

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: P273461

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P273461  
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-840-90SYM-STD-UNV-AN-3F0  
Description: iO LIGHTING SERIES 2.0 LINEAR LED LUMINAIRE. 90 DEGREE SYMMETRIC OPTIC.  
VERY HIGH OUTPUT  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1993.7 lumens  
Efficiency: N/A  
Efficacy: 68.0 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

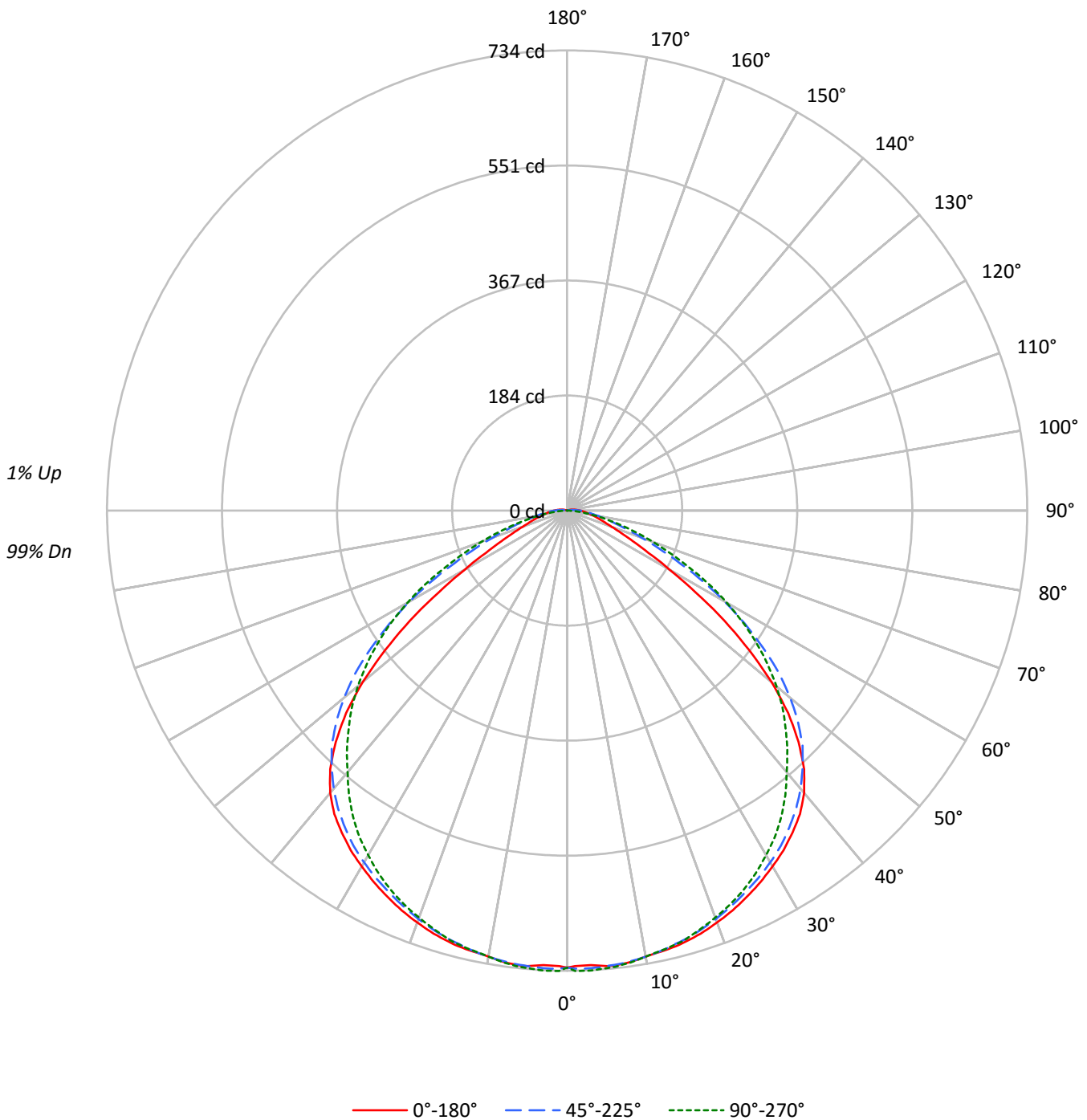
Input Watts (W): 29.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P273461

