

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: P1191629

Luminaire Tested: **LDA4A20930D010TE LAR35FL 4LA1 30° Tilt**

Issue Date: 3/3/2020

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

**Test Information**

Test Method: LM-41-14
Report Number: P1191629
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26217)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A20930D010TE LAR35FL 4LA1 30° Tilt
Description: PORTFOLIO 4" Adjustable Reflector, Self-flanged Trim Ring, 35° Flood Optic, at 30° tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

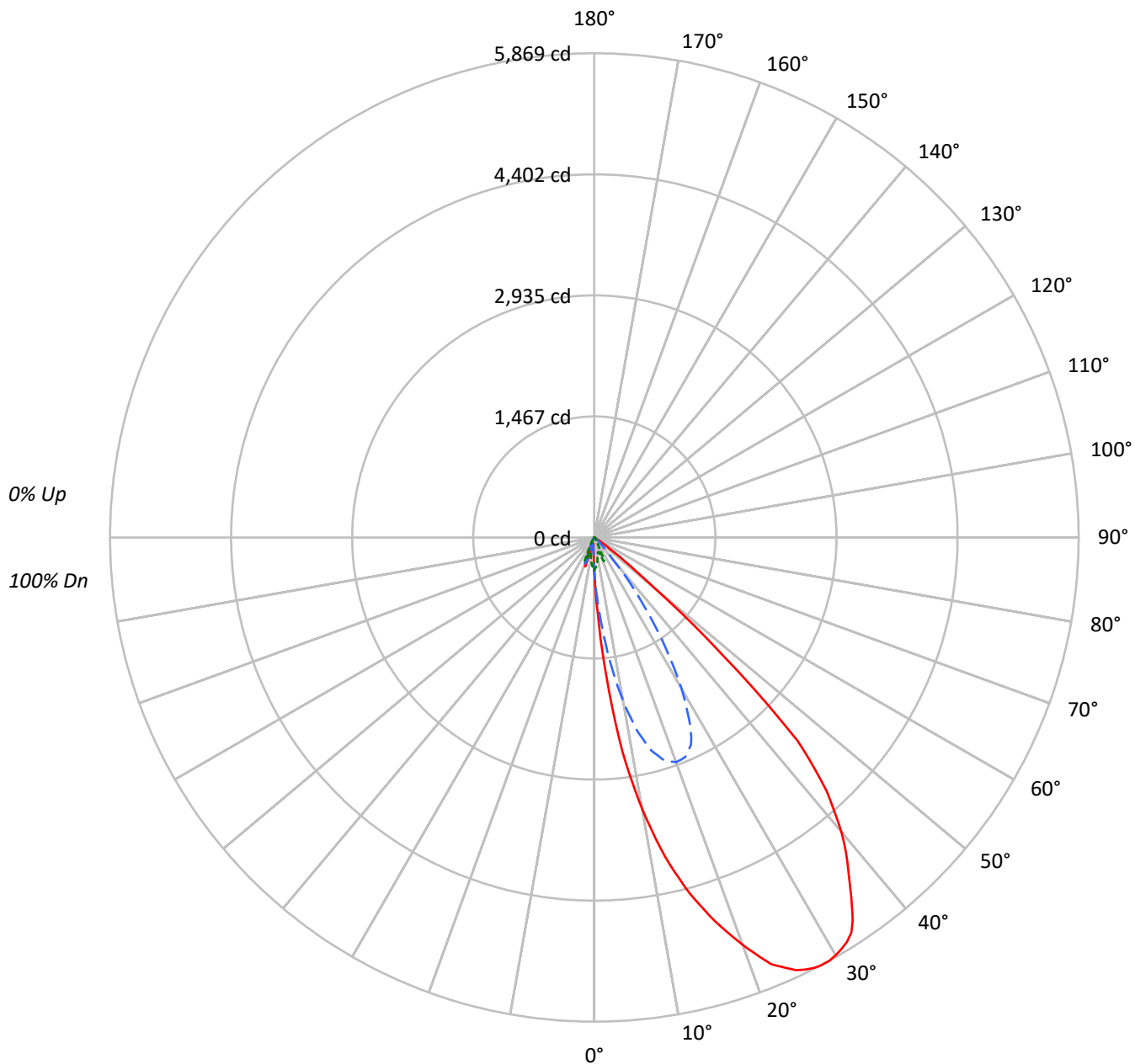
Lumens per Lamp: N/A
Luminaire Lumens: 2170.6 lumens
Efficiency: N/A
Efficacy: 75.4 lumens/watt
Spacing Criteria (0/90/45): 2.3 / 0.86 / 1.17
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 28.8
Input Voltage (V): NR
Input Current (Ain): 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
RW	70	50	30	10	70	50	30	10		50	30	10			50	30	10			50
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111			106	106	106			102
1	113	110	107	104	110	107	105	103		103	101	99			100	98	96			96
2	106	101	96	92	104	99	95	91		96	92	89			92	90	87			90
3	100	92	87	82	98	91	86	81		88	84	80			86	82	79			83
4	93	85	78	74	92	84	78	73		81	76	72			79	75	71			77
5	88	78	71	66	86	77	71	66		75	70	65			73	68	65			72
6	82	72	65	60	81	71	64	60		69	64	59			68	63	59			66
7	77	66	59	54	76	66	59	54		64	58	54			63	58	54			62
8	72	61	54	50	71	61	54	49		59	54	49			58	53	49			57
9	68	57	50	45	67	56	50	45		55	49	45			54	49	45			53
10	64	53	46	42	63	52	46	42		51	46	41			51	45	41			50

