

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: P397260

Luminaire Tested: **4VRVT2-LD5-4-DR100-W-UNV-LG52-CD1-WL-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P397260  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1710-355-20)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: 4VRVT2-LD5-4-DR100-W-UNV-LG52-CD1-WL-U  
Description:  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3178.4 lumens  
Efficiency: N/A  
Efficacy: 44.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.58 / 1.57  
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 4.17' x H: 0.17')  
CIE Type: Semi-Direct

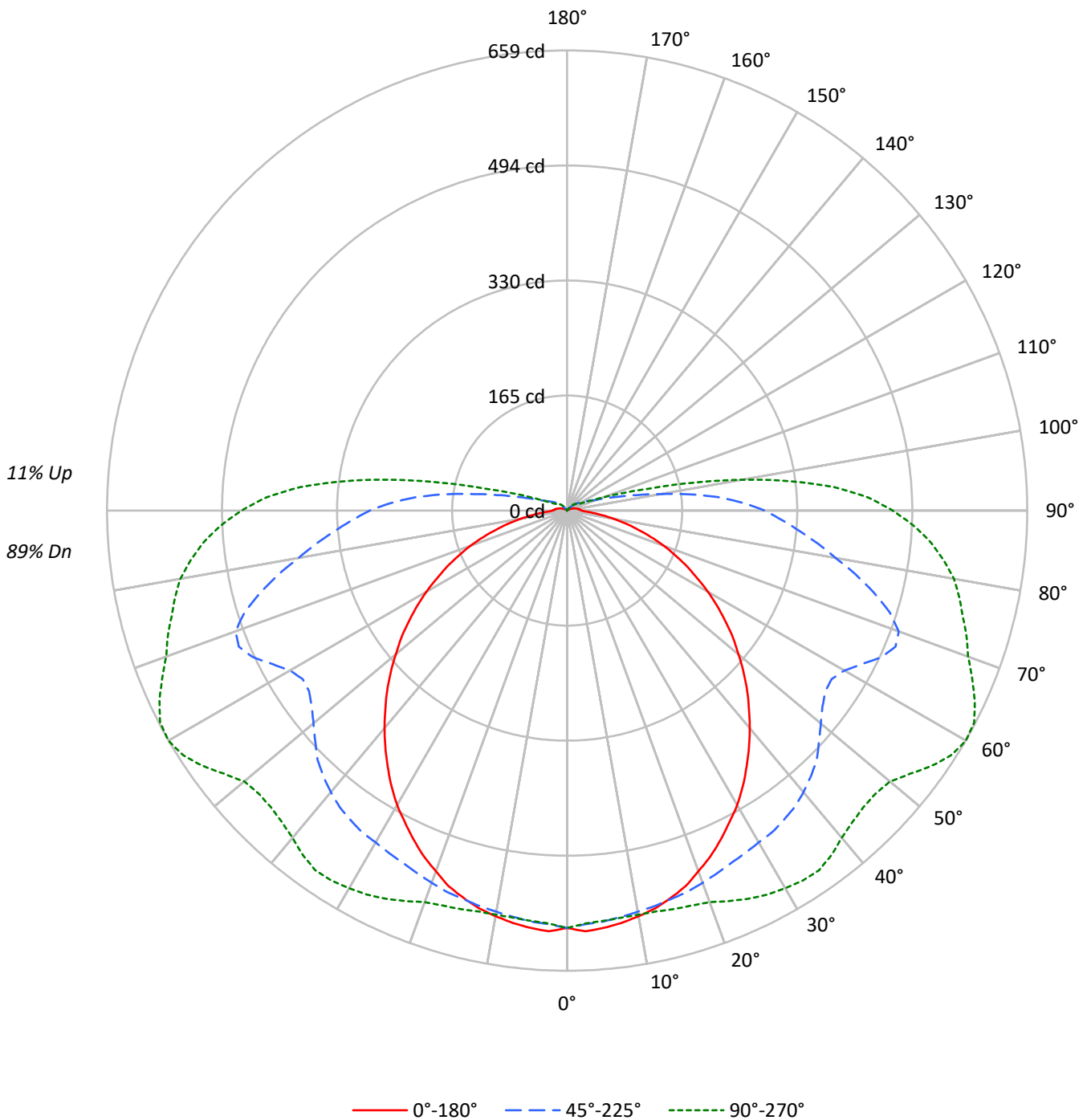
Input Watts (W): 71.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	116	116	116	116	112	112	112	112	105	105	105	98	98	98	92	92	92	89
1	101	94	88	82	97	91	85	80	84	80	75	78	74	71	73	70	67	64
2	90	79	70	63	86	76	68	61	71	64	58	66	60	55	61	56	52	49
3	81	68	58	50	77	65	56	49	61	53	47	56	50	44	52	47	42	39
4	73	59	49	41	70	57	48	40	53	45	38	49	42	37	46	40	35	32
5	67	52	42	35	64	50	41	34	47	39	32	44	37	31	41	35	30	27
6	62	47	37	30	59	45	36	29	42	34	28	39	32	27	37	30	26	23
7	57	42	32	26	54	41	32	25	38	30	24	36	29	23	33	27	22	20
8	53	38	29	23	51	37	28	22	35	27	21	32	26	21	30	24	20	18
9	49	35	26	20	47	34	25	20	32	24	19	30	23	18	28	22	18	16
10	46	32	24	18	44	31	23	18	29	22	17	28	21	17	26	20	16	14

