

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: P397254

Luminaire Tested: **4VRVT2-LD5-4-DR-W-UNV-LG52-CD1-WL-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P397254
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-LD5-4-DR-W-UNV-LG52-CD1-WL-U
Description:
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3170.4 lumens
Efficiency: N/A
Efficacy: 44.5 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

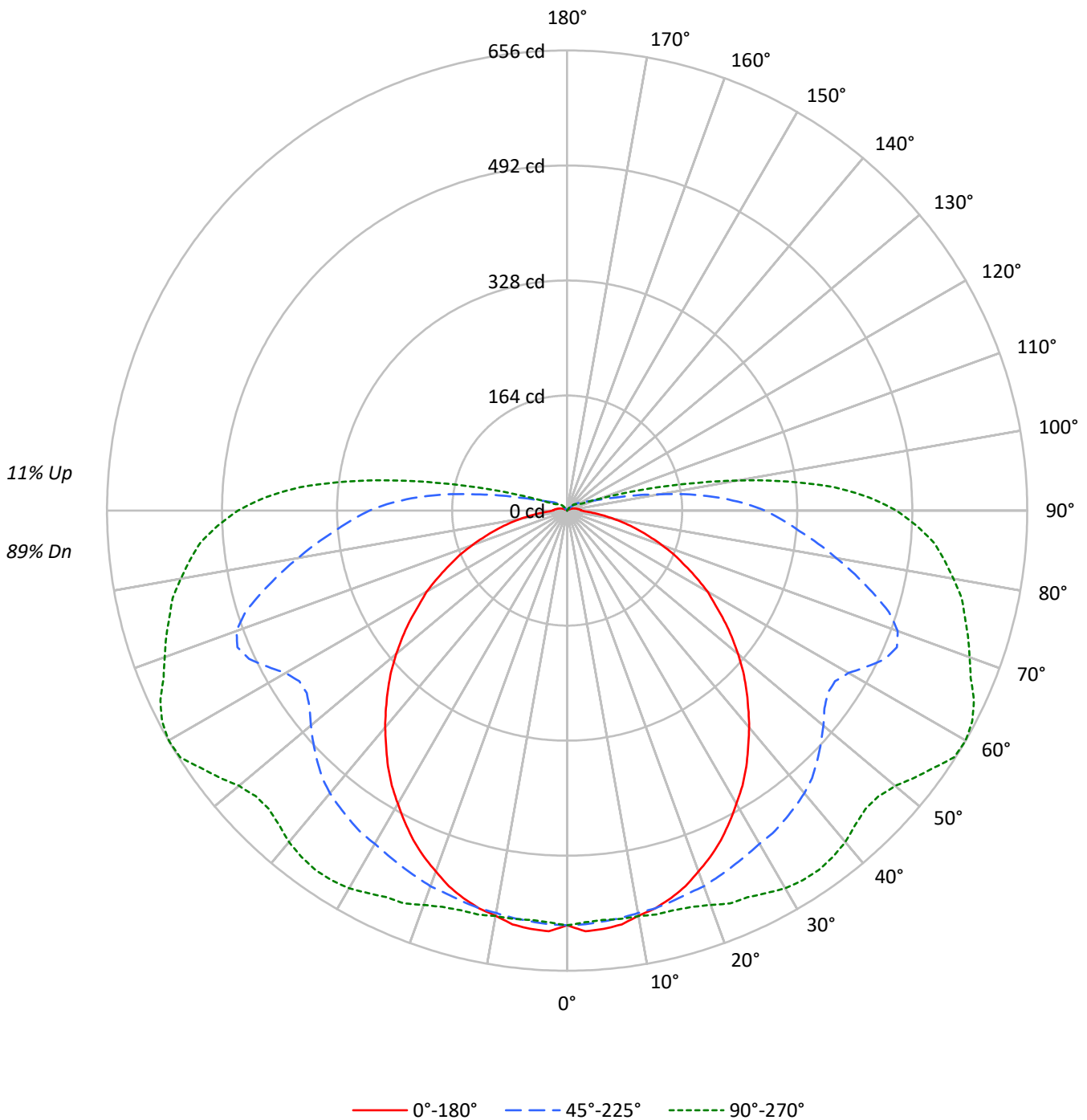
Input Watts (W): 71.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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CATALOG NUMBER: 4VRVT2-LD5-4-DR-W-UNV-LG52-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	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°	3055	3055	3055
5°	3094	2981	2952
10°	3055	2921	2909
15°	3027	2881	2895
20°	2967	2858	2933
25°	2902	2838	3001
30°	2815	2840	3110
35°	2732	2871	3198
40°	2634	2904	3251
45°	2539	2914	3296
50°	2441	2915	3512
55°	2328	2965	3898
60°	2232	3283	4297
65°	2089	3905	4561
70°	1957	4390	4814
75°	1810	4531	5222
80°	1608	4643	5755
85°	1477	4899	6470



