

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: P160188

Luminaire Tested: **ENV-F02-LED-E1-BL4-7030-ULG**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P160188
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-F02-LED-E1-BL4-7030-ULG
Description: ENTRI LED LUMINAIRE WITH UPLIGHT
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (14) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4255.2 lumens
Efficiency: N/A
Efficacy: 74.3 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

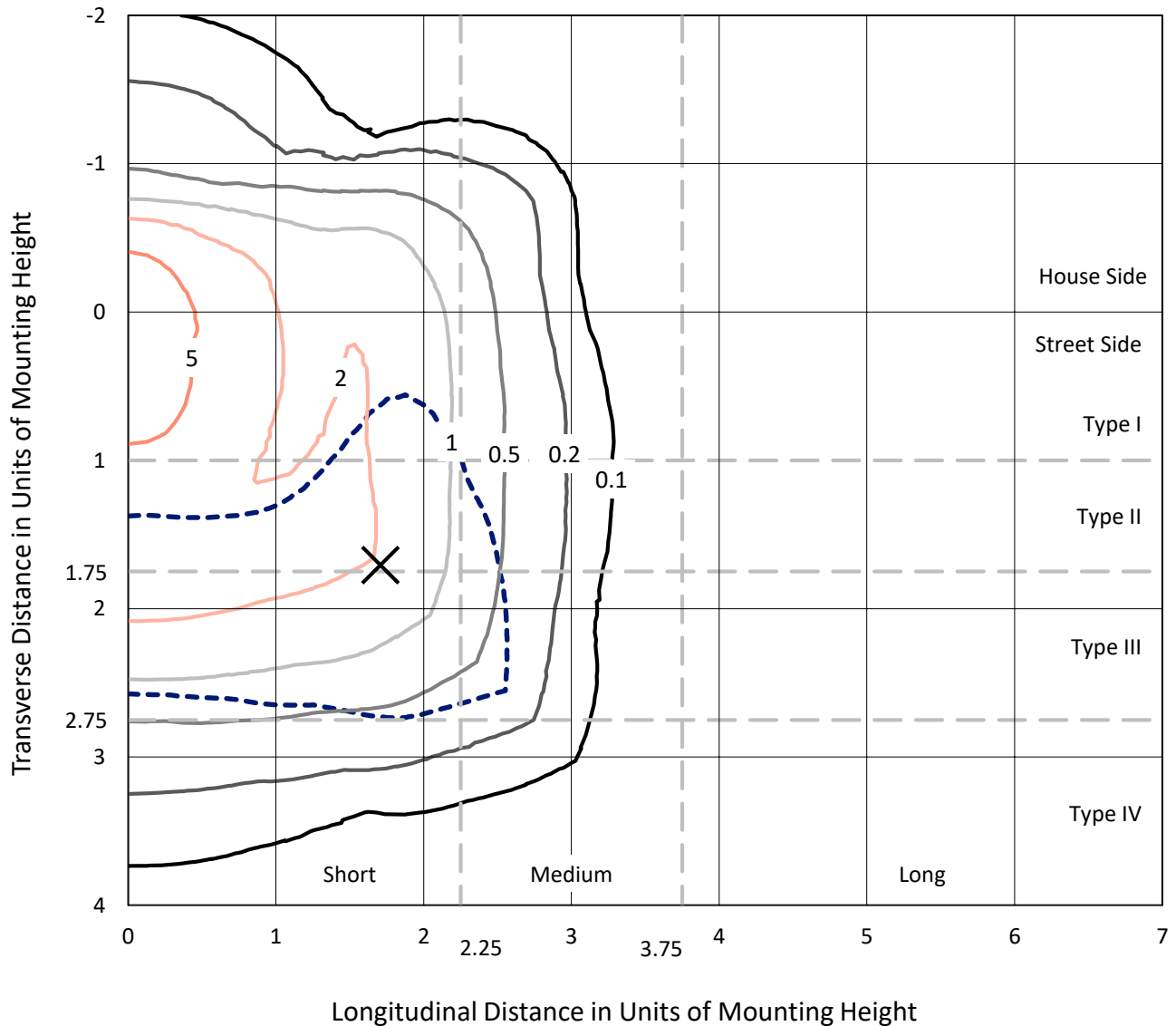
Input Watts (W): 57.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

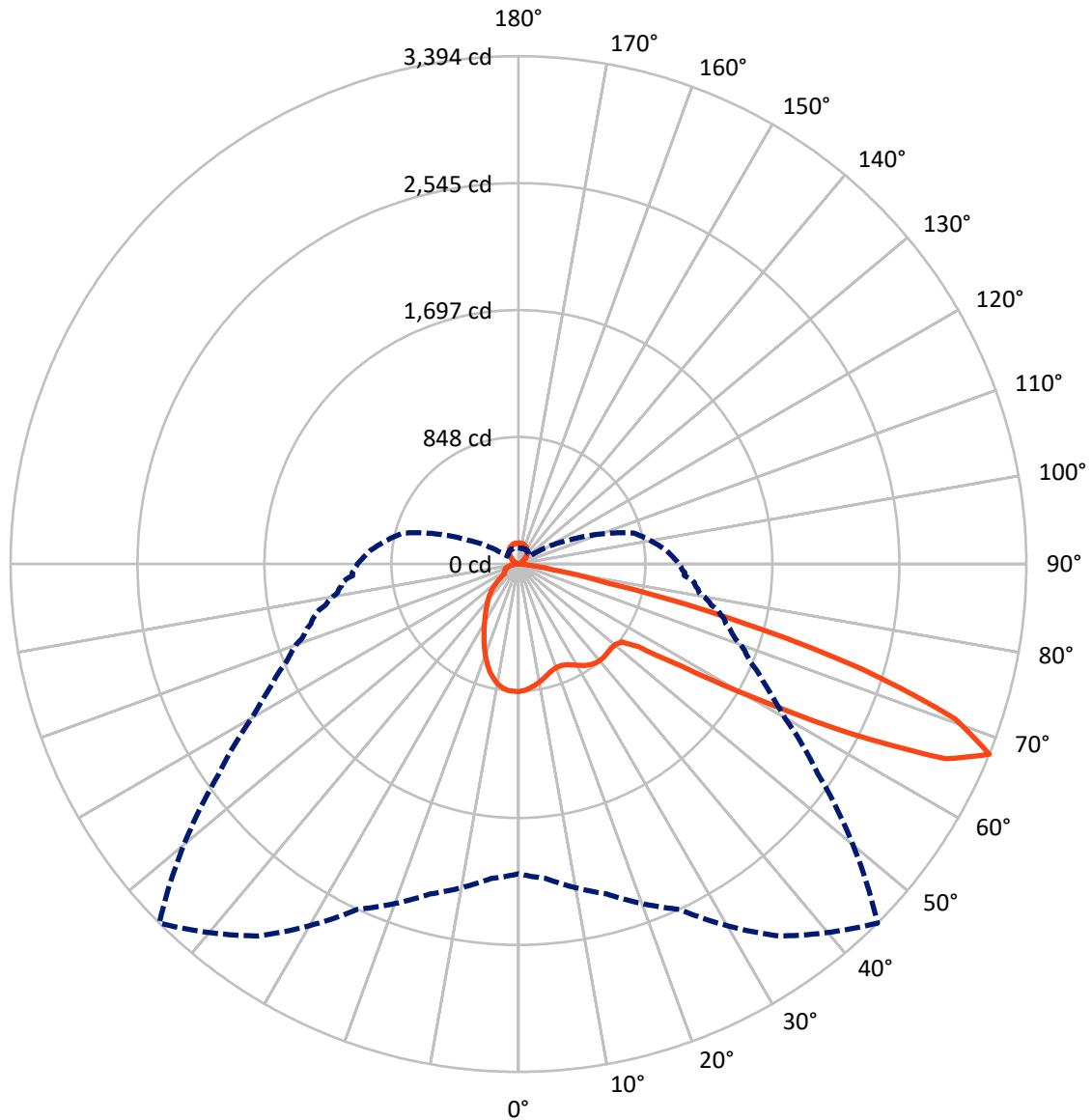
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 8.5 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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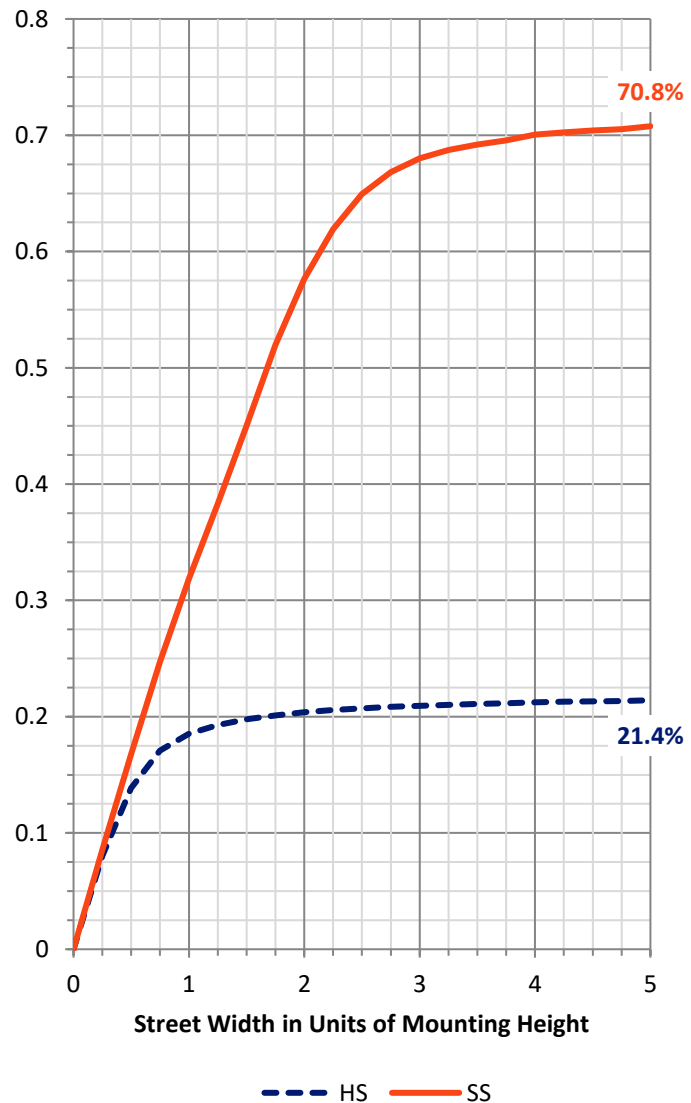
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	923.2	157.7	1080.9
	% Fixture	21.7	3.7	25.4
Street Side	Lumens	3016.5	157.7	3174.2
	% Fixture	70.9	3.7	74.6
Total	Lumens	3939.7	315.5	4255.2
	% Fixture	92.6	7.4	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.1	1.9
10°-20°	212.9	5.0
20°-30°	306.8	7.2
30°-40°	391.5	9.2
40°-50°	462.1	10.9
50°-60°	741.0	17.4
60°-70°	1247.2	29.3
70°-80°	463.9	10.9
80°-90°	35.3	0.8
90°-100°	1.3	0.0
100°-110°	12.3	0.3
110°-120°	25.2	0.6
120°-130°	43.0	1.0
130°-140°	60.0	1.4
140°-150°	65.4	1.5
150°-160°	56.9	1.3
160°-170°	38.2	0.9
170°-180°	13.3	0.3
0°-90°	3939.7	92.6
0°-180°	4255.2	100.0



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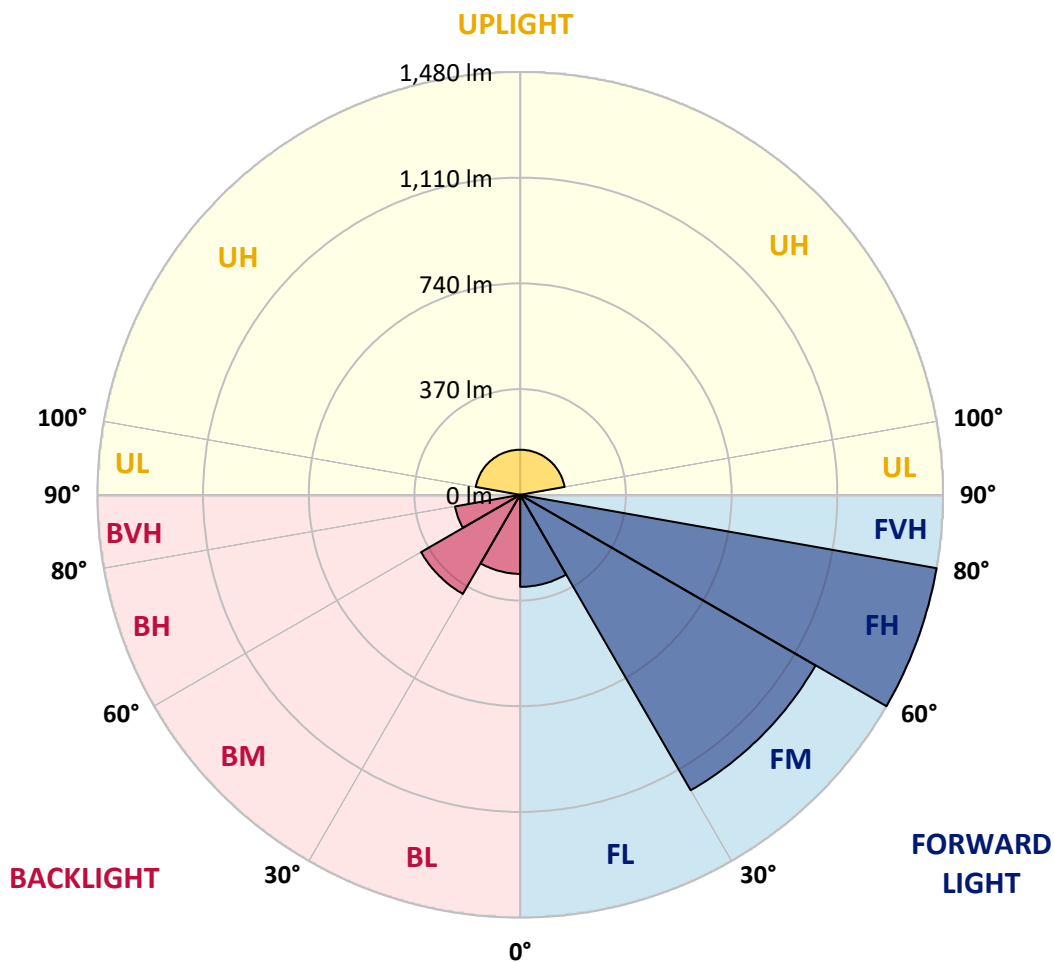
CATALOG NUMBER: ENV-F02-LED-E1-BL4-7030-ULG

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	322.0	7.6			
FM	(30°-60°)	1193.8	28.1			
FH	(60°-80°)	1479.7	34.8			G1/1800
FVH	(80°-90°)	20.9	0.5			G1/100
BL	(0°-30°)	276.7	6.5	B1/500		
BM	(30°-60°)	400.8	9.4	B1/1000		
BH	(60°-80°)	231.4	5.4	B1/500		G1/500
BVH	(80°-90°)	14.4	0.3			G1/100
UL	(90°-100°)	1.3	0.0		U1/10	
UH	(100°-180°)	157.7	3.7		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°	851.3	851.3	851.3	851.3	851.3	851.3	851.3	851.3	851.3	851.3	851.3
