

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: P160008

Luminaire Tested: **ENT-E02-LED-E1-BL4-7030-ULG**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P160008
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: ENT-E02-LED-E1-BL4-7030-ULG
Description: ENTRI LED LUMINAIRE WITH UPLIGHT
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (42) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5087.8 lumens
Efficiency: N/A
Efficacy: 92.7 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

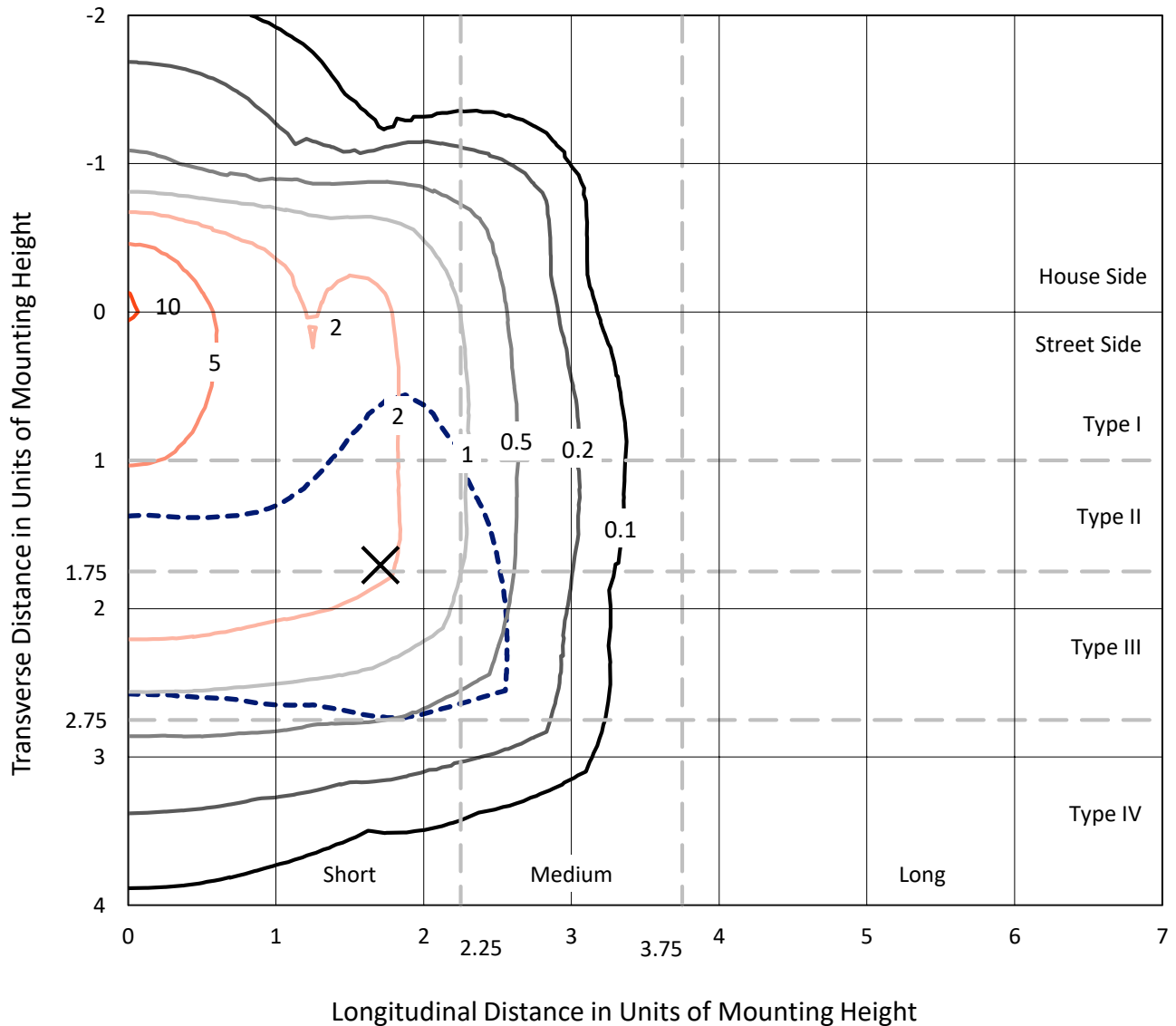
Input Watts (W): 54.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

