

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: P315468

Luminaire Tested: **LDA2B20FL8030D010 PINW1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P315468
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: LDA2B20FL8030D010 PINW1MMS
Description: PORTFOLIO 2IN ADJ 2000 LUMEN LED LUMINAIRE WITH FLOOD OPTIC AND 2in Adj PinHole, White oculus, matte metallic silver finish
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1663.6 lumens
Efficiency: N/A
Efficacy: 80.8 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

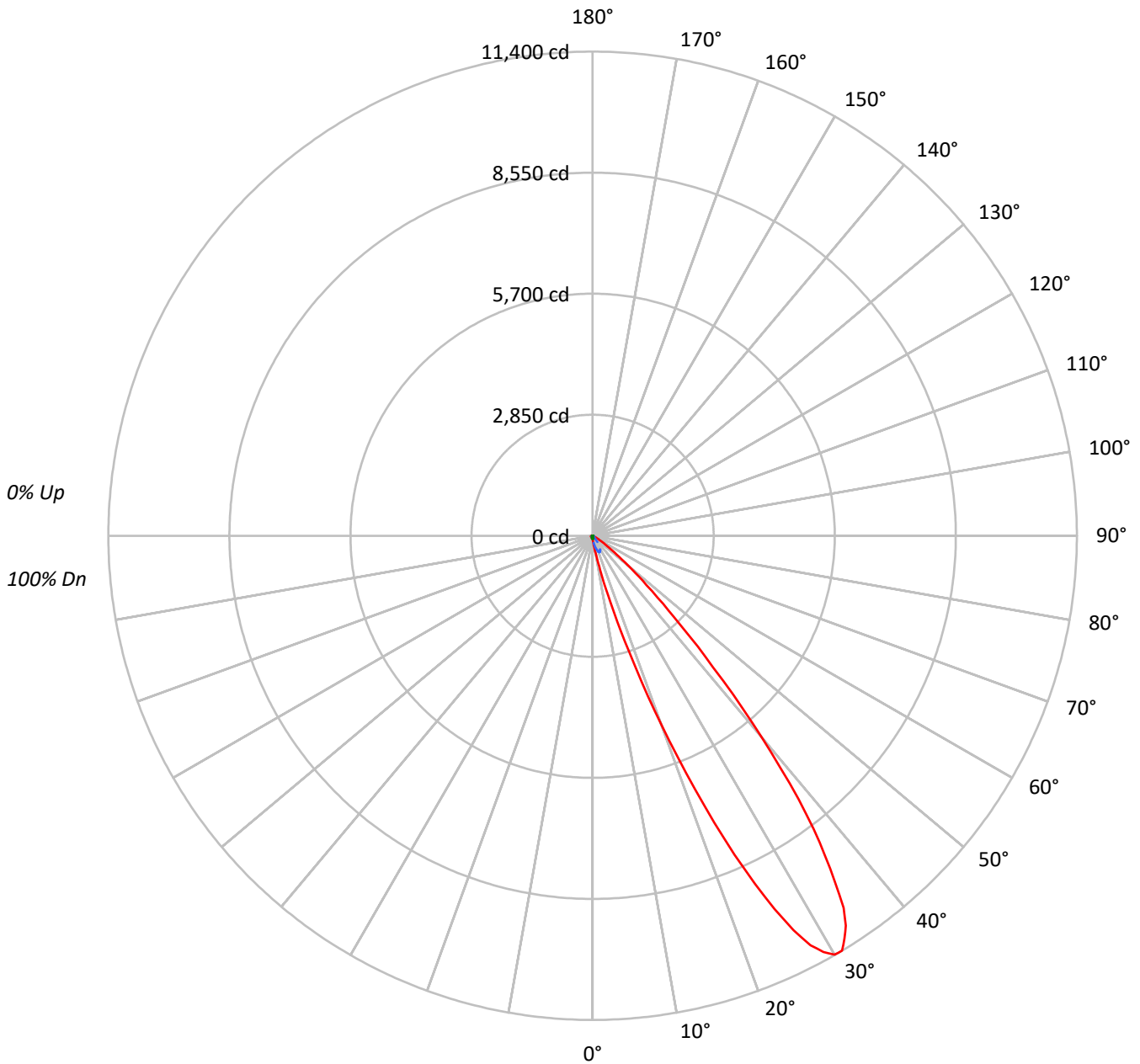
Input Watts (W): 20.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	34930	34930	34930
5°	78051	36054	28180
10°	208906	22494	8016
15°	822435	29063	18847
20°	2487934	17798	14648
25°	4923505	15188	13010
30°	6487517	9115	15894
35°	5986277	13190	19213
40°	3987433	11593	26341
45°	1880771	4186	11164
50°	829244	15351	34462
55°	337265	0	35180
60°	139819	9867	31476
65°	47746	11674	23348
70°	40246	23080	58998
75°	22874	34312	77964
80°	0	17047	34094
85°	22643	22643	113214



