

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: P315341

Luminaire Tested: **LDA2B10FL9035D010 PIN1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P315341
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: LDA2B10FL9035D010 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

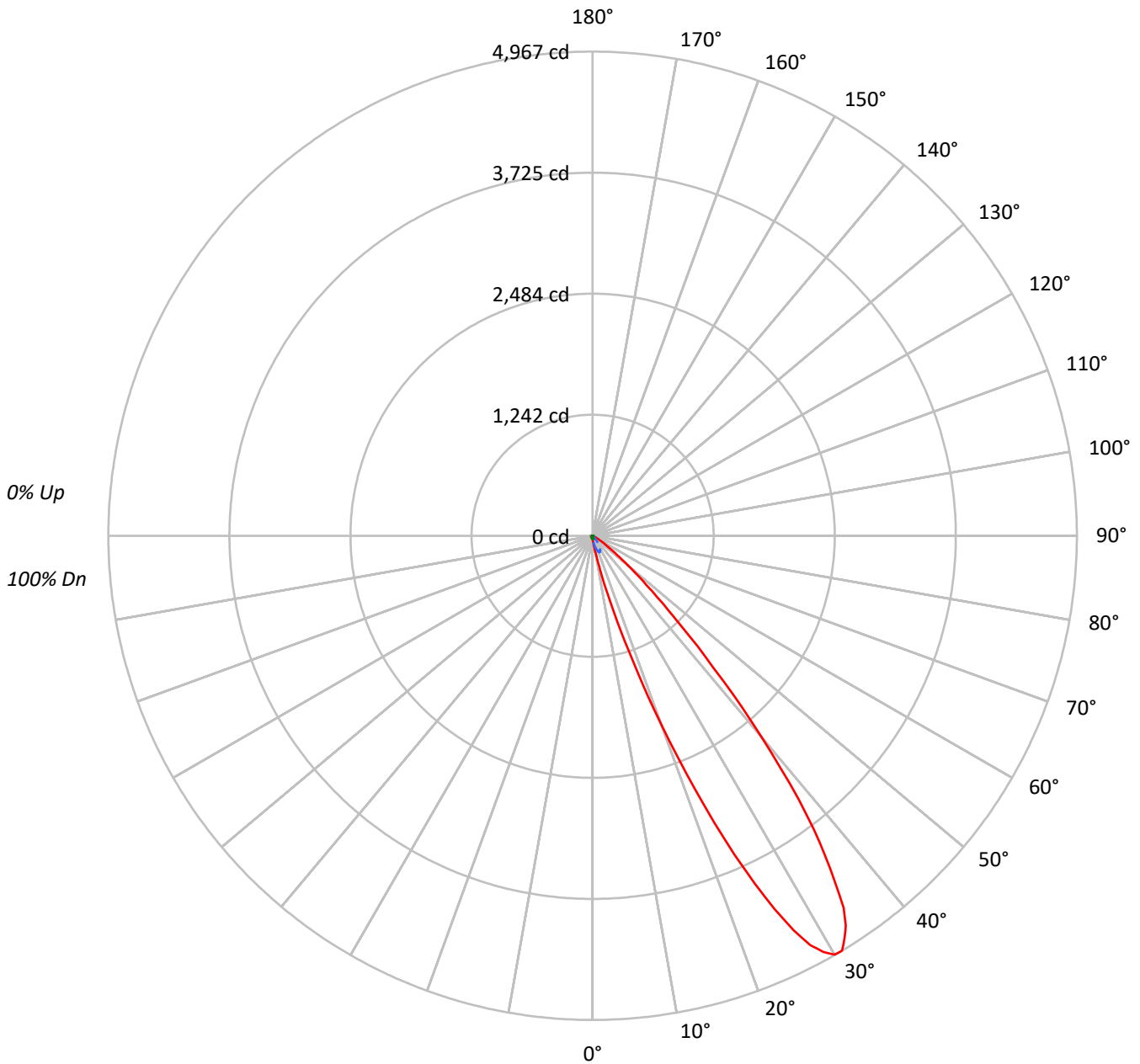
Lumens per Lamp: N/A
Luminaire Lumens: 724.8 lumens
Efficiency: N/A
Efficacy: 72.5 lumens/watt
Spacing Criteria (0/90/45): 2.92 / 0.6 / 1.34
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

