

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: P315211

Luminaire Tested: **LDA2B05FL8027D010 PIN1MB**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P315211  
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: LDA2B05FL8027D010 PIN1MB  
Description: PORTFOLIO 2IN ADJ 500 LUMEN LED LUMINAIRE WITH FLOOD OPTIC AND 2in Adj PinHole, Black oculus black finish  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 624.9 lumens  
Efficiency: N/A  
Efficacy: 89.3 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

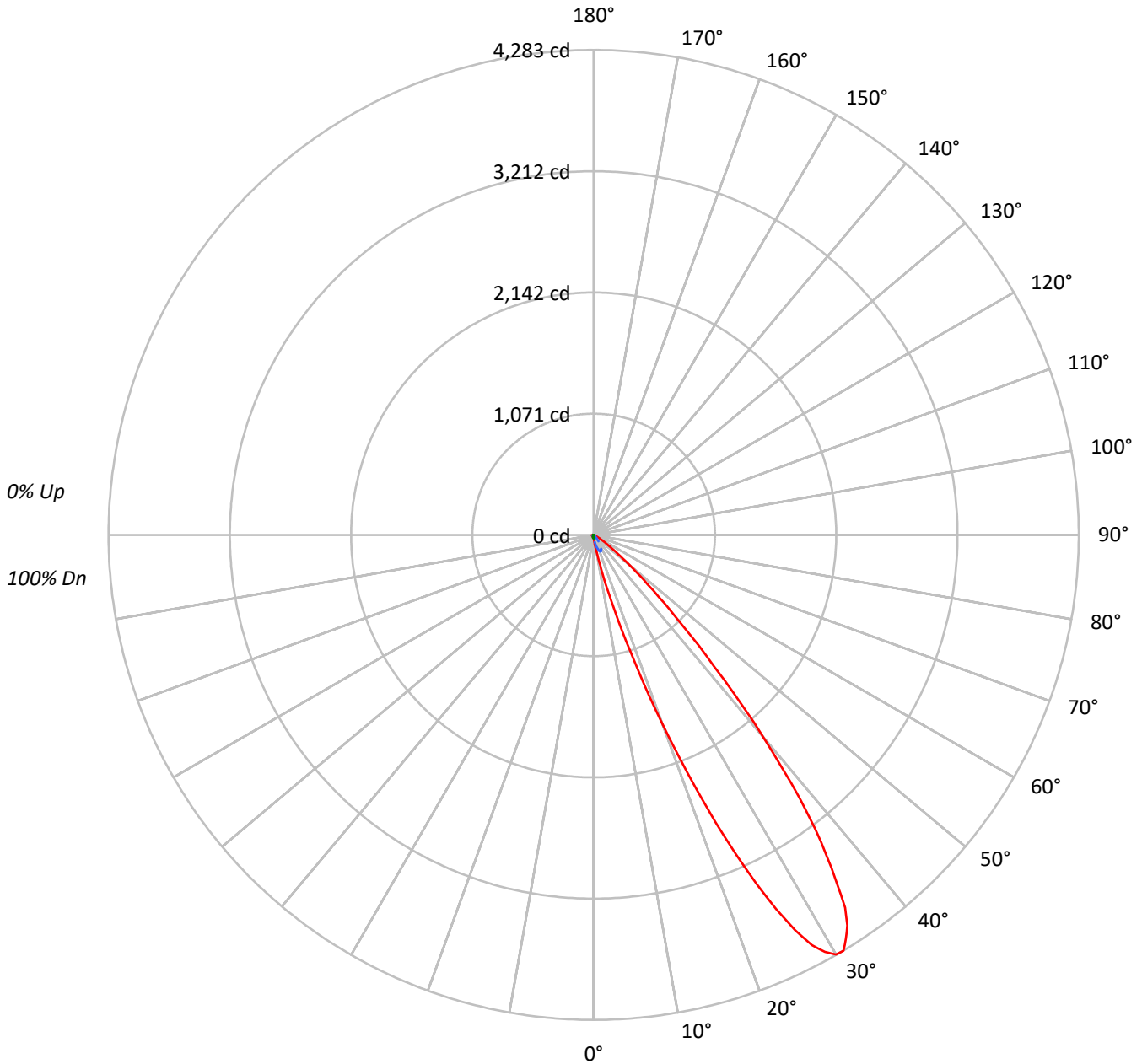
Input Watts (W): 7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
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°	309013	10930	7100
20°	934806	6668	5513
25°	1849914	5716	4899
30°	2437569	3418	5982
35°	2249228	4939	7227
40°	1498161	4315	9918
45°	706650	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°	251.7	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°	238.4	38.2
0°-40°	490.2	78.4
0°-60°	606.6	97.1
0°-90°	624.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	624.9	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°	3398	154	10	8	9	1551
35°	3734	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: P315211

