

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: P251558

Luminaire Tested: **LD4B40D010 EU4B30508035 4LBSW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251558
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-10)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B40D010 EU4B30508035 4LBSW1LI
Description: PORTFOLIO 4 INCH SINGLE 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: 3865.0 lumens
Efficiency: N/A
Efficacy: 89.8 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

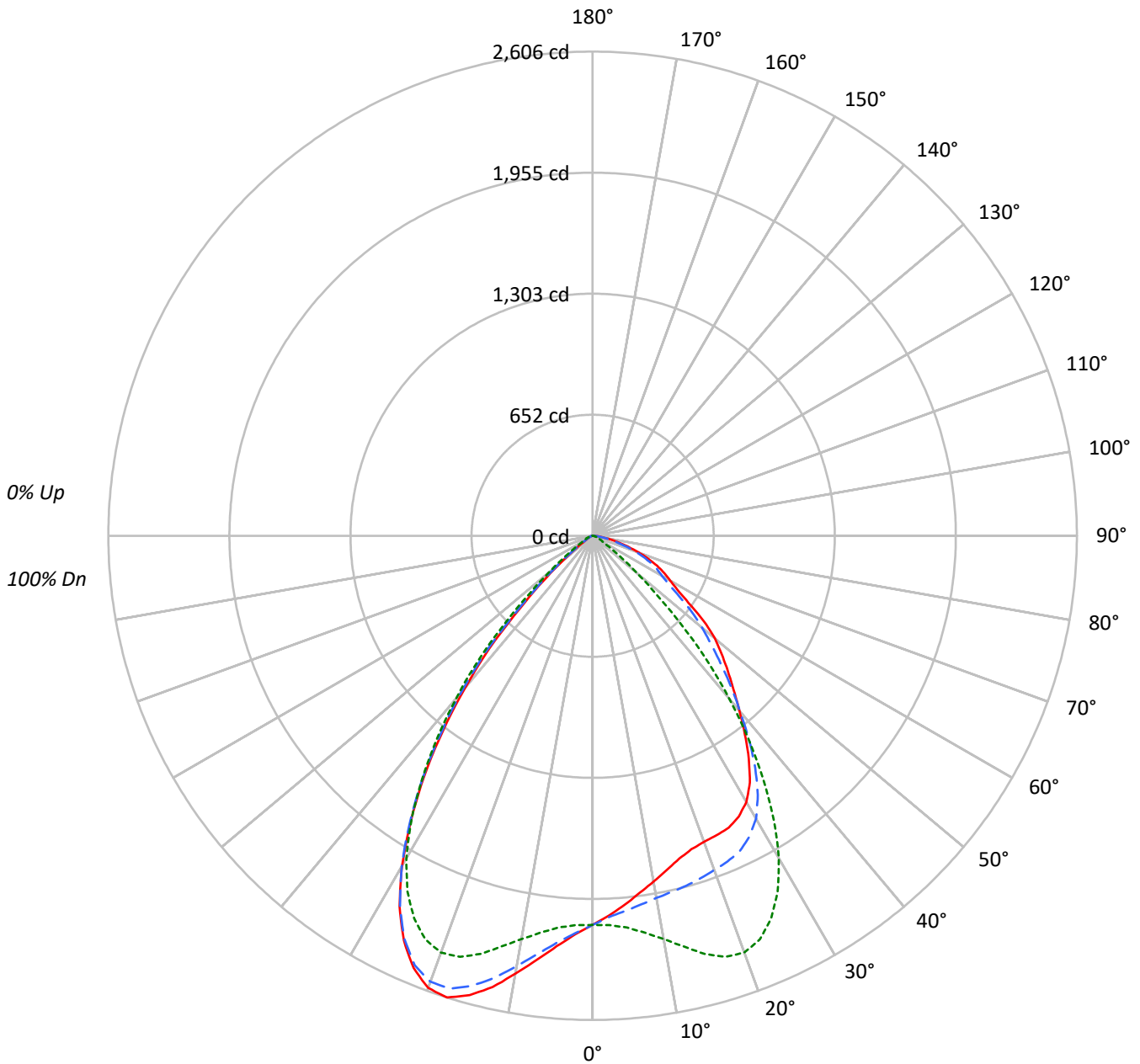
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P251558

