

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: P315293

Luminaire Tested: **LDA2B10FL8027D010 PIN1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P315293  
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: LDA2B10FL8027D010 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: 849.2 lumens  
Efficiency: N/A  
Efficacy: 84.9 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

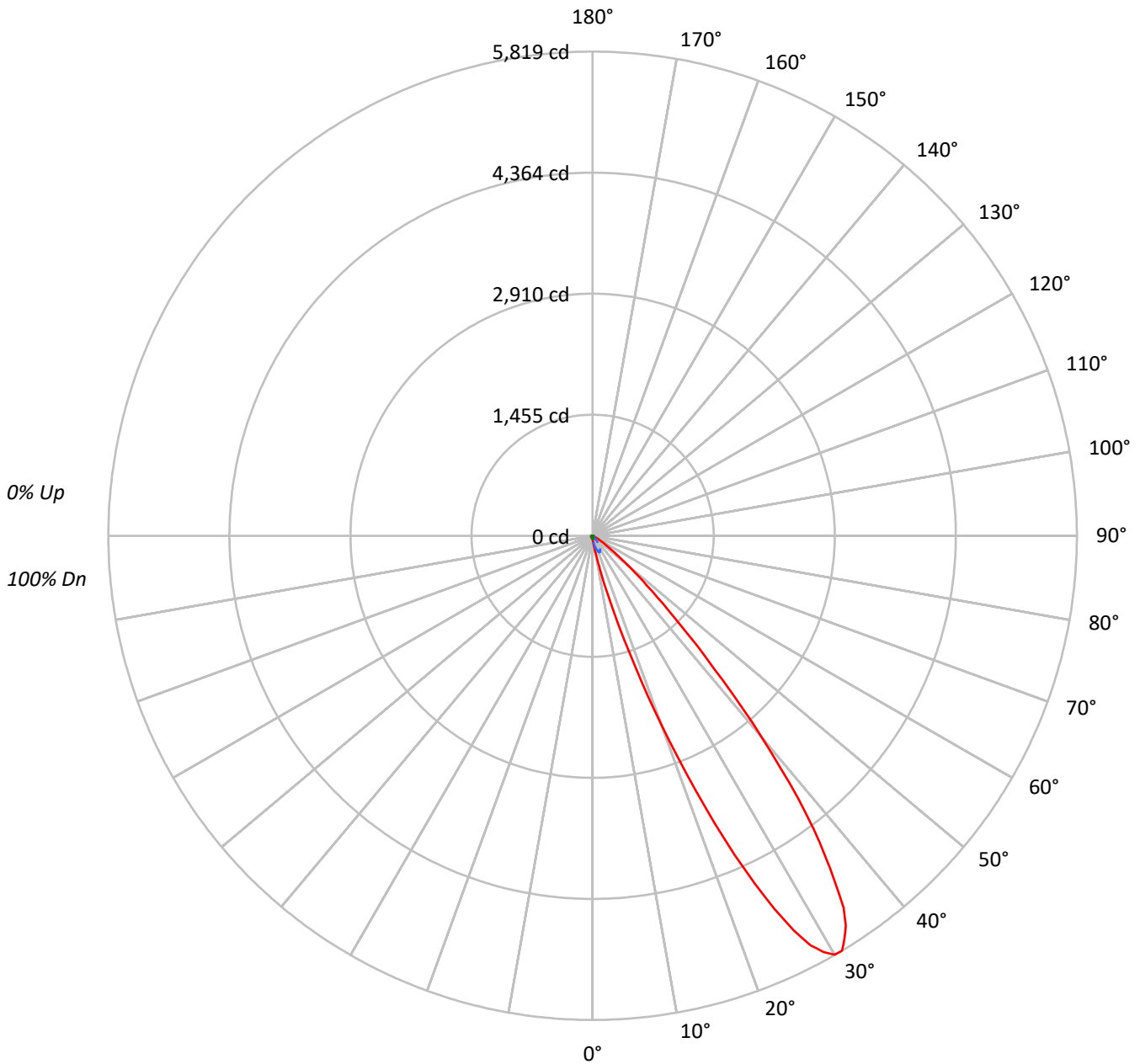
Input Watts (W): 10  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	17860	17860	17860
5°	39867	18423	14362
10°	106657	11472	4058
15°	419798	14812	9602
20°	1269982	9083	7508
25°	2513222	7784	6641
30°	3311580	4614	8146
35°	3055746	6746	9817
40°	2035418	5925	13460
45°	960061	2163	5652
50°	423295	7829	17577
55°	172116	0	17977
60°	71340	5032	16084
65°	24399	5954	11907
70°	20628	11684	30148
75°	11628	17537	39840
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°	52.0	6.1
20°-30°	267.1	31.5
30°-40°	342.0	40.3
40°-50°	131.5	15.5
50°-60°	26.7	3.1
60°-70°	9.1	1.1
70°-80°	10.5	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°	323.9	38.1
0°-40°	665.9	78.4
0°-60°	824.2	97.1
0°-90°	849.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	849.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	36	36	36	36	36	
5°	80	66	37	27	29	12
15°	822	160	29	17	19	315
25°	4617	209	14	11	12	2107
35°	5074	108	11	9	16	3032
45°	1376	27	3	2	8	1183
55°	200	5	0	4	21	207
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°	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2
2.5°	53.5	46.3	48.4	41.2	45.3	46.3	38.2	50.4	45.3	47.4	41.2
5°	80.5	86.6	79.4	76.4	74.3	76.4	74.3	77.4	75.4	66.2	47.4
7.5°	134.4	122.7	122.7	118.7	121.7	120.7	115.6	118.7	111.5	80.5	54.5
10°	212.9	201.2	200.1	197.1	196.1	186.9	181.8	177.7	163.0	95.2	49.4
12.5°	417.1	406.9	399.8	381.9	369.7	362.6	335.6	321.3	279.1	141.6	63.1
15°	821.9	769.5	782.7	725.2	682.9	654.9	598.9	549.5	448.1	159.9	61.1
17.5°	1454.4	1403.5	1369.3	1306.7	1220.7	1146.3	1035.8	926.3	720.1	181.8	57.0
20°	2418.9	2338.4	2267.1	2159.7	1994.2	1851.1	1656.6	1447.3	1072.0	207.8	51.4
21°	2842.6	2780.5	2698.0	2556.4	2363.4	2171.9	1938.7	1686.6	1221.7	209.8	46.3
22°	3284.6	3244.4	3135.9	2973.5	2748.4	2520.2	2234.0	1957.0	1381.1	212.9	44.3
