

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: P315419

Luminaire Tested: **LDA2B15FL9030D010 PIN1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P315419  
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: LDA2B15FL9030D010 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**

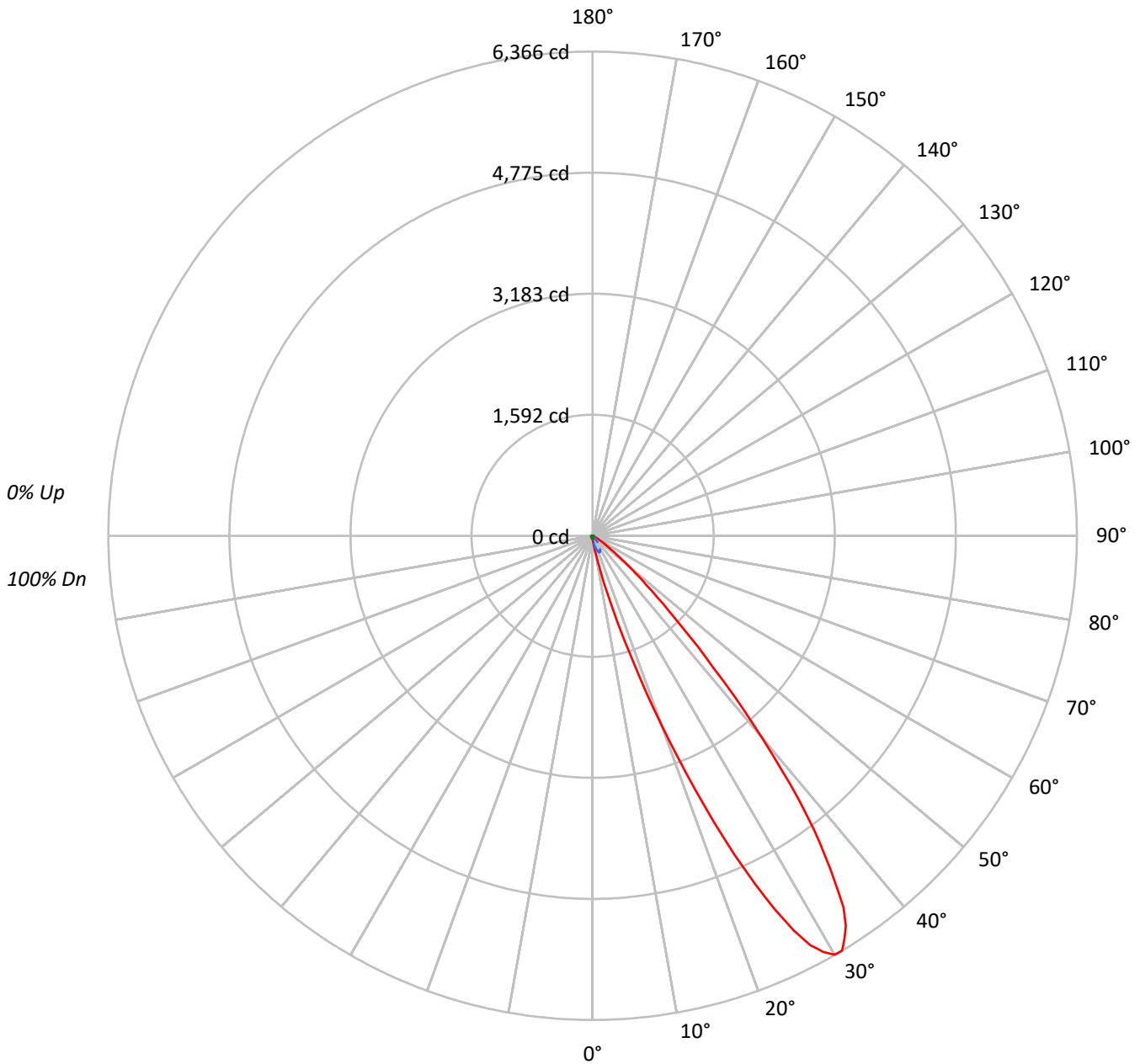
Lumens per Lamp: N/A  
Luminaire Lumens: 928.9 lumens  
Efficiency: N/A  
Efficacy: 65.9 lumens/watt  
Spacing Criteria (0/90/45): 2.92 / 0.6 / 1.34  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

