

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: P315324

Luminaire Tested: **LDA2B10FL9024D010 PINW1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P315324
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: LDA2B10FL9024D010 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: 644.8 lumens
Efficiency: N/A
Efficacy: 64.5 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

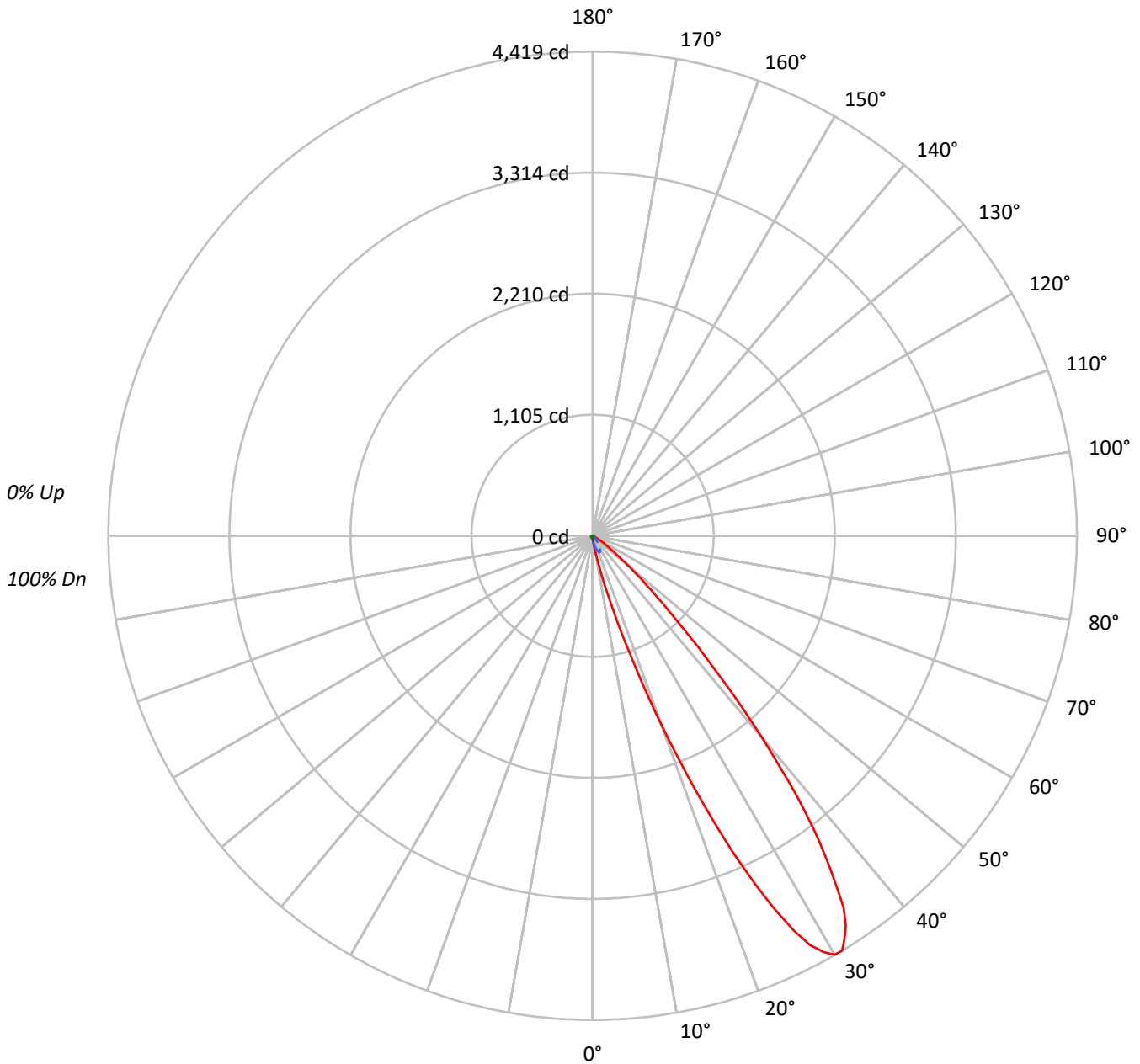
Input Watts (W): 10
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	13567	13567	13567
5°	30260	13966	10895
10°	80957	8717	3106
15°	318769	11237	7304
20°	964365	6878	5670
25°	1908433	5879	5063
30°	2514647	3532	6153
35°	2320358	5119	7468
40°	1545563	4508	10240
45°	729047	1605	4326
50°	321444	5910	13355
55°	130743	0	13676
60°	54171	3848	12235
65°	18562	4553	8989
70°	15579	8943	22936
75°	8769	13343	30309
80°	0	6535	13069
85°	8491	8491	43587