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	3089	3089	3089
5°	3100	2995	2972
10°	3073	2924	2912
15°	3039	2876	2901
20°	2978	2846	2925
25°	2911	2825	3026
30°	2840	2840	3124
35°	2749	2880	3215
40°	2655	2908	3224
45°	2562	2921	3290
50°	2457	2899	3472
55°	2360	2952	3889
60°	2253	3249	4318
65°	2131	3877	4593
70°	2009	4424	4819
75°	1810	4575	5217
80°	1620	4650	5790
85°	1477	4923	6444



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	56.5	1.8
10°-20°	164.1	5.2
20°-30°	260.3	8.2
30°-40°	337.5	10.6
40°-50°	380.7	12.0
50°-60°	412.4	13.0
60°-70°	443.6	14.0
70°-80°	422.3	13.3
80°-90°	346.2	10.9
90°-100°	229.2	7.2
100°-110°	82.5	2.6
110°-120°	25.0	0.8
120°-130°	12.2	0.4
130°-140°	5.1	0.2
140°-150°	0.8	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	480.9	15.1
0°-40°	818.4	25.7
0°-60°	1611.5	50.7
0°-90°	2823.6	88.8
90°-120°	336.7	10.6
90°-150°	354.8	11.2
90°-180°	355.0	11.2
0°-180°	3178.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	598	598	598	598	598	
5°	600	597	591	592	590	57
15°	574	573	576	588	591	162
25°	520	528	557	601	613	240
35°	448	473	541	607	629	280
45°	365	408	505	573	600	281
55°	277	337	451	588	637	248
65°	189	264	497	626	644	187
75°	104	251	455	549	586	112
85°	36	182	334	473	523	36
90°	20	138	283	418	466	12
95°	18	98	218	337	384	14
105°	12	36	76	106	121	13
115°	6	16	32	30	28	6
125°	2	5	19	19	17	2
135°	1	0	8	11	11	1
145°	1	0	0	3	3	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: P397260

