

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: PORTFOLIO

Report Number: P#

Luminaire Tested: **LD4C50D010 EX4C509035 4LBSQLWWLI**

Issue Date: 2/18/2022



Test Information

Test Method: LM-79-08
Report Number: P#
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P219529)
Test Lab: INNOVATION CENTER
Issue Date: 2/18/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LD4C50D010 EX4C509035 4LBSQLWWLI
Description: 4 INCH 5000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3500K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH LI FINISH
Light Source: -
Ballast/Driver: -

Summary

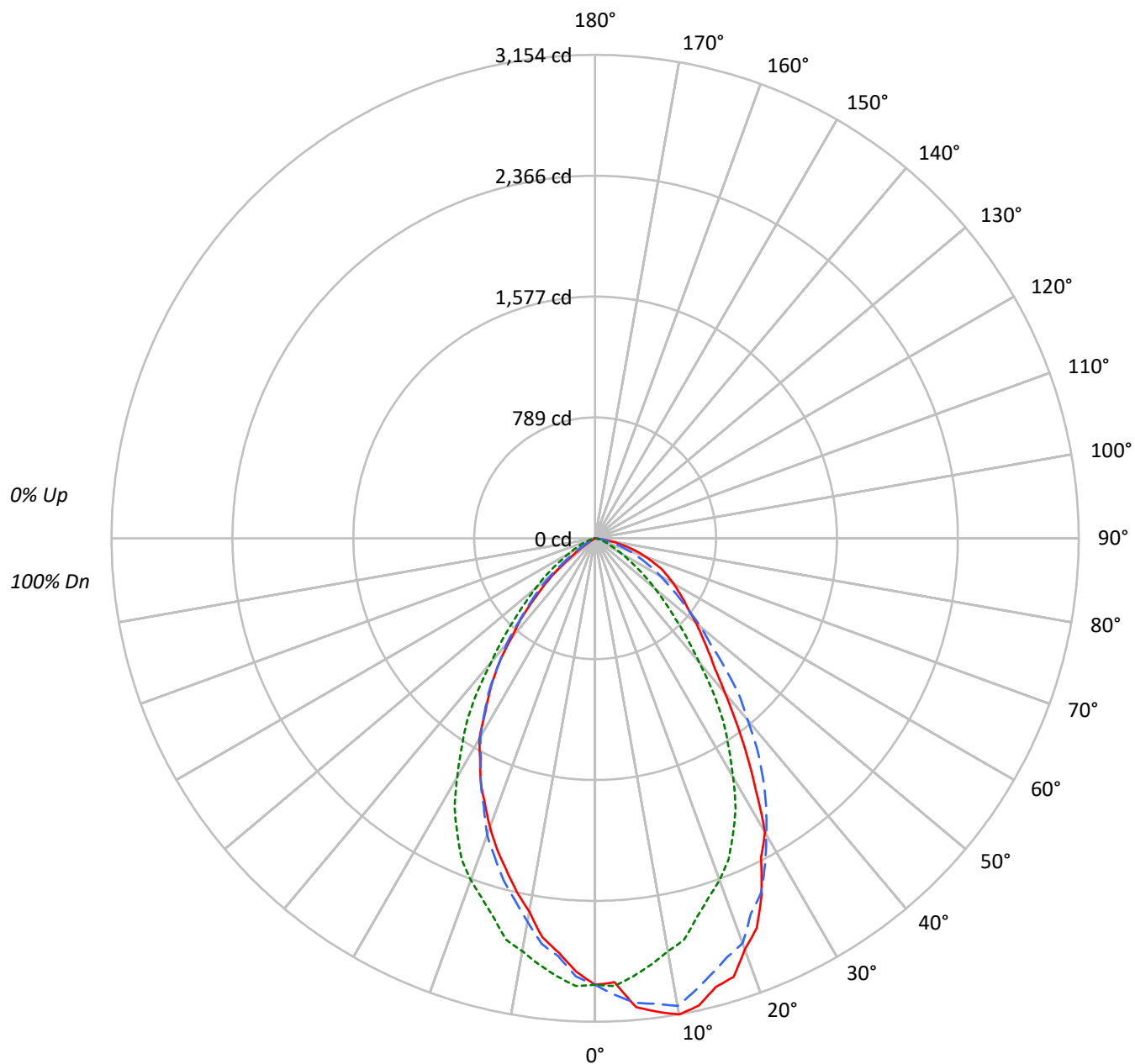
Lumens per Lamp: N/A
Luminaire Lumens: 4176.0 lumens
Efficiency: N/A
Efficacy: 71.5 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1 / 1.06
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 58.4
Input Voltage (V):
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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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90		
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80		
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72		
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64		
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58		
6	80	69	61	56	78	68	61	56	66	60	55	65	59	55	63	58	54	53		
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48		
8	70	59	52	47	69	58	51	46	57	51	46	56	50	46	55	50	46	44		
9	66	55	48	43	65	54	47	43	53	47	43	52	46	42	51	46	42	41		
10	62	51	44	40	61	51	44	40	50	44	39	49	43	39	48	43	39	38		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	281101	281101	281101
5°	297401	277787	262900
10°	309060	267988	242308
15°	302885	255775	223670
20°	293053	243550	205886
25°	273356	226480	187813
30°	246764	200437	168138
35°	203260	171586	139488
40°	165886	132444	107353
45°	142528	100582	77220
50°	128990	76571	48771
55°	118698	55228	17630
60°	113934	37746	2702
65°	110046	25525	822
70°	98543	17717	1016
75°	80749	9134	0
80°	50509	3890	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	273.0	6.5
10°-20°	735.4	17.6
20°-30°	982.0	23.5
30°-40°	932.2	22.3
40°-50°	644.4	15.4
50°-60°	356.0	8.5
60°-70°	176.8	4.2
70°-80°	69.7	1.7
80°-90°	6.6	0.2
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1990.3	47.7
0°-40°	2922.5	70.0
0°-60°	3922.9	93.9
0°-90°	4176.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4176.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2913	2913	2913	2913	2913	
5°	3070	3043	2868	2739	2714	294
15°	3032	2941	2560	2309	2239	858
25°	2568	2557	2127	1764	1764	1171
35°	1726	1907	1457	1198	1184	1081
45°	1044	1198	737	604	566	815
