

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: P397261

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P397261
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-LD5-4-DR100-W-UNV-LR63-CD1-WL-U
Description:
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 635.7 lumens
Efficiency: N/A
Efficacy: 8.2 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

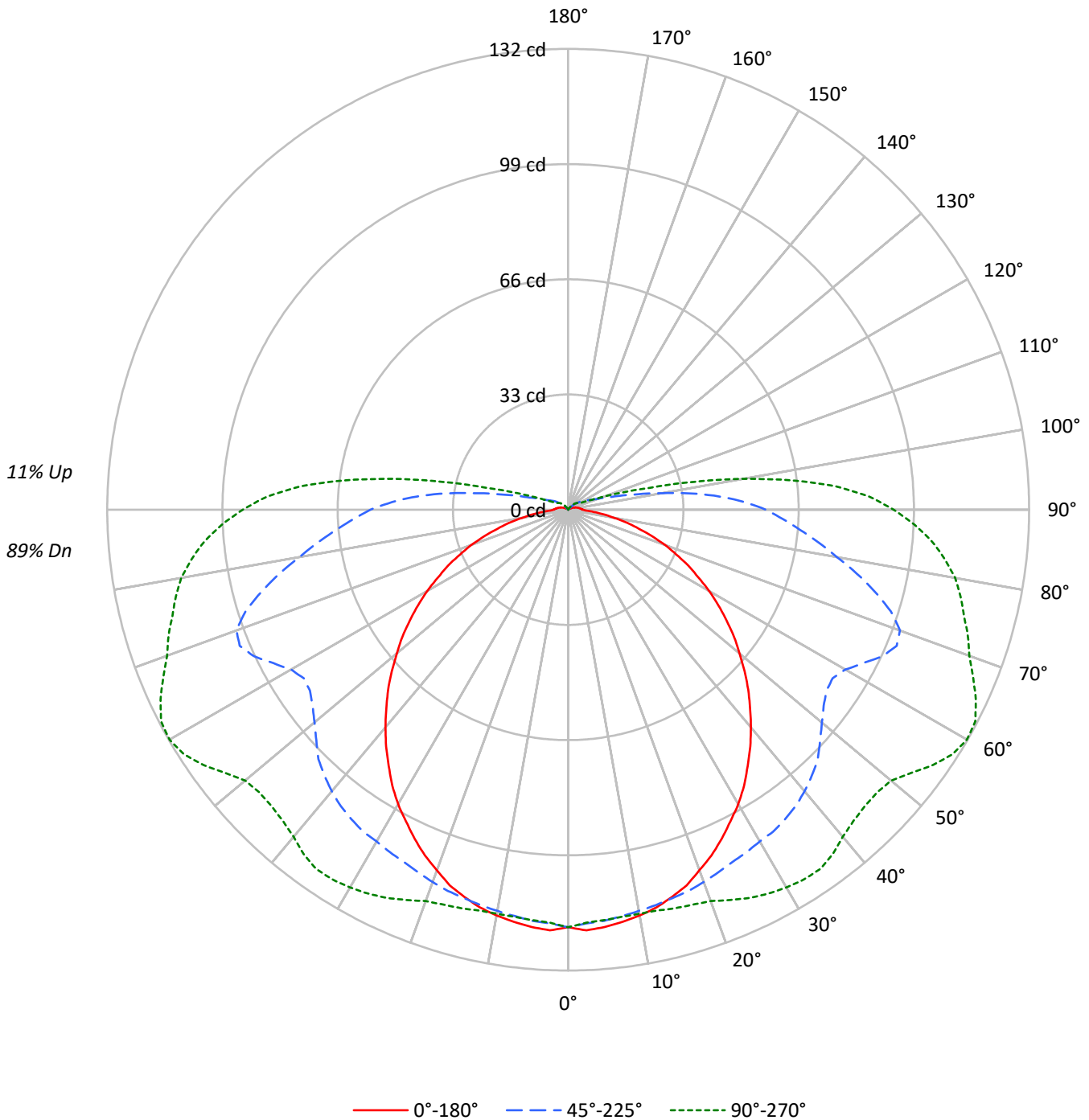
Input Watts (W): 77.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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CATALOG NUMBER: 4VRVT2-LD5-4-DR100-W-UNV-LR63-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	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°	618	618	618
5°	620	599	595
10°	615	585	582
15°	608	575	580
20°	596	569	585
25°	582	565	605
30°	568	568	625
35°	550	576	643
40°	531	581	645
45°	512	584	658
50°	491	580	694
55°	472	591	778
60°	450	650	863
65°	427	775	918
70°	402	885	964
75°	361	915	1043
80°	325	931	1158
85°	297	984	1289



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	11.3	1.8
10°-20°	32.8	5.2
20°-30°	52.1	8.2
30°-40°	67.5	10.6
40°-50°	76.1	12.0
50°-60°	82.5	13.0
60°-70°	88.7	14.0
70°-80°	84.5	13.3
80°-90°	69.2	10.9
90°-100°	45.8	7.2
100°-110°	16.5	2.6
110°-120°	5.0	0.8
120°-130°	2.4	0.4
130°-140°	1.0	0.2
140°-150°	0.2	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	96.2	15.1
0°-40°	163.7	25.7
0°-60°	322.3	50.7
0°-90°	564.7	88.8
90°-120°	67.4	10.6
90°-150°	71.0	11.2
90°-180°	71.0	11.2
0°-180°	635.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	120	120	120	120	120	
5°	120	119	118	118	118	11
15°	115	115	115	118	118	32
25°	104	106	111	120	123	48
35°	90	94	108	121	126	56
45°	73	82	101	114	120	56
55°	55	67	90	118	128	50
65°	38	53	99	125	129	37
75°	21	50	91	110	117	22
85°	7	36	67	94	105	7
90°	4	28	57	84	93	2
95°	4	20	44	68	77	3
105°	2	7	15	21	24	3
115°	1	3	6	6	6	1
125°	0	1	4	4	3	0
135°	0	0	2	2	2	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°	119.6	119.6	119.6	119.6	119.6	119.6	119.6	119.6	119.6	119.6	119.6
2.5°	120.6	120.4	120.1	120.0	120.0	120.0	120.0	119.8	119.4	119.0	118.6
5°	120.0	119.8	119.4	119.4	119.3	119.4	119.4	119.2	119.0	118.6	118.2
7.5°	119.1	119.0	118.6	118.4	118.4	118.4	118.6	118.4	118.3	117.8	117.4
10°	118.0	117.7	117.5	117.5	117.6	117.6	117.6	117.7	117.5	117.0	116.7
12.5°	116.7	116.3	116.1	116.1	116.2	116.2	116.3	116.3	116.3	116.0	116.0
