

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 4LBSQLWWH**

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 EX4C509035 4LBSQLWWH  
Description: 4 INCH 5000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3500K, 90CRI LEDS  
AND 4LBSQLWW TRIM WITH H FINISH  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

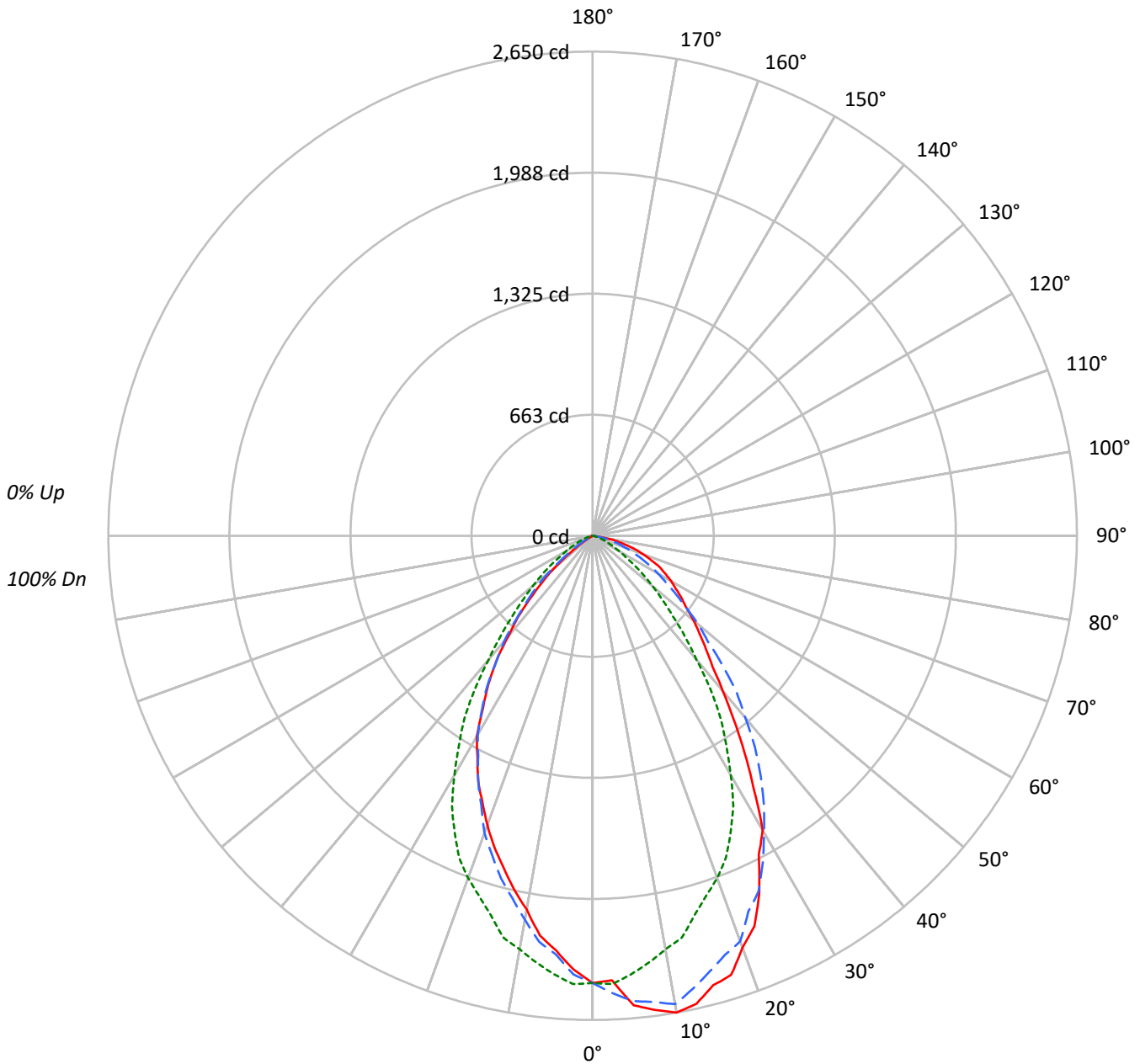
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3508.0 lumens  
Efficiency: N/A  
Efficacy: 60.1 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 (A<sub>in</sub>): 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 EX4C509035 4LBSQLWWH

