

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: P397205

Luminaire Tested: **2VRVT2-LD5-4-DR100-W-UNV-LA59-CD1-WL-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P397205
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-LD5-4-DR100-W-UNV-LA59-CD1-WL-U
Description:
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1002.9 lumens
Efficiency: N/A
Efficacy: 22.7 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

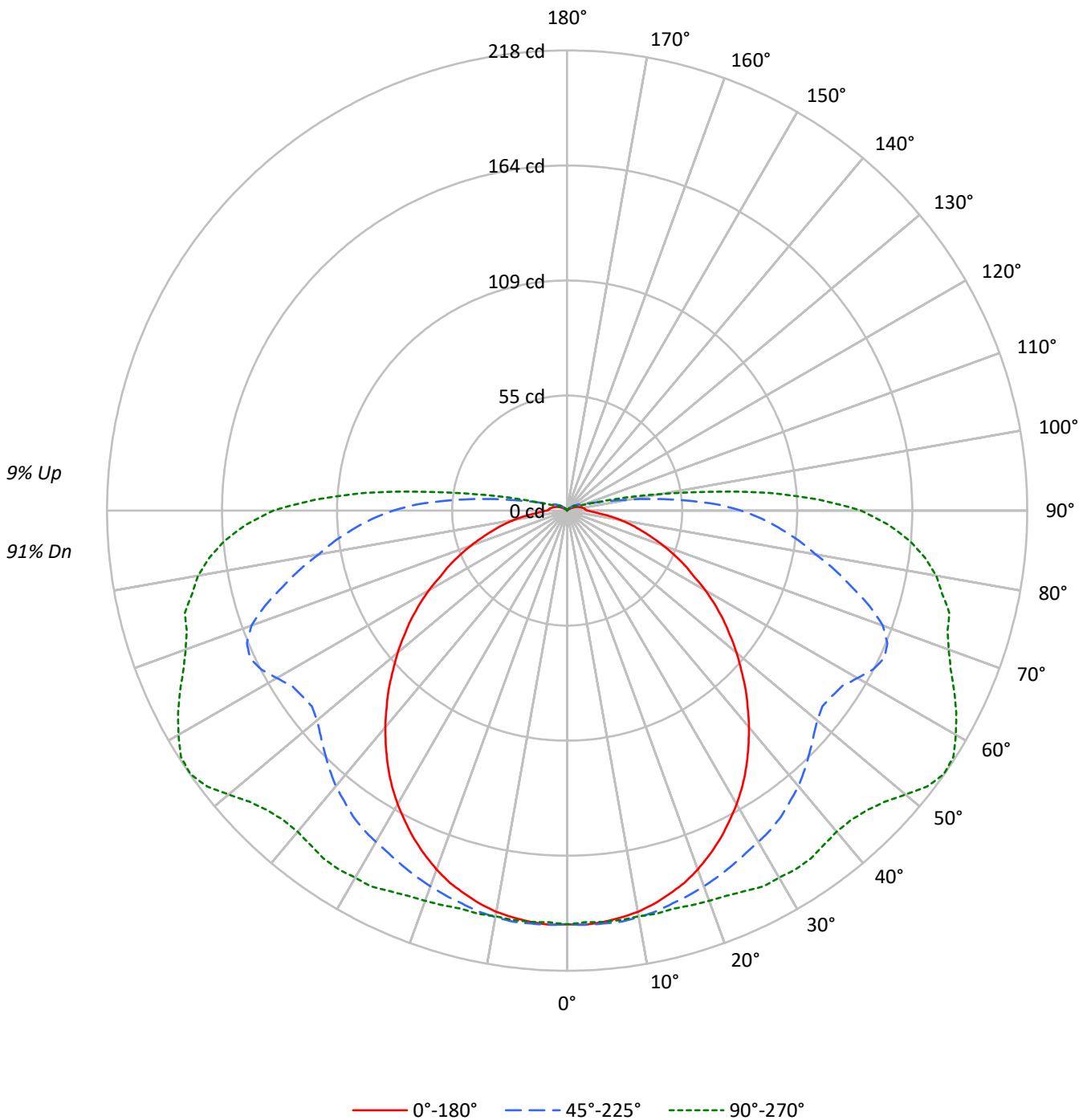
Input Watts (W): 44.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	2025	2025	2025
5°	2015	1986	1971
10°	1997	1952	1934
15°	1968	1912	1917
20°	1933	1882	1929
25°	1886	1859	1963
30°	1832	1850	2009
35°	1768	1851	2058
40°	1694	1847	2093
45°	1618	1836	2201
50°	1538	1843	2408
55°	1462	1947	2658
60°	1374	2177	2786
65°	1286	2491	2884
70°	1199	2666	3033
75°	1113	2664	3336
80°	1044	2678	3654
85°	935	2783	4013



