

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: P160099

Luminaire Tested: **ENV-E01-LED-E1-BL4-7050-ULG**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P160099
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: ENV-E01-LED-E1-BL4-7050-ULG
Description: ENTRI LED LUMINAIRE WITH UPLIGHT
(1) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (21) 5000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2996.2 lumens
Efficiency: N/A
Efficacy: 91.6 lumens/watt
Luminous Opening: Rectangular (W 0.17' x L: 1' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B1 - U3 - G1

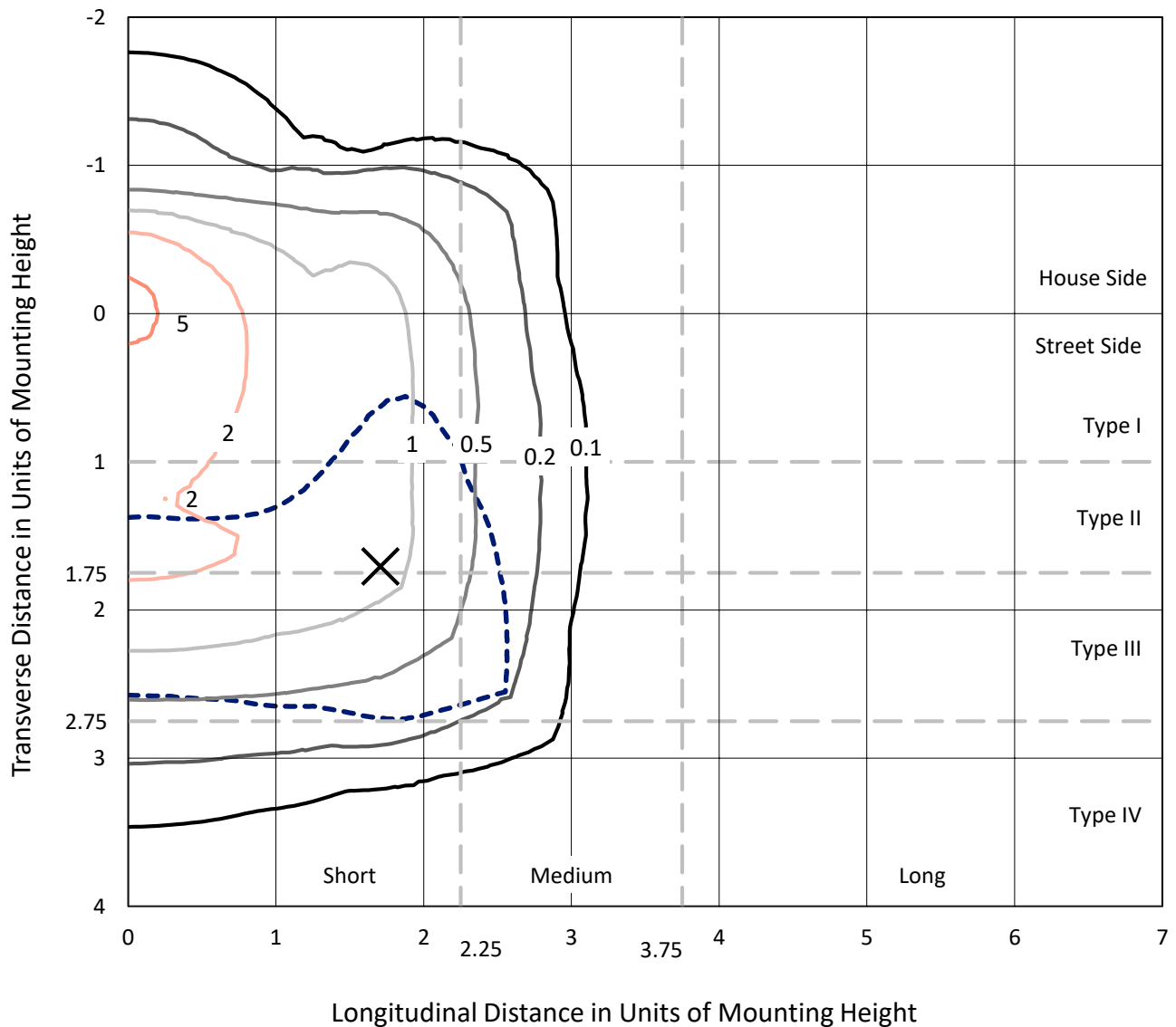
Input Watts (W): 32.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

