

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: P160042

Luminaire Tested: **ENT-F01-LED-E1-BL4-ULG**

Issue Date: 03/03/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P160042  
REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (P20107) AND SCALED  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 03/03/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: ENT-F01-LED-E1-BL4-ULG  
Description: ENTRI LED LUMINAIRE WITH UPLIGHT  
(1) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL  
Light Source: (7) 4000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2472.2 lumens  
Efficiency: N/A  
Efficacy: 72.9 lumens/watt  
Luminous Opening: Rectangular (W 0.17' x L: 1' x H: 0')  
IES Classification: Type III - Short - Non-Cutoff  
BUG Rating: B1 - U3 - G1

Input Watts (W): 33.9  
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

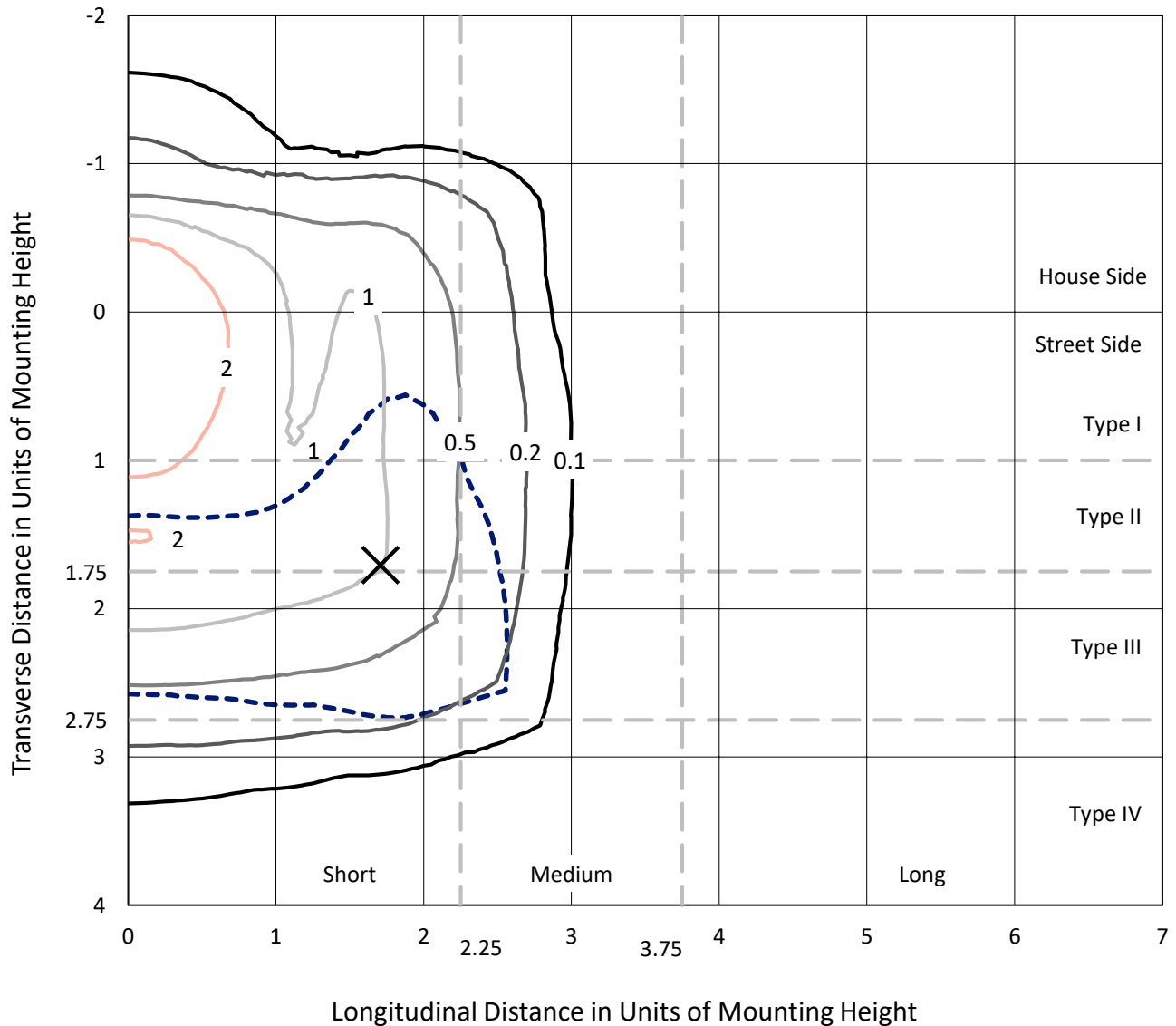


REPORT NUMBER: P160042

CATALOG NUMBER: ENT-F01-LED-E1-BL4-ULG

### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

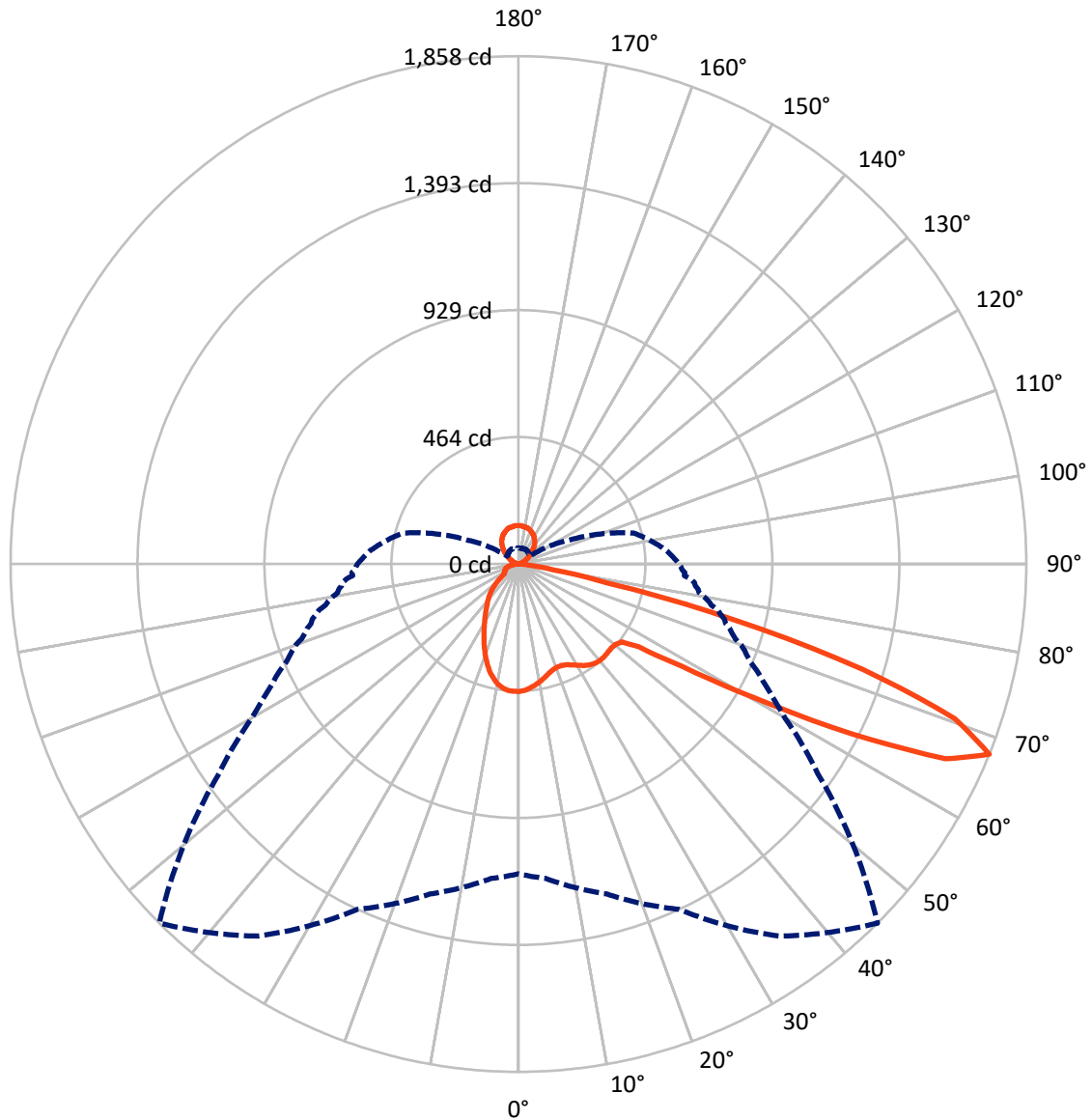


Based on 10 foot mounting height. Maximum calculated value = 4.7 fc  
 Type III - Short - Non-Cutoff

