

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: P315365

Luminaire Tested: **LDA2B10FL9730D010 PIN1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P315365
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: LDA2B10FL9730D010 PIN1MMS
Description: PORTFOLIO 2IN ADJ 1000 LUMEN LED LUMINAIRE WITH FLOOD OPTIC AND 2in
Adj PinHole, Black oculus, matte metallic silver finish
Light Source: -
Ballast/Driver: -

Summary

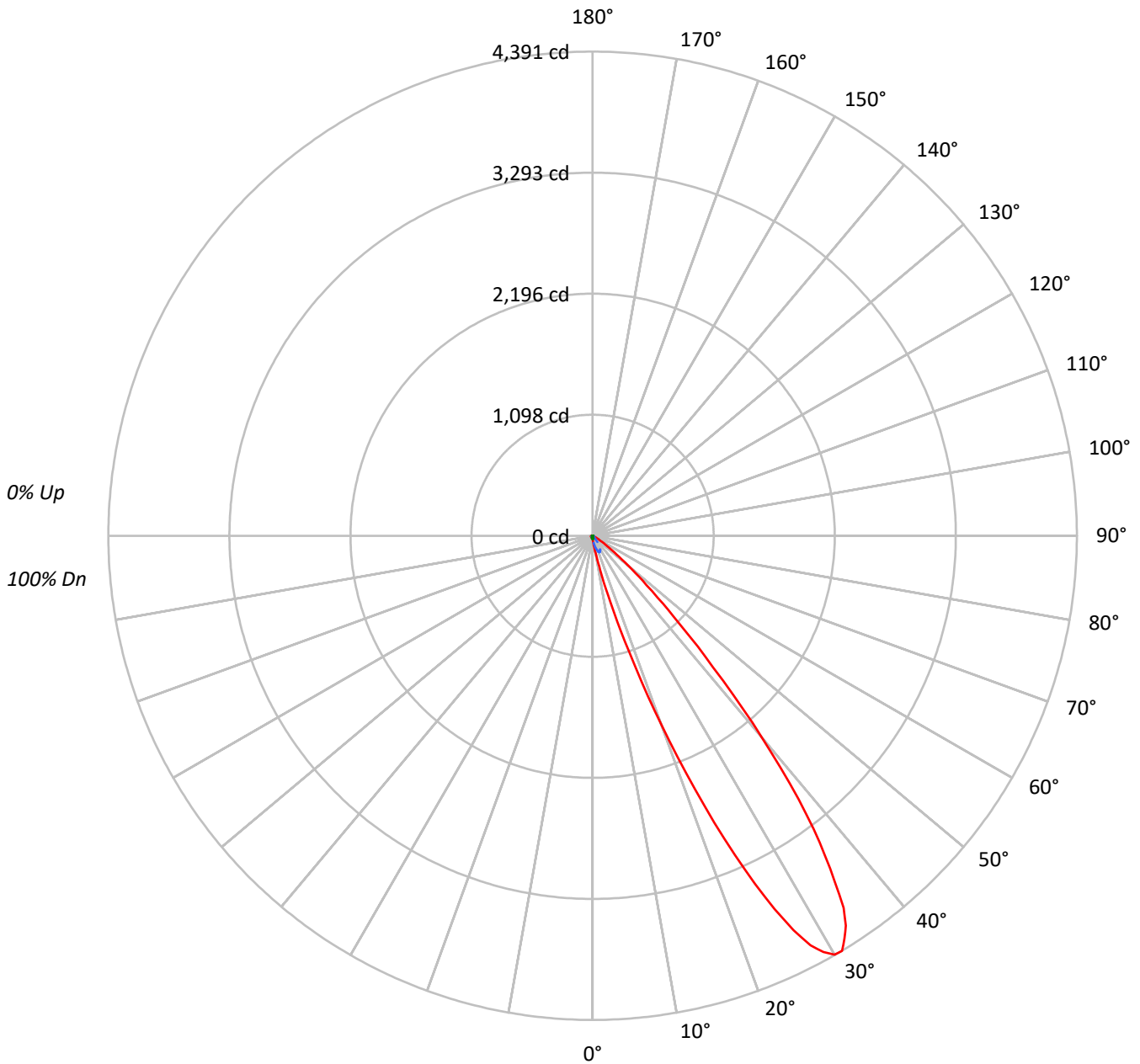
Lumens per Lamp: N/A
Luminaire Lumens: 640.8 lumens
Efficiency: N/A
Efficacy: 64.1 lumens/watt
Spacing Criteria (0/90/45): 2.92 / 0.6 / 1.34
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

