

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: P315478

Luminaire Tested: **LDA2B20FL8040D010 PINW1MW**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P315478
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: LDA2B20FL8040D010 PINW1MW
Description: PORTFOLIO 2IN ADJ 2000 LUMEN LED LUMINAIRE WITH FLOOD OPTIC AND 2in
Adj PinHole, Black oculus, matte white finish
Light Source: -
Ballast/Driver: -

Summary

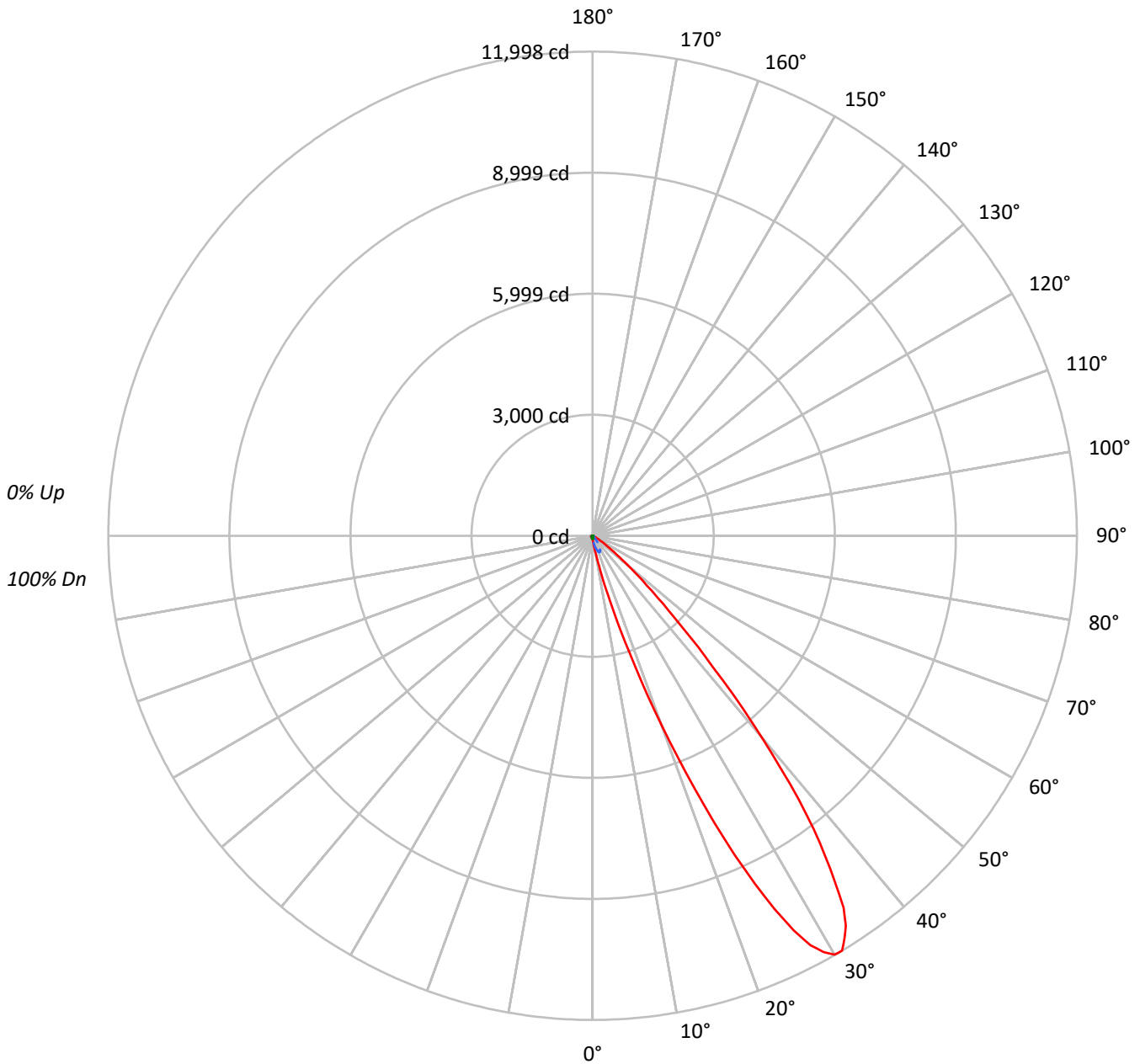
Lumens per Lamp: N/A
Luminaire Lumens: 1750.8 lumens
Efficiency: N/A
Efficacy: 85.0 lumens/watt
Spacing Criteria (0/90/45): 2.92 / 0.6 / 1.34
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

