

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: P397201

Luminaire Tested: **2VRVT2-LD5-4-DR-W-UNV-LR63-CD1-WL-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P397201
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1710-355-4)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: 2VRVT2-LD5-4-DR-W-UNV-LR63-CD1-WL-U
Description:
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 576.5 lumens
Efficiency: N/A
Efficacy: 7.7 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.59 / 1.58
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 2.08' x H: 0.17')
CIE Type: Direct

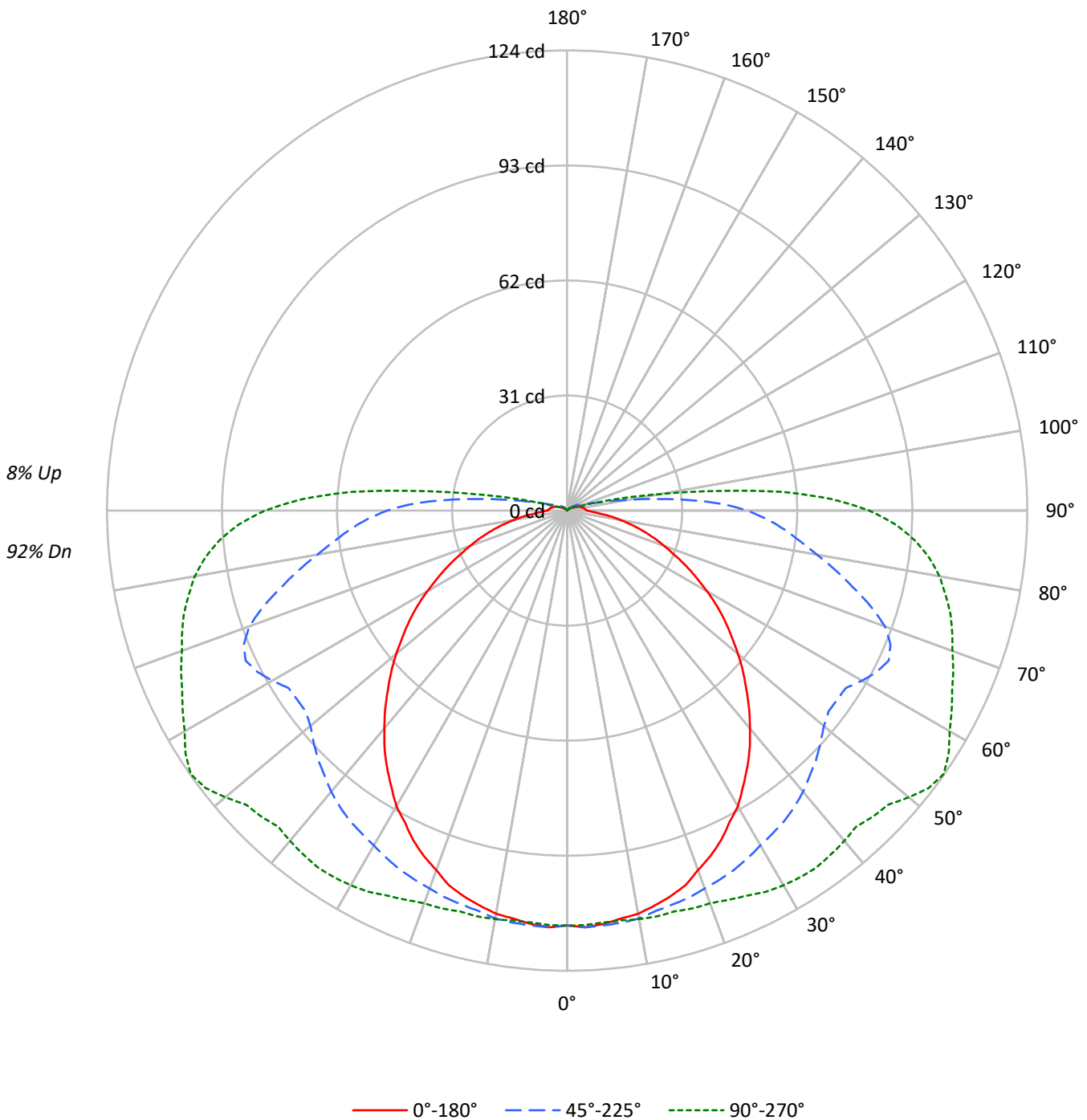
Input Watts (W): 74.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	100	100	94	94	94	92
1	102	95	89	83	98	92	86	81	86	81	77	80	76	73	75	72	69	66
2	90	80	71	64	87	77	69	62	72	65	59	67	62	57	63	58	54	51
3	81	68	59	51	78	66	57	50	62	54	48	58	51	46	54	48	44	41
4	74	60	49	42	71	58	48	41	54	46	39	50	43	38	47	41	36	33
5	67	53	42	35	64	51	41	34	48	39	33	45	38	32	42	36	31	28
6	62	47	37	30	59	46	36	29	43	35	28	40	33	27	38	31	27	24
7	57	42	33	26	55	41	32	26	39	31	25	36	29	24	34	28	23	21
8	53	38	29	23	51	37	29	23	35	27	22	33	26	21	31	25	21	18
9	50	35	26	20	48	34	26	20	32	25	19	31	24	19	29	23	18	16
10	46	32	24	18	45	31	23	18	30	23	18	28	22	17	27	21	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1155	1155	1155
5°	1152	1135	1123
10°	1141	1114	1108
15°	1127	1090	1098
20°	1102	1077	1104
25°	1078	1071	1130
30°	1049	1064	1167
35°	1011	1069	1200
40°	968	1071	1225
45°	924	1073	1278
50°	882	1077	1383
55°	839	1129	1511
60°	790	1258	1559
65°	739	1437	1633
70°	689	1527	1743
75°	649	1522	1902
80°	598	1529	2098
85°	533	1606	2324



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	10.7	1.8
10°-20°	31.1	5.4
20°-30°	49.2	8.5
30°-40°	63.5	11.0
40°-50°	72.5	12.6
50°-60°	79.5	13.8
60°-70°	81.9	14.2
70°-80°	77.0	13.4
80°-90°	62.4	10.8
90°-100°	35.2	6.1
100°-110°	8.7	1.5
110°-120°	2.8	0.5
120°-130°	1.5	0.3
130°-140°	0.5	0.1