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	9.6	0.6
10°-20°	101.8	6.1
20°-30°	523.2	31.5
30°-40°	670.0	40.3
40°-50°	257.6	15.5
50°-60°	52.4	3.1
60°-70°	17.8	1.1
70°-80°	20.6	1.2
80°-90°	10.6	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°	634.6	38.1
0°-40°	1304.6	78.4
0°-60°	1614.6	97.1
0°-90°	1663.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1663.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	71	71	71	71	71	
5°	158	130	73	53	57	23
15°	1610	313	57	34	37	617
25°	9044	409	28	22	24	4128
35°	9939	212	22	18	32	5941
45°	2696	53	6	4	16	2317
55°	392	10	0	8	41	406
65°	41	14	10	14	20	57
75°	12	22	18	30	41	16
85°	4	14	4	16	20	2
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°	70.8	70.8	70.8	70.8	70.8	70.8	70.8	70.8	70.8	70.8	70.8
2.5°	104.8	90.8	94.8	80.8	88.8	90.8	74.8	98.8	88.8	92.8	80.8
5°	157.6	169.6	155.6	149.6	145.7	149.6	145.7	151.6	147.6	129.7	92.8
7.5°	263.4	240.4	240.4	232.4	238.4	236.4	226.5	232.4	218.5	157.6	106.7
10°	417.0	394.1	392.1	386.1	384.1	366.1	356.2	348.2	319.2	186.6	96.8
12.5°	817.1	797.1	783.1	748.2	724.3	710.3	657.4	629.5	546.7	277.3	123.7
15°	1610.2	1507.4	1533.4	1420.6	1337.8	1282.9	1173.2	1076.4	877.9	313.3	119.7
17.5°	2849.2	2749.5	2682.6	2559.9	2391.3	2245.7	2029.2	1814.7	1410.6	356.2	111.7
20°	4738.7	4581.1	4441.4	4230.9	3906.7	3626.4	3245.3	2835.3	2100.0	407.0	100.8
21°	5568.7	5447.0	5285.4	5008.1	4630.0	4254.9	3798.0	3304.1	2393.3	411.0	90.8
22°	6434.7	6355.9	6143.4	5825.1	5384.2	4937.3	4376.6	3833.9	2705.6	417.0	86.8
23°	7336.5	7253.7	7013.3	6649.2	6153.4	5612.6	4959.2	4315.7	2998.9	425.0	84.8
24°	8219.4	8127.7	7859.3	7452.3	6889.6	6268.1	5529.8	4783.6	3272.2	421.0	88.8
25°	9044.5	8916.8	8633.5	8182.5	7565.0	6867.7	6053.6	5187.7	3512.6	409.0	74.8
26°	9780.7	9635.1	9329.8	8838.0	8162.6	7407.4	6490.6	5562.8	3690.2	399.1	70.8
27°	10420.2	10236.6	9910.4	9394.6	8670.4	7836.4	6863.7	5856.1	3846.8	384.1	56.9
28°	10918.0	10707.5	10376.3	9831.6	9066.4	8170.6	7138.0	6039.6	3939.6	386.1	64.8
