

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: P315327

Luminaire Tested: **LDA2B10FL9027D010 PIN1MW**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P315327
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: LDA2B10FL9027D010 PIN1MW
Description: PORTFOLIO 2IN ADJ 1000 LUMEN LED LUMINAIRE WITH FLOOD OPTIC AND 2in Adj PinHole, Black oculus, matte white finish
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 669.1 lumens
Efficiency: N/A
Efficacy: 66.9 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

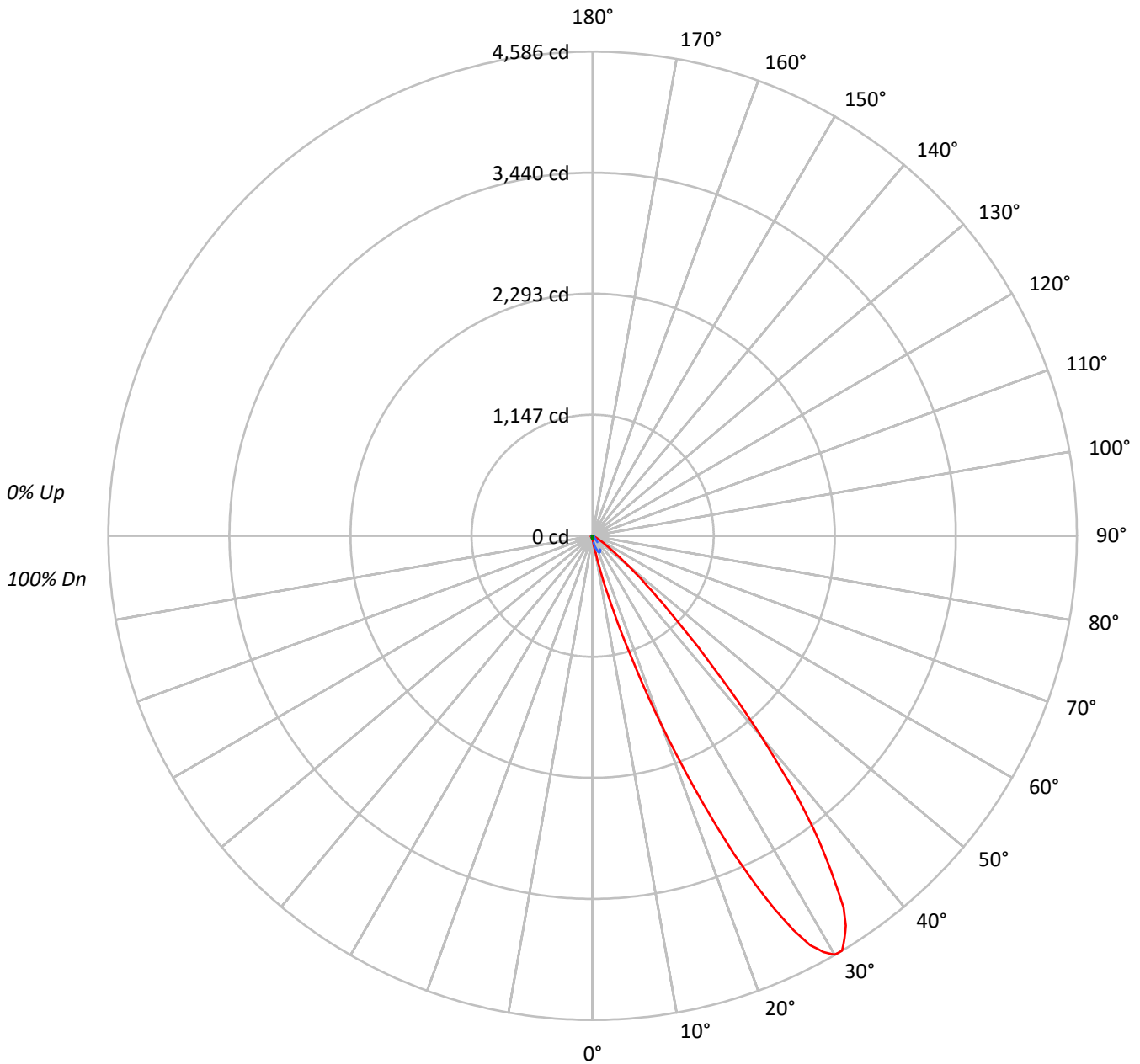
Input Watts (W): 10
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P315327