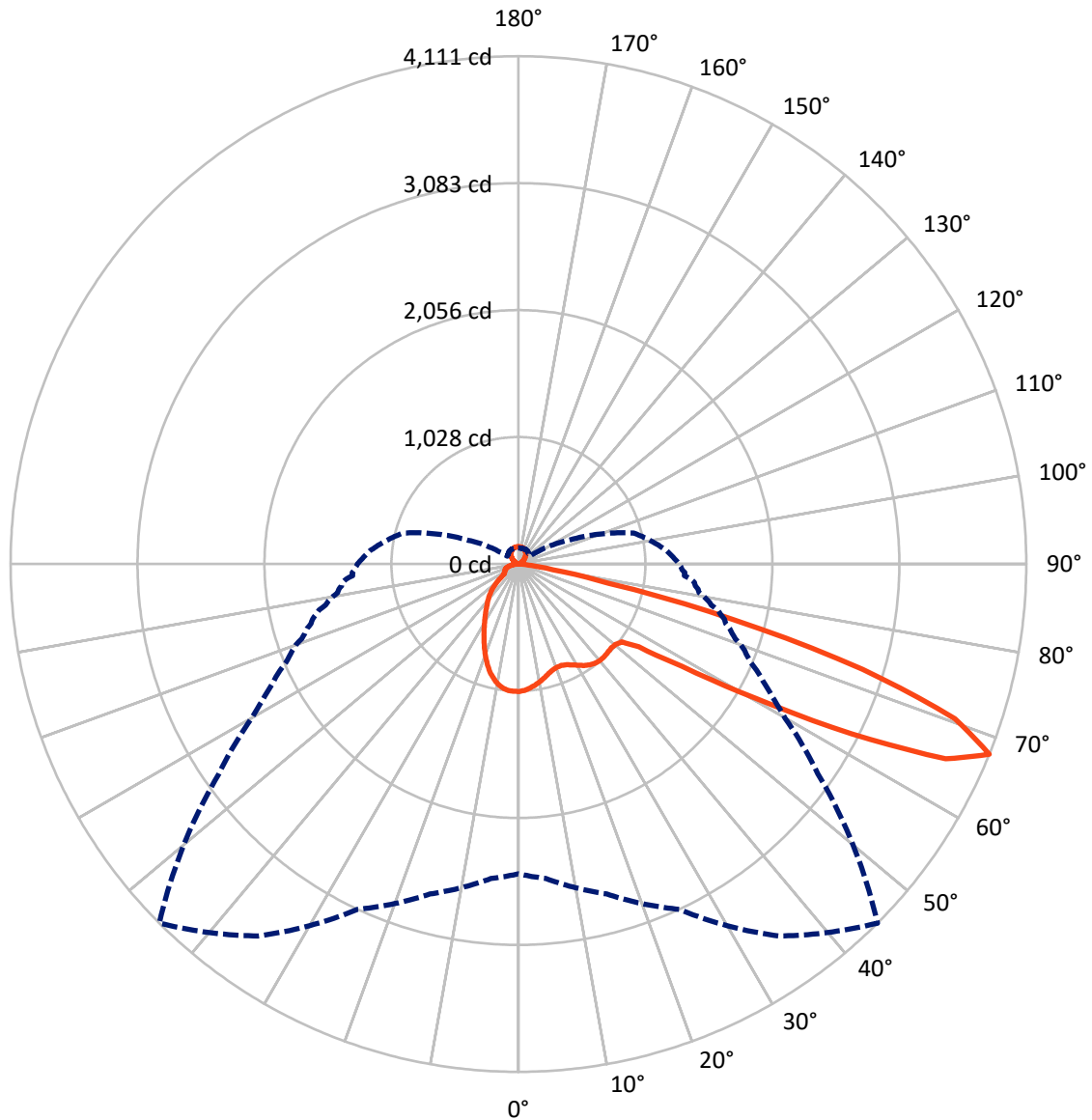
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.3 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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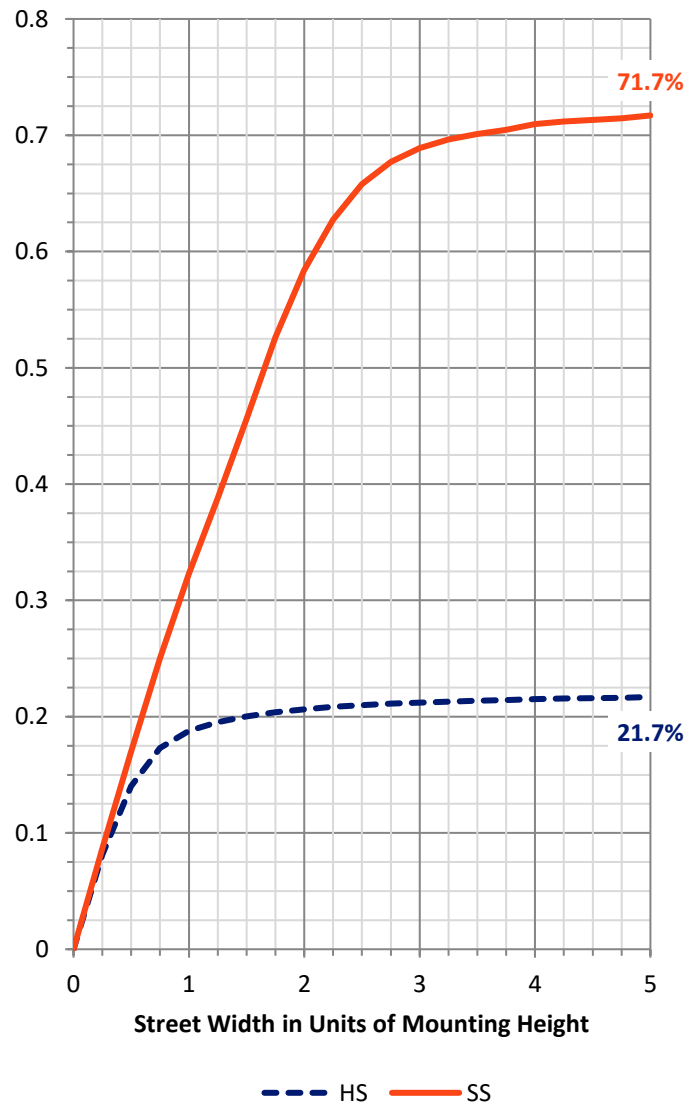
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1118.3	157.7	1276.1
	% Fixture	22.0	3.1	25.1
Street Side	Lumens	3654.0	157.7	3811.8
	% Fixture	71.8	3.1	74.9
Total	Lumens	4772.3	315.5	5087.8
	% Fixture	93.8	6.2	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.8	1.9
10°-20°	257.9	5.1
20°-30°	371.7	7.3
30°-40°	474.2	9.3
40°-50°	559.7	11.0
50°-60°	897.7	17.6
60°-70°	1510.8	29.7
70°-80°	561.9	11.0
80°-90°	42.7	0.8
90°-100°	1.3	0.0
100°-110°	12.3	0.2
110°-120°	25.2	0.5
120°-130°	43.0	0.8
130°-140°	60.0	1.2
140°-150°	65.4	1.3
150°-160°	56.9	1.1
160°-170°	38.2	0.8
170°-180°	13.3	0.3
0°-90°	4772.3	93.8
0°-180°	5087.8	100.0



