

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: P397238

Luminaire Tested: **4VRVT2-LD5-11-DR-W-UNV-LA59-CD1-WL-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P397238
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-LA59-CD1-WL-U
Description:
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2788.0 lumens
Efficiency: N/A
Efficacy: 22.1 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

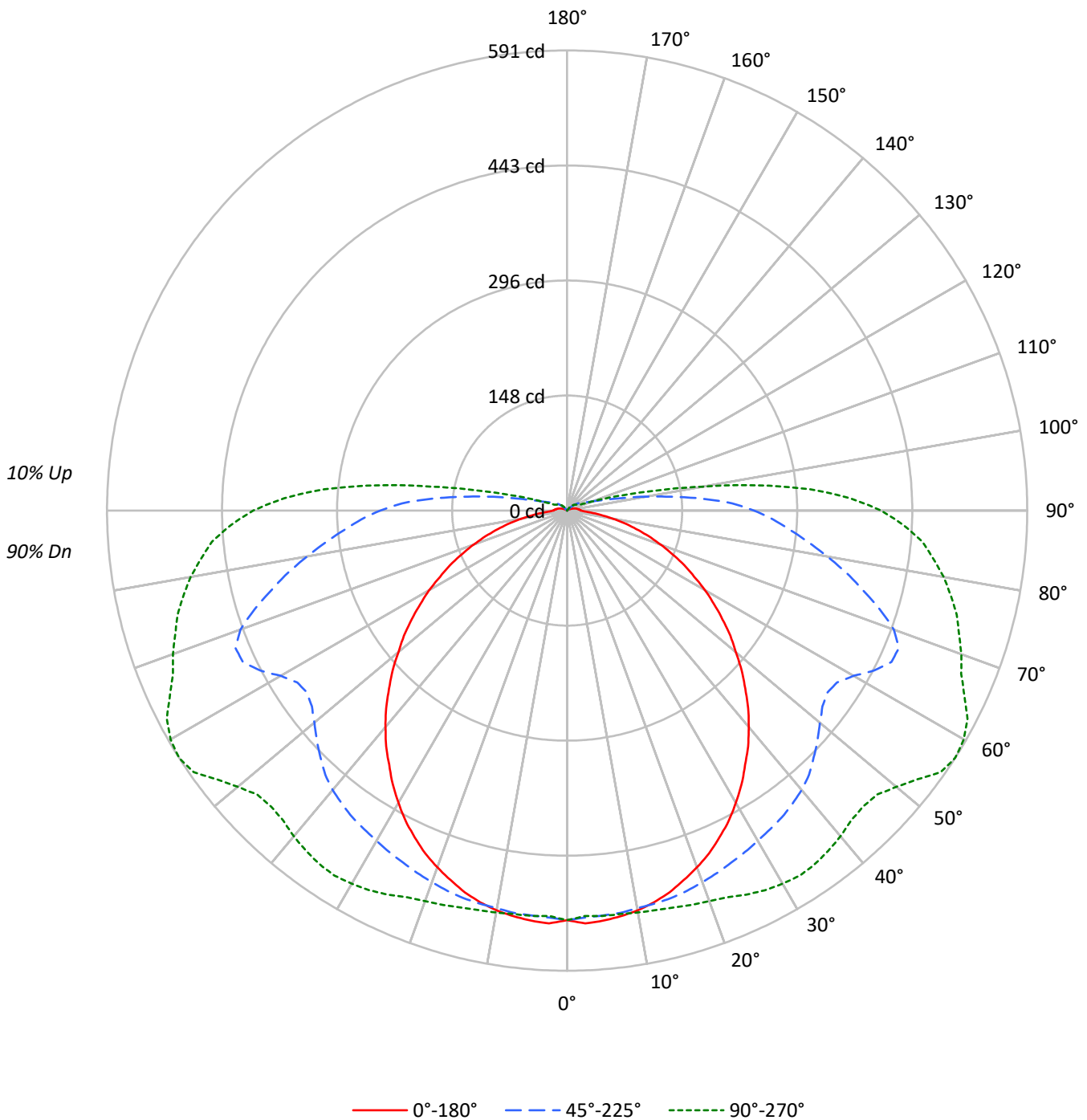
Input Watts (W): 126.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2717	2717	2717
5°	2733	2646	2634
10°	2717	2600	2597
15°	2686	2574	2591
20°	2642	2548	2616
25°	2591	2532	2685
30°	2527	2535	2769
35°	2446	2560	2836
40°	2369	2587	2878
45°	2273	2590	2946
50°	2170	2591	3175
55°	2077	2667	3574
60°	1977	3010	3853
65°	1867	3588	4013
70°	1738	3909	4248
75°	1596	3949	4610
80°	1428	4038	5055
85°	1265	4245	5643



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.0	1.8
10°-20°	146.3	5.2
20°-30°	232.2	8.3
30°-40°	300.4	10.8
40°-50°	340.1	12.2
50°-60°	373.4	13.4
60°-70°	396.2	14.2
70°-80°	371.5	13.3
80°-90°	300.4	10.8
90°-100°	186.1	6.7
100°-110°	58.4	2.1
110°-120°	18.6	0.7
120°-130°	9.6	0.3
130°-140°	4.0	0.1
140°-150°	0.6	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	428.5	15.4
0°-40°	728.9	26.1
0°-60°	1442.4	51.7
0°-90°	2510.5	90.0
90°-120°	263.1	9.4
90°-150°	277.4	10.0
90°-180°	277.0	9.9
0°-180°	2788.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	526	526	526	526	526	
5°	529	527	522	524	523	50
15°	508	510	515	527	528	143
25°	463	474	499	532	544	213
35°	399	424	481	538	554	250
45°	324	364	448	512	538	250
55°	244	297	408	544	586	218
65°	166	236	460	548	563	164
75°	92	230	393	481	518	98
85°	31	156	288	414	458	31
90°	18	116	240	359	403	10
95°	15	80	175	274	313	12
105°	10	29	55	72	79	11
115°	5	13	25	22	18	5
125°	2	4	15	15	13	2
135°	1	0	6	9	9	1
145°	0	0	0	2	2	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°	525.9	525.9	525.9	525.9	525.9	525.9	525.9	525.9	525.9	525.9	525.9
