

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: P160131

Luminaire Tested: **ENV-E02-LED-E1-BL4-8030-ULG**

Issue Date: 03/03/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P160131  
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: ENV-E02-LED-E1-BL4-8030-ULG  
Description: ENTRI LED LUMINAIRE WITH UPLIGHT  
(2) 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: 4725.4 lumens  
Efficiency: N/A  
Efficacy: 86.1 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 - G1

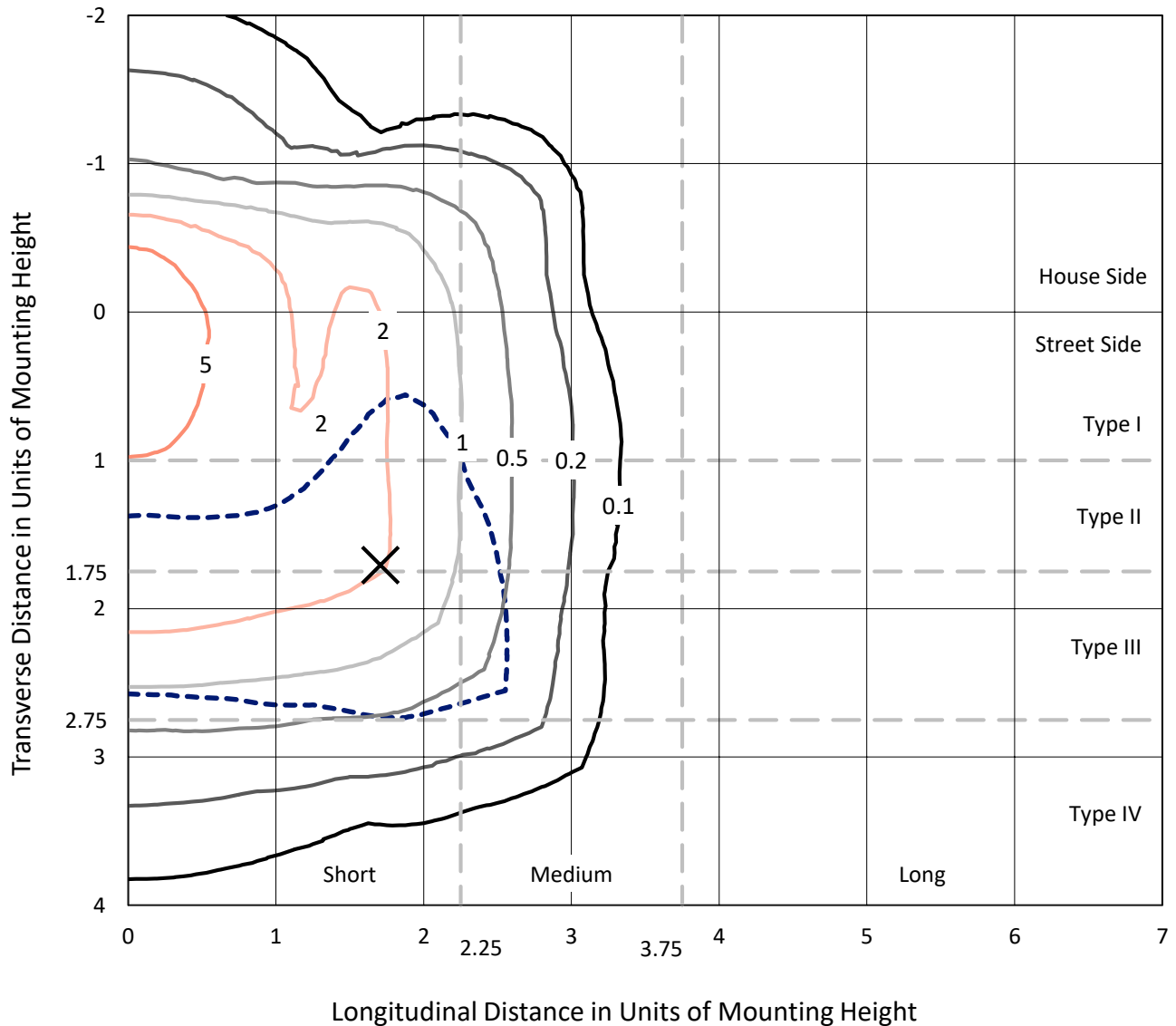
Input Watts (W): 54.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

