

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: P397216

Luminaire Tested: **2VRVT2-LD5-5-DR-W-UNV-LR63-CD1-WL-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P397216
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-LD5-5-DR-W-UNV-LR63-CD1-WL-U
Description:
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 732.1 lumens
Efficiency: N/A
Efficacy: 7.2 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

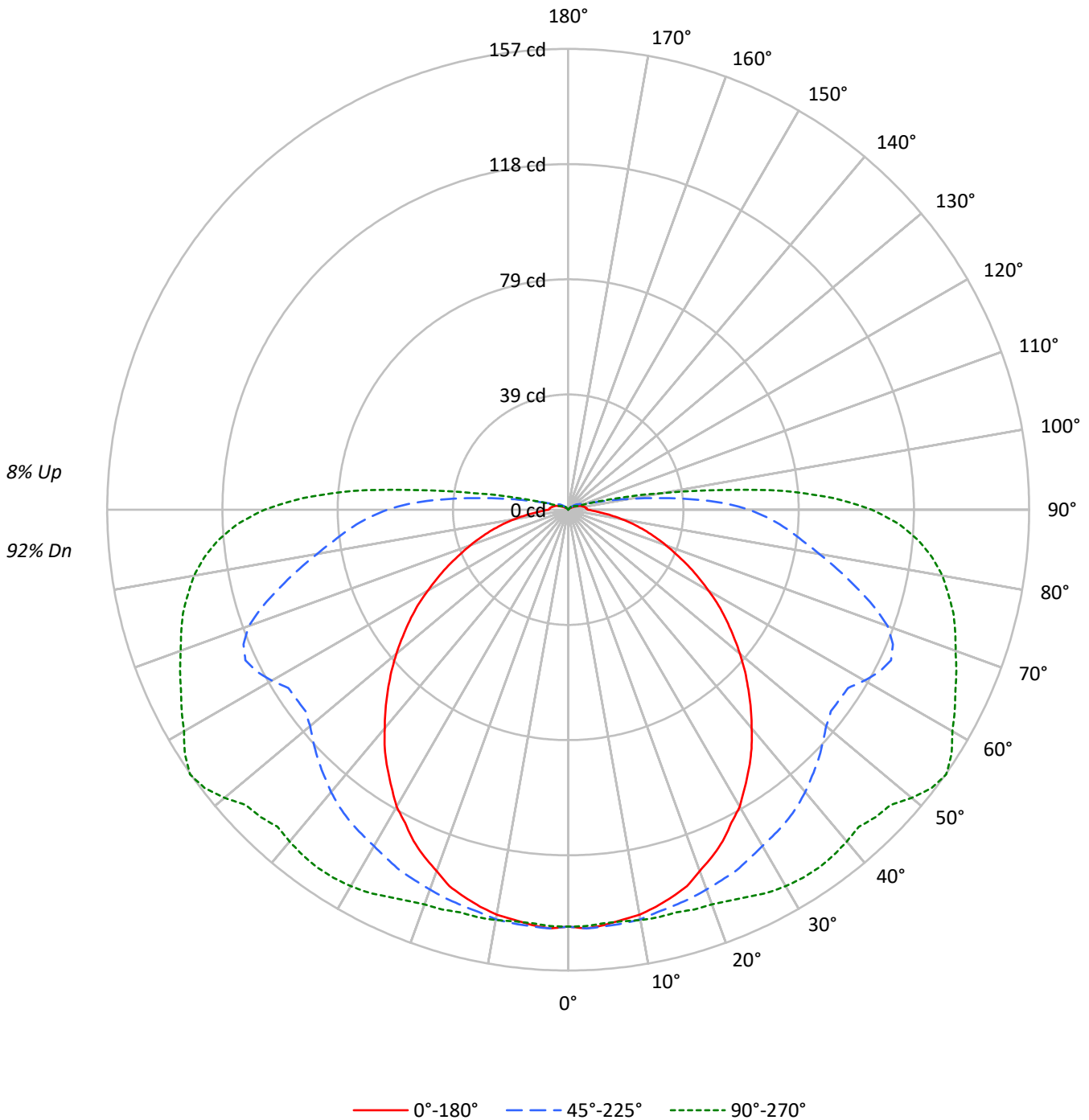
Input Watts (W): 101
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1467	1467	1467
5°	1463	1441	1425
10°	1450	1414	1407
15°	1431	1385	1395
20°	1400	1369	1403
25°	1370	1361	1436
30°	1332	1351	1482
35°	1283	1357	1523
40°	1229	1361	1556
45°	1174	1363	1623
50°	1121	1368	1757
55°	1065	1434	1919
60°	1002	1598	1980
65°	939	1823	2075
70°	877	1939	2214
75°	824	1934	2416
80°	757	1944	2664
85°	681	2040	2950



