

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: P315240

Luminaire Tested: **LDA2B05FL9024D010 PINW1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P315240  
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: LDA2B05FL9024D010 PINW1MMS  
Description: PORTFOLIO 2IN ADJ 500 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: 474.6 lumens  
Efficiency: N/A  
Efficacy: 67.8 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

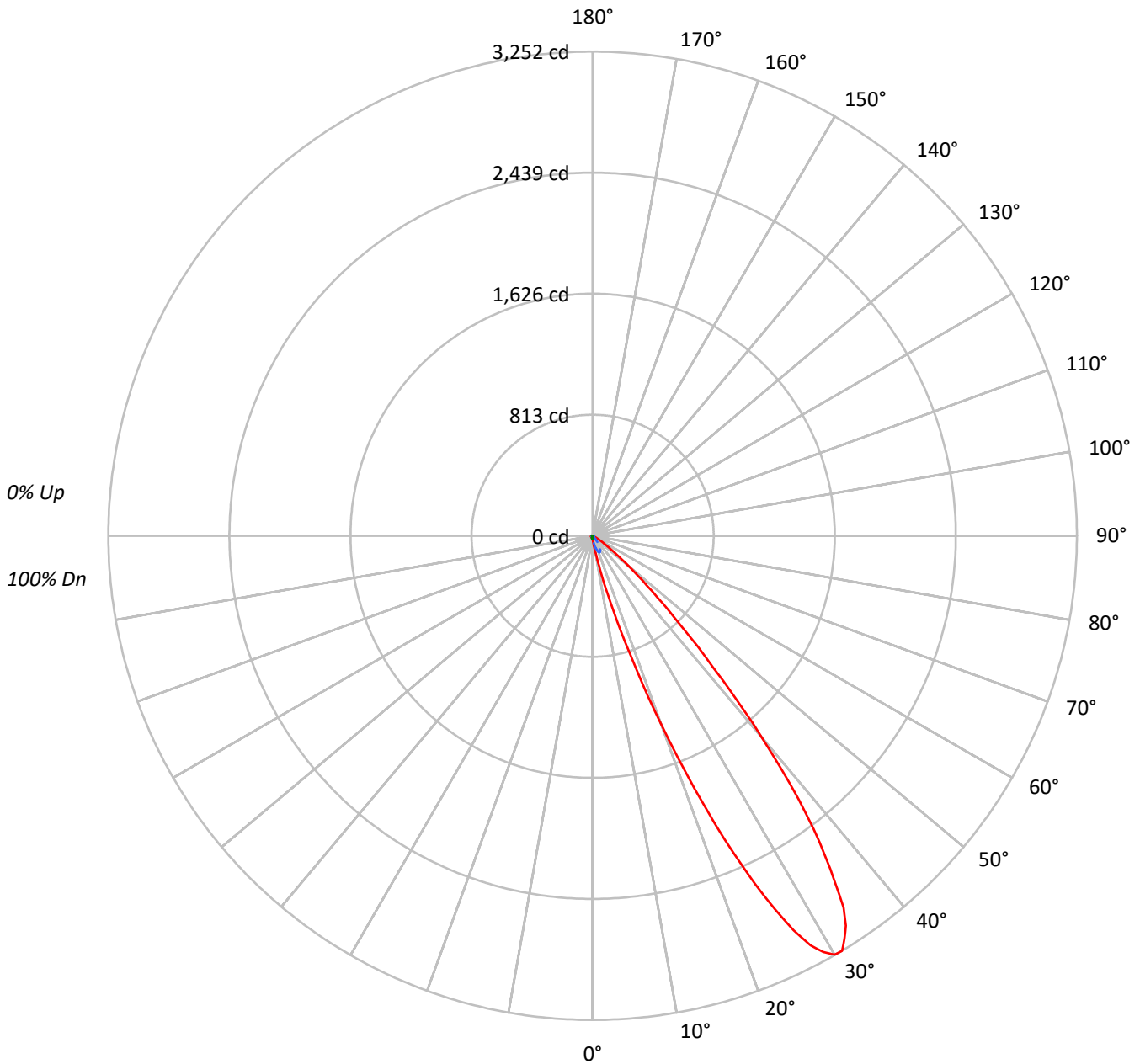
Input Watts (W): 7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
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°	9966	9966	9966
5°	22286	10301	8023
10°	59616	6412	2304
15°	234646	8274	5363
20°	709833	5093	4200
25°	1404733	4355	3702
30°	1850964	2621	4557
35°	1707956	3794	5481
40°	1137693	3285	7535
45°	536616	1186	3210
50°	236631	4375	9824
55°	96251	0	10064
60°	39864	2763	8979
65°	13659	3269	6654
70°	11540	6635	16877
75°	6481	9722	22303
80°	0	4830	9660
85°	6227	6227	32266