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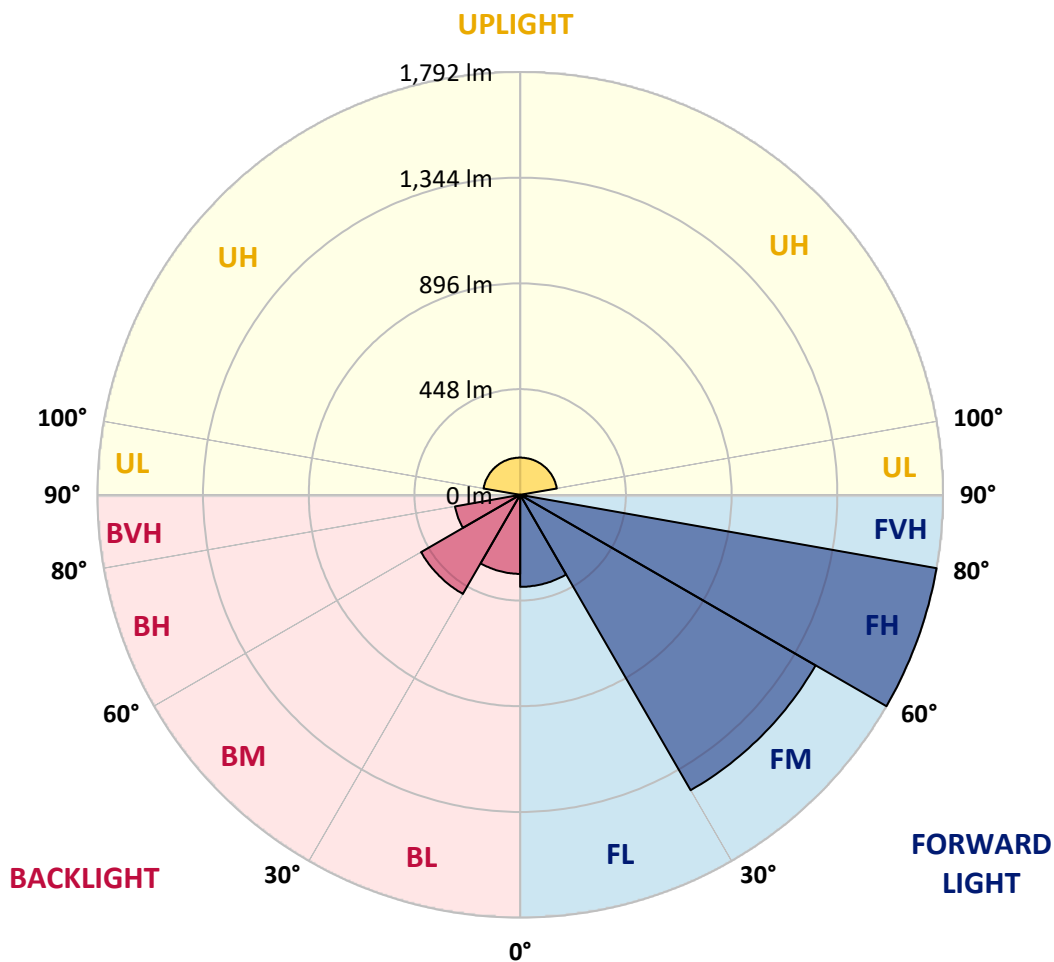
CATALOG NUMBER: ENT-E02-LED-E1-BL4-7030-ULG