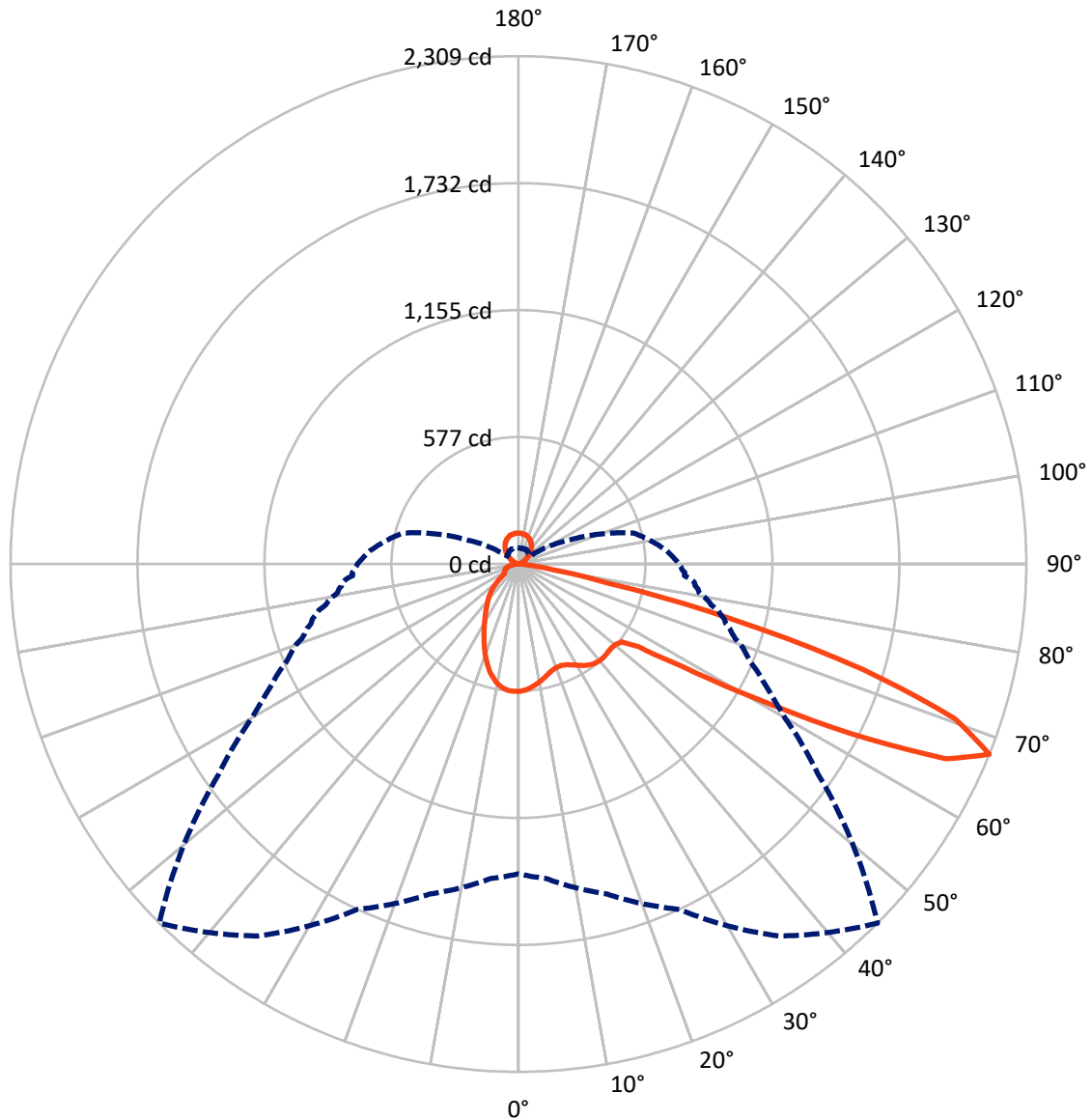
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 5.8 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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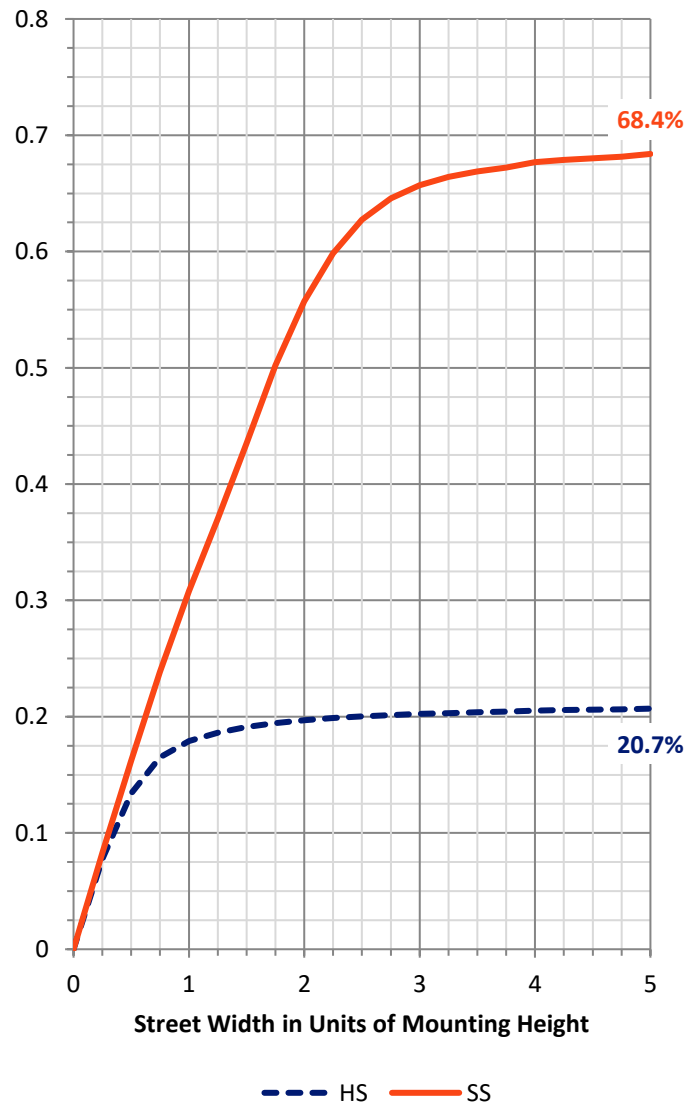
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	628.2	157.7	785.9
	% Fixture	21.0	5.3	26.2
Street Side	Lumens	2052.6	157.7	2210.3
	% Fixture	68.5	5.3	73.8
Total	Lumens	2680.7	315.5	2996.2
	% Fixture	89.5	10.5	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	53.8	1.8
10°-20°	144.8	4.8
20°-30°	208.8	7.0
30°-40°	266.4	8.9
40°-50°	314.4	10.5
50°-60°	504.2	16.8
60°-70°	848.6	28.3
70°-80°	315.6	10.5
80°-90°	24.0	0.8
90°-100°	1.3	0.0
100°-110°	12.3	0.4
110°-120°	25.2	0.8
120°-130°	43.0	1.4
130°-140°	60.0	2.0
140°-150°	65.4	2.2
150°-160°	56.9	1.9
160°-170°	38.2	1.3
170°-180°	13.3	0.4
0°-90°	2680.7	89.5
0°-180°	2996.2	100.0



