

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: P251573

Luminaire Tested: **LD4B50D010TE EU4B30508050 4LBSW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251573
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 EU4B30508050 4LBSW1LI
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4966.0 lumens
Efficiency: N/A
Efficacy: 84.5 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

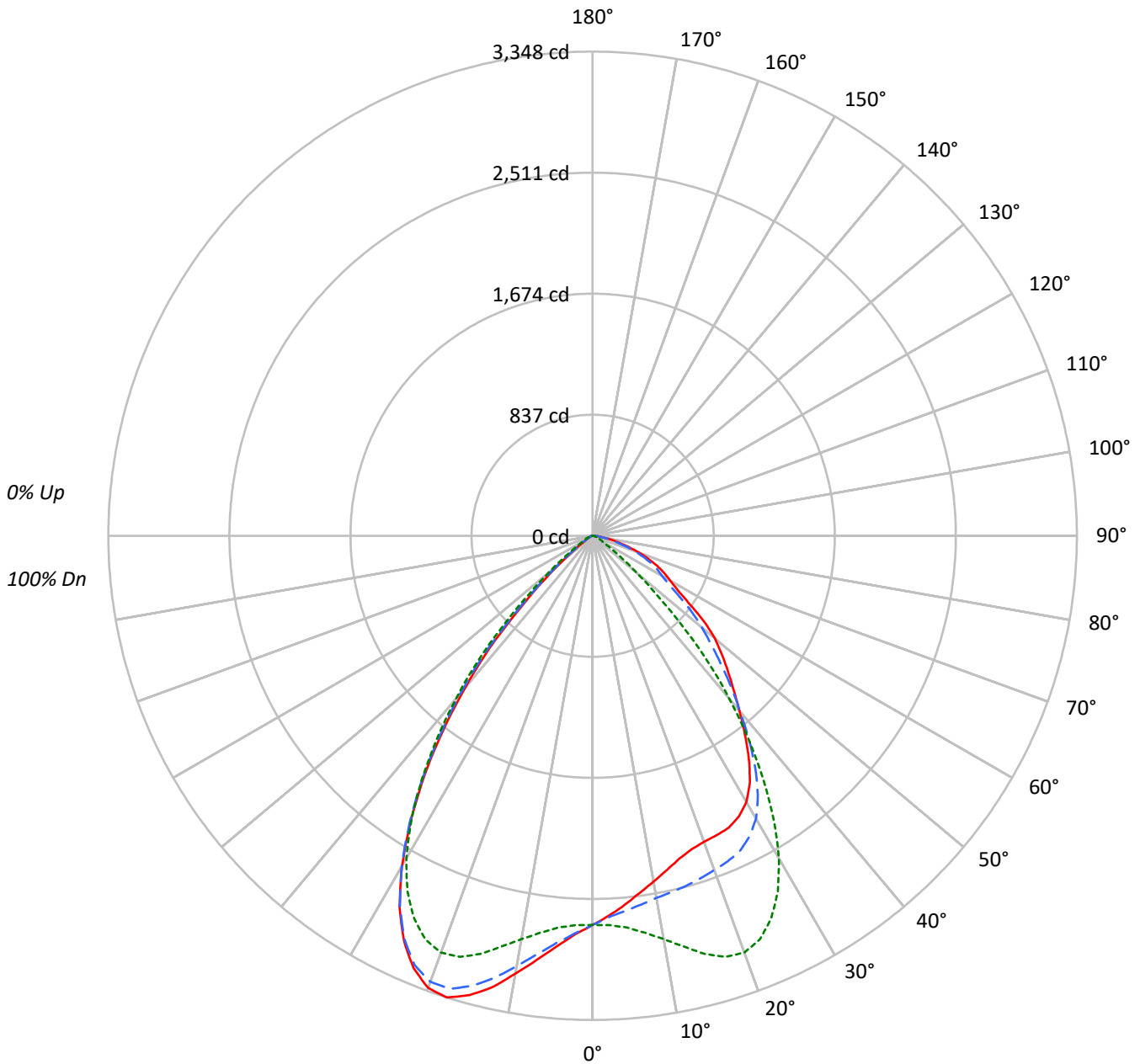
Input Watts (W): 58.77
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	85	82	80																			
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72																			
4	91	81	75	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	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53																			
7	75	63	56	51	73	62	55	51	61	55	50	60	54	50	58	53	50	48																			
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44																			
9	66	54	47	42	65	54	47	42	53	46	42	52	46	42	51	46	42	40																			
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	262269	262269	262269
5°	250553	266020	278738
10°	240239	280219	304208
15°	233231	302002	331776
20°	233551	318087	345042
25°	239508	313932	332062
30°	239182	289789	296518
35°	224029	244932	241589
40°	200681	186826	174308
45°	182055	118627	97319
50°	167250	60192	41543
55°	137290	26863	13729
60°	120517	15067	7524
65°	113412	11346	5673
70°	97110	9004	5015
75°	74067	6627	3954
80°	53262	3929	1964
85°	39249	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	261.4	5.3
10°-20°	814.7	16.4
20°-30°	1260.4	25.4
30°-40°	1241.9	25.0
40°-50°	762.6	15.4
50°-60°	339.1	6.8
60°-70°	189.4	3.8
70°-80°	82.0	1.7
80°-90°	14.6	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°	2336.5	47.0
0°-40°	3578.4	72.1
0°-60°	4680.0	94.2
0°-90°	4966.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4966.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2691	2691	2691	2691	2691	
5°	2561	2603	2719	2825	2849	240
15°	2312	2505	2993	3222	3288	656
25°	2227	2406	2919	3078	3088	1022
35°	1883	1960	2059	2052	2031	1169
45°	1321	1254	861	752	706	1023
55°	808	731	158	91	81	743
65°	492	443	49	28	25	482
75°	197	169	18	10	10	216
85°	35	28	0	0	0	43
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°	2691.1	2691.1	2691.1	2691.1	2691.1	2691.1	2691.1	2691.1	2691.1	2691.1	2691.1
2.5°	2627.8	2627.8	2627.8	2627.8	2634.9	2624.3	2634.9	2634.9	2645.4	2648.9	2638.4
5°	2561.1	2557.6	2561.1	2561.1	2568.1	2564.6	2575.1	2582.2	2596.2	2603.2	2603.2
