

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: P160039

Luminaire Tested: **ENT-F01-LED-E1-BL4-7050-ULG**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P160039
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-BL4-7050-ULG
Description: ENTRI LED LUMINAIRE WITH UPLIGHT
(1) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (7) 5000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2528.5 lumens
Efficiency: N/A
Efficacy: 74.6 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

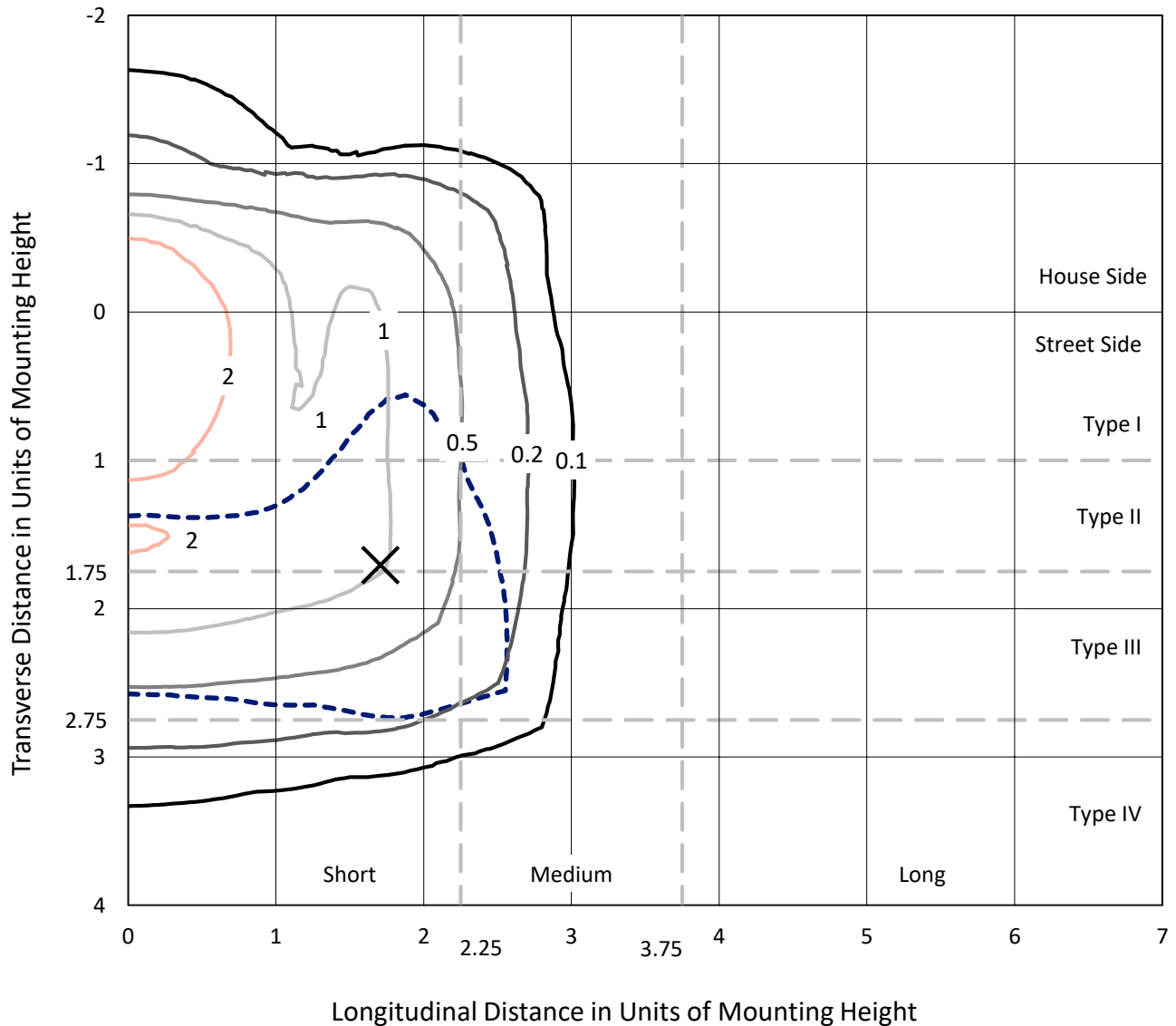
Input Watts (W): 33.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P160039
 CATALOG NUMBER: ENT-F01-LED-E1-BL4-7050-ULG

