

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: P315432

Luminaire Tested: **LDA2B15FL9040D010 PINW1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P315432
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: LDA2B15FL9040D010 PINW1MMS
Description: PORTFOLIO 2IN ADJ 1500 LUMEN LED LUMINAIRE WITH FLOOD OPTIC AND 2in Adj PinHole, White oculus, matte metallic silver finish
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1022.6 lumens
Efficiency: N/A
Efficacy: 72.5 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

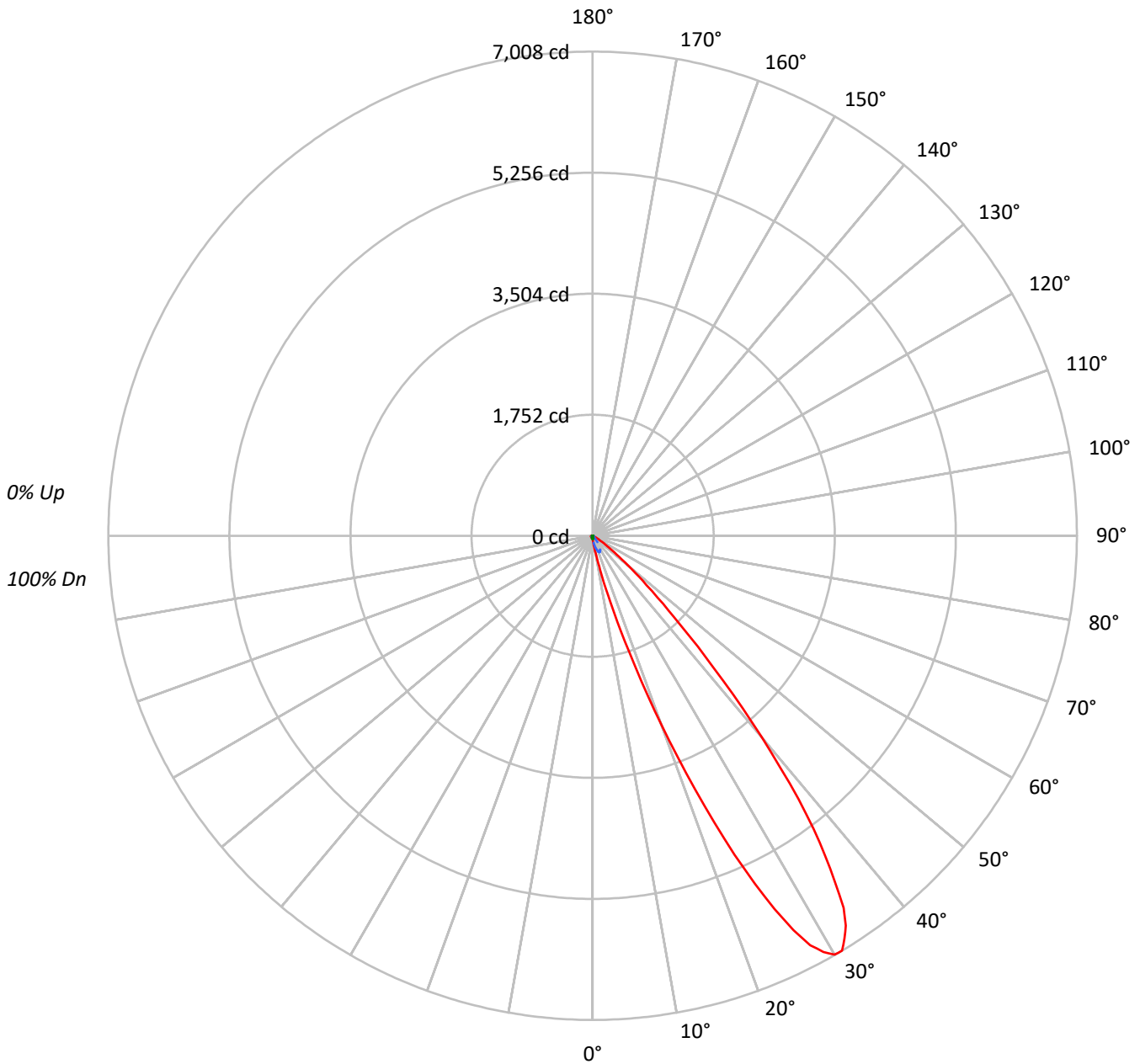
Input Watts (W): 14.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	21461	21461	21461
5°	47989	22187	17334
10°	128399	13827	4910
15°	505556	17877	11594
20°	1529344	10973	9030
25°	3026503	9363	8002
30°	3987967	5583	9799
35°	3679832	8131	11805
40°	2451080	7084	16165
45°	1156120	2582	6838
50°	509797	9441	21184
55°	207296	0	21590
60°	85944	6019	19340
65°	29302	7121	14359
70°	24811	14136	36207
75°	14106	20968	47846
80°	0	10512	21025
85°	14152	14152	69627



