

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: P226274

Luminaire Tested: **LD2B20D010 EU2B20WW9024 2LBSW\***

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P226274  
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 EU2B20WW9024 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: 955.6 lumens  
Efficiency: N/A  
Efficacy: 45.7 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

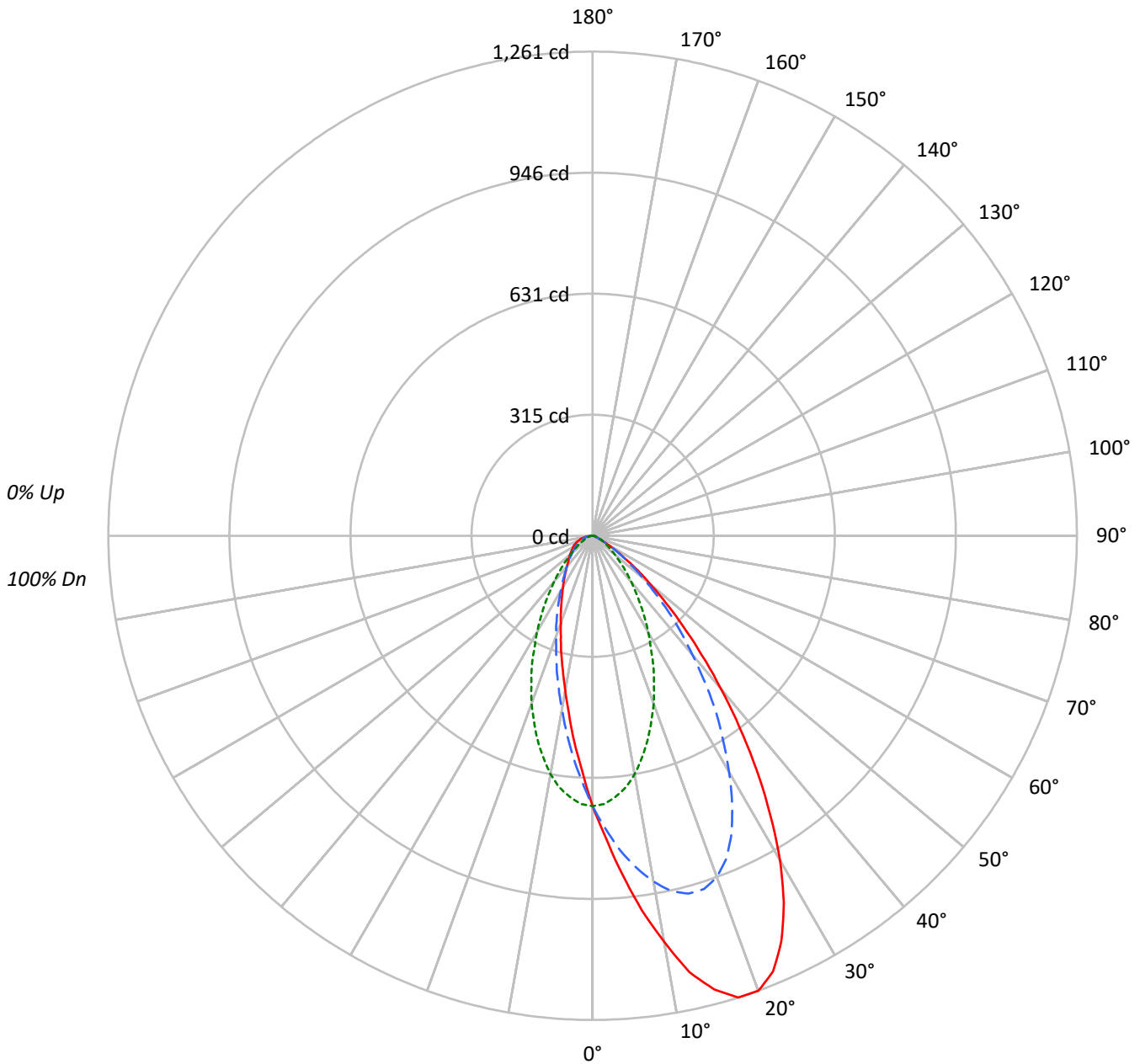
Input Watts (W): 20.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	272692	272692	272692
5°	343800	265451	210160
10°	422349	247989	161301
15°	490475	221478	126438
20°	519832	191510	99671
25°	497438	160057	82059
30°	436803	129350	68924
35°	351951	101996	59391
40°	262480	79083	52739
45°	181811	59709	48041
50°	117146	44291	45738
55°	68815	33631	44841
60°	36720	27579	45939
65°	17414	21722	45644
70°	8041	18800	45641
75°	10626	17809	49687
80°	10484	15838	47513
85°	10666	20888	42221



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.5	7.0
10°-20°	185.7	19.4
20°-30°	242.2	25.3
30°-40°	209.7	21.9
40°-50°	132.7	13.9
50°-60°	66.5	7.0
60°-70°	30.6	3.2
70°-80°	16.4	1.7
80°-90°	5.3	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°	494.4	51.7
0°-40°	704.1	73.7
0°-60°	903.3	94.5
0°-90°	955.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	955.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	704	704	704	704	704	
5°	884	822	683	578	540	90
15°	1223	965	552	360	315	344
25°	1164	856	374	216	192	527
35°	744	559	216	130	126	463
45°	332	277	109	85	88	261
55°	102	95	50	57	66	98
65°	19	21	24	40	50	22
75°	7	7	12	24	33	7
85°	2	2	5	7	10	2
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°	704.0	704.0	704.0	704.0	704.0	704.0	704.0	704.0	704.0	704.0	704.0
2.5°	787.0	791.7	791.7	794.1	784.6	787.0	787.0	782.2	775.1	770.4	763.3
5°	884.2	884.2	881.8	884.2	877.1	872.3	874.7	865.2	846.2	836.8	822.5
7.5°	983.7	979.0	979.0	976.6	964.8	957.7	955.3	938.7	912.6	893.7	872.3
10°	1073.8	1073.8	1069.1	1064.3	1047.7	1038.3	1031.1	1005.1	976.6	945.8	915.0
12.5°	1163.9	1159.1	1152.0	1142.6	1118.8	1109.4	1097.5	1066.7	1024.0	988.5	948.2
15°	1223.1	1225.5	1213.7	1201.8	1175.7	1161.5	1147.3	1109.4	1059.6	1014.5	964.8