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°	15245	15245	15245
5°	34023	15699	12282
10°	91027	9819	3507
15°	358302	12667	8223
20°	1083966	7770	6405
25°	2145123	6641	5661
30°	2826550	3988	6950
35°	2608189	5782	8372
40°	1737293	5023	11464
45°	819401	1814	4884
50°	361279	6678	15044
55°	146914	0	15311
60°	60881	4243	13715
65°	20780	5020	10156
70°	17598	10097	25676
75°	9912	14868	33930
80°	0	7387	14774
85°	9623	9623	49248



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	4.2	0.6
10°-20°	44.3	6.1
20°-30°	228.0	31.5
30°-40°	291.9	40.3
40°-50°	112.2	15.5
50°-60°	22.8	3.1
60°-70°	7.7	1.1
70°-80°	9.0	1.2
80°-90°	4.6	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°	276.5	38.1
0°-40°	568.4	78.4
0°-60°	703.5	97.1
0°-90°	724.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	724.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	31	31	31	31	31	
5°	69	56	32	23	25	10
15°	702	136	25	15	16	269
25°	3941	178	12	10	10	1799
35°	4330	93	10	8	14	2588
45°	1174	23	3	2	7	1009
55°	171	4	0	4	18	177
65°	18	6	4	6	9	25
75°	5	10	8	13	18	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°	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9
2.5°	45.6	39.6	41.3	35.2	38.7	39.6	32.6	43.0	38.7	40.4	35.2
5°	68.7	73.9	67.8	65.2	63.5	65.2	63.5	66.1	64.3	56.5	40.4
7.5°	114.7	104.8	104.8	101.3	103.9	103.0	98.7	101.3	95.2	68.7	46.5
10°	181.7	171.7	170.8	168.2	167.3	159.5	155.2	151.7	139.1	81.3	42.2
12.5°	356.0	347.3	341.2	326.0	315.6	309.5	286.4	274.3	238.2	120.8	53.9
15°	701.5	656.8	668.1	619.0	582.9	559.0	511.2	469.0	382.5	136.5	52.2
17.5°	1241.4	1197.9	1168.8	1115.3	1041.9	978.4	884.1	790.6	614.6	155.2	48.7
20°	2064.6	1995.9	1935.1	1843.4	1702.1	1580.0	1413.9	1235.3	915.0	177.3	43.9
21°	2426.3	2373.2	2302.8	2182.0	2017.2	1853.8	1654.7	1439.6	1042.7	179.1	39.6
22°	2803.5	2769.2	2676.6	2538.0	2345.8	2151.1	1906.8	1670.4	1178.8	181.7	37.8
23°	3196.5	3160.4	3055.6	2897.0	2681.0	2445.4	2160.7	1880.3	1306.6	185.2	36.9
24°	3581.1	3541.1	3424.2	3246.9	3001.7	2730.9	2409.3	2084.2	1425.7	183.4	38.7
25°	3940.6	3885.0	3761.5	3565.1	3296.0	2992.2	2637.5	2260.2	1530.4	178.2	32.6
