

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: P397268

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P397268
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-LD5-6-DR-W-UNV-LA59-CD1-WL-U
Description:
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1660.6 lumens
Efficiency: N/A
Efficacy: 21.5 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

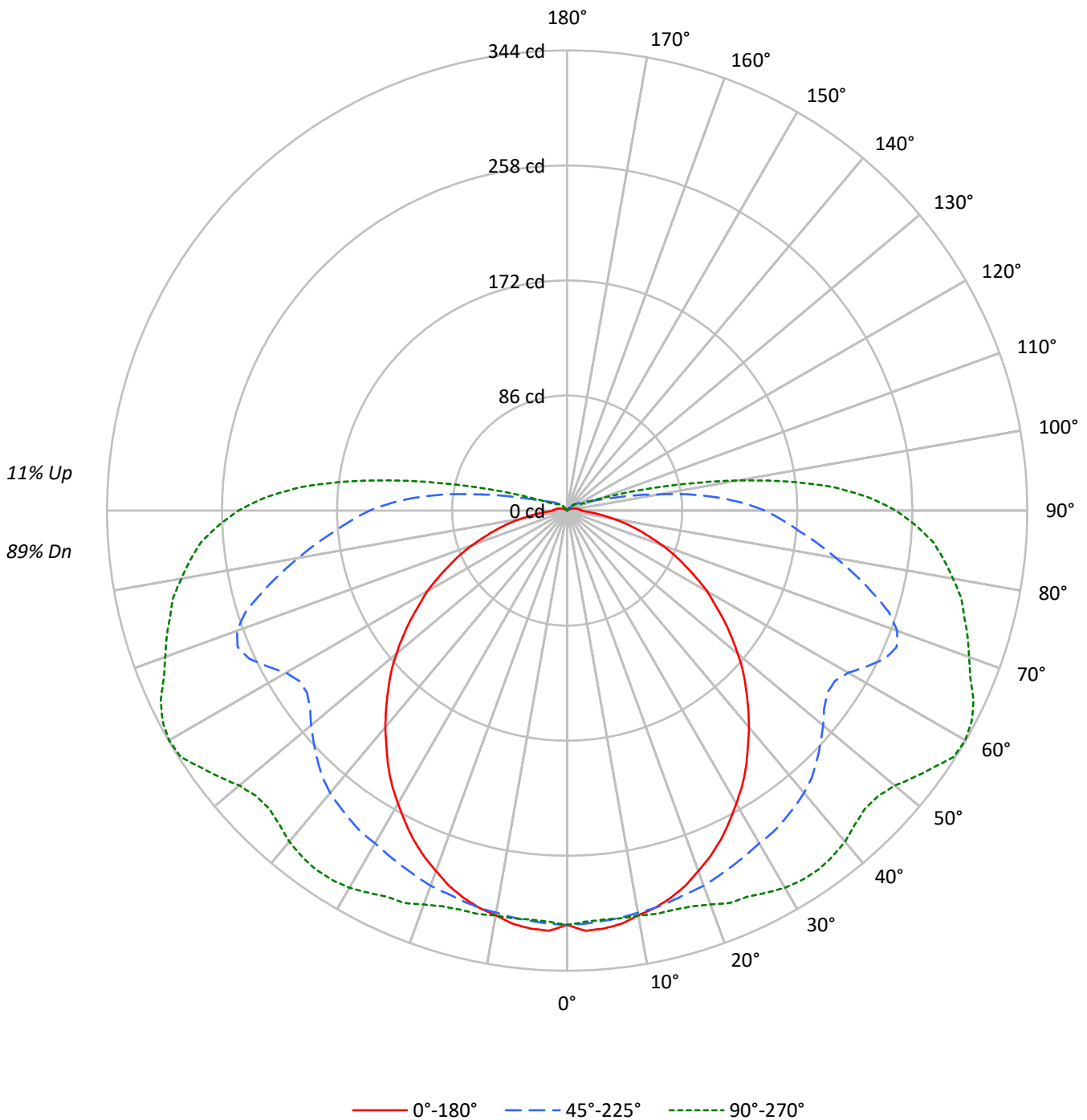
Input Watts (W): 77.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1600	1600	1600
5°	1621	1561	1547
10°	1600	1530	1523
15°	1586	1509	1516
20°	1554	1497	1536
25°	1520	1487	1572
30°	1474	1487	1629
35°	1431	1504	1675
40°	1380	1521	1703
45°	1330	1526	1726
50°	1278	1527	1840
55°	1219	1553	2042
60°	1169	1720	2251
65°	1094	2046	2390
70°	1025	2299	2522
75°	948	2373	2735
80°	842	2432	3015
85°	773	2566	3389



