

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: P251808

Luminaire Tested: **LD4B50D010TE EU4B30509024 4LBLWW1H**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P251808  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-12)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LD4B50D010TE EU4B30509024 4LBLWW1H  
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2400K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2873.0 lumens  
Efficiency: N/A  
Efficacy: 48.9 lumens/watt  
Spacing Criteria (0/90/45): 1.12 / 1.03 / 1.12  
Luminous Opening: Circular (Dia: 0.38' x H: 0')  
CIE Type: Direct

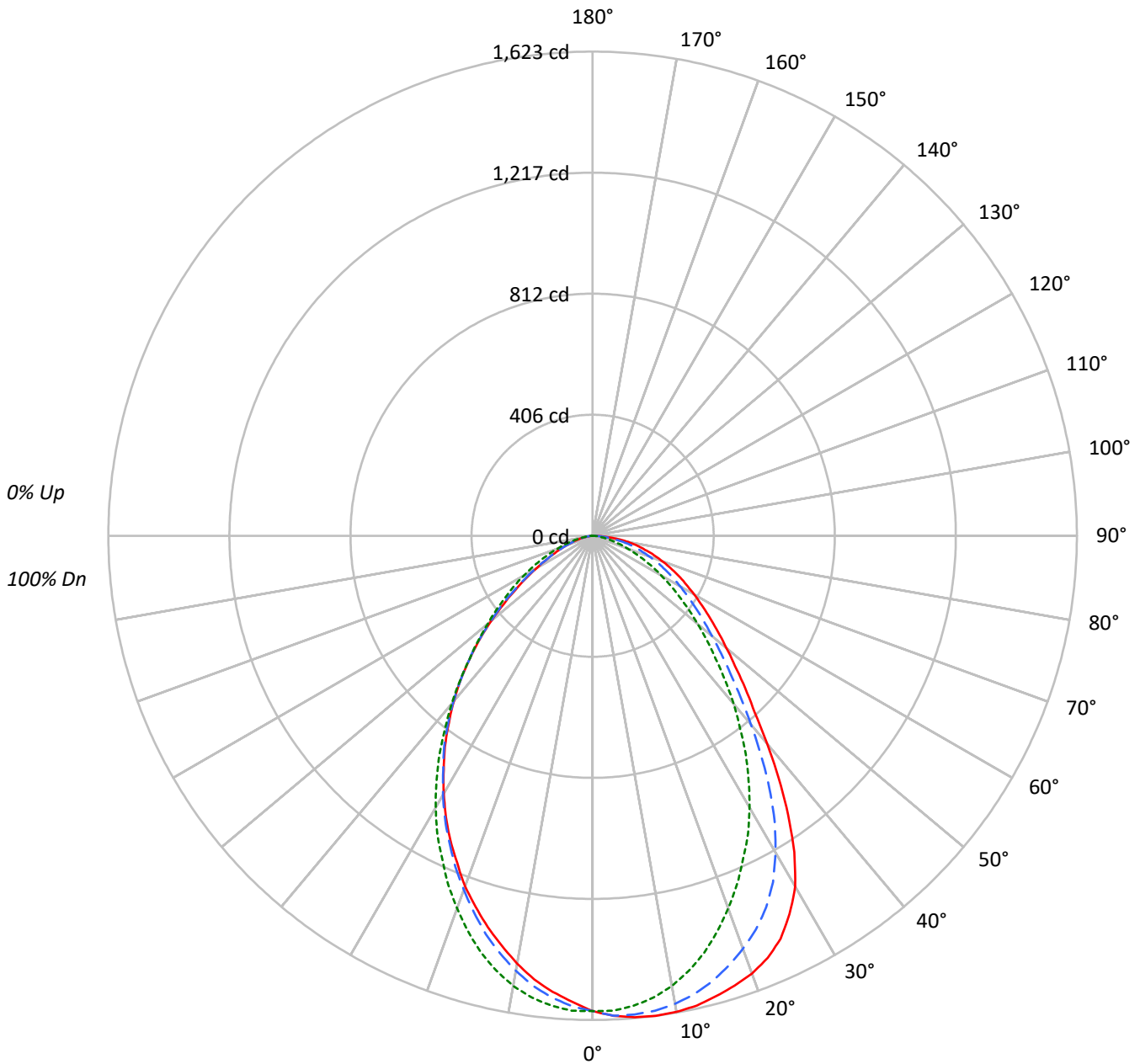
Input Watts (W): 58.77  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	100	100
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	88	88	88	88
2	102	95	89	85	100	93	88	84	90	85	82	87	83	80	84	81	78	76	76	76	76
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67	67	67	67
4	88	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	59	59	59	59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52	52	52	52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47	47	47	47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42	42	42	42
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38	38	38	38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35	35	35	35
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32	32	32	32

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	155280	155280	155280
5°	158515	154680	150121
10°	160347	151619	144098
15°	161252	145926	137017
20°	161947	137793	129662
25°	160267	128373	121254
30°	152822	118342	112276
35°	135904	106446	102663
40°	115696	93559	91995
45°	99662	80408	80077
50°	88833	69502	67273
55°	81643	59979	53726
60°	76446	51594	42043
65°	73494	43538	32792
70°	70553	34935	26529
75°	68306	27676	20296
80°	68808	19250	12403
85°	57588	13754	5479



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	149.2	5.2
10°-20°	410.1	14.3
20°-30°	573.5	20.0
30°-40°	589.4	20.5
40°-50°	478.4	16.7
50°-60°	336.9	11.7
60°-70°	207.4	7.2
70°-80°	103.6	3.6
80°-90°	24.6	0.9
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°	1132.7	39.4
0°-40°	1722.1	59.9
0°-60°	2537.4	88.3
0°-90°	2873.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2873.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1593	1593	1593	1593	1593	
5°	1620	1610	1581	1554	1534	155
15°	1598	1547	1446	1382	1358	451
25°	1490	1375	1194	1135	1128	681
35°	1142	1032	895	868	863	710
45°	723	652	583	583	581	562
55°	480	422	353	324	316	432
65°	319	267	189	145	142	315