CATALOG NUMBER: LDA2B10FL9027D010 PIN1MW

Luminous Intensity Polar Plot





TEST NUMBER: P315327

CATALOG NUMBER: LDA2B10FL9027D010 PIN1MW

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	112	108	105	102	109	106	103	101	102	100	97	98	96	95	95	93	92	90					90			
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80					80			
3	97	89	83	77	95	87	82	77	85	80	75	82	78	74	80	76	73	71					71			
4	90	81	74	68	88	79	73	68	77	71	67	75	70	66	73	69	65	63					63			
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56					56			
6	78	67	59	53	76	66	58	53	64	58	53	62	57	52	61	56	52	50					50			
7	72	61	53	48	71	60	53	47	58	52	47	57	51	47	56	51	47	45					45			
8	67	55	48	43	66	55	47	42	53	47	42	52	46	42	51	46	42	40					40			
9	63	51	43	38	61	50	43	38	49	42	38	48	42	38	47	41	37	36					36			
10	59	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32					32			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	14061	14061	14061
5°	31399	14511	11341
10°	84013	9068	3206
15°	330823	11697	7559
20°	1000802	7140	5880
25°	1980507	6097	5226
30°	2609671	3646	6380
35°	2408050	5300	7709
40°	1603977	4637	10627
45°	756537	1675	4465
50°	333571	6140	13892
55°	135646	0	14192
60°	56243	3947	12630
65°	19262	4670	9339
70°	16156	9232	23801
75°	9150	13725	31452
80°	0	6819	13638
85°	9057	9057	45286



TEST NUMBER: P315327

CATALOG NUMBER: LDA2B10FL9027D010 PIN1MW

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	3.9	0.6
10°-20°	40.9	6.1
20°-30°	210.5	31.5
30°-40°	269.5	40.3
40°-50°	103.6	15.5
50°-60°	21.1	3.1
60°-70°	7.1	1.1
70°-80°	8.3	1.2
80°-90°	4.2	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°	255.3	38.2
0°-40°	524.8	78.4
0°-60°	649.4	97.1
0°-90°	669.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	669.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	28	28	28	28	28	
5°	63	52	29	21	23	9
15°	648	126	23	14	15	248
25°	3638	164	11	9	10	1661
35°	3998	86	9	7	13	2390
45°	1084	21	2	2	6	932
55°	158	4	0	3	16	163
65°	16	6	4	6	8	23
75°	5	9	7	12	16	7
85°	2	6	2	6	8	1
90°	0	0	0	0	0	



