

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 EX4C509050 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: LD4C50D010 EX4C509050 4LBSQLWWLI
Description: 4 INCH 5000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 5000K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH LI FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

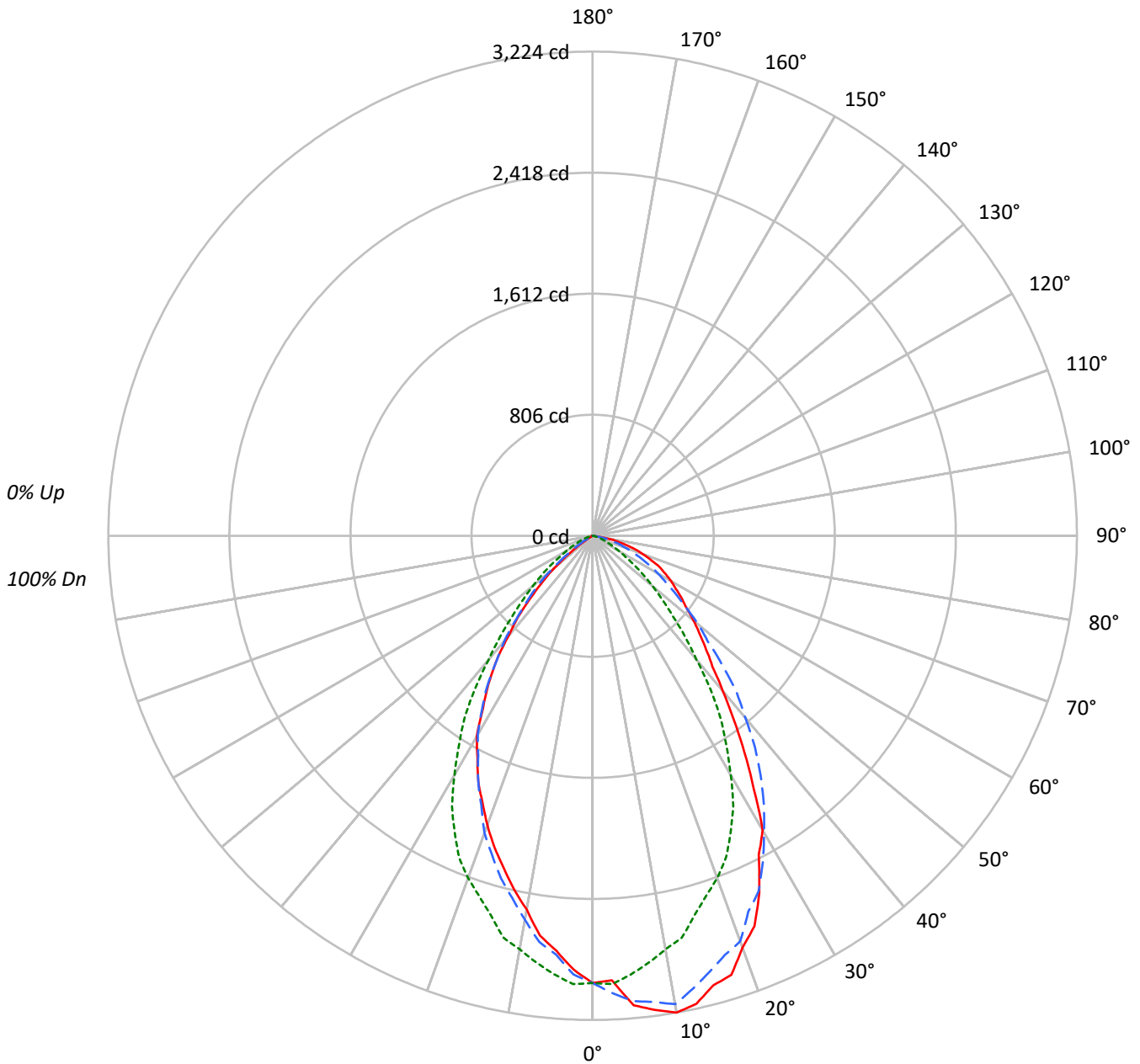
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4268.0 lumens
Efficiency: N/A
Efficacy: 73.1 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

