

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 EX4C509030 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 EX4C509030 4LBSQLWWLI
Description: 4 INCH 5000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3000K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH LI FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

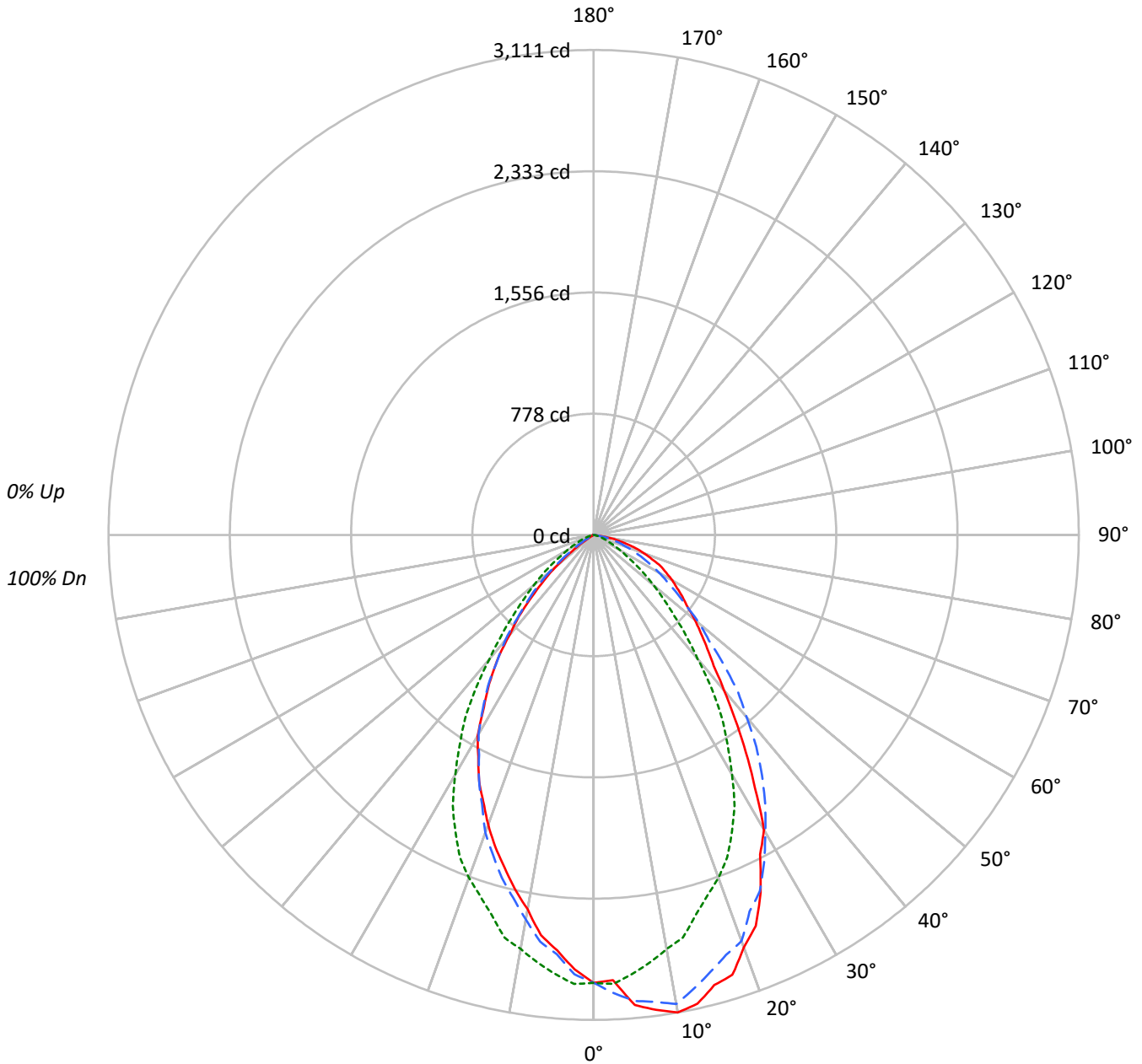
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4118.0 lumens
Efficiency: N/A
Efficacy: 70.5 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 (A_{in}): 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									
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°	277193	277193	277193
5°	293275	273923	259249
10°	304768	264265	238947
15°	298679	252219	220563
20°	288986	240161	203022
25°	269555	223340	185204
30°	243332	197652	165809
35°	200445	169207	137557
40°	163581	130605	105867
45°	140550	99190	76142
50°	127203	75505	48095
55°	117050	54471	17394
60°	112352	37225	2663
65°	108517	25183	799
70°	97160	17463	987
75°	79631	9022	0
80°	49787	3834	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	269.2	6.5
10°-20°	725.2	17.6
20°-30°	968.3	23.5
30°-40°	919.2	22.3
40°-50°	635.4	15.4
50°-60°	351.1	8.5
60°-70°	174.3	4.2
70°-80°	68.7	1.7
80°-90°	6.5	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°	1962.7	47.7
0°-40°	2881.9	70.0
0°-60°	3868.4	93.9
0°-90°	4118.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4118.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2873	2873	2873	2873	2873	
5°	3028	3000	2828	2701	2677	290
15°	2990	2900	2525	2277	2208	846
25°	2532	2522	2098	1740	1740	1154
35°	1702	1881	1436	1182	1168	1066
45°	1030	1182	727	596	558	803
55°	696	654	324	165	103	626
65°	475	344	110	4	4	461
75°	214	131	24	0	0	228
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°	2872.8	2872.8	2872.8	2872.8	2872.8	2872.8	2872.8	2872.8	2872.8	2872.8	2872.8
2.5°	2859.0	2938.3	2945.1	2938.3	2948.7	2945.1	2962.4	2945.1	2965.9	2934.9	2941.8
5°	3027.9	2996.8	3062.3	3027.9	3027.9	3024.5	3014.1	3010.6	3024.5	2979.7	3000.3
7.5°	3072.7	3117.5	3176.1	3103.7	3107.1	3107.1	3086.4	3079.6	3079.6	2996.8	3021.0
10°	3110.6	3082.9	3114.0	3086.4	3110.6	3107.1	3120.9	3076.1	3107.1	3058.9	3055.4
12.5°	3079.6	3069.2	3110.6	3065.8	3052.0	3055.4	3038.3	3027.9	3038.3	2983.1	2979.7
