

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: P315227

Luminaire Tested: **LDA2B05FL8040D010 PIN1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P315227  
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: LDA2B05FL8040D010 PIN1MMS  
Description: PORTFOLIO 2IN ADJ 500 LUMEN LED LUMINAIRE WITH FLOOD OPTIC AND 2in Adj PinHole, Black oculus, matte metallic silver finish  
Light Source: -  
Ballast/Driver: -

**Summary**

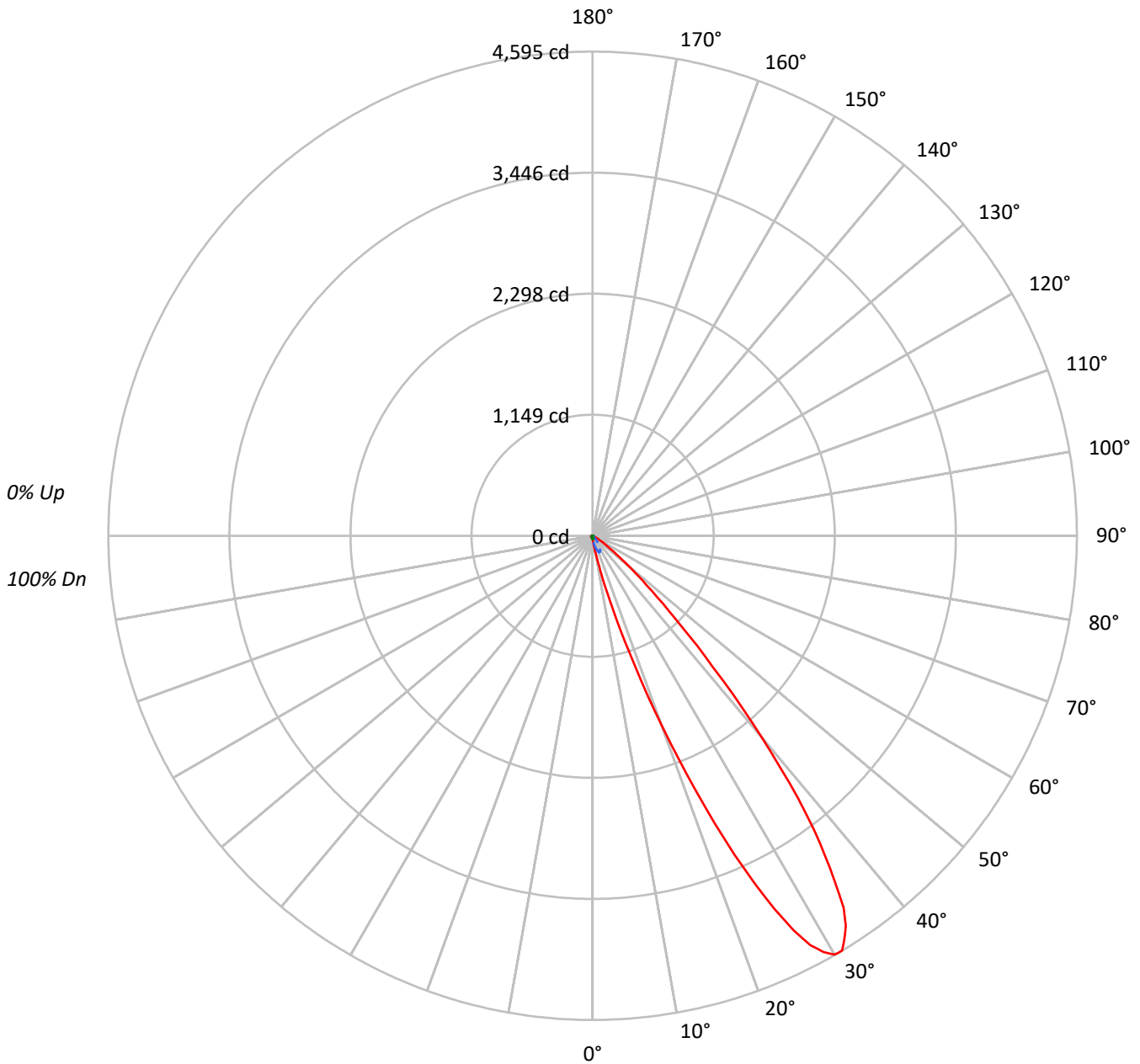
Lumens per Lamp: N/A  
Luminaire Lumens: 670.5 lumens  
Efficiency: N/A  
Efficacy: 95.8 lumens/watt  
Spacing Criteria (0/90/45): 2.92 / 0.6 / 1.34  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