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	3.7	0.6
10°-20°	39.5	6.1
20°-30°	202.8	31.5
30°-40°	259.7	40.3
40°-50°	99.9	15.5
50°-60°	20.3	3.1
60°-70°	6.9	1.1
70°-80°	8.0	1.2
80°-90°	4.1	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°	246.0	38.1
0°-40°	505.7	78.4
0°-60°	625.8	97.1
0°-90°	644.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	644.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	28	28	28	28	28	
5°	61	50	28	20	22	9
15°	624	121	22	13	14	239
25°	3506	158	11	8	9	1600
35°	3853	82	8	7	12	2303
45°	1045	20	2	2	6	898
55°	152	4	0	3	16	157
65°	16	5	4	5	8	22
75°	5	8	7	12	16	6
85°	2	5	2	6	8	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°	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5
2.5°	40.6	35.2	36.7	31.3	34.4	35.2	29.0	38.3	34.4	36.0	31.3
5°	61.1	65.7	60.3	58.0	56.5	58.0	56.5	58.8	57.2	50.3	36.0
7.5°	102.1	93.2	93.2	90.1	92.4	91.6	87.8	90.1	84.7	61.1	41.4
10°	161.6	152.7	152.0	149.7	148.9	141.9	138.1	135.0	123.7	72.3	37.5
12.5°	316.7	309.0	303.6	290.0	280.7	275.3	254.8	244.0	211.9	107.5	48.0
15°	624.1	584.3	594.4	550.7	518.6	497.3	454.8	417.2	340.3	121.4	46.4
17.5°	1104.4	1065.7	1039.8	992.3	926.9	870.5	786.5	703.4	546.8	138.1	43.3
20°	1836.8	1775.7	1721.6	1640.0	1514.3	1405.6	1257.9	1099.0	814.0	157.8	39.1
21°	2158.5	2111.4	2048.7	1941.2	1794.7	1649.3	1472.1	1280.7	927.7	159.3	35.2
22°	2494.2	2463.6	2381.3	2257.9	2087.0	1913.8	1696.4	1486.1	1048.7	161.6	33.6
23°	2843.8	2811.7	2718.5	2577.3	2385.1	2175.5	1922.3	1672.8	1162.4	164.7	32.9
24°	3186.0	3150.4	3046.4	2888.6	2670.5	2429.6	2143.5	1854.2	1268.4	163.2	34.4
25°	3505.8	3456.3	3346.5	3171.7	2932.3	2662.0	2346.5	2010.8	1361.6	158.5	29.0
26°	3791.2	3734.7	3616.4	3425.7	3163.9	2871.2	2515.8	2156.2	1430.4	154.7	27.5
27°	4039.0	3967.9	3841.4	3641.5	3360.8	3037.5	2660.5	2269.9	1491.1	148.9	22.0