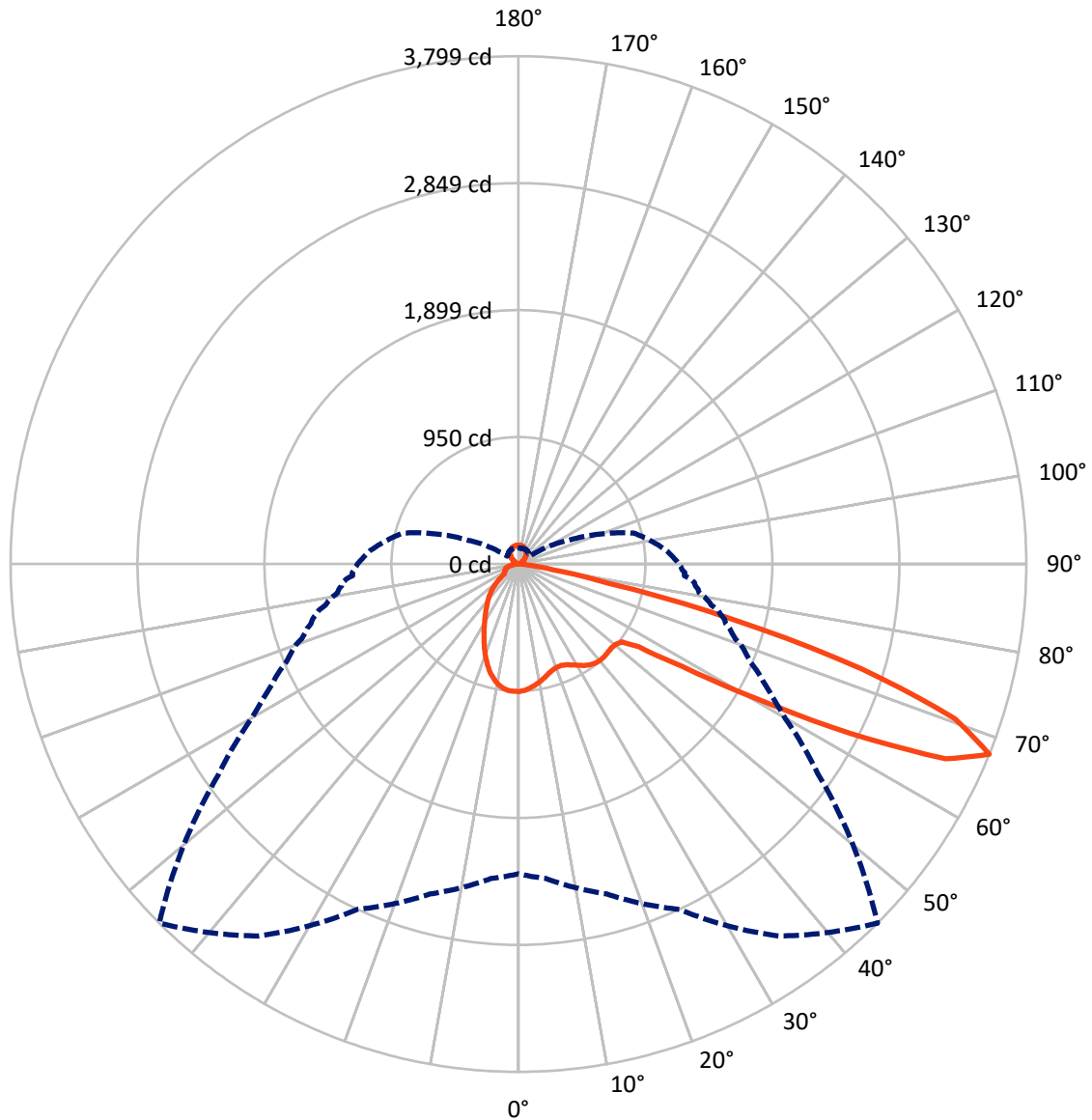
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.5 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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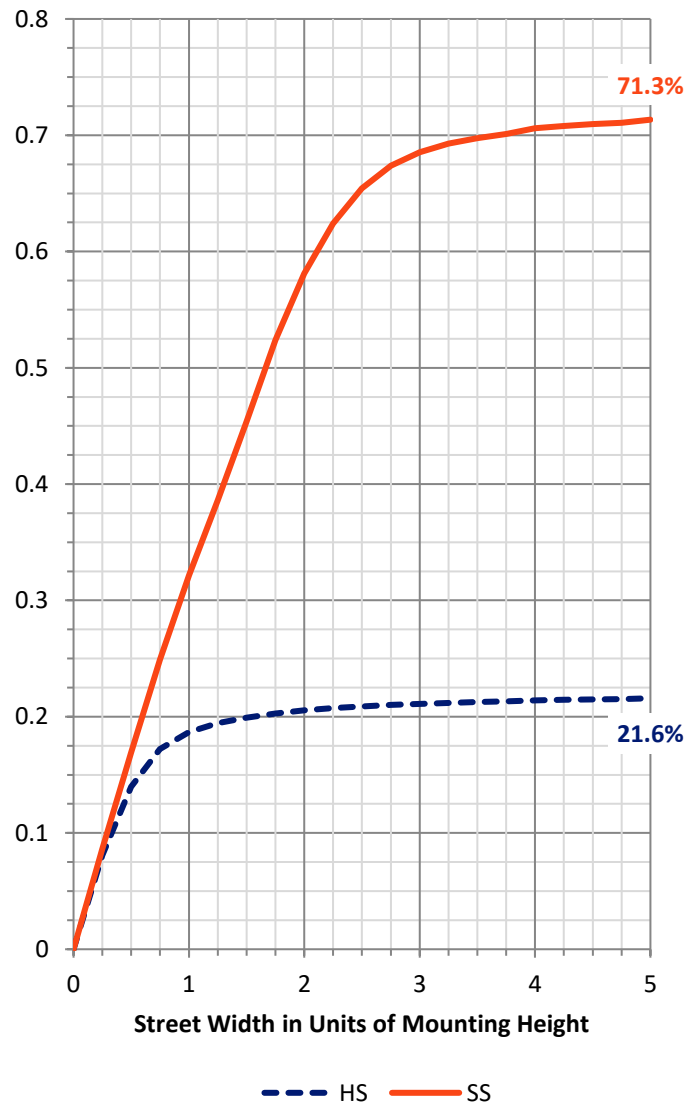
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1033.4	157.7	1191.1
	% Fixture	21.9	3.3	25.2
<b>Street Side</b>	Lumens	3376.5	157.7	3534.3
	% Fixture	71.5	3.3	74.8
<b>Total</b>	Lumens	4409.9	315.5	4725.4
	% Fixture	93.3	6.7	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	88.5	1.9
10°-20°	238.3	5.0
20°-30°	343.4	7.3
30°-40°	438.2	9.3
40°-50°	517.2	10.9
50°-60°	829.5	17.6
60°-70°	1396.0	29.5
70°-80°	519.2	11.0
80°-90°	39.5	0.8
90°-100°	1.3	0.0
100°-110°	12.3	0.3
110°-120°	25.2	0.5
120°-130°	43.0	0.9
130°-140°	60.0	1.3
140°-150°	65.4	1.4
150°-160°	56.9	1.2
160°-170°	38.2	0.8
170°-180°	13.3	0.3
0°-90°	4409.9	93.3
0°-180°	4725.4	100.0



