

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: P251721

Luminaire Tested: **LD4B40D010 EU4B30509040 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251721
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 EU4B30509040 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2870.0 lumens
Efficiency: N/A
Efficacy: 66.7 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

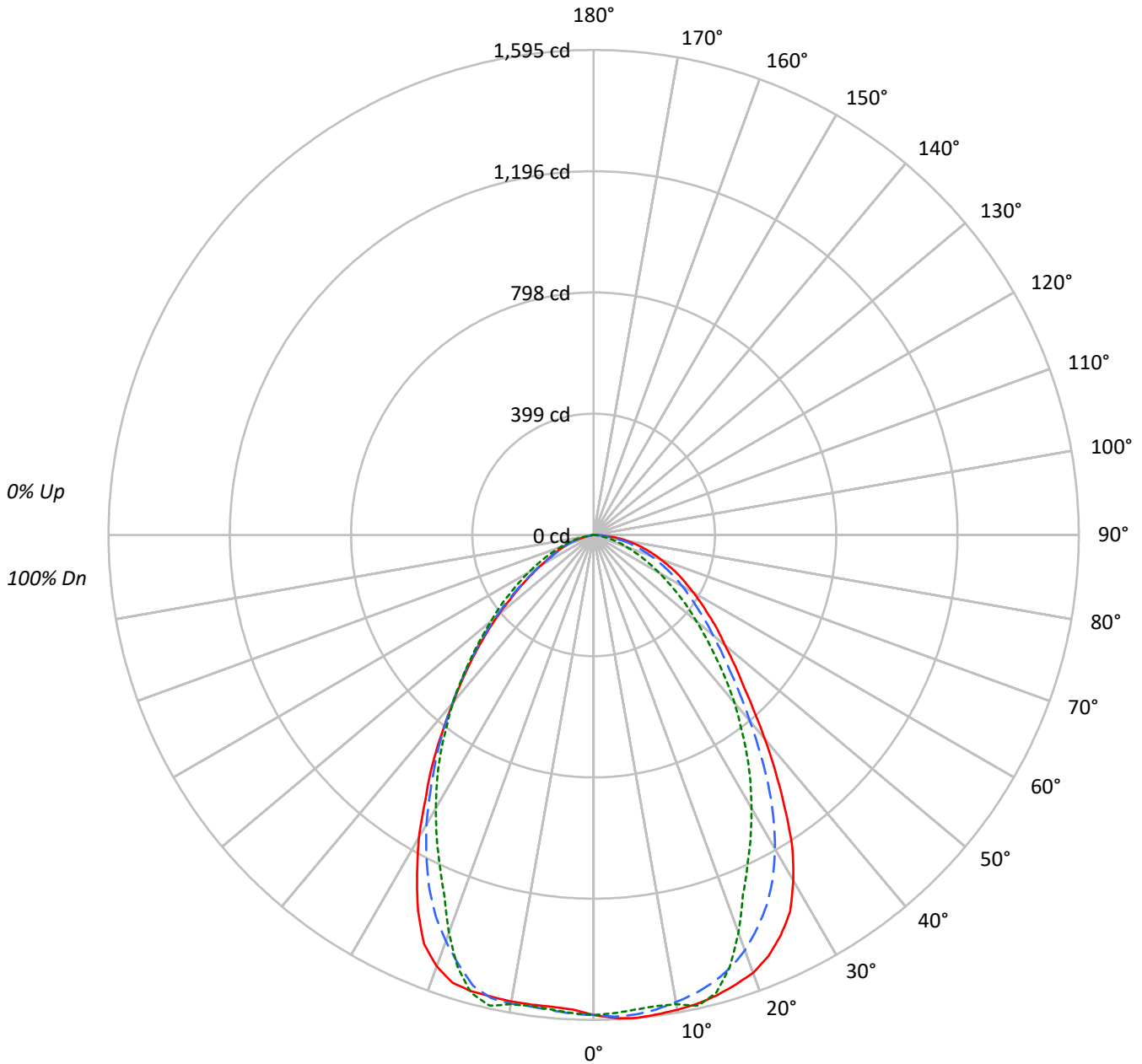
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				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°	153877	153877	153877
5°	156049	153330	152429
10°	156933	155102	154192
15°	158134	157206	156732
20°	158950	144306	156544
25°	156342	128706	146879
30°	147725	116721	129224
35°	130277	104388	110170
40°	111332	91600	91308
45°	95404	78175	76259
50°	85300	66697	62133
55°	78670	57040	49173
60°	73561	48281	38808
65°	70473	40033	32031
70°	66621	32313	27042
75°	64503	26170	19166
80°	62354	14312	5220
85°	54345	7716	2572



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.0	5.2
10°-20°	431.5	15.0
20°-30°	598.6	20.9
30°-40°	590.8	20.6
40°-50°	463.4	16.1
50°-60°	321.0	11.2
60°-70°	196.7	6.9
70°-80°	98.3	3.4
80°-90°	19.7	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°	1180.1	41.1
0°-40°	1770.9	61.7
0°-60°	2555.3	89.0
0°-90°	2870.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2870.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1579	1579	1579	1579	1579	
5°	1595	1584	1567	1570	1558	152
15°	1567	1523	1558	1535	1553	443
25°	1454	1345	1197	1280	1366	665
35°	1095	1000	877	905	926	683
45°	692	634	567	560	553	541
55°	463	414	336	299	289	417
65°	306	264	174	130	139	302
75°	171	144	70	53	51	182
85°	49	28	7	2	2	55
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°	1578.9	1578.9	1578.9	1578.9	1578.9	1578.9	1578.9	1578.9	1578.9	1578.9	1578.9
2.5°	1590.5	1585.8	1583.5	1590.5	1588.2	1592.8	1590.5	1588.2	1583.5	1585.8	1585.8
5°	1595.1	1588.2	1585.8	1590.5	1590.5	1595.1	1592.8	1588.2	1583.5	1585.8	1583.5
7.5°	1590.5	1585.8	1585.8	1588.2	1585.8	1590.5	1585.8	1581.2	1576.6	1578.9	1574.3
10°	1585.8	1578.9	1578.9	1578.9	1578.9	1583.5	1578.9	1572.0	1565.0	1565.0	1560.4
12.5°	1578.9	1572.0	1572.0	1574.3	1569.6	1574.3	1569.6	1558.1	1551.1	1548.8	1544.2
15°	1567.3	1560.4	1560.4	1560.4	1555.7	1558.1	1551.1	1539.5	1530.3	1530.3	1523.3
17.5°	1551.1	1544.2	1541.9	1541.9	1534.9	1537.2	1530.3	1518.7	1504.8	1500.2	1493.2