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.3	1.8
10°-20°	164.0	5.2
20°-30°	260.0	8.2
30°-40°	336.8	10.6
40°-50°	381.3	12.0
50°-60°	414.0	13.1
60°-70°	442.7	14.0
70°-80°	421.4	13.3
80°-90°	346.2	10.9
90°-100°	227.7	7.2
100°-110°	79.2	2.5
110°-120°	23.4	0.7
120°-130°	11.6	0.4
130°-140°	4.9	0.2
140°-150°	0.8	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	480.3	15.2
0°-40°	817.1	25.8
0°-60°	1612.4	50.9
0°-90°	2822.7	89.0
90°-120°	330.3	10.4
90°-150°	347.7	11.0
90°-180°	348.0	11.0
0°-180°	3170.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	591	591	591	591	591	
5°	599	595	588	589	586	57
15°	572	572	577	590	590	161
25°	519	529	559	597	608	238
35°	445	473	539	604	625	278
45°	361	407	504	577	601	279
55°	273	335	453	594	639	245
65°	186	264	500	619	640	185
75°	104	251	451	549	587	110
85°	36	182	332	473	525	36
90°	20	135	282	423	469	12
95°	18	97	215	334	382	14
105°	12	34	73	101	120	12
115°	6	16	30	28	24	6
125°	2	5	18	19	16	2
135°	1	0	8	11	11	1
145°	1	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



