

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: P397285

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P397285
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1710-355-14)
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-DR-W-UNV-LR63-CD1-WL-U
Description:
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1218.9 lumens
Efficiency: N/A
Efficacy: 8.0 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.59 / 1.58
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 4.17' x H: 0.17')
CIE Type: Direct

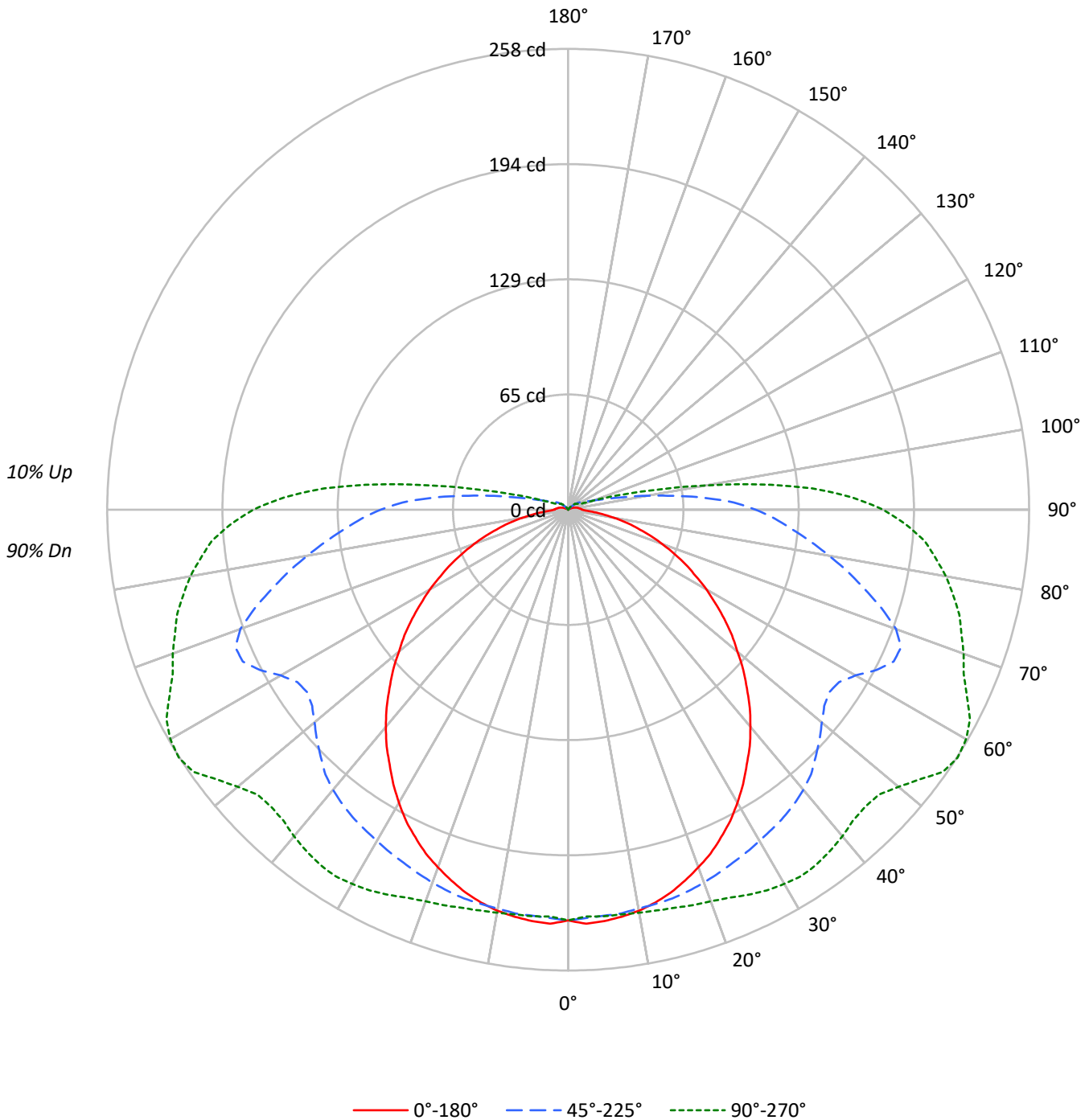
Input Watts (W): 151.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1188	1188	1188
5°	1195	1157	1152
10°	1188	1136	1135
15°	1174	1126	1133
20°	1155	1114	1144
25°	1133	1107	1174
30°	1104	1108	1210
35°	1069	1119	1240
40°	1036	1131	1258
45°	993	1132	1288
50°	949	1133	1388
55°	908	1166	1562
60°	864	1316	1684
65°	816	1569	1754
70°	759	1709	1857
75°	698	1727	2016
80°	626	1766	2210
85°	553	1856	2467



