

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: P397253

Luminaire Tested: **4VRVT2-LD5-4-DR-W-UNV-LA59-CD1-WL-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P397253  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1710-355-19)  
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-DR-W-UNV-LA59-CD1-WL-U  
Description:  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1109.6 lumens  
Efficiency: N/A  
Efficacy: 24.3 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.6 / 1.58  
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 4.17' x H: 0.17')  
CIE Type: Semi-Direct

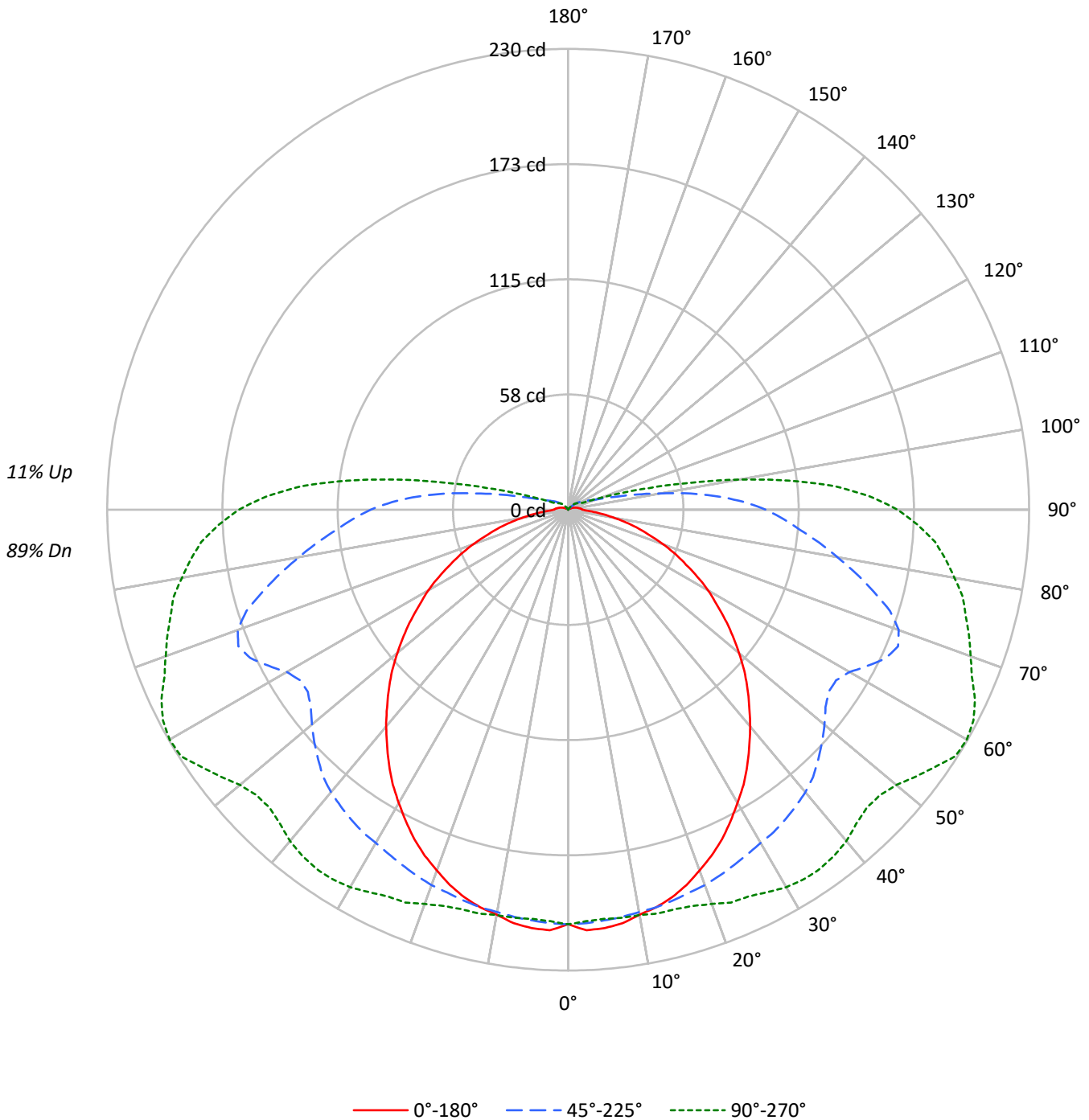
Input Watts (W): 45.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	75	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	51	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	33	26	21	31	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°	1069	1069	1069
5°	1083	1043	1033
10°	1069	1022	1018
15°	1060	1009	1013
20°	1038	1000	1027
25°	1016	993	1050
30°	985	994	1089
35°	956	1005	1119
40°	922	1017	1138
45°	889	1020	1154
50°	854	1020	1229
55°	815	1037	1365
60°	781	1149	1504
65°	731	1367	1596
70°	685	1537	1685
75°	634	1586	1827
80°	563	1625	2015
85°	517	1715	2264



