

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: P251736

Luminaire Tested: **LD4B50D010TE EU4B30509727 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251736
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 EU4B30509727 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 97CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3005.0 lumens
Efficiency: N/A
Efficacy: 51.1 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

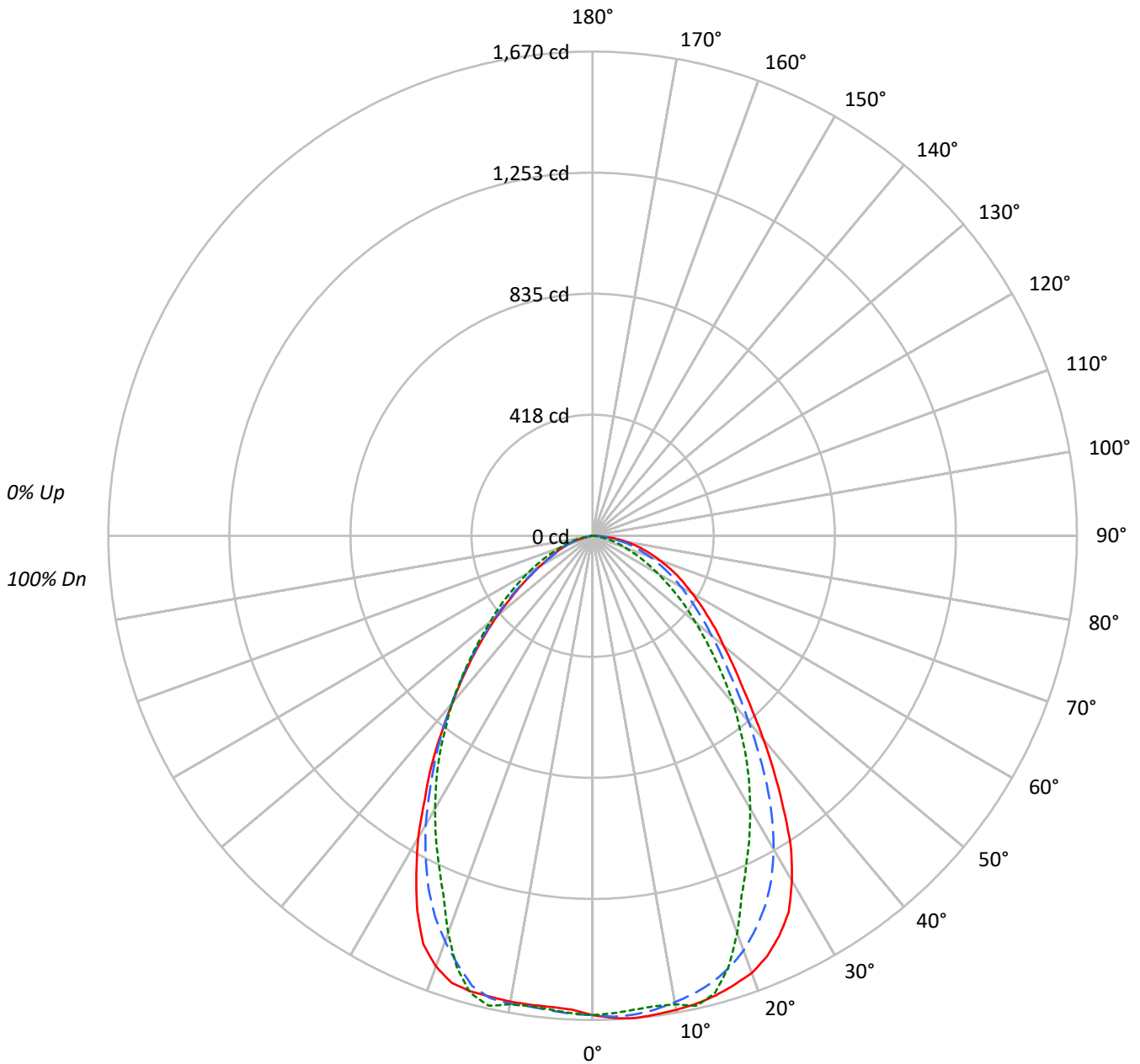
Input Watts (W): 58.77
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
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°	161118	161118	161118
5°	163386	160540	159600
10°	164316	162396	161446
15°	165570	164602	164107
20°	166428	151089	163908
25°	163698	134760	153794
30°	154668	122213	135301
35°	136416	109302	115358
40°	116574	95913	95595
45°	99897	81855	79843
50°	89303	69835	65044
55°	82374	59724	51484
60°	77011	50561	40640
65°	73794	41924	33530
70°	69755	33852	28324
75°	67553	27375	20070
80°	65328	14985	5444
85°	56917	8163	2684



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.0	5.2
10°-20°	451.8	15.0
20°-30°	626.7	20.9
30°-40°	618.6	20.6
40°-50°	485.2	16.1
50°-60°	336.1	11.2
60°-70°	206.0	6.9
70°-80°	102.9	3.4
80°-90°	20.6	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°	1235.6	41.1
0°-40°	1854.2	61.7
0°-60°	2675.5	89.0
0°-90°	3005.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3005.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1653	1653	1653	1653	1653	
5°	1670	1658	1641	1644	1631	159
15°	1641	1595	1631	1607	1626	463
25°	1522	1408	1253	1340	1430	697
35°	1147	1047	919	948	970	715
45°	725	664	594	587	579	567
55°	485	434	352	313	303	437
65°	320	276	182	136	145	316
75°	179	150	73	56	53	190
85°	51	29	7	2	2	58
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°	1653.2	1653.2	1653.2	1653.2	1653.2	1653.2	1653.2	1653.2	1653.2	1653.2	1653.2
2.5°	1665.3	1660.4	1658.0	1665.3	1662.9	1667.7	1665.3	1662.9	1658.0	1660.4	1660.4
5°	1670.1	1662.9	1660.4	1665.3	1665.3	1670.1	1667.7	1662.9	1658.0	1660.4	1658.0
7.5°	1665.3	1660.4	1660.4	1662.9	1660.4	1665.3	1660.4	1655.6	1650.7	1653.2	1648.3
10°	1660.4	1653.2	1653.2	1653.2	1653.2	1658.0	1653.2	1645.9	1638.6	1638.6	1633.8
12.5°	1653.2	1645.9	1645.9	1648.3	1643.5	1648.3	1643.5	1631.4	1624.1	1621.7	1616.8
15°	1641.0	1633.8	1633.8	1633.8	1628.9	1631.4	1624.1	1612.0	1602.3	1602.3	1595.0
