

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: P274343

Luminaire Tested: **LD4B10DE010W2N2765 EU4B1020W2N902765 4LBLWWOLI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P274343  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-11)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LD4B10DE010W2N2765 EU4B1020W2N902765 4LBLWW0LI  
Description: PORTFOLIO 4" W2N RN DOWNLIGHT, LENSED WALLWASH WITH SPECULAR FINISH  
Light Source: W2N 2700K-6500K CCT TUNING RANGE  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 843.6 lumens  
Efficiency: N/A  
Efficacy: 60.3 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.03 / 1.12  
Luminous Opening: Circular (Dia: 0.38' x H: 0')  
CIE Type: Direct

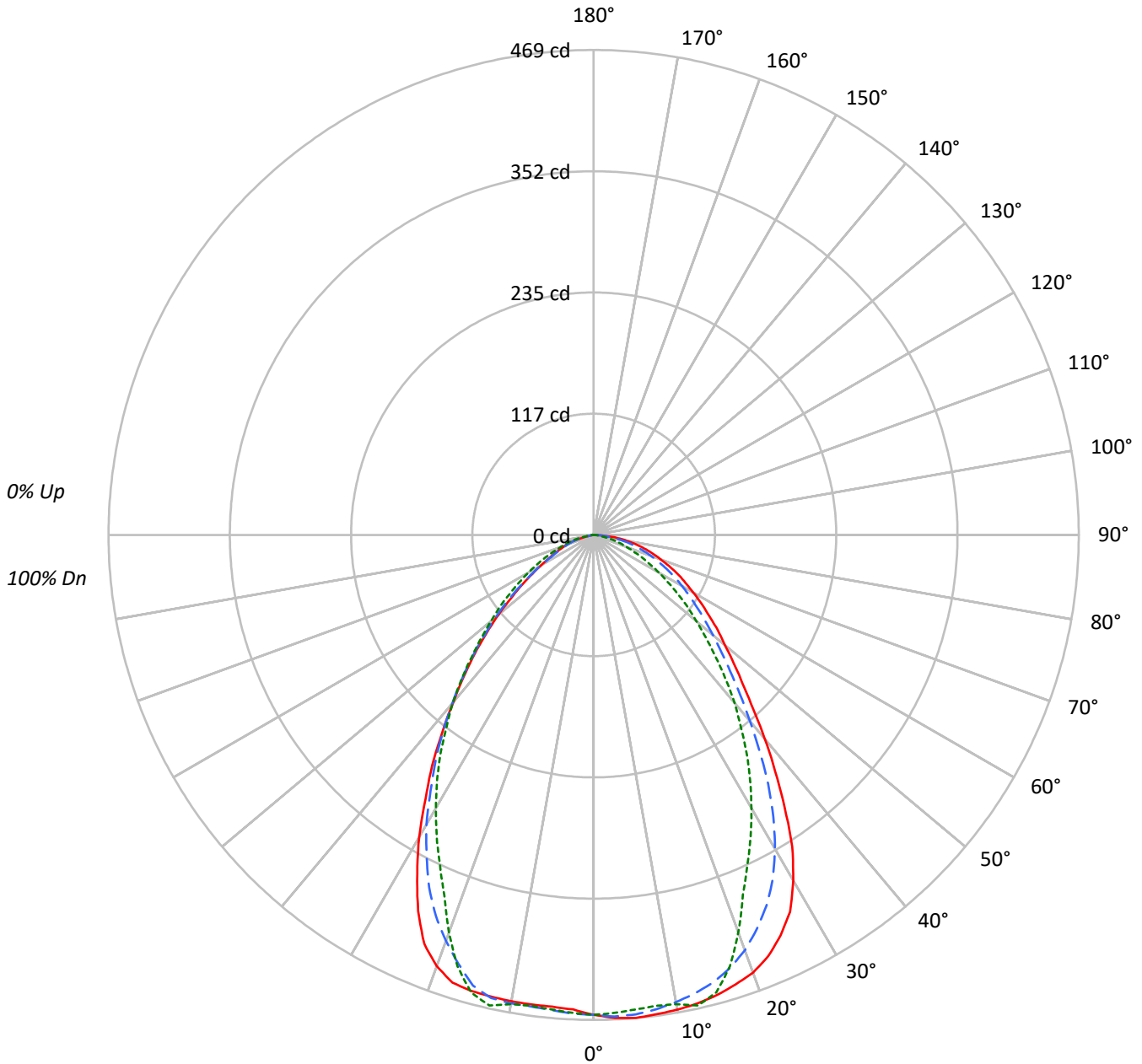
Input Watts (W): 14  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	111	107	103	100	108	105	101	99	101	98	96	97	95	93	93	91	90	88																			
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77																			
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69	67																			
4	88	78	70	64	86	76	69	64	74	68	63	72	67	62	70	65	62	60																			
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55	53																			
6	76	65	57	51	75	64	56	51	62	55	50	60	54	50	59	54	50	48																			
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43																			
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41	39																			
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36																			
10	59	47	40	35	58	47	40	35	46	39	35	45	39	35	44	39	35	33																			