2.5°	839.2	839.2	840.7	840.7	843.0	844.5	843.0	846.0	846.0	845.2	846.7
5°	827.1	827.1	827.9	827.9	829.4	831.7	830.1	833.2	832.4	833.2	833.2
7.5°	812.8	812.8	814.3	813.6	814.3	815.8	812.1	814.3	814.3	815.1	814.3
10°	794.7	796.2	797.7	797.0	797.0	797.7	791.7	794.0	793.2	793.2	792.4
12.5°	778.1	776.6	778.1	779.6	778.9	778.9	772.8	771.3	771.3	771.3	772.1
15°	760.8	762.3	764.5	762.3	760.8	757.8	751.7	750.2	750.2	750.2	751.0
17.5°	757.0	757.0	758.5	756.3	750.2	744.2	732.1	729.9	729.9	729.1	729.1
20°	767.6	766.8	769.1	764.5	751.0	735.1	716.3	712.5	712.5	712.5	711.8
22.5°	789.4	789.4	793.2	787.9	766.1	735.9	708.0	702.0	701.2	700.5	699.0
25°	831.7	830.9	833.2	819.6	787.9	745.7	705.7	696.7	695.9	694.4	692.9
27.5°	880.7	882.2	886.7	866.3	819.6	763.0	715.5	700.5	699.0	696.7	693.7
30°	928.9	933.4	941.7	919.9	855.8	784.9	730.6	713.3	710.3	707.2	702.0
32.5°	990.0	988.5	1002.1	968.9	887.5	808.3	746.5	725.3	721.6	717.0	710.3
35°	1054.8	1057.9	1060.9	1007.3	913.8	827.1	756.3	732.1	727.6	723.1	713.3
37.5°	1119.7	1120.4	1113.6	1038.2	929.7	838.4	761.5	733.6	727.6	720.8	709.5
40°	1179.2	1177.0	1156.6	1061.6	938.7	844.5	763.8	730.6	723.1	716.3	703.5
42.5°	1213.2	1210.9	1185.3	1072.2	939.5	843.7	763.8	727.6	719.3	711.0	696.7
45°	1227.5	1226.0	1196.6	1073.7	934.2	839.2	759.3	724.6	716.3	708.8	693.7
47.5°	1229.0	1229.0	1198.8	1071.4	929.7	836.2	759.3	728.4	721.6	715.5	704.2
50°	1222.2	1223.0	1199.6	1077.5	933.4	843.0	766.8	737.4	730.6	724.6	711.8
52.5°	1302.1	1294.6	1242.6	1104.6	958.3	864.8	792.4	766.1	763.8	760.0	750.2
55°	1912.9	1918.9	1634.7	1274.2	1063.1	977.2	947.0	941.7	958.3	964.4	964.4
57.5°	2428.6	2409.0	2301.9	1859.3	1390.4	1287.1	1299.1	1311.9	1336.1	1346.6	1354.2
60°	2554.5	2556.0	2553.0	2427.1	2052.4	1817.1	1758.3	1702.5	1700.3	1680.7	1665.6
62.5°	2539.5	2551.5	2608.1	2636.7	2673.7	2501.0	2142.1	1987.5	1957.4	1920.4	1867.6
65°	2430.1	2448.2	2538.7	2678.2	2996.4	3138.1	2400.7	2124.0	2077.3	2032.8	1943.8
67.5°	2070.5	2109.7	2283.1	2546.2	3034.8	3393.7	2442.9	2057.6	1995.8	1937.8	1832.2