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.5	1.8
10°-20°	85.9	5.2
20°-30°	136.2	8.2
30°-40°	176.4	10.6
40°-50°	199.7	12.0
50°-60°	216.9	13.1
60°-70°	231.9	14.0
70°-80°	220.7	13.3
80°-90°	181.3	10.9
90°-100°	119.3	7.2
100°-110°	41.5	2.5
110°-120°	12.3	0.7
120°-130°	6.1	0.4
130°-140°	2.6	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°	251.6	15.2
0°-40°	428.0	25.8
0°-60°	844.6	50.9
0°-90°	1478.5	89.0
90°-120°	173.0	10.4
90°-150°	182.1	11.0
90°-180°	182.0	11.0
0°-180°	1660.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	310	310	310	310	310	
5°	314	312	308	308	307	30
15°	300	300	302	309	309	84
25°	272	277	293	312	319	125
35°	233	248	282	316	328	146
45°	189	213	264	302	315	146
55°	143	175	237	311	335	128
65°	97	138	262	324	335	97
75°	55	132	236	288	307	58
85°	19	95	174	248	275	19
90°	11	71	148	222	246	6
95°	9	51	113	175	200	7
105°	6	18	38	53	63	6
115°	3	8	16	15	13	3
125°	1	3	10	10	8	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