20°	1532.6	1523.3	1518.7	1518.7	1511.8	1514.1	1504.8	1490.9	1472.4	1465.5	1453.9
22.5°	1500.2	1495.6	1488.6	1486.3	1479.4	1477.0	1467.8	1449.3	1433.0	1421.5	1403.0
25°	1453.9	1451.6	1444.6	1442.3	1433.0	1428.4	1419.2	1398.3	1382.1	1363.6	1345.1
27.5°	1398.3	1389.1	1384.4	1377.5	1368.2	1365.9	1354.3	1335.8	1310.3	1298.8	1275.6
30°	1312.7	1308.0	1303.4	1296.5	1287.2	1282.6	1275.6	1254.8	1233.9	1213.1	1192.3
32.5°	1215.4	1206.2	1199.2	1201.5	1190.0	1185.3	1173.8	1155.2	1136.7	1122.8	1099.7
35°	1095.0	1092.7	1090.4	1085.8	1076.5	1074.2	1064.9	1051.1	1030.2	1014.0	1000.1
37.5°	981.6	974.7	970.0	970.0	960.8	960.8	953.8	937.6	926.0	914.5	895.9
40°	875.1	863.5	863.5	863.5	854.3	856.6	852.0	835.8	824.2	810.3	798.7
42.5°	775.6	770.9	768.6	764.0	759.4	759.4	754.7	745.5	733.9	724.6	713.1
45°	692.2	689.9	687.6	685.3	680.6	678.3	676.0	662.1	655.2	645.9	634.3
47.5°	625.1	620.4	618.1	615.8	611.2	608.9	604.2	595.0	588.0	578.8	569.5
50°	562.6	560.3	557.9	557.9	553.3	551.0	546.4	539.4	527.8	523.2	511.6
52.5°	514.0	509.3	504.7	504.7	500.1	500.1	493.1	486.2	474.6	470.0	460.7
55°	463.0	460.7	458.4	458.4	453.8	451.4	449.1	439.9	430.6	423.7	414.4
57.5°	419.0	416.7	414.4	414.4	409.8	407.5	405.1	398.2	388.9	384.3	372.7
60°	377.4	377.4	375.0	372.7	370.4	368.1	365.8	358.8	351.9	345.0	335.7
62.5°	340.3	338.0	335.7	333.4	333.4	331.1	328.7	319.5	314.9	307.9	298.6
65°	305.6	301.0	301.0	298.6	298.6	296.3	294.0	284.8	280.1	273.2	263.9
67.5°	268.6	266.2	263.9	263.9	261.6	261.6	259.3	252.3	245.4	240.8	231.5
70°	233.8	233.8	231.5	231.5	229.2	226.9	226.9	222.2	215.3	208.4	199.1
72.5°	203.7	201.4	199.1	199.1	196.8	196.8	194.5	189.8	185.2	180.6	169.0
75°	171.3	169.0	169.0	169.0	166.7	166.7	164.4	159.7	155.1	150.5	143.5
77.5°	141.2	141.2	138.9	138.9	136.6	136.6	136.6	132.0	127.3	122.7	113.4
80°	111.1	111.1	111.1	108.8	106.5	106.5	106.5	101.9	97.2	92.6	85.7
82.5°	81.0	78.7	78.7	76.4	74.1	74.1	74.1	69.5	67.1	60.2	55.6
85°	48.6	46.3	46.3	44.0	41.7	41.7	41.7	39.4	34.7	32.4	27.8
87.5°	18.5	18.5	18.5	18.5	18.5	16.2	16.2	13.9	13.9	11.6	11.6
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°	1578.9	1578.9	1578.9	1578.9	1578.9	1578.9	1578.9	1578.9	1578.9	1578.9	1578.9
2.5°	1585.8	1583.5	1583.5	1581.2	1583.5	1578.9	1578.9	1578.9	1578.9	1574.3	1574.3
5°	1581.2	1581.2	1578.9	1576.6	1578.9	1574.3	1576.6	1574.3	1574.3	1567.3	1567.3
