

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: P251729

Luminaire Tested: **LD4B50D010TE EU4B30508050 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251729
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-11)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B50D010TE EU4B30508050 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS 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: 4355.0 lumens
Efficiency: N/A
Efficacy: 74.1 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.03 / 1.12
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

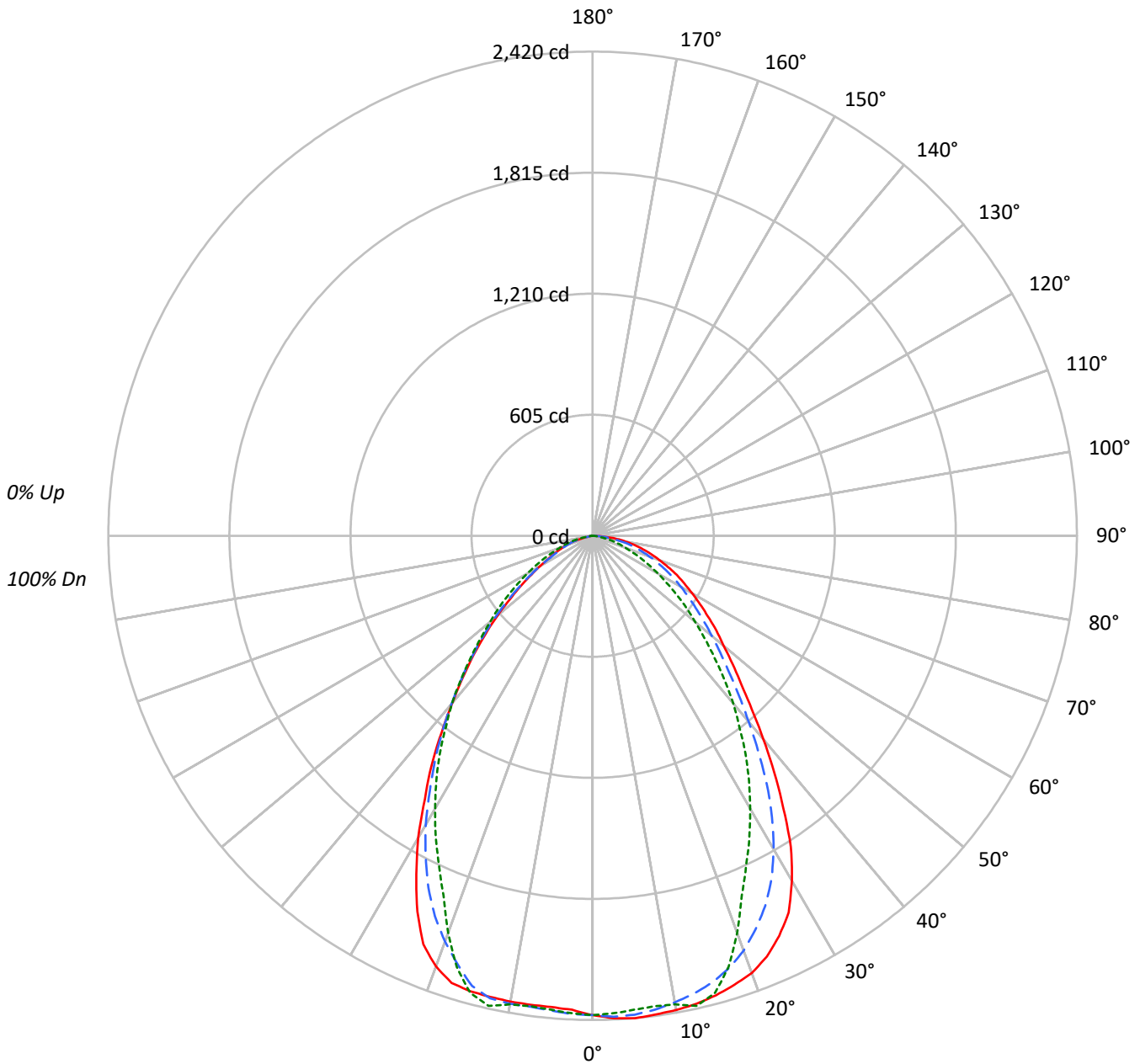
Input Watts (W): 58.77
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P251729