2.5°	530.7	530.0	528.8	528.5	528.1	528.1	528.5	527.7	526.7	524.8	523.3
5°	528.8	528.1	527.0	526.3	527.0	527.0	527.4	526.7	525.2	523.7	521.9
7.5°	525.6	524.8	523.7	523.7	523.3	523.7	523.7	523.7	523.0	522.3	521.2
10°	521.5	520.4	520.1	519.7	520.1	520.8	520.8	521.2	520.4	519.3	518.6
12.5°	515.3	514.9	513.8	514.2	514.6	515.7	516.4	517.1	517.5	517.1	517.1
15°	507.6	506.9	506.5	507.2	509.5	509.8	510.6	512.4	513.1	514.6	515.3
17.5°	497.7	497.7	497.7	499.2	501.8	502.5	504.0	505.8	507.6	509.5	512.0
20°	487.5	487.5	487.5	489.3	492.2	494.5	495.9	498.5	501.4	505.4	508.0
22.5°	476.5	475.8	475.8	477.6	482.0	483.1	486.0	491.1	495.5	500.3	503.6
25°	463.0	462.2	463.3	465.9	471.0	473.6	476.9	482.7	487.1	493.7	498.8
27.5°	449.4	448.3	449.8	453.1	460.0	463.0	467.0	474.0	479.1	486.4	494.5
30°	433.3	433.3	435.1	439.5	446.5	450.5	454.9	463.3	470.3	479.4	489.7
32.5°	416.9	416.1	419.4	424.2	433.3	438.1	442.8	452.4	461.1	472.9	485.3
35°	398.6	398.9	402.2	408.4	419.4	424.2	429.3	440.3	452.0	466.3	480.9
37.5°	381.7	381.0	385.4	393.8	404.4	409.9	415.4	428.9	442.1	458.2	475.0
40°	363.0	363.4	367.4	377.0	387.9	394.2	400.4	416.1	431.9	449.1	468.5
42.5°	344.0	344.4	349.9	360.1	372.2	379.1	386.8	403.3	421.3	440.3	460.0
45°	323.5	324.3	330.8	342.9	355.0	363.8	372.2	390.2	410.3	429.3	448.0
47.5°	304.1	305.2	313.7	324.6	338.5	347.7	356.8	377.3	397.1	416.5	436.2
50°	282.9	286.2	293.5	306.0	321.7	330.5	340.7	362.0	382.8	403.7	423.8
52.5°	264.2	265.7	274.8	286.9	303.8	314.0	323.5	346.2	368.2	389.8	413.2
55°	243.7	246.0	255.8	268.3	285.8	297.2	307.8	330.5	354.6	378.8	407.7
57.5°	223.6	226.2	236.8	249.6	269.0	279.2	291.7	315.5	341.8	372.9	411.0
60°	204.6	206.4	216.3	230.9	251.1	262.8	275.6	303.0	335.2	377.0	424.5
62.5°	184.1	187.4	196.5	213.0	236.1	248.1	262.8	295.0	337.8	390.2	444.7
65°	165.8	168.4	178.6	196.9	221.4	236.4	253.3	295.3	349.9	407.7	459.7
67.5°	146.4	150.8	161.4	181.5	210.4	228.4	250.0	303.0	364.9	420.5	461.1
