

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: P273394

Luminaire Tested: **0.05-03W-827-90ASYM-STD-UNV-AN-3F0**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P273394
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-827-90ASYM-STD-UNV-AN-3F0
Description: iO LIGHTING SERIES 2.0 LINEAR LED LUMINAIRE. 90 DEGREE ASYMMETRIC OPTIC.
STANDARD OUTPUT
Light Source: 2700K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 294.4 lumens
Efficiency: N/A
Efficacy: 35.9 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

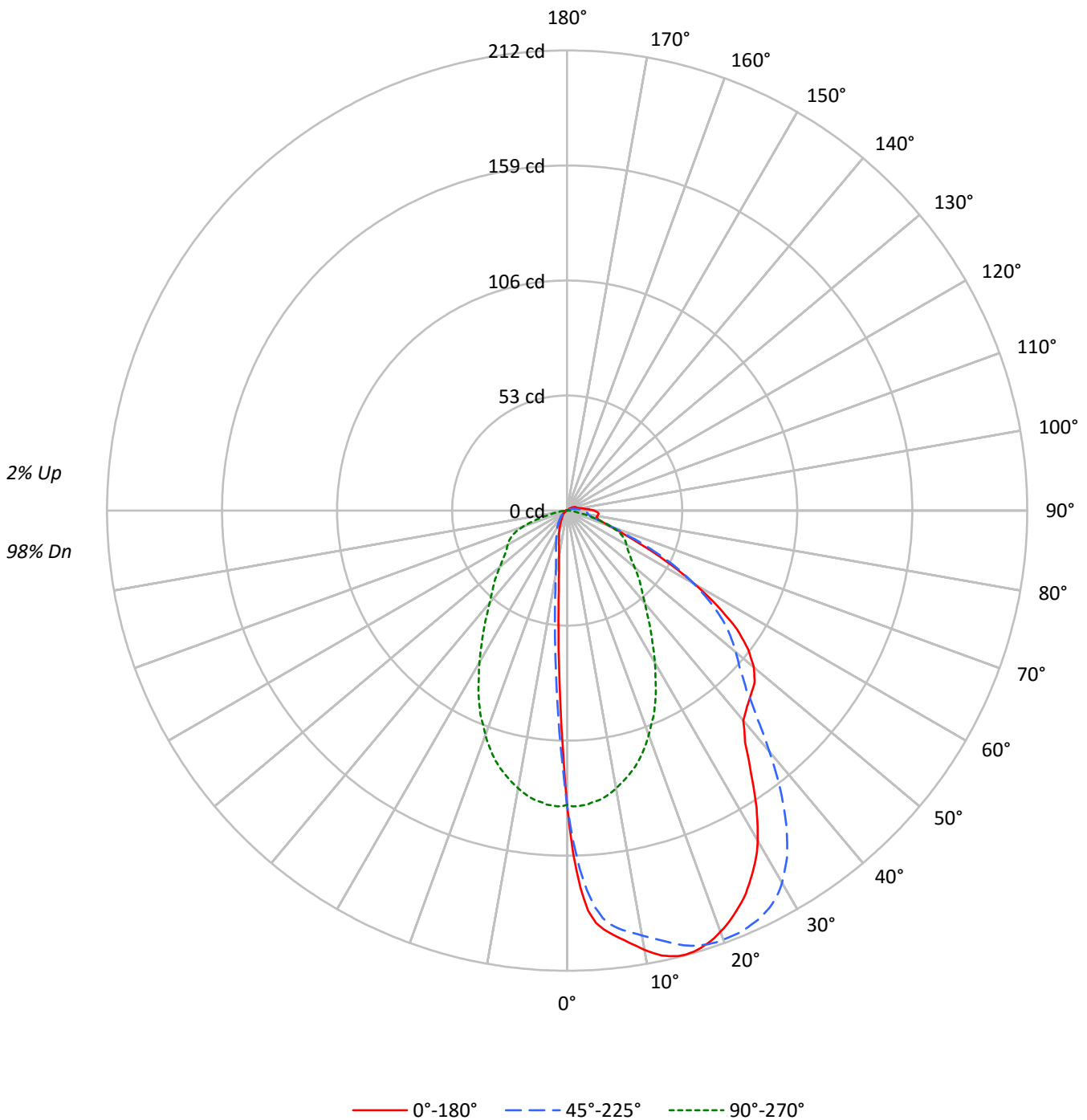
Input Watts (W): 8.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	2400	2400	2400
5°	3444	2399	814
10°	3696	2337	381
15°	3882	2234	268
20°	3893	2074	204
25°	3806	1880	154
30°	3592	1655	117
35°	3192	1449	91
40°	2921	1286	79
45°	3001	1195	73
50°	3092	1113	66
55°	2956	1078	56
60°	2416	1123	35
65°	1647	1186	42
70°	1057	1124	52
75°	999	808	55
80°	1438	530	82
85°	2967	366	163



