

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: P226273

Luminaire Tested: **LD2B20D010 EU2B20WW8050 2LBSW\***

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P226273  
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 EU2B20WW8050 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: 1392.5 lumens  
Efficiency: N/A  
Efficacy: 66.6 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

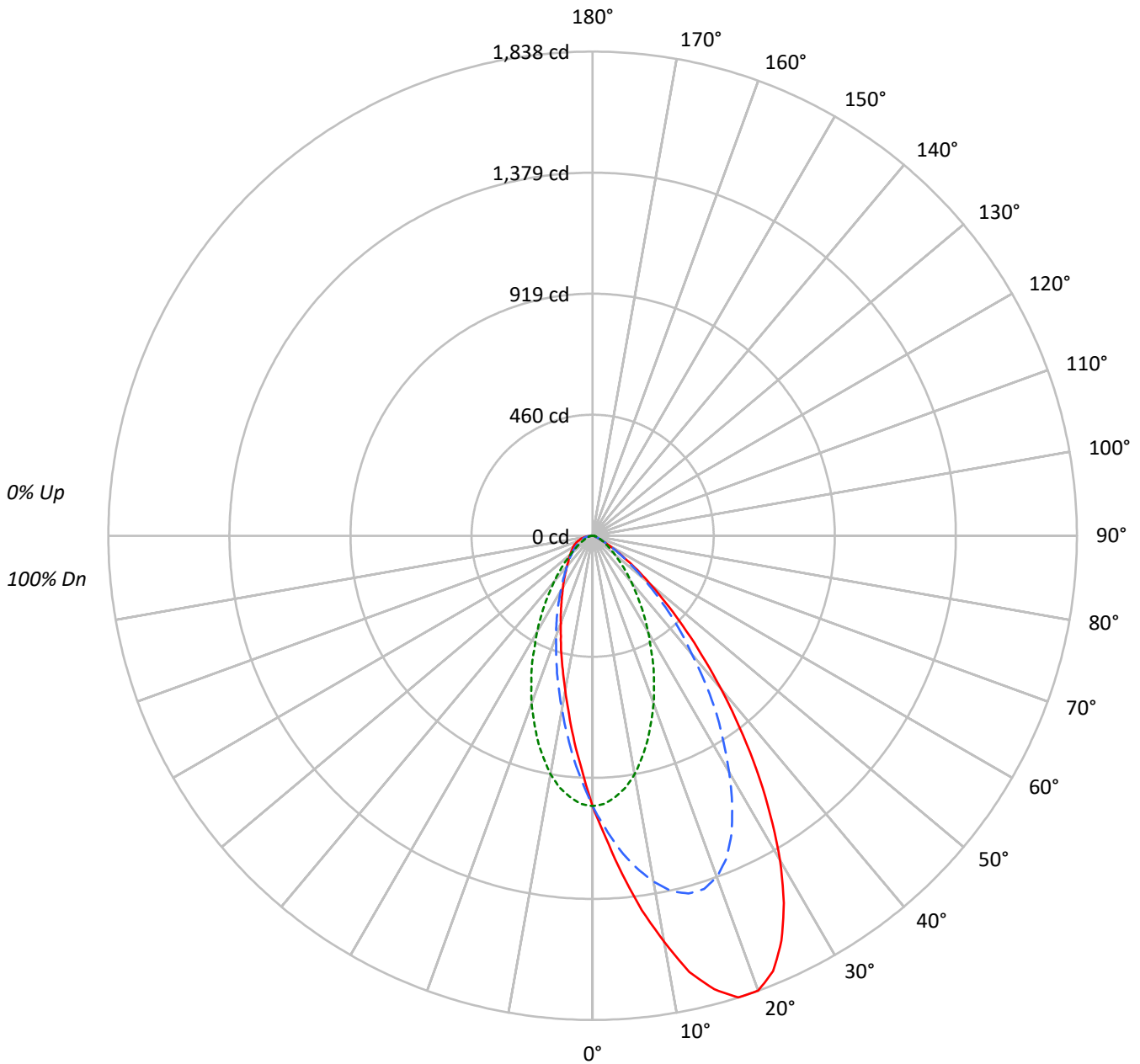
Input Watts (W): 20.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	397378	397378	397378
5°	500963	386804	306239
10°	615469	361384	235049
15°	714760	322733	184224
20°	757468	279063	145220
25°	724852	233269	119583
30°	636508	188479	100412
35°	512866	148621	86581
40°	382520	115287	76858
45°	264911	87044	70008
50°	170657	64539	66588
55°	100285	48960	65303
60°	53531	40129	66933
65°	25296	31621	66449
70°	11778	27407	66479
75°	15565	25891	72435
80°	15391	23199	69373
85°	15555	30666	61331



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	96.9	7.0
10°-20°	270.6	19.4
20°-30°	352.9	25.3
30°-40°	305.6	21.9
40°-50°	193.4	13.9
50°-60°	96.9	7.0
60°-70°	44.6	3.2
70°-80°	23.9	1.7
80°-90°	7.7	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°	720.4	51.7
0°-40°	1026.0	73.7
0°-60°	1316.3	94.5
0°-90°	1392.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1392.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1026	1026	1026	1026	1026	
5°	1288	1199	995	843	788	131
15°	1782	1406	805	525	459	501
25°	1696	1247	546	314	280	768
35°	1085	815	314	190	183	674
45°	484	404	159	124	128	381
55°	148	138	72	83	97	142
65°	28	31	34	59	72	32
75°	10	10	17	34	48	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°	1025.9	1025.9	1025.9	1025.9	1025.9	1025.9	1025.9	1025.9	1025.9	1025.9	1025.9
2.5°	1146.8	1153.7	1153.7	1157.2	1143.3	1146.8	1146.8	1139.9	1129.5	1122.6	1112.3
5°	1288.4	1288.4	1285.0	1288.4	1278.1	1271.2	1274.6	1260.8	1233.2	1219.3	1198.6
7.5°	1433.5	1426.6	1426.6	1423.1	1405.9	1395.5	1392.0	1367.9	1329.9	1302.2	1271.2
10°	1564.8	1564.8	1557.9	1550.9	1526.8	1512.9	1502.6	1464.6	1423.1	1378.2	1333.3
12.5°	1696.0	1689.1	1678.7	1664.9	1630.4	1616.6	1599.3	1554.4	1492.2	1440.4	1381.7
15°	1782.4	1785.8	1768.6	1751.3	1713.3	1692.6	1671.8	1616.6	1544.0	1478.4	1405.9
