

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: P273406

Luminaire Tested: **0.05-03W-835-90ASYM-STD-UNV-AN-3F0**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P273406
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: 0.05-03W-835-90ASYM-STD-UNV-AN-3F0
Description: iO LIGHTING SERIES 2.0 LINEAR LED LUMINAIRE. 90 DEGREE ASYMMETRIC OPTIC.
STANDARD OUTPUT
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 327.6 lumens
Efficiency: N/A
Efficacy: 39.9 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

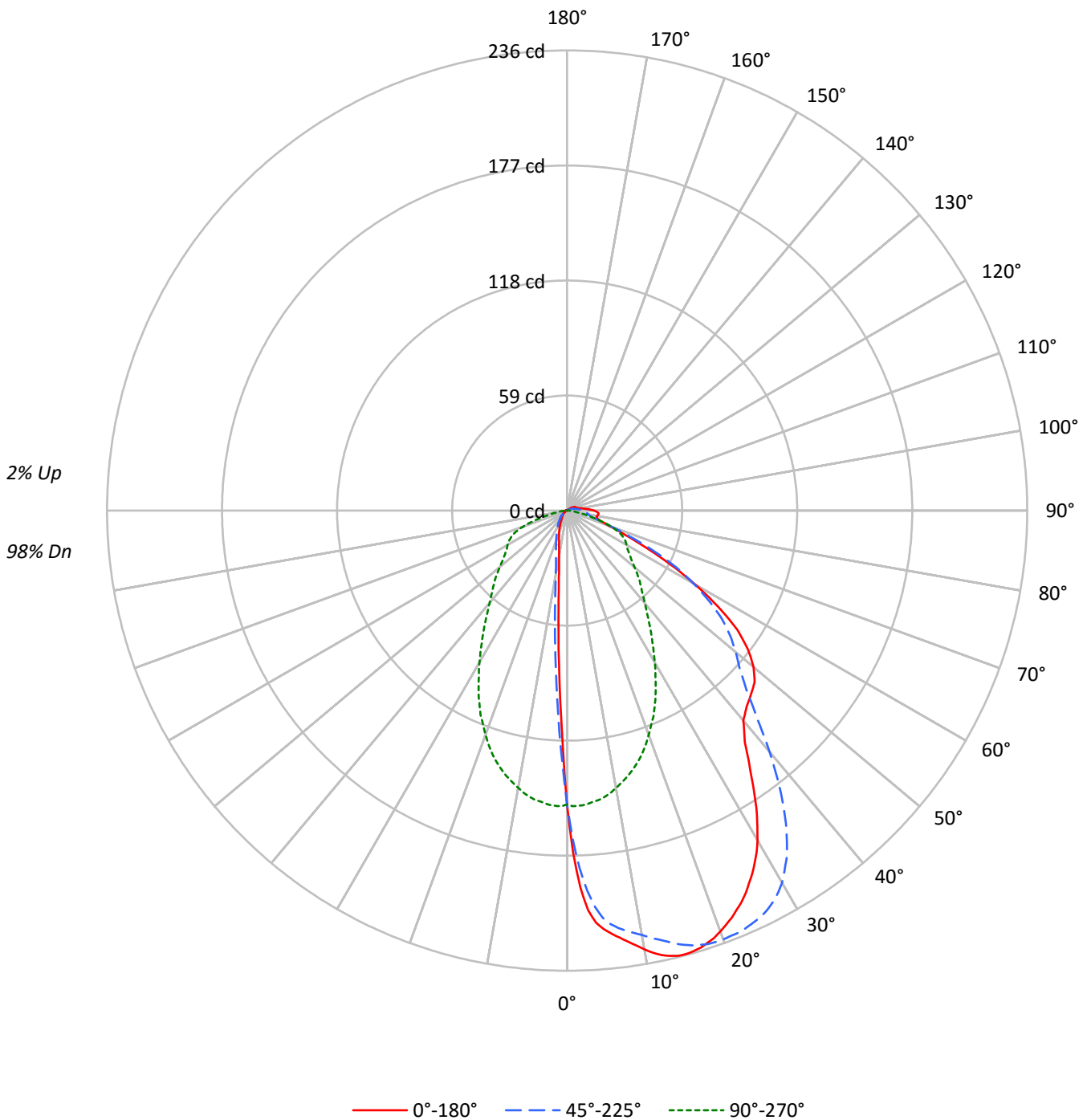
Input Watts (W): 8.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0		
RCR																										
0	119	119	119	119	115	115	115	115	110	110	110	105	105	105	100	100	100	98					98			
1	109	105	101	98	106	103	99	96	98	95	92	94	91	89	90	88	86	84					84			
2	100	93	87	82	98	91	85	80	87	82	78	84	80	76	80	77	74	72					72			
3	92	83	75	69	90	81	74	68	78	72	67	75	70	65	72	68	64	62					62			
4	85	74	66	59	83	72	65	59	70	63	58	67	61	57	65	60	56	54					54			
5	78	66	58	52	76	65	57	51	63	56	51	61	55	50	59	53	49	47					47			
6	73	60	52	45	71	59	51	45	57	50	45	55	49	44	53	48	44	42					42			
7	67	55	46	40	66	54	46	40	52	45	40	50	44	39	49	43	39	37					37			
8	63	50	42	36	61	49	41	36	48	41	36	46	40	35	45	39	35	33					33			
9	59	46	38	33	57	45	38	33	44	37	32	43	37	32	42	36	32	30					30			
10	55	42	35	30	54	42	35	30	41	34	29	40	34	29	39	33	29	27					27			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	2670	2670	2670
5°	3832	2667	905
10°	4112	2597	425
15°	4319	2483	297
20°	4330	2306	228
25°	4234	2091	172
30°	3995	1839	129
35°	3551	1611	102
40°	3249	1431	88
45°	3339	1330	80
50°	3439	1240	74
55°	3289	1201	62
60°	2689	1251	39
65°	1832	1320	46
70°	1176	1248	57
75°	1109	897	62
80°	1591	592	92
85°	3293	406	183