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	309.7	309.7	309.7	309.7	309.7	309.7	309.7	309.7	309.7	309.7	309.7
2.5°	314.4	313.6	312.8	312.5	312.5	312.5	312.5	311.9	311.1	310.2	309.1
5°	313.6	313.0	312.2	311.6	311.6	311.6	311.6	311.1	310.2	309.1	308.0
7.5°	311.6	310.8	309.7	309.4	309.1	309.1	309.4	309.1	308.3	307.7	306.9
10°	307.2	306.9	306.0	305.8	306.3	306.6	306.6	306.6	306.3	305.8	305.2
12.5°	304.1	303.0	302.4	302.7	303.0	303.0	303.5	303.8	303.8	304.1	304.1
15°	299.6	298.5	298.2	299.0	299.3	299.9	299.9	300.4	300.7	301.6	302.1
17.5°	294.0	293.7	292.6	293.4	294.8	295.7	295.7	296.8	297.6	298.5	299.9
20°	286.7	286.4	285.9	287.0	288.7	289.5	290.9	292.6	293.7	296.8	298.5
22.5°	279.7	279.4	278.6	280.3	282.0	283.9	285.6	287.8	290.4	293.2	295.7
25°	271.6	271.3	271.0	273.8	275.8	277.2	279.2	282.5	285.6	289.5	292.9
27.5°	262.4	262.6	263.2	265.7	268.8	270.8	272.7	277.5	280.8	285.0	290.1
30°	252.8	252.8	254.5	257.0	261.5	263.5	266.0	271.6	275.0	281.4	287.3
32.5°	243.6	243.6	244.4	247.5	253.4	255.9	259.0	264.3	269.9	277.8	285.6
35°	233.2	233.2	234.9	239.1	245.0	247.8	251.2	257.9	264.9	273.8	282.5
37.5°	222.0	222.6	225.4	229.9	236.9	240.5	243.3	250.9	259.6	269.4	279.2
40°	211.4	212.0	215.3	220.4	227.9	231.3	234.9	244.4	253.4	264.0	275.5
42.5°	200.2	201.9	205.0	210.8	218.1	221.8	226.8	236.6	246.7	258.2	270.8
45°	189.3	190.7	194.0	200.8	208.9	213.4	218.7	229.0	240.2	251.7	264.0
47.5°	178.4	179.5	183.7	190.1	198.8	204.7	210.3	221.2	233.2	246.1	257.0
50°	166.6	168.0	172.2	179.2	189.0	194.9	200.5	212.5	224.8	237.7	249.8
52.5°	154.8	156.2	161.8	169.7	179.8	185.1	191.5	204.4	216.7	229.9	242.2
55°	143.1	144.8	150.6	157.6	168.8	175.3	181.2	194.9	208.3	222.3	237.4
57.5°	131.0	133.6	138.9	147.6	158.2	164.9	171.4	185.9	200.2	217.3	237.2
60°	121.0	121.8	127.1	136.4	148.1	154.8	162.4	177.2	195.2	217.0	242.5
62.5°	108.9	111.7	116.2	125.7	137.8	146.2	153.7	171.9	194.0	223.2	252.3
65°	97.2	100.0	105.6	115.9	129.9	138.3	147.3	170.0	198.5	232.4	262.1
67.5°	86.8	89.0	95.2	107.2	122.9	132.4	144.5	172.8	206.9	241.1	266.6
70°	75.3	78.1	85.4	99.1	118.4	130.2	145.0	178.9	213.9	243.6	262.6
72.5°	64.1	67.8	77.0	93.2	115.9	130.5	147.8	183.1	214.8	236.9	252.0
75°	54.6	57.7	69.2	88.2	115.4	131.6	149.5	181.4	206.1	222.0	236.0
77.5°	44.5	48.7	63.3	84.8	114.2	130.5	145.6	171.1	191.2	206.6	220.1
80°	34.7	40.9	56.8	80.4	108.9	121.2	133.6	155.1	173.9	189.6	204.1
82.5°	26.6	33.3	50.7	74.2	97.4	108.6	119.6	138.9	155.7	173.3	189.0
85°	19.0	26.6	44.2	64.7	84.6	95.2	103.9	122.1	138.3	156.5	173.9
87.5°	13.2	21.0	36.4	54.6	72.8	81.2	89.9	107.2	124.3	142.8	161.0
90°	10.6	17.1	30.5	46.8	63.0	70.8	79.5	96.0	112.0	129.6	147.6
92.5°	10.1	14.0	25.5	39.2	54.0	61.6	68.6	83.4	99.1	116.2	131.3
95°	9.2	11.2	20.4	31.9	44.2	50.7	56.8	70.0	83.7	99.1	112.8
97.5°	8.4	9.2	15.7	24.6	35.0	40.3	45.4	55.4	67.8	78.7	92.4
100°	7.6	7.8	11.8	19.0	26.6	31.1	35.0	44.0	52.1	60.8	69.7
102.5°	6.7	6.7	9.0	14.3	20.7	23.5	26.9	33.3	39.5	45.1	52.4
105°	6.2	6.2	7.3	10.6	15.4	17.9	20.4	25.5	30.2	34.2	38.1
107.5°	5.3	5.3	5.9	8.4	12.0	14.3	16.0	19.9	23.5	26.3	28.6
110°	4.5	4.5	4.5	6.7	9.8	11.5	13.4	16.5	19.0	21.0	22.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	3.6	3.6	3.6	5.6	8.1	9.5	11.2	13.7	16.0	17.4	18.5
115°	3.1	3.1	2.8	4.2	6.7	8.1	9.5	11.8	13.7	15.1	16.0
117.5°	2.5	2.5	2.2	3.1	5.3	6.7	7.8	10.1	12.0	13.4	14.0
120°	2.0	2.0	1.7	2.0	4.2	5.3	6.7	8.7	10.4	11.8	12.6
122.5°	1.4	1.4	1.4	1.4	2.8	3.9	5.0	7.0	9.0	10.4	11.2
125°	1.1	1.1	1.1	0.8	2.0	2.8	3.9	5.9	7.3	8.7	9.5
127.5°	0.8	0.8	0.8	0.8	0.8	1.7	2.5	4.5	5.9	7.3	8.1
130°	0.8	0.8	0.6	0.6	0.6	0.8	1.7	3.1	4.5	5.6	6.7
132.5°	0.6	0.6	0.6	0.3	0.3	0.3	0.8	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	0.3	0.0	0.0	0.0	0.0	0.3	1.1	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	0.3	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°	309.7	309.7	309.7	309.7	309.7	309.7	309.7	309.7	309.7	309.7
2.5°	308.8	309.1	309.4	309.4	309.1	309.1	308.6	308.6	308.0	307.7
5°	307.7	308.3	308.6	308.6	308.3	308.3	308.0	307.7	307.2	306.9
7.5°	306.9	307.7	308.3	308.3	308.3	308.3	308.0	308.0	307.7	307.4
10°	305.8	306.6	307.4	308.6	308.8	308.8	308.6	308.3	307.7	307.4
12.5°	304.6	305.8	306.9	308.0	308.3	308.6	309.1	309.1	308.8	308.8
15°	303.5	305.5	307.2	308.6	308.8	309.7	310.0	310.2	309.7	308.8
17.5°	302.4	304.9	306.3	308.6	309.1	309.7	310.2	310.5	310.5	310.2
20°	301.3	304.4	306.9	309.1	309.7	310.5	311.6	312.5	313.3	313.3
22.5°	299.6	303.5	306.3	309.7	311.6	312.5	314.7	315.8	316.4	317.5
25°	297.4	301.6	307.2	311.1	312.5	314.2	317.5	319.2	319.2	318.6
27.5°	296.2	302.7	308.3	312.2	314.2	316.1	319.2	321.7	322.6	322.0
30°	294.8	301.8	308.3	313.3	315.6	318.1	321.2	325.1	325.6	325.6
32.5°	293.2	300.7	308.3	313.9	316.7	318.9	322.6	326.2	327.6	327.3
35°	291.5	299.9	307.2	313.3	316.4	319.2	323.4	326.2	327.3	327.6
37.5°	289.0	297.9	305.2	311.9	315.3	317.8	322.3	324.2	325.9	325.9
40°	285.3	294.6	302.7	309.1	311.6	314.2	318.4	320.6	322.0	323.1
42.5°	281.1	290.1	297.9	303.5	306.9	308.8	313.6	315.8	318.1	318.4
45°	274.7	284.5	292.0	299.0	302.1	304.1	309.4	313.0	315.0	315.0
47.5°	268.0	277.2	286.2	294.8	298.5	301.8	308.0	312.5	314.7	315.6
50°	260.4	271.9	282.5	293.7	298.5	302.7	310.0	315.0	317.8	319.8
52.5°	255.6	270.5	283.6	296.8	302.1	307.7	317.0	322.3	326.2	327.3
55°	255.1	273.0	289.2	304.9	311.1	316.4	326.2	332.1	335.2	334.6
57.5°	259.3	281.1	300.2	314.4	321.2	326.2	335.2	340.5	342.7	342.7
60°	268.5	291.8	310.2	322.8	328.2	332.9	339.4	343.0	344.1	343.6
62.5°	278.0	299.3	314.7	325.1	329.0	331.2	336.6	339.4	340.5	341.0
65°	285.6	303.0	313.6	321.2	324.2	326.5	330.7	334.0	334.6	335.2
67.5°	284.8	296.8	306.3	313.3	315.8	318.1	322.3	324.8	326.8	326.2
70°	276.9	286.4	295.4	302.7	305.5	308.6	313.6	317.5	318.4	319.8
72.5°	263.2	273.0	283.9	291.2	296.2	299.3	305.5	310.5	312.5	313.9
75°	248.9	260.4	271.3	282.2	287.6	292.6	299.9	303.5	308.3	307.4
77.5°	233.8	248.6	261.5	273.8	279.4	284.8	292.3	297.4	300.4	301.8
80°	220.9	236.6	250.9	264.0	269.4	275.5	283.4	288.7	292.0	292.9
82.5°	206.4	223.4	239.7	253.4	259.0	264.3	273.3	278.9	283.1	284.2
85°	192.1	210.3	227.1	241.9	247.8	253.7	263.2	269.4	273.3	275.0
87.5°	180.0	197.1	214.2	228.2	235.2	240.8	250.3	257.6	261.2	261.2
90°	165.2	182.6	199.6	213.6	221.5	225.4	234.9	241.6	246.1	245.8
92.5°	149.5	166.0	180.3	194.3	200.8	205.8	215.9	220.9	224.8	225.7
95°	128.2	143.1	157.9	169.7	174.7	182.6	190.1	196.6	199.1	200.2
97.5°	103.3	118.2	128.5	142.8	146.2	151.5	159.3	164.6	167.2	166.3
100°	79.2	89.0	97.2	106.1	111.4	114.8	121.5	126.8	129.6	129.4
102.5°	56.3	64.1	70.0	77.0	77.6	80.6	84.8	90.2	91.3	92.7
105°	41.7	44.8	49.3	51.8	52.9	56.6	57.4	59.6	59.9	62.7
107.5°	31.1	32.8	34.4	35.8	36.7	37.0	39.2	38.9	39.5	40.0
110°	23.5	24.4	25.5	24.9	26.0	25.2	25.8	25.5	25.8	25.8