TEST NUMBER: P315327

CATALOG NUMBER: LDA2B10FL9027D010 PIN1MW

CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	22.5°	45°	67.5°
0°	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5
2.5°	42.1	36.5	38.1	32.5	35.7	36.5	30.1	39.7	35.7	37.3	32.5
5°	63.4	68.2	62.6	60.2	58.6	60.2	58.6	61.0	59.4	52.2	37.3
7.5°	105.9	96.7	96.7	93.5	95.9	95.1	91.1	93.5	87.9	63.4	42.9
10°	167.7	158.5	157.7	155.3	154.5	147.3	143.3	140.1	128.4	75.0	38.9
12.5°	328.7	320.6	315.0	301.0	291.3	285.7	264.5	253.2	219.9	111.6	49.8
15°	647.7	606.4	616.8	571.5	538.1	516.1	471.9	433.0	353.1	126.0	48.2
17.5°	1146.1	1106.0	1079.1	1029.7	961.9	903.3	816.3	730.0	567.4	143.3	44.9
20°	1906.2	1842.8	1786.6	1701.9	1571.5	1458.7	1305.4	1140.5	844.7	163.7	40.5
21°	2240.1	2191.1	2126.1	2014.5	1862.4	1711.6	1527.8	1329.1	962.7	165.3	36.5
22°	2588.4	2556.7	2471.2	2343.2	2165.8	1986.0	1760.5	1542.2	1088.3	167.7	34.9
23°	2951.2	2917.9	2821.2	2674.7	2475.2	2257.7	1994.9	1736.0	1206.3	171.0	34.1
24°	3306.3	3269.4	3161.5	2997.7	2771.4	2521.4	2224.4	1924.2	1316.3	169.3	35.7
25°	3638.2	3586.8	3472.9	3291.5	3043.1	2762.6	2435.1	2086.8	1413.0	164.5	30.1
26°	3934.4	3875.8	3753.0	3555.1	3283.5	2979.7	2610.9	2237.7	1484.4	160.5	28.5
27°	4191.6	4117.8	3986.5	3779.1	3487.7	3152.2	2761.0	2355.6	1547.4	154.5	22.9
28°	4391.9	4307.2	4174.0	3954.8	3647.0	3286.7	2871.3	2429.5	1584.7	155.3	26.1
29°	4507.4	4442.4	4297.6	4068.0	3744.2	3364.1	2929.5	2470.4	1592.0	143.3	24.5
30°	4580.9	4508.2	4359.4	4119.4	3781.5	3381.8	2936.7	2462.8	1570.7	134.4	22.9
31°	4585.7	4509.8	4358.6	4110.1	3767.0	3352.5	2896.6	2417.4	1524.5	125.2	18.9
32°	4499.4	4440.8	4291.9	4035.5	3688.8	3271.8	2810.3	2340.8	1451.9	106.7	12.8
33°	4401.9	4330.9	4182.8	3923.9	3580.4	3161.5	2685.9	2237.7	1376.5	105.1	16.5
34°	4250.2	4164.7	4019.0	3764.2	3429.9	3004.2	2537.8	2100.0	1280.2	95.9	15.7
35°	3998.2	3952.4	3805.2	3553.5	3228.9	2815.5	2359.7	1948.7	1177.8	85.5	11.2
36°	3745.8	3689.6	3550.3	3307.1	2999.3	2590.8	2158.6	1776.2	1062.2	72.6	8.8
37°	3478.9	3405.5	3278.6	3040.7	2719.2	2366.9	1965.6	1611.6	967.9	76.6	12.0
38°	3167.9	3143.4	2976.5	2754.9	2458.0	2125.3	1758.1	1438.3	863.6	71.4	19.7
39°	2826.0	2809.5	2643.0	2441.1	2174.7	1868.9	1545.8	1258.5	759.3	52.2	6.4
40°	2490.5	2443.5	2325.6	2142.2	1910.2	1635.3	1356.0	1105.2	669.0	51.4	12.8
42.5°	1687.9	1702.7	1575.1	1443.9	1295.0	1108.4	922.2	757.7	467.9	38.1	8.0
45°	1084.3	1087.5	1030.5	928.6	831.1	714.7	591.9	493.2	301.8	21.3	2.4
47.5°	690.2	688.6	652.1	593.5	529.7	461.5	384.8	322.2	195.4	16.5	7.2
50°	434.6	433.0	410.1	372.8	337.1	292.1	244.0	207.5	123.6	19.7	8.0
51°	353.1	355.6	336.3	298.6	270.9	227.9	194.6	165.3	96.7	13.6	7.2
52°	291.3	289.7	277.7	246.0	223.1	186.2	158.5	135.2	80.7	12.0	3.2
53°	234.4	235.2	223.1	198.6	176.6	148.9	126.8	105.1	57.8	8.8	2.4
54°	185.4	183.8	179.8	156.1	142.5	118.0	99.1	80.7	49.8	1.6	0.0
55°	157.7	155.3	149.7	129.2	115.6	97.5	79.1	69.0	42.9	4.0	0.0
57.5°	91.1	91.1	87.9	76.6	67.4	60.2	48.2	44.9	22.1	4.0	0.0
60°	57.0	49.8	55.4	47.4	37.3	33.3	27.7	25.3	18.9	7.2	1.6
61°	47.4	38.1	37.3	34.9	32.5	22.1	18.9	20.5	12.0	2.4	1.6
62°	34.1	30.1	32.5	27.7	24.5	17.3	15.7	14.8	7.2	3.2	4.0
63°	30.9	27.7	26.9	20.5	18.1	18.1	13.6	12.8	8.8	6.4	3.2