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	13.1	4.0
10°-20°	36.1	11.0
20°-30°	54.6	16.7
30°-40°	62.7	19.2
40°-50°	60.3	18.4
50°-60°	50.3	15.4
60°-70°	27.2	8.3
70°-80°	10.0	3.1
80°-90°	5.9	1.8
90°-100°	3.5	1.1
100°-110°	1.9	0.6
110°-120°	1.2	0.4
120°-130°	0.6	0.2
130°-140°	0.2	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°	103.8	31.7
0°-40°	166.5	50.8
0°-60°	277.1	84.6
0°-90°	320.2	97.8
90°-120°	6.5	2.0
90°-150°	7.3	2.2
90°-180°	7.0	2.1
0°-180°	327.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	151	151	151	151	151	
5°	216	210	150	70	51	21
15°	236	231	135	22	16	66
25°	217	231	107	13	9	99
35°	164	196	74	8	5	103
45°	133	130	53	5	3	103
55°	106	97	39	2	2	93
65°	44	49	32	1	1	45
75°	16	14	13	1	1	18
85°	16	10	2	1	1	13
90°	14	8	0	0	1	8
95°	10	6	0	0	1	7
105°	5	3	0	0	0	6
115°	4	2	0	0	0	4
125°	2	0	0	0	0	2
135°	0	0	0	0	0	0
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°	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7
1°	175.7	175.2	175.7	173.0	173.2	174.1	174.1	172.5	173.4	169.6	168.9
2°	193.4	193.0	193.0	190.7	190.7	191.4	191.0	189.1	189.1	185.1	183.5
3°	205.2	204.7	204.5	202.7	202.7	203.1	202.7	201.1	200.4	197.0	195.0
4°	211.9	211.7	211.2	209.9	209.9	210.3	209.9	208.8	208.3	205.4	203.6
5°	215.5	215.5	214.8	213.9	213.9	214.2	213.7	213.2	212.4	210.8	209.6
6°	218.2	217.8	217.7	216.6	216.6	216.8	216.4	215.9	215.3	214.2	213.3
7°	220.7	220.4	220.0	218.9	219.1	218.9	218.6	217.8	217.5	216.6	215.7
8°	223.2	222.9	222.7	221.4	221.4	221.3	220.9	220.0	219.6	218.6	217.7
9°	225.7	225.4	225.2	224.0	224.0	223.8	223.2	222.5	221.6	220.4	219.3
10°	228.6	228.3	228.1	226.8	226.6	226.3	225.7	225.0	223.8	222.5	221.1
11°	231.0	231.0	230.2	229.3	229.0	228.8	228.3	227.5	226.1	224.5	223.1
12°	233.1	233.1	232.4	231.5	231.1	231.0	230.4	229.7	228.1	226.8	224.9
13°	234.4	234.4	233.8	232.9	232.9	232.8	232.2	231.7	230.1	228.8	226.8
14°	235.3	235.3	234.7	233.8	234.0	233.8	233.5	233.1	231.7	230.6	228.8
15°	235.5	235.6	234.9	234.2	234.6	234.4	234.2	233.8	233.1	232.0	230.6
16°	235.1	235.5	234.7	234.0	234.6	234.4	234.4	234.0	233.8	233.1	232.0
17°	234.4	234.7	234.2	233.5	234.2	234.0	234.0	234.0	234.2	233.7	232.9
18°	233.1	233.7	233.3	232.8	233.5	233.7	233.7	233.5	234.2	234.0	233.7
19°	231.7	232.2	232.0	231.7	232.4	232.8	232.8	232.9	233.8	234.0	234.0
20°	229.7	230.4	230.2	230.1	231.1	231.3	231.7	232.0	233.3	233.7	234.0
21°	227.5	228.4	228.4	228.3	229.3	229.9	230.4	231.0	232.4	233.1	233.8
22°	225.2	226.1	226.1	226.1	227.4	228.1	228.6	229.9	231.5	232.8	233.7
23°	222.5	223.4	223.4	223.6	225.0	225.9	226.6	228.1	230.2	232.0	233.1
24°	219.8	220.5	220.7	220.9	222.5	223.4	224.1	225.9	228.6	231.0	232.2
25°	216.6	217.5	217.5	217.8	219.6	220.5	221.4	223.6	226.6	229.3	231.3
26°	212.8	213.9	214.2	214.6	216.4	217.3	218.4	220.7	224.3	227.2	230.1
27°	209.0	210.1	210.6	210.6	213.0	213.9	215.1	217.7	221.8	224.9	228.4
28°	204.9	206.0	206.0	206.9	209.0	210.1	211.4	214.2	218.6	222.0	226.3