REPORT NUMBER: P160042

CATALOG NUMBER: ENT-F01-LED-E1-BL4-ULG

### Luminous Intensity Polar Plot



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

REPORT NUMBER: P160042

CATALOG NUMBER: ENT-F01-LED-E1-BL4-ULG

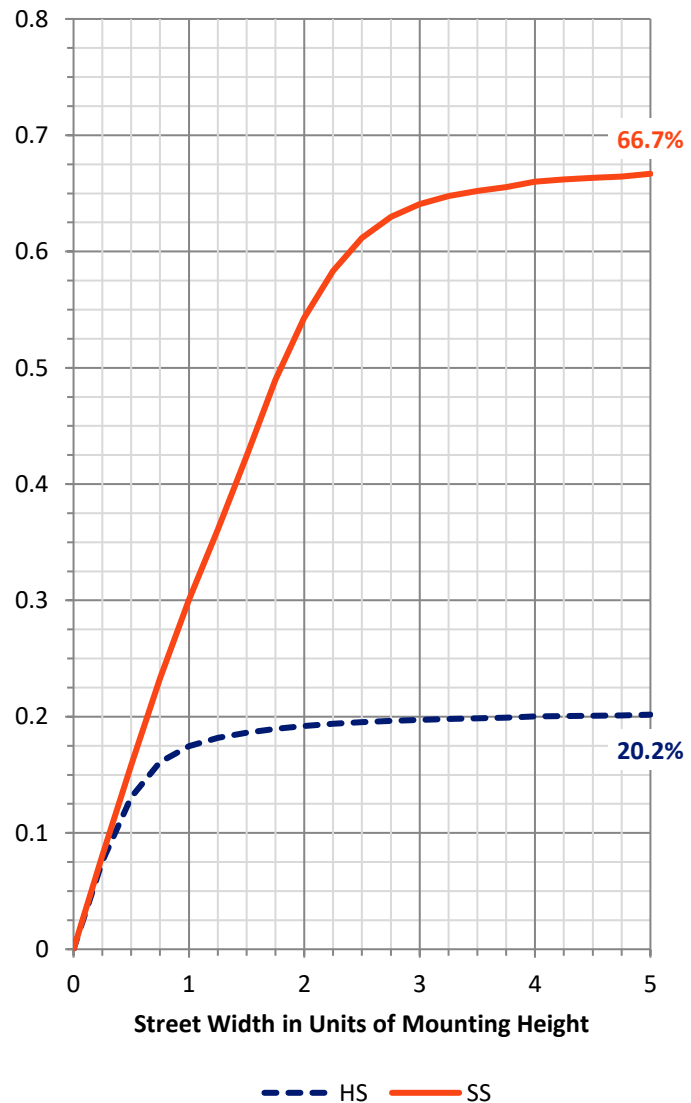
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	505.4	157.7	663.1
	% Fixture	20.4	6.4	26.8
<b>Street Side</b>	Lumens	1651.3	157.7	1809.1
	% Fixture	66.8	6.4	73.2
<b>Total</b>	Lumens	2156.7	315.5	2472.2
	% Fixture	87.2	12.8	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	43.3	1.8
10°-20°	116.5	4.7
20°-30°	168.0	6.8
30°-40°	214.3	8.7
40°-50°	253.0	10.2
50°-60°	405.7	16.4
60°-70°	682.7	27.6
70°-80°	253.9	10.3
80°-90°	19.3	0.8
90°-100°	1.3	0.1
100°-110°	12.3	0.5
110°-120°	25.2	1.0
120°-130°	43.0	1.7
130°-140°	60.0	2.4
140°-150°	65.4	2.6
150°-160°	56.9	2.3
160°-170°	38.2	1.5
170°-180°	13.3	0.5
0°-90°	2156.7	87.2
0°-180°	2472.2	100.0



