

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: P397291

Luminaire Tested: **4VRVT2-LD5-8-DR100-W-UNV-LR63-CD1-WL-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P397291
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1710-355-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: 4VRVT2-LD5-8-DR100-W-UNV-LR63-CD1-WL-U
Description:
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1219.0 lumens
Efficiency: N/A
Efficacy: 8.0 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.58 / 1.57
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 4.17' x H: 0.17')
CIE Type: Semi-Direct

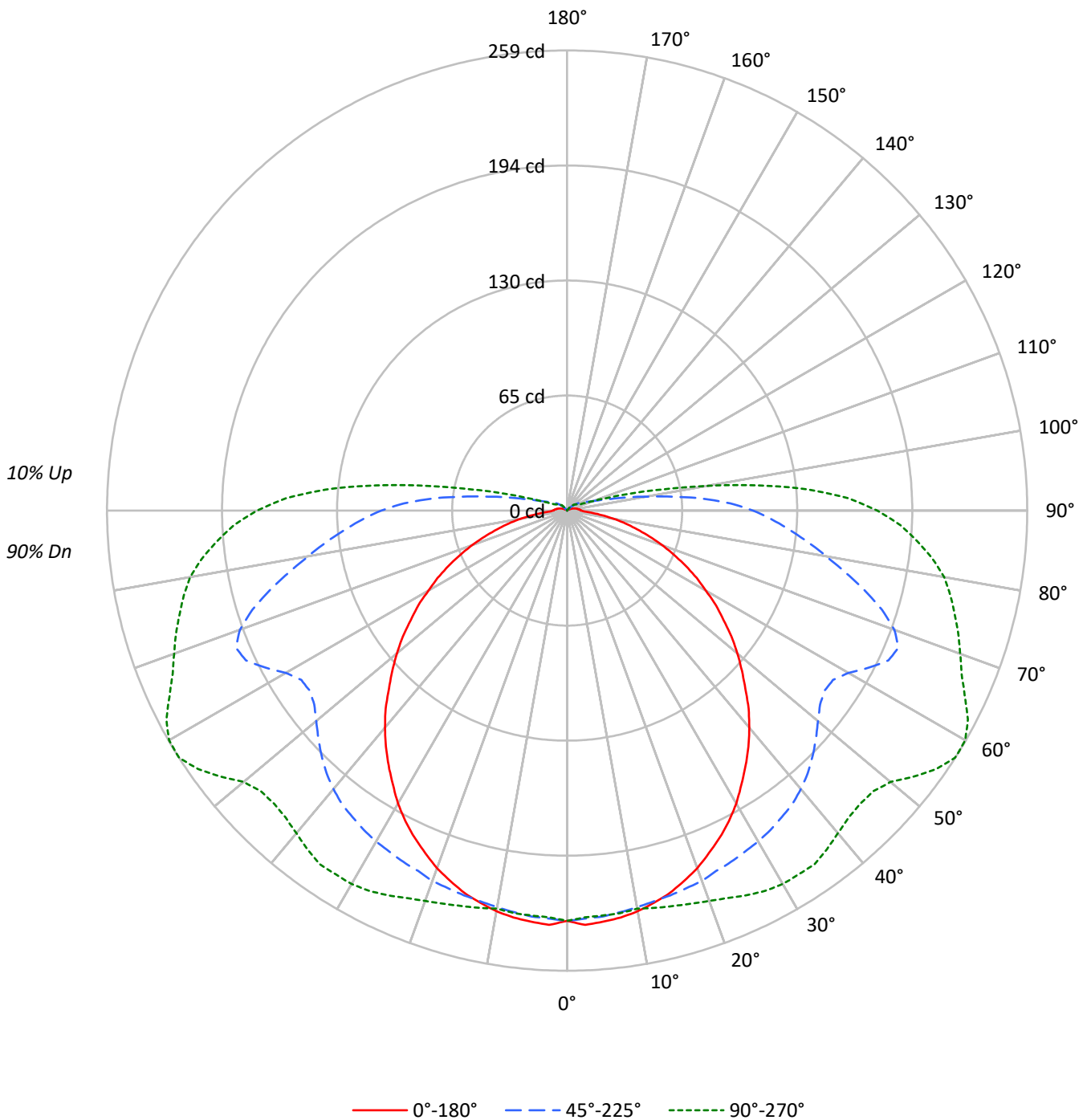
Input Watts (W): 151.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	99	99	93	93	93	90
1	101	94	88	83	97	91	85	80	85	80	76	79	75	72	74	71	68	65
2	90	79	71	63	86	77	69	62	71	64	59	66	61	56	62	57	53	50
3	81	68	58	50	77	66	57	49	61	53	47	57	50	45	53	47	43	40
4	73	59	49	41	70	57	48	40	53	45	39	50	43	37	46	40	35	33
5	67	52	42	35	64	51	41	34	47	39	33	44	37	31	41	35	30	27
6	62	47	37	30	59	45	36	29	42	34	28	40	32	27	37	31	26	23
7	57	42	33	26	55	41	32	25	38	30	24	36	29	24	34	27	23	20
8	53	38	29	23	51	37	28	22	35	27	22	33	26	21	31	25	20	18
9	49	35	26	20	47	34	26	20	32	24	19	30	23	19	28	22	18	16
10	46	32	24	18	44	31	23	18	30	22	17	28	21	17	26	20	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1193	1193	1193
5°	1201	1162	1153
10°	1193	1136	1127
15°	1180	1120	1131
20°	1161	1113	1146
25°	1137	1108	1179
30°	1110	1113	1214
35°	1075	1121	1242
40°	1041	1130	1250
45°	996	1130	1279
50°	960	1127	1367
55°	916	1157	1548
60°	871	1296	1695
65°	829	1557	1760
70°	773	1716	1856
75°	709	1743	2010
80°	645	1763	2218
85°	553	1858	2438



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	21.9	1.8
10°-20°	63.9	5.2
20°-30°	101.6	8.3
30°-40°	131.3	10.8
40°-50°	148.2	12.2
50°-60°	162.4	13.3
60°-70°	173.3	14.2
70°-80°	162.5	13.3
80°-90°	130.9	10.7
90°-100°	81.5	6.7
100°-110°	26.4	2.2
110°-120°	8.6	0.7
120°-130°	4.4	0.4
130°-140°	1.8	0.1
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°	187.4	15.4