17.5°	1837.6	1834.2	1816.9	1796.2	1754.7	1730.6	1706.4	1640.8	1564.8	1485.3	1405.9
20°	1837.6	1837.6	1816.9	1796.2	1751.3	1723.7	1699.5	1630.4	1547.5	1464.6	1378.2
22.5°	1789.3	1782.4	1768.6	1747.8	1702.9	1678.7	1651.1	1582.0	1495.7	1416.2	1326.4
25°	1696.0	1696.0	1678.7	1654.6	1616.6	1588.9	1564.8	1495.7	1412.8	1333.3	1247.0
27.5°	1571.7	1568.2	1550.9	1533.7	1492.2	1471.5	1447.3	1381.7	1309.1	1236.6	1146.8
30°	1423.1	1416.2	1409.3	1381.7	1354.1	1336.8	1316.1	1257.3	1184.8	1115.7	1036.3
32.5°	1253.9	1264.2	1247.0	1229.7	1205.5	1188.2	1171.0	1126.1	1060.4	998.3	922.3
35°	1084.6	1091.5	1081.2	1067.4	1043.2	1032.8	1015.5	977.5	929.2	870.5	815.2
37.5°	915.4	915.4	915.4	905.0	891.2	880.8	870.5	835.9	794.5	749.6	697.8
40°	756.5	766.8	753.0	749.6	739.2	735.7	725.4	701.2	666.7	635.6	587.2
42.5°	611.4	611.4	614.9	607.9	604.5	597.6	590.7	576.9	552.7	525.0	494.0
45°	483.6	487.0	490.5	480.1	480.1	480.1	476.7	462.9	442.1	424.9	404.1
47.5°	376.5	376.5	380.0	376.5	376.5	376.5	369.6	369.6	355.8	338.5	321.2
50°	283.2	286.7	290.2	290.2	290.2	286.7	286.7	279.8	272.9	266.0	248.7
52.5°	214.2	214.2	210.7	214.2	214.2	214.2	214.2	210.7	207.3	200.3	190.0
55°	148.5	148.5	152.0	152.0	152.0	155.4	155.4	155.4	152.0	148.5	138.2
57.5°	103.6	103.6	103.6	107.1	110.5	110.5	110.5	110.5	107.1	103.6	100.2
60°	69.1	69.1	69.1	72.5	72.5	72.5	72.5	76.0	72.5	72.5	69.1
62.5°	44.9	44.9	44.9	44.9	44.9	48.4	48.4	48.4	48.4	48.4	44.9
65°	27.6	27.6	27.6	27.6	27.6	27.6	31.1	31.1	31.1	31.1	31.1
67.5°	17.3	17.3	17.3	17.3	17.3	20.7	20.7	20.7	20.7	20.7	20.7
70°	10.4	10.4	10.4	10.4	13.8	13.8	13.8	13.8	13.8	13.8	13.8
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°	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	10.4	10.4	10.4
80°	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
82.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	6.9	6.9	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°	1025.9	1025.9	1025.9	1025.9	1025.9	1025.9	1025.9	1025.9	1025.9	1025.9	1025.9
2.5°	1112.3	1098.4	1091.5	1074.3	1070.8	1057.0	1057.0	1043.2	1025.9	1019.0	1001.7
5°	1184.8	1157.2	1143.3	1112.3	1101.9	1081.2	1070.8	1043.2	1015.5	994.8	970.6