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	2.7	0.6
10°-20°	29.0	6.1
20°-30°	149.3	31.5
30°-40°	191.2	40.3
40°-50°	73.5	15.5
50°-60°	14.9	3.1
60°-70°	5.1	1.1
70°-80°	5.9	1.2
80°-90°	3.0	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°	181.1	38.1
0°-40°	372.2	78.4
0°-60°	460.7	97.1
0°-90°	474.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	474.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	20	20	20	20	20	
5°	45	37	21	15	16	7
15°	459	89	16	10	10	176
25°	2580	117	8	6	7	1178
35°	2836	61	6	5	9	1695
45°	769	15	2	1	5	661
55°	112	3	0	2	12	116
65°	12	4	3	4	6	16
75°	3	6	5	8	12	5
85°	1	4	1	5	6	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°	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.2
2.5°	29.9	25.9	27.0	23.1	25.3	25.9	21.3	28.2	25.3	26.5	23.1
5°	45.0	48.4	44.4	42.7	41.6	42.7	41.6	43.3	42.1	37.0	26.5
7.5°	75.1	68.6	68.6	66.3	68.0	67.5	64.6	66.3	62.3	45.0	30.5
10°	119.0	112.4	111.9	110.2	109.6	104.5	101.6	99.3	91.1	53.2	27.6
12.5°	233.1	227.4	223.4	213.5	206.6	202.7	187.6	179.6	156.0	79.1	35.3
15°	459.4	430.1	437.5	405.3	381.7	366.0	334.7	307.1	250.5	89.4	34.2
17.5°	812.9	784.5	765.4	730.4	682.3	640.7	578.9	517.8	402.5	101.6	31.9
20°	1352.0	1307.0	1267.2	1207.1	1114.6	1034.7	925.9	808.9	599.2	116.1	28.7
21°	1588.8	1554.1	1508.0	1428.9	1321.0	1214.0	1083.6	942.7	682.8	117.3	25.9
22°	1835.9	1813.4	1752.8	1662.0	1536.2	1408.7	1248.7	1093.9	771.9	119.0	24.8
23°	2093.2	2069.6	2001.0	1897.1	1755.6	1601.4	1414.9	1231.3	855.6	121.3	24.2
24°	2345.1	2318.9	2242.4	2126.2	1965.7	1788.4	1577.7	1364.8	933.6	120.1	25.3
25°	2580.5	2544.1	2463.2	2334.6	2158.4	1959.4	1727.2	1480.1	1002.2	116.7	21.3
26°	2790.6	2749.0	2661.9	2521.6	2328.9	2113.4	1851.8	1587.1	1052.9	113.9	20.2
27°	2973.0	2920.6	2827.6	2680.4	2473.8	2235.8	1958.3	1670.8	1097.6	109.6	16.2
