

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: P226271

Luminaire Tested: **LD2B20D010 EU2B20WW8035 2LBSW\***

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P226271  
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 EU2B20WW8035 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: 1346.5 lumens  
Efficiency: N/A  
Efficacy: 64.4 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

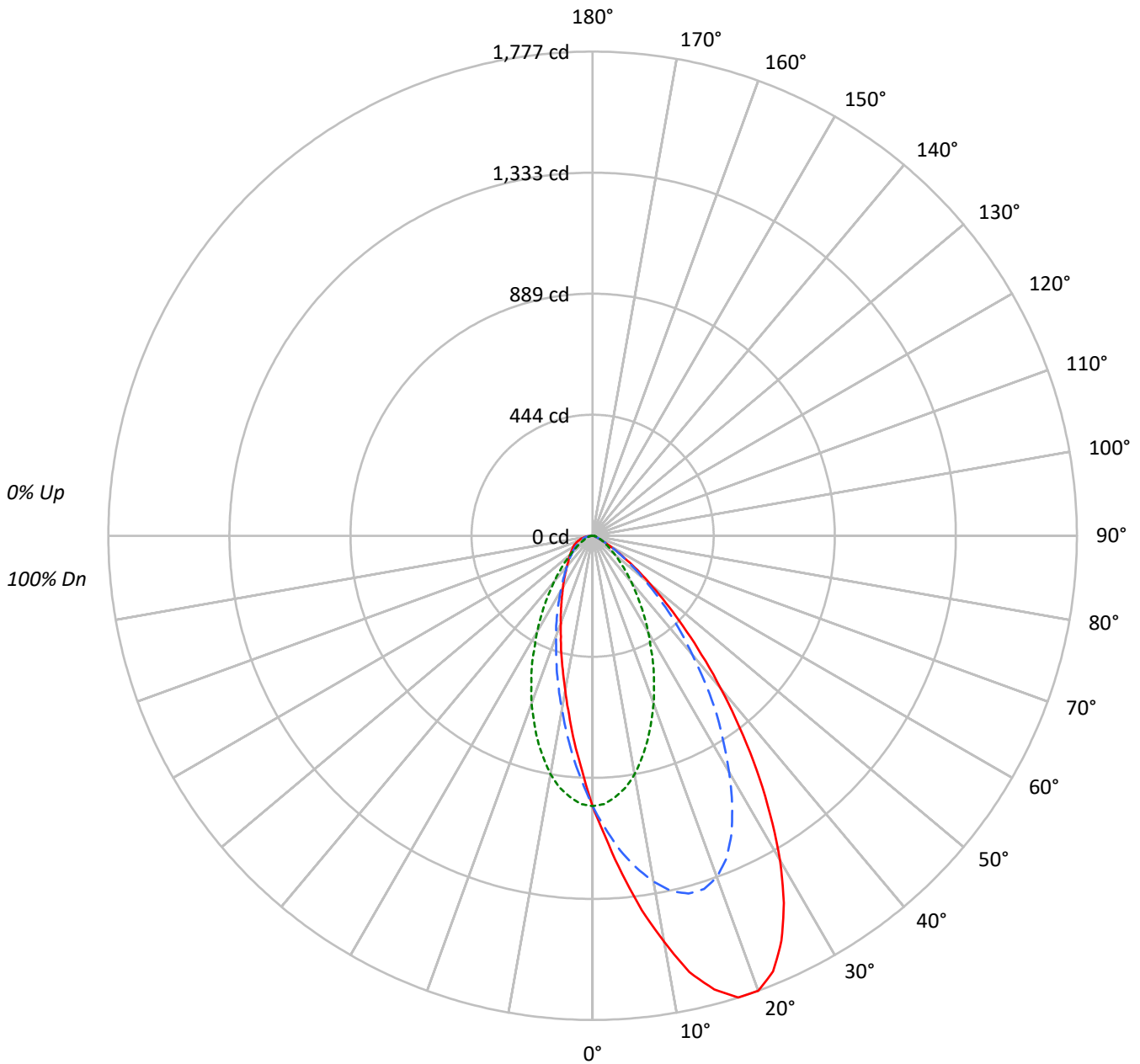
Input Watts (W): 20.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20									20									20									20									
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	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°	384286	384286	384286
5°	484438	374050	296130
10°	595135	349466	227300
15°	691181	312106	178169
20°	732488	269871	140438
25°	700961	225576	115651
30°	615531	182262	97102
35°	495938	143750	83697
40°	369879	111495	74330
45°	256147	84195	67707
50°	165053	62369	64418
55°	96976	47340	63142
60°	51749	38812	64687
65°	24472	30612	64249
70°	11325	26501	64327
75°	14966	24993	70040
80°	14945	22306	67142
85°	14666	29777	59554



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	93.7	7.0
10°-20°	261.6	19.4
20°-30°	341.3	25.3
30°-40°	295.5	21.9
40°-50°	187.0	13.9
50°-60°	93.7	7.0
60°-70°	43.1	3.2
70°-80°	23.1	1.7
80°-90°	7.5	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°	696.7	51.7
0°-40°	992.1	73.7
0°-60°	1272.9	94.5
0°-90°	1346.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1346.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	992	992	992	992	992	
5°	1246	1159	962	815	762	127
15°	1724	1360	778	508	444	485
25°	1640	1206	528	304	271	743
35°	1049	788	304	184	177	652
45°	468	391	154	120	124	368
55°	144	134	70	80	94	138
65°	27	30	33	57	70	31
75°	10	10	17	33	47	9
85°	3	3	7	10	13	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°	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1
2.5°	1109.0	1115.6	1115.6	1119.0	1105.6	1109.0	1109.0	1102.3	1092.3	1085.6	1075.6
5°	1245.9	1245.9	1242.6	1245.9	1235.9	1229.2	1232.6	1219.2	1192.5	1179.1	1159.1
7.5°	1386.2	1379.5	1379.5	1376.2	1359.5	1349.5	1346.1	1322.7	1286.0	1259.3	1229.2
10°	1513.1	1513.1	1506.5	1499.8	1476.4	1463.0	1453.0	1416.3	1376.2	1332.8	1289.3
