

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: P315483

Luminaire Tested: **LDA2B20FL8050D010 PIN1MW**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P315483
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 PIN1MW
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: 1675.2 lumens
Efficiency: N/A
Efficacy: 81.3 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

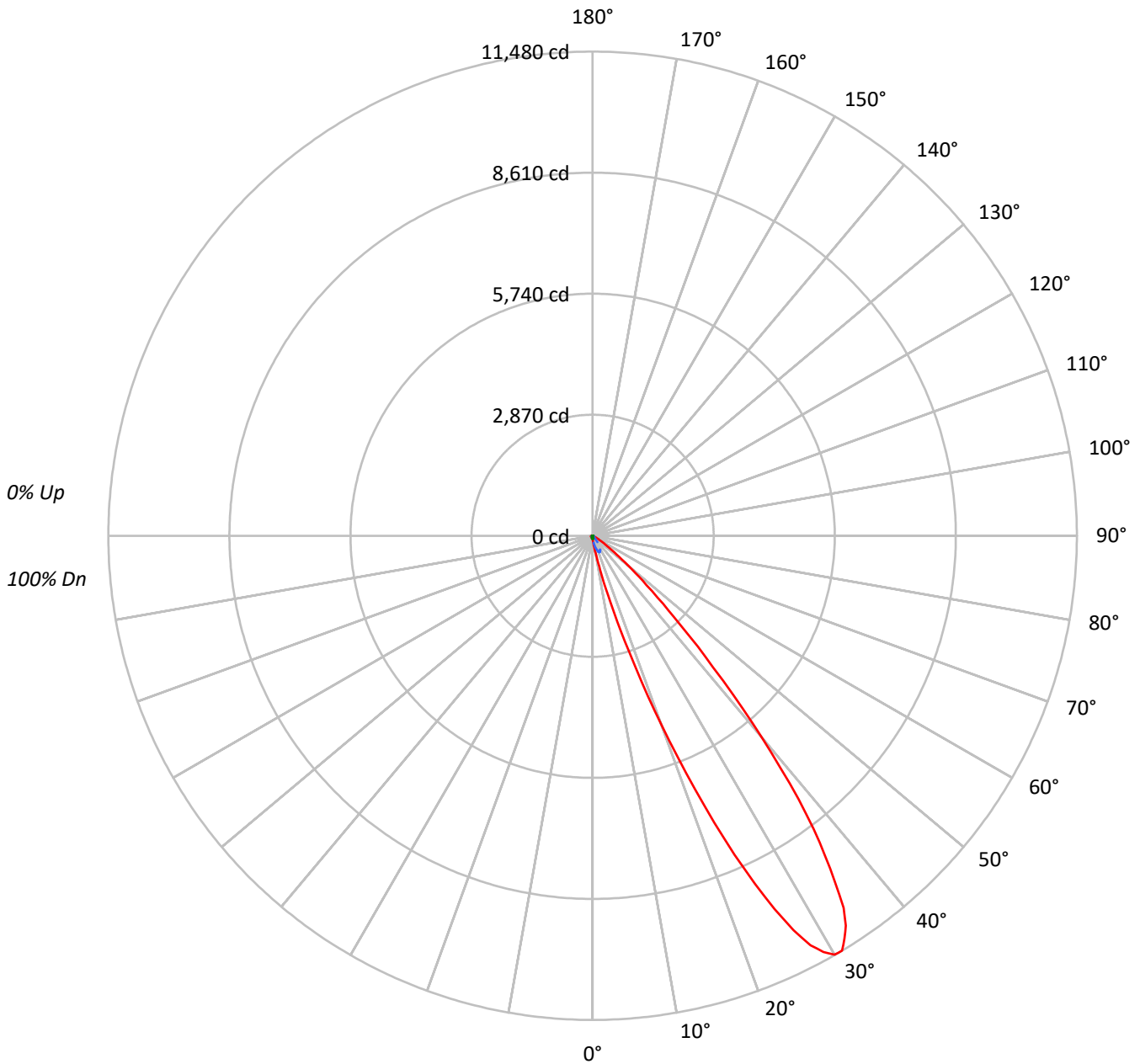
Input Watts (W): 20.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	112	108	105	102	109	106	103	101	102	100	97	98	96	95	95	93	92	90					90			
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80					80			
3	97	89	82	77	95	87	82	77	85	80	75	82	78	74	80	76	73	71					71			
4	90	81	74	68	88	79	73	68	77	71	67	75	70	66	73	69	65	63					63			
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56					56			
6	78	67	59	53	76	66	58	53	64	58	53	62	57	52	61	56	52	50					50			
7	72	61	53	48	71	60	53	47	58	52	47	57	51	47	56	51	47	45					45			
8	67	55	48	43	66	55	47	42	53	47	42	52	46	42	51	46	42	40					40			
9	63	51	43	38	61	50	43	38	49	42	38	48	42	38	47	41	37	36					36			
10	59	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32					32			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	35177	35177	35177
5°	78596	36302	28378
10°	210358	22644	8066
15°	828207	29267	19000
20°	2505470	17956	14753
25°	4958181	15297	13119
30°	6533263	9172	16008
35°	6028497	13310	19333
40°	4015513	11657	26534
45°	1894028	4186	11233
50°	835078	15427	34693
55°	339587	0	35438
60°	140805	9867	31674
65°	48097	11674	23465
70°	40534	23224	59431
75°	23065	34502	78536
80°	0	17047	34378
85°	22643	22643	113780



