

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: P315431

Luminaire Tested: **LDA2B15FL9040D010 PIN1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P315431
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 PIN1MMS
Description: PORTFOLIO 2IN ADJ 1500 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: 984.9 lumens
Efficiency: N/A
Efficacy: 69.9 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

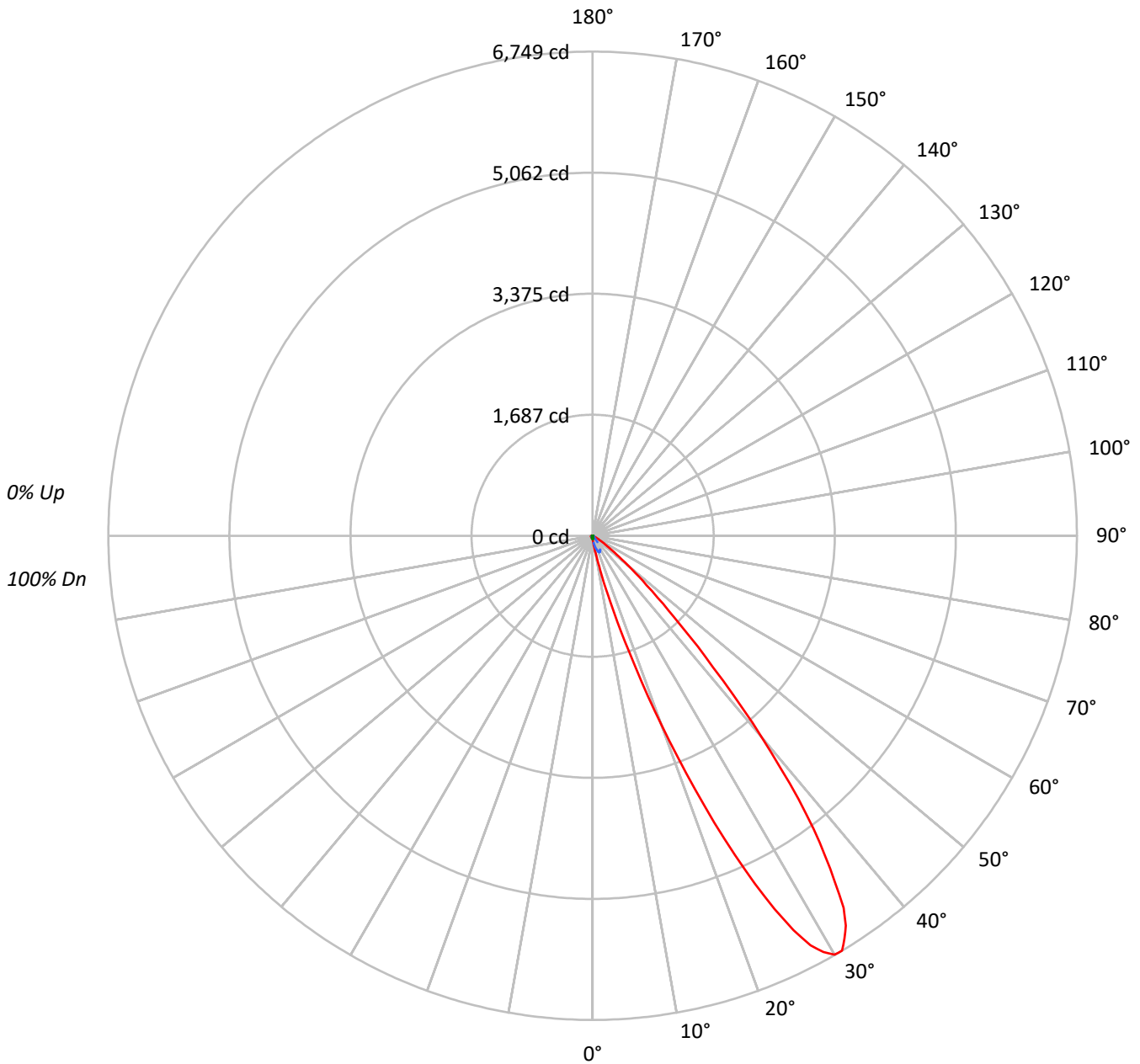
Input Watts (W): 14.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	20672	20672	20672
5°	46206	21345	16690
10°	123690	13326	4759
15°	486913	17213	11186
20°	1473009	10553	8663
25°	2914963	8982	7730
30°	3840931	5412	9400
35°	3544198	7830	11383
40°	2360786	6827	15586
45°	1113490	2442	6628
50°	490992	9057	20416
55°	199641	0	20816
60°	82786	5822	18649
65°	28251	6888	13775
70°	23801	13704	34908
75°	13534	20206	46130
80°	0	9944	20172
85°	13586	13586	66796



