

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: P273449

Luminaire Tested: **0.05-09W-830-90SYM-STD-UNV-AN-3F0**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P273449  
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-830-90SYM-STD-UNV-AN-3F0  
Description: iO LIGHTING SERIES 2.0 LINEAR LED LUMINAIRE. 90 DEGREE SYMMETRIC OPTIC.  
VERY HIGH OUTPUT  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1880.8 lumens  
Efficiency: N/A  
Efficacy: 64.2 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

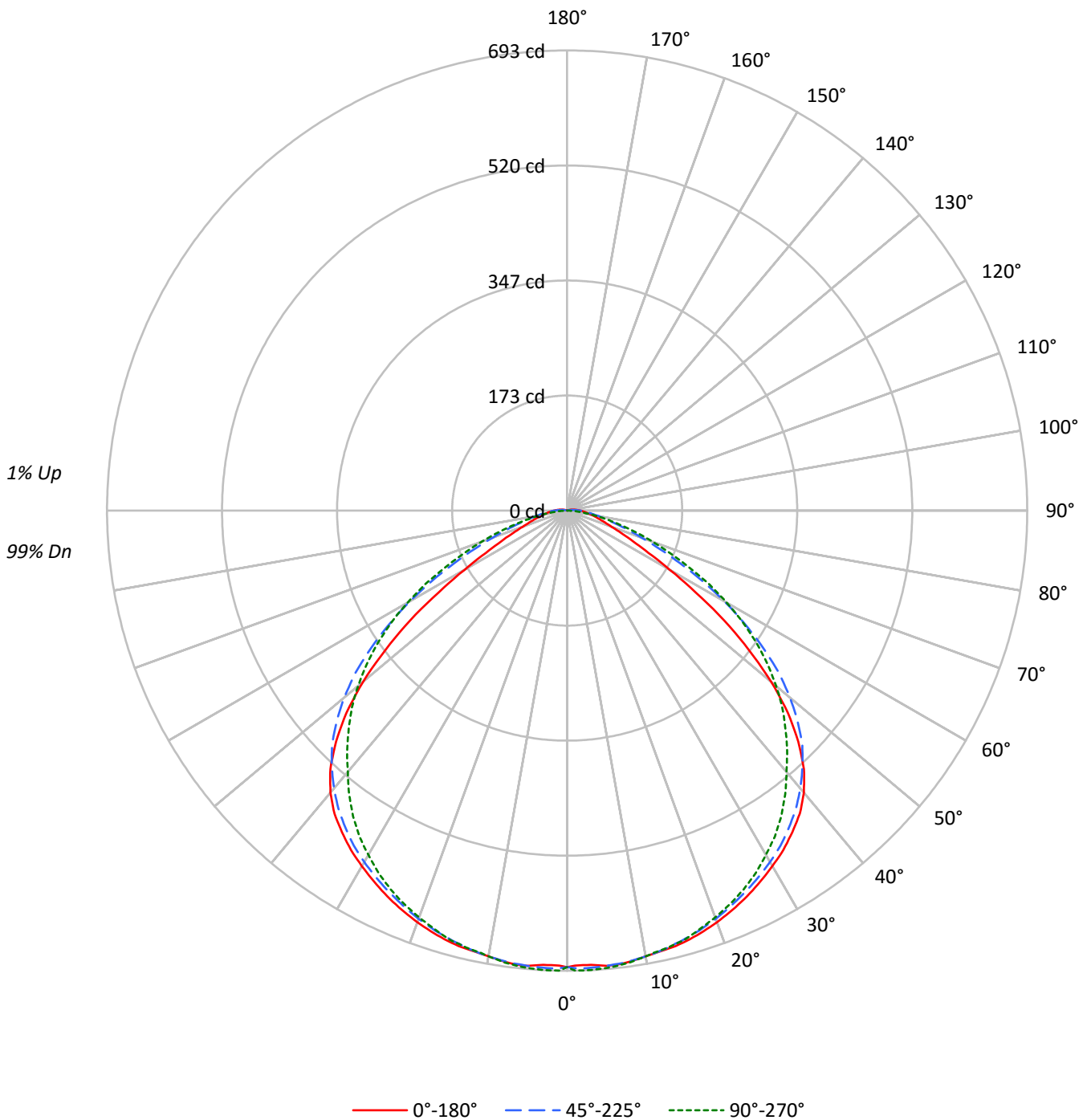
Input Watts (W): 29.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P273449

