

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: P397246

Luminaire Tested: **4VRVT2-LD5-11-DR100-W-UNV-LR63-CD1-WL-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P397246
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1710-355-15)
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-DR100-W-UNV-LR63-CD1-WL-U
Description:
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1593.3 lumens
Efficiency: N/A
Efficacy: 7.5 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.58 / 1.57
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 4.17' x H: 0.17')
CIE Type: Semi-Direct

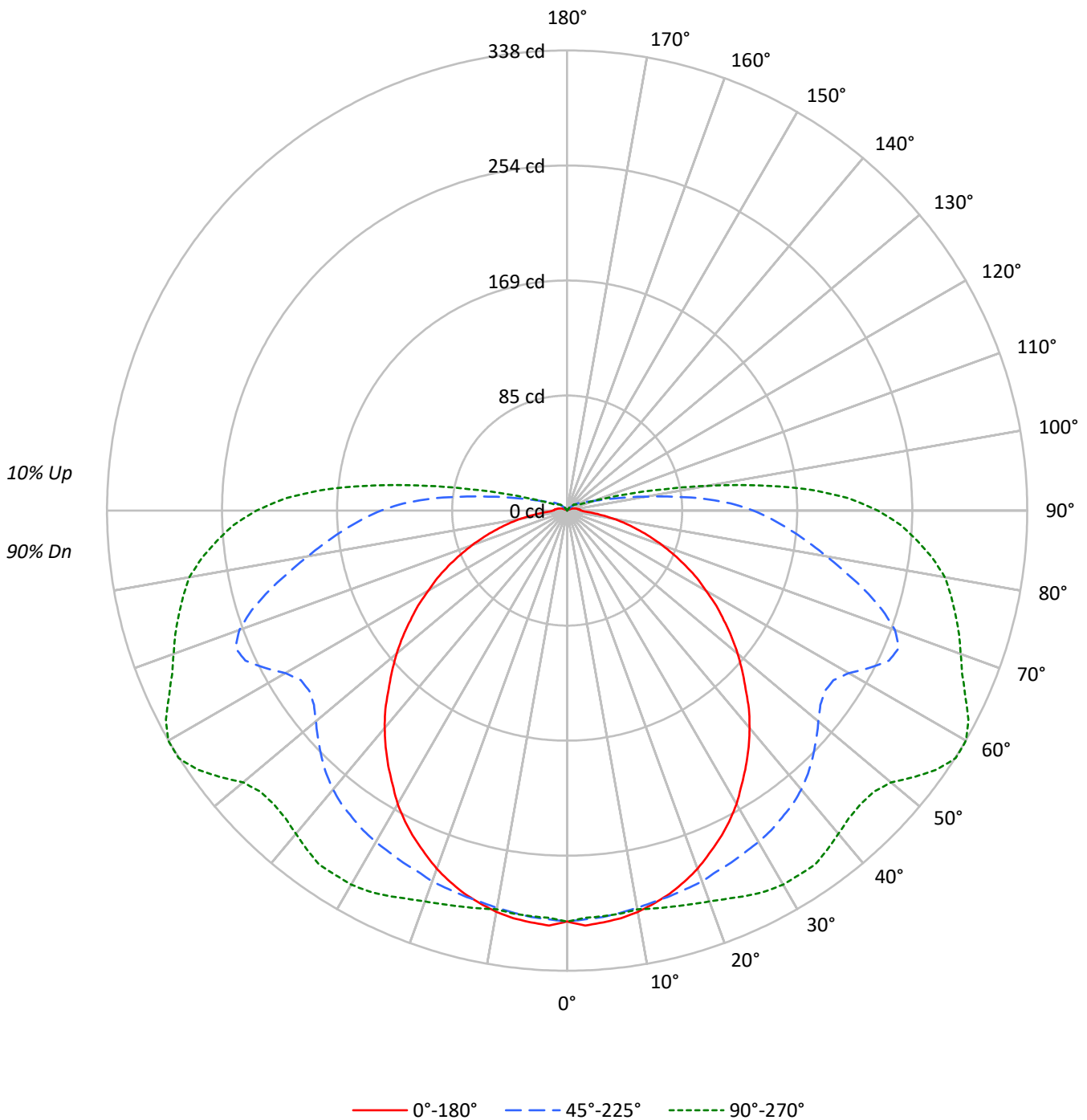
Input Watts (W): 213.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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CATALOG NUMBER: 4VRVT2-LD5-11-DR100-W-UNV-LR63-CD1-WL-U

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	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°	1559	1559	1559
5°	1569	1519	1507
10°	1559	1485	1474
15°	1542	1464	1479
20°	1517	1454	1498
25°	1486	1448	1540
30°	1451	1455	1587
35°	1405	1465	1624
40°	1361	1477	1633
45°	1302	1476	1671
50°	1254	1473	1787
55°	1197	1512	2023
60°	1137	1693	2216
65°	1083	2036	2301
70°	1010	2243	2425
75°	926	2278	2627
80°	842	2304	2900
85°	724	2429	3186



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	28.6	1.8
10°-20°	83.5	5.2
20°-30°	132.8	8.3
30°-40°	171.6	10.8
40°-50°	193.7	12.2
50°-60°	212.3	13.3
60°-70°	226.6	14.2
70°-80°	212.4	13.3
80°-90°	171.0	10.7
90°-100°	106.5	6.7
100°-110°	34.5	2.2
110°-120°	11.3	0.7
120°-130°	5.8	0.4
130°-140°	2.4	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°	822.5	51.6
0°-90°	1432.5	89.9
90°-120°	152.3	9.6
90°-150°	160.8	10.1
90°-180°	161.0	10.1
0°-180°	1593.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	302	302	302	302	302	
5°	304	303	300	300	299	29
15°	291	291	293	300	301	82
25°	266	269	285	305	312	122
35°	229	242	275	307	318	143
45°	185	208	255	290	305	143