70°	127.7	132.1	145.7	169.5	203.8	226.5	252.5	314.7	374.4	418.7	446.5
72.5°	110.2	114.5	131.8	159.6	201.7	228.4	258.0	320.2	368.9	398.6	420.9
75°	91.9	98.1	119.3	153.0	201.3	230.2	260.2	311.1	346.6	371.5	392.7
77.5°	76.1	83.8	108.3	146.7	198.4	224.7	247.8	287.3	317.7	342.2	366.7
80°	58.9	69.5	98.4	138.7	184.8	205.7	224.7	256.9	286.9	312.9	338.9
82.5°	43.9	57.1	86.7	125.5	163.2	180.8	198.4	228.4	256.6	283.6	312.9
85°	31.1	44.7	74.3	107.6	140.2	155.5	171.3	200.6	228.4	257.3	287.7
87.5°	22.0	34.8	61.1	90.8	120.0	132.9	147.5	175.3	204.6	233.1	265.0
90°	17.6	27.8	50.9	76.5	102.5	116.0	129.2	155.9	182.6	210.4	240.1
92.5°	16.8	23.0	42.1	64.4	87.1	98.8	110.5	134.7	159.2	184.1	212.3
95°	15.4	18.7	32.6	51.6	70.6	80.5	90.8	110.2	131.4	152.2	174.9
97.5°	14.3	15.4	25.3	40.3	55.6	62.6	70.3	86.7	101.8	117.9	135.4
100°	12.8	13.2	19.0	30.0	42.4	48.7	55.3	66.2	77.6	90.4	102.5
102.5°	11.7	11.7	15.0	22.7	31.8	36.6	41.4	50.9	58.9	67.3	74.3
105°	10.2	10.2	12.1	17.2	24.5	28.6	32.2	38.8	45.4	50.9	54.9
107.5°	9.2	8.8	9.5	13.9	19.8	22.7	26.0	31.1	35.9	39.5	42.8
110°	7.7	7.7	7.7	11.3	16.1	18.7	21.2	25.6	29.7	32.2	33.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	6.2	6.2	6.2	9.2	13.2	15.7	17.9	22.0	25.3	27.4	28.6
115°	5.1	5.1	4.8	6.9	11.0	13.2	15.0	19.0	22.0	23.8	24.9
117.5°	4.0	4.0	4.0	5.1	8.8	10.6	12.8	16.1	19.4	21.2	22.3
120°	3.3	3.3	2.9	3.3	6.6	8.4	10.2	13.9	16.8	18.7	19.8
122.5°	2.5	2.5	2.2	2.2	4.8	6.2	8.1	11.3	14.3	16.1	17.6
125°	1.8	1.8	1.8	1.5	2.9	4.4	6.2	9.2	11.7	13.9	15.4
127.5°	1.5	1.5	1.5	1.1	1.5	2.5	4.0	6.9	9.5	11.3	12.8
130°	1.1	1.1	1.1	0.7	0.7	1.5	2.5	4.8	6.9	8.8	10.6
132.5°	1.1	1.1	0.7	0.7	0.4	0.4	1.1	2.9	5.1	6.6	8.1
135°	0.7	0.7	0.7	0.4	0.4	0.0	0.0	1.5	3.3	4.8	6.2
137.5°	0.7	0.7	0.4	0.4	0.0	0.0	0.0	0.4	1.8	2.9	4.0
140°	0.7	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.4	1.5	2.5
142.5°	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
