

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: P251546

Luminaire Tested: **LD4B30D010 EU4B30508040 4LBSW1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P251546  
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 EU4B30508040 4LBSW1LI  
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2789.0 lumens  
Efficiency: N/A  
Efficacy: 99.6 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

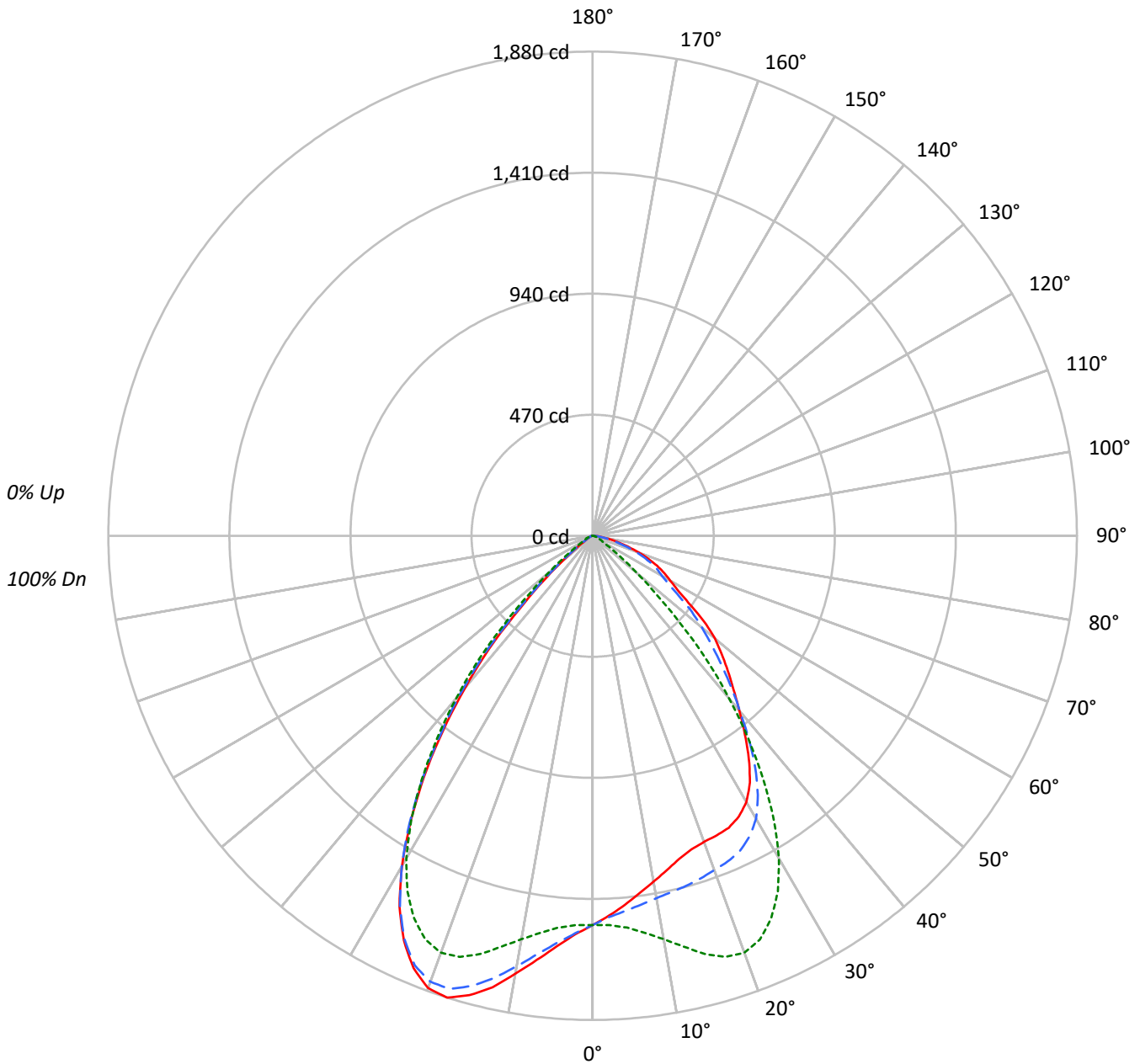
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P251546

CATALOG NUMBER: LD4B30D010 EU4B30508040 4LBSW1LI

### Luminous Intensity Polar Plot





TEST NUMBER: P251546

CATALOG NUMBER: LD4B30D010 EU4B30508040 4LBSW1LI

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
RC	80									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																			
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90																			
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	85	82	80																			
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72																			
4	91	81	75	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64																			
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58																			
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53																			
7	75	63	56	51	73	62	55	51	61	55	50	60	54	50	58	53	50	48																			
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44																			
9	66	54	47	42	65	54	47	42	53	46	42	52	46	42	51	46	42	40																			
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37																			