CATALOG NUMBER: 0.05-09W-830-90SYM-STD-UNV-AN-3F0

### Luminous Intensity Polar Plot





TEST NUMBER: P273449

CATALOG NUMBER: 0.05-09W-830-90SYM-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	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°	15228	15228	15228
5°	15295	15295	15364
10°	15325	15325	15325
15°	15444	15364	15384
20°	15545	15413	15361
25°	15661	15490	15373
30°	15809	15630	15308
35°	15981	15746	15192
40°	16031	15791	14857
45°	15413	15686	14564
50°	13827	15092	14158
55°	11153	13898	13442
60°	7905	12117	12289
65°	5716	9808	10610
70°	4603	7743	8870
75°	4329	6382	7015
80°	4782	6070	5343
85°	6987	7647	3557



TEST NUMBER: P273449

CATALOG NUMBER: 0.05-09W-830-90SYM-STD-UNV-AN-3F0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	65.4	3.5
10°-20°	189.3	10.1
20°-30°	292.4	15.5
30°-40°	361.7	19.2
40°-50°	375.1	19.9
50°-60°	301.4	16.0
60°-70°	173.7	9.2
70°-80°	79.5	4.2
80°-90°	30.5	1.6
90°-100°	9.6	0.5
100°-110°	2.2	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°	547.0	29.1
0°-40°	908.8	48.3
0°-60°	1585.3	84.3
0°-90°	1868.9	99.4
90°-120°	11.8	0.6
90°-150°	11.8	0.6
90°-180°	12.0	0.6
0°-180°	1880.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	688	688	688	688	688	
5°	688	688	688	685	691	65
15°	674	673	670	666	671	190
25°	641	639	634	627	629	296
35°	591	588	582	566	562	370
45°	492	498	501	478	465	376
55°	289	315	360	362	348	257
65°	109	127	187	218	202	113
75°	51	55	75	95	82	55
85°	28	28	30	28	14	24
90°	20	19	19	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