28°	4232.0	4150.4	4022.0	3810.9	3514.3	3167.0	2766.8	2341.1	1527.1	149.7	25.1
29°	4343.4	4280.7	4141.1	3919.9	3607.9	3241.7	2822.9	2380.5	1534.0	138.1	23.6
30°	4414.1	4344.1	4200.7	3969.4	3643.8	3258.7	2829.8	2373.1	1513.5	129.5	22.0
31°	4418.8	4345.7	4199.9	3960.5	3629.9	3230.5	2791.2	2329.5	1469.1	120.6	18.2
32°	4335.6	4279.2	4135.7	3888.6	3554.5	3152.7	2708.0	2255.6	1399.1	102.9	12.4
33°	4241.7	4173.2	4030.5	3781.1	3450.1	3046.4	2588.2	2156.2	1326.4	101.3	15.9
34°	4095.5	4013.1	3872.8	3627.2	3305.1	2894.8	2445.5	2023.6	1233.6	92.4	15.1
35°	3852.6	3808.6	3666.6	3424.2	3111.3	2713.1	2273.8	1877.8	1135.0	82.4	10.8
36°	3609.4	3555.3	3421.1	3186.8	2890.2	2496.5	2080.0	1711.5	1023.6	70.0	8.5
37°	3352.3	3281.5	3159.3	2930.0	2620.2	2280.7	1894.0	1553.0	932.7	73.9	11.6
38°	3052.6	3029.0	2868.1	2654.7	2368.5	2047.9	1694.1	1385.9	832.2	68.8	18.9
39°	2723.1	2707.3	2546.8	2352.3	2095.5	1800.8	1489.5	1212.7	731.6	50.3	6.2
40°	2399.8	2354.6	2240.9	2064.2	1840.7	1575.8	1306.6	1065.0	644.6	49.5	12.4
42.5°	1626.4	1640.7	1517.8	1391.3	1247.9	1068.1	888.6	730.1	450.9	36.7	7.7
45°	1044.9	1047.9	993.0	894.8	800.8	688.7	570.4	475.2	290.8	20.5	2.3
47.5°	665.1	663.6	628.4	571.9	510.4	444.7	370.8	310.5	188.3	15.9	7.0
50°	418.8	417.2	395.2	359.2	324.8	281.5	235.1	199.9	119.1	18.9	7.7
51°	340.3	342.6	324.1	287.7	261.0	219.6	187.5	159.3	93.2	13.1	7.0
52°	280.7	279.2	267.6	237.0	215.0	179.4	152.7	130.3	77.7	11.6	3.1
53°	225.8	226.6	215.0	191.4	170.1	143.5	122.2	101.3	55.7	8.5	2.3
54°	178.7	177.1	173.2	150.4	137.3	113.7	95.5	77.7	48.0	1.5	0.0
55°	152.0	149.7	144.2	124.5	111.4	94.0	76.2	66.5	41.4	3.9	0.0
57.5°	87.8	87.8	84.7	73.9	65.0	58.0	46.4	43.3	21.3	3.9	0.0
60°	54.9	48.0	53.4	45.6	36.0	32.1	26.7	24.4	18.2	7.0	1.5
61°	45.6	36.7	36.0	33.6	31.3	21.3	18.2	19.7	11.6	2.3	1.5
62°	32.9	29.0	31.3	26.7	23.6	16.6	15.1	14.3	7.0	3.1	3.9
63°	29.8	26.7	25.9	19.7	17.4	17.4	13.1	12.4	8.5	6.2	3.1