REPORT NUMBER: P160042

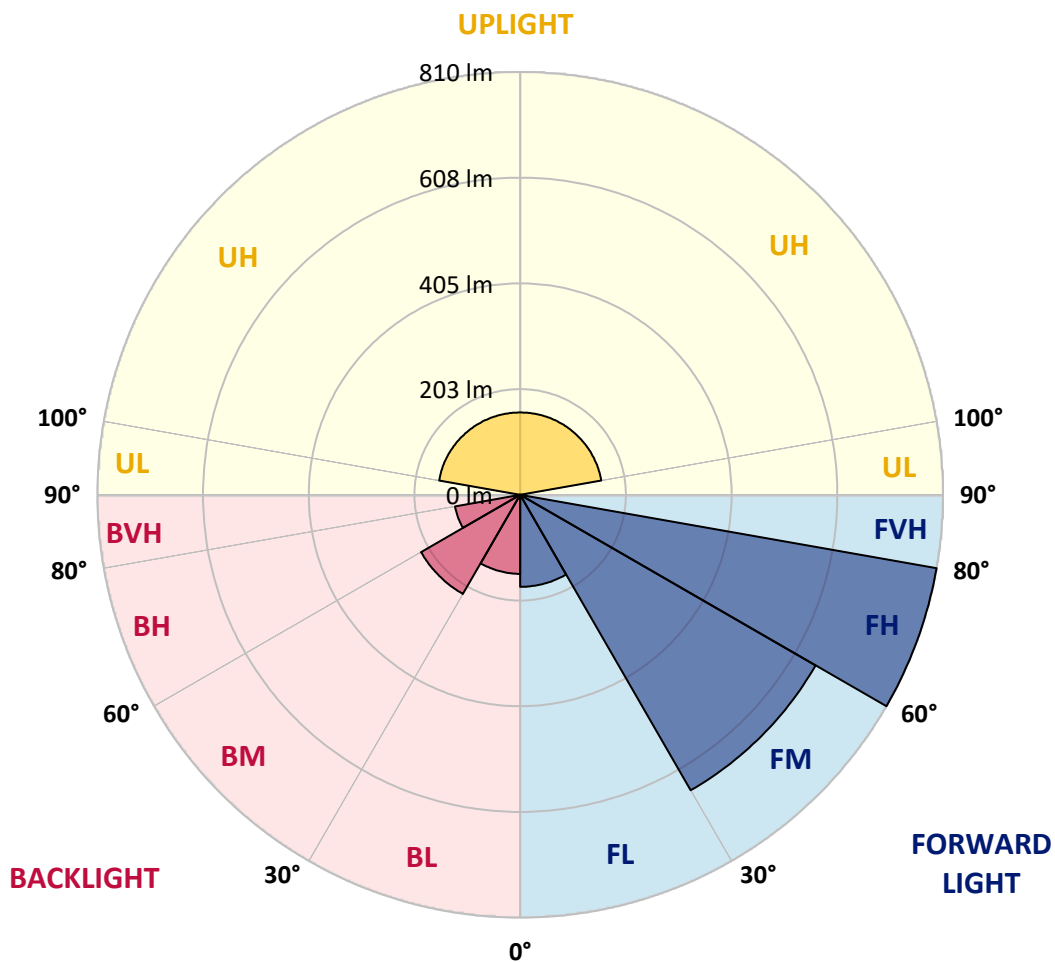
CATALOG NUMBER: ENT-F01-LED-E1-BL4-ULG

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	176.3	7.1			
FM (30°-60°)	653.5	26.4			
FH (60°-80°)	810.0	32.8			G1/1800
FVH (80°-90°)	11.5	0.5			G1/100
BL (0°-30°)	151.5	6.1	B1/500		
BM (30°-60°)	219.4	8.9	B0/220		
BH (60°-80°)	126.7	5.1	B1/500		G1/500
BVH (80°-90°)	7.9	0.3			G0/10
UL (90°-100°)	1.3	0.1		U1/10	
UH (100°-180°)	157.7	6.4		U3/500	

**BUG Rating: B1-U3-G1**

Type III Short





REPORT NUMBER: P160042

CATALOG NUMBER: ENT-F01-LED-E1-BL4-ULG

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	60°	61°	62°	64°
0°	466.0	466.0	466.0	466.0	466.0	466.0	466.0	466.0	466.0	466.0	466.0
2.5°	459.4	459.4	460.2	460.2	461.5	462.3	461.5	463.1	463.1	462.7	463.5
5°	452.8	452.8	453.2	453.2	454.0	455.3	454.5	456.1	455.7	456.1	456.1
7.5°	445.0	445.0	445.8	445.4	445.8	446.6	444.5	445.8	445.8	446.2	445.8
10°	435.1	435.9	436.7	436.3	436.3	436.7	433.4	434.6	434.2	434.2	433.8
12.5°	426.0	425.1	426.0	426.8	426.4	426.4	423.1	422.3	422.3	422.3	422.7
15°	416.5	417.3	418.5	417.3	416.5	414.8	411.5	410.7	410.7	410.7	411.1
17.5°	414.4	414.4	415.2	414.0	410.7	407.4	400.8	399.6	399.6	399.1	399.1
20°	420.2	419.8	421.0	418.5	411.1	402.4	392.1	390.1	390.1	390.1	389.6
22.5°	432.2	432.2	434.2	431.3	419.4	402.9	387.6	384.3	383.9	383.5	382.6
25°	455.3	454.9	456.1	448.7	431.3	408.2	386.3	381.4	381.0	380.2	379.3
27.5°	482.1	482.9	485.4	474.3	448.7	417.7	391.7	383.5	382.6	381.4	379.7
30°	508.5	511.0	515.5	503.6	468.5	429.7	400.0	390.5	388.8	387.2	384.3
32.5°	542.0	541.1	548.6	530.4	485.8	442.5	408.6	397.1	395.0	392.5	388.8
35°	577.5	579.1	580.8	551.5	500.3	452.8	414.0	400.8	398.3	395.8	390.5
37.5°	613.0	613.4	609.7	568.4	508.9	459.0	416.9	401.6	398.3	394.6	388.4
40°	645.6	644.3	633.2	581.2	513.9	462.3	418.1	400.0	395.8	392.1	385.1
