

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: P563863

Luminaire Tested: **LD4C50D010 EX4C509030 4LBSQLWWH**

Issue Date: 2/18/2022



Test Information

Test Method: LM-79-08
Report Number: P563863
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 4LBSQLWWH
Description: 4 INCH 5000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3000K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH H FINISH, DIM TO WARM
Light Source: -
Ballast/Driver: -

Summary

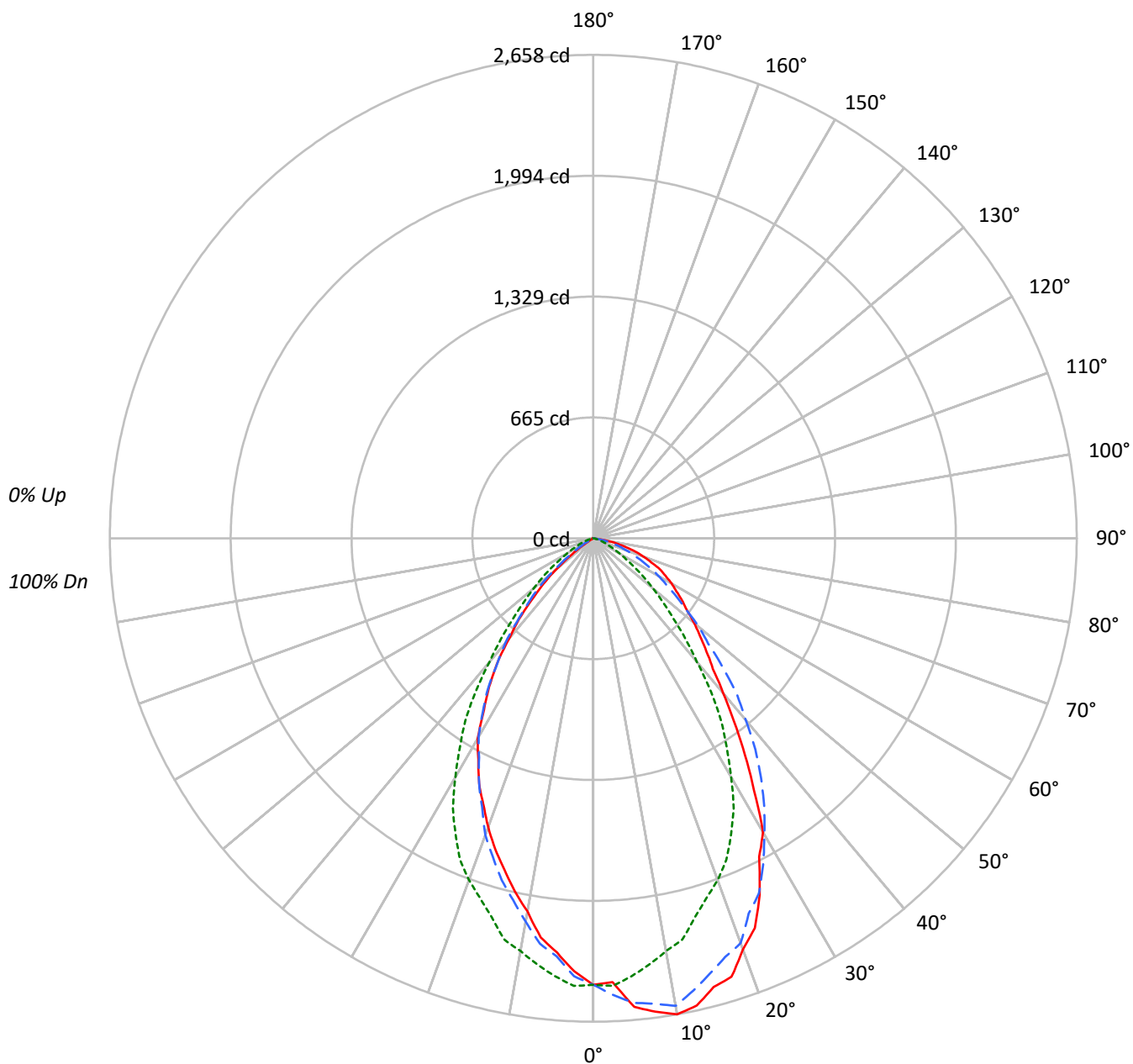
Lumens per Lamp: N/A
Luminaire Lumens: 3518.4 lumens
Efficiency: N/A
Efficacy: 60.2 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1 / 1.06
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 58.4
Input Voltage (V):
Input Current (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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
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°	236842	236842	236842
5°	250570	234056	221513
10°	260395	225799	204155
15°	255196	215498	188457
20°	246918	205198	173470
25°	230313	190826	158237
30°	207913	168873	141665
35°	171257	144577	117532
40°	139775	111586	90450
45°	120095	84753	65062
50°	108680	64517	41085
55°	100026	46531	14854
60°	95987	31803	2277
65°	92740	21507	662
70°	83026	14924	818
75°	68037	7680	0
80°	42563	3278	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	230.0	6.5
10°-20°	619.6	17.6
20°-30°	827.4	23.5
30°-40°	785.4	22.3
40°-50°	542.9	15.4
50°-60°	300.0	8.5
60°-70°	148.9	4.2
70°-80°	58.7	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°	1677.0	47.7
0°-40°	2462.4	70.0
0°-60°	3305.3	93.9
0°-90°	3518.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3518.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2455	2455	2455	2455	2455	
5°	2587	2564	2416	2307	2287	248
15°	2555	2478	2157	1946	1887	723
25°	2163	2154	1792	1486	1486	986
35°	1454	1607	1227	1010	998	911
45°	880	1010	621	509	477	686
55°	595	559	277	141	88	535
65°	406	294	94	3	3	394
75°	182	112	21	0	0	195
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°	2454.6	2454.6	2454.6	2454.6	2454.6	2454.6	2454.6	2454.6	2454.6	2454.6	2454.6
2.5°	2442.8	2510.6	2516.3	2510.6	2519.4	2516.3	2531.1	2516.3	2534.2	2507.6	2513.5
5°	2587.0	2560.6	2616.4	2587.0	2587.0	2584.2	2575.3	2572.3	2584.2	2545.9	2563.5
7.5°	2625.4	2663.6	2713.7	2651.8	2654.8	2654.8	2637.1	2631.2	2631.2	2560.6	2581.1
