

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: P251647

Luminaire Tested: **LD4B50D010TE EU4B30508027 4LBSW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251647
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 EU4B30508027 4LBSW1H
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4413.0 lumens
Efficiency: N/A
Efficacy: 75.1 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

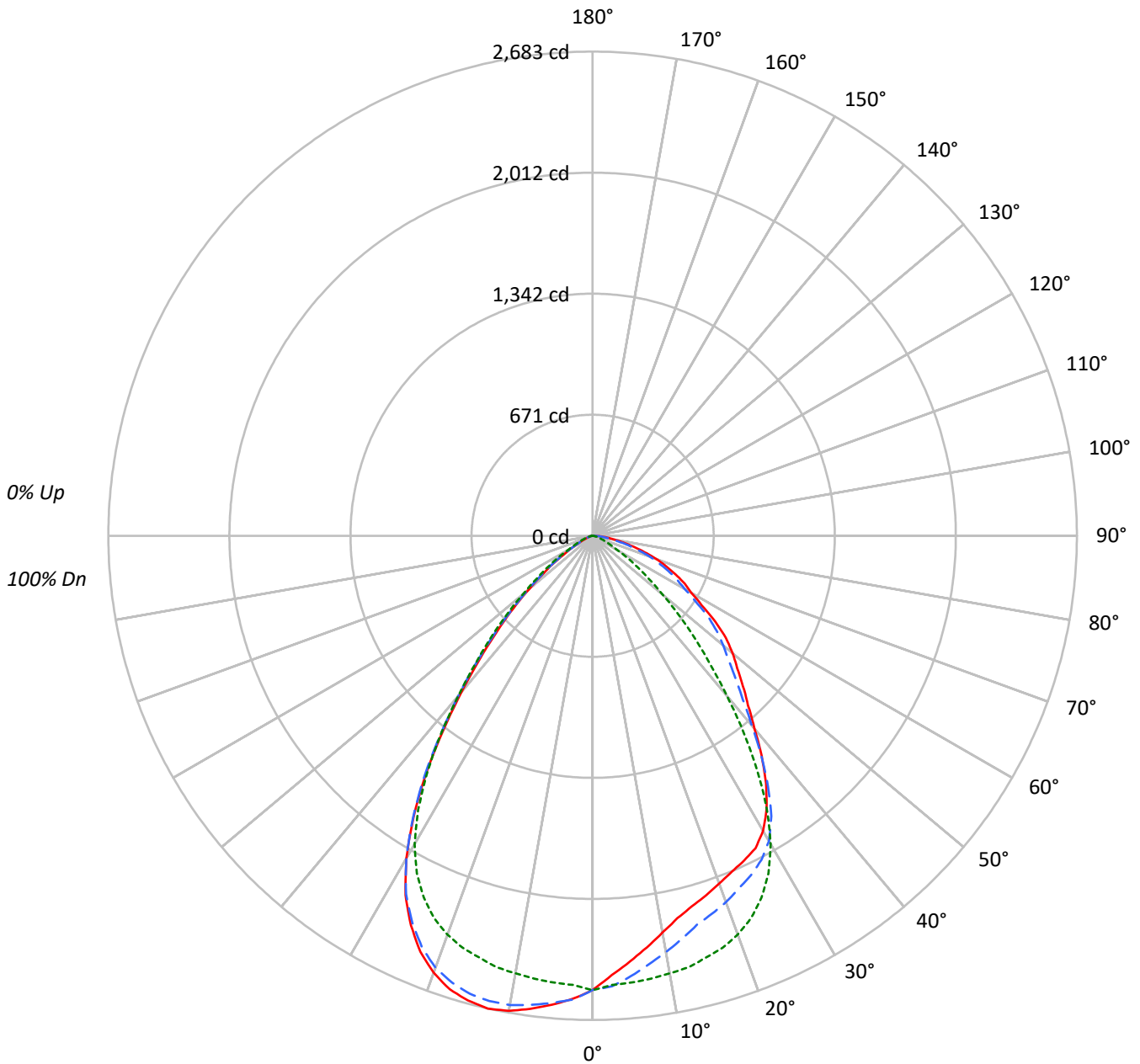
Input Watts (W): 58.77
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	245360	245360	245360
5°	231692	243118	255181
10°	220892	243683	264554
15°	214404	244189	269070
20°	212653	243943	267164
25°	213507	237928	256069
30°	212488	221975	232205
35°	199163	189514	191454
40°	177475	146942	143634
45°	162318	109545	102846
50°	153468	76734	69350
55°	141113	51823	43549
60°	123304	30348	24033
65°	116709	19463	13467
70°	106314	13877	8320
75°	87962	9790	6100
80°	69201	5444	3648
85°	61725	3578	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	237.9	5.4
10°-20°	682.4	15.5
20°-30°	1011.6	22.9
30°-40°	1013.0	23.0
40°-50°	708.0	16.0
50°-60°	421.3	9.5
60°-70°	219.9	5.0
70°-80°	97.7	2.2
80°-90°	21.3	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°	1931.9	43.8
0°-40°	2944.9	66.7
0°-60°	4074.1	92.3
0°-90°	4413.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4413.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2518	2518	2518	2518	2518	
5°	2368	2449	2485	2599	2608	222
15°	2125	2232	2420	2628	2667	602
25°	1986	2076	2213	2365	2381	915
35°	1674	1694	1593	1622	1609	1038
45°	1178	1119	795	769	746	914
55°	830	779	305	266	256	737
65°	506	464	84	62	58	501
75°	234	204	26	16	16	253
85°	55	42	3	3	0	62
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°	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6
2.5°	2436.5	2465.7	2436.5	2446.2	2485.1	2449.4	2468.9	2468.9	2459.2	2481.9	2498.1
5°	2368.3	2397.5	2368.3	2381.3	2423.5	2387.8	2410.5	2404.0	2407.3	2426.7	2449.4
7.5°	2300.2	2322.9	2296.9	2313.2	2352.1	2322.9	2342.4	2342.4	2345.6	2374.8	2394.3
10°	2232.1	2251.5	2232.1	2245.0	2287.2	2261.3	2274.2	2277.5	2287.2	2313.2	2342.4
12.5°	2170.4	2186.6	2167.2	2186.6	2222.3	2196.4	2212.6	2215.8	2225.6	2254.8	2287.2
15°	2125.0	2141.2	2121.8	2138.0	2170.4	2151.0	2163.9	2170.4	2176.9	2202.9	2232.1
17.5°	2089.3	2102.3	2086.1	2105.5	2131.5	2108.8	2128.2	2128.2	2138.0	2163.9	2196.4