7.5°	2490.8	2490.8	2490.8	2497.8	2508.4	2504.9	2515.4	2525.9	2547.0	2561.1	2571.6
10°	2427.6	2424.1	2434.6	2438.1	2448.7	2448.7	2466.2	2476.8	2501.4	2529.5	2543.5
12.5°	2367.9	2364.3	2371.4	2381.9	2399.5	2399.5	2413.5	2431.1	2466.2	2497.8	2522.4
15°	2311.6	2315.2	2325.7	2332.7	2353.8	2353.8	2371.4	2392.4	2431.1	2469.7	2504.9
17.5°	2273.0	2276.5	2283.5	2294.1	2315.2	2315.2	2332.7	2357.3	2399.5	2441.6	2483.8
20°	2251.9	2255.4	2262.5	2273.0	2290.6	2294.1	2308.1	2336.2	2374.9	2420.6	2459.2
22.5°	2241.4	2248.4	2255.4	2262.5	2280.0	2280.0	2297.6	2318.7	2357.3	2403.0	2438.1
25°	2227.3	2234.4	2237.9	2248.4	2262.5	2262.5	2273.0	2297.6	2332.7	2371.4	2406.5
27.5°	2188.7	2195.7	2199.2	2209.8	2223.8	2220.3	2234.4	2251.9	2283.5	2318.7	2346.8
30°	2125.4	2129.0	2136.0	2139.5	2150.0	2150.0	2160.6	2178.1	2199.2	2230.8	2258.9
32.5°	2023.6	2030.6	2034.1	2037.6	2048.2	2044.6	2048.2	2058.7	2079.8	2107.9	2125.4
35°	1883.0	1897.1	1897.1	1904.1	1907.6	1904.1	1904.1	1918.2	1928.7	1949.8	1960.3
37.5°	1728.5	1739.0	1735.5	1742.5	1746.0	1735.5	1742.5	1746.0	1760.1	1770.6	1774.1
40°	1577.4	1580.9	1580.9	1580.9	1580.9	1577.4	1580.9	1584.4	1595.0	1595.0	1584.4
42.5°	1440.4	1443.9	1443.9	1436.9	1443.9	1440.4	1440.4	1440.4	1440.4	1426.3	1415.8
45°	1320.9	1324.5	1324.5	1320.9	1320.9	1313.9	1310.4	1306.9	1296.3	1278.8	1254.2
47.5°	1208.5	1215.5	1219.1	1212.0	1208.5	1201.5	1201.5	1180.4	1166.4	1145.3	1110.2
50°	1103.1	1110.2	1110.2	1103.1	1103.1	1092.6	1082.0	1075.0	1053.9	1029.3	987.2
52.5°	969.6	980.2	980.2	976.7	976.7	962.6	959.1	945.0	927.5	899.4	864.2
55°	808.0	822.1	818.6	815.0	808.0	808.0	808.0	797.5	786.9	765.9	730.7
57.5°	692.1	695.6	695.6	692.1	692.1	685.1	685.1	674.5	671.0	649.9	621.8
60°	618.3	618.3	621.8	618.3	614.8	611.3	607.8	600.7	590.2	576.2	555.1
62.5°	558.6	562.1	562.1	558.6	555.1	551.6	548.0	541.0	534.0	523.5	502.4
65°	491.8	498.9	495.4	491.8	488.3	484.8	484.8	477.8	470.8	463.7	442.7
67.5°	418.1	421.6	425.1	418.1	418.1	414.6	414.6	407.5	404.0	390.0	375.9
70°	340.8	344.3	344.3	340.8	340.8	337.3	337.3	333.7	330.2	319.7	305.6
72.5°	267.0	270.5	267.0	263.5	263.5	263.5	260.0	256.5	252.9	245.9	235.4
75°	196.7	196.7	200.2	196.7	193.2	193.2	189.7	189.7	182.7	179.2	168.6
77.5°	140.5	144.0	140.5	140.5	137.0	133.5	133.5	130.0	130.0	126.5	119.4
80°	94.9	94.9	98.4	94.9	91.3	94.9	91.3	87.8	87.8	84.3	77.3
82.5°	59.7	63.2	59.7	59.7	59.7	59.7	59.7	56.2	56.2	52.7	49.2
85°	35.1	35.1	35.1	35.1	35.1	35.1	35.1	31.6	31.6	31.6	28.1