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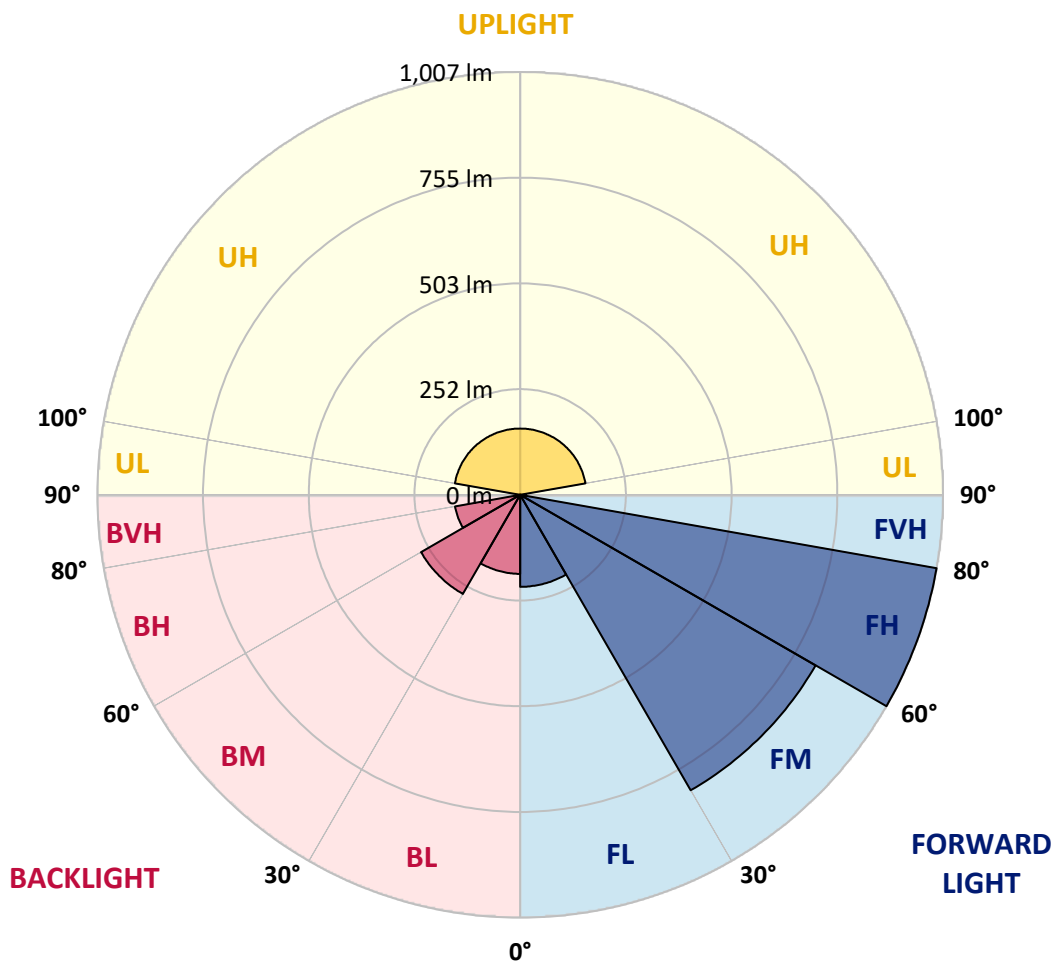
CATALOG NUMBER: ENV-E01-LED-E1-BL4-7050-ULG

