

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: **LD4C45D010 EX4C459050 4LBSQLWWLI**

Issue Date: 2/18/2022

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



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: LD4C45D010 EX4C459050 4LBSQLWWLI
Description: 4 INCH 4500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 5000K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH LI FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

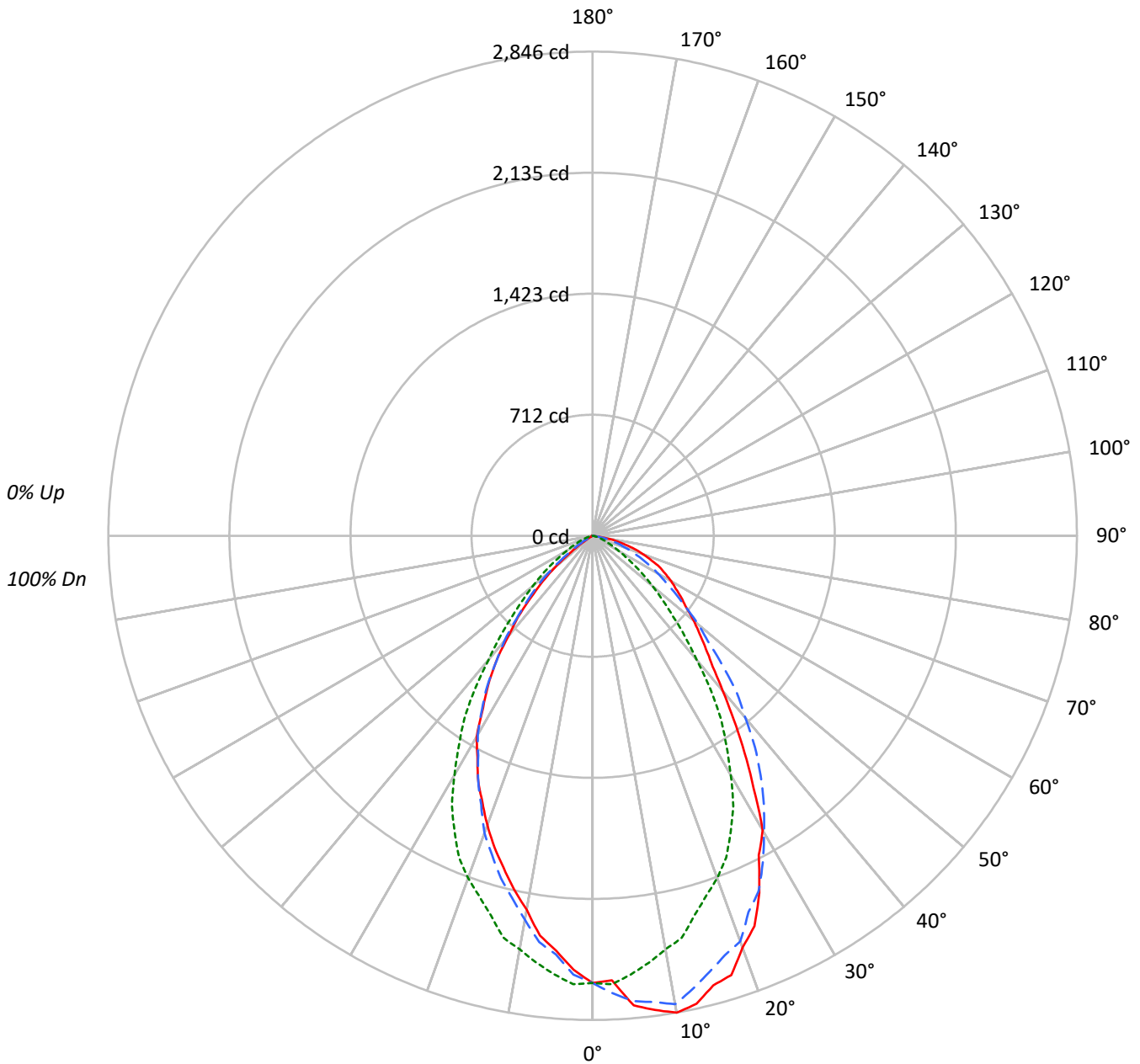
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3768.0 lumens
Efficiency: N/A
Efficacy: 76.0 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): 49.6
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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0					
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°	253631	253631	253631
5°	268344	250648	237214
10°	278863	241808	218637
15°	273286	230782	201823
20°	264425	219748	185771
25°	246644	204357	169458
30°	222653	180850	151715
35°	183401	154825	125860
40°	149675	119496	96874
45°	128596	90757	69674
50°	116395	69081	44012
55°	107108	49828	15914
60°	102799	34061	2432
65°	99293	23037	731
70°	88894	15996	903
75°	72883	8239	0
80°	45564	3501	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	246.3	6.5
10°-20°	663.5	17.6
20°-30°	886.0	23.5
30°-40°	841.1	22.3
40°-50°	581.4	15.4
50°-60°	321.3	8.5
60°-70°	159.5	4.2
70°-80°	62.9	1.7
80°-90°	6.0	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°	1795.9	47.7
0°-40°	2637.0	70.0
0°-60°	3539.6	93.9
0°-90°	3768.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3768.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2629	2629	2629	2629	2629	
5°	2770	2745	2588	2471	2449	265
15°	2736	2654	2310	2084	2020	774
25°	2317	2307	1920	1592	1592	1056
35°	1557	1721	1314	1081	1068	975
45°	942	1081	665	545	511	735
55°	637	599	296	151	95	573
65°	435	315	101	3	3	422
75°	196	120	22	0	0	208
85°	0	3	0	0	0	18
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°	2628.6	2628.6	2628.6	2628.6	2628.6	2628.6	2628.6	2628.6	2628.6	2628.6	2628.6
2.5°	2616.0	2688.5	2694.8	2688.5	2698.0	2694.8	2710.6	2694.8	2713.8	2685.4	2691.7
5°	2770.5	2742.1	2802.0	2770.5	2770.5	2767.4	2757.9	2754.7	2767.4	2726.4	2745.3
7.5°	2811.5	2852.5	2906.1	2839.9	2843.0	2843.0	2824.1	2817.8	2817.8	2742.1	2764.2
