

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: P173508

Luminaire Tested: **ENT-EXX-LED-E1-BL4-8030-ULG-BBB**

Issue Date: 03/03/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P173508  
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-BL4-8030-ULG-BBB  
Description: ENTRI LED LUMINAIRE WITH UPLIGHT, EMERGENCY MODE  
LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL  
Light Source: (42) 3000K CCT, 80 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1529.9 lumens  
Efficiency: N/A  
Efficacy: 278.2 lumens/watt  
Luminous Opening: Rectangular (W 0.33' x L: 1' x H: 0')  
IES Classification: Type III - Short - Semi-Cutoff  
BUG Rating: B0 - 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

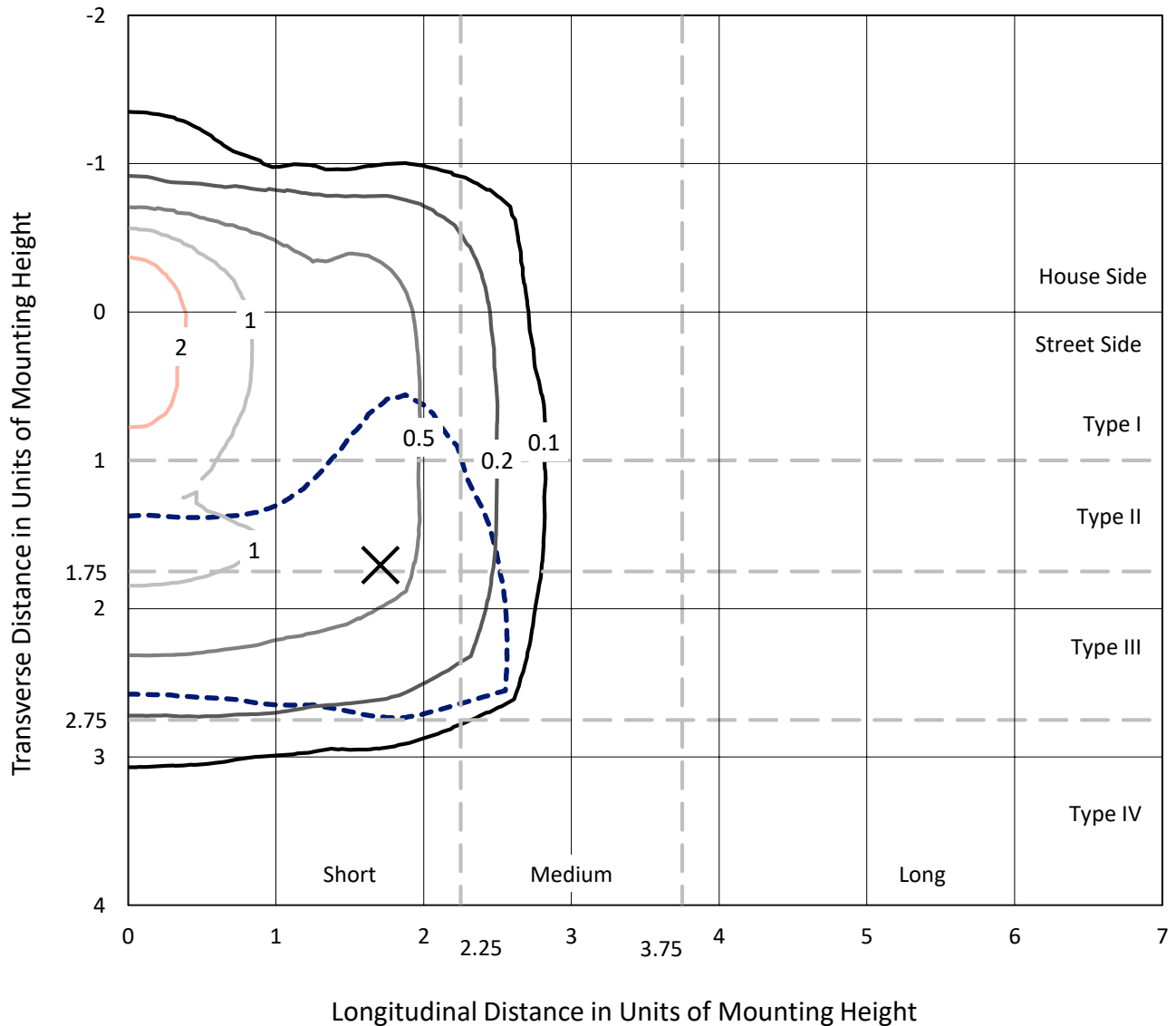


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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

