

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: P315261

Luminaire Tested: **LDA2B05FL9040D010 PIN1MW**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P315261  
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: LDA2B05FL9040D010 PIN1MW  
Description: PORTFOLIO 2IN ADJ 500 LUMEN LED LUMINAIRE WITH FLOOD OPTIC AND 2in Adj PinHole, Black oculus, matte white finish  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 544.8 lumens  
Efficiency: N/A  
Efficacy: 77.8 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

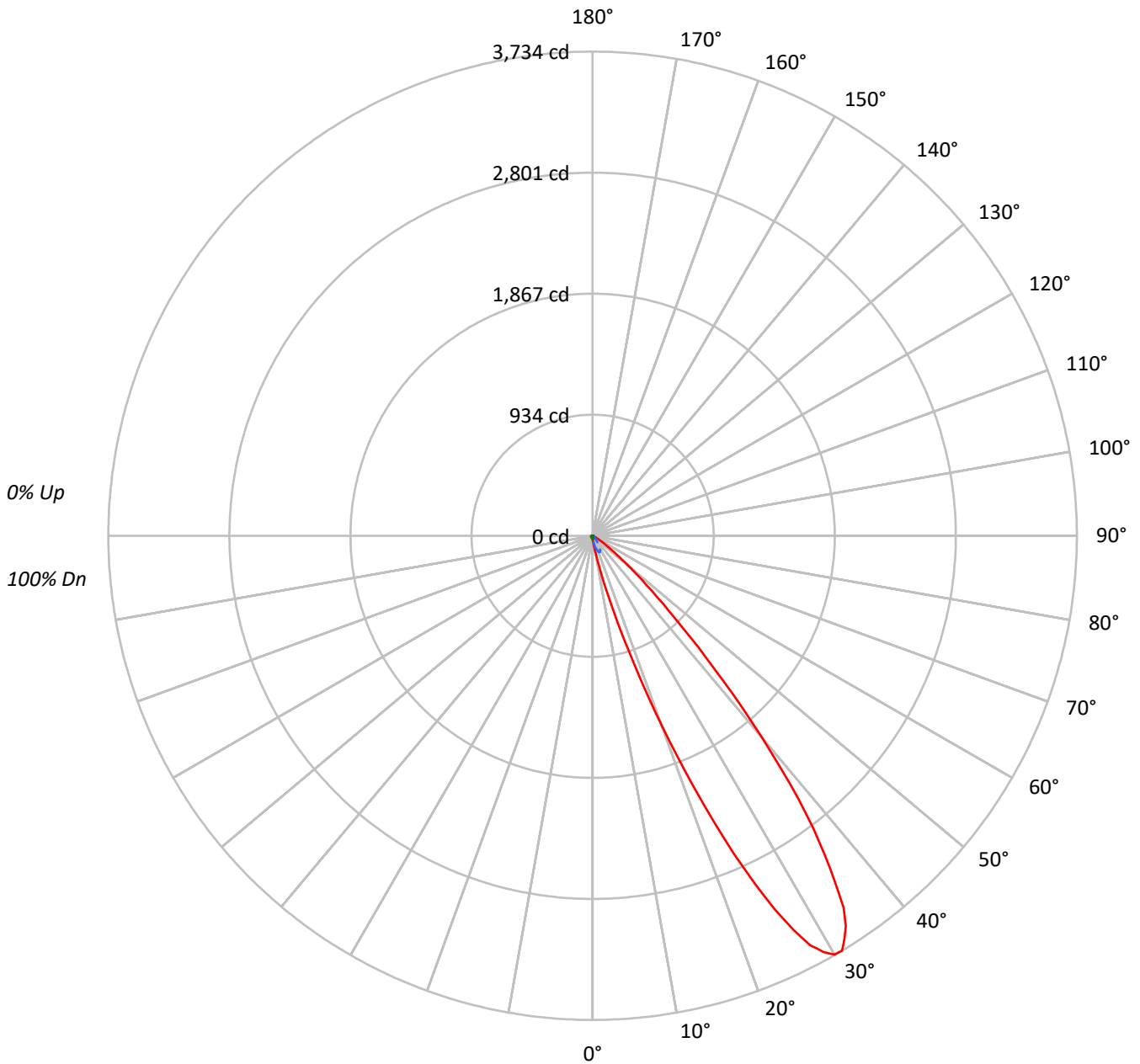
Input Watts (W): 7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	11446	11446	11446
5°	25555	11836	9212
10°	68433	7364	2605
15°	269378	9500	6180
20°	814838	5828	4778
25°	1612517	4954	4246
30°	2124755	2962	5184
35°	1960614	4336	6324
40°	1305980	3800	8630
45°	616016	1395	3628
50°	271631	4989	11283
55°	110443	0	11526
60°	45784	3256	10361
65°	15643	3852	7588
70°	13127	7501	19329
75°	7434	11247	25543
80°	0	5682	11081
85°	7359	7359	36794



