	4.0	4.0	3.7	3.5	3.4
75°	3.3	3.4	3.3	3.4	3.3	3.1	3.2	3.3	3.2	3.2	3.1
77.5°	3.2	3.1	3.2	3.1	2.9	2.7	3.0	3.0	3.0	3.0	2.7
80°	3.5	3.4	3.4	3.2	2.9	2.5	2.7	3.0	3.2	3.0	2.9
82.5°	3.8	3.9	3.7	3.7	3.3	3.0	3.1	3.2	3.3	3.3	3.2
85°	4.2	4.3	4.1	4.1	3.8	3.4	3.7	3.9	3.9	3.9	3.9
87.5°	4.6	4.6	4.5	4.4	4.1	3.9	4.1	4.2	4.4	4.6	4.5
90°	4.7	4.8	4.7	4.6	4.3	4.2	4.4	4.5	4.8	5.1	5.0
92.5°	4.8	4.8	4.6	4.6	4.5	4.3	4.4	4.6	5.0	5.1	5.1
95°	4.8	4.7	4.6	4.6	4.5	4.5	4.6	4.7	5.1	5.2	5.3
97.5°	4.5	4.5	4.4	4.4	4.4	4.4	4.5	4.7	4.9	5.1	5.3
100°	4.0	4.0	3.8	3.8	4.0	4.0	4.1	4.2	4.5	4.6	4.8
102.5°	3.0	3.0	2.8	2.7	2.8	2.9	3.1	3.3	3.6	3.8	3.8
105°	2.1	2.1	2.0	1.8	1.8	1.9	2.0	2.3	2.5	2.8	2.9
107.5°	1.3	1.3	1.1	1.1	0.9	0.9	1.1	1.3	1.6	1.9	1.8



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 CATALOG NUMBER: 650-4-8LED-27-10-12-X

**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
110°	0.7	0.7	0.6	0.5	0.3	0.4	0.4	0.5	0.8	0.9	0.9
112.5°	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.2
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7
2.5°	11.5	11.4	11.5	11.5	11.5	11.4	11.4	11.5	11.5	11.4
5°	11.2	11.2	11.0	11.0	10.9	11.0	11.0	11.1	11.0	11.1
7.5°	11.1	11.0	10.8	10.6	10.6	10.6	10.8	10.9	10.9	10.9
10°	11.4	11.2	10.8	10.4	10.4	10.6	10.8	11.2	11.3	11.4
12.5°	11.8	11.5	11.1	10.5	10.4	10.7	11.2	11.8	11.9	11.9
15°	12.0	12.0	11.4	10.5	10.3	10.9	11.7	12.4	12.5	12.6
17.5°	12.6	12.2	11.6	10.7	10.3	11.1	12.3	13.0	13.2	13.2
20°	12.9	12.6	11.9	10.9	10.2	11.3	12.7	13.5	13.7	13.8
22.5°	12.9	12.6	11.9	10.7	10.1	11.3	12.8	13.7	14.0	14.1
23°	12.7	12.6	12.0	10.5	9.8	11.1	12.7	13.6	14.0	14.2
25°	12.2	12.1	11.5	10.3	9.4	10.9	12.6	13.3	13.6	13.6
27.5°	11.4	11.3	10.7	9.6	8.9	10.0	11.7	12.4	12.5	12.5
30°	10.4	10.4	10.0	8.8	8.1	9.1	10.5	11.1	11.2	11.2
32.5°	9.4	9.4	9.0	8.1	7.4	8.4	9.5	9.9	10.0	9.9
35°	8.3	8.5	8.1	7.5	6.8	7.6	8.4	8.7	8.9	9.0
37.5°	7.6	7.5	7.4	6.9	6.4	7.0	7.6	7.7	8.0	8.1
40°	6.9	6.9	6.6	6.2	6.0	6.5	6.9	7.0	7.0	7.1
42.5°	6.1	6.0	6.1	5.8	5.5	6.0	6.2	6.2	6.3	6.2
45°	5.5	5.3	5.4	5.4	5.3	5.5	5.5	5.5	5.4	5.3
47.5°	4.8	5.0	5.1	5.0	5.0	5.0	5.1	5.0	4.8	4.9
50°	4.4	4.6	4.6	4.7	4.8	4.7	4.6	4.5	4.4	4.4
52.5°	4.3	4.3	4.5	4.6	4.7	4.8	4.6	4.4	4.4	4.3
55°	4.1	4.2	4.4	4.6	4.7	4.7	4.6	4.3	4.3	4.2
57.5°	4.1	4.1	4.4	4.5	4.7	4.7	4.5	4.2	4.2	4.2
60°	4.0	4.0	4.2	4.6	4.6	4.7	4.5	4.2	4.1	4.2
62.5°	3.9	4.0	4.3	4.6	4.7	4.7	4.5	4.3	4.2	4.3
65°	4.0	4.1	4.4	4.7	4.8	4.8	4.6	4.4	4.2	4.1
67.5°	3.9	4.2	4.4	4.7	4.7	4.8	4.6	4.4	4.3	4.1
70°	3.7	3.8	4.3	4.4	4.5	4.6	4.5	4.3	4.1	4.2
72.5°	3.4	3.5	3.8	3.8	3.9	4.0	4.0	3.8	3.8	3.9
75°	3.1	3.3	3.4	3.5	3.1	3.5	3.5	3.4	3.3	3.3
77.5°	2.7	2.8	2.9	2.8	2.4	2.7	2.9	2.9	2.8	2.9
80°	2.8	2.7	2.8	2.5	2.1	2.4	2.6	2.7	2.5	2.5
82.5°	3.2	3.0	2.8	2.4	1.9	2.3	2.5	2.6	2.5	2.5
85°	3.9	3.8	3.5	2.9	2.4	2.6	2.8	2.9	2.9	2.9
87.5°	4.5	4.4	4.2	3.4	3.1	3.2	3.4	3.3	3.4	3.4
90°	4.9	4.9	4.6	4.1	3.8	3.7	3.9	4.0	4.1	4.2
92.5°	5.2	5.0	4.7	4.5	4.2	4.2	4.3	4.6	4.7	4.8
95°	5.3	5.2	4.9	4.8	4.7	4.6	4.7	5.0	5.1	5.2
97.5°	5.3	5.0	5.0	5.0	4.8	4.9	5.0	5.0	5.1	5.2
100°	4.9	4.6	4.6	4.8	4.8	5.0	5.2	5.0	5.0	5.0
102.5°	3.9	3.6	3.8	3.8	4.0	4.2	4.5	4.3	4.5	4.5
105°	2.8	2.7	2.7	2.7	2.8	3.0	3.3	3.4	3.5	3.5
107.5°	2.0	1.8	1.7	1.7	1.7	2.0	2.2	2.4	2.6	2.6



REPORT NUMBER: P871400  
 CATALOG NUMBER: 650-4-8LED-27-10-12-X

**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
110°	1.0	0.9	0.8	0.8	0.7	0.8	1.1	1.2	1.2	1.3
112.5°	0.2	0.2	0.2	0.1	0.1	0.1	0.3	0.3	0.4	0.3
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)