15°	114.8	114.7	114.3	114.4	114.4	114.6	114.7	114.8	114.7	115.1	115.2
17.5°	112.8	112.7	112.3	112.3	112.5	112.6	112.9	113.3	113.6	114.0	114.5
20°	109.9	109.9	109.7	109.9	110.4	110.6	110.8	111.5	112.0	112.8	113.5
22.5°	107.2	107.0	107.0	107.2	107.7	108.2	108.6	109.7	110.5	111.5	112.4
25°	104.0	103.9	103.8	104.4	105.0	105.5	106.3	107.6	108.6	109.9	111.3
27.5°	100.6	100.5	100.7	101.2	102.3	103.1	103.7	105.4	106.7	108.8	110.6
30°	97.4	97.1	97.3	98.0	99.4	100.5	101.2	103.1	104.9	107.2	109.7
32.5°	93.7	93.3	93.8	94.7	96.4	97.5	98.7	100.7	102.9	105.8	109.3
35°	89.6	89.7	89.9	91.4	93.2	94.5	95.7	98.4	101.1	104.6	108.2
37.5°	85.6	85.3	86.2	87.9	90.0	91.6	92.8	95.6	99.3	103.2	107.0
40°	81.4	81.6	82.2	84.2	86.4	88.4	89.7	93.3	97.4	101.4	105.3
42.5°	77.1	77.6	78.3	80.5	83.3	84.9	86.8	90.8	95.1	99.2	103.3
45°	72.9	73.4	74.3	76.8	79.5	81.6	83.7	87.9	92.6	97.0	101.1
47.5°	68.5	69.0	70.3	72.8	75.8	78.2	80.4	84.9	89.7	94.2	97.8
50°	64.0	64.7	66.0	68.5	72.5	74.6	76.9	81.8	86.3	90.7	94.8
52.5°	59.9	60.2	62.2	64.7	68.8	71.2	73.4	78.4	82.7	87.6	92.2
55°	55.4	56.0	57.9	60.3	64.8	67.4	69.8	74.6	79.5	84.6	90.3
57.5°	51.0	51.5	53.5	56.2	61.1	63.5	65.9	71.1	76.0	82.4	89.8
60°	46.6	47.3	49.2	52.4	57.2	59.8	62.2	67.8	74.2	82.1	91.6
62.5°	42.0	43.1	44.5	48.4	53.4	55.9	58.9	65.3	73.8	83.8	95.2
65°	37.9	38.4	40.5	44.6	49.8	52.8	56.2	64.5	75.2	87.5	99.3
67.5°	33.5	34.2	36.6	41.1	46.9	50.5	54.8	65.3	78.4	91.4	101.8
70°	29.5	30.0	32.9	37.9	44.9	49.5	54.8	67.5	81.5	92.9	101.1
72.5°	25.1	26.0	29.5	35.5	44.0	49.6	55.8	69.7	82.1	90.9	96.9
75°	20.8	22.1	26.7	33.6	43.8	50.1	56.8	69.4	79.1	85.8	91.0
77.5°	17.3	18.9	24.1	32.3	43.4	49.6	55.7	65.6	73.5	79.8	84.7
80°	13.4	15.8	21.8	30.7	41.5	46.8	51.8	60.3	66.6	72.7	78.1
82.5°	10.2	12.9	19.5	28.2	37.5	42.0	45.9	53.5	60.1	65.9	72.4
85°	7.3	10.3	16.8	24.6	32.4	36.4	39.9	47.1	53.6	60.1	66.7
87.5°	5.0	8.0	14.2	21.1	28.0	31.2	34.6	41.5	47.9	54.2	61.5
90°	4.1	6.5	11.9	18.1	24.1	27.6	30.6	36.8	43.2	49.8	56.6
92.5°	3.9	5.5	10.0	15.3	20.8	23.7	26.5	32.2	38.2	44.4	50.4
95°	3.5	4.4	7.8	12.4	17.1	19.7	21.9	27.3	32.3	37.7	43.5
97.5°	3.3	3.5	6.0	9.6	13.6	15.7	17.5	21.7	26.2	30.4	35.6
100°	3.0	3.1	4.6	7.5	10.4	12.2	13.7	17.1	20.3	23.6	27.2
102.5°	2.7	2.7	3.5	5.6	8.1	9.3	10.6	13.4	15.7	17.9	20.5
105°	2.4	2.4	2.8	4.3	6.1	7.3	8.1	10.2	12.0	13.6	15.3
107.5°	2.1	2.0	2.2	3.3	4.8	5.7	6.5	8.0	9.4	10.5	11.6