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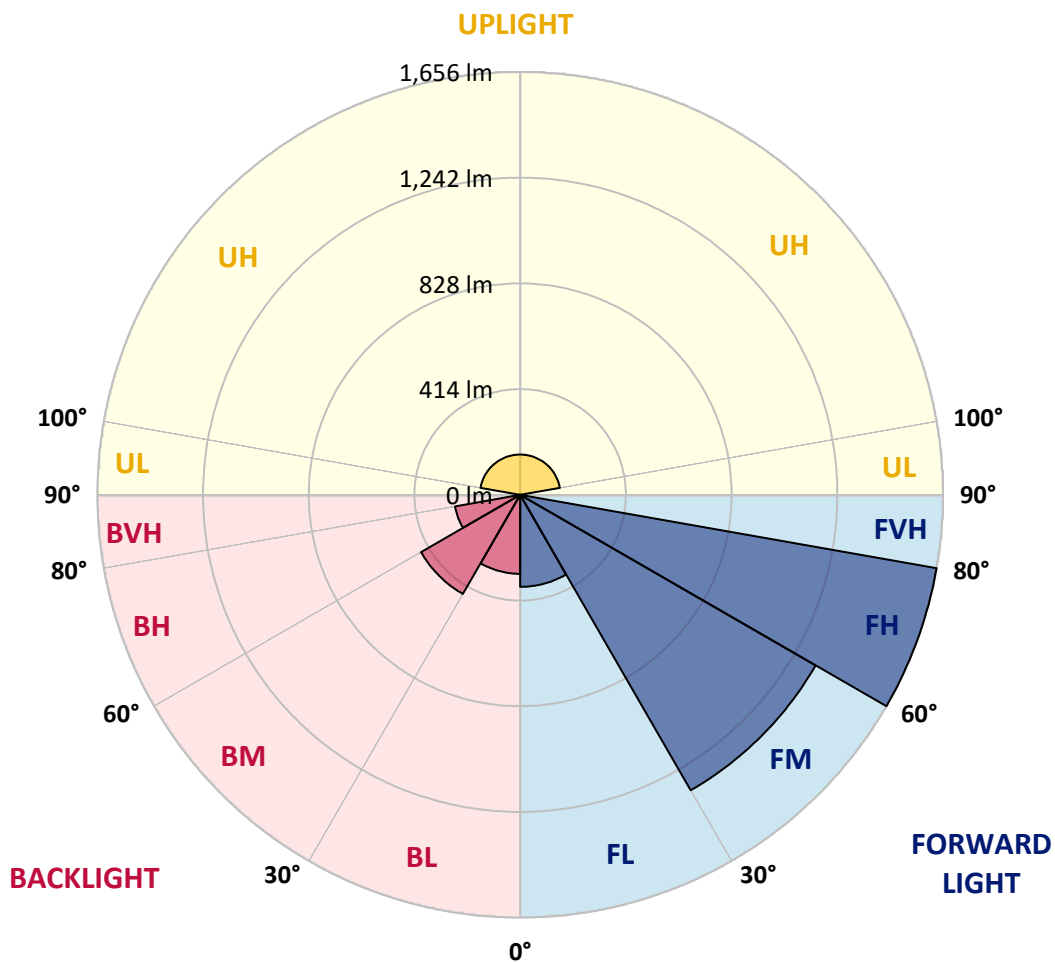
CATALOG NUMBER: ENV-E02-LED-E1-BL4-8030-ULG