0°-40°	318.7	26.1
0°-60°	629.3	51.6
0°-90°	1096.0	89.9
90°-120°	116.5	9.6
90°-150°	123.0	10.1
90°-180°	123.0	10.1
0°-180°	1219.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	231	231	231	231	231	
5°	232	232	229	230	229	22
15°	223	223	224	230	230	63
25°	203	206	218	234	239	94
35°	175	185	211	235	243	110
45°	142	159	195	222	233	110
55°	108	130	177	235	254	96
65°	74	103	200	242	247	73
75°	41	100	173	210	226	43
85°	14	68	126	178	198	14
90°	8	51	105	155	175	4
95°	7	36	77	120	136	5
105°	5	13	25	33	37	5
115°	2	6	12	10	9	2
125°	1	2	7	7	6	1
135°	0	0	3	4	4	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°	230.9	230.9	230.9	230.9	230.9	230.9	230.9	230.9	230.9	230.9	230.9
2.5°	233.4	232.8	232.3	232.3	232.3	232.2	232.2	232.0	231.7	230.7	229.9
5°	232.3	232.0	231.5	231.5	231.5	231.5	231.5	231.2	230.6	229.9	229.3
7.5°	231.0	230.7	230.1	230.2	229.8	229.9	229.8	229.4	229.3	228.8	228.0
10°	229.0	228.6	228.0	228.2	227.8	228.0	228.0	228.2	227.8	227.4	226.7
12.5°	226.1	225.9	225.6	225.4	225.8	226.1	226.2	225.9	225.6	225.4	225.3
15°	222.9	222.6	222.2	222.4	222.9	222.9	223.4	223.4	223.4	223.5	224.2
17.5°	218.7	218.6	218.2	218.6	218.9	219.0	219.7	220.0	220.2	221.4	222.9
20°	214.2	213.9	213.6	213.9	214.4	215.0	215.7	216.6	218.1	220.2	221.8
22.5°	208.6	208.5	208.3	208.6	209.4	210.4	211.5	213.6	215.8	218.1	219.5
25°	203.2	202.9	202.7	203.4	205.0	205.9	207.4	210.1	212.6	215.5	218.2
27.5°	197.1	196.2	197.0	197.6	199.7	201.0	202.7	206.2	209.1	212.3	216.5
30°	190.4	189.9	189.9	191.4	194.1	196.0	198.1	202.1	205.4	209.9	215.0
32.5°	182.6	182.7	183.0	185.0	188.6	190.9	192.6	197.3	201.6	207.2	213.1
35°	175.2	174.9	175.7	178.4	182.6	185.1	187.5	192.5	197.9	204.2	210.6
37.5°	167.5	167.2	168.3	171.5	176.0	178.7	181.4	187.7	193.9	201.0	208.2
40°	159.5	159.5	160.8	164.3	169.3	172.2	175.4	182.4	189.3	197.0	204.6
42.5°	151.2	150.9	152.5	157.3	162.9	165.8	169.6	177.0	184.8	192.5	200.5
45°	141.8	143.0	144.6	149.4	155.2	159.2	163.7	171.5	179.5	187.7	195.4
47.5°	133.4	134.4	136.6	141.8	148.5	152.2	157.0	165.3	173.9	181.8	189.9