29°	200.4	201.5	201.5	202.5	204.7	206.0	207.2	210.5	214.4	218.7	223.6
30°	195.3	196.4	196.6	197.5	199.8	201.1	202.5	206.1	210.1	215.0	220.4
32.5°	180.6	181.9	181.9	183.8	185.6	187.8	188.9	192.8	198.0	203.4	209.9
35°	164.2	165.5	165.3	166.4	169.3	170.5	172.7	176.8	182.2	188.9	195.7
37.5°	149.7	150.4	150.0	150.9	152.9	154.9	156.5	159.7	165.1	172.1	179.2
40°	140.5	140.7	140.3	140.1	141.0	141.7	142.6	144.6	148.6	154.5	161.4
42.5°	136.3	135.8	135.3	134.7	134.2	134.2	133.8	134.2	135.6	139.0	143.9
45°	133.3	133.1	132.4	131.7	130.6	130.2	129.5	128.1	127.2	127.9	129.9
47.5°	130.4	129.9	129.2	128.4	127.2	126.6	125.4	123.2	121.6	120.5	120.0
50°	124.8	124.1	123.4	122.9	121.8	121.2	120.0	118.0	116.4	114.4	112.8
52.5°	116.9	116.0	115.7	115.1	114.0	113.3	112.2	110.8	109.4	107.9	105.4
55°	106.5	105.9	105.6	105.8	104.5	104.2	103.4	101.6	100.4	98.9	97.0
57.5°	91.9	91.6	91.7	92.6	92.5	92.6	92.6	91.7	90.7	88.9	86.5
60°	75.9	75.5	75.9	76.8	77.0	77.5	78.1	78.8	79.0	77.5	75.0
62.5°	59.4	58.8	59.0	59.5	59.5	60.3	61.0	62.2	63.5	63.7	63.0
65°	43.7	43.2	43.2	43.4	43.2	43.7	44.1	44.4	45.9	47.8	48.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
67.5°	31.3	30.9	30.9	30.9	30.9	31.1	30.9	31.3	32.0	33.3	34.7
70°	22.7	22.5	22.5	22.5	22.3	22.5	22.7	22.7	23.0	23.6	24.3
72.5°	18.3	18.2	18.2	18.0	17.6	17.6	17.4	17.3	17.1	17.3	17.6
75°	16.2	16.2	16.0	15.8	15.5	15.3	14.9	14.6	14.2	13.9	13.7
77.5°	15.5	15.5	15.3	14.9	14.6	14.2	14.0	13.3	12.8	12.2	11.7
80°	15.6	15.5	15.3	14.9	14.4	14.2	13.9	13.1	12.4	11.5	10.8
82.5°	16.0	16.0	15.8	15.3	14.8	14.4	14.0	13.3	12.4	11.5	10.4
85°	16.2	16.0	15.8	15.3	14.8	14.4	13.9	13.0	12.1	11.2	10.1
87.5°	15.3	15.1	14.9	14.4	13.7	13.5	13.0	12.1	11.3	10.3	9.4
90°	13.9	13.5	13.3	12.8	12.2	11.9	11.5	10.6	9.9	9.2	8.3
92.5°	11.7	11.5	11.3	10.8	10.4	10.1	9.7	9.0	8.5	7.9	7.4
95°	9.7	9.5	9.4	9.0	8.6	8.5	8.1	7.6	7.2	6.7	6.3
97.5°	8.1	7.9	7.7	7.6	7.2	7.0	6.8	6.5	6.1	5.8	5.4
100°	6.8	6.8	6.7	6.5	6.1	5.9	5.8	5.6	5.2	4.9	4.7
102.5°	5.9	5.9	5.8	5.6	5.4	5.2	5.0	4.9	4.5	4.1	4.0
105°	5.4	5.2	5.2	5.0	4.9	4.7	4.5	4.1	3.8	3.6	3.2
107.5°	5.0	4.9	4.9	4.7	4.3	4.3	4.1	3.8	3.4	3.1	2.9
110°	4.7	4.7	4.5	4.3	4.1	4.0	3.8	3.6	3.1	2.7	2.3
112.5°	4.5	4.5	4.3	4.1	4.0	3.8	3.6	3.2	2.9	2.5	2.0
115°	4.3	4.1	4.1	4.0	3.6	3.4	3.2	2.9	2.5	2.0	1.6
117.5°	3.8	3.8	3.8	3.4	3.2	3.1	2.9	2.5	2.2	1.6	1.3
120°	3.4	3.2	3.2	3.1	2.7	2.5	2.5	2.2	1.6	1.3	0.9
122.5°	2.9	2.7	2.7	2.5	2.3	2.2	2.0	1.6	1.3	0.9	0.7
125°	2.2	2.2	2.2	2.0	1.8	1.6	1.4	1.3	0.9	0.7	0.4
127.5°	1.8	1.6	1.6	1.4	1.3	1.3	1.1	0.9	0.5	0.4	0.4
130°	1.3	1.3	1.1	1.1	0.9	0.7	0.5	0.4	0.4	0.4	0.4
132.5°	0.7	0.7	0.7	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4
135°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
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°	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7
1°	167.8	163.9	162.4	161.4	160.1	158.3	157.2	156.0	153.6	151.6	149.3
2°	181.1	176.1	173.6	170.7	168.9	166.0	163.3	159.9	155.8	151.6	147.0