7.5°	1572.0	1569.6	1565.0	1562.7	1565.0	1562.7	1562.7	1562.7	1567.3	1562.7	1562.7
10°	1555.7	1553.4	1548.8	1546.5	1546.5	1544.2	1548.8	1553.4	1562.7	1567.3	1576.6
12.5°	1539.5	1534.9	1532.6	1532.6	1534.9	1534.9	1544.2	1555.7	1578.9	1585.8	1595.1
15°	1518.7	1516.4	1516.4	1523.3	1532.6	1539.5	1558.1	1565.0	1567.3	1558.1	1553.4
17.5°	1490.9	1490.9	1493.2	1500.2	1507.1	1507.1	1509.4	1504.8	1500.2	1488.6	1474.7
20°	1444.6	1442.3	1437.7	1437.7	1437.7	1428.4	1433.0	1416.8	1405.3	1391.4	1370.5
22.5°	1386.7	1375.2	1359.0	1347.4	1340.4	1335.8	1324.2	1305.7	1291.8	1282.6	1273.3
25°	1324.2	1305.7	1282.6	1264.0	1252.5	1250.2	1233.9	1217.7	1208.5	1196.9	1192.3
27.5°	1252.5	1231.6	1203.9	1185.3	1176.1	1169.1	1155.2	1139.0	1127.5	1118.2	1111.2
30°	1169.1	1148.3	1125.1	1102.0	1092.7	1081.2	1067.3	1055.7	1044.1	1037.2	1032.5
32.5°	1076.5	1055.7	1032.5	1016.3	1004.8	995.5	983.9	972.3	963.1	958.5	953.8
35°	981.6	960.8	942.2	926.0	916.8	909.8	900.6	886.7	879.7	877.4	872.8
37.5°	879.7	865.8	849.6	835.8	828.8	819.5	814.9	803.3	803.3	794.1	794.1
40°	784.8	775.6	759.4	747.8	743.1	736.2	729.3	724.6	722.3	720.0	717.7
42.5°	701.5	687.6	678.3	669.1	662.1	657.5	657.5	650.5	648.2	641.3	639.0
45°	625.1	618.1	601.9	595.0	592.7	585.7	583.4	578.8	571.8	567.2	564.9
47.5°	557.9	551.0	541.7	532.5	527.8	523.2	518.6	511.6	507.0	500.1	497.7
50°	502.4	490.8	481.5	474.6	467.7	465.3	460.7	451.4	446.8	439.9	439.9
52.5°	451.4	442.2	430.6	423.7	416.7	412.1	405.1	398.2	391.3	388.9	382.0
55°	407.5	395.9	384.3	375.0	368.1	361.2	358.8	349.6	340.3	335.7	331.1
57.5°	365.8	354.2	340.3	328.7	324.1	319.5	312.5	303.3	296.3	289.4	284.8
60°	324.1	314.9	301.0	289.4	284.8	277.8	270.9	261.6	254.7	247.7	243.1
62.5°	289.4	275.5	263.9	252.3	245.4	240.8	231.5	224.6	215.3	208.4	201.4
65°	254.7	240.8	229.2	217.6	213.0	206.0	199.1	189.8	180.6	173.6	164.4
67.5°	219.9	208.4	196.8	185.2	180.6	175.9	166.7	157.4	148.2	141.2	132.0
70°	189.8	178.3	166.7	157.4	152.8	148.2	138.9	129.6	122.7	113.4	106.5
72.5°	162.1	152.8	141.2	132.0	127.3	122.7	113.4	106.5	97.2	92.6	85.7
75°	134.3	125.0	115.8	106.5	101.9	97.2	90.3	83.3	76.4	69.5	64.8
77.5°	106.5	97.2	88.0	81.0	76.4	74.1	67.1	60.2	53.2	48.6	41.7
80°	78.7	69.5	62.5	55.6	50.9	48.6	41.7	37.0	32.4	25.5	23.2
82.5°	48.6	41.7	37.0	32.4	30.1	27.8	23.2	18.5	16.2	13.9	11.6
85°	25.5	23.2	18.5	16.2	13.9	13.9	11.6	9.3	6.9	6.9	4.6
87.5°	9.3	6.9	6.9	4.6	4.6	4.6	4.6	2.3	2.3	2.3	2.3
