

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: P14018

Luminaire Tested: **650-1-6LED3012-12-NSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P14018
Test Lab: INNOVATION CENTER-P1
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMIERE
Catalog Number: 650-1-6LED3012-12-NSS
Description: LUMIERE BOCA 650 MARKER
Light Source: [3] TERRALUX 3000K SPOT LEDS
TLM-R16B-A353012B-B000
Ballast/Driver: [1] CHROMA PROGRAMMABLE AC POWER SOURCE MODEL 61604
IN0004

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11.3 lumens
Efficiency: N/A
Efficacy: 1.9 lumens/watt
Spacing Criteria (0/90/45): - / - / -
Luminous Opening: Rectangular w/ Sides (W: 0.02' x L: 0.12' x H: 0.03')
CIE Type: Semi-Indirect

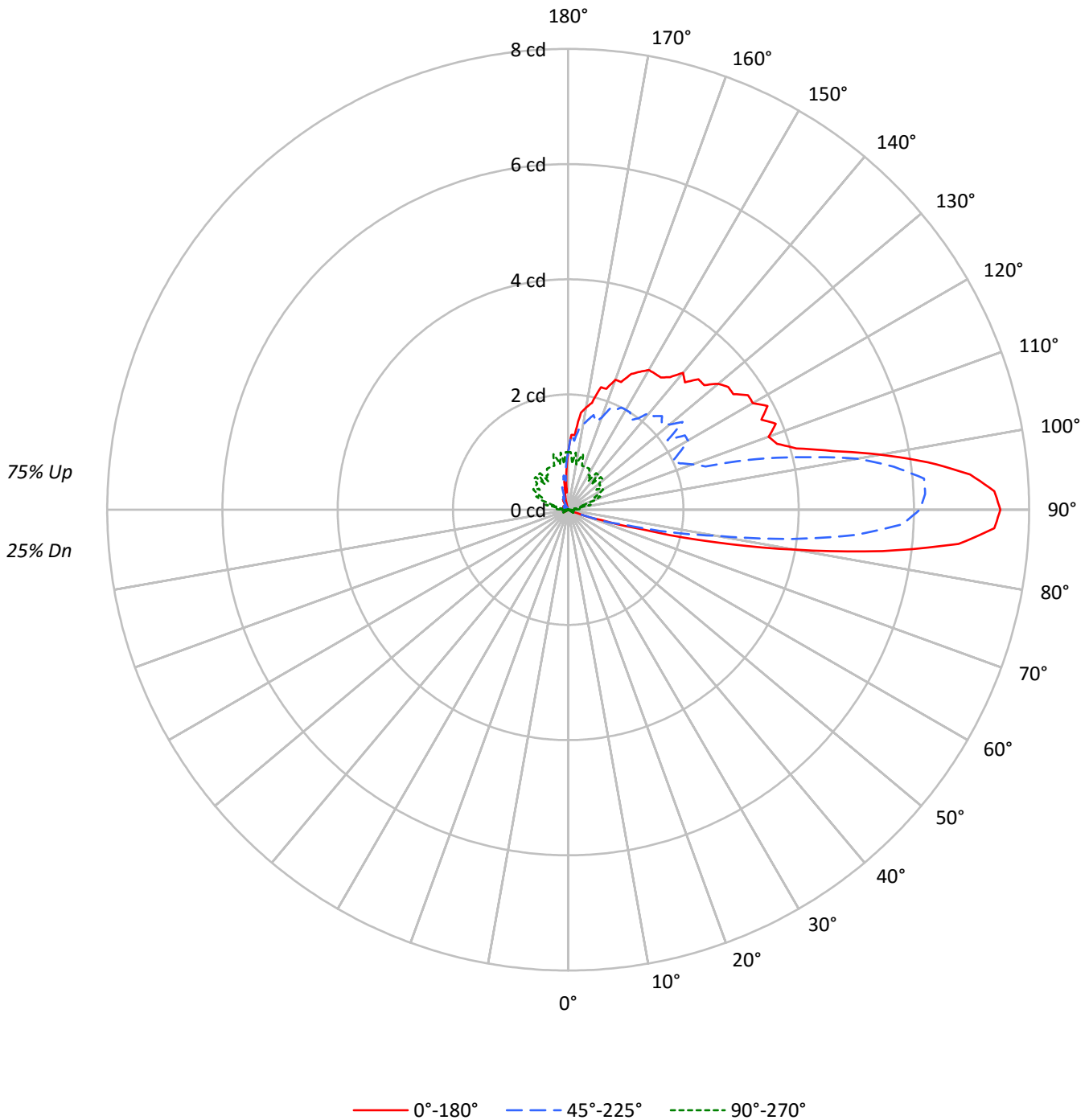
Input Watts (W): 5.9
Input Voltage (V): NR
Input Current (A_{in}): 0.52128
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: 3 HR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	101	101	101	101	90	90	90	90	69	69	69	50	50	50	33	33	33	25
1	85	77	71	65	74	68	62	57	49	45	41	33	29	26	17	15	13	5
2	76	66	57	50	66	57	50	44	41	36	31	27	23	19	13	11	8	2
3	69	57	48	41	60	50	42	35	36	30	25	23	19	16	11	8	6	1
4	63	50	41	34	54	44	36	30	32	26	21	20	16	13	10	7	5	0
5	57	44	35	29	50	39	31	25	28	22	18	18	14	11	9	6	4	0
6	53	40	31	24	46	35	27	21	25	20	15	16	12	9	8	6	4	0
7	49	36	27	21	42	31	24	18	23	17	13	15	11	8	8	5	3	0
8	45	32	24	18	39	28	21	16	21	15	12	14	10	7	7	5	3	0
9	42	29	21	16	36	26	19	14	19	14	10	13	9	6	7	4	2	0
10	39	27	19	14	34	23	17	12	17	12	9	12	8	6	6	4	2	0