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	390.1	7.7			
FM	(30°-60°)	1446.1	28.4			
FH	(60°-80°)	1792.4	35.2			G1/1800
FVH	(80°-90°)	25.4	0.5			G1/100
BL	(0°-30°)	335.2	6.6	B1/500		
BM	(30°-60°)	485.5	9.5	B1/1000		
BH	(60°-80°)	280.2	5.5	B1/500		G1/500
BVH	(80°-90°)	17.4	0.3			G1/100
UL	(90°-100°)	1.3	0.0		U1/10	
UH	(100°-180°)	157.7	3.1		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°	1031.2	1031.2	1031.2	1031.2	1031.2	1031.2	1031.2	1031.2	1031.2	1031.2	1031.2
2.5°	1016.6	1016.6	1018.4	1018.4	1021.1	1023.0	1021.1	1024.8	1024.8	1023.9	1025.7
5°	1001.9	1001.9	1002.9	1002.9	1004.7	1007.4	1005.6	1009.3	1008.3	1009.3	1009.3
7.5°	984.6	984.6	986.4	985.5	986.4	988.2	983.7	986.4	986.4	987.3	986.4
10°	962.7	964.5	966.3	965.4	965.4	966.3	959.0	961.8	960.8	960.8	959.9
12.5°	942.6	940.8	942.6	944.4	943.5	943.5	936.2	934.4	934.4	934.4	935.3
15°	921.6	923.4	926.1	923.4	921.6	917.9	910.6	908.8	908.8	908.8	909.7
17.5°	917.0	917.0	918.8	916.1	908.8	901.5	886.9	884.1	884.1	883.2	883.2
20°	929.8	928.9	931.6	926.1	909.7	890.5	867.7	863.1	863.1	863.1	862.2
22.5°	956.3	956.3	960.8	954.5	928.0	891.4	857.6	850.3	849.4	848.5	846.7
25°	1007.4	1006.5	1009.3	992.8	954.5	903.3	854.9	843.9	843.0	841.2	839.4
27.5°	1066.8	1068.6	1074.1	1049.4	992.8	924.3	866.8	848.5	846.7	843.9	840.3
30°	1125.2	1130.7	1140.8	1114.3	1036.7	950.8	885.0	864.0	860.4	856.7	850.3
32.5°	1199.2	1197.4	1213.8	1173.7	1075.0	979.1	904.2	878.6	874.1	868.6	860.4
35°	1277.8	1281.4	1285.1	1220.2	1107.0	1001.9	916.1	886.9	881.4	875.9	864.0
37.5°	1356.3	1357.2	1349.0	1257.7	1126.2	1015.6	922.5	888.7	881.4	873.2	859.5
40°	1428.5	1425.7	1401.1	1286.0	1137.1	1023.0	925.2	885.0	875.9	867.7	852.2
42.5°	1469.6	1466.8	1435.8	1298.8	1138.0	1022.0	925.2	881.4	871.3	861.3	843.9
45°	1486.9	1485.1	1449.5	1300.6	1131.6	1016.6	919.7	877.7	867.7	858.5	840.3
47.5°	1488.8	1488.8	1452.2	1297.9	1126.2	1012.9	919.7	882.3	874.1	866.8	853.1
50°	1480.5	1481.5	1453.1	1305.2	1130.7	1021.1	928.9	893.3	885.0	877.7	862.2
52.5°	1577.4	1568.2	1505.2	1338.1	1160.9	1047.6	959.9	928.0	925.2	920.7	908.8
55°	2317.2	2324.5	1980.1	1543.6	1287.8	1183.7	1147.2	1140.8	1160.9	1168.2	1168.2
57.5°	2941.9	2918.2	2788.5	2252.3	1684.2	1559.1	1573.7	1589.2	1618.5	1631.2	1640.4
60°	3094.4	3096.3	3092.6	2940.1	2486.1	2201.2	2129.9	2062.3	2059.6	2035.9	2017.6
62.5°	3076.2	3090.8	3159.3	3194.0	3238.7	3029.6	2594.8	2407.6	2371.1	2326.3	2262.4
65°	2943.7	2965.6	3075.3	3244.2	3629.7	3801.4	2908.1	2572.9	2516.3	2462.4	2354.6
67.5°	2508.1	2555.6	2765.6	3084.4	3676.2	4111.0	2959.3	2492.5	2417.6	2347.3	2219.4
70°	1548.1	1572.8	1897.0	2488.9	3331.0	3748.4	2687.1	2115.3	2020.3	1930.8	1756.4
72.5°	999.2	991.0	1045.8	1402.0	2447.8	2912.7	1847.7	1406.6	1328.9	1257.7	1145.3
75°	699.6	700.5	675.9	668.6	1135.3	1803.9	836.6	601.0	566.3	551.7	527.9
77.5°	455.8	461.2	454.8	472.2	454.8	749.9	384.5	282.2	268.5	259.4	244.8
80°	274.9	293.2	298.7	302.3	306.9	283.1	228.3	166.2	149.8	134.3	110.5
82.5°	48.4	47.5	65.8	88.6	116.0	132.4	95.9	60.3	56.6	54.8	50.2
85°	0.0	0.0	0.9	0.9	1.8	6.4	10.0	11.9	11.0	11.9	12.8
87.5°	0.0	0.0	0.0	0.9	0.9	1.8	1.8	1.8	1.8	1.8	1.8
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