CATALOG NUMBER: LD4B50D010TE EU4B30508050 4LBLWW1LI

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			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	100	100
1	111	107	103	100	108	105	102	99	101	98	96	97	95	93	93	91	90	88	88	88	88
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77	77	77	77
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69	67	67	67	67
4	88	78	70	64	86	76	69	64	74	68	63	72	67	62	70	65	62	60	60	60	60
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55	53	53	53	53
6	76	65	57	51	75	64	56	51	62	55	50	60	54	50	59	54	50	48	48	48	48
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43	43	43	43
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41	39	39	39	39
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36	36	36	36
10	59	47	40	35	58	47	40	35	46	39	35	45	39	35	44	39	35	33	33	33	33

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	233500	233500	233500
5°	236789	232670	231291
10°	238141	235360	233965
15°	239961	238538	237832
20°	241194	218969	237554
25°	237240	195302	222884
30°	224158	177107	196081
35°	197688	158402	167183
40°	168939	138991	138545
45°	144773	118627	115719
50°	129436	101205	94276
55°	119381	86554	74609
60°	111609	73269	58884
65°	106932	60765	48612
70°	101100	49040	41033
75°	97903	39688	29107
80°	94625	21664	7913
85°	82524	11741	3914



TEST NUMBER: P251729

CATALOG NUMBER: LD4B50D010TE EU4B30508050 4LBLWW1LI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	227.6	5.2
10°-20°	654.8	15.0
20°-30°	908.3	20.9
30°-40°	896.5	20.6
40°-50°	703.2	16.1
50°-60°	487.1	11.2
60°-70°	298.5	6.9
70°-80°	149.2	3.4
80°-90°	29.9	0.7
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°	1790.7	41.1
0°-40°	2687.2	61.7
0°-60°	3877.5	89.0
0°-90°	4355.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4355.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2396	2396	2396	2396	2396	
5°	2420	2403	2378	2382	2364	230
15°	2378	2312	2364	2329	2357	672
25°	2206	2041	1816	1943	2073	1010
35°	1662	1518	1331	1374	1405	1037
45°	1050	963	861	850	840	821
55°	703	629	509	453	439	633
65°	464	400	264	197	211	458
75°	260	218	105	81	77	276
85°	74	42	10	4	4	84
90°	0	0	0	0	0	



