

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: P251543

Luminaire Tested: **LD4B30D010 EU4B30508027 4LBSW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251543
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-10)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B30D010 EU4B30508027 4LBSW1LI
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2576.0 lumens
Efficiency: N/A
Efficacy: 92.0 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

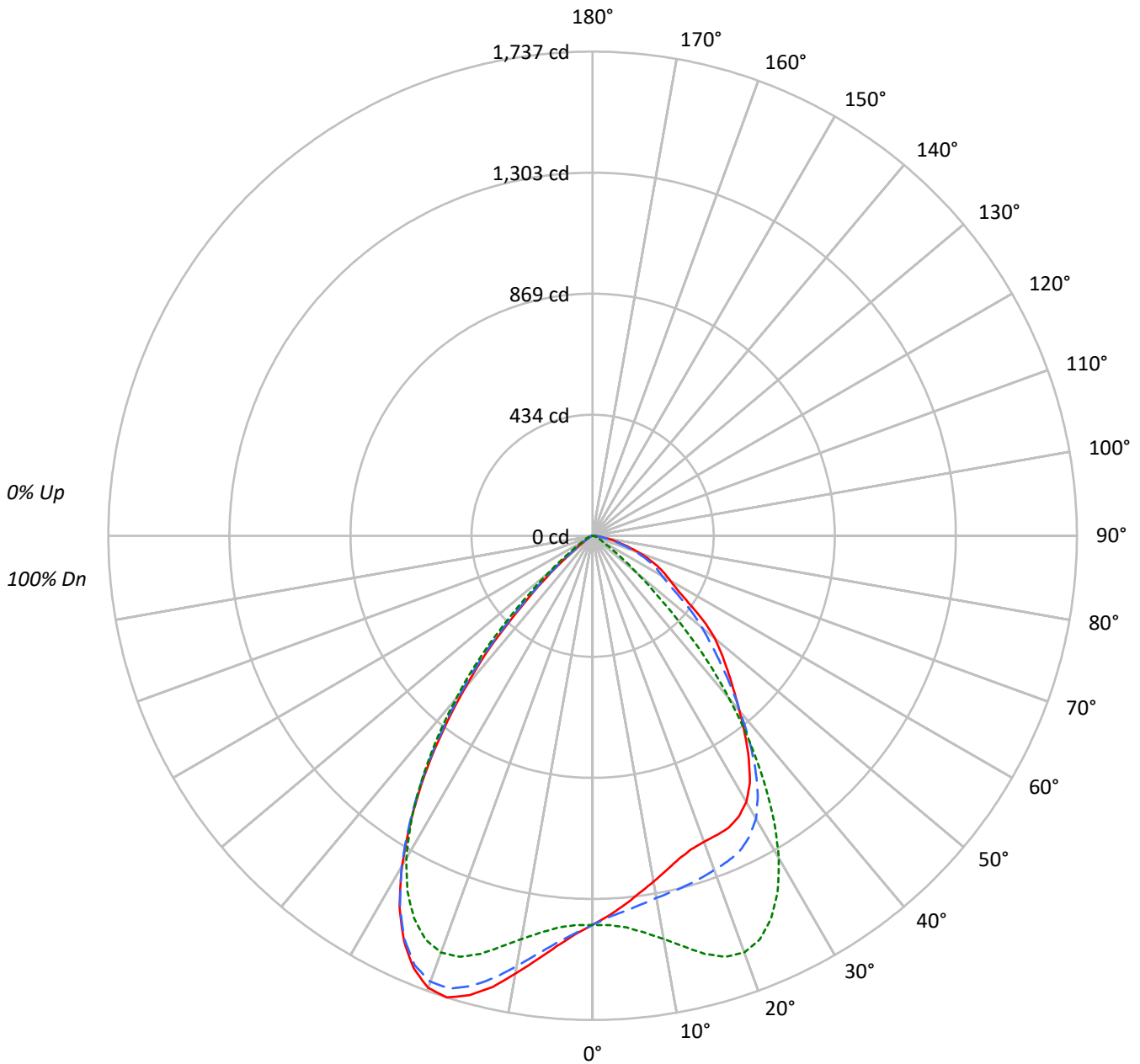
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90				90
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	85	82	80				80
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72				72
4	91	81	75	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64				64
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58				58
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53				53
7	75	63	56	51	73	62	55	51	61	55	50	60	54	50	58	53	50	48				48
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44				44
9	66	54	47	42	65	54	47	42	53	46	42	52	46	42	51	46	42	40				40
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37				37

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	136042	136042	136042
5°	129968	137990	144583
10°	124622	145355	157804
15°	120984	156661	172098
20°	121147	164997	178987
25°	124244	162848	172257
30°	124070	150324	153813
35°	116214	127053	125316
40°	104093	96905	90417
45°	94439	61540	50486
50°	86756	31218	21545
55°	71211	13933	7119
60°	62510	7816	3898
65°	58827	5880	2952
70°	50379	4673	2593
75°	38446	3427	2071
80°	27613	2020	1010
85°	20351	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.6	5.3
10°-20°	422.6	16.4
20°-30°	653.8	25.4
30°-40°	644.2	25.0
40°-50°	395.6	15.4
50°-60°	175.9	6.8
60°-70°	98.2	3.8
70°-80°	42.5	1.7
80°-90°	7.6	0.3
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°	1212.0	47.0
0°-40°	1856.2	72.1
0°-60°	2427.6	94.2
0°-90°	2576.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2576.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1396	1396	1396	1396	1396	
5°	1328	1350	1410	1465	1478	125
15°	1199	1299	1553	1671	1706	340
25°	1155	1248	1514	1596	1602	530
35°	977	1017	1068	1064	1053	606
45°	685	651	446	390	366	531
55°	419	379	82	47	42	385
65°	255	230	26	15	13	250
75°	102	88	9	6	6	112
85°	18	15	0	0	0	23
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°	1395.9	1395.9	1395.9	1395.9	1395.9	1395.9	1395.9	1395.9	1395.9	1395.9	1395.9
