

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: P315335

Luminaire Tested: **LDA2B10FL9030D010 PIN1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P315335  
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: LDA2B10FL9030D010 PIN1MMS  
Description: PORTFOLIO 2IN ADJ 1000 LUMEN LED LUMINAIRE WITH FLOOD OPTIC AND 2in Adj PinHole, Black oculus, matte metallic silver finish  
Light Source: -  
Ballast/Driver: -

**Summary**

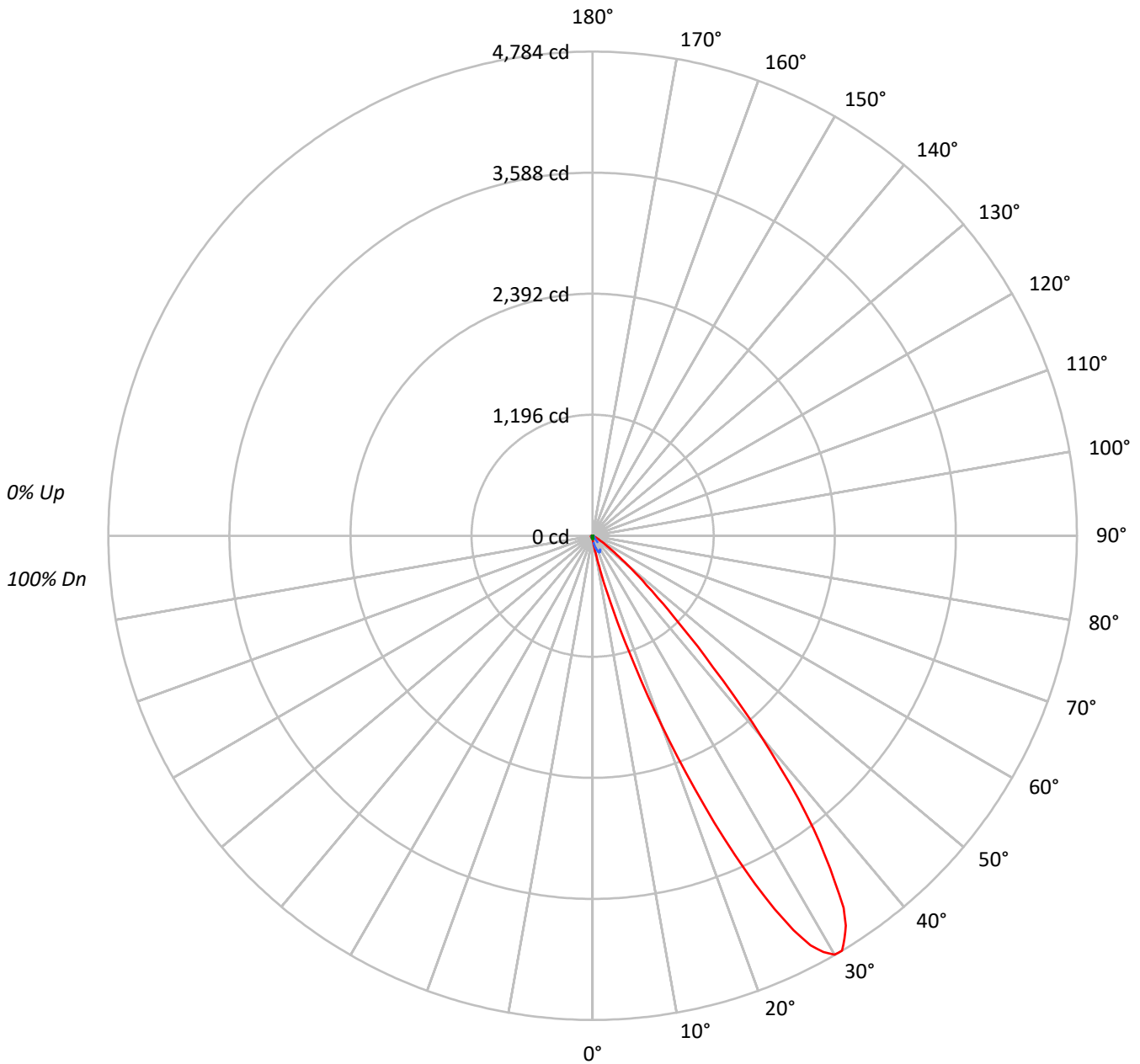
Lumens per Lamp: N/A  
Luminaire Lumens: 698.1 lumens  
Efficiency: N/A  
Efficacy: 69.8 lumens/watt  
Spacing Criteria (0/90/45): 2.92 / 0.6 / 1.34  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

