

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: P397283

Luminaire Tested: **4VRVT2-LD5-8-DR-W-UNV-LA59-CD1-WL-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P397283
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-LD5-8-DR-W-UNV-LA59-CD1-WL-U
Description:
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2133.0 lumens
Efficiency: N/A
Efficacy: 23.8 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

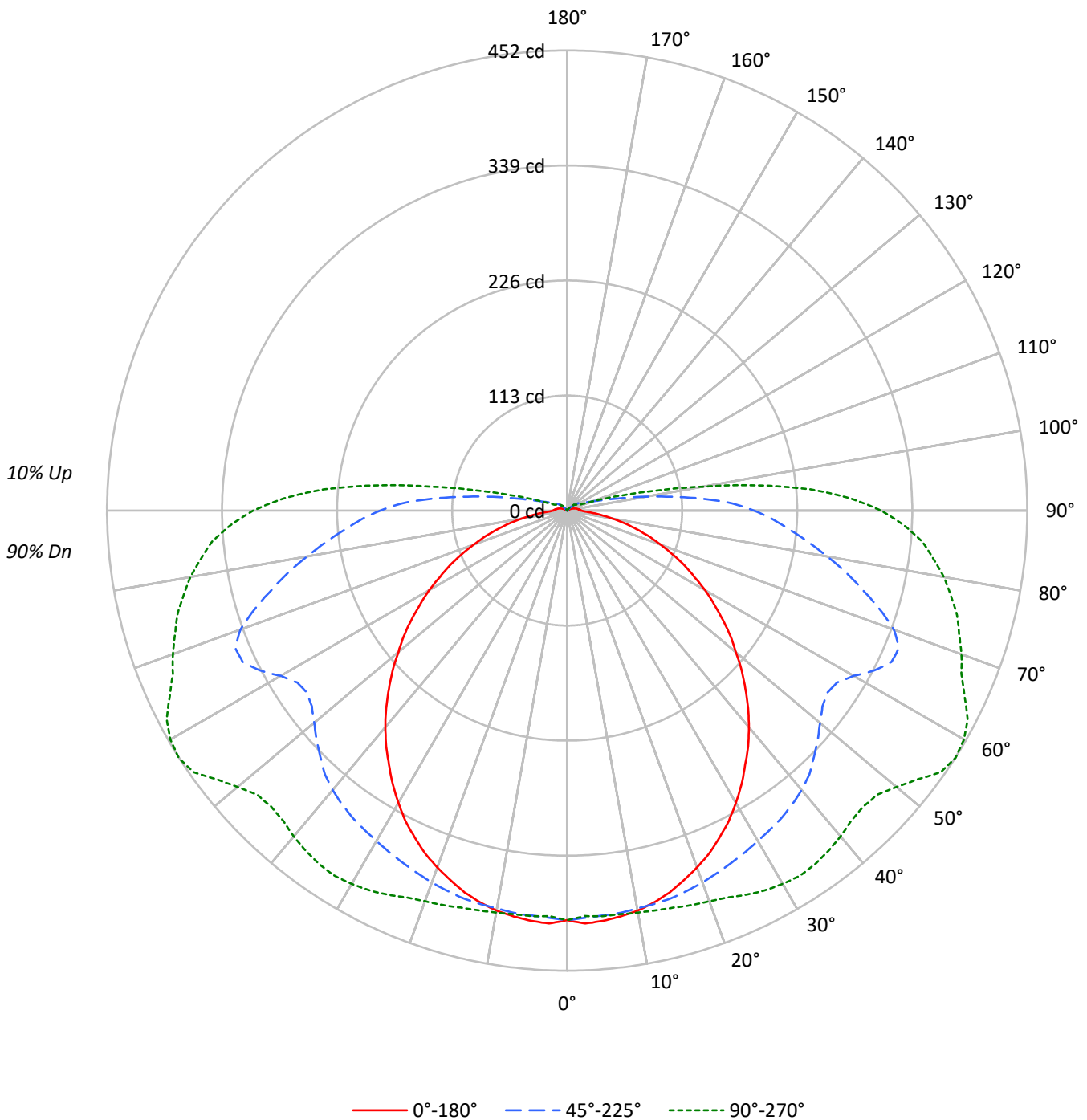
Input Watts (W): 89.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2079	2079	2079
5°	2091	2024	2015
10°	2079	1989	1987
15°	2055	1970	1983
20°	2021	1950	2002
25°	1982	1937	2054
30°	1933	1940	2118
35°	1871	1958	2169
40°	1813	1979	2202
45°	1739	1981	2254
50°	1660	1982	2429
55°	1589	2040	2734
60°	1512	2303	2948
65°	1428	2745	3071
70°	1330	2991	3250
75°	1221	3021	3527
80°	1094	3090	3868
85°	968	3248	4317



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.2	1.8
10°-20°	112.0	5.2
20°-30°	177.6	8.3
30°-40°	229.9	10.8
40°-50°	260.2	12.2
50°-60°	285.7	13.4
60°-70°	303.1	14.2
70°-80°	284.2	13.3
80°-90°	229.9	10.8
90°-100°	142.4	6.7
100°-110°	44.7	2.1
110°-120°	14.2	0.7
120°-130°	7.4	0.3
130°-140°	3.1	0.1
140°-150°	0.5	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	327.9	15.4
0°-40°	557.7	26.1
0°-60°	1103.6	51.7
0°-90°	1920.8	90.1
90°-120°	201.3	9.4
90°-150°	212.2	9.9
90°-180°	212.0	9.9
0°-180°	2133.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	402	402	402	402	402	
5°	405	403	399	401	400	38
15°	388	390	394	403	404	109
25°	354	362	382	407	416	163
35°	305	324	368	412	424	191
45°	248	278	343	392	411	191
55°	186	227	312	416	448	167
65°	127	181	352	420	431	125
75°	70	176	300	368	396	75
85°	24	119	220	316	350	24
90°	13	89	184	274	309	8
95°	12	62	134	209	240	9
105°	8	22	42	55	60	8
115°	4	10	19	16	14	4
125°	1	3	12	12	10	1
135°	1	0	5	7	7	1
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°	402.4	402.4	402.4	402.4	402.4	402.4	402.4	402.4	402.4	402.4	402.4
