

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: io LED

Report Number: P251651

Luminaire Tested: **LD4B50D010TE EU4B30508050 4LBSW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251651
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-13)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B50D010TE EU4B30508050 4LBSW1H
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4776.0 lumens
Efficiency: N/A
Efficacy: 81.3 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 1.17 / 1.15
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

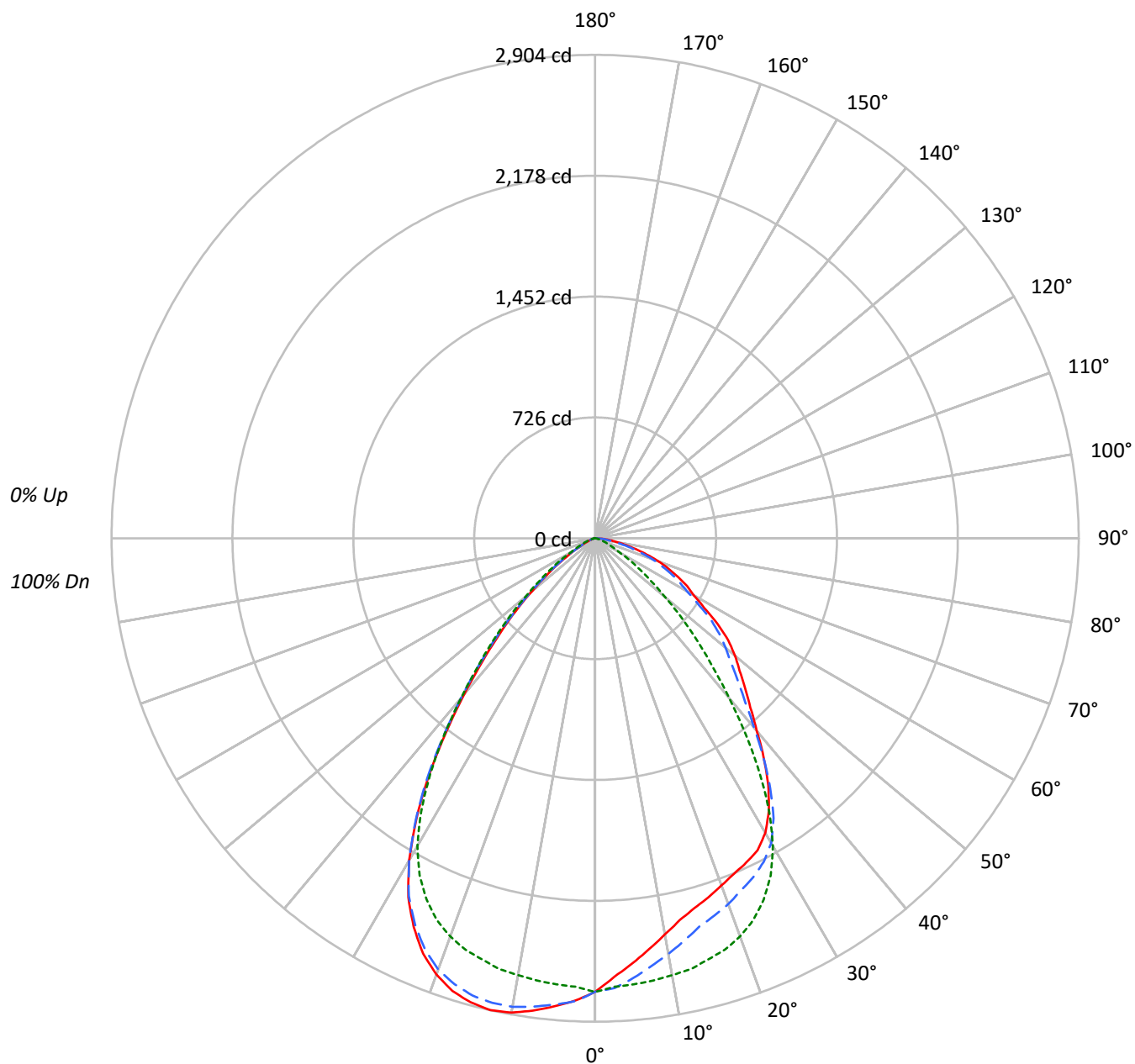
Input Watts (W): 58.77
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RCR																					
0	119	119	119	119		116	116	116	116		111	111	111		106	106	106		102	102	102
1	111	108	104	101		109	106	103	100		101	99	97		98	96	94		94	93	91
2	104	97	92	87		101	95	90	86		92	88	84		89	85	82		86	83	81
3	96	88	81	76		94	86	80	75		83	78	74		81	76	73		78	75	72
4	90	80	72	67		88	78	72	66		76	70	66		74	69	65		72	68	64
5	83	73	65	60		82	72	65	59		70	63	59		68	62	58		66	61	58
6	78	67	59	53		76	66	59	53		64	58	53		62	57	52		61	56	52
7	73	61	54	48		71	61	53	48		59	53	48		58	52	48		56	51	47
8	68	57	49	44		67	56	49	44		55	48	44		54	48	43		52	47	43
9	64	52	45	40		63	52	45	40		51	44	40		50	44	40		49	44	40
10	61	49	42	37		59	48	42	37		47	41	37		47	41	37		46	40	37

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	265534	265534	265534
5°	250749	263115	276175
10°	239061	263732	286315
15°	232041	264277	291206
20°	230139	264011	289130
25°	231067	257499	277134
30°	229965	240239	251302
35°	215546	205112	207194
40°	192081	159028	155453
45°	175660	118558	111309
50°	166097	83041	75066
55°	152735	56071	47134
60°	133459	32843	26002
65°	126303	21054	14574
70°	115062	15017	9004
75°	95192	10581	6627
80°	74869	5893	3929
85°	66757	3914	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	257.4	5.4
10°-20°	738.5	15.5
20°-30°	1094.8	22.9
30°-40°	1096.3	23.0
40°-50°	766.2	16.0
50°-60°	455.9	9.5
60°-70°	237.9	5.0
70°-80°	105.8	2.2
80°-90°	23.1	0.5
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°	2090.8	43.8
0°-40°	3187.1	66.7
0°-60°	4409.2	92.3