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	19.7	1.8
10°-20°	57.4	5.2
20°-30°	91.0	8.2
30°-40°	117.9	10.6
40°-50°	133.4	12.0
50°-60°	144.9	13.1
60°-70°	154.9	14.0
70°-80°	147.5	13.3
80°-90°	121.2	10.9
90°-100°	79.7	7.2
100°-110°	27.7	2.5
110°-120°	8.2	0.7
120°-130°	4.1	0.4
130°-140°	1.7	0.2
140°-150°	0.3	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	168.1	15.2
0°-40°	286.0	25.8
0°-60°	564.3	50.9
0°-90°	987.9	89.0
90°-120°	115.6	10.4
90°-150°	121.7	11.0
90°-180°	122.0	11.0
0°-180°	1109.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	207	207	207	207	207	
5°	210	208	206	206	205	20
15°	200	200	202	206	206	56
25°	182	185	196	209	213	83
35°	156	166	189	211	219	97
45°	126	143	176	202	210	98
55°	96	117	159	208	224	86
65°	65	92	175	217	224	65
75°	36	88	158	192	205	38
85°	13	64	116	166	184	13
90°	7	47	99	148	164	4
95°	6	34	75	117	134	5
105°	4	12	26	35	42	4
115°	2	5	11	10	8	2
125°	1	2	6	7	6	1
135°	0	0	3	4	4	0
145°	0	0	0	1	1	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: P397253

