

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: P315349

Luminaire Tested: **LDA2B10FL9040D010 PIN1MB**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P315349  
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: LDA2B10FL9040D010 PIN1MB  
Description: PORTFOLIO 2IN ADJ 1000 LUMEN LED LUMINAIRE WITH FLOOD OPTIC AND 2in Adj PinHole, Black oculus black finish  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 740.2 lumens  
Efficiency: N/A  
Efficacy: 74.0 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

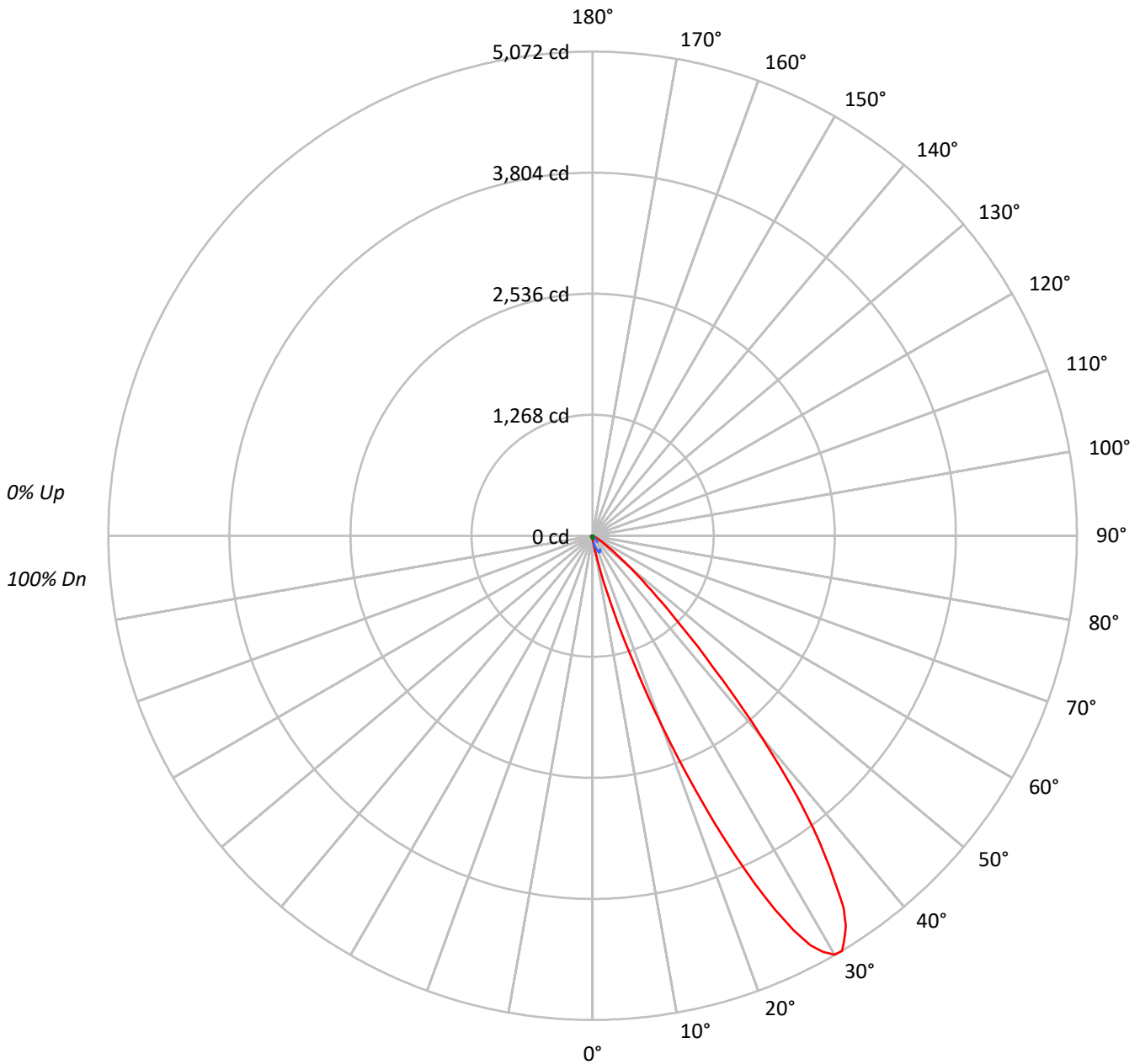
Input Watts (W): 10  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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CATALOG NUMBER: LDA2B10FL9040D010 PIN1MB