20°	2050.4	2063.4	2050.4	2066.6	2095.8	2076.3	2092.6	2092.6	2102.3	2131.5	2160.7
22.5°	2014.7	2021.2	2014.7	2027.7	2056.9	2040.7	2050.4	2053.6	2063.4	2089.3	2115.3
25°	1985.5	1998.5	1992.0	2005.0	2024.4	2008.2	2017.9	2021.2	2030.9	2053.6	2076.3
27.5°	1953.1	1959.5	1953.1	1969.3	1985.5	1972.5	1982.3	1979.0	1985.5	2005.0	2024.4
30°	1888.2	1894.7	1894.7	1904.4	1917.4	1910.9	1920.6	1910.9	1917.4	1933.6	1953.1
32.5°	1794.1	1797.3	1800.6	1810.3	1820.0	1810.3	1816.8	1816.8	1816.8	1829.8	1842.8
35°	1674.0	1680.5	1677.3	1683.8	1693.5	1690.3	1690.3	1687.0	1680.5	1687.0	1693.5
37.5°	1537.8	1528.1	1528.1	1537.8	1544.3	1531.3	1537.8	1531.3	1531.3	1534.5	1534.5
40°	1395.0	1385.3	1395.0	1398.3	1401.5	1395.0	1391.8	1385.3	1375.6	1378.8	1372.3
42.5°	1275.0	1268.5	1271.8	1271.8	1275.0	1268.5	1271.8	1258.8	1249.0	1242.6	1232.8
45°	1177.7	1167.9	1177.7	1171.2	1171.2	1167.9	1164.7	1158.2	1145.2	1135.5	1119.3
47.5°	1086.8	1086.8	1090.1	1090.1	1090.1	1083.6	1083.6	1070.6	1057.6	1044.7	1021.9
50°	1012.2	1005.7	1018.7	1018.7	1009.0	1005.7	1009.0	992.7	983.0	966.8	944.1
52.5°	931.1	931.1	934.4	934.4	931.1	924.6	927.9	914.9	905.2	888.9	866.2
55°	830.5	824.0	833.8	833.8	830.5	827.3	830.5	820.8	811.1	798.1	778.6
57.5°	717.0	713.7	720.2	723.5	717.0	717.0	720.2	710.5	707.3	694.3	674.8
60°	632.6	629.4	635.9	639.1	632.6	632.6	632.6	619.7	613.2	600.2	587.2
62.5°	574.2	571.0	577.5	574.2	571.0	567.7	571.0	558.0	551.5	538.6	525.6
65°	506.1	509.4	512.6	512.6	509.4	506.1	506.1	499.6	493.1	480.2	463.9
67.5°	441.2	441.2	444.5	447.7	444.5	444.5	444.5	434.7	428.2	418.5	399.0
70°	373.1	369.8	379.6	379.6	373.1	376.3	373.1	369.8	363.4	350.4	334.2
72.5°	301.7	301.7	305.0	305.0	301.7	301.7	301.7	298.5	288.7	282.3	266.0
75°	233.6	233.6	236.8	240.1	233.6	233.6	236.8	230.3	223.9	214.1	204.4
77.5°	175.2	171.9	175.2	175.2	171.9	171.9	171.9	168.7	165.5	155.7	146.0
80°	123.3	120.0	123.3	123.3	123.3	120.0	120.0	116.8	116.8	110.3	100.6
82.5°	84.4	81.1	84.4	84.4	84.4	81.1	81.1	81.1	77.9	74.6	68.1
85°	55.2	51.9	51.9	55.2	51.9	51.9	51.9	51.9	48.7	45.4	42.2
87.5°	26.0	26.0	26.0	26.0	26.0	26.0	26.0	22.7	22.7	22.7	19.5
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°	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6
2.5°	2485.1	2478.6	2498.1	2491.6	2494.9	2478.6	2504.6	2491.6	2507.8	2491.6	2524.0
5°	2442.9	2436.5	2465.7	2462.4	2465.7	2452.7	2481.9	2478.6	2498.1	2485.1	2520.8
7.5°	2397.5	2391.0	2423.5	2426.7	2433.2	2420.2	2459.2	2459.2	2478.6	2475.4	2514.3
