

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: P251715

Luminaire Tested: **LD4B40D010 EU4B30508040 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251715
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: LD4B40D010 EU4B30508040 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3426.0 lumens
Efficiency: N/A
Efficacy: 79.6 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

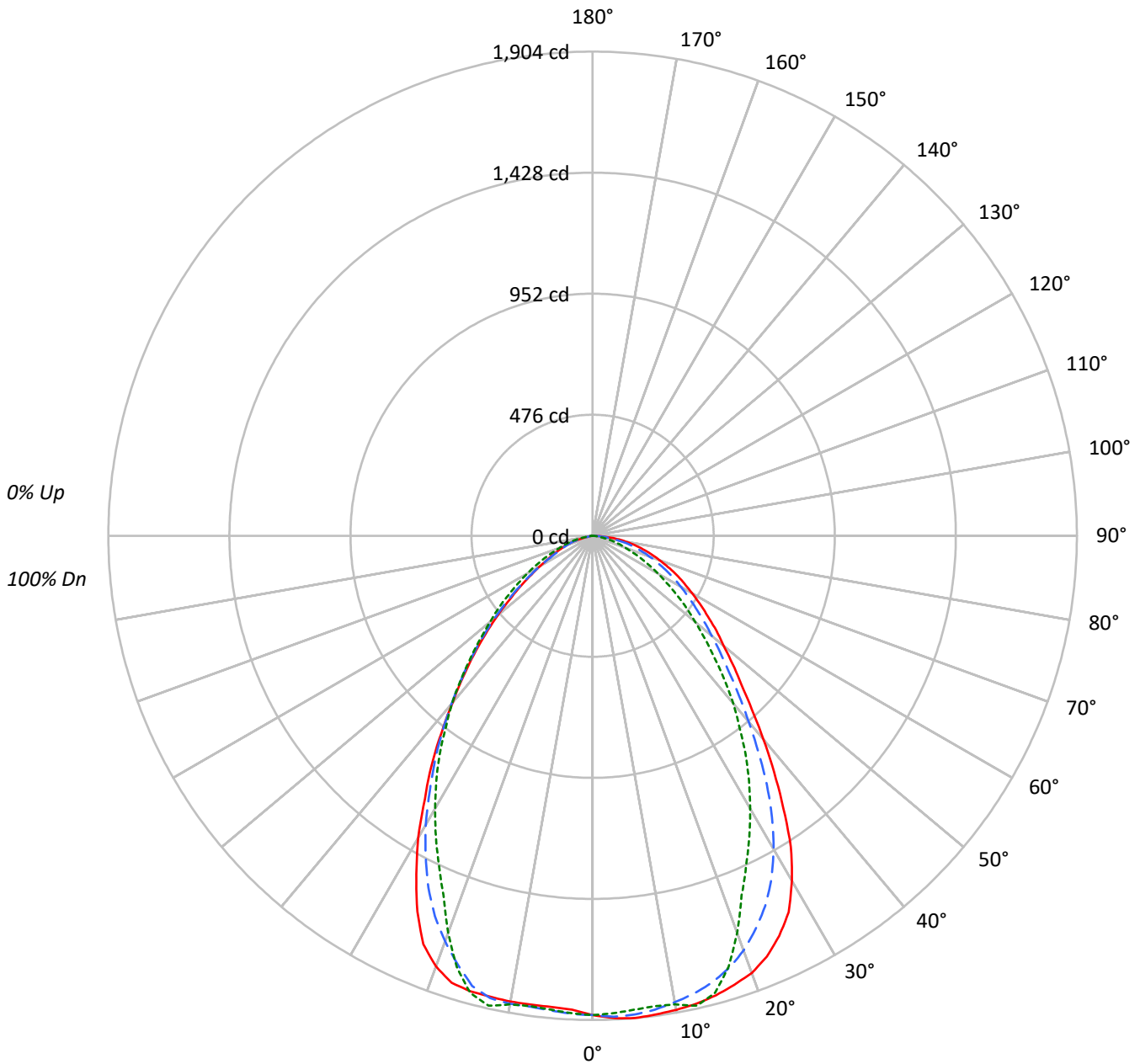
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	183689	183689	183689
5°	186279	183041	181955
10°	187344	185157	184059
15°	188776	187657	187102
20°	189742	172256	186880
25°	186624	153643	175333
30°	176342	139329	154252
35°	155523	124614	131514
40°	132897	109348	108992
45°	113886	93322	91034
50°	101827	79615	74171
55°	93911	68084	58705
60°	87810	57637	46332
65°	84125	47805	38234
70°	79529	38582	32285
75°	77004	31216	22894
80°	74476	17062	6230
85°	64856	9281	3131



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.1	5.2
10°-20°	515.1	15.0
20°-30°	714.5	20.9
30°-40°	705.3	20.6
40°-50°	553.2	16.1
50°-60°	383.2	11.2
60°-70°	234.8	6.9
70°-80°	117.3	3.4
80°-90°	23.5	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°	1408.7	41.1
0°-40°	2114.0	61.7
0°-60°	3050.4	89.0
0°-90°	3426.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3426.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1885	1885	1885	1885	1885	
5°	1904	1890	1871	1874	1860	181
15°	1871	1818	1860	1832	1854	528
25°	1736	1606	1429	1528	1630	794
35°	1307	1194	1047	1081	1105	816
45°	826	757	677	669	660	646
55°	553	495	401	356	346	498
65°	365	315	207	155	166	360
75°	204	171	83	64	61	217
85°	58	33	8	3	3	66
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°	1884.8	1884.8	1884.8	1884.8	1884.8	1884.8	1884.8	1884.8	1884.8	1884.8	1884.8
2.5°	1898.6	1893.1	1890.3	1898.6	1895.8	1901.4	1898.6	1895.8	1890.3	1893.1	1893.1
5°	1904.1	1895.8	1893.1	1898.6	1898.6	1904.1	1901.4	1895.8	1890.3	1893.1	1890.3
7.5°	1898.6	1893.1	1893.1	1895.8	1893.1	1898.6	1893.1	1887.5	1882.0	1884.8	1879.3
10°	1893.1	1884.8	1884.8	1884.8	1884.8	1890.3	1884.8	1876.5	1868.2	1868.2	1862.7
12.5°	1884.8	1876.5	1876.5	1879.3	1873.7	1879.3	1873.7	1859.9	1851.6	1848.9	1843.3
15°	1871.0	1862.7	1862.7	1862.7	1857.1	1859.9	1851.6	1837.8	1826.7	1826.7	1818.5
17.5°	1851.6	1843.3	1840.6	1840.6	1832.3	1835.0	1826.7	1812.9	1796.3	1790.8	1782.5