### 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°	15541	15541	15541
5°	34717	16046	12530
10°	92930	10019	3557
15°	365964	12922	8377
20°	1107014	7928	6510
25°	2190741	6750	5825
30°	2886651	4045	7064
35°	2663599	5902	8552
40°	1774196	5152	11721
45°	836844	1884	4954
50°	368954	6831	15351
55°	150096	0	15655
60°	62164	4342	14011
65°	21247	5137	10390
70°	17887	10242	26253
75°	10103	15250	34693
80°	0	7671	15058
85°	10189	10189	50380



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	4.3	0.6
10°-20°	45.3	6.1
20°-30°	232.8	31.5
30°-40°	298.1	40.3
40°-50°	114.6	15.5
50°-60°	23.3	3.1
60°-70°	7.9	1.1
70°-80°	9.2	1.2
80°-90°	4.7	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°	282.4	38.1
0°-40°	580.5	78.4
0°-60°	718.4	97.1
0°-90°	740.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	740.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	32	32	32	32	32	
5°	70	58	32	24	25	10
15°	716	139	25	15	16	275
25°	4024	182	12	10	11	1837
35°	4422	95	10	8	14	2643
45°	1199	24	3	2	7	1031
55°	174	4	0	4	18	181
65°	18	6	4	6	9	26
75°	5	10	8	13	18	7
85°	2	6	2	7	9	1
90°	0	0	0	0	0	



