

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: P315462

Luminaire Tested: **LDA2B20FL8027D010 PINW1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P315462
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: LDA2B20FL8027D010 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: 1632.1 lumens
Efficiency: N/A
Efficacy: 79.2 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

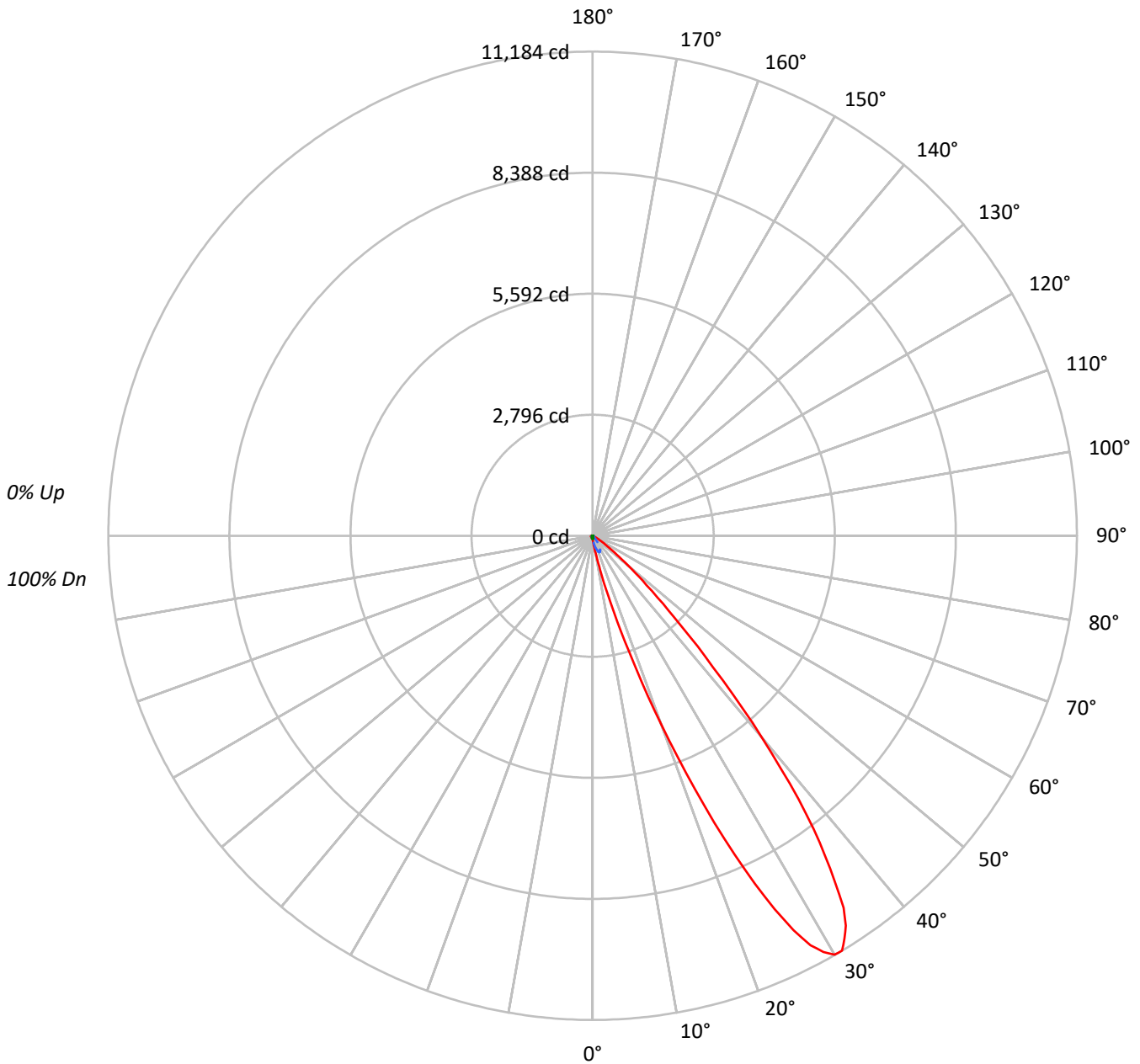
Input Watts (W): 20.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	34289	34289	34289
5°	76565	35361	27635
10°	204948	22043	7865
15°	806857	28501	18490
20°	2440892	17483	14386
25°	4830364	14916	12793
30°	6364807	8944	15609
35°	5873047	12949	18851
40°	3912016	11335	25826
45°	1845187	4117	10954
50°	813587	15044	33772
55°	330900	0	34492
60°	137155	9670	30884
65°	46812	11440	22881
70°	39524	22647	57844
75°	22303	33549	76439
80°	0	16763	33242
85°	22077	22077	110950