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	0	0	0
5°	0	0	0
10°	0	0	0
15°	0	0	0
20°	0	0	0
25°	0	0	0
30°	0	0	0
35°	0	0	0
40°	0	0	0
45°	0	0	0
50°	0	0	0
55°	0	0	0
60°	0	230	577
65°	0	0	0
70°	2149	236	0
75°	10740	0	826
80°	39380	0	0
85°	83601	261	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	0.0	0.0
10°-20°	0.0	0.0
20°-30°	0.0	0.0
30°-40°	0.0	0.0
40°-50°	0.0	0.0
50°-60°	0.0	0.0
60°-70°	0.0	0.2
70°-80°	0.6	5.2
80°-90°	2.2	19.1
90°-100°	2.5	21.8
100°-110°	1.5	12.8
110°-120°	1.1	10.1
120°-130°	1.1	9.6
130°-140°	0.9	7.9
140°-150°	0.7	5.9
150°-160°	0.5	4.2
160°-170°	0.3	2.5
170°-180°	0.1	0.8
0°-30°	0.0	0.0
0°-40°	0.0	0.0
0°-60°	0.0	0.0
0°-90°	2.8	24.5
90°-120°	5.1	44.6
90°-150°	7.7	68.0
90°-180°	9.0	79.3
0°-180°	11.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	0	0	0	0	0	
5°	0	0	0	0	0	0
15°	0	0	0	0	0	0
25°	0	0	0	0	0	0
35°	0	0	0	0	0	0
45°	0	0	0	0	0	0
55°	0	0	0	0	0	0
65°	0	0	0	0	0	0
75°	1	1	0	0	0	2
85°	7	5	0	0	0	5
90°	8	6	0	0	0	4
95°	7	6	0	0	0	5
105°	4	3	0	0	0	5
115°	4	2	0	0	0	4
125°	4	2	1	0	0	3
135°	3	2	1	0	0	2
145°	3	2	1	0	0	2
155°	3	2	1	0	0	1
165°	2	2	1	0	0	1
175°	1	1	1	0	0	0
180°	1	1	1	1	1	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60°	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
62.5°	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1
65°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
70°	0.3	0.3	0.4	0.3	0.4	0.4	0.4	0.3	0.4	0.3	0.3
72.5°	0.6	0.7	0.6	0.7	0.8	0.8	0.7	0.8	0.6	0.7	0.8
75°	1.3	1.2	1.3	1.3	1.2	1.3	1.2	1.1	1.2	1.0	1.0
77.5°	2.6	2.4	2.5	2.5	2.4	2.3	2.3	2.1	1.9	1.8	1.6
80°	4.0	4.0	3.9	3.8	3.7	3.5	3.3	3.2	2.9	2.6	2.5
82.5°	5.5	5.3	5.3	5.3	5.2	5.0	4.7	4.4	4.1	3.9	3.3
85°	6.8	6.7	6.7	6.6	6.6	6.4	6.1	5.8	5.4	5.0	4.5
87.5°	7.4	7.4	7.4	7.4	7.3	7.1	6.9	6.7	6.4	5.8	5.0
90°	7.5	7.5	7.6	7.6	7.6	7.5	7.3	6.9	6.6	6.1	5.5
92.5°	7.4	7.4	7.4	7.4	7.4	7.4	7.3	7.1	6.7	6.2	5.6
95°	7.0	7.0	7.0	7.0	7.0	7.1	7.1	6.9	6.6	6.2	5.4
97.5°	6.3	6.4	6.5	6.4	6.3	6.4	6.3	6.3	6.0	5.7	5.1
100°	5.5	5.5	5.5	5.5	5.5	5.4	5.5	5.5	5.3	5.1	4.6
102.5°	4.7	4.6	4.7	4.7	4.6	4.6	4.6	4.4	4.4	4.2	3.8
105°	4.1	4.1	3.9	4.0	4.0	3.8	3.7	3.6	3.4	3.4	3.0
107.5°	3.8	3.7	3.5	3.4	3.3	3.3	3.0	2.8	2.7	2.5	2.3
110°	3.7	3.6	3.6	3.5	3.3	3.1	3.0	2.7	2.4	2.3	2.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	3.9	3.8	3.6	3.5	3.3	3.0	2.7	2.5	2.3	2.1	1.9
