

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 EX4C459035 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 EX4C459035 4LBSQLWWLI  
Description: 4 INCH 4500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3500K, 90CRI LEDS  
AND 4LBSQLWW TRIM WITH LI FINISH  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

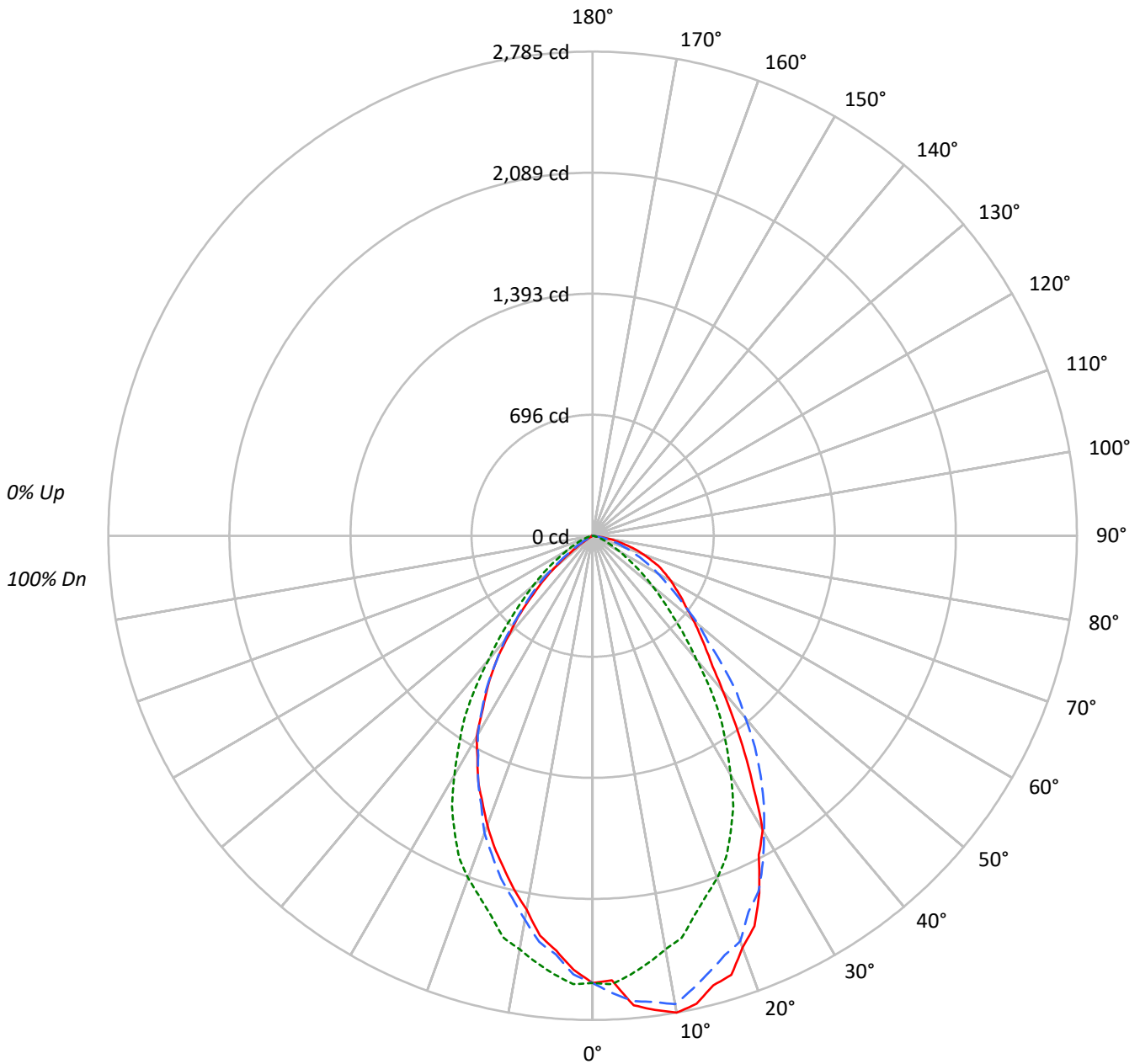
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3687.0 lumens  
Efficiency: N/A  
Efficacy: 74.3 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									
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°	248179	248179	248179
5°	262581	245253	232109
10°	272867	236606	213934
15°	267413	225817	197478
20°	258736	215025	181777
25°	241343	199960	165817
30°	217862	176962	148450
35°	179467	151491	123162
40°	146463	116926	94783
45°	125840	88806	68173
50°	113889	67595	43067
55°	104803	48768	15577
60°	100599	33327	2374
65°	97170	22534	708
70°	87004	15657	875
75°	71317	8053	0
80°	44564	3445	0
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	241.0	6.5
10°-20°	649.3	17.6
20°-30°	867.0	23.5
30°-40°	823.0	22.3
40°-50°	568.9	15.4
50°-60°	314.3	8.5
60°-70°	156.1	4.2
70°-80°	61.5	1.7
80°-90°	5.8	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°	1757.3	47.7
0°-40°	2580.3	70.0
0°-60°	3463.5	93.9
0°-90°	3687.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3687.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2572	2572	2572	2572	2572	
5°	2711	2686	2532	2418	2396	260
15°	2677	2597	2261	2039	1977	757
25°	2267	2258	1878	1558	1558	1033
35°	1524	1684	1286	1058	1046	954
45°	922	1058	651	534	500	719
55°	623	586	290	148	93	561
65°	426	308	99	3	3	413
75°	191	117	22	0	0	204
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°	2572.1	2572.1	2572.1	2572.1	2572.1	2572.1	2572.1	2572.1	2572.1	2572.1	2572.1
2.5°	2559.8	2630.7	2636.9	2630.7	2640.0	2636.9	2652.4	2636.9	2655.5	2627.7	2633.9
5°	2711.0	2683.2	2741.8	2711.0	2711.0	2707.9	2698.6	2695.5	2707.9	2667.8	2686.3
7.5°	2751.1	2791.2	2843.6	2778.9	2781.9	2781.9	2763.4	2757.2	2757.2	2683.2	2704.8
10°	2785.0	2760.3	2788.1	2763.4	2785.0	2781.9	2794.2	2754.1	2781.9	2738.8	2735.6
12.5°	2757.2	2747.9	2785.0	2744.9	2732.6	2735.6	2720.3	2711.0	2720.3	2670.9	2667.8
15°	2677.0	2686.3	2741.8	2698.6	2692.5	2686.3	2667.8	2636.9	2661.7	2593.8	2596.9