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	11.8	4.0
10°-20°	32.4	11.0
20°-30°	49.1	16.7
30°-40°	56.4	19.2
40°-50°	54.2	18.4
50°-60°	45.2	15.4
60°-70°	24.5	8.3
70°-80°	9.0	3.1
80°-90°	5.3	1.8
90°-100°	3.1	1.1
100°-110°	1.6	0.6
110°-120°	1.0	0.3
120°-130°	0.5	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°	93.3	31.7
0°-40°	149.7	50.9
0°-60°	249.1	84.6
0°-90°	287.9	97.8
90°-120°	5.8	2.0
90°-150°	6.5	2.2
90°-180°	6.0	2.0
0°-180°	294.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	136	136	136	136	136	
5°	194	188	135	63	46	19
15°	212	207	122	20	15	59
25°	195	208	96	12	8	89
35°	148	176	67	7	4	93
45°	120	117	48	4	3	93
55°	96	87	35	2	2	83
65°	39	44	28	1	1	41
75°	15	12	12	1	1	16
85°	15	9	2	1	1	12
90°	12	7	0	0	1	7
95°	9	6	0	0	1	7
105°	5	3	0	0	0	5
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°	135.5	135.5	135.5	135.5	135.5	135.5	135.5	135.5	135.5	135.5	135.5
1°	158.0	157.5	158.0	155.6	155.7	156.5	156.5	155.1	155.9	152.5	151.9
2°	173.8	173.5	173.5	171.4	171.4	172.1	171.7	170.0	170.0	166.4	165.0
3°	184.5	184.0	183.9	182.3	182.3	182.6	182.3	180.8	180.2	177.1	175.3
4°	190.5	190.3	189.9	188.7	188.7	189.0	188.7	187.8	187.3	184.7	183.1
5°	193.7	193.7	193.1	192.3	192.3	192.6	192.1	191.6	191.0	189.5	188.4
6°	196.2	195.8	195.7	194.7	194.7	194.9	194.5	194.1	193.6	192.6	191.8
7°	198.4	198.1	197.8	196.8	197.0	196.8	196.5	195.8	195.5	194.7	193.9
8°	200.7	200.4	200.2	199.1	199.1	198.9	198.6	197.8	197.5	196.5	195.7
9°	203.0	202.6	202.5	201.3	201.3	201.2	200.7	200.0	199.2	198.1	197.1
10°	205.5	205.2	205.1	203.9	203.8	203.4	203.0	202.3	201.2	200.0	198.8
11°	207.6	207.6	207.0	206.2	205.9	205.7	205.2	204.6	203.3	201.8	200.5
12°	209.6	209.6	208.9	208.1	207.8	207.6	207.2	206.5	205.1	203.9	202.1
13°	210.7	210.7	210.2	209.4	209.4	209.3	208.8	208.3	206.8	205.7	203.9
14°	211.5	211.5	211.0	210.2	210.4	210.2	209.9	209.6	208.3	207.3	205.7
15°	211.7	211.9	211.2	210.6	210.9	210.7	210.6	210.2	209.6	208.6	207.3
16°	211.4	211.7	211.0	210.4	210.9	210.7	210.7	210.4	210.2	209.6	208.6
17°	210.7	211.0	210.6	209.9	210.6	210.4	210.4	210.4	210.6	210.1	209.4
18°	209.6	210.1	209.7	209.3	209.9	210.1	210.1	209.9	210.6	210.4	210.1
