

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: P315413

Luminaire Tested: **LDA2B15FL9027D010 PIN1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P315413
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: LDA2B15FL9027D010 PIN1MMS
Description: PORTFOLIO 2IN ADJ 1500 LUMEN LED LUMINAIRE WITH FLOOD OPTIC AND 2in Adj PinHole, Black oculus, matte metallic silver finish
Light Source: -
Ballast/Driver: -

Summary

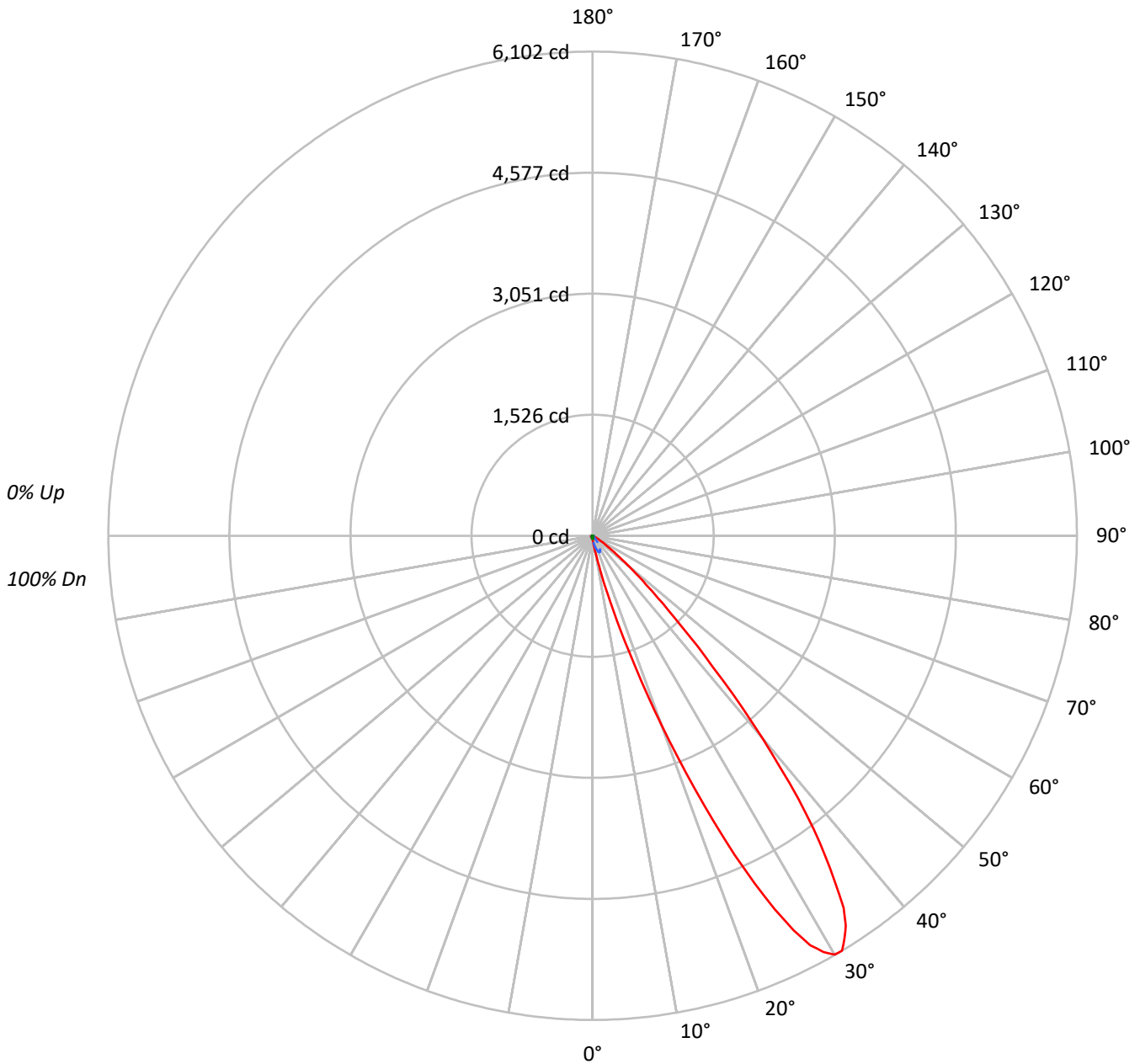
Lumens per Lamp: N/A
Luminaire Lumens: 890.4 lumens
Efficiency: N/A
Efficacy: 63.1 lumens/watt
Spacing Criteria (0/90/45): 2.92 / 0.6 / 1.34
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

