

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: P251648

Luminaire Tested: **LD4B50D010TE EU4B30508030 4LBSW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251648
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 EU4B30508030 4LBSW1H
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4614.0 lumens
Efficiency: N/A
Efficacy: 78.5 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

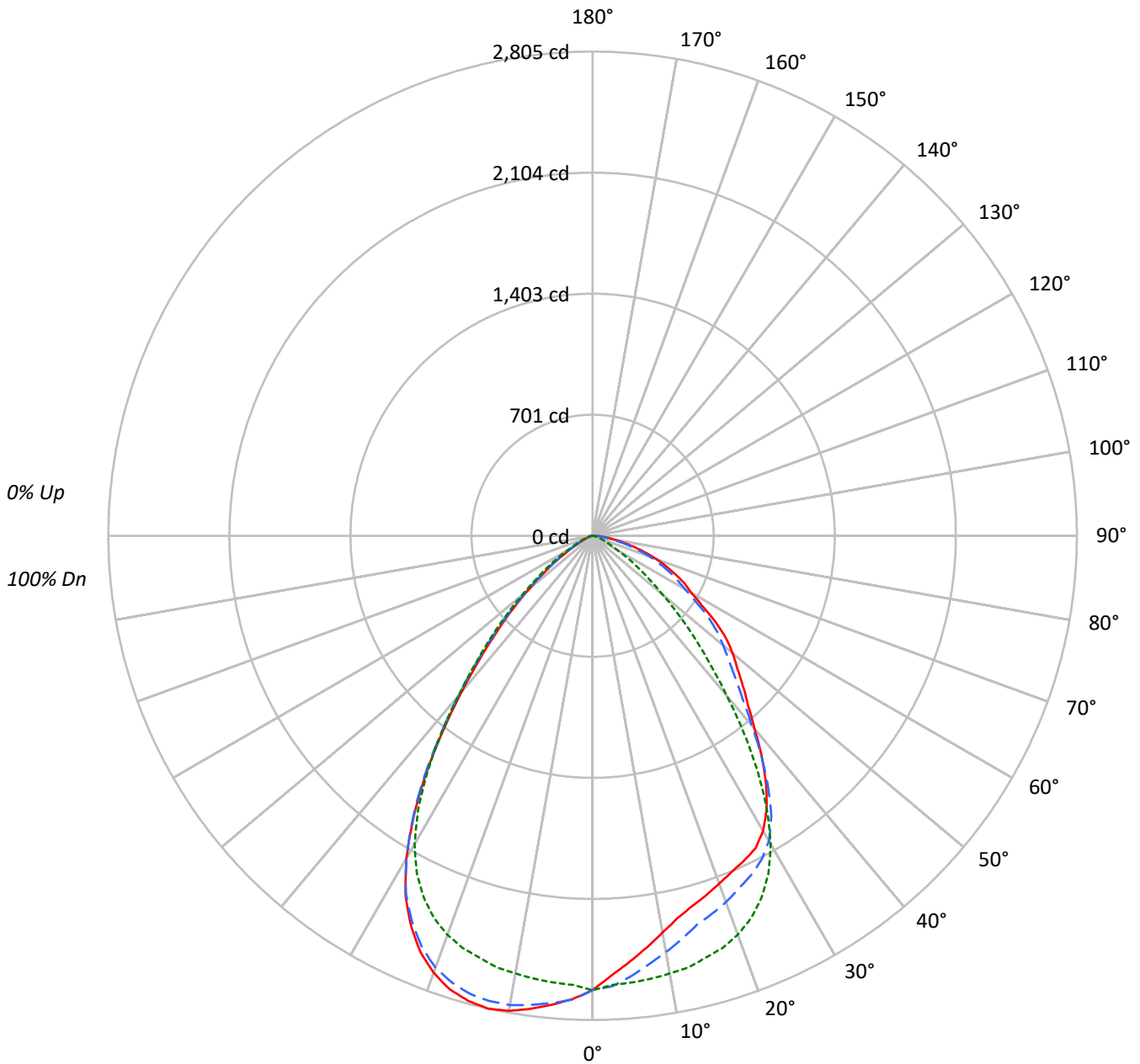
Input Watts (W): 58.77
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				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	111	108	104	101	109	106	103	100	101	99	97	98	96	94	94	93	91	89				89
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79				79
3	96	88	81	76	94	86	80	75	83	78	74	81	76	73	78	75	72	70				70
4	90	80	72	67	88	78	72	66	76	70	66	74	69	65	72	68	64	62				62
5	83	73	65	60	82	72	65	59	70	63	59	68	62	58	66	61	58	56				56
6	78	67	59	53	76	66	59	53	64	58	53	62	57	52	61	56	52	50				50
7	73	61	54	48	71	61	53	48	59	53	48	58	52	48	56	51	47	46				46
8	68	57	49	44	67	56	49	44	55	48	44	54	48	43	52	47	43	42				42
9	64	52	45	40	63	52	45	40	51	44	40	50	44	40	49	44	40	38				38
10	61	49	42	37	59	48	42	37	47	41	37	47	41	37	46	40	37	35				35

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	256529	256529	256529
5°	242248	254193	266803
10°	230947	254786	276597
15°	224171	255317	281328
20°	222339	255050	279329
25°	223228	248767	267736
30°	222166	232092	242772
35°	208241	198152	200174
40°	185567	153634	150173
45°	169706	114548	107532
50°	160457	80236	72519
55°	147552	54185	45537
60°	128918	31732	25125
65°	122036	20339	14090
70°	111158	14504	8691
75°	91953	10204	6401
80°	72344	5725	3816
85°	64520	3802	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	248.7	5.4
10°-20°	713.5	15.5
20°-30°	1057.7	22.9
30°-40°	1059.1	23.0
40°-50°	740.2	16.0
50°-60°	440.5	9.5
60°-70°	229.9	5.0
70°-80°	102.2	2.2
80°-90°	22.3	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°	2019.9	43.8
0°-40°	3079.0	66.7
0°-60°	4259.7	92.3
0°-90°	4614.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4614.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2632	2632	2632	2632	2632	