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**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	90.3	90.3	87.3	89.6	88.8	85.1	87.3	82.1	59.2	40.1
10°	156.7	148.1	147.3	145.1	144.3	137.6	133.8	130.8	119.9	70.1	36.4
12.5°	307.0	299.5	294.2	281.1	272.1	266.9	247.0	236.5	205.4	104.2	46.5
15°	605.0	566.4	576.1	533.8	502.7	482.0	440.8	404.5	329.9	117.7	45.0
17.5°	1070.5	1033.1	1007.9	961.8	898.5	843.8	762.4	681.8	530.0	133.8	42.0
20°	1780.5	1721.3	1668.8	1589.7	1467.9	1362.5	1219.4	1065.3	789.0	152.9	37.9
21°	2092.3	2046.6	1985.9	1881.7	1739.6	1598.7	1427.0	1241.5	899.2	154.4	34.1
22°	2417.7	2388.1	2308.3	2188.7	2023.0	1855.1	1644.4	1440.5	1016.6	156.7	32.6
23°	2756.6	2725.5	2635.1	2498.3	2312.0	2108.8	1863.3	1621.6	1126.8	159.7	31.9
24°	3088.3	3053.8	2953.0	2800.0	2588.6	2355.1	2077.7	1797.4	1229.5	158.2	33.4
25°	3398.3	3350.3	3243.9	3074.4	2842.4	2580.4	2274.5	1949.2	1319.8	153.7	28.1
26°	3674.9	3620.2	3505.5	3320.7	3066.9	2783.2	2438.7	2090.1	1386.5	149.9	26.6
27°	3915.2	3846.2	3723.6	3529.9	3257.7	2944.4	2578.9	2200.3	1445.4	144.3	21.4
28°	4102.2	4023.1	3898.7	3694.0	3406.5	3069.9	2682.0	2269.3	1480.2	145.1	24.4
29°	4210.2	4149.5	4014.1	3799.7	3497.2	3142.3	2736.3	2307.5	1487.0	133.8	22.9
30°	4278.8	4210.9	4071.9	3847.7	3532.1	3158.8	2743.1	2300.4	1467.1	125.6	21.4
31°	4283.3	4212.4	4071.1	3839.1	3518.6	3131.4	2705.6	2258.0	1424.0	116.9	17.6
32°	4202.7	4148.0	4008.9	3769.4	3445.5	3056.1	2625.0	2186.4	1356.2	99.7	12.0
33°	4111.6	4045.3	3906.9	3665.2	3344.3	2953.0	2508.8	2090.1	1285.7	98.2	15.4
34°	3969.9	3890.1	3754.0	3516.0	3203.7	2806.0	2370.5	1961.5	1195.7	89.6	14.6
35°	3734.5	3691.8	3554.2	3319.2	3016.0	2629.9	2204.1	1820.2	1100.2	79.8	10.5
36°	3498.7	3446.3	3316.2	3089.0	2801.5	2420.0	2016.3	1659.0	992.2	67.8	8.2
37°	3249.5	3180.9	3062.4	2840.2	2539.9	2210.8	1836.0	1505.4	904.1	71.6	11.2
38°	2959.0	2936.1	2780.2	2573.3	2295.9	1985.1	1642.2	1343.4	806.7	66.7	18.4
39°	2639.6	2624.2	2468.7	2280.1	2031.3	1745.6	1443.9	1175.5	709.2	48.7	6.0
40°	2326.2	2282.4	2172.2	2000.9	1784.2	1527.5	1266.6	1032.3	624.9	48.0	12.0
42.5°	1576.6	1590.4	1471.2	1348.7	1209.6	1035.3	861.4	707.7	437.1	35.6	7.5
45°	1012.8	1015.8	962.6	867.4	776.3	667.6	552.9	460.7	281.9	19.9	2.2
47.5°	644.7	643.2	609.1	554.4	494.8	431.1	359.5	301.0	182.5	15.4	6.7
50°	406.0	404.5	383.1	348.2	314.9	272.9	227.9	193.8	115.5	18.4	7.5
51°	329.9	332.1	314.1	278.9	253.0	212.9	181.8	154.4	90.3	12.7	6.7
52°	272.1	270.6	259.4	229.8	208.4	173.9	148.1	126.3	75.3	11.2	3.0
53°	218.9	219.7	208.4	185.5	164.9	139.1	118.4	98.2	54.0	8.2	2.2
54°	173.2	171.7	167.9	145.8	133.1	110.2	92.6	75.3	46.5	1.5	0.0
55°	147.3	145.1	139.8	120.7	108.0	91.1	73.8	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



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**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: P315211

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**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)