

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: P315354

Luminaire Tested: **LDA2B10FL9050D010 PINW1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P315354  
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: LDA2B10FL9050D010 PINW1MMS  
Description: PORTFOLIO 2IN ADJ 1000 LUMEN LED LUMINAIRE WITH FLOOD OPTIC AND 2in Adj PinHole, White oculus, matte metallic silver finish  
Light Source: -  
Ballast/Driver: -

**Summary**

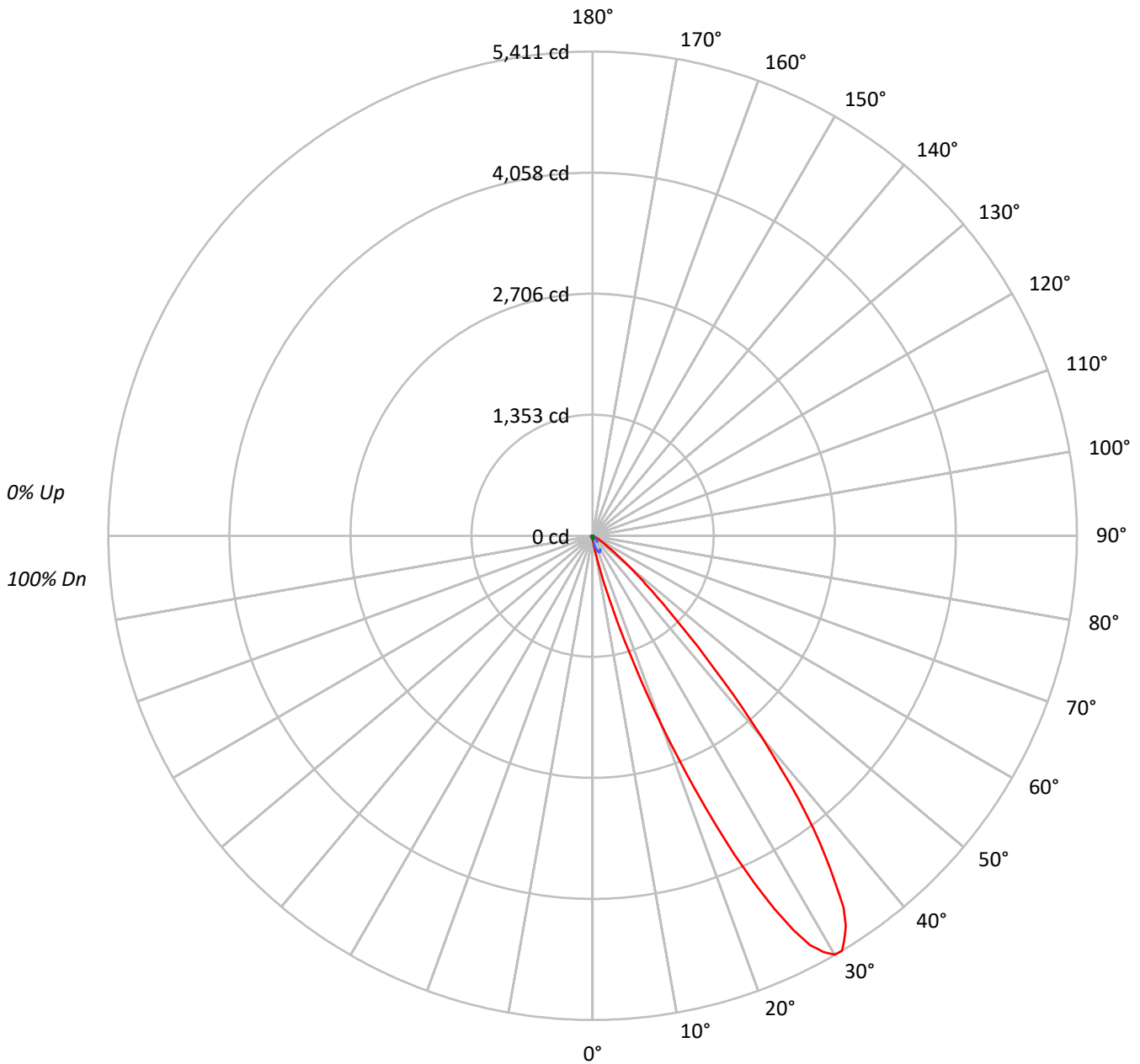
Lumens per Lamp: N/A  
Luminaire Lumens: 789.5 lumens  
Efficiency: N/A  
Efficacy: 79.0 lumens/watt  
Spacing Criteria (0/90/45): 2.92 / 0.6 / 1.34  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

