

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: P315526

Luminaire Tested: **LDA2B20FL9727D010 PINW1MW**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P315526
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: LDA2B20FL9727D010 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: 1157.3 lumens
Efficiency: N/A
Efficacy: 56.2 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

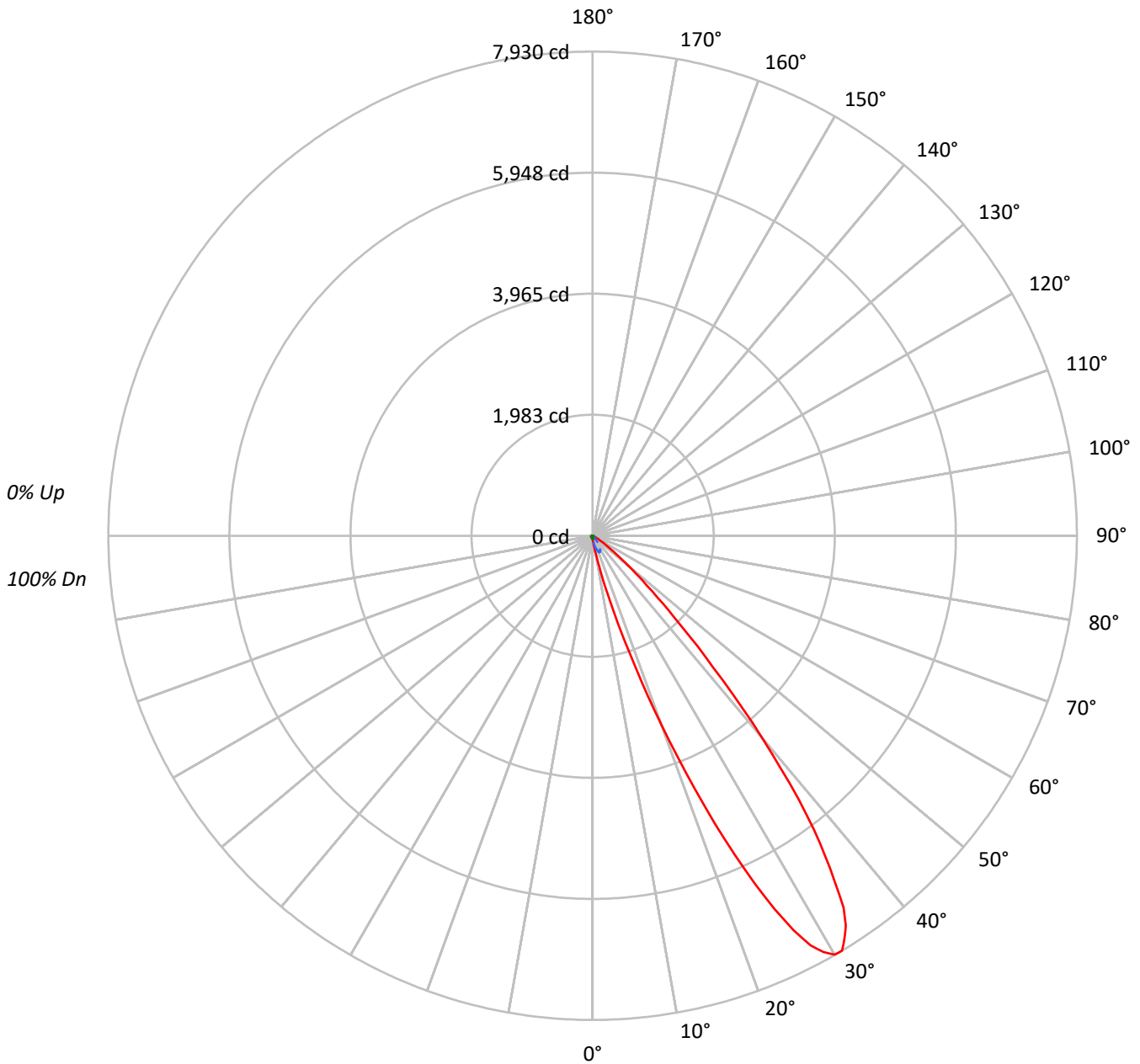
Input Watts (W): 20.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	24323	24323	24323
5°	54329	25109	19612
10°	145332	15630	5561
15°	572109	20226	13127
20°	1730744	12391	10185
25°	3425033	10561	9091
30°	4513046	6324	11052
35°	4164369	9215	13371
40°	2773808	8050	18355
45°	1308363	2930	7745
50°	576879	10669	23947
55°	234563	0	24514
60°	97192	6808	21905
65°	33271	8055	16227
70°	27984	16012	41111
75°	15821	23828	54327
80°	0	11933	23582
85°	15850	15850	78684



