

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: P315323

Luminaire Tested: **LDA2B10FL9024D010 PIN1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P315323
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: LDA2B10FL9024D010 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

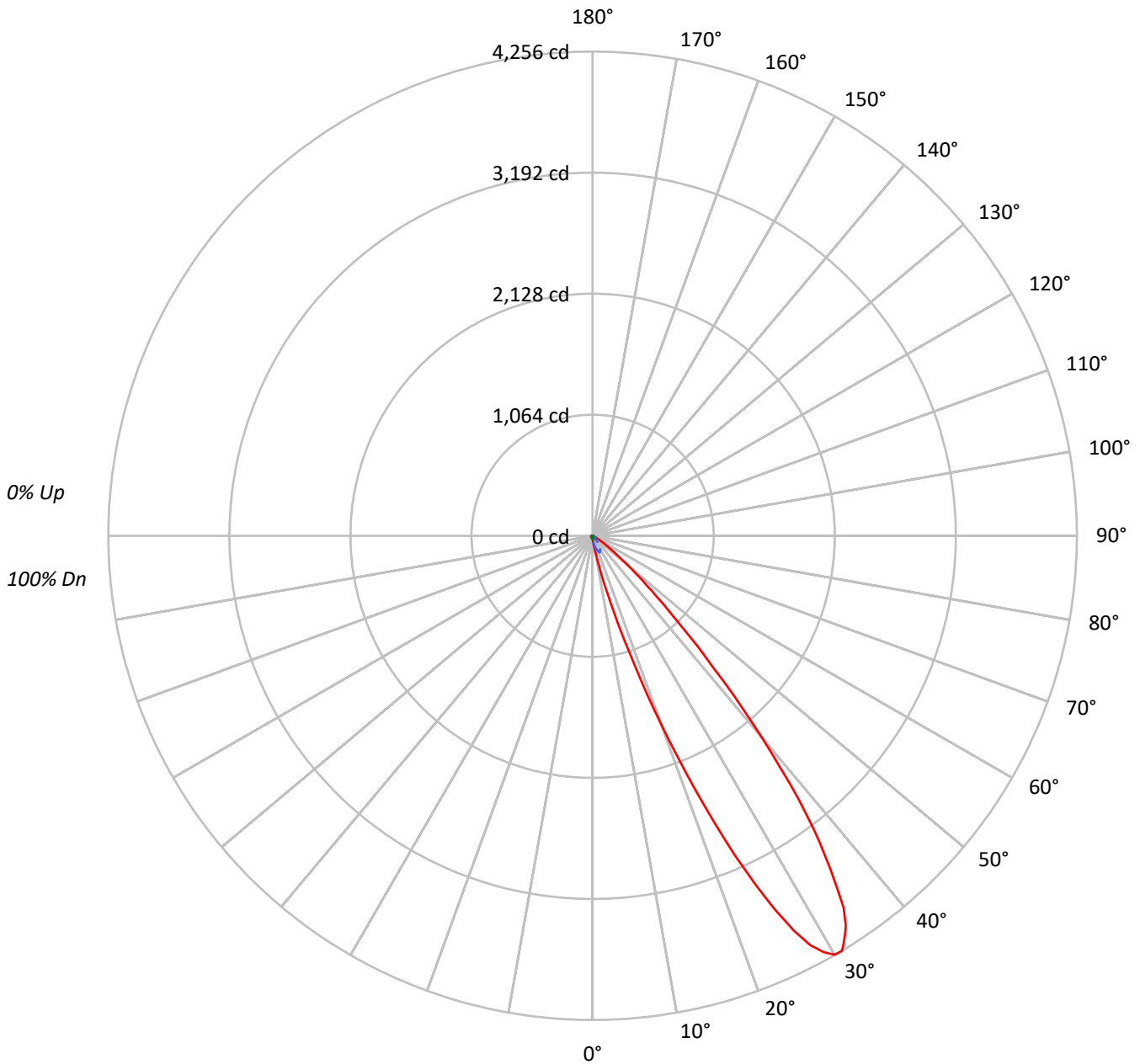
Lumens per Lamp: N/A
Luminaire Lumens: 621.0 lumens
Efficiency: N/A
Efficacy: 62.1 lumens/watt
Spacing Criteria (0/90/45): 2.92 / 0.6 / 1.34
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