TEST NUMBER: P251729

CATALOG NUMBER: LD4B50D010TE EU4B30508050 4LBLWW1LI

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2395.9	2395.9	2395.9	2395.9	2395.9	2395.9	2395.9	2395.9	2395.9	2395.9	2395.9
2.5°	2413.4	2406.4	2402.9	2413.4	2409.9	2416.9	2413.4	2409.9	2402.9	2406.4	2406.4
5°	2420.4	2409.9	2406.4	2413.4	2413.4	2420.4	2416.9	2409.9	2402.9	2406.4	2402.9
7.5°	2413.4	2406.4	2406.4	2409.9	2406.4	2413.4	2406.4	2399.4	2392.3	2395.9	2388.8
10°	2406.4	2395.9	2395.9	2395.9	2395.9	2402.9	2395.9	2385.3	2374.8	2374.8	2367.8
12.5°	2395.9	2385.3	2385.3	2388.8	2381.8	2388.8	2381.8	2364.2	2353.7	2350.2	2343.2
15°	2378.3	2367.8	2367.8	2367.8	2360.7	2364.2	2353.7	2336.1	2322.1	2322.1	2311.5
17.5°	2353.7	2343.2	2339.6	2339.6	2329.1	2332.6	2322.1	2304.5	2283.4	2276.4	2265.9
20°	2325.6	2311.5	2304.5	2304.5	2294.0	2297.5	2283.4	2262.4	2234.3	2223.7	2206.2
22.5°	2276.4	2269.4	2258.9	2255.3	2244.8	2241.3	2227.2	2199.1	2174.5	2157.0	2128.9
25°	2206.2	2202.6	2192.1	2188.6	2174.5	2167.5	2153.5	2121.8	2097.3	2069.1	2041.0
27.5°	2121.8	2107.8	2100.8	2090.2	2076.2	2072.7	2055.1	2027.0	1988.4	1970.8	1935.7
30°	1991.9	1984.8	1977.8	1967.3	1953.2	1946.2	1935.7	1904.0	1872.4	1840.8	1809.2
32.5°	1844.3	1830.3	1819.7	1823.2	1805.7	1798.6	1781.1	1753.0	1724.9	1703.8	1668.7
35°	1661.6	1658.1	1654.6	1647.6	1633.5	1630.0	1616.0	1594.9	1563.3	1538.7	1517.6
37.5°	1489.5	1479.0	1471.9	1471.9	1457.9	1457.9	1447.4	1422.8	1405.2	1387.6	1359.5
40°	1327.9	1310.3	1310.3	1310.3	1296.3	1299.8	1292.8	1268.2	1250.6	1229.5	1212.0
42.5°	1176.9	1169.8	1166.3	1159.3	1152.3	1152.3	1145.2	1131.2	1113.6	1099.6	1082.0
45°	1050.4	1046.9	1043.4	1039.8	1032.8	1029.3	1025.8	1004.7	994.2	980.1	962.6
47.5°	948.5	941.5	938.0	934.5	927.4	923.9	916.9	902.8	892.3	878.2	864.2
50°	853.7	850.1	846.6	846.6	839.6	836.1	829.1	818.5	801.0	793.9	776.4
52.5°	779.9	772.9	765.8	765.8	758.8	758.8	748.3	737.7	720.2	713.1	699.1
55°	702.6	699.1	695.6	695.6	688.5	685.0	681.5	667.5	653.4	642.9	628.8
57.5°	635.9	632.3	628.8	628.8	621.8	618.3	614.8	604.2	590.2	583.2	565.6
60°	572.6	572.6	569.1	565.6	562.1	558.6	555.1	544.5	534.0	523.4	509.4
62.5°	516.4	512.9	509.4	505.9	505.9	502.4	498.8	484.8	477.8	467.2	453.2
65°	463.7	456.7	456.7	453.2	453.2	449.7	446.1	432.1	425.1	414.5	400.5
67.5°	407.5	404.0	400.5	400.5	397.0	397.0	393.5	382.9	372.4	365.4	351.3
70°	354.8	354.8	351.3	351.3	347.8	344.3	344.3	337.2	326.7	316.2	302.1
72.5°	309.1	305.6	302.1	302.1	298.6	298.6	295.1	288.1	281.0	274.0	256.4
75°	260.0	256.4	256.4	256.4	252.9	252.9	249.4	242.4	235.4	228.3	217.8
77.5°	214.3	214.3	210.8	210.8	207.3	207.3	207.3	200.2	193.2	186.2	172.1
80°	168.6	168.6	168.6	165.1	161.6	161.6	161.6	154.6	147.5	140.5	130.0
82.5°	123.0	119.4	119.4	115.9	112.4	112.4	112.4	105.4	101.9	91.3	84.3
85°	73.8	70.3	70.3	66.7	63.2	63.2	63.2	59.7	52.7	49.2	42.2
87.5°	28.1	28.1	28.1	28.1	28.1	24.6	24.6	21.1	21.1	17.6	17.6
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: P251729