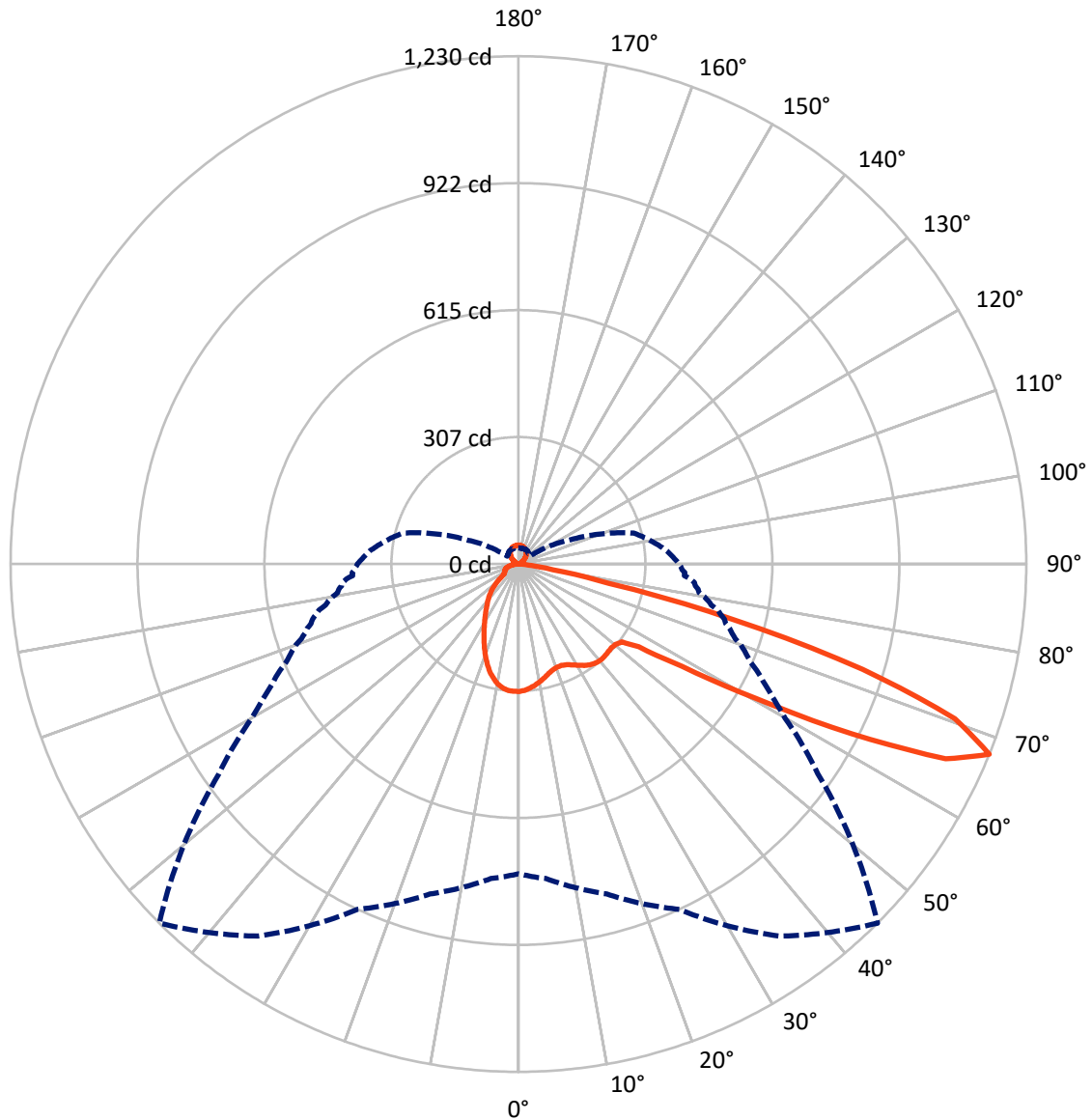


Based on 10 foot mounting height. Maximum calculated value = 3.1 fc  
 Type III - Short - Semi-Cutoff