CATALOG NUMBER: LD4B40D010 EU4B30508035 4LBSW1LI

Luminous Intensity Polar Plot





TEST NUMBER: P251558

CATALOG NUMBER: LD4B40D010 EU4B30508035 4LBSW1LI

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	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90																			
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	85	82	80																			
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72																			
4	91	81	75	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64																			
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58																			
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53																			
7	75	63	56	51	73	62	55	51	61	55	50	60	54	50	58	53	50	48																			
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44																			
9	66	54	47	42	65	54	47	42	53	46	42	52	46	42	51	46	42	40																			
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	204116	204116	204116
5°	195005	207038	216939
10°	186978	218091	236765
15°	181522	235047	258223
20°	181777	247562	268543
25°	186409	244337	258445
30°	186155	225542	230775
35°	174369	190633	188027
40°	156191	145403	135670
45°	141699	92330	75749
50°	130179	46850	32340
55°	106858	20899	10688
60°	93794	11734	5867
65°	88276	8832	4405
70°	75568	7010	3904
75°	57650	5159	3088
80°	41419	3087	1515
85°	30527	0	0



TEST NUMBER: P251558

CATALOG NUMBER: LD4B40D010 EU4B30508035 4LBSW1LI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	203.4	5.3
10°-20°	634.1	16.4
20°-30°	981.0	25.4
30°-40°	966.5	25.0
40°-50°	593.5	15.4
50°-60°	263.9	6.8
60°-70°	147.4	3.8
70°-80°	63.8	1.7
80°-90°	11.4	0.3
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°	1818.5	47.0
0°-40°	2785.0	72.1
0°-60°	3642.4	94.2
0°-90°	3865.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3865.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2094	2094	2094	2094	2094	
5°	1993	2026	2116	2198	2218	187
15°	1799	1950	2330	2507	2559	510
25°	1734	1873	2272	2395	2403	795
35°	1466	1526	1602	1597	1580	910
45°	1028	976	670	585	550	796
55°	629	569	123	71	63	578
65°	383	344	38	22	19	375
75°	153	131	14	8	8	168
85°	27	22	0	0	0	34
90°	0	0	0	0	0	