CATALOG NUMBER: 4VRVT2-LD5-4-DR100-W-UNV-LG52-CD1-WL-U

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	597.8	597.8	597.8	597.8	597.8	597.8	597.8	597.8	597.8	597.8	597.8
2.5°	603.1	602.0	600.4	599.9	599.9	599.9	599.9	598.8	597.2	595.0	593.0
5°	599.9	598.8	597.2	597.2	596.6	597.2	597.2	596.2	595.0	593.0	590.8
7.5°	595.6	595.0	593.0	591.8	591.8	591.8	593.0	591.8	591.4	589.2	587.0
10°	589.8	588.6	587.6	587.6	588.1	588.1	588.1	588.6	587.6	584.9	583.3
12.5°	583.3	581.7	580.6	580.6	581.2	581.2	581.7	581.7	581.7	580.1	580.1
15°	574.2	573.7	571.5	572.1	572.1	573.1	573.7	574.2	573.7	575.3	575.8
17.5°	564.1	563.5	561.4	561.4	562.5	563.0	564.6	566.7	567.8	569.9	572.6
20°	549.6	549.6	548.6	549.6	551.8	552.8	553.9	557.7	559.8	564.1	567.3
22.5°	536.2	535.2	535.2	536.2	538.4	541.0	543.2	548.6	552.3	557.7	561.9
25°	520.2	519.7	519.1	521.8	525.0	527.7	531.4	537.8	543.2	549.6	556.6
27.5°	503.1	502.6	503.7	505.8	511.7	515.4	518.6	527.2	533.6	543.8	552.8
30°	487.0	485.4	486.6	489.8	497.2	502.6	505.8	515.4	524.5	536.2	548.6
32.5°	468.3	466.7	468.9	473.7	482.2	487.6	493.5	503.7	514.3	528.8	546.4
35°	448.0	448.6	449.7	457.1	466.2	472.6	478.5	491.9	505.3	522.9	541.0
37.5°	427.8	426.6	431.0	439.5	450.2	458.2	464.1	478.0	496.7	515.9	535.2
40°	406.9	407.9	411.1	420.8	432.0	442.2	448.6	466.7	487.0	506.9	526.6
42.5°	385.5	388.2	391.4	402.6	416.5	424.5	434.2	453.9	475.3	496.2	516.5
45°	364.6	366.8	371.6	383.9	397.3	407.9	418.6	439.5	463.0	485.0	505.3
47.5°	342.7	344.9	351.3	364.1	379.0	390.8	402.1	424.5	448.6	471.0	489.2
50°	320.2	323.4	329.9	342.7	362.5	373.2	384.4	409.0	431.4	453.4	474.2
52.5°	299.4	301.0	311.2	323.4	343.8	356.1	366.8	391.9	413.3	437.9	460.9
55°	277.0	280.2	289.3	301.5	324.0	336.8	349.1	373.2	397.3	422.9	451.3
57.5°	255.0	257.7	267.4	281.2	305.3	317.6	329.4	355.5	380.2	412.2	449.1
60°	233.1	236.3	245.9	262.0	286.0	298.9	311.2	339.0	371.0	410.6	458.2
62.5°	210.1	215.4	222.4	242.2	266.8	279.6	294.6	326.6	368.9	419.2	475.8
65°	189.3	191.9	202.6	223.0	249.1	264.1	281.2	322.4	375.8	437.4	496.7
67.5°	167.4	171.1	182.9	205.3	234.7	252.3	273.8	326.6	391.9	457.1	509.0
70°	147.6	150.2	164.6	189.3	224.6	247.5	273.8	337.4	407.4	464.6	505.3
72.5°	125.7	129.9	147.6	177.5	220.2	248.1	279.1	348.6	410.6	454.5	484.4
75°	104.2	110.6	133.7	167.9	219.2	250.7	283.9	347.0	395.7	428.8	455.0
77.5°	86.6	94.6	120.3	161.4	217.0	248.1	278.6	328.2	367.3	398.9	423.4
80°	66.8	79.1	109.0	153.4	207.4	234.2	258.8	301.5	333.1	363.6	390.3
82.5°	50.8	64.7	97.3	141.1	187.7	210.1	229.4	267.4	300.5	329.4	361.9
85°	36.3	51.4	83.9	123.0	162.0	181.8	199.4	235.3	267.8	300.5	333.6
87.5°	25.1	40.1	71.1	105.4	140.1	156.1	173.2	207.4	239.5	271.0	307.4
90°	20.3	32.6	59.4	90.3	120.3	137.9	152.9	183.9	216.0	249.1	282.8
92.5°	19.3	27.3	49.8	76.5	104.2	118.7	132.6	161.0	190.9	221.9	251.8
95°	17.7	21.9	39.0	62.0	85.5	98.4	109.6	136.3	161.4	188.7	217.6
97.5°	16.6	17.7	29.9	48.1	67.9	78.6	87.7	108.6	131.0	151.8	178.0
100°	15.0	15.5	23.0	37.4	51.8	61.0	68.4	85.5	101.6	118.2	135.8
102.5°	13.4	13.4	17.7	27.8	40.6	46.5	53.0	66.8	78.6	89.3	102.6
105°	11.8	11.8	13.9	21.4	30.5	36.3	40.6	50.8	59.9	67.9	76.5
107.5°	10.7	10.2	11.2	16.6	24.1	28.3	32.6	40.1	47.0	52.4	58.2
110°	8.6	8.6	9.1	13.4	19.8	23.0	26.7	32.6	38.5	42.2	45.4