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	90.9	15.8
0°-40°	154.4	26.8
0°-60°	306.4	53.2
0°-90°	527.7	91.5
90°-120°	46.7	8.1
90°-150°	48.8	8.5
90°-180°	49.0	8.5
0°-180°	576.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	112	112	112	112	112	
5°	112	112	112	112	111	11
15°	108	108	110	112	112	30
25°	98	100	107	112	114	45
35°	85	89	102	114	117	53
45°	68	77	95	110	117	53
55°	52	63	89	117	124	46
65°	35	50	96	110	114	35
75°	21	50	80	99	107	22
85°	9	34	59	84	94	8
90°	5	25	48	72	81	3
95°	5	17	33	51	58	4
105°	4	6	8	9	9	4
115°	2	3	4	3	2	2
125°	1	1	2	2	2	1
135°	0	0	1	1	1	0
145°	0	0	0	0	0	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°	111.8	111.8	111.8	111.8	111.8	111.8	111.8	111.8	111.8	111.8	111.8
2.5°	112.4	112.4	112.2	112.4	112.4	112.2	112.4	112.4	112.4	112.4	112.4
5°	111.8	112.0	112.0	112.0	112.0	112.2	112.2	112.2	112.2	112.2	112.2
7.5°	110.9	111.2	111.4	111.4	111.6	111.6	111.6	111.6	111.8	112.0	112.0
10°	110.3	110.3	110.5	110.7	110.5	110.7	110.9	110.9	111.2	111.4	111.6
12.5°	109.0	109.0	109.3	109.5	109.5	109.5	109.7	109.9	110.1	110.3	110.5
15°	107.6	107.6	107.8	107.8	108.0	108.0	108.0	108.4	108.8	109.5	109.9
17.5°	105.9	105.7	105.9	106.1	106.3	106.5	106.5	107.2	108.2	108.8	109.3
20°	103.1	103.6	103.8	104.2	104.4	104.4	104.8	105.9	106.7	107.4	108.4
22.5°	100.8	101.0	101.0	101.7	102.3	102.3	102.7	103.8	105.0	106.1	107.6
25°	98.1	98.1	98.5	98.9	99.8	100.2	100.6	102.1	103.3	105.0	106.7
27.5°	94.7	95.1	95.6	96.0	97.2	97.9	98.7	100.2	101.9	103.8	105.5
30°	92.0	92.0	92.4	93.0	94.5	95.3	96.2	98.1	100.0	102.1	104.2
32.5°	88.2	88.4	89.0	89.9	91.5	92.6	93.4	95.8	97.9	100.2	103.1
35°	84.6	84.8	85.6	86.7	88.6	89.4	90.7	93.2	95.8	98.7	102.1
37.5°	80.8	81.0	81.6	83.3	85.4	86.5	87.7	90.3	93.4	97.0	100.6
40°	76.6	77.2	77.8	79.9	81.8	83.3	84.6	87.7	91.3	95.3	98.9
42.5°	72.6	73.0	74.0	76.1	78.3	80.1	81.4	84.8	89.0	93.0	96.8
45°	68.3	68.8	70.2	72.4	75.1	76.6	78.3	82.0	86.7	90.7	94.9
47.5°	64.3	65.0	66.2	68.5	71.3	73.2	75.1	79.3	83.7	88.2	92.6