3°	192.1	186.7	182.9	179.0	176.8	173.2	168.7	163.7	157.6	151.3	144.3
4°	200.7	195.3	191.0	186.4	183.8	179.9	173.9	167.3	159.0	150.9	141.7
5°	207.0	202.2	197.9	192.8	190.1	186.0	178.8	170.2	160.5	150.0	138.9
6°	211.4	207.0	203.1	198.4	195.7	191.4	183.3	173.4	161.9	149.5	135.8
7°	214.2	210.6	207.2	203.1	200.2	196.2	187.4	176.5	163.0	148.6	132.8
8°	216.4	213.2	210.3	206.7	204.2	200.2	191.2	179.3	164.1	147.5	129.7
9°	217.8	214.8	212.4	209.2	207.0	203.6	194.5	181.5	164.6	146.1	126.1
10°	219.6	216.2	214.1	211.4	209.4	206.5	197.5	183.8	165.3	144.4	122.5
11°	221.4	217.7	215.5	213.0	211.2	208.7	200.0	185.8	165.8	142.8	118.7
12°	223.1	219.1	216.9	214.4	212.8	210.3	202.2	187.8	166.4	141.2	115.1
13°	225.0	220.4	218.2	215.9	214.1	211.7	204.2	189.6	166.7	139.4	111.3
14°	226.6	222.3	219.5	216.9	215.3	213.0	205.8	191.4	166.9	137.4	107.6
15°	228.3	224.0	220.7	217.8	216.2	213.9	207.2	192.7	167.1	135.4	103.6
16°	229.9	225.6	222.0	218.7	217.3	215.0	208.5	193.9	167.1	133.3	99.7
17°	231.5	227.4	223.2	219.8	218.4	216.2	209.6	195.2	166.9	130.8	95.5
18°	232.9	228.8	225.0	221.1	219.6	217.3	210.6	196.2	166.6	128.1	91.7
19°	233.7	230.1	226.3	222.5	220.5	218.4	211.7	197.3	166.0	125.4	87.6
20°	234.0	231.1	227.5	223.6	221.3	219.1	212.6	198.2	165.3	122.3	83.5
21°	234.2	232.0	228.4	224.7	222.3	220.0	213.5	198.9	164.6	119.3	79.7
22°	234.4	232.6	229.7	225.9	223.2	220.9	214.4	200.0	164.2	116.4	75.9
23°	234.0	232.8	230.2	226.6	224.3	221.6	215.3	200.9	163.5	113.7	72.1
24°	233.5	232.9	231.0	227.5	225.4	222.5	216.2	201.6	162.6	110.3	68.5
25°	233.1	232.9	231.1	228.1	226.3	223.6	216.8	202.2	161.5	107.0	65.1
26°	232.4	232.8	231.5	229.0	227.0	224.3	217.5	202.5	160.1	103.6	61.7
27°	231.3	232.2	231.9	229.9	227.9	225.4	218.4	202.9	158.5	100.0	58.6
28°	230.1	231.7	232.0	230.6	228.8	226.3	219.5	203.6	156.9	96.4	55.6
29°	228.4	230.8	231.7	231.1	229.9	227.5	220.4	204.5	155.1	93.4	52.9
30°	226.1	229.5	231.3	231.5	230.6	228.4	221.3	204.9	153.4	89.9	50.5
32.5°	217.8	224.5	228.8	232.0	232.2	230.8	224.0	206.1	148.6	81.7	45.0
35°	205.2	215.3	223.6	230.2	232.0	232.9	227.4	207.6	143.5	74.5	39.8
37.5°	190.5	201.5	214.1	225.0	229.3	232.0	230.1	208.8	137.4	67.6	36.3
40°	172.5	184.7	199.7	215.7	222.0	228.4	231.1	209.2	131.0	61.9	33.3
42.5°	153.8	166.2	182.0	200.9	210.5	220.2	229.5	207.9	123.2	57.0	30.9
45°	136.5	147.1	162.6	183.5	194.8	207.6	224.1	204.0	115.5	53.1	29.1
47.5°	122.3	129.3	142.6	163.5	175.9	191.8	216.4	198.6	107.2	49.1	27.5
50°	112.2	115.3	124.3	142.1	154.2	171.2	204.7	192.8	99.8	45.0	25.5
52.5°	104.0	104.2	108.5	120.9	131.9	148.4	188.2	184.7	93.9	41.6	23.6
55°	95.0	93.7	95.2	102.7	110.3	123.8	166.0	174.8	89.4	38.9	21.4
57.5°	85.1	82.7	82.7	86.5	91.2	101.3	138.1	160.1	85.4	36.7	19.6
60°	73.4	70.7	69.8	71.8	74.5	81.3	112.1	139.9	80.9	35.3	18.2
62.5°	60.8	58.3	57.4	58.1	59.4	64.2	86.5	115.5	74.8	33.6	16.7
65°	48.4	46.2	45.0	45.3	45.9	49.6	64.8	88.9	66.2	31.5	15.5