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°	19537	19537	19537
5°	43582	20157	15749
10°	116677	12574	4459
15°	459229	16242	10522
20°	1389320	9923	8190
25°	2749367	8492	7294
30°	3622742	5070	8887
35°	3342854	7408	10721
40°	2226633	6440	14684
45°	1050276	2302	6210
50°	463054	8520	19265
55°	188287	0	19611
60°	78050	5526	17564
65°	26617	6537	12958
70°	22503	12838	32889
75°	12772	19062	43461
80°	0	9376	19036
85°	12454	12454	62834



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	5.4	0.6
10°-20°	56.8	6.1
20°-30°	292.2	31.5
30°-40°	374.1	40.3
40°-50°	143.9	15.5
50°-60°	29.2	3.1
60°-70°	9.9	1.1
70°-80°	11.5	1.2
80°-90°	5.9	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°	354.4	38.2
0°-40°	728.5	78.4
0°-60°	901.6	97.1
0°-90°	928.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	928.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	40	40	40	40	40	
5°	88	72	41	30	32	13
15°	899	175	32	19	21	345
25°	5051	228	16	12	13	2305
35°	5550	119	12	10	18	3317
45°	1505	30	3	2	9	1294
55°	219	6	0	4	23	227
65°	23	8	6	8	11	32
75°	7	12	10	17	23	9
85°	2	8	2	9	11	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°	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6
2.5°	58.5	50.7	52.9	45.1	49.6	50.7	41.8	55.2	49.6	51.8	45.1
5°	88.0	94.7	86.9	83.6	81.3	83.6	81.3	84.7	82.4	72.4	51.8
7.5°	147.1	134.3	134.3	129.8	133.1	132.0	126.5	129.8	122.0	88.0	59.6
10°	232.9	220.1	218.9	215.6	214.5	204.5	198.9	194.4	178.3	104.2	54.0
12.5°	456.3	445.1	437.3	417.8	404.4	396.6	367.1	351.5	305.3	154.9	69.1
15°	899.1	841.8	856.2	793.3	747.1	716.4	655.1	601.1	490.2	174.9	66.9
17.5°	1591.0	1535.3	1498.0	1429.5	1335.3	1254.0	1133.1	1013.3	787.7	198.9	62.4
20°	2646.2	2558.2	2480.2	2362.6	2181.6	2025.0	1812.2	1583.2	1172.7	227.3	56.3
21°	3109.7	3041.7	2951.5	2796.6	2585.5	2376.0	2120.8	1845.1	1336.5	229.5	50.7
22°	3593.2	3549.2	3430.6	3252.8	3006.6	2757.0	2444.0	2140.9	1510.8	232.9	48.5
23°	4096.8	4050.6	3916.3	3713.0	3436.1	3134.2	2769.3	2410.0	1674.6	237.3	47.4
24°	4589.9	4538.6	4388.8	4161.5	3847.3	3500.2	3087.9	2671.2	1827.3	235.1	49.6
25°	5050.6	4979.3	4821.1	4569.3	4224.4	3835.0	3380.4	2896.9	1961.5	228.4	41.8
