

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: io LED

Report Number: P315360

Luminaire Tested: **LDA2B10FL9727D010 PINW1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P315360  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1808-908-15)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDA2B10FL9727D010 PINW1MMS  
Description: PORTFOLIO 2IN ADJ 1000 LUMEN LED LUMINAIRE WITH FLOOD OPTIC AND 2in Adj PinHole, White oculus, matte metallic silver finish  
Light Source: -  
Ballast/Driver: -

**Summary**

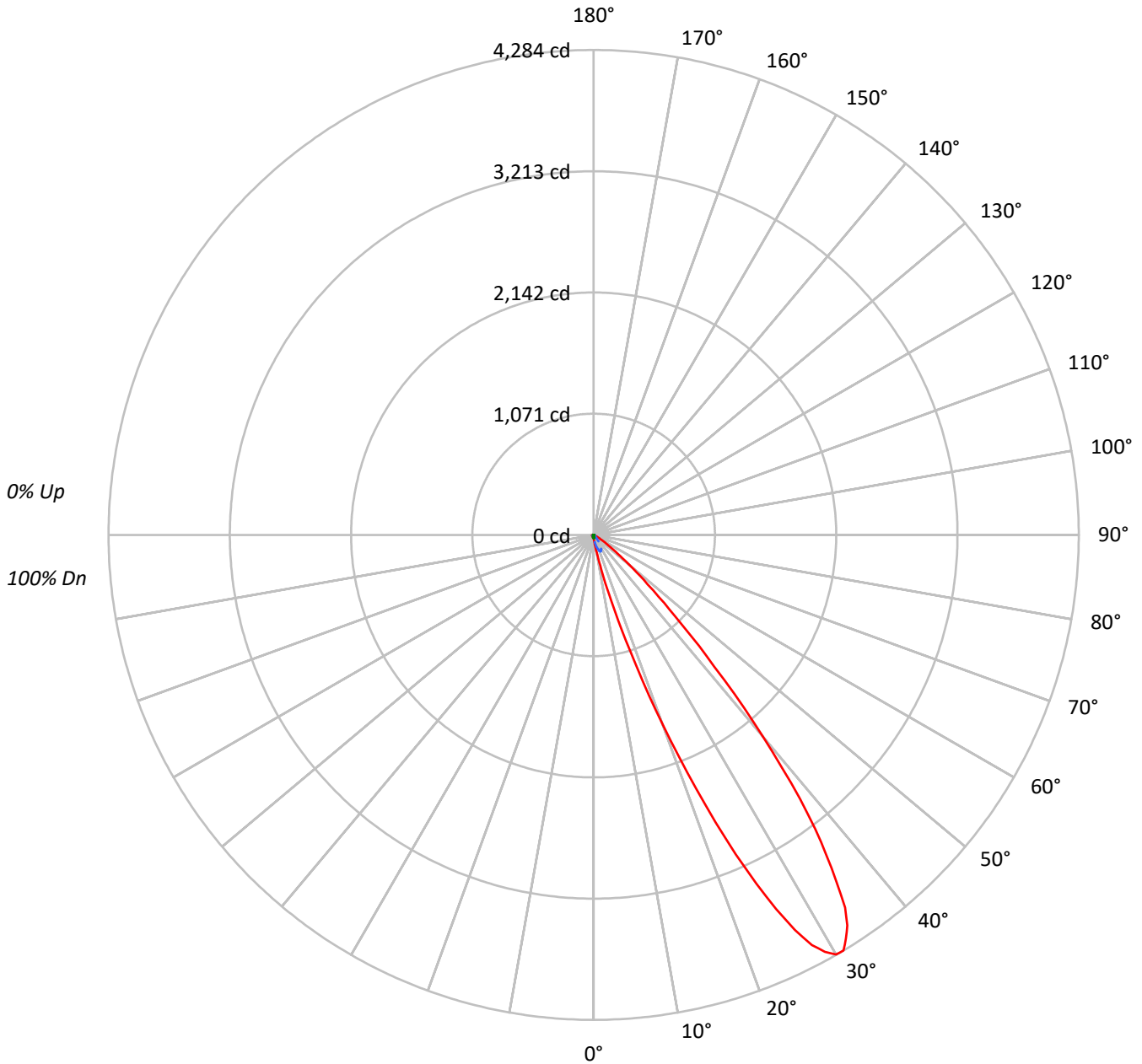
Lumens per Lamp: N/A  
Luminaire Lumens: 625.0 lumens  
Efficiency: N/A  
Efficacy: 62.5 lumens/watt  
Spacing Criteria (0/90/45): 2.92 / 0.6 / 1.34  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