55°	706	664	328	168	105	635
65°	482	349	112	4	4	468
75°	217	133	24	0	0	231
85°	0	4	0	0	0	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2913.3	2913.3	2913.3	2913.3	2913.3	2913.3	2913.3	2913.3	2913.3	2913.3	2913.3
2.5°	2899.3	2979.6	2986.6	2979.6	2990.2	2986.6	3004.1	2986.6	3007.7	2976.2	2983.2
5°	3070.5	3039.0	3105.4	3070.5	3070.5	3067.1	3056.6	3053.0	3067.1	3021.7	3042.6
7.5°	3116.0	3161.4	3220.8	3147.4	3150.9	3150.9	3129.9	3122.9	3122.9	3039.0	3063.5
10°	3154.4	3126.4	3157.8	3129.9	3154.4	3150.9	3164.8	3119.4	3150.9	3102.0	3098.4
12.5°	3122.9	3112.4	3154.4	3109.0	3095.0	3098.4	3081.1	3070.5	3081.1	3025.1	3021.7
15°	3032.1	3042.6	3105.4	3056.6	3049.6	3042.6	3021.7	2986.6	3014.7	2937.8	2941.3
17.5°	3000.7	2983.2	2993.7	2951.7	2962.3	2955.3	2951.7	2920.4	2913.3	2864.4	2864.4
20°	2854.0	2892.3	2892.3	2864.4	2864.4	2861.0	2815.6	2843.5	2812.0	2798.0	2812.0
22.5°	2752.6	2756.2	2756.2	2731.7	2735.2	2721.3	2696.8	2679.2	2696.8	2679.2	2651.3
25°	2567.6	2574.6	2616.4	2571.0	2564.0	2578.0	2557.0	2546.5	2543.1	2501.2	2557.0
27.5°	2343.9	2413.7	2410.3	2392.8	2413.7	2385.8	2375.4	2378.8	2389.4	2385.8	2399.8
30°	2214.8	2225.2	2235.7	2221.7	2225.2	2214.8	2214.8	2218.2	2246.1	2235.7	2232.1
32.5°	1952.7	1987.6	2015.6	2015.6	2019.1	2029.6	2026.0	2099.4	2116.9	2082.0	2075.0
35°	1725.6	1750.1	1774.5	1778.0	1823.5	1826.9	1830.5	1851.4	1900.3	1910.8	1907.2
37.5°	1509.1	1533.5	1540.5	1571.9	1596.4	1620.8	1648.9	1676.8	1718.6	1753.5	1736.2
40°	1317.0	1327.4	1344.9	1358.9	1407.7	1407.7	1421.7	1477.6	1523.1	1551.0	1547.4
42.5°	1156.3	1159.7	1173.7	1198.2	1243.6	1233.1	1243.6	1282.1	1348.3	1351.9	1390.3
45°	1044.5	1040.9	1051.5	1054.9	1082.9	1096.9	1103.9	1131.8	1187.6	1194.6	1198.2
47.5°	943.2	939.7	957.2	964.2	974.6	988.5	988.5	992.1	1013.0	1030.5	1016.6
50°	859.3	859.3	859.3	866.3	883.8	880.3	883.8	897.8	908.2	901.2	897.8
52.5°	768.5	782.4	792.9	796.5	799.9	799.9	803.5	796.5	792.9	782.4	761.5
55°	705.6	719.6	719.6	719.6	719.6	733.6	716.2	719.6	719.6	691.7	663.8
57.5°	642.8	656.8	667.2	653.2	667.2	653.2	646.2	642.8	635.7	607.8	565.9
60°	590.4	597.4	593.8	590.4	597.4	586.8	579.9	565.9	558.9	520.5	492.5
62.5°	531.0	534.4	538.0	531.0	524.0	520.5	506.5	485.6	471.6	440.1	415.6
65°	482.0	471.6	468.1	464.6	457.6	447.1	436.7	412.2	401.7	373.8	349.3
67.5°	408.7	405.2	412.2	401.7	384.3	384.3	373.8	352.8	328.3	310.9	286.4
70°	349.3	345.8	338.9	328.3	324.9	310.9	310.9	286.4	279.5	248.0	227.0
72.5°	286.4	286.4	275.9	265.5	255.0	248.0	244.6	227.0	216.6	199.1	181.6
75°	216.6	216.6	213.1	202.5	195.6	188.6	185.2	171.2	160.7	143.3	132.8
77.5°	153.7	153.7	139.7	132.8	136.2	129.2	122.2	118.8	115.2	104.8	90.9