17.5°	1624.1	1616.8	1614.4	1614.4	1607.1	1609.5	1602.3	1590.1	1575.6	1570.8	1563.5
20°	1604.7	1595.0	1590.1	1590.1	1582.9	1585.3	1575.6	1561.1	1541.7	1534.4	1522.3
22.5°	1570.8	1565.9	1558.6	1556.2	1548.9	1546.5	1536.8	1517.4	1500.5	1488.3	1468.9
25°	1522.3	1519.8	1512.6	1510.2	1500.5	1495.6	1485.9	1464.1	1447.1	1427.7	1408.3
27.5°	1464.1	1454.4	1449.6	1442.3	1432.6	1430.2	1418.0	1398.6	1372.0	1359.9	1335.6
30°	1374.4	1369.6	1364.7	1357.4	1347.7	1342.9	1335.6	1313.8	1292.0	1270.2	1248.4
32.5°	1272.6	1262.9	1255.6	1258.1	1245.9	1241.1	1229.0	1209.6	1190.2	1175.6	1151.4
35°	1146.6	1144.1	1141.7	1136.9	1127.2	1124.7	1115.0	1100.5	1078.7	1061.7	1047.2
37.5°	1027.8	1020.5	1015.7	1015.7	1006.0	1006.0	998.7	981.7	969.6	957.5	938.1
40°	916.3	904.2	904.2	904.2	894.5	896.9	892.0	875.1	862.9	848.4	836.3
42.5°	812.0	807.2	804.8	799.9	795.1	795.1	790.2	780.5	768.4	758.7	746.6
45°	724.8	722.4	719.9	717.5	712.7	710.2	707.8	693.3	686.0	676.3	664.2
47.5°	654.5	649.6	647.2	644.8	639.9	637.5	632.7	623.0	615.7	606.0	596.3
50°	589.0	586.6	584.2	584.2	579.3	576.9	572.1	564.8	552.7	547.8	535.7
52.5°	538.1	533.3	528.4	528.4	523.6	523.6	516.3	509.0	496.9	492.1	482.4
55°	484.8	482.4	480.0	480.0	475.1	472.7	470.3	460.6	450.9	443.6	433.9
57.5°	438.7	436.3	433.9	433.9	429.0	426.6	424.2	416.9	407.2	402.4	390.3
60°	395.1	395.1	392.7	390.3	387.8	385.4	383.0	375.7	368.4	361.2	351.5
62.5°	356.3	353.9	351.5	349.1	349.1	346.6	344.2	334.5	329.7	322.4	312.7
65°	320.0	315.1	315.1	312.7	312.7	310.3	307.8	298.2	293.3	286.0	276.3
67.5°	281.2	278.8	276.3	276.3	273.9	273.9	271.5	264.2	256.9	252.1	242.4
70°	244.8	244.8	242.4	242.4	240.0	237.6	237.6	232.7	225.4	218.2	208.5
72.5°	213.3	210.9	208.5	208.5	206.0	206.0	203.6	198.8	193.9	189.1	177.0
75°	179.4	177.0	177.0	177.0	174.5	174.5	172.1	167.3	162.4	157.6	150.3
77.5°	147.9	147.9	145.4	145.4	143.0	143.0	143.0	138.2	133.3	128.5	118.8
80°	116.4	116.4	116.4	113.9	111.5	111.5	111.5	106.7	101.8	97.0	89.7
82.5°	84.8	82.4	82.4	80.0	77.6	77.6	77.6	72.7	70.3	63.0	58.2
85°	50.9	48.5	48.5	46.1	43.6	43.6	43.6	41.2	36.4	33.9	29.1
87.5°	19.4	19.4	19.4	19.4	19.4	17.0	17.0	14.5	14.5	12.1	12.1
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°	1653.2	1653.2	1653.2	1653.2	1653.2	1653.2	1653.2	1653.2	1653.2	1653.2	1653.2
2.5°	1660.4	1658.0	1658.0	1655.6	1658.0	1653.2	1653.2	1653.2	1653.2	1648.3	1648.3
5°	1655.6	1655.6	1653.2	1650.7	1653.2	1648.3	1650.7	1648.3	1648.3	1641.0	1641.0
