

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: P315359

Luminaire Tested: **LDA2B10FL9727D010 PIN1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P315359
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: LDA2B10FL9727D010 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

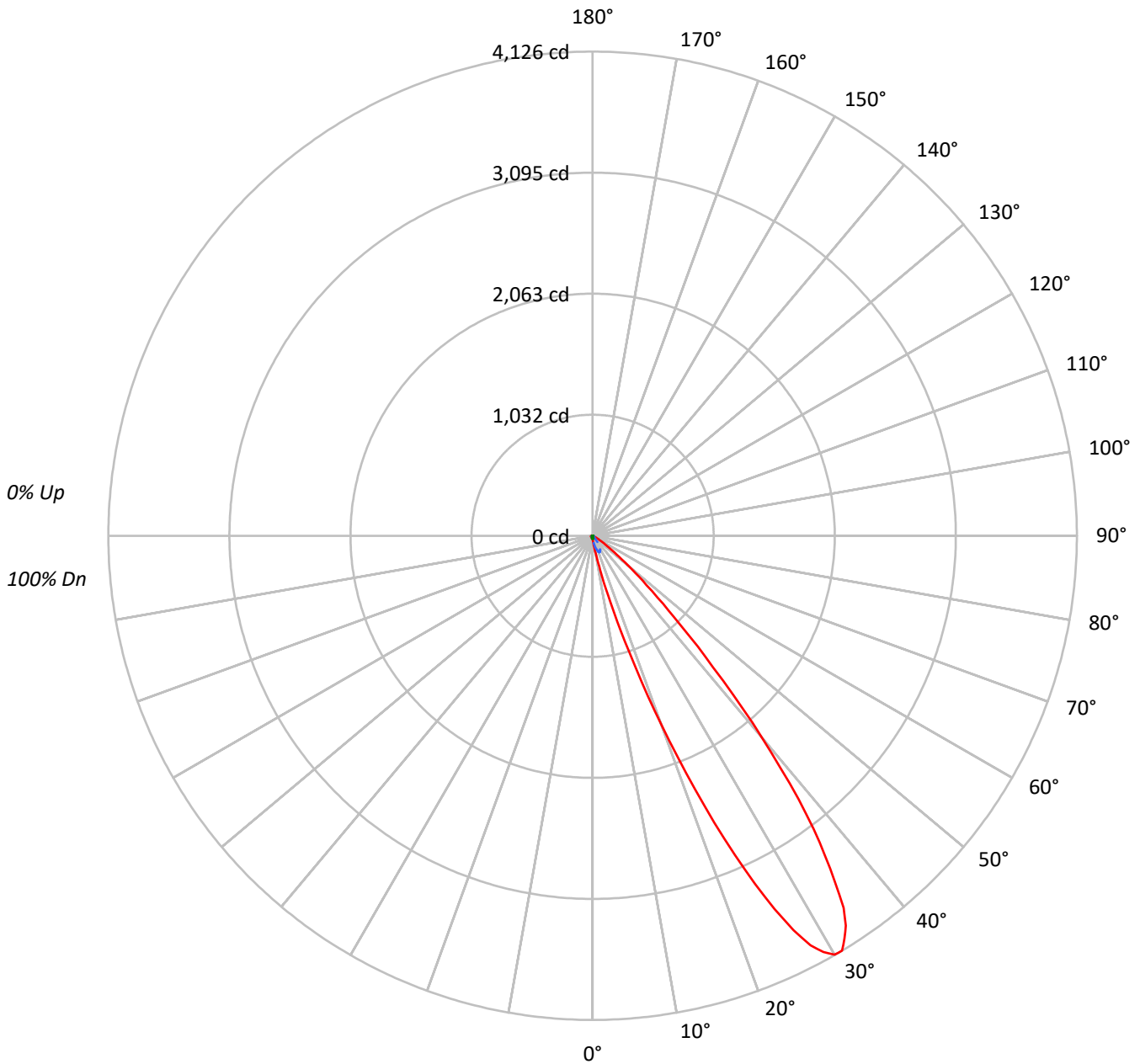
Lumens per Lamp: N/A
Luminaire Lumens: 602.1 lumens
Efficiency: N/A
Efficacy: 60.2 lumens/watt
Spacing Criteria (0/90/45): 2.92 / 0.6 / 1.34
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

