

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: P315348

Luminaire Tested: **LDA2B10FL9040D010 PINW1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P315348  
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: LDA2B10FL9040D010 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: 768.5 lumens  
Efficiency: N/A  
Efficacy: 76.9 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

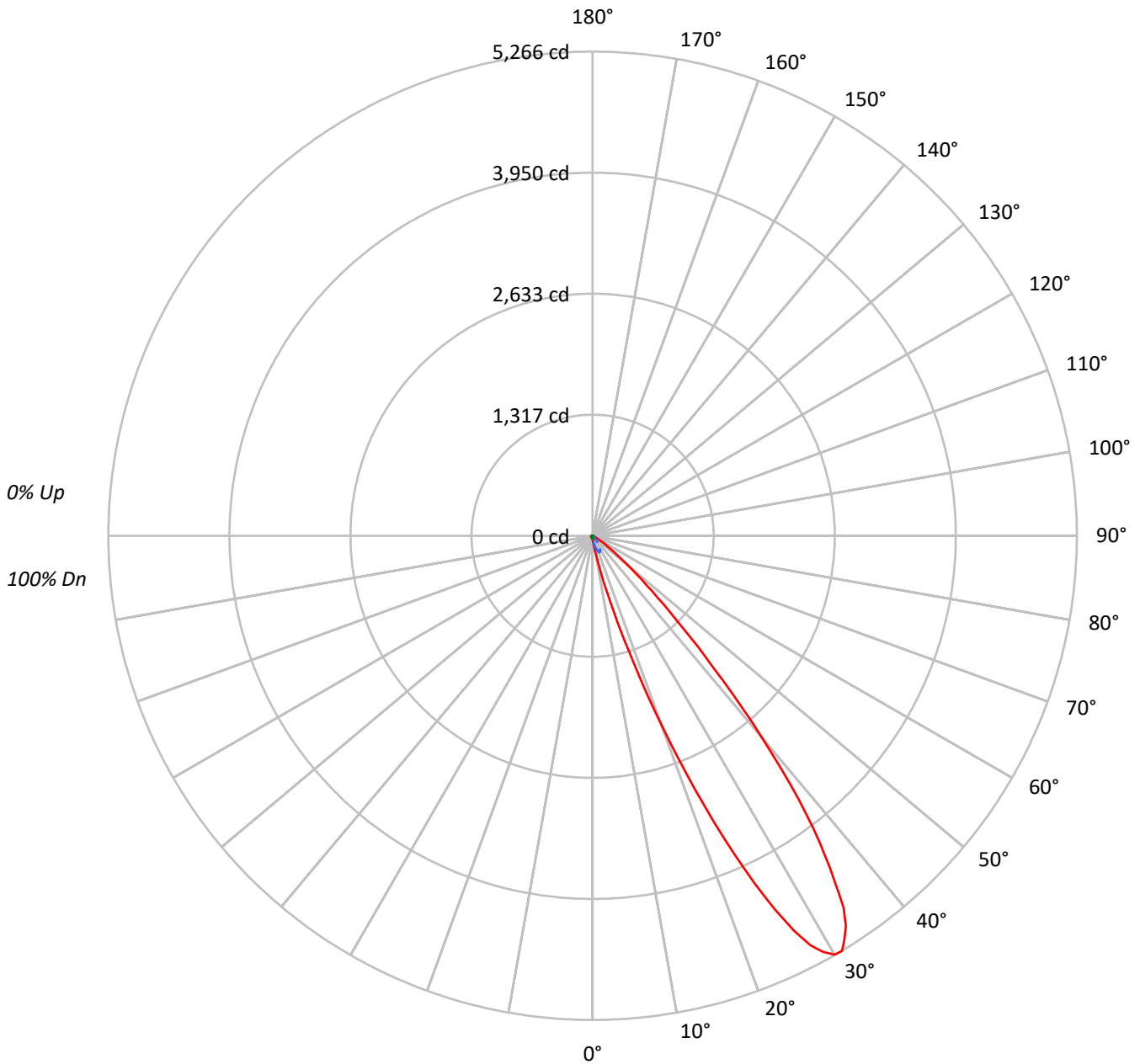
Input Watts (W): 10  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	16133	16133	16133
5°	36054	16640	13025
10°	96537	10370	3707
15°	379959	13433	8734
20°	1149384	8243	6773
25°	2274573	7022	6042
30°	2997113	4216	7349
35°	2765566	6083	8854
40°	1842142	5346	12172
45°	868869	1954	5163
50°	383077	7061	15888
55°	155773	0	16257
60°	64532	4539	14505
65°	22064	5370	10740
70°	18608	10674	27263
75°	10484	15821	36027
80°	0	7955	15626
85°	10189	10189	52078