Input Watts (W): 10  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	112	108	105	102	109	106	103	101	102	100	97	98	96	95	95	93	92	90																			
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80																			
3	97	89	83	77	95	87	82	77	85	80	75	82	78	74	80	76	73	71																			
4	90	81	74	68	88	79	73	68	77	71	67	75	70	66	73	69	65	63																			
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56																			
6	78	67	59	53	76	66	58	53	64	58	53	62	57	52	61	56	52	50																			
7	72	61	53	48	71	60	53	47	58	52	47	57	51	47	56	51	47	45																			
8	67	55	48	43	66	55	47	42	53	47	42	52	46	42	51	46	42	40																			
9	63	51	43	38	61	50	43	38	49	42	38	48	42	38	47	41	37	36																			
10	59	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32																			

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

	0°	90°	180°
0°	13123	13123	13123
5°	29319	13570	10598
10°	78502	8466	3006
15°	309064	10930	7100
20°	934964	6668	5513
25°	1850241	5716	4899
30°	2437967	3418	5982
35°	2249589	4939	7227
40°	1498419	4315	9918
45°	706789	1535	4186
50°	311619	5757	12971
55°	126700	0	13246
60°	52494	3651	11841
65°	17978	4319	8755
70°	15146	8655	22214
75°	8578	12772	29356
80°	0	6251	12785
85°	8491	8491	42455



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	3.6	0.6
10°-20°	38.2	6.1
20°-30°	196.6	31.5
30°-40°	251.8	40.3
40°-50°	96.8	15.5
50°-60°	19.7	3.1
60°-70°	6.7	1.1
70°-80°	7.7	1.2
80°-90°	3.9	0.6
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	238.5	38.2
0°-40°	490.2	78.4
0°-60°	606.7	97.1
0°-90°	625.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	625.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	27	27	27	27	27	
5°	59	49	27	20	21	9
15°	605	118	21	13	14	232
25°	3399	154	10	8	9	1551
35°	3735	80	8	7	12	2232
45°	1013	20	2	2	6	871
55°	147	4	0	3	15	153
65°	15	5	4	5	8	22
75°	4	8	7	11	15	6
85°	2	5	2	6	8	1
90°	0	0	0	0	0	



