

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: P315449

Luminaire Tested: **LDA2B15FL9730D010 PIN1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P315449  
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: LDA2B15FL9730D010 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: 852.6 lumens  
Efficiency: N/A  
Efficacy: 60.5 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

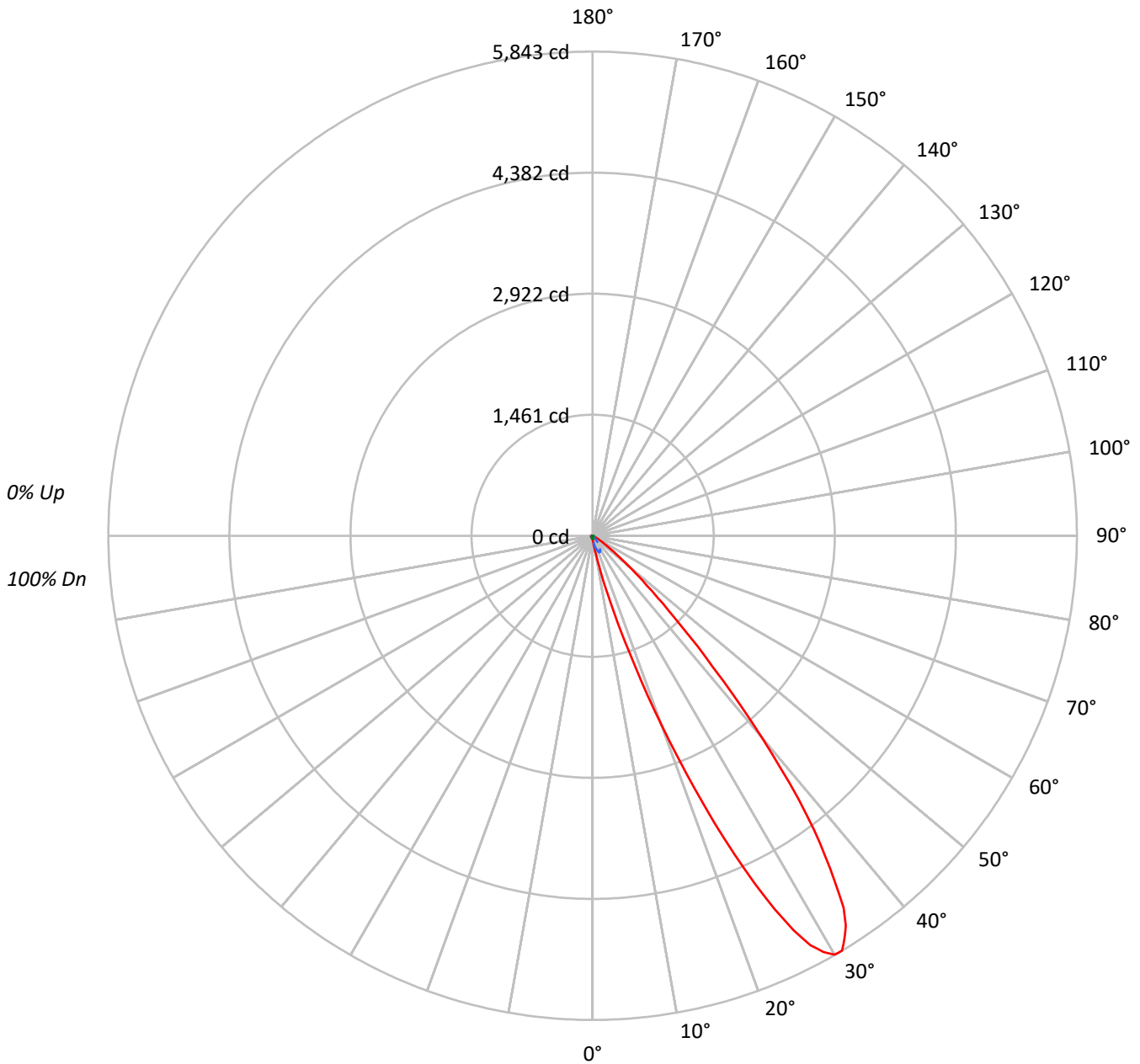
Input Watts (W): 14.1  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	17909	17909	17909
5°	40016	18473	14412
10°	107058	11522	4108
15°	421535	14863	9653
20°	1275232	9135	7508
25°	2523565	7784	6696
30°	3325252	4671	8146
35°	3068333	6746	9877
40°	2043790	5925	13525
45°	963968	2163	5721
50°	425061	7829	17653
55°	172890	0	18063
60°	71636	5032	16182
65°	24515	5954	11907
70°	20628	11828	30292
75°	11628	17537	40030
80°	0	8808	17331
85°	11321	11321	57739