15°	2990.0	3000.3	3062.3	3014.1	3007.2	3000.3	2979.7	2945.1	2972.8	2897.0	2900.5
17.5°	2959.0	2941.8	2952.2	2910.7	2921.1	2914.2	2910.7	2879.8	2872.8	2824.6	2824.6
20°	2814.4	2852.2	2852.2	2824.6	2824.6	2821.3	2776.5	2804.0	2772.9	2759.2	2772.9
22.5°	2714.4	2717.9	2717.9	2693.7	2697.2	2683.5	2659.3	2642.0	2659.3	2642.0	2614.5
25°	2531.9	2538.8	2580.1	2535.3	2528.4	2542.2	2521.5	2511.1	2507.8	2466.5	2521.5
27.5°	2311.4	2380.2	2376.8	2359.6	2380.2	2352.7	2342.4	2345.8	2356.2	2352.7	2366.5
30°	2184.0	2194.3	2204.6	2190.9	2194.3	2184.0	2184.0	2187.4	2214.9	2204.6	2201.1
32.5°	1925.6	1960.0	1987.6	1987.6	1991.0	2001.4	1997.9	2070.2	2087.5	2053.1	2046.2
35°	1701.7	1725.8	1749.8	1753.3	1798.2	1801.5	1805.0	1825.7	1873.9	1884.3	1880.7
37.5°	1488.2	1512.2	1519.1	1550.1	1574.3	1598.3	1626.0	1653.5	1694.8	1729.2	1712.1
40°	1298.7	1308.9	1326.2	1340.0	1388.2	1388.2	1401.9	1457.1	1501.9	1529.5	1525.9
42.5°	1140.2	1143.6	1157.4	1181.5	1226.3	1216.0	1226.3	1264.3	1329.6	1333.1	1371.0
45°	1030.0	1026.5	1036.9	1040.2	1067.9	1081.7	1088.6	1116.1	1171.1	1178.0	1181.5
47.5°	930.1	926.6	943.9	950.8	961.0	974.8	974.8	978.3	998.9	1016.2	1002.5
50°	847.4	847.4	847.4	854.3	871.5	868.0	871.5	885.3	895.6	888.7	885.3
52.5°	757.8	771.5	781.9	785.4	788.8	788.8	792.3	785.4	781.9	771.5	750.9
55°	695.8	709.6	709.6	709.6	709.6	723.4	706.2	709.6	709.6	682.1	654.5
57.5°	633.9	647.7	657.9	644.1	657.9	644.1	637.3	633.9	626.9	599.3	558.0
60°	582.2	589.1	585.6	582.2	589.1	578.7	571.8	558.0	551.2	513.2	485.7
62.5°	523.6	527.0	530.5	523.6	516.7	513.2	499.5	478.8	465.1	434.0	409.9
65°	475.3	465.1	461.5	458.2	451.3	440.9	430.6	406.5	396.1	368.6	344.4
67.5°	403.0	399.6	406.5	396.1	379.0	379.0	368.6	347.9	323.8	306.6	282.5
70°	344.4	341.0	334.2	323.8	320.4	306.6	306.6	282.5	275.6	244.5	223.9
72.5°	282.5	282.5	272.1	261.8	251.4	244.5	241.2	223.9	213.6	196.4	179.1
75°	213.6	213.6	210.1	199.7	192.9	186.0	182.6	168.8	158.4	141.3	130.9
77.5°	151.6	151.6	137.8	130.9	134.3	127.4	120.5	117.1	113.6	103.4	89.6
80°	89.6	86.1	75.8	79.2	75.8	75.8	72.3	68.8	61.9	55.1	48.2
82.5°	24.2	27.5	27.5	27.5	31.0	24.2	24.2	24.2	27.5	27.5	17.3
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	3.5	3.5
87.5°	3.5	6.9	13.8	13.8	13.8	13.8	13.8	10.4	10.4	10.4	6.9
