

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: INVUE

Report Number: P173513

Luminaire Tested: **ENT-EXX-LED-E1-BL4-ULG-CWB**

Issue Date: 03/03/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P173513  
REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (P20107) AND DOWNLIGHT  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 03/03/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: ENT-EXX-LED-E1-BL4-ULG-CWB  
Description: ENTRI LED LUMINAIRE WITH UPLIGHT, EMERGENCY MODE  
LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL  
Light Source: (42) 4000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1793.8 lumens  
Efficiency: N/A  
Efficacy: 326.1 lumens/watt  
Luminous Opening: Rectangular (W 0.33' x L: 1' x H: 0')  
IES Classification: Type III - Short - Semi-Cutoff  
BUG Rating: B1 - U3 - G0

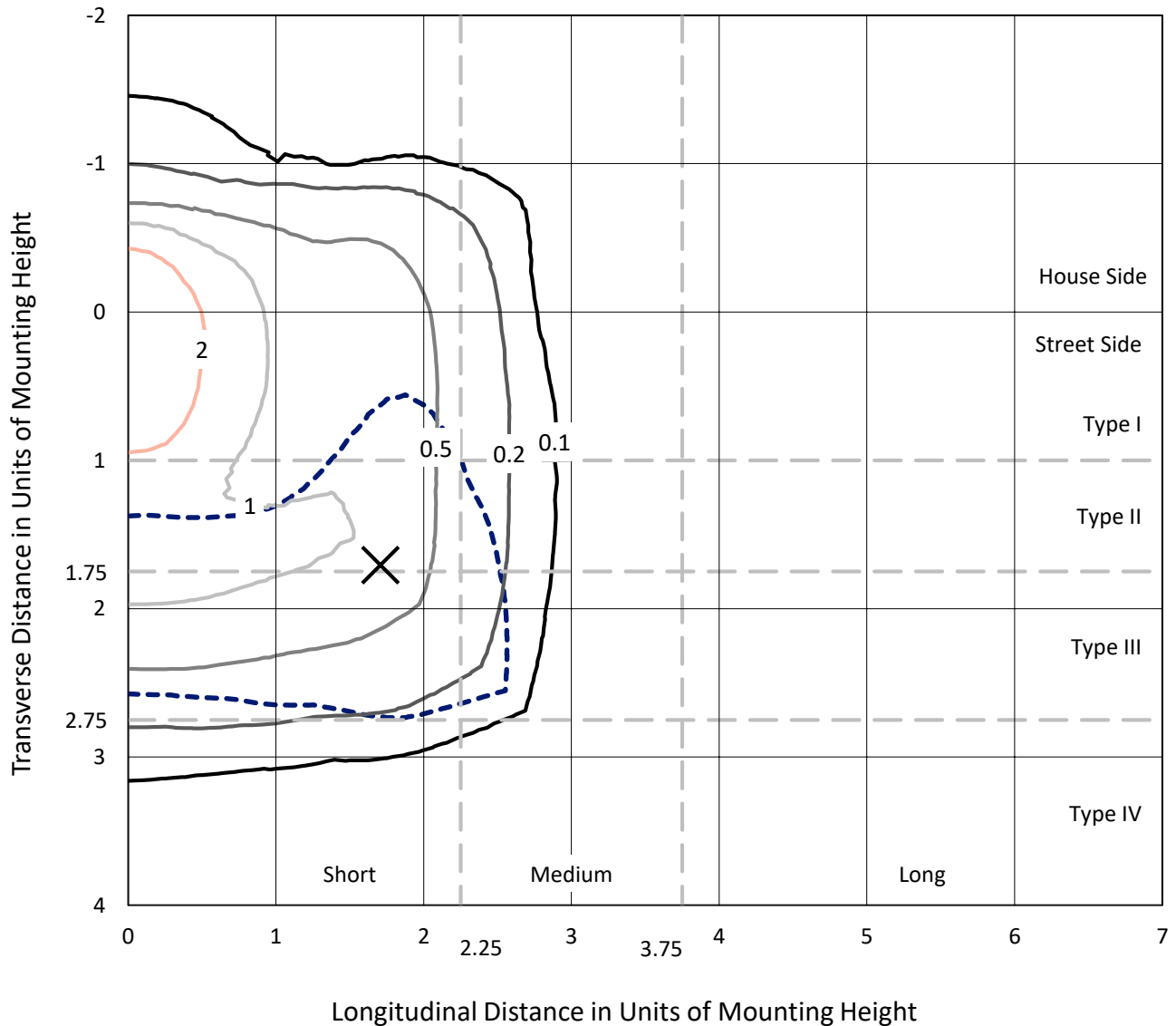
Input Watts (W): 5.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

