

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 EX4C459027 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 EX4C459027 4LBSQLWWLI
Description: 4 INCH 4500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 2700K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH LI FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

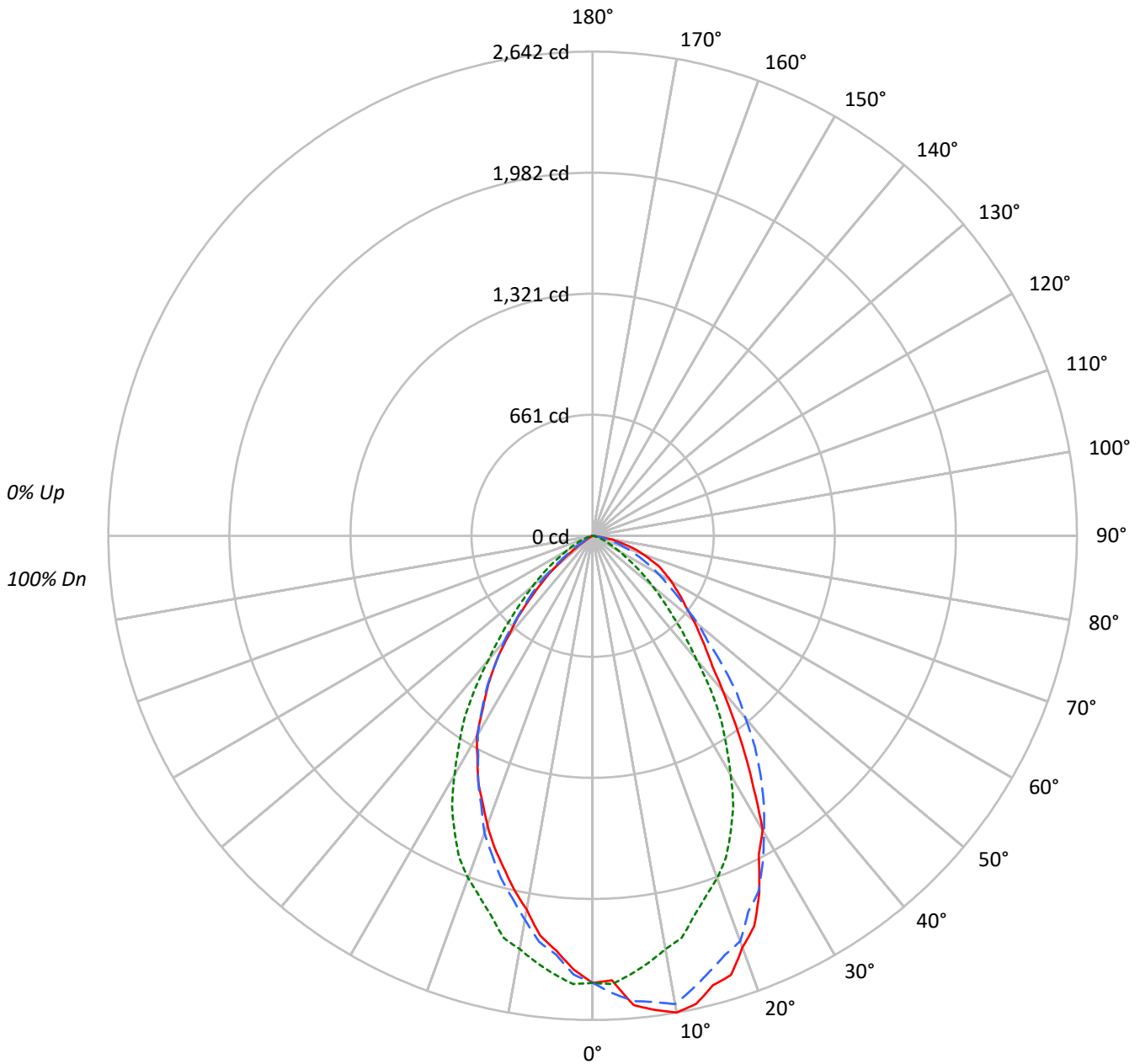
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3497.0 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): 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	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°	235394	235394	235394
5°	249050	232623	220157
10°	258807	224417	202911
15°	253637	214180	187299
20°	245408	203946	172412
25°	228908	189654	157279
30°	206632	167848	140796
35°	170208	143693	116814
40°	138906	110905	89908
45°	119358	84234	64666
50°	108019	64112	40845
55°	99403	46245	14770
60°	95408	31610	2258
65°	92147	21370	685
70°	82519	14839	846
75°	67627	7642	0
80°	42286	3223	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	228.6	6.5
10°-20°	615.8	17.6
20°-30°	822.3	23.5
30°-40°	780.6	22.3
40°-50°	539.6	15.4
50°-60°	298.1	8.5
60°-70°	148.1	4.2
70°-80°	58.3	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°	1666.7	47.7
0°-40°	2447.3	70.0
0°-60°	3285.1	93.9
0°-90°	3497.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3497.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2440	2440	2440	2440	2440	
5°	2571	2548	2402	2293	2273	246
15°	2539	2463	2144	1934	1875	718
25°	2150	2141	1781	1477	1477	980
35°	1445	1597	1220	1003	992	905
45°	875	1003	617	506	474	682
55°	591	556	275	140	88	532
65°	404	292	94	3	3	392
75°	181	111	20	0	0	193
85°	0	3	0	0	0	17
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°	2439.6	2439.6	2439.6	2439.6	2439.6	2439.6	2439.6	2439.6	2439.6	2439.6	2439.6
2.5°	2427.9	2495.2	2501.0	2495.2	2504.0	2501.0	2515.7	2501.0	2518.7	2492.3	2498.2
5°	2571.3	2544.9	2600.5	2571.3	2571.3	2568.4	2559.6	2556.6	2568.4	2530.4	2547.9
7.5°	2609.3	2647.4	2697.1	2635.7	2638.5	2638.5	2621.0	2615.2	2615.2	2544.9	2565.4
10°	2641.5	2618.0	2644.4	2621.0	2641.5	2638.5	2650.2	2612.2	2638.5	2597.6	2594.6
12.5°	2615.2	2606.3	2641.5	2603.5	2591.8	2594.6	2580.1	2571.3	2580.1	2533.2	2530.4
