

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: P251569

Luminaire Tested: **LD4B50D010TE EU4B30508027 4LBSW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251569
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-10)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B50D010TE EU4B30508027 4LBSW1LI
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4589.0 lumens
Efficiency: N/A
Efficacy: 78.1 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

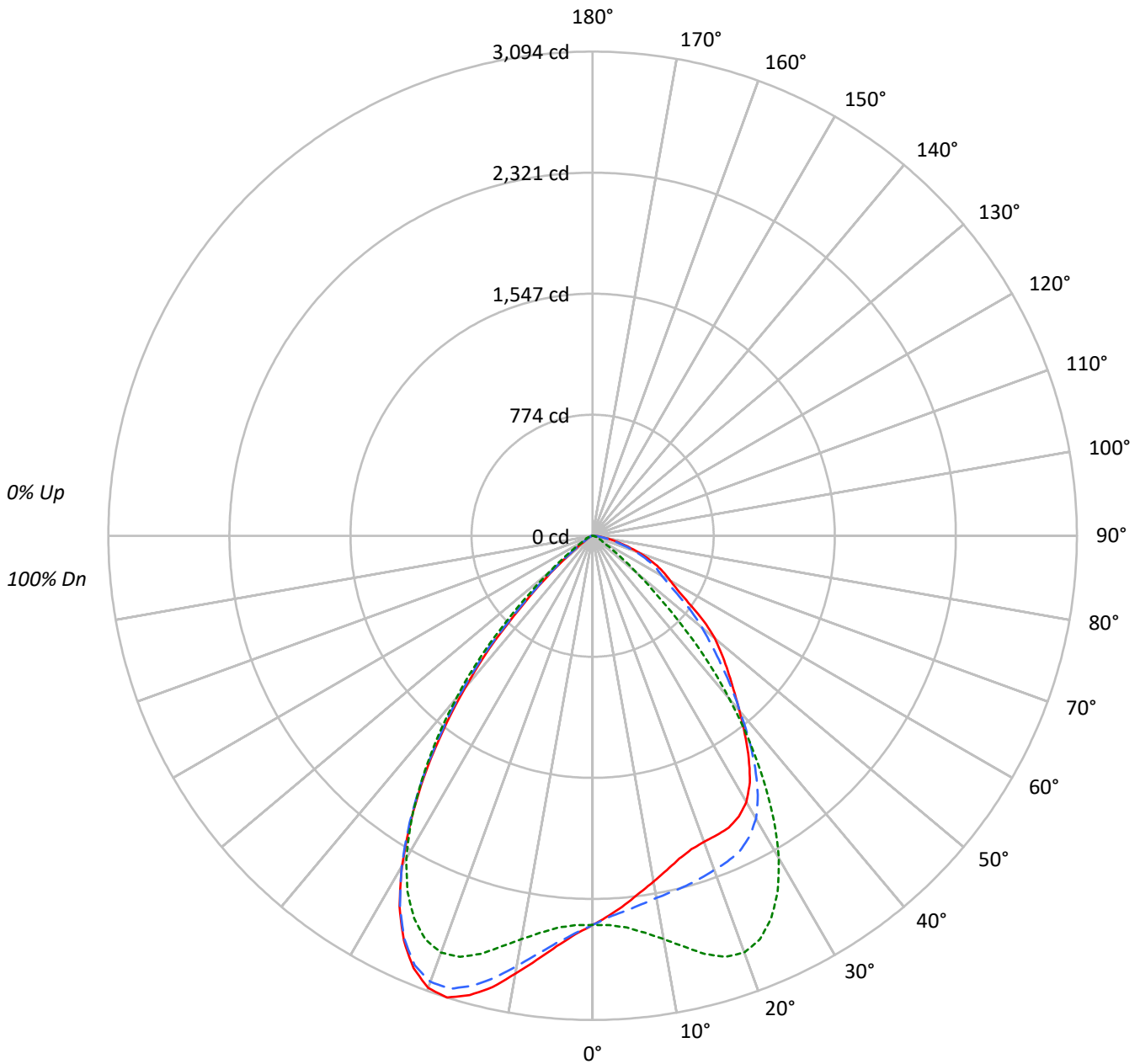
Input Watts (W): 58.77
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P251569

CATALOG NUMBER: LD4B50D010TE EU4B30508027 4LBSW1LI

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90				90
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	85	82	80				80
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72				72
4	91	81	75	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64				64
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58				58
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53				53
7	75	63	56	51	73	62	55	51	61	55	50	60	54	50	58	53	50	48				48
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44				44
9	66	54	47	42	65	54	47	42	53	46	42	52	46	42	51	46	42	40				40
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37				37

