

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: P251727

Luminaire Tested: **LD4B50D010TE EU4B30508035 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251727
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 EU4B30508035 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4314.0 lumens
Efficiency: N/A
Efficacy: 73.4 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

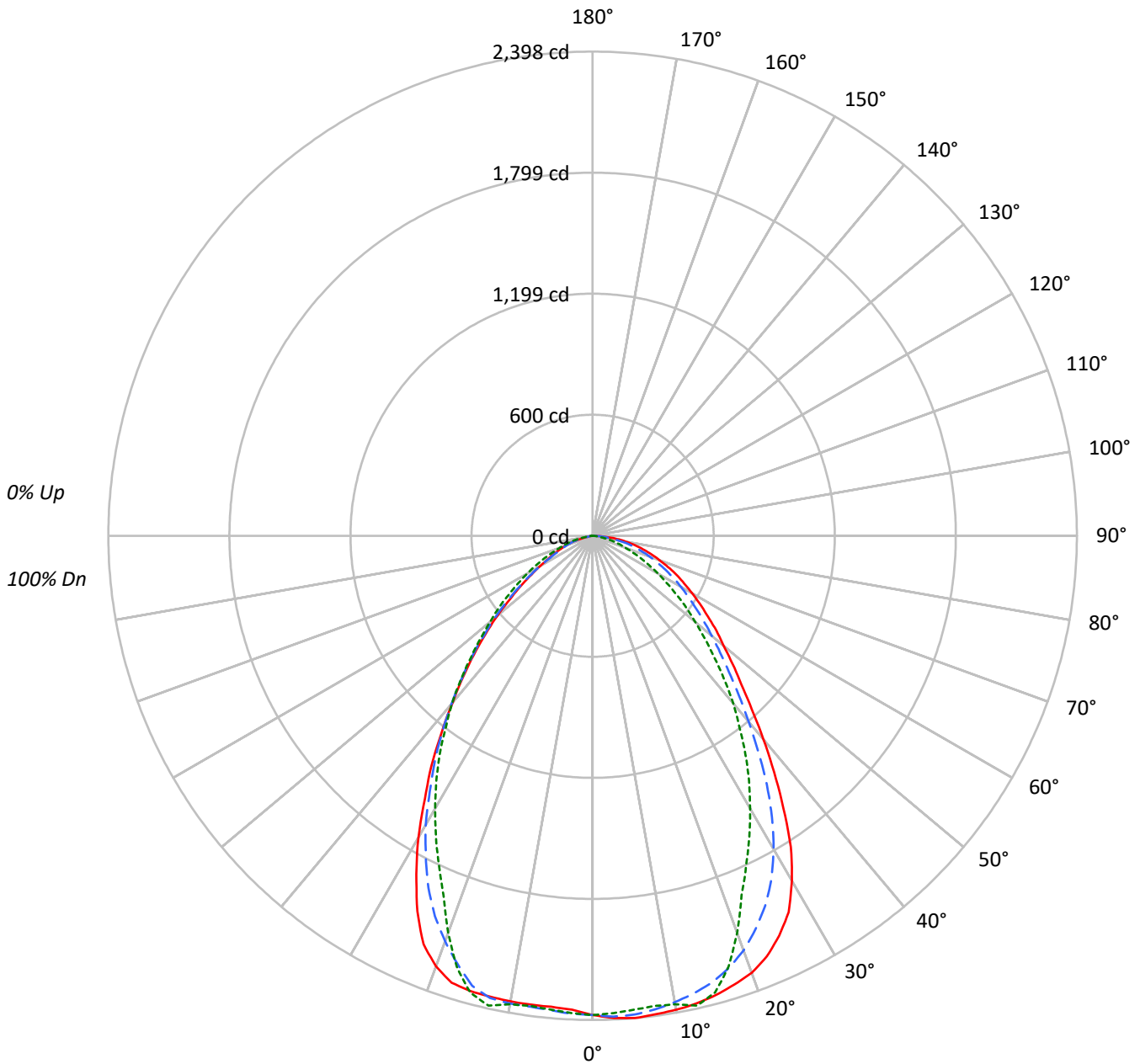
Input Watts (W): 58.77
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	231297	231297	231297
5°	234568	230479	229119
10°	235895	233143	231768
15°	237701	236298	235592
20°	238923	216905	235314
25°	235003	193463	220776
30°	222043	175442	194235
35°	195832	156915	165612
40°	167348	137693	137248
45°	143409	117511	114630
50°	128208	100250	93381
55°	118259	85738	73912
60°	110556	72587	58338
65°	105917	60188	48150
70°	100159	48584	40662
75°	96961	39312	28844
80°	93727	21495	7801
85°	81741	11629	3914



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	225.5	5.2
10°-20°	648.7	15.0
20°-30°	899.7	20.9
30°-40°	888.1	20.6
40°-50°	696.6	16.1
50°-60°	482.5	11.2
60°-70°	295.7	6.9
70°-80°	147.8	3.4
80°-90°	29.6	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°	1773.9	41.1
0°-40°	2661.9	61.7
0°-60°	3841.0	89.0
0°-90°	4314.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4314.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2373	2373	2373	2373	2373	
5°	2398	2380	2356	2359	2342	228
15°	2356	2290	2342	2307	2335	665
25°	2185	2022	1799	1924	2053	1000
35°	1646	1503	1319	1361	1392	1027
45°	1040	954	853	842	832	813
55°	696	623	505	449	435	627
65°	459	397	261	195	209	454
75°	258	216	104	80	77	273
85°	73	42	10	4	4	83
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°	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3
2.5°	2390.7	2383.7	2380.3	2390.7	2387.2	2394.2	2390.7	2387.2	2380.3	2383.7	2383.7
5°	2397.7	2387.2	2383.7	2390.7	2390.7	2397.7	2394.2	2387.2	2380.3	2383.7	2380.3
7.5°	2390.7	2383.7	2383.7	2387.2	2383.7	2390.7	2383.7	2376.8	2369.8	2373.3	2366.3
10°	2383.7	2373.3	2373.3	2373.3	2373.3	2380.3	2373.3	2362.9	2352.4	2352.4	2345.5
12.5°	2373.3	2362.9	2362.9	2366.3	2359.4	2366.3	2359.4	2342.0	2331.5	2328.1	2321.1
15°	2355.9	2345.5	2345.5	2345.5	2338.5	2342.0	2331.5	2314.1	2300.2	2300.2	2289.8
17.5°	2331.5	2321.1	2317.6	2317.6	2307.2	2310.7	2300.2	2282.8	2261.9	2255.0	2244.5