20°	1829.5	1818.5	1812.9	1812.9	1804.6	1807.4	1796.3	1779.8	1757.7	1749.4	1735.5
22.5°	1790.8	1785.3	1777.0	1774.2	1765.9	1763.2	1752.1	1730.0	1710.7	1696.9	1674.7
25°	1735.5	1732.8	1724.5	1721.7	1710.7	1705.1	1694.1	1669.2	1649.9	1627.8	1605.7
27.5°	1669.2	1658.2	1652.6	1644.3	1633.3	1630.5	1616.7	1594.6	1564.2	1550.4	1522.7
30°	1567.0	1561.4	1555.9	1547.6	1536.6	1531.0	1522.7	1497.9	1473.0	1448.1	1423.3
32.5°	1450.9	1439.8	1431.5	1434.3	1420.5	1415.0	1401.1	1379.0	1356.9	1340.3	1312.7
35°	1307.2	1304.4	1301.7	1296.1	1285.1	1282.3	1271.3	1254.7	1229.8	1210.5	1193.9
37.5°	1171.8	1163.5	1157.9	1157.9	1146.9	1146.9	1138.6	1119.3	1105.4	1091.6	1069.5
40°	1044.6	1030.8	1030.8	1030.8	1019.8	1022.5	1017.0	997.7	983.8	967.3	953.4
42.5°	925.8	920.3	917.5	912.0	906.5	906.5	900.9	889.9	876.1	865.0	851.2
45°	826.3	823.6	820.8	818.0	812.5	809.7	807.0	790.4	782.1	771.0	757.2
47.5°	746.2	740.6	737.9	735.1	729.6	726.8	721.3	710.2	702.0	690.9	679.8
50°	671.6	668.8	666.0	666.0	660.5	657.7	652.2	643.9	630.1	624.6	610.8
52.5°	613.5	608.0	602.5	602.5	596.9	596.9	588.6	580.4	566.5	561.0	550.0
55°	552.7	550.0	547.2	547.2	541.7	538.9	536.1	525.1	514.0	505.7	494.7
57.5°	500.2	497.4	494.7	494.7	489.2	486.4	483.6	475.3	464.3	458.8	444.9
60°	450.5	450.5	447.7	444.9	442.2	439.4	436.6	428.4	420.1	411.8	400.7
62.5°	406.2	403.5	400.7	398.0	398.0	395.2	392.4	381.4	375.9	367.6	356.5
65°	364.8	359.3	359.3	356.5	356.5	353.7	351.0	339.9	334.4	326.1	315.1
67.5°	320.6	317.8	315.1	315.1	312.3	312.3	309.5	301.2	292.9	287.4	276.4
70°	279.1	279.1	276.4	276.4	273.6	270.8	270.8	265.3	257.0	248.7	237.7
72.5°	243.2	240.4	237.7	237.7	234.9	234.9	232.1	226.6	221.1	215.6	201.7
75°	204.5	201.7	201.7	201.7	199.0	199.0	196.2	190.7	185.2	179.6	171.3
77.5°	168.6	168.6	165.8	165.8	163.1	163.1	163.1	157.5	152.0	146.5	135.4
80°	132.7	132.7	132.7	129.9	127.1	127.1	127.1	121.6	116.1	110.5	102.3
82.5°	96.7	94.0	94.0	91.2	88.4	88.4	88.4	82.9	80.1	71.9	66.3
85°	58.0	55.3	55.3	52.5	49.7	49.7	49.7	47.0	41.5	38.7	33.2
87.5°	22.1	22.1	22.1	22.1	22.1	19.3	19.3	16.6	16.6	13.8	13.8
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°	1884.8	1884.8	1884.8	1884.8	1884.8	1884.8	1884.8	1884.8	1884.8	1884.8	1884.8
2.5°	1893.1	1890.3	1890.3	1887.5	1890.3	1884.8	1884.8	1884.8	1884.8	1879.3	1879.3
5°	1887.5	1887.5	1884.8	1882.0	1884.8	1879.3	1882.0	1879.3	1879.3	1871.0	1871.0
7.5°	1876.5	1873.7	1868.2	1865.4	1868.2	1865.4	1865.4	1865.4	1871.0	1865.4	1865.4