17.5°	2649.3	2633.9	2643.2	2606.1	2615.4	2609.2	2606.1	2578.4	2572.1	2529.0	2529.0
20°	2519.8	2553.6	2553.6	2529.0	2529.0	2526.0	2485.9	2510.5	2482.7	2470.4	2482.7
22.5°	2430.3	2433.4	2433.4	2411.8	2414.9	2402.6	2381.0	2365.5	2381.0	2365.5	2340.9
25°	2266.9	2273.1	2310.1	2269.9	2263.8	2276.1	2257.6	2248.3	2245.3	2208.3	2257.6
27.5°	2069.5	2131.1	2128.1	2112.6	2131.1	2106.5	2097.3	2100.3	2109.6	2106.5	2118.8
30°	1955.4	1964.6	1973.9	1961.6	1964.6	1955.4	1955.4	1958.4	1983.1	1973.9	1970.8
32.5°	1724.0	1754.8	1779.6	1779.6	1782.6	1791.9	1788.8	1853.6	1869.0	1838.2	1832.0
35°	1523.6	1545.2	1566.7	1569.8	1610.0	1613.0	1616.1	1634.6	1677.7	1687.0	1683.9
37.5°	1332.4	1353.9	1360.1	1387.9	1409.5	1431.0	1455.8	1480.4	1517.4	1548.2	1532.9
40°	1162.8	1171.9	1187.4	1199.7	1242.9	1242.9	1255.2	1304.6	1344.7	1369.4	1366.2
42.5°	1020.9	1023.9	1036.2	1057.9	1098.0	1088.7	1098.0	1131.9	1190.4	1193.6	1227.5
45°	922.2	919.0	928.3	931.4	956.1	968.5	974.6	999.3	1048.6	1054.7	1057.9
47.5°	832.8	829.6	845.1	851.3	860.4	872.8	872.8	875.9	894.4	909.9	897.5
50°	758.7	758.7	758.7	764.9	780.3	777.2	780.3	792.7	801.8	795.7	792.7
52.5°	678.5	690.8	700.1	703.2	706.3	706.3	709.4	703.2	700.1	690.8	672.3
55°	623.0	635.3	635.3	635.3	635.3	647.7	632.3	635.3	635.3	610.7	586.0
57.5°	567.5	579.9	589.1	576.7	589.1	576.7	570.6	567.5	561.3	536.6	499.6
60°	521.3	527.4	524.3	521.3	527.4	518.1	512.0	499.6	493.5	459.5	434.9
62.5°	468.8	471.8	475.0	468.8	462.7	459.5	447.2	428.7	416.4	388.6	367.0
65°	425.6	416.4	413.2	410.2	404.1	394.8	385.6	363.9	354.6	330.0	308.4
67.5°	360.8	357.8	363.9	354.6	339.3	339.3	330.0	311.5	289.9	274.5	252.9
70°	308.4	305.3	299.2	289.9	286.9	274.5	274.5	252.9	246.7	218.9	200.5
72.5°	252.9	252.9	243.6	234.4	225.1	218.9	215.9	200.5	191.3	175.8	160.3
75°	191.3	191.3	188.1	178.8	172.7	166.5	163.5	151.2	141.9	126.5	117.2
77.5°	135.7	135.7	123.4	117.2	120.2	114.1	107.9	104.9	101.7	92.6	80.2
80°	80.2	77.1	67.9	70.9	67.9	67.9	64.8	61.6	55.5	49.3	43.1
82.5°	21.6	24.6	24.6	24.6	27.8	21.6	21.6	21.6	24.6	24.6	15.5
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	3.1	3.1
87.5°	3.1	6.2	12.3	12.3	12.3	12.3	12.3	9.3	9.3	9.3	6.2
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°	2572.1	2572.1	2572.1	2572.1	2572.1	2572.1	2572.1	2572.1	2572.1	2572.1	2572.1