10°	2657.7	2634.1	2660.7	2637.1	2657.7	2654.8	2666.5	2628.2	2654.8	2613.6	2610.6
12.5°	2631.2	2622.3	2657.7	2619.5	2607.7	2610.6	2596.0	2587.0	2596.0	2548.8	2545.9
15°	2554.7	2563.5	2616.4	2575.3	2569.4	2563.5	2545.9	2516.3	2540.1	2475.3	2478.2
17.5°	2528.3	2513.5	2522.4	2487.0	2495.9	2490.0	2487.0	2460.6	2454.6	2413.4	2413.4
20°	2404.7	2436.9	2436.9	2413.4	2413.4	2410.6	2372.2	2395.8	2369.3	2357.5	2369.3
22.5°	2319.2	2322.2	2322.2	2301.5	2304.6	2292.8	2272.1	2257.4	2272.1	2257.4	2233.9
25°	2163.3	2169.2	2204.5	2166.2	2160.3	2172.0	2154.4	2145.6	2142.6	2107.4	2154.4
27.5°	1974.9	2033.7	2030.8	2016.1	2033.7	2010.2	2001.4	2004.3	2013.1	2010.2	2022.0
30°	1866.1	1874.8	1883.7	1872.0	1874.8	1866.1	1866.1	1868.9	1892.5	1883.7	1880.7
32.5°	1645.2	1674.6	1698.3	1698.3	1701.2	1710.0	1707.1	1768.8	1783.6	1754.2	1748.4
35°	1453.9	1474.5	1495.1	1498.1	1536.4	1539.2	1542.3	1559.9	1601.1	1609.9	1607.0
37.5°	1271.5	1292.0	1297.9	1324.4	1345.0	1365.6	1389.3	1412.8	1448.1	1477.5	1462.8
40°	1109.7	1118.4	1133.2	1144.9	1186.1	1186.1	1197.9	1245.0	1283.3	1306.8	1303.8
42.5°	974.3	977.1	988.9	1009.6	1047.8	1039.0	1047.8	1080.2	1136.0	1139.1	1171.4
45°	880.1	877.0	885.9	888.8	912.4	924.2	930.1	953.6	1000.6	1006.5	1009.6
47.5°	794.7	791.7	806.4	812.3	821.1	832.9	832.9	835.8	853.5	868.3	856.5
50°	724.0	724.0	724.0	729.9	744.7	741.6	744.7	756.4	765.2	759.3	756.4
52.5°	647.4	659.2	668.1	671.1	674.0	674.0	676.9	671.1	668.1	659.2	641.5
55°	594.6	606.3	606.3	606.3	606.3	618.1	603.4	606.3	606.3	582.8	559.3
57.5°	541.6	553.4	562.1	550.4	562.1	550.4	544.5	541.6	535.7	512.1	476.8
60°	497.4	503.3	500.4	497.4	503.3	494.5	488.6	476.8	471.0	438.5	415.0
62.5°	447.4	450.3	453.3	447.4	441.6	438.5	426.7	409.1	397.3	370.9	350.2
65°	406.2	397.3	394.4	391.5	385.6	376.7	367.9	347.3	338.4	314.9	294.3
67.5°	344.3	341.5	347.3	338.4	323.8	323.8	314.9	297.2	276.6	262.0	241.4
70°	294.3	291.4	285.5	276.6	273.7	262.0	262.0	241.4	235.5	208.9	191.3
72.5°	241.4	241.4	232.4	223.7	214.8	208.9	206.1	191.3	182.5	167.7	153.0
75°	182.5	182.5	179.5	170.7	164.8	158.9	156.0	144.2	135.4	120.7	111.9
77.5°	129.5	129.5	117.7	111.9	114.7	108.8	102.9	100.1	97.0	88.3	76.6
80°	76.6	73.5	64.8	67.6	64.8	64.8	61.8	58.8	52.9	47.1	41.2
82.5°	20.6	23.5	23.5	23.5	26.5	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	2.9	2.9	2.9