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	3.2	0.6
10°-20°	33.3	6.1
20°-30°	171.4	31.5
30°-40°	219.4	40.3
40°-50°	84.4	15.5
50°-60°	17.2	3.1
60°-70°	5.8	1.1
70°-80°	6.8	1.2
80°-90°	3.5	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°	207.8	38.1
0°-40°	427.3	78.4
0°-60°	528.8	97.1
0°-90°	544.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	544.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	23	23	23	23	23	
5°	52	42	24	17	19	8
15°	527	103	19	11	12	202
25°	2962	134	9	7	8	1352
35°	3255	70	7	6	10	1946
45°	883	17	2	1	5	759
55°	128	3	0	3	13	133
65°	13	5	3	5	6	19
75°	4	7	6	10	13	5
85°	1	5	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°	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2
2.5°	34.3	29.7	31.0	26.5	29.1	29.7	24.5	32.3	29.1	30.4	26.5
5°	51.6	55.5	51.0	49.0	47.7	49.0	47.7	49.7	48.4	42.5	30.4
7.5°	86.3	78.7	78.7	76.1	78.1	77.4	74.2	76.1	71.6	51.6	35.0
10°	136.6	129.1	128.4	126.4	125.8	119.9	116.6	114.0	104.6	61.1	31.7
12.5°	267.6	261.1	256.5	245.1	237.2	232.6	215.3	206.2	179.1	90.8	40.5
15°	527.4	493.7	502.2	465.3	438.2	420.2	384.2	352.6	287.5	102.6	39.2
17.5°	933.2	900.5	878.6	838.4	783.2	735.5	664.6	594.3	462.0	116.6	36.6
20°	1552.0	1500.4	1454.7	1385.7	1279.5	1187.7	1062.9	928.6	687.8	133.3	33.0
21°	1823.9	1784.0	1731.1	1640.2	1516.4	1393.6	1243.9	1082.2	783.9	134.6	29.7
22°	2107.5	2081.7	2012.1	1907.8	1763.4	1617.0	1433.4	1255.7	886.1	136.6	28.4
23°	2402.9	2375.7	2297.0	2177.7	2015.3	1838.2	1624.2	1413.5	982.2	139.2	27.8
24°	2692.0	2662.0	2574.1	2440.8	2256.5	2052.9	1811.1	1566.7	1071.7	137.9	29.1
25°	2962.2	2920.4	2827.6	2679.9	2477.7	2249.3	1982.7	1699.1	1150.5	134.0	24.5
26°	3203.4	3155.7	3055.7	2894.6	2673.4	2426.1	2125.8	1821.9	1208.6	130.7	23.2
27°	3412.8	3352.7	3245.8	3076.9	2839.7	2566.5	2248.0	1918.0	1259.9	125.8	18.6