55°	140	170	231	307	332	126
65°	96	135	261	316	323	95
75°	53	130	226	274	295	57
85°	18	89	165	233	258	18
90°	10	67	137	203	228	6
95°	9	46	101	158	178	7
105°	6	17	33	43	48	6
115°	3	8	15	13	12	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



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	301.8	301.8	301.8	301.8	301.8	301.8	301.8	301.8	301.8	301.8	301.8
2.5°	305.1	304.3	303.6	303.6	303.6	303.4	303.4	303.2	302.8	301.6	300.5
5°	303.6	303.2	302.6	302.6	302.6	302.6	302.6	302.2	301.3	300.5	299.7
7.5°	302.0	301.6	300.7	300.9	300.3	300.5	300.3	299.9	299.7	299.1	298.0
10°	299.3	298.8	298.0	298.2	297.8	298.0	298.0	298.2	297.8	297.2	296.3
12.5°	295.5	295.3	294.9	294.7	295.1	295.5	295.7	295.3	294.9	294.7	294.4
15°	291.3	290.9	290.5	290.7	291.3	291.3	291.9	291.9	291.9	292.1	293.0
17.5°	285.9	285.7	285.2	285.7	286.1	286.3	287.1	287.6	287.8	289.4	291.3
20°	280.0	279.6	279.2	279.6	280.2	281.1	281.9	283.2	285.0	287.8	289.9
22.5°	272.7	272.5	272.3	272.7	273.7	275.0	276.5	279.2	282.1	285.0	286.9
25°	265.6	265.2	265.0	265.8	267.9	269.2	271.0	274.6	277.9	281.7	285.2
27.5°	257.6	256.4	257.4	258.3	261.0	262.7	265.0	269.6	273.3	277.5	282.9
30°	248.9	248.2	248.2	250.1	253.7	256.2	258.9	264.1	268.5	274.4	281.1
32.5°	238.6	238.8	239.2	241.7	246.6	249.5	251.8	257.9	263.5	270.8	278.6
35°	229.0	228.6	229.6	233.2	238.6	242.0	245.1	251.6	258.7	266.8	275.2
37.5°	219.0	218.5	220.0	224.2	230.0	233.6	237.2	245.3	253.5	262.7	272.1
40°	208.5	208.5	210.2	214.8	221.2	225.0	229.2	238.4	247.4	257.4	267.5
42.5°	197.6	197.2	199.3	205.6	212.9	216.7	221.7	231.3	241.5	251.6	262.0
45°	185.3	187.0	189.1	195.3	202.8	208.1	213.9	224.2	234.6	245.3	255.3
47.5°	174.4	175.7	178.6	185.3	194.1	198.9	205.2	216.0	227.3	237.6	248.2
50°	163.5	164.2	168.1	174.8	184.0	190.1	196.2	207.2	218.3	230.0	240.9
52.5°	152.2	152.4	157.3	163.7	174.6	180.7	186.3	198.0	210.0	222.1	234.4
55°	140.5	141.2	146.2	153.3	164.8	170.4	176.7	188.8	201.8	215.6	231.1