17.5°	1261.1	1258.7	1246.9	1232.6	1204.2	1187.6	1171.0	1126.0	1073.8	1019.3	964.8
20°	1261.1	1261.1	1246.9	1232.6	1201.8	1182.8	1166.3	1118.8	1062.0	1005.1	945.8
22.5°	1227.9	1223.1	1213.7	1199.4	1168.6	1152.0	1133.1	1085.7	1026.4	971.9	910.2
25°	1163.9	1163.9	1152.0	1135.4	1109.4	1090.4	1073.8	1026.4	969.5	915.0	855.7
27.5°	1078.5	1076.2	1064.3	1052.5	1024.0	1009.8	993.2	948.2	898.4	848.6	787.0
30°	976.6	971.9	967.1	948.2	929.2	917.4	903.1	862.8	813.1	765.7	711.1
32.5°	860.5	867.6	855.7	843.9	827.3	815.4	803.6	772.8	727.7	685.1	632.9
35°	744.3	749.1	741.9	732.5	715.9	708.8	696.9	670.8	637.6	597.4	559.4
37.5°	628.2	628.2	628.2	621.1	611.6	604.5	597.4	573.6	545.2	514.4	478.8
40°	519.1	526.2	516.8	514.4	507.3	504.9	497.8	481.2	457.5	436.2	403.0
42.5°	419.6	419.6	421.9	417.2	414.8	410.1	405.3	395.9	379.3	360.3	339.0
45°	331.9	334.2	336.6	329.5	329.5	329.5	327.1	317.6	303.4	291.6	277.3
47.5°	258.4	258.4	260.7	258.4	258.4	258.4	253.6	253.6	244.2	232.3	220.5
50°	194.4	196.7	199.1	199.1	199.1	196.7	196.7	192.0	187.3	182.5	170.7
52.5°	147.0	147.0	144.6	147.0	147.0	147.0	147.0	144.6	142.2	137.5	130.4
55°	101.9	101.9	104.3	104.3	104.3	106.7	106.7	106.7	104.3	101.9	94.8
57.5°	71.1	71.1	71.1	73.5	75.9	75.9	75.9	75.9	73.5	71.1	68.7
60°	47.4	47.4	47.4	49.8	49.8	49.8	49.8	52.1	49.8	49.8	47.4
62.5°	30.8	30.8	30.8	30.8	30.8	33.2	33.2	33.2	33.2	33.2	30.8
65°	19.0	19.0	19.0	19.0	19.0	19.0	21.3	21.3	21.3	21.3	21.3
67.5°	11.9	11.9	11.9	11.9	11.9	14.2	14.2	14.2	14.2	14.2	14.2
70°	7.1	7.1	7.1	7.1	9.5	9.5	9.5	9.5	9.5	9.5	9.5
72.5°	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
75°	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
77.5°	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	7.1	7.1	7.1
80°	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
82.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	4.7	4.7	2.4
85°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
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°	704.0	704.0	704.0	704.0	704.0	704.0	704.0	704.0	704.0	704.0	704.0
2.5°	763.3	753.8	749.1	737.2	734.8	725.4	725.4	715.9	704.0	699.3	687.4
5°	813.1	794.1	784.6	763.3	756.2	741.9	734.8	715.9	696.9	682.7	666.1
