

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: P315484

Luminaire Tested: **LDA2B20FL8050D010 PINW1MW**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P315484
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: LDA2B20FL8050D010 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: 1739.4 lumens
Efficiency: N/A
Efficacy: 84.4 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

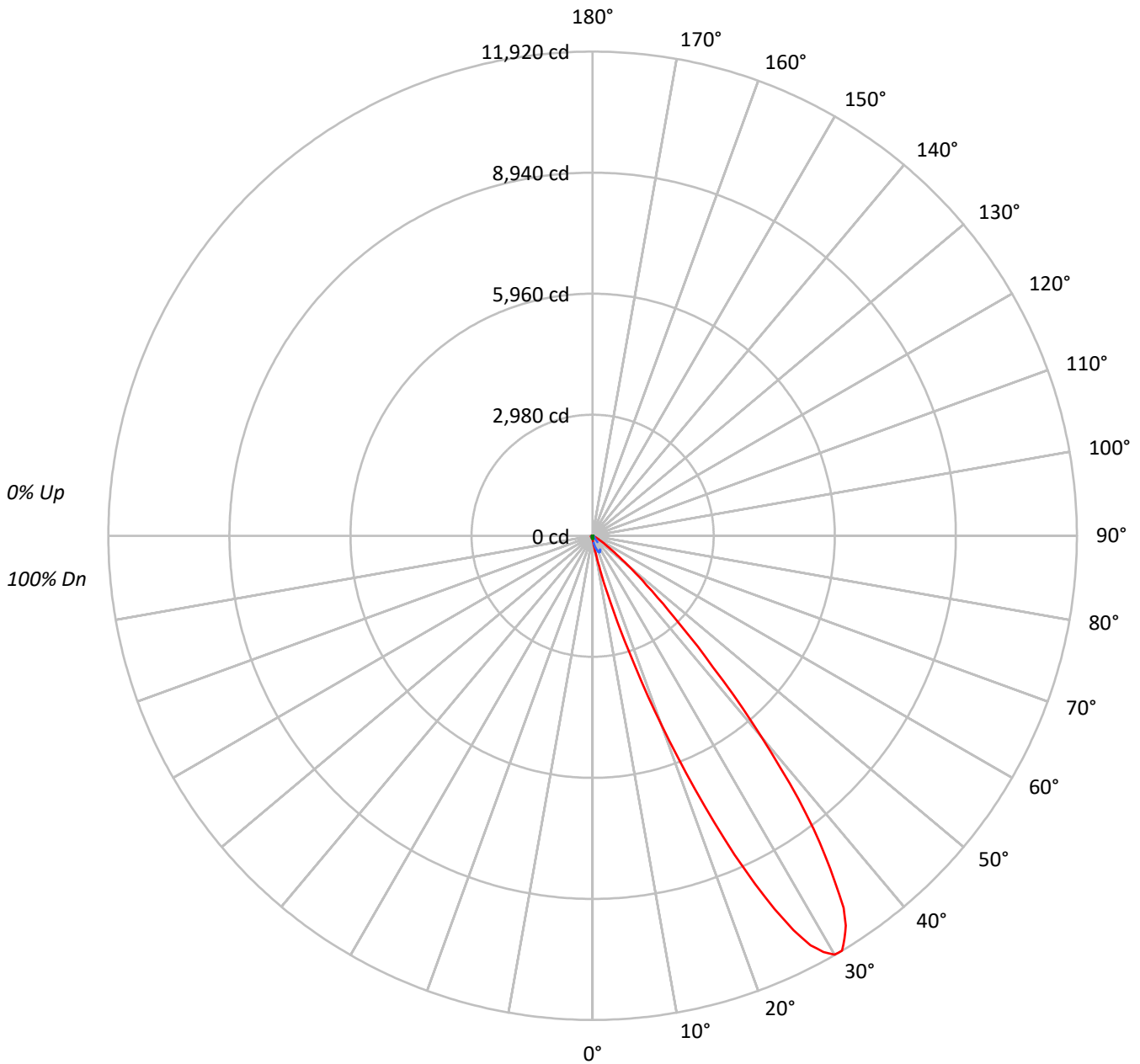
Input Watts (W): 20.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	36558	36558	36558
5°	81617	37688	29467
10°	218424	23496	8366
15°	859925	30391	19716
20°	2601392	18638	15331
25°	5147946	15895	13609
30°	6783298	9514	16635
35°	6259232	13792	20116
40°	4169180	12108	27565
45°	1966521	4396	11652
50°	867084	16041	35997
55°	352575	0	36814
60°	146134	10262	32957
65°	49964	12141	24399
70°	42121	24090	61739
75°	23828	35837	81586
80°	0	17899	35514
85°	23775	23775	118308