TEST NUMBER: P315360

CATALOG NUMBER: LDA2B10FL972D010 PINW1MMS

**CANDELA DISTRIBUTION (FULL):**

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	22.5°	45°	67.5°
0°	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6
2.5°	39.4	34.1	35.6	30.4	33.4	34.1	28.1	37.1	33.4	34.9	30.4
5°	59.2	63.7	58.5	56.2	54.7	56.2	54.7	57.0	55.5	48.7	34.9
7.5°	99.0	90.4	90.4	87.4	89.6	88.9	85.1	87.4	82.1	59.2	40.1
10°	156.7	148.1	147.3	145.1	144.3	137.6	133.8	130.8	120.0	70.1	36.4
12.5°	307.0	299.5	294.3	281.2	272.2	266.9	247.1	236.6	205.4	104.2	46.5
15°	605.1	566.5	576.2	533.9	502.7	482.1	440.9	404.5	329.9	117.7	45.0
17.5°	1070.7	1033.2	1008.1	962.0	898.6	843.9	762.6	681.9	530.1	133.8	42.0
20°	1780.8	1721.5	1669.1	1590.0	1468.1	1362.8	1219.6	1065.5	789.2	153.0	37.9
21°	2092.7	2047.0	1986.2	1882.0	1739.9	1599.0	1427.3	1241.7	899.4	154.5	34.1
22°	2418.1	2388.5	2308.6	2189.1	2023.3	1855.4	1644.7	1440.7	1016.7	156.7	32.6
23°	2757.0	2725.9	2635.6	2498.7	2312.4	2109.2	1863.6	1621.8	1127.0	159.7	31.9
24°	3088.8	3054.3	2953.5	2800.5	2589.1	2355.5	2078.1	1797.7	1229.7	158.2	33.4
25°	3398.9	3350.9	3244.4	3074.9	2842.9	2580.8	2274.9	1949.5	1320.0	153.7	28.1
26°	3675.5	3620.8	3506.1	3321.3	3067.4	2783.6	2439.1	2090.5	1386.8	150.0	26.6
27°	3915.9	3846.9	3724.3	3530.5	3258.3	2944.9	2579.3	2200.7	1445.6	144.3	21.4
28°	4102.9	4023.8	3899.4	3694.7	3407.1	3070.4	2682.4	2269.7	1480.5	145.1	24.4
29°	4210.9	4150.2	4014.8	3800.4	3497.8	3142.8	2736.8	2307.9	1487.2	133.8	22.9
30°	4279.5	4211.6	4072.6	3848.4	3532.7	3159.3	2743.5	2300.8	1467.4	125.6	21.4
31°	4284.0	4213.1	4071.8	3839.7	3519.2	3131.9	2706.0	2258.4	1424.3	117.0	17.6
32°	4203.4	4148.7	4009.6	3770.0	3446.1	3056.6	2625.4	2186.8	1356.4	99.7	12.0
33°	4112.3	4045.9	3907.6	3665.8	3344.9	2953.5	2509.2	2090.5	1285.9	98.2	15.4
34°	3970.6	3890.7	3754.6	3516.6	3204.3	2806.5	2370.9	1961.9	1195.9	89.6	14.6
35°	3735.1	3692.4	3554.8	3319.8	3016.5	2630.3	2204.4	1820.5	1100.3	79.9	10.5
36°	3499.3	3446.8	3316.8	3089.6	2802.0	2420.4	2016.6	1659.3	992.4	67.9	8.2
37°	3250.0	3181.4	3062.9	2840.6	2540.3	2211.2	1836.3	1505.6	904.3	71.6	11.2
38°	2959.5	2936.6	2780.6	2573.7	2296.3	1985.5	1642.4	1343.6	806.8	66.7	18.4
39°	2640.1	2624.7	2469.1	2280.5	2031.6	1745.9	1444.1	1175.7	709.3	48.7	6.0
40°	2326.6	2282.8	2172.6	2001.2	1784.5	1527.7	1266.8	1032.5	625.0	48.0	12.0
42.5°	1576.8	1590.7	1471.5	1348.9	1209.8	1035.5	861.5	707.8	437.1	35.6	7.5
45°	1013.0	1016.0	962.7	867.5	776.4	667.7	553.0	460.8	281.9	19.9	2.2
47.5°	644.8	643.3	609.2	554.5	494.9	431.1	359.5	301.0	182.6	15.4	6.7
50°	406.0	404.5	383.1	348.3	314.9	272.9	227.9	193.8	115.5	18.4	7.5
51°	329.9	332.2	314.2	278.9	253.1	212.9	181.8	154.5	90.4	12.7	6.7
52°	272.2	270.7	259.4	229.8	208.4	174.0	148.1	126.3	75.4	11.2	3.0
53°	218.9	219.7	208.4	185.6	165.0	139.1	118.5	98.2	54.0	8.2	2.2
54°	173.2	171.7	168.0	145.8	133.1	110.2	92.6	75.4	46.5	1.5	0.0
55°	147.3	145.1	139.8	120.7	108.0	91.1	73.9	64.5	40.1	3.7	0.0
57.5°	85.1	85.1	82.1	71.6	63.0	56.2	45.0	42.0	20.6	3.7	0.0
60°	53.2	46.5	51.7	44.2	34.9	31.1	25.9	23.6	17.6	6.7	1.5
61°	44.2	35.6	34.9	32.6	30.4	20.6	17.6	19.1	11.2	2.2	1.5
62°	31.9	28.1	30.4	25.9	22.9	16.1	14.6	13.9	6.7	3.0	3.7
63°	28.9	25.9	25.1	19.1	16.9	16.9	12.7	12.0	8.2	6.0	3.0



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**CANDELA DISTRIBUTION (continued):**

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	22.5°	45°	67.5°
66°	15.4	12.7	11.2	12.7	7.5	9.7	3.7	10.5	2.2	3.7	2.2
67.5°	12.0	7.5	6.7	8.2	5.2	3.7	5.2	6.7	2.2	3.7	5.2
70°	10.5	5.2	7.5	6.7	5.2	6.7	7.5	7.5	2.2	7.5	6.7
72.5°	10.5	6.7	3.7	3.0	3.0	3.0	3.0	3.0	4.5	10.5	8.2
75°	4.5	4.5	2.2	5.2	3.0	4.5	3.0	7.5	3.0	8.2	6.7
77.5°	3.0	3.7	0.0	3.7	0.0	0.0	2.2	5.2	2.2	6.0	7.5
80°	0.0	3.7	2.2	0.0	1.5	2.2	0.0	0.7	1.5	6.7	3.0
82.5°	1.5	2.2	3.0	1.5	1.5	0.0	0.0	0.0	0.0	4.5	3.7
85°	1.5	3.0	0.0	0.7	3.0	1.5	0.7	3.7	1.5	5.2	6.0
87.5°	0.0	1.5	1.5	0.0	2.2	0.0	2.2	1.5	0.0	4.5	2.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P315360

