

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: P315467

Luminaire Tested: **LDA2B20FL8030D010 PIN1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P315467
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: LDA2B20FL8030D010 PIN1MMS
Description: PORTFOLIO 2IN ADJ 2000 LUMEN LED LUMINAIRE WITH FLOOD OPTIC AND 2in Adj PinHole, Black oculus, matte metallic silver finish
Light Source: -
Ballast/Driver: -

Summary

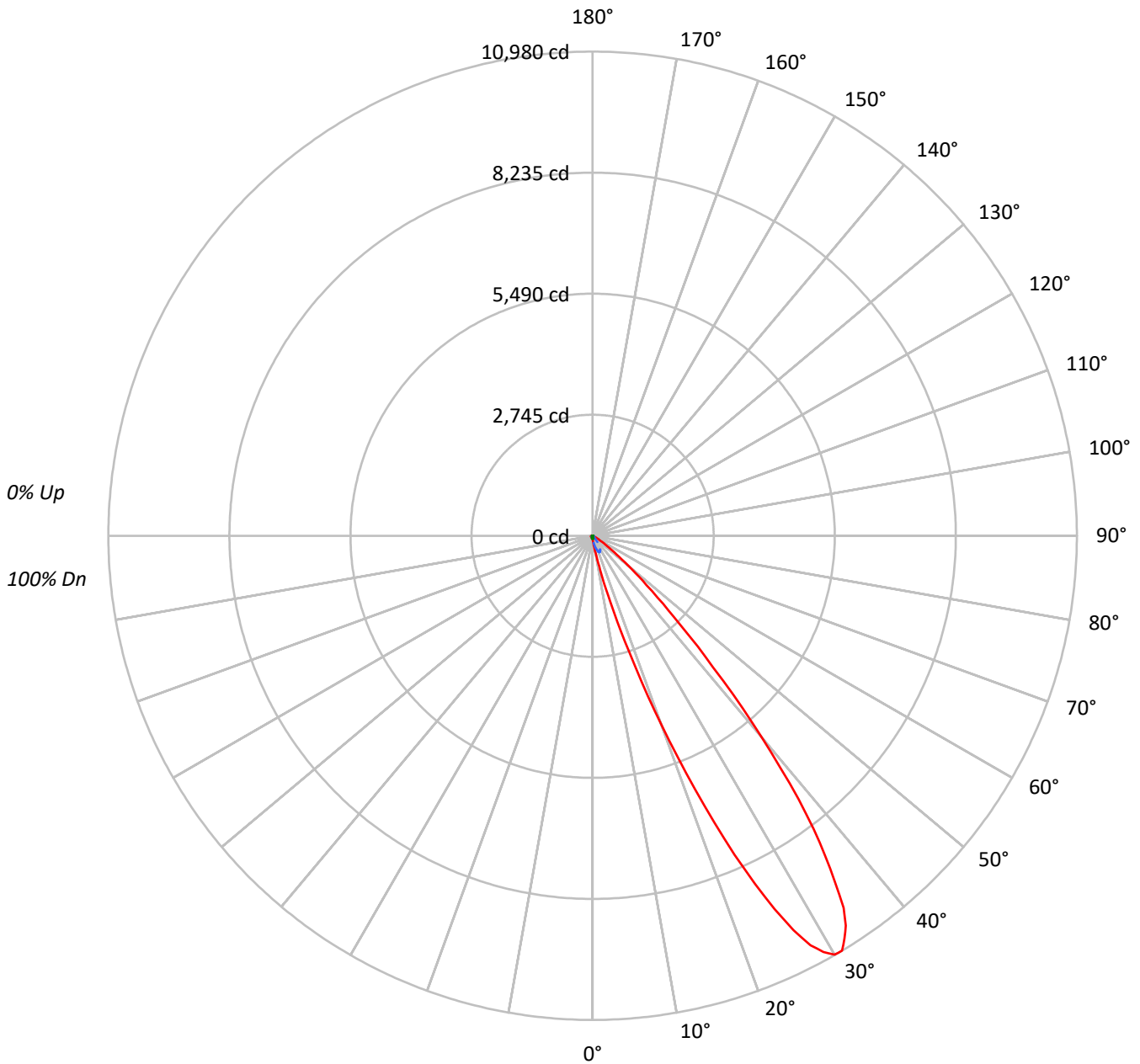
Lumens per Lamp: N/A
Luminaire Lumens: 1602.2 lumens
Efficiency: N/A
Efficacy: 77.8 lumens/watt
Spacing Criteria (0/90/45): 2.92 / 0.6 / 1.34
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