19°	208.3	208.8	208.6	208.3	208.9	209.3	209.3	209.4	210.2	210.4	210.4
20°	206.5	207.2	207.0	206.8	207.8	208.0	208.3	208.6	209.7	210.1	210.4
21°	204.6	205.4	205.4	205.2	206.2	206.7	207.2	207.6	208.9	209.6	210.2
22°	202.5	203.3	203.3	203.3	204.4	205.1	205.5	206.7	208.1	209.3	210.1
23°	200.0	200.9	200.9	201.0	202.3	203.1	203.8	205.1	207.0	208.6	209.6
24°	197.6	198.3	198.4	198.6	200.0	200.9	201.5	203.1	205.5	207.6	208.8
25°	194.7	195.5	195.5	195.8	197.5	198.3	199.1	201.0	203.8	206.2	208.0
26°	191.3	192.3	192.6	192.9	194.5	195.4	196.3	198.4	201.7	204.3	206.8
27°	187.9	188.9	189.4	189.4	191.5	192.3	193.4	195.7	199.4	202.1	205.4
28°	184.2	185.2	185.2	186.0	187.9	188.9	190.0	192.6	196.5	199.6	203.4
29°	180.2	181.1	181.1	182.1	184.0	185.2	186.3	189.2	192.8	196.7	201.0
30°	175.6	176.6	176.8	177.6	179.7	180.8	182.1	185.3	188.9	193.3	198.1
32.5°	162.4	163.5	163.5	165.3	166.9	168.8	169.8	173.4	178.1	182.9	188.7
35°	147.6	148.8	148.6	149.6	152.2	153.3	155.3	159.0	163.8	169.8	176.0
37.5°	134.6	135.2	134.9	135.7	137.5	139.2	140.7	143.6	148.5	154.8	161.1
40°	126.3	126.5	126.1	126.0	126.8	127.4	128.2	130.0	133.6	138.9	145.1
42.5°	122.6	122.1	121.6	121.1	120.6	120.6	120.3	120.6	121.9	125.0	129.4
45°	119.8	119.7	119.0	118.4	117.4	117.1	116.4	115.1	114.3	115.0	116.8
47.5°	117.2	116.8	116.1	115.5	114.3	113.9	112.7	110.8	109.3	108.4	107.9
50°	112.2	111.6	110.9	110.5	109.5	109.0	107.9	106.1	104.6	102.9	101.4
52.5°	105.1	104.3	104.0	103.5	102.5	101.9	100.9	99.6	98.3	97.0	94.8
55°	95.7	95.3	94.9	95.1	94.0	93.6	93.0	91.4	90.2	88.9	87.2
57.5°	82.6	82.3	82.5	83.3	83.1	83.3	83.3	82.5	81.5	79.9	77.8
60°	68.2	67.9	68.2	69.1	69.2	69.7	70.2	70.8	71.0	69.7	67.4
62.5°	53.4	52.9	53.0	53.5	53.5	54.2	54.8	56.0	57.1	57.2	56.6
65°	39.3	38.8	38.8	39.0	38.8	39.3	39.6	39.9	41.2	43.0	44.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
67.5°	28.1	27.8	27.8	27.8	27.8	28.0	27.8	28.1	28.8	29.9	31.2
70°	20.4	20.2	20.2	20.2	20.1	20.2	20.4	20.4	20.7	21.2	21.8
72.5°	16.5	16.3	16.3	16.2	15.8	15.8	15.7	15.5	15.4	15.5	15.8
75°	14.6	14.6	14.4	14.2	13.9	13.7	13.4	13.1	12.8	12.5	12.3
77.5°	13.9	13.9	13.7	13.4	13.1	12.8	12.6	12.0	11.5	11.0	10.5
80°	14.1	13.9	13.7	13.4	12.9	12.8	12.5	11.8	11.2	10.4	9.7