2.5°	1363.1	1363.1	1363.1	1363.1	1366.8	1361.3	1366.8	1366.8	1372.2	1374.1	1368.6
5°	1328.5	1326.7	1328.5	1328.5	1332.1	1330.3	1335.8	1339.4	1346.7	1350.4	1350.4
7.5°	1292.1	1292.1	1292.1	1295.7	1301.2	1299.3	1304.8	1310.3	1321.2	1328.5	1334.0
10°	1259.3	1257.4	1262.9	1264.7	1270.2	1270.2	1279.3	1284.8	1297.5	1312.1	1319.4
12.5°	1228.3	1226.4	1230.1	1235.6	1244.7	1244.7	1252.0	1261.1	1279.3	1295.7	1308.5
15°	1199.1	1200.9	1206.4	1210.0	1221.0	1221.0	1230.1	1241.0	1261.1	1281.1	1299.3
17.5°	1179.1	1180.9	1184.5	1190.0	1200.9	1200.9	1210.0	1222.8	1244.7	1266.5	1288.4
20°	1168.1	1170.0	1173.6	1179.1	1188.2	1190.0	1197.3	1211.9	1231.9	1255.6	1275.7
22.5°	1162.7	1166.3	1170.0	1173.6	1182.7	1182.7	1191.8	1202.8	1222.8	1246.5	1264.7
25°	1155.4	1159.0	1160.8	1166.3	1173.6	1173.6	1179.1	1191.8	1210.0	1230.1	1248.3
27.5°	1135.3	1139.0	1140.8	1146.3	1153.6	1151.7	1159.0	1168.1	1184.5	1202.8	1217.3
30°	1102.5	1104.4	1108.0	1109.8	1115.3	1115.3	1120.8	1129.9	1140.8	1157.2	1171.8
32.5°	1049.7	1053.3	1055.1	1057.0	1062.4	1060.6	1062.4	1067.9	1078.8	1093.4	1102.5
35°	976.8	984.1	984.1	987.7	989.5	987.7	987.7	995.0	1000.5	1011.4	1016.9
37.5°	896.6	902.1	900.2	903.9	905.7	900.2	903.9	905.7	913.0	918.5	920.3
40°	818.2	820.1	820.1	820.1	820.1	818.2	820.1	821.9	827.4	827.4	821.9
42.5°	747.2	749.0	749.0	745.3	749.0	747.2	747.2	747.2	747.2	739.9	734.4
45°	685.2	687.0	687.0	685.2	685.2	681.6	679.7	677.9	672.5	663.3	650.6
47.5°	626.9	630.5	632.4	628.7	626.9	623.2	623.2	612.3	605.0	594.1	575.9
50°	572.2	575.9	575.9	572.2	572.2	566.8	561.3	557.6	546.7	534.0	512.1
52.5°	503.0	508.4	508.4	506.6	506.6	499.3	497.5	490.2	481.1	466.5	448.3
55°	419.1	426.4	424.6	422.8	419.1	419.1	419.1	413.7	408.2	397.3	379.1
57.5°	359.0	360.8	360.8	359.0	359.0	355.4	355.4	349.9	348.1	337.1	322.6
60°	320.7	320.7	322.6	320.7	318.9	317.1	315.3	311.6	306.2	298.9	287.9
62.5°	289.8	291.6	291.6	289.8	287.9	286.1	284.3	280.6	277.0	271.5	260.6
65°	255.1	258.8	257.0	255.1	253.3	251.5	251.5	247.8	244.2	240.6	229.6
67.5°	216.9	218.7	220.5	216.9	216.9	215.0	215.0	211.4	209.6	202.3	195.0
70°	176.8	178.6	178.6	176.8	176.8	174.9	174.9	173.1	171.3	165.8	158.5
72.5°	138.5	140.3	138.5	136.7	136.7	136.7	134.9	133.0	131.2	127.6	122.1
75°	102.1	102.1	103.9	102.1	100.2	100.2	98.4	98.4	94.8	92.9	87.5
77.5°	72.9	74.7	72.9	72.9	71.1	69.2	69.2	67.4	67.4	65.6	62.0
80°	49.2	49.2	51.0	49.2	47.4	49.2	47.4	45.6	45.6	43.7	40.1
82.5°	31.0	32.8	31.0	31.0	31.0	31.0	31.0	29.2	29.2	27.3	25.5