Iso-Footcandle Lines of Horizontal Illumination

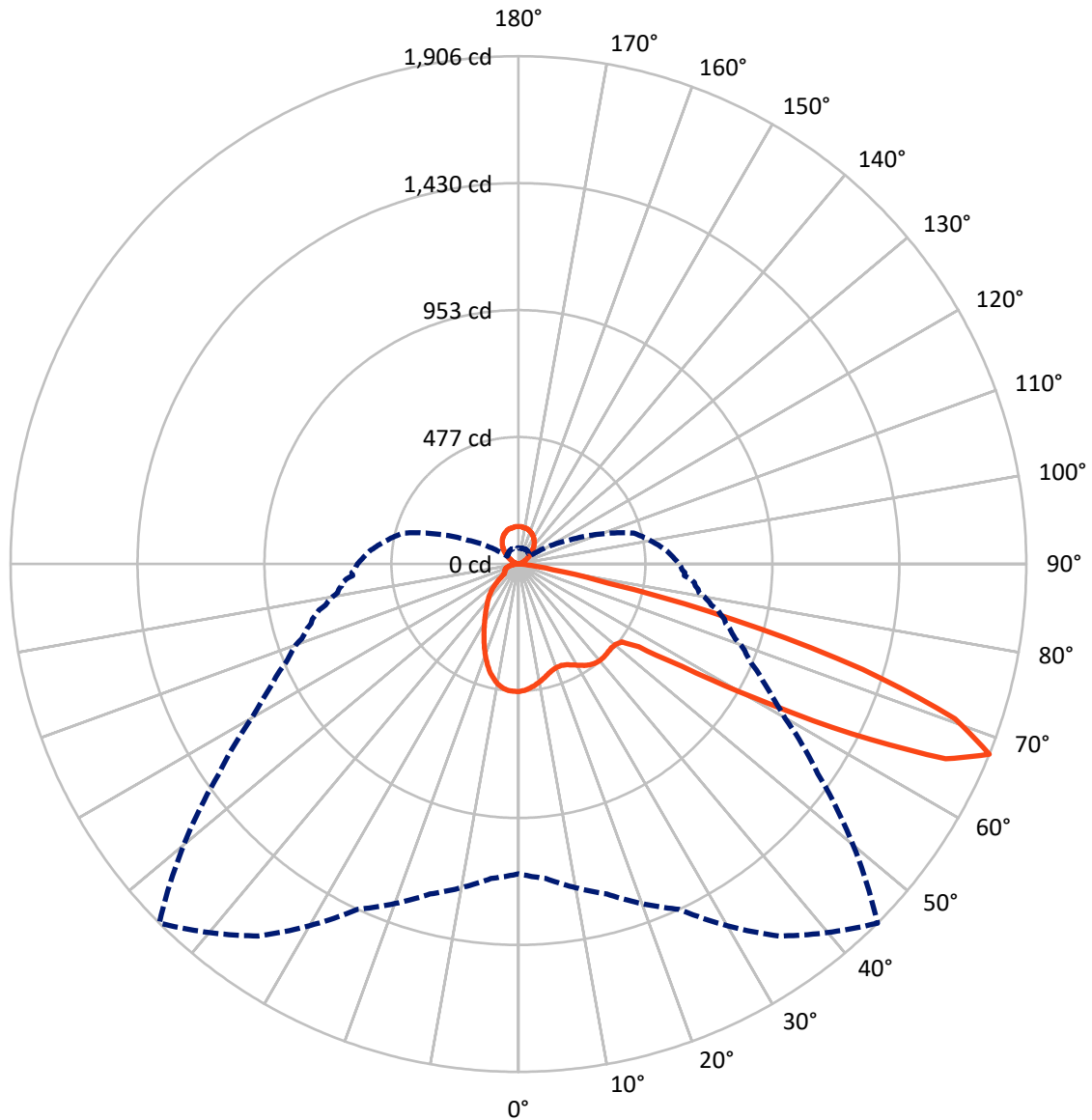
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.8 fc
 Type III - Short - Non-Cutoff

