

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: P397274

Luminaire Tested: **4VRVT2-LD5-6-DR100-W-UNV-LA59-CD1-WL-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P397274
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-LD5-6-DR100-W-UNV-LA59-CD1-WL-U
Description:
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1664.6 lumens
Efficiency: N/A
Efficacy: 21.5 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

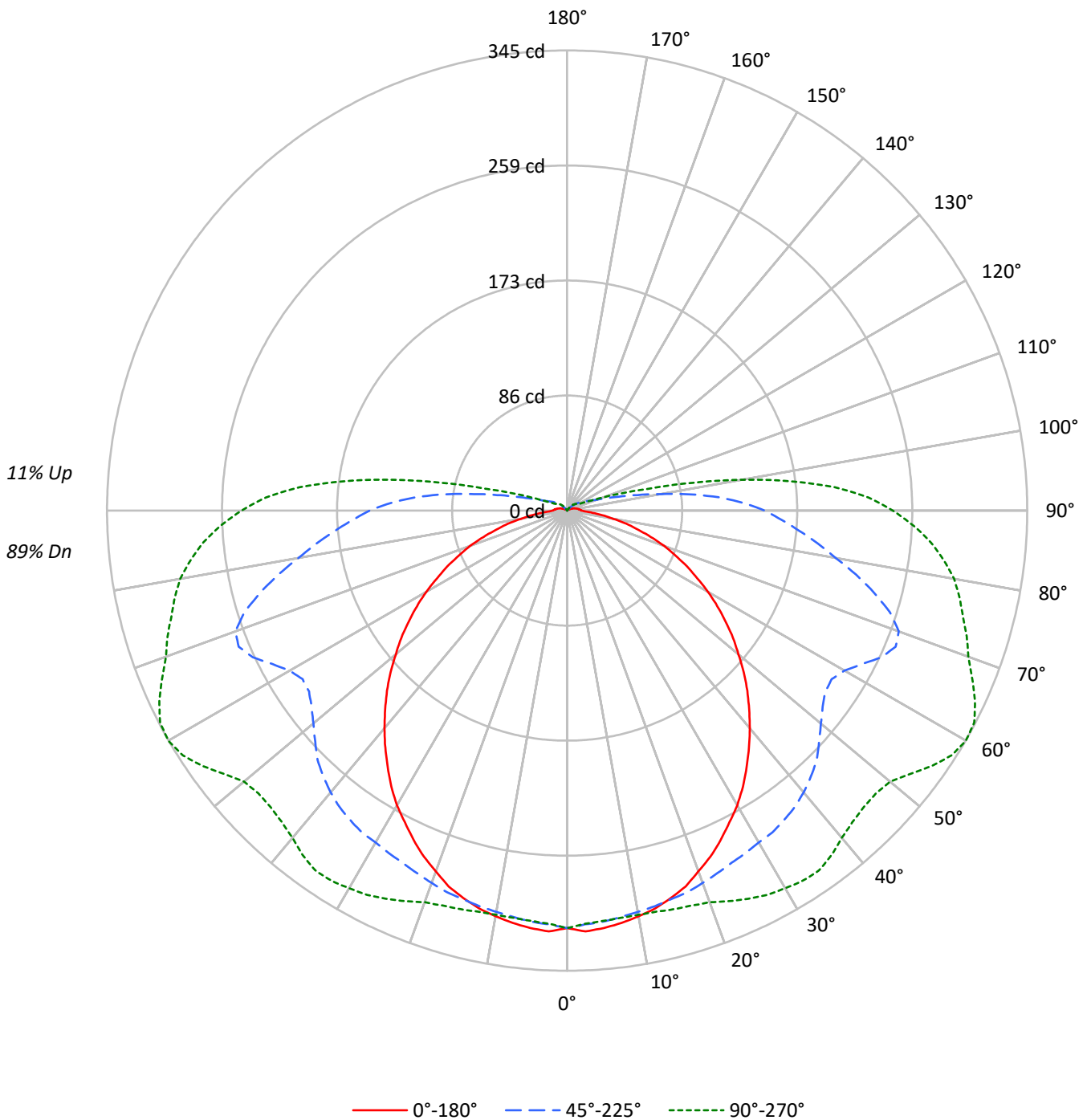
Input Watts (W): 77.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1617	1617	1617
5°	1624	1568	1556
10°	1609	1531	1525
15°	1591	1507	1519
20°	1560	1490	1532
25°	1524	1480	1585
30°	1488	1487	1636
35°	1439	1509	1684
40°	1391	1523	1688
45°	1342	1530	1723
50°	1287	1519	1818
55°	1236	1546	2037
60°	1180	1702	2261
65°	1116	2030	2405
70°	1052	2317	2523
75°	948	2396	2733
80°	849	2435	3033
85°	773	2578	3374



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.6	1.8
10°-20°	86.0	5.2
20°-30°	136.3	8.2
30°-40°	176.7	10.6
40°-50°	199.4	12.0
50°-60°	216.0	13.0
60°-70°	232.3	14.0
70°-80°	221.2	13.3
80°-90°	181.3	10.9
90°-100°	120.0	7.2
100°-110°	43.2	2.6
110°-120°	13.1	0.8
120°-130°	6.4	0.4
130°-140°	2.7	0.2
140°-150°	0.4	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	251.9	15.1
0°-40°	428.6	25.7
0°-60°	843.9	50.7
0°-90°	1478.7	88.8
90°-120°	176.3	10.6
90°-150°	185.8	11.2
90°-180°	186.0	11.2
0°-180°	1664.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	313	313	313	313	313	
5°	314	313	309	310	309	30
15°	301	300	302	308	309	85
25°	272	276	292	315	321	125
35°	235	248	283	318	329	147
45°	191	214	265	300	314	147
55°	145	176	236	308	334	130
65°	99	138	260	328	337	98
75°	55	131	238	288	307	59
85°	19	95	175	248	274	19
90°	11	72	148	219	244	6
95°	9	52	114	177	201	7
105°	6	19	40	56	63	7
115°	3	8	17	16	15	3
125°	1	3	10	10	9	1
135°	1	0	4	6	6	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: P397274

CATALOG NUMBER: 4VRVT2-LD5-6-DR100-W-UNV-LA59-CD1-WL-U