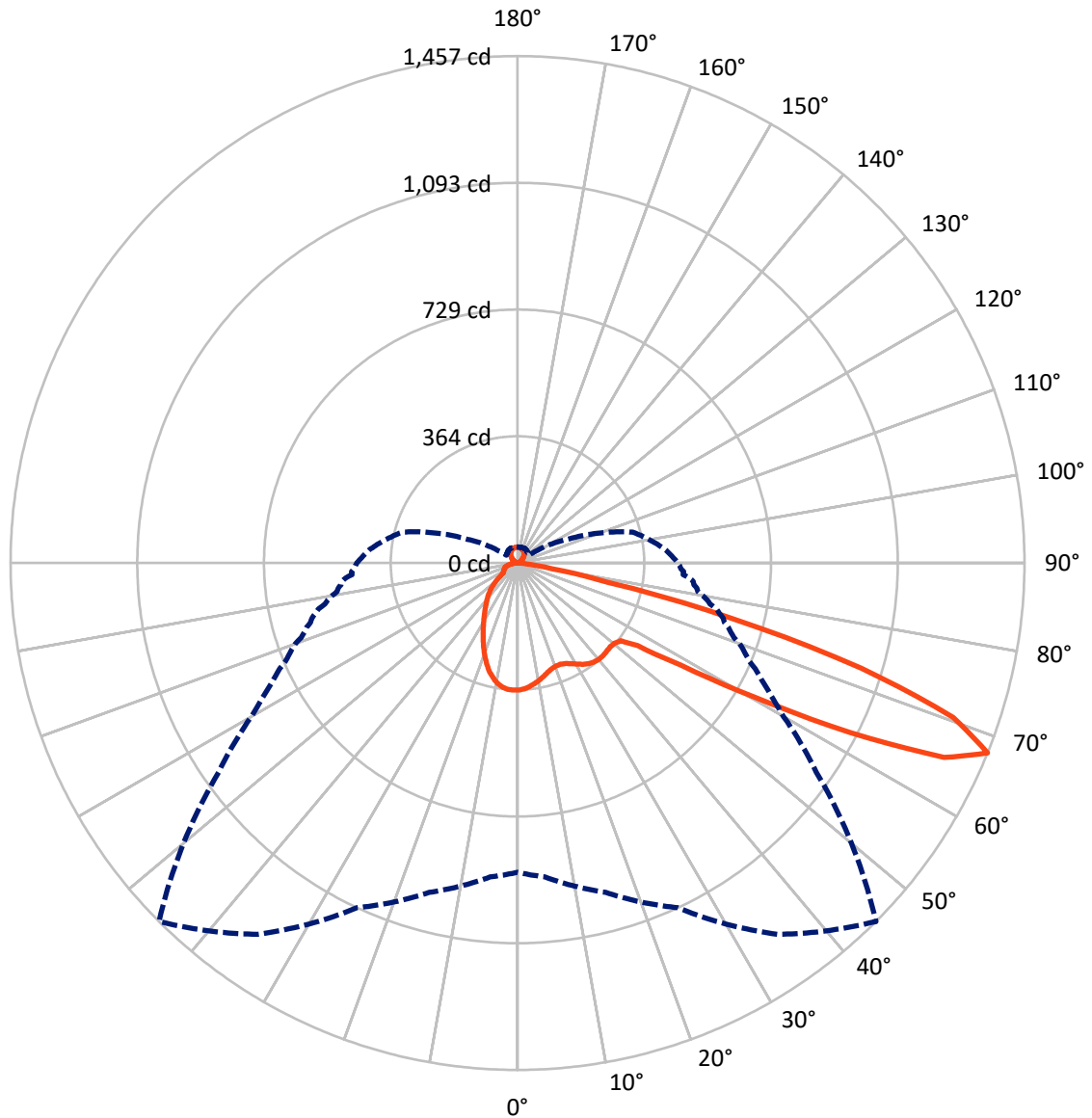
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 3.7 fc  
 Type III - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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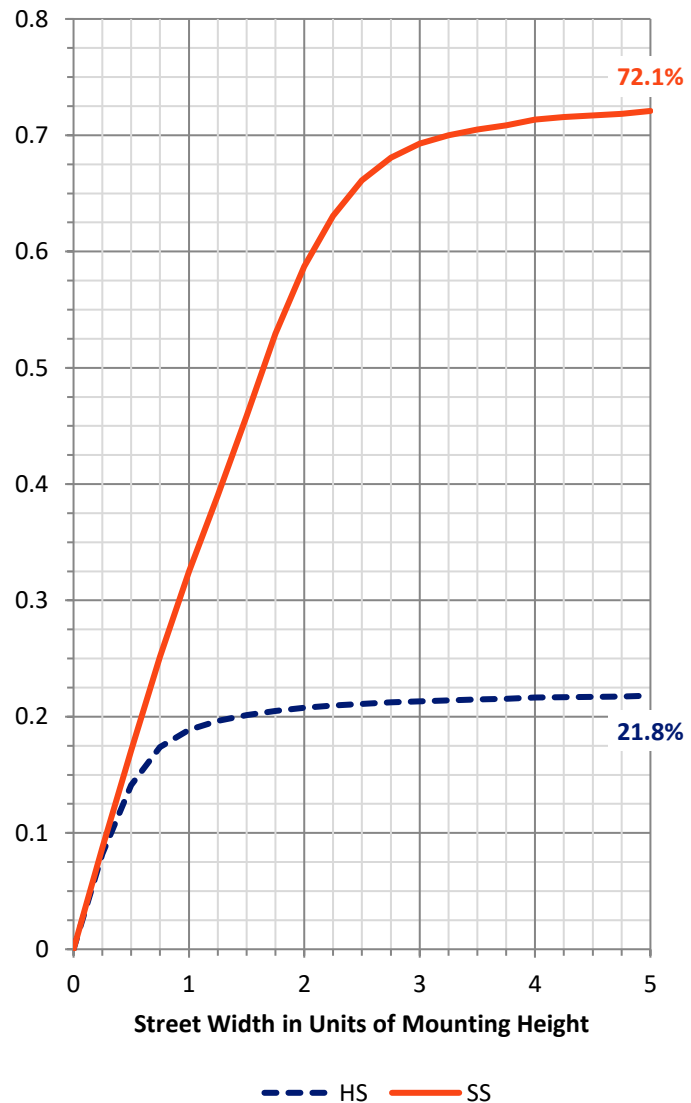
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	396.4	51.1	447.5
	% Fixture	22.1	2.8	24.9
<b>Street Side</b>	Lumens	1295.3	51.1	1346.3
	% Fixture	72.2	2.8	75.1
<b>Total</b>	Lumens	1691.7	102.1	1793.8
	% Fixture	94.3	5.7	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	33.9	1.9
10°-20°	91.4	5.1
20°-30°	131.7	7.3
30°-40°	168.1	9.4
40°-50°	198.4	11.1
50°-60°	318.2	17.7
60°-70°	535.5	29.9
70°-80°	199.2	11.1
80°-90°	15.1	0.8
90°-100°	0.4	0.0
100°-110°	4.0	0.2
110°-120°	8.2	0.5
120°-130°	13.9	0.8
130°-140°	19.4	1.1
140°-150°	21.2	1.2
150°-160°	18.4	1.0
160°-170°	12.4	0.7
170°-180°	4.3	0.2
0°-90°	1691.7	94.3
0°-180°	1793.8	100.0