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

	0°	90°	180°
0°	147298	147298	147298
5°	140709	149397	156538
10°	134924	157379	170847
15°	130993	169606	186335
20°	131165	178645	193787
25°	134513	176311	186495
30°	134333	162748	166529
35°	125827	137558	135678
40°	112706	104920	97898
45°	102254	66625	54662
50°	93927	33811	23334
55°	77107	15088	7714
60°	67694	8459	4230
65°	63693	6365	3182
70°	54539	5072	2821
75°	41609	3728	2222
80°	29914	2189	1122
85°	22029	0	0



TEST NUMBER: P251546

CATALOG NUMBER: LD4B30D010 EU4B30508040 4LBSW1LI

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	146.8	5.3
10°-20°	457.5	16.4
20°-30°	707.9	25.4
30°-40°	697.5	25.0
40°-50°	428.3	15.4
50°-60°	190.4	6.8
60°-70°	106.4	3.8
70°-80°	46.0	1.7
80°-90°	8.2	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°	1312.2	47.0
0°-40°	2009.7	72.1
0°-60°	2628.4	94.2
0°-90°	2789.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2789.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1511	1511	1511	1511	1511	
5°	1438	1462	1527	1586	1600	135
15°	1298	1407	1681	1809	1847	368
25°	1251	1352	1640	1728	1734	574
35°	1058	1101	1156	1152	1140	656
45°	742	704	483	422	397	575
55°	454	410	89	51	45	417
65°	276	249	28	16	14	271
75°	110	95	10	6	6	122
85°	20	16	0	0	0	24
90°	0	0	0	0	0	



TEST NUMBER: P251546

CATALOG NUMBER: LD4B30D010 EU4B30508040 4LBSW1LI

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1511.4	1511.4	1511.4	1511.4	1511.4	1511.4	1511.4	1511.4	1511.4	1511.4	1511.4
2.5°	1475.8	1475.8	1475.8	1475.8	1479.8	1473.9	1479.8	1479.8	1485.7	1487.7	1481.8
5°	1438.3	1436.4	1438.3	1438.3	1442.3	1440.3	1446.2	1450.2	1458.1	1462.0	1462.0
7.5°	1398.9	1398.9	1398.9	1402.8	1408.8	1406.8	1412.7	1418.6	1430.5	1438.3	1444.3
10°	1363.4	1361.4	1367.3	1369.3	1375.2	1375.2	1385.1	1391.0	1404.8	1420.6	1428.5
12.5°	1329.8	1327.9	1331.8	1337.7	1347.6	1347.6	1355.5	1365.3	1385.1	1402.8	1416.6
15°	1298.3	1300.2	1306.2	1310.1	1321.9	1321.9	1331.8	1343.6	1365.3	1387.1	1406.8
17.5°	1276.6	1278.5	1282.5	1288.4	1300.2	1300.2	1310.1	1323.9	1347.6	1371.3	1394.9
20°	1264.7	1266.7	1270.6	1276.6	1286.4	1288.4	1296.3	1312.1	1333.8	1359.4	1381.1
22.5°	1258.8	1262.7	1266.7	1270.6	1280.5	1280.5	1290.4	1302.2	1323.9	1349.6	1369.3
25°	1250.9	1254.9	1256.8	1262.7	1270.6	1270.6	1276.6	1290.4	1310.1	1331.8	1351.5
27.5°	1229.2	1233.2	1235.1	1241.0	1248.9	1247.0	1254.9	1264.7	1282.5	1302.2	1318.0
30°	1193.7	1195.7	1199.6	1201.6	1207.5	1207.5	1213.4	1223.3	1235.1	1252.9	1268.7
32.5°	1136.5	1140.4	1142.4	1144.4	1150.3	1148.3	1150.3	1156.2	1168.0	1183.8	1193.7
35°	1057.6	1065.4	1065.4	1069.4	1071.4	1069.4	1069.4	1077.3	1083.2	1095.0	1101.0
37.5°	970.7	976.7	974.7	978.6	980.6	974.7	978.6	980.6	988.5	994.4	996.4
40°	885.9	887.9	887.9	887.9	887.9	885.9	887.9	889.8	895.8	895.8	889.8
42.5°	808.9	810.9	810.9	807.0	810.9	808.9	808.9	808.9	808.9	801.1	795.1
45°	741.9	743.8	743.8	741.9	741.9	737.9	735.9	734.0	728.1	718.2	704.4
47.5°	678.7	682.7	684.6	680.7	678.7	674.8	674.8	662.9	655.1	643.2	623.5
50°	619.5	623.5	623.5	619.5	619.5	613.6	607.7	603.8	591.9	578.1	554.4
52.5°	544.6	550.5	550.5	548.5	548.5	540.6	538.6	530.7	520.9	505.1	485.4
55°	453.8	461.7	459.7	457.7	453.8	453.8	453.8	447.9	442.0	430.1	410.4
57.5°	388.7	390.7	390.7	388.7	388.7	384.7	384.7	378.8	376.9	365.0	349.2
60°	347.3	347.3	349.2	347.3	345.3	343.3	341.3	337.4	331.5	323.6	311.7
62.5°	313.7	315.7	315.7	313.7	311.7	309.8	307.8	303.8	299.9	294.0	282.1
65°	276.2	280.2	278.2	276.2	274.3	272.3	272.3	268.3	264.4	260.4	248.6
67.5°	234.8	236.8	238.7	234.8	234.8	232.8	232.8	228.9	226.9	219.0	211.1
70°	191.4	193.4	193.4	191.4	191.4	189.4	189.4	187.4	185.5	179.5	171.7
72.5°	150.0	151.9	150.0	148.0	148.0	148.0	146.0	144.0	142.1	138.1	132.2
75°	110.5	110.5	112.5	110.5	108.5	108.5	106.5	106.5	102.6	100.6	94.7
77.5°	78.9	80.9	78.9	78.9	76.9	75.0	75.0	73.0	73.0	71.0	67.1
80°	53.3	53.3	55.2	53.3	51.3	53.3	51.3	49.3	49.3	47.4	43.4
82.5°	33.5	35.5	33.5	33.5	33.5	33.5	33.5	31.6	31.6	29.6	27.6
85°	19.7	19.7	19.7	19.7	19.7	19.7	19.7	17.8	17.8	17.8	15.8
87.5°	9.9	9.9	7.9	7.9	9.9	9.9	9.9	7.9	7.9	7.9	7.9
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: P251546