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	9.7	0.6
10°-20°	102.5	6.1
20°-30°	526.9	31.5
30°-40°	674.7	40.3
40°-50°	259.4	15.5
50°-60°	52.7	3.1
60°-70°	17.9	1.1
70°-80°	20.8	1.2
80°-90°	10.6	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°	639.1	38.1
0°-40°	1313.8	78.4
0°-60°	1626.0	97.1
0°-90°	1675.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1675.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	71	71	71	71	71	
5°	159	131	73	53	57	24
15°	1622	316	57	34	37	622
25°	9108	412	28	22	24	4157
35°	10009	214	22	18	32	5983
45°	2715	53	6	4	16	2333
55°	395	10	0	8	41	409
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°	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3
2.5°	105.5	91.4	95.4	81.4	89.4	91.4	75.3	99.5	89.4	93.4	81.4
5°	158.7	170.8	156.7	150.7	146.7	150.7	146.7	152.7	148.7	130.6	93.4
7.5°	265.2	242.1	242.1	234.1	240.1	238.1	228.1	234.1	220.0	158.7	107.5
10°	419.9	396.8	394.8	388.8	386.8	368.7	358.7	350.6	321.5	187.9	97.5
12.5°	822.8	802.7	788.7	753.5	729.4	715.3	662.1	633.9	550.6	279.3	124.6
15°	1621.5	1518.0	1544.2	1430.6	1347.2	1292.0	1181.5	1084.0	884.1	315.5	120.6
17.5°	2869.3	2768.8	2701.5	2578.0	2408.2	2261.5	2043.5	1827.5	1420.6	358.7	112.5
20°	4772.1	4613.4	4472.7	4260.8	3934.2	3651.9	3268.2	2855.2	2114.8	409.9	101.5
21°	5608.0	5485.4	5322.7	5043.4	4662.6	4284.9	3824.7	3327.4	2410.2	413.9	91.4
22°	6480.0	6400.7	6186.7	5866.2	5422.1	4972.0	4407.4	3860.9	2724.6	419.9	87.4
23°	7388.2	7304.9	7062.7	6696.0	6196.7	5652.2	4994.2	4346.1	3020.0	428.0	85.4
24°	8277.4	8184.9	7914.7	7504.8	6938.2	6312.3	5568.8	4817.3	3295.3	424.0	89.4
25°	9108.2	8979.6	8694.3	8240.2	7618.3	6916.1	6096.3	5224.2	3537.4	411.9	75.3
26°	9849.7	9703.0	9395.6	8900.3	8220.1	7459.6	6536.3	5602.0	3716.2	401.9	71.3
27°	10493.6	10308.8	9980.3	9460.9	8731.5	7891.6	6912.0	5897.3	3874.0	386.8	57.3
28°	10995.0	10783.0	10449.4	9900.9	9130.3	8228.1	7188.3	6082.2	3967.4	388.8	65.3