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	18.7	1.9
10°-20°	54.4	5.4
20°-30°	85.7	8.5
30°-40°	110.0	11.0
40°-50°	125.1	12.5
50°-60°	138.3	13.8
60°-70°	143.4	14.3
70°-80°	133.7	13.3
80°-90°	107.8	10.7
90°-100°	60.0	6.0
100°-110°	16.1	1.6
110°-120°	5.6	0.6
120°-130°	3.0	0.3
130°-140°	1.1	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°	158.9	15.8
0°-40°	268.9	26.8
0°-60°	532.2	53.1
0°-90°	917.0	91.4
90°-120°	81.7	8.1
90°-150°	85.9	8.6
90°-180°	86.0	8.6
0°-180°	1002.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	196	196	196	196	196	
5°	196	196	196	197	196	19
15°	188	190	193	196	195	53
25°	172	176	185	196	199	79
35°	148	156	177	195	201	92
45°	120	132	162	189	201	92
55°	90	108	153	204	218	81
65°	62	87	166	196	202	61
75°	36	84	140	172	188	39
85°	15	59	102	146	163	15
90°	10	44	82	122	139	5
95°	8	29	55	83	96	7
105°	6	10	15	17	17	7
115°	4	5	7	6	5	4
125°	2	2	4	4	4	2
135°	1	0	2	2	2	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: P397205

