

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: P251733

Luminaire Tested: **LD4B50D010TE EU4B30509035 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251733
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 EU4B30509035 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3644.0 lumens
Efficiency: N/A
Efficacy: 62.0 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

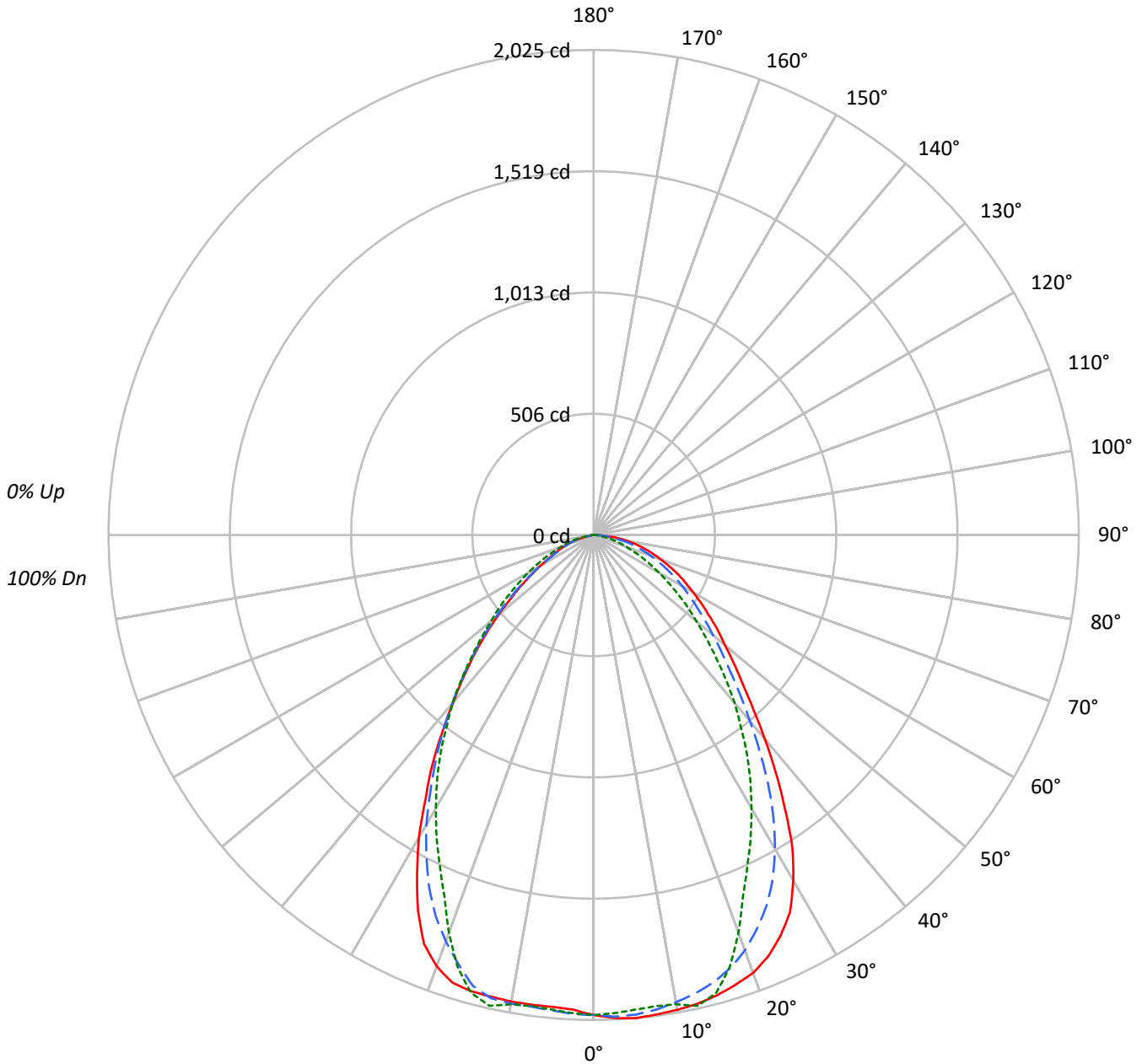
Input Watts (W): 58.77
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	195374	195374	195374
5°	198136	194682	193538
10°	199259	196933	195776
15°	200783	199603	199007
20°	201815	183219	198765
25°	198506	163418	186495
30°	187562	148197	164076
35°	165422	132549	139890
40°	141357	116307	115925
45°	121136	99263	96823
50°	108301	84679	78887
55°	99892	72417	62426
60°	93384	61301	49275
65°	89475	50849	40679
70°	84601	41033	34336
75°	81899	33212	24363
80°	79191	18128	6623
85°	68993	9840	3243



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	190.4	5.2
10°-20°	547.9	15.0
20°-30°	760.0	20.9
30°-40°	750.1	20.6
40°-50°	588.4	16.1
50°-60°	407.5	11.2
60°-70°	249.7	6.9
70°-80°	124.8	3.4
80°-90°	25.0	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°	1498.4	41.1
0°-40°	2248.5	61.7
0°-60°	3244.5	89.0
0°-90°	3644.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3644.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2005	2005	2005	2005	2005	
5°	2025	2011	1990	1993	1978	193
15°	1990	1934	1978	1949	1972	562
25°	1846	1708	1520	1626	1734	845
35°	1390	1270	1114	1149	1176	868
45°	879	805	720	711	702	687
55°	588	526	426	379	367	529
65°	388	335	220	165	176	383
75°	218	182	88	68	65	231
85°	62	35	9	3	3	70
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°	2004.7	2004.7	2004.7	2004.7	2004.7	2004.7	2004.7	2004.7	2004.7	2004.7	2004.7
2.5°	2019.4	2013.5	2010.6	2019.4	2016.5	2022.3	2019.4	2016.5	2010.6	2013.5	2013.5
5°	2025.3	2016.5	2013.5	2019.4	2019.4	2025.3	2022.3	2016.5	2010.6	2013.5	2010.6
7.5°	2019.4	2013.5	2013.5	2016.5	2013.5	2019.4	2013.5	2007.6	2001.8	2004.7	1998.8
10°	2013.5	2004.7	2004.7	2004.7	2004.7	2010.6	2004.7	1995.9	1987.1	1987.1	1981.2
12.5°	2004.7	1995.9	1995.9	1998.8	1992.9	1998.8	1992.9	1978.3	1969.4	1966.5	1960.6
15°	1990.0	1981.2	1981.2	1981.2	1975.3	1978.3	1969.4	1954.7	1943.0	1943.0	1934.2
17.5°	1969.4	1960.6	1957.7	1957.7	1948.9	1951.8	1943.0	1928.3	1910.6	1904.8	1895.9