REPORT NUMBER: P160039
CATALOG NUMBER: ENT-F01-LED-E1-BL4-7050-ULG

Luminous Intensity Polar Plot



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

REPORT NUMBER: P160039

CATALOG NUMBER: ENT-F01-LED-E1-BL4-7050-ULG

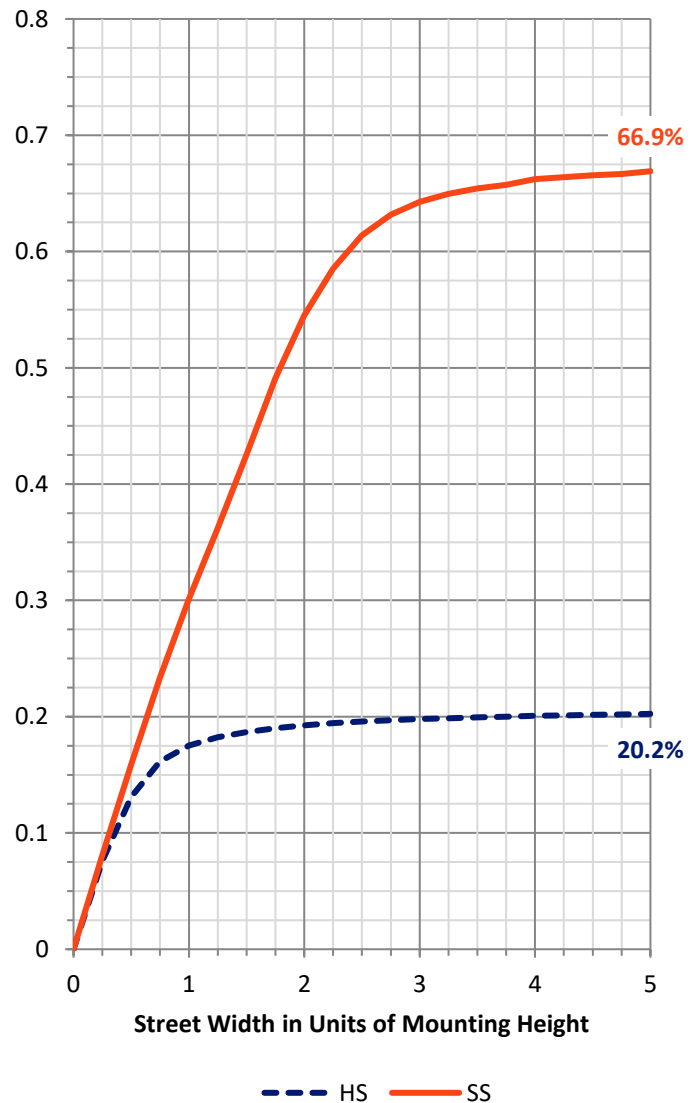
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	518.6	157.7	676.3
	% Fixture	20.5	6.2	26.7
Street Side	Lumens	1694.4	157.7	1852.2
	% Fixture	67.0	6.2	73.3
Total	Lumens	2213.0	315.5	2528.5
	% Fixture	87.5	12.5	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.4	1.8
10°-20°	119.6	4.7
20°-30°	172.4	6.8
30°-40°	219.9	8.7
40°-50°	259.6	10.3
50°-60°	416.3	16.5
60°-70°	700.6	27.7
70°-80°	260.6	10.3
80°-90°	19.8	0.8
90°-100°	1.3	0.0
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	2.2
160°-170°	38.2	1.5
170°-180°	13.3	0.5
0°-90°	2213.0	87.5
0°-180°	2528.5	100.0



REPORT NUMBER: P160039

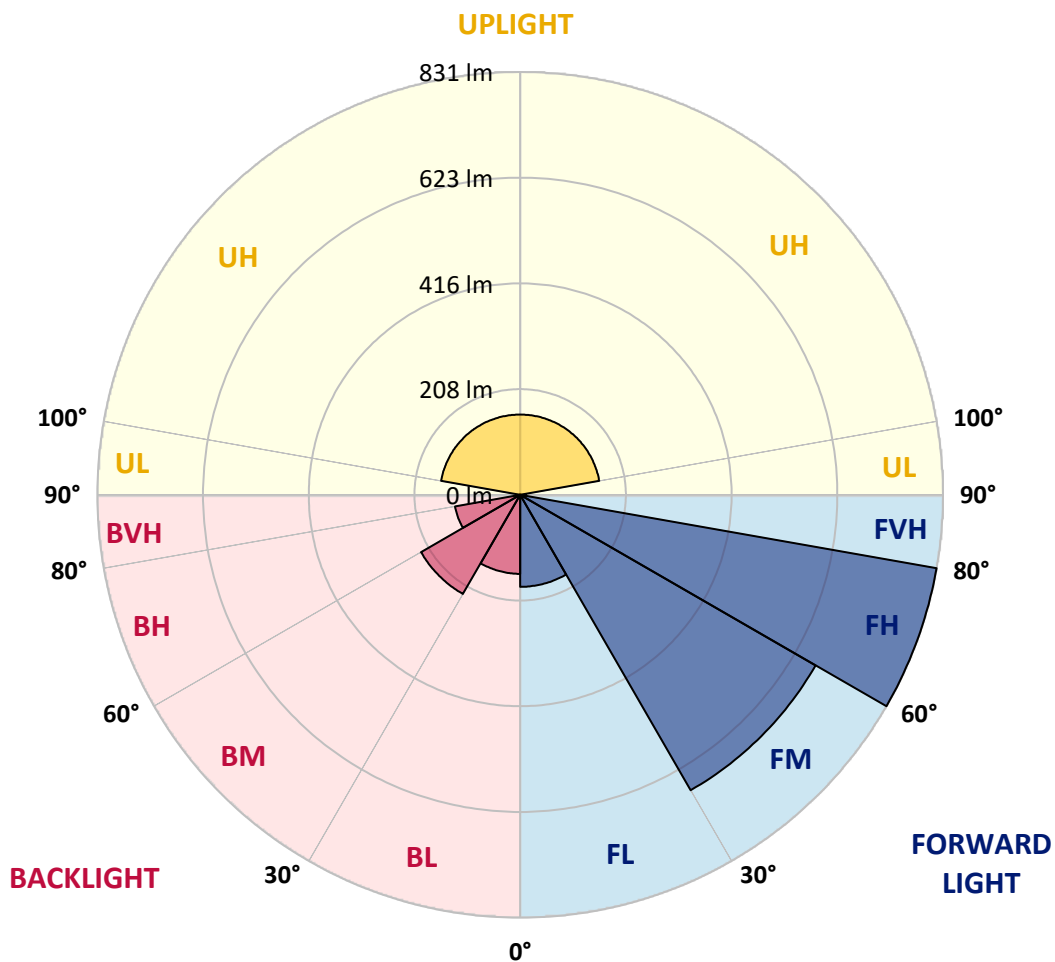
CATALOG NUMBER: ENT-F01-LED-E1-BL4-7050-ULG