CATALOG NUMBER: 2VRVT2-LD5-4-DR100-W-UNV-LA59-CD1-WL-U

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	196.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0
2.5°	196.4	196.4	196.4	196.4	196.4	196.4	196.4	196.4	196.4	196.4	196.4
5°	195.6	196.0	196.0	196.0	196.0	196.0	196.4	196.4	196.4	196.7	196.4
7.5°	194.5	194.9	194.9	194.9	195.2	195.2	195.6	195.6	196.0	196.4	196.4
10°	193.0	193.4	193.4	193.8	193.8	194.2	194.2	194.9	194.9	195.2	195.6
12.5°	190.8	190.8	191.2	191.9	192.3	192.3	192.7	193.0	193.8	194.2	194.5
15°	187.9	187.9	188.6	189.4	189.7	189.7	190.1	190.5	191.9	192.3	192.7
17.5°	184.9	184.5	185.3	186.0	186.4	186.8	187.1	188.2	189.0	190.1	191.2
20°	180.9	180.9	181.6	182.7	183.5	183.8	184.5	185.7	187.1	188.2	189.4
22.5°	176.4	176.8	177.2	178.3	179.4	180.1	180.5	182.0	183.8	185.3	187.5
25°	171.6	172.0	172.7	173.9	175.3	176.1	176.8	178.6	181.2	182.7	185.3
27.5°	166.1	166.5	167.6	168.7	170.5	171.6	172.7	174.6	177.2	179.8	183.1
30°	160.6	160.9	162.0	163.9	165.7	166.8	168.3	170.9	174.2	177.2	181.2
32.5°	154.6	155.0	156.1	158.7	160.6	162.0	163.2	166.5	170.2	174.6	179.4
35°	148.0	148.4	149.9	152.1	155.0	156.5	158.0	161.3	166.5	171.6	176.8
37.5°	141.0	141.7	143.6	145.4	148.7	150.2	152.4	156.9	162.0	167.9	173.5
40°	134.0	134.7	136.6	139.2	142.5	144.7	146.9	152.4	158.0	164.2	170.5
42.5°	126.6	127.7	129.6	132.5	136.2	138.4	141.0	147.3	153.9	160.2	166.5
45°	119.6	120.3	122.6	125.9	129.6	132.1	135.5	142.1	148.7	155.8	162.4
47.5°	111.8	113.0	115.2	119.2	123.6	126.6	129.6	136.9	143.9	151.0	158.3
50°	104.8	105.6	108.1	111.8	117.0	120.3	123.6	131.0	138.8	146.5	154.6
52.5°	97.4	98.2	101.1	104.8	110.4	114.0	117.4	125.1	133.3	142.5	152.4
55°	90.4	91.2	94.1	97.8	104.1	107.8	111.5	120.0	129.2	139.9	153.2
57.5°	83.0	83.4	86.7	91.2	97.8	101.5	105.2	114.8	126.2	139.5	154.6
60°	75.7	76.4	79.4	84.5	91.9	96.0	100.4	111.1	125.1	141.4	158.7
62.5°	67.9	69.4	72.7	78.3	86.4	91.2	96.3	109.3	125.9	145.1	163.2
65°	61.6	62.7	66.1	72.7	81.6	87.1	93.4	109.6	129.2	149.1	165.7
67.5°	55.0	56.5	60.5	67.5	78.3	84.9	92.7	111.8	132.9	151.3	164.2
70°	48.4	49.8	55.0	63.5	75.7	83.8	93.0	114.0	133.6	148.4	159.1
72.5°	42.1	44.7	50.2	60.5	74.6	83.8	94.1	114.0	130.7	142.1	150.2
75°	36.2	38.8	46.1	58.0	74.2	84.2	93.4	110.7	123.3	132.9	139.5
77.5°	31.0	34.0	42.8	55.7	72.7	81.6	89.7	103.3	113.3	121.8	129.9
80°	25.5	29.1	39.1	53.1	68.3	75.7	81.9	93.4	102.6	111.1	119.6
82.5°	20.3	24.7	35.4	48.7	61.6	67.9	73.1	83.0	91.9	100.8	111.1
85°	15.1	20.3	30.6	42.8	53.5	59.1	63.9	73.1	81.6	91.5	101.9
87.5°	11.5	16.2	25.8	36.5	46.1	50.9	55.0	63.5	72.4	81.9	92.7
90°	9.6	13.3	21.8	30.6	39.5	43.6	47.2	55.7	63.9	72.4	82.3
92.5°	8.8	11.1	18.1	25.5	32.8	36.2	39.9	46.9	53.9	62.0	70.5
95°	8.5	9.6	14.4	20.3	26.2	28.8	31.8	36.9	42.4	49.1	55.4
97.5°	8.1	8.5	11.5	15.9	20.3	22.1	24.4	28.8	32.8	36.9	41.7
100°	7.4	7.8	9.2	12.2	15.5	17.4	18.5	21.4	24.4	26.9	29.9
102.5°	7.0	7.0	7.8	9.6	11.8	12.9	14.0	16.2	18.1	19.9	21.0
105°	6.3	6.3	6.6	7.8	9.2	10.0	10.7	12.2	13.3	14.4	15.1
107.5°	5.5	5.5	5.5	6.6	7.8	8.1	8.8	9.6	10.7	11.1	11.5
110°	4.8	4.8	4.8	5.5	6.3	6.6	7.4	8.1	8.8	8.8	9.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	4.4	4.1	4.1	4.4	5.5	5.9	6.3	7.0	7.4	7.8	7.8
115°	3.7	3.7	3.3	3.7	4.4	4.8	5.2	5.9	6.6	7.0	7.0
117.5°	2.9	2.9	2.9	2.9	3.7	4.1	4.4	5.2	5.9	6.3	6.3
120°	2.6	2.6	2.2	2.2	2.9	3.3	3.7	4.4	5.2	5.5	5.5
122.5°	1.8	1.8	1.8	1.8	2.2	2.6	2.9	3.7	4.4	4.8	4.8
125°	1.5	1.5	1.5	1.5	1.5	1.8	2.2	2.9	3.3	4.1	4.4
127.5°	1.5	1.1	1.1	1.1	1.1	1.1	1.5	2.2	2.9	3.3	3.7
130°	1.1	1.1	1.1	0.7	0.7	0.7	1.1	1.5	2.2	2.6	2.9
132.5°	0.7	0.7	0.7	0.7	0.7	0.4	0.7	1.1	1.5	1.8	2.2
135°	0.7	0.7	0.7	0.4	0.4	0.4	0.4	0.4	1.1	1.1	1.5
137.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.4	0.4	0.7	1.1
140°	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.4
142.5°	0.4	0.4	0.4	0.4	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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	196.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0
2.5°	196.0	196.0	196.0	196.0	196.0	195.6	195.6	195.6	195.2	195.2
5°	196.7	196.7	196.7	196.7	196.7	196.4	196.4	196.0	196.0	195.6
7.5°	196.4	196.7	196.4	196.4	196.4	196.4	196.0	196.0	195.6	195.6
10°	195.6	196.0	196.0	196.4	196.4	196.4	196.0	196.0	195.2	195.2
12.5°	194.9	195.2	195.2	196.0	196.0	196.0	195.6	195.6	195.6	195.6
15°	193.4	194.2	195.2	195.6	195.6	195.6	195.2	195.2	195.2	195.2
17.5°	191.9	192.7	193.8	194.5	194.9	195.2	195.2	195.6	196.0	196.0
20°	190.5	191.9	193.0	194.2	194.5	194.9	195.6	196.4	196.7	196.7
22.5°	189.4	191.2	192.7	194.2	194.9	195.2	196.0	197.5	197.8	197.5
25°	187.9	190.8	192.7	195.2	196.0	196.7	197.5	198.6	198.9	198.9
27.5°	186.8	189.7	192.3	194.5	196.0	197.1	198.6	199.7	200.4	200.8
30°	184.9	189.0	192.3	195.2	196.4	197.5	199.7	200.8	201.2	200.8
32.5°	183.8	187.9	191.6	194.5	195.6	197.1	199.7	201.2	201.9	201.5
35°	181.6	186.4	190.5	194.2	195.2	196.7	198.9	200.8	201.2	201.2
37.5°	178.6	183.8	188.2	192.3	193.4	194.9	197.1	198.9	199.7	199.7
40°	176.1	180.9	185.7	189.7	191.2	192.7	195.2	197.8	198.9	198.6
42.5°	172.4	177.9	183.1	187.9	189.7	191.2	194.5	197.5	198.6	198.9
45°	168.7	174.9	180.9	186.4	189.4	191.6	195.6	199.3	201.2	200.8
47.5°	165.4	173.1	180.9	187.9	191.6	193.8	198.6	201.9	203.4	204.1
50°	163.5	173.5	182.7	190.1	193.8	196.7	202.3	206.0	208.2	209.3
52.5°	163.9	174.9	185.3	194.5	198.2	201.9	207.8	212.2	213.7	214.8
55°	166.1	178.6	190.1	200.1	204.1	207.4	212.6	215.2	217.4	217.8
57.5°	169.8	183.8	194.9	203.4	206.3	208.9	213.3	215.5	216.7	217.0
60°	174.9	187.5	196.4	203.8	205.6	207.8	210.8	212.2	212.2	212.6
62.5°	177.9	188.6	195.6	199.3	201.5	203.0	205.6	207.1	208.2	207.8
65°	177.2	185.7	190.5	194.9	196.0	197.5	198.9	201.5	201.5	202.3
67.5°	173.1	180.1	183.8	187.5	189.0	191.2	193.4	195.6	196.0	196.7
70°	166.1	171.6	175.7	180.1	181.6	183.8	187.1	190.5	191.6	192.3
72.5°	156.5	162.0	167.9	173.9	176.4	179.0	183.5	186.4	188.2	189.0
75°	146.5	153.6	161.3	168.7	172.4	175.7	179.8	184.5	185.7	187.5
77.5°	138.0	146.5	156.1	163.9	167.6	170.9	176.1	179.4	181.6	182.0
80°	129.6	138.8	148.7	157.6	161.7	165.0	170.9	174.6	177.5	177.5
82.5°	121.1	132.1	142.5	151.0	155.4	158.3	165.0	167.9	171.3	170.9
85°	112.6	124.0	134.0	142.5	146.5	150.2	156.1	160.2	162.8	162.8
87.5°	103.3	113.0	123.3	132.5	135.5	139.2	144.7	149.1	150.6	152.1
90°	92.3	101.5	111.5	118.9	122.2	125.9	131.4	135.5	137.7	139.2
92.5°	79.4	87.8	95.6	101.9	105.2	108.9	113.3	117.7	118.9	119.2
95°	62.4	68.7	75.7	81.6	82.7	86.4	90.0	94.1	96.0	96.0
97.5°	46.5	50.6	55.4	58.3	60.2	61.6	64.2	66.8	67.2	67.9
100°	32.8	35.1	37.7	39.9	40.6	41.7	43.2	44.7	44.7	44.7
102.5°	22.9	24.4	25.5	26.6	26.6	26.9	27.3	28.1	28.1	28.4
105°	15.9	16.6	16.6	16.6	17.0	17.0	16.6	17.0	17.4	16.6
107.5°	11.8	11.8	11.5	11.1	11.5	11.1	10.7	10.7	10.3	10.3
110°	9.2	8.8	8.5	8.5	8.1	8.1	7.8	7.4	7.0	7.4



