

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: P397220

Luminaire Tested: **2VRVT2-LD5-5-DR100-W-UNV-LA59-CD1-WL-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P397220  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1710-355-5)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: 2VRVT2-LD5-5-DR100-W-UNV-LA59-CD1-WL-U  
Description:  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1273.7 lumens  
Efficiency: N/A  
Efficacy: 21.3 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.56 / 1.56  
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 2.08' x H: 0.17')  
CIE Type: Direct

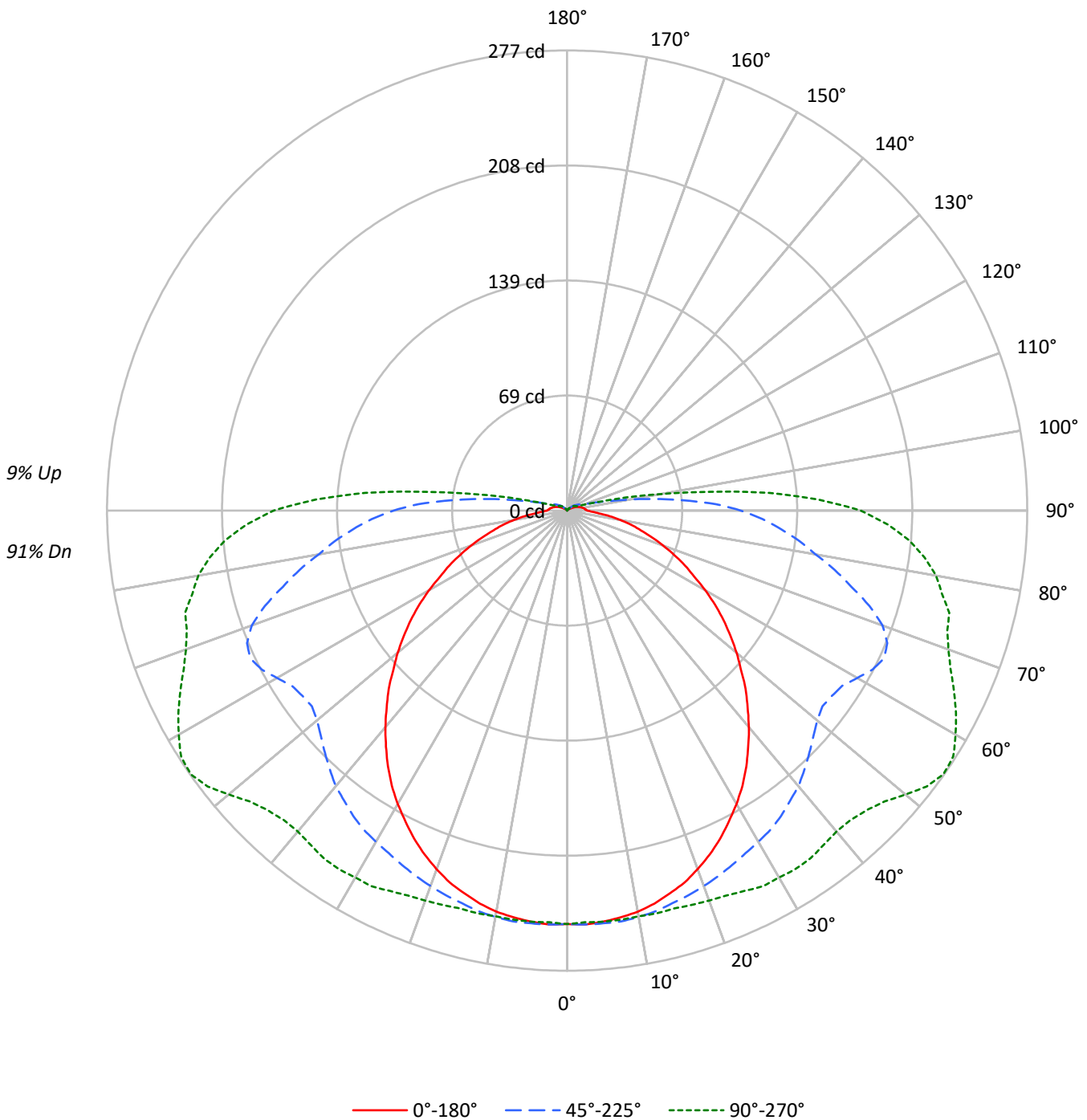
Input Watts (W): 59.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P397220