CATALOG NUMBER: LD4B50D010TE EU4B30508050 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2395.9	2395.9	2395.9	2395.9	2395.9	2395.9	2395.9	2395.9	2395.9	2395.9	2395.9
2.5°	2406.4	2402.9	2402.9	2399.4	2402.9	2395.9	2395.9	2395.9	2395.9	2388.8	2388.8
5°	2399.4	2399.4	2395.9	2392.3	2395.9	2388.8	2392.3	2388.8	2388.8	2378.3	2378.3
7.5°	2385.3	2381.8	2374.8	2371.3	2374.8	2371.3	2371.3	2371.3	2378.3	2371.3	2371.3
10°	2360.7	2357.2	2350.2	2346.7	2346.7	2343.2	2350.2	2357.2	2371.3	2378.3	2392.3
12.5°	2336.1	2329.1	2325.6	2325.6	2329.1	2329.1	2343.2	2360.7	2395.9	2406.4	2420.4
15°	2304.5	2301.0	2301.0	2311.5	2325.6	2336.1	2364.2	2374.8	2378.3	2364.2	2357.2
17.5°	2262.4	2262.4	2265.9	2276.4	2287.0	2287.0	2290.5	2283.4	2276.4	2258.9	2237.8
20°	2192.1	2188.6	2181.6	2181.6	2181.6	2167.5	2174.5	2149.9	2132.4	2111.3	2079.7
22.5°	2104.3	2086.7	2062.1	2044.6	2034.0	2027.0	2009.4	1981.3	1960.2	1946.2	1932.1
25°	2009.4	1981.3	1946.2	1918.1	1900.5	1897.0	1872.4	1847.8	1833.8	1816.2	1809.2
27.5°	1900.5	1868.9	1826.8	1798.6	1784.6	1774.1	1753.0	1728.4	1710.8	1696.8	1686.2
30°	1774.1	1742.4	1707.3	1672.2	1658.1	1640.6	1619.5	1601.9	1584.4	1573.8	1566.8
32.5°	1633.5	1601.9	1566.8	1542.2	1524.6	1510.6	1493.0	1475.5	1461.4	1454.4	1447.4
35°	1489.5	1457.9	1429.8	1405.2	1391.1	1380.6	1366.6	1345.5	1334.9	1331.4	1324.4
37.5°	1334.9	1313.9	1289.3	1268.2	1257.6	1243.6	1236.6	1219.0	1219.0	1205.0	1205.0
40°	1190.9	1176.9	1152.3	1134.7	1127.7	1117.1	1106.6	1099.6	1096.1	1092.5	1089.0
42.5°	1064.4	1043.4	1029.3	1015.3	1004.7	997.7	997.7	987.1	983.6	973.1	969.6
45°	948.5	938.0	913.4	902.8	899.3	888.8	885.3	878.2	867.7	860.7	857.2
47.5°	846.6	836.1	822.0	808.0	801.0	793.9	786.9	776.4	769.3	758.8	755.3
50°	762.3	744.8	730.7	720.2	709.6	706.1	699.1	685.0	678.0	667.5	667.5
52.5°	685.0	671.0	653.4	642.9	632.3	625.3	614.8	604.2	593.7	590.2	579.6
55°	618.3	600.7	583.2	569.1	558.6	548.0	544.5	530.5	516.4	509.4	502.4
57.5°	555.1	537.5	516.4	498.8	491.8	484.8	474.3	460.2	449.7	439.1	432.1
60°	491.8	477.8	456.7	439.1	432.1	421.6	411.0	397.0	386.4	375.9	368.9
62.5°	439.1	418.0	400.5	382.9	372.4	365.4	351.3	340.8	326.7	316.2	305.6
65°	386.4	365.4	347.8	330.2	323.2	312.7	302.1	288.1	274.0	263.5	249.4
67.5°	333.7	316.2	298.6	281.0	274.0	267.0	252.9	238.9	224.8	214.3	200.2
70°	288.1	270.5	252.9	238.9	231.9	224.8	210.8	196.7	186.2	172.1	161.6
72.5°	245.9	231.9	214.3	200.2	193.2	186.2	172.1	161.6	147.5	140.5	130.0
75°	203.8	189.7	175.6	161.6	154.6	147.5	137.0	126.5	115.9	105.4	98.4
77.5°	161.6	147.5	133.5	123.0	115.9	112.4	101.9	91.3	80.8	73.8	63.2
80°	119.4	105.4	94.9	84.3	77.3	73.8	63.2	56.2	49.2	38.6	35.1
82.5°	73.8	63.2	56.2	49.2	45.7	42.2	35.1	28.1	24.6	21.1	17.6
85°	38.6	35.1	28.1	24.6	21.1	21.1	17.6	14.1	10.5	10.5	7.0
87.5°	14.1	10.5	10.5	7.0	7.0	7.0	7.0	3.5	3.5	3.5	3.5
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: P251729

