

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: P160012

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

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P160012
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-ULG
Description: ENTRI LED LUMINAIRE WITH UPLIGHT
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (42) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5540.6 lumens
Efficiency: N/A
Efficacy: 100.9 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 - G2

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

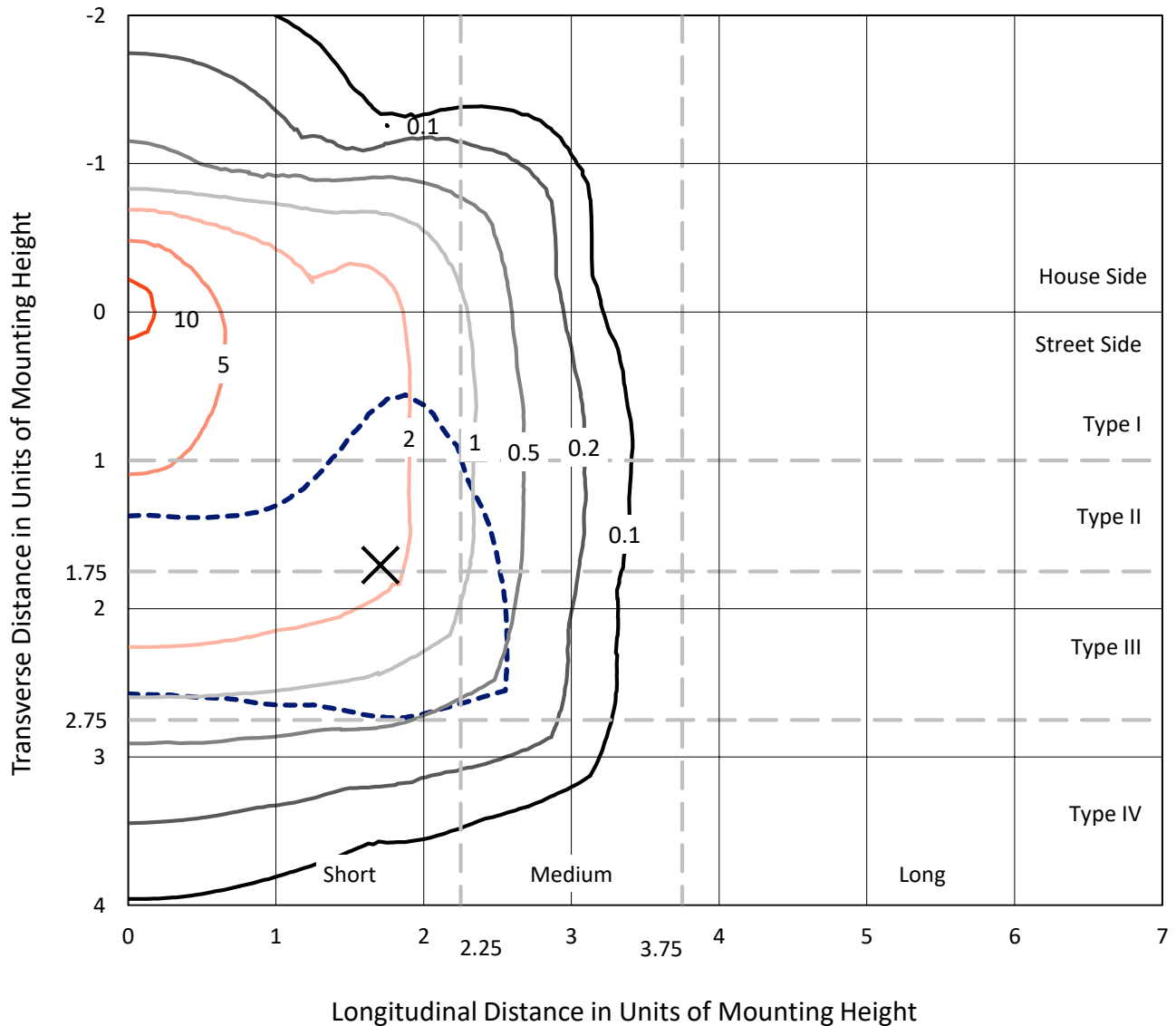


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Iso-Footcandle Lines of Horizontal Illumination