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	5.9	0.6
10°-20°	62.6	6.1
20°-30°	321.6	31.5
30°-40°	411.8	40.3
40°-50°	158.4	15.5
50°-60°	32.2	3.1
60°-70°	10.9	1.1
70°-80°	12.7	1.2
80°-90°	6.5	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°	390.1	38.1
0°-40°	801.9	78.4
0°-60°	992.5	97.1
0°-90°	1022.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1022.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	44	44	44	44	44	
5°	97	80	45	32	35	14
15°	990	193	35	21	23	380
25°	5560	251	17	14	15	2538
35°	6110	131	14	11	20	3652
45°	1657	32	4	2	10	1424
55°	241	6	0	5	25	250
65°	25	9	6	9	12	35
75°	7	14	11	18	25	10
85°	2	9	2	10	12	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°	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5
2.5°	64.4	55.8	58.3	49.7	54.6	55.8	46.0	60.7	54.6	57.0	49.7
5°	96.9	104.3	95.7	92.0	89.5	92.0	89.5	93.2	90.8	79.7	57.0
7.5°	161.9	147.8	147.8	142.9	146.6	145.3	139.2	142.9	134.3	96.9	65.6
10°	256.3	242.2	241.0	237.3	236.1	225.1	218.9	214.0	196.2	114.7	59.5
12.5°	502.3	490.0	481.4	459.9	445.2	436.6	404.1	387.0	336.1	170.5	76.0
15°	989.8	926.6	942.6	873.3	822.4	788.6	721.2	661.7	539.7	192.6	73.6
17.5°	1751.4	1690.1	1649.0	1573.6	1470.0	1380.4	1247.4	1115.5	867.1	218.9	68.7
20°	2912.9	2816.1	2730.2	2600.8	2401.5	2229.2	1994.9	1742.9	1290.9	250.2	61.9
21°	3423.2	3348.4	3249.0	3078.5	2846.1	2615.5	2334.7	2031.1	1471.2	252.7	55.8
22°	3955.5	3907.0	3776.4	3580.8	3309.7	3035.0	2690.3	2356.7	1663.1	256.3	53.4
23°	4509.9	4459.0	4311.2	4087.3	3782.5	3450.2	3048.5	2652.9	1843.4	261.2	52.1
24°	5052.6	4996.2	4831.2	4581.0	4235.1	3853.1	3399.3	2940.5	2011.5	258.8	54.6
25°	5559.7	5481.2	5307.1	5029.9	4650.3	4221.6	3721.2	3188.9	2159.3	251.4	46.0
26°	6012.3	5922.8	5735.1	5432.8	5017.6	4553.4	3989.8	3419.5	2268.4	245.3	43.5
27°	6405.4	6292.6	6092.0	5775.0	5329.8	4817.1	4219.2	3599.8	2364.7	236.1	35.0