12.5°	1640.1	1633.4	1623.4	1610.0	1576.6	1563.2	1546.5	1503.1	1443.0	1392.9	1336.1
15°	1723.6	1726.9	1710.2	1693.5	1656.8	1636.7	1616.7	1563.2	1493.1	1429.6	1359.5
17.5°	1777.0	1773.7	1757.0	1736.9	1696.9	1673.5	1650.1	1586.6	1513.1	1436.3	1359.5
20°	1777.0	1777.0	1757.0	1736.9	1693.5	1666.8	1643.4	1576.6	1496.4	1416.3	1332.8
22.5°	1730.3	1723.6	1710.2	1690.2	1646.7	1623.4	1596.6	1529.8	1446.3	1369.5	1282.7
25°	1640.1	1640.1	1623.4	1600.0	1563.2	1536.5	1513.1	1446.3	1366.2	1289.3	1205.8
27.5°	1519.8	1516.5	1499.8	1483.1	1443.0	1423.0	1399.6	1336.1	1266.0	1195.8	1109.0
30°	1376.2	1369.5	1362.8	1336.1	1309.4	1292.7	1272.6	1215.9	1145.7	1078.9	1002.1
32.5°	1212.5	1222.5	1205.8	1189.1	1165.8	1149.1	1132.3	1088.9	1025.5	965.3	891.8
35°	1048.8	1055.5	1045.5	1032.1	1008.8	998.7	982.0	945.3	898.5	841.7	788.3
37.5°	885.2	885.2	885.2	875.1	861.8	851.8	841.7	808.3	768.3	724.8	674.7
40°	731.5	741.5	728.2	724.8	714.8	711.5	701.5	678.1	644.7	614.6	567.8
42.5°	591.2	591.2	594.6	587.9	584.5	577.9	571.2	557.8	534.4	507.7	477.7
45°	467.6	471.0	474.3	464.3	464.3	464.3	461.0	447.6	427.6	410.9	390.8
47.5°	364.1	364.1	367.4	364.1	364.1	364.1	357.4	357.4	344.0	327.3	310.6
50°	273.9	277.2	280.6	280.6	280.6	277.2	277.2	270.6	263.9	257.2	240.5
52.5°	207.1	207.1	203.8	207.1	207.1	207.1	207.1	203.8	200.4	193.7	183.7
55°	143.6	143.6	147.0	147.0	147.0	150.3	150.3	150.3	147.0	143.6	133.6
57.5°	100.2	100.2	100.2	103.5	106.9	106.9	106.9	106.9	103.5	100.2	96.9
60°	66.8	66.8	66.8	70.1	70.1	70.1	70.1	73.5	70.1	70.1	66.8
62.5°	43.4	43.4	43.4	43.4	43.4	46.8	46.8	46.8	46.8	46.8	43.4
65°	26.7	26.7	26.7	26.7	26.7	26.7	30.1	30.1	30.1	30.1	30.1
67.5°	16.7	16.7	16.7	16.7	16.7	20.0	20.0	20.0	20.0	20.0	20.0
70°	10.0	10.0	10.0	10.0	13.4	13.4	13.4	13.4	13.4	13.4	13.4
72.5°	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
75°	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
77.5°	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	10.0	10.0	10.0
80°	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
82.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	6.7	6.7	3.3
85°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
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°	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1
2.5°	1075.6	1062.2	1055.5	1038.8	1035.5	1022.1	1022.1	1008.8	992.1	985.4	968.7