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	180.9	7.2			
FM	(30°-60°)	670.6	26.5			
FH	(60°-80°)	831.2	32.9			G1/1800
FVH	(80°-90°)	11.8	0.5			G1/100
BL	(0°-30°)	155.4	6.1	B1/500		
BM	(30°-60°)	225.1	8.9	B1/1000		
BH	(60°-80°)	130.0	5.1	B1/500		G1/500
BVH	(80°-90°)	8.1	0.3			G0/10
UL	(90°-100°)	1.3	0.0		U1/10	
UH	(100°-180°)	157.7	6.2		U3/500	

BUG Rating: B1-U3-G1

Type III Short





REPORT NUMBER: P160039

CATALOG NUMBER: ENT-F01-LED-E1-BL4-7050-ULG

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	61°	62°	64°
0°	478.2	478.2	478.2	478.2	478.2	478.2	478.2	478.2	478.2	478.2	478.2
2.5°	471.4	471.4	472.2	472.2	473.5	474.4	473.5	475.2	475.2	474.8	475.6
5°	464.6	464.6	465.0	465.0	465.9	467.2	466.3	468.0	467.6	468.0	468.0
7.5°	456.6	456.6	457.4	457.0	457.4	458.3	456.2	457.4	457.4	457.8	457.4
10°	446.4	447.3	448.1	447.7	447.7	448.1	444.7	446.0	445.6	445.6	445.1
12.5°	437.1	436.2	437.1	437.9	437.5	437.5	434.1	433.3	433.3	433.3	433.7
15°	427.3	428.2	429.5	428.2	427.3	425.7	422.3	421.4	421.4	421.4	421.8
17.5°	425.2	425.2	426.1	424.8	421.4	418.0	411.3	410.0	410.0	409.6	409.6
20°	431.2	430.7	432.0	429.5	421.8	412.9	402.4	400.2	400.2	400.2	399.8
22.5°	443.4	443.4	445.6	442.6	430.3	413.4	397.7	394.3	393.9	393.5	392.6
25°	467.2	466.7	468.0	460.4	442.6	418.9	396.4	391.3	390.9	390.1	389.2
27.5°	494.7	495.5	498.1	486.6	460.4	428.6	401.9	393.5	392.6	391.3	389.7
30°	521.8	524.3	529.0	516.7	480.7	440.9	410.4	400.7	399.0	397.3	394.3
32.5°	556.1	555.3	562.9	544.2	498.5	454.0	419.3	407.4	405.3	402.8	399.0
35°	592.5	594.2	595.9	565.8	513.3	464.6	424.8	411.3	408.7	406.2	400.7
37.5°	629.0	629.4	625.6	583.2	522.2	471.0	427.8	412.1	408.7	404.9	398.5
40°	662.4	661.1	649.7	596.3	527.3	474.4	429.0	410.4	406.2	402.4	395.2
42.5°	681.5	680.2	665.8	602.3	527.7	473.9	429.0	408.7	404.1	399.4	391.3
45°	689.5	688.7	672.2	603.1	524.8	471.4	426.5	407.0	402.4	398.1	389.7
47.5°	690.4	690.4	673.4	601.8	522.2	469.7	426.5	409.1	405.3	401.9	395.6
50°	686.6	687.0	673.8	605.2	524.3	473.5	430.7	414.2	410.4	407.0	399.8
52.5°	731.4	727.2	698.0	620.5	538.3	485.8	445.1	430.3	429.0	426.9	421.4
55°	1074.5	1077.9	918.2	715.8	597.2	548.9	532.0	529.0	538.3	541.7	541.7
57.5°	1364.2	1353.2	1293.1	1044.4	781.0	723.0	729.8	737.0	750.5	756.4	760.7
60°	1434.9	1435.8	1434.1	1363.4	1152.9	1020.7	987.7	956.3	955.1	944.1	935.6
62.5°	1426.5	1433.3	1465.0	1481.1	1501.9	1404.9	1203.3	1116.4	1099.5	1078.8	1049.1
65°	1365.1	1375.2	1426.1	1504.4	1683.1	1762.8	1348.5	1193.1	1166.8	1141.9	1091.9
67.5°	1163.0	1185.1	1282.5	1430.3	1704.7	1906.3	1372.3	1155.8	1121.1	1088.5	1029.2
70°	717.9	729.3	879.7	1154.1	1544.6	1738.2	1246.0	980.9	936.9	895.4	814.5
72.5°	463.4	459.5	485.0	650.1	1135.1	1350.7	856.8	652.2	616.2	583.2	531.1
75°	324.4	324.9	313.4	310.0	526.5	836.5	388.0	278.7	262.6	255.8	244.8
77.5°	211.3	213.9	210.9	219.0	210.9	347.7	178.3	130.9	124.5	120.3	113.5
80°	127.5	136.0	138.5	140.2	142.3	131.3	105.9	77.1	69.5	62.3	51.2
82.5°	22.4	22.0	30.5	41.1	53.8	61.4	44.5	28.0	26.3	25.4	23.3
85°	0.0	0.0	0.4	0.4	0.8	3.0	4.7	5.5	5.1	5.5	5.9
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: P160039