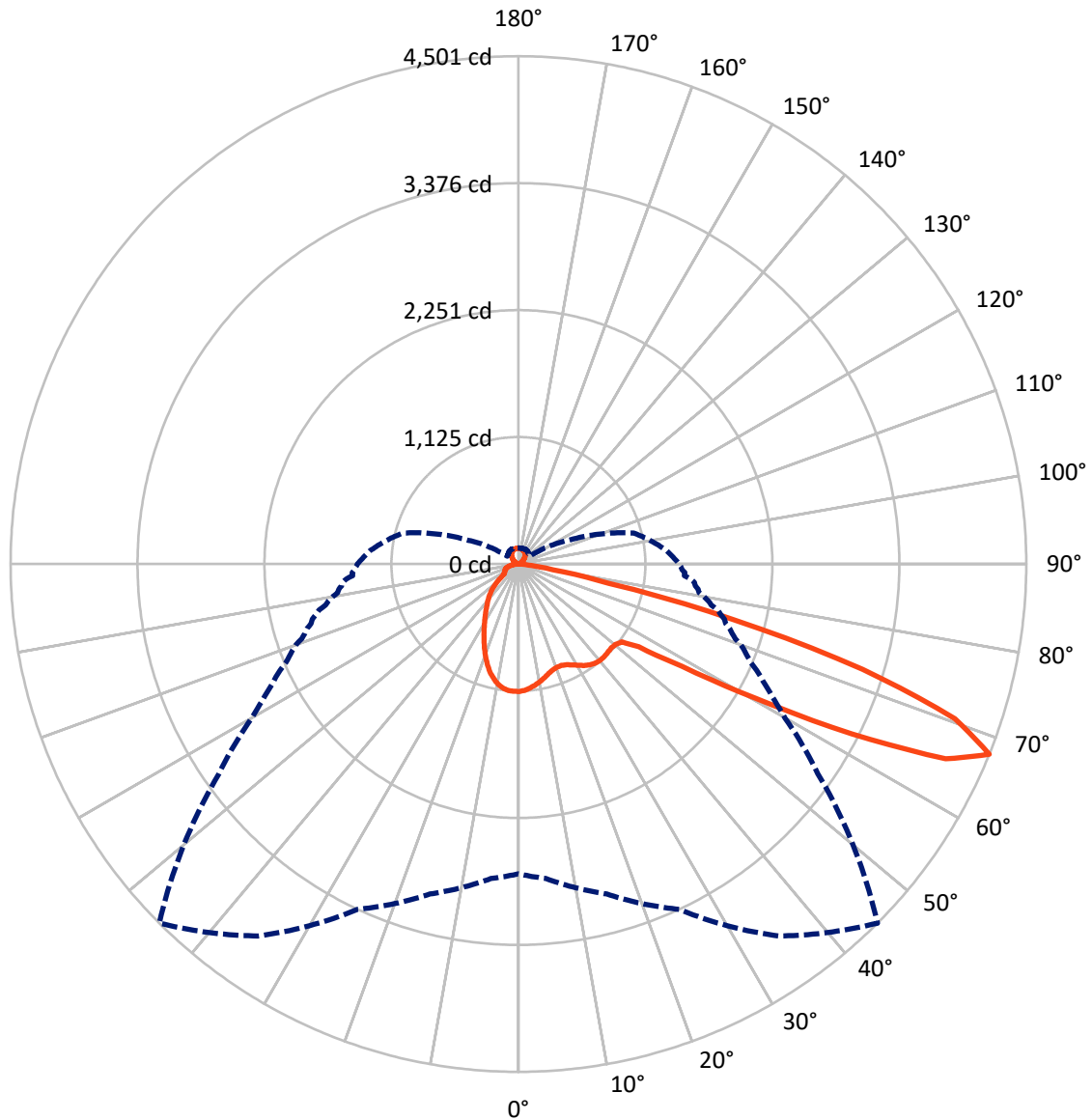
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 11.3 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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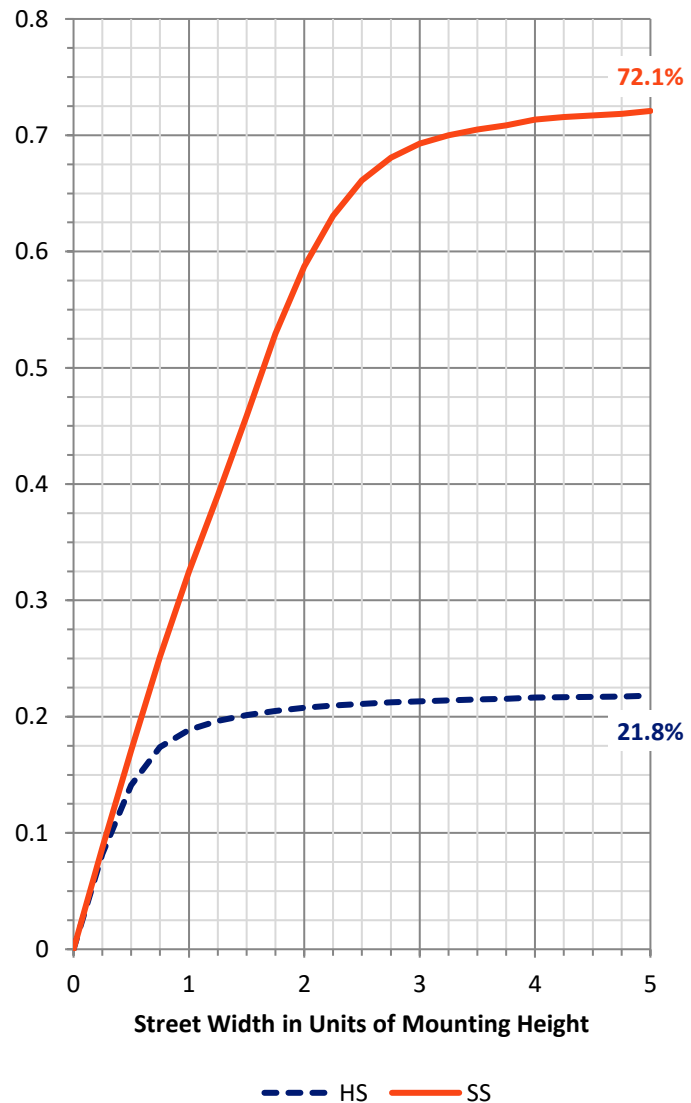
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1224.4	157.7	1382.1
	% Fixture	22.1	2.8	24.9
Street Side	Lumens	4000.7	157.7	4158.4
	% Fixture	72.2	2.8	75.1
Total	Lumens	5225.1	315.5	5540.6
	% Fixture	94.3	5.7	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.9	1.9
10°-20°	282.3	5.1
20°-30°	406.9	7.3
30°-40°	519.2	9.4
40°-50°	612.8	11.1
50°-60°	982.8	17.7
60°-70°	1654.1	29.9
70°-80°	615.2	11.1
80°-90°	46.8	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	1.1
140°-150°	65.4	1.2
150°-160°	56.9	1.0
160°-170°	38.2	0.7
170°-180°	13.3	0.2
0°-90°	5225.1	94.3
0°-180°	5540.6	100.0