TEST NUMBER: P273406

CATALOG NUMBER: 0.05-03W-835-90ASYM-STD-UNV-AN-3F0

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
67.5°	36.0	35.6	34.9	35.1	35.8	37.2	47.7	64.4	54.3	28.6	13.9
70°	25.5	26.4	26.8	27.0	27.2	28.1	34.2	44.8	40.5	24.1	12.1
72.5°	18.2	19.1	20.1	20.7	20.9	21.2	24.6	30.6	28.6	18.7	9.5
75°	13.9	14.2	14.9	16.0	16.0	16.4	18.0	20.7	19.4	13.1	7.2
77.5°	11.3	11.3	11.7	12.4	12.6	12.8	13.5	14.4	12.8	8.8	4.9
80°	10.3	9.9	9.7	9.9	10.1	10.1	10.3	9.9	8.5	5.8	3.1
82.5°	9.5	9.0	8.5	8.3	8.1	7.9	7.7	6.8	5.6	3.4	1.6
85°	9.2	8.3	7.6	7.0	6.8	6.5	5.9	4.9	3.6	2.0	0.9
87.5°	8.5	7.6	6.8	6.1	5.8	5.4	4.5	3.4	2.2	1.1	0.4
90°	7.6	6.8	6.1	5.2	4.9	4.5	3.6	2.3	1.3	0.4	0.4
92.5°	6.7	6.1	5.4	4.7	4.1	3.8	2.7	1.6	0.7	0.4	0.4
95°	5.8	5.4	4.7	4.0	3.6	3.1	2.2	1.1	0.4	0.4	0.4
97.5°	5.0	4.7	4.0	3.2	2.9	2.5	1.4	0.5	0.4	0.4	0.4
100°	4.3	4.0	3.4	2.7	2.3	1.8	0.9	0.4	0.4	0.4	0.4
102.5°	3.6	3.2	2.7	2.0	1.6	1.3	0.5	0.4	0.4	0.4	0.4
105°	2.9	2.5	2.2	1.4	1.1	0.7	0.4	0.4	0.4	0.4	0.4
107.5°	2.5	2.0	1.6	1.1	0.7	0.5	0.4	0.4	0.4	0.4	0.4
110°	2.0	1.6	1.1	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.4
112.5°	1.6	1.1	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
115°	1.3	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
117.5°	0.9	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
120°	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
122.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
125°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
127.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
130°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
132.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
135°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
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: P273406

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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: P273406

CATALOG NUMBER: 0.05-03W-835-90ASYM-STD-UNV-AN-3F0

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7
1°	146.2	143.4	140.8	139.8	138.3	136.7	136.2	132.4	130.8	129.5	128.1
2°	141.7	136.9	132.4	131.3	127.9	124.3	122.1	116.7	113.5	111.2	108.5
3°	137.2	130.1	123.9	121.8	117.5	112.1	108.3	101.8	97.3	94.1	90.5
4°	132.2	123.2	115.3	112.1	107.2	100.4	95.3	88.1	82.7	79.0	75.0