10°	1857.1	1854.4	1848.9	1846.1	1846.1	1843.3	1848.9	1854.4	1865.4	1871.0	1882.0
12.5°	1837.8	1832.3	1829.5	1829.5	1832.3	1832.3	1843.3	1857.1	1884.8	1893.1	1904.1
15°	1812.9	1810.2	1810.2	1818.5	1829.5	1837.8	1859.9	1868.2	1871.0	1859.9	1854.4
17.5°	1779.8	1779.8	1782.5	1790.8	1799.1	1799.1	1801.9	1796.3	1790.8	1777.0	1760.4
20°	1724.5	1721.7	1716.2	1716.2	1716.2	1705.1	1710.7	1691.3	1677.5	1660.9	1636.1
22.5°	1655.4	1641.6	1622.2	1608.4	1600.1	1594.6	1580.8	1558.7	1542.1	1531.0	1520.0
25°	1580.8	1558.7	1531.0	1508.9	1495.1	1492.3	1473.0	1453.7	1442.6	1428.8	1423.3
27.5°	1495.1	1470.2	1437.1	1415.0	1403.9	1395.6	1379.0	1359.7	1345.9	1334.8	1326.5
30°	1395.6	1370.7	1343.1	1315.5	1304.4	1290.6	1274.0	1260.2	1246.4	1238.1	1232.6
32.5°	1285.1	1260.2	1232.6	1213.2	1199.4	1188.3	1174.5	1160.7	1149.7	1144.1	1138.6
35°	1171.8	1146.9	1124.8	1105.4	1094.4	1086.1	1075.0	1058.5	1050.2	1047.4	1041.9
37.5°	1050.2	1033.6	1014.2	997.7	989.4	978.3	972.8	959.0	959.0	947.9	947.9
40°	936.9	925.8	906.5	892.6	887.1	878.8	870.5	865.0	862.2	859.5	856.7
42.5°	837.4	820.8	809.7	798.7	790.4	784.9	784.9	776.6	773.8	765.5	762.8
45°	746.2	737.9	718.5	710.2	707.5	699.2	696.4	690.9	682.6	677.1	674.3
47.5°	666.0	657.7	646.7	635.6	630.1	624.6	619.0	610.8	605.2	596.9	594.2
50°	599.7	585.9	574.8	566.5	558.2	555.5	550.0	538.9	533.4	525.1	525.1
52.5°	538.9	527.8	514.0	505.7	497.4	491.9	483.6	475.3	467.0	464.3	456.0
55°	486.4	472.6	458.8	447.7	439.4	431.1	428.4	417.3	406.2	400.7	395.2
57.5°	436.6	422.8	406.2	392.4	386.9	381.4	373.1	362.0	353.7	345.5	339.9
60°	386.9	375.9	359.3	345.5	339.9	331.6	323.3	312.3	304.0	295.7	290.2
62.5°	345.5	328.9	315.1	301.2	292.9	287.4	276.4	268.1	257.0	248.7	240.4
65°	304.0	287.4	273.6	259.8	254.3	246.0	237.7	226.6	215.6	207.3	196.2
67.5°	262.5	248.7	234.9	221.1	215.6	210.0	199.0	187.9	176.9	168.6	157.5
70°	226.6	212.8	199.0	187.9	182.4	176.9	165.8	154.8	146.5	135.4	127.1
72.5°	193.5	182.4	168.6	157.5	152.0	146.5	135.4	127.1	116.1	110.5	102.3
75°	160.3	149.2	138.2	127.1	121.6	116.1	107.8	99.5	91.2	82.9	77.4
77.5°	127.1	116.1	105.0	96.7	91.2	88.4	80.1	71.9	63.6	58.0	49.7
80°	94.0	82.9	74.6	66.3	60.8	58.0	49.7	44.2	38.7	30.4	27.6
82.5°	58.0	49.7	44.2	38.7	35.9	33.2	27.6	22.1	19.3	16.6	13.8
85°	30.4	27.6	22.1	19.3	16.6	16.6	13.8	11.1	8.3	8.3	5.5
87.5°	11.1	8.3	8.3	5.5	5.5	5.5	5.5	2.8	2.8	2.8	2.8