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	313.0	313.0	313.0	313.0	313.0	313.0	313.0	313.0	313.0	313.0	313.0
2.5°	315.8	315.3	314.4	314.2	314.2	314.2	314.2	313.6	312.8	311.6	310.5
5°	314.2	313.6	312.8	312.8	312.5	312.8	312.8	312.2	311.6	310.5	309.4
7.5°	311.9	311.6	310.5	310.0	310.0	310.0	310.5	310.0	309.7	308.6	307.4
10°	308.8	308.3	307.7	307.7	308.0	308.0	308.0	308.3	307.7	306.3	305.5
12.5°	305.5	304.6	304.1	304.1	304.4	304.4	304.6	304.6	304.6	303.8	303.8
15°	300.7	300.4	299.3	299.6	299.6	300.2	300.4	300.7	300.4	301.3	301.6
17.5°	295.4	295.1	294.0	294.0	294.6	294.8	295.7	296.8	297.4	298.5	299.9
20°	287.8	287.8	287.3	287.8	289.0	289.5	290.1	292.0	293.2	295.4	297.1
22.5°	280.8	280.3	280.3	280.8	282.0	283.4	284.5	287.3	289.2	292.0	294.3
25°	272.4	272.2	271.9	273.3	275.0	276.4	278.3	281.7	284.5	287.8	291.5
27.5°	263.5	263.2	263.8	264.9	268.0	269.9	271.6	276.1	279.4	284.8	289.5
30°	255.1	254.2	254.8	256.5	260.4	263.2	264.9	269.9	274.7	280.8	287.3
32.5°	245.3	244.4	245.6	248.1	252.6	255.4	258.4	263.8	269.4	276.9	286.2
35°	234.6	234.9	235.5	239.4	244.2	247.5	250.6	257.6	264.6	273.8	283.4
37.5°	224.0	223.4	225.7	230.2	235.8	240.0	243.0	250.3	260.1	270.2	280.3
40°	213.1	213.6	215.3	220.4	226.2	231.6	234.9	244.4	255.1	265.4	275.8
42.5°	201.9	203.3	205.0	210.8	218.1	222.3	227.4	237.7	248.9	259.8	270.5
45°	191.0	192.1	194.6	201.0	208.0	213.6	219.2	230.2	242.5	254.0	264.6
47.5°	179.5	180.6	184.0	190.7	198.5	204.7	210.6	222.3	234.9	246.7	256.2
50°	167.7	169.4	172.8	179.5	189.8	195.4	201.3	214.2	226.0	237.4	248.4
52.5°	156.8	157.6	163.0	169.4	180.0	186.5	192.1	205.2	216.4	229.3	241.4
55°	145.0	146.7	151.5	157.9	169.7	176.4	182.8	195.4	208.0	221.5	236.3
57.5°	133.6	135.0	140.0	147.3	159.9	166.3	172.5	186.2	199.1	215.9	235.2
60°	122.1	123.8	128.8	137.2	149.8	156.5	163.0	177.5	194.3	215.0	240.0
62.5°	110.0	112.8	116.5	126.8	139.7	146.4	154.3	171.1	193.2	219.5	249.2
65°	99.1	100.5	106.1	116.8	130.5	138.3	147.3	168.8	196.8	229.0	260.1