50°	60.1	60.8	62.2	64.8	67.5	69.6	71.7	76.4	81.0	85.6	90.3
52.5°	55.9	56.5	58.2	60.8	63.9	66.2	68.3	73.2	78.3	83.1	88.8
55°	51.9	52.3	54.2	56.9	60.5	62.6	64.8	70.0	75.3	81.2	88.8
57.5°	47.9	47.9	50.2	53.2	56.9	59.1	61.6	66.9	73.2	81.0	89.0
60°	43.5	44.1	46.2	49.2	53.6	55.9	58.4	64.3	72.4	81.4	91.7
62.5°	39.4	40.1	42.2	45.3	50.2	52.9	55.9	63.3	72.8	83.7	94.1
65°	35.4	36.1	38.2	42.2	47.5	50.4	54.2	63.5	74.9	86.5	95.6
67.5°	31.4	32.3	35.0	39.0	45.3	49.2	53.6	65.0	77.4	87.5	94.3
70°	27.8	28.7	31.9	36.7	43.9	48.7	54.2	66.9	78.0	85.8	91.1
72.5°	24.5	25.5	29.1	34.8	43.5	49.2	55.3	67.3	76.4	82.0	85.8
75°	21.1	22.4	26.8	33.7	43.7	49.8	55.5	65.4	72.4	76.4	79.7
77.5°	17.9	19.4	24.9	32.7	43.5	48.7	53.4	61.0	65.8	69.8	74.0
80°	14.6	16.9	23.0	31.6	41.1	45.1	48.5	54.2	59.3	63.3	68.3
82.5°	11.6	14.3	20.9	29.1	36.7	40.1	42.8	48.1	52.7	57.8	63.3
85°	8.6	11.8	18.4	25.3	31.6	34.4	37.1	42.0	46.8	52.5	58.8
87.5°	6.5	9.5	15.4	21.3	27.0	29.3	31.9	36.9	41.8	47.5	54.0
90°	5.3	7.8	12.7	17.9	22.8	25.1	27.4	31.9	37.1	42.2	48.5
92.5°	5.1	6.5	10.5	14.8	19.0	21.1	23.0	27.0	31.6	36.3	41.6
95°	4.8	5.5	8.2	11.6	15.0	16.7	18.1	21.3	24.9	28.5	32.7
97.5°	4.6	4.8	6.5	8.9	11.4	12.7	13.9	16.2	18.6	21.1	23.6
100°	4.4	4.4	5.3	7.0	8.6	9.5	10.1	12.0	13.5	15.0	16.7
102.5°	4.0	4.0	4.4	5.3	6.5	7.2	7.6	8.6	9.7	10.8	11.6
105°	3.8	3.6	3.8	4.4	5.1	5.5	5.9	6.5	7.0	7.6	8.0
107.5°	3.4	3.4	3.4	3.8	4.2	4.4	4.6	5.1	5.5	5.7	5.9
110°	3.0	3.0	2.7	3.2	3.6	3.8	4.0	4.2	4.4	4.6	4.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	2.5	2.5	2.5	2.5	3.0	3.2	3.4	3.6	4.0	4.0	4.0
115°	2.1	2.1	2.1	2.1	2.5	2.7	3.0	3.2	3.4	3.6	3.6
117.5°	1.7	1.7	1.7	1.7	2.1	2.1	2.3	2.7	3.0	3.2	3.2
120°	1.5	1.5	1.5	1.3	1.7	1.9	1.9	2.3	2.5	2.7	3.0
122.5°	1.3	1.1	1.1	1.1	1.3	1.3	1.5	1.9	2.1	2.3	2.5
125°	1.1	0.8	0.8	0.8	0.8	1.1	1.3	1.5	1.9	2.1	2.1
127.5°	0.8	0.6	0.6	0.6	0.6	0.6	0.8	1.1	1.5	1.7	1.7
130°	0.6	0.6	0.6	0.4	0.4	0.4	0.4	0.8	1.1	1.3	1.5
132.5°	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.4	0.6	0.8	1.1
