

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: P273455

Luminaire Tested: **0.05-09W-835-90SYM-STD-UNV-AN-3F0**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P273455
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1708-246-4)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: 0.05-09W-835-90SYM-STD-UNV-AN-3F0
Description: iO LIGHTING SERIES 2.0 LINEAR LED LUMINAIRE. 90 DEGREE SYMMETRIC OPTIC.
VERY HIGH OUTPUT
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1956.0 lumens
Efficiency: N/A
Efficacy: 66.8 lumens/watt
Spacing Criteria (0/90/45): 1.34 / 1.29 / 1.43
Luminous Opening: Rectangular (W 2.92' x L: 0.17' x H: 0')
CIE Type: Direct

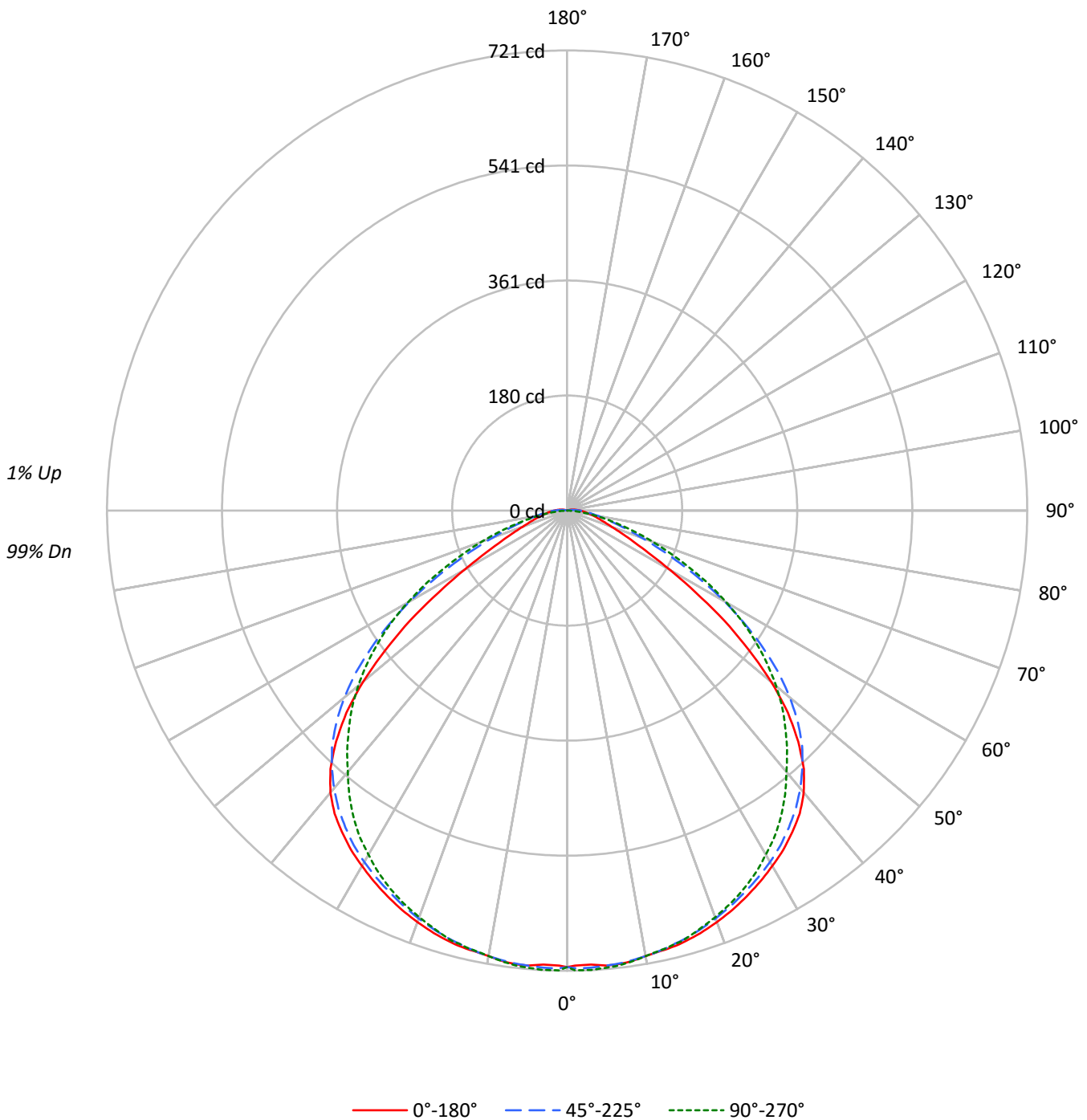
Input Watts (W): 29.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	111	111	106	106	106	101	101	101	99
1	109	105	101	97	107	103	99	96	98	95	93	94	92	90	91	89	87	85
2	100	92	86	81	98	90	85	80	87	82	78	84	79	76	80	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	63	61
4	84	73	64	58	82	71	63	57	69	62	57	66	61	56	64	59	55	53
5	78	65	56	50	75	64	56	50	62	55	49	60	53	49	58	52	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	42	40
7	66	53	45	39	65	52	44	39	51	44	38	49	43	38	48	42	38	36
8	62	49	40	35	60	48	40	34	47	39	34	45	39	34	44	38	34	32
9	58	45	37	31	56	44	36	31	43	36	31	42	35	31	41	35	30	29
10	54	41	33	28	53	41	33	28	40	33	28	39	32	28	38	32	28	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15837	15837	15837
5°	15906	15906	15977
10°	15937	15937	15937
15°	16063	15978	15999
20°	16167	16028	15976
25°	16286	16110	15988
30°	16440	16256	15919
35°	16622	16376	15800
40°	16673	16421	15453
45°	16030	16312	15147
50°	14382	15695	14727
55°	11597	14454	13979
60°	8219	12599	12781
65°	5942	10201	11034
70°	4791	8047	9226
75°	4500	6639	7298
80°	4973	6312	5560
85°	7266	7952	3684