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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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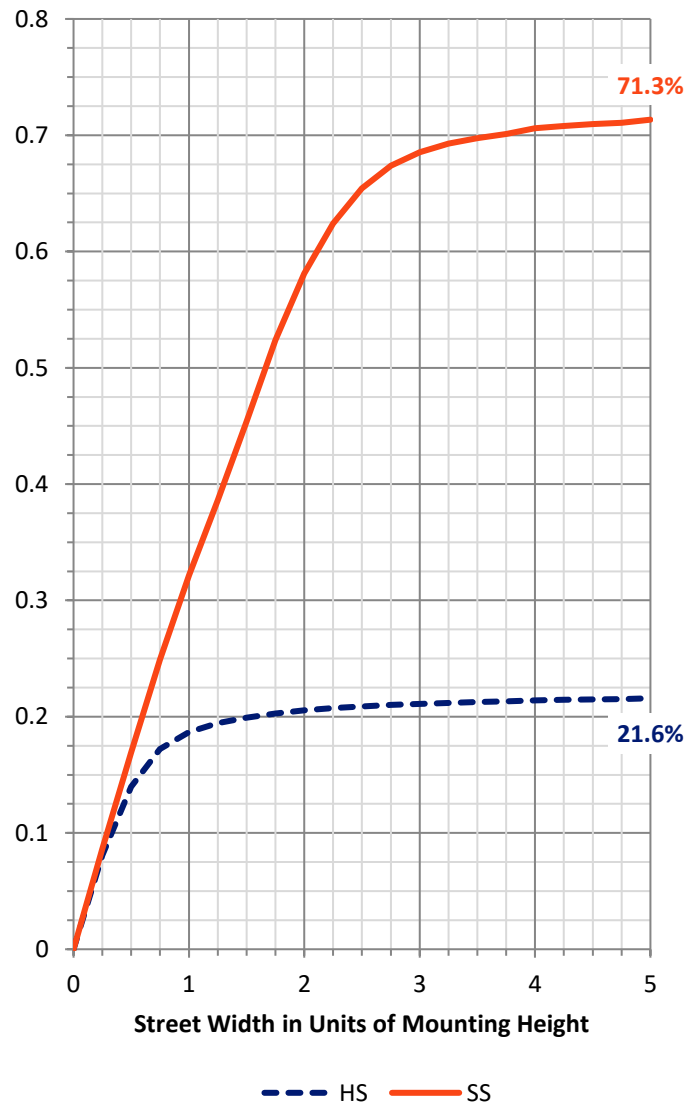
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	334.6	51.1	385.6
	% Fixture	21.9	3.3	25.2
<b>Street Side</b>	Lumens	1093.2	51.1	1144.3
	% Fixture	71.5	3.3	74.8
<b>Total</b>	Lumens	1427.8	102.1	1529.9
	% Fixture	93.3	6.7	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	28.7	1.9
10°-20°	77.1	5.0
20°-30°	111.2	7.3
30°-40°	141.9	9.3
40°-50°	167.5	10.9
50°-60°	268.6	17.6
60°-70°	452.0	29.5
70°-80°	168.1	11.0
80°-90°	12.8	0.8
90°-100°	0.4	0.0
100°-110°	4.0	0.3
110°-120°	8.2	0.5
120°-130°	13.9	0.9
130°-140°	19.4	1.3
140°-150°	21.2	1.4
150°-160°	18.4	1.2
160°-170°	12.4	0.8
170°-180°	4.3	0.3
0°-90°	1427.8	93.3
0°-180°	1529.9	100.0



