

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: P397276

Luminaire Tested: **4VRVT2-LD5-6-DR100-W-UNV-LR63-CD1-WL-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P397276
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1710-355-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: 4VRVT2-LD5-6-DR100-W-UNV-LR63-CD1-WL-U
Description:
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 951.2 lumens
Efficiency: N/A
Efficacy: 7.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.58 / 1.57
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 4.17' x H: 0.17')
CIE Type: Semi-Direct

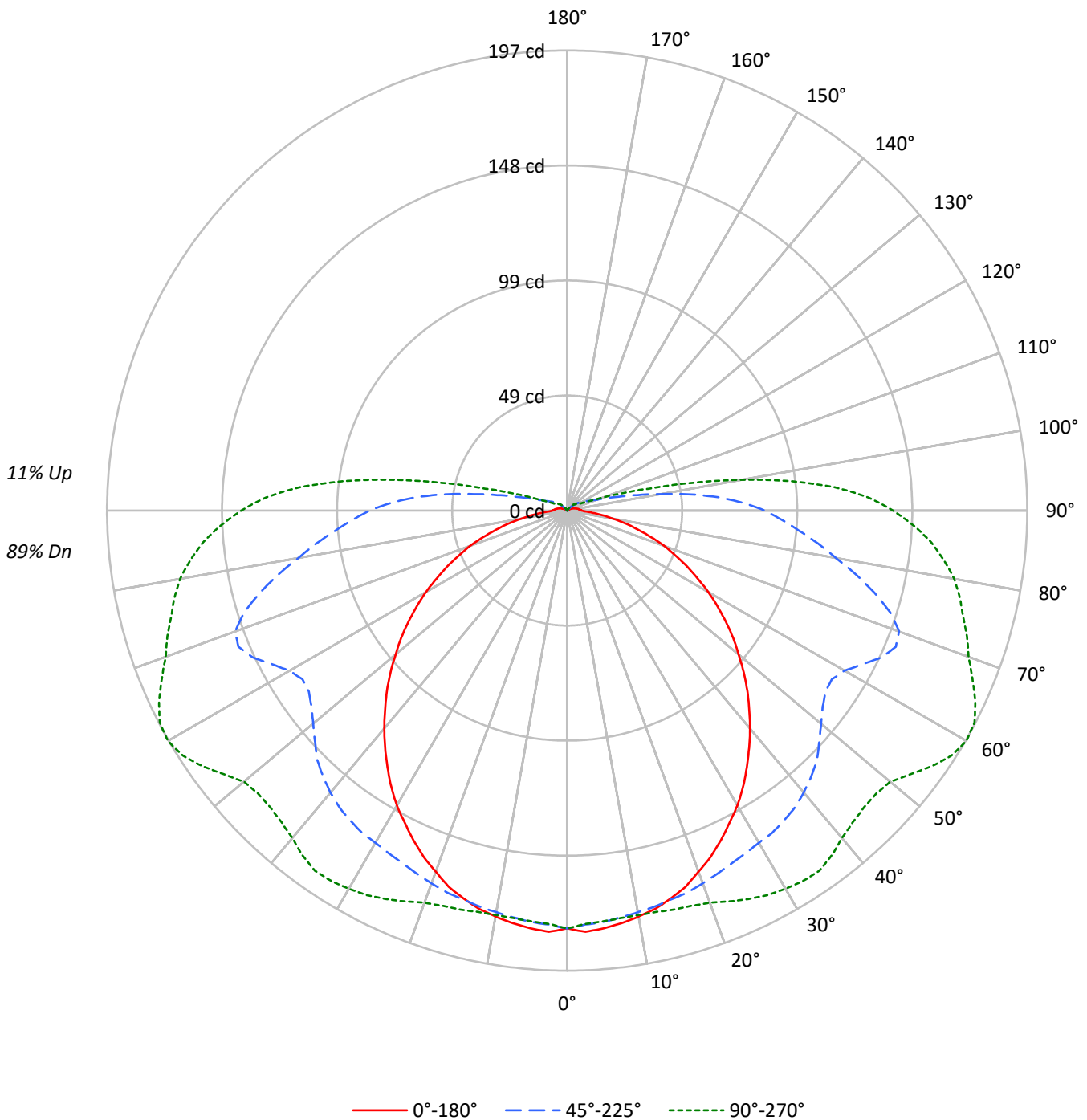
Input Watts (W): 131.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	74	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	50	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	32	26	21	30	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°	924	924	924
5°	928	896	889
10°	920	875	871
15°	909	861	868
20°	891	852	876
25°	871	846	905
30°	850	850	935
35°	823	862	962
40°	795	870	964
45°	767	874	985
50°	735	868	1039
55°	706	883	1164
60°	675	972	1293
65°	637	1160	1375
70°	602	1324	1442
75°	542	1370	1561
80°	485	1392	1732
85°	443	1473	1929



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	16.9	1.8
10°-20°	49.1	5.2
20°-30°	77.9	8.2
30°-40°	101.0	10.6
40°-50°	113.9	12.0
50°-60°	123.4	13.0
60°-70°	132.7	14.0
70°-80°	126.4	13.3
80°-90°	103.6	10.9
90°-100°	68.6	7.2
100°-110°	24.7	2.6
110°-120°	7.5	0.8
120°-130°	3.6	0.4
130°-140°	1.5	0.2
140°-150°	0.3	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	143.9	15.1
0°-40°	244.9	25.7
0°-60°	482.2	50.7
0°-90°	845.0	88.8
90°-120°	100.8	10.6
90°-150°	106.2	11.2
90°-180°	106.0	11.1
0°-180°	951.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	179	179	179	179	179	
5°	180	179	177	177	176	17
15°	172	172	172	176	177	48
25°	156	158	167	180	184	72
35°	134	141	162	182	188	84
45°	109	122	151	171	180	84
55°	83	101	135	176	191	74
65°	57	79	149	187	193	56