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	49708	49708	49708
5°	208829	41590	15341
10°	419495	28594	9318
15°	570626	23228	20981
20°	689649	35270	38919
25°	787633	20945	10833
30°	832815	9856	5013
35°	819155	4367	1882
40°	749643	2174	483
45°	608070	1082	0
50°	180282	576	0
55°	32666	645	0
60°	6118	740	0
65°	1518	876	0
70°	361	1082	0
75°	0	1430	0
80°	0	2983	0
85°	0	5944	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.3	3.4
10°-20°	379.1	17.5
20°-30°	664.0	30.6
30°-40°	666.8	30.7
40°-50°	351.3	16.2
50°-60°	29.2	1.3
60°-70°	2.9	0.1
70°-80°	2.1	0.1
80°-90°	1.9	0.1
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°	1116.4	51.4
0°-40°	1783.2	82.2
0°-60°	2163.7	99.7
0°-90°	2170.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2170.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	403	403	403	403	403	
5°	1687	1103	336	154	124	216
15°	4469	2675	182	122	164	1276
25°	5787	2770	154	88	80	2648
35°	5440	1203	29	16	12	3364
45°	3486	124	6	2	0	2389
55°	152	14	3	1	0	228
65°	5	2	3	2	0	8
75°	0	2	3	2	0	0
85°	0	2	4	2	0	0
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°	403.0	403.0	403.0	403.0	403.0	403.0	403.0	403.0	403.0	403.0	403.0
2.5°	914.6	915.7	916.7	924.0	907.3	903.3	896.0	885.7	851.6	711.0	536.3
5°	1686.6	1698.9	1695.9	1685.6	1659.7	1645.2	1623.5	1600.8	1507.8	1102.6	665.5
7.5°	2620.9	2644.6	2639.4	2623.9	2580.5	2560.9	2506.2	2476.2	2335.6	1565.7	761.6
10°	3349.3	3412.5	3413.5	3399.0	3333.9	3306.1	3249.1	3195.4	3017.6	2019.4	806.1
12.5°	3965.3	3966.3	4015.0	4003.5	3928.1	3915.8	3868.2	3787.7	3600.6	2397.6	806.1
15°	4468.6	4536.8	4525.5	4513.1	4433.5	4416.9	4371.5	4297.1	4079.0	2674.6	766.9
17.5°	4884.1	4945.0	4927.5	4914.0	4834.5	4798.3	4748.7	4659.8	4420.1	2838.9	685.2
20°	5254.0	5312.0	5276.8	5253.0	5146.6	5102.1	5029.7	4927.5	4653.7	2899.9	590.1
22.5°	5599.2	5660.2	5615.7	5582.7	5445.3	5359.4	5257.2	5127.9	4805.6	2880.2	539.5
25°	5787.3	5867.0	5824.5	5798.6	5667.4	5567.2	5431.8	5265.5	4892.3	2769.7	406.2
26°	5828.6	5912.4	5872.0	5849.3	5716.1	5609.5	5464.9	5290.2	4899.6	2678.6	313.2
27°	5857.6	5950.7	5904.0	5875.2	5737.7	5624.0	5473.1	5291.2	4888.3	2555.7	249.1