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	5.7	0.6
10°-20°	60.3	6.1
20°-30°	309.8	31.5
30°-40°	396.7	40.3
40°-50°	152.5	15.5
50°-60°	31.0	3.1
60°-70°	10.5	1.1
70°-80°	12.2	1.2
80°-90°	6.2	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°	375.7	38.1
0°-40°	772.4	78.4
0°-60°	955.9	97.1
0°-90°	984.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	984.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	42	42	42	42	42	
5°	93	77	43	31	34	14
15°	953	186	34	20	22	366
25°	5355	242	16	13	14	2444
35°	5885	126	13	11	19	3517
45°	1596	31	4	2	10	1372
55°	232	6	0	5	24	240
65°	24	8	6	8	12	34
75°	7	13	11	18	24	10
85°	2	8	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°	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9
2.5°	62.0	53.7	56.1	47.8	52.6	53.7	44.3	58.5	52.6	54.9	47.8
5°	93.3	100.4	92.1	88.6	86.2	88.6	86.2	89.8	87.4	76.8	54.9
7.5°	155.9	142.3	142.3	137.6	141.2	140.0	134.1	137.6	129.4	93.3	63.2
10°	246.9	233.3	232.1	228.6	227.4	216.8	210.9	206.1	189.0	110.5	57.3
12.5°	483.7	471.9	463.7	443.0	428.8	420.5	389.2	372.7	323.7	164.2	73.2
15°	953.3	892.5	907.8	841.1	792.1	759.6	694.6	637.3	519.8	185.5	70.9
17.5°	1686.9	1627.8	1588.2	1515.6	1415.8	1329.5	1201.4	1074.4	835.2	210.9	66.2
20°	2805.6	2712.3	2629.6	2504.9	2313.0	2147.0	1921.4	1678.6	1243.3	241.0	59.7
21°	3297.0	3224.9	3129.2	2965.0	2741.2	2519.1	2248.6	1956.2	1417.0	243.3	53.7
22°	3809.7	3763.0	3637.2	3448.8	3187.7	2923.1	2591.2	2269.9	1601.8	246.9	51.4
23°	4343.6	4294.6	4152.2	3936.7	3643.1	3323.0	2936.1	2555.1	1775.5	251.6	50.2
24°	4866.3	4812.0	4653.1	4412.1	4079.0	3711.0	3274.0	2832.2	1937.3	249.3	52.6
25°	5354.8	5279.2	5111.5	4844.5	4478.9	4066.0	3584.0	3071.4	2079.7	242.2	44.3
26°	5790.7	5704.5	5523.7	5232.5	4832.7	4385.6	3842.7	3293.4	2184.8	236.3	41.9
27°	6169.3	6060.6	5867.5	5562.1	5133.3	4639.5	4063.7	3467.1	2277.5	227.4	33.7
28°	6464.0	6339.4	6143.3	5820.8	5367.8	4837.4	4226.1	3575.8	2332.5	228.6	38.4