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°	2872.8	2872.8	2872.8	2872.8	2872.8	2872.8	2872.8	2872.8	2872.8	2872.8	2872.8
2.5°	2907.4	2903.9	2907.4	2883.2	2938.3	2897.0	2890.1	2883.2	2907.4	2883.2	2848.8
5°	2969.3	2934.9	2924.5	2914.2	2945.1	2897.0	2886.7	2890.1	2872.8	2828.1	2831.5
7.5°	2990.0	2959.0	2928.0	2862.6	2890.1	2879.8	2852.2	2831.5	2804.0	2766.1	2759.2
10°	2996.8	2962.4	2917.6	2897.0	2855.7	2841.9	2831.5	2797.1	2762.7	2697.2	2680.0
12.5°	2976.2	2934.9	2879.8	2862.6	2831.5	2786.7	2762.7	2728.1	2697.2	2645.5	2607.6
15°	2886.7	2852.2	2835.0	2776.5	2762.7	2735.0	2686.8	2638.7	2593.9	2524.9	2504.2
17.5°	2783.3	2769.6	2752.3	2707.5	2704.1	2676.6	2631.8	2590.3	2531.9	2425.0	2390.6
20°	2676.6	2676.6	2621.4	2604.2	2638.7	2583.5	2549.1	2511.1	2390.6	2338.9	2277.0
22.5°	2597.4	2559.4	2528.4	2500.9	2504.2	2469.8	2421.7	2345.8	2301.0	2239.1	2166.7
25°	2442.3	2456.1	2387.2	2376.8	2387.2	2307.9	2283.9	2221.8	2156.3	2097.8	2042.7
27.5°	2345.8	2307.9	2263.2	2225.3	2225.3	2194.3	2125.4	2111.7	2011.7	1956.6	1887.6
30°	2201.1	2173.6	2135.7	2080.6	2073.7	2049.6	1994.5	1960.0	1856.7	1774.0	1736.1
32.5°	2018.5	2008.3	1977.2	1915.3	1894.6	1867.0	1798.2	1739.6	1691.4	1598.3	1553.6
35°	1887.6	1849.8	1784.4	1732.7	1715.4	1667.2	1612.1	1570.8	1519.1	1436.5	1377.9
37.5°	1691.4	1653.5	1591.4	1529.5	1529.5	1481.3	1405.4	1364.1	1291.8	1243.5	1195.3
40°	1519.1	1470.9	1408.9	1336.6	1326.2	1257.3	1226.3	1157.4	1112.6	1036.9	1030.0
42.5°	1326.2	1281.4	1226.3	1171.1	1129.9	1095.4	1016.2	964.5	916.4	878.4	868.0
45°	1150.5	1091.9	1043.8	974.8	933.5	892.2	840.5	806.1	768.2	726.9	702.7
47.5°	998.9	950.8	881.8	819.9	778.6	757.8	699.2	661.4	630.4	602.8	585.6
50°	844.0	785.4	747.5	678.6	671.7	623.5	575.3	544.3	527.0	503.0	478.8
52.5°	726.9	671.7	620.0	568.4	540.8	523.6	478.8	447.8	423.8	406.5	392.7
55°	613.1	564.9	523.6	471.9	454.7	430.6	379.0	372.1	347.9	323.8	306.6
57.5°	527.0	482.2	434.0	399.6	368.6	351.4	310.0	282.5	268.7	248.0	230.8
60°	447.8	399.6	361.7	320.4	306.6	282.5	251.4	227.4	210.1	192.9	175.7
62.5°	375.4	334.2	292.9	258.3	237.7	223.9	199.7	179.1	161.9	148.2	134.3
65°	310.0	272.1	237.7	203.2	192.9	175.7	158.4	141.3	127.4	110.3	96.5
67.5°	254.9	220.5	186.0	161.9	151.6	144.7	124.0	106.8	96.5	86.1	72.3
70°	199.7	175.7	148.2	127.4	117.1	106.8	93.0	82.7	68.8	61.9	51.7
72.5°	155.1	134.3	110.3	93.0	86.1	79.2	65.5	55.1	48.2	41.3	34.4