CATALOG NUMBER: ENT-F01-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



REPORT NUMBER: P160039

CATALOG NUMBER: ENT-F01-LED-E1-BL4-7050-ULG

CANDELA DISTRIBUTION (continued):

	65°	66°	67°	68°	69°	70°	71°	72°	73°	74°	75°
0°	478.2	478.2	478.2	478.2	478.2	478.2	478.2	478.2	478.2	478.2	478.2
2.5°	475.6	475.2	474.8	474.8	475.6	475.6	475.2	475.2	475.6	475.2	476.1
5°	468.4	468.0	468.0	467.6	468.0	468.4	468.0	468.0	468.4	468.0	468.9
7.5°	457.0	457.4	457.0	457.0	457.4	457.8	457.4	457.4	457.4	457.4	457.0
10°	445.1	445.1	444.7	444.7	445.6	445.1	444.7	444.7	445.1	445.6	444.7
12.5°	433.3	434.1	434.1	432.4	432.9	433.3	433.3	432.9	432.9	434.1	432.9
15°	421.4	421.8	421.4	421.8	421.0	420.6	421.0	421.0	420.1	419.7	419.7
17.5°	409.6	409.1	409.1	408.3	407.9	407.9	407.4	407.9	407.0	407.4	406.2
20°	399.0	398.5	398.1	398.1	396.9	396.9	396.9	396.4	395.6	395.6	395.2
22.5°	392.6	392.2	391.8	390.9	390.5	390.1	390.1	389.7	388.8	388.4	388.0
25°	389.2	388.8	388.0	387.1	386.7	386.3	386.3	385.8	385.0	384.1	383.7
27.5°	389.7	388.8	388.0	387.1	386.7	385.8	385.4	385.0	384.1	383.3	382.5
30°	393.5	391.8	390.1	388.8	387.5	386.3	385.4	385.0	383.7	382.5	381.2
32.5°	397.3	395.2	392.6	390.1	388.0	385.8	384.6	383.3	381.6	379.5	378.2
35°	398.5	396.0	392.2	390.1	387.1	384.6	382.5	380.8	377.8	375.3	373.1
37.5°	395.6	392.6	388.8	385.8	382.9	379.5	376.9	374.4	372.3	369.3	367.2
40°	390.9	387.5	383.7	379.5	376.5	373.1	370.6	368.5	365.5	363.0	361.3
42.5°	387.1	383.3	379.1	375.7	372.3	368.9	365.9	363.8	360.9	357.9	355.8
45°	385.8	382.0	378.6	374.4	371.0	368.5	365.9	363.0	360.4	357.9	355.3
47.5°	392.6	389.2	385.8	382.5	379.5	376.5	374.0	371.0	368.1	364.7	362.1
50°	396.4	392.6	389.7	385.8	382.5	379.5	376.9	374.0	371.9	368.5	365.9
52.5°	424.0	418.9	419.7	416.3	416.3	412.9	415.5	411.7	413.8	411.3	415.1
55°	540.4	542.1	552.7	554.4	558.6	558.2	560.8	571.8	567.5	562.0	563.7
57.5°	749.2	753.1	758.6	753.5	757.3	758.1	765.3	762.4	759.8	758.1	752.6
60°	930.5	925.4	917.4	907.6	903.8	899.6	892.4	892.4	883.1	880.1	872.9
62.5°	1036.8	1022.0	1011.8	996.2	985.1	977.5	964.8	955.1	942.4	932.6	921.2
65°	1071.6	1046.6	1028.8	1009.3	991.9	975.4	957.2	943.2	927.5	917.0	898.7
67.5°	1004.2	978.8	948.7	928.0	909.8	889.0	860.6	843.3	829.7	809.4	800.5
70°	781.9	755.2	717.5	707.3	679.4	647.2	618.4	601.0	581.1	567.1	552.3
72.5°	496.0	465.9	449.4	437.1	418.9	392.2	367.2	357.0	339.7	335.9	326.1
75°	232.9	212.6	208.4	205.4	185.5	181.7	174.1	170.7	162.6	158.4	156.7
77.5°	104.2	99.5	91.9	89.8	83.4	77.1	69.5	66.1	61.8	59.3	55.9
80°	47.4	42.8	39.8	37.7	36.8	34.7	33.0	31.8	30.5	30.5	28.4
82.5°	22.9	22.0	21.2	21.2	19.9	19.9	18.6	18.2	17.8	17.4	17.4
85°	6.4	6.4	6.4	6.8	6.8	6.8	6.8	6.8	6.8	7.2	7.2
87.5°	0.8	0.8	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
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



