

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: io LED

Report Number: P273460

Luminaire Tested: **0.05-09W-840-90ASYM-STD-UNV-AN-3F0**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P273460  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1708-246-12)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: 0.05-09W-840-90ASYM-STD-UNV-AN-3F0  
Description: iO LIGHTING SERIES 2.0 LINEAR LED LUMINAIRE. 90 DEGREE ASYMMETRIC OPTIC.  
VERY HIGH OUTPUT  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1129.5 lumens  
Efficiency: N/A  
Efficacy: 61.1 lumens/watt  
Spacing Criteria (0/90/45): 1.03 / 0.97 / 1.19  
Luminous Opening: Rectangular (W 2.92' x L: 0.21' x H: 0')  
CIE Type: Direct

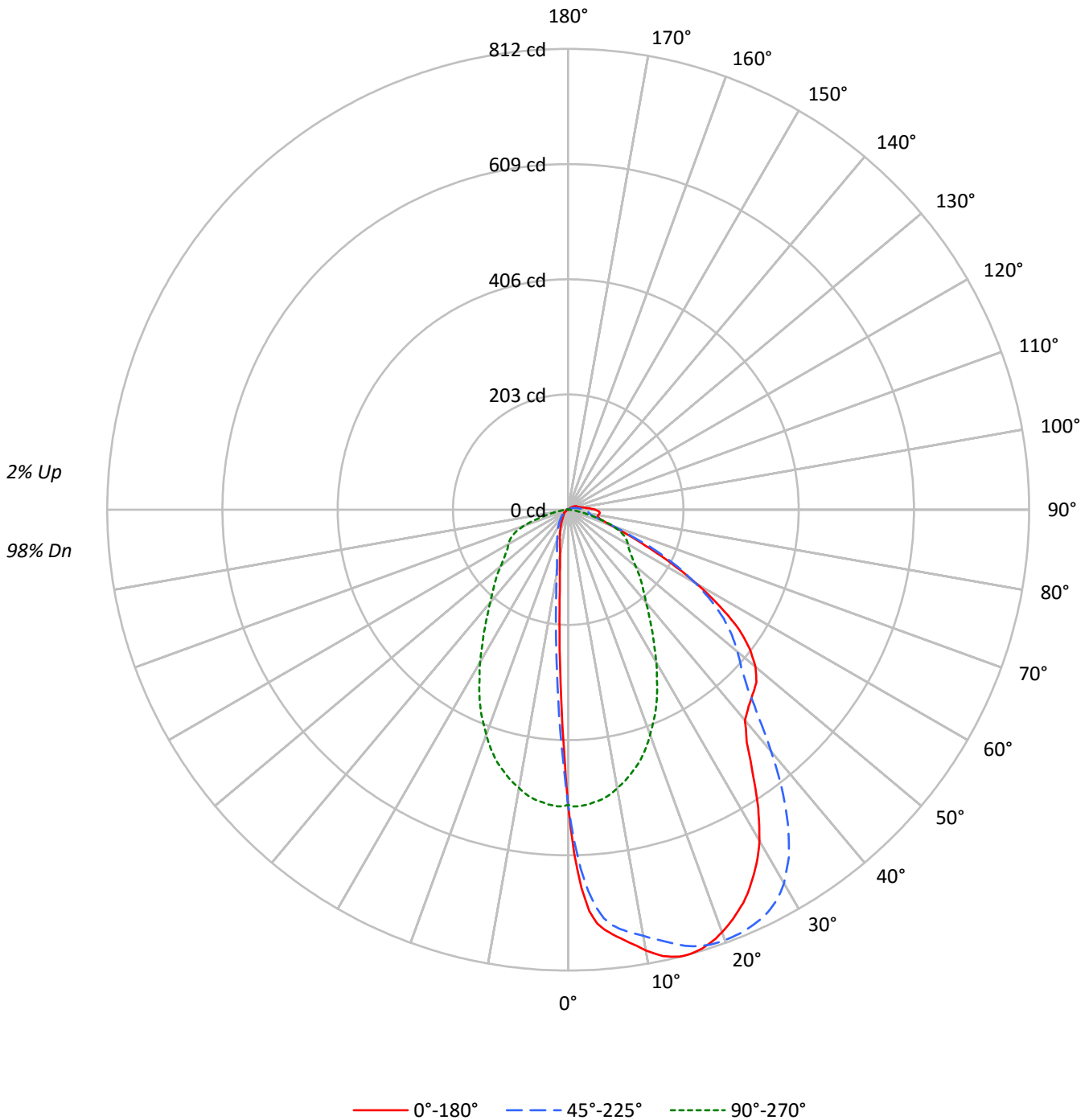
Input Watts (W): 18.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20				20				20				20				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	0
RCR																		
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105	100	100	100	98
1	109	105	101	98	106	103	99	96	98	95	93	94	91	89	90	88	86	84
2	100	93	87	82	98	91	85	80	87	82	78	84	80	76	80	77	74	72
3	92	83	75	69	90	81	74	68	78	72	67	75	70	65	72	68	64	62
4	85	74	66	59	83	72	65	59	70	63	58	67	61	57	65	60	56	54
5	78	66	58	52	76	65	57	51	63	56	51	61	55	50	59	53	49	47
6	73	60	52	45	71	59	51	45	57	50	45	55	49	44	53	48	44	42
7	67	55	46	40	66	54	46	40	52	45	40	50	44	39	49	43	39	37
8	63	50	42	36	61	49	41	36	48	41	36	46	40	35	45	39	35	33
9	59	46	38	33	57	45	38	33	44	37	32	43	37	32	42	36	32	30
10	55	42	35	30	54	42	35	30	41	34	29	40	34	29	39	33	29	27