82.5°	14.4	14.4	14.2	13.7	13.3	12.9	12.6	12.0	11.2	10.4	9.4
85°	14.6	14.4	14.2	13.7	13.3	12.9	12.5	11.6	10.8	10.0	9.1
87.5°	13.7	13.6	13.4	12.9	12.3	12.1	11.6	10.8	10.2	9.2	8.4
90°	12.5	12.1	12.0	11.5	11.0	10.7	10.4	9.5	8.9	8.2	7.4
92.5°	10.5	10.4	10.2	9.7	9.4	9.1	8.7	8.1	7.6	7.1	6.6
95°	8.7	8.6	8.4	8.1	7.8	7.6	7.3	6.8	6.5	6.0	5.7
97.5°	7.3	7.1	7.0	6.8	6.5	6.3	6.1	5.8	5.5	5.2	4.9
100°	6.1	6.1	6.0	5.8	5.5	5.3	5.2	5.0	4.7	4.4	4.2
102.5°	5.3	5.3	5.2	5.0	4.9	4.7	4.5	4.4	4.0	3.7	3.6
105°	4.9	4.7	4.7	4.5	4.4	4.2	4.0	3.7	3.4	3.2	2.9
107.5°	4.5	4.4	4.4	4.2	3.9	3.9	3.7	3.4	3.1	2.7	2.6
110°	4.2	4.2	4.0	3.9	3.7	3.6	3.4	3.2	2.7	2.4	2.1
112.5°	4.0	4.0	3.9	3.7	3.6	3.4	3.2	2.9	2.6	2.3	1.8
115°	3.9	3.7	3.7	3.6	3.2	3.1	2.9	2.6	2.3	1.8	1.5
117.5°	3.4	3.4	3.4	3.1	2.9	2.7	2.6	2.3	1.9	1.5	1.1
120°	3.1	2.9	2.9	2.7	2.4	2.3	2.3	1.9	1.5	1.1	0.8
122.5°	2.6	2.4	2.4	2.3	2.1	1.9	1.8	1.5	1.1	0.8	0.6
125°	1.9	1.9	1.9	1.8	1.6	1.5	1.3	1.1	0.8	0.6	0.3
127.5°	1.6	1.5	1.5	1.3	1.1	1.1	1.0	0.8	0.5	0.3	0.3
130°	1.1	1.1	1.0	1.0	0.8	0.6	0.5	0.3	0.3	0.3	0.3
132.5°	0.6	0.6	0.6	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3
135°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
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°	135.5	135.5	135.5	135.5	135.5	135.5	135.5	135.5	135.5	135.5	135.5
1°	150.9	147.3	146.0	145.1	143.9	142.3	141.3	140.2	138.1	136.3	134.2
2°	162.9	158.3	156.1	153.5	151.9	149.3	146.8	143.8	140.0	136.3	132.1
3°	172.7	167.9	164.5	160.9	159.0	155.7	151.7	147.2	141.7	136.0	129.7
4°	180.5	175.6	171.7	167.5	165.3	161.7	156.4	150.4	143.0	135.7	127.4
5°	186.1	181.8	177.9	173.4	170.9	167.2	160.7	153.0	144.3	134.9	124.8
6°	190.0	186.1	182.6	178.4	176.0	172.1	164.8	155.9	145.5	134.4	122.1
7°	192.6	189.4	186.3	182.6	180.0	176.4	168.5	158.6	146.5	133.6	119.3
8°	194.5	191.6	189.0	185.8	183.6	180.0	171.9	161.2	147.5	132.6	116.6
9°	195.8	193.1	191.0	188.1	186.1	183.1	174.8	163.2	148.0	131.3	113.4
10°	197.5	194.4	192.4	190.0	188.2	185.7	177.6	165.3	148.6	129.9	110.1
11°	199.1	195.7	193.7	191.5	189.9	187.6	179.8	167.1	149.1	128.4	106.7
12°	200.5	197.0	195.0	192.8	191.3	189.0	181.8	168.8	149.6	126.9	103.5