CATALOG NUMBER: 4VRVT2-LD5-4-DR-W-UNV-LA59-CD1-WL-U

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	206.9	206.9	206.9	206.9	206.9	206.9	206.9	206.9	206.9	206.9	206.9
2.5°	210.1	209.6	209.0	208.8	208.8	208.8	208.8	208.4	207.9	207.3	206.6
5°	209.6	209.2	208.6	208.2	208.2	208.2	208.2	207.9	207.3	206.6	205.8
7.5°	208.2	207.7	206.9	206.8	206.6	206.6	206.8	206.6	206.0	205.6	205.0
10°	205.2	205.0	204.5	204.3	204.7	204.9	204.9	204.9	204.7	204.3	203.9
12.5°	203.2	202.4	202.1	202.2	202.4	202.4	202.8	203.0	203.0	203.2	203.2
15°	200.2	199.4	199.2	199.8	200.0	200.4	200.4	200.8	200.9	201.5	201.9
17.5°	196.4	196.3	195.5	196.1	197.0	197.6	197.6	198.3	198.9	199.4	200.4
20°	191.6	191.4	191.0	191.8	192.9	193.5	194.4	195.5	196.3	198.3	199.4
22.5°	186.9	186.7	186.2	187.3	188.4	189.7	190.8	192.3	194.0	195.9	197.6
25°	181.5	181.3	181.1	183.0	184.3	185.2	186.5	188.8	190.8	193.5	195.7
27.5°	175.3	175.5	175.9	177.5	179.6	180.9	182.2	185.4	187.7	190.5	193.8
30°	169.0	169.0	170.1	171.8	174.7	176.1	177.7	181.5	183.7	188.0	192.0
32.5°	162.8	162.8	163.3	165.4	169.3	171.0	173.1	176.6	180.3	185.6	190.8
35°	155.8	155.8	157.0	159.8	163.7	165.6	167.8	172.3	177.0	183.0	188.8
37.5°	148.4	148.7	150.6	153.6	158.3	160.7	162.6	167.6	173.4	180.0	186.5
40°	141.3	141.6	143.9	147.3	152.3	154.5	157.0	163.3	169.3	176.4	184.1
42.5°	133.8	134.9	136.9	140.9	145.7	148.2	151.5	158.1	164.8	172.5	180.9
45°	126.5	127.4	129.7	134.1	139.6	142.6	146.1	153.0	160.5	168.2	176.4
47.5°	119.2	119.9	122.7	127.0	132.8	136.8	140.5	147.8	155.8	164.4	171.8
50°	111.3	112.3	115.1	119.7	126.3	130.2	134.0	142.0	150.2	158.8	166.9
52.5°	103.5	104.4	108.1	113.4	120.1	123.7	128.0	136.6	144.8	153.6	161.8
55°	95.6	96.7	100.7	105.3	112.8	117.1	121.0	130.2	139.2	148.6	158.6
57.5°	87.6	89.2	92.8	98.6	105.7	110.2	114.5	124.2	133.8	145.2	158.5
60°	80.8	81.4	85.0	91.1	99.0	103.5	108.5	118.4	130.4	145.0	162.0
62.5°	72.8	74.6	77.6	84.0	92.1	97.7	102.7	114.9	129.7	149.1	168.6
65°	64.9	66.8	70.5	77.4	86.8	92.4	98.4	113.6	132.7	155.3	175.1
67.5°	58.0	59.5	63.6	71.7	82.1	88.5	96.5	115.4	138.3	161.1	178.1
70°	50.3	52.2	57.1	66.2	79.1	87.0	96.9	119.6	142.9	162.8	175.5
72.5°	42.8	45.3	51.5	62.3	77.4	87.2	98.8	122.4	143.5	158.3	168.4
75°	36.5	38.5	46.2	58.9	77.1	87.9	99.9	121.2	137.7	148.4	157.7
77.5°	29.7	32.6	42.3	56.7	76.3	87.2	97.3	114.3	127.8	138.1	147.1
80°	23.2	27.3	38.0	53.7	72.8	81.0	89.2	103.7	116.2	126.7	136.4
82.5°	17.8	22.3	33.9	49.6	65.1	72.6	79.9	92.8	104.0	115.8	126.3
85°	12.7	17.8	29.6	43.2	56.5	63.6	69.4	81.6	92.4	104.6	116.2
87.5°	8.8	14.0	24.3	36.5	48.6	54.3	60.1	71.7	83.1	95.4	107.6
90°	7.1	11.4	20.4	31.2	42.1	47.3	53.1	64.2	74.8	86.6	98.6
92.5°	6.7	9.4	17.0	26.2	36.1	41.2	45.8	55.7	66.2	77.6	87.8
95°	6.2	7.5	13.7	21.3	29.6	33.9	38.0	46.8	55.9	66.2	75.4
97.5°	5.6	6.2	10.5	16.5	23.4	26.9	30.3	37.0	45.3	52.6	61.7
100°	5.0	5.2	7.9	12.7	17.8	20.8	23.4	29.4	34.8	40.6	46.6
102.5°	4.5	4.5	6.0	9.5	13.8	15.7	17.9	22.3	26.4	30.1	35.0
105°	4.1	4.1	4.9	7.1	10.3	12.0	13.7	17.0	20.2	22.8	25.5
107.5°	3.6	3.6	3.9	5.6	8.0	9.5	10.7	13.3	15.7	17.6	19.1
110°	3.0	3.0	3.0	4.5	6.6	7.7	9.0	11.0	12.7	14.0	15.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	2.4	2.4	2.4	3.8	5.4	6.4	7.5	9.2	10.7	11.6	12.3
115°	2.1	2.1	1.9	2.8	4.5	5.4	6.4	7.9	9.2	10.1	10.7
117.5°	1.7	1.7	1.5	2.1	3.6	4.5	5.2	6.7	8.0	9.0	9.4
120°	1.3	1.3	1.1	1.3	2.8	3.6	4.5	5.8	6.9	7.9	8.4
122.5°	0.9	0.9	0.9	0.9	1.9	2.6	3.4	4.7	6.0	6.9	7.5
125°	0.8	0.8	0.8	0.6	1.3	1.9	2.6	3.9	4.9	5.8	6.4