23°	3745.0	3702.7	3580.0	3394.1	3141.0	2865.0	2531.4	2203.0	1530.8	216.9	43.3
24°	4195.6	4148.8	4011.8	3804.0	3516.8	3199.6	2822.7	2441.8	1670.3	214.9	45.3
25°	4616.8	4551.6	4407.0	4176.8	3861.6	3505.6	3090.1	2648.1	1793.0	208.8	38.2
26°	4992.6	4918.3	4762.4	4511.4	4166.6	3781.1	3313.1	2839.5	1883.7	203.7	36.2
27°	5319.0	5225.3	5058.8	4795.5	4425.8	4000.1	3503.6	2989.2	1963.6	196.1	29.0
28°	5573.1	5465.7	5296.6	5018.6	4628.0	4170.7	3643.6	3082.9	2011.0	197.1	33.1
29°	5719.8	5637.3	5453.5	5162.2	4751.2	4269.0	3717.5	3134.9	2020.2	181.8	31.1
30°	5813.0	5720.8	5531.9	5227.4	4798.6	4291.4	3726.6	3125.2	1993.2	170.6	29.0
31°	5819.1	5722.9	5530.9	5215.6	4780.2	4254.2	3675.7	3067.7	1934.6	158.9	23.9
32°	5709.6	5635.3	5446.3	5120.9	4680.9	4151.8	3566.2	2970.4	1842.4	135.5	16.3
33°	5585.9	5495.7	5307.8	4979.4	4543.4	4011.8	3408.4	2839.5	1746.7	133.4	20.9
34°	5393.4	5284.9	5100.0	4776.7	4352.5	3812.2	3220.4	2664.9	1624.5	121.7	19.9
35°	5073.6	5015.5	4828.6	4509.3	4097.4	3572.8	2994.3	2472.9	1494.6	108.5	14.3
36°	4753.3	4682.0	4505.3	4196.7	3806.1	3287.7	2739.2	2253.9	1348.0	92.2	11.2
37°	4414.6	4321.4	4160.5	3858.5	3450.6	3003.5	2494.3	2045.1	1228.3	97.3	15.3
38°	4019.9	3988.9	3777.0	3495.9	3119.1	2696.9	2231.0	1825.1	1095.9	90.6	25.0
39°	3586.1	3565.2	3353.9	3097.7	2759.6	2371.5	1961.6	1597.0	963.5	66.2	8.1
40°	3160.4	3100.8	2951.1	2718.3	2424.0	2075.2	1720.7	1402.4	848.9	65.2	16.3
42.5°	2141.9	2160.7	1998.8	1832.2	1643.3	1406.5	1170.2	961.4	593.8	48.4	10.2
45°	1376.0	1380.0	1307.7	1178.4	1054.6	907.0	751.1	625.9	382.9	27.0	3.1
47.5°	875.9	873.9	827.5	753.2	672.2	585.6	488.4	408.9	248.0	20.9	9.2
50°	551.5	549.5	520.4	473.1	427.8	370.7	309.6	263.3	156.8	25.0	10.2
51°	448.1	451.2	426.7	378.9	343.7	289.2	247.0	209.8	122.7	17.3	9.2
52°	369.7	367.7	352.4	312.2	283.1	236.3	201.2	171.6	102.4	15.3	4.1
53°	297.4	298.4	283.1	252.1	224.1	188.9	160.9	133.4	73.3	11.2	3.1
54°	235.3	233.2	228.1	198.1	180.8	149.7	125.8	102.4	63.1	2.0	0.0
55°	200.1	197.1	189.9	164.0	146.7	123.7	100.3	87.6	54.5	5.1	0.0
57.5°	115.6	115.6	111.5	97.3	85.6	76.4	61.1	57.0	28.0	5.1	0.0
60°	72.3	63.1	70.3	60.1	47.4	42.3	35.1	32.1	23.9	9.2	2.0
61°	60.1	48.4	47.4	44.3	41.2	28.0	23.9	26.0	15.3	3.1	2.0
62°	43.3	38.2	41.2	35.1	31.1	21.9	19.9	18.8	9.2	4.1	5.1
