

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: P315353

Luminaire Tested: **LDA2B10FL9050D010 PIN1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P315353
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: LDA2B10FL9050D010 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: 760.4 lumens
Efficiency: N/A
Efficacy: 76.0 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

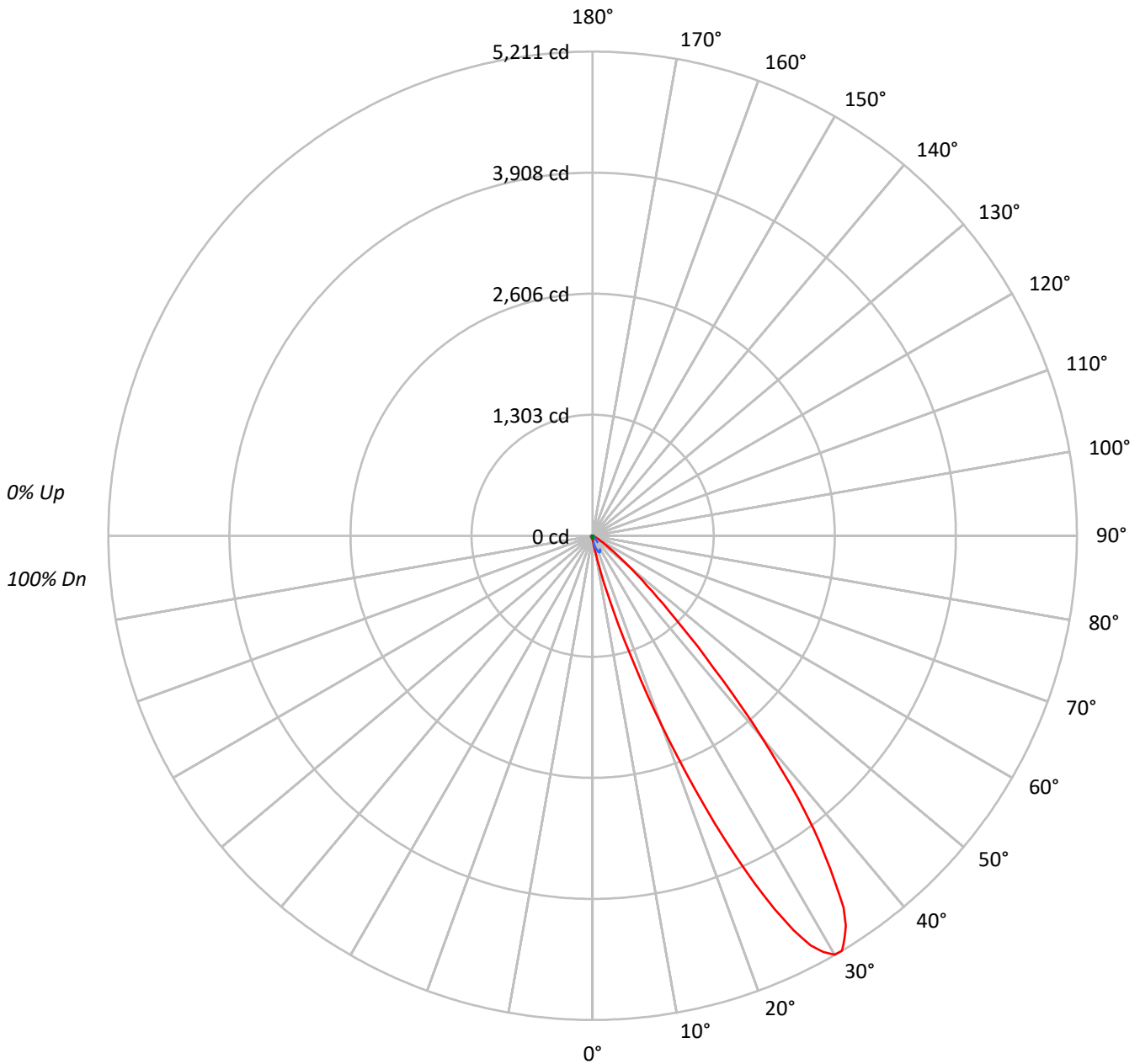
Input Watts (W): 10
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	15985	15985	15985
5°	35707	16492	12876
10°	95485	10270	3657
15°	375975	13280	8632
20°	1137308	8138	6720
25°	2250675	6968	5934
30°	2965610	4159	7292
35°	2736475	6023	8793
40°	1822757	5281	12044
45°	859729	1884	5093
50°	379085	6985	15734
55°	154139	0	16085
60°	63940	4539	14406
65°	21830	5370	10623
70°	18464	10530	26975
75°	10484	15631	35646
80°	0	7671	15626
85°	10189	10189	51512