87.5°	2.9	5.9	11.8	11.8	11.8	11.8	11.8	8.8	8.8	8.8	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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2454.6	2454.6	2454.6	2454.6	2454.6	2454.6	2454.6	2454.6	2454.6	2454.6	2454.6
2.5°	2484.1	2481.2	2484.1	2463.5	2510.6	2475.3	2469.4	2463.5	2484.1	2463.5	2434.1
5°	2537.0	2507.6	2498.8	2490.0	2516.3	2475.3	2466.5	2469.4	2454.6	2416.5	2419.3
7.5°	2554.7	2528.3	2501.7	2445.9	2469.4	2460.6	2436.9	2419.3	2395.8	2363.4	2357.5
10°	2560.6	2531.1	2492.9	2475.3	2440.0	2428.2	2419.3	2389.9	2360.5	2304.6	2289.8
12.5°	2542.9	2507.6	2460.6	2445.9	2419.3	2381.1	2360.5	2331.0	2304.6	2260.4	2228.0
15°	2466.5	2436.9	2422.3	2372.2	2360.5	2336.8	2295.7	2254.5	2216.3	2157.3	2139.7
17.5°	2378.1	2366.4	2351.6	2313.3	2310.5	2287.0	2248.6	2213.2	2163.3	2072.0	2042.5
20°	2287.0	2287.0	2239.8	2225.1	2254.5	2207.3	2177.9	2145.6	2042.5	1998.4	1945.5
22.5°	2219.2	2186.9	2160.3	2136.8	2139.7	2110.3	2069.1	2004.3	1966.0	1913.0	1851.3
25°	2086.8	2098.5	2039.7	2030.8	2039.7	1971.9	1951.4	1898.3	1842.5	1792.4	1745.3
27.5°	2004.3	1971.9	1933.7	1901.4	1901.4	1874.8	1816.0	1804.2	1718.8	1671.8	1612.9
30°	1880.7	1857.2	1824.8	1777.8	1771.9	1751.2	1704.1	1674.6	1586.4	1515.7	1483.4
32.5°	1724.7	1715.9	1689.4	1636.5	1618.8	1595.2	1536.4	1486.3	1445.1	1365.6	1327.4
35°	1612.9	1580.5	1524.6	1480.4	1465.7	1424.5	1377.4	1342.1	1297.9	1227.4	1177.3
37.5°	1445.1	1412.8	1359.7	1306.8	1306.8	1265.6	1200.8	1165.5	1103.8	1062.5	1021.3
40°	1297.9	1256.8	1203.9	1142.0	1133.2	1074.3	1047.8	988.9	950.6	885.9	880.1
42.5°	1133.2	1094.8	1047.8	1000.6	965.3	935.9	868.3	824.1	782.9	750.6	741.6
45°	983.0	933.0	891.8	832.9	797.6	762.3	718.1	688.7	656.3	621.1	600.5
47.5°	853.5	812.3	753.4	700.5	665.2	647.4	597.4	565.2	538.6	515.1	500.4
50°	721.1	671.1	638.7	579.8	573.9	532.7	491.6	465.1	450.3	429.8	409.1
52.5°	621.1	573.9	529.8	485.7	462.0	447.4	409.1	382.6	362.0	347.3	335.6
55°	523.9	482.7	447.4	403.2	388.5	367.9	323.8	317.9	297.2	276.6	262.0
57.5°	450.3	412.0	370.9	341.5	314.9	300.3	264.9	241.4	229.6	212.0	197.1
60°	382.6	341.5	309.0	273.7	262.0	241.4	214.8	194.3	179.5	164.8	150.1
62.5°	320.8	285.5	250.2	220.7	203.0	191.3	170.7	153.0	138.3	126.6	114.7
65°	264.9	232.4	203.0	173.6	164.8	150.1	135.4	120.7	108.8	94.2	82.5
67.5°	217.8	188.4	158.9	138.3	129.5	123.6	106.0	91.2	82.5	73.5	61.8
70°	170.7	150.1	126.6	108.8	100.1	91.2	79.4	70.7	58.8	52.9	44.1