2.5°	406.0	405.5	404.6	404.3	404.1	404.1	404.3	403.8	402.9	401.5	400.4
5°	404.6	404.1	403.2	402.7	403.2	403.2	403.5	402.9	401.8	400.7	399.3
7.5°	402.1	401.5	400.7	400.7	400.4	400.7	400.7	400.7	400.1	399.6	398.7
10°	399.0	398.2	397.9	397.6	397.9	398.5	398.5	398.7	398.2	397.3	396.8
12.5°	394.3	394.0	393.1	393.4	393.7	394.5	395.1	395.7	395.9	395.7	395.7
15°	388.4	387.8	387.5	388.1	389.8	390.1	390.6	392.0	392.6	393.7	394.3
17.5°	380.8	380.8	380.8	381.9	383.9	384.5	385.6	387.0	388.4	389.8	391.7
20°	373.0	373.0	373.0	374.4	376.6	378.3	379.4	381.4	383.6	386.7	388.7
22.5°	364.6	364.0	364.0	365.4	368.8	369.6	371.9	375.8	379.1	382.8	385.3
25°	354.2	353.6	354.5	356.4	360.4	362.3	364.8	369.3	372.7	377.7	381.7
27.5°	343.8	343.0	344.1	346.6	352.0	354.2	357.3	362.6	366.5	372.1	378.3
30°	331.5	331.5	332.9	336.3	341.6	344.7	348.0	354.5	359.8	366.8	374.7
32.5°	318.9	318.4	320.9	324.5	331.5	335.2	338.8	346.1	352.8	361.8	371.3
35°	304.9	305.2	307.7	312.5	320.9	324.5	328.4	336.8	345.8	356.7	367.9
37.5°	292.0	291.5	294.8	301.3	309.4	313.6	317.8	328.2	338.2	350.6	363.4
40°	277.8	278.0	281.1	288.4	296.8	301.6	306.3	318.4	330.4	343.6	358.4
42.5°	263.2	263.5	267.7	275.5	284.8	290.1	296.0	308.6	322.3	336.8	352.0
45°	247.5	248.1	253.1	262.4	271.6	278.3	284.8	298.5	313.9	328.4	342.7
47.5°	232.7	233.5	240.0	248.4	259.0	266.0	273.0	288.7	303.8	318.6	333.8
50°	216.4	219.0	224.6	234.1	246.1	252.8	260.7	276.9	292.9	308.8	324.2
52.5°	202.2	203.3	210.3	219.5	232.4	240.2	247.5	264.9	281.7	298.2	316.1
55°	186.5	188.2	195.7	205.2	218.7	227.4	235.5	252.8	271.3	289.8	311.9
57.5°	171.1	173.0	181.2	191.0	205.8	213.6	223.2	241.4	261.5	285.3	314.4
60°	156.5	157.9	165.5	176.7	192.1	201.0	210.8	231.8	256.5	288.4	324.8
62.5°	140.8	143.4	150.4	163.0	180.6	189.8	201.0	225.7	258.4	298.5	340.2
65°	126.8	128.8	136.6	150.6	169.4	180.9	193.8	226.0	267.7	311.9	351.7