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	219.1	7.3			
FM	(30°-60°)	812.3	27.1			
FH	(60°-80°)	1006.8	33.6			G1/1800
FVH	(80°-90°)	14.2	0.5			G1/100
BL	(0°-30°)	188.3	6.3	B1/500		
BM	(30°-60°)	272.7	9.1	B1/1000		
BH	(60°-80°)	157.4	5.3	B1/500		G1/500
BVH	(80°-90°)	9.8	0.3			G0/10
UL	(90°-100°)	1.3	0.0		U1/10	
UH	(100°-180°)	157.7	5.3		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°	579.2	579.2	579.2	579.2	579.2	579.2	579.2	579.2	579.2	579.2	579.2
2.5°	571.0	571.0	572.1	572.1	573.6	574.6	573.6	575.6	575.6	575.1	576.2
5°	562.8	562.8	563.3	563.3	564.4	565.9	564.9	566.9	566.4	566.9	566.9
7.5°	553.1	553.1	554.1	553.6	554.1	555.1	552.6	554.1	554.1	554.6	554.1
10°	540.8	541.8	542.8	542.3	542.3	542.8	538.7	540.2	539.7	539.7	539.2
12.5°	529.5	528.4	529.5	530.5	530.0	530.0	525.9	524.9	524.9	524.9	525.4
15°	517.7	518.7	520.2	518.7	517.7	515.6	511.5	510.5	510.5	510.5	511.0
17.5°	515.1	515.1	516.1	514.6	510.5	506.4	498.2	496.6	496.6	496.1	496.1
20°	522.3	521.8	523.3	520.2	511.0	500.2	487.4	484.8	484.8	484.8	484.3
22.5°	537.2	537.2	539.7	536.1	521.3	500.7	481.8	477.7	477.1	476.6	475.6
25°	565.9	565.4	566.9	557.7	536.1	507.4	480.2	474.1	473.5	472.5	471.5
27.5°	599.2	600.3	603.4	589.5	557.7	519.2	486.9	476.6	475.6	474.1	472.0
30°	632.1	635.2	640.8	625.9	582.3	534.1	497.1	485.3	483.3	481.2	477.7
32.5°	673.6	672.6	681.8	659.3	603.9	550.0	507.9	493.6	491.0	487.9	483.3
35°	717.8	719.8	721.9	685.4	621.8	562.8	514.6	498.2	495.1	492.0	485.3
37.5°	761.9	762.4	757.8	706.5	632.6	570.5	518.2	499.2	495.1	490.5	482.8
40°	802.4	800.9	787.0	722.4	638.8	574.6	519.7	497.1	492.0	487.4	478.7
42.5°	825.5	824.0	806.5	729.6	639.3	574.1	519.7	495.1	489.5	483.8	474.1
45°	835.2	834.2	814.2	730.6	635.7	571.0	516.6	493.0	487.4	482.3	472.0
47.5°	836.3	836.3	815.8	729.0	632.6	569.0	516.6	495.6	491.0	486.9	479.2
50°	831.7	832.2	816.3	733.2	635.2	573.6	521.8	501.8	497.1	493.0	484.3
52.5°	886.0	880.9	845.5	751.6	652.1	588.5	539.2	521.3	519.7	517.2	510.5
55°	1301.6	1305.7	1112.3	867.1	723.4	664.9	644.4	640.8	652.1	656.2	656.2
57.5°	1652.5	1639.2	1566.3	1265.2	946.1	875.8	884.0	892.7	909.1	916.3	921.4
60°	1738.2	1739.2	1737.2	1651.5	1396.5	1236.5	1196.4	1158.5	1156.9	1143.6	1133.3
62.5°	1728.0	1736.2	1774.6	1794.1	1819.3	1701.8	1457.6	1352.4	1331.9	1306.7	1270.8
65°	1653.6	1665.9	1727.4	1822.4	2038.9	2135.3	1633.6	1445.3	1413.5	1383.2	1322.6
67.5°	1408.8	1435.5	1553.5	1732.6	2065.0	2309.3	1662.3	1400.1	1358.1	1318.5	1246.7
70°	869.6	883.5	1065.6	1398.1	1871.1	2105.6	1509.4	1188.2	1134.9	1084.6	986.6
72.5°	561.3	556.7	587.4	787.5	1375.0	1636.1	1037.9	790.1	746.5	706.5	643.4
75°	393.0	393.5	379.7	375.6	637.7	1013.3	470.0	337.6	318.1	309.9	296.5
77.5°	256.0	259.1	255.5	265.2	255.5	421.2	216.0	158.5	150.8	145.7	137.5
80°	154.4	164.7	167.8	169.8	172.4	159.0	128.3	93.4	84.1	75.4	62.1