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°	13025	13025	13025
5°	29120	13471	10499
10°	78001	8416	3006
15°	307021	10828	7049
20°	928821	6668	5460
25°	1838101	5661	4845
30°	2421959	3418	5925
35°	2234833	4939	7167
40°	1488630	4315	9854
45°	702115	1535	4186
50°	309623	5680	12895
55°	125926	0	13160
60°	52198	3651	11742
65°	17861	4319	8639
70°	15002	8655	22070
75°	8578	12772	29165
80°	0	6251	12785
85°	8491	8491	41889



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	3.6	0.6
10°-20°	38.0	6.1
20°-30°	195.3	31.5
30°-40°	250.1	40.3
40°-50°	96.2	15.5
50°-60°	19.5	3.1
60°-70°	6.6	1.1
70°-80°	7.7	1.2
80°-90°	3.9	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°	236.9	38.2
0°-40°	487.0	78.4
0°-60°	602.8	97.1
0°-90°	621.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	621.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	26	26	26	26	26	
5°	59	48	27	20	21	9
15°	601	117	21	13	14	231
25°	3377	153	10	8	9	1541
35°	3711	79	8	7	12	2218
45°	1006	20	2	2	6	865
55°	146	4	0	3	15	152
65°	15	5	4	5	7	21
75°	4	8	7	11	15	6
85°	2	5	2	6	7	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°	26.4	26.4	26.4	26.4	26.4	26.4	26.4	26.4	26.4	26.4	26.4
2.5°	39.1	33.9	35.4	30.2	33.1	33.9	27.9	36.9	33.1	34.6	30.2
5°	58.8	63.3	58.1	55.9	54.4	55.9	54.4	56.6	55.1	48.4	34.6
7.5°	98.3	89.8	89.8	86.8	89.0	88.3	84.5	86.8	81.6	58.8	39.9
10°	155.7	147.1	146.4	144.1	143.4	136.7	133.0	130.0	119.2	69.6	36.1
12.5°	305.0	297.6	292.4	279.3	270.4	265.2	245.4	235.0	204.1	103.5	46.2
15°	601.1	562.8	572.4	530.4	499.4	479.0	438.0	401.9	327.7	116.9	44.7
17.5°	1063.7	1026.4	1001.5	955.7	892.7	838.4	757.5	677.5	526.6	133.0	41.7
20°	1769.1	1710.3	1658.1	1579.5	1458.5	1353.8	1211.6	1058.5	784.0	152.0	37.6
21°	2079.0	2033.5	1973.2	1869.7	1728.5	1588.5	1417.9	1233.5	893.5	153.4	33.9
22°	2402.2	2372.8	2293.5	2174.7	2010.1	1843.2	1633.9	1431.3	1010.1	155.7	32.4
23°	2738.9	2708.0	2618.3	2482.3	2297.2	2095.4	1851.4	1611.2	1119.6	158.7	31.7
24°	3068.5	3034.3	2934.1	2782.1	2572.1	2340.0	2064.4	1785.9	1221.6	157.2	33.1
25°	3376.6	3328.9	3223.1	3054.8	2824.2	2563.9	2260.0	1936.7	1311.4	152.7	27.9
26°	3651.4	3597.0	3483.1	3299.5	3047.3	2765.4	2423.1	2076.7	1377.7	149.0	26.4
27°	3890.1	3821.6	3699.8	3507.3	3236.9	2925.5	2562.4	2186.2	1436.1	143.4	21.2
28°	4076.0	3997.4	3873.8	3670.4	3384.7	3050.3	2664.8	2254.8	1470.8	144.1	24.2
29°	4183.3	4122.9	3988.5	3775.4	3474.9	3122.2	2718.8	2292.7	1477.5	133.0	22.7