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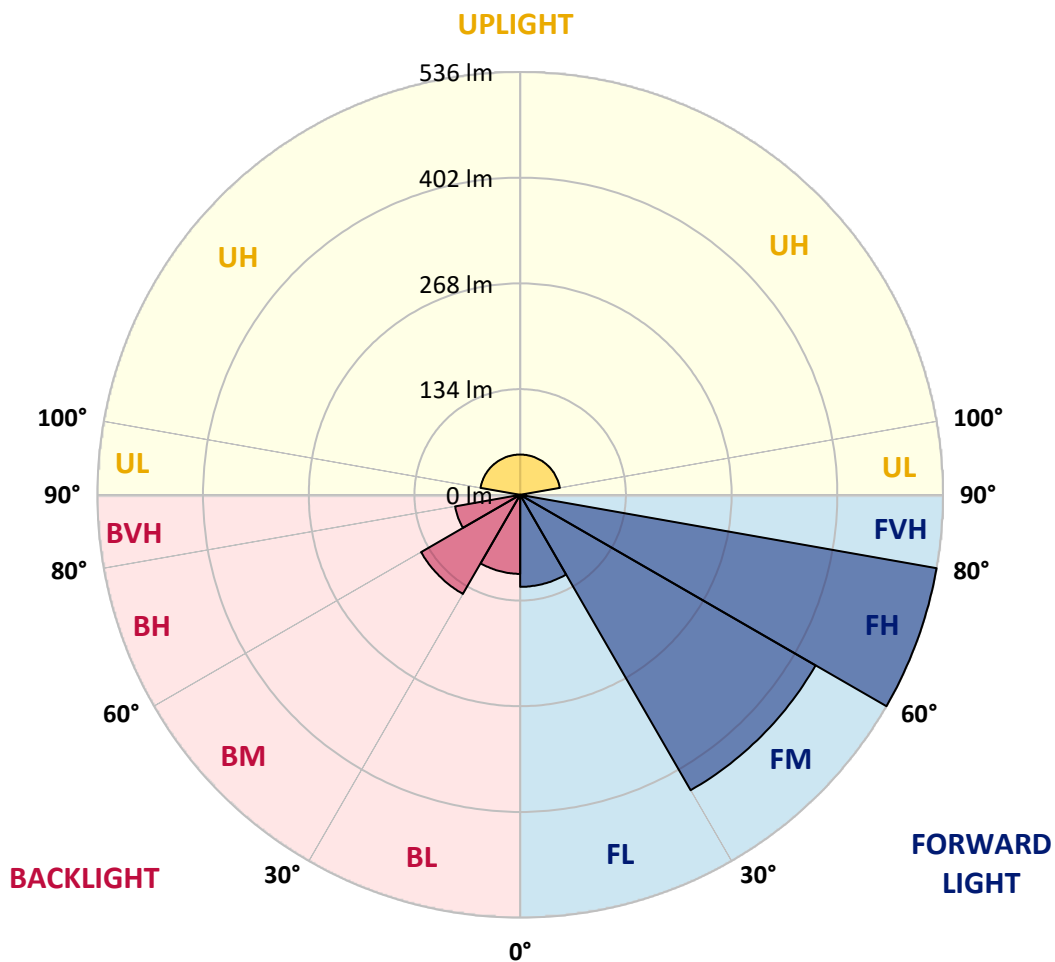
CATALOG NUMBER: ENT-EXX-LED-E1-BL4-8030-ULG-BBB

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	116.7	7.6			
FM (30°-60°)	432.7	28.3			
FH (60°-80°)	536.2	35.1			G0/660
FVH (80°-90°)	7.6	0.5			G0/10
BL (0°-30°)	100.3	6.6	B0/110		
BM (30°-60°)	145.2	9.5	B0/220		
BH (60°-80°)	83.8	5.5	B0/110		G0/110
BVH (80°-90°)	5.2	0.3			G0/10
UL (90°-100°)	0.4	0.0		U1/10	
UH (100°-180°)	51.1	3.3		U3/500	

