

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: P251544

Luminaire Tested: **LD4B30D010 EU4B30508030 4LBSW1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P251544  
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 EU4B30508030 4LBSW1LI  
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2692.0 lumens  
Efficiency: N/A  
Efficacy: 96.1 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

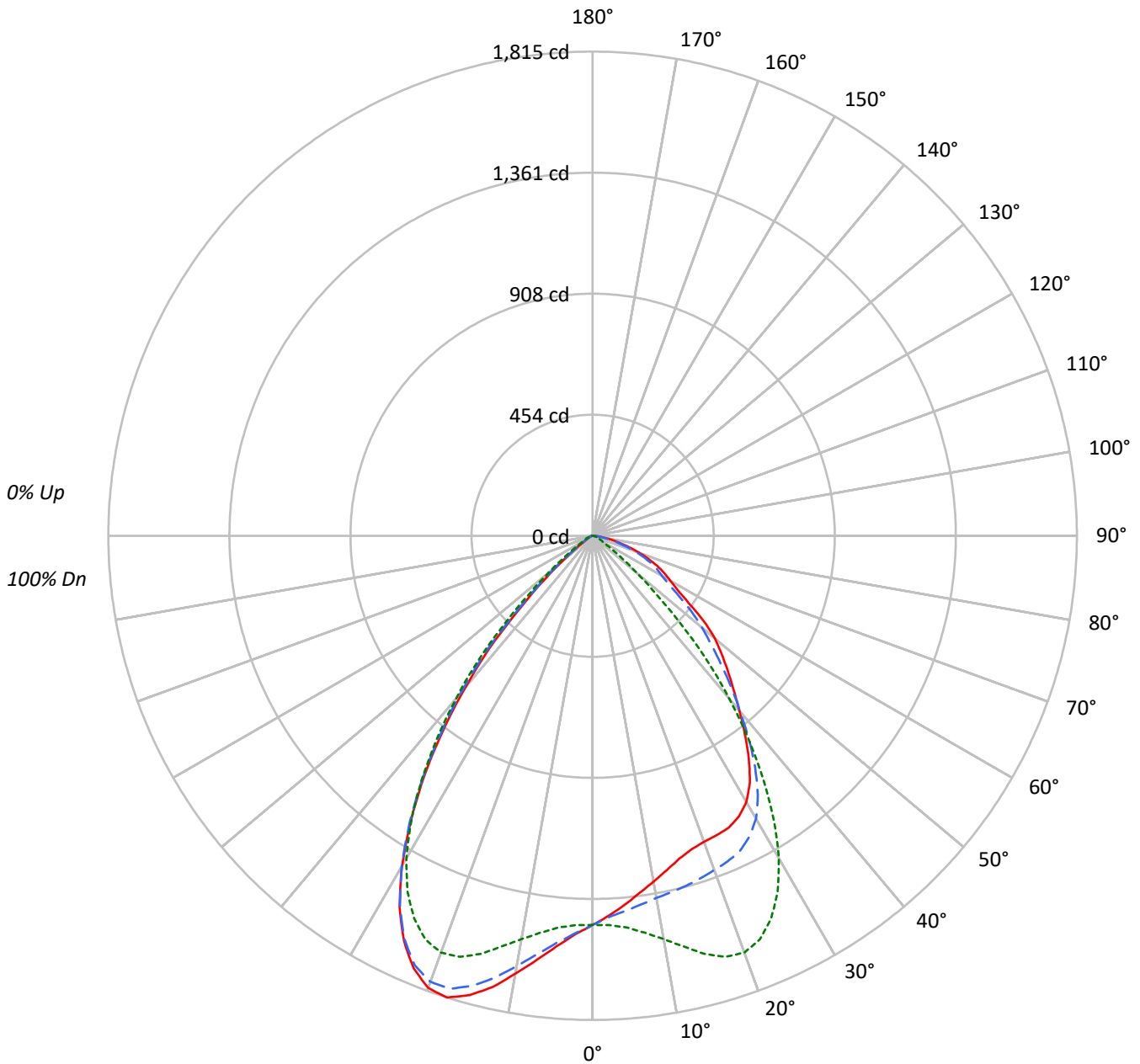
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	142172	142172	142172
5°	135818	144202	151099
10°	130233	151906	164909
15°	126433	163714	179847
20°	126602	172433	187046
25°	129835	170182	180010
30°	129663	157087	160734
35°	121449	132775	130967
40°	108788	101269	94488
45°	98698	64310	52760
50°	90667	32628	22515
55°	74422	14562	7442
60°	65336	8167	4074
65°	61479	6157	3067
70°	52630	4873	2707
75°	40140	3577	2146
80°	28848	2133	1066
85°	21246	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	141.7	5.3
10°-20°	441.6	16.4
20°-30°	683.3	25.4
30°-40°	673.2	25.0
40°-50°	413.4	15.4
50°-60°	183.8	6.8
60°-70°	102.7	3.8
70°-80°	44.4	1.7
80°-90°	7.9	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°	1266.6	47.1
0°-40°	1939.8	72.1
0°-60°	2537.0	94.2
0°-90°	2692.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2692.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1459	1459	1459	1459	1459	
5°	1388	1411	1474	1531	1544	130
15°	1253	1358	1623	1746	1782	356
25°	1207	1304	1583	1668	1674	554
35°	1021	1063	1116	1112	1101	634
45°	716	680	467	408	383	555
55°	438	396	86	50	44	403
65°	267	240	27	15	13	261
75°	107	91	10	6	6	117
85°	19	15	0	0	0	24
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°	1458.8	1458.8	1458.8	1458.8	1458.8	1458.8	1458.8	1458.8	1458.8	1458.8	1458.8
2.5°	1424.5	1424.5	1424.5	1424.5	1428.3	1422.6	1428.3	1428.3	1434.0	1435.9	1430.2
5°	1388.3	1386.4	1388.3	1388.3	1392.1	1390.2	1395.9	1399.8	1407.4	1411.2	1411.2
7.5°	1350.2	1350.2	1350.2	1354.0	1359.8	1357.9	1363.6	1369.3	1380.7	1388.3	1394.0
10°	1316.0	1314.1	1319.8	1321.7	1327.4	1327.4	1336.9	1342.6	1355.9	1371.2	1378.8
12.5°	1283.6	1281.7	1285.5	1291.2	1300.7	1300.7	1308.3	1317.9	1336.9	1354.0	1367.4
15°	1253.1	1255.0	1260.7	1264.5	1276.0	1276.0	1285.5	1296.9	1317.9	1338.8	1357.9
17.5°	1232.2	1234.1	1237.9	1243.6	1255.0	1255.0	1264.5	1277.9	1300.7	1323.6	1346.4