TEST NUMBER: P251558

CATALOG NUMBER: LD4B40D010 EU4B30508035 4LBSW1LI

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2094.4	2094.4	2094.4	2094.4	2094.4	2094.4	2094.4	2094.4	2094.4	2094.4	2094.4
2.5°	2045.2	2045.2	2045.2	2045.2	2050.7	2042.5	2050.7	2050.7	2058.9	2061.6	2053.4
5°	1993.3	1990.5	1993.3	1993.3	1998.7	1996.0	2004.2	2009.7	2020.6	2026.1	2026.1
7.5°	1938.6	1938.6	1938.6	1944.1	1952.3	1949.5	1957.7	1965.9	1982.3	1993.3	2001.5
10°	1889.4	1886.6	1894.8	1897.6	1905.8	1905.8	1919.4	1927.6	1946.8	1968.7	1979.6
12.5°	1842.9	1840.1	1845.6	1853.8	1867.5	1867.5	1878.4	1892.1	1919.4	1944.1	1963.2
15°	1799.1	1801.9	1810.1	1815.5	1831.9	1831.9	1845.6	1862.0	1892.1	1922.2	1949.5
17.5°	1769.1	1771.8	1777.3	1785.5	1801.9	1801.9	1815.5	1834.7	1867.5	1900.3	1933.1
20°	1752.7	1755.4	1760.9	1769.1	1782.7	1785.5	1796.4	1818.3	1848.4	1883.9	1914.0
22.5°	1744.5	1749.9	1755.4	1760.9	1774.5	1774.5	1788.2	1804.6	1834.7	1870.2	1897.6
25°	1733.5	1739.0	1741.7	1749.9	1760.9	1760.9	1769.1	1788.2	1815.5	1845.6	1873.0
27.5°	1703.4	1708.9	1711.6	1719.8	1730.8	1728.0	1739.0	1752.7	1777.3	1804.6	1826.5
30°	1654.2	1657.0	1662.4	1665.2	1673.4	1673.4	1681.6	1695.2	1711.6	1736.2	1758.1
32.5°	1574.9	1580.4	1583.1	1585.9	1594.1	1591.3	1594.1	1602.3	1618.7	1640.5	1654.2
35°	1465.6	1476.5	1476.5	1482.0	1484.7	1482.0	1482.0	1492.9	1501.1	1517.5	1525.7
37.5°	1345.3	1353.5	1350.7	1356.2	1358.9	1350.7	1356.2	1358.9	1369.9	1378.1	1380.8
40°	1227.7	1230.4	1230.4	1230.4	1230.4	1227.7	1230.4	1233.1	1241.3	1241.3	1233.1
42.5°	1121.0	1123.8	1123.8	1118.3	1123.8	1121.0	1121.0	1121.0	1121.0	1110.1	1101.9
45°	1028.1	1030.8	1030.8	1028.1	1028.1	1022.6	1019.9	1017.1	1008.9	995.3	976.1
47.5°	940.6	946.1	948.8	943.3	940.6	935.1	935.1	918.7	907.8	891.4	864.0
50°	858.6	864.0	864.0	858.6	858.6	850.4	842.1	836.7	820.3	801.1	768.3
52.5°	754.7	762.9	762.9	760.1	760.1	749.2	746.4	735.5	721.8	700.0	672.6
55°	628.9	639.8	637.1	634.3	628.9	628.9	628.9	620.7	612.5	596.1	568.7
57.5°	538.6	541.4	541.4	538.6	538.6	533.2	533.2	525.0	522.2	505.8	484.0
60°	481.2	481.2	484.0	481.2	478.5	475.8	473.0	467.6	459.4	448.4	432.0
62.5°	434.7	437.5	437.5	434.7	432.0	429.3	426.5	421.1	415.6	407.4	391.0
65°	382.8	388.3	385.5	382.8	380.1	377.3	377.3	371.9	366.4	360.9	344.5
67.5°	325.4	328.1	330.8	325.4	325.4	322.6	322.6	317.2	314.4	303.5	292.6
70°	265.2	268.0	268.0	265.2	265.2	262.5	262.5	259.8	257.0	248.8	237.9
72.5°	207.8	210.5	207.8	205.1	205.1	205.1	202.3	199.6	196.9	191.4	183.2
75°	153.1	153.1	155.9	153.1	150.4	150.4	147.6	147.6	142.2	139.4	131.2
77.5°	109.4	112.1	109.4	109.4	106.6	103.9	103.9	101.2	101.2	98.4	93.0
80°	73.8	73.8	76.6	73.8	71.1	73.8	71.1	68.4	68.4	65.6	60.2
82.5°	46.5	49.2	46.5	46.5	46.5	46.5	46.5	43.7	43.7	41.0	38.3
85°	27.3	27.3	27.3	27.3	27.3	27.3	27.3	24.6	24.6	24.6	21.9
87.5°	13.7	13.7	10.9	10.9	13.7	13.7	13.7	10.9	10.9	10.9	10.9
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: P251558