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

	0°	90°	180°
0°	9210	9210	9210
5°	13216	9200	3123
10°	14183	8961	1462
15°	14893	8568	1023
20°	14936	7953	784
25°	14601	7214	594
30°	13782	6345	444
35°	12249	5553	348
40°	11204	4935	301
45°	11516	4584	281
50°	11867	4274	256
55°	11344	4138	210
60°	9275	4308	131
65°	6321	4552	155
70°	4050	4304	192
75°	3819	3100	212
80°	5509	2030	316
85°	11341	1382	630



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	45.2	4.0
10°-20°	124.5	11.0
20°-30°	188.2	16.7
30°-40°	216.4	19.2
40°-50°	207.8	18.4
50°-60°	173.6	15.4
60°-70°	93.9	8.3
70°-80°	34.5	3.1
80°-90°	20.4	1.8
90°-100°	12.1	1.1
100°-110°	6.3	0.6
110°-120°	3.9	0.3
120°-130°	2.0	0.2
130°-140°	0.7	0.1
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°	357.9	31.7
0°-40°	574.3	50.8
0°-60°	955.7	84.6
0°-90°	1104.5	97.8
90°-120°	22.2	2.0
90°-150°	24.9	2.2
90°-180°	25.0	2.2
0°-180°	1129.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	520	520	520	520	520	
5°	743	723	517	243	176	72
15°	812	795	467	76	56	228
25°	747	798	369	44	30	342
35°	566	675	257	27	16	356
45°	460	448	183	16	11	355
55°	367	334	134	9	7	320
65°	151	169	109	4	4	156
75°	56	47	45	3	3	63
85°	56	35	7	2	3	45
90°	48	28	1	2	2	26
95°	34	22	1	2	2	25
105°	19	11	1	1	2	20
115°	15	6	1	1	1	14
125°	7	1	1	1	1	7
135°	1	1	1	1	1	1
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	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°	519.9	519.9	519.9	519.9	519.9	519.9	519.9	519.9	519.9	519.9	519.9
1°	606.1	604.3	606.1	596.8	597.5	600.6	600.6	595.0	598.1	585.0	582.6
2°	666.9	665.7	665.7	657.6	657.6	660.1	658.9	652.0	652.0	638.4	632.8
3°	707.9	706.0	705.4	699.2	699.2	700.4	699.2	693.6	691.1	679.3	672.5
4°	730.8	730.2	728.4	724.0	724.0	725.3	724.0	720.3	718.4	708.5	702.3
5°	743.2	743.2	740.8	737.7	737.7	738.9	737.0	735.2	732.7	727.1	722.8
6°	752.6	751.3	750.7	747.0	747.0	747.6	746.4	744.5	742.6	738.9	735.8
7°	761.2	760.0	758.8	755.0	755.7	755.0	753.8	751.3	750.1	747.0	743.9
8°	769.9	768.7	768.1	763.7	763.7	763.1	761.9	758.8	757.5	753.8	750.7
9°	778.6	777.4	776.8	772.4	772.4	771.8	769.9	767.4	764.3	760.0	756.3
10°	788.5	787.3	786.7	782.3	781.7	780.5	778.6	776.1	771.8	767.4	762.5
11°	796.6	796.6	794.1	791.0	789.8	789.2	787.3	784.8	779.9	774.3	769.3
12°	804.0	804.0	801.6	798.5	797.2	796.6	794.7	792.3	786.7	782.3	775.5
13°	808.4	808.4	806.5	803.4	803.4	802.8	800.9	799.1	793.5	789.2	782.3
14°	811.5	811.5	809.6	806.5	807.2	806.5	805.3	804.0	799.1	795.4	789.2
15°	812.1	812.7	810.3	807.8	809.0	808.4	807.8	806.5	804.0	800.3	795.4
16°	810.9	812.1	809.6	807.2	809.0	808.4	808.4	807.2	806.5	804.0	800.3
17°	808.4	809.6	807.8	805.3	807.8	807.2	807.2	807.2	807.8	805.9	803.4
18°	804.0	805.9	804.7	802.8	805.3	805.9	805.9	805.3	807.8	807.2	805.9
19°	799.1	800.9	800.3	799.1	801.6	802.8	802.8	803.4	806.5	807.2	807.2
20°	792.3	794.7	794.1	793.5	797.2	797.8	799.1	800.3	804.7	805.9	807.2
21°	784.8	787.9	787.9	787.3	791.0	792.9	794.7	796.6	801.6	804.0	806.5
22°	776.8	779.9	779.9	779.9	784.2	786.7	788.5	792.9	798.5	802.8	805.9
23°	767.4	770.5	770.5	771.2	776.1	779.2	781.7	786.7	794.1	800.3	804.0
24°	758.1	760.6	761.2	761.9	767.4	770.5	773.0	779.2	788.5	796.6	800.9
25°	747.0	750.1	750.1	751.3	757.5	760.6	763.7	771.2	781.7	791.0	797.8