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CATALOG NUMBER: ENT-E02-LED-E1-BL4-7030-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°	1031.2	1031.2	1031.2	1031.2	1031.2	1031.2	1031.2	1031.2	1031.2	1031.2	1031.2
2.5°	1025.7	1024.8	1023.9	1023.9	1025.7	1025.7	1024.8	1024.8	1025.7	1024.8	1026.6
5°	1010.2	1009.3	1009.3	1008.3	1009.3	1010.2	1009.3	1009.3	1010.2	1009.3	1011.1
7.5°	985.5	986.4	985.5	985.5	986.4	987.3	986.4	986.4	986.4	986.4	985.5
10°	959.9	959.9	959.0	959.0	960.8	959.9	959.0	959.0	959.9	960.8	959.0
12.5°	934.4	936.2	936.2	932.5	933.4	934.4	934.4	933.4	933.4	936.2	933.4
15°	908.8	909.7	908.8	909.7	907.9	907.0	907.9	907.9	906.0	905.1	905.1
17.5°	883.2	882.3	882.3	880.5	879.6	879.6	878.6	879.6	877.7	878.6	875.9
20°	860.4	859.5	858.5	858.5	855.8	855.8	855.8	854.9	853.1	853.1	852.2
22.5°	846.7	845.8	844.8	843.0	842.1	841.2	841.2	840.3	838.5	837.5	836.6
25°	839.4	838.5	836.6	834.8	833.9	833.0	833.0	832.1	830.2	828.4	827.5
27.5°	840.3	838.5	836.6	834.8	833.9	832.1	831.1	830.2	828.4	826.6	824.8
30°	848.5	844.8	841.2	838.5	835.7	833.0	831.1	830.2	827.5	824.8	822.0
32.5°	856.7	852.2	846.7	841.2	836.6	832.1	829.3	826.6	822.9	818.4	815.6
35°	859.5	854.0	845.8	841.2	834.8	829.3	824.8	821.1	814.7	809.2	804.7
37.5°	853.1	846.7	838.5	832.1	825.7	818.4	812.9	807.4	802.8	796.4	791.9
40°	843.0	835.7	827.5	818.4	812.0	804.7	799.2	794.6	788.2	782.7	779.1
42.5°	834.8	826.6	817.4	810.1	802.8	795.5	789.1	784.6	778.2	771.8	767.2
45°	832.1	823.8	816.5	807.4	800.1	794.6	789.1	782.7	777.3	771.8	766.3
47.5°	846.7	839.4	832.1	824.8	818.4	812.0	806.5	800.1	793.7	786.4	780.9
50°	854.9	846.7	840.3	832.1	824.8	818.4	812.9	806.5	801.9	794.6	789.1
52.5°	914.3	903.3	905.1	897.8	897.8	890.5	896.0	887.8	892.3	886.9	895.1
55°	1165.4	1169.1	1191.9	1195.6	1204.7	1203.8	1209.3	1233.0	1223.9	1212.0	1215.7
57.5°	1615.7	1623.9	1635.8	1624.9	1633.1	1634.9	1650.4	1644.0	1638.6	1634.9	1623.0
60°	2006.6	1995.7	1978.3	1957.3	1949.1	1940.0	1924.4	1924.4	1904.3	1897.9	1882.4
62.5°	2235.9	2203.9	2182.0	2148.2	2124.5	2108.0	2080.6	2059.6	2032.2	2011.2	1986.5
65°	2310.8	2256.9	2218.5	2176.5	2139.1	2103.4	2064.2	2034.0	2000.2	1977.4	1938.1
67.5°	2165.6	2110.8	2045.9	2001.2	1961.9	1917.1	1855.9	1818.5	1789.3	1745.4	1726.2
70°	1686.0	1628.5	1547.2	1525.3	1465.0	1395.6	1333.5	1296.0	1253.1	1223.0	1191.0
72.5°	1069.5	1004.7	969.1	942.6	903.3	845.8	791.9	770.0	732.5	724.3	703.3
75°	502.3	458.5	449.4	443.0	400.0	391.8	375.4	368.1	350.7	341.6	337.9
77.5°	224.7	214.6	198.2	193.6	179.9	166.2	149.8	142.5	133.3	127.9	120.6
80°	102.3	92.2	85.9	81.3	79.5	74.9	71.2	68.5	65.8	65.8	61.2
82.5°	49.3	47.5	45.7	45.7	42.9	42.9	40.2	39.3	38.4	37.4	37.4
85°	13.7	13.7	13.7	14.6	14.6	14.6	14.6	14.6	14.6	15.5	15.5
87.5°	1.8	1.8	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
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



