

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: P251961

Luminaire Tested: **LD4B50D010TE EU4B30508035 4LBDW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251961
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-15)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B50D010TE EU4B30508035 4LBDW1H
Description: PORTFOLIO 4 INCH DOUBLE WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4603.0 lumens
Efficiency: N/A
Efficacy: 78.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.18 / 1.19
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

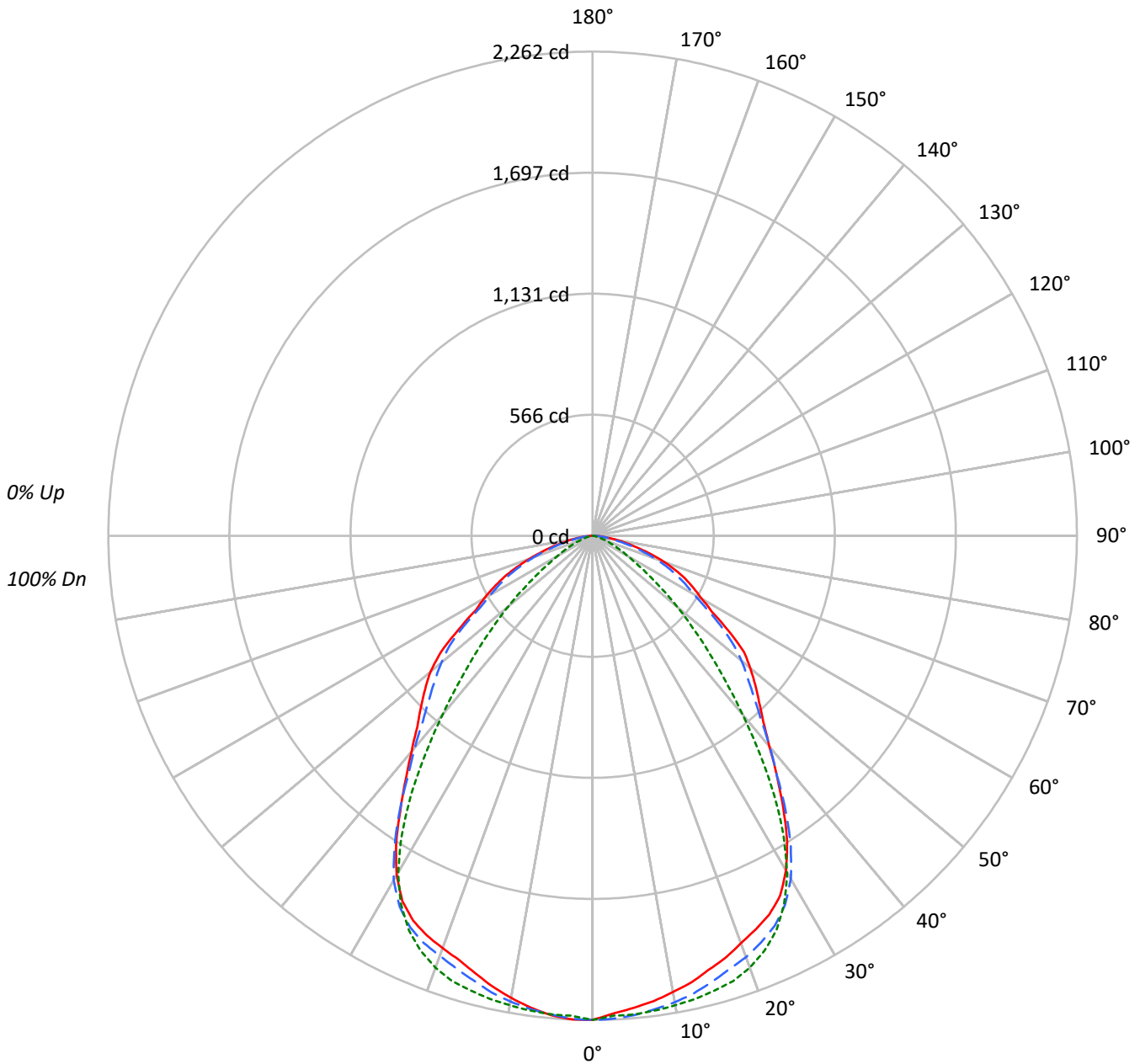
Input Watts (W): 58.77
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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	104	101	98	100	98	95	96	94	92	93	91	89	88				88
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76				76
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68	66				66
4	87	77	69	63	85	75	68	62	73	67	62	71	65	61	69	64	60	58				58
5	81	69	61	55	79	68	61	55	66	60	54	64	58	54	63	57	53	51				51
6	75	63	55	49	73	62	55	49	60	54	49	59	53	48	57	52	48	46				46
7	70	58	50	44	68	57	49	44	56	49	44	54	48	43	53	47	43	41				41
8	66	53	45	40	64	52	45	40	51	44	40	50	44	39	49	43	39	37				37
9	62	49	41	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34				34
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31				31

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	220421	220421	220421
5°	216499	219561	219903
10°	214182	220377	216934
15°	211700	221880	213456
20°	210029	222661	212559
25°	209915	218518	213281
30°	203227	204397	205973
35°	184636	175939	186290
40°	163354	138558	167336
45°	151554	105506	156337
50°	145614	78083	149829
55°	131835	53794	130068
60°	114630	36625	113948
65°	110737	26474	105110
70°	100131	17838	89246
75°	82540	11786	70754
80°	66395	7801	52700
85°	54457	3914	35000



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	213.5	4.6
10°-20°	610.5	13.3
20°-30°	922.3	20.0
30°-40°	965.2	21.0
40°-50°	781.7	17.0
50°-60°	568.6	12.4
60°-70°	350.7	7.6
70°-80°	158.4	3.4
80°-90°	32.2	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°	1746.2	37.9
0°-40°	2711.4	58.9
0°-60°	4061.7	88.2