85°	18.2	18.2	18.2	18.2	18.2	18.2	18.2	16.4	16.4	16.4	14.6
87.5°	9.1	9.1	7.3	7.3	9.1	9.1	9.1	7.3	7.3	7.3	7.3
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°	1395.9	1395.9	1395.9	1395.9	1395.9	1395.9	1395.9	1395.9	1395.9	1395.9	1395.9
2.5°	1375.9	1377.7	1381.3	1386.8	1386.8	1383.2	1392.3	1392.3	1395.9	1397.8	1405.0
5°	1361.3	1364.9	1372.2	1381.3	1383.2	1381.3	1394.1	1399.6	1405.0	1410.5	1421.4
7.5°	1348.5	1355.8	1368.6	1381.3	1386.8	1386.8	1406.9	1414.2	1425.1	1436.0	1448.8
10°	1341.3	1352.2	1370.4	1390.5	1395.9	1401.4	1425.1	1439.7	1454.2	1468.8	1487.0
12.5°	1332.1	1352.2	1375.9	1401.4	1412.3	1419.6	1452.4	1470.6	1490.7	1508.9	1532.6
15°	1330.3	1354.0	1385.0	1417.8	1432.4	1443.3	1479.8	1505.3	1529.0	1552.7	1576.3
17.5°	1323.0	1352.2	1390.5	1426.9	1445.1	1459.7	1501.6	1532.6	1559.9	1583.6	1611.0
20°	1313.9	1346.7	1388.6	1428.7	1448.8	1463.4	1508.9	1538.1	1569.1	1590.9	1616.4
22.5°	1301.2	1334.0	1375.9	1416.0	1434.2	1447.0	1492.5	1518.0	1545.4	1567.2	1590.9
25°	1279.3	1310.3	1346.7	1379.5	1397.8	1408.7	1448.8	1472.5	1492.5	1514.4	1536.3
27.5°	1248.3	1272.0	1303.0	1326.7	1337.6	1348.5	1381.3	1401.4	1419.6	1437.8	1452.4
30°	1193.6	1211.9	1233.7	1253.8	1264.7	1266.5	1297.5	1308.5	1323.0	1335.8	1346.7
32.5°	1120.8	1135.3	1148.1	1159.0	1166.3	1168.1	1191.8	1195.5	1210.0	1210.0	1226.4
35°	1027.8	1035.1	1044.2	1044.2	1049.7	1044.2	1060.6	1064.3	1066.1	1067.9	1080.7
37.5°	922.1	925.8	931.2	920.3	920.3	914.8	920.3	923.9	916.6	916.6	925.8
40°	821.9	814.6	807.3	796.4	790.9	780.0	780.0	770.9	765.4	761.7	763.6
42.5°	725.3	708.9	692.5	668.8	657.9	646.9	636.0	623.2	619.6	610.5	605.0
45°	632.4	608.7	586.8	548.5	526.7	515.7	492.0	466.5	450.1	446.5	431.9
47.5°	554.0	519.4	482.9	437.4	415.5	395.5	360.8	339.0	317.1	306.2	297.0
50°	484.7	453.8	406.4	357.2	329.8	309.8	271.5	246.0	222.3	205.9	195.0
52.5°	424.6	390.0	346.2	289.8	262.4	240.6	198.6	169.5	149.4	133.0	120.3
55°	357.2	329.8	286.1	233.3	205.9	180.4	144.0	113.0	92.9	82.0	72.9
57.5°	308.0	284.3	242.4	191.3	165.8	142.1	105.7	80.2	63.8	52.8	47.4
60°	275.2	253.3	216.9	167.7	144.0	122.1	87.5	63.8	49.2	40.1	36.4
62.5°	247.8	226.0	193.2	147.6	127.6	105.7	74.7	52.8	40.1	32.8	27.3
65°	216.9	196.8	167.7	127.6	109.3	91.1	63.8	43.7	32.8	25.5	21.9
67.5°	184.1	165.8	140.3	105.7	91.1	76.5	51.0	36.4	27.3	21.9	18.2
70°	149.4	134.9	111.2	85.7	72.9	60.1	41.9	29.2	20.0	16.4	14.6
72.5°	114.8	102.1	85.7	65.6	54.7	45.6	31.0	21.9	16.4	12.8	10.9
75°	82.0	72.9	60.1	47.4	40.1	32.8	23.7	16.4	10.9	9.1	7.3