5°	2476	2561	2598	2717	2727	232
15°	2222	2334	2530	2748	2788	629
25°	2076	2171	2313	2473	2490	956
35°	1750	1771	1666	1696	1682	1085
45°	1231	1170	831	804	780	956
55°	868	814	319	278	268	771
65°	529	485	88	64	61	524
75°	244	214	27	17	17	264
85°	58	44	3	3	0	65
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°	2632.2	2632.2	2632.2	2632.2	2632.2	2632.2	2632.2	2632.2	2632.2	2632.2	2632.2
2.5°	2547.4	2578.0	2547.4	2557.6	2598.3	2561.0	2581.3	2581.3	2571.2	2594.9	2611.9
5°	2476.2	2506.7	2476.2	2489.8	2533.9	2496.5	2520.3	2513.5	2516.9	2537.3	2561.0
7.5°	2405.0	2428.7	2401.6	2418.5	2459.2	2428.7	2449.1	2449.1	2452.4	2483.0	2503.3
10°	2333.7	2354.1	2333.7	2347.3	2391.4	2364.3	2377.8	2381.2	2391.4	2418.5	2449.1
12.5°	2269.3	2286.2	2265.9	2286.2	2323.6	2296.4	2313.4	2316.8	2326.9	2357.5	2391.4
15°	2221.8	2238.8	2218.4	2235.4	2269.3	2248.9	2262.5	2269.3	2276.1	2303.2	2333.7
17.5°	2184.5	2198.0	2181.1	2201.4	2228.6	2204.8	2225.2	2225.2	2235.4	2262.5	2296.4
20°	2143.8	2157.3	2143.8	2160.7	2191.3	2170.9	2187.9	2187.9	2198.0	2228.6	2259.1
22.5°	2106.5	2113.2	2106.5	2120.0	2150.6	2133.6	2143.8	2147.2	2157.3	2184.5	2211.6
25°	2075.9	2089.5	2082.7	2096.3	2116.6	2099.7	2109.9	2113.2	2123.4	2147.2	2170.9
27.5°	2042.0	2048.8	2042.0	2059.0	2075.9	2062.4	2072.5	2069.1	2075.9	2096.3	2116.6
30°	1974.2	1981.0	1981.0	1991.1	2004.7	1997.9	2008.1	1997.9	2004.7	2021.7	2042.0
32.5°	1875.8	1879.2	1882.6	1892.8	1902.9	1892.8	1899.5	1899.5	1899.5	1913.1	1926.7
35°	1750.3	1757.1	1753.7	1760.5	1770.6	1767.3	1767.3	1763.9	1757.1	1763.9	1770.6
37.5°	1607.8	1597.7	1597.7	1607.8	1614.6	1601.0	1607.8	1601.0	1601.0	1604.4	1604.4
40°	1458.6	1448.4	1458.6	1462.0	1465.4	1458.6	1455.2	1448.4	1438.2	1441.6	1434.8
42.5°	1333.1	1326.3	1329.7	1329.7	1333.1	1326.3	1329.7	1316.1	1305.9	1299.2	1289.0
45°	1231.3	1221.1	1231.3	1224.5	1224.5	1221.1	1217.7	1211.0	1197.4	1187.2	1170.3
47.5°	1136.3	1136.3	1139.7	1139.7	1139.7	1132.9	1132.9	1119.4	1105.8	1092.2	1068.5
50°	1058.3	1051.5	1065.1	1065.1	1054.9	1051.5	1054.9	1038.0	1027.8	1010.8	987.1
52.5°	973.5	973.5	976.9	976.9	973.5	966.7	970.1	956.6	946.4	929.4	905.7