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°	36755	36755	36755
5°	82161	37936	29616
10°	219877	23646	8416
15°	865544	30544	19818
20°	2618455	18743	15436
25°	5181751	16004	13718
30°	6827790	9571	16749
35°	6300307	13913	20237
40°	4196552	12172	27694
45°	1979429	4396	11722
50°	872764	16118	36228
55°	354898	0	36986
60°	147120	10361	33154
65°	50198	12258	24515
70°	42409	24234	62027
75°	24018	36027	81967
80°	0	17899	35799
85°	23775	23775	118875



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	10.1	0.6
10°-20°	107.1	6.1
20°-30°	550.6	31.5
30°-40°	705.1	40.3
40°-50°	271.1	15.5
50°-60°	55.1	3.1
60°-70°	18.7	1.1
70°-80°	21.7	1.2
80°-90°	11.1	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°	667.9	38.1
0°-40°	1373.0	78.4
0°-60°	1699.2	97.1
0°-90°	1750.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1750.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	74	74	74	74	74	
5°	166	136	77	56	60	25
15°	1695	330	60	36	39	650
25°	9519	430	29	23	25	4345
35°	10461	224	23	19	34	6252
45°	2837	56	6	4	17	2438
55°	413	10	0	8	43	427
65°	43	15	10	15	21	60
75°	13	23	19	32	43	17
85°	4	15	4	17	21	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°	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5
2.5°	110.2	95.5	99.7	85.0	93.4	95.5	78.7	103.9	93.4	97.6	85.0
5°	165.9	178.5	163.8	157.5	153.3	157.5	153.3	159.6	155.4	136.5	97.6
7.5°	277.2	253.0	253.0	244.6	250.9	248.8	238.3	244.6	229.9	165.9	112.3
10°	438.9	414.7	412.6	406.3	404.2	385.3	374.8	366.4	336.0	196.3	101.8
12.5°	859.9	838.9	824.2	787.5	762.3	747.6	691.9	662.5	575.4	291.9	130.2
15°	1694.6	1586.5	1613.8	1495.1	1408.0	1350.2	1234.7	1132.9	924.0	329.7	126.0
17.5°	2998.7	2893.7	2823.3	2694.2	2516.7	2363.4	2135.6	1909.9	1484.6	374.8	117.6
20°	4987.3	4821.4	4674.4	4452.8	4111.6	3816.6	3415.5	2984.0	2210.1	428.4	106.0
21°	5860.8	5732.7	5562.6	5270.8	4872.8	4478.0	3997.2	3477.4	2518.8	432.6	95.5
22°	6772.2	6689.2	6465.6	6130.7	5666.6	5196.2	4606.1	4035.0	2847.5	438.9	91.3
23°	7721.4	7634.2	7381.2	6997.9	6476.1	5907.0	5219.3	4542.1	3156.2	447.3	89.2
24°	8650.6	8554.0	8271.5	7843.1	7251.0	6596.9	5819.9	5034.5	3443.8	443.1	93.4
25°	9518.9	9384.5	9086.3	8611.7	7961.8	7227.9	6371.1	5459.8	3696.9	430.5	78.7