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	4.9	0.6
10°-20°	52.2	6.1
20°-30°	268.2	31.5
30°-40°	343.4	40.3
40°-50°	132.0	15.5
50°-60°	26.8	3.1
60°-70°	9.1	1.1
70°-80°	10.6	1.2
80°-90°	5.4	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°	325.3	38.1
0°-40°	668.7	78.4
0°-60°	827.6	97.1
0°-90°	852.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	852.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	36	36	36	36	36	
5°	81	66	37	27	29	12
15°	825	161	29	17	19	316
25°	4636	210	14	11	12	2116
35°	5094	109	11	9	16	3045
45°	1382	27	3	2	8	1188
55°	201	5	0	4	21	208
65°	21	7	5	7	10	29
75°	6	11	9	15	21	8
85°	2	7	2	8	10	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°	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.3
2.5°	53.7	46.5	48.6	41.4	45.5	46.5	38.4	50.6	45.5	47.6	41.4
5°	80.8	86.9	79.8	76.7	74.7	76.7	74.7	77.7	75.7	66.5	47.6
7.5°	135.0	123.2	123.2	119.1	122.2	121.2	116.1	119.1	112.0	80.8	54.7
10°	213.7	202.0	201.0	197.9	196.9	187.7	182.5	178.5	163.6	95.6	49.6
12.5°	418.8	408.6	401.4	383.5	371.2	364.1	337.0	322.7	280.2	142.2	63.4
15°	825.3	772.6	785.9	728.2	685.7	657.6	601.3	551.7	450.0	160.6	61.4
17.5°	1460.4	1409.3	1375.0	1312.1	1225.7	1151.0	1040.1	930.1	723.0	182.5	57.3
20°	2428.9	2348.1	2276.5	2168.6	2002.4	1858.7	1663.4	1453.2	1076.4	208.6	51.6
21°	2854.3	2791.9	2709.1	2566.9	2373.1	2180.9	1946.7	1693.6	1226.7	210.7	46.5
22°	3298.2	3257.8	3148.9	2985.7	2759.7	2530.6	2243.3	1965.1	1386.8	213.7	44.5
23°	3760.4	3718.0	3594.7	3408.1	3154.0	2876.8	2541.9	2212.1	1537.1	217.8	43.5
24°	4213.0	4165.9	4028.4	3819.7	3531.3	3212.8	2834.4	2451.9	1677.2	215.8	45.5
25°	4635.8	4570.4	4425.2	4194.0	3877.5	3520.1	3102.8	2659.0	1800.4	209.7	38.4
26°	5013.2	4938.6	4782.1	4530.0	4183.8	3796.7	3326.8	2851.3	1891.5	204.5	36.3
27°	5341.0	5246.9	5079.7	4815.3	4444.1	4016.6	3518.0	3001.6	1971.7	196.9	29.1