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CATALOG NUMBER: 4VRVT2-LD5-4-DR100-W-UNV-LG52-CD1-WL-U

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	7.5	7.0	7.0	10.7	16.0	19.3	21.9	27.8	32.6	35.8	37.4
115°	5.9	5.9	5.4	8.0	12.8	16.0	18.2	23.5	27.8	30.5	32.1
117.5°	4.8	4.8	4.8	5.9	10.7	12.8	15.5	20.3	24.1	26.7	28.3
120°	3.8	3.8	3.8	3.8	8.0	10.2	12.8	17.1	20.9	23.5	25.1
122.5°	3.2	2.6	2.6	2.6	5.4	8.0	9.6	13.9	17.7	20.3	22.5
125°	2.2	2.2	2.2	1.6	3.8	5.4	7.5	11.2	14.4	17.1	18.7
127.5°	1.6	1.6	1.6	1.6	1.6	3.2	4.8	8.6	11.8	14.4	16.0
130°	1.6	1.6	1.0	1.0	0.6	1.6	2.6	5.9	8.6	11.2	13.4
132.5°	1.0	1.0	1.0	0.6	0.6	0.6	1.0	3.8	6.4	8.6	10.2
135°	1.0	1.0	0.6	0.6	0.0	0.0	0.0	2.2	4.2	5.9	7.5
137.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.6	2.2	3.8	5.4
140°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.6	1.6	3.2
142.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.0
145°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.6	0.6	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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	597.8	597.8	597.8	597.8	597.8	597.8	597.8	597.8	597.8	597.8
2.5°	593.0	594.0	594.0	594.0	594.0	594.0	593.0	592.4	591.8	591.8
5°	590.2	591.4	591.8	591.8	591.8	591.8	591.4	590.8	590.2	589.8
7.5°	587.0	588.6	589.8	590.2	590.2	590.2	589.8	589.8	588.6	588.1
10°	583.8	585.4	587.0	588.1	588.6	588.6	588.6	588.6	588.1	587.6
12.5°	581.7	584.4	586.5	587.6	587.6	588.1	589.2	589.2	588.6	588.1
15°	579.0	583.3	586.0	587.6	587.6	588.6	590.8	590.8	590.2	590.8
17.5°	576.9	581.2	585.4	588.1	589.2	590.8	592.4	593.0	593.4	593.0
20°	572.6	579.6	585.4	588.6	590.8	591.4	595.0	597.8	597.8	596.6
22.5°	571.0	579.0	586.0	593.0	594.0	596.2	601.0	603.6	605.2	605.2
25°	567.8	578.5	588.6	597.2	601.0	603.6	608.4	612.7	611.7	613.3
27.5°	566.2	579.0	589.2	599.9	605.2	607.9	614.9	617.5	619.1	620.2
30°	565.1	579.6	590.8	602.6	606.8	612.2	618.6	622.9	625.0	624.5
32.5°	563.5	577.9	592.4	602.6	609.0	613.3	619.7	624.5	627.7	628.2
35°	559.8	576.3	589.8	602.0	606.8	612.2	619.7	622.3	627.7	628.7
37.5°	555.0	571.0	583.8	597.2	602.0	606.3	615.4	618.1	620.2	621.8
40°	547.5	562.5	576.3	589.2	593.4	598.2	604.7	609.0	612.2	611.7
42.5°	537.8	551.8	565.1	579.0	582.2	587.6	595.6	600.4	603.6	604.7
45°	522.3	538.4	553.9	566.2	572.6	578.5	587.6	593.0	596.6	600.4
47.5°	507.4	527.2	544.8	558.7	566.2	572.1	583.3	591.4	597.2	599.4
50°	495.6	515.9	536.2	557.1	565.1	572.6	585.4	594.0	600.4	603.6
52.5°	486.0	510.6	536.2	561.9	573.1	582.2	597.2	607.9	616.5	619.1
55°	482.2	513.3	545.9	575.3	588.1	599.9	617.0	627.1	635.7	637.3
57.5°	488.6	530.4	566.2	596.6	609.5	619.1	635.7	644.2	651.2	652.2
60°	506.3	550.2	587.6	613.8	627.1	635.7	648.0	654.4	659.2	659.2
62.5°	528.2	567.8	600.4	622.3	631.9	638.4	645.8	653.4	655.0	657.1
65°	544.8	579.0	601.5	617.5	626.1	628.7	636.8	640.0	644.2	644.2
67.5°	545.9	573.1	589.2	602.0	606.8	610.6	620.2	623.9	627.1	627.7
70°	531.4	550.2	568.3	579.6	584.9	592.4	601.5	607.4	610.6	611.1
72.5°	508.5	525.6	543.8	560.9	568.3	574.7	586.5	594.6	597.8	599.9
75°	480.6	499.4	521.3	541.6	549.1	555.5	572.1	579.6	586.0	586.5
77.5°	450.7	473.2	498.8	520.7	530.4	541.6	555.0	566.2	571.0	575.3
80°	420.8	449.7	475.8	501.5	510.6	523.4	539.4	552.3	557.7	562.5
82.5°	392.4	425.0	457.1	483.4	493.5	504.7	521.3	535.8	540.6	543.8
85°	367.8	401.5	433.0	459.8	472.6	482.2	501.0	513.3	520.2	522.9
87.5°	341.7	375.8	406.9	435.8	446.4	456.1	475.3	488.6	495.1	496.7
90°	316.0	351.3	380.2	405.3	418.1	429.8	447.5	459.8	466.2	466.2
92.5°	283.4	317.0	347.5	370.5	382.8	392.4	411.7	420.8	431.4	431.4
95°	245.9	275.4	303.7	327.2	337.4	347.5	363.6	375.8	381.8	384.4
97.5°	203.7	226.2	251.8	271.0	285.0	288.2	305.8	318.1	324.6	322.4
100°	153.4	171.1	191.4	207.4	218.2	224.0	236.3	243.3	252.9	253.9
102.5°	114.4	127.3	139.0	148.1	156.6	159.4	167.9	174.8	179.1	183.9
105°	83.9	91.4	98.4	104.8	106.4	111.2	118.2	123.0	120.3	120.8
107.5°	62.6	66.3	70.0	72.2	74.9	78.1	79.7	79.7	82.3	83.4
110°	47.6	49.8	51.4	51.8	53.0	53.0	53.0	53.0	53.4	54.6