70°	1278.0	1298.4	1566.0	2054.6	2749.8	3094.4	2218.2	1746.2	1667.8	1593.9	1449.9
72.5°	824.9	818.1	863.3	1157.4	2020.7	2404.5	1525.3	1161.1	1097.1	1038.2	945.5
75°	577.6	578.3	558.0	551.9	937.2	1489.1	690.7	496.1	467.5	455.4	435.8
77.5°	376.2	380.8	375.5	389.8	375.5	619.0	317.4	233.0	221.7	214.1	202.1
80°	227.0	242.0	246.6	249.6	253.3	233.7	188.5	137.2	123.7	110.8	91.2
82.5°	40.0	39.2	54.3	73.1	95.8	109.3	79.2	49.8	46.7	45.2	41.5
85°	0.0	0.0	0.8	0.8	1.5	5.3	8.3	9.8	9.0	9.8	10.6
87.5°	0.0	0.0	0.0	0.8	0.8	1.5	1.5	1.5	1.5	1.5	1.5
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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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°	851.3	851.3	851.3	851.3	851.3	851.3	851.3	851.3	851.3	851.3	851.3
2.5°	846.7	846.0	845.2	845.2	846.7	846.7	846.0	846.0	846.7	846.0	847.5
5°	833.9	833.2	833.2	832.4	833.2	833.9	833.2	833.2	833.9	833.2	834.7
7.5°	813.6	814.3	813.6	813.6	814.3	815.1	814.3	814.3	814.3	814.3	813.6
10°	792.4	792.4	791.7	791.7	793.2	792.4	791.7	791.7	792.4	793.2	791.7
12.5°	771.3	772.8	772.8	769.8	770.6	771.3	771.3	770.6	770.6	772.8	770.6
15°	750.2	751.0	750.2	751.0	749.5	748.7	749.5	749.5	748.0	747.2	747.2
17.5°	729.1	728.4	728.4	726.8	726.1	726.1	725.3	726.1	724.6	725.3	723.1
20°	710.3	709.5	708.8	708.8	706.5	706.5	706.5	705.7	704.2	704.2	703.5
22.5°	699.0	698.2	697.4	695.9	695.2	694.4	694.4	693.7	692.2	691.4	690.7
25°	692.9	692.2	690.7	689.2	688.4	687.6	687.6	686.9	685.4	683.9	683.1
27.5°	693.7	692.2	690.7	689.2	688.4	686.9	686.1	685.4	683.9	682.4	680.9
30°	700.5	697.4	694.4	692.2	689.9	687.6	686.1	685.4	683.1	680.9	678.6
32.5°	707.2	703.5	699.0	694.4	690.7	686.9	684.6	682.4	679.3	675.6	673.3
35°	709.5	705.0	698.2	694.4	689.2	684.6	680.9	677.8	672.6	668.0	664.3
37.5°	704.2	699.0	692.2	686.9	681.6	675.6	671.1	666.5	662.8	657.5	653.7
40°	695.9	689.9	683.1	675.6	670.3	664.3	659.7	656.0	650.7	646.2	643.2
42.5°	689.2	682.4	674.8	668.8	662.8	656.7	651.5	647.7	642.4	637.1	633.4
45°	686.9	680.1	674.1	666.5	660.5	656.0	651.5	646.2	641.6	637.1	632.6
47.5°	699.0	692.9	686.9	680.9	675.6	670.3	665.8	660.5	655.2	649.2	644.7