20°	1220.7	1222.6	1226.4	1232.2	1241.7	1243.6	1251.2	1266.4	1287.4	1312.1	1333.1
22.5°	1215.0	1218.8	1222.6	1226.4	1236.0	1236.0	1245.5	1256.9	1277.9	1302.6	1321.7
25°	1207.4	1211.2	1213.1	1218.8	1226.4	1226.4	1232.2	1245.5	1264.5	1285.5	1304.5
27.5°	1186.5	1190.3	1192.2	1197.9	1205.5	1203.6	1211.2	1220.7	1237.9	1256.9	1272.2
30°	1152.2	1154.1	1157.9	1159.8	1165.5	1165.5	1171.2	1180.7	1192.2	1209.3	1224.5
32.5°	1096.9	1100.8	1102.7	1104.6	1110.3	1108.4	1110.3	1116.0	1127.4	1142.7	1152.2
35°	1020.8	1028.4	1028.4	1032.2	1034.1	1032.2	1032.2	1039.8	1045.5	1057.0	1062.7
37.5°	937.0	942.7	940.8	944.6	946.5	940.8	944.6	946.5	954.1	959.8	961.7
40°	855.1	857.0	857.0	857.0	857.0	855.1	857.0	858.9	864.6	864.6	858.9
42.5°	780.8	782.7	782.7	778.9	782.7	780.8	780.8	780.8	780.8	773.2	767.5
45°	716.1	718.0	718.0	716.1	716.1	712.3	710.4	708.4	702.7	693.2	679.9
47.5°	655.1	658.9	660.8	657.0	655.1	651.3	651.3	639.9	632.3	620.8	601.8
50°	598.0	601.8	601.8	598.0	598.0	592.3	586.6	582.8	571.3	558.0	535.1
52.5°	525.6	531.3	531.3	529.4	529.4	521.8	519.9	512.3	502.8	487.5	468.5
55°	438.0	445.6	443.7	441.8	438.0	438.0	438.0	432.3	426.6	415.2	396.1
57.5°	375.2	377.1	377.1	375.2	375.2	371.4	371.4	365.6	363.7	352.3	337.1
60°	335.2	335.2	337.1	335.2	333.3	331.4	329.5	325.7	319.9	312.3	300.9
62.5°	302.8	304.7	304.7	302.8	300.9	299.0	297.1	293.3	289.5	283.8	272.3
65°	266.6	270.4	268.5	266.6	264.7	262.8	262.8	259.0	255.2	251.4	240.0
67.5°	226.6	228.5	230.4	226.6	226.6	224.7	224.7	220.9	219.0	211.4	203.8
70°	184.7	186.6	186.6	184.7	184.7	182.8	182.8	180.9	179.0	173.3	165.7
72.5°	144.7	146.6	144.7	142.8	142.8	142.8	140.9	139.0	137.1	133.3	127.6
75°	106.6	106.6	108.6	106.6	104.7	104.7	102.8	102.8	99.0	97.1	91.4
77.5°	76.2	78.1	76.2	76.2	74.3	72.4	72.4	70.5	70.5	68.6	64.8
80°	51.4	51.4	53.3	51.4	49.5	51.4	49.5	47.6	47.6	45.7	41.9
82.5°	32.4	34.3	32.4	32.4	32.4	32.4	32.4	30.5	30.5	28.6	26.7
85°	19.0	19.0	19.0	19.0	19.0	19.0	19.0	17.1	17.1	17.1	15.2
87.5°	9.5	9.5	7.6	7.6	9.5	9.5	9.5	7.6	7.6	7.6	7.6
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°	1458.8	1458.8	1458.8	1458.8	1458.8	1458.8	1458.8	1458.8	1458.8	1458.8	1458.8
2.5°	1437.8	1439.7	1443.6	1449.3	1449.3	1445.5	1455.0	1455.0	1458.8	1460.7	1468.3
5°	1422.6	1426.4	1434.0	1443.6	1445.5	1443.6	1456.9	1462.6	1468.3	1474.0	1485.5