CATALOG NUMBER: LD4B40D010 EU4B30508035 4LBSW1LI

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2094.4	2094.4	2094.4	2094.4	2094.4	2094.4	2094.4	2094.4	2094.4	2094.4	2094.4
2.5°	2064.4	2067.1	2072.6	2080.8	2080.8	2075.3	2089.0	2089.0	2094.4	2097.2	2108.1
5°	2042.5	2048.0	2058.9	2072.6	2075.3	2072.6	2091.7	2099.9	2108.1	2116.3	2132.7
7.5°	2023.3	2034.3	2053.4	2072.6	2080.8	2080.8	2110.8	2121.8	2138.2	2154.6	2173.7
10°	2012.4	2028.8	2056.2	2086.2	2094.4	2102.6	2138.2	2160.1	2181.9	2203.8	2231.1
12.5°	1998.7	2028.8	2064.4	2102.6	2119.0	2130.0	2179.2	2206.5	2236.6	2264.0	2299.5
15°	1996.0	2031.5	2078.0	2127.2	2149.1	2165.5	2220.2	2258.5	2294.0	2329.6	2365.1
17.5°	1985.1	2028.8	2086.2	2140.9	2168.3	2190.1	2253.0	2299.5	2340.5	2376.1	2417.1
20°	1971.4	2020.6	2083.5	2143.7	2173.7	2195.6	2264.0	2307.7	2354.2	2387.0	2425.3
22.5°	1952.3	2001.5	2064.4	2124.5	2151.9	2171.0	2239.3	2277.6	2318.6	2351.5	2387.0
25°	1919.4	1965.9	2020.6	2069.8	2097.2	2113.6	2173.7	2209.3	2239.3	2272.2	2305.0
27.5°	1873.0	1908.5	1955.0	1990.5	2006.9	2023.3	2072.6	2102.6	2130.0	2157.3	2179.2
30°	1790.9	1818.3	1851.1	1881.2	1897.6	1900.3	1946.8	1963.2	1985.1	2004.2	2020.6
32.5°	1681.6	1703.4	1722.6	1739.0	1749.9	1752.7	1788.2	1793.7	1815.5	1815.5	1840.1
35°	1542.1	1553.1	1566.7	1566.7	1574.9	1566.7	1591.3	1596.8	1599.5	1602.3	1621.4
37.5°	1383.5	1389.0	1397.2	1380.8	1380.8	1372.6	1380.8	1386.3	1375.3	1375.3	1389.0
40°	1233.1	1222.2	1211.3	1194.9	1186.7	1170.3	1170.3	1156.6	1148.4	1142.9	1145.7
42.5°	1088.2	1063.6	1039.0	1003.5	987.1	970.7	954.3	935.1	929.6	916.0	907.8
45°	948.8	913.2	880.4	823.0	790.2	773.8	738.2	700.0	675.4	669.9	648.0
47.5°	831.2	779.3	724.6	656.2	623.4	593.3	541.4	508.6	475.8	459.4	445.7
50°	727.3	680.8	609.7	535.9	494.9	464.8	407.4	369.1	333.6	309.0	292.6
52.5°	637.1	585.1	519.5	434.7	393.7	360.9	298.0	254.3	224.2	199.6	180.5
55°	535.9	494.9	429.3	350.0	309.0	270.7	216.0	169.5	139.4	123.0	109.4
57.5°	462.1	426.5	363.7	287.1	248.8	213.3	158.6	120.3	95.7	79.3	71.1
60°	412.9	380.1	325.4	251.6	216.0	183.2	131.2	95.7	73.8	60.2	54.7
62.5°	371.9	339.0	289.8	221.5	191.4	158.6	112.1	79.3	60.2	49.2	41.0
65°	325.4	295.3	251.6	191.4	164.1	136.7	95.7	65.6	49.2	38.3	32.8
67.5°	276.2	248.8	210.5	158.6	136.7	114.8	76.6	54.7	41.0	32.8	27.3
70°	224.2	202.3	166.8	128.5	109.4	90.2	62.9	43.7	30.1	24.6	21.9
72.5°	172.3	153.1	128.5	98.4	82.0	68.4	46.5	32.8	24.6	19.1	16.4
75°	123.0	109.4	90.2	71.1	60.2	49.2	35.5	24.6	16.4	13.7	10.9
77.5°	84.8	76.6	62.9	49.2	41.0	35.5	24.6	16.4	13.7	10.9	8.2
80°	54.7	49.2	41.0	30.1	24.6	21.9	13.7	10.9	8.2	5.5	5.5
82.5°	32.8	30.1	24.6	16.4	13.7	10.9	8.2	5.5	5.5	2.7	2.7
85°	19.1	16.4	10.9	8.2	8.2	5.5	5.5	2.7	2.7	0.0	0.0
87.5°	8.2	5.5	5.5	2.7	2.7	2.7	2.7	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: P251558