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°	13469	13469	13469
5°	30061	13916	10846
10°	80456	8667	3056
15°	316828	11186	7253
20°	958380	6878	5670
25°	1896566	5879	5008
30°	2499095	3475	6153
35°	2306023	5119	7408
40°	1535966	4444	10176
45°	724511	1605	4256
50°	319448	5910	13278
55°	129883	0	13590
60°	53875	3750	12137
65°	18445	4436	8989
70°	15579	8799	22791
75°	8769	13153	30118
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°	39.2	6.1
20°-30°	201.5	31.5
30°-40°	258.1	40.3
40°-50°	99.2	15.5
50°-60°	20.2	3.1
60°-70°	6.8	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°	244.5	38.1
0°-40°	502.5	78.4
0°-60°	622.0	97.1
0°-90°	640.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	640.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	27	27	27	27	27	
5°	61	50	28	20	22	9
15°	620	121	22	13	14	238
25°	3484	158	11	8	9	1590
35°	3829	82	8	7	12	2288
45°	1038	20	2	2	6	893
55°	151	4	0	3	16	156
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°	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3
2.5°	40.4	35.0	36.5	31.1	34.2	35.0	28.8	38.0	34.2	35.7	31.1
5°	60.7	65.3	60.0	57.6	56.1	57.6	56.1	58.4	56.9	50.0	35.7
7.5°	101.5	92.6	92.6	89.5	91.8	91.1	87.2	89.5	84.2	60.7	41.1
10°	160.6	151.8	151.0	148.7	148.0	141.0	137.2	134.1	123.0	71.9	37.3
12.5°	314.7	307.1	301.7	288.2	279.0	273.6	253.3	242.5	210.6	106.8	47.7
15°	620.3	580.7	590.7	547.2	515.3	494.2	451.9	414.7	338.2	120.7	46.1
17.5°	1097.6	1059.1	1033.4	986.1	921.2	865.1	781.7	699.0	543.4	137.2	43.0
20°	1825.4	1764.7	1710.9	1629.8	1504.9	1396.9	1250.1	1092.2	808.9	156.8	38.8
21°	2145.1	2098.3	2036.0	1929.2	1783.5	1639.0	1463.0	1272.8	921.9	158.3	35.0
22°	2478.7	2448.4	2366.5	2243.9	2074.1	1901.9	1685.9	1476.9	1042.2	160.6	33.4
23°	2826.1	2794.2	2701.6	2561.3	2370.3	2162.1	1910.3	1662.5	1155.2	163.7	32.7
24°	3166.2	3130.9	3027.5	2870.7	2654.0	2414.5	2130.2	1842.7	1260.5	162.2	34.2
25°	3484.0	3434.8	3325.7	3152.0	2914.1	2645.5	2331.9	1998.3	1353.1	157.6	28.8
26°	3767.6	3711.5	3593.9	3404.5	3144.3	2853.4	2500.2	2142.8	1421.5	153.7	27.3
27°	4014.0	3943.3	3817.6	3618.9	3339.9	3018.7	2644.0	2255.8	1481.8	148.0	21.9