50°	125.1	125.6	128.6	133.8	140.8	145.4	150.1	158.6	167.0	176.0	184.3
52.5°	116.5	116.6	120.3	125.3	133.6	138.2	142.6	151.5	160.6	169.9	179.4
55°	107.5	108.0	111.8	117.3	126.1	130.4	135.2	144.5	154.4	165.0	176.8
57.5°	99.4	99.8	103.5	109.4	118.6	123.2	127.8	137.9	148.8	161.9	177.4
60°	90.1	91.4	94.7	101.4	110.7	115.4	120.8	132.0	145.6	163.0	182.7
62.5°	82.2	82.6	86.4	93.8	103.5	108.6	114.6	128.2	146.1	168.0	191.5
65°	73.6	74.4	78.4	86.7	97.1	103.2	110.2	127.7	150.6	176.6	199.5
67.5°	65.0	66.2	71.0	80.2	92.2	99.5	108.5	131.0	157.8	183.2	201.8
70°	56.8	58.4	63.8	74.4	88.8	98.1	109.6	136.0	162.7	183.7	196.0
72.5°	48.6	50.9	57.9	70.1	87.5	99.0	112.2	139.0	161.6	176.0	185.8
75°	40.8	43.4	52.5	66.7	87.4	99.8	113.1	136.2	152.2	164.2	173.3
77.5°	33.8	36.8	47.4	64.0	86.2	97.9	108.6	126.4	139.7	150.9	160.2
80°	26.6	30.6	42.9	60.5	80.8	90.1	98.9	113.8	125.8	137.1	148.0
82.5°	19.7	25.0	38.1	55.2	71.5	79.8	86.7	100.3	112.5	124.3	136.8
85°	13.6	19.7	32.3	47.0	61.1	68.3	75.0	88.0	100.0	112.5	125.9
87.5°	9.4	15.5	26.9	39.8	52.8	58.9	65.0	77.4	89.4	101.8	115.5
90°	7.8	12.3	22.4	33.8	45.3	51.0	56.8	68.2	80.0	91.8	104.6
92.5°	7.4	10.2	18.4	28.3	38.7	43.5	48.6	59.2	69.8	81.1	92.0
95°	6.9	8.2	14.6	22.6	31.4	35.5	39.8	48.2	57.8	67.0	77.0
97.5°	6.2	6.7	11.2	17.6	24.6	28.2	31.4	38.1	45.6	52.6	59.7
100°	5.8	5.8	8.5	13.4	19.0	21.6	24.3	29.9	34.9	40.2	45.1
102.5°	5.1	5.1	6.6	10.1	14.6	16.6	19.0	22.9	26.6	30.2	33.8
105°	4.6	4.5	5.3	7.8	11.0	12.8	14.6	17.8	20.6	23.0	25.4
107.5°	4.0	4.0	4.3	6.2	8.8	10.2	11.5	14.2	16.5	18.2	19.5
110°	3.4	3.4	3.5	5.0	7.2	8.3	9.6	11.7	13.4	14.9	15.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	2.9	2.9	2.7	4.0	5.9	7.0	8.0	9.9	11.5	12.5	13.1
115°	2.2	2.2	2.2	3.0	4.8	5.8	6.7	8.5	10.1	11.0	11.5
117.5°	1.9	1.9	1.8	2.2	3.8	4.8	5.6	7.4	8.6	9.8	10.2
120°	1.4	1.4	1.4	1.4	2.9	3.8	4.6	6.2	7.5	8.5	9.0
122.5°	1.1	1.1	1.1	1.0	2.1	2.9	3.7	5.1	6.4	7.4	8.0
125°	1.0	0.8	0.8	0.8	1.3	1.9	2.7	4.0	5.1	6.2	6.9
127.5°	0.8	0.6	0.6	0.6	0.6	1.1	1.8	3.0	4.2	5.1	5.8
130°	0.6	0.5	0.5	0.5	0.3	0.6	1.1	2.1	3.2	4.0	4.6
132.5°	0.5	0.5	0.3	0.3	0.2	0.2	0.5	1.3	2.2	3.0	3.7