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



TEST NUMBER: P315467
CATALOG NUMBER: LDA2B20FL8030D010 PIN1MMS

Luminous Intensity Polar Plot





TEST NUMBER: P315467

CATALOG NUMBER: LDA2B20FL8030D010 PIN1MMS

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°	33647	33647	33647
5°	75178	34717	27139
10°	201191	21642	7715
15°	792095	27990	18183
20°	2396212	17168	14123
25°	4742014	14643	12575
30°	6248363	8773	15325
35°	5765660	12708	18490
40°	3840463	11142	25375
45°	1811418	4047	10745
50°	798697	14737	33157
55°	324793	0	33890
60°	134589	9473	30292
65°	45995	11207	22414
70°	38803	22214	56834
75°	21921	32977	75104
80°	0	16479	32673
85°	21511	21511	108685



TEST NUMBER: P315467

CATALOG NUMBER: LDA2B20FL8030D010 PIN1MMS

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	9.3	0.6
10°-20°	98.0	6.1
20°-30°	503.9	31.5
30°-40°	645.3	40.3
40°-50°	248.1	15.5
50°-60°	50.4	3.1
60°-70°	17.1	1.1
70°-80°	19.9	1.2
80°-90°	10.2	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°	611.2	38.1
0°-40°	1256.5	78.4
0°-60°	1555.1	97.1
0°-90°	1602.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1602.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	68	68	68	68	68	
5°	152	125	70	51	55	22
15°	1551	302	55	33	36	595
25°	8711	394	27	21	23	3976
35°	9573	205	21	17	31	5722
45°	2596	51	6	4	15	2232
55°	378	10	0	8	39	391
65°	39	14	10	14	19	55
75°	12	21	17	29	39	16
85°	4	14	4	15	19	2
90°	0	0	0	0	0	