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

### Luminous Intensity Polar Plot





TEST NUMBER: P273461

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

**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°	16140	16140	16140
5°	16213	16213	16284
10°	16243	16243	16243
15°	16370	16285	16306
20°	16478	16337	16283
25°	16599	16418	16294
30°	16758	16568	16226
35°	16941	16692	16103
40°	16994	16739	15748
45°	16337	16628	15438
50°	14658	15998	15009
55°	11821	14732	14249
60°	8379	12843	13029
65°	6057	10395	11244
70°	4882	8203	9400
75°	4594	6767	7443
80°	5075	6427	5662
85°	7393	8105	3760



TEST NUMBER: P273461

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

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	69.3	3.5
10°-20°	200.6	10.1
20°-30°	309.9	15.5
30°-40°	383.4	19.2
40°-50°	397.6	19.9
50°-60°	319.5	16.0
60°-70°	184.1	9.2
70°-80°	84.2	4.2
80°-90°	32.4	1.6
90°-100°	10.2	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°	579.9	29.1
0°-40°	963.3	48.3
0°-60°	1680.4	84.3
0°-90°	1981.1	99.4
90°-120°	12.6	0.6
90°-150°	12.6	0.6
90°-180°	13.0	0.7
0°-180°	1993.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	729	729	729	729	729	
5°	729	729	729	726	733	69
15°	714	713	710	706	711	202
25°	679	677	672	664	667	314
35°	627	623	618	600	596	392
45°	522	528	531	507	493	398
55°	306	334	382	384	369	272
65°	116	135	198	231	215	120
75°	54	58	79	100	87	58
85°	29	30	32	30	15	26
90°	21	20	20	13	0	12
95°	14	13	11	4	0	11
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