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	242359	242359	242359
5°	231535	245818	257578
10°	222000	258943	281110
15°	215534	279078	306593
20°	215826	293932	318854
25°	221325	290103	306856
30°	221030	267788	274000
35°	207027	226337	223243
40°	185439	172641	161076
45°	168245	109627	89932
50°	154559	55613	38390
55°	126874	24824	12692
60°	111375	13917	6959
65°	104810	10493	5235
70°	89730	8320	4616
75°	68457	6100	3653
80°	49221	3648	1796
85°	36342	0	0



TEST NUMBER: P251569

CATALOG NUMBER: LD4B50D010TE EU4B30508027 4LBSW1LI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	241.6	5.3
10°-20°	752.8	16.4
20°-30°	1164.7	25.4
30°-40°	1147.6	25.0
40°-50°	704.7	15.4
50°-60°	313.3	6.8
60°-70°	175.0	3.8
70°-80°	75.7	1.7
80°-90°	13.5	0.3
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°	2159.1	47.0
0°-40°	3306.7	72.1
0°-60°	4324.7	94.2
0°-90°	4589.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4589.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2487	2487	2487	2487	2487	
5°	2367	2406	2513	2610	2633	222
15°	2136	2315	2766	2977	3039	606
25°	2058	2224	2698	2844	2854	944
35°	1740	1812	1902	1896	1876	1080
45°	1221	1159	795	695	652	945
55°	747	675	146	84	75	686
65°	454	409	46	26	23	445
75°	182	156	16	10	10	200
85°	32	26	0	0	0	40
90°	0	0	0	0	0	



TEST NUMBER: P251569

CATALOG NUMBER: LD4B50D010TE EU4B30508027 4LBSW1LI

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2486.8	2486.8	2486.8	2486.8	2486.8	2486.8	2486.8	2486.8	2486.8	2486.8	2486.8
2.5°	2428.3	2428.3	2428.3	2428.3	2434.8	2425.1	2434.8	2434.8	2444.6	2447.8	2438.1
5°	2366.7	2363.4	2366.7	2366.7	2373.1	2369.9	2379.6	2386.1	2399.1	2405.6	2405.6
7.5°	2301.7	2301.7	2301.7	2308.2	2318.0	2314.7	2324.4	2334.2	2353.7	2366.7	2376.4
10°	2243.3	2240.0	2249.8	2253.0	2262.8	2262.8	2279.0	2288.7	2311.5	2337.4	2350.4
12.5°	2188.1	2184.9	2191.3	2201.1	2217.3	2217.3	2230.3	2246.5	2279.0	2308.2	2330.9
15°	2136.2	2139.4	2149.1	2155.6	2175.1	2175.1	2191.3	2210.8	2246.5	2282.2	2314.7
17.5°	2100.4	2103.7	2110.2	2119.9	2139.4	2139.4	2155.6	2178.4	2217.3	2256.3	2295.2
20°	2081.0	2084.2	2090.7	2100.4	2116.7	2119.9	2132.9	2158.9	2194.6	2236.8	2272.5
22.5°	2071.2	2077.7	2084.2	2090.7	2106.9	2106.9	2123.2	2142.6	2178.4	2220.6	2253.0
25°	2058.2	2064.7	2068.0	2077.7	2090.7	2090.7	2100.4	2123.2	2155.6	2191.3	2223.8
27.5°	2022.5	2029.0	2032.3	2042.0	2055.0	2051.7	2064.7	2081.0	2110.2	2142.6	2168.6
30°	1964.1	1967.3	1973.8	1977.1	1986.8	1986.8	1996.6	2012.8	2032.3	2061.5	2087.5
32.5°	1869.9	1876.4	1879.7	1882.9	1892.7	1889.4	1892.7	1902.4	1921.9	1947.9	1964.1
35°	1740.1	1753.1	1753.1	1759.6	1762.8	1759.6	1759.6	1772.6	1782.3	1801.8	1811.5
37.5°	1597.2	1607.0	1603.7	1610.2	1613.5	1603.7	1610.2	1613.5	1626.5	1636.2	1639.4
40°	1457.6	1460.9	1460.9	1460.9	1460.9	1457.6	1460.9	1464.1	1473.9	1473.9	1464.1
42.5°	1331.0	1334.3	1334.3	1327.8	1334.3	1331.0	1331.0	1331.0	1331.0	1318.1	1308.3
45°	1220.7	1223.9	1223.9	1220.7	1220.7	1214.2	1210.9	1207.7	1197.9	1181.7	1159.0
47.5°	1116.8	1123.3	1126.5	1120.0	1116.8	1110.3	1110.3	1090.8	1077.8	1058.3	1025.9
50°	1019.4	1025.9	1025.9	1019.4	1019.4	1009.6	999.9	993.4	973.9	951.2	912.2
52.5°	896.0	905.8	905.8	902.5	902.5	889.5	886.3	873.3	857.1	831.1	798.6
55°	746.7	759.7	756.4	753.2	746.7	746.7	746.7	736.9	727.2	707.7	675.3
57.5°	639.5	642.8	642.8	639.5	639.5	633.1	633.1	623.3	620.1	600.6	574.6
60°	571.4	571.4	574.6	571.4	568.1	564.9	561.6	555.1	545.4	532.4	512.9
62.5°	516.2	519.4	519.4	516.2	512.9	509.7	506.4	500.0	493.5	483.7	464.2
65°	454.5	461.0	457.7	454.5	451.3	448.0	448.0	441.5	435.0	428.5	409.1
67.5°	386.3	389.6	392.8	386.3	386.3	383.1	383.1	376.6	373.3	360.4	347.4
70°	314.9	318.2	318.2	314.9	314.9	311.7	311.7	308.4	305.2	295.4	282.4
72.5°	246.7	250.0	246.7	243.5	243.5	243.5	240.2	237.0	233.7	227.3	217.5
75°	181.8	181.8	185.0	181.8	178.6	178.6	175.3	175.3	168.8	165.6	155.8
77.5°	129.9	133.1	129.9	129.9	126.6	123.4	123.4	120.1	120.1	116.9	110.4
80°	87.7	87.7	90.9	87.7	84.4	87.7	84.4	81.2	81.2	77.9	71.4
82.5°	55.2	58.4	55.2	55.2	55.2	55.2	55.2	51.9	51.9	48.7	45.5
85°	32.5	32.5	32.5	32.5	32.5	32.5	32.5	29.2	29.2	29.2	26.0
87.5°	16.2	16.2	13.0	13.0	16.2	16.2	16.2	13.0	13.0	13.0	13.0
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: P251569