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.0	3.5
10°-20°	196.8	10.1
20°-30°	304.1	15.5
30°-40°	376.2	19.2
40°-50°	390.1	19.9
50°-60°	313.5	16.0
60°-70°	180.6	9.2
70°-80°	82.6	4.2
80°-90°	31.7	1.6
90°-100°	10.0	0.5
100°-110°	2.3	0.1
110°-120°	0.1	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°	568.9	29.1
0°-40°	945.1	48.3
0°-60°	1648.7	84.3
0°-90°	1943.7	99.4
90°-120°	12.3	0.6
90°-150°	12.3	0.6
90°-180°	12.0	0.6
0°-180°	1956.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	715	715	715	715	715	
5°	716	715	716	712	719	68
15°	701	700	697	693	698	198
25°	667	665	659	652	654	308
35°	615	611	606	589	584	385
45°	512	518	521	497	484	391
55°	300	327	374	377	362	267
65°	113	132	195	227	211	118
75°	53	57	78	98	85	57
85°	29	29	31	29	14	25
90°	20	20	20	12	0	11
95°	14	13	10	4	0	10
105°	5	4	1	0	0	5
115°	0	0	0	0	0	0
125°	0	0	0	0	0	0
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°	25°	30°	35°	40°	45°	50°
0°	715.2	715.2	715.2	715.2	715.2	715.2	715.2	715.2	715.2	715.2	715.2
1°	712.9	712.4	711.1	711.5	714.7	717.4	718.3	717.9	718.3	717.0	716.5
2°	712.4	712.0	710.6	712.0	714.7	717.0	718.3	717.9	717.9	717.4	717.0
3°	712.4	712.4	710.6	712.4	714.7	716.5	717.4	717.4	717.4	717.0	716.5
4°	713.8	713.8	711.5	712.9	714.3	716.1	717.0	716.5	717.0	716.5	716.1
5°	715.6	714.3	712.0	712.9	714.7	715.6	716.5	715.6	716.1	715.6	715.6
6°	715.6	714.7	712.4	712.4	714.3	714.3	715.2	714.7	715.6	714.7	714.7
7°	714.7	713.8	711.5	712.0	712.9	713.8	714.7	714.3	714.3	713.8	713.4
8°	713.4	712.0	709.7	709.7	712.0	712.9	713.8	713.4	713.4	712.4	712.4
9°	711.1	709.7	707.0	707.5	709.7	711.1	712.0	712.0	711.5	710.6	710.6
10°	708.8	707.5	705.6	706.1	707.9	709.3	710.2	710.6	710.2	708.8	708.4
11°	707.0	706.1	703.8	704.3	707.0	707.9	708.4	708.8	708.4	707.0	707.0
12°	705.6	704.7	702.0	702.5	704.7	706.1	706.1	706.5	706.5	704.7	704.7
13°	704.3	702.9	700.7	701.1	702.5	704.7	704.7	704.7	704.7	702.5	702.9
14°	702.9	701.1	699.3	698.8	700.2	702.5	702.5	702.0	702.0	699.3	700.7
15°	700.7	699.7	697.9	697.9	699.3	700.2	700.2	700.2	699.3	697.0	698.8
17.5°	694.3	692.9	691.6	690.7	692.5	693.4	692.9	692.9	691.6	689.3	691.1
20°	686.1	684.8	683.4	682.5	683.4	683.9	683.9	683.4	682.0	680.2	681.1
22.5°	677.1	675.7	674.3	673.0	673.9	675.2	673.9	673.9	672.5	670.2	670.7
25°	666.6	665.7	664.3	663.0	664.3	664.8	663.4	663.4	662.1	659.4	659.4
27.5°	655.3	655.3	653.5	652.1	653.9	653.9	652.1	653.0	650.3	648.0	648.5
30°	643.0	643.0	641.2	639.8	640.8	641.2	639.4	639.4	637.6	635.8	634.9
