

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: P226275

Luminaire Tested: **LD2B20D010 EU2B20WW9027 2LBSW\***

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P226275  
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 EU2B20WW9027 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: 1029.6 lumens  
Efficiency: N/A  
Efficacy: 49.3 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

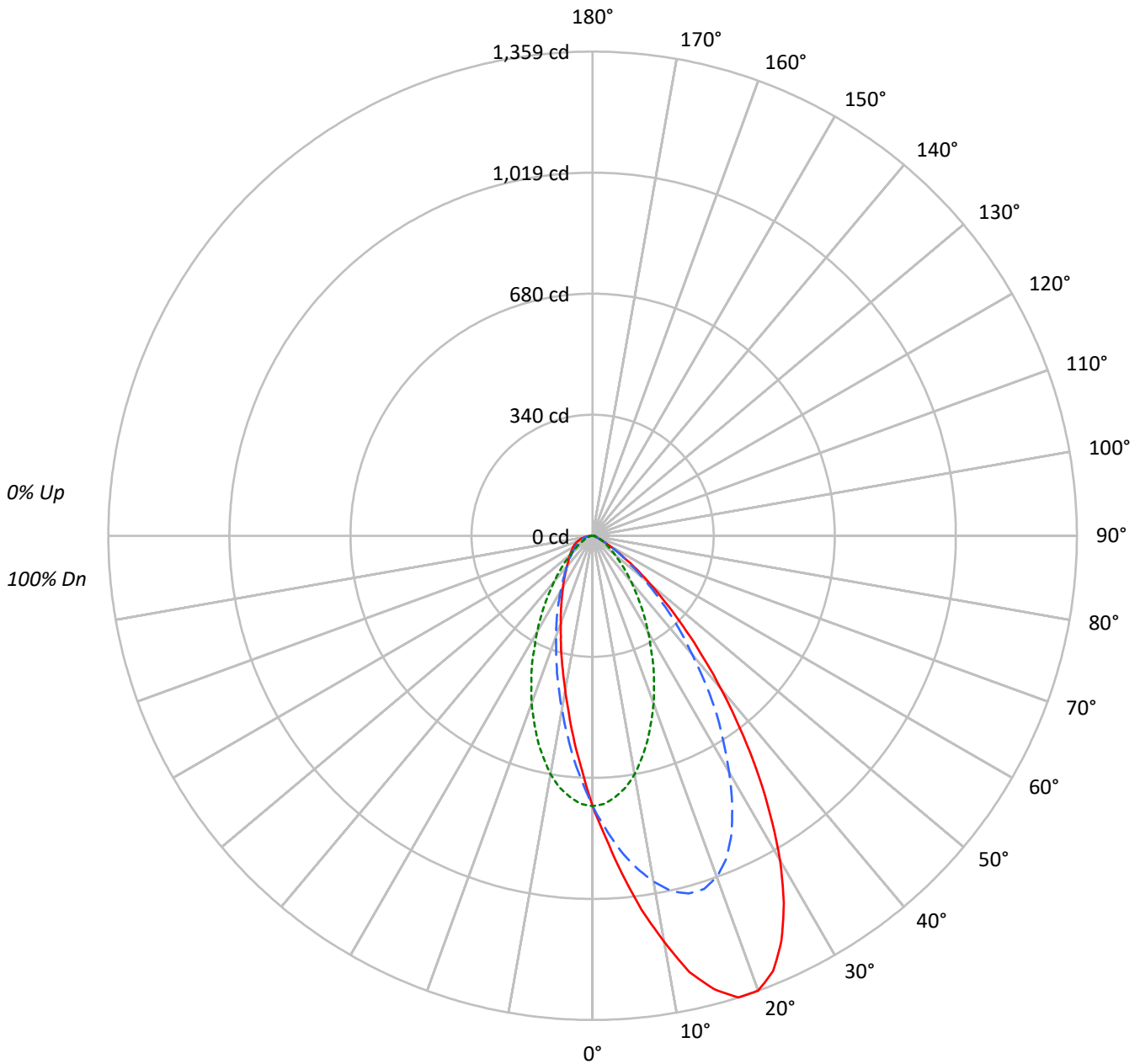
Input Watts (W): 20.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	293841	293841	293841
5°	370434	286020	226413
10°	455073	267223	173809
15°	528491	238641	136223
20°	560104	206350	107379
25°	535989	172494	88427
30°	470661	139369	74247
35°	379235	109893	64026
40°	282857	85252	56834
45°	195890	64365	51766
50°	126185	47726	49233
55°	74150	36197	48285
60°	39587	29671	49503
65°	18697	23372	49126
70°	8720	20272	49152
75°	11524	19156	53578
80°	11376	17176	51305
85°	11555	22666	45332



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	71.7	7.0
10°-20°	200.1	19.4
20°-30°	261.0	25.3
30°-40°	225.9	21.9
40°-50°	143.0	13.9
50°-60°	71.6	7.0
60°-70°	33.0	3.2
70°-80°	17.7	1.7
80°-90°	5.7	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°	532.7	51.7
0°-40°	758.6	73.7
0°-60°	973.3	94.5
0°-90°	1029.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1029.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	759	759	759	759	759	
5°	953	886	736	623	582	97
15°	1318	1040	595	388	340	371
25°	1254	922	404	232	207	568
35°	802	603	232	140	135	498
45°	358	299	118	92	94	281
55°	110	102	54	61	72	105
65°	20	23	26	43	54	24
75°	8	8	13	26	36	7
85°	3	3	5	8	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°	758.6	758.6	758.6	758.6	758.6	758.6	758.6	758.6	758.6	758.6	758.6
2.5°	848.0	853.1	853.1	855.6	845.4	848.0	848.0	842.9	835.2	830.1	822.4
5°	952.7	952.7	950.1	952.7	945.0	939.9	942.5	932.3	911.8	901.6	886.3
7.5°	1060.0	1054.9	1054.9	1052.3	1039.5	1031.9	1029.3	1011.4	983.3	962.9	939.9
10°	1157.0	1157.0	1151.9	1146.8	1128.9	1118.7	1111.0	1083.0	1052.3	1019.1	985.9
12.5°	1254.1	1249.0	1241.3	1231.1	1205.6	1195.3	1182.6	1149.4	1103.4	1065.1	1021.7
15°	1317.9	1320.5	1307.7	1294.9	1266.8	1251.5	1236.2	1195.3	1141.7	1093.2	1039.5