5°	1145.7	1119.0	1105.6	1075.6	1065.5	1045.5	1035.5	1008.8	982.0	962.0	938.6
7.5°	1205.8	1165.8	1139.0	1098.9	1082.2	1052.2	1032.1	998.7	962.0	931.9	898.5
10°	1252.6	1199.2	1159.1	1105.6	1085.6	1048.8	1018.8	972.0	925.3	888.5	848.4
12.5°	1282.7	1219.2	1162.4	1098.9	1072.2	1032.1	988.7	935.3	881.8	835.1	791.6
15°	1296.0	1219.2	1152.4	1075.6	1045.5	1002.1	952.0	888.5	828.4	778.3	731.5
17.5°	1286.0	1195.8	1125.7	1038.8	1005.4	955.3	898.5	831.7	768.3	714.8	668.1
20°	1252.6	1159.1	1078.9	988.7	952.0	901.9	838.4	771.6	708.1	654.7	604.6
22.5°	1195.8	1098.9	1015.4	925.3	888.5	838.4	771.6	704.8	641.3	587.9	541.1
25°	1125.7	1022.1	938.6	851.8	811.7	768.3	701.5	634.6	574.5	527.8	481.0
27.5°	1032.1	942.0	858.4	771.6	734.9	694.8	628.0	567.8	507.7	461.0	420.9
30°	931.9	845.1	774.9	691.4	658.0	617.9	561.2	501.0	450.9	407.5	370.8
32.5°	831.7	748.2	681.4	611.3	581.2	541.1	491.0	437.6	390.8	354.1	324.0
35°	728.2	658.0	594.6	527.8	504.4	471.0	424.2	377.4	337.4	304.0	273.9
37.5°	624.6	567.8	511.1	457.6	430.9	404.2	360.7	320.7	283.9	257.2	233.8
40°	531.1	481.0	434.2	384.1	360.7	340.7	304.0	270.6	243.8	220.5	200.4
42.5°	440.9	400.8	360.7	320.7	300.6	283.9	253.9	223.8	200.4	183.7	167.0
45°	360.7	330.7	297.3	260.5	250.5	230.5	207.1	187.1	167.0	153.7	140.3
47.5°	290.6	263.9	237.2	210.4	200.4	187.1	167.0	150.3	137.0	126.9	116.9
50°	227.1	207.1	190.4	167.0	160.3	147.0	133.6	120.2	110.2	103.5	96.9
52.5°	173.7	157.0	143.6	130.3	123.6	116.9	103.5	96.9	90.2	86.8	83.5
55°	126.9	116.9	106.9	96.9	93.5	86.8	80.2	73.5	70.1	70.1	70.1
57.5°	90.2	83.5	76.8	70.1	70.1	66.8	63.5	60.1	56.8	56.8	56.8
60°	63.5	60.1	56.8	53.4	50.1	50.1	46.8	50.1	46.8	50.1	50.1
62.5°	43.4	40.1	40.1	36.7	36.7	36.7	36.7	36.7	40.1	40.1	43.4
65°	26.7	26.7	26.7	26.7	26.7	26.7	30.1	30.1	30.1	33.4	33.4
67.5°	20.0	20.0	20.0	23.4	23.4	23.4	23.4	26.7	26.7	26.7	30.1
70°	13.4	16.7	16.7	16.7	16.7	16.7	20.0	20.0	20.0	23.4	23.4
72.5°	13.4	13.4	13.4	13.4	13.4	13.4	16.7	16.7	16.7	20.0	20.0
75°	10.0	13.4	13.4	13.4	13.4	13.4	13.4	16.7	16.7	16.7	20.0
77.5°	10.0	10.0	10.0	10.0	10.0	10.0	10.0	13.4	13.4	13.4	13.4
80°	6.7	6.7	6.7	10.0	10.0	10.0	10.0	10.0	10.0	10.0	13.4
82.5°	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	10.0