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

	0°	90°	180°
0°	45230	45230	45230
5°	45873	45070	44806
10°	46136	45592	45324
15°	46483	46210	46069
20°	46723	42419	46017
25°	45960	37830	43175
30°	43427	34312	37981
35°	38298	30683	32385
40°	32722	26920	26844
45°	28048	22976	22411
50°	25078	19604	18270
55°	23125	16770	14460
60°	21616	14190	11403
65°	20708	11761	9409
70°	19576	9489	7950
75°	18978	7682	5648
80°	18353	4209	1515
85°	15990	2236	783



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.1	5.2
10°-20°	126.8	15.0
20°-30°	176.0	20.9
30°-40°	173.7	20.6
40°-50°	136.2	16.1
50°-60°	94.4	11.2
60°-70°	57.8	6.9
70°-80°	28.9	3.4
80°-90°	5.8	0.7
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°	346.9	41.1
0°-40°	520.6	61.7
0°-60°	751.1	89.0
0°-90°	843.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	843.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	464	464	464	464	464	
5°	469	466	461	461	458	45
15°	461	448	458	451	457	130
25°	427	395	352	376	402	196
35°	322	294	258	266	272	201
45°	204	186	167	165	163	159
55°	136	122	99	88	85	123
65°	90	78	51	38	41	89
75°	50	42	20	16	15	53
85°	14	8	2	1	1	16
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°	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1
2.5°	467.5	466.2	465.5	467.5	466.8	468.2	467.5	466.8	465.5	466.2	466.2
5°	468.9	466.8	466.2	467.5	467.5	468.9	468.2	466.8	465.5	466.2	465.5
7.5°	467.5	466.2	466.2	466.8	466.2	467.5	466.2	464.8	463.4	464.1	462.7
10°	466.2	464.1	464.1	464.1	464.1	465.5	464.1	462.1	460.0	460.0	458.7
12.5°	464.1	462.1	462.1	462.7	461.4	462.7	461.4	458.0	455.9	455.3	453.9
15°	460.7	458.7	458.7	458.7	457.3	458.0	455.9	452.5	449.8	449.8	447.8
17.5°	455.9	453.9	453.2	453.2	451.2	451.9	449.8	446.4	442.3	441.0	438.9
20°	450.5	447.8	446.4	446.4	444.4	445.1	442.3	438.2	432.8	430.8	427.4
22.5°	441.0	439.6	437.6	436.9	434.8	434.2	431.4	426.0	421.2	417.8	412.4
25°	427.4	426.7	424.6	424.0	421.2	419.9	417.2	411.0	406.3	400.8	395.4
27.5°	411.0	408.3	406.9	404.9	402.2	401.5	398.1	392.7	385.2	381.8	375.0
30°	385.9	384.5	383.1	381.1	378.4	377.0	375.0	368.8	362.7	356.6	350.5
32.5°	357.3	354.5	352.5	353.2	349.8	348.4	345.0	339.6	334.1	330.0	323.2
35°	321.9	321.2	320.5	319.2	316.4	315.8	313.0	309.0	302.8	298.1	294.0
37.5°	288.5	286.5	285.1	285.1	282.4	282.4	280.4	275.6	272.2	268.8	263.4
40°	257.2	253.8	253.8	253.8	251.1	251.8	250.4	245.7	242.3	238.2	234.8
42.5°	228.0	226.6	225.9	224.6	223.2	223.2	221.8	219.1	215.7	213.0	209.6
45°	203.5	202.8	202.1	201.4	200.1	199.4	198.7	194.6	192.6	189.9	186.5
47.5°	183.7	182.4	181.7	181.0	179.7	179.0	177.6	174.9	172.9	170.1	167.4
50°	165.4	164.7	164.0	164.0	162.6	162.0	160.6	158.6	155.2	153.8	150.4
52.5°	151.1	149.7	148.4	148.4	147.0	147.0	144.9	142.9	139.5	138.1	135.4
55°	136.1	135.4	134.7	134.7	133.4	132.7	132.0	129.3	126.6	124.5	121.8
57.5°	123.2	122.5	121.8	121.8	120.5	119.8	119.1	117.0	114.3	113.0	109.6