67.5°	112.0	115.4	123.5	138.9	161.0	174.7	191.2	231.8	279.2	321.7	352.8
70°	97.7	101.1	111.4	129.6	156.0	173.3	193.2	240.8	286.4	320.3	341.6
72.5°	84.3	87.6	100.8	122.1	154.3	174.7	197.4	245.0	282.2	304.9	322.0
75°	70.3	75.0	91.3	117.0	154.0	176.1	199.1	238.0	265.2	284.2	300.4
77.5°	58.2	64.1	82.9	112.3	151.8	171.9	189.6	219.8	243.0	261.8	280.6
80°	45.1	53.2	75.3	106.1	141.4	157.4	171.9	196.6	219.5	239.4	259.3
82.5°	33.6	43.7	66.4	96.0	124.9	138.3	151.8	174.7	196.3	217.0	239.4
85°	23.8	34.2	56.8	82.3	107.2	119.0	131.0	153.4	174.7	196.8	220.1
87.5°	16.8	26.6	46.8	69.4	91.8	101.6	112.8	134.1	156.5	178.4	202.7
90°	13.4	21.3	38.9	58.5	78.4	88.8	98.8	119.3	139.7	161.0	183.7
92.5°	12.9	17.6	32.2	49.3	66.6	75.6	84.6	103.0	121.8	140.8	162.4
95°	11.8	14.3	24.9	39.5	54.0	61.6	69.4	84.3	100.5	116.5	133.8
97.5°	10.9	11.8	19.3	30.8	42.6	47.9	53.8	66.4	77.8	90.2	103.6
100°	9.8	10.1	14.6	23.0	32.5	37.2	42.3	50.7	59.4	69.2	78.4
102.5°	9.0	9.0	11.5	17.4	24.4	28.0	31.6	38.9	45.1	51.5	56.8
105°	7.8	7.8	9.2	13.2	18.8	21.8	24.6	29.7	34.7	38.9	42.0
107.5°	7.0	6.7	7.3	10.6	15.1	17.4	19.9	23.8	27.4	30.2	32.8
110°	5.9	5.9	5.9	8.7	12.3	14.3	16.2	19.6	22.7	24.6	25.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	4.8	4.8	4.8	7.0	10.1	12.0	13.7	16.8	19.3	21.0	21.8
115°	3.9	3.9	3.6	5.3	8.4	10.1	11.5	14.6	16.8	18.2	19.0
117.5°	3.1	3.1	3.1	3.9	6.7	8.1	9.8	12.3	14.8	16.2	17.1
120°	2.5	2.5	2.2	2.5	5.0	6.4	7.8	10.6	12.9	14.3	15.1
122.5°	2.0	2.0	1.7	1.7	3.6	4.8	6.2	8.7	10.9	12.3	13.4
125°	1.4	1.4	1.4	1.1	2.2	3.4	4.8	7.0	9.0	10.6	11.8
127.5°	1.1	1.1	1.1	0.8	1.1	2.0	3.1	5.3	7.3	8.7	9.8
130°	0.8	0.8	0.8	0.6	0.6	1.1	2.0	3.6	5.3	6.7	8.1
132.5°	0.8	0.8	0.6	0.6	0.3	0.3	0.8	2.2	3.9	5.0	6.2
135°	0.6	0.6	0.6	0.3	0.3	0.0	0.0	1.1	2.5	3.6	4.8
137.5°	0.6	0.6	0.3	0.3	0.0	0.0	0.0	0.3	1.4	2.2	3.1
140°	0.6	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.3	1.1	2.0