0°-90°	4776.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4776.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2725	2725	2725	2725	2725	
5°	2563	2651	2690	2812	2823	240
15°	2300	2416	2619	2844	2886	651
25°	2149	2247	2395	2560	2577	990
35°	1812	1833	1724	1756	1742	1123
45°	1274	1211	860	832	808	990
55°	899	843	330	288	277	798
65°	548	502	91	67	63	542
75°	253	221	28	18	18	273
85°	60	46	4	4	0	67
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°	2724.6	2724.6	2724.6	2724.6	2724.6	2724.6	2724.6	2724.6	2724.6	2724.6	2724.6
2.5°	2636.9	2668.5	2636.9	2647.4	2689.5	2650.9	2672.0	2672.0	2661.4	2686.0	2703.6
5°	2563.1	2594.7	2563.1	2577.2	2622.8	2584.2	2608.8	2601.8	2605.3	2626.3	2650.9
7.5°	2489.4	2514.0	2485.9	2503.4	2545.6	2514.0	2535.0	2535.0	2538.6	2570.2	2591.2
10°	2415.7	2436.7	2415.7	2429.7	2475.4	2447.3	2461.3	2464.8	2475.4	2503.4	2535.0
12.5°	2349.0	2366.5	2345.4	2366.5	2405.1	2377.0	2394.6	2398.1	2408.6	2440.2	2475.4
15°	2299.8	2317.4	2296.3	2313.8	2349.0	2327.9	2341.9	2349.0	2356.0	2384.1	2415.7
17.5°	2261.2	2275.2	2257.7	2278.7	2306.8	2282.2	2303.3	2303.3	2313.8	2341.9	2377.0
20°	2219.0	2233.1	2219.0	2236.6	2268.2	2247.1	2264.7	2264.7	2275.2	2306.8	2338.4
22.5°	2180.4	2187.4	2180.4	2194.5	2226.1	2208.5	2219.0	2222.6	2233.1	2261.2	2289.3
25°	2148.8	2162.9	2155.8	2169.9	2191.0	2173.4	2183.9	2187.4	2198.0	2222.6	2247.1
27.5°	2113.7	2120.7	2113.7	2131.3	2148.8	2134.8	2145.3	2141.8	2148.8	2169.9	2191.0
30°	2043.5	2050.5	2050.5	2061.0	2075.1	2068.1	2078.6	2068.1	2075.1	2092.6	2113.7
32.5°	1941.7	1945.2	1948.7	1959.2	1969.8	1959.2	1966.2	1966.2	1966.2	1980.3	1994.3
35°	1811.7	1818.8	1815.3	1822.3	1832.8	1829.3	1829.3	1825.8	1818.8	1825.8	1832.8
37.5°	1664.3	1653.7	1653.7	1664.3	1671.3	1657.3	1664.3	1657.3	1657.3	1660.8	1660.8
40°	1509.8	1499.3	1509.8	1513.3	1516.8	1509.8	1506.3	1499.3	1488.7	1492.2	1485.2
42.5°	1379.9	1372.9	1376.4	1376.4	1379.9	1372.9	1376.4	1362.3	1351.8	1344.8	1334.2
45°	1274.5	1264.0	1274.5	1267.5	1267.5	1264.0	1260.5	1253.5	1239.4	1228.9	1211.3
47.5°	1176.2	1176.2	1179.7	1179.7	1179.7	1172.7	1172.7	1158.7	1144.6	1130.6	1106.0
50°	1095.5	1088.5	1102.5	1102.5	1092.0	1088.5	1092.0	1074.4	1063.9	1046.3	1021.7
52.5°	1007.7	1007.7	1011.2	1011.2	1007.7	1000.7	1004.2	990.1	979.6	962.1	937.5