50°	705.7	699.0	693.7	686.9	680.9	675.6	671.1	665.8	662.0	656.0	651.5
52.5°	754.7	745.7	747.2	741.2	741.2	735.1	739.7	732.9	736.7	732.1	738.9
55°	962.1	965.1	984.0	987.0	994.5	993.8	998.3	1017.9	1010.4	1000.5	1003.6
57.5°	1333.8	1340.6	1350.4	1341.4	1348.1	1349.6	1362.5	1357.2	1352.7	1349.6	1339.8
60°	1656.5	1647.5	1633.1	1615.8	1609.0	1601.5	1588.7	1588.7	1572.1	1566.8	1554.0
62.5°	1845.8	1819.4	1801.3	1773.4	1753.8	1740.2	1717.6	1700.3	1677.6	1660.3	1639.9
65°	1907.6	1863.1	1831.5	1796.8	1765.9	1736.4	1704.0	1679.1	1651.2	1632.4	1600.0
67.5°	1787.7	1742.5	1688.9	1652.0	1619.6	1582.6	1532.1	1501.2	1477.1	1440.9	1425.0
70°	1391.9	1344.4	1277.3	1259.2	1209.4	1152.1	1100.8	1069.9	1034.5	1009.6	983.2
72.5°	882.9	829.4	800.0	778.1	745.7	698.2	653.7	635.6	604.7	597.9	580.6
75°	414.7	378.5	371.0	365.7	330.2	323.5	309.9	303.9	289.5	282.0	279.0
77.5°	185.5	177.2	163.6	159.8	148.5	137.2	123.7	117.6	110.1	105.6	99.5
80°	84.4	76.2	70.9	67.1	65.6	61.8	58.8	56.5	54.3	54.3	50.5
82.5°	40.7	39.2	37.7	37.7	35.4	35.4	33.2	32.4	31.7	30.9	30.9
85°	11.3	11.3	11.3	12.1	12.1	12.1	12.1	12.1	12.1	12.8	12.8
87.5°	1.5	1.5	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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-F02-LED-E1-BL4-7030-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: P160188
 CATALOG NUMBER: ENV-F02-LED-E1-BL4-7030-ULG

CANDELA DISTRIBUTION (continued):

	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°	86°
0°	851.3	851.3	851.3	851.3	851.3	851.3	851.3	851.3	851.3	851.3	851.3
2.5°	846.7	846.7	846.7	848.2	847.5	849.8	849.8	849.8	851.3	852.0	851.3
5°	834.7	834.7	834.7	835.4	835.4	836.9	836.9	838.4	838.4	839.2	839.2
7.5°	815.1	815.8	815.8	817.3	816.6	817.3	817.3	819.6	819.6	820.3	820.3
10°	792.4	793.2	793.2	793.2	794.0	794.7	794.7	796.2	797.0	797.0	798.5
12.5°	771.3	770.6	771.3	770.6	772.8	772.8	773.6	772.8	773.6	774.4	775.1
15°	748.0	748.0	747.2	748.0	748.0	747.2	746.5	747.2	748.7	748.7	748.7
17.5°	724.6	722.3	722.3	722.3	721.6	720.1	721.6	720.8	720.8	721.6	720.8