7.5°	1247.0	1205.5	1177.9	1136.4	1119.2	1088.1	1067.4	1032.8	994.8	963.7	929.2
10°	1295.3	1240.1	1198.6	1143.3	1122.6	1084.6	1053.5	1005.2	956.8	918.8	877.4
12.5°	1326.4	1260.8	1202.1	1136.4	1108.8	1067.4	1022.4	967.2	911.9	863.6	818.6
15°	1340.2	1260.8	1191.7	1112.3	1081.2	1036.3	984.5	918.8	856.6	804.8	756.5
17.5°	1329.9	1236.6	1164.1	1074.3	1039.7	987.9	929.2	860.1	794.5	739.2	690.8
20°	1295.3	1198.6	1115.7	1022.4	984.5	932.6	867.0	797.9	732.3	677.0	625.2
22.5°	1236.6	1136.4	1050.1	956.8	918.8	867.0	797.9	728.8	663.2	607.9	559.6
25°	1164.1	1057.0	970.6	880.8	839.4	794.5	725.4	656.3	594.1	545.8	497.4
27.5°	1067.4	974.1	887.7	797.9	759.9	718.5	649.4	587.2	525.0	476.7	435.2
30°	963.7	873.9	801.4	715.0	680.5	639.0	580.3	518.1	466.3	421.4	383.4
32.5°	860.1	773.7	704.7	632.1	601.0	559.6	507.8	452.5	404.1	366.1	335.1
35°	753.0	680.5	614.9	545.8	521.6	487.0	438.7	390.3	348.9	314.3	283.2
37.5°	645.9	587.2	528.5	473.2	445.6	418.0	373.1	331.6	293.6	266.0	241.8
40°	549.2	497.4	449.0	397.2	373.1	352.3	314.3	279.8	252.2	228.0	207.3
42.5°	456.0	414.5	373.1	331.6	310.9	293.6	262.5	231.4	207.3	190.0	172.7
45°	373.1	342.0	307.4	269.4	259.1	238.3	214.2	193.4	172.7	158.9	145.1
47.5°	300.5	272.9	245.2	217.6	207.3	193.4	172.7	155.4	141.6	131.3	120.9
50°	234.9	214.2	196.9	172.7	165.8	152.0	138.2	124.4	114.0	107.1	100.2
52.5°	179.6	162.3	148.5	134.7	127.8	120.9	107.1	100.2	93.3	89.8	86.4
55°	131.3	120.9	110.5	100.2	96.7	89.8	82.9	76.0	72.5	72.5	72.5
57.5°	93.3	86.4	79.4	72.5	72.5	69.1	65.6	62.2	58.7	58.7	58.7
60°	65.6	62.2	58.7	55.3	51.8	51.8	48.4	51.8	48.4	51.8	51.8
62.5°	44.9	41.5	41.5	38.0	38.0	38.0	38.0	38.0	41.5	41.5	44.9
65°	27.6	27.6	27.6	27.6	27.6	27.6	31.1	31.1	31.1	34.5	34.5
67.5°	20.7	20.7	20.7	24.2	24.2	24.2	24.2	27.6	27.6	27.6	31.1
70°	13.8	17.3	17.3	17.3	17.3	17.3	20.7	20.7	20.7	24.2	24.2
72.5°	13.8	13.8	13.8	13.8	13.8	13.8	17.3	17.3	17.3	20.7	20.7
75°	10.4	13.8	13.8	13.8	13.8	13.8	13.8	17.3	17.3	17.3	20.7
77.5°	10.4	10.4	10.4	10.4	10.4	10.4	10.4	13.8	13.8	13.8	13.8
80°	6.9	6.9	6.9	10.4	10.4	10.4	10.4	10.4	10.4	10.4	13.8
82.5°	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	10.4
85°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	6.9	3.5	6.9	6.9