42.5°	664.1	662.9	648.9	586.9	514.3	461.9	418.1	398.3	393.8	389.2	381.4
45°	672.0	671.2	655.1	587.8	511.4	459.4	415.7	396.7	392.1	388.0	379.7
47.5°	672.8	672.8	656.3	586.5	508.9	457.8	415.7	398.7	395.0	391.7	385.5
50°	669.1	669.5	656.7	589.8	511.0	461.5	419.8	403.7	400.0	396.7	389.6
52.5°	712.8	708.7	680.2	604.7	524.6	473.4	433.8	419.4	418.1	416.1	410.7
55°	1047.2	1050.5	894.9	697.6	582.0	534.9	518.4	515.5	524.6	527.9	527.9
57.5°	1329.5	1318.8	1260.2	1017.9	761.1	704.6	711.2	718.2	731.4	737.2	741.3
60°	1398.4	1399.3	1397.6	1328.7	1123.5	994.8	962.6	932.0	930.8	920.0	911.8
62.5°	1390.2	1396.8	1427.7	1443.4	1463.7	1369.1	1172.7	1088.0	1071.5	1051.3	1022.4
65°	1330.3	1340.2	1389.8	1466.1	1640.3	1717.9	1314.2	1162.8	1137.2	1112.8	1064.1
67.5°	1133.4	1154.9	1249.8	1393.9	1661.4	1857.8	1337.4	1126.4	1092.6	1060.8	1003.0
70°	699.6	710.8	857.3	1124.8	1505.3	1694.0	1214.3	956.0	913.0	872.6	793.7
72.5°	451.6	447.8	472.6	633.6	1106.2	1316.3	835.0	635.7	600.6	568.4	517.6
75°	316.2	316.6	305.4	302.1	513.1	815.2	378.1	271.6	255.9	249.3	238.6
77.5°	206.0	208.4	205.6	213.4	205.6	338.9	173.8	127.5	121.4	117.2	110.6
80°	124.2	132.5	135.0	136.6	138.7	128.0	103.2	75.1	67.7	60.7	49.9
82.5°	21.9	21.5	29.7	40.0	52.4	59.9	43.3	27.2	25.6	24.8	22.7
85°	0.0	0.0	0.4	0.4	0.8	2.9	4.5	5.4	5.0	5.4	5.8
87.5°	0.0	0.0	0.0	0.4	0.4	0.8	0.8	0.8	0.8	0.8	0.8
90°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
92.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
95°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
97.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
100°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
102.5°	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
105°	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
107.5°	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7
110°	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8