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	21.9	1.8
10°-20°	64.0	5.2
20°-30°	101.5	8.3
30°-40°	131.3	10.8
40°-50°	148.7	12.2
50°-60°	163.2	13.4
60°-70°	173.2	14.2
70°-80°	162.4	13.3
80°-90°	131.3	10.8
90°-100°	81.4	6.7
100°-110°	25.5	2.1
110°-120°	8.1	0.7
120°-130°	4.2	0.3
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°	187.3	15.4
0°-40°	318.7	26.1
0°-60°	630.6	51.7
0°-90°	1097.6	90.0
90°-120°	115.0	9.4
90°-150°	121.3	10.0
90°-180°	121.0	9.9
0°-180°	1218.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	230	230	230	230	230	
5°	231	230	228	229	228	22
15°	222	223	225	230	231	63
25°	202	207	218	233	238	93
35°	174	185	210	235	242	109
45°	141	159	196	224	235	109
55°	107	130	178	238	256	95
65°	72	103	201	240	246	72
75°	40	101	172	210	227	43
85°	14	68	126	181	200	14
90°	8	51	105	157	176	4
95°	7	35	76	120	137	5
105°	4	12	24	32	34	5
115°	2	6	11	9	8	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°	229.9	229.9	229.9	229.9	229.9	229.9	229.9	229.9	229.9	229.9	229.9
2.5°	232.0	231.7	231.2	231.1	230.9	230.9	231.1	230.7	230.3	229.5	228.8
5°	231.2	230.9	230.4	230.1	230.4	230.4	230.6	230.3	229.6	229.0	228.2
7.5°	229.8	229.5	229.0	229.0	228.8	229.0	229.0	229.0	228.7	228.3	227.9
10°	228.0	227.5	227.4	227.2	227.4	227.7	227.7	227.9	227.5	227.1	226.7
12.5°	225.3	225.1	224.7	224.8	225.0	225.5	225.8	226.1	226.3	226.1	226.1
15°	221.9	221.6	221.5	221.8	222.7	222.9	223.2	224.0	224.3	225.0	225.3
17.5°	217.6	217.6	217.6	218.3	219.4	219.7	220.3	221.1	221.9	222.7	223.9
20°	213.1	213.1	213.1	213.9	215.2	216.2	216.8	217.9	219.2	221.0	222.1
22.5°	208.3	208.0	208.0	208.8	210.7	211.2	212.5	214.7	216.7	218.7	220.2
25°	202.4	202.1	202.6	203.7	205.9	207.0	208.5	211.1	213.0	215.9	218.1
27.5°	196.5	196.0	196.6	198.1	201.1	202.4	204.2	207.2	209.4	212.7	216.2
30°	189.4	189.4	190.2	192.2	195.2	197.0	198.9	202.6	205.6	209.6	214.1
32.5°	182.2	181.9	183.4	185.4	189.4	191.5	193.6	197.8	201.6	206.7	212.2
35°	174.2	174.4	175.8	178.6	183.4	185.4	187.7	192.5	197.6	203.8	210.2
37.5°	166.9	166.6	168.5	172.2	176.8	179.2	181.6	187.5	193.3	200.3	207.7
40°	158.7	158.9	160.6	164.8	169.6	172.3	175.0	181.9	188.8	196.3	204.8
42.5°	150.4	150.6	153.0	157.4	162.7	165.8	169.1	176.3	184.2	192.5	201.1
45°	141.4	141.8	144.6	149.9	155.2	159.0	162.7	170.6	179.4	187.7	195.8
47.5°	133.0	133.4	137.1	141.9	148.0	152.0	156.0	165.0	173.6	182.1	190.7
50°	123.7	125.1	128.3	133.8	140.6	144.5	149.0	158.2	167.4	176.5	185.3
52.5°	115.5	116.2	120.2	125.4	132.8	137.3	141.4	151.4	161.0	170.4	180.6
55°	106.6	107.5	111.8	117.3	125.0	129.9	134.6	144.5	155.0	165.6	178.2
57.5°	97.8	98.9	103.5	109.1	117.6	122.1	127.5	137.9	149.4	163.0	179.7
60°	89.4	90.2	94.6	101.0	109.8	114.9	120.5	132.5	146.6	164.8	185.6
62.5°	80.5	81.9	85.9	93.1	103.2	108.5	114.9	129.0	147.7	170.6	194.4
65°	72.5	73.6	78.1	86.1	96.8	103.4	110.7	129.1	153.0	178.2	201.0
67.5°	64.0	65.9	70.6	79.4	92.0	99.8	109.3	132.5	159.5	183.8	201.6
70°	55.8	57.8	63.7	74.1	89.1	99.0	110.4	137.6	163.7	183.0	195.2
72.5°	48.2	50.1	57.6	69.8	88.2	99.8	112.8	140.0	161.3	174.2	184.0
75°	40.2	42.9	52.2	66.9	88.0	100.6	113.8	136.0	151.5	162.4	171.7
77.5°	33.3	36.6	47.4	64.2	86.7	98.2	108.3	125.6	138.9	149.6	160.3
80°	25.8	30.4	43.0	60.6	80.8	89.9	98.2	112.3	125.4	136.8	148.2
82.5°	19.2	25.0	37.9	54.9	71.4	79.0	86.7	99.8	112.2	124.0	136.8
85°	13.6	19.5	32.5	47.0	61.3	68.0	74.9	87.7	99.8	112.5	125.8
87.5°	9.6	15.2	26.7	39.7	52.5	58.1	64.5	76.6	89.4	101.9	115.8
90°	7.7	12.2	22.2	33.4	44.8	50.7	56.5	68.2	79.8	92.0	105.0
92.5°	7.4	10.1	18.4	28.2	38.1	43.2	48.3	58.9	69.6	80.5	92.8
95°	6.7	8.2	14.2	22.6	30.9	35.2	39.7	48.2	57.4	66.6	76.5
97.5°	6.2	6.7	11.0	17.6	24.3	27.4	30.7	37.9	44.5	51.5	59.2
100°	5.6	5.8	8.3	13.1	18.6	21.3	24.2	29.0	33.9	39.5	44.8