29°	11284.3	11121.6	10758.9	10184.2	9373.5	8422.0	7334.0	6184.7	3985.5	358.7	61.3
30°	11468.2	11286.3	10913.6	10312.8	9466.9	8466.2	7352.1	6165.6	3932.2	336.6	57.3
31°	11480.2	11290.3	10911.6	10289.7	9430.7	8392.9	7251.6	6052.1	3816.7	313.5	47.2
32°	11264.2	11117.5	10744.8	10102.8	9234.8	8191.0	7035.6	5860.2	3634.8	267.2	32.1
33°	11020.1	10842.3	10471.5	9823.5	8963.6	7914.7	6724.2	5602.0	3446.0	263.2	41.2
34°	10640.3	10426.3	10061.6	9423.7	8586.8	7520.9	6353.5	5257.4	3204.9	240.1	39.2
35°	10009.4	9894.9	9526.2	8896.2	8083.5	7048.7	5907.4	4878.6	2948.7	214.0	28.1
36°	9377.5	9236.8	8888.2	8279.4	7508.8	6486.1	5404.1	4446.6	2659.3	181.8	22.1
37°	8709.4	8525.5	8208.0	7612.3	6807.6	5925.5	4920.8	4034.7	2423.2	191.9	30.1
38°	7930.8	7869.5	7451.5	6897.0	6153.5	5320.7	4401.4	3600.7	2162.0	178.8	49.2
39°	7074.8	7033.6	6616.7	6111.3	5444.2	4678.7	3869.9	3150.6	1900.8	130.6	16.1
40°	6234.9	6117.4	5822.0	5362.9	4782.2	4094.0	3394.7	2766.8	1674.8	128.6	32.1
42.5°	4225.6	4262.8	3943.3	3614.8	3242.0	2774.9	2308.7	1896.8	1171.4	95.4	20.1
45°	2714.6	2722.6	2580.0	2324.8	2080.6	1789.3	1481.9	1234.7	755.5	53.2	6.0
47.5°	1728.0	1724.0	1632.6	1485.9	1326.1	1155.4	963.5	806.7	489.3	41.2	18.1
50°	1088.0	1084.0	1026.8	933.3	843.9	731.4	610.8	519.4	309.4	49.2	20.1
51°	884.1	890.1	841.9	747.5	678.1	570.6	487.3	413.9	242.1	34.2	18.1
52°	729.4	725.4	695.2	615.9	558.6	466.2	396.8	338.6	201.9	30.1	8.0
53°	586.7	588.7	558.6	497.3	442.0	372.7	317.5	263.2	144.7	22.1	6.0
54°	464.2	460.1	450.1	390.8	356.7	295.4	248.2	201.9	124.6	4.0	0.0
55°	394.8	388.8	374.7	323.5	289.3	244.1	197.9	172.8	107.5	10.0	0.0
57.5°	228.1	228.1	220.0	191.9	168.8	150.7	120.6	112.5	55.3	10.0	0.0
60°	142.7	124.6	138.6	118.5	93.4	83.4	69.3	63.3	47.2	18.1	4.0
61°	118.5	95.4	93.4	87.4	81.4	55.3	47.2	51.2	30.1	6.0	4.0
62°	85.4	75.3	81.4	69.3	61.3	43.2	39.2	37.2	18.1	8.0	10.0
63°	77.4	69.3	67.3	51.2	45.2	45.2	34.2	32.1	22.1	16.1	8.0