20°	702.7	702.0	701.2	700.5	699.7	697.4	697.4	697.4	696.7	696.7	696.7
22.5°	689.2	688.4	687.6	686.9	683.9	682.4	681.6	680.9	679.3	678.6	677.8
25°	681.6	680.1	678.6	677.1	674.8	672.6	670.3	669.5	668.0	666.5	664.3
27.5°	679.3	677.8	674.8	673.3	670.3	668.0	665.8	663.5	661.3	659.0	656.7
30°	675.6	673.3	670.3	668.0	665.8	662.0	659.0	656.7	653.0	650.7	647.7
32.5°	670.3	667.3	664.3	661.3	658.2	654.5	650.7	647.7	644.7	641.6	637.9
35°	661.3	657.5	653.0	649.9	646.2	642.4	639.4	634.1	631.8	628.1	624.3
37.5°	649.2	645.4	641.6	637.9	633.4	630.3	625.8	621.3	619.0	616.8	611.5
40°	638.6	634.1	630.3	627.3	622.0	619.8	615.3	610.7	607.7	605.5	600.9
42.5°	628.8	624.3	620.5	616.0	612.2	609.2	605.5	600.9	597.9	596.4	592.6
45°	628.8	623.6	619.0	615.3	611.5	607.7	604.7	600.2	597.9	594.9	592.6
47.5°	639.4	633.4	628.1	622.8	617.5	613.8	609.2	604.7	600.9	598.7	595.7
50°	646.9	640.9	637.9	631.8	628.8	623.6	618.3	616.0	612.2	610.0	609.2
52.5°	738.9	735.1	735.9	720.8	717.8	725.3	713.3	723.8	720.8	711.8	711.8
55°	1020.9	1019.4	1026.2	1007.3	999.0	1014.1	1020.2	998.3	1003.6	1003.6	1002.1
57.5°	1349.6	1339.8	1330.0	1332.3	1320.2	1329.3	1318.0	1304.4	1309.7	1305.2	1289.3
60°	1545.7	1539.7	1525.3	1511.8	1498.9	1486.9	1476.3	1464.3	1458.2	1447.7	1436.4
62.5°	1624.9	1609.0	1591.7	1573.6	1553.2	1533.6	1521.6	1505.7	1489.1	1478.6	1466.5
65°	1582.6	1559.3	1540.4	1514.0	1492.2	1468.0	1452.2	1434.1	1419.0	1400.9	1385.8
67.5°	1394.1	1367.0	1317.2	1293.1	1260.7	1223.0	1212.4	1190.6	1182.3	1155.1	1110.6
70°	949.3	922.1	892.0	843.0	811.3	778.9	743.4	717.8	714.0	692.2	659.7
72.5°	558.0	539.1	519.5	491.6	468.2	455.4	430.5	404.9	404.1	379.3	366.4
75°	263.9	254.1	234.5	227.7	206.6	205.1	189.3	186.2	189.3	181.7	180.2
77.5°	89.7	87.5	82.9	76.9	72.4	70.9	67.1	64.8	63.3	61.8	60.3
80°	49.0	47.5	46.7	44.5	43.0	42.2	40.0	39.2	38.5	37.7	36.9
82.5°	29.4	30.2	28.7	27.1	27.1	25.6	24.9	24.1	23.4	23.4	23.4
85°	12.1	12.8	12.1	11.3	10.6	11.3	11.3	10.6	9.8	10.6	10.6
87.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°			
851.3	851.3	851.3	851.3	851.3	851.3	851.3	851.3	851.3	851.3	851.3	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°			
