

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: P315407

Luminaire Tested: **LDA2B15FL9024D010 PIN1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P315407  
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: LDA2B15FL9024D010 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**

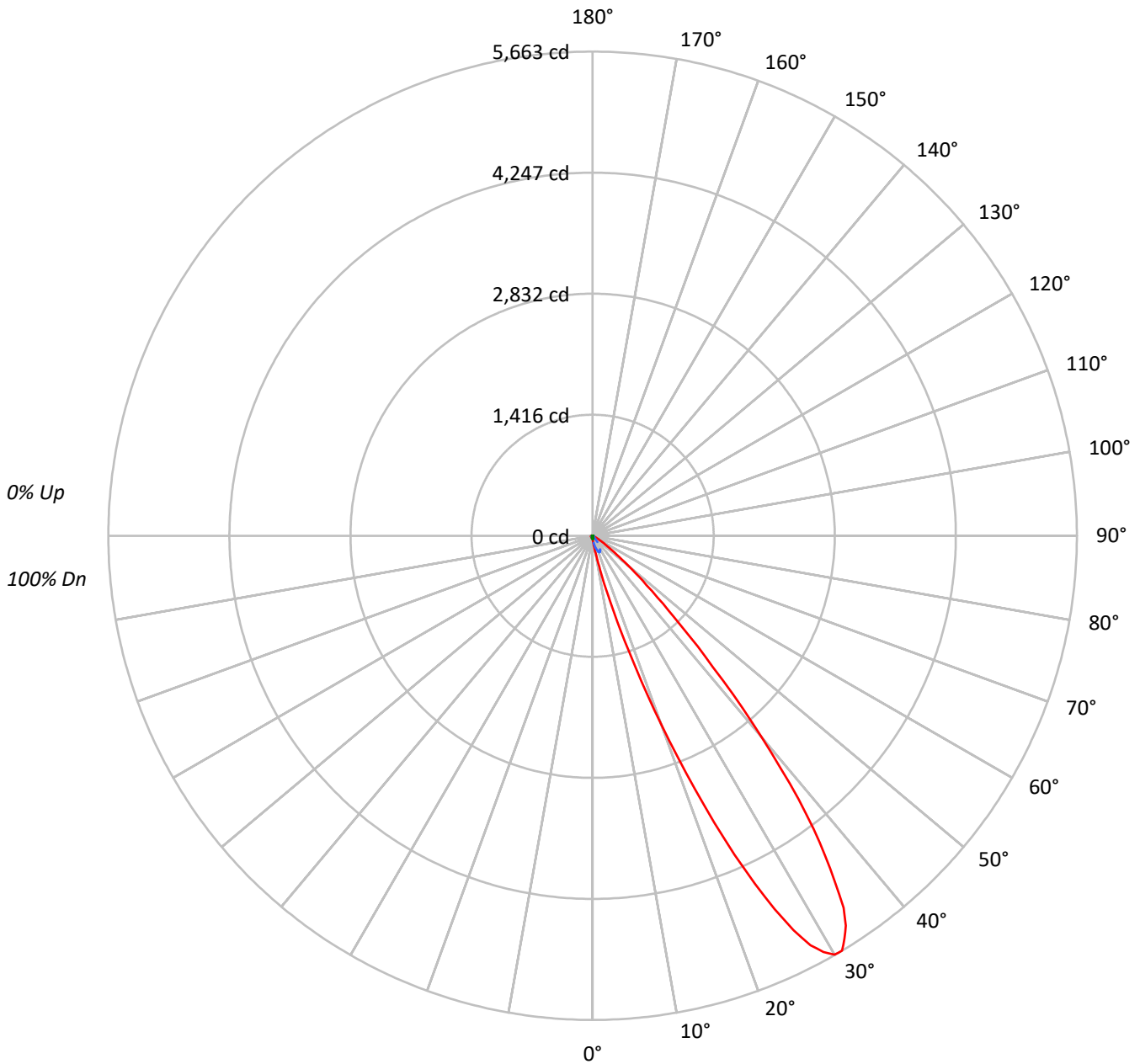
Lumens per Lamp: N/A  
Luminaire Lumens: 826.4 lumens  
Efficiency: N/A  
Efficacy: 58.6 lumens/watt  
Spacing Criteria (0/90/45): 2.92 / 0.6 / 1.34  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