26°	4261.4	4197.9	4064.9	3850.6	3556.4	3227.3	2827.9	2423.6	1607.8	173.9	30.9
27°	4540.0	4460.0	4317.9	4093.2	3777.6	3414.2	2990.4	2551.4	1676.0	167.3	24.8
28°	4756.9	4665.2	4520.9	4283.5	3950.2	3559.8	3110.0	2631.4	1716.5	168.2	28.3
29°	4882.1	4811.6	4654.7	4406.1	4055.3	3643.7	3173.0	2675.7	1724.3	155.2	26.5
30°	4961.6	4882.9	4721.7	4461.7	4095.8	3662.9	3180.8	2667.5	1701.2	145.6	24.8
31°	4966.8	4884.7	4720.8	4451.8	4080.1	3631.1	3137.4	2618.4	1651.3	135.6	20.4
32°	4873.4	4809.9	4648.7	4370.9	3995.4	3543.8	3043.9	2535.4	1572.6	115.6	13.9
33°	4767.7	4690.8	4530.4	4250.1	3878.0	3424.2	2909.2	2423.6	1490.9	113.9	17.8
34°	4603.4	4510.9	4353.1	4077.1	3715.0	3253.8	2748.8	2274.6	1386.6	103.9	17.0
35°	4330.5	4280.9	4121.4	3848.9	3497.2	3049.6	2555.8	2110.7	1275.7	92.6	12.2
36°	4057.1	3996.2	3845.4	3582.0	3248.6	2806.1	2338.0	1923.8	1150.5	78.7	9.6
37°	3768.0	3688.5	3551.1	3293.4	2945.2	2563.6	2128.9	1745.6	1048.4	83.0	13.0
38°	3431.2	3404.7	3223.8	2983.9	2662.3	2301.9	1904.2	1557.8	935.4	77.4	21.3
39°	3060.9	3043.0	2862.6	2644.0	2355.4	2024.2	1674.3	1363.1	822.4	56.5	7.0
40°	2697.5	2646.6	2518.8	2320.2	2069.0	1771.2	1468.7	1197.0	724.6	55.6	13.9
42.5°	1828.2	1844.2	1706.0	1563.9	1402.6	1200.5	998.8	820.6	506.8	41.3	8.7
45°	1174.4	1177.9	1116.2	1005.8	900.2	774.1	641.1	534.2	326.9	23.0	2.6
47.5°	747.6	745.9	706.3	642.9	573.7	499.9	416.8	349.0	211.7	17.8	7.8
50°	470.7	469.0	444.2	403.8	365.1	316.4	264.3	224.7	133.9	21.3	8.7
51°	382.5	385.1	364.2	323.4	293.4	246.9	210.8	179.1	104.8	14.8	7.8
52°	315.6	313.8	300.8	266.4	241.7	201.7	171.7	146.5	87.4	13.0	3.5
53°	253.8	254.7	241.7	215.2	191.2	161.3	137.4	113.9	62.6	9.6	2.6
54°	200.8	199.1	194.7	169.1	154.3	127.8	107.4	87.4	53.9	1.7	0.0
55°	170.8	168.2	162.1	140.0	125.2	105.6	85.6	74.8	46.5	4.3	0.0
57.5°	98.7	98.7	95.2	83.0	73.0	65.2	52.2	48.7	23.9	4.3	0.0
60°	61.7	53.9	60.0	51.3	40.4	36.1	30.0	27.4	20.4	7.8	1.7
61°	51.3	41.3	40.4	37.8	35.2	23.9	20.4	22.2	13.0	2.6	1.7
62°	36.9	32.6	35.2	30.0	26.5	18.7	17.0	16.1	7.8	3.5	4.3
63°	33.5	30.0	29.1	22.2	19.6	19.6	14.8	13.9	9.6	7.0	3.5