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	6.7	0.6
10°-20°	70.8	6.1
20°-30°	364.0	31.5
30°-40°	466.1	40.3
40°-50°	179.2	15.5
50°-60°	36.4	3.1
60°-70°	12.4	1.1
70°-80°	14.4	1.2
80°-90°	7.3	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°	441.5	38.1
0°-40°	907.5	78.4
0°-60°	1123.2	97.1
0°-90°	1157.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1157.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	49	49	49	49	49	
5°	110	90	51	37	40	16
15°	1120	218	40	24	26	430
25°	6292	284	19	15	17	2872
35°	6914	148	15	12	22	4133
45°	1875	37	4	3	11	1612
55°	273	7	0	6	28	283
65°	28	10	7	10	14	40
75°	8	15	12	21	28	11
85°	3	10	3	11	14	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°	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3
2.5°	72.9	63.2	65.9	56.2	61.8	63.2	52.0	68.7	61.8	64.5	56.2
5°	109.7	118.0	108.3	104.1	101.3	104.1	101.3	105.5	102.7	90.2	64.5
7.5°	183.2	167.3	167.3	161.7	165.9	164.5	157.5	161.7	152.0	109.7	74.3
10°	290.1	274.1	272.7	268.6	267.2	254.7	247.8	242.2	222.1	129.8	67.3
12.5°	568.4	554.5	544.8	520.5	503.8	494.1	457.3	437.9	380.3	192.9	86.1
15°	1120.1	1048.6	1066.7	988.3	930.6	892.5	816.1	748.8	610.7	217.9	83.3
17.5°	1982.1	1912.7	1866.2	1780.8	1663.5	1562.2	1411.6	1262.4	981.3	247.8	77.7
20°	3296.5	3186.8	3089.7	2943.2	2717.7	2522.7	2257.6	1972.3	1460.9	283.2	70.1
21°	3873.9	3789.2	3676.8	3483.9	3220.8	2959.9	2642.0	2298.5	1664.9	285.9	63.2
22°	4476.3	4421.5	4273.6	4052.2	3745.5	3434.6	3044.6	2667.0	1882.1	290.1	60.4
23°	5103.7	5046.0	4878.8	4625.5	4280.6	3904.4	3449.9	3002.2	2086.2	295.6	59.0
24°	5717.8	5654.0	5467.3	5184.2	4792.7	4360.4	3846.8	3327.7	2276.3	292.9	61.8
25°	6291.8	6202.9	6005.8	5692.2	5262.6	4777.5	4211.2	3608.8	2443.6	284.5	52.0
26°	6803.9	6702.6	6490.3	6148.1	5678.3	5152.9	4515.1	3869.7	2567.1	277.6	49.3
27°	7248.8	7121.1	6894.2	6535.4	6031.5	5451.3	4774.7	4073.8	2676.1	267.2	39.6