13°	202.3	198.1	196.2	194.1	192.4	190.3	183.6	170.5	149.9	125.3	100.1
14°	203.8	199.9	197.3	195.0	193.6	191.5	185.0	172.1	150.1	123.6	96.7
15°	205.2	201.3	198.4	195.8	194.4	192.3	186.3	173.2	150.2	121.8	93.2
16°	206.7	202.8	199.6	196.7	195.4	193.3	187.4	174.3	150.2	119.8	89.6
17°	208.1	204.4	200.7	197.6	196.3	194.4	188.4	175.5	150.1	117.6	85.9
18°	209.4	205.7	202.3	198.8	197.5	195.4	189.4	176.4	149.8	115.1	82.5
19°	210.1	206.8	203.4	200.0	198.3	196.3	190.3	177.4	149.3	112.7	78.8
20°	210.4	207.8	204.6	201.0	198.9	197.0	191.2	178.2	148.6	110.0	75.0
21°	210.6	208.6	205.4	202.0	199.9	197.8	192.0	178.9	148.0	107.2	71.6
22°	210.7	209.1	206.5	203.1	200.7	198.6	192.8	179.8	147.6	104.6	68.2
23°	210.4	209.3	207.0	203.8	201.7	199.2	193.6	180.6	147.0	102.2	64.8
24°	209.9	209.4	207.6	204.6	202.6	200.0	194.4	181.3	146.2	99.1	61.6
25°	209.6	209.4	207.8	205.1	203.4	201.0	194.9	181.8	145.2	96.2	58.5
26°	208.9	209.3	208.1	205.9	204.1	201.7	195.5	182.1	143.9	93.2	55.5
27°	208.0	208.8	208.5	206.7	204.9	202.6	196.3	182.4	142.5	89.9	52.7
28°	206.8	208.3	208.6	207.3	205.7	203.4	197.3	183.1	141.0	86.7	50.0
29°	205.4	207.5	208.3	207.8	206.7	204.6	198.1	183.9	139.4	83.9	47.5
30°	203.3	206.4	208.0	208.1	207.3	205.4	198.9	184.2	137.9	80.9	45.4
32.5°	195.8	201.8	205.7	208.6	208.8	207.5	201.3	185.3	133.6	73.4	40.4
35°	184.5	193.6	201.0	207.0	208.6	209.4	204.4	186.6	129.1	67.0	35.7
37.5°	171.3	181.1	192.4	202.3	206.2	208.6	206.8	187.8	123.6	60.8	32.7
40°	155.1	166.1	179.5	193.9	199.6	205.4	207.8	188.1	117.7	55.6	29.9
42.5°	138.3	149.4	163.7	180.6	189.2	197.9	206.4	186.9	110.8	51.3	27.8
45°	122.7	132.3	146.2	165.0	175.1	186.6	201.5	183.4	103.8	47.7	26.2
47.5°	110.0	116.3	128.2	147.0	158.2	172.4	194.5	178.5	96.4	44.1	24.7
50°	100.9	103.7	111.7	127.8	138.6	154.0	184.0	173.4	89.8	40.4	23.0
52.5°	93.5	93.6	97.5	108.7	118.5	133.4	169.2	166.1	84.4	37.4	21.2
55°	85.4	84.3	85.5	92.3	99.1	111.3	149.3	157.2	80.4	34.9	19.2
57.5°	76.5	74.4	74.4	77.8	82.0	91.0	124.2	143.9	76.8	33.0	17.6
60°	66.0	63.6	62.7	64.5	67.0	73.1	100.8	125.8	72.8	31.7	16.3
62.5°	54.7	52.4	51.6	52.2	53.4	57.7	77.8	103.8	67.3	30.2	15.0
65°	43.5	41.6	40.4	40.8	41.2	44.6	58.2	79.9	59.5	28.3	13.9