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: P315359
CATALOG NUMBER: LDA2B10FL9727D010 PIN1MMS

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°	12630	12630	12630
5°	28279	13075	10202
10°	75597	8116	2906
15°	297674	10522	6844
20°	900470	6458	5303
25°	1782032	5498	4736
30°	2348128	3304	5754
35°	2166715	4758	6986
40°	1443225	4186	9532
45°	680695	1535	4047
50°	300183	5526	12434
55°	122055	0	12730
60°	50619	3552	11446
65°	17277	4203	8405
70°	14569	8366	21349
75°	8197	12390	28212
80°	0	6251	12217
85°	7925	7925	40757



TEST NUMBER: P315359

CATALOG NUMBER: LDA2B10FL9727D010 PIN1MMS

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	3.5	0.6
10°-20°	36.8	6.1
20°-30°	189.4	31.5
30°-40°	242.5	40.3
40°-50°	93.2	15.5
50°-60°	19.0	3.1
60°-70°	6.4	1.1
70°-80°	7.5	1.2
80°-90°	3.8	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°	229.7	38.1
0°-40°	472.2	78.4
0°-60°	584.4	97.1
0°-90°	602.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	602.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	26	26	26	26	26	
5°	57	47	26	19	21	8
15°	583	113	21	12	13	223
25°	3274	148	10	8	9	1494
35°	3598	77	8	6	12	2150
45°	976	19	2	1	6	839
55°	142	4	0	3	15	147
65°	15	5	4	5	7	21
75°	4	8	6	11	15	6
85°	1	5	1	6	7	1
90°	0	0	0	0	0	