26°	733.9	737.7	738.9	740.1	746.4	749.5	753.2	761.2	773.6	783.6	793.5
27°	720.9	724.6	726.5	726.5	734.6	737.7	742.0	750.7	765.0	775.5	787.9
28°	706.6	710.4	710.4	713.5	720.9	724.6	729.0	738.9	753.8	765.6	780.5
29°	691.1	694.9	694.9	698.6	706.0	710.4	714.7	725.9	739.5	754.4	771.2
30°	673.8	677.5	678.1	681.2	689.3	693.6	698.6	711.0	724.6	741.4	760.0
32.5°	622.9	627.2	627.2	634.1	640.3	647.7	651.4	665.1	683.1	701.7	724.0
35°	566.4	570.8	570.2	573.9	583.8	588.1	595.6	609.9	628.5	651.4	675.0
37.5°	516.2	518.7	517.4	520.5	527.3	534.2	539.8	550.9	569.5	593.7	617.9
40°	484.5	485.2	483.9	483.3	486.4	488.9	492.0	498.8	512.5	532.9	556.5
42.5°	470.3	468.4	466.5	464.7	462.8	462.8	461.6	462.8	467.8	479.6	496.3
45°	459.7	459.1	456.6	454.1	450.4	449.2	446.7	441.7	438.6	441.1	447.9
47.5°	449.8	447.9	445.5	443.0	438.6	436.8	432.4	425.0	419.4	415.7	413.8
50°	430.6	428.1	425.6	423.7	420.0	418.2	413.8	407.0	401.4	394.6	389.0
52.5°	403.3	400.2	398.9	397.1	393.3	390.9	387.1	382.2	377.2	372.2	363.6
55°	367.3	365.4	364.2	364.8	360.5	359.2	356.7	350.5	346.2	341.2	334.4
57.5°	317.0	315.8	316.4	319.5	318.9	319.5	319.5	316.4	312.7	306.5	298.4
60°	261.8	260.6	261.8	264.9	265.5	267.4	269.3	271.7	272.4	267.4	258.7
62.5°	204.7	202.9	203.5	205.4	205.4	207.8	210.3	214.7	219.0	219.6	217.1
65°	150.8	148.9	148.9	149.5	148.9	150.8	152.0	153.2	158.2	165.0	168.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
67.5°	108.0	106.7	106.7	106.7	106.7	107.3	106.7	108.0	110.4	114.8	119.7
70°	78.2	77.6	77.6	77.6	76.9	77.6	78.2	78.2	79.4	81.3	83.8
72.5°	63.3	62.7	62.7	62.0	60.8	60.8	60.2	59.6	58.9	59.6	60.8
75°	55.8	55.8	55.2	54.6	53.4	52.7	51.5	50.3	49.0	47.8	47.2
77.5°	53.4	53.4	52.7	51.5	50.3	49.0	48.4	45.9	44.0	42.2	40.3
80°	54.0	53.4	52.7	51.5	49.6	49.0	47.8	45.3	42.8	39.7	37.2
82.5°	55.2	55.2	54.6	52.7	50.9	49.6	48.4	45.9	42.8	39.7	36.0
85°	55.8	55.2	54.6	52.7	50.9	49.6	47.8	44.7	41.6	38.5	34.7
87.5°	52.7	52.1	51.5	49.6	47.2	46.5	44.7	41.6	39.1	35.4	32.3
90°	47.8	46.5	45.9	44.0	42.2	40.9	39.7	36.6	34.1	31.6	28.5
92.5°	40.3	39.7	39.1	37.2	36.0	34.7	33.5	31.0	29.2	27.3	25.4
95°	33.5	32.9	32.3	31.0	29.8	29.2	27.9	26.1	24.8	23.0	21.7
97.5°	27.9	27.3	26.7	26.1	24.8	24.2	23.6	22.3	21.1	19.9	18.6
100°	23.6	23.6	23.0	22.3	21.1	20.5	19.9	19.2	18.0	16.8	16.1
102.5°	20.5	20.5	19.9	19.2	18.6	18.0	17.4	16.8	15.5	14.3	13.6
105°	18.6	18.0	18.0	17.4	16.8	16.1	15.5	14.3	13.0	12.4	11.2
107.5°	17.4	16.8	16.8	16.1	14.9	14.9	14.3	13.0	11.8	10.5	9.9
110°	16.1	16.1	15.5	14.9	14.3	13.6	13.0	12.4	10.5	9.3	8.1
112.5°	15.5	15.5	14.9	14.3	13.6	13.0	12.4	11.2	9.9	8.7	6.8
115°	14.9	14.3	14.3	13.6	12.4	11.8	11.2	9.9	8.7	6.8	5.6
117.5°	13.0	13.0	13.0	11.8	11.2	10.5	9.9	8.7	7.4	5.6	4.3
120°	11.8	11.2	11.2	10.5	9.3	8.7	8.7	7.4	5.6	4.3	3.1
122.5°	9.9	9.3	9.3	8.7	8.1	7.4	6.8	5.6	4.3	3.1	2.5
125°	7.4	7.4	7.4	6.8	6.2	5.6	5.0	4.3	3.1	2.5	1.2
127.5°	6.2	5.6	5.6	5.0	4.3	4.3	3.7	3.1	1.9	1.2	1.2
130°	4.3	4.3	3.7	3.7	3.1	2.5	1.9	1.2	1.2	1.2	1.2
132.5°	2.5	2.5	2.5	1.9	1.2	1.2	1.2	1.2	1.2	1.2	1.2
135°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	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):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