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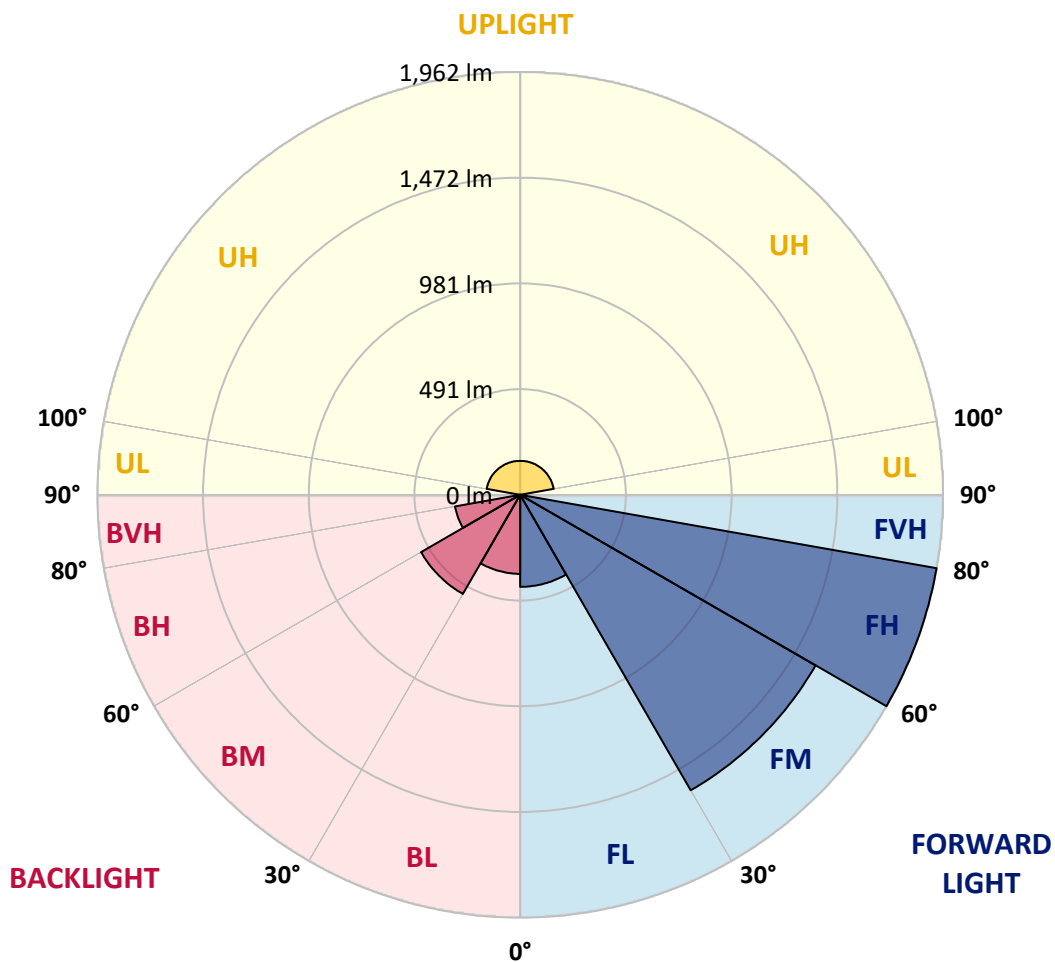
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	427.1	7.7			
FM	(30°-60°)	1583.3	28.6			
FH	(60°-80°)	1962.5	35.4			G2/5000
FVH	(80°-90°)	27.8	0.5			G1/100
BL	(0°-30°)	367.0	6.6	B1/500		
BM	(30°-60°)	531.5	9.6	B1/1000		
BH	(60°-80°)	306.8	5.5	B1/500		G1/500
BVH	(80°-90°)	19.0	0.3			G1/100
UL	(90°-100°)	1.3	0.0		U1/10	
UH	(100°-180°)	157.7	2.8		U3/500	