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	13.5	1.8
10°-20°	39.5	5.4
20°-30°	62.4	8.5
30°-40°	80.7	11.0
40°-50°	92.1	12.6
50°-60°	101.0	13.8
60°-70°	104.0	14.2
70°-80°	97.7	13.3
80°-90°	79.3	10.8
90°-100°	44.7	6.1
100°-110°	11.0	1.5
110°-120°	3.6	0.5
120°-130°	1.9	0.3
130°-140°	0.7	0.1
140°-150°	0.1	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	115.5	15.8
0°-40°	196.1	26.8
0°-60°	389.2	53.2
0°-90°	670.2	91.5
90°-120°	59.3	8.1
90°-150°	61.9	8.5
90°-180°	62.0	8.5
0°-180°	732.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	142	142	142	142	142	
5°	142	142	142	142	141	13
15°	137	137	140	142	142	39
25°	125	127	136	142	146	57
35°	107	114	130	144	149	67
45°	87	97	120	140	148	67
55°	66	80	113	148	157	59
65°	45	64	121	140	146	45
75°	27	63	101	126	136	28
85°	11	44	75	107	120	11
90°	7	32	62	91	103	4
95°	6	21	42	64	74	5
105°	5	7	10	11	11	5
115°	3	4	5	4	3	3
125°	1	1	3	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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CATALOG NUMBER: 2VRVT2-LD5-5-DR-W-UNV-LR63-CD1-WL-U