87.5°	17.6	17.6	14.1	14.1	17.6	17.6	17.6	14.1	14.1	14.1	14.1
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°	2691.1	2691.1	2691.1	2691.1	2691.1	2691.1	2691.1	2691.1	2691.1	2691.1	2691.1
2.5°	2652.4	2655.9	2663.0	2673.5	2673.5	2666.5	2684.0	2684.0	2691.1	2694.6	2708.6
5°	2624.3	2631.3	2645.4	2663.0	2666.5	2663.0	2687.6	2698.1	2708.6	2719.2	2740.2
7.5°	2599.7	2613.8	2638.4	2663.0	2673.5	2673.5	2712.1	2726.2	2747.3	2768.4	2792.9
10°	2585.7	2606.7	2641.9	2680.5	2691.1	2701.6	2747.3	2775.4	2803.5	2831.6	2866.7
12.5°	2568.1	2606.7	2652.4	2701.6	2722.7	2736.7	2800.0	2835.1	2873.7	2908.9	2954.5
15°	2564.6	2610.3	2670.0	2733.2	2761.3	2782.4	2852.7	2901.9	2947.5	2993.2	3038.9
17.5°	2550.5	2606.7	2680.5	2750.8	2785.9	2814.0	2894.8	2954.5	3007.2	3052.9	3105.6
20°	2533.0	2596.2	2677.0	2754.3	2792.9	2821.0	2908.9	2965.1	3024.8	3067.0	3116.2
22.5°	2508.4	2571.6	2652.4	2729.7	2764.8	2789.4	2877.3	2926.4	2979.1	3021.3	3067.0
25°	2466.2	2525.9	2596.2	2659.4	2694.6	2715.7	2792.9	2838.6	2877.3	2919.4	2961.6
27.5°	2406.5	2452.2	2511.9	2557.6	2578.6	2599.7	2663.0	2701.6	2736.7	2771.9	2800.0
30°	2301.1	2336.2	2378.4	2417.0	2438.1	2441.6	2501.4	2522.4	2550.5	2575.1	2596.2
32.5°	2160.6	2188.7	2213.3	2234.4	2248.4	2251.9	2297.6	2304.6	2332.7	2332.7	2364.3
35°	1981.4	1995.5	2013.0	2013.0	2023.6	2013.0	2044.6	2051.7	2055.2	2058.7	2083.3
37.5°	1777.6	1784.7	1795.2	1774.1	1774.1	1763.6	1774.1	1781.2	1767.1	1767.1	1784.7
40°	1584.4	1570.4	1556.3	1535.2	1524.7	1503.6	1503.6	1486.1	1475.5	1468.5	1472.0
42.5°	1398.2	1366.6	1335.0	1289.3	1268.2	1247.2	1226.1	1201.5	1194.5	1176.9	1166.4
45°	1219.1	1173.4	1131.2	1057.5	1015.3	994.2	948.5	899.4	867.7	860.7	832.6
47.5°	1068.0	1001.2	931.0	843.2	801.0	762.4	695.6	653.4	611.3	590.2	572.6
50°	934.5	874.8	783.4	688.6	635.9	597.2	523.5	474.3	428.6	397.0	375.9
52.5°	818.6	751.8	667.5	558.6	505.9	463.7	382.9	326.7	288.1	256.5	231.9
55°	688.6	635.9	551.6	449.7	397.0	347.8	277.5	217.8	179.2	158.1	140.5
57.5°	593.7	548.0	467.2	368.9	319.7	274.0	203.8	154.6	123.0	101.9	91.3
60°	530.5	488.3	418.1	323.2	277.5	235.4	168.6	123.0	94.9	77.3	70.3
62.5°	477.8	435.6	372.4	284.6	245.9	203.8	144.0	101.9	77.3	63.2	52.7
65°	418.1	379.4	323.2	245.9	210.8	175.7	123.0	84.3	63.2	49.2	42.2
67.5°	354.8	319.7	270.5	203.8	175.7	147.6	98.4	70.3	52.7	42.2	35.1
70°	288.1	260.0	214.3	165.1	140.5	115.9	80.8	56.2	38.6	31.6	28.1
72.5°	221.3	196.7	165.1	126.5	105.4	87.8	59.7	42.2	31.6	24.6	21.1
75°	158.1	140.5	115.9	91.3	77.3	63.2	45.7	31.6	21.1	17.6	14.1