29°	6634.1	6538.5	6325.2	5987.4	5510.7	4951.4	4311.7	3636.0	2343.1	210.9	36.0
30°	6742.2	6635.3	6416.2	6063.0	5565.7	4977.4	4322.4	3624.8	2311.8	197.9	33.7
31°	6749.3	6637.7	6415.0	6049.4	5544.4	4934.3	4263.3	3558.1	2243.9	184.3	27.8
32°	6622.3	6536.1	6317.0	5939.5	5429.2	4815.5	4136.3	3445.2	2137.0	157.1	18.9
33°	6478.8	6374.3	6156.3	5775.3	5269.8	4653.1	3953.2	3293.4	2025.9	154.7	24.2
34°	6255.5	6129.7	5915.3	5540.3	5048.3	4421.6	3735.3	3090.9	1884.2	141.2	23.0
35°	5884.6	5817.3	5600.5	5230.2	4752.3	4144.0	3473.0	2868.2	1733.5	125.8	16.5
36°	5513.1	5430.4	5225.5	4867.5	4414.5	3813.2	3177.1	2614.2	1563.4	106.9	13.0
37°	5120.3	5012.2	4825.6	4475.3	4002.2	3483.6	2893.0	2372.0	1424.6	112.8	17.7
38°	4662.6	4626.5	4380.8	4054.8	3617.7	3128.1	2587.6	2116.9	1271.1	105.1	28.9
39°	4159.3	4135.1	3890.0	3592.9	3200.7	2750.6	2275.2	1852.3	1117.5	76.8	9.5
40°	3665.6	3596.4	3422.8	3152.9	2811.5	2406.9	1995.8	1626.6	984.6	75.6	18.9
42.5°	2484.3	2506.1	2318.3	2125.1	1906.0	1631.4	1357.3	1115.1	688.7	56.1	11.8
45°	1595.9	1600.7	1516.8	1366.8	1223.2	1051.9	871.2	725.9	444.2	31.3	3.5
47.5°	1015.9	1013.6	959.8	873.6	779.7	679.2	566.4	474.3	287.6	24.2	10.6
50°	639.7	637.3	603.6	548.7	496.1	430.0	359.1	305.4	181.9	28.9	11.8
51°	519.8	523.3	495.0	439.4	398.7	335.5	286.5	243.3	142.3	20.1	10.6
52°	428.8	426.4	408.7	362.1	328.4	274.1	233.3	199.0	118.7	17.7	4.7
53°	344.9	346.1	328.4	292.4	259.9	219.1	186.6	154.7	85.1	13.0	3.5
54°	272.9	270.5	264.6	229.8	209.7	173.7	145.9	118.7	73.2	2.4	0.0
55°	232.1	228.6	220.3	190.2	170.1	143.5	116.4	101.6	63.2	5.9	0.0
57.5°	134.1	134.1	129.4	112.8	99.2	88.6	70.9	66.2	32.5	5.9	0.0
60°	83.9	73.2	81.5	69.7	54.9	49.0	40.8	37.2	27.8	10.6	2.4
61°	69.7	56.1	54.9	51.4	47.8	32.5	27.8	30.1	17.7	3.5	2.4
62°	50.2	44.3	47.8	40.8	36.0	25.4	23.0	21.9	10.6	4.7	5.9
63°	45.5	40.8	39.6	30.1	26.6	26.6	20.1	18.9	13.0	9.5	4.7