29°	11205.3	11043.7	10683.6	10112.9	9307.8	8363.1	7282.7	6141.4	3957.6	356.2	60.9
30°	11387.9	11207.3	10837.2	10240.6	9400.6	8407.0	7300.6	6122.4	3904.7	334.2	56.9
31°	11399.9	11211.3	10835.2	10217.7	9364.7	8334.2	7200.9	6009.7	3790.0	311.3	46.9
32°	11185.4	11039.7	10669.6	10032.1	9170.2	8133.6	6986.4	5819.2	3609.4	265.4	31.9
33°	10943.0	10766.4	10398.3	9754.8	8900.8	7859.3	6677.1	5562.8	3421.9	261.4	40.9
34°	10565.9	10353.4	9991.2	9357.7	8526.7	7468.2	6309.0	5220.6	3182.4	238.4	38.9
35°	9939.3	9825.6	9459.5	8834.0	8026.9	6999.3	5866.0	4844.5	2928.0	212.5	27.9
36°	9311.8	9172.2	8826.0	8221.4	7456.3	6440.7	5366.2	4415.5	2640.7	180.6	21.9
37°	8648.4	8465.9	8150.6	7559.0	6759.9	5884.0	4886.4	4006.5	2406.3	190.5	29.9
38°	7875.3	7814.4	7399.4	6848.7	6110.5	5283.4	4370.6	3575.5	2146.9	177.6	48.9
39°	7025.3	6984.4	6570.4	6068.6	5406.1	4645.9	3842.9	3128.6	1887.5	129.7	16.0
40°	6191.3	6074.5	5781.2	5325.3	4748.7	4065.3	3371.0	2747.5	1663.0	127.7	31.9
42.5°	4196.0	4232.9	3915.7	3589.5	3219.3	2755.4	2292.5	1883.5	1163.2	94.8	20.0
45°	2695.6	2703.6	2561.9	2308.5	2066.1	1776.8	1471.5	1226.1	750.2	52.9	6.0
47.5°	1715.9	1711.9	1621.1	1475.5	1316.9	1147.3	956.7	801.1	485.8	40.9	18.0
50°	1080.4	1076.4	1019.6	926.8	838.0	726.3	606.6	515.8	307.3	48.9	20.0
51°	877.9	883.9	836.0	742.2	673.4	566.7	483.8	411.0	240.4	33.9	18.0
52°	724.3	720.3	690.4	611.5	554.7	462.9	394.1	336.2	200.5	29.9	8.0
53°	582.6	584.6	554.7	493.8	439.0	370.1	315.2	261.4	143.7	21.9	6.0
54°	460.9	456.9	446.9	388.1	354.2	293.3	246.4	200.5	123.7	4.0	0.0
55°	392.1	386.1	372.1	321.2	287.3	242.4	196.5	171.6	106.7	10.0	0.0
57.5°	226.5	226.5	218.5	190.5	167.6	149.6	119.7	111.7	54.9	10.0	0.0
60°	141.7	123.7	137.7	117.7	92.8	82.8	68.8	62.9	46.9	18.0	4.0
61°	117.7	94.8	92.8	86.8	80.8	54.9	46.9	50.9	29.9	6.0	4.0
62°	84.8	74.8	80.8	68.8	60.9	42.9	38.9	36.9	18.0	8.0	10.0
63°	76.8	68.8	66.8	50.9	44.9	44.9	33.9	31.9	21.9	16.0	8.0