60°	110.9	110.9	110.2	109.6	108.9	108.2	107.5	105.5	103.4	101.4	98.7
62.5°	100.0	99.4	98.7	98.0	98.0	97.3	96.6	93.9	92.5	90.5	87.8
65°	89.8	88.5	88.5	87.8	87.8	87.1	86.4	83.7	82.3	80.3	77.6
67.5°	78.9	78.3	77.6	77.6	76.9	76.9	76.2	74.2	72.1	70.8	68.1
70°	68.7	68.7	68.1	68.1	67.4	66.7	66.7	65.3	63.3	61.2	58.5
72.5°	59.9	59.2	58.5	58.5	57.8	57.8	57.2	55.8	54.4	53.1	49.7
75°	50.4	49.7	49.7	49.7	49.0	49.0	48.3	47.0	45.6	44.2	42.2
77.5°	41.5	41.5	40.8	40.8	40.2	40.2	40.2	38.8	37.4	36.1	33.3
80°	32.7	32.7	32.7	32.0	31.3	31.3	31.3	29.9	28.6	27.2	25.2
82.5°	23.8	23.1	23.1	22.5	21.8	21.8	21.8	20.4	19.7	17.7	16.3
85°	14.3	13.6	13.6	12.9	12.2	12.2	12.2	11.6	10.2	9.5	8.2
87.5°	5.4	5.4	5.4	5.4	5.4	4.8	4.8	4.1	4.1	3.4	3.4
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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1
2.5°	466.2	465.5	465.5	464.8	465.5	464.1	464.1	464.1	464.1	462.7	462.7
5°	464.8	464.8	464.1	463.4	464.1	462.7	463.4	462.7	462.7	460.7	460.7
7.5°	462.1	461.4	460.0	459.3	460.0	459.3	459.3	459.3	460.7	459.3	459.3
10°	457.3	456.6	455.3	454.6	454.6	453.9	455.3	456.6	459.3	460.7	463.4
12.5°	452.5	451.2	450.5	450.5	451.2	451.2	453.9	457.3	464.1	466.2	468.9
15°	446.4	445.7	445.7	447.8	450.5	452.5	458.0	460.0	460.7	458.0	456.6
17.5°	438.2	438.2	438.9	441.0	443.0	443.0	443.7	442.3	441.0	437.6	433.5
20°	424.6	424.0	422.6	422.6	422.6	419.9	421.2	416.5	413.1	409.0	402.9
22.5°	407.6	404.2	399.5	396.1	394.0	392.7	389.3	383.8	379.7	377.0	374.3
25°	389.3	383.8	377.0	371.6	368.2	367.5	362.7	357.9	355.2	351.8	350.5
27.5°	368.2	362.0	353.9	348.4	345.7	343.7	339.6	334.8	331.4	328.7	326.6
30°	343.7	337.5	330.7	323.9	321.2	317.8	313.7	310.3	306.9	304.9	303.5
32.5°	316.4	310.3	303.5	298.7	295.3	292.6	289.2	285.8	283.1	281.7	280.4
35°	288.5	282.4	277.0	272.2	269.5	267.4	264.7	260.6	258.6	257.9	256.6
37.5°	258.6	254.5	249.7	245.7	243.6	240.9	239.5	236.1	236.1	233.4	233.4
40°	230.7	228.0	223.2	219.8	218.4	216.4	214.4	213.0	212.3	211.6	211.0
42.5°	206.2	202.1	199.4	196.7	194.6	193.3	193.3	191.2	190.5	188.5	187.8
45°	183.7	181.7	176.9	174.9	174.2	172.2	171.5	170.1	168.1	166.7	166.0
47.5°	164.0	162.0	159.2	156.5	155.2	153.8	152.4	150.4	149.0	147.0	146.3
50°	147.7	144.3	141.5	139.5	137.5	136.8	135.4	132.7	131.3	129.3	129.3
52.5°	132.7	130.0	126.6	124.5	122.5	121.1	119.1	117.0	115.0	114.3	112.3
55°	119.8	116.4	113.0	110.2	108.2	106.2	105.5	102.8	100.0	98.7	97.3
57.5°	107.5	104.1	100.0	96.6	95.3	93.9	91.9	89.1	87.1	85.1	83.7
60°	95.3	92.5	88.5	85.1	83.7	81.7	79.6	76.9	74.9	72.8	71.5
62.5°	85.1	81.0	77.6	74.2	72.1	70.8	68.1	66.0	63.3	61.2	59.2
65°	74.9	70.8	67.4	64.0	62.6	60.6	58.5	55.8	53.1	51.0	48.3
67.5°	64.6	61.2	57.8	54.4	53.1	51.7	49.0	46.3	43.6	41.5	38.8
70°	55.8	52.4	49.0	46.3	44.9	43.6	40.8	38.1	36.1	33.3	31.3
72.5°	47.6	44.9	41.5	38.8	37.4	36.1	33.3	31.3	28.6	27.2	25.2