CATALOG NUMBER: LDA2B10FL9727D010 PINW1MMS

**CANDELA DISTRIBUTION (continued):**

	90°	112.5°	135°	157.5°	180°
0°	26.6	26.6	26.6	26.6	26.6
2.5°	22.9	20.6	17.6	22.1	18.4
5°	27.4	25.1	19.9	23.6	21.4
7.5°	28.1	23.6	20.6	19.1	21.4
10°	16.9	11.2	8.2	11.2	6.0
12.5°	28.1	19.9	18.4	20.6	22.9
15°	21.4	12.7	12.7	9.7	13.9
17.5°	12.0	9.7	9.0	12.0	13.9
20°	12.7	8.2	6.7	11.2	10.5
21°	11.2	3.0	9.0	9.0	10.5
22°	16.1	7.5	9.0	14.6	15.4
23°	10.5	8.2	6.7	9.0	12.0
24°	15.4	9.0	8.2	11.2	16.9
25°	10.5	8.2	8.2	10.5	9.0
26°	6.0	8.2	6.0	9.0	7.5
27°	4.5	7.5	4.5	6.7	9.0
28°	9.7	12.0	11.2	12.0	10.5
29°	10.5	12.7	10.5	16.1	12.0
30°	6.0	11.2	5.2	12.0	10.5
31°	6.0	8.2	3.7	12.0	10.5
32°	0.7	4.5	2.2	4.5	4.5
33°	4.5	5.2	6.0	9.7	7.5
34°	7.5	9.0	6.0	10.5	9.0
35°	8.2	4.5	6.7	11.2	12.0
36°	2.2	2.2	3.7	9.0	3.0
37°	4.5	12.7	9.0	15.4	9.0
38°	7.5	15.4	14.6	19.1	15.4
39°	1.5	4.5	5.2	10.5	10.5
40°	6.7	11.2	8.2	15.4	15.4
42.5°	5.2	8.2	6.0	12.7	10.5
45°	2.2	2.2	1.5	8.2	6.0
47.5°	3.7	3.7	6.7	10.5	18.4
50°	7.5	7.5	9.7	17.6	16.9
51°	4.5	3.7	5.2	12.0	15.4
52°	3.7	5.2	5.2	12.0	12.0
53°	1.5	0.0	0.0	9.0	7.5
54°	1.5	0.7	2.2	6.7	10.5
55°	0.0	3.7	3.0	13.9	15.4
57.5°	0.7	6.0	3.0	9.7	12.0
60°	3.7	4.5	8.2	9.7	12.0
61°	0.0	3.7	3.7	9.0	10.5
62°	0.0	3.0	6.7	8.2	10.5
63°	3.7	4.5	6.0	9.7	12.0





TEST NUMBER: P315360

CATALOG NUMBER: LDA2B10FL9727D010 PINW1MMS

**CANDELA DISTRIBUTION (continued):**

	90°	112.5°	135°	157.5°	180°
66°	2.2	6.0	7.5	9.7	9.0
67.5°	4.5	5.2	4.5	12.7	15.4
70°	6.0	9.7	10.5	9.0	15.4
72.5°	3.7	5.2	7.5	13.9	15.4
75°	6.7	7.5	11.2	12.7	15.4
77.5°	5.2	7.5	7.5	8.2	15.4
80°	2.2	6.7	7.5	8.2	4.5
82.5°	3.0	4.5	3.0	8.2	6.0
85°	1.5	6.7	6.0	7.5	7.5
87.5°	2.2	3.7	3.7	6.7	4.5
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





— 0°-180°    - - 45°-225°    - - - - 90°-270°







64°	16.9	17.6	16.9	12.0	9.0	8.2	6.0	10.5	3.0	3.0	0.0
65°	15.4	16.9	12.7	14.6	9.7	9.0	5.2	10.5	1.5	5.2	3.7







64°	2.2	3.7	3.7	6.7	10.5
65°	3.7	5.2	5.2	9.7	7.5



(END OF REPORT)