20°	2303.7	2289.8	2282.8	2282.8	2272.4	2275.9	2261.9	2241.1	2213.2	2202.8	2185.4
22.5°	2255.0	2248.0	2237.6	2234.1	2223.7	2220.2	2206.3	2178.4	2154.1	2136.7	2108.8
25°	2185.4	2181.9	2171.5	2168.0	2154.1	2147.1	2133.2	2101.9	2077.5	2049.7	2021.8
27.5°	2101.9	2087.9	2081.0	2070.5	2056.6	2053.1	2035.7	2007.9	1969.6	1952.2	1917.4
30°	1973.1	1966.2	1959.2	1948.8	1934.8	1927.9	1917.4	1886.1	1854.8	1823.5	1792.2
32.5°	1827.0	1813.0	1802.6	1806.1	1788.7	1781.7	1764.3	1736.5	1708.6	1687.8	1653.0
35°	1646.0	1642.5	1639.0	1632.1	1618.2	1614.7	1600.8	1579.9	1548.6	1524.2	1503.3
37.5°	1475.5	1465.0	1458.1	1458.1	1444.2	1444.2	1433.7	1409.4	1392.0	1374.6	1346.7
40°	1315.4	1298.0	1298.0	1298.0	1284.1	1287.6	1280.6	1256.2	1238.8	1218.0	1200.6
42.5°	1165.8	1158.8	1155.3	1148.4	1141.4	1141.4	1134.5	1120.5	1103.1	1089.2	1071.8
45°	1040.5	1037.0	1033.5	1030.1	1023.1	1019.6	1016.1	995.3	984.8	970.9	953.5
47.5°	939.6	932.6	929.1	925.7	918.7	915.2	908.3	894.3	883.9	870.0	856.1
50°	845.6	842.1	838.7	838.7	831.7	828.2	821.3	810.8	793.4	786.5	769.1
52.5°	772.5	765.6	758.6	758.6	751.7	751.7	741.2	730.8	713.4	706.4	692.5
55°	696.0	692.5	689.0	689.0	682.1	678.6	675.1	661.2	647.3	636.8	622.9
57.5°	629.9	626.4	622.9	622.9	615.9	612.5	609.0	598.5	584.6	577.7	560.3
60°	567.2	567.2	563.7	560.3	556.8	553.3	549.8	539.4	528.9	518.5	504.6
62.5°	511.5	508.1	504.6	501.1	501.1	497.6	494.1	480.2	473.3	462.8	448.9
65°	459.3	452.4	452.4	448.9	448.9	445.4	441.9	428.0	421.1	410.6	396.7
67.5°	403.7	400.2	396.7	396.7	393.2	393.2	389.8	379.3	368.9	361.9	348.0
70°	351.5	351.5	348.0	348.0	344.5	341.0	341.0	334.1	323.6	313.2	299.3
72.5°	306.2	302.8	299.3	299.3	295.8	295.8	292.3	285.4	278.4	271.4	254.0
75°	257.5	254.0	254.0	254.0	250.6	250.6	247.1	240.1	233.2	226.2	215.8
77.5°	212.3	212.3	208.8	208.8	205.3	205.3	205.3	198.4	191.4	184.4	170.5
80°	167.0	167.0	167.0	163.6	160.1	160.1	160.1	153.1	146.2	139.2	128.8
82.5°	121.8	118.3	118.3	114.8	111.4	111.4	111.4	104.4	100.9	90.5	83.5
85°	73.1	69.6	69.6	66.1	62.6	62.6	62.6	59.2	52.2	48.7	41.8
87.5°	27.8	27.8	27.8	27.8	27.8	24.4	24.4	20.9	20.9	17.4	17.4
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°	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3
2.5°	2383.7	2380.3	2380.3	2376.8	2380.3	2373.3	2373.3	2373.3	2373.3	2366.3	2366.3