28°	4205.7	4124.7	3997.1	3787.2	3492.5	3147.4	2749.6	2326.5	1517.6	148.7	25.0
29°	4316.4	4254.2	4115.4	3895.6	3585.5	3221.6	2805.4	2365.7	1524.5	137.2	23.4
30°	4386.8	4317.2	4174.6	3944.8	3621.2	3238.5	2812.3	2358.4	1504.1	128.7	21.9
31°	4391.4	4318.7	4173.9	3936.0	3607.4	3210.4	2773.9	2315.0	1459.9	119.9	18.1
32°	4308.7	4252.6	4110.1	3864.5	3532.5	3133.2	2691.2	2241.6	1390.4	102.2	12.3
33°	4215.4	4147.3	4005.5	3757.7	3428.7	3027.5	2572.1	2142.8	1318.1	100.7	15.8
34°	4070.1	3988.2	3848.7	3604.7	3284.6	2876.8	2430.3	2011.0	1225.9	91.8	15.0
35°	3828.8	3784.9	3643.9	3403.0	3092.1	2696.2	2259.7	1866.1	1127.9	81.9	10.8
36°	3587.0	3533.2	3399.9	3167.0	2872.2	2481.0	2067.1	1700.9	1017.2	69.6	8.5
37°	3331.5	3261.1	3139.7	2911.8	2604.0	2266.6	1882.3	1543.3	926.9	73.4	11.5
38°	3033.6	3010.2	2850.3	2638.2	2353.8	2035.2	1683.6	1377.3	827.0	68.4	18.8
39°	2706.2	2690.5	2531.0	2337.7	2082.5	1789.7	1480.3	1205.2	727.1	50.0	6.1
40°	2384.9	2340.0	2227.0	2051.4	1829.3	1566.0	1298.5	1058.4	640.6	49.2	12.3
42.5°	1616.4	1630.6	1508.4	1382.7	1240.1	1061.4	883.1	725.6	448.1	36.5	7.7
45°	1038.4	1041.4	986.9	889.3	795.9	684.4	566.8	472.3	289.0	20.4	2.3
47.5°	661.0	659.5	624.5	568.4	507.3	441.9	368.5	308.6	187.2	15.8	6.9
50°	416.2	414.7	392.8	357.0	322.8	279.8	233.7	198.7	118.4	18.8	7.7
51°	338.2	340.5	322.0	285.9	259.4	218.3	186.4	158.3	92.6	13.1	6.9
52°	279.0	277.5	265.9	235.6	213.7	178.3	151.8	129.5	77.2	11.5	3.1
53°	224.4	225.2	213.7	190.2	169.1	142.6	121.4	100.7	55.3	8.5	2.3
54°	177.5	176.0	172.2	149.5	136.4	113.0	94.9	77.2	47.7	1.5	0.0
55°	151.0	148.7	143.3	123.7	110.7	93.4	75.7	66.1	41.1	3.8	0.0
57.5°	87.2	87.2	84.2	73.4	64.6	57.6	46.1	43.0	21.1	3.8	0.0
60°	54.6	47.7	53.0	45.3	35.7	31.9	26.5	24.2	18.1	6.9	1.5
61°	45.3	36.5	35.7	33.4	31.1	21.1	18.1	19.6	11.5	2.3	1.5
62°	32.7	28.8	31.1	26.5	23.4	16.5	15.0	14.2	6.9	3.1	3.8
63°	29.6	26.5	25.7	19.6	17.3	17.3	13.1	12.3	8.5	6.1	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°	15.8	13.1	11.5	13.1	7.7	10.0	3.8	10.8	2.3	3.8	2.3
67.5°	12.3	7.7	6.9	8.5	5.4	3.8	5.4	6.9	2.3	3.8	5.4
70°	10.8	5.4	7.7	6.9	5.4	6.9	7.7	7.7	2.3	7.7	6.9