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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°	15.9	13.1	11.6	13.1	7.7	10.1	3.9	10.8	2.3	3.9	2.3
67.5°	12.4	7.7	7.0	8.5	5.4	3.9	5.4	7.0	2.3	3.9	5.4
70°	10.8	5.4	7.7	7.0	5.4	7.0	7.7	7.7	2.3	7.7	7.0
72.5°	10.8	7.0	3.9	3.1	3.1	3.1	3.1	3.1	4.6	10.8	8.5
75°	4.6	4.6	2.3	5.4	3.1	4.6	3.1	7.7	3.1	8.5	7.0
77.5°	3.1	3.9	0.0	3.9	0.0	0.0	2.3	5.4	2.3	6.2	7.7
80°	0.0	3.9	2.3	0.0	1.5	2.3	0.0	0.8	1.5	7.0	3.1
82.5°	1.5	2.3	3.1	1.5	1.5	0.0	0.0	0.0	0.0	4.6	3.9
85°	1.5	3.1	0.0	0.8	3.1	1.5	0.8	3.9	1.5	5.4	6.2
87.5°	0.0	1.5	1.5	0.0	2.3	0.0	2.3	1.5	0.0	4.6	2.3
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°	27.5	27.5	27.5	27.5	27.5
2.5°	23.6	21.3	18.2	22.8	18.9
5°	28.2	25.9	20.5	24.4	22.0
7.5°	29.0	24.4	21.3	19.7	22.0
10°	17.4	11.6	8.5	11.6	6.2
12.5°	29.0	20.5	18.9	21.3	23.6
15°	22.0	13.1	13.1	10.1	14.3
17.5°	12.4	10.1	9.3	12.4	14.3
20°	13.1	8.5	7.0	11.6	10.8
21°	11.6	3.1	9.3	9.3	10.8
22°	16.6	7.7	9.3	15.1	15.9
23°	10.8	8.5	7.0	9.3	12.4
24°	15.9	9.3	8.5	11.6	17.4
25°	10.8	8.5	8.5	10.8	9.3
26°	6.2	8.5	6.2	9.3	7.7
27°	4.6	7.7	4.6	7.0	9.3
28°	10.1	12.4	11.6	12.4	10.8
29°	10.8	13.1	10.8	16.6	12.4
30°	6.2	11.6	5.4	12.4	10.8
31°	6.2	8.5	3.9	12.4	10.8
32°	0.8	4.6	2.3	4.6	4.6
33°	4.6	5.4	6.2	10.1	7.7
34°	7.7	9.3	6.2	10.8	9.3
35°	8.5	4.6	7.0	11.6	12.4
36°	2.3	2.3	3.9	9.3	3.1
37°	4.6	13.1	9.3	15.9	9.3
38°	7.7	15.9	15.1	19.7	15.9
39°	1.5	4.6	5.4	10.8	10.8
40°	7.0	11.6	8.5	15.9	15.9
42.5°	5.4	8.5	6.2	13.1	10.8
45°	2.3	2.3	1.5	8.5	6.2
47.5°	3.9	3.9	7.0	10.8	18.9
50°	7.7	7.7	10.1	18.2	17.4
51°	4.6	3.9	5.4	12.4	15.9
52°	3.9	5.4	5.4	12.4	12.4
53°	1.5	0.0	0.0	9.3	7.7
54°	1.5	0.8	2.3	7.0	10.8
55°	0.0	3.9	3.1	14.3	15.9
57.5°	0.8	6.2	3.1	10.1	12.4
60°	3.9	4.6	8.5	10.1	12.4
61°	0.0	3.9	3.9	9.3	10.8
62°	0.0	3.1	7.0	8.5	10.8
63°	3.9	4.6	6.2	10.1	12.4



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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
66°	2.3	6.2	7.7	10.1	9.3
67.5°	4.6	5.4	4.6	13.1	15.9
70°	6.2	10.1	10.8	9.3	15.9
72.5°	3.9	5.4	7.7	14.3	15.9
75°	7.0	7.7	11.6	13.1	15.9
77.5°	5.4	7.7	7.7	8.5	15.9
80°	2.3	7.0	7.7	8.5	4.6
82.5°	3.1	4.6	3.1	8.5	6.2
85°	1.5	7.0	6.2	7.7	7.7
87.5°	2.3	3.9	3.9	7.0	4.6
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	17.4	18.2	17.4	12.4	9.3	8.5	6.2	10.8	3.1	3.1	0.0
65°	15.9	17.4	13.1	15.1	10.1	9.3	5.4	10.8	1.5	5.4	3.9





64°	2.3	3.9	3.9	7.0	10.8
65°	3.9	5.4	5.4	10.1	7.7



(END OF REPORT)