75°	39.5	36.7	34.0	31.3	29.9	28.6	26.5	24.5	22.5	20.4	19.1
77.5°	31.3	28.6	25.9	23.8	22.5	21.8	19.7	17.7	15.7	14.3	12.2
80°	23.1	20.4	18.4	16.3	15.0	14.3	12.2	10.9	9.5	7.5	6.8
82.5°	14.3	12.2	10.9	9.5	8.8	8.2	6.8	5.4	4.8	4.1	3.4
85°	7.5	6.8	5.4	4.8	4.1	4.1	3.4	2.7	2.0	2.0	1.4
87.5°	2.7	2.0	2.0	1.4	1.4	1.4	1.4	0.7	0.7	0.7	0.7
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°	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1
2.5°	461.4	462.1	462.7	463.4	462.7	462.7	464.1	461.4	463.4	463.4	460.7
5°	460.0	461.4	460.7	462.1	460.7	460.7	461.4	460.0	461.4	461.4	459.3
7.5°	458.7	460.0	460.0	460.7	460.0	460.0	460.7	458.7	460.0	460.0	458.0
10°	464.8	466.2	465.5	464.8	462.7	461.4	462.1	458.7	460.0	460.0	458.0
12.5°	466.8	466.2	463.4	462.1	460.7	459.3	460.0	457.3	458.7	458.7	457.3
15°	453.2	451.9	449.8	450.5	449.1	448.5	449.8	448.5	451.2	452.5	451.2
17.5°	430.1	429.4	428.0	428.0	428.0	428.7	430.8	430.8	434.8	437.6	438.9
20°	400.1	399.5	400.1	401.5	402.2	404.9	409.7	412.4	417.8	422.6	426.0
22.5°	372.9	374.3	376.3	379.0	379.7	383.1	389.3	392.0	398.8	404.2	407.6
25°	349.8	351.8	353.2	355.2	355.9	360.0	365.4	368.8	376.3	380.4	384.5
27.5°	326.6	329.4	330.0	332.8	332.8	336.9	341.6	345.0	349.8	353.9	357.3
30°	304.2	304.9	306.9	307.6	309.0	313.0	315.8	317.8	323.2	325.3	327.3
32.5°	279.7	282.4	283.8	284.5	283.8	287.2	289.9	291.3	293.3	296.0	297.4
35°	256.6	257.9	258.6	260.0	260.6	261.3	262.7	263.4	266.1	266.8	267.4
37.5°	233.4	235.5	234.8	235.5	235.5	236.1	237.5	236.8	238.9	239.5	238.9
40°	210.3	210.3	211.6	211.0	211.6	211.0	212.3	212.3	212.3	213.0	212.3
42.5°	187.1	187.8	187.1	188.5	187.1	187.8	187.8	187.1	187.8	187.1	187.1
45°	166.0	166.0	166.0	166.0	164.7	164.7	166.0	165.4	164.7	164.0	163.3
47.5°	145.6	146.3	144.9	145.6	144.9	144.3	143.6	143.6	142.9	141.5	140.9
50°	128.6	127.3	126.6	127.3	126.6	125.9	125.2	123.9	123.2	121.8	121.1
52.5°	111.6	110.2	108.9	108.9	108.2	106.8	106.2	104.8	104.1	102.8	102.8
55°	96.6	95.3	93.9	93.2	91.9	90.5	89.8	88.5	87.8	86.4	85.1
57.5°	82.3	80.3	78.9	78.3	77.6	75.5	74.9	73.5	72.1	70.8	70.1
60°	69.4	67.4	65.3	64.6	64.0	61.9	61.2	59.2	58.5	57.2	56.5
62.5°	57.2	55.8	53.1	52.4	51.0	49.7	47.6	47.0	46.3	47.0	47.0
65°	46.3	44.2	42.2	41.5	40.2	38.8	38.1	37.4	38.1	38.1	38.8
67.5°	36.7	34.7	32.7	32.7	32.0	30.6	30.6	30.6	31.3	31.3	32.0
70°	29.3	27.9	26.5	25.9	25.9	25.2	25.9	25.9	26.5	26.5	26.5
72.5°	23.1	22.5	21.8	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.8
75°	17.7	17.0	16.3	16.3	15.7	15.7	15.7	15.7	15.7	15.7	15.0
77.5°	11.6	10.9	10.2	10.2	9.5	8.8	8.8	8.2	8.2	8.2	8.2
80°	6.1	5.4	4.8	4.1	4.1	3.4	3.4	3.4	3.4	2.7	2.7
82.5°	2.7	2.0	2.0	2.0	2.0	1.4	1.4	1.4	1.4	1.4	1.4
85°	1.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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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CATALOG NUMBER: LD4B10DE010W2N2765 EU4B1020W2N902765 4LBLWW0LI