TEST NUMBER: P315349

CATALOG NUMBER: LDA2B10FL9040D010 PIN1MB

**CANDELA DISTRIBUTION (FULL):**

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	22.5°	45°	67.5°
0°	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5
2.5°	46.6	40.4	42.2	36.0	39.5	40.4	33.3	43.9	39.5	41.3	36.0
5°	70.1	75.5	69.2	66.6	64.8	66.6	64.8	67.5	65.7	57.7	41.3
7.5°	117.2	107.0	107.0	103.4	106.1	105.2	100.8	103.4	97.2	70.1	47.5
10°	185.5	175.3	174.5	171.8	170.9	162.9	158.5	154.9	142.0	83.0	43.1
12.5°	363.6	354.7	348.5	332.9	322.3	316.1	292.5	280.1	243.3	123.4	55.0
15°	716.5	670.7	682.3	632.1	595.3	570.9	522.0	479.0	390.6	139.4	53.3
17.5°	1267.8	1223.4	1193.6	1139.0	1064.0	999.2	902.9	807.4	627.7	158.5	49.7
20°	2108.5	2038.4	1976.2	1882.6	1738.3	1613.6	1444.0	1261.6	934.4	181.1	44.8
21°	2477.8	2423.7	2351.8	2228.4	2060.1	1893.2	1689.9	1470.2	1064.9	182.9	40.4
22°	2863.1	2828.1	2733.5	2591.9	2395.7	2196.8	1947.4	1705.9	1203.8	185.5	38.6
23°	3264.4	3227.6	3120.6	2958.6	2738.0	2497.4	2206.6	1920.3	1334.4	189.1	37.7
24°	3657.3	3616.4	3497.0	3315.9	3065.6	2789.0	2460.5	2128.5	1456.0	187.3	39.5
25°	4024.4	3967.6	3841.5	3640.8	3366.1	3055.8	2693.6	2308.3	1563.0	182.0	33.3
26°	4352.0	4287.2	4151.3	3932.5	3632.0	3295.9	2888.0	2475.2	1642.0	177.6	31.5
27°	4636.5	4554.8	4409.7	4180.2	3857.9	3486.8	3054.0	2605.7	1711.7	170.9	25.3
28°	4858.0	4764.4	4617.0	4374.6	4034.1	3635.5	3176.1	2687.4	1753.0	171.8	28.9
29°	4985.9	4913.9	4753.7	4499.8	4141.6	3721.2	3240.5	2732.6	1760.9	158.5	27.1
30°	5067.1	4986.7	4822.1	4556.6	4182.8	3740.7	3248.4	2724.2	1737.4	148.7	25.3
31°	5072.4	4988.5	4821.2	4546.4	4166.9	3708.3	3204.1	2674.0	1686.4	138.5	20.9
32°	4977.0	4912.2	4747.5	4463.8	4080.3	3619.1	3108.6	2589.3	1606.0	118.1	14.2
33°	4869.1	4790.5	4626.7	4340.4	3960.5	3497.0	2971.0	2475.2	1522.6	116.3	18.2
34°	4701.3	4606.8	4445.6	4163.8	3794.0	3323.0	2807.2	2322.9	1416.0	106.1	17.3
35°	4422.5	4371.9	4209.0	3930.7	3571.6	3114.4	2610.1	2155.6	1302.8	94.6	12.4
36°	4143.3	4081.2	3927.2	3658.2	3317.7	2865.8	2387.7	1964.7	1175.0	80.3	9.8
37°	3848.1	3766.9	3626.6	3363.4	3007.8	2618.1	2174.2	1782.7	1070.7	84.8	13.3
38°	3504.1	3477.0	3292.4	3047.4	2718.9	2350.9	1944.7	1590.9	955.3	79.0	21.8
39°	3125.9	3107.7	2923.5	2700.2	2405.5	2067.2	1709.9	1392.1	839.9	57.7	7.1
40°	2754.8	2702.9	2572.4	2369.5	2113.0	1808.9	1499.9	1222.5	740.0	56.8	14.2
42.5°	1867.0	1883.5	1742.3	1597.1	1432.5	1226.0	1020.1	838.1	517.6	42.2	8.9
45°	1199.4	1203.0	1139.9	1027.2	919.3	790.6	654.7	545.5	333.8	23.5	2.7
47.5°	763.5	761.7	721.3	656.5	585.9	510.5	425.7	356.4	216.2	18.2	8.0
50°	480.7	479.0	453.7	412.4	372.9	323.2	269.9	229.5	136.7	21.8	8.9
51°	390.6	393.3	372.0	330.3	299.6	252.1	215.3	182.9	107.0	15.1	8.0
52°	322.3	320.5	307.2	272.1	246.8	206.0	175.3	149.6	89.2	13.3	3.6
53°	259.2	260.1	246.8	219.7	195.3	164.7	140.3	116.3	63.9	9.8	2.7
54°	205.1	203.3	198.9	172.7	157.6	130.5	109.6	89.2	55.0	1.8	0.0
55°	174.5	171.8	165.6	142.9	127.8	107.9	87.4	76.4	47.5	4.4	0.0
57.5°	100.8	100.8	97.2	84.8	74.6	66.6	53.3	49.7	24.4	4.4	0.0
60°	63.0	55.0	61.3	52.4	41.3	36.8	30.6	28.0	20.9	8.0	1.8
61°	52.4	42.2	41.3	38.6	36.0	24.4	20.9	22.6	13.3	2.7	1.8
62°	37.7	33.3	36.0	30.6	27.1	19.1	17.3	16.4	8.0	3.6	4.4
63°	34.2	30.6	29.7	22.6	20.0	20.0	15.1	14.2	9.8	7.1	3.6



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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°	18.2	15.1	13.3	15.1	8.9	11.5	4.4	12.4	2.7	4.4	2.7
67.5°	14.2	8.9	8.0	9.8	6.2	4.4	6.2	8.0	2.7	4.4	6.2
70°	12.4	6.2	8.9	8.0	6.2	8.0	8.9	8.9	2.7	8.9	8.0
72.5°	12.4	8.0	4.4	3.6	3.6	3.6	3.6	3.6	5.3	12.4	9.8
75°	5.3	5.3	2.7	6.2	3.6	5.3	3.6	8.9	3.6	9.8	8.0
77.5°	3.6	4.4	0.0	4.4	0.0	0.0	2.7	6.2	2.7	7.1	8.9
80°	0.0	4.4	2.7	0.0	1.8	2.7	0.0	0.9	1.8	8.0	3.6
82.5°	1.8	2.7	3.6	1.8	1.8	0.0	0.0	0.0	0.0	5.3	4.4
85°	1.8	3.6	0.0	0.9	3.6	1.8	0.9	4.4	1.8	6.2	7.1
87.5°	0.0	1.8	1.8	0.0	2.7	0.0	2.7	1.8	0.0	5.3	2.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P315349