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	4.4	0.6
10°-20°	46.5	6.1
20°-30°	239.2	31.5
30°-40°	306.3	40.3
40°-50°	117.8	15.5
50°-60°	23.9	3.1
60°-70°	8.1	1.1
70°-80°	9.4	1.2
80°-90°	4.8	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°	290.1	38.1
0°-40°	596.4	78.4
0°-60°	738.1	97.1
0°-90°	760.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	760.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	32	32	32	32	32	
5°	72	59	33	24	26	11
15°	736	143	26	16	17	282
25°	4134	187	13	10	11	1887
35°	4544	97	10	8	15	2716
45°	1232	24	3	2	7	1059
55°	179	5	0	4	19	186
65°	19	6	5	6	9	26
75°	6	10	8	14	19	7
85°	2	6	2	7	9	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°	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4
2.5°	47.9	41.5	43.3	36.9	40.6	41.5	34.2	45.1	40.6	42.4	36.9
5°	72.1	77.5	71.1	68.4	66.6	68.4	66.6	69.3	67.5	59.3	42.4
7.5°	120.4	109.9	109.9	106.3	109.0	108.1	103.5	106.3	99.9	72.1	48.8
10°	190.6	180.1	179.2	176.5	175.6	167.4	162.8	159.2	145.9	85.3	44.2
12.5°	373.5	364.4	358.0	342.0	331.1	324.7	300.5	287.8	249.9	126.8	56.5
15°	736.1	689.1	700.9	649.4	611.6	586.5	536.3	492.1	401.3	143.2	54.7
17.5°	1302.5	1256.9	1226.3	1170.2	1093.1	1026.6	927.6	829.5	644.8	162.8	51.1
20°	2166.2	2094.1	2030.3	1934.1	1785.9	1657.7	1483.5	1296.1	960.0	186.1	46.1
21°	2545.6	2490.0	2416.1	2289.3	2116.5	1945.0	1736.2	1510.4	1094.0	187.9	41.5
22°	2941.5	2905.4	2808.3	2662.8	2461.3	2257.0	2000.7	1752.6	1236.8	190.6	39.7
23°	3353.7	3315.9	3206.0	3039.5	2812.9	2565.7	2267.0	1972.8	1370.9	194.3	38.8
24°	3757.3	3715.4	3592.7	3406.6	3149.4	2865.3	2527.8	2186.7	1495.8	192.4	40.6
25°	4134.5	4076.1	3946.6	3740.5	3458.2	3139.4	2767.3	2371.4	1605.7	187.0	34.2
26°	4471.0	4404.5	4264.9	4040.1	3731.3	3386.1	2967.0	2542.9	1686.9	182.4	32.4
27°	4763.4	4679.4	4530.3	4294.5	3963.5	3582.2	3137.6	2677.0	1758.5	175.6	26.0
28°	4990.9	4894.7	4743.3	4494.3	4144.5	3735.0	3263.0	2760.9	1800.9	176.5	29.6
29°	5122.3	5048.4	4883.8	4622.9	4254.9	3823.0	3329.1	2807.4	1809.1	162.8	27.8
30°	5205.7	5123.2	4954.0	4681.3	4297.3	3843.1	3337.3	2798.7	1784.9	152.8	26.0
31°	5211.2	5125.0	4953.1	4670.8	4280.9	3809.8	3291.7	2747.2	1732.5	142.3	21.4