115°	3.7	3.7	3.6	3.6	3.2	3.0	2.8	2.5	2.3	2.0	2.0
117.5°	3.9	3.7	3.8	3.5	3.3	3.2	2.9	2.7	2.5	2.2	2.1
120°	3.7	3.8	3.7	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.1
122.5°	3.7	3.6	3.5	3.4	3.3	3.2	3.0	2.8	2.5	2.4	2.1
125°	3.5	3.4	3.4	3.3	3.1	3.0	2.7	2.6	2.5	2.1	2.1
127.5°	3.5	3.4	3.4	3.4	3.1	3.0	3.0	2.7	2.5	2.5	2.2
130°	3.4	3.4	3.4	3.3	3.2	3.2	2.8	2.6	2.5	2.3	2.2
132.5°	3.2	3.2	3.2	3.1	3.0	3.0	2.6	2.5	2.5	2.2	2.1
135°	3.2	3.3	3.2	3.1	3.0	2.9	2.7	2.6	2.4	2.3	2.1
137.5°	3.0	3.0	3.0	2.9	2.8	2.8	2.6	2.4	2.3	2.2	2.0
140°	3.1	3.0	3.0	3.0	2.8	2.8	2.6	2.4	2.5	2.2	2.1
142.5°	2.9	2.8	2.9	2.9	2.9	2.8	2.6	2.5	2.2	2.0	2.0
145°	2.8	2.7	2.7	2.8	2.6	2.6	2.3	2.2	2.2	1.9	2.0
147.5°	2.8	2.8	2.7	2.8	2.6	2.5	2.4	2.2	2.2	2.0	1.8
150°	2.8	2.7	2.8	2.7	2.6	2.6	2.4	2.2	2.1	2.0	1.9
152.5°	2.7	2.6	2.6	2.5	2.4	2.4	2.3	2.1	2.0	2.0	1.8
155°	2.6	2.5	2.6	2.4	2.4	2.3	2.2	2.1	2.0	1.9	1.7
157.5°	2.4	2.6	2.6	2.5	2.4	2.2	2.2	2.1	2.0	1.9	1.8
160°	2.4	2.5	2.3	2.2	2.2	2.2	2.0	2.0	1.8	1.7	1.6
162.5°	2.2	2.2	2.1	2.1	2.1	2.1	2.0	2.0	1.8	1.6	1.6
165°	2.2	2.1	2.2	2.2	2.1	2.0	2.0	1.9	1.8	1.7	1.7
167.5°	1.9	2.0	1.9	1.8	1.8	1.8	1.8	1.6	1.7	1.6	1.5
170°	1.8	1.8	1.8	1.7	1.6	1.8	1.7	1.5	1.5	1.5	1.5
172.5°	1.7	1.6	1.6	1.6	1.7	1.6	1.5	1.5	1.4	1.4	1.4
175°	1.3	1.3	1.3	1.2	1.2	1.4	1.3	1.2	1.2	1.2	1.2
177.5°	1.3	1.2	1.3	1.2	1.3	1.4	1.2	1.2	1.3	1.3	1.2
180°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
62.5°	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	0.2	0.2	0.2	0.2	0.0	0.1	0.0	0.1	0.0	0.0	0.1
72.5°	0.6	0.6	0.3	0.2	0.2	0.0	0.1	0.0	0.1	0.1	0.0
75°	0.8	0.7	0.5	0.4	0.2	0.2	0.1	0.0	0.0	0.1	0.0
77.5°	1.4	1.2	1.0	0.8	0.4	0.3	0.2	0.1	0.1	0.1	0.0
80°	2.0	1.6	1.3	1.0	0.6	0.3	0.2	0.0	0.0	0.1	0.0
82.5°	2.8	2.4	1.9	1.3	0.8	0.5	0.3	0.0	0.0	0.0	0.0
85°	3.6	3.1	2.3	1.7	1.1	0.6	0.3	0.1	0.0	0.0	0.0
87.5°	4.2	3.4	2.4	1.7	0.9	0.5	0.2	0.0	0.0	0.1	0.0
90°	4.5	3.5	2.4	1.5	0.8	0.4	0.2	0.0	0.0	0.0	0.1
92.5°	4.6	3.5	2.3	1.5	0.8	0.5	0.2	0.2	0.1	0.1	0.1
95°	4.5	3.3	2.2	1.3	0.6	0.4	0.3	0.2	0.1	0.2	0.0
97.5°	4.1	3.0	1.9	1.1	0.5	0.2	0.2	0.2	0.2	0.1	0.0
100°	3.6	2.5	1.6	1.0	0.4	0.3	0.2	0.1	0.2	0.0	0.0
102.5°	3.0	2.1	1.3	0.8	0.3	0.3	0.3	0.4	0.0	0.1	0.1
105°	2.5	1.7	1.0	0.7	0.5	0.5	0.2	0.2	0.1	0.1	0.1
107.5°	2.0	1.4	0.8	0.7	0.6	0.6	0.4	0.3	0.2	0.1	0.0
110°	1.9	1.5	1.2	1.0	0.8	0.7	0.6	0.5	0.4	0.2	0.3