28°	7595.1	7448.7	7218.3	6839.3	6307.0	5683.8	4965.5	4201.5	2740.6	268.6	45.1
29°	7795.0	7682.5	7432.0	7035.0	6475.0	5817.8	5066.2	4272.2	2753.1	247.8	42.3
30°	7922.0	7796.4	7538.9	7123.9	6539.5	5848.3	5078.7	4259.1	2716.3	232.5	39.6
31°	7930.3	7799.1	7537.5	7107.9	6514.5	5797.6	5009.3	4180.6	2636.5	216.5	32.6
32°	7781.1	7679.8	7422.3	6978.8	6379.2	5658.2	4860.1	4048.1	2510.9	184.6	22.2
33°	7612.4	7489.6	7233.5	6785.9	6191.8	5467.3	4644.9	3869.7	2380.4	181.8	28.5
34°	7350.1	7202.3	6950.4	6509.7	5931.6	5195.3	4388.8	3631.7	2213.8	165.9	27.1
35°	6914.3	6835.2	6580.5	6145.3	5583.9	4869.1	4080.7	3370.0	2036.9	147.8	19.4
36°	6477.8	6380.6	6139.8	5719.2	5186.9	4480.4	3733.0	3071.6	1837.0	125.6	15.3
37°	6016.3	5889.3	5670.0	5258.4	4702.5	4093.2	3399.2	2787.1	1673.9	132.6	20.8
38°	5478.4	5436.1	5147.4	4764.3	4250.7	3675.4	3040.4	2487.3	1493.5	123.5	34.0
39°	4887.1	4858.7	4570.7	4221.6	3760.8	3231.9	2673.3	2176.4	1313.0	90.2	11.1
40°	4306.9	4225.7	4021.7	3704.6	3303.4	2828.0	2345.0	1911.3	1156.9	88.8	22.2
42.5°	2918.9	2944.6	2723.9	2497.0	2239.5	1916.8	1594.8	1310.3	809.2	65.9	13.9
45°	1875.2	1880.7	1782.2	1605.9	1437.3	1236.0	1023.6	852.9	521.9	36.8	4.2
47.5°	1193.7	1190.9	1127.7	1026.4	916.1	798.1	665.5	557.3	338.0	28.5	12.5
50°	751.6	748.8	709.3	644.7	583.0	505.2	421.9	358.8	213.8	34.0	13.9
51°	610.7	614.9	581.6	516.3	468.4	394.2	336.6	285.9	167.3	23.6	12.5
52°	503.8	501.1	480.2	425.4	385.9	322.0	274.1	233.9	139.5	20.8	5.6
53°	405.3	406.7	385.9	343.5	305.4	257.5	219.3	181.8	99.9	15.3	4.2
54°	320.6	317.9	310.9	270.0	246.4	204.0	171.4	139.5	86.1	2.8	0.0
55°	272.7	268.6	258.9	223.5	199.9	168.6	136.7	119.4	74.3	6.9	0.0
57.5°	157.5	157.5	152.0	132.6	116.6	104.1	83.3	77.7	38.2	6.9	0.0
60°	98.5	86.1	95.8	81.9	64.5	57.6	47.9	43.7	32.6	12.5	2.8
61°	81.9	65.9	64.5	60.4	56.2	38.2	32.6	35.4	20.8	4.2	2.8
62°	59.0	52.0	56.2	47.9	42.3	29.8	27.1	25.7	12.5	5.6	6.9
63°	53.4	47.9	46.5	35.4	31.2	31.2	23.6	22.2	15.3	11.1	5.6