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	360.5	7.6			
FM	(30°-60°)	1336.3	28.3			
FH	(60°-80°)	1656.3	35.1			G1/1800
FVH	(80°-90°)	23.4	0.5			G1/100
BL	(0°-30°)	309.8	6.6	B1/500		
BM	(30°-60°)	448.6	9.5	B1/1000		
BH	(60°-80°)	259.0	5.5	B1/500		G1/500
BVH	(80°-90°)	16.1	0.3			G1/100
UL	(90°-100°)	1.3	0.0		U1/10	
UH	(100°-180°)	157.7	3.3		U3/500	

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

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	60°	61°	62°	64°
0°	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9
2.5°	939.4	939.4	941.0	941.0	943.6	945.3	943.6	947.0	947.0	946.1	947.8
5°	925.9	925.9	926.7	926.7	928.4	930.9	929.2	932.6	931.8	932.6	932.6
7.5°	909.8	909.8	911.5	910.7	911.5	913.2	909.0	911.5	911.5	912.4	911.5
10°	889.6	891.3	892.9	892.1	892.1	892.9	886.2	888.7	887.9	887.9	887.0
12.5°	871.0	869.3	871.0	872.7	871.8	871.8	865.1	863.4	863.4	863.4	864.2
15°	851.6	853.3	855.8	853.3	851.6	848.2	841.5	839.8	839.8	839.8	840.6
17.5°	847.4	847.4	849.1	846.5	839.8	833.0	819.5	817.0	817.0	816.1	816.1
20°	859.2	858.3	860.9	855.8	840.6	822.9	801.8	797.6	797.6	797.6	796.7
22.5°	883.7	883.7	887.9	882.0	857.5	823.7	792.5	785.8	784.9	784.1	782.4
25°	930.9	930.1	932.6	917.4	882.0	834.7	790.0	779.8	779.0	777.3	775.6
27.5°	985.8	987.5	992.5	969.7	917.4	854.1	800.9	784.1	782.4	779.8	776.5
30°	1039.8	1044.9	1054.1	1029.7	957.9	878.6	817.8	798.4	795.0	791.7	785.8
32.5°	1108.2	1106.5	1121.7	1084.5	993.4	904.8	835.6	811.9	807.7	802.6	795.0
35°	1180.7	1184.1	1187.5	1127.6	1022.9	925.9	846.5	819.5	814.5	809.4	798.4
37.5°	1253.3	1254.2	1246.6	1162.2	1040.6	938.5	852.4	821.2	814.5	806.9	794.2
40°	1320.0	1317.5	1294.7	1188.3	1050.8	945.3	855.0	817.8	809.4	801.8	787.4
42.5°	1358.0	1355.4	1326.8	1200.2	1051.6	944.4	855.0	814.5	805.2	795.9	779.8
45°	1374.0	1372.3	1339.4	1201.8	1045.7	939.4	849.9	811.1	801.8	793.4	776.5
47.5°	1375.7	1375.7	1341.9	1199.3	1040.6	936.0	849.9	815.3	807.7	800.9	788.3
50°	1368.1	1369.0	1342.8	1206.1	1044.9	943.6	858.3	825.4	817.8	811.1	796.7
52.5°	1457.6	1449.1	1390.9	1236.4	1072.7	968.1	887.0	857.5	855.0	850.7	839.8
55°	2141.2	2148.0	1829.8	1426.3	1190.0	1093.8	1060.1	1054.1	1072.7	1079.5	1079.5
57.5°	2718.5	2696.6	2576.7	2081.3	1556.3	1440.7	1454.2	1468.5	1495.6	1507.4	1515.8
60°	2859.4	2861.1	2857.8	2716.8	2297.3	2034.0	1968.2	1905.7	1903.2	1881.3	1864.4
62.5°	2842.6	2856.1	2919.4	2951.4	2992.8	2799.5	2397.8	2224.8	2191.0	2149.6	2090.6
65°	2720.2	2740.4	2841.7	2997.9	3354.0	3512.7	2687.3	2377.5	2325.2	2275.4	2175.8
67.5°	2317.6	2361.5	2555.6	2850.2	3397.1	3798.8	2734.5	2303.3	2234.0	2169.1	2050.9
70°	1430.6	1453.4	1753.0	2299.9	3078.0	3463.7	2483.0	1954.7	1866.9	1784.2	1623.0
72.5°	923.3	915.7	966.4	1295.5	2261.9	2691.5	1707.4	1299.7	1228.0	1162.2	1058.4
75°	646.5	647.3	624.6	617.8	1049.1	1666.9	773.1	555.3	523.3	509.8	487.8
77.5°	421.2	426.2	420.3	436.3	420.3	692.9	355.3	260.8	248.1	239.7	226.2
80°	254.0	270.9	276.0	279.4	283.6	261.6	211.0	153.6	138.4	124.1	102.1
82.5°	44.7	43.9	60.8	81.9	107.2	122.4	88.6	55.7	52.3	50.6	46.4
85°	0.0	0.0	0.8	0.8	1.7	5.9	9.3	11.0	10.1	11.0	11.8
87.5°	0.0	0.0	0.0	0.8	0.8	1.7	1.7	1.7	1.7	1.7	1.7
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