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	10.1	0.6
10°-20°	106.4	6.1
20°-30°	547.1	31.5
30°-40°	700.5	40.3
40°-50°	269.4	15.5
50°-60°	54.8	3.1
60°-70°	18.6	1.1
70°-80°	21.6	1.2
80°-90°	11.0	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°	663.6	38.1
0°-40°	1364.1	78.4
0°-60°	1688.2	97.1
0°-90°	1739.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1739.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	74	74	74	74	74	
5°	165	136	76	55	60	24
15°	1684	328	60	36	39	646
25°	9457	428	29	23	25	4317
35°	10392	222	23	19	33	6211
45°	2818	55	6	4	17	2423
55°	410	10	0	8	43	425
65°	43	15	10	15	21	60
75°	12	23	19	31	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°	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1
2.5°	109.5	94.9	99.1	84.5	92.8	94.9	78.2	103.3	92.8	97.0	84.5
5°	164.8	177.3	162.7	156.5	152.3	156.5	152.3	158.6	154.4	135.6	97.0
7.5°	275.4	251.4	251.4	243.0	249.3	247.2	236.8	243.0	228.4	164.8	111.6
10°	436.0	412.0	409.9	403.7	401.6	382.8	372.4	364.0	333.8	195.1	101.2
12.5°	854.3	833.4	818.8	782.3	757.3	742.7	687.4	658.2	571.6	290.0	129.3
15°	1683.6	1576.1	1603.3	1485.4	1398.8	1341.4	1226.7	1125.5	917.9	327.5	125.2
17.5°	2979.1	2874.8	2804.9	2676.6	2500.3	2348.0	2121.7	1897.4	1475.0	372.4	116.8
20°	4954.8	4789.9	4643.9	4423.8	4084.8	3791.7	3393.2	2964.5	2195.7	425.6	105.4
21°	5822.6	5695.4	5526.4	5236.4	4841.1	4448.9	3971.1	3454.8	2502.4	429.8	94.9
22°	6728.0	6645.6	6423.5	6090.7	5629.6	5162.3	4576.1	4008.7	2828.9	436.0	90.8
23°	7671.0	7584.4	7333.0	6952.3	6433.9	5868.5	5185.3	4512.5	3135.6	444.4	88.7
24°	8594.2	8498.2	8217.6	7792.0	7203.7	6553.8	5781.9	5001.7	3421.4	440.2	92.8
25°	9456.8	9323.3	9027.0	8555.6	7909.9	7180.7	6329.6	5424.2	3672.8	427.7	78.2
26°	10226.6	10074.3	9755.1	9240.9	8534.7	7745.1	6786.5	5816.4	3858.5	417.2	74.1
27°	10895.3	10703.3	10362.2	9822.9	9065.6	8193.6	7176.6	6123.0	4022.2	401.6	59.5
28°	11415.8	11195.7	10849.4	10279.8	9479.8	8543.0	7463.4	6315.0	4119.2	403.7	67.8