TEST NUMBER: P#
CATALOG NUMBER: LD4C50D010 EX4C509050 4LBSQLWWLI

Luminous Intensity Polar Plot





TEST NUMBER: P#

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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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°	287296	287296	287296
5°	303958	283909	268692
10°	315869	273896	247648
15°	309557	261409	228594
20°	299511	248910	210425
25°	279371	231473	191943
30°	252190	204849	171848
35°	207737	175368	142563
40°	169539	135354	109721
45°	145667	102806	78926
50°	131842	78252	49852
55°	121323	56456	18017
60°	116443	38576	2760
65°	112467	26096	822
70°	100715	18112	1016
75°	82539	9320	0
80°	51621	3945	0
85°	0	0	0



TEST NUMBER: P#

CATALOG NUMBER: LD4C50D010 EX4C509050 4LBSQLWWLI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	279.0	6.5
10°-20°	751.6	17.6
20°-30°	1003.6	23.5
30°-40°	952.7	22.3
40°-50°	658.6	15.4
50°-60°	363.9	8.5
60°-70°	180.7	4.2
70°-80°	71.2	1.7
80°-90°	6.8	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°	2034.2	47.7
0°-40°	2986.9	70.0
0°-60°	4009.3	93.9
0°-90°	4268.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4268.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2978	2978	2978	2978	2978	
5°	3138	3110	2931	2799	2774	300
15°	3099	3006	2617	2360	2288	877
25°	2624	2613	2174	1803	1803	1196
35°	1764	1949	1489	1225	1210	1105
45°	1068	1225	753	618	578	833
55°	721	678	336	171	107	649
65°	493	357	114	4	4	478
75°	221	136	25	0	0	236
85°	0	4	0	0	0	20
90°	0	0	0	0	0	