102.5°	5.1	5.1	6.6	9.9	13.9	16.0	18.1	22.2	25.8	29.4	32.5
105°	4.5	4.5	5.3	7.5	10.7	12.5	14.1	17.0	19.8	22.2	24.0
107.5°	4.0	3.8	4.2	6.1	8.6	9.9	11.4	13.6	15.7	17.3	18.7
110°	3.4	3.4	3.4	5.0	7.0	8.2	9.3	11.2	13.0	14.1	14.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	2.7	2.7	2.7	4.0	5.8	6.9	7.8	9.6	11.0	12.0	12.5
115°	2.2	2.2	2.1	3.0	4.8	5.8	6.6	8.3	9.6	10.4	10.9
117.5°	1.8	1.8	1.8	2.2	3.8	4.6	5.6	7.0	8.5	9.3	9.8
120°	1.4	1.4	1.3	1.4	2.9	3.7	4.5	6.1	7.4	8.2	8.6
122.5°	1.1	1.1	1.0	1.0	2.1	2.7	3.5	5.0	6.2	7.0	7.7
125°	0.8	0.8	0.8	0.6	1.3	1.9	2.7	4.0	5.1	6.1	6.7
127.5°	0.6	0.6	0.6	0.5	0.6	1.1	1.8	3.0	4.2	5.0	5.6
130°	0.5	0.5	0.5	0.3	0.3	0.6	1.1	2.1	3.0	3.8	4.6
132.5°	0.5	0.5	0.3	0.3	0.2	0.2	0.5	1.3	2.2	2.9	3.5
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	0.8	1.3	1.8
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°	229.9	229.9	229.9	229.9	229.9	229.9	229.9	229.9	229.9	229.9
2.5°	228.5	228.7	229.0	229.0	228.8	228.8	228.7	228.5	228.2	227.9
5°	228.2	228.5	229.0	229.1	229.1	229.0	229.0	229.0	228.8	228.5
7.5°	228.0	228.5	229.0	229.1	229.3	229.3	229.1	229.0	228.7	228.5
10°	227.2	228.2	228.7	229.1	229.5	229.5	229.6	229.6	229.3	229.1
12.5°	226.9	228.0	228.8	229.5	229.9	229.9	230.3	230.6	229.6	229.8
15°	226.3	227.9	229.1	229.9	230.3	230.4	230.7	230.9	230.6	230.7
17.5°	225.5	227.5	228.8	229.9	230.1	230.6	231.5	232.0	232.0	232.2
20°	224.3	226.7	228.5	230.3	230.9	231.4	232.3	233.3	233.0	233.3
22.5°	223.1	225.8	228.3	230.4	231.2	232.2	233.8	234.7	235.2	235.1
25°	221.9	225.5	228.5	231.7	232.7	233.9	235.9	237.1	237.6	237.9
27.5°	220.7	225.0	229.1	232.7	234.3	235.9	238.3	239.7	240.2	240.3
30°	219.7	225.1	229.5	233.6	235.4	237.1	239.7	241.1	241.8	241.9
32.5°	218.7	224.5	229.5	233.9	235.7	237.3	240.3	242.6	243.1	243.1
35°	217.5	223.2	228.8	233.5	235.2	237.0	240.3	242.1	242.6	242.4
37.5°	215.2	221.6	227.4	231.5	233.3	234.9	238.3	240.2	241.0	240.8
40°	212.0	218.6	224.2	228.8	230.4	232.2	235.7	237.3	238.4	238.7
42.5°	208.2	214.7	220.3	225.0	227.1	229.1	232.7	234.4	235.7	236.0
45°	203.4	210.1	216.2	221.6	224.0	226.1	230.4	233.5	234.7	235.1
47.5°	198.4	206.1	213.0	219.5	222.6	225.8	230.6	234.4	236.2	236.0
50°	193.8	203.0	211.7	220.3	224.3	228.0	234.1	238.3	240.3	241.3
52.5°	191.5	203.0	214.6	224.8	229.5	233.5	240.7	245.5	247.9	247.9
55°	192.6	207.5	220.8	232.7	237.6	241.9	248.2	252.8	254.9	256.0
57.5°	197.8	215.1	229.3	240.5	245.1	248.8	254.6	256.8	259.1	258.4
60°	206.4	222.9	235.5	245.3	248.5	250.4	254.1	256.0	257.1	257.1
62.5°	213.6	228.5	237.3	243.1	245.9	247.5	250.6	252.0	253.5	253.5
65°	216.8	226.6	233.3	238.4	239.7	241.6	243.7	245.1	246.4	246.1
67.5°	213.0	220.0	225.3	229.9	231.5	233.5	236.0	238.1	239.2	239.5
70°	203.4	210.1	215.1	220.8	223.2	225.6	230.1	233.1	234.9	235.5
72.5°	192.2	199.2	206.9	213.5	217.1	219.9	224.8	228.0	230.4	230.7
75°	180.6	189.4	198.2	206.6	210.2	214.1	219.7	223.4	226.1	226.6
77.5°	170.2	180.3	191.2	200.2	204.6	208.0	214.1	217.6	220.5	220.7
80°	159.8	171.7	182.7	192.0	196.5	200.8	206.6	211.2	213.6	214.7
82.5°	149.8	161.9	173.8	184.5	188.5	192.6	199.2	203.7	206.4	207.4
85°	139.8	153.1	165.4	175.8	180.8	185.0	192.0	196.2	199.4	200.2
87.5°	129.4	142.4	154.7	165.0	170.1	173.8	181.0	185.3	188.5	189.1
90°	118.2	130.4	142.4	152.0	156.8	160.8	168.5	172.5	174.9	176.3
92.5°	104.3	116.0	127.0	136.5	141.4	144.3	151.5	155.8	158.4	159.0
95°	87.0	97.0	106.9	115.4	119.7	124.0	128.8	133.0	136.5	137.0
97.5°	67.2	75.5	83.7	92.0	94.7	97.3	101.3	105.6	108.8	108.6
100°	50.1	54.9	60.6	65.0	67.0	69.9	73.8	76.3	76.6	77.6
102.5°	36.0	39.4	41.8	45.0	45.9	48.5	49.8	51.5	51.8	52.6
105°	26.1	27.8	29.6	30.9	31.7	31.8	32.8	34.1	34.4	34.4
107.5°	19.5	20.5	20.6	21.1	21.4	21.6	22.2	22.4	22.6	22.6
110°	15.4	15.5	15.2	15.2	15.0	15.0	14.9	14.7	14.6	14.6