### 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	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°	236137	236137	236137
5°	249834	233349	220845
10°	259620	225123	203548
15°	254437	214859	187888
20°	246179	204593	172956
25°	229632	190251	157769
30°	207289	168372	141242
35°	170750	144141	117179
40°	139347	111258	90185
45°	119726	84493	64871
50°	108364	64322	40965
55°	99723	46396	14820
60°	95717	31706	2258
65°	92444	21439	685
70°	82772	14896	846
75°	67850	7680	0
80°	42397	3278	0
85°	0	0	0



TEST NUMBER: P#

CATALOG NUMBER: LD4C50D010 EX4C509035 4LBSQLWWH

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	229.3	6.5
10°-20°	617.8	17.6
20°-30°	824.9	23.5
30°-40°	783.1	22.3
40°-50°	541.3	15.4
50°-60°	299.1	8.5
60°-70°	148.5	4.2
70°-80°	58.5	1.7
80°-90°	5.6	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°	1672.0	47.7
0°-40°	2455.0	70.0
0°-60°	3295.4	93.9
0°-90°	3508.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3508.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2447	2447	2447	2447	2447	
5°	2579	2556	2409	2301	2280	247
15°	2547	2471	2151	1940	1881	721
25°	2157	2148	1787	1482	1482	983
35°	1450	1602	1224	1006	995	908
45°	877	1006	619	508	475	684
55°	593	558	276	141	88	534
65°	405	293	94	3	3	393
75°	182	112	21	0	0	194
85°	0	3	0	0	0	17
90°	0	0	0	0	0	



TEST NUMBER: P#

CATALOG NUMBER: LD4C50D010 EX4C509035 4LBSQLWWH

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2447.3	2447.3	2447.3	2447.3	2447.3	2447.3	2447.3	2447.3	2447.3	2447.3	2447.3
2.5°	2435.5	2503.0	2508.9	2503.0	2511.9	2508.9	2523.6	2508.9	2526.6	2500.1	2506.0
5°	2579.4	2552.9	2608.7	2579.4	2579.4	2576.5	2567.6	2564.6	2576.5	2538.3	2555.9
7.5°	2617.5	2655.7	2705.6	2644.0	2646.8	2646.8	2629.3	2623.4	2623.4	2552.9	2573.5
10°	2649.8	2626.3	2652.7	2629.3	2649.8	2646.8	2658.6	2620.4	2646.8	2605.8	2602.8
12.5°	2623.4	2614.5	2649.8	2611.7	2599.9	2602.8	2588.2	2579.4	2588.2	2541.2	2538.3
15°	2547.1	2555.9	2608.7	2567.6	2561.8	2555.9	2538.3	2508.9	2532.5	2467.8	2470.8
17.5°	2520.7	2506.0	2514.9	2479.6	2488.4	2482.6	2479.6	2453.2	2447.3	2406.2	2406.2
20°	2397.5	2429.7	2429.7	2406.2	2406.2	2403.3	2365.2	2388.6	2362.2	2350.5	2362.2
22.5°	2312.3	2315.3	2315.3	2294.7	2297.7	2286.0	2265.4	2250.7	2265.4	2250.7	2227.2
25°	2156.9	2162.7	2197.9	2159.7	2153.9	2165.6	2148.0	2139.2	2136.3	2101.1	2148.0
27.5°	1969.0	2027.6	2024.8	2010.0	2027.6	2004.2	1995.4	1998.3	2007.2	2004.2	2015.9
30°	1860.5	1869.2	1878.1	1866.3	1869.2	1860.5	1860.5	1863.4	1886.8	1878.1	1875.1
32.5°	1640.3	1669.6	1693.2	1693.2	1696.1	1704.9	1701.9	1763.6	1778.3	1749.0	1743.1
35°	1449.6	1470.2	1490.6	1493.6	1531.8	1534.7	1537.7	1555.2	1596.3	1605.1	1602.2
37.5°	1267.7	1288.2	1294.0	1320.5	1341.1	1361.5	1385.1	1408.6	1443.7	1473.0	1458.4
40°	1106.3	1115.0	1129.8	1141.5	1182.5	1182.5	1194.3	1241.3	1279.4	1302.9	1299.9
42.5°	971.3	974.2	985.9	1006.5	1044.7	1035.8	1044.7	1077.0	1132.6	1135.6	1167.9
45°	877.4	874.4	883.3	886.2	909.7	921.4	927.3	950.8	997.7	1003.5	1006.5
47.5°	792.3	789.4	804.1	809.9	818.7	830.4	830.4	833.4	851.0	865.7	854.0
50°	721.9	721.9	721.9	727.7	742.4	739.5	742.4	754.2	762.9	757.0	754.2
52.5°	645.5	657.3	666.1	669.1	672.0	672.0	675.0	669.1	666.1	657.3	639.7
55°	592.8	604.5	604.5	604.5	604.5	616.2	601.6	604.5	604.5	581.0	557.6
57.5°	540.0	551.7	560.5	548.7	560.5	548.7	542.9	540.0	534.0	510.6	475.4
60°	496.0	501.8	498.8	496.0	501.8	493.0	487.1	475.4	469.5	437.2	413.8
62.5°	446.1	448.9	451.9	446.1	440.2	437.2	425.5	407.9	396.2	369.7	349.1
65°	404.9	396.2	393.2	390.3	384.4	375.6	366.9	346.3	337.4	314.0	293.4
67.5°	343.3	340.4	346.3	337.4	322.8	322.8	314.0	296.4	275.8	261.2	240.6
70°	293.4	290.5	284.7	275.8	272.9	261.2	261.2	240.6	234.8	208.3	190.7
72.5°	240.6	240.6	231.8	223.0	214.2	208.3	205.4	190.7	182.0	167.3	152.6
75°	182.0	182.0	179.0	170.1	164.3	158.4	155.5	143.8	135.0	120.4	111.5
77.5°	129.1	129.1	117.4	111.5	114.4	108.5	102.7	99.8	96.8	88.1	76.3
80°	76.3	73.3	64.6	67.5	64.6	64.6	61.6	58.6	52.8	46.9	41.0
82.5°	20.6	23.5	23.5	23.5	26.4	20.6	20.6	20.6	23.5	23.5	14.7
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0
87.5°	3.0	5.9	11.7	11.7	11.7	11.7	11.7	8.9	8.9	8.9	5.9
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 4LBSQLWWH