TEST NUMBER: P397254

CATALOG NUMBER: 4VRVT2-LD5-4-DR-W-UNV-LG52-CD1-WL-U

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	591.2	591.2	591.2	591.2	591.2	591.2	591.2	591.2	591.2	591.2	591.2
2.5°	600.3	598.7	597.1	596.6	596.6	596.6	596.6	595.5	593.9	592.3	590.2
5°	598.7	597.7	596.0	595.0	595.0	595.0	595.0	593.9	592.3	590.2	588.0
7.5°	595.0	593.4	591.2	590.7	590.2	590.2	590.7	590.2	588.6	587.5	585.8
10°	586.4	585.8	584.2	583.8	584.8	585.4	585.4	585.4	584.8	583.8	582.6
12.5°	580.6	578.4	577.4	577.8	578.4	578.4	579.4	580.0	580.0	580.6	580.6
15°	572.0	569.8	569.3	570.9	571.4	572.5	572.5	573.6	574.1	575.8	576.8
17.5°	561.3	560.7	558.6	560.2	562.9	564.5	564.5	566.6	568.2	569.8	572.5
20°	547.4	546.9	545.8	547.9	551.1	552.7	555.4	558.6	560.7	566.6	569.8
22.5°	534.0	533.5	531.9	535.1	538.3	542.1	545.3	549.5	554.3	559.7	564.5
25°	518.6	518.0	517.4	522.8	526.6	529.2	533.0	539.4	545.3	552.7	559.1
27.5°	500.9	501.4	502.5	507.3	513.2	517.0	520.6	529.8	536.2	544.2	553.8
30°	482.7	482.7	485.9	490.7	499.3	503.0	507.8	518.6	525.0	537.2	548.5
32.5°	465.0	465.0	466.6	472.6	483.8	488.6	494.5	504.6	515.3	530.3	545.3
35°	445.3	445.3	448.5	456.5	467.8	473.1	479.5	492.3	505.7	522.8	539.4
37.5°	423.9	425.0	430.3	438.9	452.2	459.2	464.6	479.0	495.5	514.2	533.0
40°	403.6	404.6	411.0	420.7	435.1	441.5	448.5	466.6	483.8	504.1	526.0
42.5°	382.2	385.4	391.3	402.6	416.4	423.4	433.0	451.7	471.0	492.9	517.0
45°	361.4	364.0	370.5	383.3	398.8	407.4	417.5	437.3	458.6	480.6	504.1
47.5°	340.5	342.6	350.6	363.0	379.5	390.8	401.4	422.3	445.3	469.8	490.7
50°	318.1	320.7	328.7	342.1	360.8	372.1	382.7	405.8	429.3	453.8	476.8
52.5°	295.6	298.3	309.0	323.9	343.2	353.4	365.7	390.2	413.8	438.9	462.4
55°	273.2	276.4	287.6	301.0	322.3	334.6	345.8	372.1	397.7	424.5	453.3
57.5°	250.2	255.0	265.1	281.7	302.0	314.9	327.1	355.0	382.2	414.8	452.8
60°	231.0	232.6	242.7	260.3	282.8	295.6	310.1	338.4	372.6	414.3	463.0
62.5°	207.9	213.3	221.8	240.0	263.0	279.0	293.4	328.2	370.5	426.1	481.7
65°	185.5	190.8	201.5	221.3	248.0	264.1	281.2	324.5	379.0	443.7	500.3
67.5°	165.7	170.0	181.8	204.7	234.6	252.9	275.8	329.8	395.0	460.2	508.9
70°	143.8	149.1	163.0	189.2	226.1	248.6	276.9	341.6	408.4	465.0	501.4
72.5°	122.4	129.4	147.0	178.0	221.3	249.1	282.2	349.6	410.0	452.2	481.1
75°	104.2	110.1	132.0	168.4	220.2	251.3	285.4	346.4	393.4	423.9	450.6
77.5°	85.0	93.0	120.8	162.0	218.1	249.1	278.0	326.6	365.1	394.5	420.2
80°	66.3	78.1	108.5	153.4	207.9	231.4	255.0	296.2	332.0	361.9	389.7
82.5°	50.8	63.6	96.7	141.7	186.0	207.4	228.2	265.1	297.2	330.9	360.8
85°	36.3	50.8	84.5	123.5	161.4	181.8	198.3	233.0	264.1	298.8	332.0
87.5°	25.1	40.1	69.5	104.2	139.0	155.0	171.6	204.7	237.4	272.6	307.4
90°	20.3	32.6	58.2	89.3	120.2	135.3	151.8	183.4	213.8	247.5	281.7
92.5°	19.3	26.7	48.6	74.8	103.2	117.6	131.0	159.3	189.2	221.8	250.7
95°	17.7	21.4	39.0	61.0	84.5	96.7	108.5	133.7	159.8	189.2	215.4
97.5°	16.0	17.7	29.9	47.0	66.8	77.0	86.6	105.8	129.4	150.2	176.4
100°	14.4	15.0	22.5	36.3	50.8	59.4	66.8	83.9	99.4	116.0	133.1
102.5°	12.8	12.8	17.1	27.3	39.5	44.9	51.3	63.6	75.4	86.1	100.0
105°	11.8	11.8	13.9	20.3	29.4	34.2	39.0	48.6	57.8	65.2	72.7
107.5°	10.2	10.2	11.2	16.0	23.0	27.3	30.5	37.9	44.9	50.2	54.6
110°	8.6	8.6	8.6	12.8	18.7	21.9	25.7	31.5	36.3	40.1	42.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	7.0	7.0	7.0	10.7	15.5	18.2	21.4	26.2	30.5	33.1	35.3
115°	5.9	5.9	5.4	8.0	12.8	15.5	18.2	22.5	26.2	28.9	30.5
117.5°	4.8	4.8	4.2	5.9	10.2	12.8	15.0	19.3	23.0	25.7	26.7
120°	3.8	3.8	3.2	3.8	8.0	10.2	12.8	16.6	19.8	22.5	24.1