15°	2539.1	2547.9	2600.5	2559.6	2553.7	2547.9	2530.4	2501.0	2524.5	2460.1	2463.1
17.5°	2512.8	2498.2	2507.0	2471.8	2480.6	2474.8	2471.8	2445.5	2439.6	2398.7	2398.7
20°	2390.0	2422.1	2422.1	2398.7	2398.7	2395.8	2357.8	2381.1	2354.8	2343.1	2354.8
22.5°	2305.0	2308.0	2308.0	2287.5	2290.5	2278.8	2258.3	2243.6	2258.3	2243.6	2220.2
25°	2150.1	2155.9	2191.0	2153.0	2147.1	2158.8	2141.3	2132.4	2129.6	2094.5	2141.3
27.5°	1962.8	2021.3	2018.4	2003.7	2021.3	1997.9	1989.2	1992.1	2000.9	1997.9	2009.6
30°	1854.6	1863.4	1872.2	1860.5	1863.4	1854.6	1854.6	1857.5	1880.9	1872.2	1869.2
32.5°	1635.2	1664.4	1687.9	1687.9	1690.8	1699.6	1696.6	1758.0	1772.7	1743.5	1737.6
35°	1445.0	1465.6	1486.0	1488.9	1527.0	1529.9	1532.8	1550.4	1591.3	1600.1	1597.1
37.5°	1263.7	1284.1	1290.0	1316.3	1336.9	1357.3	1380.8	1404.1	1439.2	1468.4	1453.9
40°	1102.8	1111.5	1126.2	1137.9	1178.8	1178.8	1190.5	1237.4	1275.4	1298.8	1295.8
42.5°	968.3	971.2	982.8	1003.4	1041.4	1032.6	1041.4	1073.6	1129.1	1132.1	1164.3
45°	874.7	871.7	880.5	883.4	906.9	918.6	924.4	947.8	994.5	1000.4	1003.4
47.5°	789.9	786.9	801.5	807.4	816.1	827.8	827.8	830.8	848.3	863.0	851.3
50°	719.6	719.6	719.6	725.4	740.1	737.1	740.1	751.8	760.5	754.7	751.8
52.5°	643.5	655.2	664.0	667.0	669.9	669.9	672.8	667.0	664.0	655.2	637.7
55°	590.9	602.6	602.6	602.6	602.6	614.3	599.7	602.6	602.6	579.2	555.8
57.5°	538.3	550.0	558.7	547.0	558.7	547.0	541.2	538.3	532.3	509.0	473.9
60°	494.4	500.2	497.3	494.4	500.2	491.4	485.6	473.9	468.0	435.8	412.5
62.5°	444.7	447.5	450.5	444.7	438.8	435.8	424.2	406.6	394.9	368.6	348.1
65°	403.6	394.9	391.9	389.1	383.2	374.4	365.7	345.2	336.4	313.0	292.5
67.5°	342.2	339.3	345.2	336.4	321.8	321.8	313.0	295.5	274.9	260.4	239.9
70°	292.5	289.6	283.8	274.9	272.1	260.4	260.4	239.9	234.0	207.7	190.1
72.5°	239.9	239.9	231.0	222.3	213.5	207.7	204.8	190.1	181.4	166.7	152.1
75°	181.4	181.4	178.4	169.6	163.8	157.9	155.1	143.4	134.5	120.0	111.2
77.5°	128.7	128.7	117.0	111.2	114.0	108.2	102.3	99.5	96.5	87.8	76.1
80°	76.1	73.1	64.4	67.3	64.4	64.4	61.4	58.4	52.6	46.8	40.9
82.5°	20.5	23.4	23.4	23.4	26.4	20.5	20.5	20.5	23.4	23.4	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	5.8	11.7	11.7	11.7	11.7	11.7	8.8	8.8	8.8	5.8
