

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: P315330

Luminaire Tested: **LDA2B10FL9027D010 PINW1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P315330  
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: LDA2B10FL9027D010 PINW1MMS  
Description: PORTFOLIO 2IN ADJ 1000 LUMEN LED LUMINAIRE WITH FLOOD OPTIC AND 2in Adj PinHole, White oculus, matte metallic silver finish  
Light Source: -  
Ballast/Driver: -

**Summary**

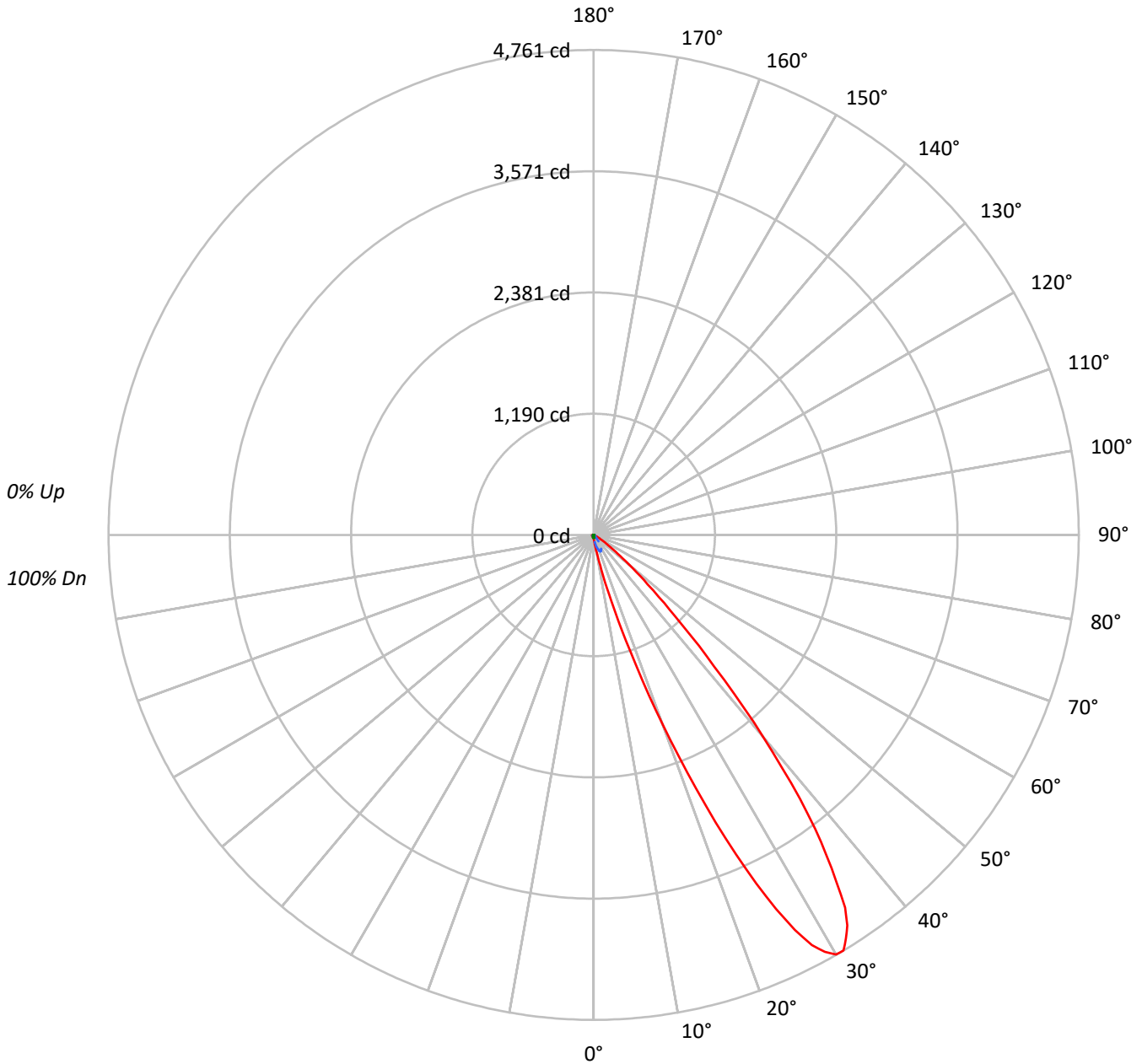
Lumens per Lamp: N/A  
Luminaire Lumens: 694.8 lumens  
Efficiency: N/A  
Efficacy: 69.5 lumens/watt  
Spacing Criteria (0/90/45): 2.92 / 0.6 / 1.34  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