55°	898.9	891.8	902.4	902.4	898.9	895.3	898.9	888.3	877.8	863.7	842.7
57.5°	776.0	772.5	779.5	783.0	776.0	776.0	779.5	768.9	765.4	751.4	730.3
60°	684.7	681.2	688.2	691.7	684.7	684.7	684.7	670.6	663.6	649.6	635.5
62.5°	621.5	618.0	625.0	621.5	618.0	614.5	618.0	603.9	596.9	582.8	568.8
65°	547.7	551.2	554.8	554.8	551.2	547.7	547.7	540.7	533.7	519.6	502.1
67.5°	477.5	477.5	481.0	484.5	481.0	481.0	481.0	470.5	463.5	452.9	431.9
70°	403.8	400.3	410.8	410.8	403.8	407.3	403.8	400.3	393.2	379.2	361.6
72.5°	326.5	326.5	330.0	330.0	326.5	326.5	326.5	323.0	312.5	305.5	287.9
75°	252.8	252.8	256.3	259.8	252.8	252.8	256.3	249.3	242.3	231.7	221.2
77.5°	189.6	186.1	189.6	189.6	186.1	186.1	186.1	182.6	179.1	168.5	158.0
80°	133.4	129.9	133.4	133.4	133.4	129.9	129.9	126.4	126.4	119.4	108.8
82.5°	91.3	87.8	91.3	91.3	91.3	87.8	87.8	87.8	84.3	80.8	73.7
85°	59.7	56.2	56.2	59.7	56.2	56.2	56.2	56.2	52.7	49.2	45.6
87.5°	28.1	28.1	28.1	28.1	28.1	28.1	28.1	24.6	24.6	24.6	21.1
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°	2724.6	2724.6	2724.6	2724.6	2724.6	2724.6	2724.6	2724.6	2724.6	2724.6	2724.6
2.5°	2689.5	2682.5	2703.6	2696.6	2700.1	2682.5	2710.6	2696.6	2714.1	2696.6	2731.7
5°	2643.9	2636.9	2668.5	2665.0	2668.5	2654.4	2686.0	2682.5	2703.6	2689.5	2728.2
7.5°	2594.7	2587.7	2622.8	2626.3	2633.4	2619.3	2661.4	2661.4	2682.5	2679.0	2721.1
10°	2538.6	2542.1	2577.2	2584.2	2598.2	2591.2	2629.8	2640.4	2668.5	2665.0	2717.6
12.5°	2485.9	2485.9	2531.5	2545.6	2556.1	2552.6	2598.2	2612.3	2643.9	2650.9	2700.1
15°	2433.2	2436.7	2478.9	2499.9	2514.0	2510.5	2559.6	2577.2	2615.8	2619.3	2679.0
17.5°	2391.1	2387.6	2433.2	2450.8	2471.8	2468.3	2521.0	2542.1	2580.7	2591.2	2647.4
20°	2356.0	2352.5	2394.6	2415.7	2429.7	2426.2	2478.9	2503.4	2538.6	2545.6	2601.8
22.5°	2313.8	2306.8	2349.0	2366.5	2380.6	2377.0	2422.7	2440.2	2475.4	2482.4	2535.0
25°	2264.7	2257.7	2296.3	2306.8	2317.4	2310.3	2349.0	2359.5	2387.6	2394.6	2447.3
27.5°	2208.5	2191.0	2222.6	2222.6	2229.6	2219.0	2247.1	2257.7	2282.2	2282.2	2331.4
30°	2120.7	2096.2	2113.7	2110.2	2113.7	2099.7	2117.2	2120.7	2138.3	2134.8	2169.9
32.5°	1997.8	1962.7	1973.3	1962.7	1952.2	1931.1	1952.2	1945.2	1959.2	1945.2	1976.8