Input Watts (W): 10  
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°	16577	16577	16577
5°	37044	17136	13372
10°	99142	10671	3807
15°	390327	13791	8938
20°	1180833	8453	6983
25°	2336794	7240	6206
30°	3079148	4330	7577
35°	2841212	6264	9155
40°	1892506	5474	12494
45°	892662	1954	5303
50°	393592	7292	16348
55°	160074	0	16687
60°	66308	4638	14998
65°	22647	5487	11090
70°	19185	10963	27984
75°	10865	16203	36980
80°	0	7955	16195
85°	10755	10755	53777



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	4.6	0.6
10°-20°	48.3	6.1
20°-30°	248.3	31.5
30°-40°	318.0	40.3
40°-50°	122.3	15.5
50°-60°	24.9	3.1
60°-70°	8.4	1.1
70°-80°	9.8	1.2
80°-90°	5.0	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°	301.2	38.2
0°-40°	619.2	78.4
0°-60°	766.3	97.1
0°-90°	789.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	789.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	34	34	34	34	34	
5°	75	62	35	25	27	11
15°	764	149	27	16	18	293
25°	4293	194	13	10	11	1959
35°	4717	101	10	8	15	2820
45°	1279	25	3	2	8	1100
55°	186	5	0	4	19	193
65°	19	7	5	7	10	27
75°	6	10	8	14	19	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°	33.6	33.6	33.6	33.6	33.6	33.6	33.6	33.6	33.6	33.6	33.6
2.5°	49.7	43.1	45.0	38.4	42.1	43.1	35.5	46.9	42.1	44.0	38.4
5°	74.8	80.5	73.9	71.0	69.1	71.0	69.1	72.0	70.1	61.6	44.0
7.5°	125.0	114.1	114.1	110.3	113.2	112.2	107.5	110.3	103.7	74.8	50.7
10°	197.9	187.0	186.1	183.2	182.3	173.8	169.0	165.2	151.5	88.5	45.9
12.5°	387.8	378.3	371.7	355.1	343.8	337.1	312.0	298.8	259.5	131.6	58.7
15°	764.2	715.5	727.8	674.3	635.0	608.9	556.8	510.9	416.7	148.7	56.8
17.5°	1352.3	1305.0	1273.2	1215.0	1135.0	1065.8	963.1	861.3	669.5	169.0	53.0
20°	2249.1	2174.3	2108.0	2008.1	1854.2	1721.2	1540.3	1345.7	996.7	193.2	47.8
21°	2643.1	2585.3	2508.6	2376.9	2197.5	2019.5	1802.6	1568.2	1135.9	195.1	43.1
22°	3054.0	3016.6	2915.8	2764.7	2555.5	2343.3	2077.2	1819.6	1284.1	197.9	41.2
23°	3482.1	3442.8	3328.7	3155.8	2920.5	2663.9	2353.7	2048.3	1423.3	201.7	40.2
24°	3901.1	3857.6	3730.2	3537.0	3270.0	2975.0	2624.6	2270.4	1553.1	199.8	42.1
25°	4292.7	4232.1	4097.6	3883.6	3590.5	3259.5	2873.2	2462.2	1667.2	194.1	35.5
