

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: P397457

Luminaire Tested: **VRVT4S-LD5-9-DRF-LA59-CD1-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P397457  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1801-511-5)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: VRVT4S-LD5-9-DRF-LA59-CD1-U  
Description:  
Light Source: -  
Ballast/Driver: -

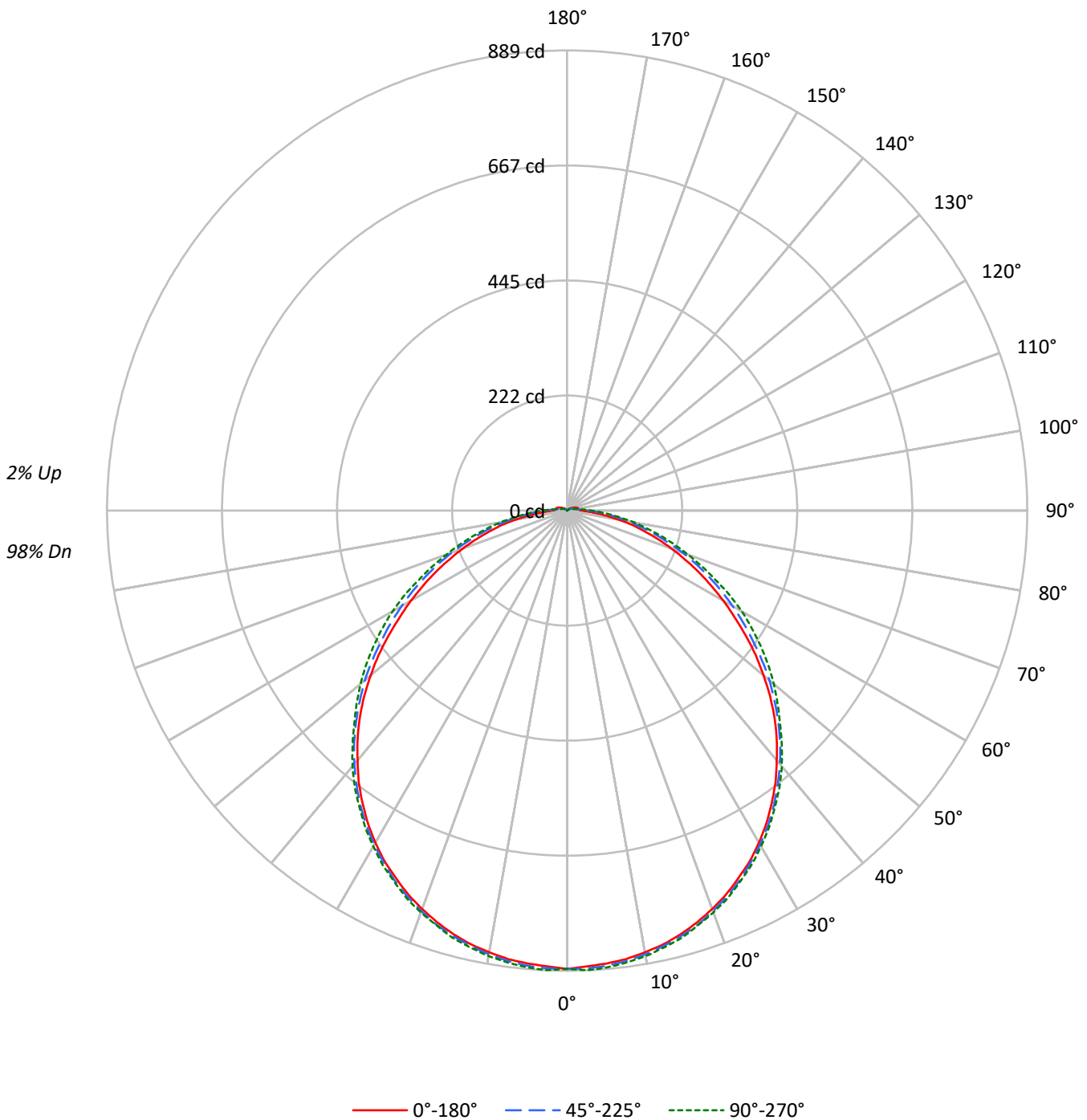
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2582.1 lumens  
Efficiency: N/A  
Efficacy: 27.4 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.26 / 1.36  
Luminous Opening: Rectangular w/ Sides (W: 1.08' x L: 2.08' x H: 0.25')  
CIE Type: Direct  
  