7.5°	855.7	827.3	808.3	779.9	768.0	746.7	732.5	708.8	682.7	661.4	637.6
10°	888.9	851.0	822.5	784.6	770.4	744.3	723.0	689.8	656.6	630.5	602.1
12.5°	910.2	865.2	824.9	779.9	760.9	732.5	701.7	663.7	625.8	592.6	561.8
15°	919.7	865.2	817.8	763.3	741.9	711.1	675.6	630.5	587.9	552.3	519.1
17.5°	912.6	848.6	798.8	737.2	713.5	677.9	637.6	590.2	545.2	507.3	474.1
20°	888.9	822.5	765.7	701.7	675.6	640.0	595.0	547.6	502.5	464.6	429.0
22.5°	848.6	779.9	720.6	656.6	630.5	595.0	547.6	500.2	455.1	417.2	384.0
25°	798.8	725.4	666.1	604.5	576.0	545.2	497.8	450.4	407.7	374.5	341.3
27.5°	732.5	668.5	609.2	547.6	521.5	493.1	445.6	403.0	360.3	327.1	298.7
30°	661.4	599.7	549.9	490.7	467.0	438.5	398.2	355.6	320.0	289.2	263.1
32.5°	590.2	531.0	483.6	433.8	412.5	384.0	348.5	310.5	277.3	251.3	229.9
35°	516.8	467.0	421.9	374.5	357.9	334.2	301.0	267.9	239.4	215.7	194.4
37.5°	443.3	403.0	362.7	324.8	305.8	286.8	256.0	227.6	201.5	182.5	165.9
40°	376.9	341.3	308.2	272.6	256.0	241.8	215.7	192.0	173.0	156.4	142.2
42.5°	312.9	284.5	256.0	227.6	213.3	201.5	180.2	158.8	142.2	130.4	118.5
45°	256.0	234.7	211.0	184.9	177.8	163.6	147.0	132.7	118.5	109.0	99.6
47.5°	206.2	187.3	168.3	149.3	142.2	132.7	118.5	106.7	97.2	90.1	83.0
50°	161.2	147.0	135.1	118.5	113.8	104.3	94.8	85.3	78.2	73.5	68.7
52.5°	123.3	111.4	101.9	92.4	87.7	83.0	73.5	68.7	64.0	61.6	59.3
55°	90.1	83.0	75.9	68.7	66.4	61.6	56.9	52.1	49.8	49.8	49.8
57.5°	64.0	59.3	54.5	49.8	49.8	47.4	45.0	42.7	40.3	40.3	40.3
60°	45.0	42.7	40.3	37.9	35.6	35.6	33.2	35.6	33.2	35.6	35.6
62.5°	30.8	28.4	28.4	26.1	26.1	26.1	26.1	26.1	28.4	28.4	30.8
65°	19.0	19.0	19.0	19.0	19.0	19.0	21.3	21.3	21.3	23.7	23.7
67.5°	14.2	14.2	14.2	16.6	16.6	16.6	16.6	19.0	19.0	19.0	21.3
70°	9.5	11.9	11.9	11.9	11.9	11.9	14.2	14.2	14.2	16.6	16.6
72.5°	9.5	9.5	9.5	9.5	9.5	9.5	11.9	11.9	11.9	14.2	14.2
75°	7.1	9.5	9.5	9.5	9.5	9.5	9.5	11.9	11.9	11.9	14.2
77.5°	7.1	7.1	7.1	7.1	7.1	7.1	7.1	9.5	9.5	9.5	9.5
80°	4.7	4.7	4.7	7.1	7.1	7.1	7.1	7.1	7.1	7.1	9.5
82.5°	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	7.1
85°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	4.7	2.4	4.7	4.7
87.5°	0.0	0.0	0.0	2.4	0.0	2.4	2.4	2.4	2.4	2.4	2.4
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°	704.0	704.0	704.0	704.0	704.0	704.0	704.0	704.0	704.0	704.0	704.0