REPORT NUMBER: P160039

CATALOG NUMBER: ENT-F01-LED-E1-BL4-7050-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: P160039

CATALOG NUMBER: ENT-F01-LED-E1-BL4-7050-ULG

CANDELA DISTRIBUTION (continued):

	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°	86°
0°	478.2	478.2	478.2	478.2	478.2	478.2	478.2	478.2	478.2	478.2	478.2
2.5°	475.6	475.6	475.6	476.5	476.1	477.3	477.3	477.3	478.2	478.6	478.2
5°	468.9	468.9	468.9	469.3	469.3	470.1	470.1	471.0	471.0	471.4	471.4
7.5°	457.8	458.3	458.3	459.1	458.7	459.1	459.1	460.4	460.4	460.8	460.8
10°	445.1	445.6	445.6	445.6	446.0	446.4	446.4	447.3	447.7	447.7	448.5
12.5°	433.3	432.9	433.3	432.9	434.1	434.1	434.5	434.1	434.5	435.0	435.4
15°	420.1	420.1	419.7	420.1	420.1	419.7	419.3	419.7	420.6	420.6	420.6
17.5°	407.0	405.7	405.7	405.7	405.3	404.5	405.3	404.9	404.9	405.3	404.9
20°	394.7	394.3	393.9	393.5	393.0	391.8	391.8	391.8	391.3	391.3	391.3
22.5°	387.1	386.7	386.3	385.8	384.1	383.3	382.9	382.5	381.6	381.2	380.8
25°	382.9	382.0	381.2	380.3	379.1	377.8	376.5	376.1	375.3	374.4	373.1
27.5°	381.6	380.8	379.1	378.2	376.5	375.3	374.0	372.7	371.4	370.2	368.9
30°	379.5	378.2	376.5	375.3	374.0	371.9	370.2	368.9	366.8	365.5	363.8
32.5°	376.5	374.8	373.1	371.4	369.7	367.6	365.5	363.8	362.1	360.4	358.3
35°	371.4	369.3	366.8	365.1	363.0	360.9	359.2	356.2	354.9	352.8	350.7
37.5°	364.7	362.5	360.4	358.3	355.8	354.1	351.5	349.0	347.7	346.5	343.5
40°	358.7	356.2	354.1	352.4	349.4	348.1	345.6	343.1	341.4	340.1	337.6
42.5°	353.2	350.7	348.6	346.0	343.9	342.2	340.1	337.6	335.9	335.0	332.9
45°	353.2	350.3	347.7	345.6	343.5	341.4	339.7	337.1	335.9	334.2	332.9
47.5°	359.2	355.8	352.8	349.8	346.9	344.8	342.2	339.7	337.6	336.3	334.6
50°	363.4	360.0	358.3	354.9	353.2	350.3	347.3	346.0	343.9	342.6	342.2
52.5°	415.1	412.9	413.4	404.9	403.2	407.4	400.7	406.6	404.9	399.8	399.8
55°	573.5	572.6	576.4	565.8	561.2	569.7	573.0	560.8	563.7	563.7	562.9
57.5°	758.1	752.6	747.1	748.4	741.6	746.7	740.3	732.7	735.7	733.1	724.2
60°	868.3	864.9	856.8	849.2	842.0	835.2	829.3	822.5	819.1	813.2	806.8
62.5°	912.7	903.8	894.1	883.9	872.5	861.5	854.7	845.8	836.5	830.6	823.8
65°	889.0	875.9	865.3	850.5	838.2	824.6	815.7	805.6	797.1	786.9	778.5
67.5°	783.1	767.9	739.9	726.4	708.2	687.0	681.0	668.8	664.1	648.9	623.9
70°	533.2	518.0	501.0	473.5	455.7	437.5	417.6	403.2	401.1	388.8	370.6
72.5°	313.4	302.8	291.8	276.1	263.0	255.8	241.8	227.4	227.0	213.0	205.8
75°	148.2	142.7	131.7	127.9	116.0	115.2	106.3	104.6	106.3	102.1	101.2
77.5°	50.4	49.1	46.6	43.2	40.7	39.8	37.7	36.4	35.6	34.7	33.9
80°	27.5	26.7	26.3	25.0	24.1	23.7	22.4	22.0	21.6	21.2	20.8
82.5°	16.5	16.9	16.1	15.2	15.2	14.4	14.0	13.6	13.1	13.1	13.1
85°	6.8	7.2	6.8	6.4	5.9	6.4	6.4	5.9	5.5	5.9	5.9
87.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
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