CATALOG NUMBER: LD4B30D010 EU4B30508040 4LBSW1LI

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1511.4	1511.4	1511.4	1511.4	1511.4	1511.4	1511.4	1511.4	1511.4	1511.4	1511.4
2.5°	1489.6	1491.6	1495.6	1501.5	1501.5	1497.5	1507.4	1507.4	1511.4	1513.3	1521.2
5°	1473.9	1477.8	1485.7	1495.6	1497.5	1495.6	1509.4	1515.3	1521.2	1527.1	1539.0
7.5°	1460.1	1467.9	1481.8	1495.6	1501.5	1501.5	1523.2	1531.1	1542.9	1554.8	1568.6
10°	1452.2	1464.0	1483.7	1505.4	1511.4	1517.3	1542.9	1558.7	1574.5	1590.3	1610.0
12.5°	1442.3	1464.0	1489.6	1517.3	1529.1	1537.0	1572.5	1592.2	1614.0	1633.7	1659.3
15°	1440.3	1466.0	1499.5	1535.0	1550.8	1562.7	1602.1	1629.7	1655.4	1681.0	1706.7
17.5°	1432.4	1464.0	1505.4	1544.9	1564.6	1580.4	1625.8	1659.3	1688.9	1714.6	1744.2
20°	1422.6	1458.1	1503.5	1546.9	1568.6	1584.4	1633.7	1665.3	1698.8	1722.5	1750.1
22.5°	1408.8	1444.3	1489.6	1533.1	1552.8	1566.6	1615.9	1643.5	1673.1	1696.8	1722.5
25°	1385.1	1418.6	1458.1	1493.6	1513.3	1525.2	1568.6	1594.2	1615.9	1639.6	1663.3
27.5°	1351.5	1377.2	1410.7	1436.4	1448.2	1460.1	1495.6	1517.3	1537.0	1556.7	1572.5
30°	1292.3	1312.1	1335.8	1357.5	1369.3	1371.3	1404.8	1416.6	1432.4	1446.2	1458.1
32.5°	1213.4	1229.2	1243.0	1254.9	1262.7	1264.7	1290.4	1294.3	1310.1	1310.1	1327.9
35°	1112.8	1120.7	1130.6	1130.6	1136.5	1130.6	1148.3	1152.3	1154.2	1156.2	1170.0
37.5°	998.4	1002.3	1008.2	996.4	996.4	990.5	996.4	1000.3	992.4	992.4	1002.3
40°	889.8	882.0	874.1	862.2	856.3	844.5	844.5	834.6	828.7	824.7	826.7
42.5°	785.3	767.5	749.8	724.1	712.3	700.4	688.6	674.8	670.8	661.0	655.1
45°	684.6	659.0	635.3	593.9	570.2	558.4	532.7	505.1	487.3	483.4	467.6
47.5°	599.8	562.3	522.9	473.5	449.9	428.2	390.7	367.0	343.3	331.5	321.6
50°	524.8	491.3	440.0	386.7	357.1	335.4	294.0	266.4	240.7	223.0	211.1
52.5°	459.7	422.2	374.9	313.7	284.1	260.4	215.1	183.5	161.8	144.0	130.2
55°	386.7	357.1	309.8	252.5	223.0	195.3	155.9	122.3	100.6	88.8	78.9
57.5°	333.4	307.8	262.4	207.2	179.5	153.9	114.4	86.8	69.1	57.2	51.3
60°	297.9	274.3	234.8	181.5	155.9	132.2	94.7	69.1	53.3	43.4	39.5
62.5°	268.3	244.7	209.1	159.8	138.1	114.4	80.9	57.2	43.4	35.5	29.6
65°	234.8	213.1	181.5	138.1	118.4	98.7	69.1	47.4	35.5	27.6	23.7
67.5°	199.3	179.5	151.9	114.4	98.7	82.9	55.2	39.5	29.6	23.7	19.7
70°	161.8	146.0	120.4	92.7	78.9	65.1	45.4	31.6	21.7	17.8	15.8
72.5°	124.3	110.5	92.7	71.0	59.2	49.3	33.5	23.7	17.8	13.8	11.8
75°	88.8	78.9	65.1	51.3	43.4	35.5	25.6	17.8	11.8	9.9	7.9
77.5°	61.2	55.2	45.4	35.5	29.6	25.6	17.8	11.8	9.9	7.9	5.9
80°	39.5	35.5	29.6	21.7	17.8	15.8	9.9	7.9	5.9	3.9	3.9
82.5°	23.7	21.7	17.8	11.8	9.9	7.9	5.9	3.9	3.9	2.0	2.0
85°	13.8	11.8	7.9	5.9	5.9	3.9	3.9	2.0	2.0	0.0	0.0
87.5°	5.9	3.9	3.9	2.0	2.0	2.0	2.0	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: P251546