17.5°	1358.8	1356.2	1343.5	1328.1	1297.5	1279.6	1261.7	1213.2	1157.0	1098.3	1039.5
20°	1358.8	1358.8	1343.5	1328.1	1294.9	1274.5	1256.6	1205.6	1144.3	1083.0	1019.1
22.5°	1323.0	1317.9	1307.7	1292.4	1259.2	1241.3	1220.9	1169.8	1105.9	1047.2	980.8
25°	1254.1	1254.1	1241.3	1223.4	1195.3	1174.9	1157.0	1105.9	1044.6	985.9	922.0
27.5°	1162.1	1159.6	1146.8	1134.0	1103.4	1088.1	1070.2	1021.7	968.0	914.4	848.0
30°	1052.3	1047.2	1042.1	1021.7	1001.2	988.4	973.1	929.7	876.1	825.0	766.2
32.5°	927.1	934.8	922.0	909.3	891.4	878.6	865.9	832.6	784.1	738.1	682.0
35°	802.0	807.1	799.4	789.2	771.3	763.7	750.9	722.8	687.1	643.6	602.8
37.5°	676.8	676.8	676.8	669.2	659.0	651.3	643.6	618.1	587.5	554.2	515.9
40°	559.4	567.0	556.8	554.2	546.6	544.0	536.4	518.5	492.9	470.0	434.2
42.5°	452.1	452.1	454.6	449.5	447.0	441.9	436.8	426.5	408.7	388.2	365.2
45°	357.6	360.1	362.7	355.0	355.0	355.0	352.5	342.3	326.9	314.2	298.8
47.5°	278.4	278.4	281.0	278.4	278.4	278.4	273.3	273.3	263.1	250.3	237.5
50°	209.4	212.0	214.5	214.5	214.5	212.0	212.0	206.9	201.8	196.7	183.9
52.5°	158.4	158.4	155.8	158.4	158.4	158.4	158.4	155.8	153.2	148.1	140.5
55°	109.8	109.8	112.4	112.4	112.4	114.9	114.9	114.9	112.4	109.8	102.2
57.5°	76.6	76.6	76.6	79.2	81.7	81.7	81.7	81.7	79.2	76.6	74.1
60°	51.1	51.1	51.1	53.6	53.6	53.6	53.6	56.2	53.6	53.6	51.1
62.5°	33.2	33.2	33.2	33.2	33.2	35.8	35.8	35.8	35.8	35.8	33.2
65°	20.4	20.4	20.4	20.4	20.4	20.4	23.0	23.0	23.0	23.0	23.0
67.5°	12.8	12.8	12.8	12.8	12.8	15.3	15.3	15.3	15.3	15.3	15.3
70°	7.7	7.7	7.7	7.7	10.2	10.2	10.2	10.2	10.2	10.2	10.2
72.5°	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
75°	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
77.5°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	7.7	7.7	7.7
80°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
82.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	5.1	5.1	2.6
85°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
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°	758.6	758.6	758.6	758.6	758.6	758.6	758.6	758.6	758.6	758.6	758.6
2.5°	822.4	812.2	807.1	794.3	791.8	781.6	781.6	771.3	758.6	753.5	740.7
5°	876.1	855.6	845.4	822.4	814.8	799.4	791.8	771.3	750.9	735.6	717.7