CATALOG NUMBER: LD4B50D010TE EU4B30508027 4LBSW1LI

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2486.8	2486.8	2486.8	2486.8	2486.8	2486.8	2486.8	2486.8	2486.8	2486.8	2486.8
2.5°	2451.1	2454.3	2460.8	2470.5	2470.5	2464.0	2480.3	2480.3	2486.8	2490.0	2503.0
5°	2425.1	2431.6	2444.6	2460.8	2464.0	2460.8	2483.5	2493.3	2503.0	2512.7	2532.2
7.5°	2402.4	2415.3	2438.1	2460.8	2470.5	2470.5	2506.2	2519.2	2538.7	2558.2	2580.9
10°	2389.4	2408.9	2441.3	2477.0	2486.8	2496.5	2538.7	2564.7	2590.7	2616.6	2649.1
12.5°	2373.1	2408.9	2451.1	2496.5	2516.0	2529.0	2587.4	2619.9	2655.6	2688.0	2730.3
15°	2369.9	2412.1	2467.3	2525.7	2551.7	2571.2	2636.1	2681.6	2723.8	2766.0	2808.2
17.5°	2356.9	2408.9	2477.0	2542.0	2574.4	2600.4	2675.1	2730.3	2778.9	2821.2	2869.8
20°	2340.7	2399.1	2473.8	2545.2	2580.9	2606.9	2688.0	2740.0	2795.2	2834.1	2879.6
22.5°	2318.0	2376.4	2451.1	2522.5	2554.9	2577.7	2658.8	2704.3	2753.0	2791.9	2834.1
25°	2279.0	2334.2	2399.1	2457.6	2490.0	2509.5	2580.9	2623.1	2658.8	2697.8	2736.7
27.5°	2223.8	2266.0	2321.2	2363.4	2382.9	2402.4	2460.8	2496.5	2529.0	2561.4	2587.4
30°	2126.4	2158.9	2197.8	2233.5	2253.0	2256.3	2311.5	2330.9	2356.9	2379.6	2399.1
32.5°	1996.6	2022.5	2045.3	2064.7	2077.7	2081.0	2123.2	2129.7	2155.6	2155.6	2184.9
35°	1831.0	1844.0	1860.2	1860.2	1869.9	1860.2	1889.4	1895.9	1899.2	1902.4	1925.1
37.5°	1642.7	1649.2	1658.9	1639.4	1639.4	1629.7	1639.4	1645.9	1633.0	1633.0	1649.2
40°	1464.1	1451.2	1438.2	1418.7	1409.0	1389.5	1389.5	1373.2	1363.5	1357.0	1360.3
42.5°	1292.1	1262.9	1233.6	1191.4	1172.0	1152.5	1133.0	1110.3	1103.8	1087.6	1077.8
45°	1126.5	1084.3	1045.4	977.2	938.2	918.7	876.5	831.1	801.9	795.4	769.4
47.5°	986.9	925.2	860.3	779.1	740.2	704.5	642.8	603.8	564.9	545.4	529.2
50°	863.6	808.4	724.0	636.3	587.6	551.9	483.7	438.3	396.1	366.8	347.4
52.5°	756.4	694.7	616.8	516.2	467.5	428.5	353.9	301.9	266.2	237.0	214.3
55°	636.3	587.6	509.7	415.5	366.8	321.4	256.5	201.3	165.6	146.1	129.9
57.5°	548.6	506.4	431.8	340.9	295.4	253.2	188.3	142.8	113.6	94.1	84.4
60°	490.2	451.3	386.3	298.7	256.5	217.5	155.8	113.6	87.7	71.4	64.9
62.5°	441.5	402.6	344.1	263.0	227.3	188.3	133.1	94.1	71.4	58.4	48.7
65°	386.3	350.6	298.7	227.3	194.8	162.3	113.6	77.9	58.4	45.5	39.0
67.5°	327.9	295.4	250.0	188.3	162.3	136.4	90.9	64.9	48.7	39.0	32.5
70°	266.2	240.2	198.0	152.6	129.9	107.1	74.7	51.9	35.7	29.2	26.0
72.5°	204.5	181.8	152.6	116.9	97.4	81.2	55.2	39.0	29.2	22.7	19.5
75°	146.1	129.9	107.1	84.4	71.4	58.4	42.2	29.2	19.5	16.2	13.0
77.5°	100.6	90.9	74.7	58.4	48.7	42.2	29.2	19.5	16.2	13.0	9.7
80°	64.9	58.4	48.7	35.7	29.2	26.0	16.2	13.0	9.7	6.5	6.5
82.5°	39.0	35.7	29.2	19.5	16.2	13.0	9.7	6.5	6.5	3.2	3.2
85°	22.7	19.5	13.0	9.7	9.7	6.5	6.5	3.2	3.2	0.0	0.0
87.5°	9.7	6.5	6.5	3.2	3.2	3.2	3.2	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: P251569