28°	3115.1	3055.0	2960.5	2805.1	2586.8	2331.2	2036.6	1723.2	1124.0	110.2	18.5
29°	3197.0	3150.9	3048.2	2885.4	2655.7	2386.1	2077.8	1752.2	1129.2	101.6	17.4
30°	3249.1	3197.6	3092.0	2921.8	2682.1	2398.6	2083.0	1746.8	1114.1	95.4	16.2
31°	3252.5	3198.7	3091.4	2915.2	2671.9	2377.8	2054.5	1714.6	1081.3	88.8	13.4
32°	3191.3	3149.8	3044.2	2862.3	2616.4	2320.6	1993.3	1660.3	1029.8	75.7	9.1
33°	3122.2	3071.8	2966.8	2783.2	2539.5	2242.4	1905.1	1587.1	976.3	74.6	11.7
34°	3014.6	2954.0	2850.6	2669.9	2432.8	2130.8	1800.0	1489.5	908.0	68.0	11.1
35°	2835.8	2803.4	2698.9	2520.5	2290.2	1997.0	1673.7	1382.2	835.4	60.6	8.0
36°	2656.8	2616.9	2518.2	2345.7	2127.4	1837.6	1531.1	1259.8	753.4	51.5	6.3
37°	2467.5	2415.4	2325.5	2156.7	1928.7	1678.8	1394.1	1143.1	686.5	54.4	8.5
38°	2246.9	2229.6	2111.1	1954.0	1743.4	1507.4	1247.0	1020.1	612.5	50.7	13.9
39°	2004.4	1992.7	1874.6	1731.4	1542.4	1325.5	1096.4	892.6	538.5	37.0	4.6
40°	1766.5	1733.1	1649.5	1519.4	1354.9	1159.9	961.8	783.9	474.5	36.4	9.1
42.5°	1197.2	1207.7	1117.2	1024.1	918.5	786.2	654.1	537.4	331.9	27.0	5.7
45°	769.1	771.4	730.9	658.6	589.5	506.9	419.8	349.8	214.0	15.1	1.7
47.5°	489.6	488.4	462.5	421.0	375.7	327.3	273.0	228.6	138.6	11.7	5.1
50°	308.3	307.1	290.9	264.4	239.1	207.2	173.1	147.2	87.7	13.9	5.7
51°	250.5	252.2	238.5	211.8	192.1	161.7	138.0	117.3	68.6	9.7	5.1
52°	206.6	205.5	197.0	174.5	158.3	132.1	112.4	95.9	57.2	8.5	2.3
53°	166.2	166.8	158.3	140.9	125.2	105.6	89.9	74.6	41.0	6.3	1.7
54°	131.5	130.4	127.5	110.7	101.0	83.7	70.3	57.2	35.3	1.1	0.0
55°	111.9	110.2	106.2	91.7	82.0	69.2	56.1	49.0	30.5	2.8	0.0
57.5°	64.6	64.6	62.3	54.4	47.8	42.7	34.2	31.9	15.7	2.8	0.0
60°	40.4	35.3	39.3	33.6	26.5	23.6	19.6	17.9	13.4	5.1	1.1
61°	33.6	27.0	26.5	24.8	23.1	15.7	13.4	14.5	8.5	1.7	1.1
62°	24.2	21.3	23.1	19.6	17.4	12.2	11.1	10.5	5.1	2.3	2.8
63°	21.9	19.6	19.1	14.5	12.8	12.8	9.7	9.1	6.3	4.6	2.3



