

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: P226272

Luminaire Tested: **LD2B20D010 EU2B20WW8040 2LBSW\***

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P226272  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P14828)  
Test Lab: INNOVATION CENTER (G1)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LD2B20D010 EU2B20WW8040 2LBSW\*  
Description: 2000 Lumen, 2inch Portfolio LED Downlight  
WALL WASH OPTIC  
WALL WASH LENSED TRIM  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1401.7 lumens  
Efficiency: N/A  
Efficacy: 67.1 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 0.79 / 1.02  
Luminous Opening: Rectangular (W 0.17' x L: 0.17' x H: 0')  
CIE Type: Direct

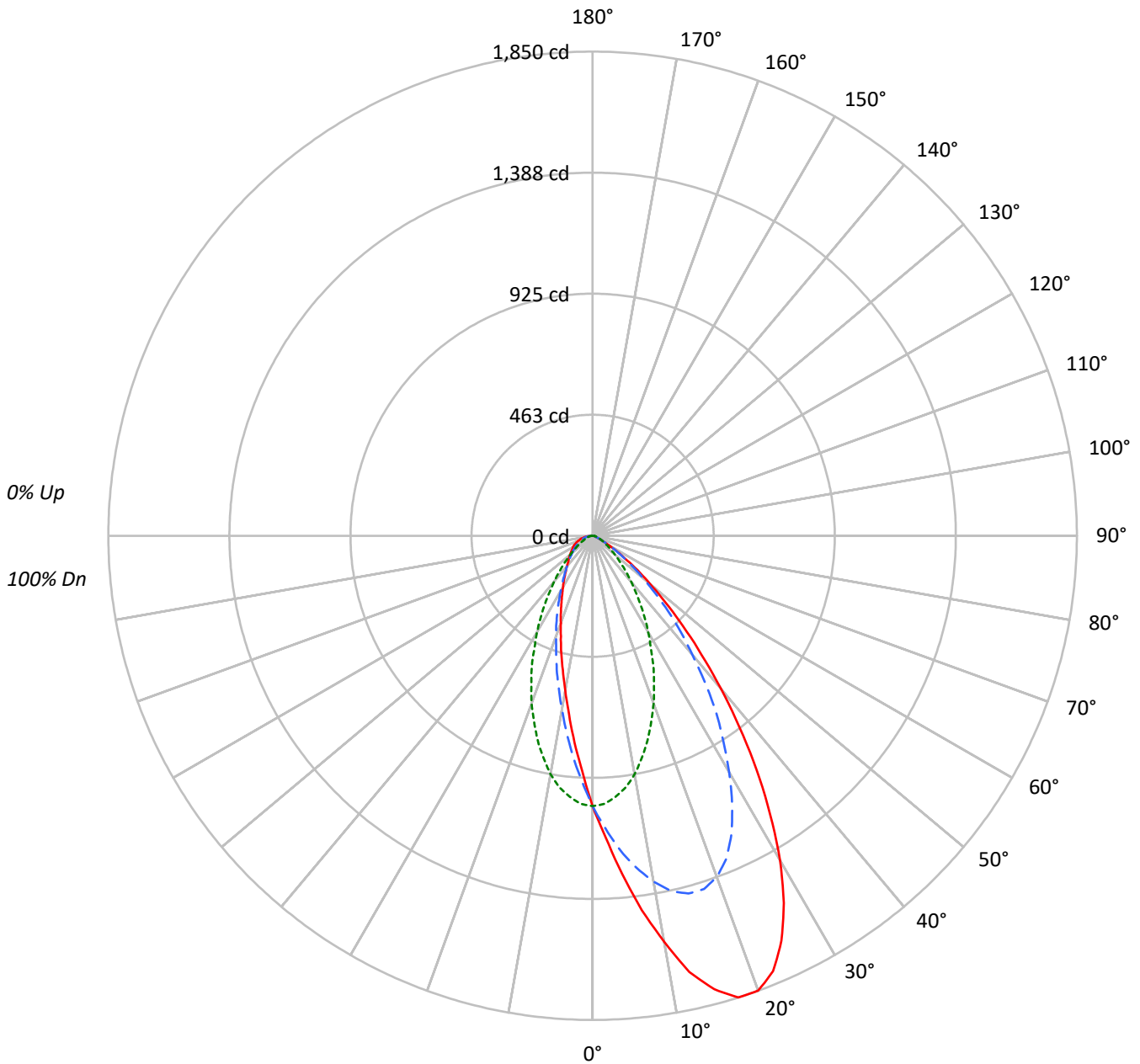
Input Watts (W): 20.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20				20				20				20				20				
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			
1	112	109	105	103	109	106	104	101	102	100	98	98	97	95	95	94	92	90			
2	105	99	94	90	102	97	92	89	94	90	87	91	87	85	88	85	83	81			
3	98	90	84	79	96	89	83	79	86	81	77	83	79	76	81	78	75	73			
4	92	83	76	71	90	81	75	70	79	74	69	77	72	69	75	71	68	66			
5	86	76	69	64	84	75	68	63	73	67	63	71	66	62	70	65	62	60			
6	81	70	63	58	79	69	63	58	68	62	57	66	61	57	65	60	56	55			
7	76	65	58	53	75	64	58	53	63	57	52	62	56	52	60	56	52	50			
8	72	60	53	49	70	60	53	49	59	53	48	58	52	48	57	52	48	46			
9	68	56	50	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43			
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40			