CATALOG NUMBER: LD4B50D010TE EU4B30508027 4LBSW1LI

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2486.8	2486.8	2486.8	2486.8	2486.8	2486.8	2486.8	2486.8	2486.8	2486.8	2486.8
2.5°	2496.5	2512.7	2509.5	2519.2	2516.0	2516.0	2532.2	2525.7	2542.0	2542.0	2545.2
5°	2532.2	2554.9	2554.9	2571.2	2567.9	2574.4	2590.7	2590.7	2610.1	2616.6	2616.6
7.5°	2584.2	2613.4	2619.9	2636.1	2639.4	2652.3	2665.3	2668.6	2694.5	2701.0	2704.3
10°	2655.6	2691.3	2701.0	2717.3	2723.8	2736.7	2753.0	2759.5	2791.9	2795.2	2808.2
12.5°	2743.2	2782.2	2791.9	2811.4	2814.7	2830.9	2853.6	2860.1	2892.6	2902.3	2912.1
15°	2827.6	2863.4	2879.6	2899.1	2902.3	2921.8	2941.3	2947.8	2977.0	2990.0	2999.7
17.5°	2886.1	2928.3	2938.0	2964.0	2964.0	2980.2	2999.7	3006.2	3035.4	3045.2	3051.6
20°	2899.1	2938.0	2951.0	2970.5	2973.7	2983.5	2999.7	3006.2	3032.2	3035.4	3045.2
22.5°	2850.4	2889.3	2895.8	2915.3	2918.5	2928.3	2941.3	2938.0	2970.5	2967.2	2970.5
25°	2746.5	2782.2	2782.2	2804.9	2801.7	2811.4	2817.9	2814.7	2843.9	2843.9	2843.9
27.5°	2597.1	2629.6	2632.9	2649.1	2639.4	2642.6	2649.1	2645.8	2665.3	2665.3	2665.3
30°	2412.1	2438.1	2428.3	2441.3	2434.8	2441.3	2434.8	2431.6	2438.1	2444.6	2441.3
32.5°	2181.6	2201.1	2201.1	2204.3	2204.3	2184.9	2178.4	2178.4	2175.1	2171.9	2171.9
35°	1915.4	1931.6	1925.1	1925.1	1921.9	1902.4	1892.7	1886.2	1895.9	1876.4	1889.4
37.5°	1642.7	1645.9	1636.2	1633.0	1616.7	1616.7	1600.5	1587.5	1594.0	1590.8	1577.8
40°	1344.0	1357.0	1337.5	1331.0	1340.8	1327.8	1311.6	1295.3	1308.3	1292.1	1298.6
42.5°	1051.8	1048.6	1042.1	1042.1	1042.1	1022.6	1019.4	1016.1	1019.4	1006.4	996.7
45°	759.7	749.9	740.2	740.2	727.2	720.7	720.7	711.0	694.7	694.7	675.3
47.5°	512.9	490.2	483.7	480.5	474.0	474.0	467.5	461.0	457.7	441.5	441.5
50°	334.4	311.7	305.2	301.9	305.2	298.7	292.2	285.7	279.2	275.9	269.5
52.5°	201.3	191.5	185.0	181.8	175.3	172.1	168.8	162.3	159.1	159.1	155.8
55°	120.1	110.4	97.4	97.4	97.4	94.1	90.9	87.7	84.4	84.4	81.2
57.5°	74.7	68.2	61.7	58.4	58.4	58.4	55.2	55.2	55.2	55.2	51.9
60°	55.2	48.7	45.5	45.5	45.5	42.2	42.2	42.2	42.2	39.0	39.0
62.5°	42.2	39.0	35.7	35.7	32.5	32.5	32.5	32.5	32.5	32.5	29.2
65°	35.7	29.2	29.2	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
67.5°	26.0	22.7	22.7	22.7	22.7	19.5	19.5	19.5	19.5	19.5	19.5
70°	19.5	19.5	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2
72.5°	16.2	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
75°	13.0	13.0	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
77.5°	9.7	9.7	9.7	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
80°	6.5	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
82.5°	3.2	3.2	3.2	3.2	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	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: P251569