CATALOG NUMBER: 2VRVT2-LD5-5-DR100-W-UNV-LA59-CD1-WL-U

### 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	117	117	117	117	113	113	113	113	106	106	106	100	100	100	94	94	94	91
1	102	95	89	83	98	92	86	81	86	81	77	80	76	73	75	72	69	66
2	90	80	71	64	87	77	69	62	72	65	59	67	62	57	63	58	54	51
3	81	68	59	51	78	66	57	50	62	54	48	58	51	46	54	48	44	41
4	74	60	49	42	71	58	48	41	54	46	39	50	43	38	47	41	36	33
5	67	53	42	35	64	51	41	34	48	39	33	45	38	32	42	36	31	28
6	62	47	37	30	59	46	36	29	43	35	28	40	33	27	38	31	27	24
7	57	42	33	26	55	41	32	26	39	31	25	36	29	24	34	28	23	21
8	53	38	29	23	51	37	29	23	35	27	22	33	26	21	31	25	21	18
9	50	35	26	20	48	34	26	20	32	25	19	31	24	19	29	23	18	16
10	46	32	24	18	45	31	23	18	30	23	18	28	22	17	27	21	17	15

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

	0°	45°	90°
0°	2572	2572	2572
5°	2559	2522	2504
10°	2537	2479	2458
15°	2499	2428	2436
20°	2454	2390	2450
25°	2396	2361	2493
30°	2326	2350	2552
35°	2246	2351	2613
40°	2151	2346	2658
45°	2055	2332	2795
50°	1953	2342	3058
55°	1858	2472	3376
60°	1744	2766	3538
65°	1634	3164	3663
70°	1521	3385	3851
75°	1411	3384	4236
80°	1322	3401	4643
85°	1189	3534	5095



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	23.7	1.9
10°-20°	69.1	5.4
20°-30°	108.9	8.5
30°-40°	139.7	11.0
40°-50°	158.8	12.5
50°-60°	175.6	13.8
60°-70°	182.1	14.3
70°-80°	169.7	13.3
80°-90°	136.8	10.7
90°-100°	76.2	6.0
100°-110°	20.5	1.6
110°-120°	7.1	0.6
120°-130°	3.8	0.3
130°-140°	1.4	0.1
140°-150°	0.1	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	201.7	15.8
0°-40°	341.4	26.8
0°-60°	675.9	53.1
0°-90°	1164.6	91.4
90°-120°	103.8	8.1
90°-150°	109.1	8.6
90°-180°	109.0	8.6
0°-180°	1273.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	249	249	249	249	249	
5°	248	249	249	250	248	24
15°	239	241	245	248	248	67
25°	218	224	235	249	253	100
35°	188	199	224	248	256	117
45°	152	168	206	240	255	117
55°	115	137	194	259	277	103
65°	78	111	210	249	257	77
75°	46	107	177	219	238	49
85°	19	75	129	186	207	19
90°	12	55	104	155	177	7
95°	11	37	70	105	122	9
105°	8	13	19	22	21	8
115°	5	6	9	8	6	5
125°	2	2	6	5	5	2
135°	1	0	2	3	3	1
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: P397220