0°-90°	4603.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4603.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2262	2262	2262	2262	2262	
5°	2213	2248	2244	2244	2248	210
15°	2098	2157	2199	2150	2116	593
25°	1952	2011	2032	2018	1983	895
35°	1552	1573	1479	1573	1566	967
45°	1100	1065	766	1079	1134	855
55°	776	727	317	734	766	692
65°	480	432	115	424	456	470
75°	219	188	31	164	188	238
85°	49	38	4	28	31	56
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°	2261.7	2261.7	2261.7	2261.7	2261.7	2261.7	2261.7	2261.7	2261.7	2261.7	2261.7
2.5°	2233.9	2233.9	2254.8	2279.1	2258.3	2237.4	2251.3	2244.3	2268.7	2268.7	2258.3
5°	2213.0	2220.0	2237.4	2258.3	2240.9	2220.0	2237.4	2230.4	2254.8	2254.8	2247.8
7.5°	2192.1	2195.6	2216.5	2240.9	2223.5	2202.6	2216.5	2213.0	2233.9	2237.4	2230.4
10°	2164.3	2167.8	2188.7	2213.0	2195.6	2178.2	2192.1	2188.7	2216.5	2216.5	2213.0
12.5°	2136.5	2139.9	2160.8	2181.7	2164.3	2146.9	2160.8	2160.8	2188.7	2192.1	2188.7
15°	2098.2	2105.2	2122.6	2143.4	2133.0	2112.1	2126.0	2126.0	2150.4	2157.3	2157.3
17.5°	2066.9	2070.4	2087.8	2108.6	2094.7	2077.3	2091.2	2091.2	2115.6	2122.6	2122.6
20°	2025.1	2032.1	2049.5	2070.4	2059.9	2046.0	2056.4	2056.4	2084.3	2091.2	2094.7
22.5°	1990.3	1997.3	2011.2	2039.0	2021.6	2011.2	2025.1	2021.6	2053.0	2056.4	2056.4
25°	1952.1	1959.0	1976.4	1993.8	1983.4	1972.9	1983.4	1983.4	2007.7	2011.2	2011.2
27.5°	1896.4	1899.9	1917.3	1934.7	1924.2	1910.3	1924.2	1920.7	1945.1	1948.6	1945.1
30°	1805.9	1812.9	1819.8	1844.2	1833.7	1823.3	1837.2	1830.3	1854.6	1854.6	1851.1
32.5°	1691.1	1691.1	1705.0	1722.4	1708.5	1701.5	1712.0	1715.4	1732.8	1732.8	1722.4
35°	1551.9	1558.9	1569.3	1579.7	1569.3	1562.3	1572.8	1569.3	1590.2	1583.2	1572.8
37.5°	1412.7	1416.2	1426.6	1440.6	1426.6	1416.2	1419.7	1416.2	1433.6	1433.6	1416.2
40°	1284.0	1290.9	1297.9	1311.8	1297.9	1290.9	1294.4	1284.0	1304.8	1297.9	1287.4
42.5°	1179.6	1183.1	1193.5	1200.5	1186.5	1183.1	1186.5	1179.6	1190.0	1183.1	1162.2
45°	1099.6	1099.6	1103.0	1113.5	1099.6	1096.1	1096.1	1089.1	1099.6	1085.6	1064.8
47.5°	1030.0	1033.4	1036.9	1043.9	1033.4	1023.0	1026.5	1012.6	1019.5	1009.1	981.2
50°	960.4	967.3	970.8	977.8	967.3	960.4	963.8	949.9	949.9	932.5	908.2
52.5°	890.8	894.3	890.8	897.7	890.8	880.3	883.8	869.9	869.9	849.0	824.7