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	9.4	0.6
10°-20°	99.9	6.1
20°-30°	513.3	31.5
30°-40°	657.3	40.3
40°-50°	252.8	15.5
50°-60°	51.4	3.1
60°-70°	17.4	1.1
70°-80°	20.2	1.2
80°-90°	10.3	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°	622.6	38.1
0°-40°	1279.9	78.4
0°-60°	1584.0	97.1
0°-90°	1632.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1632.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	70	70	70	70	70	
5°	155	127	71	52	56	23
15°	1580	307	56	33	36	606
25°	8873	401	27	22	24	4050
35°	9751	208	22	18	31	5828
45°	2645	52	6	4	16	2273
55°	385	10	0	8	40	398
65°	40	14	10	14	20	56
75°	12	22	18	29	40	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°	69.5	69.5	69.5	69.5	69.5	69.5	69.5	69.5	69.5	69.5	69.5
2.5°	102.8	89.1	93.0	79.3	87.1	89.1	73.4	96.9	87.1	91.0	79.3
5°	154.6	166.4	152.7	146.8	142.9	146.8	142.9	148.8	144.9	127.2	91.0
7.5°	258.4	235.9	235.9	228.0	233.9	232.0	222.2	228.0	214.3	154.6	104.7
10°	409.1	386.6	384.7	378.8	376.8	359.2	349.4	341.6	313.2	183.0	94.9
12.5°	801.6	782.0	768.3	734.1	710.6	696.9	645.0	617.6	536.4	272.1	121.4
15°	1579.7	1478.9	1504.3	1393.7	1312.5	1258.7	1151.0	1056.1	861.3	307.3	117.5
17.5°	2795.3	2697.4	2631.9	2511.5	2346.1	2203.2	1990.8	1780.4	1384.0	349.4	109.6
20°	4649.1	4494.4	4357.4	4150.9	3832.8	3557.8	3183.9	2781.6	2060.3	399.3	98.9
21°	5463.4	5344.0	5185.4	4913.4	4542.4	4174.4	3726.1	3241.6	2348.0	403.2	89.1
22°	6313.0	6235.6	6027.2	5715.0	5282.3	4843.9	4293.8	3761.4	2654.4	409.1	85.2
23°	7197.8	7116.5	6880.6	6523.4	6037.0	5506.5	4865.4	4234.1	2942.1	416.9	83.2
24°	8064.0	7973.9	7710.6	7311.3	6759.3	6149.5	5425.2	4693.1	3210.3	413.0	87.1
25°	8873.4	8748.1	8470.1	8027.7	7421.9	6737.8	5939.1	5089.5	3446.2	401.3	73.4
26°	9595.7	9452.8	9153.3	8670.8	8008.2	7267.3	6367.8	5457.5	3620.4	391.5	69.5
27°	10223.1	10043.0	9723.0	9216.9	8506.4	7688.1	6733.8	5745.3	3774.1	376.8	55.8
28°	10711.5	10505.0	10180.0	9645.6	8894.9	8016.0	7003.0	5925.4	3865.1	378.8	63.6