80°	90.9	87.3	76.9	80.3	76.9	76.9	73.4	69.8	62.8	55.8	48.9
82.5°	24.5	27.9	27.9	27.9	31.5	24.5	24.5	24.5	27.9	27.9	17.5
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	3.6	3.6
87.5°	3.6	7.0	14.0	14.0	14.0	14.0	14.0	10.5	10.5	10.5	7.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2913.3	2913.3	2913.3	2913.3	2913.3	2913.3	2913.3	2913.3	2913.3	2913.3	2913.3
2.5°	2948.3	2944.8	2948.3	2923.8	2979.6	2937.8	2930.8	2923.8	2948.3	2923.8	2888.9
5°	3011.1	2976.2	2965.7	2955.3	2986.6	2937.8	2927.4	2930.8	2913.3	2868.0	2871.4
7.5°	3032.1	3000.7	2969.2	2902.9	2930.8	2920.4	2892.3	2871.4	2843.5	2805.0	2798.0
10°	3039.0	3004.1	2958.7	2937.8	2895.9	2881.9	2871.4	2836.5	2801.6	2735.2	2717.7
12.5°	3018.1	2976.2	2920.4	2902.9	2871.4	2826.0	2801.6	2766.6	2735.2	2682.8	2644.3
15°	2927.4	2892.3	2875.0	2815.6	2801.6	2773.5	2724.7	2675.8	2630.4	2560.5	2539.5
17.5°	2822.5	2808.6	2791.1	2745.6	2742.2	2714.3	2668.8	2626.8	2567.6	2459.2	2424.3
20°	2714.3	2714.3	2658.3	2640.9	2675.8	2619.9	2585.0	2546.5	2424.3	2371.9	2309.0
22.5°	2633.9	2595.5	2564.0	2536.1	2539.5	2504.6	2455.8	2378.8	2333.4	2270.6	2197.2
25°	2476.7	2490.7	2420.9	2410.3	2420.9	2340.4	2316.0	2253.1	2186.7	2127.3	2071.5
27.5°	2378.8	2340.4	2295.1	2256.6	2256.6	2225.2	2155.4	2141.4	2040.0	1984.2	1914.2
30°	2232.1	2204.2	2165.8	2109.9	2102.9	2078.4	2022.6	1987.6	1882.9	1799.0	1760.5
32.5°	2047.0	2036.6	2005.1	1942.3	1921.3	1893.3	1823.5	1764.1	1715.2	1620.8	1575.5
35°	1914.2	1875.9	1809.5	1757.1	1739.6	1690.7	1634.8	1592.9	1540.5	1456.7	1397.3
37.5°	1715.2	1676.8	1613.8	1551.0	1551.0	1502.1	1425.2	1383.3	1310.0	1261.0	1212.1
40°	1540.5	1491.6	1428.8	1355.4	1344.9	1275.0	1243.6	1173.7	1128.2	1051.5	1044.5
42.5°	1344.9	1299.5	1243.6	1187.6	1145.8	1110.9	1030.5	978.1	929.3	890.8	880.3
45°	1166.7	1107.3	1058.5	988.5	946.6	904.8	852.3	817.4	779.0	737.1	712.6
47.5°	1013.0	964.2	894.2	831.4	789.5	768.5	709.1	670.7	639.3	611.3	593.8
50°	855.9	796.5	758.1	688.1	681.1	632.3	583.4	551.9	534.4	510.1	485.6
52.5°	737.1	681.1	628.7	576.4	548.4	531.0	485.6	454.1	429.7	412.2	398.3
55°	621.7	572.9	531.0	478.6	461.1	436.7	384.3	377.3	352.8	328.3	310.9
57.5°	534.4	489.0	440.1	405.2	373.8	356.4	314.4	286.4	272.5	251.5	234.0
60°	454.1	405.2	366.8	324.9	310.9	286.4	255.0	230.6	213.1	195.6	178.2
62.5°	380.7	338.9	297.0	261.9	241.0	227.0	202.5	181.6	164.2	150.3	136.2
65°	314.4	275.9	241.0	206.1	195.6	178.2	160.7	143.3	129.2	111.8	97.9
67.5°	258.5	223.6	188.6	164.2	153.7	146.7	125.8	108.3	97.9	87.3	73.4
70°	202.5	178.2	150.3	129.2	118.8	108.3	94.3	83.9	69.8	62.8	52.4
72.5°	157.2	136.2	111.8	94.3	87.3	80.3	66.4	55.8	48.9	41.9	34.9
75°	111.8	94.3	80.3	62.8	59.4	55.8	45.4	38.5	31.5	24.5	20.9
