

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: P315311

Luminaire Tested: **LDA2B10FL8040D010 PIN1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P315311
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: LDA2B10FL8040D010 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

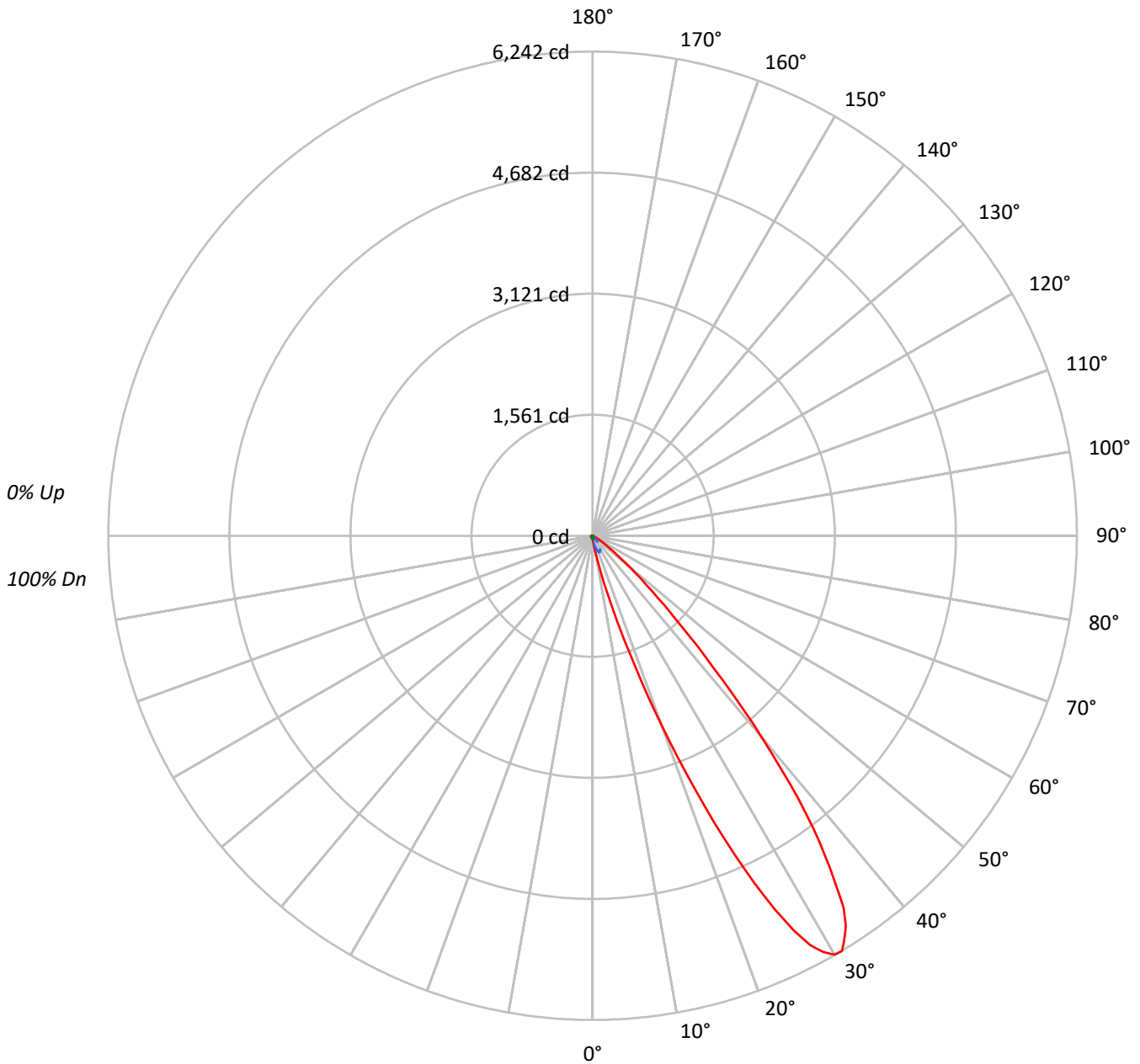
Lumens per Lamp: N/A
Luminaire Lumens: 910.9 lumens
Efficiency: N/A
Efficacy: 91.1 lumens/watt
Spacing Criteria (0/90/45): 2.92 / 0.6 / 1.34
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