26°	10293.7	10140.4	9819.2	9301.5	8590.7	7795.9	6831.0	5854.5	3883.8	420.0	74.5
27°	10966.8	10773.6	10430.2	9887.4	9125.1	8247.4	7223.7	6163.2	4048.6	404.2	59.8
28°	11490.7	11269.1	10920.6	10347.3	9542.0	8599.1	7512.4	6356.4	4146.3	406.3	68.2
29°	11793.1	11623.0	11243.9	10643.4	9796.1	8801.8	7664.7	6463.5	4165.2	374.8	64.0
30°	11985.2	11795.2	11405.6	10777.8	9893.7	8847.9	7683.6	6443.6	4109.5	351.7	59.8
31°	11997.8	11799.4	11403.5	10753.6	9855.9	8771.3	7578.6	6324.9	3988.8	327.6	49.3
32°	11772.1	11618.8	11229.2	10558.3	9651.2	8560.3	7352.8	6124.4	3798.7	279.3	33.6
33°	11516.9	11331.1	10943.7	10266.4	9367.7	8271.5	7027.3	5854.5	3601.3	275.1	43.0
34°	11120.0	10896.4	10515.3	9848.6	8973.9	7859.9	6639.9	5494.4	3349.3	250.9	40.9
35°	10460.7	10341.0	9955.6	9297.3	8447.9	7366.5	6173.7	5098.6	3081.6	223.6	29.4
36°	9800.3	9653.3	9288.9	8652.7	7847.3	6778.5	5647.7	4647.1	2779.2	190.0	23.1
37°	9102.0	8909.9	8578.1	7955.5	7114.5	6192.6	5142.7	4216.6	2532.5	200.5	31.5
38°	8288.3	8224.3	7787.5	7207.9	6431.0	5560.5	4599.8	3763.0	2259.5	186.9	51.4
39°	7393.8	7350.7	6915.0	6386.9	5689.7	4889.6	4044.4	3292.7	1986.5	136.5	16.8
40°	6516.0	6393.2	6084.5	5604.6	4997.8	4278.6	3547.8	2891.6	1750.3	134.4	33.6
42.5°	4416.1	4454.9	4121.1	3777.7	3388.2	2900.0	2412.8	1982.3	1224.2	99.7	21.0
45°	2837.0	2845.4	2696.3	2429.6	2174.5	1870.0	1548.7	1290.4	789.6	55.6	6.3
47.5°	1805.9	1801.7	1706.2	1552.9	1385.9	1207.4	1006.9	843.1	511.3	43.0	18.9
50°	1137.1	1132.9	1073.1	975.4	882.0	764.4	638.4	542.8	323.4	51.4	21.0
51°	924.0	930.3	879.9	781.2	708.7	596.4	509.2	432.6	253.0	35.7	18.9
52°	762.3	758.1	726.6	643.6	583.8	487.2	414.7	353.8	211.0	31.5	8.4
53°	613.2	615.3	583.8	519.7	462.0	389.5	331.8	275.1	151.2	23.1	6.3
54°	485.1	480.9	470.4	408.4	372.7	308.7	259.3	211.0	130.2	4.2	0.0
55°	412.6	406.3	391.6	338.1	302.4	255.1	206.8	180.6	112.3	10.5	0.0
57.5°	238.3	238.3	229.9	200.5	176.4	157.5	126.0	117.6	57.7	10.5	0.0
60°	149.1	130.2	144.9	123.9	97.6	87.1	72.4	66.1	49.3	18.9	4.2
61°	123.9	99.7	97.6	91.3	85.0	57.7	49.3	53.5	31.5	6.3	4.2
62°	89.2	78.7	85.0	72.4	64.0	45.1	40.9	38.8	18.9	8.4	10.5
63°	80.8	72.4	70.3	53.5	47.2	47.2	35.7	33.6	23.1	16.8	8.4