77.5°	76.9	62.8	48.9	41.9	38.5	31.5	27.9	20.9	17.5	14.0	10.5
80°	41.9	31.5	24.5	20.9	17.5	14.0	14.0	10.5	7.0	7.0	3.6
82.5°	14.0	10.5	7.0	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2913.3	2913.3	2913.3	2913.3	2913.3	2913.3	2913.3	2913.3	2913.3	2913.3	2913.3
2.5°	2909.9	2871.4	2881.9	2881.9	2875.0	2875.0	2868.0	2857.4	2861.0	2839.9	2794.6
5°	2878.4	2829.5	2822.5	2829.5	2801.6	2794.6	2780.7	2801.6	2738.6	2763.1	2735.2
7.5°	2787.6	2742.2	2731.7	2756.2	2721.3	2700.2	2696.8	2724.7	2668.8	2640.9	2609.5
10°	2686.2	2668.8	2637.4	2619.9	2609.5	2612.9	2585.0	2550.1	2539.5	2532.5	2504.6
12.5°	2595.5	2557.0	2529.1	2508.2	2501.2	2501.2	2455.8	2448.8	2417.3	2410.3	2368.4
15°	2487.1	2441.8	2424.3	2396.4	2371.9	2385.8	2333.4	2319.5	2309.0	2263.6	2270.6
17.5°	2392.8	2343.9	2302.1	2284.6	2263.6	2242.7	2193.7	2204.2	2179.7	2179.7	2116.9
20°	2270.6	2218.2	2186.7	2151.8	2151.8	2123.9	2089.0	2092.4	2060.9	2029.6	1973.6
22.5°	2141.4	2085.4	2047.0	2033.0	1998.1	1991.1	1949.3	1938.7	1896.8	1900.3	1851.4
25°	2005.1	1949.3	1896.8	1900.3	1868.9	1855.0	1830.5	1781.6	1764.1	1743.1	1729.2
27.5°	1844.4	1806.0	1760.5	1757.1	1697.7	1701.1	1669.8	1655.8	1613.8	1624.4	1592.9
30°	1697.7	1641.9	1599.9	1589.5	1565.0	1558.0	1509.1	1488.0	1495.2	1467.1	1449.7
32.5°	1547.4	1463.7	1446.2	1425.2	1411.3	1393.8	1358.9	1372.8	1341.3	1348.3	1320.4
35°	1348.3	1313.4	1268.0	1268.0	1254.0	1240.1	1215.7	1229.7	1198.2	1184.2	1156.3
37.5°	1180.7	1149.3	1103.9	1117.8	1093.3	1072.4	1051.5	1054.9	1027.0	1023.6	995.5
40°	999.1	981.5	950.2	950.2	932.7	932.7	922.1	911.7	894.2	873.3	841.8
42.5°	827.8	813.9	799.9	803.5	779.0	799.9	772.0	789.5	733.6	730.1	709.1
45°	702.1	670.7	674.2	660.2	646.2	653.2	628.7	635.7	604.4	597.4	576.4
47.5°	569.5	558.9	538.0	531.0	531.0	520.5	510.1	506.5	492.5	475.0	447.1
50°	468.1	429.7	422.6	412.2	405.2	405.2	391.3	370.3	373.8	356.4	328.3
52.5°	366.8	335.3	321.3	317.9	304.0	297.0	279.5	265.5	255.0	248.0	230.6
55°	282.9	255.0	237.6	237.6	216.6	216.6	192.1	181.6	167.6	153.7	143.3
57.5°	213.1	199.1	181.6	167.6	160.7	143.3	129.2	111.8	101.3	80.3	66.4
60°	160.7	146.7	129.2	118.8	111.8	94.3	76.9	62.8	38.5	31.5	27.9
62.5°	118.8	104.8	87.3	80.3	73.4	59.4	41.9	20.9	10.5	10.5	10.5
65°	87.3	69.8	55.8	48.9	41.9	31.5	14.0	7.0	3.6	3.6	3.6
67.5°	59.4	45.4	31.5	27.9	20.9	10.5	3.6	3.6	3.6	3.6	3.6
70°	38.5	27.9	14.0	10.5	7.0	3.6	3.6	3.6	3.6	3.6	3.6
72.5°	24.5	14.0	7.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	14.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	7.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	3.6	3.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P#