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°	19142	19142	19142
5°	42740	19760	15402
10°	114372	12324	4358
15°	450342	15885	10317
20°	1362386	9765	8033
25°	2696020	8329	7131
30°	3552442	4956	8716
35°	3277988	7227	10540
40°	2183418	6312	14426
45°	1029903	2302	6070
50°	454074	8366	18881
55°	184674	0	19267
60°	76570	5427	17268
65°	26150	6421	12725
70°	22070	12550	32312
75°	12581	18681	42699
80°	0	9376	18752
85°	12454	12454	61702



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	5.3	0.6
10°-20°	55.7	6.1
20°-30°	286.5	31.5
30°-40°	366.9	40.3
40°-50°	141.1	15.5
50°-60°	28.7	3.1
60°-70°	9.7	1.1
70°-80°	11.3	1.2
80°-90°	5.8	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°	347.5	38.1
0°-40°	714.4	78.4
0°-60°	884.1	97.1
0°-90°	910.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	910.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	39	39	39	39	39	
5°	86	71	40	29	31	13
15°	882	172	31	19	20	338
25°	4953	224	15	12	13	2261
35°	5443	116	12	10	18	3253
45°	1476	29	3	2	9	1269
55°	215	6	0	4	22	222
65°	22	8	6	8	11	31
75°	7	12	10	16	22	9
85°	2	8	2	9	11	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°	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8
2.5°	57.4	49.7	51.9	44.2	48.6	49.7	41.0	54.1	48.6	50.8	44.2
5°	86.3	92.9	85.2	81.9	79.8	81.9	79.8	83.0	80.9	71.0	50.8
7.5°	144.2	131.7	131.7	127.3	130.6	129.5	124.0	127.3	119.6	86.3	58.5
10°	228.3	215.8	214.7	211.4	210.3	200.5	195.0	190.7	174.8	102.2	53.0
12.5°	447.4	436.5	428.8	409.7	396.6	389.0	360.0	344.7	299.4	151.9	67.7
15°	881.7	825.4	839.6	777.9	732.6	702.5	642.4	589.4	480.7	171.5	65.6
17.5°	1560.2	1505.6	1469.0	1401.8	1309.4	1229.7	1111.1	993.7	772.4	195.0	61.2
20°	2594.9	2508.5	2432.1	2316.8	2139.3	1985.7	1777.1	1552.5	1149.9	222.9	55.2
21°	3049.4	2982.7	2894.2	2742.3	2535.3	2329.9	2079.7	1809.3	1310.5	225.1	49.7
22°	3523.5	3480.4	3364.0	3189.8	2948.3	2703.6	2396.6	2099.4	1481.5	228.3	47.5
23°	4017.4	3972.0	3840.4	3641.0	3369.5	3073.4	2715.6	2363.2	1642.1	232.7	46.4
24°	4500.8	4450.6	4303.6	4080.7	3772.6	3432.3	3028.1	2619.4	1791.8	230.5	48.6
25°	4952.6	4882.7	4727.5	4480.6	4142.5	3760.6	3314.9	2840.7	1923.5	224.0	41.0