127.5°	0.6	0.6	0.6	0.6	0.6	1.1	1.7	3.0	3.9	4.9	5.4
130°	0.6	0.6	0.4	0.4	0.4	0.6	1.1	2.1	3.0	3.8	4.5
132.5°	0.4	0.4	0.4	0.2	0.2	0.2	0.6	1.3	2.2	3.0	3.6
135°	0.4	0.4	0.2	0.2	0.0	0.0	0.0	0.8	1.5	2.1	2.6
137.5°	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.2	0.8	1.3	1.9
140°	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.8	1.1
142.5°	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4
145°	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.2	0.2	0.2	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°	206.9	206.9	206.9	206.9	206.9	206.9	206.9	206.9	206.9	206.9
2.5°	206.4	206.6	206.8	206.8	206.6	206.6	206.2	206.2	205.8	205.6
5°	205.6	206.0	206.2	206.2	206.0	206.0	205.8	205.6	205.2	205.0
7.5°	205.0	205.6	206.0	206.0	206.0	206.0	205.8	205.8	205.6	205.4
10°	204.3	204.9	205.4	206.2	206.4	206.4	206.2	206.0	205.6	205.4
12.5°	203.6	204.3	205.0	205.8	206.0	206.2	206.6	206.6	206.4	206.4
15°	202.8	204.1	205.2	206.2	206.4	206.9	207.1	207.3	206.9	206.4
17.5°	202.1	203.8	204.7	206.2	206.6	206.9	207.3	207.5	207.5	207.3
20°	201.3	203.4	205.0	206.6	206.9	207.5	208.2	208.8	209.4	209.4
22.5°	200.2	202.8	204.7	206.9	208.2	208.8	210.3	211.0	211.4	212.2
25°	198.7	201.5	205.2	207.9	208.8	209.9	212.2	213.3	213.3	212.9
27.5°	198.0	202.2	206.0	208.6	209.9	211.2	213.3	215.0	215.5	215.2
30°	197.0	201.7	206.0	209.4	210.9	212.5	214.6	217.2	217.6	217.6
32.5°	195.9	200.9	206.0	209.7	211.6	213.1	215.5	218.0	218.9	218.7
35°	194.8	200.4	205.2	209.4	211.4	213.3	216.1	218.0	218.7	218.9
37.5°	193.1	199.1	203.9	208.4	210.7	212.4	215.3	216.7	217.8	217.8
40°	190.7	196.8	202.2	206.6	208.2	209.9	212.7	214.2	215.2	215.9
42.5°	187.9	193.8	199.1	202.8	205.0	206.4	209.6	211.0	212.5	212.7
45°	183.5	190.1	195.1	199.8	201.9	203.2	206.8	209.2	210.5	210.5
47.5°	179.1	185.2	191.2	197.0	199.4	201.7	205.8	208.8	210.3	210.9
50°	174.0	181.7	188.8	196.3	199.4	202.2	207.1	210.5	212.4	213.7
52.5°	170.8	180.7	189.5	198.3	201.9	205.6	211.8	215.3	218.0	218.7
55°	170.4	182.4	193.3	203.8	207.9	211.4	218.0	221.9	223.9	223.6
57.5°	173.3	187.9	200.6	210.1	214.6	218.0	223.9	227.5	229.0	229.0
60°	179.4	195.0	207.3	215.7	219.3	222.5	226.8	229.2	229.9	229.6
62.5°	185.8	200.0	210.3	217.2	219.8	221.3	224.9	226.8	227.5	227.9
65°	190.8	202.4	209.6	214.6	216.7	218.1	220.9	223.2	223.6	223.9
67.5°	190.3	198.3	204.7	209.4	211.0	212.5	215.3	217.0	218.3	218.0
70°	185.1	191.4	197.4	202.2	204.1	206.2	209.6	212.2	212.7	213.7
72.5°	175.9	182.4	189.7	194.6	198.0	200.0	204.1	207.5	208.8	209.7
75°	166.3	174.0	181.3	188.6	192.1	195.5	200.4	202.8	206.0	205.4
77.5°	156.2	166.2	174.7	183.0	186.7	190.3	195.3	198.7	200.8	201.7
80°	147.6	158.1	167.6	176.4	180.0	184.1	189.3	192.9	195.1	195.7
82.5°	137.9	149.3	160.2	169.3	173.1	176.6	182.6	186.3	189.2	189.9
85°	128.4	140.5	151.7	161.6	165.6	169.5	175.9	180.0	182.6	183.7
87.5°	120.3	131.7	143.1	152.5	157.2	160.9	167.3	172.1	174.6	174.6
90°	110.4	122.0	133.4	142.7	148.0	150.6	157.0	161.5	164.4	164.3
92.5°	99.9	110.9	120.5	129.8	134.1	137.5	144.3	147.6	150.2	150.8
95°	85.7	95.6	105.5	113.4	116.8	122.0	127.0	131.3	133.0	133.8
97.5°	69.0	79.0	85.9	95.4	97.7	101.2	106.5	110.0	111.7	111.1
100°	52.9	59.5	64.9	70.9	74.5	76.7	81.2	84.8	86.6	86.4
102.5°	37.6	42.8	46.8	51.5	51.8	53.9	56.7	60.3	61.0	61.9
105°	27.9	29.9	32.9	34.6	35.4	37.8	38.4	39.8	40.0	41.9
107.5°	20.8	21.9	23.0	23.9	24.5	24.7	26.2	26.0	26.4	26.8
110°	15.7	16.3	17.0	16.7	17.4	16.8	17.2	17.0	17.2	17.2