Input Watts (W): 14.1  
Input Voltage (V): NR  
Input Current (A<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					20					
RC	80					70					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°	17366	17366	17366
5°	38778	17928	13966
10°	103751	11172	3958
15°	408510	14404	9347
20°	1235856	8820	7298
25°	2445721	7567	6478
30°	3222652	4501	7919
35°	2973654	6565	9576
40°	1980739	5732	13074
45°	934246	2093	5512
50°	411936	7599	17116
55°	167557	0	17461
60°	69465	4934	15689
65°	23698	5837	11557
70°	20051	11396	29283
75°	11247	16965	38696
80°	0	8523	16763
85°	11321	11321	56041



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	4.8	0.6
10°-20°	50.6	6.1
20°-30°	259.9	31.5
30°-40°	332.8	40.3
40°-50°	128.0	15.5
50°-60°	26.0	3.1
60°-70°	8.8	1.1
70°-80°	10.2	1.2
80°-90°	5.2	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°	315.3	38.1
0°-40°	648.1	78.4
0°-60°	802.1	97.1
0°-90°	826.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	826.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	35	35	35	35	35	
5°	78	64	36	26	28	12
15°	800	156	28	17	18	307
25°	4493	203	14	11	12	2051
35°	4937	106	11	9	16	2951
45°	1339	26	3	2	8	1151
55°	195	5	0	4	20	202
65°	20	7	5	7	10	29
75°	6	11	9	15	20	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°	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2
2.5°	52.0	45.1	47.1	40.1	44.1	45.1	37.2	49.1	44.1	46.1	40.1
5°	78.3	84.2	77.3	74.3	72.4	74.3	72.4	75.3	73.3	64.4	46.1
7.5°	130.8	119.4	119.4	115.5	118.4	117.4	112.5	115.5	108.5	78.3	53.0
10°	207.1	195.7	194.8	191.8	190.8	181.9	176.9	173.0	158.6	92.7	48.1
12.5°	405.9	396.0	389.0	371.7	359.8	352.8	326.6	312.7	271.6	137.8	61.5
15°	799.8	748.8	761.7	705.7	664.6	637.3	582.8	534.7	436.1	155.6	59.5
17.5°	1415.3	1365.8	1332.6	1271.6	1187.9	1115.5	1008.0	901.4	700.7	176.9	55.5
20°	2353.9	2275.6	2206.3	2101.7	1940.6	1801.4	1612.1	1408.4	1043.2	202.2	50.1
21°	2766.3	2705.8	2625.5	2487.8	2299.9	2113.6	1886.6	1641.3	1188.9	204.2	45.1
22°	3196.4	3157.3	3051.7	2893.6	2674.6	2452.6	2174.1	1904.5	1344.0	207.1	43.1
23°	3644.4	3603.3	3483.8	3303.0	3056.7	2788.1	2463.5	2143.8	1489.7	211.1	42.1
24°	4083.0	4037.4	3904.1	3701.9	3422.4	3113.7	2746.9	2376.2	1625.5	209.1	44.1