20°	1945.9	1934.2	1928.3	1928.3	1919.5	1922.4	1910.6	1893.0	1869.5	1860.7	1846.0
22.5°	1904.8	1898.9	1890.1	1887.1	1878.3	1875.4	1863.6	1840.1	1819.5	1804.8	1781.3
25°	1846.0	1843.0	1834.2	1831.3	1819.5	1813.6	1801.9	1775.4	1754.9	1731.3	1707.8
27.5°	1775.4	1763.7	1757.8	1749.0	1737.2	1734.3	1719.6	1696.1	1663.7	1649.0	1619.6
30°	1666.7	1660.8	1654.9	1646.1	1634.3	1628.5	1619.6	1593.2	1566.7	1540.3	1513.8
32.5°	1543.2	1531.5	1522.6	1525.6	1510.9	1505.0	1490.3	1466.8	1443.3	1425.6	1396.2
35°	1390.4	1387.4	1384.5	1378.6	1366.8	1363.9	1352.1	1334.5	1308.1	1287.5	1269.8
37.5°	1246.3	1237.5	1231.6	1231.6	1219.9	1219.9	1211.1	1190.5	1175.8	1161.1	1137.6
40°	1111.1	1096.4	1096.4	1096.4	1084.7	1087.6	1081.7	1061.1	1046.4	1028.8	1014.1
42.5°	984.7	978.8	975.9	970.0	964.1	964.1	958.3	946.5	931.8	920.0	905.4
45°	878.9	876.0	873.0	870.1	864.2	861.3	858.3	840.7	831.9	820.1	805.4
47.5°	793.7	787.8	784.8	781.9	776.0	773.1	767.2	755.4	746.6	734.9	723.1
50°	714.3	711.3	708.4	708.4	702.5	699.6	693.7	684.9	670.2	664.3	649.6
52.5°	652.6	646.7	640.8	640.8	634.9	634.9	626.1	617.3	602.6	596.7	585.0
55°	587.9	585.0	582.0	582.0	576.1	573.2	570.3	558.5	546.7	537.9	526.2
57.5°	532.0	529.1	526.2	526.2	520.3	517.3	514.4	505.6	493.8	487.9	473.3
60°	479.1	479.1	476.2	473.3	470.3	467.4	464.4	455.6	446.8	438.0	426.2
62.5°	432.1	429.2	426.2	423.3	423.3	420.3	417.4	405.6	399.8	390.9	379.2
65°	388.0	382.1	382.1	379.2	379.2	376.3	373.3	361.6	355.7	346.9	335.1
67.5°	341.0	338.0	335.1	335.1	332.2	332.2	329.2	320.4	311.6	305.7	293.9
70°	296.9	296.9	293.9	293.9	291.0	288.1	288.1	282.2	273.4	264.6	252.8
72.5°	258.7	255.7	252.8	252.8	249.9	249.9	246.9	241.0	235.2	229.3	214.6
75°	217.5	214.6	214.6	214.6	211.6	211.6	208.7	202.8	196.9	191.1	182.2
77.5°	179.3	179.3	176.4	176.4	173.4	173.4	173.4	167.5	161.7	155.8	144.0
80°	141.1	141.1	141.1	138.2	135.2	135.2	135.2	129.3	123.5	117.6	108.8
82.5°	102.9	99.9	99.9	97.0	94.1	94.1	94.1	88.2	85.2	76.4	70.5
85°	61.7	58.8	58.8	55.8	52.9	52.9	52.9	50.0	44.1	41.2	35.3
87.5°	23.5	23.5	23.5	23.5	23.5	20.6	20.6	17.6	17.6	14.7	14.7
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°	2004.7	2004.7	2004.7	2004.7	2004.7	2004.7	2004.7	2004.7	2004.7	2004.7	2004.7
2.5°	2013.5	2010.6	2010.6	2007.6	2010.6	2004.7	2004.7	2004.7	2004.7	1998.8	1998.8
5°	2007.6	2007.6	2004.7	2001.8	2004.7	1998.8	2001.8	1998.8	1998.8	1990.0	1990.0
7.5°	1995.9	1992.9	1987.1	1984.1	1987.1	1984.1	1984.1	1984.1	1990.0	1984.1	1984.1
