

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: P397240

Luminaire Tested: **4VRVT2-LD5-11-DR-W-UNV-LR63-CD1-WL-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P397240
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1710-355-14)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: 4VRVT2-LD5-11-DR-W-UNV-LR63-CD1-WL-U
Description:
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1593.1 lumens
Efficiency: N/A
Efficacy: 7.5 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.59 / 1.58
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 4.17' x H: 0.17')
CIE Type: Direct

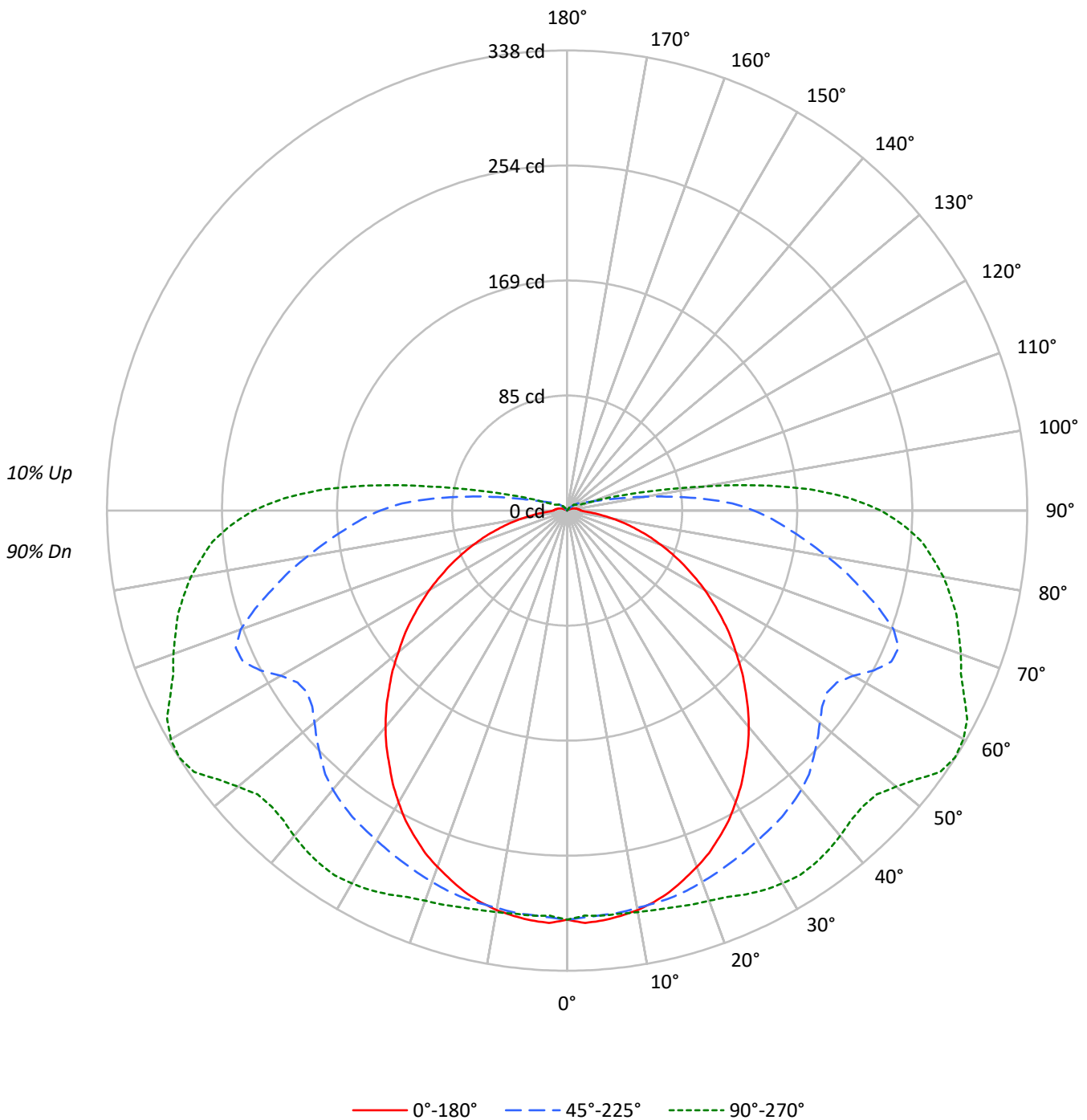
Input Watts (W): 213.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P397240