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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°	41.2	34.2	30.1	34.2	20.1	26.1	10.0	28.1	6.0	10.0	6.0
67.5°	32.1	20.1	18.1	22.1	14.1	10.0	14.1	18.1	6.0	10.0	14.1
70°	28.1	14.1	20.1	18.1	14.1	18.1	20.1	20.1	6.0	20.1	18.1
72.5°	28.1	18.1	10.0	8.0	8.0	8.0	8.0	8.0	12.1	28.1	22.1
75°	12.1	12.1	6.0	14.1	8.0	12.1	8.0	20.1	8.0	22.1	18.1
77.5°	8.0	10.0	0.0	10.0	0.0	0.0	6.0	14.1	6.0	16.1	20.1
80°	0.0	10.0	6.0	0.0	4.0	6.0	0.0	2.0	4.0	18.1	8.0
82.5°	4.0	6.0	8.0	4.0	4.0	0.0	0.0	0.0	0.0	12.1	10.0
85°	4.0	8.0	0.0	2.0	8.0	4.0	2.0	10.0	4.0	14.1	16.1
87.5°	0.0	4.0	4.0	0.0	6.0	0.0	6.0	4.0	0.0	12.1	6.0
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°	71.3	71.3	71.3	71.3	71.3
2.5°	61.3	55.3	47.2	59.3	49.2
5°	73.3	67.3	53.2	63.3	57.3
7.5°	75.3	63.3	55.3	51.2	57.3
10°	45.2	30.1	22.1	30.1	16.1
12.5°	75.3	53.2	49.2	55.3	61.3
15°	57.3	34.2	34.2	26.1	37.2
17.5°	32.1	26.1	24.1	32.1	37.2
20°	34.2	22.1	18.1	30.1	28.1
21°	30.1	8.0	24.1	24.1	28.1
22°	43.2	20.1	24.1	39.2	41.2
23°	28.1	22.1	18.1	24.1	32.1
24°	41.2	24.1	22.1	30.1	45.2
25°	28.1	22.1	22.1	28.1	24.1
26°	16.1	22.1	16.1	24.1	20.1
27°	12.1	20.1	12.1	18.1	24.1
28°	26.1	32.1	30.1	32.1	28.1
29°	28.1	34.2	28.1	43.2	32.1
30°	16.1	30.1	14.1	32.1	28.1
31°	16.1	22.1	10.0	32.1	28.1
32°	2.0	12.1	6.0	12.1	12.1
33°	12.1	14.1	16.1	26.1	20.1
34°	20.1	24.1	16.1	28.1	24.1
35°	22.1	12.1	18.1	30.1	32.1
36°	6.0	6.0	10.0	24.1	8.0
37°	12.1	34.2	24.1	41.2	24.1
38°	20.1	41.2	39.2	51.2	41.2
39°	4.0	12.1	14.1	28.1	28.1
40°	18.1	30.1	22.1	41.2	41.2
42.5°	14.1	22.1	16.1	34.2	28.1
45°	6.0	6.0	4.0	22.1	16.1
47.5°	10.0	10.0	18.1	28.1	49.2
50°	20.1	20.1	26.1	47.2	45.2
51°	12.1	10.0	14.1	32.1	41.2
52°	10.0	14.1	14.1	32.1	32.1
53°	4.0	0.0	0.0	24.1	20.1
54°	4.0	2.0	6.0	18.1	28.1
55°	0.0	10.0	8.0	37.2	41.2
57.5°	2.0	16.1	8.0	26.1	32.1
60°	10.0	12.1	22.1	26.1	32.1
61°	0.0	10.0	10.0	24.1	28.1
62°	0.0	8.0	18.1	22.1	28.1
63°	10.0	12.1	16.1	26.1	32.1



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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
66°	6.0	16.1	20.1	26.1	24.1
67.5°	12.1	14.1	12.1	34.2	41.2
70°	16.1	26.1	28.1	24.1	41.2
72.5°	10.0	14.1	20.1	37.2	41.2
75°	18.1	20.1	30.1	34.2	41.2
77.5°	14.1	20.1	20.1	22.1	41.2
80°	6.0	18.1	20.1	22.1	12.1
82.5°	8.0	12.1	8.0	22.1	16.1
85°	4.0	18.1	16.1	20.1	20.1
87.5°	6.0	10.0	10.0	18.1	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°	45.2	47.2	45.2	32.1	24.1	22.1	16.1	28.1	8.0	8.0	0.0
65°	41.2	45.2	34.2	39.2	26.1	24.1	14.1	28.1	4.0	14.1	10.0





64°	6.0	10.0	10.0	18.1	28.1
65°	10.0	14.1	14.1	26.1	20.1



(END OF REPORT)