29°	11716.2	11547.2	11170.6	10574.0	9732.2	8744.4	7614.7	6421.4	4138.0	372.4	63.6
30°	11907.1	11718.3	11331.3	10707.5	9829.2	8790.3	7633.5	6401.5	4082.7	349.4	59.5
31°	11919.6	11722.4	11329.2	10683.5	9791.6	8714.1	7529.1	6283.7	3962.8	325.4	49.0
32°	11695.3	11543.0	11156.0	10489.5	9588.2	8504.5	7304.9	6084.4	3774.0	277.5	33.4
33°	11441.8	11257.2	10872.3	10199.5	9306.6	8217.6	6981.5	5816.4	3577.9	273.3	42.8
34°	11047.5	10825.4	10446.7	9784.3	8915.4	7808.7	6596.6	5458.6	3327.5	249.3	40.7
35°	10392.5	10273.6	9890.7	9236.7	8392.8	7318.4	6133.5	5065.3	3061.5	222.2	29.2
36°	9736.4	9590.3	9228.4	8596.2	7796.2	6734.3	5610.9	4616.8	2761.1	188.8	22.9
37°	9042.7	8851.8	8522.2	7903.6	7068.1	6152.2	5109.1	4189.1	2516.0	199.2	31.3
38°	8234.3	8170.7	7736.7	7160.9	6389.0	5524.3	4569.9	3738.5	2244.8	185.7	51.1
39°	7345.6	7302.8	6869.9	6345.2	5652.6	4857.7	4018.0	3271.2	1973.6	135.6	16.7
40°	6473.5	6351.5	6044.8	5568.1	4965.2	4250.7	3524.7	2872.7	1738.9	133.5	33.4
42.5°	4387.3	4425.9	4094.2	3753.1	3366.1	2881.1	2397.1	1969.4	1216.3	99.1	20.9
45°	2818.5	2826.8	2678.7	2413.7	2160.3	1857.8	1538.6	1282.0	784.4	55.3	6.3
47.5°	1794.1	1790.0	1695.0	1542.8	1376.9	1199.6	1000.3	837.6	508.0	42.8	18.8
50°	1129.7	1125.5	1066.1	969.0	876.2	759.4	634.2	539.3	321.3	51.1	20.9
51°	917.9	924.2	874.1	776.1	704.1	592.5	505.9	429.8	251.4	35.5	18.8
52°	757.3	753.1	721.8	639.4	580.0	484.0	412.0	351.5	209.7	31.3	8.3
53°	609.2	611.3	580.0	516.3	459.0	387.0	329.6	273.3	150.2	22.9	6.3
54°	481.9	477.7	467.3	405.8	370.3	306.7	257.6	209.7	129.3	4.2	0.0
55°	409.9	403.7	389.1	335.9	300.4	253.5	205.5	179.4	111.6	10.4	0.0
57.5°	236.8	236.8	228.4	199.2	175.2	156.5	125.2	116.8	57.4	10.4	0.0
60°	148.1	129.3	143.9	123.1	97.0	86.6	72.0	65.7	49.0	18.8	4.2
61°	123.1	99.1	97.0	90.8	84.5	57.4	49.0	53.2	31.3	6.3	4.2
62°	88.7	78.2	84.5	72.0	63.6	44.9	40.7	38.6	18.8	8.3	10.4
63°	80.3	72.0	69.9	53.2	46.9	46.9	35.5	33.4	22.9	16.7	8.3