REPORT NUMBER: P160042

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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	60°	61°	62°	64°
112.5°	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2
115°	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
117.5°	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5
120°	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8
122.5°	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9
125°	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8
127.5°	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3
130°	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0
132.5°	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5
135°	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9
137.5°	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3
140°	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5
142.5°	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2
145°	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9
147.5°	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1
150°	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1
152.5°	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7
155°	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7
157.5°	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0
160°	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3
162.5°	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5
165°	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0
167.5°	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1
170°	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4
172.5°	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6
175°	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5
177.5°	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1
180°	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8





REPORT NUMBER: P160042

CATALOG NUMBER: ENT-F01-LED-E1-BL4-ULG

**CANDELA DISTRIBUTION (continued):**

	65°	66°	67°	68°	69°	70°	71°	72°	73°	74°	75°
0°	466.0	466.0	466.0	466.0	466.0	466.0	466.0	466.0	466.0	466.0	466.0
2.5°	463.5	463.1	462.7	462.7	463.5	463.5	463.1	463.1	463.5	463.1	463.9
5°	456.5	456.1	456.1	455.7	456.1	456.5	456.1	456.1	456.5	456.1	456.9
7.5°	445.4	445.8	445.4	445.4	445.8	446.2	445.8	445.8	445.8	445.8	445.4
10°	433.8	433.8	433.4	433.4	434.2	433.8	433.4	433.4	433.8	434.2	433.4
12.5°	422.3	423.1	423.1	421.4	421.8	422.3	422.3	421.8	421.8	423.1	421.8
15°	410.7	411.1	410.7	411.1	410.3	409.9	410.3	410.3	409.5	409.0	409.0
17.5°	399.1	398.7	398.7	397.9	397.5	397.5	397.1	397.5	396.7	397.1	395.8
20°	388.8	388.4	388.0	388.0	386.8	386.8	386.8	386.3	385.5	385.5	385.1
22.5°	382.6	382.2	381.8	381.0	380.6	380.2	380.2	379.7	378.9	378.5	378.1
25°	379.3	378.9	378.1	377.3	376.9	376.4	376.4	376.0	375.2	374.4	374.0
27.5°	379.7	378.9	378.1	377.3	376.9	376.0	375.6	375.2	374.4	373.6	372.7
30°	383.5	381.8	380.2	378.9	377.7	376.4	375.6	375.2	374.0	372.7	371.5
32.5°	387.2	385.1	382.6	380.2	378.1	376.0	374.8	373.6	371.9	369.8	368.6
35°	388.4	385.9	382.2	380.2	377.3	374.8	372.7	371.1	368.2	365.7	363.6
37.5°	385.5	382.6	378.9	376.0	373.1	369.8	367.4	364.9	362.8	359.9	357.9
40°	381.0	377.7	374.0	369.8	366.9	363.6	361.2	359.1	356.2	353.7	352.1
42.5°	377.3	373.6	369.4	366.1	362.8	359.5	356.6	354.6	351.7	348.8	346.7
45°	376.0	372.3	369.0	364.9	361.6	359.1	356.6	353.7	351.3	348.8	346.3
47.5°	382.6	379.3	376.0	372.7	369.8	366.9	364.5	361.6	358.7	355.4	352.9
50°	386.3	382.6	379.7	376.0	372.7	369.8	367.4	364.5	362.4	359.1	356.6
52.5°	413.2	408.2	409.0	405.7	405.7	402.4	404.9	401.2	403.3	400.8	404.5
55°	526.7	528.3	538.7	540.3	544.4	544.0	546.5	557.2	553.1	547.7	549.4
57.5°	730.2	733.9	739.3	734.3	738.0	738.8	745.9	743.0	740.5	738.8	733.5
60°	906.8	901.9	894.0	884.5	880.8	876.7	869.7	869.7	860.6	857.7	850.7
62.5°	1010.4	996.0	986.1	970.8	960.1	952.7	940.3	930.8	918.4	908.9	897.8
65°	1044.3	1019.9	1002.6	983.6	966.7	950.6	932.8	919.2	903.9	893.6	875.9
67.5°	978.7	953.9	924.6	904.4	886.6	866.4	838.7	821.8	808.6	788.8	780.1
70°	762.0	736.0	699.2	689.3	662.1	630.7	602.6	585.7	566.3	552.7	538.2
72.5°	483.3	454.0	437.9	426.0	408.2	382.2	357.9	348.0	331.0	327.3	317.8
75°	227.0	207.2	203.1	200.2	180.8	177.1	169.6	166.3	158.5	154.4	152.7
77.5°	101.5	97.0	89.6	87.5	81.3	75.1	67.7	64.4	60.3	57.8	54.5
80°	46.2	41.7	38.8	36.7	35.9	33.8	32.2	31.0	29.7	29.7	27.7
82.5°	22.3	21.5	20.6	20.6	19.4	19.4	18.2	17.7	17.3	16.9	16.9
85°	6.2	6.2	6.2	6.6	6.6	6.6	6.6	6.6	6.6	7.0	7.0
87.5°	0.8	0.8	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
90°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
92.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
95°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
97.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
100°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
102.5°	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
105°	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
107.5°	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7
110°	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8