85°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	6.7	3.3	6.7	6.7
87.5°	0.0	0.0	0.0	3.3	0.0	3.3	3.3	3.3	3.3	3.3	3.3
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):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1
2.5°	962.0	952.0	955.3	935.3	938.6	925.3	918.6	908.6	901.9	891.8	895.2
5°	921.9	905.2	898.5	875.1	878.5	858.4	845.1	828.4	815.0	798.3	795.0
7.5°	871.8	845.1	835.1	811.7	808.3	781.6	764.9	744.9	728.2	711.5	704.8
10°	815.0	785.0	764.9	741.5	738.2	708.1	688.1	668.1	648.0	631.3	624.6
12.5°	754.9	721.5	698.1	671.4	664.7	638.0	614.6	594.6	574.5	557.8	547.8
15°	691.4	654.7	631.3	604.6	597.9	567.8	547.8	524.4	507.7	491.0	484.3
17.5°	628.0	591.2	564.5	541.1	534.4	504.4	481.0	464.3	444.3	434.2	424.2
20°	564.5	527.8	501.0	481.0	471.0	447.6	424.2	407.5	390.8	380.8	370.8
22.5°	501.0	467.6	444.3	424.2	417.5	394.2	374.1	357.4	347.4	334.0	327.3
25°	444.3	410.9	390.8	370.8	364.1	344.0	330.7	314.0	304.0	293.9	287.3
27.5°	390.8	360.7	340.7	324.0	320.7	304.0	287.3	277.2	267.2	260.5	257.2
30°	337.4	314.0	297.3	283.9	280.6	263.9	250.5	243.8	233.8	230.5	227.1
32.5°	297.3	273.9	260.5	247.2	243.8	230.5	223.8	213.8	207.1	203.8	203.8
35°	253.9	237.2	223.8	217.1	213.8	203.8	193.7	190.4	183.7	180.4	180.4
37.5°	217.1	203.8	193.7	183.7	183.7	177.0	170.4	167.0	163.7	163.7	160.3
40°	187.1	173.7	170.4	163.7	160.3	157.0	153.7	150.3	147.0	147.0	147.0
42.5°	157.0	150.3	143.6	140.3	140.3	137.0	133.6	133.6	130.3	133.6	133.6
45°	133.6	126.9	123.6	120.2	123.6	120.2	120.2	116.9	120.2	120.2	120.2
47.5°	113.6	110.2	106.9	106.9	106.9	106.9	106.9	106.9	106.9	110.2	110.2
50°	96.9	93.5	93.5	93.5	93.5	93.5	96.9	96.9	96.9	100.2	100.2
52.5°	80.2	80.2	80.2	80.2	83.5	83.5	86.8	86.8	90.2	90.2	93.5
55°	70.1	70.1	70.1	70.1	73.5	73.5	76.8	80.2	80.2	83.5	86.8
57.5°	60.1	60.1	63.5	63.5	66.8	66.8	70.1	73.5	73.5	76.8	80.2
60°	50.1	53.4	56.8	56.8	56.8	60.1	63.5	66.8	66.8	70.1	73.5
62.5°	43.4	46.8	50.1	50.1	50.1	53.4	56.8	60.1	60.1	63.5	66.8
65°	36.7	40.1	43.4	43.4	43.4	46.8	50.1	53.4	56.8	56.8	60.1
67.5°	33.4	33.4	36.7	36.7	40.1	43.4	43.4	46.8	50.1	53.4	56.8
70°	26.7	30.1	33.4	33.4	33.4	36.7	40.1	43.4	43.4	46.8	50.1
72.5°	23.4	23.4	26.7	26.7	30.1	33.4	33.4	36.7	40.1	40.1	43.4
75°	20.0	23.4	23.4	23.4	26.7	26.7	30.1	33.4	33.4	36.7	36.7
77.5°	16.7	16.7	20.0	20.0	20.0	23.4	23.4	26.7	26.7	30.1	30.1