TEST NUMBER: P273461

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

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	728.9	728.9	728.9	728.9	728.9	728.9	728.9	728.9	728.9	728.9	728.9
1°	726.6	726.1	724.8	725.2	728.5	731.2	732.2	731.7	732.2	730.8	730.3
2°	726.1	725.7	724.3	725.7	728.5	730.8	732.2	731.7	731.7	731.2	730.8
3°	726.1	726.1	724.3	726.1	728.5	730.3	731.2	731.2	731.2	730.8	730.3
4°	727.5	727.5	725.2	726.6	728.0	729.8	730.8	730.3	730.8	730.3	729.8
5°	729.4	728.0	725.7	726.6	728.5	729.4	730.3	729.4	729.8	729.4	729.4
6°	729.4	728.5	726.1	726.1	728.0	728.0	728.9	728.5	729.4	728.5	728.5
7°	728.5	727.5	725.2	725.7	726.6	727.5	728.5	728.0	728.0	727.5	727.1
8°	727.1	725.7	723.4	723.4	725.7	726.6	727.5	727.1	727.1	726.1	726.1
9°	724.8	723.4	720.6	721.1	723.4	724.8	725.7	725.7	725.2	724.3	724.3
10°	722.4	721.1	719.2	719.7	721.5	722.9	723.8	724.3	723.8	722.4	722.0
11°	720.6	719.7	717.4	717.8	720.6	721.5	722.0	722.4	722.0	720.6	720.6
12°	719.2	718.3	715.5	716.0	718.3	719.7	719.7	720.1	720.1	718.3	718.3
13°	717.8	716.4	714.1	714.6	716.0	718.3	718.3	718.3	718.3	716.0	716.4
14°	716.4	714.6	712.7	712.3	713.7	716.0	716.0	715.5	715.5	712.7	714.1
15°	714.1	713.2	711.3	711.3	712.7	713.7	713.7	713.7	712.7	710.4	712.3
17.5°	707.6	706.3	704.9	703.9	705.8	706.7	706.3	706.3	704.9	702.6	704.4
20°	699.3	697.9	696.5	695.6	696.5	697.0	697.0	696.5	695.2	693.3	694.2
22.5°	690.1	688.7	687.3	685.9	686.8	688.2	686.8	686.8	685.4	683.1	683.6
25°	679.4	678.5	677.1	675.7	677.1	677.6	676.2	676.2	674.8	672.0	672.0
27.5°	667.9	667.9	666.0	664.6	666.5	666.5	664.6	665.6	662.8	660.5	660.9
30°	655.4	655.4	653.5	652.1	653.1	653.5	651.7	651.7	649.8	648.0	647.1
32.5°	642.4	642.4	640.6	638.3	638.7	639.7	637.3	636.4	634.6	634.1	633.6
35°	626.7	626.7	624.9	622.5	623.0	623.0	621.2	619.8	618.4	617.5	616.1
37.5°	610.1	609.6	607.7	605.4	605.4	606.4	604.0	602.2	600.3	599.9	599.0
40°	587.9	587.9	586.0	584.6	584.6	585.1	583.7	582.3	580.5	579.1	577.7
42.5°	559.6	560.1	557.8	557.3	559.2	560.6	561.0	560.1	558.3	555.9	555.9
45°	521.7	523.6	522.2	522.6	525.9	529.1	530.5	531.9	531.9	531.0	529.1
47.5°	478.2	477.3	477.8	480.6	484.3	490.7	494.9	498.6	500.9	499.5	499.5
50°	425.5	426.0	426.4	431.5	436.2	445.4	452.8	457.9	462.1	464.4	463.9
52.5°	365.8	369.1	370.5	377.0	383.0	393.6	404.2	412.6	420.4	426.0	426.9
55°	306.2	305.7	310.8	318.2	327.5	339.5	352.4	362.6	373.7	381.6	387.1
57.5°	243.3	246.1	250.2	258.5	269.2	285.4	298.8	311.7	324.2	335.8	344.1
60°	189.2	190.6	195.2	202.1	212.3	227.1	245.6	260.9	274.3	290.0	299.7
62.5°	146.2	147.5	152.2	157.7	167.4	178.5	193.8	209.1	225.7	243.3	254.8
65°	115.6	115.6	118.4	123.0	130.0	140.1	152.2	166.0	181.8	198.4	211.4
67.5°	92.5	93.0	95.3	97.6	102.7	110.5	119.8	130.4	144.3	159.6	172.5
70°	75.4	76.3	77.7	79.1	82.3	87.9	94.4	102.7	113.3	126.7	139.2
72.5°	63.4	63.4	64.3	65.2	67.5	71.2	76.3	81.9	90.7	100.4	110.5
75°	53.7	54.1	54.1	55.0	56.9	59.2	62.4	66.1	71.7	79.1	87.4
77.5°	46.3	45.8	46.7	46.7	48.1	49.5	51.8	54.1	58.7	62.9	68.5
80°	39.8	39.3	39.8	39.8	40.7	41.6	42.6	44.4	47.6	50.4	53.7
82.5°	33.8	33.8	33.8	34.2	34.2	34.7	36.1	37.0	38.4	40.2	42.1
85°	29.1	29.1	29.1	29.1	29.6	29.6	29.6	30.5	31.0	31.9	32.8
87.5°	25.0	25.0	25.0	24.5	24.1	25.0	25.0	25.0	25.4	25.4	25.4



TEST NUMBER: P273461

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

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
90°	20.8	21.3	20.4	20.4	20.4	20.4	20.4	19.9	19.9	19.9	19.0
92.5°	17.6	17.6	17.1	17.1	17.1	16.7	16.2	16.2	15.3	15.3	14.3
95°	14.3	14.3	14.3	13.9	13.4	13.4	13.0	12.5	11.6	10.6	9.7
97.5°	11.6	11.6	11.1	10.6	10.6	10.6	9.7	9.3	8.8	7.9	6.5
100°	8.8	8.8	8.8	8.8	8.3	7.9	7.4	6.9	6.0	5.1	4.2
102.5°	6.9	6.9	6.9	6.5	6.0	5.6	5.1	4.6	3.7	2.8	1.9
105°	5.1	5.1	5.1	4.6	4.2	3.7	3.2	2.8	2.3	1.4	0.5
107.5°	3.2	3.2	3.2	2.8	2.8	2.3	1.9	1.4	0.5	0.5	0.0
110°	1.9	1.9	1.9	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