7.5°	1645.9	1643.5	1638.6	1636.2	1638.6	1636.2	1636.2	1636.2	1641.0	1636.2	1636.2
10°	1628.9	1626.5	1621.7	1619.2	1619.2	1616.8	1621.7	1626.5	1636.2	1641.0	1650.7
12.5°	1612.0	1607.1	1604.7	1604.7	1607.1	1607.1	1616.8	1628.9	1653.2	1660.4	1670.1
15°	1590.1	1587.7	1587.7	1595.0	1604.7	1612.0	1631.4	1638.6	1641.0	1631.4	1626.5
17.5°	1561.1	1561.1	1563.5	1570.8	1578.0	1578.0	1580.4	1575.6	1570.8	1558.6	1544.1
20°	1512.6	1510.2	1505.3	1505.3	1505.3	1495.6	1500.5	1483.5	1471.4	1456.8	1435.0
22.5°	1452.0	1439.9	1422.9	1410.8	1403.5	1398.6	1386.5	1367.1	1352.6	1342.9	1333.2
25°	1386.5	1367.1	1342.9	1323.5	1311.4	1309.0	1292.0	1275.0	1265.3	1253.2	1248.4
27.5°	1311.4	1289.6	1260.5	1241.1	1231.4	1224.1	1209.6	1192.6	1180.5	1170.8	1163.5
30°	1224.1	1202.3	1178.1	1153.8	1144.1	1132.0	1117.5	1105.3	1093.2	1086.0	1081.1
32.5°	1127.2	1105.3	1081.1	1064.1	1052.0	1042.3	1030.2	1018.1	1008.4	1003.5	998.7
35°	1027.8	1006.0	986.6	969.6	959.9	952.6	942.9	928.4	921.1	918.7	913.8
37.5°	921.1	906.6	889.6	875.1	867.8	858.1	853.2	841.1	841.1	831.4	831.4
40°	821.7	812.0	795.1	783.0	778.1	770.8	763.6	758.7	756.3	753.9	751.4
42.5°	734.5	719.9	710.2	700.5	693.3	688.4	688.4	681.1	678.7	671.4	669.0
45°	654.5	647.2	630.2	623.0	620.5	613.3	610.8	606.0	598.7	593.9	591.5
47.5°	584.2	576.9	567.2	557.5	552.7	547.8	543.0	535.7	530.9	523.6	521.2
50°	526.0	513.9	504.2	496.9	489.6	487.2	482.4	472.7	467.8	460.6	460.6
52.5°	472.7	463.0	450.9	443.6	436.3	431.5	424.2	416.9	409.7	407.2	400.0
55°	426.6	414.5	402.4	392.7	385.4	378.1	375.7	366.0	356.3	351.5	346.6
57.5°	383.0	370.9	356.3	344.2	339.4	334.5	327.2	317.5	310.3	303.0	298.2
60°	339.4	329.7	315.1	303.0	298.2	290.9	283.6	273.9	266.6	259.4	254.5
62.5°	303.0	288.5	276.3	264.2	256.9	252.1	242.4	235.1	225.4	218.2	210.9
65°	266.6	252.1	240.0	227.9	223.0	215.7	208.5	198.8	189.1	181.8	172.1
67.5°	230.3	218.2	206.0	193.9	189.1	184.2	174.5	164.8	155.1	147.9	138.2
70°	198.8	186.6	174.5	164.8	160.0	155.1	145.4	135.7	128.5	118.8	111.5
72.5°	169.7	160.0	147.9	138.2	133.3	128.5	118.8	111.5	101.8	97.0	89.7
75°	140.6	130.9	121.2	111.5	106.7	101.8	94.5	87.3	80.0	72.7	67.9
77.5°	111.5	101.8	92.1	84.8	80.0	77.6	70.3	63.0	55.8	50.9	43.6
80°	82.4	72.7	65.4	58.2	53.3	50.9	43.6	38.8	33.9	26.7	24.2
82.5°	50.9	43.6	38.8	33.9	31.5	29.1	24.2	19.4	17.0	14.5	12.1
85°	26.7	24.2	19.4	17.0	14.5	14.5	12.1	9.7	7.3	7.3	4.8