75°	31	75	136	164	176	33
85°	11	54	100	141	156	11
90°	6	41	85	125	140	3
95°	5	29	65	101	115	4
105°	4	11	23	32	36	4
115°	2	5	10	9	8	2
125°	1	2	6	6	5	1
135°	0	0	2	3	3	0
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°	178.9	178.9	178.9	178.9	178.9	178.9	178.9	178.9	178.9	178.9	178.9
2.5°	180.5	180.2	179.7	179.5	179.5	179.5	179.5	179.2	178.7	178.1	177.4
5°	179.5	179.2	178.7	178.7	178.6	178.7	178.7	178.4	178.1	177.4	176.8
7.5°	178.2	178.1	177.4	177.1	177.1	177.1	177.4	177.1	177.0	176.3	175.7
10°	176.5	176.2	175.8	175.8	176.0	176.0	176.0	176.2	175.8	175.0	174.6
12.5°	174.6	174.1	173.8	173.8	173.9	173.9	174.1	174.1	174.1	173.6	173.6
15°	171.8	171.7	171.0	171.2	171.2	171.5	171.7	171.8	171.7	172.2	172.3
17.5°	168.8	168.6	168.0	168.0	168.3	168.5	169.0	169.6	169.9	170.6	171.4
20°	164.5	164.5	164.2	164.5	165.1	165.4	165.8	166.9	167.5	168.8	169.8
22.5°	160.5	160.2	160.2	160.5	161.1	161.9	162.6	164.2	165.3	166.9	168.2
25°	155.7	155.5	155.4	156.2	157.1	157.9	159.0	161.0	162.6	164.5	166.6
27.5°	150.6	150.4	150.7	151.4	153.1	154.2	155.2	157.8	159.7	162.7	165.4
30°	145.8	145.3	145.6	146.6	148.8	150.4	151.4	154.2	157.0	160.5	164.2
32.5°	140.2	139.7	140.3	141.8	144.3	145.9	147.7	150.7	153.9	158.2	163.5
35°	134.1	134.2	134.6	136.8	139.5	141.4	143.2	147.2	151.2	156.5	161.9
37.5°	128.0	127.7	129.0	131.5	134.7	137.1	138.9	143.0	148.6	154.4	160.2
40°	121.8	122.1	123.0	125.9	129.3	132.3	134.2	139.7	145.8	151.7	157.6
42.5°	115.4	116.2	117.1	120.5	124.6	127.0	129.9	135.8	142.2	148.5	154.6
45°	109.1	109.8	111.2	114.9	118.9	122.1	125.3	131.5	138.6	145.1	151.2
47.5°	102.6	103.2	105.1	109.0	113.4	117.0	120.3	127.0	134.2	141.0	146.4
50°	95.8	96.8	98.7	102.6	108.5	111.7	115.0	122.4	129.1	135.7	141.9
52.5°	89.6	90.1	93.1	96.8	102.9	106.6	109.8	117.3	123.7	131.0	137.9
55°	82.9	83.8	86.6	90.2	97.0	100.8	104.5	111.7	118.9	126.6	135.0
57.5°	76.3	77.1	80.0	84.2	91.4	95.0	98.6	106.4	113.8	123.4	134.4
60°	69.8	70.7	73.6	78.4	85.6	89.4	93.1	101.4	111.0	122.9	137.1