10°	2345.6	2348.9	2381.3	2387.8	2400.8	2394.3	2430.0	2439.7	2465.7	2462.4	2511.1
12.5°	2296.9	2296.9	2339.1	2352.1	2361.8	2358.6	2400.8	2413.7	2442.9	2449.4	2494.9
15°	2248.3	2251.5	2290.5	2309.9	2322.9	2319.7	2365.1	2381.3	2417.0	2420.2	2475.4
17.5°	2209.4	2206.1	2248.3	2264.5	2284.0	2280.7	2329.4	2348.9	2384.5	2394.3	2446.2
20°	2176.9	2173.7	2212.6	2232.1	2245.0	2241.8	2290.5	2313.2	2345.6	2352.1	2404.0
22.5°	2138.0	2131.5	2170.4	2186.6	2199.6	2196.4	2238.6	2254.8	2287.2	2293.7	2342.4
25°	2092.6	2086.1	2121.8	2131.5	2141.2	2134.7	2170.4	2180.2	2206.1	2212.6	2261.3
27.5°	2040.7	2024.4	2053.6	2053.6	2060.1	2050.4	2076.3	2086.1	2108.8	2108.8	2154.2
30°	1959.5	1936.8	1953.1	1949.8	1953.1	1940.1	1956.3	1959.5	1975.8	1972.5	2005.0
32.5°	1846.0	1813.6	1823.3	1813.6	1803.8	1784.4	1803.8	1797.3	1810.3	1797.3	1826.5
35°	1690.3	1657.8	1654.6	1641.6	1631.9	1615.7	1615.7	1599.4	1602.7	1592.9	1612.4
37.5°	1521.6	1479.4	1472.9	1446.9	1430.7	1411.3	1411.3	1398.3	1382.1	1375.6	1391.8
40°	1356.1	1310.7	1294.5	1252.3	1236.1	1216.6	1203.6	1187.4	1180.9	1155.0	1167.9
42.5°	1213.4	1164.7	1129.0	1083.6	1067.4	1038.2	1018.7	999.2	989.5	960.3	973.3
45°	1093.3	1034.9	996.0	937.6	914.9	882.4	853.2	830.5	807.8	794.8	788.4
47.5°	992.7	931.1	879.2	814.3	778.6	749.4	710.5	687.8	658.6	642.4	632.6
50°	908.4	840.3	781.9	707.3	671.6	639.1	593.7	558.0	532.1	506.1	499.6
52.5°	833.8	762.4	697.5	613.2	571.0	532.1	483.4	444.5	421.8	392.6	389.3
55°	746.2	684.5	613.2	525.6	483.4	444.5	392.6	353.6	324.4	305.0	298.5
57.5°	652.1	593.7	525.6	438.0	395.8	353.6	305.0	269.3	243.3	227.1	223.9
60°	564.5	509.4	444.5	356.9	314.7	279.0	227.1	191.4	168.7	155.7	149.2
62.5°	499.6	447.7	386.1	305.0	266.0	230.3	181.7	149.2	129.8	116.8	110.3
65°	438.0	386.1	330.9	256.3	223.9	191.4	146.0	116.8	97.3	84.4	77.9
67.5°	373.1	327.7	275.8	214.1	181.7	155.7	116.8	90.8	74.6	64.9	58.4
70°	308.2	266.0	223.9	171.9	149.2	123.3	90.8	71.4	55.2	48.7	42.2
72.5°	243.3	210.9	175.2	133.0	113.5	97.3	71.4	51.9	42.2	35.7	29.2
75°	181.7	159.0	129.8	100.6	84.4	71.4	51.9	38.9	32.4	26.0	22.7
77.5°	129.8	110.3	90.8	68.1	61.6	51.9	35.7	29.2	22.7	16.2	13.0
80°	87.6	77.9	61.6	48.7	38.9	35.7	26.0	19.5	13.0	9.7	9.7
82.5°	58.4	48.7	38.9	29.2	26.0	22.7	16.2	13.0	9.7	6.5	6.5
85°	35.7	29.2	22.7	16.2	16.2	13.0	9.7	6.5	3.2	3.2	3.2