CATALOG NUMBER: 2VRVT2-LD5-5-DR100-W-UNV-LA59-CD1-WL-U

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	248.9	248.9	248.9	248.9	248.9	248.9	248.9	248.9	248.9	248.9	248.9
2.5°	249.4	249.4	249.4	249.4	249.4	249.4	249.4	249.4	249.4	249.4	249.4
5°	248.4	248.9	248.9	248.9	248.9	248.9	249.4	249.4	249.4	249.8	249.4
7.5°	247.0	247.5	247.5	247.5	248.0	248.0	248.4	248.4	248.9	249.4	249.4
10°	245.2	245.6	245.6	246.1	246.1	246.6	246.6	247.5	247.5	248.0	248.4
12.5°	242.3	242.3	242.8	243.7	244.2	244.2	244.7	245.2	246.1	246.6	247.0
15°	238.6	238.6	239.5	240.5	240.9	240.9	241.4	241.9	243.7	244.2	244.7
17.5°	234.8	234.4	235.3	236.3	236.7	237.2	237.7	239.1	240.0	241.4	242.8
20°	229.7	229.7	230.6	232.0	233.0	233.4	234.4	235.8	237.7	239.1	240.5
22.5°	224.1	224.5	225.0	226.4	227.8	228.8	229.2	231.1	233.4	235.3	238.1
25°	218.0	218.4	219.4	220.8	222.7	223.6	224.5	226.9	230.2	232.0	235.3
27.5°	210.9	211.4	212.8	214.2	216.6	218.0	219.4	221.7	225.0	228.3	232.5
30°	203.9	204.4	205.8	208.1	210.5	211.9	213.8	217.0	221.3	225.0	230.2
32.5°	196.4	196.9	198.3	201.6	203.9	205.8	207.2	211.4	216.1	221.7	227.8
35°	188.0	188.4	190.3	193.1	196.9	198.7	200.6	204.8	211.4	218.0	224.5
37.5°	179.1	180.0	182.3	184.7	188.9	190.8	193.6	199.2	205.8	213.3	220.3
40°	170.2	171.1	173.4	176.7	180.9	183.8	186.6	193.6	200.6	208.6	216.6
42.5°	160.8	162.2	164.5	168.3	173.0	175.8	179.1	187.0	195.5	203.4	211.4
45°	151.9	152.8	155.6	159.9	164.5	167.8	172.0	180.5	188.9	197.8	206.2
47.5°	142.0	143.4	146.2	151.4	157.0	160.8	164.5	173.9	182.8	191.7	201.1
50°	133.1	134.1	137.3	142.0	148.6	152.8	157.0	166.4	176.3	186.1	196.4
52.5°	123.8	124.7	128.4	133.1	140.2	144.8	149.1	158.9	169.2	180.9	193.6
55°	114.9	115.8	119.5	124.2	132.2	136.9	141.6	152.3	164.1	177.7	194.5
57.5°	105.5	105.9	110.2	115.8	124.2	128.9	133.6	145.8	160.3	177.2	196.4
60°	96.1	97.0	100.8	107.4	116.7	121.9	127.5	141.1	158.9	179.5	201.6
62.5°	86.2	88.1	92.3	99.4	109.7	115.8	122.3	138.7	159.9	184.2	207.2
65°	78.3	79.7	83.9	92.3	103.6	110.6	118.6	139.2	164.1	189.4	210.5
67.5°	69.8	71.7	76.9	85.8	99.4	107.8	117.7	142.0	168.8	192.2	208.6
70°	61.4	63.3	69.8	80.6	96.1	106.4	118.1	144.8	169.7	188.4	202.0
72.5°	53.4	56.7	63.8	76.9	94.7	106.4	119.5	144.8	165.9	180.5	190.8
75°	45.9	49.2	58.6	73.6	94.2	106.9	118.6	140.6	156.6	168.8	177.2
77.5°	39.4	43.1	54.4	70.8	92.3	103.6	113.9	131.3	143.9	154.7	165.0
80°	32.3	37.0	49.7	67.5	86.7	96.1	104.1	118.6	130.3	141.1	151.9
82.5°	25.8	31.4	45.0	61.9	78.3	86.2	92.8	105.5	116.7	128.0	141.1
85°	19.2	25.8	38.9	54.4	68.0	75.0	81.1	92.8	103.6	116.3	129.4
87.5°	14.5	20.6	32.8	46.4	58.6	64.7	69.8	80.6	91.9	104.1	117.7
90°	12.2	16.9	27.7	38.9	50.1	55.3	60.0	70.8	81.1	91.9	104.5
92.5°	11.3	14.1	23.0	32.3	41.7	45.9	50.6	59.5	68.4	78.8	89.5
95°	10.8	12.2	18.3	25.8	33.3	36.6	40.3	46.9	53.9	62.4	70.3
97.5°	10.3	10.8	14.5	20.2	25.8	28.1	30.9	36.6	41.7	46.9	53.0
100°	9.4	9.9	11.7	15.5	19.7	22.0	23.4	27.2	30.9	34.2	38.0
102.5°	8.9	8.9	9.9	12.2	15.0	16.4	17.8	20.6	23.0	25.3	26.7
105°	8.0	8.0	8.4	9.9	11.7	12.7	13.6	15.5	16.9	18.3	19.2
107.5°	7.0	7.0	7.0	8.4	9.9	10.3	11.3	12.2	13.6	14.1	14.5
110°	6.1	6.1	6.1	7.0	8.0	8.4	9.4	10.3	11.3	11.3	11.7