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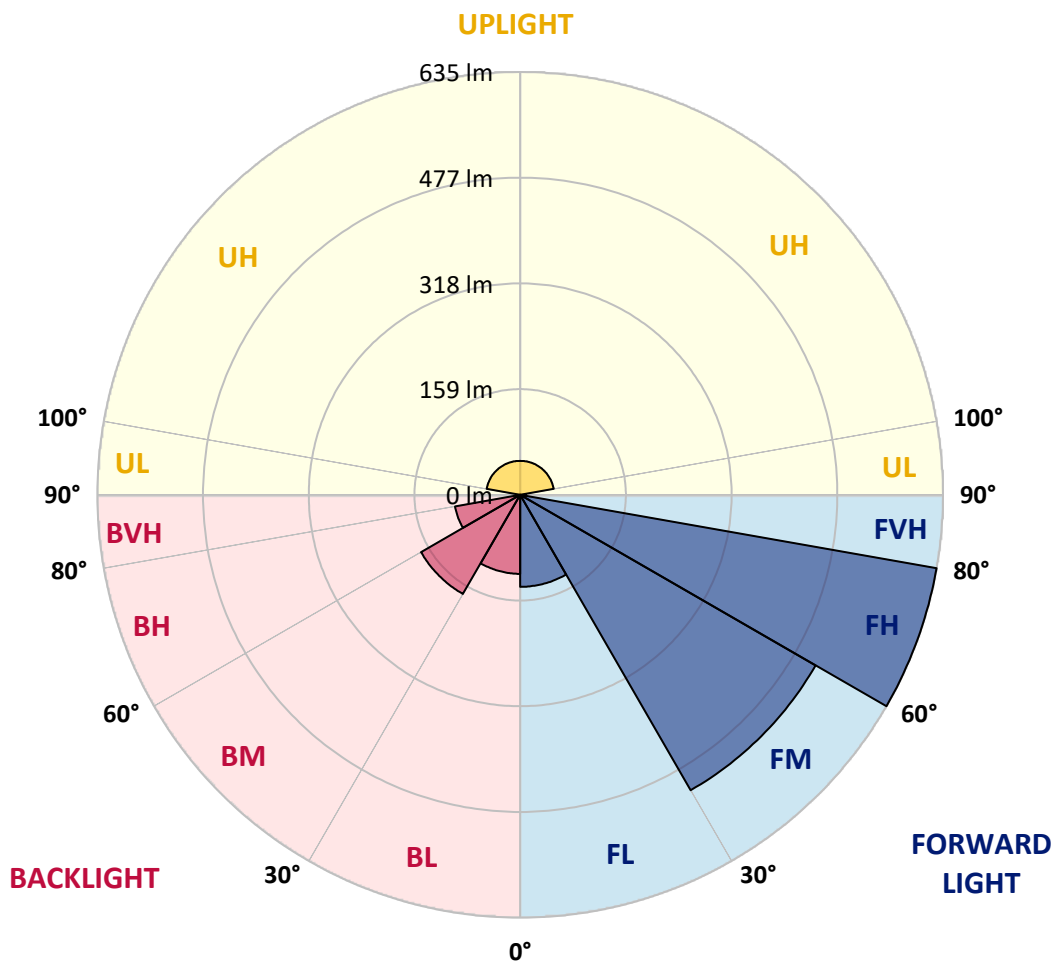
CATALOG NUMBER: ENT-EXX-LED-E1-BL4-ULG-CWB