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

	0°	90°	180°
0°	399973	399973	399973
5°	504268	389331	308222
10°	619481	363783	236583
15°	719452	324858	185427
20°	762456	280918	146168
25°	729596	234765	120353
30°	640712	189731	101083
35°	516224	149614	87148
40°	384998	116045	77364
45°	266664	87592	70446
50°	171802	64961	67070
55°	100960	49298	65776
60°	53841	40439	67321
65°	25480	31896	66907
70°	11778	27520	66932
75°	15565	26041	72884
80°	15614	23199	69819
85°	15555	31110	61776



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	97.6	7.0
10°-20°	272.3	19.4
20°-30°	355.3	25.3
30°-40°	307.6	21.9
40°-50°	194.7	13.9
50°-60°	97.5	7.0
60°-70°	44.9	3.2
70°-80°	24.1	1.7
80°-90°	7.8	0.6
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°	725.2	51.7
0°-40°	1032.7	73.7
0°-60°	1324.9	94.5
0°-90°	1401.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1401.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1033	1033	1033	1033	1033	
5°	1297	1206	1001	848	793	132
15°	1794	1415	810	528	462	505
25°	1707	1255	549	316	282	773
35°	1092	820	316	191	184	678
45°	487	407	160	125	129	383
55°	150	139	73	83	97	143
65°	28	31	35	59	73	32
75°	10	10	17	35	49	10
85°	4	4	7	10	14	3
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°	1032.6	1032.6	1032.6	1032.6	1032.6	1032.6	1032.6	1032.6	1032.6	1032.6	1032.6
2.5°	1154.3	1161.3	1161.3	1164.8	1150.8	1154.3	1154.3	1147.4	1136.9	1130.0	1119.6
5°	1296.9	1296.9	1293.4	1296.9	1286.4	1279.5	1283.0	1269.1	1241.2	1227.3	1206.5
7.5°	1442.9	1436.0	1436.0	1432.5	1415.1	1404.7	1401.2	1376.8	1338.6	1310.8	1279.5
10°	1575.0	1575.0	1568.1	1561.1	1536.8	1522.9	1512.4	1474.2	1432.5	1387.3	1342.1
12.5°	1707.1	1700.2	1689.8	1675.9	1641.1	1627.2	1609.8	1564.6	1502.0	1449.9	1390.8
15°	1794.1	1797.5	1780.2	1762.8	1724.5	1703.7	1682.8	1627.2	1554.2	1488.1	1415.1
17.5°	1849.7	1846.2	1828.8	1808.0	1766.3	1741.9	1717.6	1651.5	1575.0	1495.1	1415.1
20°	1849.7	1849.7	1828.8	1808.0	1762.8	1735.0	1710.6	1641.1	1557.6	1474.2	1387.3
22.5°	1801.0	1794.1	1780.2	1759.3	1714.1	1689.8	1661.9	1592.4	1505.5	1425.5	1335.1
25°	1707.1	1707.1	1689.8	1665.4	1627.2	1599.4	1575.0	1505.5	1422.0	1342.1	1255.2
27.5°	1582.0	1578.5	1561.1	1543.7	1502.0	1481.2	1456.8	1390.8	1317.7	1244.7	1154.3
30°	1432.5	1425.5	1418.6	1390.8	1362.9	1345.6	1324.7	1265.6	1192.6	1123.0	1043.1
32.5°	1262.1	1272.5	1255.2	1237.8	1213.4	1196.0	1178.7	1133.5	1067.4	1004.8	928.3
35°	1091.7	1098.7	1088.3	1074.4	1050.0	1039.6	1022.2	984.0	935.3	876.2	820.5
37.5°	921.4	921.4	921.4	910.9	897.0	886.6	876.2	841.4	799.7	754.5	702.3
40°	761.4	771.9	758.0	754.5	744.1	740.6	730.1	705.8	671.0	639.7	591.1
42.5°	615.4	615.4	618.9	611.9	608.5	601.5	594.5	580.6	556.3	528.5	497.2
45°	486.8	490.2	493.7	483.3	483.3	483.3	479.8	465.9	445.0	427.7	406.8
47.5°	379.0	379.0	382.5	379.0	379.0	379.0	372.0	372.0	358.1	340.7	323.4
50°	285.1	288.6	292.1	292.1	292.1	288.6	288.6	281.6	274.7	267.7	250.3
52.5°	215.6	215.6	212.1	215.6	215.6	215.6	215.6	212.1	208.6	201.7	191.2
55°	149.5	149.5	153.0	153.0	153.0	156.5	156.5	156.5	153.0	149.5	139.1
57.5°	104.3	104.3	104.3	107.8	111.3	111.3	111.3	111.3	107.8	104.3	100.8
60°	69.5	69.5	69.5	73.0	73.0	73.0	73.0	76.5	73.0	73.0	69.5
62.5°	45.2	45.2	45.2	45.2	45.2	48.7	48.7	48.7	48.7	48.7	45.2
65°	27.8	27.8	27.8	27.8	27.8	27.8	31.3	31.3	31.3	31.3	31.3
67.5°	17.4	17.4	17.4	17.4	17.4	20.9	20.9	20.9	20.9	20.9	20.9
70°	10.4	10.4	10.4	10.4	13.9	13.9	13.9	13.9	13.9	13.9	13.9
72.5°	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4
75°	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4
77.5°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.4	10.4	10.4
80°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
82.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	7.0	7.0	3.5
85°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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