32.5°	630.3	630.3	628.5	626.2	626.7	627.6	625.3	624.4	622.6	622.1	621.7
35°	614.9	614.9	613.1	610.8	611.3	611.3	609.4	608.1	606.7	605.8	604.4
37.5°	598.5	598.1	596.3	594.0	594.0	594.9	592.6	590.8	589.0	588.6	587.7
40°	576.8	576.8	575.0	573.6	573.6	574.0	572.7	571.3	569.5	568.1	566.8
42.5°	549.1	549.5	547.3	546.8	548.6	550.0	550.4	549.5	547.7	545.5	545.5
45°	511.9	513.7	512.3	512.8	516.0	519.1	520.5	521.9	521.9	520.9	519.1
47.5°	469.2	468.3	468.8	471.5	475.1	481.5	485.6	489.2	491.5	490.1	490.1
50°	417.5	417.9	418.4	423.4	427.9	437.0	444.3	449.3	453.3	455.6	455.2
52.5°	358.9	362.1	363.5	369.8	375.7	386.2	396.6	404.8	412.5	417.9	418.8
55°	300.4	300.0	304.9	312.2	321.3	333.1	345.8	355.8	366.7	374.4	379.8
57.5°	238.7	241.4	245.5	253.7	264.1	280.0	293.1	305.9	318.1	329.5	337.6
60°	185.6	187.0	191.5	198.3	208.3	222.8	241.0	255.9	269.1	284.5	294.1
62.5°	143.4	144.8	149.3	154.7	164.3	175.2	190.1	205.1	221.4	238.7	250.0
65°	113.4	113.4	116.2	120.7	127.5	137.5	149.3	162.9	178.3	194.7	207.4
67.5°	90.8	91.2	93.5	95.7	100.7	108.5	117.5	128.0	141.6	156.6	169.3
70°	74.0	74.9	76.2	77.6	80.8	86.2	92.6	100.7	111.2	124.3	136.6
72.5°	62.2	62.2	63.1	64.0	66.3	69.9	74.9	80.3	88.9	98.5	108.5
75°	52.6	53.1	53.1	54.0	55.8	58.1	61.3	64.9	70.3	77.6	85.8
77.5°	45.4	44.9	45.8	45.8	47.2	48.6	50.8	53.1	57.6	61.7	67.2
80°	39.0	38.6	39.0	39.0	39.9	40.8	41.7	43.6	46.7	49.5	52.6
82.5°	33.1	33.1	33.1	33.6	33.6	34.0	35.4	36.3	37.7	39.5	41.3
85°	28.6	28.6	28.6	28.6	29.0	29.0	29.0	30.0	30.4	31.3	32.2
87.5°	24.5	24.5	24.5	24.1	23.6	24.5	24.5	24.5	25.0	25.0	25.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
90°	20.4	20.9	20.0	20.0	20.0	20.0	20.0	19.5	19.5	19.5	18.6
92.5°	17.2	17.2	16.8	16.8	16.8	16.3	15.9	15.9	15.0	15.0	14.1
95°	14.1	14.1	14.1	13.6	13.2	13.2	12.7	12.3	11.3	10.4	9.5
97.5°	11.3	11.3	10.9	10.4	10.4	10.4	9.5	9.1	8.6	7.7	6.4
100°	8.6	8.6	8.6	8.6	8.2	7.7	7.3	6.8	5.9	5.0	4.1
102.5°	6.8	6.8	6.8	6.4	5.9	5.4	5.0	4.5	3.6	2.7	1.8
105°	5.0	5.0	5.0	4.5	4.1	3.6	3.2	2.7	2.3	1.4	0.5
107.5°	3.2	3.2	3.2	2.7	2.7	2.3	1.8	1.4	0.5	0.5	0.0
110°	1.8	1.8	1.8	1.4	1.4	1.4	0.5	0.5	0.0	0.0	0.0
112.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	715.2	715.2	715.2	715.2	715.2	715.2	715.2	715.2
1°	713.4	712.0	712.9	712.4	714.7	719.3	720.2	720.6
2°	713.4	712.0	713.4	712.9	714.7	718.8	720.2	720.6
3°	712.9	712.4	713.4	712.9	714.3	718.3	720.2	720.6
4°	712.9	712.0	712.9	712.4	713.4	717.4	719.3	719.7
5°	712.4	711.5	712.4	712.0	712.4	717.0	718.3	718.8