28°	3575.9	3506.9	3398.4	3220.0	2969.4	2676.0	2337.8	1978.1	1290.3	126.4	21.2
29°	3670.0	3617.0	3499.1	3312.2	3048.5	2739.1	2385.2	2011.4	1296.2	116.6	19.9
30°	3729.7	3670.6	3549.4	3354.0	3078.9	2753.4	2391.1	2005.2	1278.9	109.5	18.6
31°	3733.7	3671.9	3548.7	3346.5	3067.1	2729.6	2358.4	1968.3	1241.3	101.9	15.4
32°	3663.4	3615.7	3494.5	3285.7	3003.4	2663.9	2288.2	1905.9	1182.1	86.9	10.5
33°	3584.0	3526.2	3405.6	3194.9	2915.2	2574.1	2186.9	1821.9	1120.7	85.6	13.4
34°	3460.5	3390.9	3272.3	3064.8	2792.7	2446.0	2066.3	1709.8	1042.3	78.1	12.7
35°	3255.3	3218.1	3098.2	2893.3	2629.0	2292.4	1921.2	1586.7	959.0	69.6	9.1
36°	3049.8	3004.1	2890.7	2692.7	2442.1	2109.4	1757.5	1446.2	864.9	59.1	7.2
37°	2832.5	2772.7	2669.5	2475.7	2214.0	1927.1	1600.4	1312.2	788.1	62.4	9.8
38°	2579.3	2559.4	2423.4	2243.1	2001.3	1730.4	1431.5	1171.0	703.1	58.2	16.0
39°	2300.9	2287.5	2151.9	1987.6	1770.6	1521.6	1258.6	1024.7	618.2	42.5	5.2
40°	2027.8	1989.5	1893.5	1744.1	1555.3	1331.5	1104.1	899.8	544.7	41.8	10.5
42.5°	1374.3	1386.4	1282.5	1175.6	1054.4	902.5	750.9	616.9	381.0	31.0	6.5
45°	882.9	885.5	839.1	756.1	676.7	581.9	481.9	401.6	245.7	17.3	2.0
47.5°	562.0	560.7	531.0	483.2	431.3	375.8	313.3	262.4	159.1	13.4	5.9
50°	353.9	352.6	333.9	303.5	274.5	237.9	198.7	168.9	100.6	16.0	6.5
51°	287.5	289.5	273.8	243.1	220.6	185.6	158.5	134.6	78.7	11.1	5.9
52°	237.2	235.9	226.1	200.3	181.7	151.6	129.1	110.1	65.7	9.8	2.6
53°	190.8	191.5	181.7	161.7	143.8	121.2	103.3	85.6	47.1	7.2	2.0
54°	151.0	149.6	146.4	127.1	116.0	96.1	80.7	65.7	40.5	1.3	0.0
55°	128.4	126.4	121.9	105.2	94.1	79.4	64.4	56.2	35.0	3.3	0.0
57.5°	74.2	74.2	71.6	62.4	54.9	49.0	39.2	36.6	18.0	3.3	0.0
60°	46.4	40.5	45.1	38.6	30.4	27.1	22.5	20.6	15.4	5.9	1.3
61°	38.6	31.0	30.4	28.4	26.5	18.0	15.4	16.7	9.8	2.0	1.3
62°	27.8	24.5	26.5	22.5	19.9	14.0	12.7	12.1	5.9	2.6	3.3
63°	25.2	22.5	21.9	16.7	14.7	14.7	11.1	10.5	7.2	5.2	2.6