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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°	17.8	14.8	13.0	14.8	8.7	11.3	4.3	12.2	2.6	4.3	2.6
67.5°	13.9	8.7	7.8	9.6	6.1	4.3	6.1	7.8	2.6	4.3	6.1
70°	12.2	6.1	8.7	7.8	6.1	7.8	8.7	8.7	2.6	8.7	7.8
72.5°	12.2	7.8	4.3	3.5	3.5	3.5	3.5	3.5	5.2	12.2	9.6
75°	5.2	5.2	2.6	6.1	3.5	5.2	3.5	8.7	3.5	9.6	7.8
77.5°	3.5	4.3	0.0	4.3	0.0	0.0	2.6	6.1	2.6	7.0	8.7
80°	0.0	4.3	2.6	0.0	1.7	2.6	0.0	0.9	1.7	7.8	3.5
82.5°	1.7	2.6	3.5	1.7	1.7	0.0	0.0	0.0	0.0	5.2	4.3
85°	1.7	3.5	0.0	0.9	3.5	1.7	0.9	4.3	1.7	6.1	7.0
87.5°	0.0	1.7	1.7	0.0	2.6	0.0	2.6	1.7	0.0	5.2	2.6
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°	30.9	30.9	30.9	30.9	30.9
2.5°	26.5	23.9	20.4	25.6	21.3
5°	31.7	29.1	23.0	27.4	24.8
7.5°	32.6	27.4	23.9	22.2	24.8
10°	19.6	13.0	9.6	13.0	7.0
12.5°	32.6	23.0	21.3	23.9	26.5
15°	24.8	14.8	14.8	11.3	16.1
17.5°	13.9	11.3	10.4	13.9	16.1
20°	14.8	9.6	7.8	13.0	12.2
21°	13.0	3.5	10.4	10.4	12.2
22°	18.7	8.7	10.4	17.0	17.8
23°	12.2	9.6	7.8	10.4	13.9
24°	17.8	10.4	9.6	13.0	19.6
25°	12.2	9.6	9.6	12.2	10.4
26°	7.0	9.6	7.0	10.4	8.7
27°	5.2	8.7	5.2	7.8	10.4
28°	11.3	13.9	13.0	13.9	12.2
29°	12.2	14.8	12.2	18.7	13.9
30°	7.0	13.0	6.1	13.9	12.2
31°	7.0	9.6	4.3	13.9	12.2
32°	0.9	5.2	2.6	5.2	5.2
33°	5.2	6.1	7.0	11.3	8.7
34°	8.7	10.4	7.0	12.2	10.4
35°	9.6	5.2	7.8	13.0	13.9
36°	2.6	2.6	4.3	10.4	3.5
37°	5.2	14.8	10.4	17.8	10.4
38°	8.7	17.8	17.0	22.2	17.8
39°	1.7	5.2	6.1	12.2	12.2
40°	7.8	13.0	9.6	17.8	17.8
42.5°	6.1	9.6	7.0	14.8	12.2
45°	2.6	2.6	1.7	9.6	7.0
47.5°	4.3	4.3	7.8	12.2	21.3
50°	8.7	8.7	11.3	20.4	19.6
51°	5.2	4.3	6.1	13.9	17.8
52°	4.3	6.1	6.1	13.9	13.9
53°	1.7	0.0	0.0	10.4	8.7
54°	1.7	0.9	2.6	7.8	12.2
55°	0.0	4.3	3.5	16.1	17.8
57.5°	0.9	7.0	3.5	11.3	13.9
60°	4.3	5.2	9.6	11.3	13.9
61°	0.0	4.3	4.3	10.4	12.2
62°	0.0	3.5	7.8	9.6	12.2
63°	4.3	5.2	7.0	11.3	13.9



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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
66°	2.6	7.0	8.7	11.3	10.4
67.5°	5.2	6.1	5.2	14.8	17.8
70°	7.0	11.3	12.2	10.4	17.8
72.5°	4.3	6.1	8.7	16.1	17.8
75°	7.8	8.7	13.0	14.8	17.8
77.5°	6.1	8.7	8.7	9.6	17.8
80°	2.6	7.8	8.7	9.6	5.2
82.5°	3.5	5.2	3.5	9.6	7.0
85°	1.7	7.8	7.0	8.7	8.7
87.5°	2.6	4.3	4.3	7.8	5.2
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	19.6	20.4	19.6	13.9	10.4	9.6	7.0	12.2	3.5	3.5	0.0
65°	17.8	19.6	14.8	17.0	11.3	10.4	6.1	12.2	1.7	6.1	4.3





64°	2.6	4.3	4.3	7.8	12.2
65°	4.3	6.1	6.1	11.3	8.7



(END OF REPORT)