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	138.3	7.7			
FM	(30°-60°)	512.6	28.6			
FH	(60°-80°)	635.4	35.4			G0/660
FVH	(80°-90°)	9.0	0.5			G0/10
BL	(0°-30°)	118.8	6.6	B1/500		
BM	(30°-60°)	172.1	9.6	B0/220		
BH	(60°-80°)	99.3	5.5	B0/110		G0/110
BVH	(80°-90°)	6.2	0.3			G0/10
UL	(90°-100°)	0.4	0.0		U1/10	
UH	(100°-180°)	51.1	2.8		U3/500	

**BUG Rating: B1-U3-G0**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	60°	61°	62°	64°
0°	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5
2.5°	360.3	360.3	361.0	361.0	362.0	362.6	362.0	363.3	363.3	362.9	363.6
5°	355.2	355.2	355.5	355.5	356.1	357.1	356.5	357.8	357.4	357.8	357.8
7.5°	349.0	349.0	349.7	349.3	349.7	350.3	348.7	349.7	349.7	350.0	349.7
10°	341.2	341.9	342.5	342.2	342.2	342.5	340.0	340.9	340.6	340.6	340.3
12.5°	334.1	333.5	334.1	334.8	334.4	334.4	331.9	331.2	331.2	331.2	331.5
15°	326.7	327.3	328.3	327.3	326.7	325.4	322.8	322.1	322.1	322.1	322.5
17.5°	325.1	325.1	325.7	324.7	322.1	319.6	314.4	313.4	313.4	313.1	313.1
20°	329.6	329.3	330.2	328.3	322.5	315.7	307.6	306.0	306.0	306.0	305.6
22.5°	339.0	339.0	340.6	338.3	328.9	316.0	304.0	301.4	301.1	300.8	300.1
25°	357.1	356.8	357.8	351.9	338.3	320.2	303.0	299.2	298.8	298.2	297.5
27.5°	378.2	378.8	380.7	372.0	351.9	327.6	307.3	300.8	300.1	299.2	297.9
30°	398.9	400.8	404.4	395.0	367.5	337.0	313.7	306.3	305.0	303.7	301.4
32.5°	425.1	424.5	430.3	416.0	381.1	347.1	320.5	311.5	309.8	307.9	305.0
35°	452.9	454.2	455.5	432.5	392.4	355.2	324.7	314.4	312.4	310.5	306.3
37.5°	480.8	481.1	478.2	445.8	399.2	360.0	327.0	315.0	312.4	309.5	304.7
40°	506.4	505.4	496.7	455.9	403.1	362.6	328.0	313.7	310.5	307.6	302.1
42.5°	520.9	520.0	509.0	460.4	403.4	362.3	328.0	312.4	308.9	305.3	299.2
45°	527.1	526.4	513.8	461.0	401.1	360.3	326.0	311.1	307.6	304.3	297.9
47.5°	527.7	527.7	514.8	460.1	399.2	359.1	326.0	312.8	309.8	307.3	302.4
50°	524.8	525.1	515.1	462.7	400.8	362.0	329.3	316.6	313.7	311.1	305.6
52.5°	559.1	555.9	533.6	474.3	411.5	371.4	340.3	328.9	328.0	326.4	322.1
55°	821.4	824.0	701.9	547.2	456.5	419.6	406.6	404.4	411.5	414.1	414.1
57.5°	1042.8	1034.4	988.4	798.4	597.0	552.7	557.8	563.3	573.7	578.2	581.5
60°	1096.9	1097.6	1096.3	1042.2	881.3	780.3	755.0	731.1	730.1	721.7	715.2
62.5°	1090.4	1095.6	1119.9	1132.2	1148.1	1073.9	919.8	853.4	840.5	824.6	802.0
65°	1043.5	1051.3	1090.1	1150.0	1286.6	1347.5	1030.9	912.0	892.0	872.9	834.7
67.5°	889.1	905.9	980.4	1093.3	1303.1	1457.3	1049.0	883.5	857.0	832.1	786.7
70°	548.8	557.5	672.5	882.3	1180.8	1328.7	952.5	749.8	716.2	684.4	622.6
72.5°	354.2	351.3	370.7	497.0	867.7	1032.5	655.0	498.6	471.1	445.8	406.0
75°	248.0	248.3	239.6	237.0	402.4	639.4	296.6	213.0	200.7	195.6	187.1
77.5°	161.6	163.5	161.2	167.4	161.2	265.8	136.3	100.0	95.2	91.9	86.8
80°	97.5	103.9	105.9	107.2	108.8	100.4	80.9	58.9	53.1	47.6	39.2
82.5°	17.2	16.8	23.3	31.4	41.1	46.9	34.0	21.4	20.1	19.4	17.8
85°	0.0	0.0	0.3	0.3	0.6	2.3	3.6	4.2	3.9	4.2	4.5
87.5°	0.0	0.0	0.0	0.3	0.3	0.6	0.6	0.6	0.6	0.6	0.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
97.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
100°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
102.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
105°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
107.5°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
110°	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8



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CATALOG NUMBER: ENT-EXX-LED-E1-BL4-ULG-CWB