CATALOG NUMBER: LD4B50D010TE EU4B30508050 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2395.9	2395.9	2395.9	2395.9	2395.9	2395.9	2395.9	2395.9	2395.9	2395.9	2395.9
2.5°	2381.8	2385.3	2388.8	2392.3	2388.8	2388.8	2395.9	2381.8	2392.3	2392.3	2378.3
5°	2374.8	2381.8	2378.3	2385.3	2378.3	2378.3	2381.8	2374.8	2381.8	2381.8	2371.3
7.5°	2367.8	2374.8	2374.8	2378.3	2374.8	2374.8	2378.3	2367.8	2374.8	2374.8	2364.2
10°	2399.4	2406.4	2402.9	2399.4	2388.8	2381.8	2385.3	2367.8	2374.8	2374.8	2364.2
12.5°	2409.9	2406.4	2392.3	2385.3	2378.3	2371.3	2374.8	2360.7	2367.8	2367.8	2360.7
15°	2339.6	2332.6	2322.1	2325.6	2318.6	2315.1	2322.1	2315.1	2329.1	2336.1	2329.1
17.5°	2220.2	2216.7	2209.7	2209.7	2209.7	2213.2	2223.7	2223.7	2244.8	2258.9	2265.9
20°	2065.6	2062.1	2065.6	2072.7	2076.2	2090.2	2114.8	2128.9	2157.0	2181.6	2199.1
22.5°	1925.1	1932.1	1942.7	1956.7	1960.2	1977.8	2009.4	2023.5	2058.6	2086.7	2104.3
25°	1805.7	1816.2	1823.2	1833.8	1837.3	1858.4	1886.5	1904.0	1942.7	1963.8	1984.8
27.5°	1686.2	1700.3	1703.8	1717.9	1717.9	1738.9	1763.5	1781.1	1805.7	1826.8	1844.3
30°	1570.3	1573.8	1584.4	1587.9	1594.9	1616.0	1630.0	1640.6	1668.7	1679.2	1689.7
32.5°	1443.8	1457.9	1464.9	1468.4	1464.9	1482.5	1496.5	1503.6	1514.1	1528.1	1535.2
35°	1324.4	1331.4	1334.9	1342.0	1345.5	1349.0	1356.0	1359.5	1373.6	1377.1	1380.6
37.5°	1205.0	1215.5	1212.0	1215.5	1215.5	1219.0	1226.0	1222.5	1233.1	1236.6	1233.1
40°	1085.5	1085.5	1092.5	1089.0	1092.5	1089.0	1096.1	1096.1	1096.1	1099.6	1096.1
42.5°	966.1	969.6	966.1	973.1	966.1	969.6	969.6	966.1	969.6	966.1	966.1
45°	857.2	857.2	857.2	857.2	850.1	850.1	857.2	853.7	850.1	846.6	843.1
47.5°	751.8	755.3	748.3	751.8	748.3	744.8	741.2	741.2	737.7	730.7	727.2
50°	664.0	656.9	653.4	656.9	653.4	649.9	646.4	639.4	635.9	628.8	625.3
52.5°	576.1	569.1	562.1	562.1	558.6	551.5	548.0	541.0	537.5	530.5	530.5
55°	498.8	491.8	484.8	481.3	474.3	467.2	463.7	456.7	453.2	446.1	439.1
57.5°	425.1	414.5	407.5	404.0	400.5	389.9	386.4	379.4	372.4	365.4	361.8
60°	358.3	347.8	337.2	333.7	330.2	319.7	316.2	305.6	302.1	295.1	291.6
62.5°	295.1	288.1	274.0	270.5	263.5	256.4	245.9	242.4	238.9	242.4	242.4
65°	238.9	228.3	217.8	214.3	207.3	200.2	196.7	193.2	196.7	196.7	200.2
67.5°	189.7	179.2	168.6	168.6	165.1	158.1	158.1	158.1	161.6	161.6	165.1
70°	151.1	144.0	137.0	133.5	133.5	130.0	133.5	133.5	137.0	137.0	137.0
72.5°	119.4	115.9	112.4	108.9	108.9	108.9	108.9	108.9	108.9	108.9	112.4
75°	91.3	87.8	84.3	84.3	80.8	80.8	80.8	80.8	80.8	80.8	77.3
77.5°	59.7	56.2	52.7	52.7	49.2	45.7	45.7	42.2	42.2	42.2	42.2
80°	31.6	28.1	24.6	21.1	21.1	17.6	17.6	17.6	17.6	14.1	14.1
82.5°	14.1	10.5	10.5	10.5	10.5	7.0	7.0	7.0	7.0	7.0	7.0
85°	7.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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: P251729