849.8	849.0	849.0	848.2	847.5	849.0	850.5	852.8	851.3	852.8	853.5	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		
837.7	837.7	837.7	838.4	837.7	839.9	843.0	847.5	848.2	851.3	853.5																														
818.1	818.1	818.8	819.6	818.8	821.9	827.1	832.4	836.2	841.5	846.0																														
795.5	795.5	795.5	795.5	796.2	800.0	803.8	809.8	815.8	824.1	830.9																														
775.1	772.8	773.6	775.1	773.6	773.6	777.4	781.9	785.7	796.2	808.3																														
748.0	748.0	746.5	747.2	743.4	742.7	744.2	747.2	750.2	759.3	772.1																														
719.3	719.3	719.3	717.0	714.0	706.5	705.7	705.7	705.7	712.5	727.6																														
693.7	693.7	692.2	690.7	683.9	671.1	660.5	656.0	654.5	665.8	672.6																														
675.6	674.8	671.8	670.3	659.7	639.4	622.8	610.0	606.2	610.0	612.2																														
661.3	659.7	656.7	653.7	639.4	611.5	585.1	563.2	552.7	549.7	542.1																														
653.0	650.7	646.2	643.2	624.3	588.9	554.2	525.5	505.9	491.6	478.0																														
643.9	640.1	635.6	631.1	610.0	570.8	530.8	495.4	460.7	435.8	416.2																														
633.4	629.6	625.1	620.5	597.2	554.2	512.0	468.2	420.0	386.0	356.6																														
620.5	616.8	612.2	607.0	583.6	540.6	499.1	441.8	383.8	340.1	301.6																														
607.7	603.9	599.4	594.1	570.8	533.8	491.6	417.0	350.6	297.1	246.6																														
597.9	594.1	589.6	585.1	564.0	530.8	487.8	395.8	321.2	254.8	196.8																														
589.6	585.9	582.1	577.6	559.5	532.3	479.5	377.8	292.5	212.6	154.6																														
588.9	586.6	582.1	578.3	561.0	539.1	472.8	361.9	263.1	171.9	130.4																														
594.1	591.1	588.1	585.1	571.5	556.4	468.2	345.3	230.0	138.7	124.4																														
607.0	603.9	602.4	600.9	592.6	579.8	468.2	328.0	191.5	122.1	123.7																														
710.3	702.0	699.7	705.7	683.1	619.0	471.2	306.9	150.0	116.9	124.4																														