TEST NUMBER: P315467

CATALOG NUMBER: LDA2B20FL8030D010 PIN1MMS

CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	22.5°	45°	67.5°
0°	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2
2.5°	100.9	87.4	91.3	77.8	85.5	87.4	72.1	95.1	85.5	89.4	77.8
5°	151.8	163.3	149.9	144.1	140.3	144.1	140.3	146.0	142.2	124.9	89.4
7.5°	253.7	231.6	231.6	223.9	229.6	227.7	218.1	223.9	210.4	151.8	102.8
10°	401.6	379.5	377.6	371.8	369.9	352.6	343.0	335.3	307.5	179.7	93.2
12.5°	786.9	767.7	754.3	720.6	697.6	684.1	633.2	606.3	526.5	267.1	119.1
15°	1550.8	1451.8	1476.8	1368.3	1288.5	1235.7	1130.0	1036.8	845.6	301.7	115.3
17.5°	2744.2	2648.1	2583.7	2465.5	2303.2	2162.9	1954.4	1747.8	1358.6	343.0	107.6
20°	4564.0	4412.2	4277.7	4075.0	3762.7	3492.7	3125.7	2730.7	2022.6	392.0	97.0
21°	5363.5	5246.3	5090.6	4823.5	4459.3	4098.0	3658.0	3182.3	2305.1	395.9	87.4
22°	6197.5	6121.6	5916.9	5610.4	5185.7	4755.3	4215.3	3692.6	2605.8	401.6	83.6
23°	7066.1	6986.4	6754.8	6404.1	5926.5	5405.8	4776.4	4156.6	2888.3	409.3	81.7
24°	7916.5	7828.1	7569.6	7177.6	6635.6	6037.0	5326.0	4607.3	3151.6	405.5	85.5
25°	8711.1	8588.1	8315.2	7880.9	7286.1	6614.5	5830.5	4996.4	3383.2	393.9	72.1
26°	9420.2	9279.9	8985.9	8512.2	7861.7	7134.3	6251.3	5357.7	3554.2	384.3	68.2
27°	10036.1	9859.3	9545.1	9048.3	8350.8	7547.5	6610.7	5640.2	3705.0	369.9	54.8
28°	10515.6	10312.8	9993.8	9469.2	8732.2	7869.4	6874.9	5817.0	3794.4	371.8	62.5
29°	10792.3	10636.6	10289.8	9740.2	8964.8	8054.8	7014.2	5915.0	3811.7	343.0	58.6
30°	10968.1	10794.2	10437.7	9863.2	9054.1	8097.1	7031.5	5896.8	3760.8	321.9	54.8
31°	10979.7	10798.1	10435.8	9841.1	9019.5	8027.0	6935.4	5788.2	3650.3	299.8	45.2
32°	10773.1	10632.8	10276.3	9662.3	8832.2	7833.8	6728.9	5604.7	3476.4	255.6	30.7
33°	10539.6	10369.5	10015.0	9395.2	8572.7	7569.6	6431.0	5357.7	3295.7	251.7	39.4
34°	10176.4	9971.7	9622.9	9012.8	8212.4	7192.9	6076.4	5028.1	3065.1	229.6	37.5
35°	9573.0	9463.4	9110.8	8508.3	7731.0	6741.3	5649.8	4665.9	2820.1	204.7	26.9
36°	8968.6	8834.1	8500.7	7918.4	7181.4	6203.3	5168.4	4252.7	2543.4	173.9	21.1
37°	8329.6	8153.8	7850.2	7280.4	6510.7	5667.1	4706.3	3858.8	2317.6	183.5	28.8
38°	7585.0	7526.4	7126.6	6596.3	5885.2	5088.7	4209.5	3443.7	2067.8	171.0	47.1
39°	6766.3	6726.9	6328.2	5844.9	5206.9	4474.7	3701.2	3013.2	1817.9	124.9	15.4
40°	5963.1	5850.6	5568.1	5129.0	4573.7	3915.5	3246.7	2646.2	1601.7	123.0	30.7
42.5°	4041.3	4076.9	3771.3	3457.1	3100.7	2653.9	2208.0	1814.1	1120.4	91.3	19.2
45°	2596.2	2603.9	2467.5	2223.4	1989.9	1711.3	1417.3	1180.9	722.6	50.9	5.8
47.5°	1652.7	1648.8	1561.4	1421.1	1268.3	1105.0	921.5	771.6	467.9	39.4	17.3
50°	1040.6	1036.8	982.0	892.6	807.1	699.5	584.2	496.8	295.9	47.1	19.2
51°	845.6	851.3	805.2	714.9	648.6	545.8	466.0	395.9	231.6	32.7	17.3
52°	697.6	693.7	664.9	589.0	534.2	445.8	379.5	323.8	193.1	28.8	7.7
53°	561.1	563.1	534.2	475.6	422.8	356.5	303.6	251.7	138.4	21.1	5.8
54°	443.9	440.1	430.5	373.8	341.1	282.5	237.3	193.1	119.1	3.8	0.0
55°	377.6	371.8	358.4	309.4	276.7	233.5	189.3	165.3	102.8	9.6	0.0
57.5°	218.1	218.1	210.4	183.5	161.4	144.1	115.3	107.6	52.8	9.6	0.0
60°	136.4	119.1	132.6	113.4	89.4	79.8	66.3	60.5	45.2	17.3	3.8
61°	113.4	91.3	89.4	83.6	77.8	52.8	45.2	49.0	28.8	5.8	3.8
62°	81.7	72.1	77.8	66.3	58.6	41.3	37.5	35.6	17.3	7.7	9.6
63°	74.0	66.3	64.4	49.0	43.2	43.2	32.7	30.7	21.1	15.4	7.7



TEST NUMBER: P315467

CATALOG NUMBER: LDA2B20FL8030D010 PIN1MMS

CANDELA DISTRIBUTION (continued):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	22.5°	45°	67.5°
66°	39.4	32.7	28.8	32.7	19.2	25.0	9.6	26.9	5.8	9.6	5.8
67.5°	30.7	19.2	17.3	21.1	13.5	9.6	13.5	17.3	5.8	9.6	13.5
70°	26.9	13.5	19.2	17.3	13.5	17.3	19.2	19.2	5.8	19.2	17.3
72.5°	26.9	17.3	9.6	7.7	7.7	7.7	7.7	7.7	11.5	26.9	21.1
75°	11.5	11.5	5.8	13.5	7.7	11.5	7.7	19.2	7.7	21.1	17.3
77.5°	7.7	9.6	0.0	9.6	0.0	0.0	5.8	13.5	5.8	15.4	19.2
80°	0.0	9.6	5.8	0.0	3.8	5.8	0.0	1.9	3.8	17.3	7.7
82.5°	3.8	5.8	7.7	3.8	3.8	0.0	0.0	0.0	0.0	11.5	9.6
85°	3.8	7.7	0.0	1.9	7.7	3.8	1.9	9.6	3.8	13.5	15.4
87.5°	0.0	3.8	3.8	0.0	5.8	0.0	5.8	3.8	0.0	11.5	5.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P315467