TEST NUMBER: P315359

CATALOG NUMBER: LDA2B10FL9727D010 PIN1MMS

CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	22.5°	45°	67.5°
0°	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6
2.5°	37.9	32.9	34.3	29.2	32.1	32.9	27.1	35.7	32.1	33.6	29.2
5°	57.1	61.4	56.3	54.2	52.7	54.2	52.7	54.9	53.4	46.9	33.6
7.5°	95.3	87.0	87.0	84.1	86.3	85.6	82.0	84.1	79.1	57.1	38.6
10°	150.9	142.6	141.9	139.7	139.0	132.5	128.9	126.0	115.5	67.5	35.0
12.5°	295.7	288.5	283.4	270.8	262.1	257.1	238.0	227.8	197.9	100.4	44.8
15°	582.8	545.6	555.0	514.2	484.2	464.4	424.6	389.6	317.8	113.4	43.3
17.5°	1031.3	995.1	971.0	926.5	865.5	812.8	734.4	656.8	510.6	128.9	40.4
20°	1715.1	1658.1	1607.5	1531.4	1414.0	1312.5	1174.6	1026.2	760.1	147.3	36.5
21°	2015.6	1971.5	1913.0	1812.6	1675.8	1540.0	1374.6	1195.9	866.2	148.8	32.9
22°	2329.0	2300.5	2223.5	2108.4	1948.8	1787.0	1584.1	1387.6	979.3	150.9	31.4
23°	2655.4	2625.4	2538.4	2406.6	2227.2	2031.5	1794.9	1562.0	1085.4	153.8	30.7
24°	2975.0	2941.7	2844.6	2697.3	2493.6	2268.7	2001.5	1731.4	1184.4	152.4	32.1
25°	3273.6	3227.4	3124.8	2961.6	2738.1	2485.7	2191.1	1877.6	1271.4	148.0	27.1
26°	3540.1	3487.3	3376.8	3198.8	2954.4	2681.0	2349.2	2013.4	1335.6	144.4	25.6
27°	3771.5	3705.1	3587.0	3400.3	3138.2	2836.3	2484.2	2119.6	1392.3	139.0	20.6
28°	3951.7	3875.5	3755.6	3558.5	3281.5	2957.3	2583.5	2186.0	1425.9	139.7	23.5
29°	4055.7	3997.2	3866.8	3660.3	3368.9	3027.0	2635.9	2222.8	1432.4	128.9	22.0
30°	4121.8	4056.4	3922.4	3706.5	3402.5	3042.8	2642.4	2216.0	1413.3	121.0	20.6
31°	4126.1	4057.8	3921.7	3698.2	3389.5	3016.5	2606.3	2175.2	1371.8	112.7	17.0
32°	4048.5	3995.7	3861.8	3631.0	3319.1	2943.9	2528.7	2106.2	1306.4	96.0	11.6
33°	3960.7	3896.8	3763.6	3530.7	3221.6	2844.6	2416.7	2013.4	1238.5	94.6	14.8
34°	3824.2	3747.3	3616.2	3387.0	3086.2	2703.1	2283.5	1889.5	1151.9	86.3	14.1
35°	3597.5	3556.3	3423.8	3197.4	2905.3	2533.4	2123.2	1753.4	1059.8	76.9	10.1
36°	3370.3	3319.8	3194.5	2975.7	2698.7	2331.2	1942.3	1598.2	955.8	65.4	7.9
37°	3130.2	3064.1	2950.0	2735.9	2446.7	2129.7	1768.6	1450.1	870.9	69.0	10.8
38°	2850.4	2828.4	2678.2	2478.8	2211.6	1912.3	1581.9	1294.1	777.1	64.3	17.7
39°	2542.7	2527.9	2378.1	2196.5	1956.7	1681.6	1390.9	1132.4	683.2	46.9	5.8
40°	2240.9	2198.6	2092.5	1927.5	1718.8	1471.4	1220.1	994.4	601.9	46.2	11.6
42.5°	1518.7	1532.1	1417.2	1299.2	1165.2	997.3	829.8	681.7	421.0	34.3	7.2
45°	975.6	978.5	927.3	835.5	747.8	643.1	532.6	443.8	271.5	19.1	2.2
47.5°	621.1	619.6	586.8	534.0	476.6	415.2	346.3	289.9	175.8	14.8	6.5
50°	391.1	389.6	369.0	335.4	303.3	262.9	219.5	186.7	111.2	17.7	7.2
51°	317.8	319.9	302.6	268.6	243.7	205.1	175.1	148.8	87.0	12.3	6.5
52°	262.1	260.7	249.9	221.3	200.8	167.5	142.6	121.7	72.6	10.8	2.9
53°	210.9	211.6	200.8	178.7	158.9	134.0	114.1	94.6	52.0	7.9	2.2
54°	166.8	165.4	161.8	140.5	128.2	106.2	89.2	72.6	44.8	1.4	0.0
55°	141.9	139.7	134.7	116.3	104.0	87.7	71.1	62.1	38.6	3.6	0.0
57.5°	82.0	82.0	79.1	69.0	60.7	54.2	43.3	40.4	19.9	3.6	0.0
60°	51.3	44.8	49.8	42.6	33.6	30.0	24.9	22.7	17.0	6.5	1.4
61°	42.6	34.3	33.6	31.4	29.2	19.9	17.0	18.4	10.8	2.2	1.4
62°	30.7	27.1	29.2	24.9	22.0	15.5	14.1	13.4	6.5	2.9	3.6
63°	27.8	24.9	24.2	18.4	16.2	16.2	12.3	11.6	7.9	5.8	2.9



TEST NUMBER: P315359

CATALOG NUMBER: LDA2B10FL9727D010 PIN1MMS

CANDELA DISTRIBUTION (continued):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	22.5°	45°	67.5°
66°	14.8	12.3	10.8	12.3	7.2	9.4	3.6	10.1	2.2	3.6	2.2
67.5°	11.6	7.2	6.5	7.9	5.1	3.6	5.1	6.5	2.2	3.6	5.1
70°	10.1	5.1	7.2	6.5	5.1	6.5	7.2	7.2	2.2	7.2	6.5
72.5°	10.1	6.5	3.6	2.9	2.9	2.9	2.9	2.9	4.3	10.1	7.9
75°	4.3	4.3	2.2	5.1	2.9	4.3	2.9	7.2	2.9	7.9	6.5
77.5°	2.9	3.6	0.0	3.6	0.0	0.0	2.2	5.1	2.2	5.8	7.2
80°	0.0	3.6	2.2	0.0	1.4	2.2	0.0	0.7	1.4	6.5	2.9
82.5°	1.4	2.2	2.9	1.4	1.4	0.0	0.0	0.0	0.0	4.3	3.6
85°	1.4	2.9	0.0	0.7	2.9	1.4	0.7	3.6	1.4	5.1	5.8
87.5°	0.0	1.4	1.4	0.0	2.2	0.0	2.2	1.4	0.0	4.3	2.2
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: P315359