57.5°	129.9	130.5	135.3	143.0	155.0	161.0	167.1	180.3	194.5	211.6	231.9
60°	117.7	119.4	123.8	132.6	144.7	150.8	157.9	172.5	190.3	213.1	238.8
62.5°	107.5	107.9	112.9	122.5	135.3	142.0	149.7	167.5	190.9	219.6	250.3
65°	96.2	97.2	102.5	113.3	126.9	134.9	144.1	166.9	196.8	230.9	260.8
67.5°	84.9	86.6	92.8	104.8	120.5	130.1	141.8	171.3	206.2	239.5	263.7
70°	74.2	76.3	83.4	97.2	116.1	128.2	143.2	177.8	212.7	240.1	256.2
72.5°	63.6	66.5	75.7	91.6	114.4	129.5	146.6	181.7	211.2	230.0	242.8
75°	53.3	56.7	68.6	87.2	114.2	130.5	147.9	178.0	198.9	214.6	226.5
77.5°	44.1	48.1	61.9	83.6	112.7	128.0	142.0	165.2	182.6	197.2	209.3
80°	34.7	39.9	56.0	79.1	105.6	117.7	129.2	148.7	164.4	179.2	193.4
82.5°	25.7	32.6	49.8	72.1	93.5	104.4	113.3	131.1	147.0	162.5	178.8
85°	17.8	25.7	42.2	61.5	79.9	89.3	98.1	115.0	130.7	147.0	164.6
87.5°	12.3	20.3	35.1	52.1	69.0	77.0	84.9	101.2	116.9	133.0	151.0
90°	10.2	16.1	29.3	44.1	59.2	66.7	74.2	89.1	104.6	120.0	136.8
92.5°	9.6	13.4	24.0	37.0	50.6	56.9	63.6	77.4	91.2	106.0	120.2
95°	9.0	10.7	19.0	29.5	41.0	46.4	52.1	62.9	75.5	87.6	100.6
97.5°	8.2	8.8	14.6	23.0	32.2	36.8	41.0	49.8	59.6	68.8	78.0
100°	7.5	7.5	11.1	17.6	24.9	28.2	31.8	39.1	45.6	52.5	59.0
102.5°	6.7	6.7	8.6	13.2	19.0	21.7	24.9	29.9	34.7	39.5	44.1
105°	6.1	5.9	6.9	10.2	14.4	16.7	19.0	23.2	27.0	30.1	33.2
107.5°	5.2	5.2	5.6	8.2	11.5	13.4	15.1	18.6	21.5	23.8	25.5
110°	4.4	4.4	4.6	6.5	9.4	10.9	12.5	15.3	17.6	19.5	20.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	3.8	3.8	3.6	5.2	7.7	9.2	10.5	13.0	15.1	16.3	17.2
115°	2.9	2.9	2.9	4.0	6.3	7.5	8.8	11.1	13.2	14.4	15.1
117.5°	2.5	2.5	2.3	2.9	5.0	6.3	7.3	9.6	11.3	12.8	13.4
120°	1.9	1.9	1.9	1.9	3.8	5.0	6.1	8.2	9.8	11.1	11.7
122.5°	1.5	1.5	1.5	1.2	2.7	3.8	4.8	6.7	8.4	9.6	10.5
125°	1.2	1.0	1.0	1.0	1.7	2.5	3.6	5.2	6.7	8.2	9.0
127.5°	1.0	0.8	0.8	0.8	0.8	1.5	2.3	4.0	5.4	6.7	7.5
130°	0.8	0.6	0.6	0.6	0.4	0.8	1.5	2.7	4.2	5.2	6.1
132.5°	0.6	0.6	0.4	0.4	0.2	0.2	0.6	1.7	2.9	4.0	4.8
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	0.8	1.7	2.5