55°	868.4	861.6	871.8	871.8	868.4	865.0	868.4	858.2	848.0	834.4	814.1
57.5°	749.6	746.3	753.0	756.4	749.6	749.6	753.0	742.9	739.5	725.9	705.5
60°	661.4	658.1	664.8	668.2	661.4	661.4	661.4	647.9	641.1	627.5	614.0
62.5°	600.4	597.0	603.8	600.4	597.0	593.6	597.0	583.4	576.6	563.1	549.5
65°	529.2	532.6	535.9	535.9	532.6	529.2	529.2	522.4	515.6	502.0	485.1
67.5°	461.3	461.3	464.7	468.1	464.7	464.7	464.7	454.5	447.8	437.6	417.2
70°	390.1	386.7	396.9	396.9	390.1	393.5	390.1	386.7	379.9	366.3	349.4
72.5°	315.5	315.5	318.9	318.9	315.5	315.5	315.5	312.1	301.9	295.1	278.1
75°	244.2	244.2	247.6	251.0	244.2	244.2	247.6	240.8	234.1	223.9	213.7
77.5°	183.2	179.8	183.2	183.2	179.8	179.8	179.8	176.4	173.0	162.8	152.6
80°	128.9	125.5	128.9	128.9	128.9	125.5	125.5	122.1	122.1	115.3	105.2
82.5°	88.2	84.8	88.2	88.2	88.2	84.8	84.8	84.8	81.4	78.0	71.2
85°	57.7	54.3	54.3	57.7	54.3	54.3	54.3	54.3	50.9	47.5	44.1
87.5°	27.1	27.1	27.1	27.1	27.1	27.1	27.1	23.7	23.7	23.7	20.4
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°	2632.2	2632.2	2632.2	2632.2	2632.2	2632.2	2632.2	2632.2	2632.2	2632.2	2632.2
2.5°	2598.3	2591.5	2611.9	2605.1	2608.5	2591.5	2618.7	2605.1	2622.1	2605.1	2639.0
5°	2554.2	2547.4	2578.0	2574.6	2578.0	2564.4	2594.9	2591.5	2611.9	2598.3	2635.6
7.5°	2506.7	2499.9	2533.9	2537.3	2544.0	2530.5	2571.2	2571.2	2591.5	2588.1	2628.8
10°	2452.4	2455.8	2489.8	2496.5	2510.1	2503.3	2540.6	2550.8	2578.0	2574.6	2625.4
12.5°	2401.6	2401.6	2445.7	2459.2	2469.4	2466.0	2510.1	2523.7	2554.2	2561.0	2608.5
15°	2350.7	2354.1	2394.8	2415.1	2428.7	2425.3	2472.8	2489.8	2527.1	2530.5	2588.1
17.5°	2310.0	2306.6	2350.7	2367.6	2388.0	2384.6	2435.5	2455.8	2493.2	2503.3	2557.6
20°	2276.1	2272.7	2313.4	2333.7	2347.3	2343.9	2394.8	2418.5	2452.4	2459.2	2513.5
22.5°	2235.4	2228.6	2269.3	2286.2	2299.8	2296.4	2340.5	2357.5	2391.4	2398.2	2449.1
25°	2187.9	2181.1	2218.4	2228.6	2238.8	2232.0	2269.3	2279.5	2306.6	2313.4	2364.3
27.5°	2133.6	2116.6	2147.2	2147.2	2153.9	2143.8	2170.9	2181.1	2204.8	2204.8	2252.3
30°	2048.8	2025.1	2042.0	2038.6	2042.0	2028.4	2045.4	2048.8	2065.8	2062.4	2096.3
32.5°	1930.1	1896.2	1906.3	1896.2	1886.0	1865.6	1886.0	1879.2	1892.8	1879.2	1909.7