72.5°	132.4	114.7	94.2	79.4	73.5	67.6	55.9	47.1	41.2	35.3	29.4
75°	94.2	79.4	67.6	52.9	50.0	47.1	38.2	32.4	26.5	20.6	17.6
77.5°	64.8	52.9	41.2	35.3	32.4	26.5	23.5	17.6	14.7	11.8	8.8
80°	35.3	26.5	20.6	17.6	14.7	11.8	11.8	8.8	5.9	5.9	2.9
82.5°	11.8	8.8	5.9	2.9	2.9	2.9	2.9	2.9	2.9	0.0	2.9
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°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	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°	2454.6	2454.6	2454.6	2454.6	2454.6	2454.6	2454.6	2454.6	2454.6	2454.6	2454.6
2.5°	2451.7	2419.3	2428.2	2428.2	2422.3	2422.3	2416.5	2407.5	2410.6	2392.8	2354.6
5°	2425.2	2384.0	2378.1	2384.0	2360.5	2354.6	2342.8	2360.5	2307.4	2328.1	2304.6
7.5°	2348.7	2310.5	2301.5	2322.2	2292.8	2275.1	2272.1	2295.7	2248.6	2225.1	2198.6
10°	2263.3	2248.6	2222.1	2207.3	2198.6	2201.5	2177.9	2148.5	2139.7	2133.8	2110.3
12.5°	2186.9	2154.4	2130.9	2113.2	2107.4	2107.4	2069.1	2063.2	2036.7	2030.8	1995.5
15°	2095.5	2057.4	2042.5	2019.0	1998.4	2010.2	1966.0	1954.2	1945.5	1907.3	1913.0
17.5°	2016.1	1974.9	1939.6	1924.8	1907.3	1889.6	1848.3	1857.2	1836.6	1836.6	1783.6
20°	1913.0	1868.9	1842.5	1813.0	1813.0	1789.5	1760.1	1762.9	1736.5	1710.0	1662.9
22.5°	1804.2	1757.1	1724.7	1713.0	1683.5	1677.7	1642.4	1633.4	1598.2	1601.1	1559.9
25°	1689.4	1642.4	1598.2	1601.1	1574.6	1562.9	1542.3	1501.1	1486.3	1468.7	1456.9
27.5°	1554.0	1521.6	1483.4	1480.4	1430.4	1433.3	1406.9	1395.1	1359.7	1368.6	1342.1
30°	1430.4	1383.4	1348.0	1339.2	1318.6	1312.7	1271.5	1253.8	1259.7	1236.1	1221.5
32.5°	1303.8	1233.3	1218.5	1200.8	1189.1	1174.4	1144.9	1156.7	1130.1	1136.0	1112.5
35°	1136.0	1106.6	1068.4	1068.4	1056.6	1044.8	1024.3	1036.0	1009.6	997.8	974.3
37.5°	994.7	968.4	930.1	941.8	921.2	903.6	885.9	888.8	865.2	862.4	838.8
40°	841.7	827.0	800.6	800.6	785.8	785.8	776.9	768.2	753.4	735.7	709.3
42.5°	697.5	685.7	674.0	676.9	656.3	674.0	650.5	665.2	618.1	615.2	597.4
45°	591.5	565.2	568.0	556.2	544.5	550.4	529.8	535.7	509.2	503.3	485.7
47.5°	479.8	471.0	453.3	447.4	447.4	438.5	429.8	426.7	415.0	400.3	376.7
50°	394.4	362.0	356.1	347.3	341.5	341.5	329.7	312.1	314.9	300.3	276.6
52.5°	309.0	282.5	270.8	267.8	256.1	250.2	235.5	223.7	214.8	208.9	194.3
55°	238.3	214.8	200.2	200.2	182.5	182.5	161.9	153.0	141.3	129.5	120.7
57.5°	179.5	167.7	153.0	141.3	135.4	120.7	108.8	94.2	85.3	67.6	55.9