5°	127.4	116.6	106.8	102.9	97.3	89.4	83.5	76.1	70.3	66.4	62.2
6°	122.3	109.7	98.6	93.9	88.1	79.3	73.0	65.5	59.7	55.8	52.0
7°	117.1	102.9	90.8	85.6	79.7	70.5	63.7	56.7	51.1	47.5	43.5
8°	112.1	96.4	83.5	78.1	72.0	62.6	55.9	49.3	43.7	40.3	37.4
9°	106.8	90.1	76.3	70.7	64.8	55.4	49.1	42.6	38.1	35.3	32.6
10°	101.6	84.0	69.8	64.2	58.5	49.5	43.2	37.8	33.6	31.1	29.0
11°	96.6	78.2	63.9	58.1	52.7	43.9	38.5	33.6	30.0	27.9	26.1
12°	91.6	72.7	58.5	52.9	47.5	39.6	34.5	30.4	27.3	25.5	23.9
13°	86.7	67.5	53.4	48.2	43.0	35.8	31.3	27.7	25.2	23.6	22.1
14°	81.8	62.2	49.1	43.5	39.2	32.7	28.8	25.5	23.4	21.9	20.7
15°	77.3	57.7	44.6	39.9	36.0	30.0	26.6	23.7	21.9	20.5	19.4
16°	72.9	53.4	41.0	36.9	33.1	27.9	24.6	22.3	20.7	19.2	18.3
17°	68.4	49.6	38.0	34.0	30.6	25.9	23.2	21.0	19.4	18.2	17.3
18°	64.4	46.0	35.1	31.5	28.4	24.3	21.8	19.8	18.3	17.3	16.2
19°	60.4	42.6	32.6	29.3	26.6	23.0	20.7	18.9	17.4	16.2	15.3
20°	56.7	39.8	30.4	27.5	25.0	21.8	19.6	17.8	16.4	15.3	14.4
21°	53.2	37.1	28.6	25.9	23.6	20.7	18.7	16.9	15.5	14.4	13.7
22°	50.0	34.7	27.0	24.5	22.5	19.8	17.8	16.0	14.8	13.7	13.0
23°	46.8	32.7	25.5	23.2	21.4	18.7	16.9	15.1	14.0	13.1	12.4
24°	43.7	30.9	24.3	22.1	20.5	18.0	16.0	14.4	13.3	12.4	11.7
25°	41.2	29.3	23.0	21.2	19.4	17.1	15.3	13.9	12.8	11.9	11.2
26°	39.0	27.7	21.9	20.3	18.7	16.2	14.6	13.1	12.2	11.3	10.6
27°	36.9	26.4	21.0	19.4	17.8	15.5	13.9	12.6	11.7	10.8	10.1
28°	35.1	25.2	20.1	18.5	17.1	14.9	13.3	12.1	11.2	10.3	9.5
29°	33.3	24.1	19.4	17.8	16.4	14.2	12.8	11.5	10.6	9.7	9.0
30°	31.7	23.0	18.5	17.1	15.6	13.7	12.2	11.0	10.1	9.2	8.3
32.5°	28.4	20.9	16.9	15.5	14.2	12.4	11.2	9.9	8.8	7.9	7.4
35°	25.7	19.1	15.3	14.0	13.0	11.3	9.9	8.8	7.7	7.0	6.5
37.5°	23.6	17.4	14.0	12.8	11.9	10.3	9.0	7.7	6.8	6.1	5.6
40°	21.6	16.2	13.0	11.9	10.8	9.4	7.9	6.8	5.9	5.4	4.9
42.5°	20.3	15.1	11.9	11.0	10.1	8.5	7.2	6.1	5.2	4.7	4.1
45°	19.2	14.2	11.2	10.1	9.2	7.7	6.5	5.4	4.7	4.1	3.6
47.5°	18.2	13.3	10.4	9.4	8.5	7.0	5.8	4.9	4.1	3.6	3.2
50°	17.1	12.4	9.7	8.6	7.7	6.3	5.2	4.3	3.6	3.1	2.7
52.5°	15.8	11.5	8.8	7.9	7.0	5.8	4.7	3.8	3.1	2.7	2.5
55°	14.6	10.6	8.1	7.2	6.5	5.2	4.1	3.2	2.5	2.3	2.2
57.5°	13.0	9.5	7.2	6.5	5.8	4.7	3.4	2.7	2.2	2.0	2.0
60°	11.7	8.5	6.3	5.8	5.2	4.0	2.9	2.2	1.8	1.6	1.6
62.5°	10.4	7.4	5.6	5.0	4.5	3.4	2.3	1.8	1.6	1.4	1.3
65°	9.2	6.3	4.9	4.3	3.8	2.7	1.8	1.4	1.3	1.1	1.1