62.5°	62.9	64.5	66.6	72.5	79.8	83.7	88.2	97.8	110.4	125.4	142.4
65°	56.6	57.4	60.6	66.7	74.6	79.0	84.2	96.5	112.5	130.9	148.6
67.5°	50.1	51.2	54.7	61.4	70.2	75.5	81.9	97.8	117.3	136.8	152.3
70°	44.2	45.0	49.3	56.6	67.2	74.1	81.9	101.0	121.9	139.0	151.2
72.5°	37.6	38.9	44.2	53.1	65.9	74.2	83.5	104.3	122.9	136.0	145.0
75°	31.2	33.1	40.0	50.2	65.6	75.0	85.0	103.8	118.4	128.3	136.2
77.5°	25.9	28.3	36.0	48.3	65.0	74.2	83.4	98.2	109.9	119.4	126.7
80°	20.0	23.7	32.6	45.9	62.1	70.1	77.4	90.2	99.7	108.8	116.8
82.5°	15.2	19.4	29.1	42.2	56.2	62.9	68.6	80.0	89.9	98.6	108.3
85°	10.9	15.4	25.1	36.8	48.5	54.4	59.7	70.4	80.2	89.9	99.8
87.5°	7.5	12.0	21.3	31.5	41.9	46.7	51.8	62.1	71.7	81.1	92.0
90°	6.1	9.8	17.8	27.0	36.0	41.3	45.8	55.0	64.6	74.6	84.6
92.5°	5.8	8.2	14.9	22.9	31.2	35.5	39.7	48.2	57.1	66.4	75.4
95°	5.3	6.6	11.7	18.6	25.6	29.4	32.8	40.8	48.3	56.5	65.1
97.5°	5.0	5.3	9.0	14.4	20.3	23.5	26.2	32.5	39.2	45.4	53.3
100°	4.5	4.6	6.9	11.2	15.5	18.2	20.5	25.6	30.4	35.4	40.6
102.5°	4.0	4.0	5.3	8.3	12.2	13.9	15.8	20.0	23.5	26.7	30.7
105°	3.5	3.5	4.2	6.4	9.1	10.9	12.2	15.2	17.9	20.3	22.9
107.5°	3.2	3.0	3.4	5.0	7.2	8.5	9.8	12.0	14.1	15.7	17.4
110°	2.6	2.6	2.7	4.0	5.9	6.9	8.0	9.8	11.5	12.6	13.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	2.2	2.1	2.1	3.2	4.8	5.8	6.6	8.3	9.8	10.7	11.2
115°	1.8	1.8	1.6	2.4	3.8	4.8	5.4	7.0	8.3	9.1	9.6
117.5°	1.4	1.4	1.4	1.8	3.2	3.8	4.6	6.1	7.2	8.0	8.5
120°	1.1	1.1	1.1	1.1	2.4	3.0	3.8	5.1	6.2	7.0	7.5
122.5°	1.0	0.8	0.8	0.8	1.6	2.4	2.9	4.2	5.3	6.1	6.7
125°	0.6	0.6	0.6	0.5	1.1	1.6	2.2	3.4	4.3	5.1	5.6
127.5°	0.5	0.5	0.5	0.5	0.5	1.0	1.4	2.6	3.5	4.3	4.8
130°	0.5	0.5	0.3	0.3	0.2	0.5	0.8	1.8	2.6	3.4	4.0
132.5°	0.3	0.3	0.3	0.2	0.2	0.2	0.3	1.1	1.9	2.6	3.0
135°	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.6	1.3	1.8	2.2
137.5°	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.2	0.6	1.1	1.6
140°	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.5	1.0
142.5°	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3