Input Watts (W): 14.1
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°	18698	18698	18698
5°	41799	19315	15055
10°	111817	12023	4258
15°	440178	15527	10113
20°	1331673	9555	7875
25°	2635269	8165	6968
30°	3472402	4842	8545
35°	3204148	7047	10299
40°	2134213	6183	14104
45°	1006669	2233	5931
50°	443865	8213	18421
55°	180545	0	18837
60°	74794	5230	16873
65°	25566	6187	12491
70°	21637	12261	31591
75°	12200	18300	41746
80°	0	9092	18183
85°	11887	11887	60569



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	5.2	0.6
10°-20°	54.5	6.1
20°-30°	280.0	31.5
30°-40°	358.6	40.3
40°-50°	137.9	15.5
50°-60°	28.0	3.1
60°-70°	9.5	1.1
70°-80°	11.0	1.2
80°-90°	5.6	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°	339.7	38.2
0°-40°	698.3	78.4
0°-60°	864.2	97.1
0°-90°	890.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	890.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	38	38	38	38	38	
5°	84	69	39	28	30	12
15°	862	168	30	18	20	330
25°	4841	219	15	12	13	2210
35°	5320	114	12	10	17	3180
45°	1443	28	3	2	8	1240
55°	210	5	0	4	22	217
65°	22	8	5	8	11	31
75°	6	12	10	16	22	9
85°	2	8	2	8	11	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°	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.9
2.5°	56.1	48.6	50.7	43.3	47.5	48.6	40.0	52.9	47.5	49.7	43.3
5°	84.4	90.8	83.3	80.1	78.0	80.1	78.0	81.2	79.0	69.4	49.7
7.5°	141.0	128.7	128.7	124.4	127.6	126.6	121.2	124.4	116.9	84.4	57.1
10°	223.2	210.9	209.9	206.6	205.6	196.0	190.6	186.4	170.9	99.9	51.8
12.5°	437.3	426.6	419.2	400.5	387.7	380.2	351.9	336.9	292.6	148.4	66.2
15°	861.8	806.8	820.7	760.4	716.1	686.7	627.9	576.2	469.9	167.7	64.1
17.5°	1525.0	1471.6	1435.8	1370.2	1279.9	1202.0	1086.1	971.3	755.0	190.6	59.8
20°	2536.4	2452.0	2377.2	2264.6	2091.0	1941.0	1737.0	1517.5	1124.0	217.9	53.9
21°	2980.6	2915.5	2829.0	2680.5	2478.2	2277.4	2032.8	1768.5	1281.0	220.0	48.6
22°	3444.1	3401.9	3288.2	3117.9	2881.8	2642.6	2342.5	2052.1	1448.1	223.2	46.5
23°	3926.8	3882.5	3753.8	3558.9	3293.5	3004.1	2654.4	2310.0	1605.1	227.5	45.4
24°	4399.4	4350.3	4206.6	3988.8	3687.6	3354.9	2959.8	2560.4	1751.4	225.3	47.5