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	142.0	142.0	142.0	142.0	142.0	142.0	142.0	142.0	142.0	142.0	142.0
2.5°	142.8	142.8	142.5	142.8	142.8	142.5	142.8	142.8	142.8	142.8	142.8
5°	142.0	142.2	142.2	142.2	142.2	142.5	142.5	142.5	142.5	142.5	142.5
7.5°	140.9	141.2	141.4	141.4	141.7	141.7	141.7	141.7	142.0	142.2	142.2
10°	140.1	140.1	140.4	140.6	140.4	140.6	140.9	140.9	141.2	141.4	141.7
12.5°	138.5	138.5	138.8	139.0	139.0	139.0	139.3	139.6	139.8	140.1	140.4
15°	136.6	136.6	136.9	136.9	137.2	137.2	137.2	137.7	138.2	139.0	139.6
17.5°	134.5	134.2	134.5	134.8	135.0	135.3	135.3	136.1	137.4	138.2	138.8
20°	131.0	131.5	131.8	132.3	132.6	132.6	133.1	134.5	135.6	136.4	137.7
22.5°	128.0	128.3	128.3	129.1	129.9	129.9	130.5	131.8	133.4	134.8	136.6
25°	124.6	124.6	125.1	125.6	126.7	127.2	127.8	129.6	131.3	133.4	135.6
27.5°	120.3	120.8	121.3	121.9	123.5	124.3	125.4	127.2	129.4	131.8	133.9
30°	116.8	116.8	117.3	118.1	120.0	121.1	122.2	124.6	127.0	129.6	132.3
32.5°	112.0	112.2	113.0	114.1	116.3	117.6	118.7	121.6	124.3	127.2	131.0
35°	107.4	107.7	108.8	110.1	112.5	113.6	115.2	118.4	121.6	125.4	129.6
37.5°	102.6	102.9	103.7	105.8	108.5	109.8	111.4	114.7	118.7	123.2	127.8
40°	97.2	98.0	98.8	101.5	103.9	105.8	107.4	111.4	116.0	121.1	125.6
42.5°	92.1	92.7	94.0	96.7	99.4	101.8	103.4	107.7	113.0	118.1	123.0
45°	86.8	87.3	89.2	91.9	95.4	97.2	99.4	104.2	110.1	115.2	120.5
47.5°	81.7	82.5	84.1	87.1	90.5	93.0	95.4	100.7	106.4	112.0	117.6
50°	76.4	77.2	79.0	82.2	85.7	88.4	91.1	97.0	102.9	108.8	114.7
52.5°	71.0	71.8	73.9	77.2	81.2	84.1	86.8	93.0	99.4	105.6	112.8
55°	65.9	66.4	68.8	72.3	76.9	79.6	82.2	88.9	95.6	103.1	112.8
57.5°	60.8	60.8	63.8	67.5	72.3	75.0	78.2	84.9	93.0	102.9	113.0
60°	55.2	56.0	58.7	62.4	68.0	71.0	74.2	81.7	91.9	103.4	116.5
62.5°	50.1	50.9	53.6	57.6	63.8	67.2	71.0	80.4	92.4	106.4	119.5
65°	45.0	45.8	48.5	53.6	60.3	64.0	68.8	80.6	95.1	109.8	121.3
67.5°	39.9	41.0	44.5	49.6	57.6	62.4	68.0	82.5	98.3	111.2	119.7
70°	35.4	36.4	40.4	46.6	55.7	61.9	68.8	84.9	99.1	109.0	115.7
72.5°	31.1	32.4	37.0	44.2	55.2	62.4	70.2	85.5	97.0	104.2	109.0
75°	26.8	28.4	34.0	42.9	55.5	63.2	70.4	83.0	91.9	97.0	101.3
77.5°	22.8	24.6	31.6	41.5	55.2	61.9	67.8	77.4	83.6	88.7	94.0
80°	18.5	21.4	29.2	40.2	52.2	57.3	61.6	68.8	75.3	80.4	86.8
82.5°	14.7	18.2	26.5	37.0	46.6	50.9	54.4	61.1	67.0	73.4	80.4
85°	11.0	15.0	23.3	32.1	40.2	43.7	47.2	53.3	59.5	66.7	74.7
87.5°	8.3	12.0	19.6	27.1	34.3	37.2	40.4	46.9	53.0	60.3	68.6
90°	6.7	9.9	16.1	22.8	28.9	31.9	34.8	40.4	47.2	53.6	61.6
92.5°	6.4	8.3	13.4	18.8	24.1	26.8	29.2	34.3	40.2	46.1	52.8
95°	6.2	7.0	10.4	14.7	19.0	21.2	23.0	27.1	31.6	36.2	41.5
97.5°	5.9	6.2	8.3	11.2	14.5	16.1	17.7	20.6	23.6	26.8	30.0
100°	5.6	5.6	6.7	8.8	11.0	12.0	12.9	15.3	17.2	19.0	21.2
102.5°	5.1	5.1	5.6	6.7	8.3	9.1	9.6	11.0	12.3	13.7	14.7
105°	4.8	4.6	4.8	5.6	6.4	7.0	7.5	8.3	8.8	9.6	10.2
107.5°	4.3	4.3	4.3	4.8	5.4	5.6	5.9	6.4	7.0	7.2	7.5
110°	3.7	3.7	3.5	4.0	4.6	4.8	5.1	5.4	5.6	5.9	5.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	3.2	3.2	3.2	3.2	3.7	4.0	4.3	4.6	5.1	5.1	5.1
115°	2.7	2.7	2.7	2.7	3.2	3.5	3.7	4.0	4.3	4.6	4.6
117.5°	2.1	2.1	2.1	2.1	2.7	2.7	2.9	3.5	3.7	4.0	4.0
120°	1.9	1.9	1.9	1.6	2.1	2.4	2.4	2.9	3.2	3.5	3.7
122.5°	1.6	1.3	1.3	1.3	1.6	1.6	1.9	2.4	2.7	2.9	3.2
125°	1.3	1.1	1.1	1.1	1.1	1.3	1.6	1.9	2.4	2.7	2.7
127.5°	1.1	0.8	0.8	0.8	0.8	0.8	1.1	1.3	1.9	2.1	2.1
130°	0.8	0.8	0.8	0.5	0.5	0.5	0.5	1.1	1.3	1.6	1.9
132.5°	0.5	0.5	0.5	0.5	0.3	0.3	0.3	0.5	0.8	1.1	1.3
135°	0.5	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.5	0.8	1.1
137.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3	0.5	0.5
140°	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.3