145°	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.2	0.2	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°	178.9	178.9	178.9	178.9	178.9	178.9	178.9	178.9	178.9	178.9
2.5°	177.4	177.8	177.8	177.8	177.8	177.8	177.4	177.3	177.1	177.1
5°	176.6	177.0	177.1	177.1	177.1	177.1	177.0	176.8	176.6	176.5
7.5°	175.7	176.2	176.5	176.6	176.6	176.6	176.5	176.5	176.2	176.0
10°	174.7	175.2	175.7	176.0	176.2	176.2	176.2	176.2	176.0	175.8
12.5°	174.1	174.9	175.5	175.8	175.8	176.0	176.3	176.3	176.2	176.0
15°	173.3	174.6	175.4	175.8	175.8	176.2	176.8	176.8	176.6	176.8
17.5°	172.6	173.9	175.2	176.0	176.3	176.8	177.3	177.4	177.6	177.4
20°	171.4	173.4	175.2	176.2	176.8	177.0	178.1	178.9	178.9	178.6
22.5°	170.9	173.3	175.4	177.4	177.8	178.4	179.8	180.6	181.1	181.1
25°	169.9	173.1	176.2	178.7	179.8	180.6	182.1	183.4	183.0	183.5
27.5°	169.4	173.3	176.3	179.5	181.1	181.9	184.0	184.8	185.3	185.6
30°	169.1	173.4	176.8	180.3	181.6	183.2	185.1	186.4	187.0	186.9
32.5°	168.6	173.0	177.3	180.3	182.2	183.5	185.4	186.9	187.8	188.0
35°	167.5	172.5	176.5	180.2	181.6	183.2	185.4	186.2	187.8	188.2
37.5°	166.1	170.9	174.7	178.7	180.2	181.4	184.2	185.0	185.6	186.1
40°	163.8	168.3	172.5	176.3	177.6	179.0	181.0	182.2	183.2	183.0
42.5°	161.0	165.1	169.1	173.3	174.2	175.8	178.2	179.7	180.6	181.0
45°	156.3	161.1	165.8	169.4	171.4	173.1	175.8	177.4	178.6	179.7
47.5°	151.8	157.8	163.0	167.2	169.4	171.2	174.6	177.0	178.7	179.4
50°	148.3	154.4	160.5	166.7	169.1	171.4	175.2	177.8	179.7	180.6
52.5°	145.4	152.8	160.5	168.2	171.5	174.2	178.7	181.9	184.5	185.3
55°	144.3	153.6	163.4	172.2	176.0	179.5	184.6	187.7	190.2	190.7
57.5°	146.2	158.7	169.4	178.6	182.4	185.3	190.2	192.8	194.9	195.2
60°	151.5	164.6	175.8	183.7	187.7	190.2	193.9	195.8	197.3	197.3
62.5°	158.1	169.9	179.7	186.2	189.1	191.0	193.3	195.5	196.0	196.6
65°	163.0	173.3	180.0	184.8	187.4	188.2	190.6	191.5	192.8	192.8
67.5°	163.4	171.5	176.3	180.2	181.6	182.7	185.6	186.7	187.7	187.8