BUG Rating: B1-U3-G2

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	61°	62°	64°
0°	1129.0	1129.0	1129.0	1129.0	1129.0	1129.0	1129.0	1129.0	1129.0	1129.0	1129.0
2.5°	1113.0	1113.0	1115.0	1115.0	1118.0	1120.0	1118.0	1122.0	1122.0	1121.0	1123.0
5°	1097.0	1097.0	1098.0	1098.0	1100.0	1103.0	1101.0	1105.0	1104.0	1105.0	1105.0
7.5°	1078.0	1078.0	1080.0	1079.0	1080.0	1082.0	1077.0	1080.0	1080.0	1081.0	1080.0
10°	1054.0	1056.0	1058.0	1057.0	1057.0	1058.0	1050.0	1053.0	1052.0	1052.0	1051.0
12.5°	1032.0	1030.0	1032.0	1034.0	1033.0	1033.0	1025.0	1023.0	1023.0	1023.0	1024.0
15°	1009.0	1011.0	1014.0	1011.0	1009.0	1005.0	997.0	995.0	995.0	995.0	996.0
17.5°	1004.0	1004.0	1006.0	1003.0	995.0	987.0	971.0	968.0	968.0	967.0	967.0
20°	1018.0	1017.0	1020.0	1014.0	996.0	975.0	950.0	945.0	945.0	945.0	944.0
22.5°	1047.0	1047.0	1052.0	1045.0	1016.0	976.0	939.0	931.0	930.0	929.0	927.0
25°	1103.0	1102.0	1105.0	1087.0	1045.0	989.0	936.0	924.0	923.0	921.0	919.0
27.5°	1168.0	1170.0	1176.0	1149.0	1087.0	1012.0	949.0	929.0	927.0	924.0	920.0
30°	1232.0	1238.0	1249.0	1220.0	1135.0	1041.0	969.0	946.0	942.0	938.0	931.0
32.5°	1313.0	1311.0	1329.0	1285.0	1177.0	1072.0	990.0	962.0	957.0	951.0	942.0
35°	1399.0	1403.0	1407.0	1336.0	1212.0	1097.0	1003.0	971.0	965.0	959.0	946.0
37.5°	1485.0	1486.0	1477.0	1377.0	1233.0	1112.0	1010.0	973.0	965.0	956.0	941.0
40°	1564.0	1561.0	1534.0	1408.0	1245.0	1120.0	1013.0	969.0	959.0	950.0	933.0
42.5°	1609.0	1606.0	1572.0	1422.0	1246.0	1119.0	1013.0	965.0	954.0	943.0	924.0
45°	1628.0	1626.0	1587.0	1424.0	1239.0	1113.0	1007.0	961.0	950.0	940.0	920.0
47.5°	1630.0	1630.0	1590.0	1421.0	1233.0	1109.0	1007.0	966.0	957.0	949.0	934.0
50°	1621.0	1622.0	1591.0	1429.0	1238.0	1118.0	1017.0	978.0	969.0	961.0	944.0
52.5°	1727.0	1717.0	1648.0	1465.0	1271.0	1147.0	1051.0	1016.0	1013.0	1008.0	995.0
55°	2537.0	2545.0	2168.0	1690.0	1410.0	1296.0	1256.0	1249.0	1271.0	1279.0	1279.0
57.5°	3221.0	3195.0	3053.0	2466.0	1844.0	1707.0	1723.0	1740.0	1772.0	1786.0	1796.0
60°	3388.0	3390.0	3386.0	3219.0	2722.0	2410.0	2332.0	2258.0	2255.0	2229.0	2209.0
62.5°	3368.0	3384.0	3459.0	3497.0	3546.0	3317.0	2841.0	2636.0	2596.0	2547.0	2477.0
65°	3223.0	3247.0	3367.0	3552.0	3974.0	4162.0	3184.0	2817.0	2755.0	2696.0	2578.0
67.5°	2746.0	2798.0	3028.0	3377.0	4025.0	4501.0	3240.0	2729.0	2647.0	2570.0	2430.0
70°	1695.0	1722.0	2077.0	2725.0	3647.0	4104.0	2942.0	2316.0	2212.0	2114.0	1923.0
72.5°	1094.0	1085.0	1145.0	1535.0	2680.0	3189.0	2023.0	1540.0	1455.0	1377.0	1254.0
75°	766.0	767.0	740.0	732.0	1243.0	1975.0	916.0	658.0	620.0	604.0	578.0
77.5°	499.0	505.0	498.0	517.0	498.0	821.0	421.0	309.0	294.0	284.0	268.0
80°	301.0	321.0	327.0	331.0	336.0	310.0	250.0	182.0	164.0	147.0	121.0
82.5°	53.0	52.0	72.0	97.0	127.0	145.0	105.0	66.0	62.0	60.0	55.0
85°	0.0	0.0	1.0	1.0	2.0	7.0	11.0	13.0	12.0	13.0	14.0
87.5°	0.0	0.0	0.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0