REPORT NUMBER: P160008

CATALOG NUMBER: ENT-E02-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: P160008

CATALOG NUMBER: ENT-E02-LED-E1-BL4-7030-ULG

CANDELA DISTRIBUTION (continued):

	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°	86°
0°	1031.2	1031.2	1031.2	1031.2	1031.2	1031.2	1031.2	1031.2	1031.2	1031.2	1031.2
2.5°	1025.7	1025.7	1025.7	1027.5	1026.6	1029.3	1029.3	1029.3	1031.2	1032.1	1031.2
5°	1011.1	1011.1	1011.1	1012.0	1012.0	1013.8	1013.8	1015.6	1015.6	1016.6	1016.6
7.5°	987.3	988.2	988.2	990.1	989.2	990.1	990.1	992.8	992.8	993.7	993.7
10°	959.9	960.8	960.8	960.8	961.8	962.7	962.7	964.5	965.4	965.4	967.2
12.5°	934.4	933.4	934.4	933.4	936.2	936.2	937.1	936.2	937.1	938.0	938.9
15°	906.0	906.0	905.1	906.0	906.0	905.1	904.2	905.1	907.0	907.0	907.0
17.5°	877.7	875.0	875.0	875.0	874.1	872.2	874.1	873.2	873.2	874.1	873.2
20°	851.2	850.3	849.4	848.5	847.6	844.8	844.8	844.8	843.9	843.9	843.9
22.5°	834.8	833.9	833.0	832.1	828.4	826.6	825.7	824.8	822.9	822.0	821.1
25°	825.7	823.8	822.0	820.2	817.4	814.7	812.0	811.1	809.2	807.4	804.7
27.5°	822.9	821.1	817.4	815.6	812.0	809.2	806.5	803.7	801.0	798.3	795.5
30°	818.4	815.6	812.0	809.2	806.5	801.9	798.3	795.5	791.0	788.2	784.6
32.5°	812.0	808.3	804.7	801.0	797.4	792.8	788.2	784.6	780.9	777.3	772.7
35°	801.0	796.4	791.0	787.3	782.7	778.2	774.5	768.1	765.4	760.8	756.3
37.5°	786.4	781.8	777.3	772.7	767.2	763.6	758.1	752.6	749.9	747.1	740.7
40°	773.6	768.1	763.6	759.9	753.5	750.8	745.3	739.8	736.2	733.4	727.9
42.5°	761.7	756.3	751.7	746.2	741.6	738.0	733.4	727.9	724.3	722.5	717.9
45°	761.7	755.3	749.9	745.3	740.7	736.2	732.5	727.0	724.3	720.6	717.9
47.5°	774.5	767.2	760.8	754.4	748.0	743.5	738.0	732.5	727.9	725.2	721.5
50°	783.7	776.3	772.7	765.4	761.7	755.3	748.9	746.2	741.6	738.9	738.0
52.5°	895.1	890.5	891.4	873.2	869.5	878.6	864.0	876.8	873.2	862.2	862.2
55°	1236.7	1234.8	1243.1	1220.2	1210.2	1228.5	1235.8	1209.3	1215.7	1215.7	1213.8
57.5°	1634.9	1623.0	1611.2	1613.9	1599.3	1610.2	1596.5	1580.1	1586.5	1581.0	1561.8
60°	1872.4	1865.1	1847.7	1831.3	1815.7	1801.1	1788.3	1773.7	1766.4	1753.6	1739.9
62.5°	1968.3	1949.1	1928.1	1906.2	1881.5	1857.8	1843.1	1824.0	1803.9	1791.1	1776.5
65°	1917.1	1888.8	1866.0	1834.0	1807.5	1778.3	1759.1	1737.2	1718.9	1697.0	1678.7
67.5°	1688.8	1655.9	1595.6	1566.4	1527.1	1481.5	1468.7	1442.2	1432.1	1399.3	1345.4
70°	1149.9	1117.0	1080.5	1021.1	982.8	943.5	900.6	869.5	864.9	838.5	799.2
72.5°	675.9	653.0	629.3	595.5	567.2	551.7	521.5	490.5	489.6	459.4	443.9
75°	319.7	307.8	284.1	275.8	250.3	248.4	229.3	225.6	229.3	220.1	218.3
77.5°	108.7	105.9	100.5	93.2	87.7	85.9	81.3	78.5	76.7	74.9	73.1
80°	59.4	57.5	56.6	53.9	52.1	51.1	48.4	47.5	46.6	45.7	44.8
82.5°	35.6	36.5	34.7	32.9	32.9	31.1	30.1	29.2	28.3	28.3	28.3
85°	14.6	15.5	14.6	13.7	12.8	13.7	13.7	12.8	11.9	12.8	12.8
87.5°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
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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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°			
1031.2	1031.2	1031.2	1031.2	1031.2	1031.2	1031.2	1031.2	1031.2	1031.2	1031.2	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°			
1029.3	1028.4	1028.4	1027.5	1026.6	1028.4	1030.3	1033.0	1031.2	1033.0	1033.9	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°				
1014.7	1014.7	1014.7	1015.6	1014.7	1017.5	1021.1	1026.6	1027.5	1031.2	1033.9	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°					
991.0	991.0	991.9	992.8	991.9	995.6	1001.9	1008.3	1012.9	1019.3	1024.8	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°						
963.6	963.6	963.6	963.6	964.5	969.1	973.6	980.9	988.2	998.3	1006.5	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°							
938.9	936.2	937.1	938.9	937.1	937.1	941.7	947.1	951.7	964.5	979.1	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°								
