

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: P315474

Luminaire Tested: **LDA2B20FL8035D010 PINW1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P315474
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: LDA2B20FL8035D010 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: 1682.0 lumens
Efficiency: N/A
Efficacy: 81.7 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

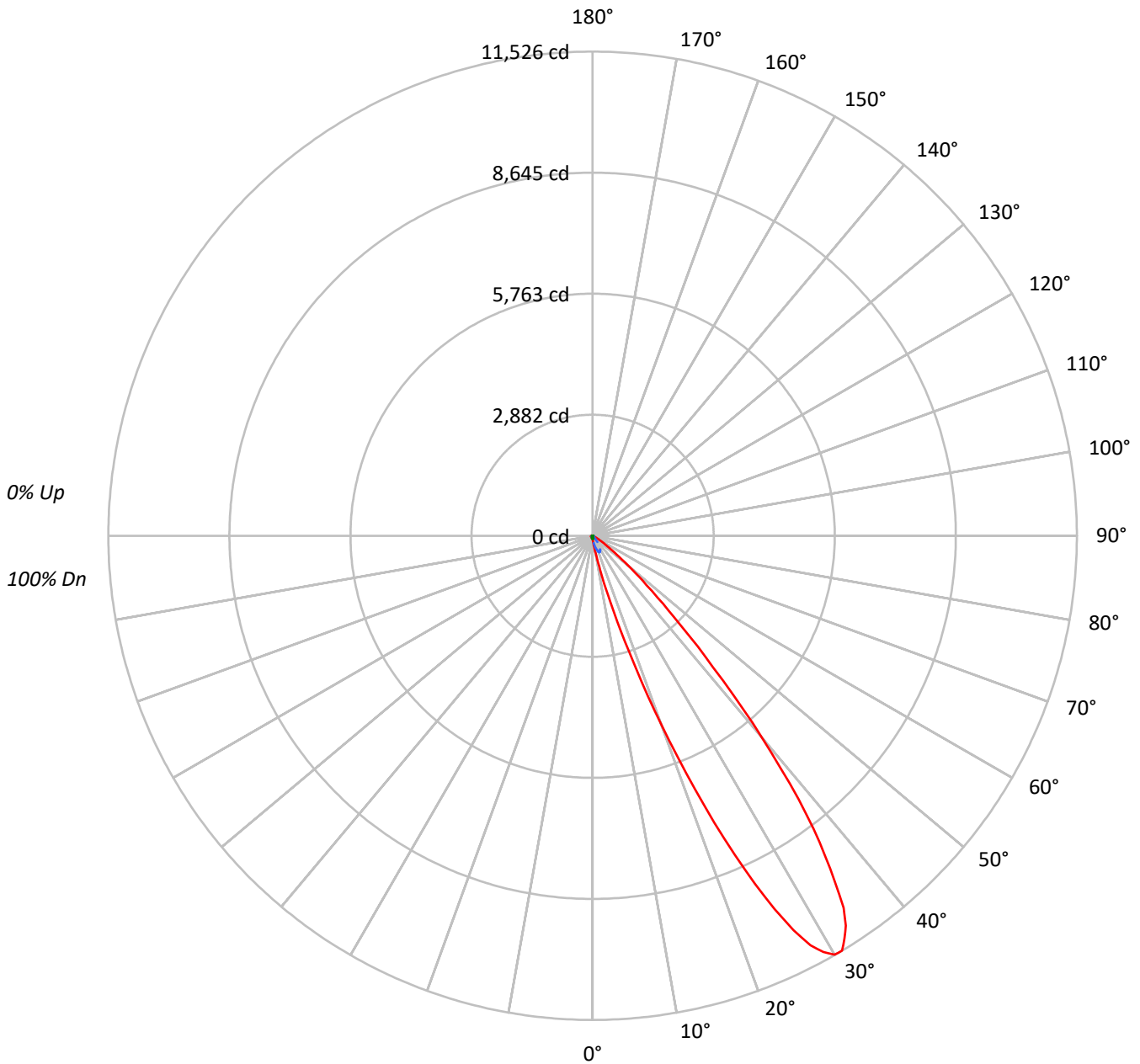
Input Watts (W): 20.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	35325	35325	35325
5°	78942	36450	28477
10°	211210	22744	8066
15°	831527	29369	19052
20°	2515551	18008	14806
25°	4978105	15351	13174
30°	6559525	9172	16065
35°	6052709	13371	19454
40°	4031678	11721	26663
45°	1901633	4256	11233
50°	838455	15504	34846
55°	340963	0	35610
60°	141299	9966	31871
65°	48330	11791	23581
70°	40678	23224	59719
75°	23065	34693	78917
80°	0	17331	34378
85°	22643	22643	114346