26°	5461.7	5380.4	5209.9	4935.3	4558.1	4136.4	3624.4	3106.3	2060.7	222.8	39.6
27°	5818.8	5716.3	5534.1	5246.1	4841.7	4375.9	3832.8	3270.1	2148.1	214.5	31.8
28°	6096.8	5979.2	5794.3	5490.1	5062.8	4562.6	3986.0	3372.6	2199.9	215.6	36.2
29°	6257.2	6167.0	5965.9	5647.2	5197.6	4670.1	4066.8	3429.4	2210.0	198.9	34.0
30°	6359.2	6258.3	6051.7	5718.5	5249.5	4694.6	4076.8	3418.9	2180.4	186.6	31.8
31°	6365.9	6260.6	6050.6	5705.7	5229.4	4653.9	4021.1	3355.9	2116.4	173.8	26.2
32°	6246.1	6164.8	5958.1	5602.1	5120.8	4542.0	3901.3	3249.5	2015.6	148.2	17.8
33°	6110.7	6012.1	5806.5	5447.2	4970.4	4388.8	3728.6	3106.3	1910.8	146.0	22.8
34°	5900.1	5781.5	5579.3	5225.5	4761.4	4170.4	3523.0	2915.3	1777.1	133.1	21.7
35°	5550.3	5486.8	5282.3	4933.0	4482.3	3908.5	3275.7	2705.2	1635.1	118.7	15.6
36°	5199.9	5121.9	4928.6	4591.0	4163.7	3596.6	2996.6	2465.7	1474.6	100.8	12.3
37°	4829.4	4727.5	4551.4	4221.1	3774.8	3285.7	2728.6	2237.3	1343.7	106.4	16.7
38°	4397.7	4363.7	4131.9	3824.4	3412.2	2950.3	2440.6	1996.6	1198.9	99.2	27.3
39°	3923.0	3900.2	3669.0	3388.8	3018.9	2594.4	2145.9	1747.0	1054.0	72.4	8.9
40°	3457.3	3392.1	3228.3	2973.7	2651.7	2270.1	1882.4	1534.2	928.7	71.3	17.8
42.5°	2343.1	2363.7	2186.6	2004.4	1797.7	1538.7	1280.2	1051.8	649.6	52.9	11.1
45°	1505.3	1509.7	1430.6	1289.1	1153.7	992.2	821.7	684.7	418.9	29.5	3.3
47.5°	958.2	956.0	905.3	823.9	735.4	640.7	534.2	447.3	271.3	22.8	10.0
50°	603.3	601.1	569.3	517.5	468.0	405.6	338.7	288.0	171.6	27.3	11.1
51°	490.2	493.6	466.8	414.5	376.0	316.4	270.2	229.5	134.3	18.9	10.0
52°	404.4	402.2	385.5	341.5	309.7	258.5	220.1	187.7	112.0	16.7	4.5
53°	325.3	326.5	309.7	275.8	245.1	206.7	176.0	146.0	80.2	12.3	3.3
54°	257.4	255.1	249.6	216.7	197.8	163.8	137.6	112.0	69.1	2.2	0.0
55°	218.9	215.6	207.8	179.4	160.4	135.4	109.7	95.8	59.6	5.6	0.0
57.5°	126.5	126.5	122.0	106.4	93.6	83.6	66.9	62.4	30.6	5.6	0.0
60°	79.1	69.1	76.9	65.7	51.8	46.2	38.4	35.1	26.2	10.0	2.2
61°	65.7	52.9	51.8	48.5	45.1	30.6	26.2	28.4	16.7	3.3	2.2
62°	47.4	41.8	45.1	38.4	34.0	24.0	21.7	20.6	10.0	4.5	5.6
63°	42.9	38.4	37.3	28.4	25.1	25.1	18.9	17.8	12.3	8.9	4.5