7.5°	1409.3	1416.9	1430.2	1443.6	1449.3	1449.3	1470.2	1477.8	1489.3	1500.7	1514.0
10°	1401.7	1413.1	1432.1	1453.1	1458.8	1464.5	1489.3	1504.5	1519.7	1535.0	1554.0
12.5°	1392.1	1413.1	1437.8	1464.5	1475.9	1483.5	1517.8	1536.9	1557.8	1576.9	1601.6
15°	1390.2	1415.0	1447.4	1481.6	1496.9	1508.3	1546.4	1573.1	1597.8	1622.6	1647.3
17.5°	1382.6	1413.1	1453.1	1491.2	1510.2	1525.4	1569.2	1601.6	1630.2	1654.9	1683.5
20°	1373.1	1407.4	1451.2	1493.1	1514.0	1529.3	1576.9	1607.3	1639.7	1662.6	1689.2
22.5°	1359.8	1394.0	1437.8	1479.7	1498.8	1512.1	1559.7	1586.4	1615.0	1637.8	1662.6
25°	1336.9	1369.3	1407.4	1441.6	1460.7	1472.1	1514.0	1538.8	1559.7	1582.6	1605.4
27.5°	1304.5	1329.3	1361.7	1386.4	1397.8	1409.3	1443.6	1464.5	1483.5	1502.6	1517.8
30°	1247.4	1266.4	1289.3	1310.2	1321.7	1323.6	1355.9	1367.4	1382.6	1395.9	1407.4
32.5°	1171.2	1186.5	1199.8	1211.2	1218.8	1220.7	1245.5	1249.3	1264.5	1264.5	1281.7
35°	1074.1	1081.7	1091.2	1091.2	1096.9	1091.2	1108.4	1112.2	1114.1	1116.0	1129.3
37.5°	963.6	967.4	973.2	961.7	961.7	956.0	961.7	965.5	957.9	957.9	967.4
40°	858.9	851.3	843.7	832.2	826.5	815.1	815.1	805.6	799.9	796.0	798.0
42.5°	758.0	740.8	723.7	698.9	687.5	676.1	664.6	651.3	647.5	638.0	632.3
45°	660.8	636.1	613.2	573.2	550.4	539.0	514.2	487.5	470.4	466.6	451.3
47.5°	578.9	542.8	504.7	457.1	434.2	413.3	377.1	354.2	331.4	319.9	310.4
50°	506.6	474.2	424.7	373.3	344.7	323.8	283.8	257.1	232.3	215.2	203.8
52.5°	443.7	407.5	361.8	302.8	274.2	251.4	207.6	177.1	156.2	139.0	125.7
55°	373.3	344.7	299.0	243.8	215.2	188.5	150.4	118.1	97.1	85.7	76.2
57.5°	321.8	297.1	253.3	200.0	173.3	148.5	110.5	83.8	66.7	55.2	49.5
60°	287.6	264.7	226.6	175.2	150.4	127.6	91.4	66.7	51.4	41.9	38.1
62.5°	259.0	236.1	201.9	154.3	133.3	110.5	78.1	55.2	41.9	34.3	28.6
65°	226.6	205.7	175.2	133.3	114.3	95.2	66.7	45.7	34.3	26.7	22.9
67.5°	192.3	173.3	146.6	110.5	95.2	80.0	53.3	38.1	28.6	22.9	19.0
70°	156.2	140.9	116.2	89.5	76.2	62.8	43.8	30.5	20.9	17.1	15.2
72.5°	120.0	106.6	89.5	68.6	57.1	47.6	32.4	22.9	17.1	13.3	11.4
75°	85.7	76.2	62.8	49.5	41.9	34.3	24.8	17.1	11.4	9.5	7.6
77.5°	59.0	53.3	43.8	34.3	28.6	24.8	17.1	11.4	9.5	7.6	5.7
80°	38.1	34.3	28.6	20.9	17.1	15.2	9.5	7.6	5.7	3.8	3.8
82.5°	22.9	20.9	17.1	11.4	9.5	7.6	5.7	3.8	3.8	1.9	1.9
85°	13.3	11.4	7.6	5.7	5.7	3.8	3.8	1.9	1.9	0.0	0.0