**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	60°	61°	62°	64°
112.5°	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
115°	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
117.5°	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
120°	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3
122.5°	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
125°	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
127.5°	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9
130°	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4
132.5°	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8
135°	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2
137.5°	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6
140°	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9
142.5°	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
145°	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0
147.5°	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6
150°	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3
152.5°	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8
155°	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
157.5°	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1
160°	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2
162.5°	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2
165°	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0
167.5°	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4
170°	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5
172.5°	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9
175°	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5
177.5°	45.7	45.7	45.7	45.7	45.7	45.7	45.7	45.7	45.7	45.7	45.7
180°	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6





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**CANDELA DISTRIBUTION (continued):**

	65°	66°	67°	68°	69°	70°	71°	72°	73°	74°	75°
0°	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5
2.5°	363.6	363.3	362.9	362.9	363.6	363.6	363.3	363.3	363.6	363.3	363.9
5°	358.1	357.8	357.8	357.4	357.8	358.1	357.8	357.8	358.1	357.8	358.4
7.5°	349.3	349.7	349.3	349.3	349.7	350.0	349.7	349.7	349.7	349.7	349.3
10°	340.3	340.3	340.0	340.0	340.6	340.3	340.0	340.0	340.3	340.6	340.0
12.5°	331.2	331.9	331.9	330.6	330.9	331.2	331.2	330.9	330.9	331.9	330.9
15°	322.1	322.5	322.1	322.5	321.8	321.5	321.8	321.8	321.2	320.8	320.8
17.5°	313.1	312.8	312.8	312.1	311.8	311.8	311.5	311.8	311.1	311.5	310.5
20°	305.0	304.7	304.3	304.3	303.4	303.4	303.4	303.0	302.4	302.4	302.1
22.5°	300.1	299.8	299.5	298.8	298.5	298.2	298.2	297.9	297.2	296.9	296.6
25°	297.5	297.2	296.6	295.9	295.6	295.3	295.3	294.9	294.3	293.7	293.3
27.5°	297.9	297.2	296.6	295.9	295.6	294.9	294.6	294.3	293.7	293.0	292.4
30°	300.8	299.5	298.2	297.2	296.2	295.3	294.6	294.3	293.3	292.4	291.4
32.5°	303.7	302.1	300.1	298.2	296.6	294.9	294.0	293.0	291.7	290.1	289.1
35°	304.7	302.7	299.8	298.2	295.9	294.0	292.4	291.1	288.8	286.9	285.2
37.5°	302.4	300.1	297.2	294.9	292.7	290.1	288.1	286.2	284.6	282.3	280.7
40°	298.8	296.2	293.3	290.1	287.8	285.2	283.3	281.7	279.4	277.5	276.2
42.5°	295.9	293.0	289.8	287.2	284.6	282.0	279.7	278.1	275.8	273.6	272.0
45°	294.9	292.0	289.4	286.2	283.6	281.7	279.7	277.5	275.5	273.6	271.6
47.5°	300.1	297.5	294.9	292.4	290.1	287.8	285.9	283.6	281.3	278.8	276.8
50°	303.0	300.1	297.9	294.9	292.4	290.1	288.1	285.9	284.3	281.7	279.7
52.5°	324.1	320.2	320.8	318.3	318.3	315.7	317.6	314.7	316.3	314.4	317.3
55°	413.1	414.4	422.5	423.8	427.0	426.7	428.7	437.1	433.8	429.6	430.9
57.5°	572.7	575.6	579.9	576.0	578.9	579.5	585.0	582.8	580.8	579.5	575.3
60°	711.3	707.4	701.3	693.8	690.9	687.7	682.2	682.2	675.0	672.8	667.3
62.5°	792.6	781.2	773.5	761.5	753.1	747.2	737.5	730.1	720.4	712.9	704.2
65°	819.1	800.0	786.4	771.5	758.3	745.6	731.7	721.0	709.0	700.9	687.0
67.5°	767.6	748.2	725.2	709.4	695.4	679.6	657.9	644.6	634.3	618.7	611.9
70°	597.7	577.3	548.5	540.7	519.3	494.7	472.7	459.4	444.2	433.5	422.2
72.5°	379.1	356.1	343.5	334.1	320.2	299.8	280.7	272.9	259.7	256.7	249.3
75°	178.1	162.5	159.3	157.0	141.8	138.9	133.1	130.5	124.3	121.1	119.8
77.5°	79.6	76.1	70.3	68.6	63.8	58.9	53.1	50.5	47.3	45.3	42.7
80°	36.3	32.7	30.4	28.8	28.2	26.5	25.3	24.3	23.3	23.3	21.7
82.5°	17.5	16.8	16.2	16.2	15.2	15.2	14.2	13.9	13.6	13.3	13.3
85°	4.9	4.9	4.9	5.2	5.2	5.2	5.2	5.2	5.2	5.5	5.5
87.5°	0.6	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
97.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
100°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
102.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
105°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
107.5°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
110°	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8