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°	1884.8	1884.8	1884.8	1884.8	1884.8	1884.8	1884.8	1884.8	1884.8	1884.8	1884.8
2.5°	1873.7	1876.5	1879.3	1882.0	1879.3	1879.3	1884.8	1873.7	1882.0	1882.0	1871.0
5°	1868.2	1873.7	1871.0	1876.5	1871.0	1871.0	1873.7	1868.2	1873.7	1873.7	1865.4
7.5°	1862.7	1868.2	1868.2	1871.0	1868.2	1868.2	1871.0	1862.7	1868.2	1868.2	1859.9
10°	1887.5	1893.1	1890.3	1887.5	1879.3	1873.7	1876.5	1862.7	1868.2	1868.2	1859.9
12.5°	1895.8	1893.1	1882.0	1876.5	1871.0	1865.4	1868.2	1857.1	1862.7	1862.7	1857.1
15°	1840.6	1835.0	1826.7	1829.5	1824.0	1821.2	1826.7	1821.2	1832.3	1837.8	1832.3
17.5°	1746.6	1743.8	1738.3	1738.3	1738.3	1741.1	1749.4	1749.4	1765.9	1777.0	1782.5
20°	1625.0	1622.2	1625.0	1630.5	1633.3	1644.3	1663.7	1674.7	1696.9	1716.2	1730.0
22.5°	1514.5	1520.0	1528.3	1539.3	1542.1	1555.9	1580.8	1591.8	1619.5	1641.6	1655.4
25°	1420.5	1428.8	1434.3	1442.6	1445.4	1461.9	1484.1	1497.9	1528.3	1544.9	1561.4
27.5°	1326.5	1337.6	1340.3	1351.4	1351.4	1368.0	1387.3	1401.1	1420.5	1437.1	1450.9
30°	1235.3	1238.1	1246.4	1249.1	1254.7	1271.3	1282.3	1290.6	1312.7	1321.0	1329.3
32.5°	1135.8	1146.9	1152.4	1155.2	1152.4	1166.2	1177.3	1182.8	1191.1	1202.2	1207.7
35°	1041.9	1047.4	1050.2	1055.7	1058.5	1061.2	1066.8	1069.5	1080.6	1083.3	1086.1
37.5°	947.9	956.2	953.4	956.2	956.2	959.0	964.5	961.7	970.0	972.8	970.0
40°	854.0	854.0	859.5	856.7	859.5	856.7	862.2	862.2	862.2	865.0	862.2
42.5°	760.0	762.8	760.0	765.5	760.0	762.8	762.8	760.0	762.8	760.0	760.0
45°	674.3	674.3	674.3	674.3	668.8	668.8	674.3	671.6	668.8	666.0	663.3
47.5°	591.4	594.2	588.6	591.4	588.6	585.9	583.1	583.1	580.4	574.8	572.1
50°	522.3	516.8	514.0	516.8	514.0	511.3	508.5	503.0	500.2	494.7	491.9
52.5°	453.2	447.7	442.2	442.2	439.4	433.9	431.1	425.6	422.8	417.3	417.3
55°	392.4	386.9	381.4	378.6	373.1	367.6	364.8	359.3	356.5	351.0	345.5
57.5°	334.4	326.1	320.6	317.8	315.1	306.8	304.0	298.5	292.9	287.4	284.7
60°	281.9	273.6	265.3	262.5	259.8	251.5	248.7	240.4	237.7	232.1	229.4
62.5°	232.1	226.6	215.6	212.8	207.3	201.7	193.5	190.7	187.9	190.7	190.7
65°	187.9	179.6	171.3	168.6	163.1	157.5	154.8	152.0	154.8	154.8	157.5
67.5°	149.2	140.9	132.7	132.7	129.9	124.4	124.4	124.4	127.1	127.1	129.9
70°	118.8	113.3	107.8	105.0	105.0	102.3	105.0	105.0	107.8	107.8	107.8
72.5°	94.0	91.2	88.4	85.7	85.7	85.7	85.7	85.7	85.7	85.7	88.4
75°	71.9	69.1	66.3	66.3	63.6	63.6	63.6	63.6	63.6	63.6	60.8