10°	2846.2	2820.9	2849.3	2824.1	2846.2	2843.0	2855.6	2814.6	2843.0	2798.9	2795.7
12.5°	2817.8	2808.3	2846.2	2805.2	2792.6	2795.7	2780.0	2770.5	2780.0	2729.5	2726.4
15°	2735.8	2745.3	2802.0	2757.9	2751.6	2745.3	2726.4	2694.8	2720.1	2650.7	2654.0
17.5°	2707.6	2691.7	2701.3	2663.3	2672.9	2666.6	2663.3	2635.1	2628.6	2584.6	2584.6
20°	2575.2	2609.7	2609.7	2584.6	2584.6	2581.5	2540.5	2565.7	2537.3	2524.7	2537.3
22.5°	2483.7	2486.9	2486.9	2464.8	2468.0	2455.4	2433.3	2417.5	2433.3	2417.5	2392.3
25°	2316.7	2323.0	2360.8	2319.8	2313.5	2326.1	2307.2	2297.7	2294.6	2256.8	2307.2
27.5°	2114.9	2177.9	2174.8	2159.0	2177.9	2152.7	2143.3	2146.4	2155.9	2152.7	2165.3
30°	1998.4	2007.8	2017.3	2004.7	2007.8	1998.4	1998.4	2001.5	2026.6	2017.3	2014.1
32.5°	1761.9	1793.4	1818.7	1818.7	1821.8	1831.3	1828.1	1894.3	1910.1	1878.6	1872.3
35°	1557.0	1579.1	1601.1	1604.3	1645.3	1648.4	1651.6	1670.5	1714.6	1724.1	1720.9
37.5°	1361.7	1383.7	1390.0	1418.4	1440.5	1462.4	1487.8	1512.9	1550.7	1582.2	1566.5
40°	1188.3	1197.7	1213.5	1226.1	1270.2	1270.2	1282.8	1333.3	1374.3	1399.5	1396.3
42.5°	1043.3	1046.4	1059.0	1081.1	1122.1	1112.6	1122.1	1156.8	1216.6	1219.8	1254.5
45°	942.4	939.2	948.7	951.8	977.1	989.7	996.0	1021.2	1071.6	1077.9	1081.1
47.5°	851.1	847.9	863.7	870.0	879.3	891.9	891.9	895.1	914.0	929.8	917.3
50°	775.4	775.4	775.4	781.7	797.5	794.3	797.5	810.1	819.5	813.2	810.1
52.5°	693.4	706.0	715.5	718.7	721.8	721.8	725.0	718.7	715.5	706.0	687.1
55°	636.7	649.3	649.3	649.3	649.3	661.9	646.2	649.3	649.3	624.1	598.9
57.5°	580.0	592.6	602.0	589.4	602.0	589.4	583.1	580.0	573.6	548.4	510.6
60°	532.7	539.0	535.8	532.7	539.0	529.5	523.2	510.6	504.3	469.6	444.4
62.5°	479.1	482.2	485.4	479.1	472.8	469.6	457.0	438.1	425.5	397.1	375.0
65°	434.9	425.5	422.3	419.2	412.9	403.4	394.0	371.9	362.4	337.2	315.1
67.5°	368.7	365.6	371.9	362.4	346.7	346.7	337.2	318.3	296.2	280.6	258.5
70°	315.1	312.0	305.8	296.2	293.2	280.6	280.6	258.5	252.2	223.8	204.9
72.5°	258.5	258.5	248.9	239.6	230.1	223.8	220.7	204.9	195.5	179.7	163.9
75°	195.5	195.5	192.3	182.8	176.5	170.2	167.1	154.5	145.0	129.3	119.8
77.5°	138.7	138.7	126.1	119.8	122.9	116.6	110.3	107.2	104.0	94.6	82.0
80°	82.0	78.8	69.4	72.5	69.4	69.4	66.2	63.0	56.7	50.4	44.1
82.5°	22.1	25.2	25.2	25.2	28.4	22.1	22.1	22.1	25.2	25.2	15.8
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	3.2	3.2
87.5°	3.2	6.3	12.6	12.6	12.6	12.6	12.6	9.5	9.5	9.5	6.3