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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	301.8	301.8	301.8	301.8	301.8	301.8	301.8	301.8	301.8	301.8
2.5°	300.5	300.7	300.9	300.9	300.7	300.7	300.5	300.1	299.7	299.5
5°	299.1	299.7	300.1	300.1	300.1	299.9	299.9	299.7	299.3	299.1
7.5°	297.8	298.8	299.3	299.1	299.1	299.1	299.1	299.3	298.8	298.6
10°	296.5	297.4	298.2	298.4	298.6	298.4	298.4	298.0	297.8	297.4
12.5°	295.3	296.8	298.0	299.1	299.1	299.1	299.5	300.1	299.9	299.3
15°	294.2	296.8	298.2	299.9	300.5	301.1	301.3	301.8	301.1	301.1
17.5°	293.6	297.0	299.1	300.7	300.9	301.8	303.0	303.6	303.4	303.2
20°	292.6	296.5	299.5	300.9	302.0	303.0	304.7	305.1	305.5	305.5
22.5°	291.3	295.7	298.6	302.0	303.6	304.7	307.0	308.3	308.7	308.5
25°	290.3	295.3	299.7	303.6	305.3	306.6	309.5	311.8	312.2	312.2
27.5°	289.2	295.1	300.3	305.5	307.6	309.1	312.0	314.3	315.2	315.4
30°	288.2	294.7	300.9	306.2	308.7	310.1	313.5	315.6	317.2	317.2
32.5°	286.3	294.2	300.5	306.2	308.3	310.8	313.9	316.2	317.5	317.2
35°	284.4	291.7	298.8	304.5	306.8	309.3	313.1	315.8	316.6	317.5
37.5°	281.3	289.0	296.1	301.8	305.1	307.2	310.6	312.6	314.3	313.9
40°	277.1	284.8	292.1	297.6	300.5	303.0	306.8	308.7	310.1	309.9
42.5°	271.0	279.8	286.7	292.6	295.7	298.2	302.8	304.5	306.2	306.4
45°	265.0	273.5	281.3	287.6	290.5	293.4	299.1	302.2	304.3	304.9
47.5°	257.6	267.3	276.0	284.6	288.8	292.6	298.4	302.8	305.1	305.5
50°	251.6	263.5	274.4	284.4	289.6	293.8	301.8	307.0	309.5	310.6
52.5°	248.0	262.4	276.7	289.6	295.9	301.1	311.0	316.8	321.0	321.4
55°	248.7	266.8	284.6	300.7	307.0	313.5	322.5	327.9	331.5	331.5
57.5°	254.9	276.7	297.2	312.0	318.3	323.3	331.7	335.2	337.7	338.4
60°	266.2	289.2	307.0	320.0	324.1	328.1	332.7	336.7	337.7	338.2
62.5°	277.3	297.0	311.0	320.0	322.5	325.8	329.2	331.5	332.3	332.3
65°	283.2	297.8	306.4	313.1	315.8	316.8	320.4	321.2	323.1	322.7
67.5°	279.6	289.0	295.9	301.6	303.6	305.7	309.9	312.0	313.7	314.1