Input Watts (W): 94.1  
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	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	108	103	98	94	105	100	96	92	95	92	89	91	88	86	87	85	83	81
2	98	89	82	77	95	87	81	75	83	78	73	80	75	71	76	73	69	67
3	89	78	70	64	86	77	69	63	73	67	61	70	65	60	67	63	59	56
4	82	69	61	54	79	68	60	53	65	58	52	63	56	51	60	55	50	48
5	75	62	53	46	73	61	52	46	58	51	45	56	50	45	54	48	44	42
6	69	56	47	40	67	55	46	40	53	45	40	51	44	39	49	43	39	36
7	64	51	42	36	62	50	41	36	48	41	35	46	40	35	45	39	34	32
8	60	46	38	32	58	45	37	32	44	37	31	43	36	31	41	35	31	29
9	56	42	34	29	54	42	34	29	40	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	37	30	26	36	30	25	35	29	25	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4226	4226	4226
5°	4163	4138	4159
10°	4111	4041	4069
15°	4057	3942	3976
20°	3986	3835	3871
25°	3904	3721	3759
30°	3818	3592	3641
35°	3704	3453	3507
40°	3565	3297	3366
45°	3415	3117	3188
50°	3217	2924	3034
55°	2992	2689	2855
60°	2754	2462	2657
65°	2511	2226	2383
70°	2251	1960	2114
75°	1976	1669	1843
80°	1646	1370	1548
85°	1221	1065	1219