35°	1829.3	1794.2	1790.7	1776.6	1766.1	1748.5	1748.5	1731.0	1734.5	1724.0	1745.0
37.5°	1646.7	1601.1	1594.1	1566.0	1548.4	1527.3	1527.3	1513.3	1495.7	1488.7	1506.3
40°	1467.7	1418.5	1400.9	1355.3	1337.7	1316.7	1302.6	1285.1	1278.1	1250.0	1264.0
42.5°	1313.2	1260.5	1221.9	1172.7	1155.2	1123.6	1102.5	1081.4	1070.9	1039.3	1053.3
45°	1183.3	1120.1	1077.9	1014.7	990.1	955.0	923.4	898.9	874.3	860.2	853.2
47.5°	1074.4	1007.7	951.5	881.3	842.7	811.1	768.9	744.4	712.8	695.2	684.7
50°	983.1	909.4	846.2	765.4	726.8	691.7	642.5	603.9	575.8	547.7	540.7
52.5°	902.4	825.1	754.9	663.6	618.0	575.8	523.2	481.0	456.4	424.8	421.3
55°	807.6	740.9	663.6	568.8	523.2	481.0	424.8	382.7	351.1	330.0	323.0
57.5°	705.7	642.5	568.8	474.0	428.4	382.7	330.0	291.4	263.3	245.8	242.3
60°	610.9	551.2	481.0	386.2	340.6	302.0	245.8	207.2	182.6	168.5	161.5
62.5°	540.7	484.5	417.8	330.0	287.9	249.3	196.6	161.5	140.4	126.4	119.4
65°	474.0	417.8	358.1	277.4	242.3	207.2	158.0	126.4	105.3	91.3	84.3
67.5°	403.8	354.6	298.4	231.7	196.6	168.5	126.4	98.3	80.8	70.2	63.2
70°	333.6	287.9	242.3	186.1	161.5	133.4	98.3	77.2	59.7	52.7	45.6
72.5°	263.3	228.2	189.6	144.0	122.9	105.3	77.2	56.2	45.6	38.6	31.6
75°	196.6	172.0	140.4	108.8	91.3	77.2	56.2	42.1	35.1	28.1	24.6
77.5°	140.4	119.4	98.3	73.7	66.7	56.2	38.6	31.6	24.6	17.6	14.0
80°	94.8	84.3	66.7	52.7	42.1	38.6	28.1	21.1	14.0	10.5	10.5
82.5°	63.2	52.7	42.1	31.6	28.1	24.6	17.6	14.0	10.5	7.0	7.0
85°	38.6	31.6	24.6	17.6	17.6	14.0	10.5	7.0	3.5	3.5	3.5
87.5°	17.6	14.0	10.5	7.0	7.0	3.5	3.5	3.5	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°	2724.6	2724.6	2724.6	2724.6	2724.6	2724.6	2724.6	2724.6	2724.6	2724.6	2724.6
2.5°	2759.8	2738.7	2724.6	2742.2	2749.2	2738.7	2749.2	2766.8	2784.3	2787.8	2738.7
5°	2763.3	2742.2	2735.2	2756.2	2759.8	2756.2	2766.8	2791.4	2812.4	2819.4	2770.3
7.5°	2763.3	2749.2	2745.7	2770.3	2773.8	2770.3	2787.8	2815.9	2837.0	2851.0	2801.9
10°	2756.2	2749.2	2752.7	2773.8	2780.8	2780.8	2805.4	2837.0	2858.1	2872.1	2823.0
12.5°	2745.7	2745.7	2745.7	2770.3	2777.3	2780.8	2801.9	2844.0	2858.1	2879.1	2830.0
15°	2728.2	2728.2	2728.2	2752.7	2763.3	2763.3	2787.8	2826.5	2844.0	2865.1	2815.9
17.5°	2696.6	2696.6	2700.1	2721.1	2731.7	2731.7	2756.2	2798.4	2808.9	2833.5	2784.3