82.5°	27.2	26.7	36.9	49.8	65.2	74.4	53.9	33.9	31.8	30.8	28.2
85°	0.0	0.0	0.5	0.5	1.0	3.6	5.6	6.7	6.2	6.7	7.2
87.5°	0.0	0.0	0.0	0.5	0.5	1.0	1.0	1.0	1.0	1.0	1.0
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-E01-LED-E1-BL4-7050-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°	579.2	579.2	579.2	579.2	579.2	579.2	579.2	579.2	579.2	579.2	579.2
2.5°	576.2	575.6	575.1	575.1	576.2	576.2	575.6	575.6	576.2	575.6	576.7
5°	567.4	566.9	566.9	566.4	566.9	567.4	566.9	566.9	567.4	566.9	567.9
7.5°	553.6	554.1	553.6	553.6	554.1	554.6	554.1	554.1	554.1	554.1	553.6
10°	539.2	539.2	538.7	538.7	539.7	539.2	538.7	538.7	539.2	539.7	538.7
12.5°	524.9	525.9	525.9	523.8	524.3	524.9	524.9	524.3	524.3	525.9	524.3
15°	510.5	511.0	510.5	511.0	510.0	509.5	510.0	510.0	508.9	508.4	508.4
17.5°	496.1	495.6	495.6	494.6	494.1	494.1	493.6	494.1	493.0	493.6	492.0
20°	483.3	482.8	482.3	482.3	480.7	480.7	480.7	480.2	479.2	479.2	478.7
22.5°	475.6	475.1	474.6	473.5	473.0	472.5	472.5	472.0	471.0	470.5	470.0
25°	471.5	471.0	470.0	468.9	468.4	467.9	467.9	467.4	466.4	465.3	464.8
27.5°	472.0	471.0	470.0	468.9	468.4	467.4	466.9	466.4	465.3	464.3	463.3
30°	476.6	474.6	472.5	471.0	469.4	467.9	466.9	466.4	464.8	463.3	461.7
32.5°	481.2	478.7	475.6	472.5	470.0	467.4	465.9	464.3	462.3	459.7	458.2
35°	482.8	479.7	475.1	472.5	468.9	465.9	463.3	461.2	457.6	454.6	452.0
37.5°	479.2	475.6	471.0	467.4	463.8	459.7	456.6	453.5	451.0	447.4	444.8
40°	473.5	469.4	464.8	459.7	456.1	452.0	448.9	446.4	442.8	439.7	437.6
42.5°	468.9	464.3	459.2	455.1	451.0	446.9	443.3	440.7	437.1	433.5	431.0
45°	467.4	462.8	458.7	453.5	449.4	446.4	443.3	439.7	436.6	433.5	430.5
47.5°	475.6	471.5	467.4	463.3	459.7	456.1	453.0	449.4	445.8	441.7	438.7
50°	480.2	475.6	472.0	467.4	463.3	459.7	456.6	453.0	450.5	446.4	443.3
52.5°	513.6	507.4	508.4	504.3	504.3	500.2	503.3	498.7	501.3	498.2	502.8
55°	654.7	656.7	669.5	671.6	676.7	676.2	679.3	692.6	687.5	680.8	682.9
57.5°	907.6	912.2	918.9	912.7	917.3	918.4	927.1	923.5	920.4	918.4	911.7
60°	1127.2	1121.0	1111.3	1099.5	1094.9	1089.7	1081.0	1081.0	1069.7	1066.1	1057.4
62.5°	1256.0	1238.0	1225.7	1206.7	1193.4	1184.1	1168.7	1156.9	1141.5	1129.7	1115.9
65°	1298.0	1267.8	1246.2	1222.6	1201.6	1181.6	1159.5	1142.6	1123.6	1110.8	1088.7
67.5°	1216.4	1185.7	1149.2	1124.1	1102.0	1076.9	1042.5	1021.5	1005.1	980.4	969.7
70°	947.1	914.8	869.1	856.8	822.9	783.9	749.1	728.0	703.9	687.0	669.0
72.5°	600.8	564.4	544.3	529.5	507.4	475.1	444.8	432.5	411.5	406.9	395.1
75°	282.2	257.6	252.4	248.8	224.7	220.1	210.9	206.8	197.0	191.9	189.8
77.5°	126.2	120.6	111.3	108.8	101.1	93.4	84.1	80.0	74.9	71.8	67.7
80°	57.5	51.8	48.2	45.7	44.6	42.1	40.0	38.5	36.9	36.9	34.4
82.5°	27.7	26.7	25.7	25.7	24.1	24.1	22.6	22.1	21.5	21.0	21.0
85°	7.7	7.7	7.7	8.2	8.2	8.2	8.2	8.2	8.2	8.7	8.7
87.5°	1.0	1.0	1.5	1.5	1.5	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):