70°	267.5	275.0	282.3	289.4	292.1	295.7	300.7	304.7	306.6	307.6
72.5°	252.6	261.6	271.0	279.6	284.0	287.3	293.6	298.8	300.7	301.8
75°	237.4	248.0	258.9	269.4	274.0	278.4	285.9	290.9	294.2	295.3
77.5°	222.1	235.1	248.2	260.2	265.8	270.4	279.0	284.4	288.4	288.8
80°	207.9	223.3	238.0	250.7	256.4	261.8	270.4	276.7	278.8	281.7
82.5°	195.3	211.4	226.3	239.7	245.9	250.7	259.7	266.2	269.4	271.0
85°	181.7	198.5	213.5	226.7	233.2	239.0	247.4	253.5	257.9	258.5
87.5°	167.9	184.7	200.1	213.7	220.2	225.6	234.4	240.3	244.3	245.5
90°	153.3	169.2	184.0	197.6	203.1	208.7	217.1	223.8	228.0	228.2
92.5°	135.7	151.0	164.6	177.3	183.8	188.0	196.0	202.8	205.8	207.0
95°	113.3	127.4	140.3	151.0	157.5	161.2	169.0	174.0	177.3	178.2
97.5°	88.9	99.8	110.2	119.6	124.4	127.6	133.8	138.2	143.2	142.0
100°	66.9	73.0	80.5	86.6	90.1	92.2	96.8	99.8	102.7	104.4
102.5°	48.5	53.1	56.5	59.6	62.1	64.2	67.8	68.8	69.6	71.7
105°	35.6	37.9	39.7	42.0	43.1	43.7	45.2	46.2	46.2	48.1
107.5°	26.8	27.8	28.7	29.9	29.9	30.5	30.5	30.7	31.4	30.9
110°	21.1	21.3	21.5	21.3	21.5	21.3	21.1	20.9	20.9	20.7



TEST NUMBER: P397246

CATALOG NUMBER: 4VRVT2-LD5-11-DR100-W-UNV-LR63-CD1-WL-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	17.6	17.4	17.2	16.5	16.3	15.9	15.7	15.3	14.8	14.8
115°	15.1	14.8	14.4	13.8	13.4	13.0	12.8	12.1	11.7	11.5
117.5°	13.4	13.2	12.8	12.1	11.9	11.5	11.1	10.5	10.0	9.8
120°	12.1	12.1	11.7	11.1	10.9	10.7	10.0	9.6	9.2	9.0
122.5°	10.9	10.9	10.7	10.2	10.0	9.8	9.4	9.0	8.6	8.6
125°	9.4	9.6	9.6	9.4	9.2	9.0	8.8	8.4	8.2	8.0
127.5°	8.2	8.4	8.6	8.6	8.4	8.4	8.0	7.7	7.5	7.5
130°	6.7	7.3	7.5	7.5	7.5	7.5	7.3	7.1	6.9	6.9
132.5°	5.4	5.9	6.3	6.5	6.5	6.5	6.3	6.3	6.1	6.1
135°	4.2	4.6	5.0	5.2	5.4	5.4	5.4	5.4	5.2	5.2
137.5°	3.1	3.6	4.0	4.2	4.2	4.4	4.4	4.4	4.2	4.2
140°	1.9	2.5	2.7	2.9	3.1	3.1	3.3	3.3	3.1	3.1
142.5°	1.0	1.5	1.7	1.9	2.1	2.1	2.3	2.1	2.1	2.1
145°	0.2	0.4	0.8	1.0	1.0	1.0	1.0	1.2	1.0	1.0
147.5°	0.0	0.0	0.0	0.0	0.0	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)