

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 EX4C459040 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 EX4C459040 4LBSQLWWLI
Description: 4 INCH 4500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 4000K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH LI FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

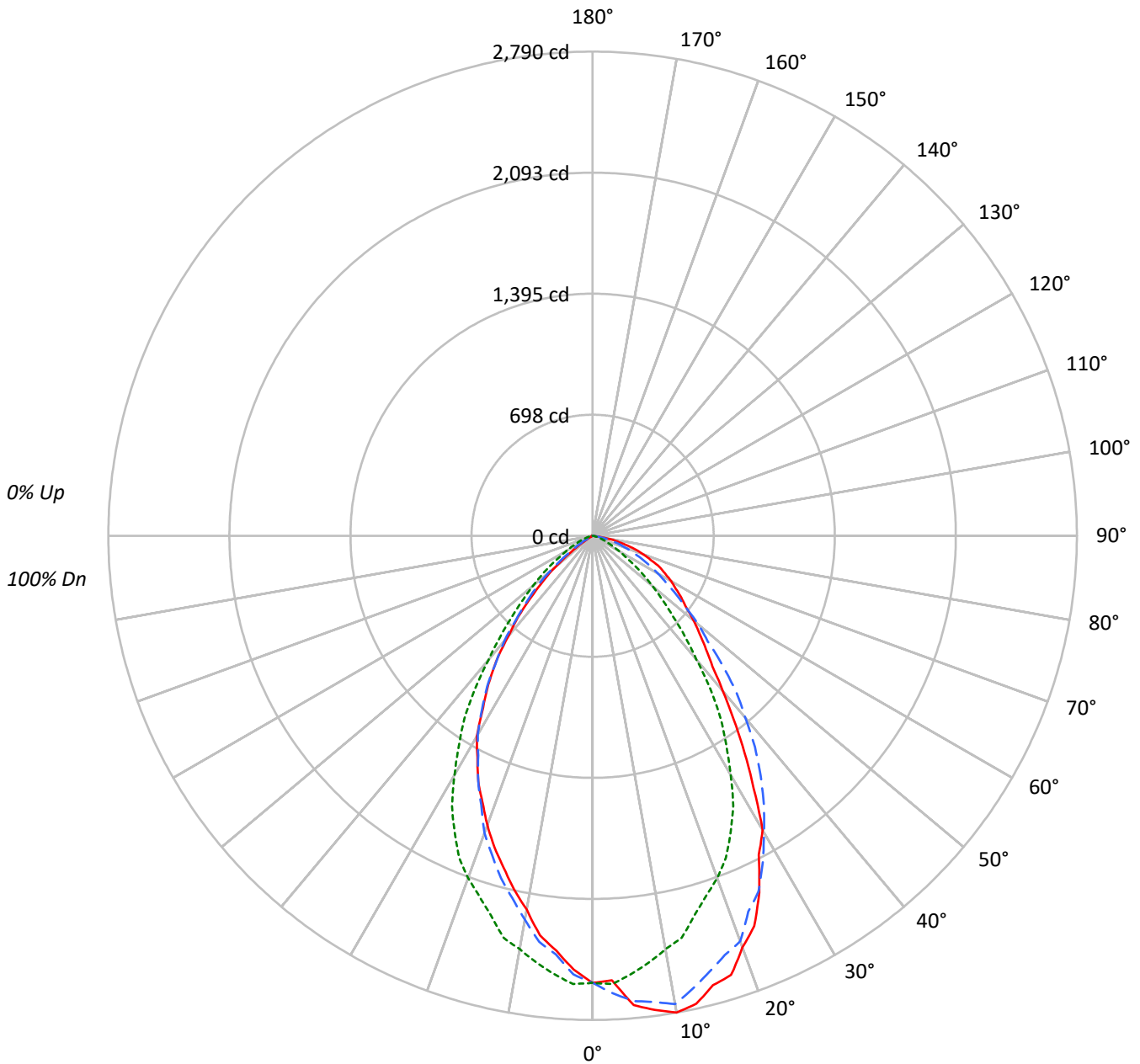
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3693.0 lumens
Efficiency: N/A
Efficacy: 74.5 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									
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°	248584	248584	248584
5°	263007	245660	232487
10°	273318	236998	214286
15°	267852	226187	197797
20°	259157	215374	182075
25°	241737	200290	166083
30°	218219	177251	148695
35°	179749	151739	123363
40°	146702	117128	94947
45°	126044	88956	68296
50°	114069	67715	43127
55°	104971	48835	15594
60°	100754	33366	2374
65°	97329	22580	708
70°	87145	15686	875
75°	71429	8090	0
80°	44675	3445	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	241.4	6.5
10°-20°	650.3	17.6
20°-30°	868.4	23.5
30°-40°	824.4	22.3
40°-50°	569.8	15.4
50°-60°	314.9	8.5
60°-70°	156.3	4.2
70°-80°	61.6	1.7
80°-90°	5.9	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°	1760.1	47.7
0°-40°	2584.5	70.0
0°-60°	3469.2	93.9
0°-90°	3693.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3693.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2576	2576	2576	2576	2576	
5°	2715	2691	2536	2422	2400	260
15°	2681	2601	2264	2042	1980	759
25°	2271	2261	1881	1560	1560	1035
35°	1526	1687	1288	1060	1047	956
45°	924	1060	652	534	500	720
55°	624	587	290	148	93	562
65°	426	309	99	3	3	414
75°	192	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°	2576.3	2576.3	2576.3	2576.3	2576.3	2576.3	2576.3	2576.3	2576.3	2576.3	2576.3
2.5°	2564.0	2635.0	2641.2	2635.0	2644.3	2641.2	2656.7	2641.2	2659.8	2632.0	2638.2
5°	2715.4	2687.5	2746.2	2715.4	2715.4	2712.4	2703.0	2699.9	2712.4	2672.2	2690.7
7.5°	2755.6	2795.7	2848.3	2783.4	2786.4	2786.4	2767.9	2761.7	2761.7	2687.5	2709.2
10°	2789.6	2764.8	2792.6	2767.9	2789.6	2786.4	2798.8	2758.6	2786.4	2743.2	2740.1