135°	0.4	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.4	0.6	0.8
137.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.2	0.4	0.4
140°	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2
142.5°	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	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°	111.8	111.8	111.8	111.8	111.8	111.8	111.8	111.8	111.8	111.8
2.5°	112.4	112.4	112.2	112.2	112.2	112.0	112.0	111.8	111.8	111.8
5°	112.2	112.2	112.0	112.0	111.8	111.8	111.6	111.6	111.6	111.4
7.5°	111.8	111.8	111.8	111.6	111.6	111.6	111.4	111.4	111.4	111.4
10°	111.4	111.4	111.4	111.6	111.6	111.6	111.6	111.8	111.8	111.8
12.5°	110.7	110.9	111.4	111.4	111.6	111.6	111.6	111.8	112.0	112.0
15°	110.1	110.7	111.2	111.6	111.6	111.8	111.8	112.0	112.0	111.8
17.5°	109.9	110.5	111.2	111.6	111.8	112.0	112.2	112.4	112.6	112.4
20°	109.3	110.3	111.2	111.8	112.0	112.0	112.6	112.8	112.8	112.6
22.5°	108.6	109.9	110.7	111.6	112.0	112.2	112.8	113.1	113.3	113.5
25°	108.0	109.0	110.5	111.8	112.2	112.8	113.5	114.1	114.3	114.5
27.5°	107.4	108.8	110.7	112.2	112.8	113.5	114.5	115.4	115.4	115.8
30°	106.3	108.8	110.7	112.6	113.3	114.1	115.6	116.4	116.6	116.6
32.5°	105.9	108.6	110.9	112.8	113.7	114.3	115.8	116.6	117.1	117.1
35°	105.0	108.0	110.5	112.4	113.5	114.1	115.6	116.8	117.1	117.3
37.5°	103.8	106.9	109.7	111.8	112.6	113.7	115.2	116.0	116.6	116.8
40°	102.5	105.5	108.4	110.7	111.8	112.6	114.3	115.6	116.0	116.2
42.5°	100.4	104.0	106.9	109.7	110.7	111.6	113.5	114.5	115.4	115.4
45°	98.7	102.1	105.7	108.4	109.9	111.2	113.7	115.6	116.6	116.6
47.5°	96.8	100.6	104.8	109.3	110.9	112.4	114.7	116.0	117.1	117.3
50°	95.1	100.6	105.7	109.7	111.4	113.3	116.4	118.8	120.0	120.2
52.5°	94.9	101.0	106.5	112.0	114.1	116.4	119.4	121.3	122.3	122.8
55°	95.3	102.9	109.7	114.5	116.8	118.5	121.1	122.8	123.4	123.8
57.5°	97.9	105.7	111.8	116.0	117.7	119.0	120.6	121.3	121.9	121.9
60°	100.4	107.6	112.0	115.0	116.2	117.3	118.3	119.0	119.4	119.0
62.5°	102.1	107.2	110.5	112.4	113.3	113.9	115.2	116.2	116.2	116.8