60°	135.4	123.6	108.8	100.1	94.2	79.4	64.8	52.9	32.4	26.5	23.5
62.5°	100.1	88.3	73.5	67.6	61.8	50.0	35.3	17.6	8.8	8.8	8.8
65°	73.5	58.8	47.1	41.2	35.3	26.5	11.8	5.9	2.9	2.9	2.9
67.5°	50.0	38.2	26.5	23.5	17.6	8.8	2.9	2.9	2.9	2.9	2.9
70°	32.4	23.5	11.8	8.8	5.9	2.9	2.9	2.9	2.9	2.9	2.9
72.5°	20.6	11.8	5.9	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	11.8	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	5.9	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	2.9	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	2.9	2.9	2.9
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: P563863

CATALOG NUMBER: LD4C50D010 EX4C509030 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2454.6	2454.6	2454.6	2454.6	2454.6	2454.6	2454.6	2454.6
2.5°	2395.8	2375.2	2386.9	2360.5	2372.2	2392.8	2378.1	2384.0
5°	2313.3	2301.5	2287.0	2248.6	2278.0	2301.5	2289.8	2287.0
7.5°	2225.1	2183.8	2204.5	2192.7	2186.9	2210.4	2183.8	2213.2
10°	2133.8	2104.4	2101.5	2080.9	2080.9	2098.5	2101.5	2083.7
12.5°	1998.4	1983.7	1983.7	1980.8	1977.7	1995.5	1998.4	1989.6
15°	1901.4	1895.5	1880.7	1877.9	1860.2	1886.6	1889.6	1886.6
17.5°	1783.6	1786.5	1771.9	1771.9	1783.6	1792.4	1768.8	1792.4
20°	1704.1	1689.4	1683.5	1657.0	1671.8	1686.5	1686.5	1689.4
22.5°	1589.3	1565.8	1574.6	1559.9	1551.0	1571.7	1571.7	1580.5
25°	1459.8	1459.8	1465.7	1456.9	1462.8	1474.5	1465.7	1486.3
27.5°	1336.2	1348.0	1348.0	1336.2	1342.1	1377.4	1392.1	1368.6
30°	1221.5	1224.3	1233.3	1227.4	1245.0	1256.8	1253.8	1271.5
32.5°	1092.0	1106.6	1112.5	1103.8	1109.7	1136.0	1121.4	1118.4
35°	991.9	965.3	962.5	965.3	977.1	983.0	977.1	997.8
37.5°	847.6	838.8	827.0	830.0	838.8	850.7	856.5	871.1
40°	709.3	697.5	697.5	694.6	685.7	718.1	718.1	718.1
42.5°	588.7	585.7	571.1	571.1	582.8	591.5	585.7	606.3
45°	482.7	471.0	462.0	462.0	471.0	471.0	479.8	476.8
47.5°	379.7	367.9	370.9	362.0	370.9	382.6	367.9	370.9
50°	285.5	285.5	279.6	285.5	282.5	285.5	279.6	273.7
52.5°	194.3	220.7	223.7	212.0	185.4	161.9	147.1	158.9
55°	111.9	100.1	100.1	97.0	91.2	88.3	79.4	88.3
57.5°	55.9	50.0	50.0	50.0	47.1	44.1	38.2	38.2
60°	23.5	20.6	20.6	17.6	14.7	11.8	8.8	11.8
62.5°	8.8	5.9	5.9	5.9	5.9	5.9	5.9	5.9
65°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
67.5°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
70°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
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)