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: ENT-E02-LED-E1-BL4-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°	1129.0	1129.0	1129.0	1129.0	1129.0	1129.0	1129.0	1129.0	1129.0	1129.0	1129.0
2.5°	1123.0	1122.0	1121.0	1121.0	1123.0	1123.0	1122.0	1122.0	1123.0	1122.0	1124.0
5°	1106.0	1105.0	1105.0	1104.0	1105.0	1106.0	1105.0	1105.0	1106.0	1105.0	1107.0
7.5°	1079.0	1080.0	1079.0	1079.0	1080.0	1081.0	1080.0	1080.0	1080.0	1080.0	1079.0
10°	1051.0	1051.0	1050.0	1050.0	1052.0	1051.0	1050.0	1050.0	1051.0	1052.0	1050.0
12.5°	1023.0	1025.0	1025.0	1021.0	1022.0	1023.0	1023.0	1022.0	1022.0	1025.0	1022.0
15°	995.0	996.0	995.0	996.0	994.0	993.0	994.0	994.0	992.0	991.0	991.0
17.5°	967.0	966.0	966.0	964.0	963.0	963.0	962.0	963.0	961.0	962.0	959.0
20°	942.0	941.0	940.0	940.0	937.0	937.0	937.0	936.0	934.0	934.0	933.0
22.5°	927.0	926.0	925.0	923.0	922.0	921.0	921.0	920.0	918.0	917.0	916.0
25°	919.0	918.0	916.0	914.0	913.0	912.0	912.0	911.0	909.0	907.0	906.0
27.5°	920.0	918.0	916.0	914.0	913.0	911.0	910.0	909.0	907.0	905.0	903.0
30°	929.0	925.0	921.0	918.0	915.0	912.0	910.0	909.0	906.0	903.0	900.0
32.5°	938.0	933.0	927.0	921.0	916.0	911.0	908.0	905.0	901.0	896.0	893.0
35°	941.0	935.0	926.0	921.0	914.0	908.0	903.0	899.0	892.0	886.0	881.0
37.5°	934.0	927.0	918.0	911.0	904.0	896.0	890.0	884.0	879.0	872.0	867.0
40°	923.0	915.0	906.0	896.0	889.0	881.0	875.0	870.0	863.0	857.0	853.0
42.5°	914.0	905.0	895.0	887.0	879.0	871.0	864.0	859.0	852.0	845.0	840.0
45°	911.0	902.0	894.0	884.0	876.0	870.0	864.0	857.0	851.0	845.0	839.0
47.5°	927.0	919.0	911.0	903.0	896.0	889.0	883.0	876.0	869.0	861.0	855.0
50°	936.0	927.0	920.0	911.0	903.0	896.0	890.0	883.0	878.0	870.0	864.0
52.5°	1001.0	989.0	991.0	983.0	983.0	975.0	981.0	972.0	977.0	971.0	980.0
55°	1276.0	1280.0	1305.0	1309.0	1319.0	1318.0	1324.0	1350.0	1340.0	1327.0	1331.0
57.5°	1769.0	1778.0	1791.0	1779.0	1788.0	1790.0	1807.0	1800.0	1794.0	1790.0	1777.0
60°	2197.0	2185.0	2166.0	2143.0	2134.0	2124.0	2107.0	2107.0	2085.0	2078.0	2061.0
62.5°	2448.0	2413.0	2389.0	2352.0	2326.0	2308.0	2278.0	2255.0	2225.0	2202.0	2175.0
65°	2530.0	2471.0	2429.0	2383.0	2342.0	2303.0	2260.0	2227.0	2190.0	2165.0	2122.0
67.5°	2371.0	2311.0	2240.0	2191.0	2148.0	2099.0	2032.0	1991.0	1959.0	1911.0	1890.0
70°	1846.0	1783.0	1694.0	1670.0	1604.0	1528.0	1460.0	1419.0	1372.0	1339.0	1304.0
72.5°	1171.0	1100.0	1061.0	1032.0	989.0	926.0	867.0	843.0	802.0	793.0	770.0
75°	550.0	502.0	492.0	485.0	438.0	429.0	411.0	403.0	384.0	374.0	370.0
77.5°	246.0	235.0	217.0	212.0	197.0	182.0	164.0	156.0	146.0	140.0	132.0
80°	112.0	101.0	94.0	89.0	87.0	82.0	78.0	75.0	72.0	72.0	67.0
82.5°	54.0	52.0	50.0	50.0	47.0	47.0	44.0	43.0	42.0	41.0	41.0
85°	15.0	15.0	15.0	16.0	16.0	16.0	16.0	16.0	16.0	17.0	17.0
87.5°	2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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