20°	2650.9	2650.9	2654.4	2675.5	2686.0	2679.0	2710.6	2745.7	2756.2	2777.3	2728.2
22.5°	2584.2	2584.2	2584.2	2605.3	2612.3	2608.8	2640.4	2672.0	2672.0	2700.1	2647.4
25°	2485.9	2492.9	2485.9	2507.0	2514.0	2510.5	2538.6	2566.6	2559.6	2591.2	2538.6
27.5°	2366.5	2363.0	2363.0	2380.6	2380.6	2377.0	2398.1	2429.7	2422.7	2443.8	2394.6
30°	2201.5	2212.0	2194.5	2219.0	2208.5	2201.5	2215.5	2243.6	2233.1	2250.6	2212.0
32.5°	2011.9	1997.8	1997.8	1997.8	2004.9	1987.3	2001.4	2015.4	2004.9	2022.4	1980.3
35°	1762.6	1766.1	1755.6	1759.1	1762.6	1741.5	1755.6	1769.6	1755.6	1766.1	1727.5
37.5°	1513.3	1516.8	1492.2	1506.3	1492.2	1485.2	1499.3	1506.3	1492.2	1502.8	1460.6
40°	1264.0	1257.0	1253.5	1253.5	1257.0	1239.4	1250.0	1260.5	1250.0	1257.0	1218.4
42.5°	1046.3	1042.8	1035.8	1039.3	1028.8	1025.3	1028.8	1039.3	1028.8	1035.8	1007.7
45°	856.7	849.7	839.2	842.7	842.7	825.1	835.7	842.7	832.1	835.7	811.1
47.5°	681.2	670.6	670.6	667.1	667.1	660.1	670.6	667.1	656.6	663.6	639.0
50°	530.2	523.2	523.2	523.2	523.2	512.6	516.1	523.2	512.6	512.6	498.6
52.5°	414.3	403.8	396.8	396.8	396.8	393.2	393.2	396.8	386.2	386.2	382.7
55°	312.5	309.0	298.4	298.4	298.4	287.9	291.4	291.4	287.9	287.9	277.4
57.5°	231.7	221.2	214.2	214.2	207.2	207.2	203.6	207.2	200.1	200.1	193.1
60°	154.5	147.5	144.0	140.4	140.4	136.9	140.4	136.9	136.9	133.4	129.9
62.5°	112.4	105.3	98.3	98.3	98.3	94.8	94.8	94.8	94.8	94.8	91.3
65°	80.8	73.7	73.7	70.2	70.2	66.7	66.7	66.7	66.7	66.7	63.2
67.5°	56.2	52.7	49.2	49.2	49.2	49.2	49.2	49.2	45.6	45.6	45.6
70°	42.1	38.6	35.1	35.1	35.1	35.1	35.1	31.6	35.1	35.1	31.6
72.5°	28.1	28.1	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
75°	21.1	21.1	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6
77.5°	14.0	14.0	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5
80°	10.5	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
82.5°	7.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
85°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	0.0
87.5°	0.0	0.0	0.0	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	0.0	0.0	0.0



TEST NUMBER: P251651

CATALOG NUMBER: LD4B50D010TE EU4B30508050 4LBSW1H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2724.6	2724.6	2724.6	2724.6	2724.6	2724.6	2724.6	2724.6