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2447.3	2447.3	2447.3	2447.3	2447.3	2447.3	2447.3	2447.3	2447.3	2447.3	2447.3
2.5°	2476.7	2473.7	2476.7	2456.1	2503.0	2467.8	2462.0	2456.1	2476.7	2456.1	2426.8
5°	2529.5	2500.1	2491.3	2482.6	2508.9	2467.8	2459.1	2462.0	2447.3	2409.2	2412.1
7.5°	2547.1	2520.7	2494.3	2438.5	2462.0	2453.2	2429.7	2412.1	2388.6	2356.3	2350.5
10°	2552.9	2523.6	2485.4	2467.8	2432.7	2420.9	2412.1	2382.8	2353.4	2297.7	2283.0
12.5°	2535.3	2500.1	2453.2	2438.5	2412.1	2373.9	2353.4	2324.0	2297.7	2253.7	2221.4
15°	2459.1	2429.7	2415.1	2365.2	2353.4	2329.9	2288.8	2247.8	2209.6	2150.9	2133.3
17.5°	2371.0	2359.3	2344.6	2306.4	2303.6	2280.1	2241.9	2206.6	2156.9	2065.8	2036.5
20°	2280.1	2280.1	2233.1	2218.5	2247.8	2200.8	2171.5	2139.2	2036.5	1992.5	1939.7
22.5°	2212.6	2180.3	2153.9	2130.4	2133.3	2104.0	2062.9	1998.3	1960.2	1907.4	1845.8
25°	2080.5	2092.2	2033.6	2024.8	2033.6	1966.0	1945.6	1892.7	1836.9	1787.0	1740.1
27.5°	1998.3	1966.0	1928.0	1895.7	1895.7	1869.2	1810.6	1798.9	1713.7	1666.8	1608.0
30°	1875.1	1851.6	1819.3	1772.4	1766.6	1746.0	1699.1	1669.6	1581.7	1511.2	1478.9
32.5°	1719.5	1710.8	1684.4	1631.6	1614.0	1590.4	1531.8	1481.9	1440.9	1361.5	1323.5
35°	1608.0	1575.8	1520.1	1476.0	1461.3	1420.3	1373.3	1338.1	1294.0	1223.7	1173.8
37.5°	1440.9	1408.6	1355.7	1302.9	1302.9	1261.9	1197.2	1162.1	1100.4	1059.3	1018.2
40°	1294.0	1253.0	1200.2	1138.6	1129.8	1071.0	1044.7	985.9	947.8	883.3	877.4
42.5°	1129.8	1091.6	1044.7	997.7	962.5	933.2	865.7	821.7	780.6	748.3	739.5
45°	980.1	930.2	889.1	830.4	795.2	760.0	716.0	686.7	654.4	619.2	598.6
47.5°	851.0	809.9	751.2	698.4	663.2	645.5	595.6	563.4	537.0	513.5	498.8
50°	719.0	669.1	636.8	578.0	572.2	531.1	490.1	463.7	448.9	428.5	407.9
52.5°	619.2	572.2	528.1	484.2	460.7	446.1	407.9	381.5	361.0	346.3	334.5
55°	522.3	481.2	446.1	402.0	387.3	366.9	322.8	317.0	296.4	275.8	261.2
57.5°	448.9	410.8	369.7	340.4	314.0	299.4	264.1	240.6	228.9	211.3	196.6
60°	381.5	340.4	308.1	272.9	261.2	240.6	214.2	193.7	179.0	164.3	149.7
62.5°	319.8	284.7	249.5	220.0	202.5	190.7	170.1	152.6	138.0	126.2	114.4
65°	264.1	231.8	202.5	173.1	164.3	149.7	135.0	120.4	108.5	93.9	82.2
67.5°	217.2	187.9	158.4	138.0	129.1	123.2	105.7	90.9	82.2	73.3	61.6
70°	170.1	149.7	126.2	108.5	99.8	90.9	79.2	70.5	58.6	52.8	44.0
72.5°	132.1	114.4	93.9	79.2	73.3	67.5	55.8	46.9	41.0	35.2	29.3
75°	93.9	79.2	67.5	52.8	49.9	46.9	38.2	32.3	26.4	20.6	17.6
77.5°	64.6	52.8	41.0	35.2	32.3	26.4	23.5	17.6	14.7	11.7	8.9
80°	35.2	26.4	20.6	17.6	14.7	11.7	11.7	8.9	5.9	5.9	3.0
82.5°	11.7	8.9	5.9	3.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0
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°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	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 EX4C509035 4LBSQLWWH