5°	2376.8	2376.8	2373.3	2369.8	2373.3	2366.3	2369.8	2366.3	2366.3	2355.9	2355.9
7.5°	2362.9	2359.4	2352.4	2348.9	2352.4	2348.9	2348.9	2348.9	2355.9	2348.9	2348.9
10°	2338.5	2335.0	2328.1	2324.6	2324.6	2321.1	2328.1	2335.0	2348.9	2355.9	2369.8
12.5°	2314.1	2307.2	2303.7	2303.7	2307.2	2307.2	2321.1	2338.5	2373.3	2383.7	2397.7
15°	2282.8	2279.3	2279.3	2289.8	2303.7	2314.1	2342.0	2352.4	2355.9	2342.0	2335.0
17.5°	2241.1	2241.1	2244.5	2255.0	2265.4	2265.4	2268.9	2261.9	2255.0	2237.6	2216.7
20°	2171.5	2168.0	2161.0	2161.0	2161.0	2147.1	2154.1	2129.7	2112.3	2091.4	2060.1
22.5°	2084.5	2067.1	2042.7	2025.3	2014.9	2007.9	1990.5	1962.7	1941.8	1927.9	1914.0
25°	1990.5	1962.7	1927.9	1900.0	1882.6	1879.2	1854.8	1830.4	1816.5	1799.1	1792.2
27.5°	1882.6	1851.3	1809.6	1781.7	1767.8	1757.4	1736.5	1712.1	1694.7	1680.8	1670.4
30°	1757.4	1726.0	1691.2	1656.4	1642.5	1625.1	1604.2	1586.8	1569.4	1559.0	1552.0
32.5°	1618.2	1586.8	1552.0	1527.7	1510.3	1496.4	1479.0	1461.6	1447.6	1440.7	1433.7
35°	1475.5	1444.2	1416.3	1392.0	1378.0	1367.6	1353.7	1332.8	1322.4	1318.9	1311.9
37.5°	1322.4	1301.5	1277.1	1256.2	1245.8	1231.9	1224.9	1207.5	1207.5	1193.6	1193.6
40°	1179.7	1165.8	1141.4	1124.0	1117.1	1106.6	1096.2	1089.2	1085.7	1082.3	1078.8
42.5°	1054.4	1033.5	1019.6	1005.7	995.3	988.3	988.3	977.9	974.4	963.9	960.5
45°	939.6	929.1	904.8	894.3	890.9	880.4	876.9	870.0	859.5	852.6	849.1
47.5°	838.7	828.2	814.3	800.4	793.4	786.5	779.5	769.1	762.1	751.7	748.2
50°	755.1	737.7	723.8	713.4	702.9	699.5	692.5	678.6	671.6	661.2	661.2
52.5°	678.6	664.7	647.3	636.8	626.4	619.4	609.0	598.5	588.1	584.6	574.2
55°	612.5	595.1	577.7	563.7	553.3	542.9	539.4	525.5	511.5	504.6	497.6
57.5°	549.8	532.4	511.5	494.1	487.2	480.2	469.8	455.9	445.4	435.0	428.0
60°	487.2	473.3	452.4	435.0	428.0	417.6	407.1	393.2	382.8	372.4	365.4
62.5°	435.0	414.1	396.7	379.3	368.9	361.9	348.0	337.6	323.6	313.2	302.8
65°	382.8	361.9	344.5	327.1	320.2	309.7	299.3	285.4	271.4	261.0	247.1
67.5°	330.6	313.2	295.8	278.4	271.4	264.5	250.6	236.6	222.7	212.3	198.4
70°	285.4	268.0	250.6	236.6	229.7	222.7	208.8	194.9	184.4	170.5	160.1
72.5°	243.6	229.7	212.3	198.4	191.4	184.4	170.5	160.1	146.2	139.2	128.8
75°	201.8	187.9	174.0	160.1	153.1	146.2	135.7	125.3	114.8	104.4	97.4
77.5°	160.1	146.2	132.2	121.8	114.8	111.4	100.9	90.5	80.0	73.1	62.6
80°	118.3	104.4	94.0	83.5	76.6	73.1	62.6	55.7	48.7	38.3	34.8