29°	10993.4	10834.8	10481.5	9921.6	9131.8	8204.9	7144.9	6025.2	3882.7	349.4	59.7
30°	11172.5	10995.3	10632.2	10046.9	9222.8	8248.0	7162.5	6006.6	3830.8	327.9	55.8
31°	11184.2	10999.2	10630.3	10024.4	9187.6	8176.5	7064.7	5896.0	3718.3	305.4	46.0
32°	10973.8	10830.9	10467.8	9842.4	8996.7	7979.8	6854.2	5709.1	3541.1	260.3	31.3
33°	10736.0	10562.7	10201.6	9570.3	8732.5	7710.6	6550.8	5457.5	3357.1	256.4	40.1
34°	10366.0	10157.5	9802.2	9180.7	8365.4	7327.0	6189.6	5121.8	3122.2	233.9	38.2
35°	9751.3	9639.8	9280.6	8666.9	7875.1	6866.9	5755.1	4752.8	2872.6	208.5	27.4
36°	9135.7	8998.7	8659.0	8065.9	7315.2	6318.8	5264.7	4332.0	2590.8	177.2	21.5
37°	8484.8	8305.7	7996.4	7416.0	6632.0	5772.7	4793.9	3930.7	2360.8	186.9	29.4
38°	7726.3	7666.6	7259.4	6719.2	5994.9	5183.5	4287.9	3507.9	2106.3	174.2	48.0
39°	6892.4	6852.3	6446.1	5953.8	5303.9	4558.1	3770.2	3069.4	1851.8	127.2	15.7
40°	6074.2	5959.6	5671.9	5224.6	4658.9	3988.4	3307.2	2695.5	1631.6	125.3	31.3
42.5°	4116.6	4152.9	3841.6	3521.6	3158.4	2703.3	2249.2	1847.9	1141.2	93.0	19.6
45°	2644.6	2652.4	2513.4	2264.8	2027.0	1743.2	1443.7	1202.9	736.0	51.9	5.9
47.5°	1683.5	1679.5	1590.5	1447.6	1292.0	1125.6	938.6	785.9	476.7	40.1	17.6
50°	1060.0	1056.1	1000.3	909.3	822.2	712.5	595.1	506.0	301.5	48.0	19.6
51°	861.3	867.2	820.2	728.2	660.7	555.9	474.7	403.2	235.9	33.3	17.6
52°	710.6	706.7	677.3	600.0	544.2	454.1	386.6	329.8	196.7	29.4	7.8
53°	571.6	573.6	544.2	484.5	430.7	363.1	309.3	256.4	140.9	21.5	5.9
54°	452.2	448.3	438.5	380.7	347.5	287.8	241.8	196.7	121.4	3.9	0.0
55°	384.7	378.8	365.1	315.2	281.9	237.8	192.8	168.3	104.7	9.8	0.0
57.5°	222.2	222.2	214.3	186.9	164.4	146.8	117.5	109.6	53.8	9.8	0.0
60°	139.0	121.4	135.1	115.5	91.0	81.2	67.5	61.7	46.0	17.6	3.9
61°	115.5	93.0	91.0	85.2	79.3	53.8	46.0	49.9	29.4	5.9	3.9
62°	83.2	73.4	79.3	67.5	59.7	42.1	38.2	36.2	17.6	7.8	9.8
63°	75.4	67.5	65.6	49.9	44.0	44.0	33.3	31.3	21.5	15.7	7.8