REPORT NUMBER: P173513

CATALOG NUMBER: ENT-EXX-LED-E1-BL4-ULG-CWB

**CANDELA DISTRIBUTION (continued):**

	65°	66°	67°	68°	69°	70°	71°	72°	73°	74°	75°
112.5°	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
115°	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
117.5°	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
120°	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3
122.5°	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
125°	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
127.5°	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9
130°	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4
132.5°	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8
135°	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2
137.5°	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6
140°	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9
142.5°	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
145°	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0
147.5°	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6
150°	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3
152.5°	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8
155°	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
157.5°	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1
160°	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2
162.5°	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2
165°	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0
167.5°	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4
170°	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5
172.5°	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9
175°	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5
177.5°	45.7	45.7	45.7	45.7	45.7	45.7	45.7	45.7	45.7	45.7	45.7
180°	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6



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CATALOG NUMBER: ENT-EXX-LED-E1-BL4-ULG-CWB

**CANDELA DISTRIBUTION (continued):**

	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°	86°
0°	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5
2.5°	363.6	363.6	363.6	364.2	363.9	364.9	364.9	364.9	365.5	365.9	365.5
5°	358.4	358.4	358.4	358.7	358.7	359.4	359.4	360.0	360.0	360.3	360.3
7.5°	350.0	350.3	350.3	351.0	350.6	351.0	351.0	351.9	351.9	352.3	352.3
10°	340.3	340.6	340.6	340.6	340.9	341.2	341.2	341.9	342.2	342.2	342.9
12.5°	331.2	330.9	331.2	330.9	331.9	331.9	332.2	331.9	332.2	332.5	332.8
15°	321.2	321.2	320.8	321.2	321.2	320.8	320.5	320.8	321.5	321.5	321.5
17.5°	311.1	310.2	310.2	310.2	309.8	309.2	309.8	309.5	309.5	309.8	309.5
20°	301.7	301.4	301.1	300.8	300.5	299.5	299.5	299.5	299.2	299.2	299.2
22.5°	295.9	295.6	295.3	294.9	293.7	293.0	292.7	292.4	291.7	291.4	291.1
25°	292.7	292.0	291.4	290.7	289.8	288.8	287.8	287.5	286.9	286.2	285.2
27.5°	291.7	291.1	289.8	289.1	287.8	286.9	285.9	284.9	283.9	283.0	282.0
30°	290.1	289.1	287.8	286.9	285.9	284.3	283.0	282.0	280.4	279.4	278.1
32.5°	287.8	286.5	285.2	283.9	282.6	281.0	279.4	278.1	276.8	275.5	273.9
35°	283.9	282.3	280.4	279.1	277.5	275.8	274.6	272.3	271.3	269.7	268.1
37.5°	278.8	277.1	275.5	273.9	272.0	270.7	268.7	266.8	265.8	264.8	262.6
40°	274.2	272.3	270.7	269.4	267.1	266.1	264.2	262.2	261.0	260.0	258.0
42.5°	270.0	268.1	266.5	264.5	262.9	261.6	260.0	258.0	256.7	256.1	254.5
45°	270.0	267.8	265.8	264.2	262.6	261.0	259.7	257.7	256.7	255.4	254.5
47.5°	274.6	272.0	269.7	267.4	265.2	263.5	261.6	259.7	258.0	257.1	255.8
50°	277.8	275.2	273.9	271.3	270.0	267.8	265.5	264.5	262.9	261.9	261.6
52.5°	317.3	315.7	316.0	309.5	308.2	311.5	306.3	310.8	309.5	305.6	305.6
55°	438.4	437.7	440.6	432.5	429.0	435.5	438.1	428.7	430.9	430.9	430.3
57.5°	579.5	575.3	571.1	572.1	566.9	570.8	565.9	560.1	562.4	560.4	553.6
60°	663.7	661.1	655.0	649.1	643.6	638.5	633.9	628.7	626.2	621.6	616.8
62.5°	697.7	690.9	683.5	675.7	667.0	658.5	653.4	646.6	639.4	634.9	629.7
65°	679.6	669.5	661.4	650.1	640.7	630.4	623.6	615.8	609.3	601.6	595.1
67.5°	598.6	587.0	565.6	555.3	541.3	525.1	520.6	511.2	507.7	496.0	476.9
70°	407.6	396.0	383.0	362.0	348.4	334.4	319.2	308.2	306.6	297.2	283.3
72.5°	239.6	231.5	223.1	211.1	201.1	195.6	184.9	173.9	173.5	162.9	157.3
75°	113.3	109.1	100.7	97.8	88.7	88.1	81.3	80.0	81.3	78.0	77.4
77.5°	38.5	37.6	35.6	33.0	31.1	30.4	28.8	27.8	27.2	26.5	25.9
80°	21.0	20.4	20.1	19.1	18.5	18.1	17.2	16.8	16.5	16.2	15.9
82.5°	12.6	13.0	12.3	11.7	11.7	11.0	10.7	10.4	10.0	10.0	10.0
85°	5.2	5.5	5.2	4.9	4.5	4.9	4.9	4.5	4.2	4.5	4.5
87.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
97.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
100°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
102.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
105°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
107.5°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
110°	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8



REPORT NUMBER: P173513  
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REPORT N  
 CATALOG