CATALOG NUMBER: LD4B30D010 EU4B30508040 4LBSW1LI

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1511.4	1511.4	1511.4	1511.4	1511.4	1511.4	1511.4	1511.4	1511.4	1511.4	1511.4
2.5°	1517.3	1527.1	1525.2	1531.1	1529.1	1529.1	1539.0	1535.0	1544.9	1544.9	1546.9
5°	1539.0	1552.8	1552.8	1562.7	1560.7	1564.6	1574.5	1574.5	1586.3	1590.3	1590.3
7.5°	1570.5	1588.3	1592.2	1602.1	1604.1	1612.0	1619.9	1621.8	1637.6	1641.6	1643.5
10°	1614.0	1635.7	1641.6	1651.4	1655.4	1663.3	1673.1	1677.1	1696.8	1698.8	1706.7
12.5°	1667.2	1690.9	1696.8	1708.7	1710.6	1720.5	1734.3	1738.3	1758.0	1763.9	1769.8
15°	1718.5	1740.2	1750.1	1761.9	1763.9	1775.7	1787.6	1791.5	1809.3	1817.2	1823.1
17.5°	1754.0	1779.7	1785.6	1801.4	1801.4	1811.3	1823.1	1827.0	1844.8	1850.7	1854.7
20°	1761.9	1785.6	1793.5	1805.3	1807.3	1813.2	1823.1	1827.0	1842.8	1844.8	1850.7
22.5°	1732.3	1756.0	1760.0	1771.8	1773.8	1779.7	1787.6	1785.6	1805.3	1803.4	1805.3
25°	1669.2	1690.9	1690.9	1704.7	1702.7	1708.7	1712.6	1710.6	1728.4	1728.4	1728.4
27.5°	1578.4	1598.2	1600.1	1610.0	1604.1	1606.1	1610.0	1608.0	1619.9	1619.9	1619.9
30°	1466.0	1481.8	1475.8	1483.7	1479.8	1483.7	1479.8	1477.8	1481.8	1485.7	1483.7
32.5°	1325.9	1337.7	1337.7	1339.7	1339.7	1327.9	1323.9	1323.9	1321.9	1320.0	1320.0
35°	1164.1	1174.0	1170.0	1170.0	1168.0	1156.2	1150.3	1146.3	1152.3	1140.4	1148.3
37.5°	998.4	1000.3	994.4	992.4	982.6	982.6	972.7	964.8	968.8	966.8	958.9
40°	816.8	824.7	812.9	808.9	814.9	807.0	797.1	787.2	795.1	785.3	789.2
42.5°	639.3	637.3	633.3	633.3	633.3	621.5	619.5	617.6	619.5	611.6	605.7
45°	461.7	455.8	449.9	449.9	442.0	438.0	438.0	432.1	422.2	422.2	410.4
47.5°	311.7	297.9	294.0	292.0	288.1	288.1	284.1	280.2	278.2	268.3	268.3
50°	203.2	189.4	185.5	183.5	185.5	181.5	177.6	173.6	169.7	167.7	163.8
52.5°	122.3	116.4	112.5	110.5	106.5	104.6	102.6	98.7	96.7	96.7	94.7
55°	73.0	67.1	59.2	59.2	59.2	57.2	55.2	53.3	51.3	51.3	49.3
57.5°	45.4	41.4	37.5	35.5	35.5	35.5	33.5	33.5	33.5	33.5	31.6
60°	33.5	29.6	27.6	27.6	27.6	25.6	25.6	25.6	25.6	23.7	23.7
62.5°	25.6	23.7	21.7	21.7	19.7	19.7	19.7	19.7	19.7	19.7	17.8
65°	21.7	17.8	17.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8
67.5°	15.8	13.8	13.8	13.8	13.8	11.8	11.8	11.8	11.8	11.8	11.8
70°	11.8	11.8	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
72.5°	9.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
75°	7.9	7.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
77.5°	5.9	5.9	5.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
80°	3.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
82.5°	2.0	2.0	2.0	2.0	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	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: P251546