7.5°	922.0	891.4	871.0	840.3	827.5	804.6	789.2	763.7	735.6	712.6	687.1
10°	957.8	916.9	886.3	845.4	830.1	802.0	779.0	743.3	707.5	679.4	648.7
12.5°	980.8	932.3	888.8	840.3	819.9	789.2	756.0	715.2	674.3	638.5	605.3
15°	991.0	932.3	881.2	822.4	799.4	766.2	727.9	679.4	633.4	595.1	559.4
17.5°	983.3	914.4	860.7	794.3	768.8	730.5	687.1	636.0	587.5	546.6	510.8
20°	957.8	886.3	825.0	756.0	727.9	689.6	641.1	590.0	541.5	500.6	462.3
22.5°	914.4	840.3	776.5	707.5	679.4	641.1	590.0	538.9	490.4	449.5	413.8
25°	860.7	781.6	717.7	651.3	620.7	587.5	536.4	485.3	439.3	403.6	367.8
27.5°	789.2	720.3	656.4	590.0	561.9	531.3	480.2	434.2	388.2	352.5	321.8
30°	712.6	646.2	592.6	528.7	503.2	472.5	429.1	383.1	344.8	311.6	283.5
32.5°	636.0	572.1	521.0	467.4	444.4	413.8	375.5	334.6	298.8	270.7	247.8
35°	556.8	503.2	454.6	403.6	385.7	360.1	324.4	288.6	258.0	232.4	209.4
37.5°	477.6	434.2	390.8	349.9	329.5	309.0	275.8	245.2	217.1	196.7	178.8
40°	406.1	367.8	332.0	293.7	275.8	260.5	232.4	206.9	186.5	168.6	153.2
42.5°	337.1	306.5	275.8	245.2	229.9	217.1	194.1	171.1	153.2	140.5	127.7
45°	275.8	252.9	227.3	199.2	191.6	176.2	158.4	143.0	127.7	117.5	107.3
47.5°	222.2	201.8	181.3	160.9	153.2	143.0	127.7	114.9	104.7	97.1	89.4
50°	173.7	158.4	145.6	127.7	122.6	112.4	102.2	91.9	84.3	79.2	74.1
52.5°	132.8	120.0	109.8	99.6	94.5	89.4	79.2	74.1	69.0	66.4	63.9
55°	97.1	89.4	81.7	74.1	71.5	66.4	61.3	56.2	53.6	53.6	53.6
57.5°	69.0	63.9	58.7	53.6	53.6	51.1	48.5	46.0	43.4	43.4	43.4
60°	48.5	46.0	43.4	40.9	38.3	38.3	35.8	38.3	35.8	38.3	38.3
62.5°	33.2	30.6	30.6	28.1	28.1	28.1	28.1	28.1	30.6	30.6	33.2
65°	20.4	20.4	20.4	20.4	20.4	20.4	23.0	23.0	23.0	25.5	25.5
67.5°	15.3	15.3	15.3	17.9	17.9	17.9	17.9	20.4	20.4	20.4	23.0
70°	10.2	12.8	12.8	12.8	12.8	12.8	15.3	15.3	15.3	17.9	17.9
72.5°	10.2	10.2	10.2	10.2	10.2	10.2	12.8	12.8	12.8	15.3	15.3
75°	7.7	10.2	10.2	10.2	10.2	10.2	10.2	12.8	12.8	12.8	15.3
77.5°	7.7	7.7	7.7	7.7	7.7	7.7	7.7	10.2	10.2	10.2	10.2
80°	5.1	5.1	5.1	7.7	7.7	7.7	7.7	7.7	7.7	7.7	10.2
82.5°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	7.7
85°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	5.1	2.6	5.1	5.1
87.5°	0.0	0.0	0.0	2.6	0.0	2.6	2.6	2.6	2.6	2.6	2.6