TEST NUMBER: P273449

CATALOG NUMBER: 0.05-09W-830-90SYM-STD-UNV-AN-3F0

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	687.7	687.7	687.7	687.7	687.7	687.7	687.7	687.7	687.7	687.7	687.7
1°	685.5	685.0	683.7	684.2	687.2	689.8	690.7	690.3	690.7	689.4	689.0
2°	685.0	684.6	683.3	684.6	687.2	689.4	690.7	690.3	690.3	689.8	689.4
3°	685.0	685.0	683.3	685.0	687.2	689.0	689.8	689.8	689.8	689.4	689.0
4°	686.4	686.4	684.2	685.5	686.8	688.5	689.4	689.0	689.4	689.0	688.5
5°	688.1	686.8	684.6	685.5	687.2	688.1	689.0	688.1	688.5	688.1	688.1
6°	688.1	687.2	685.0	685.0	686.8	686.8	687.7	687.2	688.1	687.2	687.2
7°	687.2	686.4	684.2	684.6	685.5	686.4	687.2	686.8	686.8	686.4	685.9
8°	685.9	684.6	682.4	682.4	684.6	685.5	686.4	685.9	685.9	685.0	685.0
9°	683.7	682.4	679.8	680.2	682.4	683.7	684.6	684.6	684.2	683.3	683.3
10°	681.6	680.2	678.5	678.9	680.7	682.0	682.9	683.3	682.9	681.6	681.1
11°	679.8	678.9	676.8	677.2	679.8	680.7	681.1	681.6	681.1	679.8	679.8
12°	678.5	677.6	675.0	675.4	677.6	678.9	678.9	679.4	679.4	677.6	677.6
13°	677.2	675.9	673.7	674.1	675.4	677.6	677.6	677.6	677.6	675.4	675.9
14°	675.9	674.1	672.4	672.0	673.3	675.4	675.4	675.0	675.0	672.4	673.7
15°	673.7	672.8	671.1	671.1	672.4	673.3	673.3	673.3	673.3	672.4	672.0
17.5°	667.6	666.3	665.0	664.1	665.8	666.7	666.3	666.3	665.0	662.8	664.5
20°	659.7	658.4	657.1	656.2	657.1	657.6	657.6	657.1	655.8	654.1	654.9
22.5°	651.0	649.7	648.4	647.1	648.0	649.3	648.0	648.0	646.6	644.5	644.9
25°	641.0	640.1	638.8	637.5	638.8	639.2	637.9	637.9	636.6	634.0	634.0
27.5°	630.1	630.1	628.3	627.0	628.8	628.8	627.0	627.9	625.3	623.1	623.5
30°	618.3	618.3	616.5	615.2	616.1	616.5	614.8	614.8	613.1	611.3	610.4
32.5°	606.1	606.1	604.3	602.1	602.6	603.5	601.3	600.4	598.7	598.2	597.8
35°	591.2	591.2	589.5	587.3	587.7	587.7	586.0	584.7	583.4	582.5	581.2
37.5°	575.5	575.1	573.3	571.2	571.2	572.0	569.9	568.1	566.4	565.9	565.1
40°	554.6	554.6	552.8	551.5	551.5	552.0	550.7	549.3	547.6	546.3	545.0
42.5°	528.0	528.4	526.2	525.8	527.5	528.8	529.3	528.4	526.7	524.5	524.5
45°	492.2	493.9	492.6	493.1	496.1	499.2	500.5	501.8	501.8	500.9	499.2
47.5°	451.2	450.3	450.7	453.4	456.8	463.0	466.9	470.4	472.6	471.2	471.2
50°	401.4	401.9	402.3	407.1	411.5	420.2	427.2	432.0	435.9	438.1	437.6
52.5°	345.1	348.2	349.5	355.6	361.3	371.3	381.4	389.2	396.6	401.9	402.7
55°	288.9	288.4	293.2	300.2	308.9	320.3	332.5	342.1	352.6	360.0	365.2
57.5°	229.5	232.1	236.1	243.9	253.9	269.2	281.9	294.1	305.9	316.8	324.6
60°	178.5	179.8	184.1	190.7	200.3	214.2	231.7	246.1	258.7	273.6	282.7
62.5°	137.9	139.2	143.6	148.8	158.0	168.4	182.8	197.2	212.9	229.5	240.4
65°	109.1	109.1	111.7	116.1	122.6	132.2	143.6	156.6	171.5	187.2	199.4
67.5°	87.3	87.7	89.9	92.1	96.9	104.3	113.0	123.0	136.1	150.5	162.8
70°	71.1	72.0	73.3	74.6	77.7	82.9	89.0	96.9	106.9	119.6	131.3
72.5°	59.8	59.8	60.7	61.5	63.7	67.2	72.0	77.2	85.5	94.7	104.3
75°	50.6	51.1	51.1	51.9	53.7	55.9	58.9	62.4	67.6	74.6	82.5
77.5°	43.6	43.2	44.1	44.1	45.4	46.7	48.9	51.1	55.4	59.3	64.6
80°	37.5	37.1	37.5	37.5	38.4	39.3	40.1	41.9	44.9	47.6	50.6
82.5°	31.9	31.9	31.9	32.3	32.3	32.7	34.0	34.9	36.2	38.0	39.7
85°	27.5	27.5	27.5	27.5	27.9	27.9	27.9	28.8	29.2	30.1	31.0
87.5°	23.6	23.6	23.6	23.1	22.7	23.6	23.6	23.6	24.0	24.0	24.0



TEST NUMBER: P273449

CATALOG NUMBER: 0.05-09W-830-90SYM-STD-UNV-AN-3F0

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
90°	19.6	20.1	19.2	19.2	19.2	19.2	19.2	18.8	18.8	18.8	17.9
92.5°	16.6	16.6	16.1	16.1	16.1	15.7	15.3	15.3	14.4	14.4	13.5
95°	13.5	13.5	13.5	13.1	12.7	12.7	12.2	11.8	10.9	10.0	9.2
97.5°	10.9	10.9	10.5	10.0	10.0	10.0	9.2	8.7	8.3	7.4	6.1
100°	8.3	8.3	8.3	8.3	7.9	7.4	7.0	6.5	5.7	4.8	3.9
102.5°	6.5	6.5	6.5	6.1	5.7	5.2	4.8	4.4	3.5	2.6	1.7
105°	4.8	4.8	4.8	4.4	3.9	3.5	3.1	2.6	2.2	1.3	0.4
107.5°	3.1	3.1	3.1	2.6	2.6	2.2	1.7	1.3	0.4	0.4	0.0
110°	1.7	1.7	1.7	1.3	1.3	1.3	0.4	0.4	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: P273449