CATALOG NUMBER: LD4B40D010 EU4B30508035 4LBSW1LI

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2094.4	2094.4	2094.4	2094.4	2094.4	2094.4	2094.4	2094.4	2094.4	2094.4	2094.4
2.5°	2102.6	2116.3	2113.6	2121.8	2119.0	2119.0	2132.7	2127.2	2140.9	2140.9	2143.7
5°	2132.7	2151.9	2151.9	2165.5	2162.8	2168.3	2181.9	2181.9	2198.3	2203.8	2203.8
7.5°	2176.5	2201.1	2206.5	2220.2	2222.9	2233.9	2244.8	2247.6	2269.4	2274.9	2277.6
10°	2236.6	2266.7	2274.9	2288.6	2294.0	2305.0	2318.6	2324.1	2351.5	2354.2	2365.1
12.5°	2310.4	2343.3	2351.5	2367.9	2370.6	2384.3	2403.4	2408.9	2436.2	2444.4	2452.6
15°	2381.5	2411.6	2425.3	2441.7	2444.4	2460.8	2477.2	2482.7	2507.3	2518.2	2526.4
17.5°	2430.7	2466.3	2474.5	2496.4	2496.4	2510.0	2526.4	2531.9	2556.5	2564.7	2570.2
20°	2441.7	2474.5	2485.4	2501.8	2504.6	2512.8	2526.4	2531.9	2553.8	2556.5	2564.7
22.5°	2400.7	2433.5	2438.9	2455.4	2458.1	2466.3	2477.2	2474.5	2501.8	2499.1	2501.8
25°	2313.2	2343.3	2343.3	2362.4	2359.7	2367.9	2373.3	2370.6	2395.2	2395.2	2395.2
27.5°	2187.4	2214.7	2217.5	2231.1	2222.9	2225.7	2231.1	2228.4	2244.8	2244.8	2244.8
30°	2031.5	2053.4	2045.2	2056.2	2050.7	2056.2	2050.7	2048.0	2053.4	2058.9	2056.2
32.5°	1837.4	1853.8	1853.8	1856.6	1856.6	1840.1	1834.7	1834.7	1831.9	1829.2	1829.2
35°	1613.2	1626.9	1621.4	1621.4	1618.7	1602.3	1594.1	1588.6	1596.8	1580.4	1591.3
37.5°	1383.5	1386.3	1378.1	1375.3	1361.7	1361.7	1348.0	1337.0	1342.5	1339.8	1328.8
40°	1132.0	1142.9	1126.5	1121.0	1129.2	1118.3	1104.6	1091.0	1101.9	1088.2	1093.7
42.5°	885.9	883.2	877.7	877.7	877.7	861.3	858.6	855.8	858.6	847.6	839.4
45°	639.8	631.6	623.4	623.4	612.5	607.0	607.0	598.8	585.1	585.1	568.7
47.5°	432.0	412.9	407.4	404.7	399.2	399.2	393.7	388.3	385.5	371.9	371.9
50°	281.6	262.5	257.0	254.3	257.0	251.6	246.1	240.6	235.1	232.4	226.9
52.5°	169.5	161.3	155.9	153.1	147.6	144.9	142.2	136.7	134.0	134.0	131.2
55°	101.2	93.0	82.0	82.0	82.0	79.3	76.6	73.8	71.1	71.1	68.4
57.5°	62.9	57.4	52.0	49.2	49.2	49.2	46.5	46.5	46.5	46.5	43.7
60°	46.5	41.0	38.3	38.3	38.3	35.5	35.5	35.5	35.5	32.8	32.8
62.5°	35.5	32.8	30.1	30.1	27.3	27.3	27.3	27.3	27.3	27.3	24.6
65°	30.1	24.6	24.6	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9
67.5°	21.9	19.1	19.1	19.1	19.1	16.4	16.4	16.4	16.4	16.4	16.4
70°	16.4	16.4	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7
72.5°	13.7	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9
75°	10.9	10.9	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
77.5°	8.2	8.2	8.2	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
80°	5.5	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
82.5°	2.7	2.7	2.7	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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: P251558