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°	2628.6	2628.6	2628.6	2628.6	2628.6	2628.6	2628.6	2628.6	2628.6	2628.6	2628.6
2.5°	2660.3	2657.0	2660.3	2638.2	2688.5	2650.7	2644.4	2638.2	2660.3	2638.2	2606.7
5°	2716.9	2685.4	2675.9	2666.6	2694.8	2650.7	2641.4	2644.4	2628.6	2587.8	2590.9
7.5°	2735.8	2707.6	2679.1	2619.3	2644.4	2635.1	2609.7	2590.9	2565.7	2531.0	2524.7
10°	2742.1	2710.6	2669.6	2650.7	2613.0	2600.4	2590.9	2559.4	2527.9	2468.0	2452.2
12.5°	2723.2	2685.4	2635.1	2619.3	2590.9	2549.9	2527.9	2496.3	2468.0	2420.7	2386.0
15°	2641.4	2609.7	2594.1	2540.5	2527.9	2502.6	2458.5	2414.4	2373.4	2310.3	2291.4
17.5°	2546.8	2534.2	2518.4	2477.4	2474.3	2449.1	2408.1	2370.2	2316.7	2218.9	2187.4
20°	2449.1	2449.1	2398.6	2382.9	2414.4	2363.9	2332.4	2297.7	2187.4	2140.1	2083.5
22.5°	2376.6	2341.9	2313.5	2288.3	2291.4	2259.9	2215.8	2146.4	2105.4	2048.8	1982.6
25°	2234.7	2247.3	2184.3	2174.8	2184.3	2111.7	2089.8	2032.9	1973.1	1919.5	1869.1
27.5°	2146.4	2111.7	2070.9	2036.2	2036.2	2007.8	1944.8	1932.2	1840.7	1790.3	1727.2
30°	2014.1	1988.9	1954.2	1903.8	1897.5	1875.4	1825.0	1793.4	1698.9	1623.2	1588.5
32.5°	1847.0	1837.6	1809.2	1752.5	1733.6	1708.3	1645.3	1591.7	1547.6	1462.4	1421.6
35°	1727.2	1692.6	1632.7	1585.4	1569.6	1525.5	1475.0	1437.3	1390.0	1314.4	1260.8
37.5°	1547.6	1512.9	1456.1	1399.5	1399.5	1355.4	1286.0	1248.2	1182.0	1137.8	1093.7
40°	1390.0	1345.9	1289.2	1223.0	1213.5	1150.4	1122.1	1059.0	1018.0	948.7	942.4
42.5°	1213.5	1172.5	1122.1	1071.6	1033.8	1002.3	929.8	882.6	838.5	803.8	794.3
45°	1052.7	999.1	955.0	891.9	854.2	816.4	769.1	737.6	702.9	665.1	643.0
47.5°	914.0	870.0	806.9	750.2	712.4	693.4	639.8	605.2	576.8	551.6	535.8
50°	772.3	718.7	684.0	620.9	614.6	570.5	526.4	498.0	482.2	460.2	438.1
52.5°	665.1	614.6	567.3	520.1	494.8	479.1	438.1	409.7	387.7	371.9	359.3
55°	561.0	516.9	479.1	431.8	416.0	394.0	346.7	340.5	318.3	296.2	280.6
57.5°	482.2	441.2	397.1	365.6	337.2	321.6	283.6	258.5	245.9	227.0	211.2
60°	409.7	365.6	330.9	293.2	280.6	258.5	230.1	208.1	192.3	176.5	160.8
62.5°	343.5	305.8	268.0	236.4	217.5	204.9	182.8	163.9	148.2	135.6	122.9
65°	283.6	248.9	217.5	186.0	176.5	160.8	145.0	129.3	116.6	100.9	88.3
67.5°	233.3	201.8	170.2	148.2	138.7	132.4	113.5	97.7	88.3	78.8	66.2
70°	182.8	160.8	135.6	116.6	107.2	97.7	85.1	75.7	63.0	56.7	47.3