999.0	1007.3	986.2	975.7	936.5	716.3	473.5	275.2	122.1	116.1	122.9																														
1290.8	1290.8	1283.3	1266.7	1218.5	882.2	484.1	224.7	111.6	114.6	121.4																														
1433.3	1424.3	1416.8	1407.0	1333.8	997.5	499.9	165.9	107.1	113.9	119.9																														
1459.0	1444.7	1434.8	1422.0	1324.8	1003.6	506.7	124.4	102.5	113.9	116.1																														
1374.5	1359.5	1346.6	1325.5	1207.1	908.6	472.8	101.8	99.5	110.8	112.3																														
1113.6	1095.6	1085.8	1075.2	996.8	797.7	382.3	91.2	95.8	105.6	108.6																														
637.1	617.5	606.2	608.5	561.0	631.1	305.4	83.7	90.5	99.5	104.1																														
343.1	322.0	315.2	293.3	250.3	318.2	235.2	76.9	83.7	90.5	95.0																														
169.6	162.1	164.4	153.8	130.4	98.0	151.6	68.6	74.6	81.4	84.4																														
58.8	57.3	56.5	55.8	54.3	52.0	69.4	58.8	64.1	69.4	72.4																														
36.2	35.4	36.2	35.4	34.7	40.0	44.5	46.7	51.3	58.1	58.8																														
21.9	21.9	21.9	21.9	21.9	27.9	31.7	36.2	40.0	44.5	48.3																														
10.6	10.6	10.6	10.6	11.3	18.8	21.1	26.4	27.9	31.7	34.7																														
2.3	2.3	2.3	2.3	3.0	9.8	12.8	15.8	16.6	16.6	18.8																														
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																														

'160188
 ENV-F02-LED-E1-BL4-7030-ULG

REPORT NUMBER: P160188
 CATALOG NUMBER: ENV-F02-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°	851.3	851.3
25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	2.5°	852.8	851.3
29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	5°	855.0	853.5
34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	7.5°	849.0	849.8
40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	10°	836.2	838.4
47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	12.5°	815.8	820.3
55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	15°	781.9	788.7
63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	17.5°	736.7	744.9