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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1032.6	1032.6	1032.6	1032.6	1032.6	1032.6	1032.6	1032.6	1032.6	1032.6	1032.6
2.5°	1119.6	1105.6	1098.7	1081.3	1077.8	1063.9	1063.9	1050.0	1032.6	1025.7	1008.3
5°	1192.6	1164.8	1150.8	1119.6	1109.1	1088.3	1077.8	1050.0	1022.2	1001.3	977.0
7.5°	1255.2	1213.4	1185.6	1143.9	1126.5	1095.2	1074.4	1039.6	1001.3	970.1	935.3
10°	1303.8	1248.2	1206.5	1150.8	1130.0	1091.7	1060.4	1011.8	963.1	924.9	883.1
12.5°	1335.1	1269.1	1210.0	1143.9	1116.1	1074.4	1029.2	973.5	917.9	869.2	824.0
15°	1349.0	1269.1	1199.5	1119.6	1088.3	1043.1	990.9	924.9	862.3	810.1	761.4
17.5°	1338.6	1244.7	1171.7	1081.3	1046.5	994.4	935.3	865.7	799.7	744.1	695.4
20°	1303.8	1206.5	1123.0	1029.2	990.9	938.8	872.7	803.2	737.1	681.5	629.3
22.5°	1244.7	1143.9	1057.0	963.1	924.9	872.7	803.2	733.6	667.6	611.9	563.3
25°	1171.7	1063.9	977.0	886.6	844.9	799.7	730.1	660.6	598.0	549.3	500.7
27.5°	1074.4	980.5	893.6	803.2	764.9	723.2	653.7	591.1	528.5	479.8	438.1
30°	970.1	879.7	806.6	719.7	684.9	643.2	584.1	521.5	469.4	424.2	385.9
32.5°	865.7	778.8	709.3	636.3	605.0	563.3	511.1	455.5	406.8	368.5	337.3
35°	758.0	684.9	618.9	549.3	525.0	490.2	441.6	392.9	351.2	316.4	285.1
37.5°	650.2	591.1	532.0	476.3	448.5	420.7	375.5	333.8	295.5	267.7	243.4
40°	552.8	500.7	452.0	399.8	375.5	354.6	316.4	281.6	253.8	229.5	208.6
42.5°	458.9	417.2	375.5	333.8	312.9	295.5	264.2	233.0	208.6	191.2	173.8
45°	375.5	344.2	309.4	271.2	260.8	239.9	215.6	194.7	173.8	159.9	146.0
47.5°	302.5	274.7	246.9	219.0	208.6	194.7	173.8	156.5	142.6	132.1	121.7
50°	236.4	215.6	198.2	173.8	166.9	153.0	139.1	125.2	114.7	107.8	100.8
52.5°	180.8	163.4	149.5	135.6	128.6	121.7	107.8	100.8	93.9	90.4	86.9
55°	132.1	121.7	111.3	100.8	97.4	90.4	83.4	76.5	73.0	73.0	73.0
57.5°	93.9	86.9	80.0	73.0	73.0	69.5	66.1	62.6	59.1	59.1	59.1
60°	66.1	62.6	59.1	55.6	52.2	52.2	48.7	52.2	48.7	52.2	52.2
62.5°	45.2	41.7	41.7	38.2	38.2	38.2	38.2	38.2	41.7	41.7	45.2
65°	27.8	27.8	27.8	27.8	27.8	27.8	31.3	31.3	31.3	34.8	34.8
67.5°	20.9	20.9	20.9	24.3	24.3	24.3	24.3	27.8	27.8	27.8	31.3
70°	13.9	17.4	17.4	17.4	17.4	17.4	20.9	20.9	20.9	24.3	24.3
72.5°	13.9	13.9	13.9	13.9	13.9	13.9	17.4	17.4	17.4	20.9	20.9
75°	10.4	13.9	13.9	13.9	13.9	13.9	13.9	17.4	17.4	17.4	20.9
77.5°	10.4	10.4	10.4	10.4	10.4	10.4	10.4	13.9	13.9	13.9	13.9
80°	7.0	7.0	7.0	10.4	10.4	10.4	10.4	10.4	10.4	10.4	13.9
82.5°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.4
85°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	7.0	3.5	7.0	7.0