TEST NUMBER: P397253

CATALOG NUMBER: 4VRVT2-LD5-4-DR-W-UNV-LA59-CD1-WL-U

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	12.7	12.7	12.5	12.3	12.3	12.2	12.2	11.6	11.8	11.6
115°	10.9	10.7	10.3	9.9	9.9	9.5	9.4	8.8	8.6	8.4
117.5°	9.5	9.4	9.0	8.6	8.4	8.2	7.9	7.3	7.1	7.1
120°	8.6	8.4	8.2	7.9	7.7	7.5	6.9	6.7	6.4	6.4
122.5°	7.7	7.7	7.5	7.1	7.1	6.9	6.6	6.2	6.0	6.0
125°	6.7	6.9	6.7	6.6	6.6	6.4	6.2	5.8	5.6	5.6
127.5°	5.8	6.0	6.0	6.0	6.0	5.8	5.6	5.4	5.2	5.2
130°	4.9	5.2	5.2	5.2	5.4	5.2	5.2	5.0	4.9	4.9
132.5°	3.9	4.3	4.5	4.7	4.7	4.7	4.5	4.5	4.3	4.3
135°	3.0	3.4	3.8	3.8	3.9	3.9	3.9	3.9	3.8	3.8
137.5°	2.2	2.6	2.8	3.0	3.0	3.2	3.2	3.2	3.0	3.0
140°	1.5	1.9	2.1	2.2	2.2	2.4	2.4	2.4	2.2	2.2
142.5°	0.8	1.1	1.3	1.5	1.5	1.5	1.7	1.7	1.7	1.5
145°	0.2	0.4	0.6	0.8	0.8	0.8	0.9	0.9	0.9	0.8
147.5°	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2
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)