70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	20°	680.1	683.9
77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	22.5°	610.7	612.2
85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	25°	537.6	537.6
92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	27.5°	469.7	466.0
99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	30°	404.9	395.1
104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	32.5°	336.3	319.7
110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	35°	266.9	253.3
115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	37.5°	207.3	192.3
119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	40°	159.1	147.8
123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	42.5°	134.2	131.9
127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	45°	128.2	131.2
130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	47.5°	128.9	132.7
133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	50°	129.7	133.5
136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	52.5°	129.7	131.9
137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	55°	128.2	128.2
137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	57.5°	125.2	124.4
138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	60°	122.9	122.9
140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	62.5°	119.1	119.1
141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	65°	113.1	113.9
140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	67.5°	107.1	107.1
										70°	99.5	99.5
										72.5°	92.0	95.0
										75°	86.7	92.0
										77.5°	76.2	81.4
										80°	62.6	63.3
										82.5°	49.8	48.3
										85°	35.4	33.2
										87.5°	18.8	18.1
										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: P160188

CATALOG NUMBER: ENV-F02-LED-E1-BL

LED-E1-BL4-7030-ULG

tinued):

180°
851.3
850.5
852.8
849.0
839.2
823.4
787.2
744.9
681.6
610.0
534.6
463.7
392.1
319.7
249.6
187.7
147.0
132.7
131.2
133.5
134.2
131.9
128.2
125.9
122.9
119.1
113.9
107.1
101.0
96.5
94.2
84.4
63.3
46.0
33.2
18.8
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

