

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: P315425

Luminaire Tested: **LDA2B15FL9035D010 PIN1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P315425  
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: LDA2B15FL9035D010 PIN1MMS  
Description: PORTFOLIO 2IN ADJ 1500 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: 964.4 lumens  
Efficiency: N/A  
Efficacy: 68.4 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

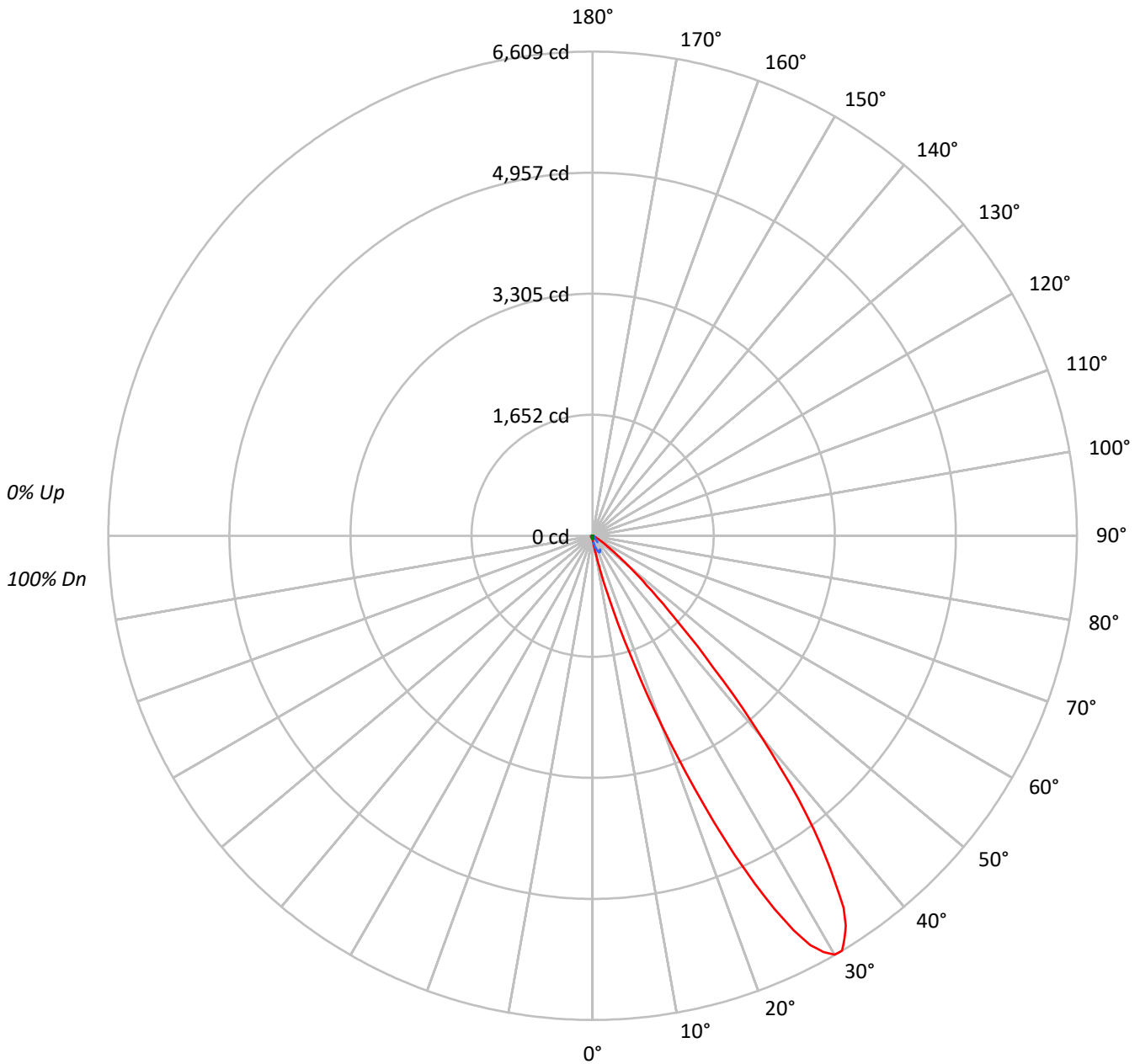
Input Watts (W): 14.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20									20									20									20									
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	82	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°	20277	20277	20277
5°	45266	20899	16343
10°	121135	13025	4659
15°	476800	16855	10930
20°	1442348	10343	8505
25°	2854266	8819	7567
30°	3761004	5298	9229
35°	3470418	7649	11142
40°	2311581	6698	15264
45°	1090325	2442	6489
50°	480784	8903	19956
55°	195512	0	20386
60°	81010	5723	18254
65°	27667	6771	13542
70°	23368	13415	34187
75°	13153	19825	45177
80°	0	9944	19604
85°	13020	13020	65664