REPORT NUMBER: P160039
 CATALOG NUMBER: ENT-F01-LED-E1-BL4-7050-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: P160039
 NUMBER: ENT-F01-LED-E1-BL4-7050-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°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°	
478.2	478.2	478.2	478.2	478.2	478.2	478.2	478.2	478.2	478.2	478.2	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°	21.2
477.3	476.9	476.9	476.5	476.1	476.9	477.8	479.0	478.2	479.0	479.4	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	25.0	
470.6	470.6	470.6	471.0	470.6	471.8	473.5	476.1	476.5	478.2	479.4	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	29.5		
459.5	459.5	460.0	460.4	460.0	461.7	464.6	467.6	469.7	472.7	475.2	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	40.9			
446.8	446.8	446.8	446.8	447.3	449.4	451.5	454.9	458.3	462.9	466.7	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	47.8				
435.4	434.1	434.5	435.4	434.5	434.5	436.7	439.2	441.3	447.3	454.0	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	55.3					
420.1	420.1	419.3	419.7	417.6	417.2	418.0	419.7	421.4	426.5	433.7	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	63.0						
404.1	404.1	404.1	402.8	401.1	396.9	396.4	396.4	396.4	400.2	408.7	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	70.5							
389.7	389.7	388.8	388.0	384.1	376.9	371.0	368.5	367.6	374.0	377.8	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	77.9								
379.5	379.1	377.4	376.5	370.6	359.2	349.8	342.6	340.5	342.6	343.9	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	85.3										
371.4	370.6	368.9	367.2	359.2	343.5	328.7	316.4	310.5	308.8	304.5	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	92.5											
366.8	365.5	363.0	361.3	350.7	330.8	311.3	295.2	284.2	276.1	268.5	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	99.2												
361.7	359.6	357.0	354.5	342.6	320.6	298.2	278.3	258.8	244.8	233.8	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	104.9													
355.8	353.7	351.1	348.6	335.4	311.3	287.6	263.0	235.9	216.9	200.3	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	110.1														
348.6	346.5	343.9	340.9	327.8	303.7	280.4	248.2	215.6	191.0	169.4	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	115.1															
341.4	339.3	336.7	333.7	320.6	299.9	276.1	234.2	196.9	166.9	138.5	119.7	123.7	127.0	130.3	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8	119.7																
335.9	333.7	331.2	328.7	316.8	298.2	274.0	222.4	180.4	143.2	110.5	123.7	127.0	130.3	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8	123.7																	
331.2	329.1	327.0	324.4	314.3	299.0	269.4	212.2	164.3	119.4	86.8	127.0	130.3	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8	127.0																		
330.8	329.5	327.0	324.9	315.1	302.8	265.6	203.3	147.8	96.6	73.3	130.3	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8	130.3																			
333.7	332.1	330.4	328.7	321.0	312.6	263.0	194.0	129.2	77.9	69.9	133.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8	133.5																				
340.9	339.3	338.4	337.6	332.9	325.7	263.0	184.2	107.6	68.6	69.5	136.0	137.1	137.4	138.6	140.5	141.1	140.8	136.0																					
399.0	394.3	393.0	396.4	383.7	347.7	264.7	172.4	84.3	65.6	69.9	137.1	137.4	138.6	140.5	141.1	140.8	137.1																						
561.2	565.8	554.0	548.1	526.0	402.4	266.0	154.6	68.6	65.2	69.0	137.4	138.6	140.5	141.1	140.8	137.4																							
725.1	725.1	720.9	711.5	684.4	495.5	271.9	126.2	62.7	64.4	68.2	138.6	140.5	141.1	140.8	137.4																								
805.1	800.1	795.8	790.3	749.2	560.3	280.8	93.2	60.1	64.0	67.3	140.5	141.1	140.8	137.4																									
819.5	811.5	806.0	798.8	744.2	563.7	284.6	69.9	57.6	64.0	65.2	141.1	140.8	137.4																										
772.1	763.6	756.4	744.6	678.1	510.4	265.6	57.2	55.9	62.3	63.1	140.8	137.4																											
625.6	615.4	609.9	604.0	559.9	448.1	214.7	51.2	53.8	59.3	61.0	137.4																												
357.9	346.9	340.5	341.8	315.1	354.5	171.5	47.0	50.8	55.9	58.4	137.4																												
192.7	180.9	177.0	164.8	140.6	178.7	132.1	43.2	47.0	50.8	53.4	137.4																												
95.3	91.1	92.3	86.4	73.3	55.1	85.1	38.5	41.9	45.7	47.4	137.4																												
33.0	32.2	31.8	31.3	30.5	29.2	39.0	33.0	36.0	39.0	40.7	137.4																												
20.3	19.9	20.3	19.9	19.5	22.4	25.0	26.3	28.8	32.6	33.0	137.4																												
12.3	12.3	12.3	12.3	12.3	15.7	17.8	20.3	22.4	25.0	27.1	137.4																												
5.9	5.9	5.9	5.9	6.4	10.6	11.9	14.8	15.7	17.8	19.5	137.4																												
1.3	1.3	1.3	1.3	1.7	5.5	7.2	8.9	9.3	9.3	10.6	137.4																												
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	137.4																												
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	137.4																												
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	137.4																												
1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	137.4																												
5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	137.4																												
8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	137.4																												
11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	137.4																												
14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	137.4																												
17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	137.4																												