Input Watts (W): 7  
Input Voltage (V): NR  
Input Current (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°	14061	14061	14061
5°	31448	14560	11341
10°	84214	9068	3206
15°	331487	11697	7610
20°	1002797	7193	5933
25°	1984481	6151	5280
30°	2614855	3646	6437
35°	2412868	5300	7769
40°	1607197	4637	10627
45°	758072	1675	4465
50°	334261	6140	13892
55°	135904	0	14192
60°	56342	3947	12729
65°	19262	4670	9339
70°	16300	9232	23801
75°	9150	13725	31452
80°	0	6819	13638
85°	9057	9057	45286



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	3.9	0.6
10°-20°	41.0	6.1
20°-30°	210.9	31.5
30°-40°	270.0	40.3
40°-50°	103.8	15.5
50°-60°	21.1	3.1
60°-70°	7.2	1.1
70°-80°	8.3	1.2
80°-90°	4.2	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°	255.8	38.2
0°-40°	525.8	78.4
0°-60°	650.8	97.1
0°-90°	670.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	670.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	28	28	28	28	28	
5°	64	52	29	21	23	9
15°	649	126	23	14	15	249
25°	3646	165	11	9	10	1664
35°	4006	86	9	7	13	2394
45°	1086	21	2	2	6	934
55°	158	4	0	3	16	164
65°	16	6	4	6	8	23
75°	5	9	7	12	16	7
85°	2	6	2	6	8	1
90°	0	0	0	0	0	