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	9.7	0.6
10°-20°	102.9	6.1
20°-30°	529.0	31.5
30°-40°	677.4	40.3
40°-50°	260.5	15.5
50°-60°	53.0	3.1
60°-70°	18.0	1.1
70°-80°	20.9	1.2
80°-90°	10.7	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°	641.7	38.1
0°-40°	1319.1	78.4
0°-60°	1632.5	97.1
0°-90°	1682.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1682.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	72	72	72	72	72	
5°	159	131	74	54	58	24
15°	1628	317	58	34	37	624
25°	9145	414	28	22	24	4174
35°	10050	215	22	18	32	6007
45°	2726	54	6	4	16	2343
55°	396	10	0	8	41	411
65°	41	14	10	14	20	58
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°	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6
2.5°	105.9	91.8	95.8	81.7	89.8	91.8	75.7	99.9	89.8	93.8	81.7
5°	159.4	171.5	157.4	151.3	147.3	151.3	147.3	153.3	149.3	131.1	93.8
7.5°	266.3	243.1	243.1	235.0	241.1	239.1	229.0	235.0	220.9	159.4	107.9
10°	421.6	398.4	396.4	390.4	388.3	370.2	360.1	352.0	322.8	188.6	97.8
12.5°	826.1	805.9	791.8	756.5	732.3	718.2	664.7	636.5	552.8	280.4	125.1
15°	1628.0	1524.1	1550.4	1436.4	1352.7	1297.2	1186.2	1088.4	887.7	316.7	121.0
17.5°	2880.8	2780.0	2712.4	2588.3	2417.8	2270.6	2051.7	1834.8	1426.3	360.1	113.0
20°	4791.3	4631.9	4490.7	4277.9	3950.1	3666.6	3281.3	2866.7	2123.3	411.5	101.9
21°	5630.5	5507.5	5344.1	5063.7	4681.4	4302.1	3840.1	3340.8	2419.9	415.6	91.8
22°	6506.1	6426.4	6211.5	5889.8	5443.9	4992.0	4425.1	3876.4	2735.6	421.6	87.8
23°	7417.9	7334.2	7091.1	6723.0	6221.6	5674.9	5014.2	4363.6	3032.1	429.7	85.7
24°	8310.6	8217.8	7946.5	7535.0	6966.1	6337.6	5591.2	4836.7	3308.5	425.7	89.8
25°	9144.8	9015.7	8729.3	8273.3	7648.9	6943.9	6120.8	5245.2	3551.6	413.6	75.7
26°	9889.3	9742.0	9433.3	8936.0	8253.1	7489.6	6562.6	5624.5	3731.2	403.5	71.6
27°	10535.8	10350.2	10020.4	9498.9	8766.6	7923.3	6939.8	5921.0	3889.5	388.3	57.5
28°	11039.2	10826.3	10491.4	9940.7	9167.0	8261.2	7217.2	6106.6	3983.3	390.4	65.6