CATALOG NUMBER: LD4B50D010TE EU4B30508050 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2395.9	2395.9	2395.9	2395.9	2395.9	2395.9	2395.9	2395.9
2.5°	2385.3	2378.3	2385.3	2388.8	2381.8	2378.3	2385.3	2371.3
5°	2381.8	2371.3	2374.8	2378.3	2371.3	2367.8	2374.8	2364.2
7.5°	2374.8	2371.3	2374.8	2378.3	2367.8	2367.8	2374.8	2364.2
10°	2374.8	2367.8	2371.3	2378.3	2371.3	2371.3	2378.3	2364.2
12.5°	2371.3	2360.7	2371.3	2374.8	2367.8	2367.8	2374.8	2360.7
15°	2346.7	2346.7	2350.2	2357.2	2353.7	2357.2	2367.8	2357.2
17.5°	2294.0	2301.0	2315.1	2325.6	2332.6	2339.6	2350.2	2343.2
20°	2230.7	2241.3	2258.9	2269.4	2283.4	2287.0	2304.5	2290.5
22.5°	2132.4	2153.5	2167.5	2178.1	2188.6	2199.1	2213.2	2209.7
25°	2012.9	2027.0	2037.5	2048.1	2062.1	2069.1	2076.2	2072.7
27.5°	1868.9	1875.9	1890.0	1897.0	1904.0	1911.1	1925.1	1907.6
30°	1710.8	1714.3	1721.4	1731.9	1731.9	1738.9	1746.0	1742.4
32.5°	1549.2	1549.2	1556.3	1563.3	1559.8	1563.3	1577.3	1559.8
35°	1391.1	1387.6	1398.2	1401.7	1401.7	1398.2	1408.7	1405.2
37.5°	1236.6	1240.1	1243.6	1247.1	1240.1	1247.1	1247.1	1240.1
40°	1096.1	1092.5	1099.6	1103.1	1099.6	1103.1	1103.1	1089.0
42.5°	969.6	962.6	966.1	969.6	966.1	969.6	966.1	959.0
45°	846.6	843.1	843.1	846.6	839.6	839.6	839.6	839.6
47.5°	730.7	727.2	730.7	730.7	723.7	723.7	727.2	723.7
50°	625.3	621.8	621.8	621.8	618.3	618.3	621.8	621.8
52.5°	530.5	523.4	523.4	523.4	523.4	523.4	526.9	519.9
55°	435.6	435.6	435.6	435.6	439.1	439.1	439.1	439.1
57.5°	358.3	361.8	361.8	365.4	361.8	365.4	365.4	361.8
60°	298.6	295.1	298.6	298.6	302.1	302.1	302.1	302.1
62.5°	245.9	245.9	245.9	249.4	249.4	249.4	252.9	249.4
65°	203.8	203.8	207.3	207.3	207.3	210.8	210.8	210.8
67.5°	168.6	168.6	168.6	168.6	172.1	172.1	175.6	172.1
70°	140.5	140.5	140.5	140.5	140.5	144.0	144.0	144.0
72.5°	112.4	112.4	112.4	112.4	115.9	115.9	115.9	115.9
75°	77.3	77.3	77.3	80.8	77.3	77.3	77.3	77.3
77.5°	38.6	38.6	38.6	38.6	38.6	35.1	35.1	35.1
80°	14.1	14.1	14.1	14.1	14.1	14.1	10.5	14.1
82.5°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	3.5
85°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)