28°	6711.4	6582.0	6378.4	6043.6	5573.2	5022.5	4387.8	3712.6	2421.7	237.3	39.9
29°	6888.0	6788.7	6567.3	6216.5	5721.6	5140.9	4476.7	3775.2	2432.8	218.9	37.4
30°	7000.3	6889.3	6661.8	6295.0	5778.7	5167.9	4487.8	3763.5	2400.3	205.4	35.0
31°	7007.6	6891.7	6660.5	6280.9	5756.6	5123.1	4426.5	3694.2	2329.7	191.3	28.8
32°	6875.8	6786.2	6558.7	6166.9	5637.0	4999.8	4294.6	3577.1	2218.7	163.1	19.6
33°	6726.8	6618.2	6391.9	5996.4	5471.4	4831.2	4104.5	3419.5	2103.5	160.7	25.1
34°	6495.0	6364.3	6141.7	5752.3	5241.5	4590.8	3878.2	3209.1	1956.3	146.6	23.9
35°	6109.8	6039.9	5814.9	5430.3	4934.2	4302.6	3605.9	2978.0	1799.9	130.6	17.2
36°	5724.1	5638.2	5425.4	5053.8	4583.4	3959.2	3298.7	2714.3	1623.3	111.0	13.5
37°	5316.3	5204.1	5010.3	4646.6	4155.4	3617.0	3003.7	2462.8	1479.2	117.1	18.4
38°	4841.0	4803.6	4548.5	4210.0	3756.2	3247.8	2686.7	2197.9	1319.7	109.2	30.0
39°	4318.5	4293.4	4038.9	3730.4	3323.2	2855.9	2362.2	1923.2	1160.3	79.7	9.8
40°	3805.8	3734.1	3553.8	3273.5	2919.1	2499.0	2072.2	1688.9	1022.3	78.5	19.6
42.5°	2579.3	2602.0	2407.0	2206.5	1979.0	1693.8	1409.3	1157.8	715.1	58.3	12.3
45°	1657.0	1661.9	1574.8	1419.1	1270.0	1092.2	904.5	753.7	461.2	32.5	3.7
47.5°	1054.8	1052.3	996.5	907.0	809.5	705.2	588.1	492.4	298.7	25.1	11.0
50°	664.2	661.7	626.7	569.7	515.1	446.4	372.9	317.1	188.9	30.0	12.3
51°	539.7	543.3	513.9	456.3	413.9	348.3	297.4	252.7	147.8	20.9	11.0
52°	445.2	442.8	424.4	375.9	341.0	284.5	242.2	206.7	123.3	18.4	4.9
53°	358.1	359.4	341.0	303.6	269.8	227.5	193.8	160.7	88.3	13.5	3.7
54°	283.3	280.9	274.7	238.6	217.7	180.3	151.5	123.3	76.0	2.5	0.0
55°	241.0	237.3	228.7	197.5	176.6	149.0	120.8	105.5	65.6	6.1	0.0
57.5°	139.2	139.2	134.3	117.1	103.0	92.0	73.6	68.7	33.7	6.1	0.0
60°	87.1	76.0	84.6	72.4	57.0	50.9	42.3	38.6	28.8	11.0	2.5
61°	72.4	58.3	57.0	53.4	49.7	33.7	28.8	31.3	18.4	3.7	2.5
62°	52.1	46.0	49.7	42.3	37.4	26.4	23.9	22.7	11.0	4.9	6.1
63°	47.2	42.3	41.1	31.3	27.6	27.6	20.9	19.6	13.5	9.8	4.9