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	4.4	0.6
10°-20°	47.0	6.1
20°-30°	241.7	31.5
30°-40°	309.5	40.3
40°-50°	119.0	15.5
50°-60°	24.2	3.1
60°-70°	8.2	1.1
70°-80°	9.5	1.2
80°-90°	4.9	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°	293.2	38.1
0°-40°	602.7	78.4
0°-60°	745.9	97.1
0°-90°	768.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	768.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	33	33	33	33	33	
5°	73	60	34	24	26	11
15°	744	145	26	16	17	285
25°	4178	189	13	10	11	1907
35°	4592	98	10	8	15	2744
45°	1245	24	3	2	7	1070
55°	181	5	0	4	19	188
65°	19	6	5	6	9	27
75°	6	10	8	14	19	7
85°	2	6	2	7	9	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°	32.7	32.7	32.7	32.7	32.7	32.7	32.7	32.7	32.7	32.7	32.7
2.5°	48.4	41.9	43.8	37.3	41.0	41.9	34.6	45.6	41.0	42.9	37.3
5°	72.8	78.4	71.9	69.1	67.3	69.1	67.3	70.1	68.2	59.9	42.9
7.5°	121.7	111.1	111.1	107.4	110.2	109.2	104.6	107.4	100.9	72.8	49.3
10°	192.7	182.0	181.1	178.4	177.4	169.1	164.5	160.8	147.5	86.2	44.7
12.5°	377.5	368.2	361.8	345.7	334.6	328.2	303.7	290.8	252.6	128.1	57.1
15°	743.9	696.4	708.4	656.3	618.0	592.7	542.0	497.3	405.6	144.7	55.3
17.5°	1316.3	1270.2	1239.3	1182.6	1104.7	1037.5	937.4	838.4	651.7	164.5	51.6
20°	2189.2	2116.4	2051.9	1954.6	1804.8	1675.3	1499.3	1309.8	970.2	188.0	46.5
21°	2572.7	2516.4	2441.8	2313.6	2139.0	1965.7	1754.6	1526.5	1105.7	189.9	41.9
22°	2972.7	2936.3	2838.1	2691.1	2487.4	2280.9	2021.9	1771.2	1249.9	192.7	40.1
23°	3389.4	3351.1	3240.0	3071.8	2842.7	2592.9	2291.1	1993.8	1385.4	196.3	39.2
24°	3797.2	3754.8	3630.9	3442.8	3182.9	2895.7	2554.7	2209.9	1511.7	194.5	41.0
25°	4178.4	4119.4	3988.5	3780.2	3494.9	3172.7	2796.7	2396.6	1622.8	189.0	34.6
26°	4518.5	4451.2	4310.2	4083.0	3771.0	3422.1	2998.5	2569.9	1704.8	184.4	32.7
27°	4814.0	4729.2	4578.4	4340.2	4005.6	3620.3	3170.9	2705.4	1777.2	177.4	26.3