Input Watts (W): 10  
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°	14604	14604	14604
5°	32587	15055	11737
10°	87269	9368	3357
15°	343490	12105	7866
20°	1039076	7455	6143
25°	2056337	6369	5444
30°	2709536	3817	6665
35°	2500199	5541	8010
40°	1665354	4830	11013
45°	785492	1744	4675
50°	346312	6371	14353
55°	140807	0	14709
60°	58414	4144	13123
65°	19962	4903	9689
70°	16877	9665	24667
75°	9531	14297	32596
80°	0	7103	14206
85°	9623	9623	46984



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	4.0	0.6
10°-20°	42.5	6.1
20°-30°	218.5	31.5
30°-40°	279.8	40.3
40°-50°	107.6	15.5
50°-60°	21.9	3.1
60°-70°	7.4	1.1
70°-80°	8.6	1.2
80°-90°	4.4	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°	265.1	38.1
0°-40°	544.9	78.4
0°-60°	674.3	97.1
0°-90°	694.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	694.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	30	30	30	30	30	
5°	66	54	30	22	24	10
15°	672	131	24	14	15	258
25°	3778	171	12	9	10	1724
35°	4151	89	9	8	13	2481
45°	1126	22	2	2	7	968
55°	164	4	0	3	17	170
65°	17	6	4	6	8	24
75°	5	9	8	12	17	7
85°	2	6	2	7	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°	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6
2.5°	43.7	37.9	39.6	33.7	37.1	37.9	31.2	41.2	37.1	38.7	33.7
5°	65.8	70.8	65.0	62.5	60.8	62.5	60.8	63.3	61.7	54.2	38.7
7.5°	110.0	100.4	100.4	97.1	99.6	98.7	94.6	97.1	91.2	65.8	44.6
10°	174.2	164.6	163.7	161.2	160.4	152.9	148.7	145.4	133.3	77.9	40.4
12.5°	341.2	332.9	327.1	312.5	302.5	296.7	274.6	262.9	228.3	115.8	51.7
15°	672.5	629.6	640.4	593.3	558.7	535.8	490.0	449.6	366.7	130.8	50.0
17.5°	1190.0	1148.3	1120.4	1069.2	998.7	937.9	847.5	757.9	589.2	148.7	46.7
20°	1979.1	1913.3	1855.0	1767.1	1631.6	1514.6	1355.4	1184.2	877.1	170.0	42.1
21°	2325.8	2275.0	2207.5	2091.6	1933.7	1777.1	1586.2	1380.0	999.6	171.7	37.9
22°	2687.5	2654.5	2565.8	2432.9	2248.7	2062.1	1827.9	1601.2	1130.0	174.2	36.2
23°	3064.1	3029.5	2929.1	2777.0	2570.0	2344.1	2071.2	1802.5	1252.5	177.5	35.4
24°	3432.9	3394.5	3282.5	3112.5	2877.5	2617.9	2309.6	1997.9	1366.6	175.8	37.1
25°	3777.5	3724.1	3605.8	3417.5	3159.5	2868.3	2528.3	2166.6	1467.1	170.8	31.2