26°	5355.8	5276.0	5108.9	4839.5	4469.7	4056.2	3554.1	3046.1	2020.7	218.5	38.8
27°	5705.9	5605.4	5426.8	5144.4	4747.8	4291.1	3758.4	3206.7	2106.5	210.3	31.1
28°	5978.5	5863.3	5681.9	5383.6	4964.6	4474.1	3908.7	3307.2	2157.3	211.4	35.5
29°	6135.9	6047.4	5850.2	5537.7	5096.8	4579.5	3987.9	3362.9	2167.1	195.0	33.3
30°	6235.8	6137.0	5934.3	5607.6	5147.6	4603.5	3997.7	3352.5	2138.2	183.0	31.1
31°	6242.4	6139.1	5933.2	5595.0	5128.0	4563.7	3943.1	3290.8	2075.3	170.4	25.7
32°	6124.9	6045.2	5842.5	5493.4	5021.4	4453.9	3825.6	3186.5	1976.5	145.3	17.5
33°	5992.2	5895.5	5693.9	5341.6	4874.0	4303.6	3656.3	3046.1	1873.8	143.1	22.4
34°	5785.7	5669.3	5471.0	5124.2	4669.1	4089.5	3454.7	2858.7	1742.6	130.6	21.3
35°	5442.6	5380.4	5179.9	4837.4	4395.4	3832.7	3212.2	2652.8	1603.3	116.4	15.3
36°	5099.0	5022.5	4833.0	4501.9	4082.9	3526.8	2938.5	2417.9	1446.0	98.9	12.0
37°	4735.7	4635.8	4463.1	4139.2	3701.6	3222.0	2675.7	2193.9	1317.6	104.3	16.4
38°	4312.4	4279.0	4051.8	3750.2	3346.0	2893.1	2393.3	1957.9	1175.6	97.2	26.8
39°	3846.9	3824.5	3597.8	3323.0	2960.3	2544.0	2104.3	1713.1	1033.6	71.0	8.7
40°	3390.2	3326.3	3165.7	2916.1	2600.3	2226.1	1845.9	1504.5	910.7	69.9	17.5
42.5°	2297.7	2317.9	2144.2	1965.5	1762.9	1508.8	1255.4	1031.4	637.0	51.9	10.9
45°	1476.1	1480.4	1402.9	1264.1	1131.4	972.9	805.8	671.4	410.8	29.0	3.3
47.5°	939.6	937.4	887.7	808.0	721.1	628.2	523.9	438.7	266.0	22.4	9.8
50°	591.6	589.4	558.3	507.5	458.9	397.7	332.1	282.4	168.3	26.8	10.9
51°	480.7	484.0	457.8	406.4	368.7	310.3	264.9	225.1	131.7	18.6	9.8
52°	396.6	394.4	378.0	334.9	303.7	253.5	215.8	184.1	109.8	16.4	4.4
53°	319.0	320.1	303.7	270.4	240.4	202.7	172.6	143.1	78.7	12.0	3.3
54°	252.4	250.2	244.7	212.5	193.9	160.6	134.9	109.8	67.7	2.2	0.0
55°	214.7	211.4	203.8	175.9	157.3	132.7	107.6	94.0	58.5	5.5	0.0
57.5°	124.0	124.0	119.6	104.3	91.8	81.9	65.6	61.2	30.0	5.5	0.0
60°	77.6	67.7	75.4	64.5	50.8	45.3	37.7	34.4	25.7	9.8	2.2
61°	64.5	51.9	50.8	47.5	44.2	30.0	25.7	27.9	16.4	3.3	2.2
62°	46.4	41.0	44.2	37.7	33.3	23.5	21.3	20.2	9.8	4.4	5.5
63°	42.1	37.7	36.6	27.9	24.6	24.6	18.6	17.5	12.0	8.7	4.4