TEST NUMBER: P397268

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

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	19.0	19.0	18.8	18.5	18.5	18.2	18.2	17.4	17.6	17.4
115°	16.2	16.0	15.4	14.8	14.8	14.3	14.0	13.2	12.9	12.6
117.5°	14.3	14.0	13.4	12.9	12.6	12.3	11.8	10.9	10.6	10.6
120°	12.9	12.6	12.3	11.8	11.5	11.2	10.4	10.1	9.5	9.5
122.5°	11.5	11.5	11.2	10.6	10.6	10.4	9.8	9.2	9.0	9.0
125°	10.1	10.4	10.1	9.8	9.8	9.5	9.2	8.7	8.4	8.4
127.5°	8.7	9.0	9.0	9.0	9.0	8.7	8.4	8.1	7.8	7.8
130°	7.3	7.8	7.8	7.8	8.1	7.8	7.8	7.6	7.3	7.3
132.5°	5.9	6.4	6.7	7.0	7.0	7.0	6.7	6.7	6.4	6.4
135°	4.5	5.0	5.6	5.6	5.9	5.9	5.9	5.9	5.6	5.6
137.5°	3.4	3.9	4.2	4.5	4.5	4.8	4.8	4.8	4.5	4.5
140°	2.2	2.8	3.1	3.4	3.4	3.6	3.6	3.6	3.4	3.4
142.5°	1.1	1.7	2.0	2.2	2.2	2.2	2.5	2.5	2.5	2.2
145°	0.3	0.6	0.8	1.1	1.1	1.1	1.4	1.4	1.4	1.1
147.5°	0.0	0.0	0.0	0.3	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)