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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°	22.8	18.9	16.7	18.9	11.1	14.5	5.6	15.6	3.3	5.6	3.3
67.5°	17.8	11.1	10.0	12.3	7.8	5.6	7.8	10.0	3.3	5.6	7.8
70°	15.6	7.8	11.1	10.0	7.8	10.0	11.1	11.1	3.3	11.1	10.0
72.5°	15.6	10.0	5.6	4.5	4.5	4.5	4.5	4.5	6.7	15.6	12.3
75°	6.7	6.7	3.3	7.8	4.5	6.7	4.5	11.1	4.5	12.3	10.0
77.5°	4.5	5.6	0.0	5.6	0.0	0.0	3.3	7.8	3.3	8.9	11.1
80°	0.0	5.6	3.3	0.0	2.2	3.3	0.0	1.1	2.2	10.0	4.5
82.5°	2.2	3.3	4.5	2.2	2.2	0.0	0.0	0.0	0.0	6.7	5.6
85°	2.2	4.5	0.0	1.1	4.5	2.2	1.1	5.6	2.2	7.8	8.9
87.5°	0.0	2.2	2.2	0.0	3.3	0.0	3.3	2.2	0.0	6.7	3.3
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°	39.6	39.6	39.6	39.6	39.6
2.5°	34.0	30.6	26.2	32.9	27.3
5°	40.7	37.3	29.5	35.1	31.8
7.5°	41.8	35.1	30.6	28.4	31.8
10°	25.1	16.7	12.3	16.7	8.9
12.5°	41.8	29.5	27.3	30.6	34.0
15°	31.8	18.9	18.9	14.5	20.6
17.5°	17.8	14.5	13.4	17.8	20.6
20°	18.9	12.3	10.0	16.7	15.6
21°	16.7	4.5	13.4	13.4	15.6
22°	24.0	11.1	13.4	21.7	22.8
23°	15.6	12.3	10.0	13.4	17.8
24°	22.8	13.4	12.3	16.7	25.1
25°	15.6	12.3	12.3	15.6	13.4
26°	8.9	12.3	8.9	13.4	11.1
27°	6.7	11.1	6.7	10.0	13.4
28°	14.5	17.8	16.7	17.8	15.6
29°	15.6	18.9	15.6	24.0	17.8
30°	8.9	16.7	7.8	17.8	15.6
31°	8.9	12.3	5.6	17.8	15.6
32°	1.1	6.7	3.3	6.7	6.7
33°	6.7	7.8	8.9	14.5	11.1
34°	11.1	13.4	8.9	15.6	13.4
35°	12.3	6.7	10.0	16.7	17.8
36°	3.3	3.3	5.6	13.4	4.5
37°	6.7	18.9	13.4	22.8	13.4
38°	11.1	22.8	21.7	28.4	22.8
39°	2.2	6.7	7.8	15.6	15.6
40°	10.0	16.7	12.3	22.8	22.8
42.5°	7.8	12.3	8.9	18.9	15.6
45°	3.3	3.3	2.2	12.3	8.9
47.5°	5.6	5.6	10.0	15.6	27.3
50°	11.1	11.1	14.5	26.2	25.1
51°	6.7	5.6	7.8	17.8	22.8
52°	5.6	7.8	7.8	17.8	17.8
53°	2.2	0.0	0.0	13.4	11.1
54°	2.2	1.1	3.3	10.0	15.6
55°	0.0	5.6	4.5	20.6	22.8
57.5°	1.1	8.9	4.5	14.5	17.8
60°	5.6	6.7	12.3	14.5	17.8
61°	0.0	5.6	5.6	13.4	15.6
62°	0.0	4.5	10.0	12.3	15.6
63°	5.6	6.7	8.9	14.5	17.8





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**CANDELA DISTRIBUTION (continued):**

	90°	112.5°	135°	157.5°	180°
66°	3.3	8.9	11.1	14.5	13.4
67.5°	6.7	7.8	6.7	18.9	22.8
70°	8.9	14.5	15.6	13.4	22.8
72.5°	5.6	7.8	11.1	20.6	22.8
75°	10.0	11.1	16.7	18.9	22.8
77.5°	7.8	11.1	11.1	12.3	22.8
80°	3.3	10.0	11.1	12.3	6.7
82.5°	4.5	6.7	4.5	12.3	8.9
85°	2.2	10.0	8.9	11.1	11.1
87.5°	3.3	5.6	5.6	10.0	6.7
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	25.1	26.2	25.1	17.8	13.4	12.3	8.9	15.6	4.5	4.5	0.0
65°	22.8	25.1	18.9	21.7	14.5	13.4	7.8	15.6	2.2	7.8	5.6







64°	3.3	5.6	5.6	10.0	15.6
65°	5.6	7.8	7.8	14.5	11.1



(END OF REPORT)