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CATALOG NUMBER: ENV-E02-LED-E1-BL4-8030-ULG

**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





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**CANDELA DISTRIBUTION (continued):**

	65°	66°	67°	68°	69°	70°	71°	72°	73°	74°	75°
0°	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9
2.5°	947.8	947.0	946.1	946.1	947.8	947.8	947.0	947.0	947.8	947.0	948.6
5°	933.5	932.6	932.6	931.8	932.6	933.5	932.6	932.6	933.5	932.6	934.3
7.5°	910.7	911.5	910.7	910.7	911.5	912.4	911.5	911.5	911.5	911.5	910.7
10°	887.0	887.0	886.2	886.2	887.9	887.0	886.2	886.2	887.0	887.9	886.2
12.5°	863.4	865.1	865.1	861.7	862.6	863.4	863.4	862.6	862.6	865.1	862.6
15°	839.8	840.6	839.8	840.6	838.9	838.1	838.9	838.9	837.2	836.4	836.4
17.5°	816.1	815.3	815.3	813.6	812.8	812.8	811.9	812.8	811.1	811.9	809.4
20°	795.0	794.2	793.4	793.4	790.8	790.8	790.8	790.0	788.3	788.3	787.4
22.5°	782.4	781.5	780.7	779.0	778.2	777.3	777.3	776.5	774.8	773.9	773.1
25°	775.6	774.8	773.1	771.4	770.6	769.7	769.7	768.9	767.2	765.5	764.7
27.5°	776.5	774.8	773.1	771.4	770.6	768.9	768.0	767.2	765.5	763.8	762.1
30°	784.1	780.7	777.3	774.8	772.3	769.7	768.0	767.2	764.7	762.1	759.6
32.5°	791.7	787.4	782.4	777.3	773.1	768.9	766.3	763.8	760.4	756.2	753.7
35°	794.2	789.1	781.5	777.3	771.4	766.3	762.1	758.7	752.8	747.8	743.6
37.5°	788.3	782.4	774.8	768.9	763.0	756.2	751.2	746.1	741.9	736.0	731.7
40°	779.0	772.3	764.7	756.2	750.3	743.6	738.5	734.3	728.4	723.3	719.9
42.5°	771.4	763.8	755.4	748.6	741.9	735.1	729.2	725.0	719.1	713.2	709.0
45°	768.9	761.3	754.5	746.1	739.3	734.3	729.2	723.3	718.2	713.2	708.1
47.5°	782.4	775.6	768.9	762.1	756.2	750.3	745.2	739.3	733.4	726.7	721.6
50°	790.0	782.4	776.5	768.9	762.1	756.2	751.2	745.2	741.0	734.3	729.2
52.5°	844.8	834.7	836.4	829.6	829.6	822.9	828.0	820.4	824.6	819.5	827.1
55°	1076.9	1080.3	1101.4	1104.8	1113.2	1112.4	1117.4	1139.4	1130.9	1120.0	1123.4
57.5°	1493.0	1500.6	1511.6	1501.5	1509.1	1510.7	1525.1	1519.2	1514.1	1510.7	1499.8
60°	1854.2	1844.1	1828.1	1808.7	1801.1	1792.6	1778.3	1778.3	1759.7	1753.8	1739.5
62.5°	2066.1	2036.6	2016.3	1985.1	1963.1	1947.9	1922.6	1903.2	1877.9	1858.5	1835.7
65°	2135.3	2085.5	2050.1	2011.2	1976.6	1943.7	1907.4	1879.6	1848.3	1827.2	1790.9
67.5°	2001.1	1950.5	1890.5	1849.2	1812.9	1771.5	1715.0	1680.4	1653.4	1612.9	1595.1
70°	1558.0	1504.8	1429.7	1409.5	1353.8	1289.6	1232.2	1197.6	1158.0	1130.1	1100.6
72.5°	988.3	928.4	895.5	871.0	834.7	781.5	731.7	711.5	676.9	669.3	649.9
75°	464.2	423.7	415.2	409.3	369.7	362.1	346.9	340.1	324.1	315.7	312.3
77.5°	207.6	198.3	183.1	178.9	166.3	153.6	138.4	131.7	123.2	118.2	111.4
80°	94.5	85.2	79.3	75.1	73.4	69.2	65.8	63.3	60.8	60.8	56.5
82.5°	45.6	43.9	42.2	42.2	39.7	39.7	37.1	36.3	35.4	34.6	34.6
85°	12.7	12.7	12.7	13.5	13.5	13.5	13.5	13.5	13.5	14.3	14.3
87.5°	1.7	1.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
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