77.5°	108.9	98.4	80.8	63.2	52.7	45.7	31.6	21.1	17.6	14.1	10.5
80°	70.3	63.2	52.7	38.6	31.6	28.1	17.6	14.1	10.5	7.0	7.0
82.5°	42.2	38.6	31.6	21.1	17.6	14.1	10.5	7.0	7.0	3.5	3.5
85°	24.6	21.1	14.1	10.5	10.5	7.0	7.0	3.5	3.5	0.0	0.0
87.5°	10.5	7.0	7.0	3.5	3.5	3.5	3.5	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2691.1	2691.1	2691.1	2691.1	2691.1	2691.1	2691.1	2691.1	2691.1	2691.1	2691.1
2.5°	2701.6	2719.2	2715.7	2726.2	2722.7	2722.7	2740.2	2733.2	2750.8	2750.8	2754.3
5°	2740.2	2764.8	2764.8	2782.4	2778.9	2785.9	2803.5	2803.5	2824.6	2831.6	2831.6
7.5°	2796.5	2828.1	2835.1	2852.7	2856.2	2870.2	2884.3	2887.8	2915.9	2922.9	2926.4
10°	2873.7	2912.4	2922.9	2940.5	2947.5	2961.6	2979.1	2986.2	3021.3	3024.8	3038.9
12.5°	2968.6	3010.8	3021.3	3042.4	3045.9	3063.5	3088.0	3095.1	3130.2	3140.7	3151.3
15°	3059.9	3098.6	3116.2	3137.2	3140.7	3161.8	3182.9	3189.9	3221.5	3235.6	3246.1
17.5°	3123.2	3168.9	3179.4	3207.5	3207.5	3225.1	3246.1	3253.2	3284.8	3295.3	3302.3
20°	3137.2	3179.4	3193.4	3214.5	3218.0	3228.6	3246.1	3253.2	3281.3	3284.8	3295.3
22.5°	3084.5	3126.7	3133.7	3154.8	3158.3	3168.9	3182.9	3179.4	3214.5	3211.0	3214.5
25°	2972.1	3010.8	3010.8	3035.4	3031.8	3042.4	3049.4	3045.9	3077.5	3077.5	3077.5
27.5°	2810.5	2845.6	2849.2	2866.7	2856.2	2859.7	2866.7	2863.2	2884.3	2884.3	2884.3
30°	2610.3	2638.4	2627.8	2641.9	2634.9	2641.9	2634.9	2631.3	2638.4	2645.4	2641.9
32.5°	2360.8	2381.9	2381.9	2385.4	2385.4	2364.3	2357.3	2357.3	2353.8	2350.3	2350.3
35°	2072.8	2090.3	2083.3	2083.3	2079.8	2058.7	2048.2	2041.1	2051.7	2030.6	2044.6
37.5°	1777.6	1781.2	1770.6	1767.1	1749.5	1749.5	1732.0	1717.9	1725.0	1721.4	1707.4
40°	1454.4	1468.5	1447.4	1440.4	1450.9	1436.9	1419.3	1401.7	1415.8	1398.2	1405.3
42.5°	1138.3	1134.7	1127.7	1127.7	1127.7	1106.6	1103.1	1099.6	1103.1	1089.1	1078.5
45°	822.1	811.5	801.0	801.0	786.9	779.9	779.9	769.4	751.8	751.8	730.7
47.5°	555.1	530.5	523.5	519.9	512.9	512.9	505.9	498.9	495.4	477.8	477.8
50°	361.9	337.3	330.2	326.7	330.2	323.2	316.2	309.2	302.1	298.6	291.6
52.5°	217.8	207.3	200.2	196.7	189.7	186.2	182.7	175.7	172.1	172.1	168.6
55°	130.0	119.4	105.4	105.4	105.4	101.9	98.4	94.9	91.3	91.3	87.8
57.5°	80.8	73.8	66.7	63.2	63.2	63.2	59.7	59.7	59.7	59.7	56.2
60°	59.7	52.7	49.2	49.2	49.2	45.7	45.7	45.7	45.7	42.2	42.2
62.5°	45.7	42.2	38.6	38.6	35.1	35.1	35.1	35.1	35.1	35.1	31.6
65°	38.6	31.6	31.6	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1
67.5°	28.1	24.6	24.6	24.6	24.6	21.1	21.1	21.1	21.1	21.1	21.1