145°	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.4	0.4	0.4	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°	525.9	525.9	525.9	525.9	525.9	525.9	525.9	525.9	525.9	525.9
2.5°	522.6	523.0	523.7	523.7	523.3	523.3	523.0	522.6	521.9	521.2
5°	521.9	522.6	523.7	524.1	524.1	523.7	523.7	523.7	523.3	522.6
7.5°	521.5	522.6	523.7	524.1	524.5	524.5	524.1	523.7	523.0	522.6
10°	519.7	521.9	523.0	524.1	524.8	524.8	525.2	525.2	524.5	524.1
12.5°	519.0	521.5	523.3	524.8	525.9	525.9	526.7	527.4	525.2	525.6
15°	517.5	521.2	524.1	525.9	526.7	527.0	527.7	528.1	527.4	527.7
17.5°	515.7	520.4	523.3	525.9	526.3	527.4	529.6	530.7	530.7	531.0
20°	513.1	518.6	522.6	526.7	528.1	529.2	531.4	533.6	532.9	533.6
22.5°	510.2	516.4	522.3	527.0	528.8	531.0	534.7	536.9	538.0	537.6
25°	507.6	515.7	522.6	530.0	532.1	535.1	539.4	542.4	543.5	544.2
27.5°	504.7	514.6	524.1	532.1	535.8	539.4	545.0	548.2	549.3	549.7
30°	502.5	514.9	524.8	534.3	538.4	542.4	548.2	551.5	553.0	553.4
32.5°	500.3	513.5	524.8	535.1	539.1	542.8	549.7	554.8	555.9	555.9
35°	497.4	510.6	523.3	534.0	538.0	542.0	549.7	553.7	554.8	554.5
37.5°	492.2	506.9	520.1	529.6	533.6	537.3	545.0	549.3	551.2	550.8
40°	484.9	499.9	512.7	523.3	527.0	531.0	539.1	542.8	545.3	546.1
42.5°	476.1	491.1	504.0	514.6	519.3	524.1	532.1	536.2	539.1	539.8
45°	465.2	480.5	494.5	506.9	512.4	517.1	527.0	534.0	536.9	537.6
47.5°	453.8	471.4	487.1	502.1	509.1	516.4	527.4	536.2	540.2	539.8
50°	443.2	464.4	484.2	504.0	513.1	521.5	535.4	545.0	549.7	551.9
52.5°	438.1	464.4	490.8	514.2	524.8	534.0	550.5	561.4	566.9	566.9
55°	440.6	474.7	505.1	532.1	543.5	553.4	567.6	578.3	583.0	585.6
57.5°	452.4	491.9	524.5	550.1	560.7	569.1	582.3	587.4	592.5	591.1
60°	472.1	509.8	538.7	561.1	568.4	572.8	581.2	585.6	588.1	588.1
62.5°	488.6	522.6	542.8	555.9	562.5	566.2	573.1	576.4	579.7	579.7
65°	495.9	518.2	533.6	545.3	548.2	552.6	557.4	560.7	563.6	562.9
67.5°	487.1	503.2	515.3	525.9	529.6	534.0	539.8	544.6	547.1	547.9
70°	465.2	480.5	491.9	505.1	510.6	516.0	526.3	533.2	537.3	538.7
72.5°	439.5	455.6	473.2	488.2	496.6	502.9	514.2	521.5	527.0	527.7
