

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: P315534

Luminaire Tested: **LDA2B20FL9730D010 PINW1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P315534
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: LDA2B20FL9730D010 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: 1231.6 lumens
Efficiency: N/A
Efficacy: 59.8 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

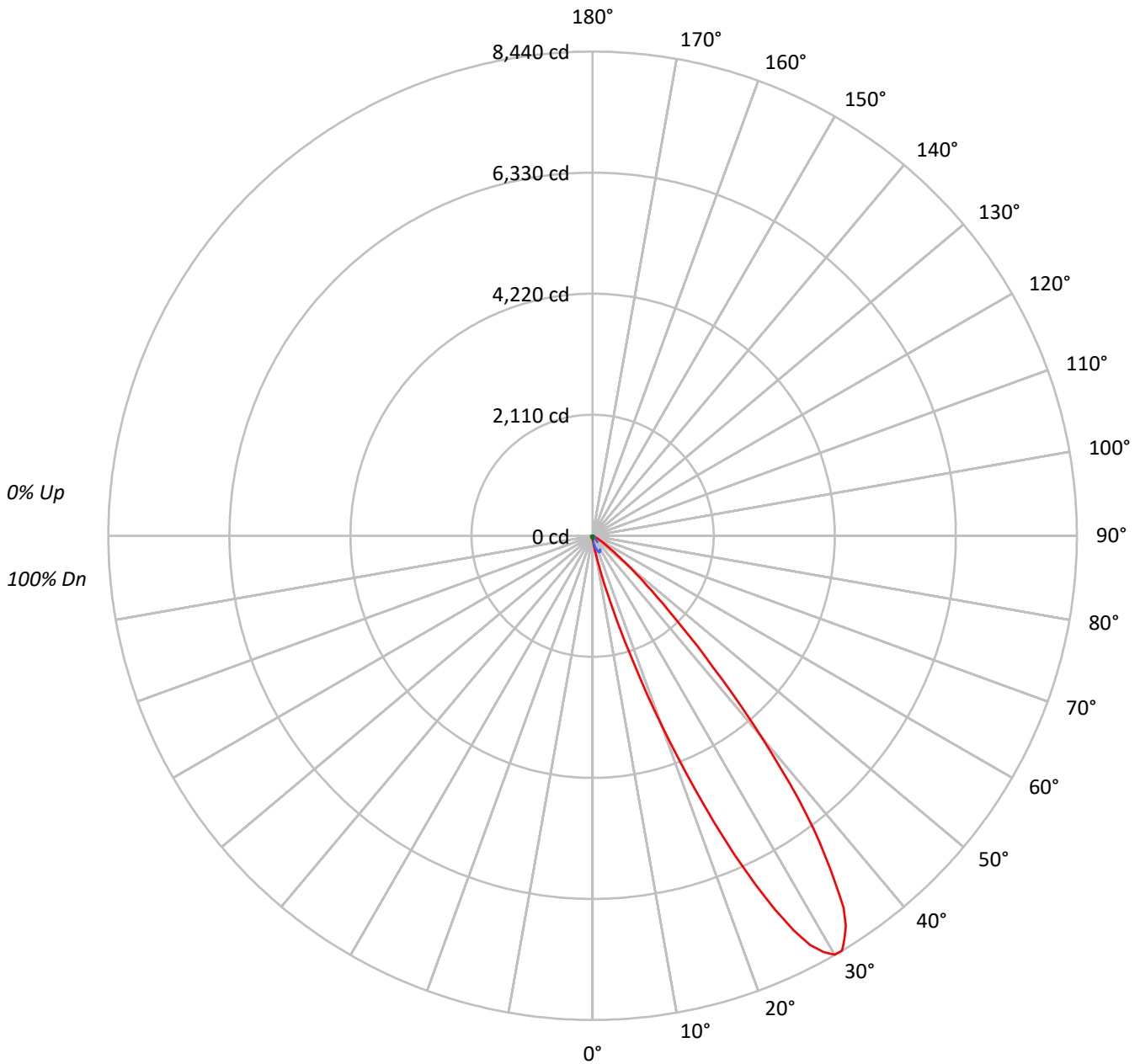
Input Watts (W): 20.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	25852	25852	25852
5°	57795	26694	20850
10°	154650	16632	5911
15°	608884	21503	13944
20°	1841996	13178	10868
25°	3645228	11268	9635
30°	4803186	6722	11792
35°	4432084	9757	14214
40°	2952142	8566	19514
45°	1392438	3070	8233
50°	613951	11360	25482
55°	249702	0	26063
60°	103507	7302	23287
65°	35372	8639	17277
70°	29860	17021	43708
75°	16965	25353	57758
80°	0	12501	25286
85°	16982	16982	83778