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	5.6	0.6
10°-20°	59.0	6.1
20°-30°	303.3	31.5
30°-40°	388.4	40.3
40°-50°	149.4	15.5
50°-60°	30.4	3.1
60°-70°	10.3	1.1
70°-80°	12.0	1.2
80°-90°	6.1	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°	367.9	38.1
0°-40°	756.3	78.4
0°-60°	936.0	97.1
0°-90°	964.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	964.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	41	41	41	41	41	
5°	91	75	42	31	33	14
15°	934	182	33	20	21	358
25°	5243	237	16	13	14	2393
35°	5762	123	13	10	18	3444
45°	1563	31	4	2	9	1343
55°	227	6	0	5	24	235
65°	24	8	6	8	12	33
75°	7	13	10	17	24	9
85°	2	8	2	9	12	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°	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1
2.5°	60.7	52.6	54.9	46.8	51.5	52.6	43.4	57.3	51.5	53.8	46.8
5°	91.4	98.3	90.2	86.8	84.4	86.8	84.4	87.9	85.6	75.2	53.8
7.5°	152.7	139.4	139.4	134.8	138.2	137.1	131.3	134.8	126.7	91.4	61.9
10°	241.8	228.4	227.3	223.8	222.7	212.3	206.5	201.8	185.1	108.2	56.1
12.5°	473.7	462.1	454.0	433.8	419.9	411.8	381.1	364.9	316.9	160.8	71.7
15°	933.5	873.9	888.9	823.6	775.6	743.8	680.1	624.0	508.9	181.6	69.4
17.5°	1651.8	1593.9	1555.2	1484.0	1386.3	1301.9	1176.4	1052.0	817.8	206.5	64.8
20°	2747.2	2655.8	2574.8	2452.8	2264.8	2102.3	1881.4	1643.7	1217.4	236.0	58.4
21°	3228.4	3157.8	3064.1	2903.3	2684.1	2466.7	2201.8	1915.5	1387.5	238.3	52.6
22°	3730.4	3684.7	3561.5	3377.0	3121.4	2862.3	2537.2	2222.6	1568.5	241.8	50.3
23°	4253.2	4205.2	4065.8	3854.7	3567.3	3253.8	2875.0	2501.9	1738.5	246.4	49.2
24°	4765.0	4711.8	4556.3	4320.3	3994.1	3633.8	3205.8	2773.2	1897.0	244.1	51.5
25°	5243.3	5169.3	5005.1	4743.6	4385.6	3981.4	3509.4	3007.4	2036.4	237.1	43.4
26°	5670.2	5585.7	5408.7	5123.6	4732.1	4294.3	3762.8	3224.9	2139.3	231.3	41.1
27°	6040.9	5934.5	5745.3	5446.3	5026.5	4542.9	3979.1	3394.9	2230.1	222.7	33.0