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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°	13.4	11.1	9.8	11.1	6.5	8.5	3.3	9.1	2.0	3.3	2.0
67.5°	10.5	6.5	5.9	7.2	4.6	3.3	4.6	5.9	2.0	3.3	4.6
70°	9.1	4.6	6.5	5.9	4.6	5.9	6.5	6.5	2.0	6.5	5.9
72.5°	9.1	5.9	3.3	2.6	2.6	2.6	2.6	2.6	3.9	9.1	7.2
75°	3.9	3.9	2.0	4.6	2.6	3.9	2.6	6.5	2.6	7.2	5.9
77.5°	2.6	3.3	0.0	3.3	0.0	0.0	2.0	4.6	2.0	5.2	6.5
80°	0.0	3.3	2.0	0.0	1.3	2.0	0.0	0.7	1.3	5.9	2.6
82.5°	1.3	2.0	2.6	1.3	1.3	0.0	0.0	0.0	0.0	3.9	3.3
85°	1.3	2.6	0.0	0.7	2.6	1.3	0.7	3.3	1.3	4.6	5.2
87.5°	0.0	1.3	1.3	0.0	2.0	0.0	2.0	1.3	0.0	3.9	2.0
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°	23.2	23.2	23.2	23.2	23.2
2.5°	19.9	18.0	15.4	19.3	16.0
5°	23.9	21.9	17.3	20.6	18.6
7.5°	24.5	20.6	18.0	16.7	18.6
10°	14.7	9.8	7.2	9.8	5.2
12.5°	24.5	17.3	16.0	18.0	19.9
15°	18.6	11.1	11.1	8.5	12.1
17.5°	10.5	8.5	7.8	10.5	12.1
20°	11.1	7.2	5.9	9.8	9.1
21°	9.8	2.6	7.8	7.8	9.1
22°	14.0	6.5	7.8	12.7	13.4
23°	9.1	7.2	5.9	7.8	10.5
24°	13.4	7.8	7.2	9.8	14.7
25°	9.1	7.2	7.2	9.1	7.8
26°	5.2	7.2	5.2	7.8	6.5
27°	3.9	6.5	3.9	5.9	7.8
28°	8.5	10.5	9.8	10.5	9.1
29°	9.1	11.1	9.1	14.0	10.5
30°	5.2	9.8	4.6	10.5	9.1
31°	5.2	7.2	3.3	10.5	9.1
32°	0.7	3.9	2.0	3.9	3.9
33°	3.9	4.6	5.2	8.5	6.5
34°	6.5	7.8	5.2	9.1	7.8
35°	7.2	3.9	5.9	9.8	10.5
36°	2.0	2.0	3.3	7.8	2.6
37°	3.9	11.1	7.8	13.4	7.8
38°	6.5	13.4	12.7	16.7	13.4
39°	1.3	3.9	4.6	9.1	9.1
40°	5.9	9.8	7.2	13.4	13.4
42.5°	4.6	7.2	5.2	11.1	9.1
45°	2.0	2.0	1.3	7.2	5.2
47.5°	3.3	3.3	5.9	9.1	16.0
50°	6.5	6.5	8.5	15.4	14.7
51°	3.9	3.3	4.6	10.5	13.4
52°	3.3	4.6	4.6	10.5	10.5
53°	1.3	0.0	0.0	7.8	6.5
54°	1.3	0.7	2.0	5.9	9.1
55°	0.0	3.3	2.6	12.1	13.4
57.5°	0.7	5.2	2.6	8.5	10.5
60°	3.3	3.9	7.2	8.5	10.5
61°	0.0	3.3	3.3	7.8	9.1
62°	0.0	2.6	5.9	7.2	9.1
63°	3.3	3.9	5.2	8.5	10.5





TEST NUMBER: P315261

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**CANDELA DISTRIBUTION (continued):**

	90°	112.5°	135°	157.5°	180°
66°	2.0	5.2	6.5	8.5	7.8
67.5°	3.9	4.6	3.9	11.1	13.4
70°	5.2	8.5	9.1	7.8	13.4
72.5°	3.3	4.6	6.5	12.1	13.4
75°	5.9	6.5	9.8	11.1	13.4
77.5°	4.6	6.5	6.5	7.2	13.4
80°	2.0	5.9	6.5	7.2	3.9
82.5°	2.6	3.9	2.6	7.2	5.2
85°	1.3	5.9	5.2	6.5	6.5
87.5°	2.0	3.3	3.3	5.9	3.9
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	14.7	15.4	14.7	10.5	7.8	7.2	5.2	9.1	2.6	2.6	0.0
65°	13.4	14.7	11.1	12.7	8.5	7.8	4.6	9.1	1.3	4.6	3.3







64°	2.0	3.3	3.3	5.9	9.1
65°	3.3	4.6	4.6	8.5	6.5



(END OF REPORT)