75°	181	142	74	54	54	194
85°	52	34	12	7	5	60
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°	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3
2.5°	1610.5	1613.0	1605.6	1613.0	1603.2	1608.1	1610.5	1605.6	1600.7	1610.5	1610.5
5°	1620.3	1620.3	1613.0	1622.8	1610.5	1613.0	1617.9	1610.5	1603.2	1613.0	1610.5
7.5°	1622.8	1622.8	1613.0	1622.8	1610.5	1613.0	1615.4	1608.1	1600.7	1608.1	1605.6
10°	1620.3	1617.9	1610.5	1620.3	1608.1	1608.1	1610.5	1603.2	1590.9	1598.2	1593.3
12.5°	1613.0	1613.0	1603.2	1613.0	1595.8	1595.8	1598.2	1588.4	1578.6	1578.6	1573.7
15°	1598.2	1598.2	1588.4	1595.8	1581.1	1581.1	1578.6	1568.8	1556.6	1556.6	1546.8
17.5°	1581.1	1581.1	1571.3	1578.6	1561.5	1561.5	1559.0	1544.3	1527.2	1524.7	1512.5
20°	1561.5	1561.5	1549.2	1554.1	1534.5	1534.5	1532.1	1514.9	1495.3	1490.4	1473.2
22.5°	1532.1	1532.1	1519.8	1522.3	1502.6	1500.2	1497.7	1478.1	1458.5	1451.2	1429.1
25°	1490.4	1487.9	1478.1	1478.1	1458.5	1453.6	1448.7	1429.1	1409.5	1394.8	1375.2
27.5°	1429.1	1431.6	1419.3	1421.8	1397.2	1392.3	1389.9	1365.4	1343.3	1328.6	1309.0
30°	1358.0	1350.7	1338.4	1338.4	1318.8	1316.3	1311.4	1289.4	1264.9	1247.7	1225.7
32.5°	1257.5	1255.1	1242.8	1242.8	1220.7	1220.7	1210.9	1188.9	1166.8	1157.0	1135.0
35°	1142.3	1139.9	1130.1	1130.1	1110.4	1112.9	1103.1	1085.9	1063.9	1049.2	1032.0
37.5°	1024.6	1022.2	1012.4	1014.8	997.7	997.7	990.3	973.2	956.0	948.7	926.6
40°	909.4	907.0	894.7	902.1	887.4	882.5	880.0	867.8	848.2	838.3	826.1
42.5°	804.0	806.5	794.2	799.1	786.9	782.0	779.5	769.7	755.0	745.2	732.9
45°	723.1	718.2	713.3	713.3	701.1	698.6	696.2	683.9	674.1	664.3	652.0
47.5°	647.1	642.2	637.3	639.8	630.0	627.5	622.6	612.8	600.6	595.7	583.4
50°	585.9	583.4	576.1	576.1	566.3	563.8	558.9	551.5	539.3	531.9	522.1
52.5°	529.5	529.5	522.1	519.7	512.3	509.9	507.4	497.6	487.8	478.0	468.2
55°	480.5	478.0	473.1	473.1	463.3	460.8	458.4	448.6	438.8	431.4	421.6
57.5°	433.9	433.9	429.0	429.0	421.6	416.7	416.7	406.9	394.7	389.8	377.5
60°	392.2	392.2	387.3	387.3	380.0	380.0	375.0	365.2	357.9	348.1	338.3
62.5°	353.0	355.4	350.5	348.1	340.7	338.3	338.3	330.9	318.7	311.3	301.5
65°	318.7	316.2	313.8	311.3	304.0	301.5	301.5	291.7	284.4	274.5	267.2
67.5°	281.9	281.9	277.0	277.0	272.1	269.6	264.7	257.4	250.0	242.7	235.3
70°	247.6	247.6	245.1	245.1	237.8	235.3	232.9	225.5	218.2	210.8	201.0
72.5°	215.7	213.3	210.8	210.8	205.9	203.5	201.0	193.7	186.3	178.9	171.6
75°	181.4	181.4	178.9	178.9	174.0	171.6	171.6	166.7	156.9	152.0	142.2
77.5°	152.0	152.0	149.5	149.5	144.6	144.6	142.2	134.8	129.9	122.6	117.7