CATALOG NUMBER: 4VRVT2-LD5-11-DR-W-UNV-LR63-CD1-WL-U

Luminous Intensity Polar Plot





TEST NUMBER: P397240

CATALOG NUMBER: 4VRVT2-LD5-11-DR-W-UNV-LR63-CD1-WL-U

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	99	99	99	93	93	93	90
1	101	94	88	83	97	91	85	80	85	80	76	79	75	72	74	71	68	65
2	90	79	71	63	86	77	69	62	71	64	59	66	61	56	62	57	53	50
3	81	68	58	50	77	66	57	49	61	53	47	57	50	45	53	47	43	40
4	73	59	49	41	70	57	48	40	53	45	39	50	43	37	46	40	35	33
5	67	52	42	35	64	51	41	34	47	39	33	44	37	31	41	35	30	27
6	62	47	37	30	59	45	36	29	42	34	28	40	32	27	37	31	26	23
7	57	42	33	26	55	41	32	25	38	30	24	36	29	24	34	27	23	20
8	53	38	29	23	51	37	28	22	35	27	22	33	26	21	31	25	20	18
9	49	35	26	20	47	34	26	20	32	24	19	30	23	19	28	22	18	16
10	46	32	24	18	44	31	23	18	30	22	17	28	21	17	26	20	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1553	1553	1553
5°	1562	1512	1505
10°	1552	1485	1484
15°	1535	1471	1481
20°	1510	1456	1495
25°	1481	1447	1534
30°	1444	1449	1582
35°	1397	1463	1620
40°	1354	1478	1644
45°	1299	1480	1683
50°	1241	1481	1814
55°	1187	1524	2042
60°	1130	1720	2202
65°	1066	2051	2293
70°	994	2234	2427
75°	912	2256	2634
80°	817	2308	2889
85°	724	2426	3224



TEST NUMBER: P397240

CATALOG NUMBER: 4VRVT2-LD5-11-DR-W-UNV-LR63-CD1-WL-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	28.6	1.8
10°-20°	83.6	5.2
20°-30°	132.7	8.3
30°-40°	171.7	10.8
40°-50°	194.3	12.2
50°-60°	213.4	13.4
60°-70°	226.4	14.2
70°-80°	212.3	13.3
80°-90°	171.7	10.8
90°-100°	106.4	6.7
100°-110°	33.4	2.1
110°-120°	10.6	0.7
120°-130°	5.5	0.3
130°-140°	2.3	0.1
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°	244.9	15.4
0°-40°	416.5	26.1
0°-60°	824.2	51.7
0°-90°	1434.6	90.0
90°-120°	150.4	9.4
90°-150°	158.5	10.0
90°-180°	159.0	10.0
0°-180°	1593.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	300	300	300	300	300	
5°	302	301	298	300	299	29
15°	290	291	294	301	302	82
25°	265	271	285	304	311	122
35°	228	242	275	307	317	143
45°	185	208	256	293	307	143
55°	139	170	233	311	335	125
65°	95	135	263	313	322	94
75°	52	132	224	275	296	56
85°	18	89	164	236	262	18
90°	10	66	137	205	230	6
95°	9	46	100	156	179	7
105°	6	16	31	41	45	6
115°	3	8	14	12	10	3
125°	1	2	9	9	8	1
135°	0	0	4	5	5	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: P397240