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CATALOG NUMBER: ENV-E02-LED-E1-BL4-8030-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



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**CANDELA DISTRIBUTION (continued):**

	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°	86°
0°	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9
2.5°	947.8	947.8	947.8	949.5	948.6	951.2	951.2	951.2	952.9	953.7	952.9
5°	934.3	934.3	934.3	935.1	935.1	936.8	936.8	938.5	938.5	939.4	939.4
7.5°	912.4	913.2	913.2	914.9	914.0	914.9	914.9	917.4	917.4	918.3	918.3
10°	887.0	887.9	887.9	887.9	888.7	889.6	889.6	891.3	892.1	892.1	893.8
12.5°	863.4	862.6	863.4	862.6	865.1	865.1	865.9	865.1	865.9	866.8	867.6
15°	837.2	837.2	836.4	837.2	837.2	836.4	835.6	836.4	838.1	838.1	838.1
17.5°	811.1	808.5	808.5	808.5	807.7	806.0	807.7	806.9	806.9	807.7	806.9
20°	786.6	785.8	784.9	784.1	783.2	780.7	780.7	780.7	779.8	779.8	779.8
22.5°	771.4	770.6	769.7	768.9	765.5	763.8	763.0	762.1	760.4	759.6	758.7
25°	763.0	761.3	759.6	757.9	755.4	752.8	750.3	749.5	747.8	746.1	743.6
27.5°	760.4	758.7	755.4	753.7	750.3	747.8	745.2	742.7	740.2	737.6	735.1
30°	756.2	753.7	750.3	747.8	745.2	741.0	737.6	735.1	730.9	728.4	725.0
32.5°	750.3	746.9	743.6	740.2	736.8	732.6	728.4	725.0	721.6	718.2	714.0
35°	740.2	736.0	730.9	727.5	723.3	719.1	715.7	709.8	707.3	703.0	698.8
37.5°	726.7	722.5	718.2	714.0	709.0	705.6	700.5	695.4	692.9	690.4	684.5
40°	714.9	709.8	705.6	702.2	696.3	693.8	688.7	683.6	680.3	677.7	672.7
42.5°	703.9	698.8	694.6	689.5	685.3	681.9	677.7	672.7	669.3	667.6	663.4
45°	703.9	698.0	692.9	688.7	684.5	680.3	676.9	671.8	669.3	665.9	663.4
47.5°	715.7	709.0	703.0	697.1	691.2	687.0	681.9	676.9	672.7	670.1	666.8
50°	724.1	717.4	714.0	707.3	703.9	698.0	692.1	689.5	685.3	682.8	681.9
52.5°	827.1	822.9	823.7	806.9	803.5	811.9	798.4	810.2	806.9	796.7	796.7
55°	1142.8	1141.1	1148.7	1127.6	1118.3	1135.2	1141.9	1117.4	1123.4	1123.4	1121.7
57.5°	1510.7	1499.8	1488.8	1491.3	1477.8	1488.0	1475.3	1460.1	1466.0	1460.9	1443.2
60°	1730.2	1723.4	1707.4	1692.2	1677.9	1664.4	1652.5	1639.0	1632.3	1620.5	1607.8
62.5°	1818.8	1801.1	1781.7	1761.4	1738.6	1716.7	1703.2	1685.4	1666.9	1655.1	1641.6
65°	1771.5	1745.4	1724.3	1694.7	1670.3	1643.3	1625.5	1605.3	1588.4	1568.1	1551.3
67.5°	1560.5	1530.2	1474.5	1447.4	1411.2	1369.0	1357.1	1332.7	1323.4	1293.0	1243.2
70°	1062.6	1032.2	998.4	943.6	908.1	871.8	832.2	803.5	799.3	774.8	738.5
72.5°	624.6	603.5	581.5	550.3	524.1	509.8	481.9	453.2	452.4	424.5	410.2
75°	295.4	284.4	262.5	254.9	231.3	229.6	211.8	208.5	211.8	203.4	201.7
77.5°	100.4	97.9	92.8	86.1	81.0	79.3	75.1	72.6	70.9	69.2	67.5
80°	54.9	53.2	52.3	49.8	48.1	47.3	44.7	43.9	43.0	42.2	41.4
82.5°	32.9	33.8	32.1	30.4	30.4	28.7	27.9	27.0	26.2	26.2	26.2
85°	13.5	14.3	13.5	12.7	11.8	12.7	12.7	11.8	11.0	11.8	11.8
87.5°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
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