80°	122.6	120.1	120.1	117.7	112.8	112.8	110.3	107.9	100.5	95.6	88.2
82.5°	85.8	85.8	85.8	83.3	80.9	80.9	78.4	73.5	68.6	66.2	58.8
85°	51.5	51.5	49.0	46.6	49.0	46.6	44.1	41.7	39.2	36.8	34.3
87.5°	22.1	22.1	19.6	19.6	19.6	19.6	19.6	17.2	14.7	14.7	12.3
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°	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3
2.5°	1595.8	1603.2	1600.7	1598.2	1593.3	1593.3	1593.3	1590.9	1593.3	1593.3	1588.4
5°	1595.8	1600.7	1598.2	1593.3	1588.4	1588.4	1586.0	1581.1	1581.1	1581.1	1571.3
7.5°	1588.4	1593.3	1586.0	1581.1	1576.2	1571.3	1571.3	1563.9	1563.9	1561.5	1551.7
10°	1573.7	1576.2	1566.4	1561.5	1554.1	1551.7	1546.8	1537.0	1534.5	1532.1	1522.3
12.5°	1551.7	1554.1	1541.9	1532.1	1522.3	1519.8	1514.9	1502.6	1497.7	1492.8	1480.6
15°	1519.8	1519.8	1505.1	1492.8	1483.0	1480.6	1468.3	1456.1	1451.2	1446.3	1429.1
17.5°	1483.0	1480.6	1461.0	1448.7	1436.5	1431.6	1419.3	1404.6	1394.8	1389.9	1375.2
20°	1443.8	1436.5	1414.4	1402.1	1387.4	1380.1	1367.8	1348.2	1338.4	1328.6	1313.9
22.5°	1397.2	1387.4	1362.9	1345.8	1331.1	1323.7	1306.5	1289.4	1274.7	1264.9	1247.7
25°	1340.9	1328.6	1301.6	1279.6	1267.3	1260.0	1242.8	1223.2	1208.5	1193.8	1179.1
27.5°	1274.7	1260.0	1233.0	1210.9	1198.7	1186.4	1174.2	1152.1	1139.9	1127.6	1110.4
30°	1193.8	1176.6	1152.1	1132.5	1117.8	1108.0	1093.3	1073.7	1059.0	1051.6	1034.4
32.5°	1105.5	1085.9	1063.9	1044.3	1036.9	1024.6	1012.4	992.8	980.5	973.2	960.9
35°	1007.5	992.8	968.3	953.6	941.3	936.4	926.6	907.0	902.1	894.7	880.0
37.5°	904.5	892.3	875.1	862.9	853.1	848.2	838.3	826.1	818.7	811.4	804.0
40°	808.9	799.1	784.4	774.6	762.4	755.0	755.0	740.3	735.4	735.4	728.0
42.5°	715.8	710.9	698.6	683.9	681.5	674.1	671.7	664.3	659.4	656.9	654.5
45°	637.3	630.0	617.7	610.4	603.0	603.0	595.7	588.3	585.9	583.4	581.0
47.5°	568.7	558.9	549.1	541.7	536.8	534.4	527.0	522.1	519.7	519.7	517.2
50°	507.4	500.1	490.3	482.9	478.0	473.1	468.2	463.3	460.8	458.4	458.4
52.5°	455.9	446.1	436.3	429.0	421.6	419.2	414.3	409.4	406.9	404.5	402.0
55°	409.4	402.0	389.8	382.4	375.0	375.0	367.7	360.3	355.4	353.0	350.5
57.5°	365.2	357.9	345.6	338.3	333.4	328.5	323.6	318.7	313.8	308.9	304.0
60°	326.0	318.7	306.4	296.6	294.2	289.3	284.4	274.5	269.6	264.7	259.8
62.5°	289.3	279.4	269.6	259.8	257.4	252.5	245.1	237.8	230.4	225.5	218.2
65°	254.9	247.6	235.3	228.0	220.6	218.2	210.8	201.0	193.7	188.8	181.4
67.5°	223.1	213.3	201.0	193.7	188.8	183.8	176.5	169.1	161.8	154.4	147.1
70°	191.2	183.8	171.6	164.2	159.3	154.4	147.1	137.3	129.9	122.6	117.7
72.5°	161.8	152.0	142.2	134.8	129.9	125.0	117.7	110.3	103.0	98.1	90.7