55°	775.9	779.4	782.9	789.9	782.9	772.5	779.4	769.0	769.0	755.1	727.2
57.5°	661.1	664.6	668.1	671.6	671.6	664.6	668.1	661.1	657.6	647.2	626.3
60°	588.1	588.1	588.1	591.5	588.1	584.6	584.6	577.6	577.6	563.7	542.8
62.5°	532.4	535.9	535.9	539.3	535.9	532.4	528.9	521.9	518.5	504.5	487.1
65°	480.2	480.2	476.7	483.7	480.2	476.7	476.7	469.7	462.8	448.9	431.5
67.5°	417.6	421.0	417.6	421.0	421.0	417.6	414.1	407.1	403.6	393.2	372.3
70°	351.4	351.4	351.4	354.9	351.4	351.4	354.9	344.5	341.0	327.1	309.7
72.5°	285.3	288.8	288.8	285.3	288.8	281.8	281.8	281.8	278.4	264.4	247.1
75°	219.2	222.7	222.7	226.2	222.7	219.2	219.2	215.7	212.3	201.8	187.9
77.5°	163.5	163.5	167.0	167.0	167.0	163.5	163.5	156.6	156.6	149.6	135.7
80°	118.3	118.3	114.8	118.3	118.3	114.8	114.8	111.3	111.3	104.4	93.9
82.5°	76.6	80.0	80.0	80.0	80.0	76.6	76.6	76.6	73.1	69.6	62.6
85°	48.7	48.7	48.7	48.7	52.2	48.7	52.2	48.7	48.7	41.8	38.3
87.5°	20.9	20.9	20.9	24.4	24.4	20.9	20.9	20.9	20.9	20.9	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°	2261.7	2261.7	2261.7	2261.7	2261.7	2261.7	2261.7	2261.7	2261.7	2261.7	2261.7
2.5°	2258.3	2261.7	2251.3	2265.2	2254.8	2258.3	2261.7	2258.3	2244.3	2244.3	2282.6
5°	2244.3	2251.3	2240.9	2258.3	2251.3	2251.3	2258.3	2254.8	2240.9	2244.3	2279.1
7.5°	2230.4	2240.9	2233.9	2251.3	2240.9	2240.9	2247.8	2247.8	2233.9	2237.4	2268.7
10°	2209.5	2223.5	2220.0	2237.4	2226.9	2226.9	2237.4	2237.4	2223.5	2226.9	2258.3
12.5°	2192.1	2206.1	2202.6	2220.0	2213.0	2216.5	2220.0	2226.9	2209.5	2216.5	2244.3
15°	2164.3	2178.2	2178.2	2195.6	2188.7	2195.6	2202.6	2213.0	2199.1	2199.1	2226.9
17.5°	2133.0	2150.4	2150.4	2164.3	2164.3	2167.8	2181.7	2192.1	2178.2	2181.7	2206.1
20°	2098.2	2119.1	2119.1	2136.5	2133.0	2139.9	2150.4	2160.8	2146.9	2146.9	2174.7
22.5°	2063.4	2080.8	2084.3	2094.7	2094.7	2098.2	2108.6	2115.6	2098.2	2098.2	2126.0
25°	2014.7	2032.1	2035.6	2042.5	2035.6	2035.6	2042.5	2049.5	2032.1	2032.1	2056.4
27.5°	1948.6	1966.0	1966.0	1962.5	1955.5	1959.0	1955.5	1959.0	1941.6	1938.1	1962.5
30°	1851.1	1861.6	1861.6	1858.1	1847.7	1847.7	1837.2	1840.7	1816.3	1816.3	1837.2
32.5°	1718.9	1729.4	1722.4	1715.4	1701.5	1694.6	1687.6	1684.1	1659.8	1659.8	1684.1