75°	413.2	433.3	453.5	472.5	480.9	489.7	502.5	510.9	517.1	518.2
77.5°	389.4	412.5	437.4	457.9	468.1	475.8	489.7	497.7	504.3	504.7
80°	365.6	392.7	418.0	439.2	449.4	459.3	472.5	483.1	488.6	491.1
82.5°	342.6	370.4	397.5	422.0	431.1	440.6	455.6	465.9	472.1	474.3
85°	319.9	350.3	378.4	402.2	413.6	423.1	439.2	448.7	456.0	457.9
87.5°	296.1	325.7	353.9	377.3	389.0	397.5	413.9	423.8	431.1	432.6
90°	270.5	298.3	325.7	347.7	358.7	367.8	385.4	394.5	400.0	403.3
92.5°	238.6	265.3	290.6	312.2	323.5	330.1	346.6	356.5	362.3	363.8
95°	199.1	221.8	244.5	263.9	273.8	283.6	294.6	304.1	312.2	313.3
97.5°	153.7	172.7	191.4	210.4	216.7	222.5	231.7	241.6	248.9	248.5
100°	114.5	125.5	138.7	148.6	153.4	159.9	168.7	174.6	175.3	177.5
102.5°	82.3	90.0	95.5	102.8	105.0	110.9	113.8	117.9	118.6	120.4
105°	59.7	63.7	67.7	70.6	72.5	72.8	75.0	78.0	78.7	78.7
107.5°	44.7	46.8	47.2	48.3	49.0	49.4	50.9	51.2	51.6	51.6
110°	35.1	35.5	34.8	34.8	34.4	34.4	34.0	33.7	33.3	33.3



TEST NUMBER: P397238

CATALOG NUMBER: 4VRVT2-LD5-11-DR-W-UNV-LA59-CD1-WL-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	28.6	28.6	27.8	26.7	26.0	25.6	24.5	23.8	23.4	23.4
115°	24.9	24.2	23.4	22.3	21.6	21.2	20.1	19.4	18.7	18.3
117.5°	22.3	22.0	20.9	20.1	19.4	19.0	17.9	16.8	16.5	16.1
120°	20.1	19.8	19.4	18.3	17.9	17.6	16.5	15.7	15.0	15.0
122.5°	17.9	17.9	17.6	16.8	16.5	16.1	15.4	14.6	14.3	13.9
125°	16.1	16.1	16.1	15.7	15.4	15.0	14.3	13.9	13.6	13.2
127.5°	13.6	14.3	14.3	14.3	13.9	13.9	13.6	12.8	12.4	12.4
130°	11.3	12.1	12.4	12.4	12.4	12.4	12.1	11.7	11.3	11.3
132.5°	9.2	10.2	10.6	11.0	11.0	11.0	10.6	10.6	10.2	10.2
135°	7.3	8.1	8.8	9.2	9.2	9.2	9.2	9.2	8.8	8.8
137.5°	5.5	5.9	6.6	6.9	7.3	7.3	7.3	7.3	7.3	7.3
140°	3.3	4.0	4.8	5.1	5.5	5.5	5.5	5.5	5.5	5.5
142.5°	1.8	2.2	2.9	3.3	3.7	3.7	3.7	3.7	3.7	3.7
145°	0.4	0.7	1.5	1.8	1.8	1.8	1.8	1.8	1.8	1.8
147.5°	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	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)