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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°	24.2	20.1	17.7	20.1	11.8	15.4	5.9	16.5	3.5	5.9	3.5
67.5°	18.9	11.8	10.6	13.0	8.3	5.9	8.3	10.6	3.5	5.9	8.3
70°	16.5	8.3	11.8	10.6	8.3	10.6	11.8	11.8	3.5	11.8	10.6
72.5°	16.5	10.6	5.9	4.7	4.7	4.7	4.7	4.7	7.1	16.5	13.0
75°	7.1	7.1	3.5	8.3	4.7	7.1	4.7	11.8	4.7	13.0	10.6
77.5°	4.7	5.9	0.0	5.9	0.0	0.0	3.5	8.3	3.5	9.5	11.8
80°	0.0	5.9	3.5	0.0	2.4	3.5	0.0	1.2	2.4	10.6	4.7
82.5°	2.4	3.5	4.7	2.4	2.4	0.0	0.0	0.0	0.0	7.1	5.9
85°	2.4	4.7	0.0	1.2	4.7	2.4	1.2	5.9	2.4	8.3	9.5
87.5°	0.0	2.4	2.4	0.0	3.5	0.0	3.5	2.4	0.0	7.1	3.5
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°	41.9	41.9	41.9	41.9	41.9
2.5°	36.0	32.5	27.8	34.8	28.9
5°	43.1	39.6	31.3	37.2	33.7
7.5°	44.3	37.2	32.5	30.1	33.7
10°	26.6	17.7	13.0	17.7	9.5
12.5°	44.3	31.3	28.9	32.5	36.0
15°	33.7	20.1	20.1	15.4	21.9
17.5°	18.9	15.4	14.2	18.9	21.9
20°	20.1	13.0	10.6	17.7	16.5
21°	17.7	4.7	14.2	14.2	16.5
22°	25.4	11.8	14.2	23.0	24.2
23°	16.5	13.0	10.6	14.2	18.9
24°	24.2	14.2	13.0	17.7	26.6
25°	16.5	13.0	13.0	16.5	14.2
26°	9.5	13.0	9.5	14.2	11.8
27°	7.1	11.8	7.1	10.6	14.2
28°	15.4	18.9	17.7	18.9	16.5
29°	16.5	20.1	16.5	25.4	18.9
30°	9.5	17.7	8.3	18.9	16.5
31°	9.5	13.0	5.9	18.9	16.5
32°	1.2	7.1	3.5	7.1	7.1
33°	7.1	8.3	9.5	15.4	11.8
34°	11.8	14.2	9.5	16.5	14.2
35°	13.0	7.1	10.6	17.7	18.9
36°	3.5	3.5	5.9	14.2	4.7
37°	7.1	20.1	14.2	24.2	14.2
38°	11.8	24.2	23.0	30.1	24.2
39°	2.4	7.1	8.3	16.5	16.5
40°	10.6	17.7	13.0	24.2	24.2
42.5°	8.3	13.0	9.5	20.1	16.5
45°	3.5	3.5	2.4	13.0	9.5
47.5°	5.9	5.9	10.6	16.5	28.9
50°	11.8	11.8	15.4	27.8	26.6
51°	7.1	5.9	8.3	18.9	24.2
52°	5.9	8.3	8.3	18.9	18.9
53°	2.4	0.0	0.0	14.2	11.8
54°	2.4	1.2	3.5	10.6	16.5
55°	0.0	5.9	4.7	21.9	24.2
57.5°	1.2	9.5	4.7	15.4	18.9
60°	5.9	7.1	13.0	15.4	18.9
61°	0.0	5.9	5.9	14.2	16.5
62°	0.0	4.7	10.6	13.0	16.5
63°	5.9	7.1	9.5	15.4	18.9



TEST NUMBER: P315431

CATALOG NUMBER: LDA2B15FL9040D010 PIN1MMS

CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
66°	3.5	9.5	11.8	15.4	14.2
67.5°	7.1	8.3	7.1	20.1	24.2
70°	9.5	15.4	16.5	14.2	24.2
72.5°	5.9	8.3	11.8	21.9	24.2
75°	10.6	11.8	17.7	20.1	24.2
77.5°	8.3	11.8	11.8	13.0	24.2
80°	3.5	10.6	11.8	13.0	7.1
82.5°	4.7	7.1	4.7	13.0	9.5
85°	2.4	10.6	9.5	11.8	11.8
87.5°	3.5	5.9	5.9	10.6	7.1
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	26.6	27.8	26.6	18.9	14.2	13.0	9.5	16.5	4.7	4.7	0.0
65°	24.2	26.6	20.1	23.0	15.4	14.2	8.3	16.5	2.4	8.3	5.9





64°	3.5	5.9	5.9	10.6	16.5
65°	5.9	8.3	8.3	15.4	11.8



(END OF REPORT)