32°	5113.1	5046.6	4877.4	4586.0	4191.9	3718.1	3193.7	2660.1	1650.0	121.3	14.6
33°	5002.3	4921.6	4753.3	4459.2	4068.8	3592.7	3052.3	2542.9	1564.2	119.5	18.7
34°	4829.9	4732.8	4567.3	4277.7	3897.8	3413.9	2884.0	2386.5	1454.8	109.0	17.8
35°	4543.5	4491.6	4324.2	4038.3	3669.3	3199.6	2681.5	2214.5	1338.5	97.1	12.8
36°	4256.7	4192.9	4034.6	3758.2	3408.5	2944.2	2453.1	2018.4	1207.1	82.5	10.0
37°	3953.4	3870.0	3725.9	3455.4	3090.1	2689.7	2233.7	1831.5	1100.0	87.1	13.7
38°	3600.0	3572.2	3382.5	3130.7	2793.3	2415.2	1997.9	1634.5	981.4	81.2	22.3
39°	3211.4	3192.8	3003.5	2774.1	2471.3	2123.8	1756.7	1430.1	862.8	59.3	7.3
40°	2830.2	2776.8	2642.8	2434.4	2170.8	1858.4	1541.0	1255.9	760.2	58.4	14.6
42.5°	1918.1	1935.0	1790.0	1640.8	1471.6	1259.6	1048.0	861.0	531.7	43.3	9.1
45°	1232.2	1235.9	1171.1	1055.3	944.5	812.2	672.7	560.5	342.9	24.2	2.7
47.5°	784.4	782.6	741.1	674.5	602.0	524.4	437.3	366.2	222.1	18.7	8.2
50°	493.9	492.1	466.1	423.7	383.1	332.0	277.3	235.8	140.5	22.3	9.1
51°	401.3	404.1	382.2	339.3	307.8	259.0	221.2	187.9	109.9	15.5	8.2
52°	331.1	329.3	315.6	279.6	253.6	211.6	180.1	153.7	91.7	13.7	3.6
53°	266.3	267.2	253.6	225.7	200.7	169.2	144.1	119.5	65.7	10.0	2.7
54°	210.7	208.9	204.3	177.4	161.9	134.1	112.6	91.7	56.5	1.8	0.0
55°	179.2	176.5	170.1	146.8	131.3	110.8	89.8	78.4	48.8	4.6	0.0
57.5°	103.5	103.5	99.9	87.1	76.6	68.4	54.7	51.1	25.1	4.6	0.0
60°	64.8	56.5	62.9	53.8	42.4	37.9	31.5	28.7	21.4	8.2	1.8
61°	53.8	43.3	42.4	39.7	36.9	25.1	21.4	23.3	13.7	2.7	1.8
62°	38.8	34.2	36.9	31.5	27.8	19.6	17.8	16.9	8.2	3.6	4.6
63°	35.1	31.5	30.6	23.3	20.5	20.5	15.5	14.6	10.0	7.3	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°	18.7	15.5	13.7	15.5	9.1	11.9	4.6	12.8	2.7	4.6	2.7
67.5°	14.6	9.1	8.2	10.0	6.4	4.6	6.4	8.2	2.7	4.6	6.4
70°	12.8	6.4	9.1	8.2	6.4	8.2	9.1	9.1	2.7	9.1	8.2
72.5°	12.8	8.2	4.6	3.6	3.6	3.6	3.6	3.6	5.5	12.8	10.0
75°	5.5	5.5	2.7	6.4	3.6	5.5	3.6	9.1	3.6	10.0	8.2
77.5°	3.6	4.6	0.0	4.6	0.0	0.0	2.7	6.4	2.7	7.3	9.1
80°	0.0	4.6	2.7	0.0	1.8	2.7	0.0	0.9	1.8	8.2	3.6
82.5°	1.8	2.7	3.6	1.8	1.8	0.0	0.0	0.0	0.0	5.5	4.6
85°	1.8	3.6	0.0	0.9	3.6	1.8	0.9	4.6	1.8	6.4	7.3
87.5°	0.0	1.8	1.8	0.0	2.7	0.0	2.7	1.8	0.0	5.5	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