87.5°	9.7	7.3	7.3	4.8	4.8	4.8	4.8	2.4	2.4	2.4	2.4
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1653.2	1653.2	1653.2	1653.2	1653.2	1653.2	1653.2	1653.2	1653.2	1653.2	1653.2
2.5°	1643.5	1645.9	1648.3	1650.7	1648.3	1648.3	1653.2	1643.5	1650.7	1650.7	1641.0
5°	1638.6	1643.5	1641.0	1645.9	1641.0	1641.0	1643.5	1638.6	1643.5	1643.5	1636.2
7.5°	1633.8	1638.6	1638.6	1641.0	1638.6	1638.6	1641.0	1633.8	1638.6	1638.6	1631.4
10°	1655.6	1660.4	1658.0	1655.6	1648.3	1643.5	1645.9	1633.8	1638.6	1638.6	1631.4
12.5°	1662.9	1660.4	1650.7	1645.9	1641.0	1636.2	1638.6	1628.9	1633.8	1633.8	1628.9
15°	1614.4	1609.5	1602.3	1604.7	1599.8	1597.4	1602.3	1597.4	1607.1	1612.0	1607.1
17.5°	1532.0	1529.5	1524.7	1524.7	1524.7	1527.1	1534.4	1534.4	1548.9	1558.6	1563.5
20°	1425.3	1422.9	1425.3	1430.2	1432.6	1442.3	1459.2	1468.9	1488.3	1505.3	1517.4
22.5°	1328.4	1333.2	1340.5	1350.2	1352.6	1364.7	1386.5	1396.2	1420.5	1439.9	1452.0
25°	1245.9	1253.2	1258.1	1265.3	1267.8	1282.3	1301.7	1313.8	1340.5	1355.0	1369.6
27.5°	1163.5	1173.2	1175.6	1185.3	1185.3	1199.9	1216.8	1229.0	1245.9	1260.5	1272.6
30°	1083.5	1086.0	1093.2	1095.6	1100.5	1115.0	1124.7	1132.0	1151.4	1158.7	1165.9
32.5°	996.3	1006.0	1010.8	1013.2	1010.8	1022.9	1032.6	1037.5	1044.7	1054.4	1059.3
35°	913.8	918.7	921.1	926.0	928.4	930.8	935.7	938.1	947.8	950.2	952.6
37.5°	831.4	838.7	836.3	838.7	838.7	841.1	846.0	843.6	850.8	853.2	850.8
40°	749.0	749.0	753.9	751.4	753.9	751.4	756.3	756.3	756.3	758.7	756.3
42.5°	666.6	669.0	666.6	671.4	666.6	669.0	669.0	666.6	669.0	666.6	666.6
45°	591.5	591.5	591.5	591.5	586.6	586.6	591.5	589.0	586.6	584.2	581.8
47.5°	518.7	521.2	516.3	518.7	516.3	513.9	511.5	511.5	509.0	504.2	501.8
50°	458.1	453.3	450.9	453.3	450.9	448.4	446.0	441.2	438.7	433.9	431.5
52.5°	397.5	392.7	387.8	387.8	385.4	380.6	378.1	373.3	370.9	366.0	366.0
55°	344.2	339.4	334.5	332.1	327.2	322.4	320.0	315.1	312.7	307.8	303.0
57.5°	293.3	286.0	281.2	278.8	276.3	269.1	266.6	261.8	256.9	252.1	249.7
60°	247.2	240.0	232.7	230.3	227.9	220.6	218.2	210.9	208.5	203.6	201.2
62.5°	203.6	198.8	189.1	186.6	181.8	177.0	169.7	167.3	164.8	167.3	167.3
65°	164.8	157.6	150.3	147.9	143.0	138.2	135.7	133.3	135.7	135.7	138.2
67.5°	130.9	123.6	116.4	116.4	113.9	109.1	109.1	109.1	111.5	111.5	113.9
70°	104.2	99.4	94.5	92.1	92.1	89.7	92.1	92.1	94.5	94.5	94.5
72.5°	82.4	80.0	77.6	75.1	75.1	75.1	75.1	75.1	75.1	75.1	77.6
75°	63.0	60.6	58.2	58.2	55.8	55.8	55.8	55.8	55.8	55.8	53.3