25°	4841.0	4772.6	4621.0	4379.6	4049.1	3675.9	3240.1	2776.6	1880.1	218.9	40.0
26°	5235.1	5157.1	4993.7	4730.4	4369.0	3964.7	3474.0	2977.4	1975.2	213.6	37.9
27°	5577.3	5479.1	5304.5	5028.4	4640.7	4194.3	3673.7	3134.4	2059.0	205.6	30.4
28°	5843.8	5731.1	5553.8	5262.3	4852.7	4373.2	3820.6	3232.7	2108.7	206.6	34.7
29°	5997.6	5911.1	5718.3	5412.9	4981.9	4476.3	3898.0	3287.1	2118.3	190.6	32.6
30°	6095.3	5998.6	5800.5	5481.2	5031.6	4499.8	3907.6	3277.0	2090.0	178.9	30.4
31°	6101.7	6000.8	5799.5	5468.9	5012.4	4460.8	3854.2	3216.6	2028.6	166.6	25.1
32°	5986.9	5908.9	5710.8	5369.6	4908.3	4353.5	3739.4	3114.7	1931.9	142.0	17.1
33°	5857.1	5762.6	5565.6	5221.2	4764.1	4206.6	3573.9	2977.4	1831.5	139.9	21.9
34°	5655.3	5541.6	5347.7	5008.6	4563.9	3997.3	3376.8	2794.3	1703.4	127.6	20.8
35°	5320.0	5259.1	5063.1	4728.3	4296.3	3746.3	3139.7	2593.0	1567.2	113.7	15.0
36°	4984.1	4909.3	4724.0	4400.5	3990.9	3447.3	2872.2	2363.4	1413.4	96.6	11.7
37°	4629.0	4531.3	4362.5	4045.9	3618.2	3149.4	2615.4	2144.4	1287.9	102.0	16.0
38°	4215.2	4182.6	3960.5	3665.7	3270.6	2827.9	2339.3	1913.8	1149.1	95.0	26.2
39°	3760.2	3738.3	3516.7	3248.1	2893.6	2486.7	2056.9	1674.5	1010.3	69.4	8.5
40°	3313.8	3251.3	3094.4	2850.3	2541.7	2175.9	1804.3	1470.6	890.1	68.3	17.1
42.5°	2245.9	2265.6	2095.8	1921.2	1723.1	1474.8	1227.1	1008.1	622.6	50.7	10.7
45°	1442.8	1447.1	1371.2	1235.6	1105.9	951.0	787.6	656.3	401.5	28.3	3.2
47.5°	918.4	916.3	867.7	789.7	704.8	614.1	512.1	428.8	260.0	21.9	9.6
50°	578.3	576.2	545.7	496.1	448.5	388.7	324.7	276.1	164.5	26.2	10.7
51°	469.9	473.1	447.5	397.3	360.4	303.3	259.0	220.0	128.7	18.2	9.6
52°	387.7	385.5	369.5	327.3	296.9	247.8	210.9	179.9	107.3	16.0	4.3
53°	311.8	312.9	296.9	264.3	234.9	198.1	168.7	139.9	76.9	11.7	3.2
54°	246.7	244.6	239.2	207.7	189.6	157.0	131.9	107.3	66.2	2.1	0.0
55°	209.9	206.6	199.2	171.9	153.8	129.8	105.2	91.8	57.1	5.3	0.0
57.5°	121.2	121.2	116.9	102.0	89.7	80.1	64.1	59.8	29.4	5.3	0.0
60°	75.8	66.2	73.7	63.0	49.7	44.3	36.8	33.6	25.1	9.6	2.1
61°	63.0	50.7	49.7	46.5	43.3	29.4	25.1	27.2	16.0	3.2	2.1
62°	45.4	40.0	43.3	36.8	32.6	23.0	20.8	19.8	9.6	4.3	5.3
63°	41.1	36.8	35.8	27.2	24.0	24.0	18.2	17.1	11.7	8.5	4.3