TEST NUMBER: P#

CATALOG NUMBER: LD4C50D010 EX4C509050 4LBSQLWWLI

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2977.5	2977.5	2977.5	2977.5	2977.5	2977.5	2977.5	2977.5	2977.5	2977.5	2977.5
2.5°	2963.2	3045.3	3052.4	3045.3	3056.1	3052.4	3070.3	3052.4	3074.0	3041.8	3048.9
5°	3138.2	3106.0	3173.8	3138.2	3138.2	3134.7	3123.9	3120.3	3134.7	3088.2	3109.6
7.5°	3184.6	3231.0	3291.7	3216.8	3220.3	3220.3	3198.9	3191.7	3191.7	3106.0	3131.0
10°	3223.9	3195.2	3227.4	3198.9	3223.9	3220.3	3234.5	3188.1	3220.3	3170.3	3166.7
12.5°	3191.7	3181.0	3223.9	3177.5	3163.2	3166.7	3148.9	3138.2	3148.9	3091.7	3088.2
15°	3098.9	3109.6	3173.8	3123.9	3116.8	3109.6	3088.2	3052.4	3081.1	3002.5	3006.1
17.5°	3066.8	3048.9	3059.7	3016.8	3027.5	3020.4	3016.8	2984.7	2977.5	2927.5	2927.5
20°	2916.9	2956.1	2956.1	2927.5	2927.5	2924.0	2877.6	2906.1	2873.9	2859.7	2873.9
22.5°	2813.2	2816.9	2816.9	2791.8	2795.5	2781.2	2756.2	2738.3	2756.2	2738.3	2709.7
25°	2624.1	2631.3	2674.1	2627.6	2620.5	2634.8	2613.4	2602.6	2599.1	2556.3	2613.4
27.5°	2395.6	2466.9	2463.4	2445.5	2466.9	2438.4	2427.8	2431.3	2442.0	2438.4	2452.7
30°	2263.5	2274.2	2284.9	2270.7	2274.2	2263.5	2263.5	2267.0	2295.6	2284.9	2281.3
32.5°	1995.7	2031.4	2060.0	2060.0	2063.5	2074.3	2070.7	2145.6	2163.5	2127.9	2120.7
35°	1763.6	1788.7	1813.6	1817.2	1863.7	1867.2	1870.8	1892.2	1942.1	1952.9	1949.3
37.5°	1542.4	1567.3	1574.4	1606.6	1631.6	1656.5	1685.2	1713.7	1756.5	1792.2	1774.4
40°	1346.0	1356.6	1374.5	1388.8	1438.7	1438.7	1453.0	1510.2	1556.6	1585.2	1581.5
42.5°	1181.8	1185.3	1199.5	1224.6	1271.0	1260.2	1271.0	1310.3	1378.0	1381.7	1421.0
45°	1067.5	1063.9	1074.6	1078.1	1106.8	1121.1	1128.2	1156.7	1213.8	1220.9	1224.6
47.5°	964.0	960.4	978.3	985.4	996.0	1010.3	1010.3	1013.9	1035.3	1053.2	1039.0
50°	878.3	878.3	878.3	885.4	903.3	899.7	903.3	917.6	928.2	921.1	917.6
52.5°	785.4	799.6	810.4	814.1	817.6	817.6	821.2	814.1	810.4	799.6	778.2
55°	721.2	735.4	735.4	735.4	735.4	749.7	731.9	735.4	735.4	706.9	678.4
57.5°	657.0	671.2	681.9	667.6	681.9	667.6	660.5	657.0	649.7	621.2	578.4
60°	603.4	610.5	606.9	603.4	610.5	599.8	592.6	578.4	571.2	531.9	503.4
62.5°	542.7	546.2	549.8	542.7	535.6	531.9	517.7	496.3	482.0	449.8	424.8
65°	492.6	482.0	478.4	474.9	467.7	457.0	446.3	421.3	410.5	382.0	357.0
67.5°	417.7	414.2	421.3	410.5	392.8	392.8	382.0	360.6	335.6	317.8	292.8
70°	357.0	353.5	346.3	335.6	332.1	317.8	317.8	292.8	285.6	253.4	232.0
72.5°	292.8	292.8	282.0	271.4	260.6	253.4	250.0	232.0	221.4	203.5	185.6
75°	221.4	221.4	217.8	207.0	199.9	192.7	189.2	175.0	164.2	146.4	135.7
77.5°	157.1	157.1	142.8	135.7	139.2	132.0	124.9	121.4	117.8	107.1	92.9
80°	92.9	89.2	78.6	82.1	78.6	78.6	75.0	71.3	64.2	57.1	49.9
82.5°	25.0	28.5	28.5	28.5	32.2	25.0	25.0	25.0	28.5	28.5	17.9