75°	110.3	93.0	79.2	61.9	58.6	55.1	44.8	37.9	31.0	24.2	20.6
77.5°	75.8	61.9	48.2	41.3	37.9	31.0	27.5	20.6	17.3	13.8	10.4
80°	41.3	31.0	24.2	20.6	17.3	13.8	13.8	10.4	6.9	6.9	3.5
82.5°	13.8	10.4	6.9	3.5	3.5	3.5	3.5	3.5	3.5	0.0	3.5
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°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	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°	2872.8	2872.8	2872.8	2872.8	2872.8	2872.8	2872.8	2872.8	2872.8	2872.8	2872.8
2.5°	2869.4	2831.5	2841.9	2841.9	2835.0	2835.0	2828.1	2817.7	2821.3	2800.5	2755.8
5°	2838.4	2790.2	2783.3	2790.2	2762.7	2755.8	2742.0	2762.7	2700.6	2724.8	2697.2
7.5°	2748.9	2704.1	2693.7	2717.9	2683.5	2662.7	2659.3	2686.8	2631.8	2604.2	2573.2
10°	2648.9	2631.8	2600.7	2583.5	2573.2	2576.6	2549.1	2514.6	2504.2	2497.4	2469.8
12.5°	2559.4	2521.5	2494.0	2473.3	2466.5	2466.5	2421.7	2414.8	2383.7	2376.8	2335.6
15°	2452.6	2407.9	2390.6	2363.1	2338.9	2352.7	2301.0	2287.2	2277.0	2232.2	2239.1
17.5°	2359.6	2311.4	2270.1	2252.8	2232.2	2211.5	2163.2	2173.6	2149.4	2149.4	2087.5
20°	2239.1	2187.4	2156.3	2121.9	2121.9	2094.4	2060.0	2063.3	2032.3	2001.4	1946.2
22.5°	2111.7	2056.5	2018.5	2004.8	1970.4	1963.5	1922.2	1911.8	1870.5	1873.9	1825.7
25°	1977.2	1922.2	1870.5	1873.9	1843.0	1829.2	1805.0	1756.9	1739.6	1718.9	1705.2
27.5°	1818.8	1780.9	1736.1	1732.7	1674.1	1677.5	1646.6	1632.8	1591.4	1601.8	1570.8
30°	1674.1	1619.1	1577.6	1567.4	1543.2	1536.3	1488.2	1467.4	1474.4	1446.7	1429.6
32.5°	1525.9	1443.4	1426.1	1405.4	1391.7	1374.4	1340.0	1353.7	1322.7	1329.6	1302.1
35°	1329.6	1295.2	1250.4	1250.4	1236.6	1222.8	1198.8	1212.6	1181.5	1167.8	1140.2
37.5°	1164.3	1133.4	1088.6	1102.3	1078.2	1057.5	1036.9	1040.2	1012.7	1009.3	981.7
40°	985.2	967.9	937.0	937.0	919.7	919.7	909.3	899.1	881.8	861.2	830.1
42.5°	816.3	802.6	788.8	792.3	768.2	788.8	761.3	778.6	723.4	720.0	699.2
45°	692.3	661.4	664.8	651.0	637.3	644.1	620.0	626.9	596.0	589.1	568.4
47.5°	561.6	551.2	530.5	523.6	523.6	513.2	503.0	499.5	485.7	468.4	440.9
50°	461.5	423.8	416.7	406.5	399.6	399.6	385.8	365.2	368.6	351.4	323.8
52.5°	361.7	330.6	316.9	313.5	299.7	292.9	275.6	261.8	251.4	244.5	227.4
55°	279.0	251.4	234.3	234.3	213.6	213.6	189.5	179.1	165.3	151.6	141.3
57.5°	210.1	196.4	179.1	165.3	158.4	141.3	127.4	110.3	99.9	79.2	65.5