**BUG Rating: B0-U3-G0**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	60°	61°	62°	64°
0°	308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5
2.5°	304.1	304.1	304.7	304.7	305.5	306.1	305.5	306.6	306.6	306.3	306.9
5°	299.8	299.8	300.0	300.0	300.6	301.4	300.8	301.9	301.7	301.9	301.9
7.5°	294.6	294.6	295.1	294.9	295.1	295.7	294.3	295.1	295.1	295.4	295.1
10°	288.0	288.6	289.1	288.8	288.8	289.1	286.9	287.7	287.5	287.5	287.2
12.5°	282.0	281.4	282.0	282.5	282.3	282.3	280.1	279.5	279.5	279.5	279.8
15°	275.7	276.3	277.1	276.3	275.7	274.6	272.4	271.9	271.9	271.9	272.2
17.5°	274.4	274.4	274.9	274.1	271.9	269.7	265.3	264.5	264.5	264.2	264.2
20°	278.2	277.9	278.7	277.1	272.2	266.4	259.6	258.2	258.2	258.2	257.9
22.5°	286.1	286.1	287.5	285.6	277.6	266.7	256.6	254.4	254.1	253.9	253.3
25°	301.4	301.1	301.9	297.0	285.6	270.2	255.8	252.5	252.2	251.7	251.1
27.5°	319.2	319.7	321.3	314.0	297.0	276.5	259.3	253.9	253.3	252.5	251.4
30°	336.6	338.3	341.3	333.4	310.1	284.5	264.8	258.5	257.4	256.3	254.4
32.5°	358.8	358.2	363.2	351.1	321.6	292.9	270.5	262.9	261.5	259.9	257.4
35°	382.3	383.4	384.5	365.1	331.2	299.8	274.1	265.3	263.7	262.1	258.5
37.5°	405.8	406.1	403.6	376.3	336.9	303.9	276.0	265.9	263.7	261.2	257.1
40°	427.4	426.6	419.2	384.7	340.2	306.1	276.8	264.8	262.1	259.6	254.9
42.5°	439.7	438.8	429.6	388.6	340.5	305.8	276.8	263.7	260.7	257.7	252.5
45°	444.8	444.3	433.6	389.1	338.6	304.1	275.2	262.6	259.6	256.9	251.4
47.5°	445.4	445.4	434.5	388.3	336.9	303.0	275.2	264.0	261.5	259.3	255.2
50°	442.9	443.2	434.7	390.5	338.3	305.5	277.9	267.2	264.8	262.6	257.9
52.5°	471.9	469.2	450.3	400.3	347.3	313.4	287.2	277.6	276.8	275.4	271.9
55°	693.2	695.4	592.4	461.8	385.3	354.1	343.2	341.3	347.3	349.5	349.5
57.5°	880.1	873.1	834.2	673.8	503.9	466.4	470.8	475.4	484.2	488.0	490.8
60°	925.8	926.3	925.2	879.6	743.8	658.5	637.2	617.0	616.2	609.1	603.6
62.5°	920.3	924.7	945.2	955.6	969.0	906.4	776.3	720.3	709.4	696.0	676.9
65°	880.7	887.2	920.0	970.6	1085.9	1137.3	870.0	769.7	752.8	736.7	704.4
67.5°	750.4	764.6	827.4	922.8	1099.9	1229.9	885.3	745.7	723.3	702.3	664.0
70°	463.2	470.6	567.6	744.6	996.5	1121.4	803.9	632.9	604.4	577.7	525.5
72.5°	298.9	296.5	312.9	419.4	732.3	871.4	552.8	420.8	397.6	376.3	342.7
75°	209.3	209.6	202.2	200.0	339.7	539.7	250.3	179.8	169.4	165.1	157.9
77.5°	136.4	138.0	136.1	141.3	136.1	224.3	115.0	84.4	80.3	77.6	73.2
80°	82.2	87.7	89.4	90.5	91.8	84.7	68.3	49.7	44.8	40.2	33.1
82.5°	14.5	14.2	19.7	26.5	34.7	39.6	28.7	18.0	16.9	16.4	15.0
85°	0.0	0.0	0.3	0.3	0.6	1.9	3.0	3.6	3.3	3.6	3.8
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-BL4-8030-ULG-BBB

**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°	308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5
2.5°	306.9	306.6	306.3	306.3	306.9	306.9	306.6	306.6	306.9	306.6	307.1
5°	302.2	301.9	301.9	301.7	301.9	302.2	301.9	301.9	302.2	301.9	302.5
7.5°	294.9	295.1	294.9	294.9	295.1	295.4	295.1	295.1	295.1	295.1	294.9
10°	287.2	287.2	286.9	286.9	287.5	287.2	286.9	286.9	287.2	287.5	286.9
12.5°	279.5	280.1	280.1	279.0	279.3	279.5	279.5	279.3	279.3	280.1	279.3
15°	271.9	272.2	271.9	272.2	271.6	271.3	271.6	271.6	271.1	270.8	270.8
17.5°	264.2	264.0	264.0	263.4	263.2	263.2	262.9	263.2	262.6	262.9	262.1
20°	257.4	257.1	256.9	256.9	256.0	256.0	256.0	255.8	255.2	255.2	254.9
22.5°	253.3	253.0	252.8	252.2	252.0	251.7	251.7	251.4	250.9	250.6	250.3
25°	251.1	250.9	250.3	249.8	249.5	249.2	249.2	248.9	248.4	247.8	247.6
27.5°	251.4	250.9	250.3	249.8	249.5	248.9	248.6	248.4	247.8	247.3	246.7
30°	253.9	252.8	251.7	250.9	250.0	249.2	248.6	248.4	247.6	246.7	245.9
32.5°	256.3	254.9	253.3	251.7	250.3	248.9	248.1	247.3	246.2	244.8	244.0
35°	257.1	255.5	253.0	251.7	249.8	248.1	246.7	245.6	243.7	242.1	240.7
37.5°	255.2	253.3	250.9	248.9	247.0	244.8	243.2	241.6	240.2	238.3	236.9
40°	252.2	250.0	247.6	244.8	242.9	240.7	239.1	237.7	235.8	234.2	233.1
42.5°	249.8	247.3	244.6	242.4	240.2	238.0	236.1	234.7	232.8	230.9	229.5
45°	248.9	246.5	244.3	241.6	239.4	237.7	236.1	234.2	232.5	230.9	229.3
47.5°	253.3	251.1	248.9	246.7	244.8	242.9	241.3	239.4	237.4	235.3	233.6
50°	255.8	253.3	251.4	248.9	246.7	244.8	243.2	241.3	239.9	237.7	236.1
52.5°	273.5	270.2	270.8	268.6	268.6	266.4	268.1	265.6	267.0	265.3	267.8
55°	348.7	349.8	356.6	357.7	360.4	360.2	361.8	368.9	366.1	362.6	363.7
57.5°	483.4	485.8	489.4	486.1	488.6	489.1	493.8	491.9	490.2	489.1	485.6
60°	600.3	597.0	591.9	585.6	583.1	580.4	575.7	575.7	569.7	567.8	563.2
62.5°	668.9	659.4	652.8	642.7	635.6	630.7	622.5	616.2	608.0	601.7	594.3
65°	691.3	675.2	663.7	651.2	639.9	629.3	617.5	608.5	598.4	591.6	579.8
67.5°	647.9	631.5	612.1	598.7	586.9	573.5	555.3	544.1	535.3	522.2	516.4
70°	504.4	487.2	462.9	456.3	438.3	417.5	398.9	387.7	374.9	365.9	356.3
72.5°	320.0	300.6	289.9	282.0	270.2	253.0	236.9	230.4	219.2	216.7	210.4
75°	150.3	137.2	134.4	132.5	119.7	117.2	112.3	110.1	104.9	102.2	101.1
77.5°	67.2	64.2	59.3	57.9	53.8	49.7	44.8	42.6	39.9	38.3	36.1
80°	30.6	27.6	25.7	24.3	23.8	22.4	21.3	20.5	19.7	19.7	18.3
82.5°	14.8	14.2	13.7	13.7	12.9	12.9	12.0	11.8	11.5	11.2	11.2
85°	4.1	4.1	4.1	4.4	4.4	4.4	4.4	4.4	4.4	4.6	4.6
87.5°	0.6	0.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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: P173508