TEST NUMBER: P273461

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

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	728.9	728.9	728.9	728.9	728.9	728.9	728.9	728.9
1°	727.1	725.7	726.6	726.1	728.5	733.1	734.0	734.5
2°	727.1	725.7	727.1	726.6	728.5	732.6	734.0	734.5
3°	726.6	726.1	727.1	726.6	728.0	732.2	734.0	734.5
4°	726.6	725.7	726.6	726.1	727.1	731.2	733.1	733.5
5°	726.1	725.2	726.1	725.7	726.1	730.8	732.2	732.6
6°	725.2	723.8	725.7	724.8	725.2	729.4	731.2	731.7
7°	724.3	722.4	724.3	723.8	723.8	727.5	729.4	729.8
8°	723.4	721.1	722.9	722.4	722.4	725.7	727.1	728.0
9°	721.5	718.3	721.1	720.6	720.6	723.4	724.8	725.2
10°	719.7	716.4	718.7	719.2	718.3	721.1	722.4	722.4
11°	717.8	714.1	716.9	716.9	716.4	719.2	720.6	719.7
12°	715.5	711.8	714.6	714.6	714.6	716.4	717.8	717.8
13°	712.7	710.0	712.3	711.8	712.3	714.6	716.0	716.0
14°	710.4	707.2	709.5	709.5	709.5	712.3	713.2	713.2
15°	708.1	704.9	706.3	706.7	707.2	710.0	710.9	711.3
17.5°	699.3	697.5	697.0	698.4	698.9	700.2	700.7	701.2
20°	690.5	687.3	687.8	687.8	688.2	691.0	690.5	691.0
22.5°	680.8	676.2	676.2	677.6	677.1	680.4	679.0	679.9
25°	669.3	664.6	663.2	665.6	665.1	667.4	666.9	666.9
27.5°	656.8	653.1	649.8	652.6	651.2	652.6	651.7	652.1
30°	644.3	637.8	636.0	636.9	635.5	636.9	635.5	634.6
32.5°	629.9	622.5	618.8	620.7	618.4	619.8	617.5	617.0
35°	613.3	606.4	600.3	599.9	598.5	597.6	596.2	595.7
37.5°	595.7	588.3	581.8	578.6	575.4	574.4	572.1	571.7
40°	574.9	567.5	558.7	555.5	550.9	549.5	545.8	544.8
42.5°	550.9	544.4	535.6	530.5	526.8	523.6	519.9	519.9
45°	525.0	517.6	508.8	504.6	500.9	497.7	493.5	493.0
47.5°	495.8	488.9	481.5	475.9	473.2	469.9	466.7	466.2
50°	463.0	457.9	452.3	446.8	443.1	438.9	435.2	435.7
52.5°	428.3	424.6	420.4	415.3	411.2	406.6	403.3	403.3
55°	390.4	389.4	386.2	381.6	377.0	372.3	369.1	369.1
57.5°	350.1	351.5	350.6	345.5	341.8	335.8	333.5	333.0
60°	308.5	312.7	312.7	308.5	304.8	298.8	295.5	294.2
62.5°	265.0	270.6	272.4	269.6	266.4	260.9	256.7	256.2
65°	222.0	228.9	232.6	230.3	226.6	220.2	216.5	214.6
67.5°	184.1	191.0	191.9	192.9	189.2	184.5	180.4	178.5
70°	149.9	155.9	158.6	158.2	155.4	150.8	146.6	145.2
72.5°	119.8	125.8	128.6	126.7	124.4	120.7	117.0	114.7
75°	94.8	99.0	101.3	99.4	96.7	92.5	90.7	87.0
77.5°	73.5	76.8	78.2	76.3	73.1	69.8	66.6	63.8
80°	57.4	59.2	59.7	56.4	53.2	50.0	46.3	44.4
82.5°	43.9	44.9	43.9	40.2	36.5	32.8	29.6	27.8
85°	33.8	33.3	31.5	27.8	23.6	19.9	16.2	14.8
87.5°	25.0	24.1	21.7	18.0	13.9	10.2	6.9	5.6





TEST NUMBER: P273461

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

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
90°	18.0	17.1	14.3	11.1	7.4	4.2	1.9	0.0
92.5°	13.0	11.1	8.8	6.0	3.2	0.9	0.0	0.0
95°	8.8	6.9	5.1	2.8	0.9	0.0	0.0	0.0
97.5°	5.1	3.7	2.3	0.5	0.0	0.0	0.0	0.0
100°	2.8	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)