72.5°	141.9	122.9	100.9	85.1	78.8	72.5	59.9	50.4	44.1	37.8	31.5
75°	100.9	85.1	72.5	56.7	53.6	50.4	41.0	34.7	28.4	22.1	18.9
77.5°	69.4	56.7	44.1	37.8	34.7	28.4	25.2	18.9	15.8	12.6	9.5
80°	37.8	28.4	22.1	18.9	15.8	12.6	12.6	9.5	6.3	6.3	3.2
82.5°	12.6	9.5	6.3	3.2	3.2	3.2	3.2	3.2	3.2	0.0	3.2
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°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	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°	2628.6	2628.6	2628.6	2628.6	2628.6	2628.6	2628.6	2628.6	2628.6	2628.6	2628.6
2.5°	2625.6	2590.9	2600.4	2600.4	2594.1	2594.1	2587.8	2578.3	2581.5	2562.5	2521.6
5°	2597.2	2553.1	2546.8	2553.1	2527.9	2521.6	2509.0	2527.9	2471.1	2493.2	2468.0
7.5°	2515.3	2474.3	2464.8	2486.9	2455.4	2436.4	2433.3	2458.5	2408.1	2382.9	2354.5
10°	2423.8	2408.1	2379.7	2363.9	2354.5	2357.6	2332.4	2300.9	2291.4	2285.1	2259.9
12.5°	2341.9	2307.2	2282.0	2263.1	2256.8	2256.8	2215.8	2209.5	2181.1	2174.8	2137.0
15°	2244.1	2203.2	2187.4	2162.2	2140.1	2152.7	2105.4	2092.8	2083.5	2042.5	2048.8
17.5°	2159.0	2114.9	2077.2	2061.3	2042.5	2023.6	1979.4	1988.9	1966.8	1966.8	1910.1
20°	2048.8	2001.5	1973.1	1941.6	1941.6	1916.4	1884.9	1888.0	1859.6	1831.3	1780.8
22.5°	1932.2	1881.7	1847.0	1834.4	1802.9	1796.6	1758.8	1749.3	1711.5	1714.6	1670.5
25°	1809.2	1758.8	1711.5	1714.6	1686.3	1673.7	1651.6	1607.5	1591.7	1572.8	1560.2
27.5°	1664.2	1629.5	1588.5	1585.4	1531.8	1534.9	1506.7	1494.1	1456.1	1465.7	1437.3
30°	1531.8	1481.5	1443.5	1434.2	1412.1	1405.8	1361.7	1342.7	1349.1	1323.8	1308.1
32.5°	1396.3	1320.7	1304.9	1286.0	1273.4	1257.6	1226.1	1238.7	1210.3	1216.6	1191.4
35°	1216.6	1185.1	1144.1	1144.1	1131.5	1118.9	1096.9	1109.5	1081.1	1068.5	1043.3
37.5°	1065.3	1037.0	996.0	1008.6	986.5	967.6	948.7	951.8	926.6	923.6	898.2
40°	901.4	885.6	857.4	857.4	841.6	841.6	832.0	822.7	806.9	788.0	759.6
42.5°	747.0	734.4	721.8	725.0	702.9	721.8	696.6	712.4	661.9	658.8	639.8
45°	633.5	605.2	608.3	595.7	583.1	589.4	567.3	573.6	545.3	539.0	520.1
47.5°	513.8	504.3	485.4	479.1	479.1	469.6	460.2	457.0	444.4	428.6	403.4
50°	422.3	387.7	381.3	371.9	365.6	365.6	353.0	334.2	337.2	321.6	296.2
52.5°	330.9	302.5	289.9	286.9	274.3	268.0	252.2	239.6	230.1	223.8	208.1
55°	255.2	230.1	214.4	214.4	195.5	195.5	173.4	163.9	151.3	138.7	129.3
57.5°	192.3	179.7	163.9	151.3	145.0	129.3	116.6	100.9	91.4	72.5	59.9