'160039
 ENT-F01-LED-E1-BL4-7050-ULG

REPORT NUMBER: P160039
 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°	478.2	478.2
25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	2.5°	479.0	478.2
29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	5°	480.3	479.4
34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	7.5°	476.9	477.3
40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	10°	469.7	471.0
47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	12.5°	458.3	460.8
55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	15°	439.2	443.0
63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	17.5°	413.8	418.5
70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	20°	382.0	384.1
77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	22.5°	343.1	343.9
85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	25°	302.0	302.0
92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	27.5°	263.9	261.7
99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	30°	227.4	221.9
104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	32.5°	188.9	179.6
110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	35°	149.9	142.3
115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	37.5°	116.5	108.0
119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	40°	89.4	83.0
123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	42.5°	75.4	74.1
127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	45°	72.0	73.7
130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	47.5°	72.4	74.5
133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	50°	72.8	75.0
136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	52.5°	72.8	74.1
137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	55°	72.0	72.0
137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	57.5°	70.3	69.9
138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	60°	69.0	69.0
140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	62.5°	66.9	66.9
141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	65°	63.5	64.0
140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	67.5°	60.1	60.1
										70°	55.9	55.9
										72.5°	51.7	53.4
										75°	48.7	51.7
										77.5°	42.8	45.7
										80°	35.2	35.6
										82.5°	28.0	27.1
										85°	19.9	18.6
										87.5°	10.6	10.2
										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: P160039

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

.ED-E1-BL4-7050-ULG

tinued):

180°
478.2
477.8
479.0
476.9
471.4
462.5
442.2
418.5
382.9
342.6
300.3
260.5
220.2
179.6
140.2
105.5
82.6
74.5
73.7
75.0
75.4
74.1
72.0
70.7
69.0
66.9
64.0
60.1
56.8
54.2
52.9
47.4
35.6
25.8
18.6
10.6
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