77.5°	47.0	44.2	41.5	41.5	38.7	35.9	35.9	33.2	33.2	33.2	33.2
80°	24.9	22.1	19.3	16.6	16.6	13.8	13.8	13.8	13.8	11.1	11.1
82.5°	11.1	8.3	8.3	8.3	8.3	5.5	5.5	5.5	5.5	5.5	5.5
85°	5.5	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
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: P251715

CATALOG NUMBER: LD4B40D010 EU4B30508040 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1884.8	1884.8	1884.8	1884.8	1884.8	1884.8	1884.8	1884.8
2.5°	1876.5	1871.0	1876.5	1879.3	1873.7	1871.0	1876.5	1865.4
5°	1873.7	1865.4	1868.2	1871.0	1865.4	1862.7	1868.2	1859.9
7.5°	1868.2	1865.4	1868.2	1871.0	1862.7	1862.7	1868.2	1859.9
10°	1868.2	1862.7	1865.4	1871.0	1865.4	1865.4	1871.0	1859.9
12.5°	1865.4	1857.1	1865.4	1868.2	1862.7	1862.7	1868.2	1857.1
15°	1846.1	1846.1	1848.9	1854.4	1851.6	1854.4	1862.7	1854.4
17.5°	1804.6	1810.2	1821.2	1829.5	1835.0	1840.6	1848.9	1843.3
20°	1754.9	1763.2	1777.0	1785.3	1796.3	1799.1	1812.9	1801.9
22.5°	1677.5	1694.1	1705.1	1713.4	1721.7	1730.0	1741.1	1738.3
25°	1583.5	1594.6	1602.9	1611.2	1622.2	1627.8	1633.3	1630.5
27.5°	1470.2	1475.8	1486.8	1492.3	1497.9	1503.4	1514.5	1500.6
30°	1345.9	1348.6	1354.2	1362.5	1362.5	1368.0	1373.5	1370.7
32.5°	1218.7	1218.7	1224.3	1229.8	1227.0	1229.8	1240.9	1227.0
35°	1094.4	1091.6	1099.9	1102.7	1102.7	1099.9	1108.2	1105.4
37.5°	972.8	975.6	978.3	981.1	975.6	981.1	981.1	975.6
40°	862.2	859.5	865.0	867.8	865.0	867.8	867.8	856.7
42.5°	762.8	757.2	760.0	762.8	760.0	762.8	760.0	754.5
45°	666.0	663.3	663.3	666.0	660.5	660.5	660.5	660.5
47.5°	574.8	572.1	574.8	574.8	569.3	569.3	572.1	569.3
50°	491.9	489.2	489.2	489.2	486.4	486.4	489.2	489.2
52.5°	417.3	411.8	411.8	411.8	411.8	411.8	414.5	409.0
55°	342.7	342.7	342.7	342.7	345.5	345.5	345.5	345.5
57.5°	281.9	284.7	284.7	287.4	284.7	287.4	287.4	284.7
60°	234.9	232.1	234.9	234.9	237.7	237.7	237.7	237.7
62.5°	193.5	193.5	193.5	196.2	196.2	196.2	199.0	196.2
65°	160.3	160.3	163.1	163.1	163.1	165.8	165.8	165.8
67.5°	132.7	132.7	132.7	132.7	135.4	135.4	138.2	135.4
70°	110.5	110.5	110.5	110.5	110.5	113.3	113.3	113.3
72.5°	88.4	88.4	88.4	88.4	91.2	91.2	91.2	91.2
75°	60.8	60.8	60.8	63.6	60.8	60.8	60.8	60.8
77.5°	30.4	30.4	30.4	30.4	30.4	27.6	27.6	27.6
80°	11.1	11.1	11.1	11.1	11.1	11.1	8.3	11.1
82.5°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	2.8
85°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
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)