**CANDELA DISTRIBUTION (continued):**

**CANDELA**

	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°	86°	
112.5°	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	0°
115°	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	2.5°
117.5°	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	5°
120°	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	7.5°
122.5°	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	10°
125°	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	12.5°
127.5°	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	15°
130°	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	17.5°
132.5°	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	20°
135°	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	22.5°
137.5°	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	25°
140°	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	27.5°
142.5°	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	30°
145°	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	32.5°
147.5°	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35°
150°	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.5°
152.5°	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8	40°
155°	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	42.5°
157.5°	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	45°
160°	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	47.5°
162.5°	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	50°
165°	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	52.5°
167.5°	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	55°
170°	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	57.5°
172.5°	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	60°
175°	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	62.5°
177.5°	45.7	45.7	45.7	45.7	45.7	45.7	45.7	45.7	45.7	45.7	45.7	65°
180°	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	67.5°
												70°
												72.5°
												75°
												77.5°
												80°
												82.5°
												85°
												87.5°
												90°
												92.5°
												95°
												97.5°
												100°
												102.5°
												105°
												107.5°
												110°

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REPORT NUMBER: P  
 CATALOG NUMBER:

**DISTRIBUTION (continued):**

**CANDELA DISTRIBUTION**

87°	88°	89°	90°	95°	105°	115°	125°	135°	145°	155°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	
365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	6.9
364.9	364.6	364.6	364.2	363.9	364.6	365.2	366.2	365.5	366.2	366.5	115°	117.5°	120°	122.5°	125°	127.5°	130°	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	8.1	
359.7	359.7	359.7	360.0	359.7	360.7	362.0	363.9	364.2	365.5	366.5	117.5°	120°	122.5°	125°	127.5°	130°	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	9.6		
351.3	351.3	351.6	351.9	351.6	352.9	355.2	357.4	359.1	361.3	363.3	120°	122.5°	125°	127.5°	130°	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	11.3			
341.6	341.6	341.6	341.6	341.9	343.5	345.1	347.7	350.3	353.9	356.8	122.5°	125°	127.5°	130°	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	13.2				
332.8	331.9	332.2	332.8	332.2	332.2	333.8	335.7	337.4	341.9	347.1	125°	127.5°	130°	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	15.5					
321.2	321.2	320.5	320.8	319.2	318.9	319.6	320.8	322.1	326.0	331.5	127.5°	130°	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	17.9						
308.9	308.9	308.9	307.9	306.6	303.4	303.0	303.0	303.0	306.0	312.4	130°	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	20.4							
297.9	297.9	297.2	296.6	293.7	288.1	283.6	281.7	281.0	285.9	288.8	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	22.8								
290.1	289.8	288.5	287.8	283.3	274.6	267.4	261.9	260.3	261.9	262.9	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	25.2									
283.9	283.3	282.0	280.7	274.6	262.6	251.2	241.9	237.3	236.0	232.8	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	27.6										
280.4	279.4	277.5	276.2	268.1	252.9	238.0	225.7	217.2	211.1	205.3	140°	142.5°	145°	147.5°	150°	152.5°	155°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	29.9											
276.5	274.9	272.9	271.0	261.9	245.1	227.9	212.7	197.8	187.1	178.7	142.5°	145°	147.5°	150°	152.5°	155°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	32.1												
272.0	270.3	268.4	266.5	256.4	238.0	219.8	201.1	180.3	165.8	153.1	145°	147.5°	150°	152.5°	155°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	34.0													
266.5	264.8	262.9	260.6	250.6	232.1	214.3	189.7	164.8	146.0	129.5	147.5°	150°	152.5°	155°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	35.6														
261.0	259.3	257.4	255.1	245.1	229.2	211.1	179.0	150.5	127.6	105.9	150°	152.5°	155°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	37.3															
256.7	255.1	253.2	251.2	242.2	227.9	209.5	170.0	137.9	109.4	84.5	152.5°	155°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	38.8																
253.2	251.6	249.9	248.0	240.2	228.6	205.9	162.2	125.6	91.3	66.4	155°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	40.0																	
252.9	251.9	249.9	248.3	240.9	231.5	203.0	155.4	113.0	73.8	56.0	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	41.1																	
255.1	253.8	252.5	251.2	245.4	238.9	201.1	148.3	98.7	59.6	53.4	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	42.2																		
260.6	259.3	258.7	258.0	254.5	249.0	201.1	140.8	82.2	52.4	53.1	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	43.2																			
305.0	301.4	300.5	303.0	293.3	265.8	202.4	131.8	64.4	50.2	53.4	165°	167.5°	170°	172.5°	175°	177.5°	180°	44.0																				
429.0	432.5	423.5	418.9	402.1	307.6	203.3	118.2	52.4	49.9	52.8	167.5°	170°	172.5°	175°	177.5°	180°	44.4																					
554.3	554.3	551.0	543.9	523.2	378.8	207.9	96.5	47.9	49.2	52.1	170°	172.5°	175°	177.5°	180°	44.5																						
615.5	611.6	608.3	604.1	572.7	428.3	214.7	71.2	46.0	48.9	51.5	172.5°	175°	177.5°	180°	44.9																							
626.5	620.3	616.1	610.6	568.9	430.9	217.6	53.4	44.0	48.9	49.9	175°	177.5°	180°	45.5																								
590.2	583.7	578.2	569.2	518.3	390.1	203.0	43.7	42.7	47.6	48.2	177.5°	180°	45.7																									
478.2	470.4	466.2	461.7	428.0	342.5	164.1	39.2	41.1	45.3	46.6	180°	45.6																										
273.6	265.2	260.3	261.3	240.9	271.0	131.1	35.9	38.9	42.7	44.7	45.6																											
147.3	138.2	135.3	125.9	107.5	136.6	101.0	33.0	35.9	38.9	40.8	41.1																											
72.8	69.6	70.6	66.0	56.0	42.1	65.1	29.5	32.1	35.0	36.3	36.6																											
25.3	24.6	24.3	24.0	23.3	22.3	29.8	25.3	27.5	29.8	31.1	31.4																											
15.5	15.2	15.5	15.2	14.9	17.2	19.1	20.1	22.0	24.9	25.3	25.6																											
9.4	9.4	9.4	9.4	9.4	12.0	13.6	15.5	17.2	19.1	20.7	21.0																											
4.5	4.5	4.5	4.5	4.9	8.1	9.1	11.3	12.0	13.6	14.9	15.2																											
1.0	1.0	1.0	1.0	1.3	4.2	5.5	6.8	7.1	7.1	8.1	8.4																											
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																											
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																											
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2																											
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5																											
1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6																											
2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8																											
3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8																											
4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8																											
5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8																											