CATALOG NUMBER: 4VRVT2-LD5-11-DR-W-UNV-LR63-CD1-WL-U

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	300.5	300.5	300.5	300.5	300.5	300.5	300.5	300.5	300.5	300.5	300.5
2.5°	303.2	302.8	302.2	302.0	301.8	301.8	302.0	301.6	300.9	299.9	299.1
5°	302.2	301.8	301.2	300.7	301.2	301.2	301.4	300.9	300.1	299.3	298.2
7.5°	300.3	299.9	299.3	299.3	299.1	299.3	299.3	299.3	298.8	298.4	297.8
10°	298.0	297.4	297.2	297.0	297.2	297.6	297.6	297.8	297.4	296.8	296.3
12.5°	294.5	294.3	293.6	293.8	294.0	294.7	295.1	295.5	295.7	295.5	295.5
15°	290.1	289.6	289.4	289.9	291.1	291.3	291.7	292.8	293.2	294.0	294.5
17.5°	284.4	284.4	284.4	285.3	286.7	287.1	288.0	289.0	290.1	291.1	292.6
20°	278.6	278.6	278.6	279.6	281.3	282.5	283.4	284.8	286.5	288.8	290.3
22.5°	272.3	271.9	271.9	272.9	275.4	276.1	277.7	280.7	283.2	285.9	287.8
25°	264.6	264.1	264.8	266.2	269.2	270.6	272.5	275.8	278.4	282.1	285.1
27.5°	256.8	256.2	257.0	258.9	262.9	264.6	266.8	270.8	273.8	277.9	282.5
30°	247.6	247.6	248.7	251.2	255.1	257.4	260.0	264.8	268.7	274.0	279.8
32.5°	238.2	237.8	239.7	242.4	247.6	250.3	253.1	258.5	263.5	270.2	277.3
35°	227.7	228.0	229.8	233.4	239.7	242.4	245.3	251.6	258.3	266.4	274.8
37.5°	218.1	217.7	220.2	225.0	231.1	234.2	237.4	245.1	252.6	261.8	271.5
40°	207.5	207.7	210.0	215.4	221.7	225.2	228.8	237.8	246.8	256.6	267.7
42.5°	196.6	196.8	199.9	205.8	212.7	216.7	221.1	230.5	240.7	251.6	262.9
45°	184.9	185.3	189.1	196.0	202.9	207.9	212.7	222.9	234.4	245.3	256.0
47.5°	173.8	174.4	179.2	185.5	193.5	198.7	203.9	215.6	226.9	238.0	249.3
50°	161.7	163.5	167.7	174.8	183.8	188.8	194.7	206.8	218.8	230.7	242.2
52.5°	151.0	151.8	157.1	164.0	173.6	179.4	184.9	197.8	210.4	222.7	236.1
55°	139.3	140.5	146.2	153.3	163.3	169.8	175.9	188.8	202.7	216.4	233.0
57.5°	127.8	129.2	135.3	142.6	153.7	159.6	166.7	180.3	195.3	213.1	234.9
60°	116.9	118.0	123.6	132.0	143.5	150.2	157.5	173.2	191.6	215.4	242.6
62.5°	105.2	107.1	112.3	121.7	134.9	141.8	150.2	168.6	193.0	222.9	254.1
65°	94.7	96.2	102.1	112.5	126.5	135.1	144.7	168.8	199.9	233.0	262.7
67.5°	83.6	86.2	92.2	103.7	120.3	130.5	142.8	173.2	208.5	240.3	263.5
70°	73.0	75.5	83.2	96.8	116.5	129.5	144.3	179.9	213.9	239.2	255.1
72.5°	62.9	65.5	75.3	91.2	115.2	130.5	147.4	183.0	210.8	227.7	240.5
75°	52.5	56.0	68.2	87.4	115.0	131.6	148.7	177.8	198.0	212.3	224.4
77.5°	43.5	47.9	61.9	83.9	113.3	128.4	141.6	164.2	181.5	195.5	209.6
80°	33.7	39.7	56.3	79.3	105.6	117.5	128.4	146.8	164.0	178.8	193.7
82.5°	25.1	32.6	49.6	71.7	93.3	103.3	113.3	130.5	146.6	162.1	178.8
85°	17.8	25.5	42.4	61.5	80.1	88.9	97.9	114.6	130.5	147.0	164.4
87.5°	12.5	19.9	34.9	51.9	68.6	75.9	84.3	100.2	116.9	133.2	151.4
90°	10.0	15.9	29.1	43.7	58.6	66.3	73.8	89.1	104.4	120.3	137.2
92.5°	9.6	13.2	24.0	36.8	49.8	56.5	63.2	77.0	91.0	105.2	121.3
95°	8.8	10.7	18.6	29.5	40.4	46.0	51.9	62.9	75.1	87.0	100.0
97.5°	8.2	8.8	14.4	23.0	31.8	35.8	40.2	49.6	58.1	67.3	77.4
100°	7.3	7.5	10.9	17.2	24.3	27.8	31.6	37.9	44.3	51.7	58.6
102.5°	6.7	6.7	8.6	13.0	18.2	20.9	23.6	29.1	33.7	38.5	42.4
105°	5.9	5.9	6.9	9.8	14.0	16.3	18.4	22.2	25.9	29.1	31.4
107.5°	5.2	5.0	5.4	8.0	11.3	13.0	14.8	17.8	20.5	22.6	24.5
110°	4.4	4.4	4.4	6.5	9.2	10.7	12.1	14.6	16.9	18.4	19.2



