

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: P1191649

Luminaire Tested: **LDA4A20935D010TE LAR35FL 4LAL1 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: P1191649
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26106)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A20935D010TE LAR35FL 4LAL1 30° Tilt
Description: PORTFOLIO 4" Lensed Adjustable, Self-flanged, 35° Flood Optic, at 30° tilt. --- 27.9W
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

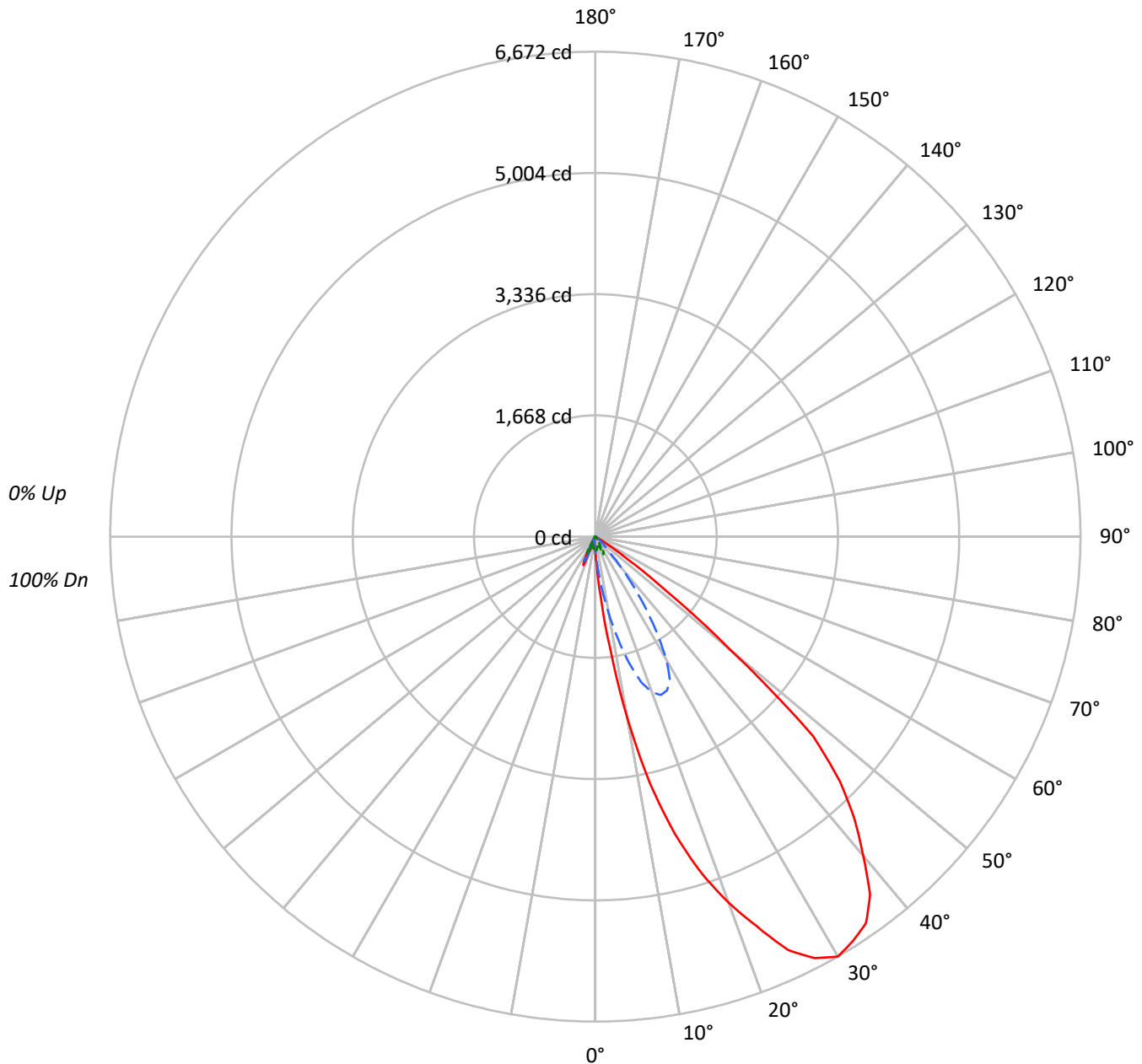
Lumens per Lamp: N/A
Luminaire Lumens: 2425.0 lumens
Efficiency: N/A
Efficacy: 84.2 lumens/watt
Spacing Criteria (0/90/45): 2.71 / 1.11 / 1.33
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	112	109	106	103	110	107	104	102	103	101	99	99	97	96	95	94	93	91		
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	83	82		
3	98	90	84	79	96	89	83	79	86	81	77	84	79	76	81	78	75	73		
4	91	82	75	70	89	81	75	70	79	73	69	77	72	68	75	70	67	65		
5	85	75	68	62	83	74	67	62	72	66	61	70	65	61	68	64	60	58		
6	79	68	61	56	78	67	60	55	66	60	55	64	59	55	63	58	54	52		
7	74	62	55	50	72	62	55	50	60	54	49	59	53	49	58	53	49	47		
8	69	57	50	45	68	57	50	45	55	49	44	54	48	44	53	48	44	42		
9	64	53	45	40	63	52	45	40	51	45	40	50	44	40	49	44	40	38		
10	60	48	41	37	59	48	41	37	47	41	36	46	40	36	45	40	36	35		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	24595	24595	24595
5°	99041	23216	10859
10°	319283	19476	6237
15°	541626	15464	4840
20°	703943	13861	14636
25°	854239	36501	51853
30°	950260	12847	13687
35°	977472	7679	6430
40°	922945	3236	2286
45°	829501	1866	628
50°	466834	1132	0
55°	115867	774	0
60°	17860	888	0
65°	4144	1051	0
70°	829	1298	0
75°	0	1716	0
80°	0	3410	0
85°	0	6793	1698