180°	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°	519.9	519.9	519.9	519.9	519.9	519.9	519.9	519.9	519.9	519.9	519.9
1°	578.8	565.2	560.2	556.5	552.2	546.0	542.2	537.9	529.8	523.0	514.9
2°	624.8	607.4	598.7	588.8	582.6	572.6	563.3	551.5	537.3	523.0	506.9
3°	662.6	644.0	631.0	617.3	609.9	597.5	581.9	564.6	543.5	521.8	497.6
4°	692.4	673.8	658.9	642.7	634.1	620.4	599.9	577.0	548.4	520.5	488.9
5°	714.1	697.3	682.4	665.1	655.8	641.5	616.7	586.9	553.4	517.4	479.0
6°	729.0	714.1	700.4	684.3	675.0	660.1	632.2	598.1	558.4	515.6	468.4
7°	738.9	726.5	714.7	700.4	690.5	676.9	646.5	608.6	562.1	512.5	457.9
8°	746.4	735.2	725.3	712.8	704.2	690.5	659.5	618.5	565.8	508.7	447.3
9°	751.3	740.8	732.7	721.5	714.1	702.3	670.7	626.0	567.7	503.8	434.9
10°	757.5	745.7	738.3	729.0	722.2	712.2	681.2	634.1	570.2	498.2	422.5
11°	763.7	750.7	743.2	734.6	728.4	719.7	689.9	640.9	572.0	492.6	409.5
12°	769.3	755.7	748.2	739.5	733.9	725.3	697.3	647.7	573.9	487.0	397.1
13°	776.1	760.0	752.6	744.5	738.3	730.2	704.2	653.9	575.1	480.8	384.0
14°	781.7	766.8	756.9	748.2	742.6	734.6	709.7	660.1	575.7	474.0	371.0
15°	787.3	772.4	761.2	751.3	745.7	737.7	714.7	664.5	576.4	467.2	357.4
16°	792.9	778.0	765.6	754.4	749.5	741.4	719.1	668.8	576.4	459.7	343.7
17°	798.5	784.2	769.9	758.1	753.2	745.7	722.8	673.1	575.7	451.0	329.4
18°	803.4	789.2	776.1	762.5	757.5	749.5	726.5	676.9	574.5	441.7	316.4
19°	805.9	793.5	780.5	767.4	760.6	753.2	730.2	680.6	572.6	432.4	302.1
20°	807.2	797.2	784.8	771.2	763.1	755.7	733.3	683.7	570.2	421.9	287.9
21°	807.8	800.3	787.9	774.9	766.8	758.8	736.4	686.2	567.7	411.3	274.8
22°	808.4	802.2	792.3	779.2	769.9	761.9	739.5	689.9	566.4	401.4	261.8
23°	807.2	802.8	794.1	781.7	773.6	764.3	742.6	693.0	564.0	392.1	248.8
24°	805.3	803.4	796.6	784.8	777.4	767.4	745.7	695.5	560.8	380.3	236.4
25°	804.0	803.4	797.2	786.7	780.5	771.2	747.6	697.3	557.1	369.1	224.6
26°	801.6	802.8	798.5	789.8	783.0	773.6	750.1	698.6	552.2	357.4	212.8
27°	797.8	800.9	799.7	792.9	786.1	777.4	753.2	699.8	546.6	344.9	202.3
28°	793.5	799.1	800.3	795.4	789.2	780.5	756.9	702.3	541.0	332.5	191.7
29°	787.9	796.0	799.1	797.2	792.9	784.8	760.0	705.4	534.8	322.0	182.4
30°	779.9	791.6	797.8	798.5	795.4	787.9	763.1	706.6	529.2	310.2	174.3
32.5°	751.3	774.3	789.2	800.3	800.9	796.0	772.4	711.0	512.5	281.7	155.1
35°	707.9	742.6	771.2	794.1	800.3	803.4	784.2	716.0	495.1	256.8	137.1
37.5°	657.0	694.9	738.3	776.1	791.0	800.3	793.5	720.3	474.0	233.3	125.3
40°	595.0	637.2	688.7	743.9	765.6	787.9	797.2	721.5	451.7	213.4	114.8
42.5°	530.4	573.3	627.9	693.0	725.9	759.4	791.6	717.2	425.0	196.7	106.7
45°	470.9	507.5	560.8	632.8	671.9	716.0	773.0	703.5	398.3	183.0	100.5
47.5°	421.9	446.1	492.0	564.0	606.8	661.4	746.4	684.9	369.8	169.4	94.9
50°	387.1	397.7	428.7	490.1	531.7	590.6	706.0	665.1	344.3	155.1	88.1
52.5°	358.6	359.2	374.1	416.9	454.8	511.8	648.9	637.2	323.9	143.3	81.3
55°	327.6	323.2	328.2	354.3	380.3	426.8	572.6	603.0	308.3	134.0	73.8
57.5°	293.5	285.4	285.4	298.4	314.5	349.3	476.5	552.2	294.7	126.6	67.6
60°	253.1	243.8	240.7	247.5	256.8	280.4	386.5	482.7	279.2	121.6	62.7
62.5°	209.7	201.0	197.9	200.4	204.7	221.5	298.4	398.3	258.1	116.0	57.7
65°	166.9	159.4	155.1	156.3	158.2	171.2	223.3	306.5	228.3	108.6	53.4