REPORT NUMBER: P160042

CATALOG NUMBER: ENT-F01-LED-E1-BL4-ULG

**CANDELA DISTRIBUTION (continued):**

	65°	66°	67°	68°	69°	70°	71°	72°	73°	74°	75°
112.5°	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2
115°	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
117.5°	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5
120°	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8
122.5°	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9
125°	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8
127.5°	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3
130°	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0
132.5°	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5
135°	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9
137.5°	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3
140°	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5
142.5°	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2
145°	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9
147.5°	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1
150°	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1
152.5°	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7
155°	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7
157.5°	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0
160°	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3
162.5°	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5
165°	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0
167.5°	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1
170°	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4
172.5°	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6
175°	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5
177.5°	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1
180°	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8



REPORT NUMBER: P160042

CATALOG NUMBER: ENT-F01-LED-E1-BL4-ULG

**CANDELA DISTRIBUTION (continued):**

	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°	86°
0°	466.0	466.0	466.0	466.0	466.0	466.0	466.0	466.0	466.0	466.0	466.0
2.5°	463.5	463.5	463.5	464.4	463.9	465.2	465.2	465.2	466.0	466.4	466.0
5°	456.9	456.9	456.9	457.3	457.3	458.2	458.2	459.0	459.0	459.4	459.4
7.5°	446.2	446.6	446.6	447.4	447.0	447.4	447.4	448.7	448.7	449.1	449.1
10°	433.8	434.2	434.2	434.2	434.6	435.1	435.1	435.9	436.3	436.3	437.1
12.5°	422.3	421.8	422.3	421.8	423.1	423.1	423.5	423.1	423.5	423.9	424.3
15°	409.5	409.5	409.0	409.5	409.5	409.0	408.6	409.0	409.9	409.9	409.9
17.5°	396.7	395.4	395.4	395.4	395.0	394.2	395.0	394.6	394.6	395.0	394.6
20°	384.7	384.3	383.9	383.5	383.0	381.8	381.8	381.8	381.4	381.4	381.4
22.5°	377.3	376.9	376.4	376.0	374.4	373.6	373.1	372.7	371.9	371.5	371.1
25°	373.1	372.3	371.5	370.7	369.4	368.2	366.9	366.5	365.7	364.9	363.6
27.5°	371.9	371.1	369.4	368.6	366.9	365.7	364.5	363.2	362.0	360.8	359.5
30°	369.8	368.6	366.9	365.7	364.5	362.4	360.8	359.5	357.5	356.2	354.6
32.5°	366.9	365.3	363.6	362.0	360.3	358.3	356.2	354.6	352.9	351.3	349.2
35°	362.0	359.9	357.5	355.8	353.7	351.7	350.0	347.1	345.9	343.8	341.8
37.5°	355.4	353.3	351.3	349.2	346.7	345.1	342.6	340.1	338.9	337.6	334.8
40°	349.6	347.1	345.1	343.4	340.5	339.3	336.8	334.3	332.7	331.4	329.0
42.5°	344.2	341.8	339.7	337.2	335.2	333.5	331.4	329.0	327.3	326.5	324.4
45°	344.2	341.4	338.9	336.8	334.8	332.7	331.0	328.6	327.3	325.7	324.4
47.5°	350.0	346.7	343.8	340.9	338.1	336.0	333.5	331.0	329.0	327.7	326.1
50°	354.2	350.8	349.2	345.9	344.2	341.4	338.5	337.2	335.2	333.9	333.5
52.5°	404.5	402.4	402.9	394.6	392.9	397.1	390.5	396.3	394.6	389.6	389.6
55°	558.9	558.1	561.8	551.5	546.9	555.2	558.5	546.5	549.4	549.4	548.6
57.5°	738.8	733.5	728.1	729.4	722.7	727.7	721.5	714.1	717.0	714.5	705.8
60°	846.2	842.9	835.0	827.6	820.6	814.0	808.2	801.6	798.3	792.5	786.3
62.5°	889.5	880.8	871.3	861.4	850.3	839.6	833.0	824.3	815.2	809.4	802.8
65°	866.4	853.6	843.3	828.8	816.9	803.6	795.0	785.1	776.8	766.9	758.7
67.5°	763.2	748.3	721.1	707.9	690.1	669.5	663.7	651.8	647.2	632.4	608.0
70°	519.7	504.8	488.3	461.5	444.1	426.4	407.0	392.9	390.9	378.9	361.2
72.5°	305.4	295.1	284.4	269.1	256.3	249.3	235.7	221.7	221.2	207.6	200.6
75°	144.5	139.1	128.4	124.7	113.1	112.3	103.6	102.0	103.6	99.5	98.7
77.5°	49.1	47.9	45.4	42.1	39.6	38.8	36.7	35.5	34.7	33.8	33.0
80°	26.8	26.0	25.6	24.4	23.5	23.1	21.9	21.5	21.1	20.6	20.2
82.5°	16.1	16.5	15.7	14.9	14.9	14.0	13.6	13.2	12.8	12.8	12.8
85°	6.6	7.0	6.6	6.2	5.8	6.2	6.2	5.8	5.4	5.8	5.8
87.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
90°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
92.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
95°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
97.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
100°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
102.5°	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
105°	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
107.5°	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7
110°	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8