70°	21.1	21.1	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6
72.5°	17.6	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1
75°	14.1	14.1	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5
77.5°	10.5	10.5	10.5	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
80°	7.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
82.5°	3.5	3.5	3.5	3.5	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: P251573

CATALOG NUMBER: LD4B50D010TE EU4B30508050 4LBSW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2691.1	2691.1	2691.1	2691.1	2691.1	2691.1	2691.1	2691.1
2.5°	2754.3	2771.9	2754.3	2754.3	2764.8	2761.3	2768.4	2757.8
5°	2835.1	2859.7	2842.1	2838.6	2856.2	2852.7	2856.2	2849.2
7.5°	2933.5	2958.1	2940.5	2940.5	2958.1	2954.5	2965.1	2958.1
10°	3045.9	3074.0	3049.4	3052.9	3077.5	3074.0	3074.0	3074.0
12.5°	3161.8	3189.9	3175.9	3175.9	3193.4	3197.0	3200.5	3197.0
15°	3256.7	3284.8	3267.2	3267.2	3291.8	3288.3	3291.8	3288.3
17.5°	3312.9	3341.0	3319.9	3319.9	3341.0	3341.0	3344.5	3348.0
20°	3298.8	3330.5	3312.9	3305.9	3330.5	3330.5	3326.9	3326.9
22.5°	3218.0	3246.1	3232.1	3225.1	3242.6	3235.6	3232.1	3235.6
25°	3077.5	3105.6	3077.5	3077.5	3091.6	3088.0	3091.6	3088.0
27.5°	2887.8	2908.9	2880.8	2877.3	2891.3	2884.3	2880.8	2891.3
30°	2634.9	2655.9	2641.9	2631.3	2648.9	2638.4	2631.3	2634.9
32.5°	2346.8	2360.8	2353.8	2336.2	2346.8	2339.8	2336.2	2339.8
35°	2030.6	2048.2	2020.1	2016.5	2034.1	2020.1	2013.0	2030.6
37.5°	1703.9	1725.0	1700.4	1703.9	1693.3	1696.8	1689.8	1700.4
40°	1394.7	1391.2	1384.2	1380.7	1384.2	1373.6	1380.7	1370.1
42.5°	1061.0	1068.0	1064.5	1061.0	1064.5	1050.4	1043.4	1057.5
45°	737.8	734.2	727.2	720.2	720.2	716.7	716.7	706.1
47.5°	474.3	470.8	456.7	460.2	467.2	460.2	449.7	463.7
50°	288.1	284.6	284.6	281.1	288.1	281.1	274.0	274.0
52.5°	161.6	161.6	158.1	158.1	158.1	158.1	154.6	151.1
55°	87.8	84.3	84.3	84.3	80.8	80.8	80.8	80.8
57.5°	56.2	56.2	56.2	56.2	56.2	56.2	52.7	52.7
60°	42.2	42.2	42.2	42.2	38.6	42.2	38.6	38.6
62.5°	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6
65°	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
67.5°	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1
70°	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6
72.5°	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1
75°	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5
77.5°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
80°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)