75°	134.8	125.0	117.7	107.9	105.4	100.5	93.1	85.8	78.4	73.5	68.6
77.5°	107.9	100.5	90.7	85.8	80.9	76.0	71.1	63.7	58.8	51.5	46.6
80°	80.9	73.5	66.2	61.3	56.4	53.9	49.0	44.1	39.2	34.3	31.9
82.5°	53.9	49.0	41.7	39.2	36.8	34.3	29.4	27.0	24.5	22.1	19.6
85°	29.4	27.0	24.5	19.6	19.6	17.2	14.7	14.7	12.3	12.3	9.8
87.5°	12.3	9.8	9.8	7.4	7.4	7.4	4.9	4.9	4.9	2.5	2.5
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°	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3
2.5°	1590.9	1581.1	1581.1	1581.1	1573.7	1576.2	1578.6	1581.1	1578.6	1571.3	1578.6
5°	1573.7	1563.9	1563.9	1559.0	1554.1	1554.1	1554.1	1556.6	1554.1	1546.8	1549.2
7.5°	1551.7	1539.4	1537.0	1532.1	1527.2	1524.7	1524.7	1524.7	1522.3	1512.5	1517.4
10°	1517.4	1505.1	1500.2	1497.7	1490.4	1487.9	1485.5	1483.0	1480.6	1470.8	1475.7
12.5°	1475.7	1465.9	1456.1	1453.6	1446.3	1441.4	1438.9	1438.9	1434.0	1424.2	1429.1
15°	1426.7	1411.9	1404.6	1399.7	1392.3	1387.4	1382.5	1385.0	1382.5	1372.7	1375.2
17.5°	1367.8	1353.1	1345.8	1343.3	1333.5	1328.6	1326.2	1326.2	1323.7	1313.9	1316.3
20°	1304.1	1289.4	1284.5	1279.6	1274.7	1269.8	1267.3	1264.9	1262.4	1252.6	1260.0
22.5°	1240.4	1223.2	1215.8	1215.8	1206.0	1203.6	1201.1	1203.6	1201.1	1191.3	1196.2
25°	1174.2	1157.0	1152.1	1144.8	1139.9	1137.4	1137.4	1137.4	1135.0	1130.1	1135.0
27.5°	1100.6	1088.4	1081.0	1078.6	1073.7	1071.2	1068.8	1071.2	1071.2	1063.9	1068.8
30°	1027.1	1017.3	1012.4	1009.9	1002.6	1000.1	1002.6	1002.6	1002.6	995.2	1002.6
32.5°	953.6	946.2	943.8	936.4	931.5	931.5	931.5	933.9	931.5	926.6	933.9
35°	880.0	870.2	867.8	865.3	865.3	860.4	865.3	862.9	867.8	860.4	865.3
37.5°	801.6	796.7	794.2	794.2	789.3	791.8	791.8	791.8	796.7	789.3	794.2
40°	728.0	723.1	723.1	723.1	720.7	720.7	720.7	723.1	725.6	720.7	725.6
42.5°	654.5	652.0	652.0	649.6	647.1	649.6	652.0	652.0	654.5	649.6	652.0
45°	583.4	581.0	583.4	581.0	581.0	578.5	581.0	583.4	583.4	581.0	581.0
47.5°	517.2	517.2	514.8	514.8	514.8	514.8	514.8	514.8	514.8	509.9	514.8
50°	458.4	453.5	455.9	453.5	453.5	451.0	451.0	448.6	446.1	443.7	443.7
52.5°	402.0	397.1	397.1	394.7	392.2	392.2	389.8	387.3	384.9	380.0	380.0
55°	348.1	343.2	340.7	338.3	335.8	333.4	330.9	328.5	323.6	321.1	321.1
57.5°	299.1	294.2	289.3	289.3	284.4	281.9	277.0	272.1	269.6	264.7	264.7
60°	254.9	250.0	242.7	240.2	237.8	232.9	225.5	223.1	220.6	215.7	218.2
62.5°	213.3	205.9	198.6	196.1	193.7	188.8	183.8	178.9	176.5	178.9	178.9
65°	174.0	166.7	161.8	156.9	154.4	149.5	147.1	144.6	144.6	144.6	147.1
67.5°	139.7	132.4	127.5	125.0	120.1	117.7	117.7	117.7	117.7	117.7	117.7
70°	110.3	105.4	100.5	95.6	95.6	93.1	93.1	93.1	93.1	93.1	93.1