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



TEST NUMBER: P315335  
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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°	14653	14653	14653
5°	32785	15155	11836
10°	87670	9418	3357
15°	345124	12207	7917
20°	1044117	7455	6143
25°	2066244	6369	5444
30°	2722639	3817	6665
35°	2512305	5541	8071
40°	1673404	4830	11077
45°	789329	1744	4675
50°	348000	6447	14430
55°	141495	0	14795
60°	58710	4144	13222
65°	20079	4903	9806
70°	16877	9665	24811
75°	9531	14297	32787
80°	0	7103	14206
85°	9623	9623	47550



TEST NUMBER: P315335

CATALOG NUMBER: LDA2B10FL9030D010 PIN1MMS

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	4.0	0.6
10°-20°	42.7	6.1
20°-30°	219.6	31.5
30°-40°	281.2	40.3
40°-50°	108.1	15.5
50°-60°	22.0	3.1
60°-70°	7.5	1.1
70°-80°	8.7	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°	266.3	38.1
0°-40°	547.5	78.4
0°-60°	677.6	97.1
0°-90°	698.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	698.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	30	30	30	30	30	
5°	66	54	31	22	24	10
15°	676	132	24	14	16	259
25°	3796	172	12	9	10	1733
35°	4171	89	9	8	13	2493
45°	1131	22	2	2	7	972
55°	164	4	0	3	17	170
65°	17	6	4	6	8	24
75°	5	9	8	13	17	7
85°	2	6	2	7	8	1
90°	0	0	0	0	0	