87.5°	0.0	0.0	0.0	3.5	0.0	3.5	3.5	3.5	3.5	3.5	3.5
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°	1032.6	1032.6	1032.6	1032.6	1032.6	1032.6	1032.6	1032.6	1032.6	1032.6	1032.6
2.5°	1001.3	990.9	994.4	973.5	977.0	963.1	956.1	945.7	938.8	928.3	931.8
5°	959.6	942.2	935.3	910.9	914.4	893.6	879.7	862.3	848.4	831.0	827.5
7.5°	907.5	879.7	869.2	844.9	841.4	813.6	796.2	775.3	758.0	740.6	733.6
10°	848.4	817.1	796.2	771.9	768.4	737.1	716.2	695.4	674.5	657.1	650.2
12.5°	785.8	751.0	726.7	698.9	691.9	664.1	639.7	618.9	598.0	580.6	570.2
15°	719.7	681.5	657.1	629.3	622.4	591.1	570.2	545.9	528.5	511.1	504.1
17.5°	653.7	615.4	587.6	563.3	556.3	525.0	500.7	483.3	462.4	452.0	441.6
20°	587.6	549.3	521.5	500.7	490.2	465.9	441.6	424.2	406.8	396.4	385.9
22.5°	521.5	486.8	462.4	441.6	434.6	410.3	389.4	372.0	361.6	347.7	340.7
25°	462.4	427.7	406.8	385.9	379.0	358.1	344.2	326.8	316.4	306.0	299.0
27.5°	406.8	375.5	354.6	337.3	333.8	316.4	299.0	288.6	278.2	271.2	267.7
30°	351.2	326.8	309.4	295.5	292.1	274.7	260.8	253.8	243.4	239.9	236.4
32.5°	309.4	285.1	271.2	257.3	253.8	239.9	233.0	222.5	215.6	212.1	212.1
35°	264.2	246.9	233.0	226.0	222.5	212.1	201.7	198.2	191.2	187.8	187.8
37.5°	226.0	212.1	201.7	191.2	191.2	184.3	177.3	173.8	170.4	170.4	166.9
40°	194.7	180.8	177.3	170.4	166.9	163.4	159.9	156.5	153.0	153.0	153.0
42.5°	163.4	156.5	149.5	146.0	146.0	142.6	139.1	139.1	135.6	139.1	139.1
45°	139.1	132.1	128.6	125.2	128.6	125.2	125.2	121.7	125.2	125.2	125.2
47.5°	118.2	114.7	111.3	111.3	111.3	111.3	111.3	111.3	111.3	114.7	114.7
50°	100.8	97.4	97.4	97.4	97.4	97.4	100.8	100.8	100.8	104.3	104.3
52.5°	83.4	83.4	83.4	83.4	86.9	86.9	90.4	90.4	93.9	93.9	97.4
55°	73.0	73.0	73.0	73.0	76.5	76.5	80.0	83.4	83.4	86.9	90.4
57.5°	62.6	62.6	66.1	66.1	69.5	69.5	73.0	76.5	76.5	80.0	83.4
60°	52.2	55.6	59.1	59.1	59.1	62.6	66.1	69.5	69.5	73.0	76.5
62.5°	45.2	48.7	52.2	52.2	52.2	55.6	59.1	62.6	62.6	66.1	69.5
65°	38.2	41.7	45.2	45.2	45.2	48.7	52.2	55.6	59.1	59.1	62.6
67.5°	34.8	34.8	38.2	38.2	41.7	45.2	45.2	48.7	52.2	55.6	59.1
70°	27.8	31.3	34.8	34.8	34.8	38.2	41.7	45.2	45.2	48.7	52.2
72.5°	24.3	24.3	27.8	27.8	31.3	34.8	34.8	38.2	41.7	41.7	45.2
75°	20.9	24.3	24.3	24.3	27.8	27.8	31.3	34.8	34.8	38.2	38.2
77.5°	17.4	17.4	20.9	20.9	20.9	24.3	24.3	27.8	27.8	31.3	31.3
80°	13.9	13.9	17.4	17.4	17.4	17.4	20.9	20.9	24.3	24.3	24.3
82.5°	10.4	10.4	10.4	10.4	13.9	13.9	13.9	13.9	17.4	17.4	17.4
85°	7.0	7.0	7.0	7.0	7.0	10.4	10.4	10.4	10.4	10.4	13.9
87.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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: P226272