CATALOG NUMBER: ENT-EXX-LED-E1-BL4-8030-ULG-BBB

**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-BL4-8030-ULG-BBB

**CANDELA DISTRIBUTION (continued):**

	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°	86°
0°	308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5
2.5°	306.9	306.9	306.9	307.4	307.1	308.0	308.0	308.0	308.5	308.8	308.5
5°	302.5	302.5	302.5	302.8	302.8	303.3	303.3	303.9	303.9	304.1	304.1
7.5°	295.4	295.7	295.7	296.2	295.9	296.2	296.2	297.0	297.0	297.3	297.3
10°	287.2	287.5	287.5	287.5	287.7	288.0	288.0	288.6	288.8	288.8	289.4
12.5°	279.5	279.3	279.5	279.3	280.1	280.1	280.3	280.1	280.3	280.6	280.9
15°	271.1	271.1	270.8	271.1	271.1	270.8	270.5	270.8	271.3	271.3	271.3
17.5°	262.6	261.8	261.8	261.8	261.5	261.0	261.5	261.2	261.2	261.5	261.2
20°	254.7	254.4	254.1	253.9	253.6	252.8	252.8	252.8	252.5	252.5	252.5
22.5°	249.8	249.5	249.2	248.9	247.8	247.3	247.0	246.7	246.2	245.9	245.6
25°	247.0	246.5	245.9	245.4	244.6	243.7	242.9	242.7	242.1	241.6	240.7
27.5°	246.2	245.6	244.6	244.0	242.9	242.1	241.3	240.5	239.6	238.8	238.0
30°	244.8	244.0	242.9	242.1	241.3	239.9	238.8	238.0	236.6	235.8	234.7
32.5°	242.9	241.8	240.7	239.6	238.5	237.2	235.8	234.7	233.6	232.5	231.2
35°	239.6	238.3	236.6	235.5	234.2	232.8	231.7	229.8	229.0	227.6	226.2
37.5°	235.3	233.9	232.5	231.2	229.5	228.4	226.8	225.1	224.3	223.5	221.6
40°	231.5	229.8	228.4	227.3	225.4	224.6	223.0	221.3	220.3	219.4	217.8
42.5°	227.9	226.2	224.9	223.2	221.9	220.8	219.4	217.8	216.7	216.1	214.8
45°	227.9	226.0	224.3	223.0	221.6	220.3	219.2	217.5	216.7	215.6	214.8
47.5°	231.7	229.5	227.6	225.7	223.8	222.4	220.8	219.2	217.8	217.0	215.9
50°	234.4	232.3	231.2	229.0	227.9	226.0	224.1	223.2	221.9	221.1	220.8
52.5°	267.8	266.4	266.7	261.2	260.1	262.9	258.5	262.3	261.2	257.9	257.9
55°	370.0	369.4	371.9	365.1	362.1	367.5	369.7	361.8	363.7	363.7	363.2
57.5°	489.1	485.6	482.0	482.8	478.5	481.8	477.6	472.7	474.6	473.0	467.3
60°	560.2	558.0	552.8	547.9	543.2	538.9	535.0	530.6	528.5	524.7	520.5
62.5°	588.9	583.1	576.8	570.3	562.9	555.8	551.4	545.7	539.7	535.9	531.5
65°	573.5	565.1	558.3	548.7	540.8	532.0	526.3	519.7	514.3	507.7	502.3
67.5°	505.2	495.4	477.4	468.6	456.9	443.2	439.4	431.5	428.5	418.6	402.5
70°	344.0	334.2	323.2	305.5	294.0	282.3	269.4	260.1	258.8	250.9	239.1
72.5°	202.2	195.4	188.3	178.2	169.7	165.1	156.0	146.7	146.5	137.4	132.8
75°	95.6	92.1	85.0	82.5	74.9	74.3	68.6	67.5	68.6	65.9	65.3
77.5°	32.5	31.7	30.0	27.9	26.2	25.7	24.3	23.5	23.0	22.4	21.9
80°	17.8	17.2	16.9	16.1	15.6	15.3	14.5	14.2	13.9	13.7	13.4
82.5°	10.7	10.9	10.4	9.8	9.8	9.3	9.0	8.7	8.5	8.5	8.5
85°	4.4	4.6	4.4	4.1	3.8	4.1	4.1	3.8	3.6	3.8	3.8
87.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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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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  
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**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°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	
308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5	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°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	6.9
308.0	307.7	307.7	307.4	307.1	307.7	308.2	309.1	308.5	309.1	309.3	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°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	8.1	
303.6	303.6	303.6	303.9	303.6	304.4	305.5	307.1	307.4	308.5	309.3	117.5°	120°	122.5°	125°	127.5°	130°	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	9.6		
296.5	296.5	296.8	297.0	296.8	297.9	299.8	301.7	303.0	305.0	306.6	120°	122.5°	125°	127.5°	130°	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	11.3			
288.3	288.3	288.3	288.3	288.6	289.9	291.3	293.5	295.7	298.7	301.1	122.5°	125°	127.5°	130°	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	13.2				
280.9	280.1	280.3	280.9	280.3	280.3	281.7	283.4	284.7	288.6	292.9	125°	127.5°	130°	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	15.5					