TEST NUMBER: P14018

CATALOG NUMBER: 650-1-6LED3012-12-NSS

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	1.7	1.4	1.3	1.1	0.9	0.8	0.7	0.6	0.4	0.3	0.2
115°	1.6	1.4	1.3	1.1	0.8	0.7	0.6	0.5	0.3	0.2	0.2
117.5°	1.7	1.6	1.4	1.3	1.1	0.9	0.7	0.6	0.5	0.3	0.4
120°	1.9	1.8	1.5	1.5	1.1	1.0	0.8	0.7	0.6	0.4	0.3
122.5°	2.0	1.8	1.5	1.3	1.1	0.9	0.9	0.7	0.6	0.4	0.4
125°	1.8	1.5	1.5	1.3	1.0	1.0	0.8	0.6	0.3	0.3	0.2
127.5°	2.0	1.9	1.6	1.4	1.1	1.2	0.8	0.7	0.6	0.6	0.3
130°	2.0	1.7	1.6	1.4	1.2	1.2	0.9	0.7	0.6	0.6	0.4
132.5°	1.8	1.7	1.5	1.3	1.1	1.0	0.8	0.8	0.5	0.5	0.3
135°	1.9	1.8	1.6	1.4	1.2	1.0	1.0	0.8	0.6	0.5	0.5
137.5°	1.8	1.7	1.5	1.3	1.1	0.9	0.8	0.6	0.4	0.4	0.3
140°	1.8	1.6	1.6	1.3	1.1	1.0	0.8	0.8	0.6	0.5	0.5
142.5°	1.9	1.7	1.5	1.4	1.1	1.0	0.9	0.8	0.5	0.6	0.3
145°	1.8	1.4	1.3	1.2	1.0	0.9	0.7	0.6	0.4	0.4	0.2
147.5°	1.7	1.5	1.4	1.3	1.2	0.9	0.8	0.7	0.5	0.4	0.3
150°	1.8	1.6	1.3	1.4	1.1	1.1	0.8	0.7	0.6	0.5	0.5
152.5°	1.7	1.5	1.4	1.4	1.2	1.1	0.8	0.8	0.6	0.6	0.5
155°	1.6	1.4	1.4	1.2	1.1	1.0	0.9	0.8	0.6	0.5	0.5
157.5°	1.6	1.5	1.4	1.4	1.2	1.0	0.9	0.8	0.7	0.7	0.5
160°	1.5	1.4	1.3	1.3	1.1	1.0	0.8	0.8	0.8	0.6	0.6
162.5°	1.4	1.4	1.3	1.1	1.0	1.0	0.8	0.8	0.7	0.7	0.7
165°	1.6	1.4	1.3	1.3	1.1	1.0	1.0	1.0	0.8	0.7	0.7
167.5°	1.3	1.3	1.2	1.2	1.1	1.0	1.0	0.9	0.8	0.7	0.8
170°	1.3	1.2	1.2	1.2	1.1	1.0	1.0	0.8	0.8	0.8	0.7
172.5°	1.3	1.3	1.2	1.2	1.1	1.0	1.0	1.0	0.9	0.8	0.8
175°	1.0	1.1	0.9	0.9	0.8	0.9	0.8	0.8	0.8	0.7	0.8
177.5°	1.1	1.2	1.0	1.1	1.1	1.1	1.0	1.0	1.0	0.9	1.0
180°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



TEST NUMBER: P14018

CATALOG NUMBER: 650-1-6LED3012-12-NSS

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60°	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0
62.5°	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
72.5°	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1
75°	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.2	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0
87.5°	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1
92.5°	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
95°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0
97.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
100°	0.1	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0
102.5°	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
105°	0.1	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.1	0.1	0.0
107.5°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0



TEST NUMBER: P14018

CATALOG NUMBER: 650-1-6LED3012-12-NSS

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0
115°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.2	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0
120°	0.2	0.2	0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.2	0.0
122.5°	0.3	0.2	0.1	0.2	0.1	0.1	0.0	0.0	0.1	0.0	0.1
125°	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.3	0.3	0.1	0.2	0.0	0.0	0.1	0.0	0.1	0.1	0.0
130°	0.3	0.2	0.3	0.2	0.2	0.1	0.2	0.1	0.0	0.1	0.0
132.5°	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.3	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.1	0.0
137.5°	0.2	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.2	0.3	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.1
142.5°	0.4	0.3	0.2	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
145°	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.3	0.2	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0
150°	0.4	0.4	0.2	0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.0
152.5°	0.4	0.3	0.2	0.1	0.2	0.0	0.0	0.0	0.1	0.1	0.1
155°	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.1	0.0
157.5°	0.6	0.4	0.3	0.3	0.3	0.3	0.2	0.1	0.2	0.2	0.1
160°	0.5	0.4	0.4	0.2	0.2	0.2	0.1	0.0	0.2	0.1	0.1
162.5°	0.6	0.5	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.0
165°	0.7	0.6	0.5	0.5	0.4	0.4	0.2	0.2	0.3	0.2	0.2
167.5°	0.6	0.6	0.6	0.5	0.4	0.4	0.4	0.2	0.3	0.2	0.3
170°	0.7	0.6	0.6	0.5	0.6	0.5	0.4	0.3	0.3	0.5	0.3
172.5°	0.9	0.7	0.7	0.6	0.7	0.6	0.5	0.4	0.6	0.5	0.5
175°	0.7	0.6	0.6	0.7	0.5	0.5	0.5	0.5	0.5	0.5	0.3
177.5°	1.0	1.0	0.9	0.9	1.0	0.8	0.8	0.8	0.8	0.8	0.8
180°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