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	7.1	0.6
10°-20°	75.4	6.1
20°-30°	387.4	31.5
30°-40°	496.0	40.3
40°-50°	190.7	15.5
50°-60°	38.8	3.1
60°-70°	13.2	1.1
70°-80°	15.3	1.2
80°-90°	7.8	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°	469.9	38.1
0°-40°	965.9	78.4
0°-60°	1195.4	97.1
0°-90°	1231.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1231.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	52	52	52	52	52	
5°	117	96	54	39	42	17
15°	1192	232	42	25	27	457
25°	6696	303	21	16	18	3057
35°	7359	157	16	13	24	4398
45°	1996	39	4	3	12	1715
55°	290	7	0	6	30	301
65°	30	10	7	10	15	43
75°	9	16	13	22	30	12
85°	3	10	3	12	15	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°	52.4	52.4	52.4	52.4	52.4	52.4	52.4	52.4	52.4	52.4	52.4
2.5°	77.6	67.2	70.2	59.8	65.7	67.2	55.4	73.1	65.7	68.7	59.8
5°	116.7	125.6	115.2	110.8	107.8	110.8	107.8	112.3	109.3	96.0	68.7
7.5°	195.0	178.0	178.0	172.1	176.5	175.1	167.7	172.1	161.8	116.7	79.0
10°	308.7	291.8	290.3	285.8	284.4	271.1	263.7	257.8	236.4	138.1	71.6
12.5°	604.9	590.2	579.8	554.0	536.2	525.9	486.7	466.1	404.8	205.3	91.6
15°	1192.1	1116.0	1135.3	1051.8	990.5	949.9	868.6	797.0	650.0	231.9	88.6
17.5°	2109.5	2035.6	1986.1	1895.3	1770.5	1662.6	1502.3	1343.5	1044.4	263.7	82.7
20°	3508.4	3391.7	3288.3	3132.5	2892.4	2684.9	2402.7	2099.1	1554.8	301.4	74.6
21°	4122.9	4032.8	3913.2	3707.8	3427.9	3150.2	2811.9	2446.3	1771.9	304.3	67.2
22°	4764.1	4705.7	4548.4	4312.8	3986.3	3655.4	3240.3	2838.5	2003.1	308.7	64.3
23°	5431.8	5370.5	5192.5	4922.9	4555.8	4155.4	3671.7	3195.2	2220.3	314.6	62.8
24°	6085.4	6017.5	5818.8	5517.4	5100.9	4640.7	4094.1	3541.7	2422.7	311.7	65.7
25°	6696.3	6601.7	6392.0	6058.1	5600.9	5084.6	4481.9	3840.8	2600.7	302.8	55.4
26°	7241.4	7133.5	6907.5	6543.4	6043.3	5484.2	4805.4	4118.5	2732.1	295.4	52.4
27°	7714.8	7578.9	7337.4	6955.5	6419.3	5801.8	5081.7	4335.7	2848.1	284.4	42.1