CATALOG NUMBER: LDA2B20FL8030D010 PIN1MMS

CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
0°	68.2	68.2	68.2	68.2	68.2
2.5°	58.6	52.8	45.2	56.7	47.1
5°	70.1	64.4	50.9	60.5	54.8
7.5°	72.1	60.5	52.8	49.0	54.8
10°	43.2	28.8	21.1	28.8	15.4
12.5°	72.1	50.9	47.1	52.8	58.6
15°	54.8	32.7	32.7	25.0	35.6
17.5°	30.7	25.0	23.1	30.7	35.6
20°	32.7	21.1	17.3	28.8	26.9
21°	28.8	7.7	23.1	23.1	26.9
22°	41.3	19.2	23.1	37.5	39.4
23°	26.9	21.1	17.3	23.1	30.7
24°	39.4	23.1	21.1	28.8	43.2
25°	26.9	21.1	21.1	26.9	23.1
26°	15.4	21.1	15.4	23.1	19.2
27°	11.5	19.2	11.5	17.3	23.1
28°	25.0	30.7	28.8	30.7	26.9
29°	26.9	32.7	26.9	41.3	30.7
30°	15.4	28.8	13.5	30.7	26.9
31°	15.4	21.1	9.6	30.7	26.9
32°	1.9	11.5	5.8	11.5	11.5
33°	11.5	13.5	15.4	25.0	19.2
34°	19.2	23.1	15.4	26.9	23.1
35°	21.1	11.5	17.3	28.8	30.7
36°	5.8	5.8	9.6	23.1	7.7
37°	11.5	32.7	23.1	39.4	23.1
38°	19.2	39.4	37.5	49.0	39.4
39°	3.8	11.5	13.5	26.9	26.9
40°	17.3	28.8	21.1	39.4	39.4
42.5°	13.5	21.1	15.4	32.7	26.9
45°	5.8	5.8	3.8	21.1	15.4
47.5°	9.6	9.6	17.3	26.9	47.1
50°	19.2	19.2	25.0	45.2	43.2
51°	11.5	9.6	13.5	30.7	39.4
52°	9.6	13.5	13.5	30.7	30.7
53°	3.8	0.0	0.0	23.1	19.2
54°	3.8	1.9	5.8	17.3	26.9
55°	0.0	9.6	7.7	35.6	39.4
57.5°	1.9	15.4	7.7	25.0	30.7
60°	9.6	11.5	21.1	25.0	30.7
61°	0.0	9.6	9.6	23.1	26.9
62°	0.0	7.7	17.3	21.1	26.9
63°	9.6	11.5	15.4	25.0	30.7



TEST NUMBER: P315467

CATALOG NUMBER: LDA2B20FL8030D010 PIN1MMS

CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
66°	5.8	15.4	19.2	25.0	23.1
67.5°	11.5	13.5	11.5	32.7	39.4
70°	15.4	25.0	26.9	23.1	39.4
72.5°	9.6	13.5	19.2	35.6	39.4
75°	17.3	19.2	28.8	32.7	39.4
77.5°	13.5	19.2	19.2	21.1	39.4
80°	5.8	17.3	19.2	21.1	11.5
82.5°	7.7	11.5	7.7	21.1	15.4
85°	3.8	17.3	15.4	19.2	19.2
87.5°	5.8	9.6	9.6	17.3	11.5
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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







64°	43.2	45.2	43.2	30.7	23.1	21.1	15.4	26.9	7.7	7.7	0.0
65°	39.4	43.2	32.7	37.5	25.0	23.1	13.5	26.9	3.8	13.5	9.6





64°	5.8	9.6	9.6	17.3	26.9
65°	9.6	13.5	13.5	25.0	19.2



(END OF REPORT)