TEST NUMBER: P315335

CATALOG NUMBER: LDA2B10FL9030D010 PIN1MMS

**CANDELA DISTRIBUTION (FULL):**

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	22.5°	45°	67.5°
0°	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7
2.5°	44.0	38.1	39.8	33.9	37.3	38.1	31.4	41.4	37.3	38.9	33.9
5°	66.2	71.2	65.3	62.8	61.1	62.8	61.1	63.6	62.0	54.4	38.9
7.5°	110.5	100.9	100.9	97.6	100.1	99.2	95.0	97.6	91.7	66.2	44.8
10°	175.0	165.4	164.5	162.0	161.2	153.7	149.5	146.1	134.0	78.3	40.6
12.5°	342.9	334.5	328.7	314.0	304.0	298.1	275.9	264.2	229.4	116.4	51.9
15°	675.7	632.6	643.5	596.2	561.4	538.4	492.4	451.8	368.4	131.5	50.2
17.5°	1195.7	1153.9	1125.8	1074.3	1003.6	942.4	851.6	761.6	592.0	149.5	46.9
20°	1988.7	1922.6	1864.0	1775.6	1639.5	1521.9	1362.0	1189.9	881.3	170.8	42.3
21°	2337.1	2286.0	2218.2	2101.8	1943.1	1785.7	1593.9	1386.7	1004.4	172.5	38.1
22°	2700.5	2667.4	2578.2	2444.7	2259.6	2072.0	1836.7	1609.0	1135.5	175.0	36.4
23°	3079.0	3044.2	2943.3	2790.5	2582.4	2355.5	2081.2	1811.2	1258.5	178.4	35.6
24°	3449.5	3411.0	3298.3	3127.5	2891.4	2630.6	2320.7	2007.6	1373.3	176.7	37.3
25°	3795.7	3742.1	3623.2	3434.0	3174.8	2882.2	2540.5	2177.1	1474.2	171.7	31.4
26°	4104.7	4043.6	3915.5	3709.1	3425.6	3108.7	2723.9	2334.5	1548.7	167.5	29.7
27°	4373.1	4296.1	4159.1	3942.7	3638.7	3288.7	2880.5	2457.6	1614.4	161.2	23.9
28°	4582.0	4493.7	4354.7	4126.1	3804.9	3429.0	2995.6	2534.7	1653.4	162.0	27.2
29°	4702.6	4634.8	4483.6	4244.1	3906.3	3509.8	3056.3	2577.4	1660.9	149.5	25.5
30°	4779.2	4703.4	4548.1	4297.7	3945.2	3528.2	3063.9	2569.4	1638.7	140.3	23.9
31°	4784.2	4705.1	4547.3	4288.1	3930.1	3497.6	3022.0	2522.1	1590.6	130.6	19.7
32°	4694.2	4633.1	4477.8	4210.2	3848.5	3413.5	2932.0	2442.1	1514.8	111.4	13.4
33°	4592.5	4518.4	4363.9	4093.8	3735.4	3298.3	2802.2	2334.5	1436.1	109.7	17.2
34°	4434.2	4345.0	4193.1	3927.2	3578.4	3134.2	2647.7	2190.9	1335.6	100.1	16.3
35°	4171.3	4123.6	3969.9	3707.4	3368.7	2937.4	2461.8	2033.1	1228.8	89.2	11.7
36°	3907.9	3849.3	3704.0	3450.3	3129.2	2703.0	2252.1	1853.1	1108.2	75.8	9.2
37°	3629.5	3552.9	3420.6	3172.3	2837.0	2469.4	2050.7	1681.4	1009.9	80.0	12.6
38°	3305.0	3279.5	3105.3	2874.2	2564.4	2217.3	1834.2	1500.5	901.0	74.5	20.5
39°	2948.3	2931.2	2757.4	2546.8	2268.8	1949.8	1612.7	1313.0	792.1	54.4	6.7
40°	2598.3	2549.3	2426.2	2234.9	1992.9	1706.1	1414.7	1153.0	697.9	53.6	13.4
42.5°	1761.0	1776.4	1643.3	1506.4	1351.1	1156.4	962.1	790.5	488.2	39.8	8.4
45°	1131.3	1134.6	1075.2	968.8	867.1	745.7	617.5	514.6	314.8	22.2	2.5
47.5°	720.1	718.5	680.4	619.2	552.7	481.5	401.5	336.2	203.9	17.2	7.5
50°	453.4	451.8	427.9	389.0	351.7	304.8	254.6	216.5	129.0	20.5	8.4
51°	368.4	370.9	350.9	311.5	282.6	237.8	203.1	172.5	100.9	14.2	7.5