2.5°	2603.1	2599.9	2603.1	2581.4	2630.7	2593.8	2587.6	2581.4	2603.1	2581.4	2550.6
5°	2658.5	2627.7	2618.4	2609.2	2636.9	2593.8	2584.6	2587.6	2572.1	2532.1	2535.2
7.5°	2677.0	2649.3	2621.6	2563.0	2587.6	2578.4	2553.6	2535.2	2510.5	2476.6	2470.4
10°	2683.2	2652.4	2612.3	2593.8	2556.8	2544.5	2535.2	2504.3	2473.5	2414.9	2399.5
12.5°	2664.7	2627.7	2578.4	2563.0	2535.2	2495.0	2473.5	2442.6	2414.9	2368.7	2334.7
15°	2584.6	2553.6	2538.3	2485.9	2473.5	2448.8	2405.6	2362.5	2322.4	2260.6	2242.1
17.5°	2492.0	2479.7	2464.2	2424.1	2421.1	2396.4	2356.3	2319.2	2266.9	2171.2	2140.4
20°	2396.4	2396.4	2347.0	2331.7	2362.5	2313.1	2282.3	2248.3	2140.4	2094.1	2038.7
22.5°	2325.5	2291.6	2263.8	2239.1	2242.1	2211.3	2168.2	2100.3	2060.2	2004.7	1939.9
25°	2186.7	2199.0	2137.4	2128.1	2137.4	2066.3	2044.8	1989.2	1930.6	1878.2	1828.9
27.5°	2100.3	2066.3	2026.3	1992.4	1992.4	1964.6	1903.0	1890.6	1801.1	1751.8	1690.1
30°	1970.8	1946.1	1912.2	1862.9	1856.7	1835.1	1785.8	1754.8	1662.4	1588.3	1554.4
32.5°	1807.3	1798.1	1770.3	1714.8	1696.4	1671.6	1610.0	1557.5	1514.4	1431.0	1391.0
35°	1690.1	1656.2	1597.6	1551.4	1535.9	1492.7	1443.3	1406.4	1360.1	1286.1	1233.7
37.5°	1514.4	1480.4	1424.8	1369.4	1369.4	1326.2	1258.3	1221.4	1156.6	1113.3	1070.2
40°	1360.1	1316.9	1261.5	1196.7	1187.4	1125.7	1098.0	1036.2	996.1	928.3	922.2
42.5°	1187.4	1147.3	1098.0	1048.6	1011.6	980.8	909.9	863.6	820.4	786.5	777.2
45°	1030.1	977.6	934.5	872.8	835.8	798.8	752.5	721.7	687.8	650.8	629.2
47.5°	894.4	851.3	789.5	734.1	697.1	678.5	626.0	592.2	564.4	539.8	524.3
50°	755.7	703.2	669.3	607.5	601.4	558.2	515.1	487.3	471.8	450.3	428.7
52.5°	650.8	601.4	555.1	508.9	484.2	468.8	428.7	400.9	379.4	363.9	351.6
55°	548.9	505.8	468.8	422.5	407.1	385.6	339.3	333.1	311.5	289.9	274.5
57.5°	471.8	431.7	388.6	357.8	330.0	314.6	277.5	252.9	240.6	222.1	206.6
60°	400.9	357.8	323.8	286.9	274.5	252.9	225.1	203.6	188.1	172.7	157.3
62.5°	336.2	299.2	262.2	231.3	212.8	200.5	178.8	160.3	145.0	132.7	120.2
65°	277.5	243.6	212.8	182.0	172.7	157.3	141.9	126.5	114.1	98.7	86.4
67.5°	228.3	197.4	166.5	145.0	135.7	129.5	111.0	95.6	86.4	77.1	64.8
70°	178.8	157.3	132.7	114.1	104.9	95.6	83.3	74.1	61.6	55.5	46.3
72.5°	138.8	120.2	98.7	83.3	77.1	70.9	58.6	49.3	43.1	37.0	30.8
75°	98.7	83.3	70.9	55.5	52.4	49.3	40.1	34.0	27.8	21.6	18.5