TEST NUMBER: P14018

CATALOG NUMBER: 650-1-6LED3012-12-NSS

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	0.0	0.0	0.0	0.0
2.5°	0.0	0.0	0.0	0.0
5°	0.0	0.0	0.0	0.0
7.5°	0.0	0.0	0.0	0.0
10°	0.0	0.0	0.0	0.0
12.5°	0.0	0.0	0.0	0.0
15°	0.0	0.0	0.0	0.0
17.5°	0.0	0.0	0.0	0.0
20°	0.0	0.0	0.0	0.0
22.5°	0.0	0.0	0.0	0.0
25°	0.0	0.0	0.0	0.0
27.5°	0.0	0.0	0.0	0.0
30°	0.0	0.0	0.0	0.0
32.5°	0.0	0.0	0.0	0.0
35°	0.0	0.0	0.0	0.0
37.5°	0.0	0.0	0.0	0.0
40°	0.0	0.0	0.0	0.0
42.5°	0.0	0.0	0.0	0.0
45°	0.0	0.0	0.0	0.0
47.5°	0.0	0.0	0.0	0.0
50°	0.0	0.0	0.0	0.0
52.5°	0.0	0.0	0.0	0.0
55°	0.0	0.0	0.0	0.0
57.5°	0.0	0.0	0.0	0.0
60°	0.0	0.0	0.0	0.1
62.5°	0.1	0.0	0.0	0.0
65°	0.0	0.0	0.0	0.0
67.5°	0.0	0.0	0.0	0.0
70°	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.1	0.0
75°	0.0	0.0	0.0	0.1
77.5°	0.0	0.1	0.1	0.0
80°	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0
92.5°	0.1	0.1	0.1	0.0
95°	0.0	0.1	0.1	0.0
97.5°	0.0	0.0	0.0	0.1
100°	0.0	0.0	0.1	0.0
102.5°	0.1	0.0	0.0	0.0
105°	0.0	0.1	0.0	0.0
107.5°	0.0	0.0	0.0	0.0
110°	0.0	0.1	0.1	0.0



TEST NUMBER: P14018

CATALOG NUMBER: 650-1-6LED3012-12-NSS

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0
117.5°	0.1	0.0	0.0	0.1
120°	0.0	0.0	0.0	0.0
122.5°	0.1	0.1	0.1	0.1
125°	0.0	0.0	0.0	0.0
127.5°	0.1	0.1	0.1	0.1
130°	0.1	0.1	0.0	0.0
132.5°	0.0	0.0	0.0	0.0
135°	0.0	0.1	0.0	0.1
137.5°	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0
142.5°	0.1	0.0	0.0	0.1
145°	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0
150°	0.0	0.1	0.0	0.1
152.5°	0.0	0.0	0.0	0.2
155°	0.0	0.0	0.1	0.0
157.5°	0.0	0.0	0.1	0.0
160°	0.0	0.1	0.0	0.0
162.5°	0.1	0.2	0.0	0.0
165°	0.2	0.2	0.2	0.1
167.5°	0.2	0.3	0.3	0.2
170°	0.2	0.4	0.4	0.3
172.5°	0.4	0.4	0.5	0.5
175°	0.5	0.5	0.5	0.3
177.5°	0.8	0.7	0.8	0.7
180°	1.0	1.0	1.0	1.0

(END OF REPORT)