30°	4251.4	4184.0	4045.8	3823.1	3509.5	3138.6	2725.5	2285.7	1457.7	124.8	21.2
31°	4255.9	4185.5	4045.1	3814.5	3496.1	3111.4	2688.3	2243.6	1414.9	116.2	17.5
32°	4175.8	4121.4	3983.3	3745.3	3423.5	3036.5	2608.2	2172.5	1347.5	99.1	11.9
33°	4085.3	4019.4	3882.0	3641.7	3322.9	2934.1	2492.7	2076.7	1277.5	97.6	15.3
34°	3944.5	3865.2	3730.0	3493.5	3183.3	2788.1	2355.3	1949.0	1188.1	89.0	14.5
35°	3710.6	3668.2	3531.5	3298.0	2996.7	2613.0	2190.0	1808.6	1093.1	79.3	10.4
36°	3476.4	3424.2	3295.0	3069.3	2783.6	2404.5	2003.4	1648.4	985.9	67.4	8.2
37°	3228.7	3160.5	3042.8	2822.0	2523.7	2196.7	1824.2	1495.7	898.3	71.1	11.2
38°	2940.1	2917.3	2762.4	2556.8	2281.2	1972.4	1631.7	1334.8	801.5	66.3	18.2
39°	2622.7	2607.5	2452.9	2265.6	2018.3	1734.5	1434.6	1168.0	704.7	48.4	6.0
40°	2311.4	2267.8	2158.3	1988.1	1772.8	1517.7	1258.5	1025.7	620.9	47.7	11.9
42.5°	1566.5	1580.3	1461.8	1340.0	1201.9	1028.7	855.9	703.2	434.3	35.4	7.4
45°	1006.3	1009.3	956.4	861.8	771.3	663.3	549.4	457.7	280.1	19.7	2.2
47.5°	640.6	639.1	605.2	550.8	491.6	428.3	357.2	299.1	181.4	15.3	6.7
50°	403.4	401.9	380.6	346.0	312.9	271.1	226.4	192.6	114.7	18.2	7.4
51°	327.7	330.0	312.1	277.1	251.4	211.5	180.6	153.4	89.8	12.7	6.7
52°	270.4	268.9	257.7	228.3	207.1	172.8	147.1	125.5	74.9	11.2	3.0
53°	217.5	218.3	207.1	184.4	163.9	138.2	117.7	97.6	53.6	8.2	2.2
54°	172.1	170.6	166.9	144.9	132.2	109.5	92.0	74.9	46.2	1.5	0.0
55°	146.4	144.1	138.9	119.9	107.3	90.5	73.4	64.1	39.9	3.7	0.0
57.5°	84.5	84.5	81.6	71.1	62.6	55.9	44.7	41.7	20.5	3.7	0.0
60°	52.9	46.2	51.4	43.9	34.6	30.9	25.7	23.5	17.5	6.7	1.5
61°	43.9	35.4	34.6	32.4	30.2	20.5	17.5	19.0	11.2	2.2	1.5
62°	31.7	27.9	30.2	25.7	22.7	16.0	14.5	13.8	6.7	3.0	3.7
63°	28.7	25.7	25.0	19.0	16.8	16.8	12.7	11.9	8.2	6.0	3.0



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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°	15.3	12.7	11.2	12.7	7.4	9.7	3.7	10.4	2.2	3.7	2.2
67.5°	11.9	7.4	6.7	8.2	5.2	3.7	5.2	6.7	2.2	3.7	5.2
70°	10.4	5.2	7.4	6.7	5.2	6.7	7.4	7.4	2.2	7.4	6.7
72.5°	10.4	6.7	3.7	3.0	3.0	3.0	3.0	3.0	4.5	10.4	8.2
75°	4.5	4.5	2.2	5.2	3.0	4.5	3.0	7.4	3.0	8.2	6.7
77.5°	3.0	3.7	0.0	3.7	0.0	0.0	2.2	5.2	2.2	6.0	7.4
80°	0.0	3.7	2.2	0.0	1.5	2.2	0.0	0.7	1.5	6.7	3.0
82.5°	1.5	2.2	3.0	1.5	1.5	0.0	0.0	0.0	0.0	4.5	3.7
85°	1.5	3.0	0.0	0.7	3.0	1.5	0.7	3.7	1.5	5.2	6.0
87.5°	0.0	1.5	1.5	0.0	2.2	0.0	2.2	1.5	0.0	4.5	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