28°	5869.0	5971.2	5914.5	5879.3	5736.6	5612.7	5452.6	5268.5	4858.3	2414.1	211.8
29°	5868.0	5979.5	5913.4	5875.2	5723.2	5585.8	5421.4	5236.5	4816.9	2266.4	191.1
30°	5847.3	5969.2	5903.0	5854.5	5691.2	5543.5	5377.1	5192.1	4770.4	2105.1	170.6
31°	5819.3	5944.4	5875.2	5815.3	5638.5	5478.3	5315.0	5132.1	4708.4	1932.5	156.1
32°	5779.1	5904.0	5827.6	5749.1	5564.0	5396.7	5239.6	5061.9	4633.0	1750.6	138.4
33°	5714.9	5825.6	5736.6	5645.7	5460.8	5303.7	5154.8	4980.2	4547.1	1561.5	119.9
34°	5598.2	5695.4	5603.4	5511.3	5346.0	5200.3	5057.7	4884.1	4446.9	1386.9	103.4
35°	5440.1	5522.8	5440.1	5362.6	5216.8	5081.4	4945.0	4775.6	4326.0	1203.0	88.9
36°	5278.9	5351.2	5274.7	5213.8	5074.2	4953.3	4826.2	4650.5	4189.6	1028.2	78.5
37°	5127.9	5193.1	5122.8	5061.9	4942.0	4818.9	4692.9	4513.1	4038.7	860.8	65.2
38°	4978.2	5036.0	4976.0	4907.8	4797.3	4672.2	4545.1	4361.2	3870.3	702.7	55.7
39°	4822.1	4869.6	4811.8	4742.5	4629.8	4505.9	4375.7	4185.4	3677.0	538.4	48.5
40°	4655.7	4700.2	4628.8	4566.8	4454.2	4327.0	4193.8	3996.3	3467.2	360.7	41.3
42.5°	4163.8	4190.6	4130.7	4045.0	3932.3	3792.7	3631.6	3410.5	2796.5	190.1	29.0
45°	3485.9	3491.0	3444.5	3288.4	3137.5	2921.6	2680.8	2349.1	1625.7	123.9	18.5
47.5°	2104.1	2091.8	2018.4	1885.0	1744.4	1516.0	1290.7	1062.4	631.5	72.4	12.5
50°	939.5	925.0	888.8	819.6	737.9	653.2	552.8	468.1	307.0	39.2	8.3
51°	681.0	668.7	641.7	589.0	529.1	469.1	399.9	342.0	229.4	32.0	7.2
52°	478.4	471.3	452.6	415.4	382.4	335.9	288.3	252.1	172.6	25.8	5.2
53°	333.8	328.7	317.3	292.5	272.8	238.8	208.8	179.8	125.1	20.7	5.2
54°	226.3	223.3	216.0	199.4	182.9	164.3	142.6	126.1	87.9	16.5	4.2
55°	151.9	149.9	143.6	135.4	126.1	114.7	100.2	87.9	62.0	13.5	3.0
57.5°	55.7	55.7	53.7	50.7	47.5	44.5	40.3	36.2	29.0	8.3	3.0
60°	24.8	23.7	23.7	22.7	21.7	20.7	19.7	17.5	14.5	5.2	3.0
61°	18.5	18.5	17.5	16.5	16.5	15.5	14.5	13.5	11.4	4.2	3.0
62°	13.5	13.5	13.5	12.5	12.5	11.4	11.4	10.3	8.3	3.0	3.0
63°	10.3	10.3	10.3	9.3	9.3	9.3	8.3	8.3	6.2	3.0	3.0
64°	7.2	7.2	7.2	7.2	7.2	7.2	6.2	6.2	5.2	2.0	3.0
65°	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.2	2.0	3.0
66°	4.2	4.2	4.2	4.2	4.2	4.2	3.0	3.0	3.0	2.0	3.0