	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: P160099

CATALOG NUMBER: ENV-E01-LED-E1-BL4-7050-ULG

CANDELA DISTRIBUTION (continued):

	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°	86°
0°	579.2	579.2	579.2	579.2	579.2	579.2	579.2	579.2	579.2	579.2	579.2
2.5°	576.2	576.2	576.2	577.2	576.7	578.2	578.2	578.2	579.2	579.7	579.2
5°	567.9	567.9	567.9	568.5	568.5	569.5	569.5	570.5	570.5	571.0	571.0
7.5°	554.6	555.1	555.1	556.1	555.6	556.1	556.1	557.7	557.7	558.2	558.2
10°	539.2	539.7	539.7	539.7	540.2	540.8	540.8	541.8	542.3	542.3	543.3
12.5°	524.9	524.3	524.9	524.3	525.9	525.9	526.4	525.9	526.4	526.9	527.4
15°	508.9	508.9	508.4	508.9	508.9	508.4	507.9	508.4	509.5	509.5	509.5
17.5°	493.0	491.5	491.5	491.5	491.0	490.0	491.0	490.5	490.5	491.0	490.5
20°	478.2	477.7	477.1	476.6	476.1	474.6	474.6	474.6	474.1	474.1	474.1
22.5°	468.9	468.4	467.9	467.4	465.3	464.3	463.8	463.3	462.3	461.7	461.2
25°	463.8	462.8	461.7	460.7	459.2	457.6	456.1	455.6	454.6	453.5	452.0
27.5°	462.3	461.2	459.2	458.2	456.1	454.6	453.0	451.5	449.9	448.4	446.9
30°	459.7	458.2	456.1	454.6	453.0	450.5	448.4	446.9	444.3	442.8	440.7
32.5°	456.1	454.1	452.0	449.9	447.9	445.3	442.8	440.7	438.7	436.6	434.0
35°	449.9	447.4	444.3	442.3	439.7	437.1	435.1	431.5	429.9	427.4	424.8
37.5°	441.7	439.2	436.6	434.0	431.0	428.9	425.8	422.8	421.2	419.7	416.1
40°	434.6	431.5	428.9	426.9	423.3	421.7	418.7	415.6	413.5	412.0	408.9
42.5°	427.9	424.8	422.2	419.2	416.6	414.5	412.0	408.9	406.9	405.8	403.3
45°	427.9	424.3	421.2	418.7	416.1	413.5	411.5	408.4	406.9	404.8	403.3
47.5°	435.1	431.0	427.4	423.8	420.2	417.6	414.5	411.5	408.9	407.4	405.3
50°	440.2	436.1	434.0	429.9	427.9	424.3	420.7	419.2	416.6	415.1	414.5
52.5°	502.8	500.2	500.7	490.5	488.4	493.6	485.3	492.5	490.5	484.3	484.3
55°	694.7	693.6	698.3	685.4	679.8	690.1	694.2	679.3	682.9	682.9	681.8
57.5°	918.4	911.7	905.0	906.6	898.4	904.5	896.8	887.6	891.2	888.1	877.3
60°	1051.8	1047.7	1037.9	1028.7	1019.9	1011.7	1004.6	996.3	992.2	985.1	977.4
62.5°	1105.6	1094.9	1083.1	1070.7	1056.9	1043.5	1035.3	1024.6	1013.3	1006.1	997.9
65°	1076.9	1061.0	1048.2	1030.2	1015.3	998.9	988.1	975.8	965.6	953.3	943.0
67.5°	948.6	930.2	896.3	879.9	857.8	832.2	825.0	810.1	804.5	786.0	755.7
70°	645.9	627.5	606.9	573.6	552.0	530.0	505.9	488.4	485.9	471.0	448.9
72.5°	379.7	366.8	353.5	334.5	318.6	309.9	293.0	275.5	275.0	258.1	249.3
75°	179.6	172.9	159.6	154.9	140.6	139.6	128.8	126.7	128.8	123.6	122.6
77.5°	61.1	59.5	56.4	52.3	49.3	48.2	45.7	44.1	43.1	42.1	41.0
80°	33.3	32.3	31.8	30.3	29.2	28.7	27.2	26.7	26.2	25.7	25.1
82.5°	20.0	20.5	19.5	18.5	18.5	17.4	16.9	16.4	15.9	15.9	15.9
85°	8.2	8.7	8.2	7.7	7.2	7.7	7.7	7.2	6.7	7.2	7.2
87.5°	1.5	1.5	1.5	1.5	1.5	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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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