87.5°	5.7	3.8	3.8	1.9	1.9	1.9	1.9	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°	1458.8	1458.8	1458.8	1458.8	1458.8	1458.8	1458.8	1458.8	1458.8	1458.8	1458.8
2.5°	1464.5	1474.0	1472.1	1477.8	1475.9	1475.9	1485.5	1481.6	1491.2	1491.2	1493.1
5°	1485.5	1498.8	1498.8	1508.3	1506.4	1510.2	1519.7	1519.7	1531.2	1535.0	1535.0
7.5°	1515.9	1533.1	1536.9	1546.4	1548.3	1555.9	1563.5	1565.4	1580.7	1584.5	1586.4
10°	1557.8	1578.8	1584.5	1594.0	1597.8	1605.4	1615.0	1618.8	1637.8	1639.7	1647.3
12.5°	1609.2	1632.1	1637.8	1649.2	1651.1	1660.7	1674.0	1677.8	1696.8	1702.6	1708.3
15°	1658.8	1679.7	1689.2	1700.7	1702.6	1714.0	1725.4	1729.2	1746.4	1754.0	1759.7
17.5°	1693.0	1717.8	1723.5	1738.7	1738.7	1748.3	1759.7	1763.5	1780.6	1786.3	1790.2
20°	1700.7	1723.5	1731.1	1742.5	1744.5	1750.2	1759.7	1763.5	1778.7	1780.6	1786.3
22.5°	1672.1	1694.9	1698.7	1710.2	1712.1	1717.8	1725.4	1723.5	1742.5	1740.6	1742.5
25°	1611.1	1632.1	1632.1	1645.4	1643.5	1649.2	1653.0	1651.1	1668.3	1668.3	1668.3
27.5°	1523.5	1542.6	1544.5	1554.0	1548.3	1550.2	1554.0	1552.1	1563.5	1563.5	1563.5
30°	1415.0	1430.2	1424.5	1432.1	1428.3	1432.1	1428.3	1426.4	1430.2	1434.0	1432.1
32.5°	1279.8	1291.2	1291.2	1293.1	1293.1	1281.7	1277.9	1277.9	1276.0	1274.1	1274.1
35°	1123.6	1133.1	1129.3	1129.3	1127.4	1116.0	1110.3	1106.5	1112.2	1100.8	1108.4
37.5°	963.6	965.5	959.8	957.9	948.4	948.4	938.9	931.3	935.1	933.2	925.5
40°	788.4	796.0	784.6	780.8	786.5	778.9	769.4	759.9	767.5	758.0	761.8
42.5°	617.0	615.1	611.3	611.3	611.3	599.9	598.0	596.1	598.0	590.4	584.7
45°	445.6	439.9	434.2	434.2	426.6	422.8	422.8	417.1	407.5	407.5	396.1
47.5°	300.9	287.6	283.8	281.9	278.0	278.0	274.2	270.4	268.5	259.0	259.0
50°	196.2	182.8	179.0	177.1	179.0	175.2	171.4	167.6	163.8	161.9	158.1
52.5°	118.1	112.4	108.6	106.6	102.8	100.9	99.0	95.2	93.3	93.3	91.4
55°	70.5	64.8	57.1	57.1	57.1	55.2	53.3	51.4	49.5	49.5	47.6
57.5°	43.8	40.0	36.2	34.3	34.3	34.3	32.4	32.4	32.4	32.4	30.5
60°	32.4	28.6	26.7	26.7	26.7	24.8	24.8	24.8	24.8	22.9	22.9
62.5°	24.8	22.9	20.9	20.9	19.0	19.0	19.0	19.0	19.0	19.0	17.1
65°	20.9	17.1	17.1	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2
67.5°	15.2	13.3	13.3	13.3	13.3	11.4	11.4	11.4	11.4	11.4	11.4
70°	11.4	11.4	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
72.5°	9.5	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