135°	0.3	0.3	0.3	0.2	0.2	0.0	0.0	0.6	1.4	2.1	2.7
137.5°	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.2	0.6	1.3	1.9
140°	0.3	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.6	1.1
142.5°	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.2	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°	230.9	230.9	230.9	230.9	230.9	230.9	230.9	230.9	230.9	230.9
2.5°	229.9	230.1	230.2	230.2	230.1	230.1	229.9	229.6	229.3	229.1
5°	228.8	229.3	229.6	229.6	229.6	229.4	229.4	229.3	229.0	228.8
7.5°	227.8	228.6	229.0	228.8	228.8	228.8	228.8	229.0	228.6	228.5
10°	226.9	227.5	228.2	228.3	228.5	228.3	228.3	228.0	227.8	227.5
12.5°	225.9	227.0	228.0	228.8	228.8	228.8	229.1	229.6	229.4	229.0
15°	225.1	227.0	228.2	229.4	229.9	230.4	230.6	230.9	230.4	230.4
17.5°	224.6	227.2	228.8	230.1	230.2	230.9	231.8	232.3	232.2	232.0
20°	223.8	226.9	229.1	230.2	231.0	231.8	233.1	233.4	233.8	233.8
22.5°	222.9	226.2	228.5	231.0	232.3	233.1	234.9	235.8	236.2	236.0
25°	222.1	225.9	229.3	232.3	233.6	234.6	236.8	238.6	238.9	238.9
27.5°	221.3	225.8	229.8	233.8	235.4	236.5	238.7	240.5	241.1	241.3
30°	220.5	225.4	230.2	234.2	236.2	237.3	239.8	241.4	242.7	242.7
32.5°	219.0	225.1	229.9	234.2	235.8	237.8	240.2	241.9	242.9	242.7
35°	217.6	223.2	228.6	233.0	234.7	236.6	239.5	241.6	242.2	242.9
37.5°	215.2	221.1	226.6	230.9	233.4	235.0	237.6	239.2	240.5	240.2
40°	212.0	217.9	223.5	227.7	229.9	231.8	234.7	236.2	237.3	237.1
42.5°	207.4	214.1	219.4	223.8	226.2	228.2	231.7	233.0	234.2	234.4
45°	202.7	209.3	215.2	220.0	222.2	224.5	228.8	231.2	232.8	233.3
47.5°	197.1	204.5	211.2	217.8	221.0	223.8	228.3	231.7	233.4	233.8
50°	192.5	201.6	209.9	217.6	221.6	224.8	230.9	234.9	236.8	237.6
52.5°	189.8	200.8	211.7	221.6	226.4	230.4	237.9	242.4	245.6	245.9
55°	190.2	204.2	217.8	230.1	234.9	239.8	246.7	250.9	253.6	253.6
57.5°	195.0	211.7	227.4	238.7	243.5	247.4	253.8	256.5	258.4	258.9
60°	203.7	221.3	234.9	244.8	248.0	251.1	254.6	257.6	258.4	258.7
62.5°	212.2	227.2	237.9	244.8	246.7	249.3	251.9	253.6	254.3	254.3
65°	216.6	227.8	234.4	239.5	241.6	242.4	245.1	245.8	247.2	246.9