80°	13.4	13.4	16.7	16.7	16.7	16.7	20.0	20.0	23.4	23.4	23.4
82.5°	10.0	10.0	10.0	10.0	13.4	13.4	13.4	13.4	16.7	16.7	16.7
85°	6.7	6.7	6.7	6.7	6.7	10.0	10.0	10.0	10.0	10.0	13.4
87.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
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: P226271

CATALOG NUMBER: LD2B20D010 EU2B20WW8035 2LBSW\*

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1
2.5°	885.2	885.2	881.8	878.5	875.1	871.8	868.5	865.1
5°	785.0	788.3	774.9	771.6	771.6	764.9	768.3	761.6
7.5°	691.4	691.4	681.4	678.1	674.7	668.1	664.7	661.4
10°	607.9	604.6	597.9	594.6	587.9	584.5	584.5	577.9
12.5°	534.4	531.1	524.4	521.1	514.4	511.1	507.7	504.4
15°	471.0	467.6	461.0	457.6	454.3	447.6	447.6	444.3
17.5°	410.9	407.5	404.2	397.5	397.5	390.8	387.5	387.5
20°	364.1	360.7	354.1	350.7	350.7	347.4	347.4	340.7
22.5°	320.7	317.3	314.0	310.6	310.6	307.3	304.0	304.0
25°	283.9	280.6	277.2	277.2	273.9	270.6	270.6	270.6
27.5°	250.5	250.5	247.2	247.2	247.2	243.8	243.8	240.5
30°	223.8	223.8	220.5	220.5	220.5	217.1	220.5	217.1
32.5°	200.4	200.4	200.4	200.4	200.4	197.1	197.1	197.1
35°	180.4	180.4	180.4	180.4	180.4	177.0	180.4	177.0
37.5°	160.3	163.7	160.3	160.3	163.7	160.3	160.3	160.3
40°	147.0	147.0	147.0	147.0	147.0	147.0	147.0	147.0
42.5°	133.6	133.6	133.6	133.6	133.6	133.6	133.6	133.6
45°	120.2	123.6	123.6	123.6	123.6	123.6	123.6	123.6
47.5°	113.6	113.6	113.6	113.6	116.9	113.6	116.9	116.9
50°	103.5	103.5	103.5	106.9	106.9	106.9	106.9	106.9
52.5°	96.9	96.9	96.9	96.9	100.2	100.2	100.2	100.2
55°	86.8	90.2	90.2	90.2	93.5	93.5	93.5	93.5
57.5°	83.5	83.5	83.5	86.8	86.8	86.8	90.2	86.8
60°	76.8	76.8	80.2	80.2	80.2	83.5	83.5	83.5
62.5°	70.1	73.5	73.5	73.5	73.5	76.8	76.8	76.8
65°	63.5	66.8	66.8	66.8	70.1	70.1	70.1	70.1
67.5°	56.8	60.1	60.1	63.5	63.5	63.5	63.5	63.5
70°	50.1	53.4	53.4	53.4	56.8	56.8	56.8	56.8
72.5°	46.8	46.8	46.8	50.1	50.1	50.1	53.4	50.1
75°	40.1	43.4	43.4	43.4	43.4	43.4	46.8	46.8
77.5°	33.4	33.4	33.4	33.4	36.7	36.7	36.7	36.7
80°	26.7	26.7	26.7	26.7	30.1	30.1	30.1	30.1
82.5°	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
85°	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4
87.5°	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
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)