75°	7.6	7.6	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
77.5°	5.7	5.7	5.7	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
80°	3.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
82.5°	1.9	1.9	1.9	1.9	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: P251544

CATALOG NUMBER: LD4B30D010 EU4B30508030 4LBSW1LI

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1458.8	1458.8	1458.8	1458.8	1458.8	1458.8	1458.8	1458.8
2.5°	1493.1	1502.6	1493.1	1493.1	1498.8	1496.9	1500.7	1495.0
5°	1536.9	1550.2	1540.7	1538.8	1548.3	1546.4	1548.3	1544.5
7.5°	1590.2	1603.5	1594.0	1594.0	1603.5	1601.6	1607.3	1603.5
10°	1651.1	1666.4	1653.0	1654.9	1668.3	1666.4	1666.4	1666.4
12.5°	1714.0	1729.2	1721.6	1721.6	1731.1	1733.0	1734.9	1733.0
15°	1765.4	1780.6	1771.1	1771.1	1784.4	1782.5	1784.4	1782.5
17.5°	1795.9	1811.1	1799.7	1799.7	1811.1	1811.1	1813.0	1814.9
20°	1788.3	1805.4	1795.9	1792.1	1805.4	1805.4	1803.5	1803.5
22.5°	1744.5	1759.7	1752.1	1748.3	1757.8	1754.0	1752.1	1754.0
25°	1668.3	1683.5	1668.3	1668.3	1675.9	1674.0	1675.9	1674.0
27.5°	1565.4	1576.9	1561.6	1559.7	1567.3	1563.5	1561.6	1567.3
30°	1428.3	1439.7	1432.1	1426.4	1435.9	1430.2	1426.4	1428.3
32.5°	1272.2	1279.8	1276.0	1266.4	1272.2	1268.3	1266.4	1268.3
35°	1100.8	1110.3	1095.0	1093.1	1102.7	1095.0	1091.2	1100.8
37.5°	923.6	935.1	921.7	923.6	917.9	919.8	916.0	921.7
40°	756.1	754.2	750.3	748.4	750.3	744.6	748.4	742.7
42.5°	575.1	578.9	577.0	575.1	577.0	569.4	565.6	573.2
45°	399.9	398.0	394.2	390.4	390.4	388.5	388.5	382.8
47.5°	257.1	255.2	247.6	249.5	253.3	249.5	243.8	251.4
50°	156.2	154.3	154.3	152.4	156.2	152.4	148.5	148.5
52.5°	87.6	87.6	85.7	85.7	85.7	85.7	83.8	81.9
55°	47.6	45.7	45.7	45.7	43.8	43.8	43.8	43.8
57.5°	30.5	30.5	30.5	30.5	30.5	30.5	28.6	28.6
60°	22.9	22.9	22.9	22.9	20.9	22.9	20.9	20.9
62.5°	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1
65°	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3
67.5°	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4
70°	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
72.5°	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
75°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
77.5°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
80°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
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)