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°	2439.6	2439.6	2439.6	2439.6	2439.6	2439.6	2439.6	2439.6	2439.6	2439.6	2439.6
2.5°	2468.9	2465.9	2468.9	2448.4	2495.2	2460.1	2454.3	2448.4	2468.9	2448.4	2419.2
5°	2521.5	2492.3	2483.5	2474.8	2501.0	2460.1	2451.4	2454.3	2439.6	2401.7	2404.5
7.5°	2539.1	2512.8	2486.5	2430.9	2454.3	2445.5	2422.1	2404.5	2381.1	2348.9	2343.1
10°	2544.9	2515.7	2477.6	2460.1	2425.0	2413.3	2404.5	2375.3	2346.1	2290.5	2275.8
12.5°	2527.4	2492.3	2445.5	2430.9	2404.5	2366.5	2346.1	2316.7	2290.5	2246.6	2214.4
15°	2451.4	2422.1	2407.5	2357.8	2346.1	2322.6	2281.7	2240.7	2202.7	2144.1	2126.6
17.5°	2363.6	2351.9	2337.2	2299.2	2296.3	2273.0	2234.9	2199.7	2150.1	2059.3	2030.1
20°	2273.0	2273.0	2226.1	2211.5	2240.7	2193.9	2164.7	2132.4	2030.1	1986.2	1933.6
22.5°	2205.7	2173.5	2147.1	2123.7	2126.6	2097.4	2056.5	1992.1	1954.0	1901.4	1840.0
25°	2074.0	2085.7	2027.2	2018.4	2027.2	1959.9	1939.5	1886.7	1831.2	1781.4	1734.7
27.5°	1992.1	1959.9	1921.9	1889.7	1889.7	1863.4	1804.9	1793.2	1708.3	1661.5	1603.0
30°	1869.2	1845.8	1813.6	1766.9	1761.0	1740.5	1693.7	1664.4	1576.7	1506.5	1474.3
32.5°	1714.1	1705.4	1679.1	1626.5	1608.9	1585.4	1527.0	1477.3	1436.3	1357.3	1319.3
35°	1603.0	1570.9	1515.3	1471.4	1456.7	1415.8	1369.0	1333.9	1290.0	1219.9	1170.1
37.5°	1436.3	1404.1	1351.4	1298.8	1298.8	1257.9	1193.5	1158.4	1097.0	1056.0	1015.1
40°	1290.0	1249.1	1196.5	1135.0	1126.2	1067.7	1041.4	982.8	944.8	880.5	874.7
42.5°	1126.2	1088.2	1041.4	994.5	959.5	930.2	863.0	819.1	778.2	746.0	737.1
45°	977.0	927.3	886.4	827.8	792.7	757.7	713.8	684.5	652.3	617.3	596.7
47.5°	848.3	807.4	748.8	696.2	661.2	643.5	593.8	561.7	535.3	511.9	497.3
50°	716.7	667.0	634.8	576.2	570.4	529.5	488.6	462.2	447.5	427.1	406.6
52.5°	617.3	570.4	526.5	482.7	459.2	444.7	406.6	380.3	359.9	345.2	333.5
55°	520.6	479.7	444.7	400.8	386.1	365.7	321.8	316.0	295.5	274.9	260.4
57.5°	447.5	409.5	368.6	339.3	313.0	298.4	263.2	239.9	228.2	210.6	196.0
60°	380.3	339.3	307.1	272.1	260.4	239.9	213.5	193.1	178.4	163.8	149.2
62.5°	318.8	283.8	248.7	219.4	201.8	190.1	169.6	152.1	137.5	125.8	114.0
65°	263.2	231.0	201.8	172.6	163.8	149.2	134.5	120.0	108.2	93.6	81.9