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DISTRIBUTION (continued):											CANDELA DISTRIBUTION	
87°	88°	89°	90°	95°	105°	115°	125°	135°	145°	155°	87°	87°
579.2	579.2	579.2	579.2	579.2	579.2	579.2	579.2	579.2	579.2	579.2	112.5°	21.2
578.2	577.7	577.7	577.2	576.7	577.7	578.7	580.3	579.2	580.3	580.8	115°	25.0
570.0	570.0	570.0	570.5	570.0	571.5	573.6	576.7	577.2	579.2	580.8	117.5°	29.5
556.7	556.7	557.2	557.7	557.2	559.2	562.8	566.4	569.0	572.6	575.6	120°	34.8
541.3	541.3	541.3	541.3	541.8	544.3	546.9	551.0	555.1	560.8	565.4	122.5°	40.9
527.4	525.9	526.4	527.4	526.4	526.4	529.0	532.0	534.6	541.8	550.0	125°	47.8
508.9	508.9	507.9	508.4	505.9	505.4	506.4	508.4	510.5	516.6	525.4	127.5°	55.3
489.5	489.5	489.5	487.9	485.9	480.7	480.2	480.2	480.2	484.8	495.1	130°	63.0
472.0	472.0	471.0	470.0	465.3	456.6	449.4	446.4	445.3	453.0	457.6	132.5°	70.5
459.7	459.2	457.1	456.1	448.9	435.1	423.8	415.1	412.5	415.1	416.6	135°	77.9
449.9	448.9	446.9	444.8	435.1	416.1	398.1	383.3	376.1	374.0	368.9	137.5°	85.3
444.3	442.8	439.7	437.6	424.8	400.7	377.1	357.6	344.3	334.5	325.3	140°	92.5
438.1	435.6	432.5	429.4	415.1	388.4	361.2	337.1	313.5	296.5	283.2	142.5°	99.2
431.0	428.4	425.3	422.2	406.3	377.1	348.4	318.6	285.8	262.7	242.7	145°	104.9
422.2	419.7	416.6	413.0	397.1	367.9	339.6	300.6	261.1	231.4	205.2	147.5°	110.1
413.5	411.0	407.9	404.3	388.4	363.2	334.5	283.7	238.6	202.1	167.8	150°	115.1
406.9	404.3	401.2	398.1	383.8	361.2	331.9	269.4	218.6	173.4	133.9	152.5°	119.7
401.2	398.6	396.1	393.0	380.7	362.2	326.3	257.0	199.1	144.7	105.2	155°	123.7
400.7	399.2	396.1	393.5	381.7	366.8	321.7	246.3	179.1	117.0	88.8	157.5°	127.0
404.3	402.2	400.2	398.1	388.9	378.6	318.6	235.0	156.5	94.4	84.7	160°	130.3
413.0	411.0	409.9	408.9	403.3	394.5	318.6	223.2	130.3	83.1	84.1	162.5°	133.5
483.3	477.7	476.1	480.2	464.8	421.2	320.7	208.8	102.1	79.5	84.7	165°	136.0
679.8	685.4	671.1	663.9	637.2	487.4	322.2	187.3	83.1	79.0	83.6	167.5°	137.1
878.3	878.3	873.2	861.9	829.1	600.3	329.4	152.9	75.9	78.0	82.6	170°	137.4
975.3	969.2	964.0	957.4	907.6	678.8	340.2	112.9	72.9	77.5	81.6	172.5°	138.6
992.8	983.0	976.3	967.6	901.4	682.9	344.8	84.7	69.8	77.5	79.0	175°	140.5
935.3	925.0	916.3	901.9	821.4	618.2	321.7	69.3	67.7	75.4	76.4	177.5°	141.1
757.8	745.5	738.8	731.6	678.3	542.8	260.1	62.1	65.2	71.8	73.9	180°	140.8
433.5	420.2	412.5	414.0	381.7	429.4	207.8	56.9	61.6	67.7	70.8		
233.4	219.1	214.5	199.6	170.3	216.5	160.1	52.3	56.9	61.6	64.6		
115.4	110.3	111.8	104.7	88.8	66.7	103.1	46.7	50.8	55.4	57.5		
40.0	39.0	38.5	38.0	36.9	35.4	47.2	40.0	43.6	47.2	49.3		
24.6	24.1	24.6	24.1	23.6	27.2	30.3	31.8	34.9	39.5	40.0		
14.9	14.9	14.9	14.9	14.9	19.0	21.5	24.6	27.2	30.3	32.8		
7.2	7.2	7.2	7.2	7.7	12.8	14.4	18.0	19.0	21.5	23.6		
1.5	1.5	1.5	1.5	2.1	6.7	8.7	10.8	11.3	11.3	12.8		
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		