12.5°	2761.7	2752.4	2789.6	2749.4	2737.0	2740.1	2724.7	2715.4	2724.7	2675.2	2672.2
15°	2681.4	2690.7	2746.2	2703.0	2696.9	2690.7	2672.2	2641.2	2666.0	2598.0	2601.1
17.5°	2653.7	2638.2	2647.5	2610.3	2619.6	2613.5	2610.3	2582.6	2576.3	2533.1	2533.1
20°	2523.9	2557.8	2557.8	2533.1	2533.1	2530.1	2489.9	2514.6	2486.8	2474.4	2486.8
22.5°	2434.2	2437.4	2437.4	2415.7	2418.9	2406.5	2384.9	2369.4	2384.9	2369.4	2344.7
25°	2270.6	2276.8	2313.8	2273.6	2267.5	2279.8	2261.3	2252.0	2248.9	2211.9	2261.3
27.5°	2072.8	2134.6	2131.5	2116.1	2134.6	2109.9	2100.7	2103.7	2113.0	2109.9	2122.2
30°	1958.6	1967.8	1977.1	1964.8	1967.8	1958.6	1958.6	1961.6	1986.3	1977.1	1974.0
32.5°	1726.8	1757.7	1782.5	1782.5	1785.5	1794.8	1791.7	1856.6	1872.1	1841.2	1835.0
35°	1526.0	1547.7	1569.2	1572.4	1612.6	1615.6	1618.7	1637.3	1680.5	1689.8	1686.6
37.5°	1334.6	1356.1	1362.3	1390.1	1411.8	1433.3	1458.1	1482.8	1519.9	1550.7	1535.4
40°	1164.7	1173.8	1189.3	1201.7	1244.9	1244.9	1257.2	1306.7	1346.9	1371.6	1368.5
42.5°	1022.6	1025.6	1037.9	1059.6	1099.8	1090.5	1099.8	1133.8	1192.4	1195.5	1229.5
45°	923.7	920.5	929.9	932.9	957.7	970.0	976.2	1000.9	1050.3	1056.5	1059.6
47.5°	834.1	831.0	846.5	852.6	861.8	874.2	874.2	877.3	895.8	911.3	899.0
50°	759.9	759.9	759.9	766.1	781.6	778.5	781.6	793.9	803.1	797.0	793.9
52.5°	679.6	691.9	701.2	704.4	707.4	707.4	710.6	704.4	701.2	691.9	673.4
55°	624.0	636.4	636.4	636.4	636.4	648.7	633.3	636.4	636.4	611.7	587.0
57.5°	568.5	580.8	590.0	577.7	590.0	577.7	571.5	568.5	562.2	537.5	500.5
60°	522.1	528.3	525.1	522.1	528.3	519.0	512.8	500.5	494.3	460.3	435.6
62.5°	469.6	472.6	475.8	469.6	463.4	460.3	447.9	429.4	417.1	389.2	367.6
65°	426.3	417.1	413.9	410.9	404.7	395.4	386.2	364.5	355.2	330.5	308.9
67.5°	361.4	358.4	364.5	355.2	339.8	339.8	330.5	312.0	290.3	275.0	253.3
70°	308.9	305.8	299.7	290.3	287.3	275.0	275.0	253.3	247.1	219.3	200.8
72.5°	253.3	253.3	244.0	234.8	225.5	219.3	216.3	200.8	191.6	176.1	160.6
75°	191.6	191.6	188.4	179.1	172.9	166.8	163.8	151.4	142.1	126.7	117.4
77.5°	135.9	135.9	123.6	117.4	120.4	114.3	108.1	105.1	101.9	92.7	80.4
80°	80.4	77.2	68.0	71.0	68.0	68.0	64.9	61.7	55.6	49.4	43.2