REPORT NUMBER: P160042  
 CATALOG NUMBER: ENT-F01-LED-E1-BL4-ULG

REPORT N  
 CATALOG

**CANDELA DISTRIBUTION (continued):**

**CANDELA**

	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°	86°	
112.5°	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	0°
115°	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	2.5°
117.5°	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	5°
120°	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	7.5°
122.5°	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	10°
125°	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	12.5°
127.5°	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	15°
130°	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	17.5°
132.5°	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	20°
135°	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	22.5°
137.5°	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	25°
140°	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	27.5°
142.5°	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	30°
145°	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	32.5°
147.5°	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	35°
150°	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	37.5°
152.5°	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	40°
155°	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	42.5°
157.5°	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	45°
160°	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	47.5°
162.5°	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	50°
165°	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	52.5°
167.5°	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	55°
170°	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	57.5°
172.5°	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	60°
175°	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	62.5°
177.5°	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	65°
180°	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	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°



NUMBER: P160042  
 NUMBER: ENT-F01-LED-E1-BL4-ULG

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°	180°	
466.0	466.0	466.0	466.0	466.0	466.0	466.0	466.0	466.0	466.0	466.0	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°	180°	
465.2	464.8	464.8	464.4	463.9	464.8	465.6	466.8	466.0	466.8	467.2	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°	180°		
458.6	458.6	458.6	459.0	458.6	459.8	461.5	463.9	464.4	466.0	467.2	117.5°	120°	122.5°	125°	127.5°	130°	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	180°			
447.8	447.8	448.3	448.7	448.3	449.9	452.8	455.7	457.8	460.6	463.1	120°	122.5°	125°	127.5°	130°	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	180°				
435.5	435.5	435.5	435.5	435.9	437.9	440.0	443.3	446.6	451.1	454.9	122.5°	125°	127.5°	130°	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	180°					
424.3	423.1	423.5	424.3	423.5	423.5	425.6	428.0	430.1	435.9	442.5	125°	127.5°	130°	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	180°						
409.5	409.5	408.6	409.0	407.0	406.6	407.4	409.0	410.7	415.7	422.7	127.5°	130°	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	180°							
393.8	393.8	393.8	392.5	390.9	386.8	386.3	386.3	386.3	390.1	398.3	130°	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	180°								
379.7	379.7	378.9	378.1	374.4	367.4	361.6	359.1	358.3	364.5	368.2	132.5°	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	180°									
369.8	369.4	367.8	366.9	361.2	350.0	340.9	333.9	331.9	333.9	335.2	135°	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	180°										
362.0	361.2	359.5	357.9	350.0	334.8	320.3	308.3	302.6	300.9	296.8	137.5°	140°	142.5°	145°	147.5°	150°	152.5°	155°	180°											
357.5	356.2	353.7	352.1	341.8	322.4	303.4	287.7	277.0	269.1	261.7	140°	142.5°	145°	147.5°	150°	152.5°	155°	180°												
352.5	350.4	348.0	345.5	333.9	312.5	290.6	271.2	252.2	238.6	227.8	142.5°	145°	147.5°	150°	152.5°	155°	180°													
346.7	344.7	342.2	339.7	326.9	303.4	280.3	256.3	229.9	211.3	195.2	145°	147.5°	150°	152.5°	155°	180°														
339.7	337.6	335.2	332.3	319.5	296.0	273.2	241.9	210.1	186.2	165.1	147.5°	150°	152.5°	155°	180°															
332.7	330.6	328.1	325.3	312.5	292.2	269.1	228.3	191.9	162.6	135.0	150°	152.5°	155°	180°																
327.3	325.3	322.8	320.3	308.7	290.6	267.1	216.7	175.8	139.5	107.7	152.5°	155°	180°																	
322.8	320.7	318.7	316.2	306.3	291.4	262.5	206.8	160.2	116.4	84.6	155°	180°																		
322.4	321.1	318.7	316.6	307.1	295.1	258.8	198.1	144.1	94.1	71.4	157.5°	180°																		
325.3	323.6	322.0	320.3	312.9	304.6	256.3	189.0	125.9	75.9	68.1	160°	180°																		
332.3	330.6	329.8	329.0	324.4	317.4	256.3	179.6	104.8	66.9	67.7	162.5°	180°																		
388.8	384.3	383.0	386.3	374.0	338.9	258.0	168.0	82.1	64.0	68.1	165°	180°																		
546.9	551.5	539.9	534.1	512.7	392.1	259.2	150.7	66.9	63.6	67.3	167.5°	180°																		
706.6	706.6	702.5	693.4	667.0	482.9	265.0	123.0	61.1	62.7	66.5	170°	180°																		
784.7	779.7	775.6	770.2	730.2	546.1	273.7	90.8	58.6	62.3	65.6	172.5°	180°																		
798.7	790.9	785.5	778.5	725.2	549.4	277.4	68.1	56.1	62.3	63.6	175°	180°																		
752.5	744.2	737.2	725.6	660.8	497.4	258.8	55.7	54.5	60.7	61.5	177.5°	180°																		
609.7	599.7	594.4	588.6	545.7	436.7	209.3	49.9	52.4	57.8	59.4	180°																			
348.8	338.1	331.9	333.1	307.1	345.5	167.2	45.8	49.5	54.5	57.0																				
187.8	176.2	172.5	160.6	137.0	174.2	128.8	42.1	45.8	49.5	52.0																				
92.9	88.7	90.0	84.2	71.4	53.7	83.0	37.6	40.9	44.6	46.2																				
32.2	31.4	31.0	30.5	29.7	28.5	38.0	32.2	35.1	38.0	39.6																				
19.8	19.4	19.8	19.4	19.0	21.9	24.4	25.6	28.1	31.8	32.2																				
12.0	12.0	12.0	12.0	12.0	15.3	17.3	19.8	21.9	24.4	26.4																				
5.8	5.8	5.8	5.8	6.2	10.3	11.6	14.4	15.3	17.3	19.0																				
1.2	1.2	1.2	1.2	1.7	5.4	7.0	8.7	9.1	9.1	10.3																				
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																				
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																				
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5																				
1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5																				
5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0																				
8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8																				
11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8																				
14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7																				
17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8																				