35°	1562.3	1569.3	1558.9	1544.9	1527.5	1517.1	1506.7	1492.7	1475.3	1478.8	1492.7
37.5°	1402.3	1402.3	1388.4	1360.5	1346.6	1329.2	1311.8	1311.8	1284.0	1280.5	1290.9
40°	1266.6	1252.7	1228.3	1190.0	1165.7	1148.3	1123.9	1110.0	1089.1	1089.1	1106.5
42.5°	1144.8	1116.9	1085.6	1033.4	1009.1	988.2	956.9	943.0	918.6	915.1	925.6
45°	1036.9	1009.1	963.8	908.2	876.9	852.5	807.3	789.9	769.0	765.5	772.5
47.5°	949.9	918.6	862.9	789.9	758.6	727.2	682.0	657.6	640.2	629.8	640.2
50°	873.4	831.6	772.5	695.9	654.2	626.3	570.7	546.3	521.9	515.0	518.5
52.5°	789.9	748.1	685.5	605.4	567.2	525.4	473.2	438.4	417.6	407.1	417.6
55°	699.4	657.6	595.0	515.0	473.2	434.9	379.3	351.4	327.1	316.6	327.1
57.5°	602.0	563.7	508.0	428.0	389.7	354.9	302.7	274.9	250.5	243.6	250.5
60°	518.5	487.1	431.5	354.9	323.6	285.3	240.1	212.3	191.4	187.9	191.4
62.5°	462.8	428.0	375.8	302.7	271.4	240.1	198.3	170.5	153.1	149.6	153.1
65°	407.1	368.8	320.1	257.5	226.2	201.8	160.1	135.7	118.3	114.8	118.3
67.5°	344.5	309.7	267.9	212.3	187.9	163.5	128.7	104.4	90.5	87.0	90.5
70°	285.3	254.0	212.3	170.5	146.1	128.7	97.4	80.0	66.1	62.6	66.1
72.5°	226.2	198.3	163.5	128.7	114.8	97.4	76.6	59.2	48.7	45.2	48.7
75°	174.0	153.1	125.3	93.9	83.5	73.1	52.2	41.8	34.8	31.3	34.8
77.5°	121.8	107.9	87.0	69.6	59.2	52.2	38.3	27.8	24.4	20.9	24.4
80°	83.5	73.1	59.2	45.2	38.3	31.3	24.4	17.4	13.9	13.9	13.9
82.5°	55.7	45.2	34.8	27.8	24.4	20.9	13.9	10.4	10.4	7.0	7.0
85°	31.3	27.8	20.9	17.4	13.9	10.4	7.0	7.0	3.5	3.5	3.5
87.5°	13.9	10.4	7.0	7.0	3.5	3.5	3.5	3.5	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°	2261.7	2261.7	2261.7	2261.7	2261.7	2261.7	2261.7	2261.7	2261.7	2261.7	2261.7
2.5°	2272.2	2261.7	2275.7	2261.7	2254.8	2261.7	2254.8	2275.7	2258.3	2244.3	2258.3
5°	2268.7	2254.8	2268.7	2258.3	2247.8	2251.3	2244.3	2265.2	2244.3	2233.9	2240.9
7.5°	2261.7	2251.3	2258.3	2247.8	2237.4	2240.9	2233.9	2251.3	2230.4	2220.0	2226.9
10°	2251.3	2240.9	2244.3	2237.4	2226.9	2226.9	2220.0	2233.9	2209.5	2195.6	2202.6
12.5°	2237.4	2223.5	2230.4	2220.0	2206.1	2206.1	2199.1	2209.5	2185.2	2171.3	2174.7
15°	2220.0	2206.1	2206.1	2195.6	2181.7	2181.7	2167.8	2178.2	2150.4	2136.5	2136.5
17.5°	2199.1	2181.7	2181.7	2171.3	2153.9	2150.4	2139.9	2150.4	2119.1	2105.2	2105.2