82.5°	21.7	24.7	24.7	24.7	27.8	21.7	21.7	21.7	24.7	24.7	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°	2576.3	2576.3	2576.3	2576.3	2576.3	2576.3	2576.3	2576.3	2576.3	2576.3	2576.3
2.5°	2607.3	2604.2	2607.3	2585.6	2635.0	2598.0	2591.8	2585.6	2607.3	2585.6	2554.8
5°	2662.9	2632.0	2622.7	2613.5	2641.2	2598.0	2588.8	2591.8	2576.3	2536.3	2539.3
7.5°	2681.4	2653.7	2625.8	2567.1	2591.8	2582.6	2557.8	2539.3	2514.6	2480.6	2474.4
10°	2687.5	2656.7	2616.5	2598.0	2561.0	2548.6	2539.3	2508.4	2477.6	2418.9	2403.4
12.5°	2669.0	2632.0	2582.6	2567.1	2539.3	2499.1	2477.6	2446.6	2418.9	2372.5	2338.5
15°	2588.8	2557.8	2542.4	2489.9	2477.6	2452.8	2409.5	2366.3	2326.2	2264.3	2245.8
17.5°	2496.1	2483.7	2468.2	2428.1	2425.0	2400.3	2360.2	2323.0	2270.6	2174.8	2143.9
20°	2400.3	2400.3	2350.8	2335.5	2366.3	2316.8	2286.0	2252.0	2143.9	2097.5	2042.0
22.5°	2329.3	2295.3	2267.5	2242.8	2245.8	2214.9	2171.7	2103.7	2063.5	2008.0	1943.1
25°	2190.2	2202.6	2140.9	2131.5	2140.9	2069.7	2048.2	1992.5	1933.8	1881.3	1831.9
27.5°	2103.7	2069.7	2029.6	1995.6	1995.6	1967.8	1906.1	1893.7	1804.0	1754.7	1692.8
30°	1974.0	1949.3	1915.3	1865.9	1859.7	1838.1	1788.7	1757.7	1665.1	1590.9	1556.9
32.5°	1810.2	1801.0	1773.2	1717.6	1699.1	1674.3	1612.6	1560.0	1516.8	1433.3	1393.3
35°	1692.8	1658.9	1600.2	1553.9	1538.4	1495.2	1445.7	1408.6	1362.3	1288.2	1235.7
37.5°	1516.8	1482.8	1427.2	1371.6	1371.6	1328.4	1260.4	1223.4	1158.5	1115.2	1071.9
40°	1362.3	1319.1	1263.5	1198.7	1189.3	1127.5	1099.8	1037.9	997.8	929.9	923.7
42.5°	1189.3	1149.2	1099.8	1050.3	1013.2	982.4	911.3	865.0	821.8	787.8	778.5
45°	1031.8	979.2	936.0	874.2	837.2	800.1	753.8	722.9	688.9	651.9	630.2
47.5°	895.8	852.6	790.8	735.2	698.2	679.6	627.0	593.2	565.3	540.6	525.1
50°	756.9	704.4	670.4	608.5	602.4	559.1	515.9	488.1	472.6	451.1	429.4
52.5°	651.9	602.4	556.0	509.8	485.0	469.6	429.4	401.6	380.0	364.5	352.2
55°	549.8	506.6	469.6	423.2	407.7	386.2	339.8	333.7	312.0	290.3	275.0
57.5°	472.6	432.4	389.2	358.4	330.5	315.2	278.0	253.3	241.0	222.4	207.0
60°	401.6	358.4	324.4	287.3	275.0	253.3	225.5	203.9	188.4	172.9	157.6