35°	1767.3	1733.3	1729.9	1716.4	1706.2	1689.2	1689.2	1672.3	1675.7	1665.5	1685.8
37.5°	1590.9	1546.8	1540.0	1512.9	1495.9	1475.5	1475.5	1462.0	1445.0	1438.2	1455.2
40°	1417.9	1370.4	1353.4	1309.3	1292.4	1272.0	1258.4	1241.5	1234.7	1207.6	1221.1
42.5°	1268.6	1217.7	1180.4	1132.9	1116.0	1085.5	1065.1	1044.8	1034.6	1004.0	1017.6
45°	1143.1	1082.1	1041.4	980.3	956.6	922.6	892.1	868.4	844.6	831.1	824.3
47.5°	1038.0	973.5	919.2	851.4	814.1	783.6	742.9	719.1	688.6	671.6	661.4
50°	949.8	878.5	817.5	739.5	702.2	668.2	620.7	583.4	556.3	529.2	522.4
52.5°	871.8	797.1	729.3	641.1	597.0	556.3	505.4	464.7	441.0	410.4	407.0
55°	780.2	715.7	641.1	549.5	505.4	464.7	410.4	369.7	339.2	318.9	312.1
57.5°	681.8	620.7	549.5	457.9	413.8	369.7	318.9	281.5	254.4	237.4	234.1
60°	590.2	532.6	464.7	373.1	329.0	291.7	237.4	200.1	176.4	162.8	156.0
62.5°	522.4	468.1	403.7	318.9	278.1	240.8	190.0	156.0	135.7	122.1	115.3
65°	457.9	403.7	346.0	268.0	234.1	200.1	152.6	122.1	101.8	88.2	81.4
67.5°	390.1	342.6	288.3	223.9	190.0	162.8	122.1	95.0	78.0	67.8	61.1
70°	322.2	278.1	234.1	179.8	156.0	128.9	95.0	74.6	57.7	50.9	44.1
72.5°	254.4	220.5	183.2	139.1	118.7	101.8	74.6	54.3	44.1	37.3	30.5
75°	190.0	166.2	135.7	105.2	88.2	74.6	54.3	40.7	33.9	27.1	23.7
77.5°	135.7	115.3	95.0	71.2	64.4	54.3	37.3	30.5	23.7	17.0	13.6
80°	91.6	81.4	64.4	50.9	40.7	37.3	27.1	20.4	13.6	10.2	10.2
82.5°	61.1	50.9	40.7	30.5	27.1	23.7	17.0	13.6	10.2	6.8	6.8
85°	37.3	30.5	23.7	17.0	17.0	13.6	10.2	6.8	3.4	3.4	3.4
87.5°	17.0	13.6	10.2	6.8	6.8	3.4	3.4	3.4	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°	2632.2	2632.2	2632.2	2632.2	2632.2	2632.2	2632.2	2632.2	2632.2	2632.2	2632.2
2.5°	2666.1	2645.8	2632.2	2649.2	2656.0	2645.8	2656.0	2672.9	2689.9	2693.3	2645.8
5°	2669.5	2649.2	2642.4	2662.8	2666.1	2662.8	2672.9	2696.7	2717.0	2723.8	2676.3
7.5°	2669.5	2656.0	2652.6	2676.3	2679.7	2676.3	2693.3	2720.4	2740.8	2754.3	2706.9
10°	2662.8	2656.0	2659.4	2679.7	2686.5	2686.5	2710.2	2740.8	2761.1	2774.7	2727.2
12.5°	2652.6	2652.6	2652.6	2676.3	2683.1	2686.5	2706.9	2747.6	2761.1	2781.5	2734.0
15°	2635.6	2635.6	2635.6	2659.4	2669.5	2669.5	2693.3	2730.6	2747.6	2767.9	2720.4