70°	159.0	164.6	170.1	173.4	175.0	177.3	180.0	181.8	182.7	182.9
72.5°	152.2	157.3	162.7	167.8	170.1	172.0	175.5	177.9	178.9	179.5
75°	143.8	149.4	156.0	162.1	164.3	166.2	171.2	173.4	175.4	175.5
77.5°	134.9	141.6	149.3	155.8	158.7	162.1	166.1	169.4	170.9	172.2
80°	125.9	134.6	142.4	150.1	152.8	156.6	161.4	165.3	166.9	168.3
82.5°	117.4	127.2	136.8	144.6	147.7	151.0	156.0	160.3	161.8	162.7
85°	110.1	120.2	129.6	137.6	141.4	144.3	149.9	153.6	155.7	156.5
87.5°	102.2	112.5	121.8	130.4	133.6	136.5	142.2	146.2	148.2	148.6
90°	94.6	105.1	113.8	121.3	125.1	128.6	133.9	137.6	139.5	139.5
92.5°	84.8	94.9	104.0	110.9	114.6	117.4	123.2	125.9	129.1	129.1
95°	73.6	82.4	90.9	97.9	101.0	104.0	108.8	112.5	114.2	115.0
97.5°	61.0	67.7	75.4	81.1	85.3	86.2	91.5	95.2	97.1	96.5
100°	45.9	51.2	57.3	62.1	65.3	67.0	70.7	72.8	75.7	76.0
102.5°	34.2	38.1	41.6	44.3	46.9	47.7	50.2	52.3	53.6	55.0
105°	25.1	27.4	29.4	31.4	31.8	33.3	35.4	36.8	36.0	36.2
107.5°	18.7	19.8	21.0	21.6	22.4	23.4	23.8	23.8	24.6	25.0
110°	14.2	14.9	15.4	15.5	15.8	15.8	15.8	15.8	16.0	16.3



TEST NUMBER: P397276

CATALOG NUMBER: 4VRVT2-LD5-6-DR100-W-UNV-LR63-CD1-WL-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	11.4	11.7	11.7	11.7	11.5	11.5	11.4	11.2	10.9	11.2
115°	9.8	9.8	9.4	9.3	9.1	9.0	8.6	8.3	8.2	8.5
117.5°	8.6	8.5	8.3	7.8	7.7	7.5	7.2	7.0	6.7	6.6
120°	7.7	7.7	7.4	7.2	7.0	6.7	6.4	6.2	5.9	5.8
122.5°	6.9	6.9	6.7	6.6	6.4	6.2	5.9	5.8	5.4	5.4
125°	5.9	6.1	6.1	5.9	5.8	5.8	5.4	5.3	5.1	5.1
127.5°	5.1	5.3	5.4	5.4	5.3	5.3	5.1	5.0	4.8	4.6
130°	4.3	4.6	4.6	4.8	4.8	4.6	4.6	4.5	4.3	4.3
132.5°	3.5	3.8	4.0	4.0	4.2	4.2	4.2	4.0	4.0	3.8
135°	2.7	3.0	3.2	3.4	3.4	3.5	3.5	3.4	3.4	3.4
137.5°	2.1	2.2	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7
140°	1.3	1.6	1.9	1.9	2.1	2.1	2.1	2.1	2.1	2.1
142.5°	0.6	1.0	1.1	1.3	1.3	1.4	1.4	1.4	1.4	1.4
145°	0.2	0.3	0.5	0.6	0.8	0.8	0.8	0.8	0.8	0.8
147.5°	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2
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)