25°	4492.8	4429.4	4288.6	4064.6	3757.9	3411.5	3007.1	2577.0	1744.9	203.2	37.2
26°	4858.5	4786.2	4634.6	4390.2	4054.7	3679.6	3224.2	2763.3	1833.1	198.2	35.2
27°	5176.2	5085.0	4923.0	4666.8	4307.0	3892.7	3409.5	2909.0	1910.9	190.8	28.2
28°	5423.5	5318.9	5154.4	4883.8	4503.7	4058.7	3545.8	3000.2	1957.0	191.8	32.2
29°	5566.2	5485.9	5307.0	5023.6	4623.6	4154.3	3617.6	3050.7	1965.9	176.9	30.2
30°	5656.9	5567.2	5383.4	5087.0	4669.7	4176.2	3626.6	3041.3	1939.7	166.0	28.2
31°	5662.9	5569.2	5382.4	5075.6	4651.9	4140.0	3577.0	2985.3	1882.7	154.6	23.3
32°	5556.3	5484.0	5300.1	4983.4	4555.3	4040.4	3470.5	2890.6	1793.0	131.8	15.9
33°	5435.9	5348.2	5165.3	4845.7	4421.5	3904.1	3316.8	2763.3	1699.8	129.8	20.3
34°	5248.6	5143.0	4963.1	4648.4	4235.6	3709.8	3134.0	2593.3	1580.9	118.4	19.3
35°	4937.3	4880.8	4699.0	4388.3	3987.3	3476.9	2913.9	2406.5	1454.5	105.6	13.9
36°	4625.6	4556.3	4384.3	4084.0	3703.9	3199.4	2665.7	2193.4	1311.8	89.7	10.9
37°	4296.1	4205.4	4048.8	3754.9	3358.0	2922.9	2427.3	1990.2	1195.3	94.7	14.9
38°	3912.0	3881.8	3675.6	3402.1	3035.4	2624.5	2171.1	1776.1	1066.5	88.2	24.3
39°	3489.8	3469.5	3263.8	3014.5	2685.5	2307.9	1908.9	1554.1	937.6	64.4	7.9
40°	3075.5	3017.5	2871.8	2645.3	2358.9	2019.4	1674.5	1364.8	826.1	63.4	15.9
42.5°	2084.4	2102.7	1945.1	1783.1	1599.2	1368.8	1138.8	935.6	577.8	47.1	9.9
45°	1339.0	1343.0	1272.6	1146.7	1026.3	882.6	731.0	609.1	372.7	26.3	3.0
47.5°	852.4	850.4	805.3	732.9	654.1	569.9	475.2	397.9	241.3	20.3	8.9
50°	536.7	534.7	506.5	460.4	416.3	360.8	301.3	256.2	152.6	24.3	9.9
51°	436.1	439.1	415.3	368.7	334.5	281.5	240.4	204.2	119.4	16.8	8.9
52°	359.8	357.8	342.9	303.8	275.5	229.9	195.7	167.0	99.6	14.9	4.0
53°	289.4	290.4	275.5	245.3	218.0	183.9	156.6	129.8	71.4	10.9	3.0
54°	229.0	227.0	222.0	192.8	175.9	145.7	122.4	99.6	61.5	2.0	0.0
55°	194.8	191.8	184.8	159.6	142.7	120.4	97.6	85.2	53.0	5.0	0.0
57.5°	112.5	112.5	108.5	94.7	83.3	74.3	59.5	55.5	27.3	5.0	0.0
60°	70.4	61.5	68.4	58.5	46.1	41.1	34.2	31.2	23.3	8.9	2.0
61°	58.5	47.1	46.1	43.1	40.1	27.3	23.3	25.3	14.9	3.0	2.0
62°	42.1	37.2	40.1	34.2	30.2	21.3	19.3	18.3	8.9	4.0	5.0
63°	38.2	34.2	33.2	25.3	22.3	22.3	16.8	15.9	10.9	7.9	4.0