TEST NUMBER: P397285

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

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	12.5	12.5	12.2	11.7	11.4	11.2	10.7	10.4	10.2	10.2
115°	10.9	10.6	10.2	9.8	9.4	9.3	8.8	8.5	8.2	8.0
117.5°	9.8	9.6	9.1	8.8	8.5	8.3	7.8	7.4	7.2	7.0
120°	8.8	8.6	8.5	8.0	7.8	7.7	7.2	6.9	6.6	6.6
122.5°	7.8	7.8	7.7	7.4	7.2	7.0	6.7	6.4	6.2	6.1
125°	7.0	7.0	7.0	6.9	6.7	6.6	6.2	6.1	5.9	5.8
127.5°	5.9	6.2	6.2	6.2	6.1	6.1	5.9	5.6	5.4	5.4
130°	5.0	5.3	5.4	5.4	5.4	5.4	5.3	5.1	5.0	5.0
132.5°	4.0	4.5	4.6	4.8	4.8	4.8	4.6	4.6	4.5	4.5
135°	3.2	3.5	3.8	4.0	4.0	4.0	4.0	4.0	3.8	3.8
137.5°	2.4	2.6	2.9	3.0	3.2	3.2	3.2	3.2	3.2	3.2
140°	1.4	1.8	2.1	2.2	2.4	2.4	2.4	2.4	2.4	2.4
142.5°	0.8	1.0	1.3	1.4	1.6	1.6	1.6	1.6	1.6	1.6
145°	0.2	0.3	0.6	0.8	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	0.0
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)