29°	11329.7	11166.3	10802.1	10225.1	9411.1	8455.9	7363.5	6209.5	4001.5	360.1	61.5
30°	11514.3	11331.7	10957.5	10354.3	9504.9	8500.3	7381.6	6190.4	3948.0	337.9	57.5
31°	11526.4	11335.7	10955.4	10331.1	9468.6	8426.6	7280.8	6076.4	3832.0	314.7	47.4
32°	11309.5	11162.2	10788.0	10143.4	9271.9	8223.9	7063.9	5883.7	3649.5	268.3	32.3
33°	11064.4	10885.8	10513.6	9863.0	8999.6	7946.5	6751.2	5624.5	3459.8	264.3	41.4
34°	10683.1	10468.2	10102.1	9461.6	8621.3	7551.1	6379.0	5278.5	3217.7	241.1	39.3
35°	10049.6	9934.6	9564.5	8932.0	8116.0	7077.0	5931.1	4898.2	2960.5	214.9	28.2
36°	9415.2	9273.9	8923.9	8312.7	7539.0	6512.1	5425.8	4464.5	2670.0	182.6	22.2
37°	8744.4	8559.8	8241.0	7642.9	6834.9	5949.3	4940.6	4050.9	2433.0	192.7	30.3
38°	7962.6	7901.1	7481.5	6924.7	6178.3	5342.1	4419.1	3615.2	2170.7	179.5	49.4
39°	7103.2	7061.9	6643.3	6135.9	5466.1	4697.5	3885.5	3163.3	1908.5	131.1	16.1
40°	6260.0	6141.9	5845.4	5384.4	4801.4	4110.4	3408.4	2777.9	1681.5	129.1	32.3
42.5°	4242.6	4279.9	3959.1	3629.3	3255.1	2786.0	2318.0	1904.4	1176.1	95.8	20.2
45°	2725.5	2733.6	2590.3	2334.1	2089.0	1796.5	1487.8	1239.7	758.5	53.5	6.1
47.5°	1735.0	1730.9	1639.1	1491.9	1331.5	1160.0	967.3	810.0	491.2	41.4	18.2
50°	1092.4	1088.4	1030.9	937.1	847.3	734.3	613.3	521.5	310.7	49.4	20.2
51°	887.7	893.7	845.3	750.5	680.9	572.9	489.2	415.6	243.1	34.3	18.2
52°	732.3	728.3	698.0	618.3	560.8	468.0	398.4	339.9	202.7	30.3	8.1
53°	589.1	591.1	560.8	499.3	443.8	374.2	318.7	264.3	145.3	22.2	6.1
54°	466.0	462.0	451.9	392.4	358.1	296.6	249.1	202.7	125.1	4.0	0.0
55°	396.4	390.4	376.2	324.8	290.5	245.1	198.7	173.5	107.9	10.1	0.0
57.5°	229.0	229.0	220.9	192.7	169.5	151.3	121.0	113.0	55.5	10.1	0.0
60°	143.2	125.1	139.2	119.0	93.8	83.7	69.6	63.5	47.4	18.2	4.0
61°	119.0	95.8	93.8	87.8	81.7	55.5	47.4	51.4	30.3	6.1	4.0
62°	85.7	75.7	81.7	69.6	61.5	43.4	39.3	37.3	18.2	8.1	10.1
63°	77.7	69.6	67.6	51.4	45.4	45.4	34.3	32.3	22.2	16.1	8.1