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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°

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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°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°
952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9	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°
951.2	950.3	950.3	949.5	948.6	950.3	952.0	954.6	952.9	954.6	955.4	21.2	25.0	29.5	34.8	40.9	47.8	55.3	63.0	70.5	77.9	85.3	92.5	99.2	104.9	110.1	115.1	119.7	123.7	127.0	130.3	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8
937.7	937.7	937.7	938.5	937.7	940.2	943.6	948.6	949.5	952.9	955.4	29.5	34.8	40.9	47.8	55.3	63.0	70.5	77.9	85.3	92.5	99.2	104.9	110.1	115.1	119.7	123.7	127.0	130.3	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8		
915.7	915.7	916.6	917.4	916.6	920.0	925.9	931.8	936.0	941.9	947.0	34.8	40.9	47.8	55.3	63.0	70.5	77.9	85.3	92.5	99.2	104.9	110.1	115.1	119.7	123.7	127.0	130.3	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8			
890.4	890.4	890.4	890.4	891.3	895.5	899.7	906.4	913.2	922.5	930.1	40.9	47.8	55.3	63.0	70.5	77.9	85.3	92.5	99.2	104.9	110.1	115.1	119.7	123.7	127.0	130.3	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8				
867.6	865.1	865.9	867.6	865.9	865.9	870.2	875.2	879.4	891.3	904.8	47.8	55.3	63.0	70.5	77.9	85.3	92.5	99.2	104.9	110.1	115.1	119.7	123.7	127.0	130.3	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8					
837.2	837.2	835.6	836.4	832.2	831.3	833.0	836.4	839.8	849.9	864.2	55.3	63.0	70.5	77.9	85.3	92.5	99.2	104.9	110.1	115.1	119.7	123.7	127.0	130.3	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8						
805.2	805.2	805.2	802.6	799.3	790.8	790.0	790.0	790.0	797.6	814.5	63.0	70.5	77.9	85.3	92.5	99.2	104.9	110.1	115.1	119.7	123.7	127.0	130.3	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8							
776.5	776.5	774.8	773.1	765.5	751.2	739.3	734.3	732.6	745.2	752.8	70.5	77.9	85.3	92.5	99.2	104.9	110.1	115.1	119.7	123.7	127.0	130.3	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8								
756.2	755.4	752.0	750.3	738.5	715.7	697.1	682.8	678.6	682.8	685.3	77.9	85.3	92.5	99.2	104.9	110.1	115.1	119.7	123.7	127.0	130.3	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8									
740.2	738.5	735.1	731.7	715.7	684.5	654.9	630.5	618.6	615.3	606.8	85.3	92.5	99.2	104.9	110.1	115.1	119.7	123.7	127.0	130.3	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8										
730.9	728.4	723.3	719.9	698.8	659.2	620.3	588.3	566.3	550.3	535.1	92.5	99.2	104.9	110.1	115.1	119.7	123.7	127.0	130.3	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8											
720.8	716.5	711.5	706.4	682.8	638.9	594.2	554.5	515.7	487.8	465.9	99.2	104.9	110.1	115.1	119.7	123.7	127.0	130.3	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8												
709.0	704.7	699.7	694.6	668.4	620.3	573.1	524.1	470.1	432.1	399.2	104.9	110.1	115.1	119.7	123.7	127.0	130.3	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8													
694.6	690.4	685.3	679.4	653.2	605.1	558.7	494.6	429.6	380.6	337.6	110.1	115.1	119.7	123.7	127.0	130.3	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8														
680.3	676.0	671.0	665.1	638.9	597.5	550.3	466.7	392.5	332.5	276.0	115.1	119.7	123.7	127.0	130.3	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8															
669.3	665.1	660.0	654.9	631.3	594.2	546.1	443.1	359.5	285.3	220.3	119.7	123.7	127.0	130.3	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8																
660.0	655.8	651.6	646.5	626.2	595.9	536.8	422.8	327.5	238.0	173.0	123.7	127.0	130.3	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8																	
659.2	656.6	651.6	647.3	627.9	603.5	529.2	405.1	294.6	192.4	146.0	127.0	130.3	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8																		
665.1	661.7	658.3	654.9	639.7	622.9	524.1	386.5	257.4	155.3	139.3	130.3	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8																			
679.4	676.0	674.3	672.7	663.4	649.0	524.1	367.1	214.4	136.7	138.4	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8																				
795.0	785.8	783.2	790.0	764.7	692.9	527.5	343.5	168.0	130.8	139.3	136.0	137.1	137.4	138.6	140.5	141.1	140.8																					
1118.3	1127.6	1103.9	1092.1	1048.2	801.8	530.0	308.1	136.7	130.0	137.6	137.1	137.4	138.6	140.5	141.1	140.8																						
1444.9	1444.9	1436.5	1417.9	1363.9	987.5	541.8	251.5	124.9	128.3	135.9	137.4	138.6	140.5	141.1	140.8																							
1604.4	1594.3	1585.9	1574.9	1493.0	1116.6	559.6	185.7	119.8	127.4	134.2	138.6	140.5	141.1	140.8																								
1633.1	1617.1	1606.1	1591.8	1482.9	1123.4	567.2	139.3	114.8	127.4	130.0	140.5	141.1	140.8																									
1538.6	1521.7	1507.4	1483.7	1351.2	1017.0	529.2	113.9	111.4	124.1	125.8	141.1	140.8																										
1246.6	1226.3	1215.3	1203.5	1115.8	892.9	427.9	102.1	107.2	118.2	121.5	140.8																											
713.2	691.2	678.6	681.1	627.9	706.4	341.8	93.7	101.3	111.4	116.5																												
384.0	360.4	352.8	328.3	280.2	356.2	263.3	86.1	93.7	101.3	106.3																												
189.9	181.5	184.0	172.2	146.0	109.7	169.6	76.8	83.6	91.2	94.5																												
65.8	64.1	63.3	62.5	60.8	58.2	77.6	65.8	71.7	77.6	81.0																												
40.5	39.7	40.5	39.7	38.8	44.7	49.8	52.3	57.4	65.0	65.8																												
24.5	24.5	24.5	24.5	24.5	31.2	35.4	40.5	44.7	49.8	54.0																												
11.8	11.8	11.8	11.8	12.7	21.1	23.6	29.5	31.2	35.4	38.8																												
2.5	2.5	2.5	2.5	3.4	11.0	14.3	17.7	18.6	18.6	21.1																												
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	0.1																												
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																												