122.5°	2.6	2.6	2.6	2.6	5.4	7.5	9.6	13.4	17.1	19.8	21.4
125°	2.2	2.2	2.2	1.6	3.8	5.4	7.5	11.2	13.9	16.6	18.2
127.5°	1.6	1.6	1.6	1.6	1.6	3.2	4.8	8.6	11.2	13.9	15.5
130°	1.6	1.6	1.0	1.0	1.0	1.6	3.2	5.9	8.6	10.7	12.8
132.5°	1.0	1.0	1.0	0.6	0.6	0.6	1.6	3.8	6.4	8.6	10.2
135°	1.0	1.0	0.6	0.6	0.0	0.0	0.0	2.2	4.2	5.9	7.5
137.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.6	2.2	3.8	5.4
140°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.6	2.2	3.2
142.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.0
145°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.6	0.6	0.6	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°	591.2	591.2	591.2	591.2	591.2	591.2	591.2	591.2	591.2	591.2
2.5°	589.6	590.2	590.7	590.7	590.2	590.2	589.1	589.1	588.0	587.5
5°	587.5	588.6	589.1	589.1	588.6	588.6	588.0	587.5	586.4	585.8
7.5°	585.8	587.5	588.6	588.6	588.6	588.6	588.0	588.0	587.5	587.0
10°	583.8	585.4	587.0	589.1	589.6	589.6	589.1	588.6	587.5	587.0
12.5°	581.6	583.8	585.8	588.0	588.6	589.1	590.2	590.2	589.6	589.6
15°	579.4	583.2	586.4	589.1	589.6	591.2	591.8	592.3	591.2	589.6
17.5°	577.4	582.2	584.8	589.1	590.2	591.2	592.3	592.8	592.8	592.3
20°	575.2	581.0	585.8	590.2	591.2	592.8	595.0	596.6	598.2	598.2
22.5°	572.0	579.4	584.8	591.2	595.0	596.6	600.9	603.0	604.1	606.2
25°	567.7	575.8	586.4	593.9	596.6	599.8	606.2	609.4	609.4	608.3
27.5°	565.6	577.8	588.6	596.0	599.8	603.5	609.4	614.2	615.8	614.7
30°	562.9	576.2	588.6	598.2	602.5	607.3	613.1	620.6	621.7	621.7
32.5°	559.7	574.1	588.6	599.3	604.6	608.9	615.8	622.8	625.4	624.9
35°	556.5	572.5	586.4	598.2	604.1	609.4	617.4	622.8	624.9	625.4
37.5°	551.7	568.8	582.6	595.5	601.9	606.7	615.3	619.0	622.2	622.2
40°	544.7	562.3	577.8	590.2	595.0	599.8	607.8	612.1	614.7	616.9
42.5°	536.7	553.8	568.8	579.4	585.8	589.6	598.7	603.0	607.3	607.8
45°	524.4	543.1	557.5	570.9	576.8	580.6	590.7	597.7	601.4	601.4
47.5°	511.6	529.2	546.3	562.9	569.8	576.2	588.0	596.6	600.9	602.5
50°	497.1	519.0	539.4	560.7	569.8	577.8	591.8	601.4	606.7	610.5
52.5°	488.1	516.4	541.5	566.6	576.8	587.5	605.1	615.3	622.8	624.9
55°	487.0	521.2	552.2	582.2	593.9	604.1	622.8	634.0	639.8	638.8
57.5°	495.0	536.7	573.0	600.3	613.1	622.8	639.8	650.0	654.3	654.3
60°	512.6	557.0	592.3	616.3	626.5	635.6	647.9	654.8	657.0	655.9
62.5°	530.8	571.4	600.9	620.6	628.1	632.4	642.6	647.9	650.0	651.1
65°	545.3	578.4	598.7	613.1	619.0	623.3	631.3	637.8	638.8	639.8
67.5°	543.7	566.6	584.8	598.2	603.0	607.3	615.3	620.1	623.8	622.8
70°	528.7	546.9	564.0	577.8	583.2	589.1	598.7	606.2	607.8	610.5
72.5°	502.5	521.2	542.1	555.9	565.6	571.4	583.2	592.8	596.6	599.3
75°	475.2	497.1	518.0	538.8	549.0	558.6	572.5	579.4	588.6	587.0
77.5°	446.3	474.7	499.3	522.8	533.5	543.7	558.1	567.7	573.6	576.2
80°	421.8	451.7	479.0	504.1	514.2	526.0	541.0	551.1	557.5	559.1
82.5°	394.0	426.6	457.6	483.8	494.5	504.6	521.8	532.4	540.5	542.6
85°	366.7	401.4	433.5	461.8	473.1	484.3	502.5	514.2	521.8	525.0
87.5°	343.8	376.3	409.0	435.7	449.0	459.8	477.9	491.8	498.7	498.7
90°	315.4	348.6	381.1	407.8	422.8	430.3	448.5	461.4	469.8	469.4
92.5°	285.4	317.0	344.2	371.0	383.3	392.9	412.2	421.8	429.3	430.9
95°	244.8	273.2	301.5	323.9	333.6	348.6	363.0	375.3	380.1	382.2
97.5°	197.3	225.6	245.4	272.6	279.0	289.2	304.2	314.3	319.1	317.5
100°	151.3	170.0	185.5	202.6	212.7	219.2	232.0	242.2	247.5	247.0
102.5°	107.4	122.4	133.7	147.0	148.1	153.9	162.0	172.2	174.2	177.0
105°	79.7	85.5	94.1	98.9	101.0	108.0	109.6	113.8	114.4	119.8
107.5°	59.4	62.6	65.8	68.4	70.0	70.6	74.8	74.3	75.4	76.5
110°	44.9	46.5	48.6	47.6	49.7	48.1	49.2	48.6	49.2	49.2