TEST NUMBER: P273460

CATALOG NUMBER: 0.05-09W-840-90ASYM-STD-UNV-AN-3F0

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
67.5°	124.1	122.8	120.4	121.0	123.5	128.4	164.4	222.1	187.4	98.6	47.8
70°	88.1	91.2	92.4	93.1	93.7	96.8	117.9	154.5	139.6	83.1	41.6
72.5°	62.7	65.8	69.5	71.3	72.0	73.2	85.0	105.5	98.6	64.5	32.9
75°	47.8	49.0	51.5	55.2	55.2	56.5	62.0	71.3	67.0	45.3	24.8
77.5°	39.1	39.1	40.3	42.8	43.4	44.0	46.5	49.6	44.0	30.4	16.8
80°	35.4	34.1	33.5	34.1	34.7	34.7	35.4	34.1	29.2	19.9	10.5
82.5°	32.9	31.0	29.2	28.5	27.9	27.3	26.7	23.6	19.2	11.8	5.6
85°	31.6	28.5	26.1	24.2	23.6	22.3	20.5	16.8	12.4	6.8	3.1
87.5°	29.2	26.1	23.6	21.1	19.9	18.6	15.5	11.8	7.4	3.7	1.2
90°	26.1	23.6	21.1	18.0	16.8	15.5	12.4	8.1	4.3	1.2	1.2
92.5°	23.0	21.1	18.6	16.1	14.3	13.0	9.3	5.6	2.5	1.2	1.2
95°	19.9	18.6	16.1	13.6	12.4	10.5	7.4	3.7	1.2	1.2	1.2
97.5°	17.4	16.1	13.6	11.2	9.9	8.7	5.0	1.9	1.2	1.2	1.2
100°	14.9	13.6	11.8	9.3	8.1	6.2	3.1	1.2	1.2	1.2	1.2
102.5°	12.4	11.2	9.3	6.8	5.6	4.3	1.9	1.2	1.2	1.2	1.2
105°	9.9	8.7	7.4	5.0	3.7	2.5	1.2	1.2	1.2	1.2	1.2
107.5°	8.7	6.8	5.6	3.7	2.5	1.9	1.2	1.2	1.2	1.2	1.2
110°	6.8	5.6	3.7	2.5	1.2	1.2	1.2	1.2	1.2	1.2	1.2
112.5°	5.6	3.7	2.5	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
115°	4.3	2.5	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
117.5°	3.1	1.9	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
120°	1.9	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
122.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
125°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
127.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
130°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
132.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
135°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P273460

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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P273460

CATALOG NUMBER: 0.05-09W-840-90ASYM-STD-UNV-AN-3F0

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	519.9	519.9	519.9	519.9	519.9	519.9	519.9	519.9	519.9	519.9	519.9
1°	504.4	494.5	485.8	482.1	477.1	471.5	469.6	456.6	451.0	446.7	441.7
2°	488.9	472.1	456.6	452.9	441.1	428.7	421.3	402.6	391.5	383.4	374.1
3°	473.4	448.6	427.5	420.0	405.1	386.5	373.5	351.2	335.6	324.5	312.1
4°	456.0	425.0	397.7	386.5	369.8	346.2	328.8	304.0	285.4	272.4	258.7
5°	439.2	402.0	368.5	354.9	335.6	308.3	287.9	262.4	242.6	228.9	214.7