906.0	906.0	904.2	905.1	900.6	899.7	901.5	905.1	908.8	919.7	935.3	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°									
871.3	871.3	871.3	868.6	864.9	855.8	854.9	854.9	854.9	863.1	881.4	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°										
840.3	840.3	838.5	836.6	828.4	812.9	800.1	794.6	792.8	806.5	814.7	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°											
818.4	817.4	813.8	812.0	799.2	774.5	754.4	738.9	734.3	738.9	741.6	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°												
801.0	799.2	795.5	791.9	774.5	740.7	708.8	682.3	669.5	665.8	656.7	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°													
791.0	788.2	782.7	779.1	756.3	713.3	671.3	636.6	612.9	595.5	579.1	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°														
780.0	775.4	770.0	764.5	738.9	691.4	643.0	600.1	558.1	527.9	504.2	142.5°	145°	147.5°	150°	152.5°	155°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°															
767.2	762.6	757.2	751.7	723.4	671.3	620.2	567.2	508.7	467.6	432.0	145°	147.5°	150°	152.5°	155°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°																
751.7	747.1	741.6	735.2	706.9	654.9	604.6	535.2	464.9	411.9	365.3	147.5°	150°	152.5°	155°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°																	
736.2	731.6	726.1	719.7	691.4	646.7	595.5	505.1	424.7	359.9	298.7	150°	152.5°	155°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°																		
724.3	719.7	714.2	708.8	683.2	643.0	590.9	479.5	389.1	308.7	238.4	152.5°	155°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°																			
714.2	709.7	705.1	699.6	677.7	644.8	580.9	457.6	354.4	257.6	187.2	155°	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°																				
713.3	710.6	705.1	700.5	679.5	653.0	572.7	438.4	318.8	208.2	158.0	157.5°	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°																					
719.7	716.1	712.4	708.8	692.3	674.1	567.2	418.3	278.6	168.1	150.7	160°	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°																						
735.2	731.6	729.8	727.9	717.9	702.4	567.2	397.3	232.0	148.0	149.8	162.5°	165°	167.5°	170°	172.5°	175°	177.5°	180°																							
860.4	850.3	847.6	854.9	827.5	749.9	570.8	371.7	181.8	141.6	150.7	165°	167.5°	170°	172.5°	175°	177.5°	180°																								
1210.2	1220.2	1194.7	1181.9	1134.4	867.7	573.6	333.4	148.0	140.7	148.9	167.5°	170°	172.5°	175°	177.5°	180°																									
1563.7	1563.7	1554.5	1534.4	1476.0	1068.6	586.4	272.2	135.2	138.8	147.0	170°	172.5°	175°	177.5°	180°																										
1736.3	1725.3	1716.2	1704.3	1615.7	1208.4	605.6	200.9	129.7	137.9	145.2	172.5°	175°	177.5°	180°																											
1767.3	1750.0	1738.1	1722.6	1604.8	1215.7	613.8	150.7	124.2	137.9	140.7	175°	177.5°	180°																												
1665.0	1646.8	1631.2	1605.7	1462.3	1100.6	572.7	123.3	120.6	134.3	136.1	177.5°	180°																													
1349.0	1327.1	1315.2	1302.4	1207.4	966.3	463.1	110.5	116.0	127.9	131.5	180°																														
771.8	748.0	734.3	737.1	679.5	764.5	369.9	101.4	109.6	120.6	126.0																															
415.6	390.0	381.8	355.3	303.2	385.4	285.0	93.2	101.4	109.6	115.1																															
205.5	196.4	199.1	186.3	158.0	118.7	183.6	83.1	90.4	98.6	102.3																															
71.2	69.4	68.5	67.6	65.8	63.0	84.0	71.2	77.6	84.0	87.7																															
43.8	42.9	43.8	42.9	42.0	48.4	53.9	56.6	62.1	70.3	71.2																															
26.5	26.5	26.5	26.5	26.5	33.8	38.4	43.8	48.4	53.9	58.5																															
12.8	12.8	12.8	12.8	13.7	22.8	25.6	32.0	33.8	38.4	42.0																															
2.7	2.7	2.7	2.7	3.7	11.9	15.5	19.2	20.1	20.1	22.8																															
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																															