CATALOG NUMBER: LD4B30D010 EU4B30508040 4LBSW1LI

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1511.4	1511.4	1511.4	1511.4	1511.4	1511.4	1511.4	1511.4
2.5°	1546.9	1556.7	1546.9	1546.9	1552.8	1550.8	1554.8	1548.8
5°	1592.2	1606.1	1596.2	1594.2	1604.1	1602.1	1604.1	1600.1
7.5°	1647.5	1661.3	1651.4	1651.4	1661.3	1659.3	1665.3	1661.3
10°	1710.6	1726.4	1712.6	1714.6	1728.4	1726.4	1726.4	1726.4
12.5°	1775.7	1791.5	1783.6	1783.6	1793.5	1795.5	1797.4	1795.5
15°	1829.0	1844.8	1834.9	1834.9	1848.7	1846.8	1848.7	1846.8
17.5°	1860.6	1876.4	1864.5	1864.5	1876.4	1876.4	1878.3	1880.3
20°	1852.7	1870.4	1860.6	1856.6	1870.4	1870.4	1868.5	1868.5
22.5°	1807.3	1823.1	1815.2	1811.3	1821.1	1817.2	1815.2	1817.2
25°	1728.4	1744.2	1728.4	1728.4	1736.3	1734.3	1736.3	1734.3
27.5°	1621.8	1633.7	1617.9	1615.9	1623.8	1619.9	1617.9	1623.8
30°	1479.8	1491.6	1483.7	1477.8	1487.7	1481.8	1477.8	1479.8
32.5°	1318.0	1325.9	1321.9	1312.1	1318.0	1314.0	1312.1	1314.0
35°	1140.4	1150.3	1134.5	1132.5	1142.4	1134.5	1130.6	1140.4
37.5°	956.9	968.8	955.0	956.9	951.0	953.0	949.0	955.0
40°	783.3	781.3	777.4	775.4	777.4	771.5	775.4	769.5
42.5°	595.9	599.8	597.8	595.9	597.8	589.9	586.0	593.9
45°	414.3	412.4	408.4	404.5	404.5	402.5	402.5	396.6
47.5°	266.4	264.4	256.5	258.5	262.4	258.5	252.5	260.4
50°	161.8	159.8	159.8	157.8	161.8	157.8	153.9	153.9
52.5°	90.8	90.8	88.8	88.8	88.8	88.8	86.8	84.8
55°	49.3	47.4	47.4	47.4	45.4	45.4	45.4	45.4
57.5°	31.6	31.6	31.6	31.6	31.6	31.6	29.6	29.6
60°	23.7	23.7	23.7	23.7	21.7	23.7	21.7	21.7
62.5°	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8
65°	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
67.5°	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
70°	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
72.5°	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
75°	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
77.5°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
80°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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



Report Generated By E9808895 / USPTCWHP6082093





— 0°-180°    - - 45°-225°    - - - - 90°-270°















(END OF REPORT)