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	83.8	3.2
10°-20°	240.0	9.3
20°-30°	363.0	14.1
30°-40°	434.8	16.8
40°-50°	444.1	17.2
50°-60°	393.2	15.2
60°-70°	298.0	11.5
70°-80°	183.7	7.1
80°-90°	81.3	3.1
90°-100°	29.2	1.1
100°-110°	15.6	0.6
110°-120°	9.3	0.4
120°-130°	4.3	0.2
130°-140°	1.3	0.1
140°-150°	0.3	0.0
150°-160°	0.1	0.0
160°-170°	0.1	0.0
170°-180°	0.0	0.0
0°-30°	686.9	26.6
0°-40°	1121.6	43.4
0°-60°	1958.8	75.9
0°-90°	2521.8	97.7
90°-120°	54.2	2.1
90°-150°	60.1	2.3
90°-180°	60.0	2.3
0°-180°	2582.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	886	886	886	886	886	
5°	878	880	883	885	886	83
15°	848	848	851	853	855	239
25°	783	785	788	791	791	361
35°	689	692	696	701	699	431
45°	567	570	576	583	582	436
55°	421	430	438	452	456	377
65°	280	287	302	314	316	277
75°	155	162	174	184	186	165
85°	53	63	75	81	81	54
90°	28	35	43	47	47	16
95°	23	23	25	28	27	19
105°	20	17	13	12	12	21
115°	13	11	8	7	8	13
125°	7	6	4	4	4	7
135°	3	3	1	1	1	3
145°	1	1	0	0	0	1
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°	22.5°	45°	67.5°	90°
0°	885.6	885.6	885.6	885.6	885.6
2.5°	881.2	882.2	885.0	887.8	888.7
5°	878.2	880.0	882.6	885.0	885.9
7.5°	873.9	875.3	877.5	880.0	880.7
10°	866.5	868.1	870.5	872.8	874.0
12.5°	858.4	859.1	861.3	863.9	864.6
15°	847.6	848.3	851.1	853.0	854.7
17.5°	834.1	834.8	839.0	839.9	840.1
20°	819.2	820.2	823.5	825.1	826.3
22.5°	802.8	804.2	806.8	808.7	810.5
25°	783.1	785.4	788.5	790.9	790.9
27.5°	764.1	764.5	767.4	770.0	771.8
30°	740.9	741.3	745.3	748.3	749.0
32.5°	716.4	717.8	722.0	725.1	726.0
35°	689.4	691.6	695.8	700.7	699.3
37.5°	661.3	662.5	668.5	672.5	674.0
40°	630.0	633.4	639.5	643.9	645.1
42.5°	599.3	602.4	609.1	613.3	613.8
45°	566.9	570.0	576.5	583.1	581.5
47.5°	531.9	536.8	543.2	550.2	551.4
50°	495.3	502.4	510.3	516.0	521.2
52.5°	459.4	465.2	474.2	484.5	489.4
55°	421.3	429.6	437.8	451.6	456.3
57.5°	383.5	393.6	403.6	418.8	423.0
60°	348.6	356.6	368.8	383.6	389.7
62.5°	313.1	322.3	335.9	349.5	353.7
65°	279.6	286.9	302.1	313.8	315.5
67.5°	246.0	254.7	269.0	281.2	281.9
70°	214.6	222.5	236.2	246.5	247.6
72.5°	184.3	192.3	204.0	214.5	216.6
75°	155.2	162.5	174.4	183.6	186.1
77.5°	129.4	134.8	145.3	155.7	156.6
80°	100.7	107.0	120.0	128.7	130.1
82.5°	76.7	84.1	95.8	103.7	104.0
85°	52.9	63.4	74.6	81.0	81.0
87.5°	36.6	47.6	57.5	61.9	62.4
90°	27.9	35.0	43.2	47.0	46.9
92.5°	24.2	27.5	32.8	35.9	35.4
95°	22.8	22.8	25.1	27.5	27.4
97.5°	22.1	20.7	19.9	21.4	21.3
100°	22.0	19.5	16.4	17.1	17.2
102.5°	21.4	18.5	14.3	14.1	14.3
105°	20.4	17.4	12.9	11.8	12.0
107.5°	19.0	16.0	11.8	10.4	10.6
110°	17.2	14.3	10.8	9.4	9.4



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	15.5	12.5	9.7	8.4	8.5
115°	13.4	10.8	8.5	7.3	7.7
117.5°	11.7	9.4	7.5	6.3	6.8
120°	9.9	8.2	6.1	5.2	5.9
122.5°	8.4	7.0	4.9	4.4	5.0
125°	7.1	5.7	3.8	3.5	4.2
127.5°	5.9	4.9	2.8	2.8	3.3
130°	4.9	4.0	1.7	2.1	2.6
132.5°	4.0	3.3	1.2	1.4	1.9
135°	3.1	2.6	0.9	0.9	1.4
137.5°	2.6	1.9	0.5	0.3	0.7
140°	1.9	1.4	0.3	0.0	0.2
142.5°	1.6	1.0	0.2	0.0	0.0
145°	1.0	0.7	0.2	0.0	0.0
147.5°	0.7	0.3	0.2	0.2	0.0
150°	0.3	0.3	0.2	0.2	0.0
152.5°	0.3	0.3	0.2	0.2	0.0
155°	0.3	0.3	0.3	0.2	0.0
157.5°	0.3	0.3	0.3	0.2	0.0
160°	0.3	0.3	0.3	0.2	0.2
162.5°	0.5	0.5	0.3	0.2	0.2
165°	0.5	0.5	0.3	0.2	0.2
167.5°	0.5	0.5	0.3	0.3	0.2
170°	0.5	0.5	0.3	0.2	0.2
172.5°	0.5	0.5	0.3	0.3	0.2
175°	0.5	0.5	0.5	0.3	0.2
177.5°	0.5	0.5	0.5	0.3	0.2
180°	0.5	0.5	0.5	0.5	0.5

(END OF REPORT)