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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°	25.1	20.9	18.4	20.9	12.3	15.9	6.1	17.2	3.7	6.1	3.7
67.5°	19.6	12.3	11.0	13.5	8.6	6.1	8.6	11.0	3.7	6.1	8.6
70°	17.2	8.6	12.3	11.0	8.6	11.0	12.3	12.3	3.7	12.3	11.0
72.5°	17.2	11.0	6.1	4.9	4.9	4.9	4.9	4.9	7.4	17.2	13.5
75°	7.4	7.4	3.7	8.6	4.9	7.4	4.9	12.3	4.9	13.5	11.0
77.5°	4.9	6.1	0.0	6.1	0.0	0.0	3.7	8.6	3.7	9.8	12.3
80°	0.0	6.1	3.7	0.0	2.5	3.7	0.0	1.2	2.5	11.0	4.9
82.5°	2.5	3.7	4.9	2.5	2.5	0.0	0.0	0.0	0.0	7.4	6.1
85°	2.5	4.9	0.0	1.2	4.9	2.5	1.2	6.1	2.5	8.6	9.8
87.5°	0.0	2.5	2.5	0.0	3.7	0.0	3.7	2.5	0.0	7.4	3.7
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°	43.5	43.5	43.5	43.5	43.5
2.5°	37.4	33.7	28.8	36.2	30.0
5°	44.8	41.1	32.5	38.6	35.0
7.5°	46.0	38.6	33.7	31.3	35.0
10°	27.6	18.4	13.5	18.4	9.8
12.5°	46.0	32.5	30.0	33.7	37.4
15°	35.0	20.9	20.9	15.9	22.7
17.5°	19.6	15.9	14.7	19.6	22.7
20°	20.9	13.5	11.0	18.4	17.2
21°	18.4	4.9	14.7	14.7	17.2
22°	26.4	12.3	14.7	23.9	25.1
23°	17.2	13.5	11.0	14.7	19.6
24°	25.1	14.7	13.5	18.4	27.6
25°	17.2	13.5	13.5	17.2	14.7
26°	9.8	13.5	9.8	14.7	12.3
27°	7.4	12.3	7.4	11.0	14.7
28°	15.9	19.6	18.4	19.6	17.2
29°	17.2	20.9	17.2	26.4	19.6
30°	9.8	18.4	8.6	19.6	17.2
31°	9.8	13.5	6.1	19.6	17.2
32°	1.2	7.4	3.7	7.4	7.4
33°	7.4	8.6	9.8	15.9	12.3
34°	12.3	14.7	9.8	17.2	14.7
35°	13.5	7.4	11.0	18.4	19.6
36°	3.7	3.7	6.1	14.7	4.9
37°	7.4	20.9	14.7	25.1	14.7
38°	12.3	25.1	23.9	31.3	25.1
39°	2.5	7.4	8.6	17.2	17.2
40°	11.0	18.4	13.5	25.1	25.1
42.5°	8.6	13.5	9.8	20.9	17.2
45°	3.7	3.7	2.5	13.5	9.8
47.5°	6.1	6.1	11.0	17.2	30.0
50°	12.3	12.3	15.9	28.8	27.6
51°	7.4	6.1	8.6	19.6	25.1
52°	6.1	8.6	8.6	19.6	19.6
53°	2.5	0.0	0.0	14.7	12.3
54°	2.5	1.2	3.7	11.0	17.2
55°	0.0	6.1	4.9	22.7	25.1
57.5°	1.2	9.8	4.9	15.9	19.6
60°	6.1	7.4	13.5	15.9	19.6
61°	0.0	6.1	6.1	14.7	17.2
62°	0.0	4.9	11.0	13.5	17.2
63°	6.1	7.4	9.8	15.9	19.6



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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
66°	3.7	9.8	12.3	15.9	14.7
67.5°	7.4	8.6	7.4	20.9	25.1
70°	9.8	15.9	17.2	14.7	25.1
72.5°	6.1	8.6	12.3	22.7	25.1
75°	11.0	12.3	18.4	20.9	25.1
77.5°	8.6	12.3	12.3	13.5	25.1
80°	3.7	11.0	12.3	13.5	7.4
82.5°	4.9	7.4	4.9	13.5	9.8
85°	2.5	11.0	9.8	12.3	12.3
87.5°	3.7	6.1	6.1	11.0	7.4
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	27.6	28.8	27.6	19.6	14.7	13.5	9.8	17.2	4.9	4.9	0.0
65°	25.1	27.6	20.9	23.9	15.9	14.7	8.6	17.2	2.5	8.6	6.1





64°	3.7	6.1	6.1	11.0	17.2
65°	6.1	8.6	8.6	15.9	12.3



(END OF REPORT)