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.0	1.7
10°-20°	297.6	12.3
20°-30°	687.4	28.3
30°-40°	771.1	31.8
40°-50°	538.0	22.2
50°-60°	80.3	3.3
60°-70°	5.3	0.2
70°-80°	2.6	0.1
80°-90°	2.6	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°	1025.1	42.3
0°-40°	1796.2	74.1
0°-60°	2414.5	99.6
0°-90°	2425.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2425.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	199	199	199	199	199	
5°	800	468	188	109	88	132
15°	4242	1805	121	46	38	1212
25°	6277	2333	268	374	381	2870
35°	6492	1213	51	43	43	3993
45°	4755	183	11	6	4	3489
55°	539	24	4	2	0	708
65°	14	4	4	2	0	22
75°	0	2	4	4	0	1
85°	0	2	5	4	1	0
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°
0°	199.4	199.4	199.4	199.4	199.4	199.4	199.4	199.4	199.4	199.4	199.4
2.5°	363.2	359.5	350.1	347.7	356.1	349.0	352.4	359.5	352.4	344.2	352.4
5°	799.9	820.0	799.9	796.2	810.6	797.6	803.5	816.5	798.7	782.1	793.9
7.5°	1544.0	1557.0	1500.0	1520.2	1515.5	1519.1	1522.6	1522.6	1511.8	1482.3	1498.8
10°	2549.2	2558.6	2482.7	2508.8	2474.3	2508.8	2502.9	2476.8	2482.7	2442.3	2463.6
12.5°	3481.8	3512.8	3436.8	3461.7	3420.2	3459.4	3443.9	3436.8	3376.3	3376.3	3398.9
15°	4241.5	4311.4	4242.6	4268.7	4221.2	4275.8	4233.1	4252.0	4197.4	4129.8	4189.2
17.5°	4856.1	4925.0	4860.9	4892.9	4849.0	4891.7	4841.9	4882.2	4812.2	4763.6	4804.0
20°	5362.9	5413.9	5338.0	5383.0	5330.8	5373.6	5319.0	5372.3	5290.5	5254.9	5278.6
22.5°	5804.4	5824.5	5785.3	5861.3	5759.2	5804.4	5739.1	5793.7	5696.4	5651.2	5657.2
25°	6276.7	6321.8	6247.1	6275.4	6204.3	6235.2	6161.6	6212.6	6091.5	6027.4	6014.4
27.5°	6539.0	6603.0	6536.5	6568.7	6496.3	6522.3	6448.8	6522.3	6399.0	6336.0	6321.8
30°	6671.9	6702.7	6660.0	6681.3	6599.5	6612.5	6536.5	6616.0	6492.6	6436.9	6429.8
32.5°	6594.7	6656.4	6600.7	6627.9	6552.0	6565.0	6491.5	6576.9	6453.5	6402.4	6377.5
35°	6491.5	6554.3	6502.2	6530.6	6460.6	6470.1	6391.7	6466.6	6324.1	6261.3	6207.8
37.5°	6205.5	6264.9	6220.9	6230.4	6162.8	6155.7	6071.4	6134.3	5995.4	5942.0	5906.4
40°	5732.0	5785.3	5749.8	5770.0	5702.3	5686.8	5629.9	5688.0	5580.1	5540.9	5491.1
42.5°	5278.6	5322.5	5289.4	5321.4	5245.3	5225.2	5174.2	5247.8	5125.6	5093.4	5057.8
45°	4755.3	4782.6	4756.5	4783.7	4711.3	4679.3	4633.0	4696.0	4576.1	4546.4	4469.2
47.5°	4063.3	4033.7	4029.0	4055.1	3964.9	3898.4	3855.7	3936.4	3763.2	3705.0	3616.1
50°	2432.8	2482.7	2504.0	2486.2	2424.5	2333.1	2264.4	2362.8	2270.3	2127.8	1985.5
52.5°	1253.2	1197.5	1209.4	1215.2	1141.6	1114.4	1091.8	1114.4	1042.0	1005.2	915.0
55°	538.8	512.7	522.1	525.8	511.4	478.3	466.4	480.6	447.4	433.1	396.3
57.5°	199.4	199.4	193.5	195.8	191.1	179.3	176.8	182.7	172.0	168.5	154.2
60°	72.4	72.4	72.4	72.4	66.5	65.3	65.3	67.6	64.1	62.8	58.2
62.5°	30.8	32.0	29.7	30.8	29.7	28.5	29.7	28.5	28.5	27.4	27.4
65°	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	13.0	13.0
67.5°	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	5.9	5.9	5.9
70°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
72.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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):