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1
2.5°	462.1	460.7	462.1	462.7	461.4	460.7	462.1	459.3
5°	461.4	459.3	460.0	460.7	459.3	458.7	460.0	458.0
7.5°	460.0	459.3	460.0	460.7	458.7	458.7	460.0	458.0
10°	460.0	458.7	459.3	460.7	459.3	459.3	460.7	458.0
12.5°	459.3	457.3	459.3	460.0	458.7	458.7	460.0	457.3
15°	454.6	454.6	455.3	456.6	455.9	456.6	458.7	456.6
17.5°	444.4	445.7	448.5	450.5	451.9	453.2	455.3	453.9
20°	432.1	434.2	437.6	439.6	442.3	443.0	446.4	443.7
22.5°	413.1	417.2	419.9	421.9	424.0	426.0	428.7	428.0
25°	389.9	392.7	394.7	396.7	399.5	400.8	402.2	401.5
27.5°	362.0	363.4	366.1	367.5	368.8	370.2	372.9	369.5
30°	331.4	332.1	333.5	335.5	335.5	336.9	338.2	337.5
32.5°	300.1	300.1	301.5	302.8	302.1	302.8	305.5	302.1
35°	269.5	268.8	270.8	271.5	271.5	270.8	272.9	272.2
37.5°	239.5	240.2	240.9	241.6	240.2	241.6	241.6	240.2
40°	212.3	211.6	213.0	213.7	213.0	213.7	213.7	211.0
42.5°	187.8	186.5	187.1	187.8	187.1	187.8	187.1	185.8
45°	164.0	163.3	163.3	164.0	162.6	162.6	162.6	162.6
47.5°	141.5	140.9	141.5	141.5	140.2	140.2	140.9	140.2
50°	121.1	120.5	120.5	120.5	119.8	119.8	120.5	120.5
52.5°	102.8	101.4	101.4	101.4	101.4	101.4	102.1	100.7
55°	84.4	84.4	84.4	84.4	85.1	85.1	85.1	85.1
57.5°	69.4	70.1	70.1	70.8	70.1	70.8	70.8	70.1
60°	57.8	57.2	57.8	57.8	58.5	58.5	58.5	58.5
62.5°	47.6	47.6	47.6	48.3	48.3	48.3	49.0	48.3
65°	39.5	39.5	40.2	40.2	40.2	40.8	40.8	40.8
67.5°	32.7	32.7	32.7	32.7	33.3	33.3	34.0	33.3
70°	27.2	27.2	27.2	27.2	27.2	27.9	27.9	27.9
72.5°	21.8	21.8	21.8	21.8	22.5	22.5	22.5	22.5
75°	15.0	15.0	15.0	15.7	15.0	15.0	15.0	15.0
77.5°	7.5	7.5	7.5	7.5	7.5	6.8	6.8	6.8
80°	2.7	2.7	2.7	2.7	2.7	2.7	2.0	2.7
82.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.7
85°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
87.5°	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



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— 0°-180°    - - 45°-225°    - - - - 90°-270°















(END OF REPORT)