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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°	11.7	9.7	8.5	9.7	5.7	7.4	2.8	8.0	1.7	2.8	1.7
67.5°	9.1	5.7	5.1	6.3	4.0	2.8	4.0	5.1	1.7	2.8	4.0
70°	8.0	4.0	5.7	5.1	4.0	5.1	5.7	5.7	1.7	5.7	5.1
72.5°	8.0	5.1	2.8	2.3	2.3	2.3	2.3	2.3	3.4	8.0	6.3
75°	3.4	3.4	1.7	4.0	2.3	3.4	2.3	5.7	2.3	6.3	5.1
77.5°	2.3	2.8	0.0	2.8	0.0	0.0	1.7	4.0	1.7	4.6	5.7
80°	0.0	2.8	1.7	0.0	1.1	1.7	0.0	0.6	1.1	5.1	2.3
82.5°	1.1	1.7	2.3	1.1	1.1	0.0	0.0	0.0	0.0	3.4	2.8
85°	1.1	2.3	0.0	0.6	2.3	1.1	0.6	2.8	1.1	4.0	4.6
87.5°	0.0	1.1	1.1	0.0	1.7	0.0	1.7	1.1	0.0	3.4	1.7
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°	20.2	20.2	20.2	20.2	20.2
2.5°	17.4	15.7	13.4	16.8	13.9
5°	20.8	19.1	15.1	17.9	16.2
7.5°	21.3	17.9	15.7	14.5	16.2
10°	12.8	8.5	6.3	8.5	4.6
12.5°	21.3	15.1	13.9	15.7	17.4
15°	16.2	9.7	9.7	7.4	10.5
17.5°	9.1	7.4	6.8	9.1	10.5
20°	9.7	6.3	5.1	8.5	8.0
21°	8.5	2.3	6.8	6.8	8.0
22°	12.2	5.7	6.8	11.1	11.7
23°	8.0	6.3	5.1	6.8	9.1
24°	11.7	6.8	6.3	8.5	12.8
25°	8.0	6.3	6.3	8.0	6.8
26°	4.6	6.3	4.6	6.8	5.7
27°	3.4	5.7	3.4	5.1	6.8
28°	7.4	9.1	8.5	9.1	8.0
29°	8.0	9.7	8.0	12.2	9.1
30°	4.6	8.5	4.0	9.1	8.0
31°	4.6	6.3	2.8	9.1	8.0
32°	0.6	3.4	1.7	3.4	3.4
33°	3.4	4.0	4.6	7.4	5.7
34°	5.7	6.8	4.6	8.0	6.8
35°	6.3	3.4	5.1	8.5	9.1
36°	1.7	1.7	2.8	6.8	2.3
37°	3.4	9.7	6.8	11.7	6.8
38°	5.7	11.7	11.1	14.5	11.7
39°	1.1	3.4	4.0	8.0	8.0
40°	5.1	8.5	6.3	11.7	11.7
42.5°	4.0	6.3	4.6	9.7	8.0
45°	1.7	1.7	1.1	6.3	4.6
47.5°	2.8	2.8	5.1	8.0	13.9
50°	5.7	5.7	7.4	13.4	12.8
51°	3.4	2.8	4.0	9.1	11.7
52°	2.8	4.0	4.0	9.1	9.1
53°	1.1	0.0	0.0	6.8	5.7
54°	1.1	0.6	1.7	5.1	8.0
55°	0.0	2.8	2.3	10.5	11.7
57.5°	0.6	4.6	2.3	7.4	9.1
60°	2.8	3.4	6.3	7.4	9.1
61°	0.0	2.8	2.8	6.8	8.0
62°	0.0	2.3	5.1	6.3	8.0
63°	2.8	3.4	4.6	7.4	9.1





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**CANDELA DISTRIBUTION (continued):**

	90°	112.5°	135°	157.5°	180°
66°	1.7	4.6	5.7	7.4	6.8
67.5°	3.4	4.0	3.4	9.7	11.7
70°	4.6	7.4	8.0	6.8	11.7
72.5°	2.8	4.0	5.7	10.5	11.7
75°	5.1	5.7	8.5	9.7	11.7
77.5°	4.0	5.7	5.7	6.3	11.7
80°	1.7	5.1	5.7	6.3	3.4
82.5°	2.3	3.4	2.3	6.3	4.6
85°	1.1	5.1	4.6	5.7	5.7
87.5°	1.7	2.8	2.8	5.1	3.4
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	12.8	13.4	12.8	9.1	6.8	6.3	4.6	8.0	2.3	2.3	0.0
65°	11.7	12.8	9.7	11.1	7.4	6.8	4.0	8.0	1.1	4.0	2.8







64°	1.7	2.8	2.8	5.1	8.0
65°	2.8	4.0	4.0	7.4	5.7



(END OF REPORT)