28°	5043.9	4946.7	4793.7	4542.0	4188.5	3774.7	3297.6	2790.2	1820.0	178.4	30.0
29°	5176.7	5102.0	4935.6	4672.0	4300.1	3863.6	3364.5	2837.2	1828.3	164.5	28.1
30°	5261.0	5177.6	5006.6	4731.0	4342.9	3883.9	3372.8	2828.5	1803.9	154.4	26.3
31°	5266.5	5179.4	5005.7	4720.4	4326.3	3850.2	3326.7	2776.4	1750.9	143.8	21.7
32°	5167.5	5100.2	4929.2	4634.7	4236.5	3757.6	3227.6	2688.3	1667.5	122.6	14.7
33°	5055.5	4973.9	4803.8	4506.5	4112.0	3630.9	3084.7	2569.9	1580.8	120.8	18.9
34°	4881.2	4783.1	4615.8	4323.1	3939.2	3450.2	2914.6	2411.8	1470.2	110.2	18.0
35°	4591.8	4539.3	4370.1	4081.1	3708.3	3233.6	2710.0	2238.1	1352.7	98.2	12.9
36°	4301.9	4237.4	4077.5	3798.2	3444.7	2975.5	2479.1	2039.9	1220.0	83.4	10.1
37°	3995.4	3911.1	3765.4	3492.1	3123.0	2718.3	2257.4	1850.9	1111.7	88.0	13.8
38°	3638.2	3610.1	3418.4	3164.0	2822.9	2440.9	2019.1	1651.8	991.8	82.0	22.6
39°	3245.6	3226.7	3035.4	2803.6	2497.5	2146.3	1775.3	1445.3	872.0	59.9	7.4
40°	2860.3	2806.3	2670.8	2460.2	2193.8	1878.1	1557.3	1269.3	768.3	59.0	14.7
42.5°	1938.5	1955.5	1809.0	1658.3	1487.3	1273.0	1059.1	870.2	537.4	43.8	9.2
45°	1245.3	1249.0	1183.6	1066.5	954.5	820.8	679.8	566.4	346.6	24.4	2.8
47.5°	792.7	790.9	748.9	681.7	608.4	530.0	442.0	370.1	224.5	18.9	8.3
50°	499.1	497.3	471.0	428.2	387.1	335.5	280.2	238.3	142.0	22.6	9.2
51°	405.6	408.3	386.2	342.9	311.1	261.8	223.5	189.9	111.1	15.7	8.3
52°	334.6	332.8	318.9	282.5	256.3	213.9	182.0	155.3	92.6	13.8	3.7
53°	269.2	270.1	256.3	228.1	202.8	171.0	145.6	120.8	66.4	10.1	2.8
54°	212.9	211.1	206.5	179.3	163.6	135.5	113.8	92.6	57.1	1.8	0.0
55°	181.1	178.4	171.9	148.4	132.7	112.0	90.8	79.3	49.3	4.6	0.0
57.5°	104.6	104.6	100.9	88.0	77.4	69.1	55.3	51.6	25.3	4.6	0.0
60°	65.4	57.1	63.6	54.4	42.9	38.3	31.8	29.0	21.7	8.3	1.8
61°	54.4	43.8	42.9	40.1	37.3	25.3	21.7	23.5	13.8	2.8	1.8
62°	39.2	34.6	37.3	31.8	28.1	19.8	18.0	17.1	8.3	3.7	4.6
63°	35.5	31.8	30.9	23.5	20.7	20.7	15.7	14.7	10.1	7.4	3.7