TEST NUMBER: P273406

CATALOG NUMBER: 0.05-03W-835-90ASYM-STD-UNV-AN-3F0

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
67.5°	7.9	5.2	4.0	3.4	3.1	2.0	1.4	1.1	0.9	0.9	0.9
70°	6.5	4.3	3.1	2.7	2.2	1.4	1.1	0.9	0.9	0.9	0.9
72.5°	5.0	3.2	2.3	2.0	1.4	1.1	0.9	0.9	0.9	0.9	0.9
75°	3.6	2.3	1.4	1.3	0.9	0.7	0.7	0.7	0.9	0.9	0.9
77.5°	2.5	1.6	0.9	0.7	0.7	0.7	0.7	0.7	0.9	0.9	0.9
80°	1.6	0.9	0.5	0.7	0.7	0.7	0.7	0.7	0.7	0.9	0.9
82.5°	0.9	0.5	0.5	0.5	0.5	0.7	0.7	0.7	0.7	0.7	0.7
85°	0.4	0.5	0.5	0.5	0.5	0.5	0.7	0.7	0.7	0.7	0.7
87.5°	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.7	0.7
90°	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.7
92.5°	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5
95°	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5
97.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5
100°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5
102.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
105°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
107.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
110°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
112.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
115°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
117.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
120°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
122.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
125°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
127.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
130°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
132.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
135°	0.4	0.4	0.4	0.5	0.4	0.5	0.5	0.5	0.4	0.4	0.4
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: P273406