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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°	21.9	18.2	16.0	18.2	10.7	13.9	5.3	15.0	3.2	5.3	3.2
67.5°	17.1	10.7	9.6	11.7	7.5	5.3	7.5	9.6	3.2	5.3	7.5
70°	15.0	7.5	10.7	9.6	7.5	9.6	10.7	10.7	3.2	10.7	9.6
72.5°	15.0	9.6	5.3	4.3	4.3	4.3	4.3	4.3	6.4	15.0	11.7
75°	6.4	6.4	3.2	7.5	4.3	6.4	4.3	10.7	4.3	11.7	9.6
77.5°	4.3	5.3	0.0	5.3	0.0	0.0	3.2	7.5	3.2	8.5	10.7
80°	0.0	5.3	3.2	0.0	2.1	3.2	0.0	1.1	2.1	9.6	4.3
82.5°	2.1	3.2	4.3	2.1	2.1	0.0	0.0	0.0	0.0	6.4	5.3
85°	2.1	4.3	0.0	1.1	4.3	2.1	1.1	5.3	2.1	7.5	8.5
87.5°	0.0	2.1	2.1	0.0	3.2	0.0	3.2	2.1	0.0	6.4	3.2
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°	37.9	37.9	37.9	37.9	37.9
2.5°	32.6	29.4	25.1	31.5	26.2
5°	39.0	35.8	28.3	33.6	30.4
7.5°	40.0	33.6	29.4	27.2	30.4
10°	24.0	16.0	11.7	16.0	8.5
12.5°	40.0	28.3	26.2	29.4	32.6
15°	30.4	18.2	18.2	13.9	19.8
17.5°	17.1	13.9	12.8	17.1	19.8
20°	18.2	11.7	9.6	16.0	15.0
21°	16.0	4.3	12.8	12.8	15.0
22°	23.0	10.7	12.8	20.8	21.9
23°	15.0	11.7	9.6	12.8	17.1
24°	21.9	12.8	11.7	16.0	24.0
25°	15.0	11.7	11.7	15.0	12.8
26°	8.5	11.7	8.5	12.8	10.7
27°	6.4	10.7	6.4	9.6	12.8
28°	13.9	17.1	16.0	17.1	15.0
29°	15.0	18.2	15.0	23.0	17.1
30°	8.5	16.0	7.5	17.1	15.0
31°	8.5	11.7	5.3	17.1	15.0
32°	1.1	6.4	3.2	6.4	6.4
33°	6.4	7.5	8.5	13.9	10.7
34°	10.7	12.8	8.5	15.0	12.8
35°	11.7	6.4	9.6	16.0	17.1
36°	3.2	3.2	5.3	12.8	4.3
37°	6.4	18.2	12.8	21.9	12.8
38°	10.7	21.9	20.8	27.2	21.9
39°	2.1	6.4	7.5	15.0	15.0
40°	9.6	16.0	11.7	21.9	21.9
42.5°	7.5	11.7	8.5	18.2	15.0
45°	3.2	3.2	2.1	11.7	8.5
47.5°	5.3	5.3	9.6	15.0	26.2
50°	10.7	10.7	13.9	25.1	24.0
51°	6.4	5.3	7.5	17.1	21.9
52°	5.3	7.5	7.5	17.1	17.1
53°	2.1	0.0	0.0	12.8	10.7
54°	2.1	1.1	3.2	9.6	15.0
55°	0.0	5.3	4.3	19.8	21.9
57.5°	1.1	8.5	4.3	13.9	17.1
60°	5.3	6.4	11.7	13.9	17.1
61°	0.0	5.3	5.3	12.8	15.0
62°	0.0	4.3	9.6	11.7	15.0
63°	5.3	6.4	8.5	13.9	17.1



TEST NUMBER: P315413

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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
66°	3.2	8.5	10.7	13.9	12.8
67.5°	6.4	7.5	6.4	18.2	21.9
70°	8.5	13.9	15.0	12.8	21.9
72.5°	5.3	7.5	10.7	19.8	21.9
75°	9.6	10.7	16.0	18.2	21.9
77.5°	7.5	10.7	10.7	11.7	21.9
80°	3.2	9.6	10.7	11.7	6.4
82.5°	4.3	6.4	4.3	11.7	8.5
85°	2.1	9.6	8.5	10.7	10.7
87.5°	3.2	5.3	5.3	9.6	6.4
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	24.0	25.1	24.0	17.1	12.8	11.7	8.5	15.0	4.3	4.3	0.0
65°	21.9	24.0	18.2	20.8	13.9	12.8	7.5	15.0	2.1	7.5	5.3





64°	3.2	5.3	5.3	9.6	15.0
65°	5.3	7.5	7.5	13.9	10.7



(END OF REPORT)