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**CANDELA DISTRIBUTION (continued):**

	90°	112.5°	135°	157.5°	180°
0°	31.5	31.5	31.5	31.5	31.5
2.5°	27.1	24.4	20.9	26.2	21.8
5°	32.4	29.7	23.5	28.0	25.3
7.5°	33.3	28.0	24.4	22.6	25.3
10°	20.0	13.3	9.8	13.3	7.1
12.5°	33.3	23.5	21.8	24.4	27.1
15°	25.3	15.1	15.1	11.5	16.4
17.5°	14.2	11.5	10.7	14.2	16.4
20°	15.1	9.8	8.0	13.3	12.4
21°	13.3	3.6	10.7	10.7	12.4
22°	19.1	8.9	10.7	17.3	18.2
23°	12.4	9.8	8.0	10.7	14.2
24°	18.2	10.7	9.8	13.3	20.0
25°	12.4	9.8	9.8	12.4	10.7
26°	7.1	9.8	7.1	10.7	8.9
27°	5.3	8.9	5.3	8.0	10.7
28°	11.5	14.2	13.3	14.2	12.4
29°	12.4	15.1	12.4	19.1	14.2
30°	7.1	13.3	6.2	14.2	12.4
31°	7.1	9.8	4.4	14.2	12.4
32°	0.9	5.3	2.7	5.3	5.3
33°	5.3	6.2	7.1	11.5	8.9
34°	8.9	10.7	7.1	12.4	10.7
35°	9.8	5.3	8.0	13.3	14.2
36°	2.7	2.7	4.4	10.7	3.6
37°	5.3	15.1	10.7	18.2	10.7
38°	8.9	18.2	17.3	22.6	18.2
39°	1.8	5.3	6.2	12.4	12.4
40°	8.0	13.3	9.8	18.2	18.2
42.5°	6.2	9.8	7.1	15.1	12.4
45°	2.7	2.7	1.8	9.8	7.1
47.5°	4.4	4.4	8.0	12.4	21.8
50°	8.9	8.9	11.5	20.9	20.0
51°	5.3	4.4	6.2	14.2	18.2
52°	4.4	6.2	6.2	14.2	14.2
53°	1.8	0.0	0.0	10.7	8.9
54°	1.8	0.9	2.7	8.0	12.4
55°	0.0	4.4	3.6	16.4	18.2
57.5°	0.9	7.1	3.6	11.5	14.2
60°	4.4	5.3	9.8	11.5	14.2
61°	0.0	4.4	4.4	10.7	12.4
62°	0.0	3.6	8.0	9.8	12.4
63°	4.4	5.3	7.1	11.5	14.2





TEST NUMBER: P315349

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**CANDELA DISTRIBUTION (continued):**

	90°	112.5°	135°	157.5°	180°
66°	2.7	7.1	8.9	11.5	10.7
67.5°	5.3	6.2	5.3	15.1	18.2
70°	7.1	11.5	12.4	10.7	18.2
72.5°	4.4	6.2	8.9	16.4	18.2
75°	8.0	8.9	13.3	15.1	18.2
77.5°	6.2	8.9	8.9	9.8	18.2
80°	2.7	8.0	8.9	9.8	5.3
82.5°	3.6	5.3	3.6	9.8	7.1
85°	1.8	8.0	7.1	8.9	8.9
87.5°	2.7	4.4	4.4	8.0	5.3
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	20.0	20.9	20.0	14.2	10.7	9.8	7.1	12.4	3.6	3.6	0.0
65°	18.2	20.0	15.1	17.3	11.5	10.7	6.2	12.4	1.8	6.2	4.4







64°	2.7	4.4	4.4	8.0	12.4
65°	4.4	6.2	6.2	11.5	8.9



(END OF REPORT)