77.5°	67.9	55.5	43.1	37.0	34.0	27.8	24.6	18.5	15.5	12.3	9.3
80°	37.0	27.8	21.6	18.5	15.5	12.3	12.3	9.3	6.2	6.2	3.1
82.5°	12.3	9.3	6.2	3.1	3.1	3.1	3.1	3.1	3.1	0.0	3.1
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°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	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°	2572.1	2572.1	2572.1	2572.1	2572.1	2572.1	2572.1	2572.1	2572.1	2572.1	2572.1
2.5°	2569.1	2535.2	2544.5	2544.5	2538.3	2538.3	2532.1	2522.8	2526.0	2507.4	2467.4
5°	2541.3	2498.2	2492.0	2498.2	2473.5	2467.4	2455.1	2473.5	2418.0	2439.6	2414.9
7.5°	2461.2	2421.1	2411.8	2433.4	2402.6	2384.0	2381.0	2405.6	2356.3	2331.7	2303.9
10°	2371.7	2356.3	2328.5	2313.1	2303.9	2306.9	2282.3	2251.4	2242.1	2236.0	2211.3
12.5°	2291.6	2257.6	2233.0	2214.5	2208.3	2208.3	2168.2	2162.0	2134.2	2128.1	2091.1
15°	2195.9	2155.9	2140.4	2115.8	2094.1	2106.5	2060.2	2047.8	2038.7	1998.5	2004.7
17.5°	2112.6	2069.5	2032.5	2017.0	1998.5	1980.1	1936.8	1946.1	1924.5	1924.5	1869.0
20°	2004.7	1958.4	1930.6	1899.8	1899.8	1875.2	1844.4	1847.4	1819.6	1791.9	1742.5
22.5°	1890.6	1841.2	1807.3	1794.9	1764.1	1758.0	1721.0	1711.7	1674.7	1677.7	1634.6
25°	1770.3	1721.0	1674.7	1677.7	1650.1	1637.7	1616.1	1573.0	1557.5	1539.0	1526.7
27.5°	1628.4	1594.5	1554.4	1551.4	1498.9	1501.9	1474.3	1461.9	1424.8	1434.1	1406.4
30°	1498.9	1449.6	1412.5	1403.3	1381.7	1375.5	1332.4	1313.8	1320.1	1295.3	1280.0
32.5°	1366.2	1292.3	1276.8	1258.3	1246.0	1230.5	1199.7	1212.1	1184.3	1190.4	1165.8
35°	1190.4	1159.6	1119.5	1119.5	1107.2	1094.9	1073.3	1085.7	1057.9	1045.6	1020.9
37.5°	1042.4	1014.7	974.6	986.9	965.3	946.8	928.3	931.4	906.7	903.7	878.9
40°	882.1	866.6	838.9	838.9	823.5	823.5	814.2	805.0	789.5	771.0	743.2
42.5°	730.9	718.6	706.3	709.4	687.8	706.3	681.6	697.1	647.7	644.6	626.0
45°	619.9	592.2	595.2	582.9	570.6	576.7	555.1	561.3	533.6	527.4	508.9
47.5°	502.8	493.5	475.0	468.8	468.8	459.5	450.3	447.2	434.9	419.4	394.8
50°	413.2	379.4	373.1	363.9	357.8	357.8	345.5	327.0	330.0	314.6	289.9
52.5°	323.8	296.0	283.7	280.7	268.4	262.2	246.7	234.4	225.1	218.9	203.6
55°	249.8	225.1	209.8	209.8	191.3	191.3	169.6	160.3	148.0	135.7	126.5
57.5°	188.1	175.8	160.3	148.0	141.9	126.5	114.1	98.7	89.4	70.9	58.6
60°	141.9	129.5	114.1	104.9	98.7	83.3	67.9	55.5	34.0	27.8	24.6