28°	5596.1	5488.2	5318.5	5039.3	4647.1	4187.9	3658.7	3095.7	2019.3	197.9	33.2
29°	5743.4	5660.6	5476.0	5183.5	4770.8	4286.6	3732.8	3147.8	2028.5	182.5	31.2
30°	5837.0	5744.4	5554.7	5248.9	4818.4	4309.1	3742.0	3138.1	2001.4	171.3	29.1
31°	5843.1	5746.5	5553.7	5237.2	4800.0	4271.8	3690.9	3080.3	1942.6	159.5	24.0
32°	5733.2	5658.5	5468.8	5142.1	4700.3	4169.0	3580.9	2982.7	1850.0	136.0	16.4
33°	5608.9	5518.4	5329.7	4999.9	4562.2	4028.4	3422.4	2851.3	1753.9	134.0	21.0
34°	5415.6	5306.7	5121.1	4796.4	4370.5	3827.9	3233.7	2675.9	1631.2	122.2	19.9
35°	5094.5	5036.2	4848.6	4527.9	4114.3	3587.6	3006.7	2483.1	1500.8	108.9	14.3
36°	4772.9	4701.3	4523.9	4214.0	3821.8	3301.2	2750.5	2263.2	1353.5	92.6	11.2
37°	4432.8	4339.3	4177.7	3874.4	3464.9	3015.9	2504.6	2053.6	1233.4	97.7	15.3
38°	4036.5	4005.4	3792.6	3510.4	3132.0	2708.1	2240.2	1832.7	1100.4	91.0	25.1
39°	3600.9	3579.9	3367.7	3110.5	2771.0	2381.3	1969.7	1603.6	967.5	66.5	8.2
40°	3173.4	3113.6	2963.2	2729.6	2434.0	2083.7	1727.8	1408.2	852.4	65.5	16.4
42.5°	2150.7	2169.6	2007.0	1839.8	1650.1	1412.3	1175.1	965.4	596.2	48.6	10.2
45°	1381.6	1385.7	1313.1	1183.2	1059.0	910.7	754.2	628.4	384.5	27.1	3.1
47.5°	879.5	877.5	830.9	756.3	675.0	588.0	490.4	410.6	249.0	21.0	9.2
50°	553.8	551.7	522.6	475.0	429.5	372.3	310.9	264.4	157.5	25.1	10.2
51°	450.0	453.1	428.5	380.4	345.2	290.4	248.0	210.7	123.2	17.4	9.2
52°	371.2	369.2	353.8	313.5	284.3	237.3	202.0	172.3	102.8	15.3	4.1
53°	298.6	299.6	284.3	253.1	225.0	189.7	161.6	134.0	73.6	11.2	3.1
54°	236.2	234.2	229.1	198.9	181.5	150.3	126.3	102.8	63.4	2.0	0.0
55°	201.0	197.9	190.7	164.7	147.3	124.3	100.7	88.0	54.7	5.1	0.0
57.5°	116.1	116.1	112.0	97.7	85.9	76.7	61.4	57.3	28.1	5.1	0.0
60°	72.6	63.4	70.6	60.3	47.6	42.4	35.3	32.2	24.0	9.2	2.0
61°	60.3	48.6	47.6	44.5	41.4	28.1	24.0	26.1	15.3	3.1	2.0
62°	43.5	38.4	41.4	35.3	31.2	22.0	19.9	18.9	9.2	4.1	5.1
63°	39.4	35.3	34.3	26.1	23.0	23.0	17.4	16.4	11.2	8.2	4.1