6°	421.9	378.4	340.0	323.9	304.0	273.6	251.9	225.8	206.0	192.3	179.3
7°	403.9	354.9	313.3	295.3	274.8	243.2	219.6	195.4	176.2	163.8	150.1
8°	386.5	332.5	287.9	269.3	248.2	215.9	192.9	170.0	150.8	139.0	129.0
9°	368.5	310.8	263.1	243.8	223.3	191.1	169.4	147.0	131.5	121.6	112.3
10°	350.5	289.7	240.7	221.5	201.6	170.6	148.9	130.3	116.0	107.3	99.9
11°	333.2	269.9	220.2	200.4	181.8	151.4	132.8	116.0	103.6	96.2	90.0
12°	315.8	250.6	201.6	182.4	163.8	136.5	119.1	104.8	94.3	88.1	82.5
13°	299.0	232.7	184.3	166.3	148.3	123.5	108.0	95.5	86.9	81.3	76.3
14°	282.3	214.7	169.4	150.1	135.2	112.9	99.3	88.1	80.7	75.7	71.3
15°	266.8	199.2	153.9	137.7	124.1	103.6	91.8	81.9	75.7	70.7	67.0
16°	251.3	184.3	141.5	127.2	114.2	96.2	85.0	76.9	71.3	66.4	63.3
17°	235.8	171.2	130.9	117.3	105.5	89.3	80.0	72.6	67.0	62.7	59.6
18°	222.1	158.8	121.0	108.6	98.0	83.8	75.1	68.2	63.3	59.6	55.8
19°	208.5	147.0	112.3	101.1	91.8	79.4	71.3	65.1	60.2	55.8	52.7
20°	195.4	137.1	104.8	94.9	86.2	75.1	67.6	61.4	56.5	52.7	49.6
21°	183.6	127.8	98.6	89.3	81.3	71.3	64.5	58.3	53.4	49.6	47.2
22°	172.5	119.7	93.1	84.4	77.6	68.2	61.4	55.2	50.9	47.2	44.7
23°	161.3	112.9	88.1	80.0	73.8	64.5	58.3	52.1	48.4	45.3	42.8
24°	150.8	106.7	83.8	76.3	70.7	62.0	55.2	49.6	45.9	42.8	40.3
25°	142.1	101.1	79.4	73.2	67.0	58.9	52.7	47.8	44.0	40.9	38.5
26°	134.6	95.5	75.7	70.1	64.5	55.8	50.3	45.3	42.2	39.1	36.6
27°	127.2	91.2	72.6	67.0	61.4	53.4	47.8	43.4	40.3	37.2	34.7
28°	121.0	86.9	69.5	63.9	58.9	51.5	45.9	41.6	38.5	35.4	32.9
29°	114.8	83.1	67.0	61.4	56.5	49.0	44.0	39.7	36.6	33.5	31.0
30°	109.2	79.4	63.9	58.9	54.0	47.2	42.2	37.8	34.7	31.6	28.5
32.5°	98.0	72.0	58.3	53.4	49.0	42.8	38.5	34.1	30.4	27.3	25.4
35°	88.7	65.8	52.7	48.4	44.7	39.1	34.1	30.4	26.7	24.2	22.3
37.5°	81.3	60.2	48.4	44.0	40.9	35.4	31.0	26.7	23.6	21.1	19.2
40°	74.4	55.8	44.7	40.9	37.2	32.3	27.3	23.6	20.5	18.6	16.8
42.5°	70.1	52.1	40.9	37.8	34.7	29.2	24.8	21.1	18.0	16.1	14.3
45°	66.4	49.0	38.5	34.7	31.6	26.7	22.3	18.6	16.1	14.3	12.4
47.5°	62.7	45.9	36.0	32.3	29.2	24.2	19.9	16.8	14.3	12.4	11.2
50°	58.9	42.8	33.5	29.8	26.7	21.7	18.0	14.9	12.4	10.5	9.3
52.5°	54.6	39.7	30.4	27.3	24.2	19.9	16.1	13.0	10.5	9.3	8.7
55°	50.3	36.6	27.9	24.8	22.3	18.0	14.3	11.2	8.7	8.1	7.4
57.5°	44.7	32.9	24.8	22.3	19.9	16.1	11.8	9.3	7.4	6.8	6.8
60°	40.3	29.2	21.7	19.9	18.0	13.6	9.9	7.4	6.2	5.6	5.6
62.5°	36.0	25.4	19.2	17.4	15.5	11.8	8.1	6.2	5.6	5.0	4.3
65°	31.6	21.7	16.8	14.9	13.0	9.3	6.2	5.0	4.3	3.7	3.7