10°	1975.3	1972.4	1966.5	1963.6	1963.6	1960.6	1966.5	1972.4	1984.1	1990.0	2001.8
12.5°	1954.7	1948.9	1945.9	1945.9	1948.9	1948.9	1960.6	1975.3	2004.7	2013.5	2025.3
15°	1928.3	1925.3	1925.3	1934.2	1945.9	1954.7	1978.3	1987.1	1990.0	1978.3	1972.4
17.5°	1893.0	1893.0	1895.9	1904.8	1913.6	1913.6	1916.5	1910.6	1904.8	1890.1	1872.4
20°	1834.2	1831.3	1825.4	1825.4	1825.4	1813.6	1819.5	1798.9	1784.2	1766.6	1740.2
22.5°	1760.7	1746.0	1725.5	1710.8	1701.9	1696.1	1681.4	1657.9	1640.2	1628.5	1616.7
25°	1681.4	1657.9	1628.5	1604.9	1590.2	1587.3	1566.7	1546.2	1534.4	1519.7	1513.8
27.5°	1590.2	1563.8	1528.5	1505.0	1493.2	1484.4	1466.8	1446.2	1431.5	1419.8	1410.9
30°	1484.4	1458.0	1428.6	1399.2	1387.4	1372.7	1355.1	1340.4	1325.7	1316.9	1311.0
32.5°	1366.8	1340.4	1311.0	1290.4	1275.7	1264.0	1249.3	1234.6	1222.8	1216.9	1211.1
35°	1246.3	1219.9	1196.4	1175.8	1164.0	1155.2	1143.4	1125.8	1117.0	1114.1	1108.2
37.5°	1117.0	1099.4	1078.8	1061.1	1052.3	1040.6	1034.7	1020.0	1020.0	1008.2	1008.2
40°	996.5	984.7	964.1	949.4	943.6	934.7	925.9	920.0	917.1	914.2	911.2
42.5°	890.7	873.0	861.3	849.5	840.7	834.8	834.8	826.0	823.0	814.2	811.3
45°	793.7	784.8	764.3	755.4	752.5	743.7	740.7	734.9	726.0	720.2	717.2
47.5°	708.4	699.6	687.8	676.1	670.2	664.3	658.4	649.6	643.7	634.9	632.0
50°	637.9	623.2	611.4	602.6	593.8	590.8	585.0	573.2	567.3	558.5	558.5
52.5°	573.2	561.4	546.7	537.9	529.1	523.2	514.4	505.6	496.8	493.8	485.0
55°	517.3	502.6	487.9	476.2	467.4	458.6	455.6	443.9	432.1	426.2	420.3
57.5°	464.4	449.7	432.1	417.4	411.5	405.6	396.8	385.1	376.3	367.4	361.6
60°	411.5	399.8	382.1	367.4	361.6	352.7	343.9	332.2	323.3	314.5	308.6
62.5°	367.4	349.8	335.1	320.4	311.6	305.7	293.9	285.1	273.4	264.6	255.7
65°	323.3	305.7	291.0	276.3	270.4	261.6	252.8	241.0	229.3	220.5	208.7
67.5°	279.2	264.6	249.9	235.2	229.3	223.4	211.6	199.9	188.1	179.3	167.5
70°	241.0	226.3	211.6	199.9	194.0	188.1	176.4	164.6	155.8	144.0	135.2
72.5°	205.8	194.0	179.3	167.5	161.7	155.8	144.0	135.2	123.5	117.6	108.8
75°	170.5	158.7	147.0	135.2	129.3	123.5	114.6	105.8	97.0	88.2	82.3
77.5°	135.2	123.5	111.7	102.9	97.0	94.1	85.2	76.4	67.6	61.7	52.9
80°	99.9	88.2	79.4	70.5	64.7	61.7	52.9	47.0	41.2	32.3	29.4
82.5°	61.7	52.9	47.0	41.2	38.2	35.3	29.4	23.5	20.6	17.6	14.7
85°	32.3	29.4	23.5	20.6	17.6	17.6	14.7	11.8	8.8	8.8	5.9
87.5°	11.8	8.8	8.8	5.9	5.9	5.9	5.9	2.9	2.9	2.9	2.9