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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°	21.0	17.4	15.3	17.4	10.2	13.3	5.1	14.3	3.1	5.1	3.1
67.5°	16.4	10.2	9.2	11.2	7.2	5.1	7.2	9.2	3.1	5.1	7.2
70°	14.3	7.2	10.2	9.2	7.2	9.2	10.2	10.2	3.1	10.2	9.2
72.5°	14.3	9.2	5.1	4.1	4.1	4.1	4.1	4.1	6.1	14.3	11.2
75°	6.1	6.1	3.1	7.2	4.1	6.1	4.1	10.2	4.1	11.2	9.2
77.5°	4.1	5.1	0.0	5.1	0.0	0.0	3.1	7.2	3.1	8.2	10.2
80°	0.0	5.1	3.1	0.0	2.0	3.1	0.0	1.0	2.0	9.2	4.1
82.5°	2.0	3.1	4.1	2.0	2.0	0.0	0.0	0.0	0.0	6.1	5.1
85°	2.0	4.1	0.0	1.0	4.1	2.0	1.0	5.1	2.0	7.2	8.2
87.5°	0.0	2.0	2.0	0.0	3.1	0.0	3.1	2.0	0.0	6.1	3.1
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°	36.3	36.3	36.3	36.3	36.3
2.5°	31.2	28.1	24.0	30.2	25.1
5°	37.3	34.3	27.1	32.2	29.1
7.5°	38.4	32.2	28.1	26.1	29.1
10°	23.0	15.3	11.2	15.3	8.2
12.5°	38.4	27.1	25.1	28.1	31.2
15°	29.1	17.4	17.4	13.3	18.9
17.5°	16.4	13.3	12.3	16.4	18.9
20°	17.4	11.2	9.2	15.3	14.3
21°	15.3	4.1	12.3	12.3	14.3
22°	22.0	10.2	12.3	19.9	21.0
23°	14.3	11.2	9.2	12.3	16.4
24°	21.0	12.3	11.2	15.3	23.0
25°	14.3	11.2	11.2	14.3	12.3
26°	8.2	11.2	8.2	12.3	10.2
27°	6.1	10.2	6.1	9.2	12.3
28°	13.3	16.4	15.3	16.4	14.3
29°	14.3	17.4	14.3	22.0	16.4
30°	8.2	15.3	7.2	16.4	14.3
31°	8.2	11.2	5.1	16.4	14.3
32°	1.0	6.1	3.1	6.1	6.1
33°	6.1	7.2	8.2	13.3	10.2
34°	10.2	12.3	8.2	14.3	12.3
35°	11.2	6.1	9.2	15.3	16.4
36°	3.1	3.1	5.1	12.3	4.1
37°	6.1	17.4	12.3	21.0	12.3
38°	10.2	21.0	19.9	26.1	21.0
39°	2.0	6.1	7.2	14.3	14.3
40°	9.2	15.3	11.2	21.0	21.0
42.5°	7.2	11.2	8.2	17.4	14.3
45°	3.1	3.1	2.0	11.2	8.2
47.5°	5.1	5.1	9.2	14.3	25.1
50°	10.2	10.2	13.3	24.0	23.0
51°	6.1	5.1	7.2	16.4	21.0
52°	5.1	7.2	7.2	16.4	16.4
53°	2.0	0.0	0.0	12.3	10.2
54°	2.0	1.0	3.1	9.2	14.3
55°	0.0	5.1	4.1	18.9	21.0
57.5°	1.0	8.2	4.1	13.3	16.4
60°	5.1	6.1	11.2	13.3	16.4
61°	0.0	5.1	5.1	12.3	14.3
62°	0.0	4.1	9.2	11.2	14.3
63°	5.1	6.1	8.2	13.3	16.4





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**CANDELA DISTRIBUTION (continued):**

	90°	112.5°	135°	157.5°	180°
66°	3.1	8.2	10.2	13.3	12.3
67.5°	6.1	7.2	6.1	17.4	21.0
70°	8.2	13.3	14.3	12.3	21.0
72.5°	5.1	7.2	10.2	18.9	21.0
75°	9.2	10.2	15.3	17.4	21.0
77.5°	7.2	10.2	10.2	11.2	21.0
80°	3.1	9.2	10.2	11.2	6.1
82.5°	4.1	6.1	4.1	11.2	8.2
85°	2.0	9.2	8.2	10.2	10.2
87.5°	3.1	5.1	5.1	9.2	6.1
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	23.0	24.0	23.0	16.4	12.3	11.2	8.2	14.3	4.1	4.1	0.0
65°	21.0	23.0	17.4	19.9	13.3	12.3	7.2	14.3	2.0	7.2	5.1







64°	3.1	5.1	5.1	9.2	14.3
65°	5.1	7.2	7.2	13.3	10.2



(END OF REPORT)