28°	6329.5	6207.4	6015.4	5699.7	5256.1	4736.7	4138.1	3501.3	2283.9	223.8	37.6
29°	6496.0	6402.3	6193.6	5862.7	5396.0	4848.3	4222.0	3560.3	2294.3	206.5	35.3
30°	6601.9	6497.2	6282.6	5936.8	5449.8	4873.8	4232.4	3549.3	2263.7	193.7	33.0
31°	6608.8	6499.5	6281.5	5923.5	5429.0	4831.5	4174.5	3484.0	2197.2	180.4	27.2
32°	6484.5	6400.0	6185.5	5815.9	5316.2	4715.3	4050.2	3373.5	2092.5	153.8	18.5
33°	6343.9	6241.6	6028.2	5655.1	5160.0	4556.3	3870.9	3224.9	1983.7	151.5	23.7
34°	6125.3	6002.1	5792.2	5424.9	4943.2	4329.5	3657.5	3026.5	1844.9	138.2	22.6
35°	5762.1	5696.2	5483.9	5121.3	4653.4	4057.7	3400.7	2808.5	1697.5	123.2	16.2
36°	5398.3	5317.4	5116.7	4766.2	4322.6	3733.8	3111.0	2559.8	1530.9	104.7	12.7
37°	5013.7	4907.9	4725.1	4382.2	3918.9	3411.1	2832.8	2322.7	1395.0	110.5	17.4
38°	4565.5	4530.2	4289.6	3970.4	3542.4	3062.9	2533.8	2072.8	1244.6	102.9	28.3
39°	4072.7	4049.0	3809.0	3518.1	3134.1	2693.4	2227.8	1813.7	1094.2	75.2	9.3
40°	3589.2	3521.6	3351.5	3087.2	2753.0	2356.8	1954.2	1592.8	964.1	74.0	18.5
42.5°	2432.5	2453.9	2270.0	2080.9	1866.3	1597.4	1329.1	1091.9	674.4	54.9	11.6
45°	1562.7	1567.3	1485.2	1338.3	1197.8	1030.0	853.1	710.8	434.9	30.7	3.5
47.5°	994.8	992.5	939.8	855.4	763.4	665.1	554.6	464.4	281.7	23.7	10.4
50°	626.4	624.0	591.1	537.3	485.8	421.0	351.6	299.0	178.1	28.3	11.6
51°	508.9	512.4	484.7	430.3	390.4	328.5	280.5	238.3	139.4	19.7	10.4
52°	419.9	417.6	400.2	354.5	321.6	268.4	228.4	194.9	116.2	17.4	4.6
53°	337.8	338.9	321.6	286.3	254.5	214.6	182.8	151.5	83.3	12.7	3.5
54°	267.2	264.9	259.1	225.0	205.3	170.0	142.9	116.2	71.7	2.3	0.0
55°	227.3	223.8	215.7	186.2	166.6	140.5	113.9	99.5	61.9	5.8	0.0
57.5°	131.3	131.3	126.7	110.5	97.2	86.8	69.4	64.8	31.8	5.8	0.0
60°	82.1	71.7	79.8	68.2	53.8	48.0	39.9	36.4	27.2	10.4	2.3
61°	68.2	54.9	53.8	50.3	46.8	31.8	27.2	29.5	17.4	3.5	2.3
62°	49.2	43.4	46.8	39.9	35.3	24.9	22.6	21.4	10.4	4.6	5.8
63°	44.5	39.9	38.7	29.5	26.0	26.0	19.7	18.5	12.7	9.3	4.6