77.5°	56.5	51.0	41.9	32.8	27.3	23.7	16.4	10.9	9.1	7.3	5.5
80°	36.4	32.8	27.3	20.0	16.4	14.6	9.1	7.3	5.5	3.6	3.6
82.5°	21.9	20.0	16.4	10.9	9.1	7.3	5.5	3.6	3.6	1.8	1.8
85°	12.8	10.9	7.3	5.5	5.5	3.6	3.6	1.8	1.8	0.0	0.0
87.5°	5.5	3.6	3.6	1.8	1.8	1.8	1.8	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1395.9	1395.9	1395.9	1395.9	1395.9	1395.9	1395.9	1395.9	1395.9	1395.9	1395.9
2.5°	1401.4	1410.5	1408.7	1414.2	1412.3	1412.3	1421.4	1417.8	1426.9	1426.9	1428.7
5°	1421.4	1434.2	1434.2	1443.3	1441.5	1445.1	1454.2	1454.2	1465.2	1468.8	1468.8
7.5°	1450.6	1467.0	1470.6	1479.8	1481.6	1488.9	1496.2	1498.0	1512.6	1516.2	1518.0
10°	1490.7	1510.7	1516.2	1525.3	1529.0	1536.3	1545.4	1549.0	1567.2	1569.1	1576.3
12.5°	1539.9	1561.8	1567.2	1578.2	1580.0	1589.1	1601.9	1605.5	1623.7	1629.2	1634.7
15°	1587.3	1607.3	1616.4	1627.4	1629.2	1640.1	1651.1	1654.7	1671.1	1678.4	1683.9
17.5°	1620.1	1643.8	1649.2	1663.8	1663.8	1672.9	1683.9	1687.5	1703.9	1709.4	1713.0
20°	1627.4	1649.2	1656.5	1667.5	1669.3	1674.7	1683.9	1687.5	1702.1	1703.9	1709.4
22.5°	1600.0	1621.9	1625.5	1636.5	1638.3	1643.8	1651.1	1649.2	1667.5	1665.6	1667.5
25°	1541.7	1561.8	1561.8	1574.5	1572.7	1578.2	1581.8	1580.0	1596.4	1596.4	1596.4
27.5°	1457.9	1476.1	1477.9	1487.0	1481.6	1483.4	1487.0	1485.2	1496.2	1496.2	1496.2
30°	1354.0	1368.6	1363.1	1370.4	1366.8	1370.4	1366.8	1364.9	1368.6	1372.2	1370.4
32.5°	1224.6	1235.6	1235.6	1237.4	1237.4	1226.4	1222.8	1222.8	1221.0	1219.2	1219.2
35°	1075.2	1084.3	1080.7	1080.7	1078.8	1067.9	1062.4	1058.8	1064.3	1053.3	1060.6
37.5°	922.1	923.9	918.5	916.6	907.5	907.5	898.4	891.1	894.8	893.0	885.7
40°	754.5	761.7	750.8	747.2	752.6	745.3	736.2	727.1	734.4	725.3	728.9
42.5°	590.4	588.6	585.0	585.0	585.0	574.0	572.2	570.4	572.2	564.9	559.5
45°	426.4	421.0	415.5	415.5	408.2	404.6	404.6	399.1	390.0	390.0	379.1
47.5°	287.9	275.2	271.5	269.7	266.1	266.1	262.4	258.8	257.0	247.8	247.8
50°	187.7	174.9	171.3	169.5	171.3	167.7	164.0	160.4	156.7	154.9	151.3
52.5°	113.0	107.5	103.9	102.1	98.4	96.6	94.8	91.1	89.3	89.3	87.5
55°	67.4	62.0	54.7	54.7	54.7	52.8	51.0	49.2	47.4	47.4	45.6
57.5°	41.9	38.3	34.6	32.8	32.8	32.8	31.0	31.0	31.0	31.0	29.2
60°	31.0	27.3	25.5	25.5	25.5	23.7	23.7	23.7	23.7	21.9	21.9
62.5°	23.7	21.9	20.0	20.0	18.2	18.2	18.2	18.2	18.2	18.2	16.4
65°	20.0	16.4	16.4	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6
67.5°	14.6	12.8	12.8	12.8	12.8	10.9	10.9	10.9	10.9	10.9	10.9
70°	10.9	10.9	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1