2.5°	682.7	675.6	677.9	663.7	666.1	656.6	651.9	644.8	640.0	632.9	635.3
5°	654.2	642.4	637.6	621.1	623.4	609.2	599.7	587.9	578.4	566.5	564.2
7.5°	618.7	599.7	592.6	576.0	573.6	554.7	542.8	528.6	516.8	504.9	500.2
10°	578.4	557.1	542.8	526.2	523.9	502.5	488.3	474.1	459.9	448.0	443.3
12.5°	535.7	512.0	495.4	476.5	471.7	452.8	436.2	421.9	407.7	395.9	388.8
15°	490.7	464.6	448.0	429.0	424.3	403.0	388.8	372.2	360.3	348.5	343.7
17.5°	445.6	419.6	400.6	384.0	379.3	357.9	341.3	329.5	315.3	308.2	301.0
20°	400.6	374.5	355.6	341.3	334.2	317.6	301.0	289.2	277.3	270.2	263.1
22.5°	355.6	331.9	315.3	301.0	296.3	279.7	265.5	253.6	246.5	237.0	232.3
25°	315.3	291.6	277.3	263.1	258.4	244.2	234.7	222.8	215.7	208.6	203.9
27.5°	277.3	256.0	241.8	229.9	227.6	215.7	203.9	196.7	189.6	184.9	182.5
30°	239.4	222.8	211.0	201.5	199.1	187.3	177.8	173.0	165.9	163.6	161.2
32.5°	211.0	194.4	184.9	175.4	173.0	163.6	158.8	151.7	147.0	144.6	144.6
35°	180.2	168.3	158.8	154.1	151.7	144.6	137.5	135.1	130.4	128.0	128.0
37.5°	154.1	144.6	137.5	130.4	130.4	125.6	120.9	118.5	116.2	116.2	113.8
40°	132.7	123.3	120.9	116.2	113.8	111.4	109.0	106.7	104.3	104.3	104.3
42.5°	111.4	106.7	101.9	99.6	99.6	97.2	94.8	94.8	92.4	94.8	94.8
45°	94.8	90.1	87.7	85.3	87.7	85.3	85.3	83.0	85.3	85.3	85.3
47.5°	80.6	78.2	75.9	75.9	75.9	75.9	75.9	75.9	75.9	78.2	78.2
50°	68.7	66.4	66.4	66.4	66.4	66.4	68.7	68.7	68.7	71.1	71.1
52.5°	56.9	56.9	56.9	56.9	59.3	59.3	61.6	61.6	64.0	64.0	66.4
55°	49.8	49.8	49.8	49.8	52.1	52.1	54.5	56.9	56.9	59.3	61.6
57.5°	42.7	42.7	45.0	45.0	47.4	47.4	49.8	52.1	52.1	54.5	56.9
60°	35.6	37.9	40.3	40.3	40.3	42.7	45.0	47.4	47.4	49.8	52.1
62.5°	30.8	33.2	35.6	35.6	35.6	37.9	40.3	42.7	42.7	45.0	47.4
65°	26.1	28.4	30.8	30.8	30.8	33.2	35.6	37.9	40.3	40.3	42.7
67.5°	23.7	23.7	26.1	26.1	28.4	30.8	30.8	33.2	35.6	37.9	40.3
70°	19.0	21.3	23.7	23.7	23.7	26.1	28.4	30.8	30.8	33.2	35.6
72.5°	16.6	16.6	19.0	19.0	21.3	23.7	23.7	26.1	28.4	28.4	30.8
75°	14.2	16.6	16.6	16.6	19.0	19.0	21.3	23.7	23.7	26.1	26.1
77.5°	11.9	11.9	14.2	14.2	14.2	16.6	16.6	19.0	19.0	21.3	21.3
80°	9.5	9.5	11.9	11.9	11.9	11.9	14.2	14.2	16.6	16.6	16.6
82.5°	7.1	7.1	7.1	7.1	9.5	9.5	9.5	9.5	11.9	11.9	11.9