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°	2004.7	2004.7	2004.7	2004.7	2004.7	2004.7	2004.7	2004.7	2004.7	2004.7	2004.7
2.5°	1992.9	1995.9	1998.8	2001.8	1998.8	1998.8	2004.7	1992.9	2001.8	2001.8	1990.0
5°	1987.1	1992.9	1990.0	1995.9	1990.0	1990.0	1992.9	1987.1	1992.9	1992.9	1984.1
7.5°	1981.2	1987.1	1987.1	1990.0	1987.1	1987.1	1990.0	1981.2	1987.1	1987.1	1978.3
10°	2007.6	2013.5	2010.6	2007.6	1998.8	1992.9	1995.9	1981.2	1987.1	1987.1	1978.3
12.5°	2016.5	2013.5	2001.8	1995.9	1990.0	1984.1	1987.1	1975.3	1981.2	1981.2	1975.3
15°	1957.7	1951.8	1943.0	1945.9	1940.0	1937.1	1943.0	1937.1	1948.9	1954.7	1948.9
17.5°	1857.7	1854.8	1848.9	1848.9	1848.9	1851.9	1860.7	1860.7	1878.3	1890.1	1895.9
20°	1728.4	1725.5	1728.4	1734.3	1737.2	1749.0	1769.6	1781.3	1804.8	1825.4	1840.1
22.5°	1610.8	1616.7	1625.5	1637.3	1640.2	1654.9	1681.4	1693.1	1722.5	1746.0	1760.7
25°	1510.9	1519.7	1525.6	1534.4	1537.3	1555.0	1578.5	1593.2	1625.5	1643.2	1660.8
27.5°	1410.9	1422.7	1425.6	1437.4	1437.4	1455.0	1475.6	1490.3	1510.9	1528.5	1543.2
30°	1313.9	1316.9	1325.7	1328.6	1334.5	1352.1	1363.9	1372.7	1396.2	1405.1	1413.9
32.5°	1208.1	1219.9	1225.8	1228.7	1225.8	1240.4	1252.2	1258.1	1266.9	1278.7	1284.5
35°	1108.2	1114.1	1117.0	1122.9	1125.8	1128.8	1134.6	1137.6	1149.3	1152.3	1155.2
37.5°	1008.2	1017.1	1014.1	1017.1	1017.1	1020.0	1025.9	1022.9	1031.7	1034.7	1031.7
40°	908.3	908.3	914.2	911.2	914.2	911.2	917.1	917.1	917.1	920.0	917.1
42.5°	808.3	811.3	808.3	814.2	808.3	811.3	811.3	808.3	811.3	808.3	808.3
45°	717.2	717.2	717.2	717.2	711.3	711.3	717.2	714.3	711.3	708.4	705.5
47.5°	629.0	632.0	626.1	629.0	626.1	623.2	620.2	620.2	617.3	611.4	608.5
50°	555.6	549.7	546.7	549.7	546.7	543.8	540.9	535.0	532.0	526.2	523.2
52.5°	482.1	476.2	470.3	470.3	467.4	461.5	458.6	452.7	449.7	443.9	443.9
55°	417.4	411.5	405.6	402.7	396.8	390.9	388.0	382.1	379.2	373.3	367.4
57.5°	355.7	346.9	341.0	338.0	335.1	326.3	323.3	317.5	311.6	305.7	302.8
60°	299.8	291.0	282.2	279.2	276.3	267.5	264.6	255.7	252.8	246.9	244.0
62.5°	246.9	241.0	229.3	226.3	220.5	214.6	205.8	202.8	199.9	202.8	202.8
65°	199.9	191.1	182.2	179.3	173.4	167.5	164.6	161.7	164.6	164.6	167.5
67.5°	158.7	149.9	141.1	141.1	138.2	132.3	132.3	132.3	135.2	135.2	138.2
70°	126.4	120.5	114.6	111.7	111.7	108.8	111.7	111.7	114.6	114.6	114.6
72.5°	99.9	97.0	94.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	94.1
75°	76.4	73.5	70.5	70.5	67.6	67.6	67.6	67.6	67.6	67.6	64.7