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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°	43.0	35.7	31.5	35.7	21.0	27.3	10.5	29.4	6.3	10.5	6.3
67.5°	33.6	21.0	18.9	23.1	14.7	10.5	14.7	18.9	6.3	10.5	14.7
70°	29.4	14.7	21.0	18.9	14.7	18.9	21.0	21.0	6.3	21.0	18.9
72.5°	29.4	18.9	10.5	8.4	8.4	8.4	8.4	8.4	12.6	29.4	23.1
75°	12.6	12.6	6.3	14.7	8.4	12.6	8.4	21.0	8.4	23.1	18.9
77.5°	8.4	10.5	0.0	10.5	0.0	0.0	6.3	14.7	6.3	16.8	21.0
80°	0.0	10.5	6.3	0.0	4.2	6.3	0.0	2.1	4.2	18.9	8.4
82.5°	4.2	6.3	8.4	4.2	4.2	0.0	0.0	0.0	0.0	12.6	10.5
85°	4.2	8.4	0.0	2.1	8.4	4.2	2.1	10.5	4.2	14.7	16.8
87.5°	0.0	4.2	4.2	0.0	6.3	0.0	6.3	4.2	0.0	12.6	6.3
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°	74.5	74.5	74.5	74.5	74.5
2.5°	64.0	57.7	49.3	61.9	51.4
5°	76.6	70.3	55.6	66.1	59.8
7.5°	78.7	66.1	57.7	53.5	59.8
10°	47.2	31.5	23.1	31.5	16.8
12.5°	78.7	55.6	51.4	57.7	64.0
15°	59.8	35.7	35.7	27.3	38.8
17.5°	33.6	27.3	25.2	33.6	38.8
20°	35.7	23.1	18.9	31.5	29.4
21°	31.5	8.4	25.2	25.2	29.4
22°	45.1	21.0	25.2	40.9	43.0
23°	29.4	23.1	18.9	25.2	33.6
24°	43.0	25.2	23.1	31.5	47.2
25°	29.4	23.1	23.1	29.4	25.2
26°	16.8	23.1	16.8	25.2	21.0
27°	12.6	21.0	12.6	18.9	25.2
28°	27.3	33.6	31.5	33.6	29.4
29°	29.4	35.7	29.4	45.1	33.6
30°	16.8	31.5	14.7	33.6	29.4
31°	16.8	23.1	10.5	33.6	29.4
32°	2.1	12.6	6.3	12.6	12.6
33°	12.6	14.7	16.8	27.3	21.0
34°	21.0	25.2	16.8	29.4	25.2
35°	23.1	12.6	18.9	31.5	33.6
36°	6.3	6.3	10.5	25.2	8.4
37°	12.6	35.7	25.2	43.0	25.2
38°	21.0	43.0	40.9	53.5	43.0
39°	4.2	12.6	14.7	29.4	29.4
40°	18.9	31.5	23.1	43.0	43.0
42.5°	14.7	23.1	16.8	35.7	29.4
45°	6.3	6.3	4.2	23.1	16.8
47.5°	10.5	10.5	18.9	29.4	51.4
50°	21.0	21.0	27.3	49.3	47.2
51°	12.6	10.5	14.7	33.6	43.0
52°	10.5	14.7	14.7	33.6	33.6
53°	4.2	0.0	0.0	25.2	21.0
54°	4.2	2.1	6.3	18.9	29.4
55°	0.0	10.5	8.4	38.8	43.0
57.5°	2.1	16.8	8.4	27.3	33.6
60°	10.5	12.6	23.1	27.3	33.6
61°	0.0	10.5	10.5	25.2	29.4
62°	0.0	8.4	18.9	23.1	29.4
63°	10.5	12.6	16.8	27.3	33.6



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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
66°	6.3	16.8	21.0	27.3	25.2
67.5°	12.6	14.7	12.6	35.7	43.0
70°	16.8	27.3	29.4	25.2	43.0
72.5°	10.5	14.7	21.0	38.8	43.0
75°	18.9	21.0	31.5	35.7	43.0
77.5°	14.7	21.0	21.0	23.1	43.0
80°	6.3	18.9	21.0	23.1	12.6
82.5°	8.4	12.6	8.4	23.1	16.8
85°	4.2	18.9	16.8	21.0	21.0
87.5°	6.3	10.5	10.5	18.9	12.6
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	47.2	49.3	47.2	33.6	25.2	23.1	16.8	29.4	8.4	8.4	0.0
65°	43.0	47.2	35.7	40.9	27.3	25.2	14.7	29.4	4.2	14.7	10.5





64°	6.3	10.5	10.5	18.9	29.4
65°	10.5	14.7	14.7	27.3	21.0



(END OF REPORT)