87.5°	16.2	13.0	9.7	6.5	6.5	3.2	3.2	3.2	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°	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6
2.5°	2550.0	2530.5	2517.6	2533.8	2540.3	2530.5	2540.3	2556.5	2572.7	2576.0	2530.5
5°	2553.2	2533.8	2527.3	2546.8	2550.0	2546.8	2556.5	2579.2	2598.7	2605.2	2559.7
7.5°	2553.2	2540.3	2537.0	2559.7	2563.0	2559.7	2576.0	2601.9	2621.4	2634.4	2588.9
10°	2546.8	2540.3	2543.5	2563.0	2569.5	2569.5	2592.2	2621.4	2640.8	2653.8	2608.4
12.5°	2537.0	2537.0	2537.0	2559.7	2566.2	2569.5	2588.9	2627.9	2640.8	2660.3	2614.9
15°	2520.8	2520.8	2520.8	2543.5	2553.2	2553.2	2576.0	2611.6	2627.9	2647.3	2601.9
17.5°	2491.6	2491.6	2494.9	2514.3	2524.0	2524.0	2546.8	2585.7	2595.4	2618.1	2572.7
20°	2449.4	2449.4	2452.7	2472.1	2481.9	2475.4	2504.6	2537.0	2546.8	2566.2	2520.8
22.5°	2387.8	2387.8	2387.8	2407.3	2413.7	2410.5	2439.7	2468.9	2468.9	2494.9	2446.2
25°	2296.9	2303.4	2296.9	2316.4	2322.9	2319.7	2345.6	2371.6	2365.1	2394.3	2345.6
27.5°	2186.6	2183.4	2183.4	2199.6	2199.6	2196.4	2215.8	2245.0	2238.6	2258.0	2212.6
30°	2034.2	2043.9	2027.7	2050.4	2040.7	2034.2	2047.1	2073.1	2063.4	2079.6	2043.9
32.5°	1859.0	1846.0	1846.0	1846.0	1852.5	1836.3	1849.2	1862.2	1852.5	1868.7	1829.8
35°	1628.6	1631.9	1622.1	1625.4	1628.6	1609.2	1622.1	1635.1	1622.1	1631.9	1596.2
37.5°	1398.3	1401.5	1378.8	1391.8	1378.8	1372.3	1385.3	1391.8	1378.8	1388.6	1349.6
40°	1167.9	1161.5	1158.2	1158.2	1161.5	1145.2	1155.0	1164.7	1155.0	1161.5	1125.8
42.5°	966.8	963.6	957.1	960.3	950.6	947.3	950.6	960.3	950.6	957.1	931.1
45°	791.6	785.1	775.4	778.6	778.6	762.4	772.1	778.6	768.9	772.1	749.4
47.5°	629.4	619.7	619.7	616.4	616.4	609.9	619.7	616.4	606.7	613.2	590.5
50°	489.9	483.4	483.4	483.4	483.4	473.7	476.9	483.4	473.7	473.7	460.7
52.5°	382.8	373.1	366.6	366.6	366.6	363.4	363.4	366.6	356.9	356.9	353.6
55°	288.7	285.5	275.8	275.8	275.8	266.0	269.3	269.3	266.0	266.0	256.3
57.5°	214.1	204.4	197.9	197.9	191.4	191.4	188.2	191.4	184.9	184.9	178.4
60°	142.7	136.3	133.0	129.8	129.8	126.5	129.8	126.5	126.5	123.3	120.0
62.5°	103.8	97.3	90.8	90.8	90.8	87.6	87.6	87.6	87.6	87.6	84.4
65°	74.6	68.1	68.1	64.9	64.9	61.6	61.6	61.6	61.6	61.6	58.4
67.5°	51.9	48.7	45.4	45.4	45.4	45.4	45.4	45.4	42.2	42.2	42.2
70°	38.9	35.7	32.4	32.4	32.4	32.4	32.4	29.2	32.4	32.4	29.2
72.5°	26.0	26.0	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7
75°	19.5	19.5	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2