82.5°	73.1	62.6	55.7	48.7	45.2	41.8	34.8	27.8	24.4	20.9	17.4
85°	38.3	34.8	27.8	24.4	20.9	20.9	17.4	13.9	10.4	10.4	7.0
87.5°	13.9	10.4	10.4	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3
2.5°	2359.4	2362.9	2366.3	2369.8	2366.3	2366.3	2373.3	2359.4	2369.8	2369.8	2355.9
5°	2352.4	2359.4	2355.9	2362.9	2355.9	2355.9	2359.4	2352.4	2359.4	2359.4	2348.9
7.5°	2345.5	2352.4	2352.4	2355.9	2352.4	2352.4	2355.9	2345.5	2352.4	2352.4	2342.0
10°	2376.8	2383.7	2380.3	2376.8	2366.3	2359.4	2362.9	2345.5	2352.4	2352.4	2342.0
12.5°	2387.2	2383.7	2369.8	2362.9	2355.9	2348.9	2352.4	2338.5	2345.5	2345.5	2338.5
15°	2317.6	2310.7	2300.2	2303.7	2296.7	2293.3	2300.2	2293.3	2307.2	2314.1	2307.2
17.5°	2199.3	2195.8	2188.9	2188.9	2188.9	2192.3	2202.8	2202.8	2223.7	2237.6	2244.5
20°	2046.2	2042.7	2046.2	2053.1	2056.6	2070.5	2094.9	2108.8	2136.7	2161.0	2178.4
22.5°	1907.0	1914.0	1924.4	1938.3	1941.8	1959.2	1990.5	2004.4	2039.2	2067.1	2084.5
25°	1788.7	1799.1	1806.1	1816.5	1820.0	1840.9	1868.7	1886.1	1924.4	1945.3	1966.2
27.5°	1670.4	1684.3	1687.8	1701.7	1701.7	1722.6	1746.9	1764.3	1788.7	1809.6	1827.0
30°	1555.5	1559.0	1569.4	1572.9	1579.9	1600.8	1614.7	1625.1	1653.0	1663.4	1673.8
32.5°	1430.2	1444.2	1451.1	1454.6	1451.1	1468.5	1482.4	1489.4	1499.8	1513.8	1520.7
35°	1311.9	1318.9	1322.4	1329.3	1332.8	1336.3	1343.2	1346.7	1360.6	1364.1	1367.6
37.5°	1193.6	1204.1	1200.6	1204.1	1204.1	1207.5	1214.5	1211.0	1221.4	1224.9	1221.4
40°	1075.3	1075.3	1082.3	1078.8	1082.3	1078.8	1085.7	1085.7	1085.7	1089.2	1085.7
42.5°	957.0	960.5	957.0	963.9	957.0	960.5	960.5	957.0	960.5	957.0	957.0
45°	849.1	849.1	849.1	849.1	842.1	842.1	849.1	845.6	842.1	838.7	835.2
47.5°	744.7	748.2	741.2	744.7	741.2	737.7	734.3	734.3	730.8	723.8	720.3
50°	657.7	650.7	647.3	650.7	647.3	643.8	640.3	633.3	629.9	622.9	619.4
52.5°	570.7	563.7	556.8	556.8	553.3	546.3	542.9	535.9	532.4	525.5	525.5
55°	494.1	487.2	480.2	476.7	469.8	462.8	459.3	452.4	448.9	441.9	435.0
57.5°	421.1	410.6	403.7	400.2	396.7	386.3	382.8	375.8	368.9	361.9	358.4
60°	355.0	344.5	334.1	330.6	327.1	316.7	313.2	302.8	299.3	292.3	288.8
62.5°	292.3	285.4	271.4	268.0	261.0	254.0	243.6	240.1	236.6	240.1	240.1
65°	236.6	226.2	215.8	212.3	205.3	198.4	194.9	191.4	194.9	194.9	198.4
67.5°	187.9	177.5	167.0	167.0	163.6	156.6	156.6	156.6	160.1	160.1	163.6
70°	149.6	142.7	135.7	132.2	132.2	128.8	132.2	132.2	135.7	135.7	135.7