28°	8083.4	7927.5	7682.3	7279.0	6712.5	6049.3	5284.8	4471.6	2916.8	285.8	48.0
29°	8296.1	8176.5	7909.8	7487.3	6891.3	6191.8	5391.9	4546.9	2930.1	263.7	45.1
30°	8431.3	8297.6	8023.6	7581.9	6960.0	6224.3	5405.2	4532.9	2890.9	247.4	42.1
31°	8440.1	8300.5	8022.1	7564.9	6933.4	6170.4	5331.3	4449.4	2806.0	230.4	34.7
32°	8281.3	8173.5	7899.5	7427.5	6789.3	6021.9	5172.5	4308.3	2672.3	196.5	23.6
33°	8101.9	7971.1	7698.6	7222.2	6589.9	5818.8	4943.5	4118.5	2533.4	193.5	30.3
34°	7822.7	7665.3	7397.2	6928.2	6312.9	5529.3	4671.0	3865.2	2356.2	176.5	28.8
35°	7358.8	7274.6	7003.5	6540.4	5942.9	5182.1	4343.1	3586.7	2167.8	157.3	20.7
36°	6894.2	6790.8	6534.5	6086.9	5520.4	4768.5	3973.0	3269.1	1955.1	133.7	16.2
37°	6403.0	6267.9	6034.5	5596.5	5004.9	4356.3	3617.7	2966.3	1781.5	141.1	22.2
38°	5830.6	5785.6	5478.3	5070.6	4524.0	3911.7	3235.9	2647.2	1589.5	131.5	36.2
39°	5201.3	5171.0	4864.5	4493.0	4002.6	3439.7	2845.1	2316.3	1397.5	96.0	11.8
40°	4583.8	4497.4	4280.3	3942.7	3515.8	3009.9	2495.8	2034.1	1231.3	94.5	23.6
42.5°	3106.6	3133.9	2899.1	2657.5	2383.5	2040.1	1697.3	1394.5	861.2	70.2	14.8
45°	1995.7	2001.6	1896.8	1709.2	1529.7	1315.5	1089.5	907.8	555.4	39.1	4.4
47.5°	1270.4	1267.5	1200.2	1092.4	975.0	849.4	708.3	593.1	359.7	30.3	13.3
50°	799.9	797.0	754.9	686.2	620.4	537.7	449.1	381.9	227.5	36.2	14.8
51°	650.0	654.4	619.0	549.5	498.6	419.5	358.2	304.3	178.0	25.1	13.3
52°	536.2	533.3	511.1	452.8	410.7	342.7	291.8	248.9	148.5	22.2	5.9
53°	431.4	432.8	410.7	365.6	325.0	274.0	233.4	193.5	106.4	16.2	4.4
54°	341.2	338.3	330.9	287.3	262.2	217.2	182.4	148.5	91.6	3.0	0.0
55°	290.3	285.8	275.5	237.8	212.7	179.5	145.5	127.0	79.0	7.4	0.0
57.5°	167.7	167.7	161.8	141.1	124.1	110.8	88.6	82.7	40.6	7.4	0.0
60°	104.9	91.6	101.9	87.2	68.7	61.3	51.0	46.5	34.7	13.3	3.0
61°	87.2	70.2	68.7	64.3	59.8	40.6	34.7	37.7	22.2	4.4	3.0
62°	62.8	55.4	59.8	51.0	45.1	31.8	28.8	27.3	13.3	5.9	7.4
63°	56.9	51.0	49.5	37.7	33.2	33.2	25.1	23.6	16.2	11.8	5.9