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2447.3	2447.3	2447.3	2447.3	2447.3	2447.3	2447.3	2447.3	2447.3	2447.3	2447.3
2.5°	2444.4	2412.1	2420.9	2420.9	2415.1	2415.1	2409.2	2400.4	2403.3	2385.6	2347.6
5°	2417.9	2376.9	2371.0	2376.9	2353.4	2347.6	2335.9	2353.4	2300.6	2321.1	2297.7
7.5°	2341.7	2303.6	2294.7	2315.3	2286.0	2268.3	2265.4	2288.8	2241.9	2218.5	2192.0
10°	2256.5	2241.9	2215.5	2200.8	2192.0	2194.9	2171.5	2142.1	2133.3	2127.4	2104.0
12.5°	2180.3	2148.0	2124.6	2107.0	2101.1	2101.1	2062.9	2057.1	2030.6	2024.8	1989.6
15°	2089.3	2051.2	2036.5	2013.0	1992.5	2004.2	1960.2	1948.4	1939.7	1901.5	1907.4
17.5°	2010.0	1969.0	1933.8	1919.1	1901.5	1883.9	1842.8	1851.6	1831.0	1831.0	1778.3
20°	1907.4	1863.4	1836.9	1807.6	1807.6	1784.1	1754.8	1757.7	1731.3	1704.9	1657.9
22.5°	1798.9	1751.8	1719.5	1707.8	1678.5	1672.6	1637.4	1628.6	1593.4	1596.3	1555.2
25°	1684.4	1637.4	1593.4	1596.3	1570.0	1558.2	1537.7	1496.6	1481.9	1464.3	1452.6
27.5°	1549.4	1517.1	1478.9	1476.0	1426.1	1429.0	1402.7	1391.0	1355.7	1364.5	1338.1
30°	1426.1	1379.2	1343.9	1335.2	1314.6	1308.8	1267.7	1250.0	1256.0	1232.4	1217.8
32.5°	1299.9	1229.6	1214.8	1197.2	1185.5	1170.8	1141.5	1153.2	1126.8	1132.6	1109.2
35°	1132.6	1103.3	1065.2	1065.2	1053.4	1041.7	1021.2	1033.0	1006.5	994.8	971.3
37.5°	991.8	965.5	927.3	939.0	918.5	900.9	883.3	886.2	862.7	859.8	836.3
40°	839.2	824.5	798.2	798.2	783.5	783.5	774.6	765.9	751.2	733.6	707.2
42.5°	695.4	683.7	672.0	675.0	654.4	672.0	648.5	663.2	616.2	613.3	595.6
45°	589.8	563.4	566.3	554.6	542.9	548.7	528.1	534.0	507.7	501.8	484.2
47.5°	478.4	469.5	451.9	446.1	446.1	437.2	428.5	425.5	413.8	399.0	375.6
50°	393.2	361.0	355.0	346.3	340.4	340.4	328.7	311.1	314.0	299.4	275.8
52.5°	308.1	281.7	269.9	267.1	255.3	249.5	234.8	223.0	214.2	208.3	193.7
55°	237.6	214.2	199.6	199.6	182.0	182.0	161.4	152.6	140.8	129.1	120.4
57.5°	179.0	167.3	152.6	140.8	135.0	120.4	108.5	93.9	85.1	67.5	55.8
60°	135.0	123.2	108.5	99.8	93.9	79.2	64.6	52.8	32.3	26.4	23.5
62.5°	99.8	88.1	73.3	67.5	61.6	49.9	35.2	17.6	8.9	8.9	8.9
65°	73.3	58.6	46.9	41.0	35.2	26.4	11.7	5.9	3.0	3.0	3.0
67.5°	49.9	38.2	26.4	23.5	17.6	8.9	3.0	3.0	3.0	3.0	3.0
70°	32.3	23.5	11.7	8.9	5.9	3.0	3.0	3.0	3.0	3.0	3.0
72.5°	20.6	11.7	5.9	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	11.7	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	5.9	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	3.0	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	3.0	3.0	3.0
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 EX4C509035 4LBSQLWWH