110°	1.7	1.7	1.8	2.7	4.0	4.6	5.3	6.5	7.7	8.4	9.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	1.5	1.4	1.4	2.1	3.2	3.9	4.4	5.6	6.5	7.2	7.5
115°	1.2	1.2	1.1	1.6	2.6	3.2	3.6	4.7	5.6	6.1	6.4
117.5°	1.0	1.0	1.0	1.2	2.1	2.6	3.1	4.1	4.8	5.3	5.7
120°	0.8	0.8	0.8	0.8	1.6	2.0	2.6	3.4	4.2	4.7	5.0
122.5°	0.6	0.5	0.5	0.5	1.1	1.6	1.9	2.8	3.5	4.1	4.5
125°	0.4	0.4	0.4	0.3	0.8	1.1	1.5	2.2	2.9	3.4	3.7
127.5°	0.3	0.3	0.3	0.3	0.3	0.6	1.0	1.7	2.4	2.9	3.2
130°	0.3	0.3	0.2	0.2	0.1	0.3	0.5	1.2	1.7	2.2	2.7
132.5°	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.8	1.3	1.7	2.0
135°	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.4	0.8	1.2	1.5
137.5°	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.4	0.8	1.1
140°	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.6
142.5°	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
145°	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.1	0.1	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°	119.6	119.6	119.6	119.6	119.6	119.6	119.6	119.6	119.6	119.6
2.5°	118.6	118.8	118.8	118.8	118.8	118.8	118.6	118.5	118.4	118.4
5°	118.0	118.3	118.4	118.4	118.4	118.4	118.3	118.2	118.0	118.0
7.5°	117.4	117.7	118.0	118.0	118.0	118.0	118.0	118.0	117.7	117.6
10°	116.8	117.1	117.4	117.6	117.7	117.7	117.7	117.7	117.6	117.5
12.5°	116.3	116.9	117.3	117.5	117.5	117.6	117.8	117.8	117.7	117.6
15°	115.8	116.7	117.2	117.5	117.5	117.7	118.2	118.2	118.0	118.2
17.5°	115.4	116.2	117.1	117.6	117.8	118.2	118.5	118.6	118.7	118.6
20°	114.5	115.9	117.1	117.7	118.2	118.3	119.0	119.6	119.6	119.3
22.5°	114.2	115.8	117.2	118.6	118.8	119.2	120.2	120.7	121.0	121.0
25°	113.6	115.7	117.7	119.4	120.2	120.7	121.7	122.5	122.3	122.7
27.5°	113.2	115.8	117.8	120.0	121.0	121.6	123.0	123.5	123.8	124.0
30°	113.0	115.9	118.2	120.5	121.4	122.4	123.7	124.6	125.0	124.9
32.5°	112.7	115.6	118.5	120.5	121.8	122.7	123.9	124.9	125.5	125.6
35°	112.0	115.3	118.0	120.4	121.4	122.4	123.9	124.5	125.5	125.7
37.5°	111.0	114.2	116.8	119.4	120.4	121.3	123.1	123.6	124.0	124.4
40°	109.5	112.5	115.3	117.8	118.7	119.6	120.9	121.8	122.4	122.3
42.5°	107.6	110.4	113.0	115.8	116.4	117.5	119.1	120.1	120.7	120.9
45°	104.5	107.7	110.8	113.2	114.5	115.7	117.5	118.6	119.3	120.1
47.5°	101.5	105.4	109.0	111.7	113.2	114.4	116.7	118.3	119.4	119.9
50°	99.1	103.2	107.2	111.4	113.0	114.5	117.1	118.8	120.1	120.7