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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°	28.5	23.6	20.8	23.6	13.9	18.0	6.9	19.4	4.2	6.9	4.2
67.5°	22.2	13.9	12.5	15.3	9.7	6.9	9.7	12.5	4.2	6.9	9.7
70°	19.4	9.7	13.9	12.5	9.7	12.5	13.9	13.9	4.2	13.9	12.5
72.5°	19.4	12.5	6.9	5.6	5.6	5.6	5.6	5.6	8.3	19.4	15.3
75°	8.3	8.3	4.2	9.7	5.6	8.3	5.6	13.9	5.6	15.3	12.5
77.5°	5.6	6.9	0.0	6.9	0.0	0.0	4.2	9.7	4.2	11.1	13.9
80°	0.0	6.9	4.2	0.0	2.8	4.2	0.0	1.4	2.8	12.5	5.6
82.5°	2.8	4.2	5.6	2.8	2.8	0.0	0.0	0.0	0.0	8.3	6.9
85°	2.8	5.6	0.0	1.4	5.6	2.8	1.4	6.9	2.8	9.7	11.1
87.5°	0.0	2.8	2.8	0.0	4.2	0.0	4.2	2.8	0.0	8.3	4.2
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°	49.3	49.3	49.3	49.3	49.3
2.5°	42.3	38.2	32.6	40.9	34.0
5°	50.7	46.5	36.8	43.7	39.6
7.5°	52.0	43.7	38.2	35.4	39.6
10°	31.2	20.8	15.3	20.8	11.1
12.5°	52.0	36.8	34.0	38.2	42.3
15°	39.6	23.6	23.6	18.0	25.7
17.5°	22.2	18.0	16.7	22.2	25.7
20°	23.6	15.3	12.5	20.8	19.4
21°	20.8	5.6	16.7	16.7	19.4
22°	29.8	13.9	16.7	27.1	28.5
23°	19.4	15.3	12.5	16.7	22.2
24°	28.5	16.7	15.3	20.8	31.2
25°	19.4	15.3	15.3	19.4	16.7
26°	11.1	15.3	11.1	16.7	13.9
27°	8.3	13.9	8.3	12.5	16.7
28°	18.0	22.2	20.8	22.2	19.4
29°	19.4	23.6	19.4	29.8	22.2
30°	11.1	20.8	9.7	22.2	19.4
31°	11.1	15.3	6.9	22.2	19.4
32°	1.4	8.3	4.2	8.3	8.3
33°	8.3	9.7	11.1	18.0	13.9
34°	13.9	16.7	11.1	19.4	16.7
35°	15.3	8.3	12.5	20.8	22.2
36°	4.2	4.2	6.9	16.7	5.6
37°	8.3	23.6	16.7	28.5	16.7
38°	13.9	28.5	27.1	35.4	28.5
39°	2.8	8.3	9.7	19.4	19.4
40°	12.5	20.8	15.3	28.5	28.5
42.5°	9.7	15.3	11.1	23.6	19.4
45°	4.2	4.2	2.8	15.3	11.1
47.5°	6.9	6.9	12.5	19.4	34.0
50°	13.9	13.9	18.0	32.6	31.2
51°	8.3	6.9	9.7	22.2	28.5
52°	6.9	9.7	9.7	22.2	22.2
53°	2.8	0.0	0.0	16.7	13.9
54°	2.8	1.4	4.2	12.5	19.4
55°	0.0	6.9	5.6	25.7	28.5
57.5°	1.4	11.1	5.6	18.0	22.2
60°	6.9	8.3	15.3	18.0	22.2
61°	0.0	6.9	6.9	16.7	19.4
62°	0.0	5.6	12.5	15.3	19.4
63°	6.9	8.3	11.1	18.0	22.2



TEST NUMBER: P315526

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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
66°	4.2	11.1	13.9	18.0	16.7
67.5°	8.3	9.7	8.3	23.6	28.5
70°	11.1	18.0	19.4	16.7	28.5
72.5°	6.9	9.7	13.9	25.7	28.5
75°	12.5	13.9	20.8	23.6	28.5
77.5°	9.7	13.9	13.9	15.3	28.5
80°	4.2	12.5	13.9	15.3	8.3
82.5°	5.6	8.3	5.6	15.3	11.1
85°	2.8	12.5	11.1	13.9	13.9
87.5°	4.2	6.9	6.9	12.5	8.3
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	31.2	32.6	31.2	22.2	16.7	15.3	11.1	19.4	5.6	5.6	0.0
65°	28.5	31.2	23.6	27.1	18.0	16.7	9.7	19.4	2.8	9.7	6.9





64°	4.2	6.9	6.9	12.5	19.4
65°	6.9	9.7	9.7	18.0	13.9



(END OF REPORT)