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	7.1	14.3	14.3	14.3	14.3	14.3	10.8	10.8	10.8	7.1
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 EX4C509050 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2977.5	2977.5	2977.5	2977.5	2977.5	2977.5	2977.5	2977.5	2977.5	2977.5	2977.5
2.5°	3013.3	3009.6	3013.3	2988.2	3045.3	3002.5	2995.4	2988.2	3013.3	2988.2	2952.6
5°	3077.5	3041.8	3031.0	3020.4	3052.4	3002.5	2991.9	2995.4	2977.5	2931.2	2934.7
7.5°	3098.9	3066.8	3034.7	2966.8	2995.4	2984.7	2956.1	2934.7	2906.1	2866.8	2859.7
10°	3106.0	3070.3	3023.9	3002.5	2959.7	2945.4	2934.7	2899.0	2863.3	2795.5	2777.6
12.5°	3084.6	3041.8	2984.7	2966.8	2934.7	2888.2	2863.3	2827.5	2795.5	2741.9	2702.6
15°	2991.9	2956.1	2938.3	2877.6	2863.3	2834.6	2784.7	2734.8	2688.3	2616.9	2595.5
17.5°	2884.7	2870.5	2852.5	2806.1	2802.6	2774.1	2727.6	2684.7	2624.1	2513.4	2477.7
20°	2774.1	2774.1	2716.9	2699.1	2734.8	2677.6	2641.9	2602.6	2477.7	2424.1	2359.9
22.5°	2692.0	2652.7	2620.5	2592.0	2595.5	2559.8	2509.9	2431.3	2384.8	2320.6	2245.6
25°	2531.3	2545.5	2474.2	2463.4	2474.2	2392.0	2367.1	2302.7	2234.9	2174.2	2117.1
27.5°	2431.3	2392.0	2345.7	2306.3	2306.3	2274.2	2202.8	2188.6	2084.9	2027.9	1956.4
30°	2281.3	2252.8	2213.5	2156.4	2149.3	2124.2	2067.2	2031.4	1924.4	1838.6	1799.3
32.5°	2092.1	2081.4	2049.3	1985.1	1963.7	1935.0	1863.7	1802.9	1753.0	1656.5	1610.2
35°	1956.4	1917.2	1849.4	1795.8	1777.9	1728.0	1670.8	1628.0	1574.4	1488.8	1428.1
37.5°	1753.0	1713.7	1649.4	1585.2	1585.2	1535.2	1456.6	1413.8	1338.9	1288.8	1238.8
40°	1574.4	1524.5	1460.3	1385.3	1374.5	1303.0	1271.0	1199.5	1153.1	1074.6	1067.5
42.5°	1374.5	1328.1	1271.0	1213.8	1171.0	1135.3	1053.2	999.7	949.7	910.4	899.7
45°	1192.4	1131.7	1081.8	1010.3	967.5	924.7	871.1	835.5	796.2	753.4	728.3
47.5°	1035.3	985.4	913.9	849.7	806.9	785.4	724.7	685.5	653.3	624.8	606.9
50°	874.8	814.1	774.8	703.3	696.1	646.2	596.3	564.1	546.2	521.3	496.3
52.5°	753.4	696.1	642.6	589.1	560.5	542.7	496.3	464.1	439.2	421.3	407.0
55°	635.4	585.5	542.7	489.1	471.2	446.3	392.8	385.6	360.6	335.6	317.8
57.5°	546.2	499.8	449.8	414.2	382.0	364.2	321.3	292.8	278.5	257.1	239.2
60°	464.1	414.2	374.9	332.1	317.8	292.8	260.6	235.7	217.8	199.9	182.1
62.5°	389.1	346.3	303.5	267.7	246.3	232.0	207.0	185.6	167.8	153.6	139.2
65°	321.3	282.0	246.3	210.6	199.9	182.1	164.2	146.4	132.0	114.3	100.0
67.5°	264.2	228.6	192.7	167.8	157.1	149.9	128.5	110.6	100.0	89.2	75.0
70°	207.0	182.1	153.6	132.0	121.4	110.6	96.4	85.7	71.3	64.2	53.6
72.5°	160.7	139.2	114.3	96.4	89.2	82.1	67.8	57.1	49.9	42.8	35.7
75°	114.3	96.4	82.1	64.2	60.7	57.1	46.4	39.3	32.2	25.0	21.4
77.5°	78.6	64.2	49.9	42.8	39.3	32.2	28.5	21.4	17.9	14.3	10.8
80°	42.8	32.2	25.0	21.4	17.9	14.3	14.3	10.8	7.1	7.1	3.6
82.5°	14.3	10.8	7.1	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