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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°	40.9	33.9	29.9	33.9	20.0	25.9	10.0	27.9	6.0	10.0	6.0
67.5°	31.9	20.0	18.0	21.9	14.0	10.0	14.0	18.0	6.0	10.0	14.0
70°	27.9	14.0	20.0	18.0	14.0	18.0	20.0	20.0	6.0	20.0	18.0
72.5°	27.9	18.0	10.0	8.0	8.0	8.0	8.0	8.0	12.0	27.9	21.9
75°	12.0	12.0	6.0	14.0	8.0	12.0	8.0	20.0	8.0	21.9	18.0
77.5°	8.0	10.0	0.0	10.0	0.0	0.0	6.0	14.0	6.0	16.0	20.0
80°	0.0	10.0	6.0	0.0	4.0	6.0	0.0	2.0	4.0	18.0	8.0
82.5°	4.0	6.0	8.0	4.0	4.0	0.0	0.0	0.0	0.0	12.0	10.0
85°	4.0	8.0	0.0	2.0	8.0	4.0	2.0	10.0	4.0	14.0	16.0
87.5°	0.0	4.0	4.0	0.0	6.0	0.0	6.0	4.0	0.0	12.0	6.0
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°	70.8	70.8	70.8	70.8	70.8
2.5°	60.9	54.9	46.9	58.9	48.9
5°	72.8	66.8	52.9	62.9	56.9
7.5°	74.8	62.9	54.9	50.9	56.9
10°	44.9	29.9	21.9	29.9	16.0
12.5°	74.8	52.9	48.9	54.9	60.9
15°	56.9	33.9	33.9	25.9	36.9
17.5°	31.9	25.9	23.9	31.9	36.9
20°	33.9	21.9	18.0	29.9	27.9
21°	29.9	8.0	23.9	23.9	27.9
22°	42.9	20.0	23.9	38.9	40.9
23°	27.9	21.9	18.0	23.9	31.9
24°	40.9	23.9	21.9	29.9	44.9
25°	27.9	21.9	21.9	27.9	23.9
26°	16.0	21.9	16.0	23.9	20.0
27°	12.0	20.0	12.0	18.0	23.9
28°	25.9	31.9	29.9	31.9	27.9
29°	27.9	33.9	27.9	42.9	31.9
30°	16.0	29.9	14.0	31.9	27.9
31°	16.0	21.9	10.0	31.9	27.9
32°	2.0	12.0	6.0	12.0	12.0
33°	12.0	14.0	16.0	25.9	20.0
34°	20.0	23.9	16.0	27.9	23.9
35°	21.9	12.0	18.0	29.9	31.9
36°	6.0	6.0	10.0	23.9	8.0
37°	12.0	33.9	23.9	40.9	23.9
38°	20.0	40.9	38.9	50.9	40.9
39°	4.0	12.0	14.0	27.9	27.9
40°	18.0	29.9	21.9	40.9	40.9
42.5°	14.0	21.9	16.0	33.9	27.9
45°	6.0	6.0	4.0	21.9	16.0
47.5°	10.0	10.0	18.0	27.9	48.9
50°	20.0	20.0	25.9	46.9	44.9
51°	12.0	10.0	14.0	31.9	40.9
52°	10.0	14.0	14.0	31.9	31.9
53°	4.0	0.0	0.0	23.9	20.0
54°	4.0	2.0	6.0	18.0	27.9
55°	0.0	10.0	8.0	36.9	40.9
57.5°	2.0	16.0	8.0	25.9	31.9
60°	10.0	12.0	21.9	25.9	31.9
61°	0.0	10.0	10.0	23.9	27.9
62°	0.0	8.0	18.0	21.9	27.9
63°	10.0	12.0	16.0	25.9	31.9



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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
66°	6.0	16.0	20.0	25.9	23.9
67.5°	12.0	14.0	12.0	33.9	40.9
70°	16.0	25.9	27.9	23.9	40.9
72.5°	10.0	14.0	20.0	36.9	40.9
75°	18.0	20.0	29.9	33.9	40.9
77.5°	14.0	20.0	20.0	21.9	40.9
80°	6.0	18.0	20.0	21.9	12.0
82.5°	8.0	12.0	8.0	21.9	16.0
85°	4.0	18.0	16.0	20.0	20.0
87.5°	6.0	10.0	10.0	18.0	12.0
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	44.9	46.9	44.9	31.9	23.9	21.9	16.0	27.9	8.0	8.0	0.0
65°	40.9	44.9	33.9	38.9	25.9	23.9	14.0	27.9	4.0	14.0	10.0





64°	6.0	10.0	10.0	18.0	27.9
65°	10.0	14.0	14.0	25.9	20.0



(END OF REPORT)