62.5°	336.7	299.7	262.6	231.6	213.1	200.8	179.1	160.6	145.2	132.9	120.4
65°	278.0	244.0	213.1	182.3	172.9	157.6	142.1	126.7	114.3	98.9	86.5
67.5°	228.6	197.8	166.8	145.2	135.9	129.7	111.2	95.7	86.5	77.2	64.9
70°	179.1	157.6	132.9	114.3	105.1	95.7	83.4	74.2	61.7	55.6	46.4
72.5°	139.1	120.4	98.9	83.4	77.2	71.0	58.7	49.4	43.2	37.0	30.9
75°	98.9	83.4	71.0	55.6	52.5	49.4	40.2	34.0	27.8	21.7	18.5
77.5°	68.0	55.6	43.2	37.0	34.0	27.8	24.7	18.5	15.5	12.3	9.3
80°	37.0	27.8	21.7	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°	2576.3	2576.3	2576.3	2576.3	2576.3	2576.3	2576.3	2576.3	2576.3	2576.3	2576.3
2.5°	2573.3	2539.3	2548.6	2548.6	2542.4	2542.4	2536.3	2526.9	2530.1	2511.5	2471.4
5°	2545.5	2502.3	2496.1	2502.3	2477.6	2471.4	2459.0	2477.6	2421.9	2443.6	2418.9
7.5°	2465.2	2425.0	2415.7	2437.4	2406.5	2387.9	2384.9	2409.5	2360.2	2335.5	2307.6
10°	2375.5	2360.2	2332.3	2316.8	2307.6	2310.7	2286.0	2255.1	2245.8	2239.6	2214.9
12.5°	2295.3	2261.3	2236.6	2218.1	2211.9	2211.9	2171.7	2165.6	2137.7	2131.5	2094.5
15°	2199.4	2159.4	2143.9	2119.2	2097.5	2109.9	2063.5	2051.2	2042.0	2001.8	2008.0
17.5°	2116.1	2072.8	2035.8	2020.3	2001.8	1983.3	1940.0	1949.3	1927.6	1927.6	1872.1
20°	2008.0	1961.6	1933.8	1902.9	1902.9	1878.2	1847.4	1850.4	1822.6	1794.8	1745.3
22.5°	1893.7	1844.2	1810.2	1797.9	1767.0	1760.8	1723.8	1714.5	1677.4	1680.5	1637.3
25°	1773.2	1723.8	1677.4	1680.5	1652.8	1640.4	1618.7	1575.5	1560.0	1541.5	1529.2
27.5°	1631.1	1597.1	1556.9	1553.9	1501.4	1504.4	1476.7	1464.3	1427.2	1436.5	1408.6
30°	1501.4	1452.0	1414.8	1405.6	1384.0	1377.8	1334.6	1315.9	1322.2	1297.4	1282.0
32.5°	1368.5	1294.4	1278.9	1260.4	1248.0	1232.5	1201.7	1214.0	1186.2	1192.4	1167.7
35°	1192.4	1161.5	1121.3	1121.3	1109.0	1096.6	1075.1	1087.4	1059.6	1047.3	1022.6
37.5°	1044.1	1016.4	976.2	988.6	966.9	948.4	929.9	932.9	908.2	905.2	880.4
40°	883.5	868.0	840.3	840.3	824.8	824.8	815.5	806.3	790.8	772.3	744.4
42.5°	732.1	719.8	707.4	710.6	688.9	707.4	682.7	698.2	648.7	645.7	627.0
45°	620.9	593.2	596.2	583.8	571.5	577.7	556.0	562.2	534.5	528.3	509.8
47.5°	503.6	494.3	475.8	469.6	469.6	460.3	451.1	447.9	435.6	420.1	395.4