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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°	42.8	35.5	31.3	35.5	20.9	27.1	10.4	29.2	6.3	10.4	6.3
67.5°	33.4	20.9	18.8	22.9	14.6	10.4	14.6	18.8	6.3	10.4	14.6
70°	29.2	14.6	20.9	18.8	14.6	18.8	20.9	20.9	6.3	20.9	18.8
72.5°	29.2	18.8	10.4	8.3	8.3	8.3	8.3	8.3	12.5	29.2	22.9
75°	12.5	12.5	6.3	14.6	8.3	12.5	8.3	20.9	8.3	22.9	18.8
77.5°	8.3	10.4	0.0	10.4	0.0	0.0	6.3	14.6	6.3	16.7	20.9
80°	0.0	10.4	6.3	0.0	4.2	6.3	0.0	2.1	4.2	18.8	8.3
82.5°	4.2	6.3	8.3	4.2	4.2	0.0	0.0	0.0	0.0	12.5	10.4
85°	4.2	8.3	0.0	2.1	8.3	4.2	2.1	10.4	4.2	14.6	16.7
87.5°	0.0	4.2	4.2	0.0	6.3	0.0	6.3	4.2	0.0	12.5	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°	74.1	74.1	74.1	74.1	74.1
2.5°	63.6	57.4	49.0	61.5	51.1
5°	76.1	69.9	55.3	65.7	59.5
7.5°	78.2	65.7	57.4	53.2	59.5
10°	46.9	31.3	22.9	31.3	16.7
12.5°	78.2	55.3	51.1	57.4	63.6
15°	59.5	35.5	35.5	27.1	38.6
17.5°	33.4	27.1	25.0	33.4	38.6
20°	35.5	22.9	18.8	31.3	29.2
21°	31.3	8.3	25.0	25.0	29.2
22°	44.9	20.9	25.0	40.7	42.8
23°	29.2	22.9	18.8	25.0	33.4
24°	42.8	25.0	22.9	31.3	46.9
25°	29.2	22.9	22.9	29.2	25.0
26°	16.7	22.9	16.7	25.0	20.9
27°	12.5	20.9	12.5	18.8	25.0
28°	27.1	33.4	31.3	33.4	29.2
29°	29.2	35.5	29.2	44.9	33.4
30°	16.7	31.3	14.6	33.4	29.2
31°	16.7	22.9	10.4	33.4	29.2
32°	2.1	12.5	6.3	12.5	12.5
33°	12.5	14.6	16.7	27.1	20.9
34°	20.9	25.0	16.7	29.2	25.0
35°	22.9	12.5	18.8	31.3	33.4
36°	6.3	6.3	10.4	25.0	8.3
37°	12.5	35.5	25.0	42.8	25.0
38°	20.9	42.8	40.7	53.2	42.8
39°	4.2	12.5	14.6	29.2	29.2
40°	18.8	31.3	22.9	42.8	42.8
42.5°	14.6	22.9	16.7	35.5	29.2
45°	6.3	6.3	4.2	22.9	16.7
47.5°	10.4	10.4	18.8	29.2	51.1
50°	20.9	20.9	27.1	49.0	46.9
51°	12.5	10.4	14.6	33.4	42.8
52°	10.4	14.6	14.6	33.4	33.4
53°	4.2	0.0	0.0	25.0	20.9
54°	4.2	2.1	6.3	18.8	29.2
55°	0.0	10.4	8.3	38.6	42.8
57.5°	2.1	16.7	8.3	27.1	33.4
60°	10.4	12.5	22.9	27.1	33.4
61°	0.0	10.4	10.4	25.0	29.2
62°	0.0	8.3	18.8	22.9	29.2
63°	10.4	12.5	16.7	27.1	33.4



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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
66°	6.3	16.7	20.9	27.1	25.0
67.5°	12.5	14.6	12.5	35.5	42.8
70°	16.7	27.1	29.2	25.0	42.8
72.5°	10.4	14.6	20.9	38.6	42.8
75°	18.8	20.9	31.3	35.5	42.8
77.5°	14.6	20.9	20.9	22.9	42.8
80°	6.3	18.8	20.9	22.9	12.5
82.5°	8.3	12.5	8.3	22.9	16.7
85°	4.2	18.8	16.7	20.9	20.9
87.5°	6.3	10.4	10.4	18.8	12.5
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	46.9	49.0	46.9	33.4	25.0	22.9	16.7	29.2	8.3	8.3	0.0
65°	42.8	46.9	35.5	40.7	27.1	25.0	14.6	29.2	4.2	14.6	10.4





64°	6.3	10.4	10.4	18.8	29.2
65°	10.4	14.6	14.6	27.1	20.9



(END OF REPORT)