67.5°	87.6	89.6	95.8	107.5	122.9	132.2	143.4	171.1	205.2	239.4	266.6
70°	77.3	78.7	86.2	99.1	117.6	129.6	143.4	176.7	213.4	243.3	264.6
72.5°	65.8	68.0	77.3	93.0	115.4	129.9	146.2	182.6	215.0	238.0	253.7
75°	54.6	58.0	70.0	87.9	114.8	131.3	148.7	181.7	207.2	224.6	238.3
77.5°	45.4	49.6	63.0	84.6	113.7	129.9	145.9	171.9	192.4	208.9	221.8
80°	35.0	41.4	57.1	80.4	108.6	122.6	135.5	157.9	174.4	190.4	204.4
82.5°	26.6	33.9	51.0	73.9	98.3	110.0	120.1	140.0	157.4	172.5	189.6
85°	19.0	26.9	44.0	64.4	84.8	95.2	104.4	123.2	140.3	157.4	174.7
87.5°	13.2	21.0	37.2	55.2	73.4	81.8	90.7	108.6	125.4	142.0	161.0
90°	10.6	17.1	31.1	47.3	63.0	72.2	80.1	96.3	113.1	130.5	148.1
92.5°	10.1	14.3	26.0	40.0	54.6	62.2	69.4	84.3	100.0	116.2	131.9
95°	9.2	11.5	20.4	32.5	44.8	51.5	57.4	71.4	84.6	98.8	114.0
97.5°	8.7	9.2	15.7	25.2	35.6	41.2	45.9	56.8	68.6	79.5	93.2
100°	7.8	8.1	12.0	19.6	27.2	31.9	35.8	44.8	53.2	61.9	71.1
102.5°	7.0	7.0	9.2	14.6	21.3	24.4	27.7	35.0	41.2	46.8	53.8
105°	6.2	6.2	7.3	11.2	16.0	19.0	21.3	26.6	31.4	35.6	40.0
107.5°	5.6	5.3	5.9	8.7	12.6	14.8	17.1	21.0	24.6	27.4	30.5
110°	4.5	4.5	4.8	7.0	10.4	12.0	14.0	17.1	20.2	22.1	23.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	3.9	3.6	3.6	5.6	8.4	10.1	11.5	14.6	17.1	18.8	19.6
115°	3.1	3.1	2.8	4.2	6.7	8.4	9.5	12.3	14.6	16.0	16.8
117.5°	2.5	2.5	2.5	3.1	5.6	6.7	8.1	10.6	12.6	14.0	14.8
120°	2.0	2.0	2.0	2.0	4.2	5.3	6.7	9.0	10.9	12.3	13.2
122.5°	1.7	1.4	1.4	1.4	2.8	4.2	5.0	7.3	9.2	10.6	11.8
125°	1.1	1.1	1.1	0.8	2.0	2.8	3.9	5.9	7.6	9.0	9.8
127.5°	0.8	0.8	0.8	0.8	0.8	1.7	2.5	4.5	6.2	7.6	8.4
130°	0.8	0.8	0.6	0.6	0.3	0.8	1.4	3.1	4.5	5.9	7.0
132.5°	0.6	0.6	0.6	0.3	0.3	0.3	0.6	2.0	3.4	4.5	5.3
135°	0.6	0.6	0.3	0.3	0.0	0.0	0.0	1.1	2.2	3.1	3.9
137.5°	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.3	1.1	2.0	2.8
140°	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.8	1.7
142.5°	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.6