62.5°	104.9	92.6	77.1	70.9	64.8	52.4	37.0	18.5	9.3	9.3	9.3
65°	77.1	61.6	49.3	43.1	37.0	27.8	12.3	6.2	3.1	3.1	3.1
67.5°	52.4	40.1	27.8	24.6	18.5	9.3	3.1	3.1	3.1	3.1	3.1
70°	34.0	24.6	12.3	9.3	6.2	3.1	3.1	3.1	3.1	3.1	3.1
72.5°	21.6	12.3	6.2	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	12.3	6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	6.2	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	3.1	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	3.1	3.1	3.1
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: LD4C45D010 EX4C459035 4LBSQLWWLI

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2572.1	2572.1	2572.1	2572.1	2572.1	2572.1	2572.1	2572.1
2.5°	2510.5	2488.9	2501.2	2473.5	2485.9	2507.4	2492.0	2498.2
5°	2424.1	2411.8	2396.4	2356.3	2387.1	2411.8	2399.5	2396.4
7.5°	2331.7	2288.4	2310.1	2297.7	2291.6	2316.2	2288.4	2319.2
10°	2236.0	2205.2	2202.2	2180.5	2180.5	2199.0	2202.2	2183.5
12.5°	2094.1	2078.8	2078.8	2075.6	2072.5	2091.1	2094.1	2084.9
15°	1992.4	1986.2	1970.8	1967.7	1949.3	1976.9	1980.1	1976.9
17.5°	1869.0	1872.0	1856.7	1856.7	1869.0	1878.2	1853.6	1878.2
20°	1785.8	1770.3	1764.1	1736.3	1751.8	1767.3	1767.3	1770.3
22.5°	1665.4	1640.8	1650.1	1634.6	1625.3	1646.9	1646.9	1656.2
25°	1529.7	1529.7	1535.9	1526.7	1532.9	1545.2	1535.9	1557.5
27.5°	1400.2	1412.5	1412.5	1400.2	1406.4	1443.3	1458.8	1434.1
30°	1280.0	1283.0	1292.3	1286.1	1304.6	1316.9	1313.8	1332.4
32.5°	1144.3	1159.6	1165.8	1156.6	1162.8	1190.4	1175.1	1171.9
35°	1039.4	1011.6	1008.6	1011.6	1023.9	1030.1	1023.9	1045.6
37.5°	888.2	878.9	866.6	869.7	878.9	891.4	897.5	912.9
40°	743.2	730.9	730.9	727.9	718.6	752.5	752.5	752.5
42.5°	616.8	613.7	598.4	598.4	610.7	619.9	613.7	635.3
45°	505.8	493.5	484.2	484.2	493.5	493.5	502.8	499.6
47.5°	397.9	385.6	388.6	379.4	388.6	400.9	385.6	388.6
50°	299.2	299.2	293.0	299.2	296.0	299.2	293.0	286.9
52.5°	203.6	231.3	234.4	222.1	194.3	169.6	154.2	166.5
55°	117.2	104.9	104.9	101.7	95.6	92.6	83.3	92.6
57.5°	58.6	52.4	52.4	52.4	49.3	46.3	40.1	40.1
60°	24.6	21.6	21.6	18.5	15.5	12.3	9.3	12.3
62.5°	9.3	6.2	6.2	6.2	6.2	6.2	6.2	6.2
65°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
67.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
70°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
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)