85°	4.7	4.7	4.7	4.7	4.7	7.1	7.1	7.1	7.1	7.1	9.5
87.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
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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CATALOG NUMBER: LD2B20D010 EU2B20WW9024 2LBSW\*

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	704.0	704.0	704.0	704.0	704.0	704.0	704.0	704.0
2.5°	628.2	628.2	625.8	623.4	621.1	618.7	616.3	613.9
5°	557.1	559.4	549.9	547.6	547.6	542.8	545.2	540.5
7.5°	490.7	490.7	483.6	481.2	478.8	474.1	471.7	469.3
10°	431.4	429.0	424.3	421.9	417.2	414.8	414.8	410.1
12.5°	379.3	376.9	372.2	369.8	365.0	362.7	360.3	357.9
15°	334.2	331.9	327.1	324.8	322.4	317.6	317.6	315.3
17.5°	291.6	289.2	286.8	282.1	282.1	277.3	275.0	275.0
20°	258.4	256.0	251.3	248.9	248.9	246.5	246.5	241.8
22.5°	227.6	225.2	222.8	220.5	220.5	218.1	215.7	215.7
25°	201.5	199.1	196.7	196.7	194.4	192.0	192.0	192.0
27.5°	177.8	177.8	175.4	175.4	175.4	173.0	173.0	170.7
30°	158.8	158.8	156.4	156.4	156.4	154.1	156.4	154.1
32.5°	142.2	142.2	142.2	142.2	142.2	139.9	139.9	139.9
35°	128.0	128.0	128.0	128.0	128.0	125.6	128.0	125.6
37.5°	113.8	116.2	113.8	113.8	116.2	113.8	113.8	113.8
40°	104.3	104.3	104.3	104.3	104.3	104.3	104.3	104.3
42.5°	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8
45°	85.3	87.7	87.7	87.7	87.7	87.7	87.7	87.7
47.5°	80.6	80.6	80.6	80.6	83.0	80.6	83.0	83.0
50°	73.5	73.5	73.5	75.9	75.9	75.9	75.9	75.9
52.5°	68.7	68.7	68.7	68.7	71.1	71.1	71.1	71.1
55°	61.6	64.0	64.0	64.0	66.4	66.4	66.4	66.4
57.5°	59.3	59.3	59.3	61.6	61.6	61.6	64.0	61.6
60°	54.5	54.5	56.9	56.9	56.9	59.3	59.3	59.3
62.5°	49.8	52.1	52.1	52.1	52.1	54.5	54.5	54.5
65°	45.0	47.4	47.4	47.4	49.8	49.8	49.8	49.8
67.5°	40.3	42.7	42.7	45.0	45.0	45.0	45.0	45.0
70°	35.6	37.9	37.9	37.9	40.3	40.3	40.3	40.3
72.5°	33.2	33.2	33.2	35.6	35.6	35.6	37.9	35.6
75°	28.4	30.8	30.8	30.8	30.8	30.8	33.2	33.2
77.5°	23.7	23.7	23.7	23.7	26.1	26.1	26.1	26.1
80°	19.0	19.0	19.0	19.0	21.3	21.3	21.3	21.3
82.5°	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2
85°	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
87.5°	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
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)