52°	304.0	302.3	289.7	256.6	232.8	194.3	165.4	141.1	84.2	12.6	3.3
53°	244.5	245.3	232.8	207.2	184.2	155.3	132.3	109.7	60.3	9.2	2.5
54°	193.4	191.8	187.6	162.9	148.6	123.1	103.4	84.2	51.9	1.7	0.0
55°	164.5	162.0	156.2	134.8	120.6	101.7	82.5	72.0	44.8	4.2	0.0
57.5°	95.0	95.0	91.7	80.0	70.3	62.8	50.2	46.9	23.0	4.2	0.0
60°	59.5	51.9	57.8	49.4	38.9	34.8	28.9	26.4	19.7	7.5	1.7
61°	49.4	39.8	38.9	36.4	33.9	23.0	19.7	21.4	12.6	2.5	1.7
62°	35.6	31.4	33.9	28.9	25.5	18.0	16.3	15.5	7.5	3.3	4.2
63°	32.2	28.9	28.1	21.4	18.8	18.8	14.2	13.4	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°	17.2	14.2	12.6	14.2	8.4	10.9	4.2	11.7	2.5	4.2	2.5
67.5°	13.4	8.4	7.5	9.2	5.9	4.2	5.9	7.5	2.5	4.2	5.9
70°	11.7	5.9	8.4	7.5	5.9	7.5	8.4	8.4	2.5	8.4	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	5.9	3.3	5.0	3.3	8.4	3.3	9.2	7.5
77.5°	3.3	4.2	0.0	4.2	0.0	0.0	2.5	5.9	2.5	6.7	8.4
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	5.9	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°	29.7	29.7	29.7	29.7	29.7
2.5°	25.5	23.0	19.7	24.7	20.5
5°	30.6	28.1	22.2	26.4	23.9
7.5°	31.4	26.4	23.0	21.4	23.9
10°	18.8	12.6	9.2	12.6	6.7
12.5°	31.4	22.2	20.5	23.0	25.5
15°	23.9	14.2	14.2	10.9	15.5
17.5°	13.4	10.9	10.0	13.4	15.5
20°	14.2	9.2	7.5	12.6	11.7
21°	12.6	3.3	10.0	10.0	11.7
22°	18.0	8.4	10.0	16.3	17.2
23°	11.7	9.2	7.5	10.0	13.4
24°	17.2	10.0	9.2	12.6	18.8
25°	11.7	9.2	9.2	11.7	10.0
26°	6.7	9.2	6.7	10.0	8.4
27°	5.0	8.4	5.0	7.5	10.0
28°	10.9	13.4	12.6	13.4	11.7
29°	11.7	14.2	11.7	18.0	13.4
30°	6.7	12.6	5.9	13.4	11.7
31°	6.7	9.2	4.2	13.4	11.7
32°	0.8	5.0	2.5	5.0	5.0
33°	5.0	5.9	6.7	10.9	8.4
34°	8.4	10.0	6.7	11.7	10.0
35°	9.2	5.0	7.5	12.6	13.4
36°	2.5	2.5	4.2	10.0	3.3
37°	5.0	14.2	10.0	17.2	10.0
38°	8.4	17.2	16.3	21.4	17.2
39°	1.7	5.0	5.9	11.7	11.7
40°	7.5	12.6	9.2	17.2	17.2
42.5°	5.9	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	20.5
50°	8.4	8.4	10.9	19.7	18.8
51°	5.0	4.2	5.9	13.4	17.2
52°	4.2	5.9	5.9	13.4	13.4
53°	1.7	0.0	0.0	10.0	8.4
54°	1.7	0.8	2.5	7.5	11.7
55°	0.0	4.2	3.3	15.5	17.2
57.5°	0.8	6.7	3.3	10.9	13.4
60°	4.2	5.0	9.2	10.9	13.4
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	10.9	13.4





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**CANDELA DISTRIBUTION (continued):**

	90°	112.5°	135°	157.5°	180°
66°	2.5	6.7	8.4	10.9	10.0
67.5°	5.0	5.9	5.0	14.2	17.2
70°	6.7	10.9	11.7	10.0	17.2
72.5°	4.2	5.9	8.4	15.5	17.2
75°	7.5	8.4	12.6	14.2	17.2
77.5°	5.9	8.4	8.4	9.2	17.2
80°	2.5	7.5	8.4	9.2	5.0
82.5°	3.3	5.0	3.3	9.2	6.7
85°	1.7	7.5	6.7	8.4	8.4
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°	18.8	19.7	18.8	13.4	10.0	9.2	6.7	11.7	3.3	3.3	0.0
65°	17.2	18.8	14.2	16.3	10.9	10.0	5.9	11.7	1.7	5.9	4.2







64°	2.5	4.2	4.2	7.5	11.7
65°	4.2	5.9	5.9	10.9	8.4



(END OF REPORT)