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1578.9	1578.9	1578.9	1578.9	1578.9	1578.9	1578.9	1578.9	1578.9	1578.9	1578.9
2.5°	1569.6	1572.0	1574.3	1576.6	1574.3	1574.3	1578.9	1569.6	1576.6	1576.6	1567.3
5°	1565.0	1569.6	1567.3	1572.0	1567.3	1567.3	1569.6	1565.0	1569.6	1569.6	1562.7
7.5°	1560.4	1565.0	1565.0	1567.3	1565.0	1565.0	1567.3	1560.4	1565.0	1565.0	1558.1
10°	1581.2	1585.8	1583.5	1581.2	1574.3	1569.6	1572.0	1560.4	1565.0	1565.0	1558.1
12.5°	1588.2	1585.8	1576.6	1572.0	1567.3	1562.7	1565.0	1555.7	1560.4	1560.4	1555.7
15°	1541.9	1537.2	1530.3	1532.6	1528.0	1525.7	1530.3	1525.7	1534.9	1539.5	1534.9
17.5°	1463.1	1460.8	1456.2	1456.2	1456.2	1458.5	1465.5	1465.5	1479.4	1488.6	1493.2
20°	1361.3	1359.0	1361.3	1365.9	1368.2	1377.5	1393.7	1403.0	1421.5	1437.7	1449.3
22.5°	1268.7	1273.3	1280.3	1289.5	1291.8	1303.4	1324.2	1333.5	1356.7	1375.2	1386.7
25°	1190.0	1196.9	1201.5	1208.5	1210.8	1224.7	1243.2	1254.8	1280.3	1294.1	1308.0
27.5°	1111.2	1120.5	1122.8	1132.1	1132.1	1146.0	1162.2	1173.8	1190.0	1203.9	1215.4
30°	1034.9	1037.2	1044.1	1046.4	1051.1	1064.9	1074.2	1081.2	1099.7	1106.6	1113.6
32.5°	951.5	960.8	965.4	967.7	965.4	977.0	986.2	990.9	997.8	1007.1	1011.7
35°	872.8	877.4	879.7	884.4	886.7	889.0	893.6	895.9	905.2	907.5	909.8
37.5°	794.1	801.0	798.7	801.0	801.0	803.3	808.0	805.7	812.6	814.9	812.6
40°	715.4	715.4	720.0	717.7	720.0	717.7	722.3	722.3	722.3	724.6	722.3
42.5°	636.7	639.0	636.7	641.3	636.7	639.0	639.0	636.7	639.0	636.7	636.7
45°	564.9	564.9	564.9	564.9	560.3	560.3	564.9	562.6	560.3	557.9	555.6
47.5°	495.4	497.7	493.1	495.4	493.1	490.8	488.5	488.5	486.2	481.5	479.2
50°	437.6	432.9	430.6	432.9	430.6	428.3	426.0	421.3	419.0	414.4	412.1
52.5°	379.7	375.0	370.4	370.4	368.1	363.5	361.2	356.5	354.2	349.6	349.6
55°	328.7	324.1	319.5	317.2	312.5	307.9	305.6	301.0	298.6	294.0	289.4
57.5°	280.1	273.2	268.6	266.2	263.9	257.0	254.7	250.0	245.4	240.8	238.5
60°	236.1	229.2	222.2	219.9	217.6	210.7	208.4	201.4	199.1	194.5	192.2
62.5°	194.5	189.8	180.6	178.3	173.6	169.0	162.1	159.7	157.4	159.7	159.7
65°	157.4	150.5	143.5	141.2	136.6	132.0	129.6	127.3	129.6	129.6	132.0
67.5°	125.0	118.1	111.1	111.1	108.8	104.2	104.2	104.2	106.5	106.5	108.8
70°	99.5	94.9	90.3	88.0	88.0	85.7	88.0	88.0	90.3	90.3	90.3
72.5°	78.7	76.4	74.1	71.8	71.8	71.8	71.8	71.8	71.8	71.8	74.1
75°	60.2	57.9	55.6	55.6	53.2	53.2	53.2	53.2	53.2	53.2	50.9