CATALOG NUMBER: 0.05-09W-830-90SYM-STD-UNV-AN-3F0

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	687.7	687.7	687.7	687.7	687.7	687.7	687.7	687.7
1°	685.9	684.6	685.5	685.0	687.2	691.6	692.5	692.9
2°	685.9	684.6	685.9	685.5	687.2	691.2	692.5	692.9
3°	685.5	685.0	685.9	685.5	686.8	690.7	692.5	692.9
4°	685.5	684.6	685.5	685.0	685.9	689.8	691.6	692.0
5°	685.0	684.2	685.0	684.6	685.0	689.4	690.7	691.2
6°	684.2	682.9	684.6	683.7	684.2	688.1	689.8	690.3
7°	683.3	681.6	683.3	682.9	682.9	686.4	688.1	688.5
8°	682.4	680.2	682.0	681.6	681.6	684.6	685.9	686.8
9°	680.7	677.6	680.2	679.8	679.8	682.4	683.7	684.2
10°	678.9	675.9	678.1	678.5	677.6	680.2	681.6	681.6
11°	677.2	673.7	676.3	676.3	675.9	678.5	679.8	678.9
12°	675.0	671.5	674.1	674.1	674.1	675.9	677.2	677.2
13°	672.4	669.8	672.0	671.5	672.0	674.1	675.4	675.4
14°	670.2	667.2	669.3	669.3	669.3	672.0	672.8	672.8
15°	668.0	665.0	666.3	666.7	667.2	669.8	670.6	671.1
17.5°	659.7	658.0	657.6	658.9	659.3	660.6	661.0	661.5
20°	651.4	648.4	648.8	648.8	649.3	651.9	651.4	651.9
22.5°	642.3	637.9	637.9	639.2	638.8	641.8	640.5	641.4
25°	631.4	627.0	625.7	627.9	627.5	629.6	629.2	629.2
27.5°	619.6	616.1	613.1	615.7	614.4	615.7	614.8	615.2
30°	607.8	601.7	600.0	600.8	599.5	600.8	599.5	598.7
32.5°	594.3	587.3	583.8	585.6	583.4	584.7	582.5	582.1
35°	578.6	572.0	566.4	565.9	564.6	563.7	562.4	562.0
37.5°	562.0	555.0	548.9	545.9	542.8	541.9	539.7	539.3
40°	542.4	535.4	527.1	524.0	519.7	518.4	514.9	514.0
42.5°	519.7	513.6	505.3	500.5	497.0	493.9	490.4	490.4
45°	495.2	488.3	480.0	476.0	472.6	469.5	465.6	465.1
47.5°	467.8	461.2	454.2	449.0	446.4	443.3	440.3	439.8
50°	436.8	432.0	426.7	421.5	418.0	414.1	410.6	411.0
52.5°	404.0	400.6	396.6	391.8	387.9	383.5	380.5	380.5
55°	368.3	367.4	364.3	360.0	355.6	351.3	348.2	348.2
57.5°	330.3	331.6	330.7	325.9	322.5	316.8	314.6	314.2
60°	291.0	295.0	295.0	291.0	287.5	281.9	278.8	277.5
62.5°	250.0	255.3	257.0	254.4	251.3	246.1	242.2	241.7
65°	209.4	216.0	219.5	217.3	213.8	207.7	204.2	202.5
67.5°	173.7	180.2	181.1	182.0	178.5	174.1	170.2	168.4
70°	141.4	147.0	149.7	149.2	146.6	142.2	138.3	137.0
72.5°	113.0	118.7	121.3	119.6	117.4	113.9	110.4	108.2
75°	89.4	93.4	95.6	93.8	91.2	87.3	85.5	82.0
77.5°	69.4	72.4	73.7	72.0	68.9	65.9	62.8	60.2
80°	54.1	55.9	56.3	53.2	50.2	47.1	43.6	41.9
82.5°	41.5	42.3	41.5	38.0	34.5	31.0	27.9	26.2
85°	31.9	31.4	29.7	26.2	22.3	18.8	15.3	14.0
87.5°	23.6	22.7	20.5	17.0	13.1	9.6	6.5	5.2





TEST NUMBER: P273449

CATALOG NUMBER: 0.05-09W-830-90SYM-STD-UNV-AN-3F0

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
90°	17.0	16.1	13.5	10.5	7.0	3.9	1.7	0.0
92.5°	12.2	10.5	8.3	5.7	3.1	0.9	0.0	0.0
95°	8.3	6.5	4.8	2.6	0.9	0.0	0.0	0.0
97.5°	4.8	3.5	2.2	0.4	0.0	0.0	0.0	0.0
100°	2.6	1.3	0.4	0.0	0.0	0.0	0.0	0.0
102.5°	1.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.4	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)