72.5°	10.8	6.9	3.8	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	6.9
77.5°	3.1	3.8	0.0	3.8	0.0	0.0	2.3	5.4	2.3	6.1	7.7
80°	0.0	3.8	2.3	0.0	1.5	2.3	0.0	0.8	1.5	6.9	3.1
82.5°	1.5	2.3	3.1	1.5	1.5	0.0	0.0	0.0	0.0	4.6	3.8
85°	1.5	3.1	0.0	0.8	3.1	1.5	0.8	3.8	1.5	5.4	6.1
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°	27.3	27.3	27.3	27.3	27.3
2.5°	23.4	21.1	18.1	22.7	18.8
5°	28.1	25.7	20.4	24.2	21.9
7.5°	28.8	24.2	21.1	19.6	21.9
10°	17.3	11.5	8.5	11.5	6.1
12.5°	28.8	20.4	18.8	21.1	23.4
15°	21.9	13.1	13.1	10.0	14.2
17.5°	12.3	10.0	9.2	12.3	14.2
20°	13.1	8.5	6.9	11.5	10.8
21°	11.5	3.1	9.2	9.2	10.8
22°	16.5	7.7	9.2	15.0	15.8
23°	10.8	8.5	6.9	9.2	12.3
24°	15.8	9.2	8.5	11.5	17.3
25°	10.8	8.5	8.5	10.8	9.2
26°	6.1	8.5	6.1	9.2	7.7
27°	4.6	7.7	4.6	6.9	9.2
28°	10.0	12.3	11.5	12.3	10.8
29°	10.8	13.1	10.8	16.5	12.3
30°	6.1	11.5	5.4	12.3	10.8
31°	6.1	8.5	3.8	12.3	10.8
32°	0.8	4.6	2.3	4.6	4.6
33°	4.6	5.4	6.1	10.0	7.7
34°	7.7	9.2	6.1	10.8	9.2
35°	8.5	4.6	6.9	11.5	12.3
36°	2.3	2.3	3.8	9.2	3.1
37°	4.6	13.1	9.2	15.8	9.2
38°	7.7	15.8	15.0	19.6	15.8
39°	1.5	4.6	5.4	10.8	10.8
40°	6.9	11.5	8.5	15.8	15.8
42.5°	5.4	8.5	6.1	13.1	10.8
45°	2.3	2.3	1.5	8.5	6.1
47.5°	3.8	3.8	6.9	10.8	18.8
50°	7.7	7.7	10.0	18.1	17.3
51°	4.6	3.8	5.4	12.3	15.8
52°	3.8	5.4	5.4	12.3	12.3
53°	1.5	0.0	0.0	9.2	7.7
54°	1.5	0.8	2.3	6.9	10.8
55°	0.0	3.8	3.1	14.2	15.8
57.5°	0.8	6.1	3.1	10.0	12.3
60°	3.8	4.6	8.5	10.0	12.3
61°	0.0	3.8	3.8	9.2	10.8
62°	0.0	3.1	6.9	8.5	10.8
63°	3.8	4.6	6.1	10.0	12.3



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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
66°	2.3	6.1	7.7	10.0	9.2
67.5°	4.6	5.4	4.6	13.1	15.8
70°	6.1	10.0	10.8	9.2	15.8
72.5°	3.8	5.4	7.7	14.2	15.8
75°	6.9	7.7	11.5	13.1	15.8
77.5°	5.4	7.7	7.7	8.5	15.8
80°	2.3	6.9	7.7	8.5	4.6
82.5°	3.1	4.6	3.1	8.5	6.1
85°	1.5	6.9	6.1	7.7	7.7
87.5°	2.3	3.8	3.8	6.9	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°	17.3	18.1	17.3	12.3	9.2	8.5	6.1	10.8	3.1	3.1	0.0
65°	15.8	17.3	13.1	15.0	10.0	9.2	5.4	10.8	1.5	5.4	3.8





64°	2.3	3.8	3.8	6.9	10.8
65°	3.8	5.4	5.4	10.0	7.7



(END OF REPORT)