TEST NUMBER: P315327

CATALOG NUMBER: LDA2B10FL9027D010 PIN1MW

CANDELA DISTRIBUTION (continued):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	22.5°	45°	67.5°
66°	16.5	13.6	12.0	13.6	8.0	10.4	4.0	11.2	2.4	4.0	2.4
67.5°	12.8	8.0	7.2	8.8	5.6	4.0	5.6	7.2	2.4	4.0	5.6
70°	11.2	5.6	8.0	7.2	5.6	7.2	8.0	8.0	2.4	8.0	7.2
72.5°	11.2	7.2	4.0	3.2	3.2	3.2	3.2	3.2	4.8	11.2	8.8
75°	4.8	4.8	2.4	5.6	3.2	4.8	3.2	8.0	3.2	8.8	7.2
77.5°	3.2	4.0	0.0	4.0	0.0	0.0	2.4	5.6	2.4	6.4	8.0
80°	0.0	4.0	2.4	0.0	1.6	2.4	0.0	0.8	1.6	7.2	3.2
82.5°	1.6	2.4	3.2	1.6	1.6	0.0	0.0	0.0	0.0	4.8	4.0
85°	1.6	3.2	0.0	0.8	3.2	1.6	0.8	4.0	1.6	5.6	6.4
87.5°	0.0	1.6	1.6	0.0	2.4	0.0	2.4	1.6	0.0	4.8	2.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P315327

CATALOG NUMBER: LDA2B10FL9027D010 PIN1MW

CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
0°	28.5	28.5	28.5	28.5	28.5
2.5°	24.5	22.1	18.9	23.7	19.7
5°	29.3	26.9	21.3	25.3	22.9
7.5°	30.1	25.3	22.1	20.5	22.9
10°	18.1	12.0	8.8	12.0	6.4
12.5°	30.1	21.3	19.7	22.1	24.5
15°	22.9	13.6	13.6	10.4	14.8
17.5°	12.8	10.4	9.6	12.8	14.8
20°	13.6	8.8	7.2	12.0	11.2
21°	12.0	3.2	9.6	9.6	11.2
22°	17.3	8.0	9.6	15.7	16.5
23°	11.2	8.8	7.2	9.6	12.8
24°	16.5	9.6	8.8	12.0	18.1
25°	11.2	8.8	8.8	11.2	9.6
26°	6.4	8.8	6.4	9.6	8.0
27°	4.8	8.0	4.8	7.2	9.6
28°	10.4	12.8	12.0	12.8	11.2
29°	11.2	13.6	11.2	17.3	12.8
30°	6.4	12.0	5.6	12.8	11.2
31°	6.4	8.8	4.0	12.8	11.2
32°	0.8	4.8	2.4	4.8	4.8
33°	4.8	5.6	6.4	10.4	8.0
34°	8.0	9.6	6.4	11.2	9.6
35°	8.8	4.8	7.2	12.0	12.8
36°	2.4	2.4	4.0	9.6	3.2
37°	4.8	13.6	9.6	16.5	9.6
38°	8.0	16.5	15.7	20.5	16.5
39°	1.6	4.8	5.6	11.2	11.2
40°	7.2	12.0	8.8	16.5	16.5
42.5°	5.6	8.8	6.4	13.6	11.2
45°	2.4	2.4	1.6	8.8	6.4
47.5°	4.0	4.0	7.2	11.2	19.7
50°	8.0	8.0	10.4	18.9	18.1
51°	4.8	4.0	5.6	12.8	16.5
52°	4.0	5.6	5.6	12.8	12.8
53°	1.6	0.0	0.0	9.6	8.0
54°	1.6	0.8	2.4	7.2	11.2
55°	0.0	4.0	3.2	14.8	16.5
57.5°	0.8	6.4	3.2	10.4	12.8
60°	4.0	4.8	8.8	10.4	12.8
61°	0.0	4.0	4.0	9.6	11.2
62°	0.0	3.2	7.2	8.8	11.2
63°	4.0	4.8	6.4	10.4	12.8



TEST NUMBER: P315327

CATALOG NUMBER: LDA2B10FL9027D010 PIN1MW

CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
66°	2.4	6.4	8.0	10.4	9.6
67.5°	4.8	5.6	4.8	13.6	16.5
70°	6.4	10.4	11.2	9.6	16.5
72.5°	4.0	5.6	8.0	14.8	16.5
75°	7.2	8.0	12.0	13.6	16.5
77.5°	5.6	8.0	8.0	8.8	16.5
80°	2.4	7.2	8.0	8.8	4.8
82.5°	3.2	4.8	3.2	8.8	6.4
85°	1.6	7.2	6.4	8.0	8.0
87.5°	2.4	4.0	4.0	7.2	4.8
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	18.1	18.9	18.1	12.8	9.6	8.8	6.4	11.2	3.2	3.2	0.0
65°	16.5	18.1	13.6	15.7	10.4	9.6	5.6	11.2	1.6	5.6	4.0





64°	2.4	4.0	4.0	7.2	11.2
65°	4.0	5.6	5.6	10.4	8.0



(END OF REPORT)