17.5°	2605.1	2605.1	2608.5	2628.8	2639.0	2639.0	2662.8	2703.5	2713.6	2737.4	2689.9
20°	2561.0	2561.0	2564.4	2584.7	2594.9	2588.1	2618.7	2652.6	2662.8	2683.1	2635.6
22.5°	2496.5	2496.5	2496.5	2516.9	2523.7	2520.3	2550.8	2581.3	2581.3	2608.5	2557.6
25°	2401.6	2408.4	2401.6	2421.9	2428.7	2425.3	2452.4	2479.6	2472.8	2503.3	2452.4
27.5°	2286.2	2282.8	2282.8	2299.8	2299.8	2296.4	2316.8	2347.3	2340.5	2360.9	2313.4
30°	2126.8	2137.0	2120.0	2143.8	2133.6	2126.8	2140.4	2167.5	2157.3	2174.3	2137.0
32.5°	1943.6	1930.1	1930.1	1930.1	1936.9	1919.9	1933.5	1947.0	1936.9	1953.8	1913.1
35°	1702.8	1706.2	1696.0	1699.4	1702.8	1682.5	1696.0	1709.6	1696.0	1706.2	1668.9
37.5°	1462.0	1465.4	1441.6	1455.2	1441.6	1434.8	1448.4	1455.2	1441.6	1451.8	1411.1
40°	1221.1	1214.4	1211.0	1211.0	1214.4	1197.4	1207.6	1217.7	1207.6	1214.4	1177.0
42.5°	1010.8	1007.4	1000.7	1004.0	993.9	990.5	993.9	1004.0	993.9	1000.7	973.5
45°	827.7	820.9	810.7	814.1	814.1	797.1	807.3	814.1	803.9	807.3	783.6
47.5°	658.1	647.9	647.9	644.5	644.5	637.7	647.9	644.5	634.3	641.1	617.4
50°	512.2	505.4	505.4	505.4	505.4	495.2	498.6	505.4	495.2	495.2	481.7
52.5°	400.3	390.1	383.3	383.3	383.3	379.9	379.9	383.3	373.1	373.1	369.7
55°	301.9	298.5	288.3	288.3	288.3	278.1	281.5	281.5	278.1	278.1	268.0
57.5°	223.9	213.7	206.9	206.9	200.1	200.1	196.7	200.1	193.3	193.3	186.6
60°	149.3	142.5	139.1	135.7	135.7	132.3	135.7	132.3	132.3	128.9	125.5
62.5°	108.5	101.8	95.0	95.0	95.0	91.6	91.6	91.6	91.6	91.6	88.2
65°	78.0	71.2	71.2	67.8	67.8	64.4	64.4	64.4	64.4	64.4	61.1
67.5°	54.3	50.9	47.5	47.5	47.5	47.5	47.5	47.5	44.1	44.1	44.1
70°	40.7	37.3	33.9	33.9	33.9	33.9	33.9	30.5	33.9	33.9	30.5
72.5°	27.1	27.1	23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7
75°	20.4	20.4	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
77.5°	13.6	13.6	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2
80°	10.2	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
82.5°	6.8	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
85°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	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: P251648