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):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	758.6	758.6	758.6	758.6	758.6	758.6	758.6	758.6	758.6	758.6	758.6
2.5°	735.6	727.9	730.5	715.2	717.7	707.5	702.4	694.7	689.6	682.0	684.5
5°	704.9	692.2	687.1	669.2	671.7	656.4	646.2	633.4	623.2	610.4	607.9
7.5°	666.6	646.2	638.5	620.7	618.1	597.7	584.9	569.6	556.8	544.0	538.9
10°	623.2	600.2	584.9	567.0	564.5	541.5	526.2	510.8	495.5	482.7	477.6
12.5°	577.2	551.7	533.8	513.4	508.3	487.8	470.0	454.6	439.3	426.5	418.9
15°	528.7	500.6	482.7	462.3	457.2	434.2	418.9	401.0	388.2	375.5	370.3
17.5°	480.2	452.1	431.6	413.8	408.7	385.7	367.8	355.0	339.7	332.0	324.4
20°	431.6	403.6	383.1	367.8	360.1	342.3	324.4	311.6	298.8	291.2	283.5
22.5°	383.1	357.6	339.7	324.4	319.3	301.4	286.1	273.3	265.6	255.4	250.3
25°	339.7	314.2	298.8	283.5	278.4	263.1	252.9	240.1	232.4	224.8	219.7
27.5°	298.8	275.8	260.5	247.8	245.2	232.4	219.7	212.0	204.3	199.2	196.7
30°	258.0	240.1	227.3	217.1	214.5	201.8	191.6	186.5	178.8	176.2	173.7
32.5°	227.3	209.4	199.2	189.0	186.5	176.2	171.1	163.5	158.4	155.8	155.8
35°	194.1	181.3	171.1	166.0	163.5	155.8	148.1	145.6	140.5	137.9	137.9
37.5°	166.0	155.8	148.1	140.5	140.5	135.4	130.3	127.7	125.2	125.2	122.6
40°	143.0	132.8	130.3	125.2	122.6	120.0	117.5	114.9	112.4	112.4	112.4
42.5°	120.0	114.9	109.8	107.3	107.3	104.7	102.2	102.2	99.6	102.2	102.2
45°	102.2	97.1	94.5	91.9	94.5	91.9	91.9	89.4	91.9	91.9	91.9
47.5°	86.8	84.3	81.7	81.7	81.7	81.7	81.7	81.7	81.7	84.3	84.3
50°	74.1	71.5	71.5	71.5	71.5	71.5	74.1	74.1	74.1	76.6	76.6
52.5°	61.3	61.3	61.3	61.3	63.9	63.9	66.4	66.4	69.0	69.0	71.5
55°	53.6	53.6	53.6	53.6	56.2	56.2	58.7	61.3	61.3	63.9	66.4
57.5°	46.0	46.0	48.5	48.5	51.1	51.1	53.6	56.2	56.2	58.7	61.3
60°	38.3	40.9	43.4	43.4	43.4	46.0	48.5	51.1	51.1	53.6	56.2
62.5°	33.2	35.8	38.3	38.3	38.3	40.9	43.4	46.0	46.0	48.5	51.1
65°	28.1	30.6	33.2	33.2	33.2	35.8	38.3	40.9	43.4	43.4	46.0
67.5°	25.5	25.5	28.1	28.1	30.6	33.2	33.2	35.8	38.3	40.9	43.4
70°	20.4	23.0	25.5	25.5	25.5	28.1	30.6	33.2	33.2	35.8	38.3
72.5°	17.9	17.9	20.4	20.4	23.0	25.5	25.5	28.1	30.6	30.6	33.2
75°	15.3	17.9	17.9	17.9	20.4	20.4	23.0	25.5	25.5	28.1	28.1
77.5°	12.8	12.8	15.3	15.3	15.3	17.9	17.9	20.4	20.4	23.0	23.0