142.5°	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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°	402.4	402.4	402.4	402.4	402.4	402.4	402.4	402.4	402.4	402.4
2.5°	399.9	400.1	400.7	400.7	400.4	400.4	400.1	399.9	399.3	398.7
5°	399.3	399.9	400.7	401.0	401.0	400.7	400.7	400.7	400.4	399.9
7.5°	399.0	399.9	400.7	401.0	401.3	401.3	401.0	400.7	400.1	399.9
10°	397.6	399.3	400.1	401.0	401.5	401.5	401.8	401.8	401.3	401.0
12.5°	397.1	399.0	400.4	401.5	402.4	402.4	402.9	403.5	401.8	402.1
15°	395.9	398.7	401.0	402.4	402.9	403.2	403.8	404.1	403.5	403.8
17.5°	394.5	398.2	400.4	402.4	402.7	403.5	405.2	406.0	406.0	406.3
20°	392.6	396.8	399.9	402.9	404.1	404.9	406.6	408.3	407.7	408.3
22.5°	390.3	395.1	399.6	403.2	404.6	406.3	409.1	410.8	411.6	411.3
25°	388.4	394.5	399.9	405.5	407.1	409.4	412.7	415.0	415.8	416.4
27.5°	386.1	393.7	401.0	407.1	409.9	412.7	416.9	419.5	420.3	420.6
30°	384.5	394.0	401.5	408.8	411.9	415.0	419.5	422.0	423.1	423.4
32.5°	382.8	392.9	401.5	409.4	412.5	415.3	420.6	424.5	425.3	425.3
35°	380.5	390.6	400.4	408.5	411.6	414.7	420.6	423.7	424.5	424.2
37.5°	376.6	387.8	397.9	405.2	408.3	411.1	416.9	420.3	421.7	421.4
40°	371.0	382.5	392.3	400.4	403.2	406.3	412.5	415.3	417.2	417.8
42.5°	364.3	375.8	385.6	393.7	397.3	401.0	407.1	410.2	412.5	413.0
45°	355.9	367.6	378.3	387.8	392.0	395.7	403.2	408.5	410.8	411.3
47.5°	347.2	360.6	372.7	384.2	389.5	395.1	403.5	410.2	413.3	413.0
50°	339.1	355.3	370.5	385.6	392.6	399.0	409.7	416.9	420.6	422.3
52.5°	335.2	355.3	375.5	393.4	401.5	408.5	421.1	429.5	433.7	433.7
55°	337.1	363.2	386.4	407.1	415.8	423.4	434.3	442.4	446.1	448.0
57.5°	346.1	376.3	401.3	420.9	429.0	435.4	445.5	449.4	453.3	452.2
60°	361.2	390.1	412.2	429.3	434.9	438.2	444.7	448.0	450.0	450.0
62.5°	373.8	399.9	415.3	425.3	430.4	433.2	438.5	441.0	443.5	443.5
65°	379.4	396.5	408.3	417.2	419.5	422.8	426.5	429.0	431.2	430.7
67.5°	372.7	385.0	394.3	402.4	405.2	408.5	413.0	416.7	418.6	419.2
70°	355.9	367.6	376.3	386.4	390.6	394.8	402.7	408.0	411.1	412.2