TEST NUMBER: P273394

CATALOG NUMBER: 0.05-03W-827-90ASYM-STD-UNV-AN-3F0

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
67.5°	32.3	32.0	31.4	31.5	32.2	33.5	42.9	57.9	48.8	25.7	12.5
70°	23.0	23.8	24.1	24.3	24.4	25.2	30.7	40.3	36.4	21.7	10.8
72.5°	16.3	17.1	18.1	18.6	18.8	19.1	22.2	27.5	25.7	16.8	8.6
75°	12.5	12.8	13.4	14.4	14.4	14.7	16.2	18.6	17.5	11.8	6.5
77.5°	10.2	10.2	10.5	11.2	11.3	11.5	12.1	12.9	11.5	7.9	4.4
80°	9.2	8.9	8.7	8.9	9.1	9.1	9.2	8.9	7.6	5.2	2.7
82.5°	8.6	8.1	7.6	7.4	7.3	7.1	7.0	6.1	5.0	3.1	1.5
85°	8.2	7.4	6.8	6.3	6.1	5.8	5.3	4.4	3.2	1.8	0.8
87.5°	7.6	6.8	6.1	5.5	5.2	4.9	4.0	3.1	1.9	1.0	0.3
90°	6.8	6.1	5.5	4.7	4.4	4.0	3.2	2.1	1.1	0.3	0.3
92.5°	6.0	5.5	4.9	4.2	3.7	3.4	2.4	1.5	0.6	0.3	0.3
95°	5.2	4.9	4.2	3.6	3.2	2.7	1.9	1.0	0.3	0.3	0.3
97.5°	4.5	4.2	3.6	2.9	2.6	2.3	1.3	0.5	0.3	0.3	0.3
100°	3.9	3.6	3.1	2.4	2.1	1.6	0.8	0.3	0.3	0.3	0.3
102.5°	3.2	2.9	2.4	1.8	1.5	1.1	0.5	0.3	0.3	0.3	0.3
105°	2.6	2.3	1.9	1.3	1.0	0.6	0.3	0.3	0.3	0.3	0.3
107.5°	2.3	1.8	1.5	1.0	0.6	0.5	0.3	0.3	0.3	0.3	0.3
110°	1.8	1.5	1.0	0.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3
112.5°	1.5	1.0	0.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
115°	1.1	0.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
117.5°	0.8	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
120°	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
122.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
125°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
127.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
130°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
132.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
135°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
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):

	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: P273394

CATALOG NUMBER: 0.05-03W-827-90ASYM-STD-UNV-AN-3F0

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	135.5	135.5	135.5	135.5	135.5	135.5	135.5	135.5	135.5	135.5	135.5
1°	131.5	128.9	126.6	125.7	124.4	122.9	122.4	119.0	117.6	116.4	115.1
2°	127.4	123.1	119.0	118.1	115.0	111.7	109.8	105.0	102.0	99.9	97.5
3°	123.4	116.9	111.4	109.5	105.6	100.8	97.4	91.5	87.5	84.6	81.3
4°	118.9	110.8	103.7	100.8	96.4	90.2	85.7	79.2	74.4	71.0	67.4