77.5°	41.2	38.8	36.4	36.4	33.9	31.5	31.5	29.1	29.1	29.1	29.1
80°	21.8	19.4	17.0	14.5	14.5	12.1	12.1	12.1	12.1	9.7	9.7
82.5°	9.7	7.3	7.3	7.3	7.3	4.8	4.8	4.8	4.8	4.8	4.8
85°	4.8	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
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: P251736

CATALOG NUMBER: LD4B50D010TE EU4B30509727 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1653.2	1653.2	1653.2	1653.2	1653.2	1653.2	1653.2	1653.2
2.5°	1645.9	1641.0	1645.9	1648.3	1643.5	1641.0	1645.9	1636.2
5°	1643.5	1636.2	1638.6	1641.0	1636.2	1633.8	1638.6	1631.4
7.5°	1638.6	1636.2	1638.6	1641.0	1633.8	1633.8	1638.6	1631.4
10°	1638.6	1633.8	1636.2	1641.0	1636.2	1636.2	1641.0	1631.4
12.5°	1636.2	1628.9	1636.2	1638.6	1633.8	1633.8	1638.6	1628.9
15°	1619.2	1619.2	1621.7	1626.5	1624.1	1626.5	1633.8	1626.5
17.5°	1582.9	1587.7	1597.4	1604.7	1609.5	1614.4	1621.7	1616.8
20°	1539.2	1546.5	1558.6	1565.9	1575.6	1578.0	1590.1	1580.4
22.5°	1471.4	1485.9	1495.6	1502.9	1510.2	1517.4	1527.1	1524.7
25°	1389.0	1398.6	1405.9	1413.2	1422.9	1427.7	1432.6	1430.2
27.5°	1289.6	1294.4	1304.1	1309.0	1313.8	1318.7	1328.4	1316.2
30°	1180.5	1182.9	1187.8	1195.0	1195.0	1199.9	1204.7	1202.3
32.5°	1069.0	1069.0	1073.8	1078.7	1076.3	1078.7	1088.4	1076.3
35°	959.9	957.5	964.8	967.2	967.2	964.8	972.0	969.6
37.5°	853.2	855.7	858.1	860.5	855.7	860.5	860.5	855.7
40°	756.3	753.9	758.7	761.1	758.7	761.1	761.1	751.4
42.5°	669.0	664.2	666.6	669.0	666.6	669.0	666.6	661.8
45°	584.2	581.8	581.8	584.2	579.3	579.3	579.3	579.3
47.5°	504.2	501.8	504.2	504.2	499.3	499.3	501.8	499.3
50°	431.5	429.0	429.0	429.0	426.6	426.6	429.0	429.0
52.5°	366.0	361.2	361.2	361.2	361.2	361.2	363.6	358.8
55°	300.6	300.6	300.6	300.6	303.0	303.0	303.0	303.0
57.5°	247.2	249.7	249.7	252.1	249.7	252.1	252.1	249.7
60°	206.0	203.6	206.0	206.0	208.5	208.5	208.5	208.5
62.5°	169.7	169.7	169.7	172.1	172.1	172.1	174.5	172.1
65°	140.6	140.6	143.0	143.0	143.0	145.4	145.4	145.4
67.5°	116.4	116.4	116.4	116.4	118.8	118.8	121.2	118.8
70°	97.0	97.0	97.0	97.0	97.0	99.4	99.4	99.4
72.5°	77.6	77.6	77.6	77.6	80.0	80.0	80.0	80.0
75°	53.3	53.3	53.3	55.8	53.3	53.3	53.3	53.3
77.5°	26.7	26.7	26.7	26.7	26.7	24.2	24.2	24.2
80°	9.7	9.7	9.7	9.7	9.7	9.7	7.3	9.7
82.5°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	2.4
85°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
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)