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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°	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5
2.5°	42.2	36.6	38.2	32.6	35.8	36.6	30.2	39.8	35.8	37.4	32.6
5°	63.5	68.4	62.7	60.3	58.7	60.3	58.7	61.1	59.5	52.3	37.4
7.5°	106.2	96.9	96.9	93.7	96.1	95.3	91.3	93.7	88.1	63.5	43.0
10°	168.1	158.8	158.0	155.6	154.8	147.6	143.6	140.3	128.7	75.2	39.0
12.5°	329.3	321.3	315.7	301.6	291.9	286.3	265.0	253.7	220.4	111.8	49.9
15°	649.0	607.6	618.0	572.6	539.2	517.1	472.9	433.9	353.9	126.3	48.3
17.5°	1148.4	1108.2	1081.3	1031.8	963.8	905.1	817.9	731.4	568.6	143.6	45.0
20°	1910.0	1846.5	1790.2	1705.3	1574.6	1461.7	1308.0	1142.8	846.4	164.1	40.6
21°	2244.6	2195.5	2130.4	2018.6	1866.2	1715.0	1530.8	1331.8	964.7	165.7	36.6
22°	2593.6	2561.8	2476.2	2347.9	2170.2	1990.0	1764.0	1545.3	1090.5	168.1	35.0
23°	2957.1	2923.7	2826.8	2680.0	2480.2	2262.2	1998.9	1739.5	1208.7	171.3	34.2
24°	3312.9	3276.0	3167.8	3003.7	2776.9	2526.4	2228.9	1928.1	1318.9	169.7	35.8
25°	3645.5	3594.0	3479.8	3298.1	3049.2	2768.1	2440.0	2090.9	1415.8	164.9	30.2
26°	3942.2	3883.5	3760.5	3562.3	3290.0	2985.6	2616.1	2242.1	1487.4	160.8	28.5
27°	4200.0	4126.0	3994.5	3786.6	3494.7	3158.5	2766.5	2360.4	1550.5	154.8	22.9
28°	4400.6	4315.8	4182.3	3962.7	3654.3	3293.2	2877.1	2434.3	1587.9	155.6	26.1
29°	4516.4	4451.3	4306.1	4076.1	3751.6	3370.8	2935.4	2475.4	1595.2	143.6	24.5
30°	4590.0	4517.3	4368.1	4127.6	3789.0	3388.5	2942.6	2467.7	1573.8	134.7	22.9
31°	4594.9	4518.9	4367.3	4118.4	3774.6	3359.2	2902.4	2422.3	1527.6	125.5	18.9
32°	4508.4	4449.7	4300.5	4043.6	3696.2	3278.4	2815.9	2345.5	1454.8	107.0	12.9
33°	4410.7	4339.5	4191.1	3931.8	3587.6	3167.8	2691.3	2242.1	1379.2	105.4	16.5
34°	4258.7	4173.1	4027.1	3771.7	3436.8	3010.2	2542.9	2104.2	1282.7	96.1	15.7
35°	4006.2	3960.3	3812.8	3560.6	3235.3	2821.2	2364.4	1952.6	1180.2	85.6	11.3
36°	3753.3	3697.0	3557.4	3313.8	3005.3	2596.0	2162.9	1779.7	1064.4	72.8	8.8
37°	3485.9	3412.3	3285.2	3046.8	2724.7	2371.6	1969.5	1614.9	969.9	76.8	12.1
38°	3174.2	3149.7	2982.4	2760.5	2462.9	2129.6	1761.6	1441.1	865.3	71.6	19.7
39°	2831.6	2815.1	2648.3	2446.0	2179.0	1872.6	1548.9	1261.0	760.8	52.3	6.4
40°	2495.5	2448.4	2330.2	2146.4	1914.0	1638.6	1358.7	1107.4	670.3	51.5	12.9
42.5°	1691.3	1706.1	1578.3	1446.8	1297.6	1110.6	924.0	759.2	468.9	38.2	8.0
45°	1086.5	1089.7	1032.6	930.5	832.8	716.1	593.1	494.2	302.4	21.3	2.4
47.5°	691.6	690.0	653.4	594.7	530.8	462.4	385.6	322.9	195.8	16.5	7.2
50°	435.5	433.9	411.0	373.6	337.8	292.7	244.5	207.9	123.8	19.7	8.0
51°	353.9	356.3	337.0	299.2	271.4	228.4	195.0	165.7	96.9	13.7	7.2
52°	291.9	290.3	278.3	246.5	223.6	186.6	158.8	135.5	80.8	12.1	3.2
53°	234.8	235.6	223.6	199.0	176.9	149.2	127.1	105.4	57.9	8.8	2.4
54°	185.8	184.2	180.1	156.4	142.7	118.2	99.3	80.8	49.9	1.6	0.0
55°	158.0	155.6	150.0	129.5	115.8	97.7	79.2	69.2	43.0	4.0	0.0
57.5°	91.3	91.3	88.1	76.8	67.6	60.3	48.3	45.0	22.1	4.0	0.0
60°	57.1	49.9	55.5	47.4	37.4	33.4	27.7	25.3	18.9	7.2	1.6
61°	47.4	38.2	37.4	35.0	32.6	22.1	18.9	20.5	12.1	2.4	1.6
62°	34.2	30.2	32.6	27.7	24.5	17.3	15.7	14.9	7.2	3.2	4.0
63°	31.0	27.7	26.9	20.5	18.1	18.1	13.7	12.9	8.8	6.4	3.2