271.1	271.1	270.5	270.8	269.4	269.1	269.7	270.8	271.9	275.2	279.8	127.5°	130°	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	17.9						
260.7	260.7	260.7	259.9	258.8	256.0	255.8	255.8	255.8	258.2	263.7	130°	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	20.4							
251.4	251.4	250.9	250.3	247.8	243.2	239.4	237.7	237.2	241.3	243.7	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	22.8								
244.8	244.6	243.5	242.9	239.1	231.7	225.7	221.1	219.7	221.1	221.9	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	25.2									
239.6	239.1	238.0	236.9	231.7	221.6	212.0	204.1	200.3	199.2	196.5	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	27.6										
236.6	235.8	234.2	233.1	226.2	213.4	200.8	190.5	183.3	178.2	173.2	140°	142.5°	145°	147.5°	150°	152.5°	155°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	29.9											
233.4	232.0	230.4	228.7	221.1	206.9	192.4	179.5	167.0	157.9	150.8	142.5°	145°	147.5°	150°	152.5°	155°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	32.1												
229.5	228.2	226.5	224.9	216.4	200.8	185.5	169.7	152.2	139.9	129.2	145°	147.5°	150°	152.5°	155°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	34.0													
224.9	223.5	221.9	220.0	211.5	195.9	180.9	160.1	139.1	123.2	109.3	147.5°	150°	152.5°	155°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	35.6														
220.3	218.9	217.2	215.3	206.9	193.4	178.2	151.1	127.1	107.7	89.4	150°	152.5°	155°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	37.3															
216.7	215.3	213.7	212.0	204.4	192.4	176.8	143.5	116.4	92.4	71.3	152.5°	155°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	38.8																
213.7	212.3	211.0	209.3	202.7	192.9	173.8	136.9	106.0	77.1	56.0	155°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	40.0																	
213.4	212.6	211.0	209.6	203.3	195.4	171.3	131.2	95.4	62.3	47.3	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	41.1																		
215.3	214.2	213.1	212.0	207.1	201.7	169.7	125.1	83.3	50.3	45.1	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	42.2																			
220.0	218.9	218.3	217.8	214.8	210.1	169.7	118.9	69.4	44.3	44.8	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	43.2																				
257.4	254.4	253.6	255.8	247.6	224.3	170.8	111.2	54.4	42.3	45.1	165°	167.5°	170°	172.5°	175°	177.5°	180°	44.0																					
362.1	365.1	357.4	353.6	339.4	259.6	171.6	99.8	44.3	42.1	44.5	167.5°	170°	172.5°	175°	177.5°	180°	44.4																						
467.8	467.8	465.1	459.1	441.6	319.7	175.4	81.4	40.4	41.5	44.0	170°	172.5°	175°	177.5°	180°	44.5																							
519.4	516.2	513.5	509.9	483.4	361.5	181.2	60.1	38.8	41.2	43.4	172.5°	175°	177.5°	180°	44.9																								
528.7	523.6	520.0	515.4	480.1	363.7	183.6	45.1	37.2	41.2	42.1	175°	177.5°	180°	45.5																									
498.1	492.7	488.0	480.4	437.5	329.3	171.3	36.9	36.1	40.2	40.7	177.5°	180°	45.7																										
403.6	397.0	393.5	389.6	361.3	289.1	138.5	33.1	34.7	38.3	39.3	180°	45.6																											
230.9	223.8	219.7	220.5	203.3	228.7	110.7	30.3	32.8	36.1	37.7	45.6																												
124.3	116.7	114.2	106.3	90.7	115.3	85.2	27.9	30.3	32.8	34.4																													
61.5	58.8	59.6	55.8	47.3	35.5	54.9	24.9	27.1	29.5	30.6																													
21.3	20.8	20.5	20.2	19.7	18.8	25.1	21.3	23.2	25.1	26.2																													
13.1	12.9	13.1	12.9	12.6	14.5	16.1	16.9	18.6	21.0	21.3																													
7.9	7.9	7.9	7.9	7.9	10.1	11.5	13.1	14.5	16.1	17.5																													
3.8	3.8	3.8	3.8	4.1	6.8	7.6	9.6	10.1	11.5	12.6																													
0.8	0.8	0.8	0.8	1.1	3.6	4.6	5.7	6.0	6.0	6.8																													
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																													
0.5	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																													
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																													
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																													