REPORT NUMBER: P160012

CATALOG NUMBER: ENT-E02-LED-E1-BL4-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: P160012

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

CANDELA DISTRIBUTION (continued):

	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°	86°
0°	1129.0	1129.0	1129.0	1129.0	1129.0	1129.0	1129.0	1129.0	1129.0	1129.0	1129.0
2.5°	1123.0	1123.0	1123.0	1125.0	1124.0	1127.0	1127.0	1127.0	1129.0	1130.0	1129.0
5°	1107.0	1107.0	1107.0	1108.0	1108.0	1110.0	1110.0	1112.0	1112.0	1113.0	1113.0
7.5°	1081.0	1082.0	1082.0	1084.0	1083.0	1084.0	1084.0	1087.0	1087.0	1088.0	1088.0
10°	1051.0	1052.0	1052.0	1052.0	1053.0	1054.0	1054.0	1056.0	1057.0	1057.0	1059.0
12.5°	1023.0	1022.0	1023.0	1022.0	1025.0	1025.0	1026.0	1025.0	1026.0	1027.0	1028.0
15°	992.0	992.0	991.0	992.0	992.0	991.0	990.0	991.0	993.0	993.0	993.0
17.5°	961.0	958.0	958.0	958.0	957.0	955.0	957.0	956.0	956.0	957.0	956.0
20°	932.0	931.0	930.0	929.0	928.0	925.0	925.0	925.0	924.0	924.0	924.0
22.5°	914.0	913.0	912.0	911.0	907.0	905.0	904.0	903.0	901.0	900.0	899.0
25°	904.0	902.0	900.0	898.0	895.0	892.0	889.0	888.0	886.0	884.0	881.0
27.5°	901.0	899.0	895.0	893.0	889.0	886.0	883.0	880.0	877.0	874.0	871.0
30°	896.0	893.0	889.0	886.0	883.0	878.0	874.0	871.0	866.0	863.0	859.0
32.5°	889.0	885.0	881.0	877.0	873.0	868.0	863.0	859.0	855.0	851.0	846.0
35°	877.0	872.0	866.0	862.0	857.0	852.0	848.0	841.0	838.0	833.0	828.0
37.5°	861.0	856.0	851.0	846.0	840.0	836.0	830.0	824.0	821.0	818.0	811.0
40°	847.0	841.0	836.0	832.0	825.0	822.0	816.0	810.0	806.0	803.0	797.0
42.5°	834.0	828.0	823.0	817.0	812.0	808.0	803.0	797.0	793.0	791.0	786.0
45°	834.0	827.0	821.0	816.0	811.0	806.0	802.0	796.0	793.0	789.0	786.0
47.5°	848.0	840.0	833.0	826.0	819.0	814.0	808.0	802.0	797.0	794.0	790.0
50°	858.0	850.0	846.0	838.0	834.0	827.0	820.0	817.0	812.0	809.0	808.0
52.5°	980.0	975.0	976.0	956.0	952.0	962.0	946.0	960.0	956.0	944.0	944.0
55°	1354.0	1352.0	1361.0	1336.0	1325.0	1345.0	1353.0	1324.0	1331.0	1331.0	1329.0
57.5°	1790.0	1777.0	1764.0	1767.0	1751.0	1763.0	1748.0	1730.0	1737.0	1731.0	1710.0
60°	2050.0	2042.0	2023.0	2005.0	1988.0	1972.0	1958.0	1942.0	1934.0	1920.0	1905.0
62.5°	2155.0	2134.0	2111.0	2087.0	2060.0	2034.0	2018.0	1997.0	1975.0	1961.0	1945.0
65°	2099.0	2068.0	2043.0	2008.0	1979.0	1947.0	1926.0	1902.0	1882.0	1858.0	1838.0
67.5°	1849.0	1813.0	1747.0	1715.0	1672.0	1622.0	1608.0	1579.0	1568.0	1532.0	1473.0
70°	1259.0	1223.0	1183.0	1118.0	1076.0	1033.0	986.0	952.0	947.0	918.0	875.0
72.5°	740.0	715.0	689.0	652.0	621.0	604.0	571.0	537.0	536.0	503.0	486.0
75°	350.0	337.0	311.0	302.0	274.0	272.0	251.0	247.0	251.0	241.0	239.0
77.5°	119.0	116.0	110.0	102.0	96.0	94.0	89.0	86.0	84.0	82.0	80.0
80°	65.0	63.0	62.0	59.0	57.0	56.0	53.0	52.0	51.0	50.0	49.0
82.5°	39.0	40.0	38.0	36.0	36.0	34.0	33.0	32.0	31.0	31.0	31.0
85°	16.0	17.0	16.0	15.0	14.0	15.0	15.0	14.0	13.0	14.0	14.0
87.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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