63°	39.2	35.1	34.1	26.0	22.9	22.9	17.3	16.3	11.2	8.1	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°	20.9	17.3	15.3	17.3	10.2	13.2	5.1	14.3	3.1	5.1	3.1
67.5°	16.3	10.2	9.2	11.2	7.1	5.1	7.1	9.2	3.1	5.1	7.1
70°	14.3	7.1	10.2	9.2	7.1	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	7.1	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	7.1	3.1	8.1	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	7.1	8.1
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°	36.2	36.2	36.2	36.2	36.2
2.5°	31.1	28.0	23.9	30.0	25.0
5°	37.2	34.1	27.0	32.1	29.0
7.5°	38.2	32.1	28.0	26.0	29.0
10°	22.9	15.3	11.2	15.3	8.1
12.5°	38.2	27.0	25.0	28.0	31.1
15°	29.0	17.3	17.3	13.2	18.8
17.5°	16.3	13.2	12.2	16.3	18.8
20°	17.3	11.2	9.2	15.3	14.3
21°	15.3	4.1	12.2	12.2	14.3
22°	21.9	10.2	12.2	19.9	20.9
23°	14.3	11.2	9.2	12.2	16.3
24°	20.9	12.2	11.2	15.3	22.9
25°	14.3	11.2	11.2	14.3	12.2
26°	8.1	11.2	8.1	12.2	10.2
27°	6.1	10.2	6.1	9.2	12.2
28°	13.2	16.3	15.3	16.3	14.3
29°	14.3	17.3	14.3	21.9	16.3
30°	8.1	15.3	7.1	16.3	14.3
31°	8.1	11.2	5.1	16.3	14.3
32°	1.0	6.1	3.1	6.1	6.1
33°	6.1	7.1	8.1	13.2	10.2
34°	10.2	12.2	8.1	14.3	12.2
35°	11.2	6.1	9.2	15.3	16.3
36°	3.1	3.1	5.1	12.2	4.1
37°	6.1	17.3	12.2	20.9	12.2
38°	10.2	20.9	19.9	26.0	20.9
39°	2.0	6.1	7.1	14.3	14.3
40°	9.2	15.3	11.2	20.9	20.9
42.5°	7.1	11.2	8.1	17.3	14.3
45°	3.1	3.1	2.0	11.2	8.1
47.5°	5.1	5.1	9.2	14.3	25.0
50°	10.2	10.2	13.2	23.9	22.9
51°	6.1	5.1	7.1	16.3	20.9
52°	5.1	7.1	7.1	16.3	16.3
53°	2.0	0.0	0.0	12.2	10.2
54°	2.0	1.0	3.1	9.2	14.3
55°	0.0	5.1	4.1	18.8	20.9
57.5°	1.0	8.1	4.1	13.2	16.3
60°	5.1	6.1	11.2	13.2	16.3
61°	0.0	5.1	5.1	12.2	14.3
62°	0.0	4.1	9.2	11.2	14.3
63°	5.1	6.1	8.1	13.2	16.3





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**CANDELA DISTRIBUTION (continued):**

	90°	112.5°	135°	157.5°	180°
66°	3.1	8.1	10.2	13.2	12.2
67.5°	6.1	7.1	6.1	17.3	20.9
70°	8.1	13.2	14.3	12.2	20.9
72.5°	5.1	7.1	10.2	18.8	20.9
75°	9.2	10.2	15.3	17.3	20.9
77.5°	7.1	10.2	10.2	11.2	20.9
80°	3.1	9.2	10.2	11.2	6.1
82.5°	4.1	6.1	4.1	11.2	8.1
85°	2.0	9.2	8.1	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°	22.9	23.9	22.9	16.3	12.2	11.2	8.1	14.3	4.1	4.1	0.0
65°	20.9	22.9	17.3	19.9	13.2	12.2	7.1	14.3	2.0	7.1	5.1







64°	3.1	5.1	5.1	9.2	14.3
65°	5.1	7.1	7.1	13.2	10.2



(END OF REPORT)