CATALOG NUMBER: LD2B20D010 EU2B20WW8040 2LBSW\*

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1032.6	1032.6	1032.6	1032.6	1032.6	1032.6	1032.6	1032.6
2.5°	921.4	921.4	917.9	914.4	910.9	907.5	904.0	900.5
5°	817.1	820.5	806.6	803.2	803.2	796.2	799.7	792.7
7.5°	719.7	719.7	709.3	705.8	702.3	695.4	691.9	688.4
10°	632.8	629.3	622.4	618.9	611.9	608.5	608.5	601.5
12.5°	556.3	552.8	545.9	542.4	535.4	532.0	528.5	525.0
15°	490.2	486.8	479.8	476.3	472.9	465.9	465.9	462.4
17.5°	427.7	424.2	420.7	413.7	413.7	406.8	403.3	403.3
20°	379.0	375.5	368.5	365.1	365.1	361.6	361.6	354.6
22.5°	333.8	330.3	326.8	323.4	323.4	319.9	316.4	316.4
25°	295.5	292.1	288.6	288.6	285.1	281.6	281.6	281.6
27.5°	260.8	260.8	257.3	257.3	257.3	253.8	253.8	250.3
30°	233.0	233.0	229.5	229.5	229.5	226.0	229.5	226.0
32.5°	208.6	208.6	208.6	208.6	208.6	205.1	205.1	205.1
35°	187.8	187.8	187.8	187.8	187.8	184.3	187.8	184.3
37.5°	166.9	170.4	166.9	166.9	170.4	166.9	166.9	166.9
40°	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0
42.5°	139.1	139.1	139.1	139.1	139.1	139.1	139.1	139.1
45°	125.2	128.6	128.6	128.6	128.6	128.6	128.6	128.6
47.5°	118.2	118.2	118.2	118.2	121.7	118.2	121.7	121.7
50°	107.8	107.8	107.8	111.3	111.3	111.3	111.3	111.3
52.5°	100.8	100.8	100.8	100.8	104.3	104.3	104.3	104.3
55°	90.4	93.9	93.9	93.9	97.4	97.4	97.4	97.4
57.5°	86.9	86.9	86.9	90.4	90.4	90.4	93.9	90.4
60°	80.0	80.0	83.4	83.4	83.4	86.9	86.9	86.9
62.5°	73.0	76.5	76.5	76.5	76.5	80.0	80.0	80.0
65°	66.1	69.5	69.5	69.5	73.0	73.0	73.0	73.0
67.5°	59.1	62.6	62.6	66.1	66.1	66.1	66.1	66.1
70°	52.2	55.6	55.6	55.6	59.1	59.1	59.1	59.1
72.5°	48.7	48.7	48.7	52.2	52.2	52.2	55.6	52.2
75°	41.7	45.2	45.2	45.2	45.2	45.2	48.7	48.7
77.5°	34.8	34.8	34.8	34.8	38.2	38.2	38.2	38.2
80°	27.8	27.8	27.8	27.8	31.3	31.3	31.3	31.3
82.5°	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9
85°	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9
87.5°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
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)