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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
0°	26.4	26.4	26.4	26.4	26.4
2.5°	22.7	20.5	17.5	22.0	18.2
5°	27.2	25.0	19.7	23.5	21.2
7.5°	27.9	23.5	20.5	19.0	21.2
10°	16.8	11.2	8.2	11.2	6.0
12.5°	27.9	19.7	18.2	20.5	22.7
15°	21.2	12.7	12.7	9.7	13.8
17.5°	11.9	9.7	8.9	11.9	13.8
20°	12.7	8.2	6.7	11.2	10.4
21°	11.2	3.0	8.9	8.9	10.4
22°	16.0	7.4	8.9	14.5	15.3
23°	10.4	8.2	6.7	8.9	11.9
24°	15.3	8.9	8.2	11.2	16.8
25°	10.4	8.2	8.2	10.4	8.9
26°	6.0	8.2	6.0	8.9	7.4
27°	4.5	7.4	4.5	6.7	8.9
28°	9.7	11.9	11.2	11.9	10.4
29°	10.4	12.7	10.4	16.0	11.9
30°	6.0	11.2	5.2	11.9	10.4
31°	6.0	8.2	3.7	11.9	10.4
32°	0.7	4.5	2.2	4.5	4.5
33°	4.5	5.2	6.0	9.7	7.4
34°	7.4	8.9	6.0	10.4	8.9
35°	8.2	4.5	6.7	11.2	11.9
36°	2.2	2.2	3.7	8.9	3.0
37°	4.5	12.7	8.9	15.3	8.9
38°	7.4	15.3	14.5	19.0	15.3
39°	1.5	4.5	5.2	10.4	10.4
40°	6.7	11.2	8.2	15.3	15.3
42.5°	5.2	8.2	6.0	12.7	10.4
45°	2.2	2.2	1.5	8.2	6.0
47.5°	3.7	3.7	6.7	10.4	18.2
50°	7.4	7.4	9.7	17.5	16.8
51°	4.5	3.7	5.2	11.9	15.3
52°	3.7	5.2	5.2	11.9	11.9
53°	1.5	0.0	0.0	8.9	7.4
54°	1.5	0.7	2.2	6.7	10.4
55°	0.0	3.7	3.0	13.8	15.3
57.5°	0.7	6.0	3.0	9.7	11.9
60°	3.7	4.5	8.2	9.7	11.9
61°	0.0	3.7	3.7	8.9	10.4
62°	0.0	3.0	6.7	8.2	10.4
63°	3.7	4.5	6.0	9.7	11.9



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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
66°	2.2	6.0	7.4	9.7	8.9
67.5°	4.5	5.2	4.5	12.7	15.3
70°	6.0	9.7	10.4	8.9	15.3
72.5°	3.7	5.2	7.4	13.8	15.3
75°	6.7	7.4	11.2	12.7	15.3
77.5°	5.2	7.4	7.4	8.2	15.3
80°	2.2	6.7	7.4	8.2	4.5
82.5°	3.0	4.5	3.0	8.2	6.0
85°	1.5	6.7	6.0	7.4	7.4
87.5°	2.2	3.7	3.7	6.7	4.5
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	16.8	17.5	16.8	11.9	8.9	8.2	6.0	10.4	3.0	3.0	0.0
65°	15.3	16.8	12.7	14.5	9.7	8.9	5.2	10.4	1.5	5.2	3.7





64°	2.2	3.7	3.7	6.7	10.4
65°	3.7	5.2	5.2	9.7	7.4



(END OF REPORT)