72.5°	83.3	78.4	76.0	76.0	73.5	73.5	73.5	73.5	71.1	71.1	73.5
75°	61.3	58.8	56.4	56.4	56.4	53.9	53.9	53.9	53.9	53.9	53.9
77.5°	44.1	41.7	41.7	39.2	39.2	39.2	39.2	39.2	39.2	36.8	36.8
80°	29.4	27.0	27.0	27.0	27.0	24.5	24.5	24.5	24.5	24.5	24.5
82.5°	17.2	17.2	17.2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7
85°	9.8	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
87.5°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	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: P251808

CATALOG NUMBER: LD4B50D010TE EU4B30509024 4LBLWW1H

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3
2.5°	1563.9	1573.7	1576.2	1568.8	1571.3	1566.4	1568.8	1563.9
5°	1537.0	1544.3	1546.8	1541.9	1541.9	1537.0	1539.4	1534.5
7.5°	1502.6	1510.0	1512.5	1507.6	1507.6	1502.6	1502.6	1500.2
10°	1463.4	1465.9	1470.8	1463.4	1465.9	1461.0	1461.0	1456.1
12.5°	1414.4	1419.3	1424.2	1416.9	1416.9	1414.4	1414.4	1407.0
15°	1362.9	1367.8	1370.3	1365.4	1365.4	1362.9	1360.5	1358.0
17.5°	1309.0	1311.4	1316.3	1309.0	1313.9	1309.0	1309.0	1304.1
20°	1247.7	1255.1	1257.5	1250.2	1252.6	1250.2	1250.2	1250.2
22.5°	1188.9	1193.8	1196.2	1191.3	1193.8	1188.9	1191.3	1186.4
25°	1127.6	1130.1	1132.5	1127.6	1132.5	1130.1	1127.6	1127.6
27.5°	1063.9	1066.3	1068.8	1063.9	1068.8	1066.3	1068.8	1063.9
30°	995.2	1000.1	1005.0	1000.1	1002.6	1000.1	1000.1	997.7
32.5°	926.6	931.5	936.4	931.5	936.4	931.5	933.9	929.0
35°	862.9	865.3	867.8	862.9	865.3	865.3	865.3	862.9
37.5°	791.8	796.7	796.7	794.2	799.1	796.7	796.7	791.8
40°	723.1	725.6	728.0	723.1	725.6	723.1	725.6	723.1
42.5°	652.0	656.9	659.4	654.5	654.5	654.5	652.0	654.5
45°	578.5	583.4	588.3	581.0	583.4	583.4	583.4	581.0
47.5°	512.3	512.3	514.8	512.3	514.8	509.9	514.8	512.3
50°	443.7	443.7	448.6	443.7	443.7	443.7	443.7	443.7
52.5°	377.5	380.0	380.0	375.0	377.5	375.0	377.5	375.0
55°	316.2	316.2	318.7	316.2	316.2	316.2	316.2	316.2
57.5°	262.3	264.7	264.7	262.3	264.7	262.3	262.3	262.3
60°	218.2	218.2	218.2	215.7	218.2	215.7	218.2	215.7
62.5°	176.5	178.9	178.9	176.5	178.9	176.5	176.5	176.5
65°	144.6	144.6	144.6	144.6	144.6	144.6	144.6	142.2
67.5°	115.2	115.2	117.7	115.2	117.7	117.7	117.7	117.7
70°	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1
72.5°	71.1	71.1	73.5	71.1	71.1	71.1	71.1	71.1
75°	53.9	53.9	53.9	53.9	53.9	51.5	51.5	53.9
77.5°	36.8	36.8	36.8	36.8	36.8	36.8	36.8	39.2
80°	24.5	24.5	24.5	24.5	22.1	22.1	24.5	22.1
82.5°	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3
85°	7.4	7.4	4.9	4.9	4.9	4.9	4.9	4.9
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)