CATALOG NUMBER: 0.05-03W-835-90ASYM-STD-UNV-AN-3F0

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: P273406

CATALOG NUMBER: 0.05-03W-835-90ASYM-STD-UNV-AN-3F0

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7
1°	129.9	127.2	126.5	122.5	122.7	121.6	122.1	122.1
2°	109.0	105.8	104.5	100.7	100.4	98.9	99.1	98.9
3°	90.1	86.7	85.3	81.7	80.9	79.5	79.5	79.3
4°	73.9	70.5	68.9	66.0	65.1	63.7	63.5	63.0
5°	60.8	57.6	55.9	53.8	52.7	51.4	51.3	50.9
6°	50.2	47.5	45.9	43.9	42.8	41.7	41.7	41.4
7°	41.9	39.6	38.3	36.9	36.0	35.1	34.9	34.7
8°	35.8	33.3	32.7	31.7	30.9	30.2	30.0	29.7
9°	31.3	29.1	28.8	27.9	27.2	26.6	26.4	26.3
10°	27.7	26.1	25.7	25.0	24.5	23.9	23.9	23.6
11°	24.8	23.7	23.4	22.8	22.3	21.9	21.9	21.8
12°	22.8	21.9	21.6	21.2	20.7	20.3	20.3	20.1
13°	21.2	20.3	20.1	19.8	19.2	18.9	18.9	18.7
14°	19.8	19.1	18.7	18.5	18.0	17.8	17.6	17.4
15°	18.7	17.8	17.6	17.3	16.7	16.5	16.4	16.2
16°	17.4	16.7	16.4	16.0	15.6	15.5	15.3	15.3
17°	16.4	15.6	15.5	15.3	14.8	14.6	14.4	14.4
18°	15.5	14.8	14.6	14.4	13.9	13.7	13.7	13.5
19°	14.6	14.0	13.7	13.5	13.1	13.0	12.8	12.8
20°	13.9	13.3	13.0	12.8	12.4	12.2	12.2	12.1
21°	13.1	12.6	12.2	12.1	11.7	11.5	11.5	11.3
22°	12.4	11.9	11.7	11.5	11.2	11.0	10.8	10.8
23°	11.9	11.3	11.0	10.8	10.4	10.3	10.1	10.1
24°	11.2	10.6	10.4	10.3	9.9	9.5	9.5	9.4
25°	10.6	10.1	9.7	9.5	9.2	9.0	8.8	8.8
26°	10.1	9.4	9.2	9.0	8.6	8.5	8.3	8.3
27°	9.4	8.8	8.6	8.5	8.1	7.9	7.7	7.7
28°	8.8	8.3	8.1	7.9	7.6	7.4	7.4	7.2
29°	8.3	7.7	7.6	7.4	7.2	7.0	6.8	6.8
30°	7.7	7.4	7.2	7.0	6.8	6.5	6.5	6.3
32.5°	6.8	6.3	6.1	6.1	5.8	5.6	5.6	5.4
35°	5.9	5.4	5.2	5.2	5.0	4.9	4.9	4.7
37.5°	5.0	4.7	4.7	4.5	4.3	4.3	4.1	4.3
40°	4.5	4.1	4.0	4.0	3.8	3.8	3.8	3.8
42.5°	3.8	3.6	3.6	3.4	3.4	3.4	3.4	3.4
45°	3.4	3.2	3.2	3.2	3.2	3.2	3.2	3.2
47.5°	3.1	2.9	2.9	2.9	2.9	2.9	2.9	2.9
50°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
52.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
55°	2.2	2.2	2.0	2.0	2.0	2.0	2.0	2.0
57.5°	1.8	1.8	1.6	1.6	1.6	1.6	1.4	1.4
60°	1.4	1.3	1.3	1.3	1.1	1.1	1.1	1.1
62.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
65°	0.9	0.9	1.1	1.1	1.1	1.1	1.1	1.1



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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
67.5°	0.9	0.9	0.9	0.9	1.1	1.1	1.1	1.1
70°	0.9	0.9	1.1	1.1	1.1	1.1	1.1	1.1
72.5°	0.9	0.9	0.9	0.9	1.1	1.1	1.1	1.1
75°	0.9	0.9	0.9	0.9	0.9	1.1	0.9	0.9
77.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
80°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
82.5°	0.7	0.9	0.9	0.9	0.9	0.9	0.9	0.9
85°	0.7	0.7	0.7	0.9	0.9	0.9	0.9	0.9
87.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
90°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
92.5°	0.5	0.7	0.7	0.7	0.7	0.7	0.7	0.7
95°	0.5	0.5	0.5	0.5	0.5	0.7	0.7	0.7
97.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
100°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
102.5°	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5
105°	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5
107.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
110°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
112.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
115°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
117.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
120°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
122.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
125°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
127.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
130°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
132.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
135°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
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



TEST NUMBER: P273406

CATALOG NUMBER: 0.05-03W-835-90ASYM-STD-UNV-AN-3F0

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)