'160008
 ENT-E02-LED-E1-BL4-7030-ULG

REPORT NUMBER: P160008
 CATALOG NUMBER: ENT-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°	1031.2	1031.2
25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	2.5°	1033.0	1031.2
29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	5°	1035.7	1033.9
34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	7.5°	1028.4	1029.3
40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	10°	1012.9	1015.6
47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	12.5°	988.2	993.7
55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	15°	947.1	955.4
63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	17.5°	892.3	902.4
70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	20°	823.8	828.4
77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	22.5°	739.8	741.6
85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	25°	651.2	651.2
92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	27.5°	569.0	564.5
99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	30°	490.5	478.6
104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	32.5°	407.4	387.3
110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	35°	323.3	306.9
115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	37.5°	251.2	232.9
119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	40°	192.7	179.0
123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	42.5°	162.6	159.8
127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	45°	155.3	158.9
130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	47.5°	156.2	160.7
133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	50°	157.1	161.7
136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	52.5°	157.1	159.8
137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	55°	155.3	155.3
137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	57.5°	151.6	150.7
138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	60°	148.9	148.9
140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	62.5°	144.3	144.3
141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	65°	137.0	137.9
140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	67.5°	129.7	129.7
										70°	120.6	120.6
										72.5°	111.4	115.1
										75°	105.0	111.4
										77.5°	92.2	98.6
										80°	75.8	76.7
										82.5°	60.3	58.5
										85°	42.9	40.2
										87.5°	22.8	21.9
										90°	0.1	0.1
										92.5°	0.1	0.1
										95°	0.5	0.5
										97.5°	1.5	1.5
										100°	5.0	5.0
										102.5°	8.8	8.8
										105°	11.8	11.8
										107.5°	14.7	14.7
										110°	17.8	17.8



REPORT NUMBER: P160008

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

LED-E1-BL4-7030-ULG

tinued):

180°
1031.2
1030.3
1033.0
1028.4
1016.6
997.4
953.5
902.4
825.7
738.9
647.6
561.7
474.9
387.3
302.3
227.4
178.1
160.7
158.9
161.7
162.6
159.8
155.3
152.5
148.9
144.3
137.9
129.7
122.4
116.9
114.2
102.3
76.7
55.7
40.2
22.8
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