20°	2167.8	2153.9	2150.4	2143.4	2126.0	2122.6	2108.6	2112.1	2087.8	2077.3	2073.8
22.5°	2126.0	2112.1	2115.6	2105.2	2091.2	2087.8	2073.8	2084.3	2059.9	2049.5	2053.0
25°	2053.0	2046.0	2053.0	2049.5	2039.0	2039.0	2032.1	2039.0	2018.2	2011.2	2014.7
27.5°	1969.4	1966.0	1969.4	1969.4	1962.5	1962.5	1962.5	1972.9	1952.1	1948.6	1948.6
30°	1847.7	1847.7	1851.1	1854.6	1854.6	1861.6	1858.1	1872.0	1858.1	1851.1	1858.1
32.5°	1687.6	1701.5	1712.0	1712.0	1712.0	1718.9	1725.9	1736.3	1722.4	1725.9	1725.9
35°	1506.7	1517.1	1524.1	1541.5	1531.0	1555.4	1562.3	1576.3	1572.8	1579.7	1576.3
37.5°	1304.8	1318.8	1332.7	1357.0	1353.6	1381.4	1395.3	1423.2	1416.2	1430.1	1437.1
40°	1116.9	1137.8	1158.7	1176.1	1190.0	1217.9	1245.7	1280.5	1290.9	1301.4	1304.8
42.5°	936.0	956.9	991.7	1016.0	1036.9	1082.2	1120.4	1162.2	1172.6	1193.5	1200.5
45°	789.9	807.3	849.0	880.3	897.7	963.8	1009.1	1061.3	1078.7	1103.0	1113.5
47.5°	654.2	685.5	727.2	765.5	789.9	859.5	918.6	974.3	998.6	1026.5	1040.4
50°	535.9	570.7	626.3	661.1	695.9	772.5	838.6	897.7	922.1	953.4	967.3
52.5°	438.4	476.7	528.9	567.2	605.4	685.5	755.1	810.7	842.1	862.9	883.8
55°	344.5	386.2	438.4	480.2	511.5	598.5	657.6	713.3	734.2	751.6	762.0
57.5°	267.9	299.2	351.4	386.2	424.5	501.1	560.2	602.0	619.4	640.2	647.2
60°	208.8	240.1	288.8	323.6	358.4	431.5	490.6	532.4	549.8	567.2	577.6
62.5°	167.0	198.3	243.6	274.9	306.2	372.3	424.5	466.3	487.1	504.5	515.0
65°	132.2	160.1	198.3	229.7	254.0	313.2	365.4	403.6	424.5	441.9	452.3
67.5°	104.4	128.7	163.5	184.4	208.8	257.5	302.7	337.5	354.9	375.8	386.2
70°	80.0	97.4	128.7	146.1	163.5	205.3	240.1	274.9	292.3	306.2	313.2
72.5°	59.2	73.1	97.4	111.3	121.8	156.6	184.4	208.8	222.7	236.6	243.6
75°	41.8	52.2	69.6	80.0	87.0	111.3	135.7	153.1	163.5	174.0	184.4
77.5°	27.8	34.8	45.2	52.2	59.2	76.6	90.5	104.4	114.8	125.3	128.7
80°	17.4	24.4	31.3	34.8	38.3	48.7	62.6	69.6	76.6	83.5	87.0
82.5°	10.4	13.9	17.4	20.9	24.4	31.3	38.3	45.2	48.7	55.7	59.2
85°	3.5	7.0	7.0	10.4	10.4	17.4	20.9	24.4	27.8	31.3	34.8
87.5°	0.0	0.0	3.5	3.5	3.5	3.5	7.0	7.0	7.0	7.0	7.0
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: P251961

CATALOG NUMBER: LD4B50D010TE EU4B30508035 4LBDW1H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2261.7	2261.7	2261.7	2261.7	2261.7	2261.7	2261.7	2261.7