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°	1025.9	1025.9	1025.9	1025.9	1025.9	1025.9	1025.9	1025.9	1025.9	1025.9	1025.9
2.5°	994.8	984.5	987.9	967.2	970.6	956.8	949.9	939.5	932.6	922.3	925.7
5°	953.4	936.1	929.2	905.0	908.5	887.7	873.9	856.6	842.8	825.6	822.1
7.5°	901.6	873.9	863.6	839.4	835.9	808.3	791.0	770.3	753.0	735.7	728.8
10°	842.8	811.7	791.0	766.8	763.4	732.3	711.6	690.8	670.1	652.8	645.9
12.5°	780.7	746.1	721.9	694.3	687.4	659.8	635.6	614.9	594.1	576.9	566.5
15°	715.0	677.0	652.8	625.2	618.3	587.2	566.5	542.3	525.0	507.8	500.9
17.5°	649.4	611.4	583.8	559.6	552.7	521.6	497.4	480.1	459.4	449.0	438.7
20°	583.8	545.8	518.1	497.4	487.0	462.9	438.7	421.4	404.1	393.8	383.4
22.5°	518.1	483.6	459.4	438.7	431.8	407.6	386.9	369.6	359.2	345.4	338.5
25°	459.4	424.9	404.1	383.4	376.5	355.8	342.0	324.7	314.3	304.0	297.1
27.5°	404.1	373.1	352.3	335.1	331.6	314.3	297.1	286.7	276.3	269.4	266.0
30°	348.9	324.7	307.4	293.6	290.2	272.9	259.1	252.2	241.8	238.3	234.9
32.5°	307.4	283.2	269.4	255.6	252.2	238.3	231.4	221.1	214.2	210.7	210.7
35°	262.5	245.2	231.4	224.5	221.1	210.7	200.3	196.9	190.0	186.5	186.5
37.5°	224.5	210.7	200.3	190.0	190.0	183.1	176.2	172.7	169.3	169.3	165.8
40°	193.4	179.6	176.2	169.3	165.8	162.3	158.9	155.4	152.0	152.0	152.0
42.5°	162.3	155.4	148.5	145.1	145.1	141.6	138.2	138.2	134.7	138.2	138.2
45°	138.2	131.3	127.8	124.4	127.8	124.4	124.4	120.9	124.4	124.4	124.4
47.5°	117.4	114.0	110.5	110.5	110.5	110.5	110.5	110.5	110.5	114.0	114.0
50°	100.2	96.7	96.7	96.7	96.7	96.7	100.2	100.2	100.2	103.6	103.6
52.5°	82.9	82.9	82.9	82.9	86.4	86.4	89.8	89.8	93.3	93.3	96.7
55°	72.5	72.5	72.5	72.5	76.0	76.0	79.4	82.9	82.9	86.4	89.8
57.5°	62.2	62.2	65.6	65.6	69.1	69.1	72.5	76.0	76.0	79.4	82.9
60°	51.8	55.3	58.7	58.7	58.7	62.2	65.6	69.1	69.1	72.5	76.0
62.5°	44.9	48.4	51.8	51.8	51.8	55.3	58.7	62.2	62.2	65.6	69.1
65°	38.0	41.5	44.9	44.9	44.9	48.4	51.8	55.3	58.7	58.7	62.2
67.5°	34.5	34.5	38.0	38.0	41.5	44.9	44.9	48.4	51.8	55.3	58.7
70°	27.6	31.1	34.5	34.5	34.5	38.0	41.5	44.9	44.9	48.4	51.8
72.5°	24.2	24.2	27.6	27.6	31.1	34.5	34.5	38.0	41.5	41.5	44.9
75°	20.7	24.2	24.2	24.2	27.6	27.6	31.1	34.5	34.5	38.0	38.0
77.5°	17.3	17.3	20.7	20.7	20.7	24.2	24.2	27.6	27.6	31.1	31.1
80°	13.8	13.8	17.3	17.3	17.3	17.3	20.7	20.7	24.2	24.2	24.2