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CANDELA DISTRIBUTION (continued):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	22.5°	45°	67.5°
72.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	3.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	2.0	3.0
77.5°	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	2.0	3.0
80°	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	2.0	3.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	2.0	3.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	2.0	3.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	2.0	3.0
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°	403.0	403.0	403.0	403.0	403.0
2.5°	371.0	259.3	206.6	187.1	180.9
5°	335.9	194.3	153.9	132.3	123.9
7.5°	282.1	160.1	115.7	96.1	89.9
10°	228.3	132.3	94.0	78.5	74.4
12.5°	195.3	114.7	87.9	81.7	81.7
15°	181.9	120.9	121.9	146.7	164.3
17.5°	187.1	189.1	295.5	359.7	371.0
20°	268.7	340.0	336.9	306.0	296.5
22.5°	311.0	224.3	169.4	139.6	134.4
25°	153.9	102.4	87.9	80.7	79.6
26°	116.7	85.7	76.5	72.4	70.2
27°	97.2	75.4	68.2	63.0	61.0
28°	86.9	67.2	58.9	53.7	51.7
29°	78.5	57.9	49.7	44.5	43.4
30°	69.2	48.5	41.3	36.2	35.2
31°	58.9	40.3	33.0	30.0	27.9
32°	49.7	33.0	26.9	23.7	21.7
33°	41.3	26.9	22.7	19.7	17.5
34°	35.2	22.7	18.5	15.5	14.5
35°	29.0	18.5	15.5	13.5	12.5
36°	24.8	16.5	12.5	10.3	9.3
37°	21.7	13.5	10.3	8.3	8.3
38°	18.5	11.4	9.3	6.2	6.2
39°	15.5	9.3	7.2	5.2	5.2
40°	13.5	8.3	6.2	4.2	3.0
42.5°	9.3	5.2	4.2	2.0	1.0
45°	6.2	4.2	2.0	1.0	0.0
47.5°	4.2	3.0	2.0	1.0	0.0
50°	3.0	3.0	2.0	0.0	0.0
51°	3.0	2.0	2.0	0.0	0.0
52°	3.0	2.0	1.0	0.0	0.0
53°	3.0	2.0	1.0	0.0	0.0
54°	3.0	2.0	1.0	0.0	0.0
55°	3.0	2.0	1.0	0.0	0.0
57.5°	3.0	2.0	1.0	0.0	0.0
60°	3.0	2.0	2.0	0.0	0.0
61°	3.0	3.0	2.0	0.0	0.0
62°	3.0	3.0	2.0	0.0	0.0
63°	3.0	3.0	2.0	0.0	0.0
64°	3.0	3.0	2.0	1.0	0.0
65°	3.0	3.0	2.0	1.0	0.0
66°	3.0	3.0	2.0	1.0	0.0

Classified

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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
72.5°	3.0	3.0	2.0	1.0	0.0
75°	3.0	3.0	2.0	1.0	0.0
77.5°	4.2	3.0	2.0	1.0	0.0
80°	4.2	3.0	2.0	1.0	0.0
82.5°	4.2	3.0	2.0	1.0	0.0
85°	4.2	3.0	2.0	1.0	0.0
87.5°	4.2	3.0	2.0	1.0	0.0
90°	0.0	0.0	0.0	0.0	0.0

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1121 Highway 74 South

Peachtree City, GA 30269

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1121 Highway 74 South

Peachtree City, GA 30269



— 0°-180° - - 45°-225° - - - 90°-270°

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Peachtree City, GA 30269

Scaled Data Report



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67.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0
70°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	3.0

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Peachtree City, GA 30269

Scaled Data Report



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1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



67.5°	3.0	3.0	2.0	1.0	0.0
70°	3.0	3.0	2.0	1.0	0.0

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(END OF REPORT)