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2447.3	2447.3	2447.3	2447.3	2447.3	2447.3	2447.3	2447.3
2.5°	2388.6	2368.1	2379.8	2353.4	2365.2	2385.6	2371.0	2376.9
5°	2306.4	2294.7	2280.1	2241.9	2271.2	2294.7	2283.0	2280.1
7.5°	2218.5	2177.3	2197.9	2186.2	2180.3	2203.8	2177.3	2206.6
10°	2127.4	2098.1	2095.2	2074.7	2074.7	2092.2	2095.2	2077.5
12.5°	1992.5	1977.9	1977.9	1974.9	1971.9	1989.6	1992.5	1983.7
15°	1895.7	1889.8	1875.1	1872.2	1854.6	1880.9	1883.9	1880.9
17.5°	1778.3	1781.2	1766.6	1766.6	1778.3	1787.0	1763.6	1787.0
20°	1699.1	1684.4	1678.5	1652.0	1666.8	1681.5	1681.5	1684.4
22.5°	1584.6	1561.1	1570.0	1555.2	1546.4	1567.0	1567.0	1575.8
25°	1455.5	1455.5	1461.3	1452.6	1458.4	1470.2	1461.3	1481.9
27.5°	1332.2	1343.9	1343.9	1332.2	1338.1	1373.3	1388.0	1364.5
30°	1217.8	1220.7	1229.6	1223.7	1241.3	1253.0	1250.0	1267.7
32.5°	1088.7	1103.3	1109.2	1100.4	1106.3	1132.6	1118.0	1115.0
35°	988.9	962.5	959.6	962.5	974.2	980.1	974.2	994.8
37.5°	845.1	836.3	824.5	827.5	836.3	848.1	854.0	868.6
40°	707.2	695.4	695.4	692.5	683.7	716.0	716.0	716.0
42.5°	586.9	583.9	569.3	569.3	581.0	589.8	583.9	604.5
45°	481.2	469.5	460.7	460.7	469.5	469.5	478.4	475.4
47.5°	378.6	366.9	369.7	361.0	369.7	381.5	366.9	369.7
50°	284.7	284.7	278.8	284.7	281.7	284.7	278.8	272.9
52.5°	193.7	220.0	223.0	211.3	184.9	161.4	146.7	158.4
55°	111.5	99.8	99.8	96.8	90.9	88.1	79.2	88.1
57.5°	55.8	49.9	49.9	49.9	46.9	44.0	38.2	38.2
60°	23.5	20.6	20.6	17.6	14.7	11.7	8.9	11.7
62.5°	8.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
65°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
67.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
70°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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)