CATALOG NUMBER: LD4B40D010 EU4B30508035 4LBSW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2094.4	2094.4	2094.4	2094.4	2094.4	2094.4	2094.4	2094.4
2.5°	2143.7	2157.3	2143.7	2143.7	2151.9	2149.1	2154.6	2146.4
5°	2206.5	2225.7	2212.0	2209.3	2222.9	2220.2	2222.9	2217.5
7.5°	2283.1	2302.2	2288.6	2288.6	2302.2	2299.5	2307.7	2302.2
10°	2370.6	2392.5	2373.3	2376.1	2395.2	2392.5	2392.5	2392.5
12.5°	2460.8	2482.7	2471.8	2471.8	2485.4	2488.2	2490.9	2488.2
15°	2534.6	2556.5	2542.9	2542.9	2562.0	2559.3	2562.0	2559.3
17.5°	2578.4	2600.3	2583.9	2583.9	2600.3	2600.3	2603.0	2605.7
20°	2567.5	2592.1	2578.4	2572.9	2592.1	2592.1	2589.3	2589.3
22.5°	2504.6	2526.4	2515.5	2510.0	2523.7	2518.2	2515.5	2518.2
25°	2395.2	2417.1	2395.2	2395.2	2406.1	2403.4	2406.1	2403.4
27.5°	2247.6	2264.0	2242.1	2239.3	2250.3	2244.8	2242.1	2250.3
30°	2050.7	2067.1	2056.2	2048.0	2061.6	2053.4	2048.0	2050.7
32.5°	1826.5	1837.4	1831.9	1818.3	1826.5	1821.0	1818.3	1821.0
35°	1580.4	1594.1	1572.2	1569.5	1583.1	1572.2	1566.7	1580.4
37.5°	1326.1	1342.5	1323.4	1326.1	1317.9	1320.6	1315.2	1323.4
40°	1085.5	1082.8	1077.3	1074.6	1077.3	1069.1	1074.6	1066.4
42.5°	825.7	831.2	828.5	825.7	828.5	817.5	812.1	823.0
45°	574.2	571.5	566.0	560.5	560.5	557.8	557.8	549.6
47.5°	369.1	366.4	355.5	358.2	363.7	358.2	350.0	360.9
50°	224.2	221.5	221.5	218.7	224.2	218.7	213.3	213.3
52.5°	125.8	125.8	123.0	123.0	123.0	123.0	120.3	117.6
55°	68.4	65.6	65.6	65.6	62.9	62.9	62.9	62.9
57.5°	43.7	43.7	43.7	43.7	43.7	43.7	41.0	41.0
60°	32.8	32.8	32.8	32.8	30.1	32.8	30.1	30.1
62.5°	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
65°	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1
67.5°	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4
70°	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7
72.5°	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9
75°	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
77.5°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
80°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	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



Report Generated By E9808895 / USPTCWHP6082093





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













(END OF REPORT)