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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°	18.9	15.7	13.8	15.7	9.2	12.0	4.6	12.9	2.8	4.6	2.8
67.5°	14.7	9.2	8.3	10.1	6.5	4.6	6.5	8.3	2.8	4.6	6.5
70°	12.9	6.5	9.2	8.3	6.5	8.3	9.2	9.2	2.8	9.2	8.3
72.5°	12.9	8.3	4.6	3.7	3.7	3.7	3.7	3.7	5.5	12.9	10.1
75°	5.5	5.5	2.8	6.5	3.7	5.5	3.7	9.2	3.7	10.1	8.3
77.5°	3.7	4.6	0.0	4.6	0.0	0.0	2.8	6.5	2.8	7.4	9.2
80°	0.0	4.6	2.8	0.0	1.8	2.8	0.0	0.9	1.8	8.3	3.7
82.5°	1.8	2.8	3.7	1.8	1.8	0.0	0.0	0.0	0.0	5.5	4.6
85°	1.8	3.7	0.0	0.9	3.7	1.8	0.9	4.6	1.8	6.5	7.4
87.5°	0.0	1.8	1.8	0.0	2.8	0.0	2.8	1.8	0.0	5.5	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°	32.7	32.7	32.7	32.7	32.7
2.5°	28.1	25.3	21.7	27.2	22.6
5°	33.6	30.9	24.4	29.0	26.3
7.5°	34.6	29.0	25.3	23.5	26.3
10°	20.7	13.8	10.1	13.8	7.4
12.5°	34.6	24.4	22.6	25.3	28.1
15°	26.3	15.7	15.7	12.0	17.1
17.5°	14.7	12.0	11.1	14.7	17.1
20°	15.7	10.1	8.3	13.8	12.9
21°	13.8	3.7	11.1	11.1	12.9
22°	19.8	9.2	11.1	18.0	18.9
23°	12.9	10.1	8.3	11.1	14.7
24°	18.9	11.1	10.1	13.8	20.7
25°	12.9	10.1	10.1	12.9	11.1
26°	7.4	10.1	7.4	11.1	9.2
27°	5.5	9.2	5.5	8.3	11.1
28°	12.0	14.7	13.8	14.7	12.9
29°	12.9	15.7	12.9	19.8	14.7
30°	7.4	13.8	6.5	14.7	12.9
31°	7.4	10.1	4.6	14.7	12.9
32°	0.9	5.5	2.8	5.5	5.5
33°	5.5	6.5	7.4	12.0	9.2
34°	9.2	11.1	7.4	12.9	11.1
35°	10.1	5.5	8.3	13.8	14.7
36°	2.8	2.8	4.6	11.1	3.7
37°	5.5	15.7	11.1	18.9	11.1
38°	9.2	18.9	18.0	23.5	18.9
39°	1.8	5.5	6.5	12.9	12.9
40°	8.3	13.8	10.1	18.9	18.9
42.5°	6.5	10.1	7.4	15.7	12.9
45°	2.8	2.8	1.8	10.1	7.4
47.5°	4.6	4.6	8.3	12.9	22.6
50°	9.2	9.2	12.0	21.7	20.7
51°	5.5	4.6	6.5	14.7	18.9
52°	4.6	6.5	6.5	14.7	14.7
53°	1.8	0.0	0.0	11.1	9.2
54°	1.8	0.9	2.8	8.3	12.9
55°	0.0	4.6	3.7	17.1	18.9
57.5°	0.9	7.4	3.7	12.0	14.7
60°	4.6	5.5	10.1	12.0	14.7
61°	0.0	4.6	4.6	11.1	12.9
62°	0.0	3.7	8.3	10.1	12.9
63°	4.6	5.5	7.4	12.0	14.7





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**CANDELA DISTRIBUTION (continued):**

	90°	112.5°	135°	157.5°	180°
66°	2.8	7.4	9.2	12.0	11.1
67.5°	5.5	6.5	5.5	15.7	18.9
70°	7.4	12.0	12.9	11.1	18.9
72.5°	4.6	6.5	9.2	17.1	18.9
75°	8.3	9.2	13.8	15.7	18.9
77.5°	6.5	9.2	9.2	10.1	18.9
80°	2.8	8.3	9.2	10.1	5.5
82.5°	3.7	5.5	3.7	10.1	7.4
85°	1.8	8.3	7.4	9.2	9.2
87.5°	2.8	4.6	4.6	8.3	5.5
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	20.7	21.7	20.7	14.7	11.1	10.1	7.4	12.9	3.7	3.7	0.0
65°	18.9	20.7	15.7	18.0	12.0	11.1	6.5	12.9	1.8	6.5	4.6







64°	2.8	4.6	4.6	8.3	12.9
65°	4.6	6.5	6.5	12.0	9.2



(END OF REPORT)