60°	145.0	132.4	116.6	107.2	100.9	85.1	69.4	56.7	34.7	28.4	25.2
62.5°	107.2	94.6	78.8	72.5	66.2	53.6	37.8	18.9	9.5	9.5	9.5
65°	78.8	63.0	50.4	44.1	37.8	28.4	12.6	6.3	3.2	3.2	3.2
67.5°	53.6	41.0	28.4	25.2	18.9	9.5	3.2	3.2	3.2	3.2	3.2
70°	34.7	25.2	12.6	9.5	6.3	3.2	3.2	3.2	3.2	3.2	3.2
72.5°	22.1	12.6	6.3	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	12.6	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	6.3	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	3.2	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	3.2	3.2	3.2
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: LD4C45D010 EX4C459050 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2628.6	2628.6	2628.6	2628.6	2628.6	2628.6	2628.6	2628.6
2.5°	2565.7	2543.6	2556.2	2527.9	2540.5	2562.5	2546.8	2553.1
5°	2477.4	2464.8	2449.1	2408.1	2439.6	2464.8	2452.2	2449.1
7.5°	2382.9	2338.7	2360.8	2348.2	2341.9	2367.1	2338.7	2370.2
10°	2285.1	2253.6	2250.5	2228.4	2228.4	2247.3	2250.5	2231.5
12.5°	2140.1	2124.5	2124.5	2121.2	2118.0	2137.0	2140.1	2130.7
15°	2036.2	2029.9	2014.1	2011.0	1992.1	2020.4	2023.6	2020.4
17.5°	1910.1	1913.2	1897.5	1897.5	1910.1	1919.5	1894.3	1919.5
20°	1825.0	1809.2	1802.9	1774.5	1790.3	1806.1	1806.1	1809.2
22.5°	1702.0	1676.8	1686.3	1670.5	1661.0	1683.1	1683.1	1692.6
25°	1563.3	1563.3	1569.6	1560.2	1566.5	1579.1	1569.6	1591.7
27.5°	1431.0	1443.5	1443.5	1431.0	1437.3	1475.0	1490.8	1465.7
30°	1308.1	1311.2	1320.7	1314.4	1333.3	1345.9	1342.7	1361.7
32.5°	1169.4	1185.1	1191.4	1182.0	1188.3	1216.6	1200.9	1197.7
35°	1062.2	1033.8	1030.7	1033.8	1046.4	1052.7	1046.4	1068.5
37.5°	907.7	898.2	885.6	888.9	898.2	911.0	917.3	932.9
40°	759.6	747.0	747.0	743.9	734.4	769.1	769.1	769.1
42.5°	630.4	627.2	611.5	611.5	624.1	633.5	627.2	649.3
45°	516.9	504.3	494.8	494.8	504.3	504.3	513.8	510.6
47.5°	406.6	394.0	397.1	387.7	397.1	409.7	394.0	397.1
50°	305.8	305.8	299.5	305.8	302.5	305.8	299.5	293.2
52.5°	208.1	236.4	239.6	227.0	198.6	173.4	157.6	170.2
55°	119.8	107.2	107.2	104.0	97.7	94.6	85.1	94.6
57.5°	59.9	53.6	53.6	53.6	50.4	47.3	41.0	41.0
60°	25.2	22.1	22.1	18.9	15.8	12.6	9.5	12.6
62.5°	9.5	6.3	6.3	6.3	6.3	6.3	6.3	6.3
65°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
67.5°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
70°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
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)