TEST NUMBER: P397220

CATALOG NUMBER: 2VRVT2-LD5-5-DR100-W-UNV-LA59-CD1-WL-U

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	5.6	5.2	5.2	5.6	7.0	7.5	8.0	8.9	9.4	9.9	9.9
115°	4.7	4.7	4.2	4.7	5.6	6.1	6.6	7.5	8.4	8.9	8.9
117.5°	3.8	3.8	3.8	3.8	4.7	5.2	5.6	6.6	7.5	8.0	8.0
120°	3.3	3.3	2.8	2.8	3.8	4.2	4.7	5.6	6.6	7.0	7.0
122.5°	2.4	2.4	2.4	2.4	2.8	3.3	3.8	4.7	5.6	6.1	6.1
125°	1.9	1.9	1.9	1.9	1.9	2.4	2.8	3.8	4.2	5.2	5.6
127.5°	1.9	1.4	1.4	1.4	1.4	1.4	1.9	2.8	3.8	4.2	4.7
130°	1.4	1.4	1.4	0.9	0.9	0.9	1.4	1.9	2.8	3.3	3.8
132.5°	0.9	0.9	0.9	0.9	0.9	0.5	0.9	1.4	1.9	2.4	2.8
135°	0.9	0.9	0.9	0.5	0.5	0.5	0.5	0.5	1.4	1.4	1.9
137.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.5	0.5	0.9	1.4
140°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.5
142.5°	0.5	0.5	0.5	0.5	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: P397220