26°	4642.1	4573.0	4428.1	4194.7	3874.1	3515.7	3080.6	2640.2	1751.5	189.4	33.6
27°	4945.7	4858.5	4703.7	4458.9	4115.1	3719.3	3257.6	2779.4	1825.8	182.3	27.0
28°	5181.9	5082.0	4924.8	4666.3	4303.1	3877.9	3387.9	2866.5	1869.8	183.2	30.8
29°	5318.3	5241.6	5070.7	4799.8	4417.7	3969.3	3456.5	2914.8	1878.4	169.0	28.9
30°	5405.0	5319.2	5143.6	4860.4	4461.7	3990.1	3465.0	2905.8	1853.3	158.6	27.0
31°	5410.6	5321.1	5142.6	4849.5	4444.7	3955.6	3417.7	2852.3	1798.8	147.7	22.3
32°	5308.8	5239.7	5064.0	4761.5	4352.4	3860.4	3315.9	2761.9	1713.1	125.9	15.2
33°	5193.8	5110.0	4935.2	4629.8	4224.5	3730.2	3169.1	2640.2	1624.1	124.1	19.4
34°	5014.8	4913.9	4742.1	4441.4	4047.0	3544.6	2994.4	2477.8	1510.5	113.2	18.5
35°	4717.4	4663.5	4489.7	4192.8	3809.7	3322.0	2784.2	2299.3	1389.7	100.9	13.3
36°	4419.6	4353.3	4189.0	3902.1	3538.9	3056.9	2546.9	2095.7	1253.3	85.7	10.4
37°	4104.7	4018.1	3868.5	3587.7	3208.4	2792.7	2319.2	1901.6	1142.1	90.4	14.2
38°	3737.8	3708.9	3511.9	3250.5	2900.2	2507.6	2074.4	1697.0	1019.0	84.3	23.2
39°	3334.4	3314.9	3118.4	2880.3	2565.9	2205.1	1823.9	1484.9	895.9	61.6	7.6
40°	2938.5	2883.1	2743.9	2527.5	2253.8	1929.5	1599.9	1304.0	789.3	60.6	15.2
42.5°	1991.5	2009.0	1858.5	1703.6	1528.0	1307.8	1088.1	894.0	552.1	45.0	9.5
45°	1279.4	1283.2	1215.9	1095.7	980.6	843.3	698.4	581.9	356.1	25.1	2.8
47.5°	814.4	812.5	769.4	700.3	625.0	544.5	454.1	380.2	230.6	19.4	8.5
50°	512.8	510.9	483.9	439.9	397.7	344.7	287.9	244.8	145.8	23.2	9.5
51°	416.7	419.5	396.8	352.3	319.6	268.9	229.6	195.1	114.1	16.1	8.5
52°	343.8	341.9	327.7	290.3	263.3	219.7	187.0	159.6	95.2	14.2	3.8
53°	276.5	277.5	263.3	234.4	208.3	175.7	149.6	124.1	68.2	10.4	2.8
54°	218.8	216.9	212.1	184.2	168.1	139.2	117.0	95.2	58.7	1.9	0.0
55°	186.1	183.2	176.6	152.5	136.4	115.1	93.3	81.4	50.7	4.7	0.0
57.5°	107.5	107.5	103.7	90.4	79.5	71.0	56.8	53.0	26.0	4.7	0.0
60°	67.2	58.7	65.3	55.9	44.0	39.3	32.7	29.8	22.3	8.5	1.9
61°	55.9	45.0	44.0	41.2	38.4	26.0	22.3	24.1	14.2	2.8	1.9
62°	40.2	35.5	38.4	32.7	28.9	20.4	18.5	17.5	8.5	3.8	4.7
63°	36.5	32.7	31.7	24.1	21.3	21.3	16.1	15.2	10.4	7.6	3.8