CATALOG NUMBER: LD4B50D010TE EU4B30508030 4LBSW1H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2632.2	2632.2	2632.2	2632.2	2632.2	2632.2	2632.2	2632.2
2.5°	2696.7	2693.3	2686.5	2696.7	2669.5	2659.4	2656.0	2686.5
5°	2734.0	2727.2	2727.2	2737.4	2706.9	2700.1	2693.3	2727.2
7.5°	2767.9	2761.1	2761.1	2771.3	2744.2	2737.4	2730.6	2764.5
10°	2788.3	2788.3	2788.3	2795.0	2771.3	2764.5	2761.1	2795.0
12.5°	2798.4	2798.4	2795.0	2808.6	2778.1	2778.1	2771.3	2805.2
15°	2784.9	2784.9	2784.9	2795.0	2767.9	2761.1	2761.1	2788.3
17.5°	2750.9	2750.9	2747.6	2757.7	2727.2	2727.2	2723.8	2754.3
20°	2700.1	2700.1	2693.3	2706.9	2676.3	2666.1	2662.8	2693.3
22.5°	2618.7	2615.3	2611.9	2618.7	2591.5	2584.7	2581.3	2608.5
25°	2513.5	2510.1	2503.3	2510.1	2479.6	2469.4	2469.4	2489.8
27.5°	2364.3	2364.3	2354.1	2364.3	2330.3	2326.9	2323.6	2347.3
30°	2181.1	2167.5	2160.7	2174.3	2140.4	2140.4	2133.6	2157.3
32.5°	1953.8	1940.3	1936.9	1943.6	1913.1	1902.9	1916.5	1930.1
35°	1692.6	1696.0	1682.5	1682.5	1655.3	1658.7	1662.1	1682.5
37.5°	1441.6	1434.8	1431.4	1434.8	1414.5	1407.7	1400.9	1421.3
40°	1207.6	1190.6	1187.2	1187.2	1170.3	1166.9	1170.3	1180.4
42.5°	987.1	983.7	970.1	976.9	959.9	966.7	963.3	963.3
45°	797.1	800.5	787.0	797.1	783.6	773.4	773.4	780.2
47.5°	630.9	630.9	627.5	627.5	617.4	620.7	614.0	624.1
50°	488.5	488.5	481.7	485.1	478.3	478.3	474.9	478.3
52.5°	373.1	369.7	369.7	366.3	359.6	362.9	366.3	359.6
55°	271.4	274.8	268.0	271.4	264.6	268.0	264.6	268.0
57.5°	186.6	190.0	183.2	190.0	183.2	186.6	183.2	183.2
60°	128.9	128.9	125.5	128.9	125.5	125.5	122.1	128.9
62.5°	88.2	88.2	88.2	88.2	88.2	84.8	88.2	88.2
65°	64.4	61.1	61.1	61.1	61.1	61.1	61.1	61.1
67.5°	44.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1
70°	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
72.5°	23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7
75°	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
77.5°	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2
80°	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
82.5°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
85°	3.4	3.4	3.4	0.0	3.4	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)