67.5°	216.5	187.3	157.9	137.5	128.7	122.9	105.3	90.7	81.9	73.1	61.4
70°	169.6	149.2	125.8	108.2	99.5	90.7	79.0	70.3	58.4	52.6	43.9
72.5°	131.7	114.0	93.6	79.0	73.1	67.3	55.6	46.8	40.9	35.1	29.2
75°	93.6	79.0	67.3	52.6	49.7	46.8	38.0	32.2	26.4	20.5	17.5
77.5°	64.4	52.6	40.9	35.1	32.2	26.4	23.4	17.5	14.7	11.7	8.8
80°	35.1	26.4	20.5	17.5	14.7	11.7	11.7	8.8	5.8	5.8	3.0
82.5°	11.7	8.8	5.8	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2439.6	2439.6	2439.6	2439.6	2439.6	2439.6	2439.6	2439.6	2439.6	2439.6	2439.6
2.5°	2436.7	2404.5	2413.3	2413.3	2407.5	2407.5	2401.7	2392.8	2395.8	2378.2	2340.2
5°	2410.4	2369.4	2363.6	2369.4	2346.1	2340.2	2328.5	2346.1	2293.4	2313.9	2290.5
7.5°	2334.4	2296.3	2287.5	2308.0	2278.8	2261.1	2258.3	2281.7	2234.9	2211.5	2185.2
10°	2249.5	2234.9	2208.5	2193.9	2185.2	2188.0	2164.7	2135.4	2126.6	2120.8	2097.4
12.5°	2173.5	2141.3	2117.9	2100.4	2094.5	2094.5	2056.5	2050.6	2024.3	2018.4	1983.3
15°	2082.7	2044.8	2030.1	2006.7	1986.2	1997.9	1954.0	1942.3	1933.6	1895.6	1901.4
17.5°	2003.7	1962.8	1927.8	1913.1	1895.6	1878.0	1837.0	1845.8	1825.3	1825.3	1772.7
20°	1901.4	1857.5	1831.2	1801.9	1801.9	1778.5	1749.3	1752.2	1725.8	1699.6	1652.7
22.5°	1793.2	1746.3	1714.1	1702.5	1673.2	1667.4	1632.3	1623.5	1588.4	1591.3	1550.4
25°	1679.1	1632.3	1588.4	1591.3	1565.0	1553.4	1532.8	1491.9	1477.3	1459.7	1448.0
27.5°	1544.5	1512.3	1474.3	1471.4	1421.7	1424.5	1398.3	1386.6	1351.4	1360.2	1333.9
30°	1421.7	1374.9	1339.7	1331.0	1310.5	1304.7	1263.7	1246.1	1252.1	1228.6	1214.0
32.5°	1295.8	1225.7	1211.0	1193.5	1181.8	1167.1	1137.9	1149.6	1123.2	1129.1	1105.7
35°	1129.1	1099.9	1061.8	1061.8	1050.1	1038.4	1018.0	1029.7	1003.4	991.7	968.3
37.5°	988.7	962.4	924.4	936.1	915.6	898.0	880.5	883.4	860.0	857.1	833.6
40°	836.6	821.9	795.7	795.7	781.0	781.0	772.2	763.5	748.8	731.3	704.9
42.5°	693.2	681.6	669.9	672.8	652.3	669.9	646.5	661.2	614.3	611.4	593.8
45°	587.9	561.7	564.5	552.9	541.2	547.0	526.5	532.3	506.1	500.2	482.7
47.5°	476.9	468.0	450.5	444.7	444.7	435.8	427.1	424.2	412.5	397.8	374.4
50°	391.9	359.9	353.9	345.2	339.3	339.3	327.7	310.1	313.0	298.4	274.9
52.5°	307.1	280.8	269.1	266.2	254.5	248.7	234.0	222.3	213.5	207.7	193.1