CATALOG NUMBER: LD4B50D010TE EU4B30508027 4LBSW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2486.8	2486.8	2486.8	2486.8	2486.8	2486.8	2486.8	2486.8
2.5°	2545.2	2561.4	2545.2	2545.2	2554.9	2551.7	2558.2	2548.5
5°	2619.9	2642.6	2626.4	2623.1	2639.4	2636.1	2639.4	2632.9
7.5°	2710.8	2733.5	2717.3	2717.3	2733.5	2730.3	2740.0	2733.5
10°	2814.7	2840.6	2817.9	2821.2	2843.9	2840.6	2840.6	2840.6
12.5°	2921.8	2947.8	2934.8	2934.8	2951.0	2954.3	2957.5	2954.3
15°	3009.4	3035.4	3019.2	3019.2	3041.9	3038.7	3041.9	3038.7
17.5°	3061.4	3087.4	3067.9	3067.9	3087.4	3087.4	3090.6	3093.9
20°	3048.4	3077.6	3061.4	3054.9	3077.6	3077.6	3074.4	3074.4
22.5°	2973.7	2999.7	2986.7	2980.2	2996.5	2990.0	2986.7	2990.0
25°	2843.9	2869.8	2843.9	2843.9	2856.9	2853.6	2856.9	2853.6
27.5°	2668.6	2688.0	2662.1	2658.8	2671.8	2665.3	2662.1	2671.8
30°	2434.8	2454.3	2441.3	2431.6	2447.8	2438.1	2431.6	2434.8
32.5°	2168.6	2181.6	2175.1	2158.9	2168.6	2162.1	2158.9	2162.1
35°	1876.4	1892.7	1866.7	1863.5	1879.7	1866.7	1860.2	1876.4
37.5°	1574.5	1594.0	1571.3	1574.5	1564.8	1568.0	1561.5	1571.3
40°	1288.8	1285.6	1279.1	1275.8	1279.1	1269.4	1275.8	1266.1
42.5°	980.4	986.9	983.7	980.4	983.7	970.7	964.2	977.2
45°	681.8	678.5	672.0	665.5	665.5	662.3	662.3	652.5
47.5°	438.3	435.0	422.0	425.3	431.8	425.3	415.5	428.5
50°	266.2	263.0	263.0	259.7	266.2	259.7	253.2	253.2
52.5°	149.3	149.3	146.1	146.1	146.1	146.1	142.8	139.6
55°	81.2	77.9	77.9	77.9	74.7	74.7	74.7	74.7
57.5°	51.9	51.9	51.9	51.9	51.9	51.9	48.7	48.7
60°	39.0	39.0	39.0	39.0	35.7	39.0	35.7	35.7
62.5°	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2
65°	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7
67.5°	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5
70°	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2
72.5°	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
75°	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
77.5°	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
80°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
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



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— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)