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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°	19.4	16.1	14.2	16.1	9.5	12.3	4.7	13.3	2.8	4.7	2.8
67.5°	15.2	9.5	8.5	10.4	6.6	4.7	6.6	8.5	2.8	4.7	6.6
70°	13.3	6.6	9.5	8.5	6.6	8.5	9.5	9.5	2.8	9.5	8.5
72.5°	13.3	8.5	4.7	3.8	3.8	3.8	3.8	3.8	5.7	13.3	10.4
75°	5.7	5.7	2.8	6.6	3.8	5.7	3.8	9.5	3.8	10.4	8.5
77.5°	3.8	4.7	0.0	4.7	0.0	0.0	2.8	6.6	2.8	7.6	9.5
80°	0.0	4.7	2.8	0.0	1.9	2.8	0.0	0.9	1.9	8.5	3.8
82.5°	1.9	2.8	3.8	1.9	1.9	0.0	0.0	0.0	0.0	5.7	4.7
85°	1.9	3.8	0.0	0.9	3.8	1.9	0.9	4.7	1.9	6.6	7.6
87.5°	0.0	1.9	1.9	0.0	2.8	0.0	2.8	1.9	0.0	5.7	2.8
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°	33.6	33.6	33.6	33.6	33.6
2.5°	28.9	26.0	22.3	27.9	23.2
5°	34.6	31.7	25.1	29.8	27.0
7.5°	35.5	29.8	26.0	24.1	27.0
10°	21.3	14.2	10.4	14.2	7.6
12.5°	35.5	25.1	23.2	26.0	28.9
15°	27.0	16.1	16.1	12.3	17.5
17.5°	15.2	12.3	11.4	15.2	17.5
20°	16.1	10.4	8.5	14.2	13.3
21°	14.2	3.8	11.4	11.4	13.3
22°	20.4	9.5	11.4	18.5	19.4
23°	13.3	10.4	8.5	11.4	15.2
24°	19.4	11.4	10.4	14.2	21.3
25°	13.3	10.4	10.4	13.3	11.4
26°	7.6	10.4	7.6	11.4	9.5
27°	5.7	9.5	5.7	8.5	11.4
28°	12.3	15.2	14.2	15.2	13.3
29°	13.3	16.1	13.3	20.4	15.2
30°	7.6	14.2	6.6	15.2	13.3
31°	7.6	10.4	4.7	15.2	13.3
32°	0.9	5.7	2.8	5.7	5.7
33°	5.7	6.6	7.6	12.3	9.5
34°	9.5	11.4	7.6	13.3	11.4
35°	10.4	5.7	8.5	14.2	15.2
36°	2.8	2.8	4.7	11.4	3.8
37°	5.7	16.1	11.4	19.4	11.4
38°	9.5	19.4	18.5	24.1	19.4
39°	1.9	5.7	6.6	13.3	13.3
40°	8.5	14.2	10.4	19.4	19.4
42.5°	6.6	10.4	7.6	16.1	13.3
45°	2.8	2.8	1.9	10.4	7.6
47.5°	4.7	4.7	8.5	13.3	23.2
50°	9.5	9.5	12.3	22.3	21.3
51°	5.7	4.7	6.6	15.2	19.4
52°	4.7	6.6	6.6	15.2	15.2
53°	1.9	0.0	0.0	11.4	9.5
54°	1.9	0.9	2.8	8.5	13.3
55°	0.0	4.7	3.8	17.5	19.4
57.5°	0.9	7.6	3.8	12.3	15.2
60°	4.7	5.7	10.4	12.3	15.2
61°	0.0	4.7	4.7	11.4	13.3
62°	0.0	3.8	8.5	10.4	13.3
63°	4.7	5.7	7.6	12.3	15.2





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**CANDELA DISTRIBUTION (continued):**

	90°	112.5°	135°	157.5°	180°
66°	2.8	7.6	9.5	12.3	11.4
67.5°	5.7	6.6	5.7	16.1	19.4
70°	7.6	12.3	13.3	11.4	19.4
72.5°	4.7	6.6	9.5	17.5	19.4
75°	8.5	9.5	14.2	16.1	19.4
77.5°	6.6	9.5	9.5	10.4	19.4
80°	2.8	8.5	9.5	10.4	5.7
82.5°	3.8	5.7	3.8	10.4	7.6
85°	1.9	8.5	7.6	9.5	9.5
87.5°	2.8	4.7	4.7	8.5	5.7
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	21.3	22.3	21.3	15.2	11.4	10.4	7.6	13.3	3.8	3.8	0.0
65°	19.4	21.3	16.1	18.5	12.3	11.4	6.6	13.3	1.9	6.6	4.7







64°	2.8	4.7	4.7	8.5	13.3
65°	4.7	6.6	6.6	12.3	9.5



(END OF REPORT)