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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°	40.1	33.3	29.4	33.3	19.6	25.4	9.8	27.4	5.9	9.8	5.9
67.5°	31.3	19.6	17.6	21.5	13.7	9.8	13.7	17.6	5.9	9.8	13.7
70°	27.4	13.7	19.6	17.6	13.7	17.6	19.6	19.6	5.9	19.6	17.6
72.5°	27.4	17.6	9.8	7.8	7.8	7.8	7.8	7.8	11.7	27.4	21.5
75°	11.7	11.7	5.9	13.7	7.8	11.7	7.8	19.6	7.8	21.5	17.6
77.5°	7.8	9.8	0.0	9.8	0.0	0.0	5.9	13.7	5.9	15.7	19.6
80°	0.0	9.8	5.9	0.0	3.9	5.9	0.0	2.0	3.9	17.6	7.8
82.5°	3.9	5.9	7.8	3.9	3.9	0.0	0.0	0.0	0.0	11.7	9.8
85°	3.9	7.8	0.0	2.0	7.8	3.9	2.0	9.8	3.9	13.7	15.7
87.5°	0.0	3.9	3.9	0.0	5.9	0.0	5.9	3.9	0.0	11.7	5.9
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°	69.5	69.5	69.5	69.5	69.5
2.5°	59.7	53.8	46.0	57.7	48.0
5°	71.4	65.6	51.9	61.7	55.8
7.5°	73.4	61.7	53.8	49.9	55.8
10°	44.0	29.4	21.5	29.4	15.7
12.5°	73.4	51.9	48.0	53.8	59.7
15°	55.8	33.3	33.3	25.4	36.2
17.5°	31.3	25.4	23.5	31.3	36.2
20°	33.3	21.5	17.6	29.4	27.4
21°	29.4	7.8	23.5	23.5	27.4
22°	42.1	19.6	23.5	38.2	40.1
23°	27.4	21.5	17.6	23.5	31.3
24°	40.1	23.5	21.5	29.4	44.0
25°	27.4	21.5	21.5	27.4	23.5
26°	15.7	21.5	15.7	23.5	19.6
27°	11.7	19.6	11.7	17.6	23.5
28°	25.4	31.3	29.4	31.3	27.4
29°	27.4	33.3	27.4	42.1	31.3
30°	15.7	29.4	13.7	31.3	27.4
31°	15.7	21.5	9.8	31.3	27.4
32°	2.0	11.7	5.9	11.7	11.7
33°	11.7	13.7	15.7	25.4	19.6
34°	19.6	23.5	15.7	27.4	23.5
35°	21.5	11.7	17.6	29.4	31.3
36°	5.9	5.9	9.8	23.5	7.8
37°	11.7	33.3	23.5	40.1	23.5
38°	19.6	40.1	38.2	49.9	40.1
39°	3.9	11.7	13.7	27.4	27.4
40°	17.6	29.4	21.5	40.1	40.1
42.5°	13.7	21.5	15.7	33.3	27.4
45°	5.9	5.9	3.9	21.5	15.7
47.5°	9.8	9.8	17.6	27.4	48.0
50°	19.6	19.6	25.4	46.0	44.0
51°	11.7	9.8	13.7	31.3	40.1
52°	9.8	13.7	13.7	31.3	31.3
53°	3.9	0.0	0.0	23.5	19.6
54°	3.9	2.0	5.9	17.6	27.4
55°	0.0	9.8	7.8	36.2	40.1
57.5°	2.0	15.7	7.8	25.4	31.3
60°	9.8	11.7	21.5	25.4	31.3
61°	0.0	9.8	9.8	23.5	27.4
62°	0.0	7.8	17.6	21.5	27.4
63°	9.8	11.7	15.7	25.4	31.3



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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
66°	5.9	15.7	19.6	25.4	23.5
67.5°	11.7	13.7	11.7	33.3	40.1
70°	15.7	25.4	27.4	23.5	40.1
72.5°	9.8	13.7	19.6	36.2	40.1
75°	17.6	19.6	29.4	33.3	40.1
77.5°	13.7	19.6	19.6	21.5	40.1
80°	5.9	17.6	19.6	21.5	11.7
82.5°	7.8	11.7	7.8	21.5	15.7
85°	3.9	17.6	15.7	19.6	19.6
87.5°	5.9	9.8	9.8	17.6	11.7
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	44.0	46.0	44.0	31.3	23.5	21.5	15.7	27.4	7.8	7.8	0.0
65°	40.1	44.0	33.3	38.2	25.4	23.5	13.7	27.4	3.9	13.7	9.8





64°	5.9	9.8	9.8	17.6	27.4
65°	9.8	13.7	13.7	25.4	19.6



(END OF REPORT)