72.5°	9.1	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
75°	7.3	7.3	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
77.5°	5.5	5.5	5.5	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
80°	3.6	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
82.5°	1.8	1.8	1.8	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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: P251543

CATALOG NUMBER: LD4B30D010 EU4B30508027 4LBSW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1395.9	1395.9	1395.9	1395.9	1395.9	1395.9	1395.9	1395.9
2.5°	1428.7	1437.8	1428.7	1428.7	1434.2	1432.4	1436.0	1430.6
5°	1470.6	1483.4	1474.3	1472.5	1481.6	1479.8	1481.6	1477.9
7.5°	1521.7	1534.4	1525.3	1525.3	1534.4	1532.6	1538.1	1534.4
10°	1580.0	1594.6	1581.8	1583.6	1596.4	1594.6	1594.6	1594.6
12.5°	1640.1	1654.7	1647.4	1647.4	1656.5	1658.3	1660.2	1658.3
15°	1689.3	1703.9	1694.8	1694.8	1707.6	1705.7	1707.6	1705.7
17.5°	1718.5	1733.1	1722.1	1722.1	1733.1	1733.1	1734.9	1736.7
20°	1711.2	1727.6	1718.5	1714.8	1727.6	1727.6	1725.8	1725.8
22.5°	1669.3	1683.9	1676.6	1672.9	1682.0	1678.4	1676.6	1678.4
25°	1596.4	1611.0	1596.4	1596.4	1603.7	1601.9	1603.7	1601.9
27.5°	1498.0	1508.9	1494.3	1492.5	1499.8	1496.2	1494.3	1499.8
30°	1366.8	1377.7	1370.4	1364.9	1374.1	1368.6	1364.9	1366.8
32.5°	1217.3	1224.6	1221.0	1211.9	1217.3	1213.7	1211.9	1213.7
35°	1053.3	1062.4	1047.9	1046.0	1055.1	1047.9	1044.2	1053.3
37.5°	883.8	894.8	882.0	883.8	878.4	880.2	876.6	882.0
40°	723.5	721.7	718.0	716.2	718.0	712.5	716.2	710.7
42.5°	550.4	554.0	552.2	550.4	552.2	544.9	541.2	548.5
45°	382.7	380.9	377.2	373.6	373.6	371.8	371.8	366.3
47.5°	246.0	244.2	236.9	238.7	242.4	238.7	233.3	240.6
50°	149.4	147.6	147.6	145.8	149.4	145.8	142.1	142.1
52.5°	83.8	83.8	82.0	82.0	82.0	82.0	80.2	78.4
55°	45.6	43.7	43.7	43.7	41.9	41.9	41.9	41.9
57.5°	29.2	29.2	29.2	29.2	29.2	29.2	27.3	27.3
60°	21.9	21.9	21.9	21.9	20.0	21.9	20.0	20.0
62.5°	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4
65°	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8
67.5°	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9
70°	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1
72.5°	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
75°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
77.5°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
80°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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)