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REPORT NUMBER: P160099
 CATALOG NUMBER: ENV-E01-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°	579.2	579.2
25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	2.5°	580.3	579.2
29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	5°	581.8	580.8
34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	7.5°	577.7	578.2
40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	10°	569.0	570.5
47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	12.5°	555.1	558.2
55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	15°	532.0	536.7
63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	17.5°	501.3	506.9
70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	20°	462.8	465.3
77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	22.5°	415.6	416.6
85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	25°	365.8	365.8
92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	27.5°	319.6	317.1
99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	30°	275.5	268.8
104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	32.5°	228.8	217.5
110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	35°	181.6	172.4
115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	37.5°	141.1	130.8
119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	40°	108.3	100.6
123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	42.5°	91.3	89.8
127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	45°	87.2	89.3
130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	47.5°	87.7	90.3
133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	50°	88.2	90.8
136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	52.5°	88.2	89.8
137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	55°	87.2	87.2
137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	57.5°	85.2	84.7
138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	60°	83.6	83.6
140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	62.5°	81.1	81.1
141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	65°	77.0	77.5
140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	67.5°	72.9	72.9
										70°	67.7	67.7
										72.5°	62.6	64.6
										75°	59.0	62.6
										77.5°	51.8	55.4
										80°	42.6	43.1
										82.5°	33.9	32.8
										85°	24.1	22.6
										87.5°	12.8	12.3
										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



REPORT NUMBER: P160099

CATALOG NUMBER: ENV-E01-LED-E1-BL

LED-E1-BL4-7050-ULG

tinued):

180°
579.2
578.7
580.3
577.7
571.0
560.3
535.6
506.9
463.8
415.1
363.8
315.5
266.8
217.5
169.8
127.8
100.0
90.3
89.3
90.8
91.3
89.8
87.2
85.7
83.6
81.1
77.5
72.9
68.7
65.7
64.1
57.5
43.1
31.3
22.6
12.8
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