TEST NUMBER: P397254

CATALOG NUMBER: 4VRVT2-LD5-4-DR-W-UNV-LG52-CD1-WL-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	36.3	36.3	35.8	35.3	35.3	34.7	34.7	33.1	33.7	33.1
115°	31.0	30.5	29.4	28.3	28.3	27.3	26.7	25.1	24.6	24.1
117.5°	27.3	26.7	25.7	24.6	24.1	23.5	22.5	20.9	20.3	20.3
120°	24.6	24.1	23.5	22.5	21.9	21.4	19.8	19.3	18.2	18.2
122.5°	21.9	21.9	21.4	20.3	20.3	19.8	18.7	17.7	17.1	17.1
125°	19.3	19.8	19.3	18.7	18.7	18.2	17.7	16.6	16.0	16.0
127.5°	16.6	17.1	17.1	17.1	17.1	16.6	16.0	15.5	15.0	15.0
130°	13.9	15.0	15.0	15.0	15.5	15.0	15.0	14.4	13.9	13.9
132.5°	11.2	12.3	12.8	13.4	13.4	13.4	12.8	12.8	12.3	12.3
135°	8.6	9.6	10.7	10.7	11.2	11.2	11.2	11.2	10.7	10.7
137.5°	6.4	7.5	8.0	8.6	8.6	9.1	9.1	9.1	8.6	8.6
140°	4.2	5.4	5.9	6.4	6.4	7.0	7.0	7.0	6.4	6.4
142.5°	2.2	3.2	3.8	4.2	4.2	4.2	4.8	4.8	4.8	4.2
145°	0.6	1.0	1.6	2.2	2.2	2.2	2.6	2.6	2.6	2.2
147.5°	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6
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)