26°	4084.9	4024.1	3896.6	3691.2	3409.1	3093.7	2710.8	2323.3	1541.2	166.7	29.6
27°	4352.0	4275.4	4139.1	3923.7	3621.2	3272.9	2866.6	2445.8	1606.6	160.4	23.7
28°	4559.9	4472.0	4333.7	4106.2	3786.6	3412.5	2981.2	2522.5	1645.4	161.2	27.1
29°	4679.9	4612.4	4462.0	4223.7	3887.5	3492.9	3041.6	2565.0	1652.9	148.7	25.4
30°	4756.2	4680.8	4526.2	4277.0	3926.2	3511.2	3049.1	2557.1	1630.8	139.6	23.7
31°	4761.2	4682.4	4525.4	4267.4	3911.2	3480.8	3007.5	2510.0	1582.9	130.0	19.6
32°	4671.6	4610.8	4456.2	4189.9	3830.0	3397.0	2917.9	2430.4	1507.5	110.8	13.3
33°	4570.4	4496.6	4342.9	4074.1	3717.5	3282.5	2788.7	2323.3	1429.1	109.2	17.1
34°	4412.9	4324.1	4172.9	3908.3	3561.2	3119.1	2635.0	2180.4	1329.1	99.6	16.2
35°	4151.2	4103.7	3950.8	3689.5	3352.5	2923.3	2450.0	2023.3	1222.9	88.7	11.7
36°	3889.1	3830.8	3686.2	3433.7	3114.1	2690.0	2241.2	1844.1	1102.9	75.4	9.2
37°	3612.0	3535.8	3404.1	3157.0	2823.3	2457.5	2040.8	1673.3	1005.0	79.6	12.5
38°	3289.1	3263.7	3090.4	2860.4	2552.1	2206.6	1825.4	1493.3	896.7	74.2	20.4
39°	2934.1	2917.0	2744.1	2534.6	2257.9	1940.4	1605.0	1306.7	788.3	54.2	6.7
40°	2585.8	2537.1	2414.6	2224.1	1983.3	1697.9	1407.9	1147.5	694.6	53.3	13.3
42.5°	1752.5	1767.9	1635.4	1499.1	1344.6	1150.8	957.5	786.7	485.8	39.6	8.3
45°	1125.8	1129.2	1070.0	964.2	862.9	742.1	614.6	512.1	313.3	22.1	2.5
47.5°	716.7	715.0	677.1	616.2	550.0	479.2	399.6	334.6	202.9	17.1	7.5
50°	451.2	449.6	425.8	387.1	350.0	303.3	253.3	215.4	128.3	20.4	8.3
51°	366.7	369.2	349.2	310.0	281.2	236.7	202.1	171.7	100.4	14.2	7.5
52°	302.5	300.8	288.3	255.4	231.7	193.3	164.6	140.4	83.7	12.5	3.3
53°	243.3	244.2	231.7	206.2	183.3	154.6	131.7	109.2	60.0	9.2	2.5
54°	192.5	190.8	186.7	162.1	147.9	122.5	102.9	83.7	51.7	1.7	0.0
55°	163.7	161.2	155.4	134.2	120.0	101.2	82.1	71.7	44.6	4.2	0.0
57.5°	94.6	94.6	91.2	79.6	70.0	62.5	50.0	46.7	22.9	4.2	0.0
60°	59.2	51.7	57.5	49.2	38.7	34.6	28.7	26.2	19.6	7.5	1.7
61°	49.2	39.6	38.7	36.2	33.7	22.9	19.6	21.2	12.5	2.5	1.7
62°	35.4	31.2	33.7	28.7	25.4	17.9	16.2	15.4	7.5	3.3	4.2
63°	32.1	28.7	27.9	21.2	18.7	18.7	14.2	13.3	9.2	6.7	3.3