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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°	16.5	13.7	12.1	13.7	8.0	10.5	4.0	11.3	2.4	4.0	2.4
67.5°	12.9	8.0	7.2	8.8	5.6	4.0	5.6	7.2	2.4	4.0	5.6
70°	11.3	5.6	8.0	7.2	5.6	7.2	8.0	8.0	2.4	8.0	7.2
72.5°	11.3	7.2	4.0	3.2	3.2	3.2	3.2	3.2	4.8	11.3	8.8
75°	4.8	4.8	2.4	5.6	3.2	4.8	3.2	8.0	3.2	8.8	7.2
77.5°	3.2	4.0	0.0	4.0	0.0	0.0	2.4	5.6	2.4	6.4	8.0
80°	0.0	4.0	2.4	0.0	1.6	2.4	0.0	0.8	1.6	7.2	3.2
82.5°	1.6	2.4	3.2	1.6	1.6	0.0	0.0	0.0	0.0	4.8	4.0
85°	1.6	3.2	0.0	0.8	3.2	1.6	0.8	4.0	1.6	5.6	6.4
87.5°	0.0	1.6	1.6	0.0	2.4	0.0	2.4	1.6	0.0	4.8	2.4
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°	28.5	28.5	28.5	28.5	28.5
2.5°	24.5	22.1	18.9	23.7	19.7
5°	29.4	26.9	21.3	25.3	22.9
7.5°	30.2	25.3	22.1	20.5	22.9
10°	18.1	12.1	8.8	12.1	6.4
12.5°	30.2	21.3	19.7	22.1	24.5
15°	22.9	13.7	13.7	10.5	14.9
17.5°	12.9	10.5	9.7	12.9	14.9
20°	13.7	8.8	7.2	12.1	11.3
21°	12.1	3.2	9.7	9.7	11.3
22°	17.3	8.0	9.7	15.7	16.5
23°	11.3	8.8	7.2	9.7	12.9
24°	16.5	9.7	8.8	12.1	18.1
25°	11.3	8.8	8.8	11.3	9.7
26°	6.4	8.8	6.4	9.7	8.0
27°	4.8	8.0	4.8	7.2	9.7
28°	10.5	12.9	12.1	12.9	11.3
29°	11.3	13.7	11.3	17.3	12.9
30°	6.4	12.1	5.6	12.9	11.3
31°	6.4	8.8	4.0	12.9	11.3
32°	0.8	4.8	2.4	4.8	4.8
33°	4.8	5.6	6.4	10.5	8.0
34°	8.0	9.7	6.4	11.3	9.7
35°	8.8	4.8	7.2	12.1	12.9
36°	2.4	2.4	4.0	9.7	3.2
37°	4.8	13.7	9.7	16.5	9.7
38°	8.0	16.5	15.7	20.5	16.5
39°	1.6	4.8	5.6	11.3	11.3
40°	7.2	12.1	8.8	16.5	16.5
42.5°	5.6	8.8	6.4	13.7	11.3
45°	2.4	2.4	1.6	8.8	6.4
47.5°	4.0	4.0	7.2	11.3	19.7
50°	8.0	8.0	10.5	18.9	18.1
51°	4.8	4.0	5.6	12.9	16.5
52°	4.0	5.6	5.6	12.9	12.9
53°	1.6	0.0	0.0	9.7	8.0
54°	1.6	0.8	2.4	7.2	11.3
55°	0.0	4.0	3.2	14.9	16.5
57.5°	0.8	6.4	3.2	10.5	12.9
60°	4.0	4.8	8.8	10.5	12.9
61°	0.0	4.0	4.0	9.7	11.3
62°	0.0	3.2	7.2	8.8	11.3
63°	4.0	4.8	6.4	10.5	12.9





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**CANDELA DISTRIBUTION (continued):**

	90°	112.5°	135°	157.5°	180°
66°	2.4	6.4	8.0	10.5	9.7
67.5°	4.8	5.6	4.8	13.7	16.5
70°	6.4	10.5	11.3	9.7	16.5
72.5°	4.0	5.6	8.0	14.9	16.5
75°	7.2	8.0	12.1	13.7	16.5
77.5°	5.6	8.0	8.0	8.8	16.5
80°	2.4	7.2	8.0	8.8	4.8
82.5°	3.2	4.8	3.2	8.8	6.4
85°	1.6	7.2	6.4	8.0	8.0
87.5°	2.4	4.0	4.0	7.2	4.8
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	18.1	18.9	18.1	12.9	9.7	8.8	6.4	11.3	3.2	3.2	0.0
65°	16.5	18.1	13.7	15.7	10.5	9.7	5.6	11.3	1.6	5.6	4.0







64°	2.4	4.0	4.0	7.2	11.3
65°	4.0	5.6	5.6	10.5	8.0



(END OF REPORT)