2.5°	2272.2	2261.7	2254.8	2251.3	2275.7	2244.3	2258.3	2261.7
5°	2258.3	2247.8	2240.9	2237.4	2258.3	2230.4	2240.9	2247.8
7.5°	2237.4	2230.4	2220.0	2216.5	2237.4	2206.1	2220.0	2223.5
10°	2213.0	2202.6	2195.6	2192.1	2209.5	2178.2	2192.1	2192.1
12.5°	2181.7	2174.7	2160.8	2160.8	2174.7	2146.9	2157.3	2157.3
15°	2139.9	2133.0	2119.1	2119.1	2133.0	2105.2	2115.6	2115.6
17.5°	2105.2	2098.2	2087.8	2084.3	2098.2	2070.4	2080.8	2077.3
20°	2077.3	2070.4	2056.4	2056.4	2066.9	2039.0	2049.5	2049.5
22.5°	2053.0	2049.5	2035.6	2035.6	2049.5	2021.6	2028.6	2021.6
25°	2014.7	2011.2	1997.3	2000.8	2007.7	1979.9	1990.3	1983.4
27.5°	1952.1	1952.1	1938.1	1934.7	1945.1	1920.7	1927.7	1924.2
30°	1854.6	1858.1	1840.7	1840.7	1844.2	1823.3	1833.7	1830.3
32.5°	1722.4	1725.9	1712.0	1708.5	1718.9	1701.5	1708.5	1708.5
35°	1576.3	1579.7	1569.3	1569.3	1579.7	1569.3	1569.3	1565.8
37.5°	1430.1	1437.1	1430.1	1433.6	1440.6	1430.1	1437.1	1433.6
40°	1311.8	1318.8	1308.3	1315.3	1322.2	1311.8	1322.2	1315.3
42.5°	1203.9	1214.4	1207.4	1214.4	1221.3	1214.4	1221.3	1210.9
45°	1123.9	1130.9	1127.4	1130.9	1137.8	1134.3	1137.8	1134.3
47.5°	1047.4	1061.3	1054.3	1061.3	1071.7	1064.8	1071.7	1061.3
50°	977.8	988.2	984.7	991.7	995.2	991.7	998.6	988.2
52.5°	887.3	897.7	894.3	894.3	901.2	894.3	901.2	894.3
55°	769.0	772.5	772.5	775.9	772.5	769.0	772.5	765.5
57.5°	654.2	661.1	650.7	661.1	657.6	654.2	654.2	647.2
60°	581.1	591.5	584.6	591.5	588.1	588.1	588.1	584.6
62.5°	521.9	528.9	521.9	525.4	525.4	525.4	521.9	518.5
65°	455.8	466.3	459.3	462.8	459.3	455.8	459.3	455.8
67.5°	389.7	393.2	393.2	389.7	389.7	389.7	389.7	382.8
70°	316.6	320.1	316.6	323.6	320.1	316.6	320.1	313.2
72.5°	247.1	250.5	247.1	250.5	247.1	247.1	247.1	247.1
75°	184.4	187.9	187.9	187.9	187.9	187.9	180.9	187.9
77.5°	132.2	132.2	132.2	135.7	132.2	132.2	132.2	132.2
80°	90.5	90.5	90.5	93.9	90.5	93.9	90.5	93.9
82.5°	59.2	59.2	59.2	59.2	59.2	59.2	59.2	59.2
85°	31.3	34.8	34.8	31.3	31.3	31.3	31.3	31.3
87.5°	7.0	3.5	3.5	3.5	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



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— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)