82.5°	10.4	10.4	10.4	10.4	13.8	13.8	13.8	13.8	17.3	17.3	17.3
85°	6.9	6.9	6.9	6.9	6.9	10.4	10.4	10.4	10.4	10.4	13.8
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: P226273

CATALOG NUMBER: LD2B20D010 EU2B20WW8050 2LBSW\*

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1025.9	1025.9	1025.9	1025.9	1025.9	1025.9	1025.9	1025.9
2.5°	915.4	915.4	911.9	908.5	905.0	901.6	898.1	894.6
5°	811.7	815.2	801.4	797.9	797.9	791.0	794.5	787.6
7.5°	715.0	715.0	704.7	701.2	697.8	690.8	687.4	683.9
10°	628.7	625.2	618.3	614.9	607.9	604.5	604.5	597.6
12.5°	552.7	549.2	542.3	538.9	531.9	528.5	525.0	521.6
15°	487.0	483.6	476.7	473.2	469.8	462.9	462.9	459.4
17.5°	424.9	421.4	418.0	411.1	411.1	404.1	400.7	400.7
20°	376.5	373.1	366.1	362.7	362.7	359.2	359.2	352.3
22.5°	331.6	328.2	324.7	321.2	321.2	317.8	314.3	314.3
25°	293.6	290.2	286.7	286.7	283.2	279.8	279.8	279.8
27.5°	259.1	259.1	255.6	255.6	255.6	252.2	252.2	248.7
30°	231.4	231.4	228.0	228.0	228.0	224.5	228.0	224.5
32.5°	207.3	207.3	207.3	207.3	207.3	203.8	203.8	203.8
35°	186.5	186.5	186.5	186.5	186.5	183.1	186.5	183.1
37.5°	165.8	169.3	165.8	165.8	169.3	165.8	165.8	165.8
40°	152.0	152.0	152.0	152.0	152.0	152.0	152.0	152.0
42.5°	138.2	138.2	138.2	138.2	138.2	138.2	138.2	138.2
45°	124.4	127.8	127.8	127.8	127.8	127.8	127.8	127.8
47.5°	117.4	117.4	117.4	117.4	120.9	117.4	120.9	120.9
50°	107.1	107.1	107.1	110.5	110.5	110.5	110.5	110.5
52.5°	100.2	100.2	100.2	100.2	103.6	103.6	103.6	103.6
55°	89.8	93.3	93.3	93.3	96.7	96.7	96.7	96.7
57.5°	86.4	86.4	86.4	89.8	89.8	89.8	93.3	89.8
60°	79.4	79.4	82.9	82.9	82.9	86.4	86.4	86.4
62.5°	72.5	76.0	76.0	76.0	76.0	79.4	79.4	79.4
65°	65.6	69.1	69.1	69.1	72.5	72.5	72.5	72.5
67.5°	58.7	62.2	62.2	65.6	65.6	65.6	65.6	65.6
70°	51.8	55.3	55.3	55.3	58.7	58.7	58.7	58.7
72.5°	48.4	48.4	48.4	51.8	51.8	51.8	55.3	51.8
75°	41.5	44.9	44.9	44.9	44.9	44.9	48.4	48.4
77.5°	34.5	34.5	34.5	34.5	38.0	38.0	38.0	38.0
80°	27.6	27.6	27.6	27.6	31.1	31.1	31.1	31.1
82.5°	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7
85°	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
87.5°	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
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)