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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°	22.4	18.6	16.4	18.6	10.9	14.2	5.5	15.3	3.3	5.5	3.3
67.5°	17.5	10.9	9.8	12.0	7.6	5.5	7.6	9.8	3.3	5.5	7.6
70°	15.3	7.6	10.9	9.8	7.6	9.8	10.9	10.9	3.3	10.9	9.8
72.5°	15.3	9.8	5.5	4.4	4.4	4.4	4.4	4.4	6.6	15.3	12.0
75°	6.6	6.6	3.3	7.6	4.4	6.6	4.4	10.9	4.4	12.0	9.8
77.5°	4.4	5.5	0.0	5.5	0.0	0.0	3.3	7.6	3.3	8.7	10.9
80°	0.0	5.5	3.3	0.0	2.2	3.3	0.0	1.1	2.2	9.8	4.4
82.5°	2.2	3.3	4.4	2.2	2.2	0.0	0.0	0.0	0.0	6.6	5.5
85°	2.2	4.4	0.0	1.1	4.4	2.2	1.1	5.5	2.2	7.6	8.7
87.5°	0.0	2.2	2.2	0.0	3.3	0.0	3.3	2.2	0.0	6.6	3.3
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°	38.8	38.8	38.8	38.8	38.8
2.5°	33.3	30.0	25.7	32.2	26.8
5°	39.9	36.6	29.0	34.4	31.1
7.5°	41.0	34.4	30.0	27.9	31.1
10°	24.6	16.4	12.0	16.4	8.7
12.5°	41.0	29.0	26.8	30.0	33.3
15°	31.1	18.6	18.6	14.2	20.2
17.5°	17.5	14.2	13.1	17.5	20.2
20°	18.6	12.0	9.8	16.4	15.3
21°	16.4	4.4	13.1	13.1	15.3
22°	23.5	10.9	13.1	21.3	22.4
23°	15.3	12.0	9.8	13.1	17.5
24°	22.4	13.1	12.0	16.4	24.6
25°	15.3	12.0	12.0	15.3	13.1
26°	8.7	12.0	8.7	13.1	10.9
27°	6.6	10.9	6.6	9.8	13.1
28°	14.2	17.5	16.4	17.5	15.3
29°	15.3	18.6	15.3	23.5	17.5
30°	8.7	16.4	7.6	17.5	15.3
31°	8.7	12.0	5.5	17.5	15.3
32°	1.1	6.6	3.3	6.6	6.6
33°	6.6	7.6	8.7	14.2	10.9
34°	10.9	13.1	8.7	15.3	13.1
35°	12.0	6.6	9.8	16.4	17.5
36°	3.3	3.3	5.5	13.1	4.4
37°	6.6	18.6	13.1	22.4	13.1
38°	10.9	22.4	21.3	27.9	22.4
39°	2.2	6.6	7.6	15.3	15.3
40°	9.8	16.4	12.0	22.4	22.4
42.5°	7.6	12.0	8.7	18.6	15.3
45°	3.3	3.3	2.2	12.0	8.7
47.5°	5.5	5.5	9.8	15.3	26.8
50°	10.9	10.9	14.2	25.7	24.6
51°	6.6	5.5	7.6	17.5	22.4
52°	5.5	7.6	7.6	17.5	17.5
53°	2.2	0.0	0.0	13.1	10.9
54°	2.2	1.1	3.3	9.8	15.3
55°	0.0	5.5	4.4	20.2	22.4
57.5°	1.1	8.7	4.4	14.2	17.5
60°	5.5	6.6	12.0	14.2	17.5
61°	0.0	5.5	5.5	13.1	15.3
62°	0.0	4.4	9.8	12.0	15.3
63°	5.5	6.6	8.7	14.2	17.5



TEST NUMBER: P315311

CATALOG NUMBER: LDA2B10FL8040D010 PIN1MMS

CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
66°	3.3	8.7	10.9	14.2	13.1
67.5°	6.6	7.6	6.6	18.6	22.4
70°	8.7	14.2	15.3	13.1	22.4
72.5°	5.5	7.6	10.9	20.2	22.4
75°	9.8	10.9	16.4	18.6	22.4
77.5°	7.6	10.9	10.9	12.0	22.4
80°	3.3	9.8	10.9	12.0	6.6
82.5°	4.4	6.6	4.4	12.0	8.7
85°	2.2	9.8	8.7	10.9	10.9
87.5°	3.3	5.5	5.5	9.8	6.6
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	24.6	25.7	24.6	17.5	13.1	12.0	8.7	15.3	4.4	4.4	0.0
65°	22.4	24.6	18.6	21.3	14.2	13.1	7.6	15.3	2.2	7.6	5.5





64°	3.3	5.5	5.5	9.8	15.3
65°	5.5	7.6	7.6	14.2	10.9



(END OF REPORT)