TEST NUMBER: P273460

CATALOG NUMBER: 0.05-09W-840-90ASYM-STD-UNV-AN-3F0

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
67.5°	27.3	18.0	13.6	11.8	10.5	6.8	5.0	3.7	3.1	3.1	3.1
70°	22.3	14.9	10.5	9.3	7.4	5.0	3.7	3.1	3.1	3.1	3.1
72.5°	17.4	11.2	8.1	6.8	5.0	3.7	3.1	3.1	3.1	3.1	3.1
75°	12.4	8.1	5.0	4.3	3.1	2.5	2.5	2.5	3.1	3.1	3.1
77.5°	8.7	5.6	3.1	2.5	2.5	2.5	2.5	2.5	3.1	3.1	3.1
80°	5.6	3.1	1.9	2.5	2.5	2.5	2.5	2.5	2.5	3.1	3.1
82.5°	3.1	1.9	1.9	1.9	1.9	2.5	2.5	2.5	2.5	2.5	2.5
85°	1.2	1.9	1.9	1.9	1.9	1.9	2.5	2.5	2.5	2.5	2.5
87.5°	1.2	1.2	1.9	1.9	1.9	1.9	1.9	1.9	2.5	2.5	2.5
90°	1.2	1.2	1.2	1.9	1.9	1.9	1.9	1.9	1.9	2.5	2.5
92.5°	1.2	1.2	1.2	1.2	1.2	1.9	1.9	1.9	1.9	1.9	1.9
95°	1.2	1.2	1.2	1.2	1.2	1.2	1.9	1.9	1.9	1.9	1.9
97.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.9	1.9	1.9	1.9
100°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.9	1.9
102.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
105°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
107.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
110°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
112.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
115°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
117.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
120°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
122.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
125°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
127.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
130°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
132.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
135°	1.2	1.2	1.2	1.9	1.2	1.9	1.9	1.9	1.2	1.2	1.2
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	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°
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P273460