72.5°	336.3	348.6	362.0	373.5	380.0	384.7	393.4	399.0	403.2	403.8
75°	316.1	331.5	346.9	361.5	367.9	374.7	384.5	390.9	395.7	396.5
77.5°	297.9	315.6	334.6	350.3	358.1	364.0	374.7	380.8	385.9	386.1
80°	279.7	300.4	319.8	336.0	343.8	351.4	361.5	369.6	373.8	375.8
82.5°	262.1	283.4	304.1	322.8	329.8	337.1	348.6	356.4	361.2	362.9
85°	244.7	268.0	289.5	307.7	316.4	323.7	336.0	343.3	348.9	350.3
87.5°	226.5	249.2	270.8	288.7	297.6	304.1	316.7	324.2	329.8	331.0
90°	206.9	228.2	249.2	266.0	274.4	281.4	294.8	301.8	306.0	308.6
92.5°	182.6	203.0	222.3	238.8	247.5	252.6	265.2	272.7	277.2	278.3
95°	152.3	169.7	187.0	201.9	209.4	217.0	225.4	232.7	238.8	239.7
97.5°	117.6	132.2	146.4	161.0	165.8	170.2	177.2	184.8	190.4	190.1
100°	87.6	96.0	106.1	113.7	117.3	122.4	129.1	133.6	134.1	135.8
102.5°	63.0	68.9	73.1	78.7	80.4	84.8	87.1	90.2	90.7	92.1
105°	45.6	48.7	51.8	54.0	55.4	55.7	57.4	59.6	60.2	60.2
107.5°	34.2	35.8	36.1	37.0	37.5	37.8	38.9	39.2	39.5	39.5
110°	26.9	27.2	26.6	26.6	26.3	26.3	26.0	25.8	25.5	25.5



TEST NUMBER: P397283

CATALOG NUMBER: 4VRVT2-LD5-8-DR-W-UNV-LA59-CD1-WL-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	21.8	21.8	21.3	20.4	19.9	19.6	18.8	18.2	17.9	17.9
115°	19.0	18.5	17.9	17.1	16.5	16.2	15.4	14.8	14.3	14.0
117.5°	17.1	16.8	16.0	15.4	14.8	14.6	13.7	12.9	12.6	12.3
120°	15.4	15.1	14.8	14.0	13.7	13.4	12.6	12.0	11.5	11.5
122.5°	13.7	13.7	13.4	12.9	12.6	12.3	11.8	11.2	10.9	10.6
125°	12.3	12.3	12.3	12.0	11.8	11.5	10.9	10.6	10.4	10.1
127.5°	10.4	10.9	10.9	10.9	10.6	10.6	10.4	9.8	9.5	9.5
130°	8.7	9.2	9.5	9.5	9.5	9.5	9.2	9.0	8.7	8.7
132.5°	7.0	7.8	8.1	8.4	8.4	8.4	8.1	8.1	7.8	7.8
135°	5.6	6.2	6.7	7.0	7.0	7.0	7.0	7.0	6.7	6.7
137.5°	4.2	4.5	5.0	5.3	5.6	5.6	5.6	5.6	5.6	5.6
140°	2.5	3.1	3.6	3.9	4.2	4.2	4.2	4.2	4.2	4.2
142.5°	1.4	1.7	2.2	2.5	2.8	2.8	2.8	2.8	2.8	2.8
145°	0.3	0.6	1.1	1.4	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	0.0
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)