77.5°	13.0	13.0	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
80°	9.7	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
82.5°	6.5	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
85°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	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: P251647

CATALOG NUMBER: LD4B50D010TE EU4B30508027 4LBSW1H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6
2.5°	2579.2	2576.0	2569.5	2579.2	2553.2	2543.5	2540.3	2569.5
5°	2614.9	2608.4	2608.4	2618.1	2588.9	2582.4	2576.0	2608.4
7.5°	2647.3	2640.8	2640.8	2650.6	2624.6	2618.1	2611.6	2644.1
10°	2666.8	2666.8	2666.8	2673.3	2650.6	2644.1	2640.8	2673.3
12.5°	2676.5	2676.5	2673.3	2686.3	2657.1	2657.1	2650.6	2683.0
15°	2663.6	2663.6	2663.6	2673.3	2647.3	2640.8	2640.8	2666.8
17.5°	2631.1	2631.1	2627.9	2637.6	2608.4	2608.4	2605.2	2634.4
20°	2582.4	2582.4	2576.0	2588.9	2559.7	2550.0	2546.8	2576.0
22.5°	2504.6	2501.3	2498.1	2504.6	2478.6	2472.1	2468.9	2494.9
25°	2404.0	2400.8	2394.3	2400.8	2371.6	2361.8	2361.8	2381.3
27.5°	2261.3	2261.3	2251.5	2261.3	2228.8	2225.6	2222.3	2245.0
30°	2086.1	2073.1	2066.6	2079.6	2047.1	2047.1	2040.7	2063.4
32.5°	1868.7	1855.7	1852.5	1859.0	1829.8	1820.0	1833.0	1846.0
35°	1618.9	1622.1	1609.2	1609.2	1583.2	1586.5	1589.7	1609.2
37.5°	1378.8	1372.3	1369.1	1372.3	1352.9	1346.4	1339.9	1359.4
40°	1155.0	1138.7	1135.5	1135.5	1119.3	1116.0	1119.3	1129.0
42.5°	944.1	940.8	927.9	934.4	918.1	924.6	921.4	921.4
45°	762.4	765.6	752.7	762.4	749.4	739.7	739.7	746.2
47.5°	603.4	603.4	600.2	600.2	590.5	593.7	587.2	596.9
50°	467.2	467.2	460.7	463.9	457.4	457.4	454.2	457.4
52.5°	356.9	353.6	353.6	350.4	343.9	347.1	350.4	343.9
55°	259.5	262.8	256.3	259.5	253.1	256.3	253.1	256.3
57.5°	178.4	181.7	175.2	181.7	175.2	178.4	175.2	175.2
60°	123.3	123.3	120.0	123.3	120.0	120.0	116.8	123.3
62.5°	84.4	84.4	84.4	84.4	84.4	81.1	84.4	84.4
65°	61.6	58.4	58.4	58.4	58.4	58.4	58.4	58.4
67.5°	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2
70°	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2
72.5°	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7
75°	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2
77.5°	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
80°	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
82.5°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
85°	3.2	3.2	3.2	0.0	3.2	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)