52.5°	97.2	102.1	107.2	112.4	114.6	116.4	119.4	121.6	123.3	123.8
55°	96.4	102.7	109.2	115.1	117.6	120.0	123.4	125.4	127.1	127.5
57.5°	97.7	106.1	113.2	119.3	121.9	123.8	127.1	128.8	130.2	130.4
60°	101.3	110.0	117.5	122.8	125.4	127.1	129.6	130.9	131.8	131.8
62.5°	105.6	113.6	120.1	124.5	126.4	127.7	129.2	130.7	131.0	131.4
65°	109.0	115.8	120.3	123.5	125.2	125.7	127.4	128.0	128.8	128.8
67.5°	109.2	114.6	117.8	120.4	121.4	122.1	124.0	124.8	125.4	125.5
70°	106.3	110.0	113.7	115.9	117.0	118.5	120.3	121.5	122.1	122.2
72.5°	101.7	105.1	108.8	112.2	113.7	114.9	117.3	118.9	119.6	120.0
75°	96.1	99.9	104.3	108.3	109.8	111.1	114.4	115.9	117.2	117.3
77.5°	90.1	94.6	99.8	104.1	106.1	108.3	111.0	113.2	114.2	115.1
80°	84.2	89.9	95.2	100.3	102.1	104.7	107.9	110.5	111.5	112.5
82.5°	78.5	85.0	91.4	96.7	98.7	100.9	104.3	107.2	108.1	108.8
85°	73.6	80.3	86.6	92.0	94.5	96.4	100.2	102.7	104.0	104.6
87.5°	68.3	75.2	81.4	87.2	89.3	91.2	95.1	97.7	99.0	99.3
90°	63.2	70.3	76.0	81.1	83.6	86.0	89.5	92.0	93.2	93.2
92.5°	56.7	63.4	69.5	74.1	76.6	78.5	82.3	84.2	86.3	86.3
95°	49.2	55.1	60.7	65.4	67.5	69.5	72.7	75.2	76.4	76.9
97.5°	40.7	45.2	50.4	54.2	57.0	57.6	61.2	63.6	64.9	64.5
100°	30.7	34.2	38.3	41.5	43.6	44.8	47.3	48.7	50.6	50.8
102.5°	22.9	25.5	27.8	29.6	31.3	31.9	33.6	35.0	35.8	36.8
105°	16.8	18.3	19.7	21.0	21.3	22.2	23.6	24.6	24.1	24.2
107.5°	12.5	13.3	14.0	14.4	15.0	15.6	15.9	15.9	16.5	16.7
110°	9.5	10.0	10.3	10.4	10.6	10.6	10.6	10.6	10.7	10.9



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

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	7.6	7.8	7.8	7.8	7.7	7.7	7.6	7.5	7.3	7.5
115°	6.5	6.5	6.3	6.2	6.1	6.0	5.8	5.6	5.5	5.7
117.5°	5.8	5.7	5.6	5.2	5.1	5.0	4.8	4.7	4.5	4.4
120°	5.1	5.1	4.9	4.8	4.7	4.5	4.3	4.2	4.0	3.9
122.5°	4.6	4.6	4.5	4.4	4.3	4.2	4.0	3.9	3.6	3.6
125°	4.0	4.1	4.1	4.0	3.9	3.9	3.6	3.5	3.4	3.4
127.5°	3.4	3.5	3.6	3.6	3.5	3.5	3.4	3.3	3.2	3.1
130°	2.9	3.1	3.1	3.2	3.2	3.1	3.1	3.0	2.9	2.9
132.5°	2.4	2.6	2.7	2.7	2.8	2.8	2.8	2.7	2.7	2.6
135°	1.8	2.0	2.1	2.2	2.2	2.4	2.4	2.2	2.2	2.2
137.5°	1.4	1.5	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8
140°	0.8	1.1	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4
142.5°	0.4	0.6	0.8	0.8	0.8	1.0	1.0	1.0	1.0	1.0
145°	0.1	0.2	0.3	0.4	0.5	0.5	0.5	0.5	0.5	0.5
147.5°	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
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)