'173508  
 ENT-EXX-LED-E1-BL4-8030-ULG-BBB

REPORT NUMBER: P173508  
 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°	308.5	308.5
8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	2.5°	309.1	308.5
9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	5°	309.9	309.3
11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	7.5°	307.7	308.0
13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	10°	303.0	303.9
15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	12.5°	295.7	297.3
17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	15°	283.4	285.8
20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	17.5°	267.0	270.0
22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	20°	246.5	247.8
25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	22.5°	221.3	221.9
27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	25°	194.8	194.8
29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	27.5°	170.2	168.9
32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	30°	146.7	143.2
34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	32.5°	121.9	115.9
35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35°	96.7	91.8
37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.5°	75.1	69.7
38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8	40°	57.7	53.6
40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	42.5°	48.6	47.8
41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	45°	46.5	47.6
42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	47.5°	46.7	48.1
43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	50°	47.0	48.4
44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	52.5°	47.0	47.8
44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	55°	46.5	46.5
44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	57.5°	45.4	45.1
44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	60°	44.5	44.5
45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	62.5°	43.2	43.2
45.7	45.7	45.7	45.7	45.7	45.7	45.7	45.7	45.7	45.7	65°	41.0	41.2
45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	67.5°	38.8	38.8
										70°	36.1	36.1
										72.5°	33.3	34.4
										75°	31.4	33.3
										77.5°	27.6	29.5
										80°	22.7	23.0
										82.5°	18.0	17.5
										85°	12.9	12.0
										87.5°	6.8	6.6
										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



REPORT NUMBER: P173508

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

LED-E1-BL4-8030-ULG-BBB

**tinued):**

180°
308.5
308.2
309.1
307.7
304.1
298.4
285.3
270.0
247.0
221.1
193.7
168.1
142.1
115.9
90.5
68.1
53.3
48.1
47.6
48.4
48.6
47.8
46.5
45.6
44.5
43.2
41.2
<b>38.8</b>
36.6
35.0
34.2
30.6
23.0
16.7
12.0
6.8
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