TEST NUMBER: P397205

CATALOG NUMBER: 2VRVT2-LD5-4-DR100-W-UNV-LA59-CD1-WL-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	7.8	7.4	7.0	6.6	6.6	6.3	6.3	5.9	5.5	5.5
115°	7.0	6.6	6.3	5.9	5.9	5.9	5.5	5.2	5.2	4.8
117.5°	6.3	6.3	5.9	5.5	5.5	5.2	5.2	4.8	4.8	4.4
120°	5.5	5.5	5.5	5.2	5.2	4.8	4.8	4.4	4.4	4.4
122.5°	5.2	5.2	4.8	4.8	4.8	4.4	4.4	4.1	4.1	4.1
125°	4.4	4.4	4.4	4.4	4.1	4.1	4.1	3.7	3.7	3.7
127.5°	3.7	3.7	4.1	3.7	3.7	3.7	3.7	3.7	3.3	3.3
130°	2.9	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.9	2.9
132.5°	2.6	2.6	2.6	2.9	2.9	2.9	2.9	2.6	2.6	2.6
135°	1.8	1.8	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
137.5°	1.1	1.5	1.5	1.8	1.8	1.8	1.8	1.8	1.8	1.5
140°	0.7	0.7	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
142.5°	0.4	0.4	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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)