65°	101.2	104.8	107.6	109.5	110.3	111.2	112.8	113.7	114.7	114.5
67.5°	98.5	101.9	104.0	106.5	107.6	108.4	110.5	111.6	112.6	112.6
70°	94.3	97.2	100.0	102.7	103.8	105.0	107.4	109.0	109.9	110.5
72.5°	88.8	92.0	95.6	99.6	101.5	102.7	105.5	107.4	108.6	108.8
75°	83.5	87.7	92.8	97.2	98.9	100.6	103.6	105.5	106.3	106.9
77.5°	78.7	83.7	89.2	94.1	96.0	97.9	100.8	102.9	104.2	104.4
80°	74.0	79.9	85.4	90.7	92.8	94.5	97.7	100.0	101.2	101.9
82.5°	69.4	75.9	81.6	87.1	89.2	91.3	94.5	96.8	98.3	98.5
85°	65.2	71.3	77.2	82.5	84.4	86.9	90.3	92.6	93.9	94.3
87.5°	60.1	66.0	71.7	76.8	78.9	81.2	84.6	87.1	88.2	88.8
90°	54.0	59.9	65.0	69.8	71.9	73.8	76.8	79.5	80.8	81.4
92.5°	46.6	51.9	56.9	61.0	62.8	64.3	67.7	69.8	70.7	71.3
95°	37.1	40.9	45.3	48.9	50.6	51.9	54.2	56.3	57.6	58.0
97.5°	26.4	29.3	31.4	34.2	34.8	36.3	38.2	39.4	40.3	40.1
100°	18.1	20.0	21.3	22.4	22.8	23.6	24.7	24.9	25.7	25.5
102.5°	12.2	12.9	13.5	14.1	14.3	14.6	15.2	15.0	15.4	15.6
105°	8.2	8.4	8.6	8.9	8.9	8.9	8.9	8.9	8.9	8.6
107.5°	5.9	5.7	5.7	5.7	5.5	5.5	5.3	5.3	5.3	5.1
110°	4.6	4.4	4.2	4.0	3.8	3.8	3.6	3.6	3.4	3.4



TEST NUMBER: P397201

CATALOG NUMBER: 2VRVT2-LD5-4-DR-W-UNV-LR63-CD1-WL-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	3.8	3.6	3.4	3.2	3.2	3.0	3.0	2.7	2.5	2.5
115°	3.4	3.2	3.2	3.0	2.7	2.7	2.5	2.3	2.3	2.1
117.5°	3.2	3.0	2.7	2.5	2.5	2.5	2.3	2.1	2.1	2.1
120°	2.7	2.7	2.5	2.5	2.3	2.3	2.1	2.1	1.9	1.9
122.5°	2.5	2.5	2.3	2.3	2.1	2.1	1.9	1.9	1.9	1.7
125°	2.1	2.1	2.1	2.1	1.9	1.9	1.9	1.7	1.7	1.7
127.5°	1.9	1.9	1.9	1.9	1.7	1.7	1.7	1.7	1.5	1.5
130°	1.5	1.7	1.7	1.7	1.7	1.5	1.5	1.5	1.5	1.5
132.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
135°	0.8	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
137.5°	0.6	0.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
140°	0.2	0.4	0.4	0.4	0.6	0.6	0.6	0.6	0.4	0.4
142.5°	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	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
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)