TEST NUMBER: P#

CATALOG NUMBER: LD4C50D010 EX4C509050 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2977.5	2977.5	2977.5	2977.5	2977.5	2977.5	2977.5	2977.5	2977.5	2977.5	2977.5
2.5°	2974.0	2934.7	2945.4	2945.4	2938.3	2938.3	2931.2	2920.4	2924.0	2902.5	2856.2
5°	2941.8	2891.9	2884.7	2891.9	2863.3	2856.2	2841.9	2863.3	2799.0	2824.0	2795.5
7.5°	2849.1	2802.6	2791.8	2816.9	2781.2	2759.7	2756.2	2784.7	2727.6	2699.1	2666.9
10°	2745.4	2727.6	2695.5	2677.6	2666.9	2670.4	2641.9	2606.2	2595.5	2588.3	2559.8
12.5°	2652.7	2613.4	2584.8	2563.4	2556.3	2556.3	2509.9	2502.7	2470.6	2463.4	2420.6
15°	2541.9	2495.6	2477.7	2449.2	2424.1	2438.4	2384.8	2370.5	2359.9	2313.5	2320.6
17.5°	2445.5	2395.6	2352.8	2334.9	2313.5	2292.1	2242.0	2252.8	2227.7	2227.7	2163.5
20°	2320.6	2267.0	2234.9	2199.2	2199.2	2170.7	2135.0	2138.5	2106.3	2074.3	2017.1
22.5°	2188.6	2131.4	2092.1	2077.8	2042.1	2035.0	1992.2	1981.4	1938.6	1942.1	1892.2
25°	2049.3	1992.2	1938.6	1942.1	1910.1	1895.8	1870.8	1820.9	1802.9	1781.5	1767.3
27.5°	1885.1	1845.8	1799.3	1795.8	1735.1	1738.6	1706.6	1692.3	1649.4	1660.1	1628.0
30°	1735.1	1678.0	1635.1	1624.5	1599.4	1592.3	1542.4	1520.8	1528.1	1499.4	1481.7
32.5°	1581.5	1495.9	1478.0	1456.6	1442.4	1424.5	1388.8	1403.1	1370.9	1378.0	1349.5
35°	1378.0	1342.4	1295.9	1295.9	1281.6	1267.4	1242.5	1256.7	1224.6	1210.3	1181.8
37.5°	1206.7	1174.6	1128.2	1142.5	1117.4	1096.0	1074.6	1078.1	1049.6	1046.1	1017.4
40°	1021.1	1003.2	971.1	971.1	953.2	953.2	942.5	931.8	913.9	892.5	860.4
42.5°	846.1	831.8	817.6	821.2	796.2	817.6	789.0	806.9	749.7	746.2	724.7
45°	717.5	685.5	689.0	674.7	660.5	667.6	642.6	649.7	617.7	610.5	589.1
47.5°	582.0	571.2	549.8	542.7	542.7	531.9	521.3	517.7	503.4	485.5	457.0
50°	478.4	439.2	431.9	421.3	414.2	414.2	399.9	378.5	382.0	364.2	335.6
52.5°	374.9	342.7	328.4	324.9	310.7	303.5	285.6	271.4	260.6	253.4	235.7
55°	289.1	260.6	242.8	242.8	221.4	221.4	196.4	185.6	171.3	157.1	146.4
57.5°	217.8	203.5	185.6	171.3	164.2	146.4	132.0	114.3	103.5	82.1	67.8
60°	164.2	149.9	132.0	121.4	114.3	96.4	78.6	64.2	39.3	32.2	28.5
62.5°	121.4	107.1	89.2	82.1	75.0	60.7	42.8	21.4	10.8	10.8	10.8
65°	89.2	71.3	57.1	49.9	42.8	32.2	14.3	7.1	3.6	3.6	3.6
67.5°	60.7	46.4	32.2	28.5	21.4	10.8	3.6	3.6	3.6	3.6	3.6
70°	39.3	28.5	14.3	10.8	7.1	3.6	3.6	3.6	3.6	3.6	3.6
72.5°	25.0	14.3	7.1	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	14.3	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	7.1	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 EX4C509050 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2977.5	2977.5	2977.5	2977.5	2977.5	2977.5	2977.5	2977.5
2.5°	2906.1	2881.1	2895.3	2863.3	2877.6	2902.5	2884.7	2891.9
5°	2806.1	2791.8	2774.1	2727.6	2763.3	2791.8	2777.6	2774.1
7.5°	2699.1	2649.0	2674.1	2659.8	2652.7	2681.2	2649.0	2684.7
10°	2588.3	2552.7	2549.2	2524.1	2524.1	2545.5	2549.2	2527.6
12.5°	2424.1	2406.4	2406.4	2402.7	2399.1	2420.6	2424.1	2413.5
15°	2306.3	2299.2	2281.3	2277.8	2256.4	2288.4	2292.1	2288.4
17.5°	2163.5	2167.0	2149.3	2149.3	2163.5	2174.2	2145.6	2174.2
20°	2067.2	2049.3	2042.1	2010.0	2027.9	2045.8	2045.8	2049.3
22.5°	1927.9	1899.3	1910.1	1892.2	1881.4	1906.5	1906.5	1917.2
25°	1770.8	1770.8	1777.9	1767.3	1774.4	1788.7	1777.9	1802.9
27.5°	1620.8	1635.1	1635.1	1620.8	1628.0	1670.8	1688.7	1660.1
30°	1481.7	1485.2	1495.9	1488.8	1510.2	1524.5	1520.8	1542.4
32.5°	1324.6	1342.4	1349.5	1338.9	1346.0	1378.0	1360.3	1356.6
35°	1203.2	1171.0	1167.5	1171.0	1185.3	1192.4	1185.3	1210.3
37.5°	1028.2	1017.4	1003.2	1006.8	1017.4	1031.8	1039.0	1056.7
40°	860.4	846.1	846.1	842.6	831.8	871.1	871.1	871.1
42.5°	714.0	710.4	692.6	692.6	706.9	717.5	710.4	735.4
45°	585.5	571.2	560.5	560.5	571.2	571.2	582.0	578.4
47.5°	460.6	446.3	449.8	439.2	449.8	464.1	446.3	449.8
50°	346.3	346.3	339.2	346.3	342.7	346.3	339.2	332.1
52.5°	235.7	267.7	271.4	257.1	224.9	196.4	178.5	192.7
55°	135.7	121.4	121.4	117.8	110.6	107.1	96.4	107.1
57.5°	67.8	60.7	60.7	60.7	57.1	53.6	46.4	46.4
60°	28.5	25.0	25.0	21.4	17.9	14.3	10.8	14.3
62.5°	10.8	7.1	7.1	7.1	7.1	7.1	7.1	7.1
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)