'160131  
 ENV-E02-LED-E1-BL4-8030-ULG

REPORT NUMBER: P160131  
 CATALOG NUMBER: ENV-E02-I

**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°	952.9	952.9
25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	2.5°	954.6	952.9
29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	5°	957.1	955.4
34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	7.5°	950.3	951.2
40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	10°	936.0	938.5
47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	12.5°	913.2	918.3
55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	15°	875.2	882.8
63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	17.5°	824.6	833.9
70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	20°	761.3	765.5
77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	22.5°	683.6	685.3
85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	25°	601.8	601.8
92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	27.5°	525.8	521.6
99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	30°	453.2	442.3
104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	32.5°	376.4	357.9
110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	35°	298.8	283.6
115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	37.5°	232.1	215.2
119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	40°	178.1	165.4
123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	42.5°	150.2	147.7
127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	45°	143.5	146.9
130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	47.5°	144.3	148.5
133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	50°	145.2	149.4
136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	52.5°	145.2	147.7
137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	55°	143.5	143.5
137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	57.5°	140.1	139.3
138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	60°	137.6	137.6
140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	62.5°	133.4	133.4
141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	65°	126.6	127.4
140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	67.5°	119.8	119.8
										70°	111.4	111.4
										72.5°	103.0	106.3
										75°	97.1	103.0
										77.5°	85.2	91.2
										80°	70.1	70.9
										82.5°	55.7	54.0
										85°	39.7	37.1
										87.5°	21.1	20.3
										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

LED-E1-BL4-8030-ULG

REPORT NUMBER: P160131

CATALOG NUMBER: ENV-E02-LED-E1-BL

**tinued):**

180°
952.9
952.0
954.6
950.3
939.4
921.6
881.1
833.9
763.0
682.8
598.4
519.1
438.9
357.9
279.4
210.2
164.6
148.5
146.9
149.4
150.2
147.7
143.5
140.9
137.6
133.4
127.4
<b>119.8</b>
113.1
108.0
105.5
94.5
70.9
51.5
37.1
21.1
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