TEST NUMBER: P397240

CATALOG NUMBER: 4VRVT2-LD5-11-DR-W-UNV-LR63-CD1-WL-U

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	3.6	3.6	3.6	5.2	7.5	9.0	10.2	12.5	14.4	15.7	16.3
115°	2.9	2.9	2.7	4.0	6.3	7.5	8.6	10.9	12.5	13.6	14.2
117.5°	2.3	2.3	2.3	2.9	5.0	6.1	7.3	9.2	11.1	12.1	12.8
120°	1.9	1.9	1.7	1.9	3.8	4.8	5.9	8.0	9.6	10.7	11.3
122.5°	1.5	1.5	1.2	1.2	2.7	3.6	4.6	6.5	8.2	9.2	10.0
125°	1.0	1.0	1.0	0.8	1.7	2.5	3.6	5.2	6.7	8.0	8.8
127.5°	0.8	0.8	0.8	0.6	0.8	1.5	2.3	4.0	5.4	6.5	7.3
130°	0.6	0.6	0.6	0.4	0.4	0.8	1.5	2.7	4.0	5.0	6.1
132.5°	0.6	0.6	0.4	0.4	0.2	0.2	0.6	1.7	2.9	3.8	4.6
135°	0.4	0.4	0.4	0.2	0.2	0.0	0.0	0.8	1.9	2.7	3.6
137.5°	0.4	0.4	0.2	0.2	0.0	0.0	0.0	0.2	1.0	1.7	2.3
140°	0.4	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.8	1.5
142.5°	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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