5°	114.5	104.8	96.1	92.5	87.5	80.4	75.0	68.4	63.2	59.7	56.0
6°	110.0	98.6	88.6	84.4	79.2	71.3	65.7	58.9	53.7	50.1	46.7
7°	105.3	92.5	81.7	77.0	71.6	63.4	57.2	50.9	45.9	42.7	39.1
8°	100.8	86.7	75.0	70.2	64.7	56.3	50.3	44.3	39.3	36.2	33.6
9°	96.1	81.0	68.6	63.6	58.2	49.8	44.1	38.3	34.3	31.7	29.3
10°	91.4	75.5	62.7	57.7	52.6	44.5	38.8	34.0	30.2	28.0	26.0
11°	86.8	70.3	57.4	52.2	47.4	39.5	34.6	30.2	27.0	25.1	23.4
12°	82.3	65.3	52.6	47.5	42.7	35.6	31.1	27.3	24.6	23.0	21.5
13°	77.9	60.6	48.0	43.3	38.7	32.2	28.1	24.9	22.6	21.2	19.9
14°	73.6	56.0	44.1	39.1	35.3	29.4	25.9	23.0	21.0	19.7	18.6
15°	69.5	51.9	40.1	35.9	32.3	27.0	23.9	21.3	19.7	18.4	17.5
16°	65.5	48.0	36.9	33.2	29.8	25.1	22.2	20.1	18.6	17.3	16.5
17°	61.5	44.6	34.1	30.6	27.5	23.3	20.9	18.9	17.5	16.3	15.5
18°	57.9	41.4	31.5	28.3	25.6	21.8	19.6	17.8	16.5	15.5	14.6
19°	54.3	38.3	29.3	26.4	23.9	20.7	18.6	17.0	15.7	14.6	13.7
20°	50.9	35.7	27.3	24.7	22.5	19.6	17.6	16.0	14.7	13.7	12.9
21°	47.9	33.3	25.7	23.3	21.2	18.6	16.8	15.2	13.9	12.9	12.3
22°	45.0	31.2	24.3	22.0	20.2	17.8	16.0	14.4	13.3	12.3	11.6
23°	42.0	29.4	23.0	20.9	19.2	16.8	15.2	13.6	12.6	11.8	11.2
24°	39.3	27.8	21.8	19.9	18.4	16.2	14.4	12.9	12.0	11.2	10.5
25°	37.0	26.4	20.7	19.1	17.5	15.4	13.7	12.5	11.5	10.7	10.0
26°	35.1	24.9	19.7	18.3	16.8	14.6	13.1	11.8	11.0	10.2	9.5
27°	33.2	23.8	18.9	17.5	16.0	13.9	12.5	11.3	10.5	9.7	9.1
28°	31.5	22.6	18.1	16.7	15.4	13.4	12.0	10.8	10.0	9.2	8.6
29°	29.9	21.7	17.5	16.0	14.7	12.8	11.5	10.4	9.5	8.7	8.1
30°	28.5	20.7	16.7	15.4	14.1	12.3	11.0	9.9	9.1	8.2	7.4
32.5°	25.6	18.8	15.2	13.9	12.8	11.2	10.0	8.9	7.9	7.1	6.6
35°	23.1	17.1	13.7	12.6	11.6	10.2	8.9	7.9	7.0	6.3	5.8
37.5°	21.2	15.7	12.6	11.5	10.7	9.2	8.1	7.0	6.1	5.5	5.0
40°	19.4	14.6	11.6	10.7	9.7	8.4	7.1	6.1	5.3	4.9	4.4
42.5°	18.3	13.6	10.7	9.9	9.1	7.6	6.5	5.5	4.7	4.2	3.7
45°	17.3	12.8	10.0	9.1	8.2	7.0	5.8	4.9	4.2	3.7	3.2
47.5°	16.3	12.0	9.4	8.4	7.6	6.3	5.2	4.4	3.7	3.2	2.9
50°	15.4	11.2	8.7	7.8	7.0	5.7	4.7	3.9	3.2	2.7	2.4
52.5°	14.2	10.4	7.9	7.1	6.3	5.2	4.2	3.4	2.7	2.4	2.3
55°	13.1	9.5	7.3	6.5	5.8	4.7	3.7	2.9	2.3	2.1	1.9
57.5°	11.6	8.6	6.5	5.8	5.2	4.2	3.1	2.4	1.9	1.8	1.8
60°	10.5	7.6	5.7	5.2	4.7	3.6	2.6	1.9	1.6	1.5	1.5
62.5°	9.4	6.6	5.0	4.5	4.0	3.1	2.1	1.6	1.5	1.3	1.1
65°	8.2	5.7	4.4	3.9	3.4	2.4	1.6	1.3	1.1	1.0	1.0