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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°	23.7	19.7	17.4	19.7	11.6	15.0	5.8	16.2	3.5	5.8	3.5
67.5°	18.5	11.6	10.4	12.7	8.1	5.8	8.1	10.4	3.5	5.8	8.1
70°	16.2	8.1	11.6	10.4	8.1	10.4	11.6	11.6	3.5	11.6	10.4
72.5°	16.2	10.4	5.8	4.6	4.6	4.6	4.6	4.6	6.9	16.2	12.7
75°	6.9	6.9	3.5	8.1	4.6	6.9	4.6	11.6	4.6	12.7	10.4
77.5°	4.6	5.8	0.0	5.8	0.0	0.0	3.5	8.1	3.5	9.3	11.6
80°	0.0	5.8	3.5	0.0	2.3	3.5	0.0	1.2	2.3	10.4	4.6
82.5°	2.3	3.5	4.6	2.3	2.3	0.0	0.0	0.0	0.0	6.9	5.8
85°	2.3	4.6	0.0	1.2	4.6	2.3	1.2	5.8	2.3	8.1	9.3
87.5°	0.0	2.3	2.3	0.0	3.5	0.0	3.5	2.3	0.0	6.9	3.5
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°	41.1	41.1	41.1	41.1	41.1
2.5°	35.3	31.8	27.2	34.1	28.3
5°	42.2	38.7	30.7	36.4	33.0
7.5°	43.4	36.4	31.8	29.5	33.0
10°	26.0	17.4	12.7	17.4	9.3
12.5°	43.4	30.7	28.3	31.8	35.3
15°	33.0	19.7	19.7	15.0	21.4
17.5°	18.5	15.0	13.9	18.5	21.4
20°	19.7	12.7	10.4	17.4	16.2
21°	17.4	4.6	13.9	13.9	16.2
22°	24.9	11.6	13.9	22.6	23.7
23°	16.2	12.7	10.4	13.9	18.5
24°	23.7	13.9	12.7	17.4	26.0
25°	16.2	12.7	12.7	16.2	13.9
26°	9.3	12.7	9.3	13.9	11.6
27°	6.9	11.6	6.9	10.4	13.9
28°	15.0	18.5	17.4	18.5	16.2
29°	16.2	19.7	16.2	24.9	18.5
30°	9.3	17.4	8.1	18.5	16.2
31°	9.3	12.7	5.8	18.5	16.2
32°	1.2	6.9	3.5	6.9	6.9
33°	6.9	8.1	9.3	15.0	11.6
34°	11.6	13.9	9.3	16.2	13.9
35°	12.7	6.9	10.4	17.4	18.5
36°	3.5	3.5	5.8	13.9	4.6
37°	6.9	19.7	13.9	23.7	13.9
38°	11.6	23.7	22.6	29.5	23.7
39°	2.3	6.9	8.1	16.2	16.2
40°	10.4	17.4	12.7	23.7	23.7
42.5°	8.1	12.7	9.3	19.7	16.2
45°	3.5	3.5	2.3	12.7	9.3
47.5°	5.8	5.8	10.4	16.2	28.3
50°	11.6	11.6	15.0	27.2	26.0
51°	6.9	5.8	8.1	18.5	23.7
52°	5.8	8.1	8.1	18.5	18.5
53°	2.3	0.0	0.0	13.9	11.6
54°	2.3	1.2	3.5	10.4	16.2
55°	0.0	5.8	4.6	21.4	23.7
57.5°	1.2	9.3	4.6	15.0	18.5
60°	5.8	6.9	12.7	15.0	18.5
61°	0.0	5.8	5.8	13.9	16.2
62°	0.0	4.6	10.4	12.7	16.2
63°	5.8	6.9	9.3	15.0	18.5





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**CANDELA DISTRIBUTION (continued):**

	90°	112.5°	135°	157.5°	180°
66°	3.5	9.3	11.6	15.0	13.9
67.5°	6.9	8.1	6.9	19.7	23.7
70°	9.3	15.0	16.2	13.9	23.7
72.5°	5.8	8.1	11.6	21.4	23.7
75°	10.4	11.6	17.4	19.7	23.7
77.5°	8.1	11.6	11.6	12.7	23.7
80°	3.5	10.4	11.6	12.7	6.9
82.5°	4.6	6.9	4.6	12.7	9.3
85°	2.3	10.4	9.3	11.6	11.6
87.5°	3.5	5.8	5.8	10.4	6.9
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	26.0	27.2	26.0	18.5	13.9	12.7	9.3	16.2	4.6	4.6	0.0
65°	23.7	26.0	19.7	22.6	15.0	13.9	8.1	16.2	2.3	8.1	5.8







64°	3.5	5.8	5.8	10.4	16.2
65°	5.8	8.1	8.1	15.0	11.6



(END OF REPORT)