TEST NUMBER: P397240

CATALOG NUMBER: 4VRVT2-LD5-11-DR-W-UNV-LR63-CD1-WL-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	300.5	300.5	300.5	300.5	300.5	300.5	300.5	300.5	300.5	300.5
2.5°	298.6	298.8	299.3	299.3	299.1	299.1	298.8	298.6	298.2	297.8
5°	298.2	298.6	299.3	299.5	299.5	299.3	299.3	299.3	299.1	298.6
7.5°	298.0	298.6	299.3	299.5	299.7	299.7	299.5	299.3	298.8	298.6
10°	297.0	298.2	298.8	299.5	299.9	299.9	300.1	300.1	299.7	299.5
12.5°	296.5	298.0	299.1	299.9	300.5	300.5	300.9	301.4	300.1	300.3
15°	295.7	297.8	299.5	300.5	300.9	301.2	301.6	301.8	301.4	301.6
17.5°	294.7	297.4	299.1	300.5	300.7	301.4	302.6	303.2	303.2	303.5
20°	293.2	296.3	298.6	300.9	301.8	302.4	303.7	304.9	304.5	304.9
22.5°	291.5	295.1	298.4	301.2	302.2	303.5	305.6	306.8	307.4	307.2
25°	290.1	294.7	298.6	302.8	304.1	305.8	308.3	309.9	310.6	311.0
27.5°	288.4	294.0	299.5	304.1	306.2	308.3	311.4	313.3	313.9	314.1
30°	287.1	294.3	299.9	305.3	307.6	309.9	313.3	315.2	316.0	316.2
32.5°	285.9	293.4	299.9	305.8	308.0	310.1	314.1	317.0	317.7	317.7
35°	284.2	291.7	299.1	305.1	307.4	309.7	314.1	316.4	317.0	316.8
37.5°	281.3	289.6	297.2	302.6	304.9	307.0	311.4	313.9	315.0	314.8
40°	277.1	285.7	293.0	299.1	301.2	303.5	308.0	310.1	311.6	312.0
42.5°	272.1	280.7	288.0	294.0	296.8	299.5	304.1	306.4	308.0	308.5
45°	265.8	274.6	282.5	289.6	292.8	295.5	301.2	305.1	306.8	307.2
47.5°	259.3	269.4	278.4	286.9	290.9	295.1	301.4	306.4	308.7	308.5
50°	253.3	265.4	276.7	288.0	293.2	298.0	306.0	311.4	314.1	315.4
52.5°	250.3	265.4	280.4	293.8	299.9	305.1	314.5	320.8	324.0	324.0
55°	251.8	271.2	288.6	304.1	310.6	316.2	324.4	330.4	333.2	334.6
57.5°	258.5	281.1	299.7	314.3	320.4	325.2	332.7	335.7	338.6	337.7
60°	269.8	291.3	307.8	320.6	324.8	327.3	332.1	334.6	336.1	336.1
62.5°	279.2	298.6	310.1	317.7	321.4	323.5	327.5	329.4	331.3	331.3
65°	283.4	296.1	304.9	311.6	313.3	315.8	318.5	320.4	322.1	321.6
67.5°	278.4	287.6	294.5	300.5	302.6	305.1	308.5	311.2	312.7	313.1
70°	265.8	274.6	281.1	288.6	291.7	294.9	300.7	304.7	307.0	307.8
72.5°	251.2	260.4	270.4	279.0	283.8	287.3	293.8	298.0	301.2	301.6
75°	236.1	247.6	259.1	270.0	274.8	279.8	287.1	292.0	295.5	296.1
77.5°	222.5	235.7	249.9	261.6	267.5	271.9	279.8	284.4	288.2	288.4
80°	208.9	224.4	238.8	251.0	256.8	262.5	270.0	276.1	279.2	280.7
82.5°	195.7	211.6	227.1	241.1	246.4	251.8	260.4	266.2	269.8	271.0
85°	182.8	200.1	216.2	229.8	236.3	241.8	251.0	256.4	260.6	261.6
87.5°	169.2	186.1	202.2	215.6	222.3	227.1	236.5	242.2	246.4	247.2
90°	154.5	170.4	186.1	198.7	204.9	210.2	220.2	225.4	228.6	230.5
92.5°	136.4	151.6	166.0	178.4	184.9	188.6	198.0	203.7	207.0	207.9
95°	113.8	126.7	139.7	150.8	156.4	162.1	168.4	173.8	178.4	179.0
97.5°	87.8	98.7	109.4	120.3	123.8	127.2	132.4	138.0	142.2	142.0
100°	65.5	71.7	79.3	84.9	87.6	91.4	96.4	99.8	100.2	101.4
102.5°	47.1	51.4	54.6	58.8	60.0	63.4	65.0	67.3	67.8	68.8
105°	34.1	36.4	38.7	40.4	41.4	41.6	42.9	44.5	45.0	45.0
107.5°	25.5	26.8	27.0	27.6	28.0	28.2	29.1	29.3	29.5	29.5
110°	20.1	20.3	19.9	19.9	19.7	19.7	19.5	19.2	19.0	19.0



TEST NUMBER: P397240

CATALOG NUMBER: 4VRVT2-LD5-11-DR-W-UNV-LR63-CD1-WL-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	16.3	16.3	15.9	15.3	14.8	14.6	14.0	13.6	13.4	13.4
115°	14.2	13.8	13.4	12.8	12.3	12.1	11.5	11.1	10.7	10.5
117.5°	12.8	12.5	11.9	11.5	11.1	10.9	10.2	9.6	9.4	9.2
120°	11.5	11.3	11.1	10.5	10.2	10.0	9.4	9.0	8.6	8.6
122.5°	10.2	10.2	10.0	9.6	9.4	9.2	8.8	8.4	8.2	8.0
125°	9.2	9.2	9.2	9.0	8.8	8.6	8.2	8.0	7.7	7.5
127.5°	7.7	8.2	8.2	8.2	8.0	8.0	7.7	7.3	7.1	7.1
130°	6.5	6.9	7.1	7.1	7.1	7.1	6.9	6.7	6.5	6.5
132.5°	5.2	5.9	6.1	6.3	6.3	6.3	6.1	6.1	5.9	5.9
135°	4.2	4.6	5.0	5.2	5.2	5.2	5.2	5.2	5.0	5.0
137.5°	3.1	3.3	3.8	4.0	4.2	4.2	4.2	4.2	4.2	4.2
140°	1.9	2.3	2.7	2.9	3.1	3.1	3.1	3.1	3.1	3.1
142.5°	1.0	1.2	1.7	1.9	2.1	2.1	2.1	2.1	2.1	2.1
145°	0.2	0.4	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0
147.5°	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	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)