55°	236.9	213.5	199.0	199.0	181.4	181.4	160.9	152.1	140.4	128.7	120.0
57.5°	178.4	166.7	152.1	140.4	134.5	120.0	108.2	93.6	84.8	67.3	55.6
60°	134.5	122.9	108.2	99.5	93.6	79.0	64.4	52.6	32.2	26.4	23.4
62.5°	99.5	87.8	73.1	67.3	61.4	49.7	35.1	17.5	8.8	8.8	8.8
65°	73.1	58.4	46.8	40.9	35.1	26.4	11.7	5.8	3.0	3.0	3.0
67.5°	49.7	38.0	26.4	23.4	17.5	8.8	3.0	3.0	3.0	3.0	3.0
70°	32.2	23.4	11.7	8.8	5.8	3.0	3.0	3.0	3.0	3.0	3.0
72.5°	20.5	11.7	5.8	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	11.7	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	5.8	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: LD4C45D010 EX4C459027 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2439.6	2439.6	2439.6	2439.6	2439.6	2439.6	2439.6	2439.6
2.5°	2381.1	2360.6	2372.3	2346.1	2357.8	2378.2	2363.6	2369.4
5°	2299.2	2287.5	2273.0	2234.9	2264.1	2287.5	2275.8	2273.0
7.5°	2211.5	2170.5	2191.0	2179.3	2173.5	2196.9	2170.5	2199.7
10°	2120.8	2091.5	2088.7	2068.2	2068.2	2085.7	2088.7	2071.0
12.5°	1986.2	1971.7	1971.7	1968.7	1965.7	1983.3	1986.2	1977.5
15°	1889.7	1883.9	1869.2	1866.3	1848.8	1875.0	1878.0	1875.0
17.5°	1772.7	1775.6	1761.0	1761.0	1772.7	1781.4	1758.0	1781.4
20°	1693.7	1679.1	1673.2	1646.9	1661.5	1676.2	1676.2	1679.1
22.5°	1579.6	1556.2	1565.0	1550.4	1541.5	1562.1	1562.1	1570.9
25°	1450.9	1450.9	1456.7	1448.0	1453.9	1465.6	1456.7	1477.3
27.5°	1328.0	1339.7	1339.7	1328.0	1333.9	1369.0	1383.6	1360.2
30°	1214.0	1216.9	1225.7	1219.9	1237.4	1249.1	1246.1	1263.7
32.5°	1085.3	1099.9	1105.7	1097.0	1102.8	1129.1	1114.5	1111.5
35°	985.8	959.5	956.6	959.5	971.2	977.0	971.2	991.7
37.5°	842.5	833.6	821.9	824.9	833.6	845.4	851.3	865.8
40°	704.9	693.2	693.2	690.4	681.6	713.8	713.8	713.8
42.5°	585.1	582.1	567.5	567.5	579.2	587.9	582.1	602.6
45°	479.7	468.0	459.2	459.2	468.0	468.0	476.9	473.9
47.5°	377.4	365.7	368.6	359.9	368.6	380.3	365.7	368.6
50°	283.8	283.8	277.9	283.8	280.8	283.8	277.9	272.1
52.5°	193.1	219.4	222.3	210.6	184.3	160.9	146.2	157.9
55°	111.2	99.5	99.5	96.5	90.7	87.8	79.0	87.8
57.5°	55.6	49.7	49.7	49.7	46.8	43.9	38.0	38.0
60°	23.4	20.5	20.5	17.5	14.7	11.7	8.8	11.7
62.5°	8.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
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)