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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°	30.3	25.1	22.2	25.1	14.8	19.2	7.4	20.7	4.4	7.4	4.4
67.5°	23.6	14.8	13.3	16.2	10.3	7.4	10.3	13.3	4.4	7.4	10.3
70°	20.7	10.3	14.8	13.3	10.3	13.3	14.8	14.8	4.4	14.8	13.3
72.5°	20.7	13.3	7.4	5.9	5.9	5.9	5.9	5.9	8.9	20.7	16.2
75°	8.9	8.9	4.4	10.3	5.9	8.9	5.9	14.8	5.9	16.2	13.3
77.5°	5.9	7.4	0.0	7.4	0.0	0.0	4.4	10.3	4.4	11.8	14.8
80°	0.0	7.4	4.4	0.0	3.0	4.4	0.0	1.5	3.0	13.3	5.9
82.5°	3.0	4.4	5.9	3.0	3.0	0.0	0.0	0.0	0.0	8.9	7.4
85°	3.0	5.9	0.0	1.5	5.9	3.0	1.5	7.4	3.0	10.3	11.8
87.5°	0.0	3.0	3.0	0.0	4.4	0.0	4.4	3.0	0.0	8.9	4.4
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°	52.4	52.4	52.4	52.4	52.4
2.5°	45.1	40.6	34.7	43.6	36.2
5°	53.9	49.5	39.1	46.5	42.1
7.5°	55.4	46.5	40.6	37.7	42.1
10°	33.2	22.2	16.2	22.2	11.8
12.5°	55.4	39.1	36.2	40.6	45.1
15°	42.1	25.1	25.1	19.2	27.3
17.5°	23.6	19.2	17.7	23.6	27.3
20°	25.1	16.2	13.3	22.2	20.7
21°	22.2	5.9	17.7	17.7	20.7
22°	31.8	14.8	17.7	28.8	30.3
23°	20.7	16.2	13.3	17.7	23.6
24°	30.3	17.7	16.2	22.2	33.2
25°	20.7	16.2	16.2	20.7	17.7
26°	11.8	16.2	11.8	17.7	14.8
27°	8.9	14.8	8.9	13.3	17.7
28°	19.2	23.6	22.2	23.6	20.7
29°	20.7	25.1	20.7	31.8	23.6
30°	11.8	22.2	10.3	23.6	20.7
31°	11.8	16.2	7.4	23.6	20.7
32°	1.5	8.9	4.4	8.9	8.9
33°	8.9	10.3	11.8	19.2	14.8
34°	14.8	17.7	11.8	20.7	17.7
35°	16.2	8.9	13.3	22.2	23.6
36°	4.4	4.4	7.4	17.7	5.9
37°	8.9	25.1	17.7	30.3	17.7
38°	14.8	30.3	28.8	37.7	30.3
39°	3.0	8.9	10.3	20.7	20.7
40°	13.3	22.2	16.2	30.3	30.3
42.5°	10.3	16.2	11.8	25.1	20.7
45°	4.4	4.4	3.0	16.2	11.8
47.5°	7.4	7.4	13.3	20.7	36.2
50°	14.8	14.8	19.2	34.7	33.2
51°	8.9	7.4	10.3	23.6	30.3
52°	7.4	10.3	10.3	23.6	23.6
53°	3.0	0.0	0.0	17.7	14.8
54°	3.0	1.5	4.4	13.3	20.7
55°	0.0	7.4	5.9	27.3	30.3
57.5°	1.5	11.8	5.9	19.2	23.6
60°	7.4	8.9	16.2	19.2	23.6
61°	0.0	7.4	7.4	17.7	20.7
62°	0.0	5.9	13.3	16.2	20.7
63°	7.4	8.9	11.8	19.2	23.6



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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
66°	4.4	11.8	14.8	19.2	17.7
67.5°	8.9	10.3	8.9	25.1	30.3
70°	11.8	19.2	20.7	17.7	30.3
72.5°	7.4	10.3	14.8	27.3	30.3
75°	13.3	14.8	22.2	25.1	30.3
77.5°	10.3	14.8	14.8	16.2	30.3
80°	4.4	13.3	14.8	16.2	8.9
82.5°	5.9	8.9	5.9	16.2	11.8
85°	3.0	13.3	11.8	14.8	14.8
87.5°	4.4	7.4	7.4	13.3	8.9
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	33.2	34.7	33.2	23.6	17.7	16.2	11.8	20.7	5.9	5.9	0.0
65°	30.3	33.2	25.1	28.8	19.2	17.7	10.3	20.7	3.0	10.3	7.4





64°	4.4	7.4	7.4	13.3	20.7
65°	7.4	10.3	10.3	19.2	14.8



(END OF REPORT)