TEST NUMBER: P397260

CATALOG NUMBER: 4VRVT2-LD5-4-DR100-W-UNV-LG52-CD1-WL-U

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	38.0	39.0	39.0	39.0	38.5	38.5	38.0	37.4	36.3	37.4
115°	32.6	32.6	31.5	31.0	30.5	29.9	28.9	27.8	27.3	28.3
117.5°	28.9	28.3	27.8	26.2	25.7	25.1	24.1	23.5	22.5	21.9
120°	25.7	25.7	24.6	24.1	23.5	22.5	21.4	20.9	19.8	19.3
122.5°	23.0	23.0	22.5	21.9	21.4	20.9	19.8	19.3	18.2	18.2
125°	19.8	20.3	20.3	19.8	19.3	19.3	18.2	17.7	17.1	17.1
127.5°	17.1	17.7	18.2	18.2	17.7	17.7	17.1	16.6	16.0	15.5
130°	14.4	15.5	15.5	16.0	16.0	15.5	15.5	15.0	14.4	14.4
132.5°	11.8	12.8	13.4	13.4	13.9	13.9	13.9	13.4	13.4	12.8
135°	9.1	10.2	10.7	11.2	11.2	11.8	11.8	11.2	11.2	11.2
137.5°	7.0	7.5	8.6	9.1	9.1	9.1	9.1	9.1	9.1	9.1
140°	4.2	5.4	6.4	6.4	7.0	7.0	7.0	7.0	7.0	7.0
142.5°	2.2	3.2	3.8	4.2	4.2	4.8	4.8	4.8	4.8	4.8
145°	0.6	1.0	1.6	2.2	2.6	2.6	2.6	2.6	2.6	2.6
147.5°	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6
150°	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
155°	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
160°	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
165°	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
170°	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
175°	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
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)