77.5°	50.0	47.0	44.1	44.1	41.2	38.2	38.2	35.3	35.3	35.3	35.3
80°	26.5	23.5	20.6	17.6	17.6	14.7	14.7	14.7	14.7	11.8	11.8
82.5°	11.8	8.8	8.8	8.8	8.8	5.9	5.9	5.9	5.9	5.9	5.9
85°	5.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
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: P251733

CATALOG NUMBER: LD4B50D010TE EU4B30509035 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2004.7	2004.7	2004.7	2004.7	2004.7	2004.7	2004.7	2004.7
2.5°	1995.9	1990.0	1995.9	1998.8	1992.9	1990.0	1995.9	1984.1
5°	1992.9	1984.1	1987.1	1990.0	1984.1	1981.2	1987.1	1978.3
7.5°	1987.1	1984.1	1987.1	1990.0	1981.2	1981.2	1987.1	1978.3
10°	1987.1	1981.2	1984.1	1990.0	1984.1	1984.1	1990.0	1978.3
12.5°	1984.1	1975.3	1984.1	1987.1	1981.2	1981.2	1987.1	1975.3
15°	1963.6	1963.6	1966.5	1972.4	1969.4	1972.4	1981.2	1972.4
17.5°	1919.5	1925.3	1937.1	1945.9	1951.8	1957.7	1966.5	1960.6
20°	1866.6	1875.4	1890.1	1898.9	1910.6	1913.6	1928.3	1916.5
22.5°	1784.2	1801.9	1813.6	1822.5	1831.3	1840.1	1851.9	1848.9
25°	1684.3	1696.1	1704.9	1713.7	1725.5	1731.3	1737.2	1734.3
27.5°	1563.8	1569.7	1581.4	1587.3	1593.2	1599.1	1610.8	1596.1
30°	1431.5	1434.5	1440.3	1449.2	1449.2	1455.0	1460.9	1458.0
32.5°	1296.3	1296.3	1302.2	1308.1	1305.1	1308.1	1319.8	1305.1
35°	1164.0	1161.1	1169.9	1172.8	1172.8	1169.9	1178.7	1175.8
37.5°	1034.7	1037.6	1040.6	1043.5	1037.6	1043.5	1043.5	1037.6
40°	917.1	914.2	920.0	923.0	920.0	923.0	923.0	911.2
42.5°	811.3	805.4	808.3	811.3	808.3	811.3	808.3	802.5
45°	708.4	705.5	705.5	708.4	702.5	702.5	702.5	702.5
47.5°	611.4	608.5	611.4	611.4	605.5	605.5	608.5	605.5
50°	523.2	520.3	520.3	520.3	517.3	517.3	520.3	520.3
52.5°	443.9	438.0	438.0	438.0	438.0	438.0	440.9	435.0
55°	364.5	364.5	364.5	364.5	367.4	367.4	367.4	367.4
57.5°	299.8	302.8	302.8	305.7	302.8	305.7	305.7	302.8
60°	249.9	246.9	249.9	249.9	252.8	252.8	252.8	252.8
62.5°	205.8	205.8	205.8	208.7	208.7	208.7	211.6	208.7
65°	170.5	170.5	173.4	173.4	173.4	176.4	176.4	176.4
67.5°	141.1	141.1	141.1	141.1	144.0	144.0	147.0	144.0
70°	117.6	117.6	117.6	117.6	117.6	120.5	120.5	120.5
72.5°	94.1	94.1	94.1	94.1	97.0	97.0	97.0	97.0
75°	64.7	64.7	64.7	67.6	64.7	64.7	64.7	64.7
77.5°	32.3	32.3	32.3	32.3	32.3	29.4	29.4	29.4
80°	11.8	11.8	11.8	11.8	11.8	11.8	8.8	11.8
82.5°	5.9	5.9	5.9	5.9	5.9	5.9	5.9	2.9
85°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
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)