77.5°	39.4	37.0	34.7	34.7	32.4	30.1	30.1	27.8	27.8	27.8	27.8
80°	20.8	18.5	16.2	13.9	13.9	11.6	11.6	11.6	11.6	9.3	9.3
82.5°	9.3	6.9	6.9	6.9	6.9	4.6	4.6	4.6	4.6	4.6	4.6
85°	4.6	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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: P251721

CATALOG NUMBER: LD4B40D010 EU4B30509040 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1578.9	1578.9	1578.9	1578.9	1578.9	1578.9	1578.9	1578.9
2.5°	1572.0	1567.3	1572.0	1574.3	1569.6	1567.3	1572.0	1562.7
5°	1569.6	1562.7	1565.0	1567.3	1562.7	1560.4	1565.0	1558.1
7.5°	1565.0	1562.7	1565.0	1567.3	1560.4	1560.4	1565.0	1558.1
10°	1565.0	1560.4	1562.7	1567.3	1562.7	1562.7	1567.3	1558.1
12.5°	1562.7	1555.7	1562.7	1565.0	1560.4	1560.4	1565.0	1555.7
15°	1546.5	1546.5	1548.8	1553.4	1551.1	1553.4	1560.4	1553.4
17.5°	1511.8	1516.4	1525.7	1532.6	1537.2	1541.9	1548.8	1544.2
20°	1470.1	1477.0	1488.6	1495.6	1504.8	1507.1	1518.7	1509.4
22.5°	1405.3	1419.2	1428.4	1435.4	1442.3	1449.3	1458.5	1456.2
25°	1326.6	1335.8	1342.8	1349.7	1359.0	1363.6	1368.2	1365.9
27.5°	1231.6	1236.3	1245.5	1250.2	1254.8	1259.4	1268.7	1257.1
30°	1127.5	1129.8	1134.4	1141.3	1141.3	1146.0	1150.6	1148.3
32.5°	1021.0	1021.0	1025.6	1030.2	1027.9	1030.2	1039.5	1027.9
35°	916.8	914.5	921.4	923.7	923.7	921.4	928.4	926.0
37.5°	814.9	817.2	819.5	821.9	817.2	821.9	821.9	817.2
40°	722.3	720.0	724.6	726.9	724.6	726.9	726.9	717.7
42.5°	639.0	634.3	636.7	639.0	636.7	639.0	636.7	632.0
45°	557.9	555.6	555.6	557.9	553.3	553.3	553.3	553.3
47.5°	481.5	479.2	481.5	481.5	476.9	476.9	479.2	476.9
50°	412.1	409.8	409.8	409.8	407.5	407.5	409.8	409.8
52.5°	349.6	345.0	345.0	345.0	345.0	345.0	347.3	342.6
55°	287.1	287.1	287.1	287.1	289.4	289.4	289.4	289.4
57.5°	236.1	238.5	238.5	240.8	238.5	240.8	240.8	238.5
60°	196.8	194.5	196.8	196.8	199.1	199.1	199.1	199.1
62.5°	162.1	162.1	162.1	164.4	164.4	164.4	166.7	164.4
65°	134.3	134.3	136.6	136.6	136.6	138.9	138.9	138.9
67.5°	111.1	111.1	111.1	111.1	113.4	113.4	115.8	113.4
70°	92.6	92.6	92.6	92.6	92.6	94.9	94.9	94.9
72.5°	74.1	74.1	74.1	74.1	76.4	76.4	76.4	76.4
75°	50.9	50.9	50.9	53.2	50.9	50.9	50.9	50.9
77.5°	25.5	25.5	25.5	25.5	25.5	23.2	23.2	23.2
80°	9.3	9.3	9.3	9.3	9.3	9.3	6.9	9.3
82.5°	4.6	4.6	4.6	4.6	4.6	4.6	4.6	2.3
85°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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)