145°	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.3	0.3	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°	313.0	313.0	313.0	313.0	313.0	313.0	313.0	313.0	313.0	313.0
2.5°	310.5	311.1	311.1	311.1	311.1	311.1	310.5	310.2	310.0	310.0
5°	309.1	309.7	310.0	310.0	310.0	310.0	309.7	309.4	309.1	308.8
7.5°	307.4	308.3	308.8	309.1	309.1	309.1	308.8	308.8	308.3	308.0
10°	305.8	306.6	307.4	308.0	308.3	308.3	308.3	308.3	308.0	307.7
12.5°	304.6	306.0	307.2	307.7	307.7	308.0	308.6	308.6	308.3	308.0
15°	303.2	305.5	306.9	307.7	307.7	308.3	309.4	309.4	309.1	309.4
17.5°	302.1	304.4	306.6	308.0	308.6	309.4	310.2	310.5	310.8	310.5
20°	299.9	303.5	306.6	308.3	309.4	309.7	311.6	313.0	313.0	312.5
22.5°	299.0	303.2	306.9	310.5	311.1	312.2	314.7	316.1	317.0	317.0
25°	297.4	303.0	308.3	312.8	314.7	316.1	318.6	320.9	320.3	321.2
27.5°	296.5	303.2	308.6	314.2	317.0	318.4	322.0	323.4	324.2	324.8
30°	296.0	303.5	309.4	315.6	317.8	320.6	324.0	326.2	327.3	327.0
32.5°	295.1	302.7	310.2	315.6	318.9	321.2	324.5	327.0	328.7	329.0
35°	293.2	301.8	308.8	315.3	317.8	320.6	324.5	325.9	328.7	329.3
37.5°	290.6	299.0	305.8	312.8	315.3	317.5	322.3	323.7	324.8	325.6
40°	286.7	294.6	301.8	308.6	310.8	313.3	316.7	318.9	320.6	320.3
42.5°	281.7	289.0	296.0	303.2	304.9	307.7	311.9	314.4	316.1	316.7
45°	273.6	282.0	290.1	296.5	299.9	303.0	307.7	310.5	312.5	314.4
47.5°	265.7	276.1	285.3	292.6	296.5	299.6	305.5	309.7	312.8	313.9
50°	259.6	270.2	280.8	291.8	296.0	299.9	306.6	311.1	314.4	316.1
52.5°	254.5	267.4	280.8	294.3	300.2	304.9	312.8	318.4	322.8	324.2
55°	252.6	268.8	285.9	301.3	308.0	314.2	323.1	328.4	332.9	333.8
57.5°	255.9	277.8	296.5	312.5	319.2	324.2	332.9	337.4	341.0	341.6
60°	265.2	288.1	307.7	321.4	328.4	332.9	339.4	342.7	345.2	345.2
62.5°	276.6	297.4	314.4	325.9	331.0	334.3	338.2	342.2	343.0	344.1
65°	285.3	303.2	315.0	323.4	327.9	329.3	333.5	335.2	337.4	337.4
67.5°	285.9	300.2	308.6	315.3	317.8	319.8	324.8	326.8	328.4	328.7
70°	278.3	288.1	297.6	303.5	306.3	310.2	315.0	318.1	319.8	320.0