REPORT NUMBER: P160012
 CATALOG NUMBER: ENT-E02-LED-E1-BL4-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: P160012
 NUMBER: ENT-E02-LED-E1-BL4-ULG

REPORT NUMBER: P
 CATALOG NUMBER:

DISTRIBUTION (continued):

CANDELA DISTRIBUTION

87°	88°	89°	90°	95°	105°	115°	125°	135°	145°	155°	87°	
1129.0	1129.0	1129.0	1129.0	1129.0	1129.0	1129.0	1129.0	1129.0	1129.0	1129.0	112.5°	21.2
1127.0	1126.0	1126.0	1125.0	1124.0	1126.0	1128.0	1131.0	1129.0	1131.0	1132.0	115°	25.0
1111.0	1111.0	1111.0	1112.0	1111.0	1114.0	1118.0	1124.0	1125.0	1129.0	1132.0	117.5°	29.5
1085.0	1085.0	1086.0	1087.0	1086.0	1090.0	1097.0	1104.0	1109.0	1116.0	1122.0	120°	34.8
1055.0	1055.0	1055.0	1055.0	1056.0	1061.0	1066.0	1074.0	1082.0	1093.0	1102.0	122.5°	40.9
1028.0	1025.0	1026.0	1028.0	1026.0	1026.0	1031.0	1037.0	1042.0	1056.0	1072.0	125°	47.8
992.0	992.0	990.0	991.0	986.0	985.0	987.0	991.0	995.0	1007.0	1024.0	127.5°	55.3
954.0	954.0	954.0	951.0	947.0	937.0	936.0	936.0	936.0	945.0	965.0	130°	63.0
920.0	920.0	918.0	916.0	907.0	890.0	876.0	870.0	868.0	883.0	892.0	132.5°	70.5
896.0	895.0	891.0	889.0	875.0	848.0	826.0	809.0	804.0	809.0	812.0	135°	77.9
877.0	875.0	871.0	867.0	848.0	811.0	776.0	747.0	733.0	729.0	719.0	137.5°	85.3
866.0	863.0	857.0	853.0	828.0	781.0	735.0	697.0	671.0	652.0	634.0	140°	92.5
854.0	849.0	843.0	837.0	809.0	757.0	704.0	657.0	611.0	578.0	552.0	142.5°	99.2
840.0	835.0	829.0	823.0	792.0	735.0	679.0	621.0	557.0	512.0	473.0	145°	104.9
823.0	818.0	812.0	805.0	774.0	717.0	662.0	586.0	509.0	451.0	400.0	147.5°	110.1
806.0	801.0	795.0	788.0	757.0	708.0	652.0	553.0	465.0	394.0	327.0	150°	115.1
793.0	788.0	782.0	776.0	748.0	704.0	647.0	525.0	426.0	338.0	261.0	152.5°	119.7
782.0	777.0	772.0	766.0	742.0	706.0	636.0	501.0	388.0	282.0	205.0	155°	123.7
781.0	778.0	772.0	767.0	744.0	715.0	627.0	480.0	349.0	228.0	173.0	157.5°	127.0
788.0	784.0	780.0	776.0	758.0	738.0	621.0	458.0	305.0	184.0	165.0	160°	130.3
805.0	801.0	799.0	797.0	786.0	769.0	621.0	435.0	254.0	162.0	164.0	162.5°	133.5
942.0	931.0	928.0	936.0	906.0	821.0	625.0	407.0	199.0	155.0	165.0	165°	136.0
1325.0	1336.0	1308.0	1294.0	1242.0	950.0	628.0	365.0	162.0	154.0	163.0	167.5°	137.1
1712.0	1712.0	1702.0	1680.0	1616.0	1170.0	642.0	298.0	148.0	152.0	161.0	170°	137.4
1901.0	1889.0	1879.0	1866.0	1769.0	1323.0	663.0	220.0	142.0	151.0	159.0	172.5°	138.6
1935.0	1916.0	1903.0	1886.0	1757.0	1331.0	672.0	165.0	136.0	151.0	154.0	175°	140.5
1823.0	1803.0	1786.0	1758.0	1601.0	1205.0	627.0	135.0	132.0	147.0	149.0	177.5°	141.1
1477.0	1453.0	1440.0	1426.0	1322.0	1058.0	507.0	121.0	127.0	140.0	144.0	180°	140.8
845.0	819.0	804.0	807.0	744.0	837.0	405.0	111.0	120.0	132.0	138.0		
455.0	427.0	418.0	389.0	332.0	422.0	312.0	102.0	111.0	120.0	126.0		
225.0	215.0	218.0	204.0	173.0	130.0	201.0	91.0	99.0	108.0	112.0		
78.0	76.0	75.0	74.0	72.0	69.0	92.0	78.0	85.0	92.0	96.0		
48.0	47.0	48.0	47.0	46.0	53.0	59.0	62.0	68.0	77.0	78.0		
29.0	29.0	29.0	29.0	29.0	37.0	42.0	48.0	53.0	59.0	64.0		
14.0	14.0	14.0	14.0	15.0	25.0	28.0	35.0	37.0	42.0	46.0		
3.0	3.0	3.0	3.0	4.0	13.0	17.0	21.0	22.0	22.0	25.0		
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		

'160012
 ENT-E02-LED-E1-BL4-ULG

REPORT NUMBER: P160012
 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°	1129.0	1129.0
25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	2.5°	1131.0	1129.0
29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	5°	1134.0	1132.0
34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	7.5°	1126.0	1127.0
40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	10°	1109.0	1112.0
47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	12.5°	1082.0	1088.0
55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	15°	1037.0	1046.0
63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	17.5°	977.0	988.0
70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	20°	902.0	907.0
77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	22.5°	810.0	812.0
85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	25°	713.0	713.0
92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	27.5°	623.0	618.0
99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	30°	537.0	524.0
104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9	32.5°	446.0	424.0
110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	110.1	35°	354.0	336.0
115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	115.1	37.5°	275.0	255.0
119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7	40°	211.0	196.0
123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	42.5°	178.0	175.0
127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	45°	170.0	174.0
130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	130.3	47.5°	171.0	176.0
133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	50°	172.0	177.0
136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	136.0	52.5°	172.0	175.0
137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	55°	170.0	170.0
137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	57.5°	166.0	165.0
138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	60°	163.0	163.0
140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	62.5°	158.0	158.0
141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	141.1	65°	150.0	151.0
140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8	67.5°	142.0	142.0
										70°	132.0	132.0
										72.5°	122.0	126.0
										75°	115.0	122.0
										77.5°	101.0	108.0
										80°	83.0	84.0
										82.5°	66.0	64.0
										85°	47.0	44.0
										87.5°	25.0	24.0
										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: P160012

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

LED-E1-BL4-ULG

tinued):

180°
1129.0
1128.0
1131.0
1126.0
1113.0
1092.0
1044.0
988.0
904.0
809.0
709.0
615.0
520.0
424.0
331.0
249.0
195.0
176.0
174.0
177.0
178.0
175.0
170.0
167.0
163.0
158.0
151.0
142.0
134.0
128.0
125.0
112.0
84.0
61.0
44.0
25.0
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