2.5°	2791.4	2787.8	2780.8	2791.4	2763.3	2752.7	2749.2	2780.8
5°	2830.0	2823.0	2823.0	2833.5	2801.9	2794.9	2787.8	2823.0
7.5°	2865.1	2858.1	2858.1	2868.6	2840.5	2833.5	2826.5	2861.6
10°	2886.2	2886.2	2886.2	2893.2	2868.6	2861.6	2858.1	2893.2
12.5°	2896.7	2896.7	2893.2	2907.2	2875.6	2875.6	2868.6	2903.7
15°	2882.6	2882.6	2882.6	2893.2	2865.1	2858.1	2858.1	2886.2
17.5°	2847.5	2847.5	2844.0	2854.6	2823.0	2823.0	2819.4	2851.0
20°	2794.9	2794.9	2787.8	2801.9	2770.3	2759.8	2756.2	2787.8
22.5°	2710.6	2707.1	2703.6	2710.6	2682.5	2675.5	2672.0	2700.1
25°	2601.8	2598.2	2591.2	2598.2	2566.6	2556.1	2556.1	2577.2
27.5°	2447.3	2447.3	2436.7	2447.3	2412.2	2408.6	2405.1	2429.7
30°	2257.7	2243.6	2236.6	2250.6	2215.5	2215.5	2208.5	2233.1
32.5°	2022.4	2008.4	2004.9	2011.9	1980.3	1969.8	1983.8	1997.8
35°	1752.1	1755.6	1741.5	1741.5	1713.4	1716.9	1720.5	1741.5
37.5°	1492.2	1485.2	1481.7	1485.2	1464.1	1457.1	1450.1	1471.2
40°	1250.0	1232.4	1228.9	1228.9	1211.3	1207.8	1211.3	1221.9
42.5°	1021.7	1018.2	1004.2	1011.2	993.7	1000.7	997.2	997.2
45°	825.1	828.6	814.6	825.1	811.1	800.5	800.5	807.6
47.5°	653.1	653.1	649.6	649.6	639.0	642.5	635.5	646.1
50°	505.6	505.6	498.6	502.1	495.1	495.1	491.6	495.1
52.5°	386.2	382.7	382.7	379.2	372.2	375.7	379.2	372.2
55°	280.9	284.4	277.4	280.9	273.9	277.4	273.9	277.4
57.5°	193.1	196.6	189.6	196.6	189.6	193.1	189.6	189.6
60°	133.4	133.4	129.9	133.4	129.9	129.9	126.4	133.4
62.5°	91.3	91.3	91.3	91.3	91.3	87.8	91.3	91.3
65°	66.7	63.2	63.2	63.2	63.2	63.2	63.2	63.2
67.5°	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6
70°	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6
72.5°	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
75°	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6
77.5°	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5
80°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
82.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
85°	3.5	3.5	3.5	0.0	3.5	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



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— 0°-180° - - 45°-225° - - - 90°-270°













(END OF REPORT)