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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°	17.1	14.2	12.5	14.2	8.3	10.8	4.2	11.7	2.5	4.2	2.5
67.5°	13.3	8.3	7.5	9.2	5.8	4.2	5.8	7.5	2.5	4.2	5.8
70°	11.7	5.8	8.3	7.5	5.8	7.5	8.3	8.3	2.5	8.3	7.5
72.5°	11.7	7.5	4.2	3.3	3.3	3.3	3.3	3.3	5.0	11.7	9.2
75°	5.0	5.0	2.5	5.8	3.3	5.0	3.3	8.3	3.3	9.2	7.5
77.5°	3.3	4.2	0.0	4.2	0.0	0.0	2.5	5.8	2.5	6.7	8.3
80°	0.0	4.2	2.5	0.0	1.7	2.5	0.0	0.8	1.7	7.5	3.3
82.5°	1.7	2.5	3.3	1.7	1.7	0.0	0.0	0.0	0.0	5.0	4.2
85°	1.7	3.3	0.0	0.8	3.3	1.7	0.8	4.2	1.7	5.8	6.7
87.5°	0.0	1.7	1.7	0.0	2.5	0.0	2.5	1.7	0.0	5.0	2.5
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°	29.6	29.6	29.6	29.6	29.6
2.5°	25.4	22.9	19.6	24.6	20.4
5°	30.4	27.9	22.1	26.2	23.7
7.5°	31.2	26.2	22.9	21.2	23.7
10°	18.7	12.5	9.2	12.5	6.7
12.5°	31.2	22.1	20.4	22.9	25.4
15°	23.7	14.2	14.2	10.8	15.4
17.5°	13.3	10.8	10.0	13.3	15.4
20°	14.2	9.2	7.5	12.5	11.7
21°	12.5	3.3	10.0	10.0	11.7
22°	17.9	8.3	10.0	16.2	17.1
23°	11.7	9.2	7.5	10.0	13.3
24°	17.1	10.0	9.2	12.5	18.7
25°	11.7	9.2	9.2	11.7	10.0
26°	6.7	9.2	6.7	10.0	8.3
27°	5.0	8.3	5.0	7.5	10.0
28°	10.8	13.3	12.5	13.3	11.7
29°	11.7	14.2	11.7	17.9	13.3
30°	6.7	12.5	5.8	13.3	11.7
31°	6.7	9.2	4.2	13.3	11.7
32°	0.8	5.0	2.5	5.0	5.0
33°	5.0	5.8	6.7	10.8	8.3
34°	8.3	10.0	6.7	11.7	10.0
35°	9.2	5.0	7.5	12.5	13.3
36°	2.5	2.5	4.2	10.0	3.3
37°	5.0	14.2	10.0	17.1	10.0
38°	8.3	17.1	16.2	21.2	17.1
39°	1.7	5.0	5.8	11.7	11.7
40°	7.5	12.5	9.2	17.1	17.1
42.5°	5.8	9.2	6.7	14.2	11.7
45°	2.5	2.5	1.7	9.2	6.7
47.5°	4.2	4.2	7.5	11.7	20.4
50°	8.3	8.3	10.8	19.6	18.7
51°	5.0	4.2	5.8	13.3	17.1
52°	4.2	5.8	5.8	13.3	13.3
53°	1.7	0.0	0.0	10.0	8.3
54°	1.7	0.8	2.5	7.5	11.7
55°	0.0	4.2	3.3	15.4	17.1
57.5°	0.8	6.7	3.3	10.8	13.3
60°	4.2	5.0	9.2	10.8	13.3
61°	0.0	4.2	4.2	10.0	11.7
62°	0.0	3.3	7.5	9.2	11.7
63°	4.2	5.0	6.7	10.8	13.3





TEST NUMBER: P315330

CATALOG NUMBER: LDA2B10FL9027D010 PINW1MMS

**CANDELA DISTRIBUTION (continued):**

	90°	112.5°	135°	157.5°	180°
66°	2.5	6.7	8.3	10.8	10.0
67.5°	5.0	5.8	5.0	14.2	17.1
70°	6.7	10.8	11.7	10.0	17.1
72.5°	4.2	5.8	8.3	15.4	17.1
75°	7.5	8.3	12.5	14.2	17.1
77.5°	5.8	8.3	8.3	9.2	17.1
80°	2.5	7.5	8.3	9.2	5.0
82.5°	3.3	5.0	3.3	9.2	6.7
85°	1.7	7.5	6.7	8.3	8.3
87.5°	2.5	4.2	4.2	7.5	5.0
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	18.7	19.6	18.7	13.3	10.0	9.2	6.7	11.7	3.3	3.3	0.0
65°	17.1	18.7	14.2	16.2	10.8	10.0	5.8	11.7	1.7	5.8	4.2







64°	2.5	4.2	4.2	7.5	11.7
65°	4.2	5.8	5.8	10.8	8.3



(END OF REPORT)