80°	10.2	10.2	12.8	12.8	12.8	12.8	15.3	15.3	17.9	17.9	17.9
82.5°	7.7	7.7	7.7	7.7	10.2	10.2	10.2	10.2	12.8	12.8	12.8
85°	5.1	5.1	5.1	5.1	5.1	7.7	7.7	7.7	7.7	7.7	10.2
87.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
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):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	758.6	758.6	758.6	758.6	758.6	758.6	758.6	758.6
2.5°	676.8	676.8	674.3	671.7	669.2	666.6	664.1	661.5
5°	600.2	602.8	592.6	590.0	590.0	584.9	587.5	582.3
7.5°	528.7	528.7	521.0	518.5	515.9	510.8	508.3	505.7
10°	464.9	462.3	457.2	454.6	449.5	447.0	447.0	441.9
12.5°	408.7	406.1	401.0	398.4	393.3	390.8	388.2	385.7
15°	360.1	357.6	352.5	349.9	347.4	342.3	342.3	339.7
17.5°	314.2	311.6	309.0	303.9	303.9	298.8	296.3	296.3
20°	278.4	275.8	270.7	268.2	268.2	265.6	265.6	260.5
22.5°	245.2	242.6	240.1	237.5	237.5	235.0	232.4	232.4
25°	217.1	214.5	212.0	212.0	209.4	206.9	206.9	206.9
27.5°	191.6	191.6	189.0	189.0	189.0	186.5	186.5	183.9
30°	171.1	171.1	168.6	168.6	168.6	166.0	168.6	166.0
32.5°	153.2	153.2	153.2	153.2	153.2	150.7	150.7	150.7
35°	137.9	137.9	137.9	137.9	137.9	135.4	137.9	135.4
37.5°	122.6	125.2	122.6	122.6	125.2	122.6	122.6	122.6
40°	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4
42.5°	102.2	102.2	102.2	102.2	102.2	102.2	102.2	102.2
45°	91.9	94.5	94.5	94.5	94.5	94.5	94.5	94.5
47.5°	86.8	86.8	86.8	86.8	89.4	86.8	89.4	89.4
50°	79.2	79.2	79.2	81.7	81.7	81.7	81.7	81.7
52.5°	74.1	74.1	74.1	74.1	76.6	76.6	76.6	76.6
55°	66.4	69.0	69.0	69.0	71.5	71.5	71.5	71.5
57.5°	63.9	63.9	63.9	66.4	66.4	66.4	69.0	66.4
60°	58.7	58.7	61.3	61.3	61.3	63.9	63.9	63.9
62.5°	53.6	56.2	56.2	56.2	56.2	58.7	58.7	58.7
65°	48.5	51.1	51.1	51.1	53.6	53.6	53.6	53.6
67.5°	43.4	46.0	46.0	48.5	48.5	48.5	48.5	48.5
70°	38.3	40.9	40.9	40.9	43.4	43.4	43.4	43.4
72.5°	35.8	35.8	35.8	38.3	38.3	38.3	40.9	38.3
75°	30.6	33.2	33.2	33.2	33.2	33.2	35.8	35.8
77.5°	25.5	25.5	25.5	25.5	28.1	28.1	28.1	28.1
80°	20.4	20.4	20.4	20.4	23.0	23.0	23.0	23.0
82.5°	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3
85°	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2
87.5°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
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)