CATALOG NUMBER: 2VRVT2-LD5-5-DR100-W-UNV-LA59-CD1-WL-U

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	248.9	248.9	248.9	248.9	248.9	248.9	248.9	248.9	248.9	248.9
2.5°	248.9	248.9	248.9	248.9	248.9	248.4	248.4	248.4	248.0	248.0
5°	249.8	249.8	249.8	249.8	249.8	249.4	249.4	248.9	248.9	248.4
7.5°	249.4	249.8	249.4	249.4	249.4	249.4	248.9	248.9	248.4	248.4
10°	248.4	248.9	248.9	249.4	249.4	249.4	248.9	248.9	248.0	248.0
12.5°	247.5	248.0	248.0	248.9	248.9	248.9	248.4	248.4	248.4	248.4
15°	245.6	246.6	248.0	248.4	248.4	248.4	248.0	248.0	248.0	248.0
17.5°	243.7	244.7	246.1	247.0	247.5	248.0	248.0	248.4	248.9	248.9
20°	241.9	243.7	245.2	246.6	247.0	247.5	248.4	249.4	249.8	249.8
22.5°	240.5	242.8	244.7	246.6	247.5	248.0	248.9	250.8	251.2	250.8
25°	238.6	242.3	244.7	248.0	248.9	249.8	250.8	252.2	252.6	252.6
27.5°	237.2	240.9	244.2	247.0	248.9	250.3	252.2	253.6	254.5	255.0
30°	234.8	240.0	244.2	248.0	249.4	250.8	253.6	255.0	255.5	255.0
32.5°	233.4	238.6	243.3	247.0	248.4	250.3	253.6	255.5	256.4	255.9
35°	230.6	236.7	241.9	246.6	248.0	249.8	252.6	255.0	255.5	255.5
37.5°	226.9	233.4	239.1	244.2	245.6	247.5	250.3	252.6	253.6	253.6
40°	223.6	229.7	235.8	240.9	242.8	244.7	248.0	251.2	252.6	252.2
42.5°	218.9	225.9	232.5	238.6	240.9	242.8	247.0	250.8	252.2	252.6
45°	214.2	222.2	229.7	236.7	240.5	243.3	248.4	253.1	255.5	255.0
47.5°	210.0	219.9	229.7	238.6	243.3	246.1	252.2	256.4	258.3	259.2
50°	207.6	220.3	232.0	241.4	246.1	249.8	256.9	261.6	264.4	265.8
52.5°	208.1	222.2	235.3	247.0	251.7	256.4	263.9	269.5	271.4	272.8
55°	210.9	226.9	241.4	254.1	259.2	263.4	270.0	273.3	276.1	276.6
57.5°	215.6	233.4	247.5	258.3	262.0	265.3	270.9	273.8	275.2	275.6
60°	222.2	238.1	249.4	258.7	261.1	263.9	267.7	269.5	269.5	270.0
62.5°	225.9	239.5	248.4	253.1	255.9	257.8	261.1	263.0	264.4	263.9
65°	225.0	235.8	241.9	247.5	248.9	250.8	252.6	255.9	255.9	256.9
67.5°	219.9	228.8	233.4	238.1	240.0	242.8	245.6	248.4	248.9	249.8
70°	210.9	218.0	223.1	228.8	230.6	233.4	237.7	241.9	243.3	244.2
72.5°	198.7	205.8	213.3	220.8	224.1	227.3	233.0	236.7	239.1	240.0
75°	186.1	195.0	204.8	214.2	218.9	223.1	228.3	234.4	235.8	238.1
77.5°	175.3	186.1	198.3	208.1	212.8	217.0	223.6	227.8	230.6	231.1
80°	164.5	176.3	188.9	200.1	205.3	209.5	217.0	221.7	225.5	225.5
82.5°	153.7	167.8	180.9	191.7	197.3	201.1	209.5	213.3	217.5	217.0
85°	143.0	157.5	170.2	180.9	186.1	190.8	198.3	203.4	206.7	206.7
87.5°	131.3	143.4	156.6	168.3	172.0	176.7	183.8	189.4	191.2	193.1
90°	117.2	128.9	141.6	150.9	155.1	159.9	166.9	172.0	174.8	176.7
92.5°	100.8	111.6	121.4	129.4	133.6	138.3	143.9	149.5	150.9	151.4
95°	79.2	87.2	96.1	103.6	105.0	109.7	114.4	119.5	121.9	121.9
97.5°	59.1	64.2	70.3	74.1	76.4	78.3	81.6	84.8	85.3	86.2
100°	41.7	44.5	47.8	50.6	51.6	53.0	54.9	56.7	56.7	56.7
102.5°	29.1	30.9	32.3	33.7	33.7	34.2	34.7	35.6	35.6	36.1
105°	20.2	21.1	21.1	21.1	21.6	21.6	21.1	21.6	22.0	21.1
107.5°	15.0	15.0	14.5	14.1	14.5	14.1	13.6	13.6	13.1	13.1
110°	11.7	11.3	10.8	10.8	10.3	10.3	9.9	9.4	8.9	9.4





TEST NUMBER: P397220

CATALOG NUMBER: 2VRVT2-LD5-5-DR100-W-UNV-LA59-CD1-WL-U

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	9.9	9.4	8.9	8.4	8.4	8.0	8.0	7.5	7.0	7.0
115°	8.9	8.4	8.0	7.5	7.5	7.5	7.0	6.6	6.6	6.1
117.5°	8.0	8.0	7.5	7.0	7.0	6.6	6.6	6.1	6.1	5.6
120°	7.0	7.0	7.0	6.6	6.6	6.1	6.1	5.6	5.6	5.6
122.5°	6.6	6.6	6.1	6.1	6.1	5.6	5.6	5.2	5.2	5.2
125°	5.6	5.6	5.6	5.6	5.2	5.2	5.2	4.7	4.7	4.7
127.5°	4.7	4.7	5.2	4.7	4.7	4.7	4.7	4.7	4.2	4.2
130°	3.8	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.8	3.8
132.5°	3.3	3.3	3.3	3.8	3.8	3.8	3.8	3.3	3.3	3.3
135°	2.4	2.4	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
137.5°	1.4	1.9	1.9	2.4	2.4	2.4	2.4	2.4	2.4	1.9
140°	0.9	0.9	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
142.5°	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9
145°	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
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)