CATALOG NUMBER: LD4C50D010 EX4C509035 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2913.3	2913.3	2913.3	2913.3	2913.3	2913.3	2913.3	2913.3
2.5°	2843.5	2819.0	2832.9	2801.6	2815.6	2839.9	2822.5	2829.5
5°	2745.6	2731.7	2714.3	2668.8	2703.7	2731.7	2717.7	2714.3
7.5°	2640.9	2591.9	2616.4	2602.5	2595.5	2623.4	2591.9	2626.8
10°	2532.5	2497.6	2494.2	2469.7	2469.7	2490.7	2494.2	2473.1
12.5°	2371.9	2354.5	2354.5	2350.9	2347.4	2368.4	2371.9	2361.5
15°	2256.6	2249.7	2232.1	2228.7	2207.8	2239.1	2242.7	2239.1
17.5°	2116.9	2120.3	2102.9	2102.9	2116.9	2127.3	2099.4	2127.3
20°	2022.6	2005.1	1998.1	1966.6	1984.2	2001.7	2001.7	2005.1
22.5°	1886.3	1858.4	1868.9	1851.4	1840.9	1865.4	1865.4	1875.9
25°	1732.6	1732.6	1739.6	1729.2	1736.2	1750.1	1739.6	1764.1
27.5°	1585.9	1599.9	1599.9	1585.9	1592.9	1634.8	1652.3	1624.4
30°	1449.7	1453.1	1463.7	1456.7	1477.6	1491.6	1488.0	1509.1
32.5°	1296.0	1313.4	1320.4	1310.0	1317.0	1348.3	1330.9	1327.4
35°	1177.2	1145.8	1142.3	1145.8	1159.7	1166.7	1159.7	1184.2
37.5°	1006.0	995.5	981.5	985.1	995.5	1009.6	1016.6	1034.0
40°	841.8	827.8	827.8	824.4	813.9	852.3	852.3	852.3
42.5°	698.7	695.1	677.7	677.7	691.7	702.1	695.1	719.6
45°	572.9	558.9	548.4	548.4	558.9	558.9	569.5	565.9
47.5°	450.7	436.7	440.1	429.7	440.1	454.1	436.7	440.1
50°	338.9	338.9	331.9	338.9	335.3	338.9	331.9	324.9
52.5°	230.6	261.9	265.5	251.5	220.1	192.1	174.6	188.6
55°	132.8	118.8	118.8	115.2	108.3	104.8	94.3	104.8
57.5°	66.4	59.4	59.4	59.4	55.8	52.4	45.4	45.4
60°	27.9	24.5	24.5	20.9	17.5	14.0	10.5	14.0
62.5°	10.5	7.0	7.0	7.0	7.0	7.0	7.0	7.0
65°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
67.5°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
70°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-50001EG





— 0°-180° - - 45°-225° - - - 90°-270°













(END OF REPORT)