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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°	41.4	34.3	30.3	34.3	20.2	26.2	10.1	28.2	6.1	10.1	6.1
67.5°	32.3	20.2	18.2	22.2	14.1	10.1	14.1	18.2	6.1	10.1	14.1
70°	28.2	14.1	20.2	18.2	14.1	18.2	20.2	20.2	6.1	20.2	18.2
72.5°	28.2	18.2	10.1	8.1	8.1	8.1	8.1	8.1	12.1	28.2	22.2
75°	12.1	12.1	6.1	14.1	8.1	12.1	8.1	20.2	8.1	22.2	18.2
77.5°	8.1	10.1	0.0	10.1	0.0	0.0	6.1	14.1	6.1	16.1	20.2
80°	0.0	10.1	6.1	0.0	4.0	6.1	0.0	2.0	4.0	18.2	8.1
82.5°	4.0	6.1	8.1	4.0	4.0	0.0	0.0	0.0	0.0	12.1	10.1
85°	4.0	8.1	0.0	2.0	8.1	4.0	2.0	10.1	4.0	14.1	16.1
87.5°	0.0	4.0	4.0	0.0	6.1	0.0	6.1	4.0	0.0	12.1	6.1
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°	71.6	71.6	71.6	71.6	71.6
2.5°	61.5	55.5	47.4	59.5	49.4
5°	73.6	67.6	53.5	63.5	57.5
7.5°	75.7	63.5	55.5	51.4	57.5
10°	45.4	30.3	22.2	30.3	16.1
12.5°	75.7	53.5	49.4	55.5	61.5
15°	57.5	34.3	34.3	26.2	37.3
17.5°	32.3	26.2	24.2	32.3	37.3
20°	34.3	22.2	18.2	30.3	28.2
21°	30.3	8.1	24.2	24.2	28.2
22°	43.4	20.2	24.2	39.3	41.4
23°	28.2	22.2	18.2	24.2	32.3
24°	41.4	24.2	22.2	30.3	45.4
25°	28.2	22.2	22.2	28.2	24.2
26°	16.1	22.2	16.1	24.2	20.2
27°	12.1	20.2	12.1	18.2	24.2
28°	26.2	32.3	30.3	32.3	28.2
29°	28.2	34.3	28.2	43.4	32.3
30°	16.1	30.3	14.1	32.3	28.2
31°	16.1	22.2	10.1	32.3	28.2
32°	2.0	12.1	6.1	12.1	12.1
33°	12.1	14.1	16.1	26.2	20.2
34°	20.2	24.2	16.1	28.2	24.2
35°	22.2	12.1	18.2	30.3	32.3
36°	6.1	6.1	10.1	24.2	8.1
37°	12.1	34.3	24.2	41.4	24.2
38°	20.2	41.4	39.3	51.4	41.4
39°	4.0	12.1	14.1	28.2	28.2
40°	18.2	30.3	22.2	41.4	41.4
42.5°	14.1	22.2	16.1	34.3	28.2
45°	6.1	6.1	4.0	22.2	16.1
47.5°	10.1	10.1	18.2	28.2	49.4
50°	20.2	20.2	26.2	47.4	45.4
51°	12.1	10.1	14.1	32.3	41.4
52°	10.1	14.1	14.1	32.3	32.3
53°	4.0	0.0	0.0	24.2	20.2
54°	4.0	2.0	6.1	18.2	28.2
55°	0.0	10.1	8.1	37.3	41.4
57.5°	2.0	16.1	8.1	26.2	32.3
60°	10.1	12.1	22.2	26.2	32.3
61°	0.0	10.1	10.1	24.2	28.2
62°	0.0	8.1	18.2	22.2	28.2
63°	10.1	12.1	16.1	26.2	32.3



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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
66°	6.1	16.1	20.2	26.2	24.2
67.5°	12.1	14.1	12.1	34.3	41.4
70°	16.1	26.2	28.2	24.2	41.4
72.5°	10.1	14.1	20.2	37.3	41.4
75°	18.2	20.2	30.3	34.3	41.4
77.5°	14.1	20.2	20.2	22.2	41.4
80°	6.1	18.2	20.2	22.2	12.1
82.5°	8.1	12.1	8.1	22.2	16.1
85°	4.0	18.2	16.1	20.2	20.2
87.5°	6.1	10.1	10.1	18.2	12.1
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	45.4	47.4	45.4	32.3	24.2	22.2	16.1	28.2	8.1	8.1	0.0
65°	41.4	45.4	34.3	39.3	26.2	24.2	14.1	28.2	4.0	14.1	10.1





64°	6.1	10.1	10.1	18.2	28.2
65°	10.1	14.1	14.1	26.2	20.2



(END OF REPORT)