CATALOG NUMBER: 0.05-09W-840-90ASYM-STD-UNV-AN-3F0

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	519.9	519.9	519.9	519.9	519.9	519.9	519.9	519.9
1°	447.9	438.6	436.1	422.5	423.1	419.4	421.3	421.3
2°	376.0	364.8	360.5	347.4	346.2	341.2	341.8	341.2
3°	310.8	299.0	294.1	281.7	279.2	274.2	274.2	273.6
4°	255.0	243.2	237.6	227.7	224.6	219.6	219.0	217.1
5°	209.7	198.5	192.9	185.5	181.8	177.4	176.8	175.6
6°	173.1	163.8	158.2	151.4	147.7	143.9	143.9	142.7
7°	144.6	136.5	132.1	127.2	124.1	121.0	120.4	119.7
8°	123.5	114.8	112.9	109.2	106.7	104.2	103.6	102.4
9°	108.0	100.5	99.3	96.2	93.7	91.8	91.2	90.6
10°	95.5	90.0	88.7	86.2	84.4	82.5	82.5	81.3
11°	85.6	81.9	80.7	78.8	76.9	75.7	75.7	75.1
12°	78.8	75.7	74.4	73.2	71.3	70.1	70.1	69.5
13°	73.2	70.1	69.5	68.2	66.4	65.1	65.1	64.5
14°	68.2	65.8	64.5	63.9	62.0	61.4	60.8	60.2
15°	64.5	61.4	60.8	59.6	57.7	57.1	56.5	55.8
16°	60.2	57.7	56.5	55.2	54.0	53.4	52.7	52.7
17°	56.5	54.0	53.4	52.7	50.9	50.3	49.6	49.6
18°	53.4	50.9	50.3	49.6	47.8	47.2	47.2	46.5
19°	50.3	48.4	47.2	46.5	45.3	44.7	44.0	44.0
20°	47.8	45.9	44.7	44.0	42.8	42.2	42.2	41.6
21°	45.3	43.4	42.2	41.6	40.3	39.7	39.7	39.1
22°	42.8	40.9	40.3	39.7	38.5	37.8	37.2	37.2
23°	40.9	39.1	37.8	37.2	36.0	35.4	34.7	34.7
24°	38.5	36.6	36.0	35.4	34.1	32.9	32.9	32.3
25°	36.6	34.7	33.5	32.9	31.6	31.0	30.4	30.4
26°	34.7	32.3	31.6	31.0	29.8	29.2	28.5	28.5
27°	32.3	30.4	29.8	29.2	27.9	27.3	26.7	26.7
28°	30.4	28.5	27.9	27.3	26.1	25.4	25.4	24.8
29°	28.5	26.7	26.1	25.4	24.8	24.2	23.6	23.6
30°	26.7	25.4	24.8	24.2	23.6	22.3	22.3	21.7
32.5°	23.6	21.7	21.1	21.1	19.9	19.2	19.2	18.6
35°	20.5	18.6	18.0	18.0	17.4	16.8	16.8	16.1
37.5°	17.4	16.1	16.1	15.5	14.9	14.9	14.3	14.9
40°	15.5	14.3	13.6	13.6	13.0	13.0	13.0	13.0
42.5°	13.0	12.4	12.4	11.8	11.8	11.8	11.8	11.8
45°	11.8	11.2	11.2	11.2	11.2	11.2	11.2	11.2
47.5°	10.5	9.9	9.9	9.9	9.9	9.9	9.9	9.9
50°	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
52.5°	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
55°	7.4	7.4	6.8	6.8	6.8	6.8	6.8	6.8
57.5°	6.2	6.2	5.6	5.6	5.6	5.6	5.0	5.0
60°	5.0	4.3	4.3	4.3	3.7	3.7	3.7	3.7
62.5°	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
65°	3.1	3.1	3.7	3.7	3.7	3.7	3.7	3.7



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**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
67.5°	3.1	3.1	3.1	3.1	3.7	3.7	3.7	3.7
70°	3.1	3.1	3.7	3.7	3.7	3.7	3.7	3.7
72.5°	3.1	3.1	3.1	3.1	3.7	3.7	3.7	3.7
75°	3.1	3.1	3.1	3.1	3.1	3.7	3.1	3.1
77.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
80°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
82.5°	2.5	3.1	3.1	3.1	3.1	3.1	3.1	3.1
85°	2.5	2.5	2.5	3.1	3.1	3.1	3.1	3.1
87.5°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
90°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
92.5°	1.9	2.5	2.5	2.5	2.5	2.5	2.5	2.5
95°	1.9	1.9	1.9	1.9	1.9	2.5	2.5	2.5
97.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
100°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
102.5°	1.2	1.9	1.9	1.9	1.9	1.9	1.9	1.9
105°	1.2	1.2	1.2	1.2	1.9	1.9	1.9	1.9
107.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
110°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
112.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
115°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
117.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
120°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
122.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
125°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
127.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
130°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
132.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
135°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	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°
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)