72.5°	118.3	114.8	111.4	107.9	107.9	107.9	107.9	107.9	107.9	107.9	111.4
75°	90.5	87.0	83.5	83.5	80.0	80.0	80.0	80.0	80.0	80.0	76.6
77.5°	59.2	55.7	52.2	52.2	48.7	45.2	45.2	41.8	41.8	41.8	41.8
80°	31.3	27.8	24.4	20.9	20.9	17.4	17.4	17.4	17.4	13.9	13.9
82.5°	13.9	10.4	10.4	10.4	10.4	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: P251727

CATALOG NUMBER: LD4B50D010TE EU4B30508035 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3
2.5°	2362.9	2355.9	2362.9	2366.3	2359.4	2355.9	2362.9	2348.9
5°	2359.4	2348.9	2352.4	2355.9	2348.9	2345.5	2352.4	2342.0
7.5°	2352.4	2348.9	2352.4	2355.9	2345.5	2345.5	2352.4	2342.0
10°	2352.4	2345.5	2348.9	2355.9	2348.9	2348.9	2355.9	2342.0
12.5°	2348.9	2338.5	2348.9	2352.4	2345.5	2345.5	2352.4	2338.5
15°	2324.6	2324.6	2328.1	2335.0	2331.5	2335.0	2345.5	2335.0
17.5°	2272.4	2279.3	2293.3	2303.7	2310.7	2317.6	2328.1	2321.1
20°	2209.7	2220.2	2237.6	2248.0	2261.9	2265.4	2282.8	2268.9
22.5°	2112.3	2133.2	2147.1	2157.5	2168.0	2178.4	2192.3	2188.9
25°	1994.0	2007.9	2018.3	2028.8	2042.7	2049.7	2056.6	2053.1
27.5°	1851.3	1858.3	1872.2	1879.2	1886.1	1893.1	1907.0	1889.6
30°	1694.7	1698.2	1705.2	1715.6	1715.6	1722.6	1729.5	1726.0
32.5°	1534.6	1534.6	1541.6	1548.6	1545.1	1548.6	1562.5	1545.1
35°	1378.0	1374.6	1385.0	1388.5	1388.5	1385.0	1395.4	1392.0
37.5°	1224.9	1228.4	1231.9	1235.4	1228.4	1235.4	1235.4	1228.4
40°	1085.7	1082.3	1089.2	1092.7	1089.2	1092.7	1092.7	1078.8
42.5°	960.5	953.5	957.0	960.5	957.0	960.5	957.0	950.0
45°	838.7	835.2	835.2	838.7	831.7	831.7	831.7	831.7
47.5°	723.8	720.3	723.8	723.8	716.9	716.9	720.3	716.9
50°	619.4	615.9	615.9	615.9	612.5	612.5	615.9	615.9
52.5°	525.5	518.5	518.5	518.5	518.5	518.5	522.0	515.0
55°	431.5	431.5	431.5	431.5	435.0	435.0	435.0	435.0
57.5°	355.0	358.4	358.4	361.9	358.4	361.9	361.9	358.4
60°	295.8	292.3	295.8	295.8	299.3	299.3	299.3	299.3
62.5°	243.6	243.6	243.6	247.1	247.1	247.1	250.6	247.1
65°	201.8	201.8	205.3	205.3	205.3	208.8	208.8	208.8
67.5°	167.0	167.0	167.0	167.0	170.5	170.5	174.0	170.5
70°	139.2	139.2	139.2	139.2	139.2	142.7	142.7	142.7
72.5°	111.4	111.4	111.4	111.4	114.8	114.8	114.8	114.8
75°	76.6	76.6	76.6	80.0	76.6	76.6	76.6	76.6
77.5°	38.3	38.3	38.3	38.3	38.3	34.8	34.8	34.8
80°	13.9	13.9	13.9	13.9	13.9	13.9	10.4	13.9
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)