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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°	20.3	16.8	14.9	16.8	9.9	12.9	5.0	13.9	3.0	5.0	3.0
67.5°	15.9	9.9	8.9	10.9	6.9	5.0	6.9	8.9	3.0	5.0	6.9
70°	13.9	6.9	9.9	8.9	6.9	8.9	9.9	9.9	3.0	9.9	8.9
72.5°	13.9	8.9	5.0	4.0	4.0	4.0	4.0	4.0	5.9	13.9	10.9
75°	5.9	5.9	3.0	6.9	4.0	5.9	4.0	9.9	4.0	10.9	8.9
77.5°	4.0	5.0	0.0	5.0	0.0	0.0	3.0	6.9	3.0	7.9	9.9
80°	0.0	5.0	3.0	0.0	2.0	3.0	0.0	1.0	2.0	8.9	4.0
82.5°	2.0	3.0	4.0	2.0	2.0	0.0	0.0	0.0	0.0	5.9	5.0
85°	2.0	4.0	0.0	1.0	4.0	2.0	1.0	5.0	2.0	6.9	7.9
87.5°	0.0	2.0	2.0	0.0	3.0	0.0	3.0	2.0	0.0	5.9	3.0
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°	35.2	35.2	35.2	35.2	35.2
2.5°	30.2	27.3	23.3	29.2	24.3
5°	36.2	33.2	26.3	31.2	28.2
7.5°	37.2	31.2	27.3	25.3	28.2
10°	22.3	14.9	10.9	14.9	7.9
12.5°	37.2	26.3	24.3	27.3	30.2
15°	28.2	16.8	16.8	12.9	18.3
17.5°	15.9	12.9	11.9	15.9	18.3
20°	16.8	10.9	8.9	14.9	13.9
21°	14.9	4.0	11.9	11.9	13.9
22°	21.3	9.9	11.9	19.3	20.3
23°	13.9	10.9	8.9	11.9	15.9
24°	20.3	11.9	10.9	14.9	22.3
25°	13.9	10.9	10.9	13.9	11.9
26°	7.9	10.9	7.9	11.9	9.9
27°	5.9	9.9	5.9	8.9	11.9
28°	12.9	15.9	14.9	15.9	13.9
29°	13.9	16.8	13.9	21.3	15.9
30°	7.9	14.9	6.9	15.9	13.9
31°	7.9	10.9	5.0	15.9	13.9
32°	1.0	5.9	3.0	5.9	5.9
33°	5.9	6.9	7.9	12.9	9.9
34°	9.9	11.9	7.9	13.9	11.9
35°	10.9	5.9	8.9	14.9	15.9
36°	3.0	3.0	5.0	11.9	4.0
37°	5.9	16.8	11.9	20.3	11.9
38°	9.9	20.3	19.3	25.3	20.3
39°	2.0	5.9	6.9	13.9	13.9
40°	8.9	14.9	10.9	20.3	20.3
42.5°	6.9	10.9	7.9	16.8	13.9
45°	3.0	3.0	2.0	10.9	7.9
47.5°	5.0	5.0	8.9	13.9	24.3
50°	9.9	9.9	12.9	23.3	22.3
51°	5.9	5.0	6.9	15.9	20.3
52°	5.0	6.9	6.9	15.9	15.9
53°	2.0	0.0	0.0	11.9	9.9
54°	2.0	1.0	3.0	8.9	13.9
55°	0.0	5.0	4.0	18.3	20.3
57.5°	1.0	7.9	4.0	12.9	15.9
60°	5.0	5.9	10.9	12.9	15.9
61°	0.0	5.0	5.0	11.9	13.9
62°	0.0	4.0	8.9	10.9	13.9
63°	5.0	5.9	7.9	12.9	15.9





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**CANDELA DISTRIBUTION (continued):**

	90°	112.5°	135°	157.5°	180°
66°	3.0	7.9	9.9	12.9	11.9
67.5°	5.9	6.9	5.9	16.8	20.3
70°	7.9	12.9	13.9	11.9	20.3
72.5°	5.0	6.9	9.9	18.3	20.3
75°	8.9	9.9	14.9	16.8	20.3
77.5°	6.9	9.9	9.9	10.9	20.3
80°	3.0	8.9	9.9	10.9	5.9
82.5°	4.0	5.9	4.0	10.9	7.9
85°	2.0	8.9	7.9	9.9	9.9
87.5°	3.0	5.0	5.0	8.9	5.9
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	22.3	23.3	22.3	15.9	11.9	10.9	7.9	13.9	4.0	4.0	0.0
65°	20.3	22.3	16.8	19.3	12.9	11.9	6.9	13.9	2.0	6.9	5.0







64°	3.0	5.0	5.0	8.9	13.9
65°	5.0	6.9	6.9	12.9	9.9



(END OF REPORT)