142.5°	0.3	0.3	0.3	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°	142.0	142.0	142.0	142.0	142.0	142.0	142.0	142.0	142.0	142.0
2.5°	142.8	142.8	142.5	142.5	142.5	142.2	142.2	142.0	142.0	142.0
5°	142.5	142.5	142.2	142.2	142.0	142.0	141.7	141.7	141.7	141.4
7.5°	142.0	142.0	142.0	141.7	141.7	141.7	141.4	141.4	141.4	141.4
10°	141.4	141.4	141.4	141.7	141.7	141.7	141.7	142.0	142.0	142.0
12.5°	140.6	140.9	141.4	141.4	141.7	141.7	141.7	142.0	142.2	142.2
15°	139.8	140.6	141.2	141.7	141.7	142.0	142.0	142.2	142.2	142.0
17.5°	139.6	140.4	141.2	141.7	142.0	142.2	142.5	142.8	143.1	142.8
20°	138.8	140.1	141.2	142.0	142.2	142.2	143.1	143.3	143.3	143.1
22.5°	138.0	139.6	140.6	141.7	142.2	142.5	143.3	143.6	143.9	144.1
25°	137.2	138.5	140.4	142.0	142.5	143.3	144.1	144.9	145.2	145.5
27.5°	136.4	138.2	140.6	142.5	143.3	144.1	145.5	146.5	146.5	147.1
30°	135.0	138.2	140.6	143.1	143.9	144.9	146.8	147.9	148.1	148.1
32.5°	134.5	138.0	140.9	143.3	144.4	145.2	147.1	148.1	148.7	148.7
35°	133.4	137.2	140.4	142.8	144.1	144.9	146.8	148.4	148.7	148.9
37.5°	131.8	135.8	139.3	142.0	143.1	144.4	146.3	147.3	148.1	148.4
40°	130.2	133.9	137.7	140.6	142.0	143.1	145.2	146.8	147.3	147.6
42.5°	127.5	132.1	135.8	139.3	140.6	141.7	144.1	145.5	146.5	146.5
45°	125.4	129.6	134.2	137.7	139.6	141.2	144.4	146.8	148.1	148.1
47.5°	123.0	127.8	133.1	138.8	140.9	142.8	145.7	147.3	148.7	148.9
50°	120.8	127.8	134.2	139.3	141.4	143.9	147.9	150.8	152.4	152.7
52.5°	120.5	128.3	135.3	142.2	144.9	147.9	151.6	154.0	155.4	155.9
55°	121.1	130.7	139.3	145.5	148.4	150.5	153.8	155.9	156.7	157.2
57.5°	124.3	134.2	142.0	147.3	149.5	151.1	153.2	154.0	154.8	154.8
60°	127.5	136.6	142.2	146.0	147.6	148.9	150.3	151.1	151.6	151.1
62.5°	129.6	136.1	140.4	142.8	143.9	144.7	146.3	147.6	147.6	148.4
65°	128.6	133.1	136.6	139.0	140.1	141.2	143.3	144.4	145.7	145.5
67.5°	125.1	129.4	132.1	135.3	136.6	137.7	140.4	141.7	143.1	143.1
70°	119.7	123.5	127.0	130.5	131.8	133.4	136.4	138.5	139.6	140.4
72.5°	112.8	116.8	121.3	126.4	128.8	130.5	133.9	136.4	138.0	138.2
75°	106.1	111.4	117.9	123.5	125.6	127.8	131.5	133.9	135.0	135.8
77.5°	99.9	106.4	113.3	119.5	121.9	124.3	128.0	130.7	132.3	132.6
80°	94.0	101.5	108.5	115.2	117.9	120.0	124.0	127.0	128.6	129.4
82.5°	88.1	96.4	103.7	110.6	113.3	116.0	120.0	123.0	124.8	125.1
85°	82.8	90.5	98.0	104.7	107.2	110.4	114.7	117.6	119.2	119.7
87.5°	76.4	83.8	91.1	97.5	100.2	103.1	107.4	110.6	112.0	112.8
90°	68.6	76.1	82.5	88.7	91.3	93.8	97.5	101.0	102.6	103.4
92.5°	59.2	65.9	72.3	77.4	79.8	81.7	86.0	88.7	89.7	90.5
95°	47.2	52.0	57.6	62.1	64.3	65.9	68.8	71.5	73.1	73.7
97.5°	33.5	37.2	39.9	43.4	44.2	46.1	48.5	50.1	51.2	50.9
100°	23.0	25.5	27.1	28.4	28.9	30.0	31.3	31.6	32.7	32.4
102.5°	15.5	16.3	17.2	18.0	18.2	18.5	19.3	19.0	19.6	19.8
105°	10.4	10.7	11.0	11.2	11.2	11.2	11.2	11.2	11.2	11.0
107.5°	7.5	7.2	7.2	7.2	7.0	7.0	6.7	6.7	6.7	6.4
110°	5.9	5.6	5.4	5.1	4.8	4.8	4.6	4.6	4.3	4.3



TEST NUMBER: P397216

CATALOG NUMBER: 2VRVT2-LD5-5-DR-W-UNV-LR63-CD1-WL-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	4.8	4.6	4.3	4.0	4.0	3.7	3.7	3.5	3.2	3.2
115°	4.3	4.0	4.0	3.7	3.5	3.5	3.2	2.9	2.9	2.7
117.5°	4.0	3.7	3.5	3.2	3.2	3.2	2.9	2.7	2.7	2.7
120°	3.5	3.5	3.2	3.2	2.9	2.9	2.7	2.7	2.4	2.4
122.5°	3.2	3.2	2.9	2.9	2.7	2.7	2.4	2.4	2.4	2.1
125°	2.7	2.7	2.7	2.7	2.4	2.4	2.4	2.1	2.1	2.1
127.5°	2.4	2.4	2.4	2.4	2.1	2.1	2.1	2.1	1.9	1.9
130°	1.9	2.1	2.1	2.1	2.1	1.9	1.9	1.9	1.9	1.9
132.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
135°	1.1	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
137.5°	0.8	0.8	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
140°	0.3	0.5	0.5	0.5	0.8	0.8	0.8	0.8	0.5	0.5
142.5°	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
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)