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
67.5°	7.1	4.7	3.6	3.1	2.7	1.8	1.3	1.0	0.8	0.8	0.8
70°	5.8	3.9	2.7	2.4	1.9	1.3	1.0	0.8	0.8	0.8	0.8
72.5°	4.5	2.9	2.1	1.8	1.3	1.0	0.8	0.8	0.8	0.8	0.8
75°	3.2	2.1	1.3	1.1	0.8	0.6	0.6	0.6	0.8	0.8	0.8
77.5°	2.3	1.5	0.8	0.6	0.6	0.6	0.6	0.6	0.8	0.8	0.8
80°	1.5	0.8	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.8	0.8
82.5°	0.8	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6
85°	0.3	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6
87.5°	0.3	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6
90°	0.3	0.3	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6
92.5°	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.5	0.5	0.5	0.5
95°	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.5	0.5	0.5
97.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.5	0.5
100°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.5
102.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
105°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
107.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
110°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
112.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
115°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
117.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
120°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
122.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
125°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
127.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
130°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
132.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
135°	0.3	0.3	0.3	0.5	0.3	0.5	0.5	0.5	0.3	0.3	0.3
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: P273394

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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: P273394

CATALOG NUMBER: 0.05-03W-827-90ASYM-STD-UNV-AN-3F0

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	135.5	135.5	135.5	135.5	135.5	135.5	135.5	135.5
1°	116.8	114.3	113.7	110.1	110.3	109.3	109.8	109.8
2°	98.0	95.1	94.0	90.6	90.2	88.9	89.1	88.9
3°	81.0	77.9	76.7	73.4	72.8	71.5	71.5	71.3
4°	66.5	63.4	61.9	59.4	58.5	57.2	57.1	56.6
5°	54.7	51.8	50.3	48.4	47.4	46.3	46.1	45.8
6°	45.1	42.7	41.2	39.5	38.5	37.5	37.5	37.2
7°	37.7	35.6	34.4	33.2	32.3	31.5	31.4	31.2
8°	32.2	29.9	29.4	28.5	27.8	27.2	27.0	26.7
9°	28.1	26.2	25.9	25.1	24.4	23.9	23.8	23.6
10°	24.9	23.4	23.1	22.5	22.0	21.5	21.5	21.2
11°	22.3	21.3	21.0	20.5	20.1	19.7	19.7	19.6
12°	20.5	19.7	19.4	19.1	18.6	18.3	18.3	18.1
13°	19.1	18.3	18.1	17.8	17.3	17.0	17.0	16.8
14°	17.8	17.1	16.8	16.7	16.2	16.0	15.8	15.7
15°	16.8	16.0	15.8	15.5	15.0	14.9	14.7	14.6
16°	15.7	15.0	14.7	14.4	14.1	13.9	13.7	13.7
17°	14.7	14.1	13.9	13.7	13.3	13.1	12.9	12.9
18°	13.9	13.3	13.1	12.9	12.5	12.3	12.3	12.1
19°	13.1	12.6	12.3	12.1	11.8	11.6	11.5	11.5
20°	12.5	12.0	11.6	11.5	11.2	11.0	11.0	10.8
21°	11.8	11.3	11.0	10.8	10.5	10.4	10.4	10.2
22°	11.2	10.7	10.5	10.4	10.0	9.9	9.7	9.7
23°	10.7	10.2	9.9	9.7	9.4	9.2	9.1	9.1
24°	10.0	9.5	9.4	9.2	8.9	8.6	8.6	8.4
25°	9.5	9.1	8.7	8.6	8.2	8.1	7.9	7.9
26°	9.1	8.4	8.2	8.1	7.8	7.6	7.4	7.4
27°	8.4	7.9	7.8	7.6	7.3	7.1	7.0	7.0
28°	7.9	7.4	7.3	7.1	6.8	6.6	6.6	6.5
29°	7.4	7.0	6.8	6.6	6.5	6.3	6.1	6.1
30°	7.0	6.6	6.5	6.3	6.1	5.8	5.8	5.7
32.5°	6.1	5.7	5.5	5.5	5.2	5.0	5.0	4.9
35°	5.3	4.9	4.7	4.7	4.5	4.4	4.4	4.2
37.5°	4.5	4.2	4.2	4.0	3.9	3.9	3.7	3.9
40°	4.0	3.7	3.6	3.6	3.4	3.4	3.4	3.4
42.5°	3.4	3.2	3.2	3.1	3.1	3.1	3.1	3.1
45°	3.1	2.9	2.9	2.9	2.9	2.9	2.9	2.9
47.5°	2.7	2.6	2.6	2.6	2.6	2.6	2.6	2.6
50°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
52.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
55°	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8
57.5°	1.6	1.6	1.5	1.5	1.5	1.5	1.3	1.3
60°	1.3	1.1	1.1	1.1	1.0	1.0	1.0	1.0
62.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
65°	0.8	0.8	1.0	1.0	1.0	1.0	1.0	1.0



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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
67.5°	0.8	0.8	0.8	0.8	1.0	1.0	1.0	1.0
70°	0.8	0.8	1.0	1.0	1.0	1.0	1.0	1.0
72.5°	0.8	0.8	0.8	0.8	1.0	1.0	1.0	1.0
75°	0.8	0.8	0.8	0.8	0.8	1.0	0.8	0.8
77.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8
85°	0.6	0.6	0.6	0.8	0.8	0.8	0.8	0.8
87.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
90°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
92.5°	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6
95°	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6
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°	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5
105°	0.3	0.3	0.3	0.3	0.5	0.5	0.5	0.5
107.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
110°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
112.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
115°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
117.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
120°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
122.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
125°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
127.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
130°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
132.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
135°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
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: P273394

CATALOG NUMBER: 0.05-03W-827-90ASYM-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)