72.5°	266.3	275.2	284.8	293.7	297.6	301.0	307.2	311.4	313.0	314.2
75°	251.7	261.5	273.0	283.6	287.6	290.9	299.6	303.5	306.9	307.2
77.5°	236.0	247.8	261.2	272.7	277.8	283.6	290.6	296.5	299.0	301.3
80°	220.4	235.5	249.2	262.6	267.4	274.1	282.5	289.2	292.0	294.6
82.5°	205.5	222.6	239.4	253.1	258.4	264.3	273.0	280.6	283.1	284.8
85°	192.6	210.3	226.8	240.8	247.5	252.6	262.4	268.8	272.4	273.8
87.5°	178.9	196.8	213.1	228.2	233.8	238.8	248.9	255.9	259.3	260.1
90°	165.5	184.0	199.1	212.2	219.0	225.1	234.4	240.8	244.2	244.2
92.5°	148.4	166.0	182.0	194.0	200.5	205.5	215.6	220.4	226.0	226.0
95°	128.8	144.2	159.0	171.4	176.7	182.0	190.4	196.8	199.9	201.3
97.5°	106.7	118.4	131.9	142.0	149.2	150.9	160.2	166.6	170.0	168.8
100°	80.4	89.6	100.2	108.6	114.2	117.3	123.8	127.4	132.4	133.0
102.5°	59.9	66.6	72.8	77.6	82.0	83.4	87.9	91.6	93.8	96.3
105°	44.0	47.9	51.5	54.9	55.7	58.2	61.9	64.4	63.0	63.3
107.5°	32.8	34.7	36.7	37.8	39.2	40.9	41.7	41.7	43.1	43.7
110°	24.9	26.0	26.9	27.2	27.7	27.7	27.7	27.7	28.0	28.6



TEST NUMBER: P397274

CATALOG NUMBER: 4VRVT2-LD5-6-DR100-W-UNV-LA59-CD1-WL-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	19.9	20.4	20.4	20.4	20.2	20.2	19.9	19.6	19.0	19.6
115°	17.1	17.1	16.5	16.2	16.0	15.7	15.1	14.6	14.3	14.8
117.5°	15.1	14.8	14.6	13.7	13.4	13.2	12.6	12.3	11.8	11.5
120°	13.4	13.4	12.9	12.6	12.3	11.8	11.2	10.9	10.4	10.1
122.5°	12.0	12.0	11.8	11.5	11.2	10.9	10.4	10.1	9.5	9.5
125°	10.4	10.6	10.6	10.4	10.1	10.1	9.5	9.2	9.0	9.0
127.5°	9.0	9.2	9.5	9.5	9.2	9.2	9.0	8.7	8.4	8.1
130°	7.6	8.1	8.1	8.4	8.4	8.1	8.1	7.8	7.6	7.6
132.5°	6.2	6.7	7.0	7.0	7.3	7.3	7.3	7.0	7.0	6.7
135°	4.8	5.3	5.6	5.9	5.9	6.2	6.2	5.9	5.9	5.9
137.5°	3.6	3.9	4.5	4.8	4.8	4.8	4.8	4.8	4.8	4.8
140°	2.2	2.8	3.4	3.4	3.6	3.6	3.6	3.6	3.6	3.6
142.5°	1.1	1.7	2.0	2.2	2.2	2.5	2.5	2.5	2.5	2.5
145°	0.3	0.6	0.8	1.1	1.4	1.4	1.4	1.4	1.4	1.4
147.5°	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3
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)