'160042  
 ENT-F01-LED-E1-BL4-ULG

REPORT NUMBER: P160042  
 CATALOG NUMBER: ENT-F01-L

**TION (continued):**

**CANDELA DISTRIBUTION (con**

88°	89°	90°	95°	105°	115°	125°	135°	145°	155°		165°	175°
21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	0°	466.0	466.0
25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	2.5°	466.8	466.0
29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	5°	468.1	467.2
34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	7.5°	464.8	465.2
40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	10°	457.8	459.0
47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	12.5°	446.6	449.1
55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	15°	428.0	431.7
63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	17.5°	403.3	407.8
70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	20°	372.3	374.4
77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	22.5°	334.3	335.2
85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	25°	294.3	294.3
92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	27.5°	257.2	255.1
99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	30°	221.7	216.3
104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	32.5°	184.1	175.0
110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	35°	146.1	138.7
115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	37.5°	113.5	105.3
119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	40°	87.1	80.9
123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	42.5°	73.5	72.2
127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	45°	70.2	71.8
130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	47.5°	70.6	72.6
133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	50°	71.0	73.1
136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	52.5°	71.0	72.2
137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	55°	70.2	70.2
137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	57.5°	68.5	68.1
138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	60°	67.3	67.3
140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	62.5°	65.2	65.2
141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	65°	61.9	62.3
140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	67.5°	58.6	58.6
										70°	54.5	54.5
										72.5°	50.4	52.0
										75°	47.5	50.4
										77.5°	41.7	44.6
										80°	34.3	34.7
										82.5°	27.2	26.4
										85°	19.4	18.2
										87.5°	10.3	9.9
										90°	0.1	0.1
										92.5°	0.1	0.1
										95°	0.5	0.5
										97.5°	1.5	1.5
										100°	5.0	5.0
										102.5°	8.8	8.8
										105°	11.8	11.8
										107.5°	14.7	14.7
										110°	17.8	17.8



REPORT NUMBER: P160042

CATALOG NUMBER: ENT-F01-LED-E1-BL

.ED-E1-BL4-ULG

**tinued):**

180°
466.0
465.6
466.8
464.8
459.4
450.7
430.9
407.8
373.1
333.9
292.6
253.8
214.6
175.0
136.6
102.8
80.5
72.6
71.8
73.1
73.5
72.2
70.2
68.9
67.3
65.2
62.3
58.6
55.3
52.8
51.6
46.2
34.7
25.2
18.2
10.3
0.1
0.1
0.5
1.5
5.0
8.8
11.8
14.7
17.8

**CANDELA DISTRIBUTION (continued):**

	165°	175°	180°
112.5°	21.2	21.2	21.2
115°	25.0	25.0	25.0
117.5°	29.5	29.5	29.5
120°	34.8	34.8	34.8
122.5°	40.9	40.9	40.9
125°	47.8	47.8	47.8
127.5°	55.3	55.3	55.3
130°	63.0	63.0	63.0
132.5°	70.5	70.5	70.5
135°	77.9	77.9	77.9
137.5°	85.3	85.3	85.3
140°	92.5	92.5	92.5
142.5°	99.2	99.2	99.2
145°	104.9	104.9	104.9
147.5°	110.1	110.1	110.1
150°	115.1	115.1	115.1
152.5°	119.7	119.7	119.7
155°	123.7	123.7	123.7
157.5°	127.0	127.0	127.0
160°	130.3	130.3	130.3
162.5°	133.5	133.5	133.5
165°	136.0	136.0	136.0
167.5°	137.1	137.1	137.1
170°	137.4	137.4	137.4
172.5°	138.6	138.6	138.6
175°	140.5	140.5	140.5
177.5°	141.1	141.1	141.1
180°	140.8	140.8	140.8

(END OF F

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

Scaled Data Report