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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
0°	25.6	25.6	25.6	25.6	25.6
2.5°	22.0	19.9	17.0	21.3	17.7
5°	26.4	24.2	19.1	22.7	20.6
7.5°	27.1	22.7	19.9	18.4	20.6
10°	16.2	10.8	7.9	10.8	5.8
12.5°	27.1	19.1	17.7	19.9	22.0
15°	20.6	12.3	12.3	9.4	13.4
17.5°	11.6	9.4	8.7	11.6	13.4
20°	12.3	7.9	6.5	10.8	10.1
21°	10.8	2.9	8.7	8.7	10.1
22°	15.5	7.2	8.7	14.1	14.8
23°	10.1	7.9	6.5	8.7	11.6
24°	14.8	8.7	7.9	10.8	16.2
25°	10.1	7.9	7.9	10.1	8.7
26°	5.8	7.9	5.8	8.7	7.2
27°	4.3	7.2	4.3	6.5	8.7
28°	9.4	11.6	10.8	11.6	10.1
29°	10.1	12.3	10.1	15.5	11.6
30°	5.8	10.8	5.1	11.6	10.1
31°	5.8	7.9	3.6	11.6	10.1
32°	0.7	4.3	2.2	4.3	4.3
33°	4.3	5.1	5.8	9.4	7.2
34°	7.2	8.7	5.8	10.1	8.7
35°	7.9	4.3	6.5	10.8	11.6
36°	2.2	2.2	3.6	8.7	2.9
37°	4.3	12.3	8.7	14.8	8.7
38°	7.2	14.8	14.1	18.4	14.8
39°	1.4	4.3	5.1	10.1	10.1
40°	6.5	10.8	7.9	14.8	14.8
42.5°	5.1	7.9	5.8	12.3	10.1
45°	2.2	2.2	1.4	7.9	5.8
47.5°	3.6	3.6	6.5	10.1	17.7
50°	7.2	7.2	9.4	17.0	16.2
51°	4.3	3.6	5.1	11.6	14.8
52°	3.6	5.1	5.1	11.6	11.6
53°	1.4	0.0	0.0	8.7	7.2
54°	1.4	0.7	2.2	6.5	10.1
55°	0.0	3.6	2.9	13.4	14.8
57.5°	0.7	5.8	2.9	9.4	11.6
60°	3.6	4.3	7.9	9.4	11.6
61°	0.0	3.6	3.6	8.7	10.1
62°	0.0	2.9	6.5	7.9	10.1
63°	3.6	4.3	5.8	9.4	11.6



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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
66°	2.2	5.8	7.2	9.4	8.7
67.5°	4.3	5.1	4.3	12.3	14.8
70°	5.8	9.4	10.1	8.7	14.8
72.5°	3.6	5.1	7.2	13.4	14.8
75°	6.5	7.2	10.8	12.3	14.8
77.5°	5.1	7.2	7.2	7.9	14.8
80°	2.2	6.5	7.2	7.9	4.3
82.5°	2.9	4.3	2.9	7.9	5.8
85°	1.4	6.5	5.8	7.2	7.2
87.5°	2.2	3.6	3.6	6.5	4.3
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	16.2	17.0	16.2	11.6	8.7	7.9	5.8	10.1	2.9	2.9	0.0
65°	14.8	16.2	12.3	14.1	9.4	8.7	5.1	10.1	1.4	5.1	3.6





64°	2.2	3.6	3.6	6.5	10.1
65°	3.6	5.1	5.1	9.4	7.2



(END OF REPORT)