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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
0°	32.4	32.4	32.4	32.4	32.4
2.5°	27.8	25.1	21.4	26.9	22.3
5°	33.3	30.6	24.2	28.7	26.0
7.5°	34.2	28.7	25.1	23.3	26.0
10°	20.5	13.7	10.0	13.7	7.3
12.5°	34.2	24.2	22.3	25.1	27.8
15°	26.0	15.5	15.5	11.9	16.9
17.5°	14.6	11.9	10.9	14.6	16.9
20°	15.5	10.0	8.2	13.7	12.8
21°	13.7	3.6	10.9	10.9	12.8
22°	19.6	9.1	10.9	17.8	18.7
23°	12.8	10.0	8.2	10.9	14.6
24°	18.7	10.9	10.0	13.7	20.5
25°	12.8	10.0	10.0	12.8	10.9
26°	7.3	10.0	7.3	10.9	9.1
27°	5.5	9.1	5.5	8.2	10.9
28°	11.9	14.6	13.7	14.6	12.8
29°	12.8	15.5	12.8	19.6	14.6
30°	7.3	13.7	6.4	14.6	12.8
31°	7.3	10.0	4.6	14.6	12.8
32°	0.9	5.5	2.7	5.5	5.5
33°	5.5	6.4	7.3	11.9	9.1
34°	9.1	10.9	7.3	12.8	10.9
35°	10.0	5.5	8.2	13.7	14.6
36°	2.7	2.7	4.6	10.9	3.6
37°	5.5	15.5	10.9	18.7	10.9
38°	9.1	18.7	17.8	23.3	18.7
39°	1.8	5.5	6.4	12.8	12.8
40°	8.2	13.7	10.0	18.7	18.7
42.5°	6.4	10.0	7.3	15.5	12.8
45°	2.7	2.7	1.8	10.0	7.3
47.5°	4.6	4.6	8.2	12.8	22.3
50°	9.1	9.1	11.9	21.4	20.5
51°	5.5	4.6	6.4	14.6	18.7
52°	4.6	6.4	6.4	14.6	14.6
53°	1.8	0.0	0.0	10.9	9.1
54°	1.8	0.9	2.7	8.2	12.8
55°	0.0	4.6	3.6	16.9	18.7
57.5°	0.9	7.3	3.6	11.9	14.6
60°	4.6	5.5	10.0	11.9	14.6
61°	0.0	4.6	4.6	10.9	12.8
62°	0.0	3.6	8.2	10.0	12.8
63°	4.6	5.5	7.3	11.9	14.6



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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
66°	2.7	7.3	9.1	11.9	10.9
67.5°	5.5	6.4	5.5	15.5	18.7
70°	7.3	11.9	12.8	10.9	18.7
72.5°	4.6	6.4	9.1	16.9	18.7
75°	8.2	9.1	13.7	15.5	18.7
77.5°	6.4	9.1	9.1	10.0	18.7
80°	2.7	8.2	9.1	10.0	5.5
82.5°	3.6	5.5	3.6	10.0	7.3
85°	1.8	8.2	7.3	9.1	9.1
87.5°	2.7	4.6	4.6	8.2	5.5
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	20.5	21.4	20.5	14.6	10.9	10.0	7.3	12.8	3.6	3.6	0.0
65°	18.7	20.5	15.5	17.8	11.9	10.9	6.4	12.8	1.8	6.4	4.6





64°	2.7	4.6	4.6	8.2	12.8
65°	4.6	6.4	6.4	11.9	9.1



(END OF REPORT)