6°	711.5	710.2	712.0	711.1	711.5	715.6	717.4	717.9
7°	710.6	708.8	710.6	710.2	710.2	713.8	715.6	716.1
8°	709.7	707.5	709.3	708.8	708.8	712.0	713.4	714.3
9°	707.9	704.7	707.5	707.0	707.0	709.7	711.1	711.5
10°	706.1	702.9	705.2	705.6	704.7	707.5	708.8	708.8
11°	704.3	700.7	703.4	703.4	702.9	705.6	707.0	706.1
12°	702.0	698.4	701.1	701.1	701.1	702.9	704.3	704.3
13°	699.3	696.6	698.8	698.4	698.8	701.1	702.5	702.5
14°	697.0	693.8	696.1	696.1	696.1	698.8	699.7	699.7
15°	694.8	691.6	692.9	693.4	693.8	696.6	697.5	697.9
17.5°	686.1	684.3	683.9	685.2	685.7	687.0	687.5	687.9
20°	677.5	674.3	674.8	674.8	675.2	678.0	677.5	678.0
22.5°	668.0	663.4	663.4	664.8	664.3	667.5	666.2	667.1
25°	656.6	652.1	650.7	653.0	652.5	654.8	654.4	654.4
27.5°	644.4	640.8	637.6	640.3	638.9	640.3	639.4	639.8
30°	632.1	625.8	624.0	624.9	623.5	624.9	623.5	622.6
32.5°	618.1	610.8	607.2	609.0	606.7	608.1	605.8	605.4
35°	601.7	594.9	589.0	588.6	587.2	586.3	584.9	584.5
37.5°	584.5	577.2	570.9	567.7	564.5	563.6	561.3	560.9
40°	564.1	556.8	548.2	545.0	540.5	539.1	535.5	534.6
42.5°	540.5	534.1	525.5	520.5	516.9	513.7	510.1	510.1
45°	515.1	507.8	499.2	495.1	491.5	488.3	484.2	483.7
47.5°	486.5	479.7	472.4	466.9	464.2	461.0	457.9	457.4
50°	454.2	449.3	443.8	438.4	434.7	430.6	427.0	427.5
52.5°	420.2	416.6	412.5	407.5	403.4	398.9	395.7	395.7
55°	383.0	382.1	378.9	374.4	369.8	365.3	362.1	362.1
57.5°	343.5	344.9	344.0	339.0	335.4	329.5	327.2	326.7
60°	302.7	306.8	306.8	302.7	299.0	293.1	290.0	288.6
62.5°	260.0	265.5	267.3	264.6	261.4	255.9	251.9	251.4
65°	217.8	224.6	228.3	226.0	222.4	216.0	212.4	210.6
67.5°	180.6	187.4	188.3	189.2	185.6	181.1	177.0	175.2
70°	147.0	152.9	155.6	155.2	152.5	147.9	143.9	142.5
72.5°	117.5	123.4	126.2	124.3	122.1	118.4	114.8	112.5
75°	93.0	97.1	99.4	97.6	94.8	90.8	88.9	85.3
77.5°	72.2	75.3	76.7	74.9	71.7	68.5	65.3	62.6
80°	56.3	58.1	58.5	55.4	52.2	49.0	45.4	43.6
82.5°	43.1	44.0	43.1	39.5	35.8	32.2	29.0	27.2
85°	33.1	32.7	30.9	27.2	23.1	19.5	15.9	14.5
87.5°	24.5	23.6	21.3	17.7	13.6	10.0	6.8	5.4



TEST NUMBER: P273455

CATALOG NUMBER: 0.05-09W-835-90SYM-STD-UNV-AN-3F0

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
90°	17.7	16.8	14.1	10.9	7.3	4.1	1.8	0.0
92.5°	12.7	10.9	8.6	5.9	3.2	0.9	0.0	0.0
95°	8.6	6.8	5.0	2.7	0.9	0.0	0.0	0.0
97.5°	5.0	3.6	2.3	0.5	0.0	0.0	0.0	0.0
100°	2.7	1.4	0.5	0.0	0.0	0.0	0.0	0.0
102.5°	1.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
112.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)