60°	158.4	144.7	127.4	117.1	110.3	93.0	75.8	61.9	37.9	31.0	27.5
62.5°	117.1	103.4	86.1	79.2	72.3	58.6	41.3	20.6	10.4	10.4	10.4
65°	86.1	68.8	55.1	48.2	41.3	31.0	13.8	6.9	3.5	3.5	3.5
67.5°	58.6	44.8	31.0	27.5	20.6	10.4	3.5	3.5	3.5	3.5	3.5
70°	37.9	27.5	13.8	10.4	6.9	3.5	3.5	3.5	3.5	3.5	3.5
72.5°	24.2	13.8	6.9	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	13.8	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	6.9	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	3.5	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	3.5	3.5	3.5
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 EX4C509030 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2872.8	2872.8	2872.8	2872.8	2872.8	2872.8	2872.8	2872.8
2.5°	2804.0	2779.8	2793.6	2762.7	2776.5	2800.5	2783.3	2790.2
5°	2707.5	2693.7	2676.6	2631.8	2666.2	2693.7	2680.0	2676.6
7.5°	2604.2	2555.9	2580.1	2566.3	2559.4	2587.0	2555.9	2590.3
10°	2497.4	2462.9	2459.6	2435.4	2435.4	2456.1	2459.6	2438.8
12.5°	2338.9	2321.8	2321.8	2318.3	2314.8	2335.6	2338.9	2328.7
15°	2225.3	2218.4	2201.1	2197.8	2177.1	2208.0	2211.5	2208.0
17.5°	2087.5	2090.9	2073.7	2073.7	2087.5	2097.8	2070.2	2097.8
20°	1994.5	1977.2	1970.4	1939.3	1956.6	1973.9	1973.9	1977.2
22.5°	1860.1	1832.6	1843.0	1825.7	1815.3	1839.5	1839.5	1849.8
25°	1708.5	1708.5	1715.4	1705.2	1712.1	1725.8	1715.4	1739.6
27.5°	1563.9	1577.6	1577.6	1563.9	1570.8	1612.1	1629.3	1601.8
30°	1429.6	1433.0	1443.4	1436.5	1457.1	1470.9	1467.4	1488.2
32.5°	1278.0	1295.2	1302.1	1291.8	1298.7	1329.6	1312.4	1308.9
35°	1160.9	1129.9	1126.5	1129.9	1143.6	1150.5	1143.6	1167.8
37.5°	992.1	981.7	967.9	971.4	981.7	995.6	1002.5	1019.6
40°	830.1	816.3	816.3	813.0	802.6	840.5	840.5	840.5
42.5°	689.0	685.4	668.3	668.3	682.1	692.3	685.4	709.6
45°	564.9	551.2	540.8	540.8	551.2	551.2	561.6	558.0
47.5°	444.4	430.6	434.0	423.8	434.0	447.8	430.6	434.0
50°	334.2	334.2	327.3	334.2	330.6	334.2	327.3	320.4
52.5°	227.4	258.3	261.8	248.0	217.0	189.5	172.2	186.0
55°	130.9	117.1	117.1	113.6	106.8	103.4	93.0	103.4
57.5°	65.5	58.6	58.6	58.6	55.1	51.7	44.8	44.8
60°	27.5	24.2	24.2	20.6	17.3	13.8	10.4	13.8
62.5°	10.4	6.9	6.9	6.9	6.9	6.9	6.9	6.9
65°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
67.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
70°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)