50°	413.9	380.0	373.7	364.5	358.4	358.4	346.0	327.5	330.5	315.2	290.3
52.5°	324.4	296.5	284.2	281.1	268.8	262.6	247.1	234.8	225.5	219.3	203.9
55°	250.2	225.5	210.1	210.1	191.6	191.6	169.9	160.6	148.3	135.9	126.7
57.5°	188.4	176.1	160.6	148.3	142.1	126.7	114.3	98.9	89.6	71.0	58.7
60°	142.1	129.7	114.3	105.1	98.9	83.4	68.0	55.6	34.0	27.8	24.7
62.5°	105.1	92.7	77.2	71.0	64.9	52.5	37.0	18.5	9.3	9.3	9.3
65°	77.2	61.7	49.4	43.2	37.0	27.8	12.3	6.2	3.1	3.1	3.1
67.5°	52.5	40.2	27.8	24.7	18.5	9.3	3.1	3.1	3.1	3.1	3.1
70°	34.0	24.7	12.3	9.3	6.2	3.1	3.1	3.1	3.1	3.1	3.1
72.5°	21.7	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 EX4C459040 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2576.3	2576.3	2576.3	2576.3	2576.3	2576.3	2576.3	2576.3
2.5°	2514.6	2492.9	2505.3	2477.6	2489.9	2511.5	2496.1	2502.3
5°	2428.1	2415.7	2400.3	2360.2	2391.0	2415.7	2403.4	2400.3
7.5°	2335.5	2292.1	2313.8	2301.5	2295.3	2320.0	2292.1	2323.0
10°	2239.6	2208.8	2205.7	2184.1	2184.1	2202.6	2205.7	2187.1
12.5°	2097.5	2082.2	2082.2	2079.0	2075.9	2094.5	2097.5	2088.3
15°	1995.6	1989.5	1974.0	1970.9	1952.4	1980.1	1983.3	1980.1
17.5°	1872.1	1875.1	1859.7	1859.7	1872.1	1881.3	1856.6	1881.3
20°	1788.7	1773.2	1767.0	1739.2	1754.7	1770.2	1770.2	1773.2
22.5°	1668.1	1643.4	1652.8	1637.3	1627.9	1649.6	1649.6	1658.9
25°	1532.2	1532.2	1538.4	1529.2	1535.4	1547.7	1538.4	1560.0
27.5°	1402.5	1414.8	1414.8	1402.5	1408.6	1445.7	1461.2	1436.5
30°	1282.0	1285.1	1294.4	1288.2	1306.7	1319.1	1315.9	1334.6
32.5°	1146.1	1161.5	1167.7	1158.5	1164.7	1192.4	1177.0	1173.8
35°	1041.1	1013.2	1010.2	1013.2	1025.6	1031.8	1025.6	1047.3
37.5°	889.7	880.4	868.0	871.2	880.4	892.8	899.0	914.4
40°	744.4	732.1	732.1	729.1	719.8	753.8	753.8	753.8
42.5°	617.8	614.7	599.3	599.3	611.7	620.9	614.7	636.4
45°	506.6	494.3	485.0	485.0	494.3	494.3	503.6	500.5
47.5°	398.5	386.2	389.2	380.0	389.2	401.6	386.2	389.2
50°	299.7	299.7	293.5	299.7	296.5	299.7	293.5	287.3
52.5°	203.9	231.6	234.8	222.4	194.6	169.9	154.4	166.8
55°	117.4	105.1	105.1	101.9	95.7	92.7	83.4	92.7
57.5°	58.7	52.5	52.5	52.5	49.4	46.4	40.2	40.2
60°	24.7	21.7	21.7	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)