'173513  
 ENT-EXX-LED-E1-BL4-ULG-CWB

REPORT NUMBER: P173513  
 CATALOG NUMBER: ENT-EXX-I

**TION (continued):**

**CANDELA DISTRIBUTION (con**

88°	89°	90°	95°	105°	115°	125°	135°	145°	155°		165°	175°
6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	0°	365.5	365.5
8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	2.5°	366.2	365.5
9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	5°	367.1	366.5
11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	7.5°	364.6	364.9
13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	10°	359.1	360.0
15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	12.5°	350.3	352.3
17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	15°	335.7	338.7
20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	17.5°	316.3	319.9
22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	20°	292.0	293.7
25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	22.5°	262.2	262.9
27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	25°	230.8	230.8
29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	27.5°	201.7	200.1
32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	30°	173.9	169.7
34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	32.5°	144.4	137.3
35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35°	114.6	108.8
37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.5°	89.0	82.6
38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8	40°	68.3	63.5
40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	42.5°	57.6	56.7
41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	45°	55.0	56.3
42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	47.5°	55.4	57.0
43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	50°	55.7	57.3
44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	52.5°	55.7	56.7
44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	55°	55.0	55.0
44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	57.5°	53.7	53.4
44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	60°	52.8	52.8
45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	62.5°	51.2	51.2
45.7	45.7	45.7	45.7	45.7	45.7	45.7	45.7	45.7	45.7	65°	48.6	48.9
45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	67.5°	46.0	46.0
										70°	42.7	42.7
										72.5°	39.5	40.8
										75°	37.2	39.5
										77.5°	32.7	35.0
										80°	26.9	27.2
										82.5°	21.4	20.7
										85°	15.2	14.2
										87.5°	8.1	7.8
										90°	0.0	0.0
										92.5°	0.0	0.0
										95°	0.2	0.2
										97.5°	0.5	0.5
										100°	1.6	1.6
										102.5°	2.8	2.8
										105°	3.8	3.8
										107.5°	4.8	4.8
										110°	5.8	5.8

LED-E1-BL4-ULG-CWB

REPORT NUMBER: P173513

CATALOG NUMBER: ENT-EXX-LED-E1-BL4

**tinued):**

180°
365.5
365.2
366.2
364.6
360.3
353.5
338.0
319.9
292.7
261.9
229.5
199.1
168.4
137.3
107.2
80.6
63.1
57.0
56.3
57.3
57.6
56.7
55.0
54.1
52.8
51.2
48.9
46.0
43.4
41.4
40.5
36.3
27.2
19.7
14.2
8.1
0.0
0.0
0.2
0.5
1.6
2.8
3.8
4.8
5.8

**CANDELA DISTRIBUTION (continued):**

	165°	175°	180°
112.5°	6.9	6.9	6.9
115°	8.1	8.1	8.1
117.5°	9.6	9.6	9.6
120°	11.3	11.3	11.3
122.5°	13.2	13.2	13.2
125°	15.5	15.5	15.5
127.5°	17.9	17.9	17.9
130°	20.4	20.4	20.4
132.5°	22.8	22.8	22.8
135°	25.2	25.2	25.2
137.5°	27.6	27.6	27.6
140°	29.9	29.9	29.9
142.5°	32.1	32.1	32.1
145°	34.0	34.0	34.0
147.5°	35.6	35.6	35.6
150°	37.3	37.3	37.3
152.5°	38.8	38.8	38.8
155°	40.0	40.0	40.0
157.5°	41.1	41.1	41.1
160°	42.2	42.2	42.2
162.5°	43.2	43.2	43.2
165°	44.0	44.0	44.0
167.5°	44.4	44.4	44.4
170°	44.5	44.5	44.5
172.5°	44.9	44.9	44.9
175°	45.5	45.5	45.5
177.5°	45.7	45.7	45.7
180°	45.6	45.6	45.6

(END OF F

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report