67.5°	213.9	221.1	226.4	230.7	232.3	233.9	237.1	238.7	240.0	240.3
70°	204.6	210.4	216.0	221.4	223.5	226.2	230.1	233.1	234.6	235.4
72.5°	193.3	200.2	207.4	213.9	217.3	219.8	224.6	228.6	230.1	230.9
75°	181.6	189.8	198.1	206.1	209.6	213.0	218.7	222.6	225.1	225.9
77.5°	169.9	179.8	189.9	199.0	203.4	206.9	213.4	217.6	220.6	221.0
80°	159.0	170.9	182.1	191.8	196.2	200.3	206.9	211.7	213.3	215.5
82.5°	149.4	161.8	173.1	183.4	188.2	191.8	198.7	203.7	206.1	207.4
85°	139.0	151.8	163.4	173.4	178.4	182.9	189.3	193.9	197.3	197.8
87.5°	128.5	141.3	153.1	163.5	168.5	172.6	179.4	183.8	186.9	187.8
90°	117.3	129.4	140.8	151.2	155.4	159.7	166.1	171.2	174.4	174.6
92.5°	103.8	115.5	125.9	135.7	140.6	143.8	149.9	155.2	157.4	158.4
95°	86.7	97.4	107.4	115.5	120.5	123.4	129.3	133.1	135.7	136.3
97.5°	68.0	76.3	84.3	91.5	95.2	97.6	102.4	105.8	109.6	108.6
100°	51.2	55.8	61.6	66.2	69.0	70.6	74.1	76.3	78.6	79.8
102.5°	37.1	40.6	43.2	45.6	47.5	49.1	51.8	52.6	53.3	54.9
105°	27.2	29.0	30.4	32.2	33.0	33.4	34.6	35.4	35.4	36.8
107.5°	20.5	21.3	21.9	22.9	22.9	23.4	23.4	23.5	24.0	23.7
110°	16.2	16.3	16.5	16.3	16.5	16.3	16.2	16.0	16.0	15.8



TEST NUMBER: P397291

CATALOG NUMBER: 4VRVT2-LD5-8-DR100-W-UNV-LR63-CD1-WL-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	13.4	13.3	13.1	12.6	12.5	12.2	12.0	11.7	11.4	11.4
115°	11.5	11.4	11.0	10.6	10.2	9.9	9.8	9.3	9.0	8.8
117.5°	10.2	10.1	9.8	9.3	9.1	8.8	8.5	8.0	7.7	7.5
120°	9.3	9.3	9.0	8.5	8.3	8.2	7.7	7.4	7.0	6.9
122.5°	8.3	8.3	8.2	7.8	7.7	7.5	7.2	6.9	6.6	6.6
125°	7.2	7.4	7.4	7.2	7.0	6.9	6.7	6.4	6.2	6.1
127.5°	6.2	6.4	6.6	6.6	6.4	6.4	6.1	5.9	5.8	5.8
130°	5.1	5.6	5.8	5.8	5.8	5.8	5.6	5.4	5.3	5.3
132.5°	4.2	4.5	4.8	5.0	5.0	5.0	4.8	4.8	4.6	4.6
135°	3.2	3.5	3.8	4.0	4.2	4.2	4.2	4.2	4.0	4.0
137.5°	2.4	2.7	3.0	3.2	3.2	3.4	3.4	3.4	3.2	3.2
140°	1.4	1.9	2.1	2.2	2.4	2.4	2.6	2.6	2.4	2.4
142.5°	0.8	1.1	1.3	1.4	1.6	1.6	1.8	1.6	1.6	1.6
145°	0.2	0.3	0.6	0.8	0.8	0.8	0.8	1.0	0.8	0.8
147.5°	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	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)