	11°	12°	13°	14°	15°	17.5°	20°	22.5°	45°	67.5°	90°
0°	199.4	199.4	199.4	199.4	199.4	199.4	199.4	199.4	199.4	199.4	199.4
2.5°	341.7	340.6	345.3	340.6	332.3	327.5	333.5	321.6	275.3	229.1	194.6
5°	772.5	766.6	758.3	760.6	740.5	723.9	723.9	691.8	467.6	265.9	187.5
7.5°	1464.5	1450.2	1389.6	1433.7	1390.8	1357.6	1335.0	1269.7	756.0	304.9	173.3
10°	2418.6	2393.7	2351.0	2359.2	2289.3	2233.4	2165.8	2056.6	1087.0	339.4	155.5
12.5°	3359.6	3334.7	3220.8	3286.1	3192.4	3137.8	3023.8	2895.7	1444.2	356.1	138.9
15°	4158.3	4137.1	4012.4	4074.1	3958.9	3908.0	3760.7	3618.4	1805.1	350.1	121.1
17.5°	4778.9	4775.5	4631.8	4693.5	4566.5	4525.1	4352.9	4212.9	2097.0	323.9	109.2
20°	5257.2	5249.0	5104.2	5165.8	5027.0	4986.7	4768.4	4621.1	2282.0	288.4	105.6
22.5°	5634.7	5618.1	5462.5	5516.0	5360.5	5308.3	5067.4	4914.3	2358.1	265.9	130.6
25°	5974.1	5944.4	5767.6	5809.0	5638.2	5648.9	5286.9	5118.4	2333.1	299.0	268.2
27.5°	6273.1	6219.7	6041.7	6053.6	5853.1	5748.5	5437.6	5251.3	2219.2	333.5	249.2
30°	6384.6	6332.5	6143.8	6150.9	5942.0	5794.9	5462.5	5254.9	1946.2	208.8	90.2
32.5°	6322.9	6266.0	6069.0	6071.4	5856.5	5707.1	5376.0	5146.9	1583.1	137.7	68.8
35°	6143.8	6084.5	5888.5	5898.1	5690.5	5542.0	5218.1	4973.7	1212.8	109.2	51.0
37.5°	5841.2	5799.6	5613.3	5629.9	5453.1	5295.3	4966.5	4701.9	855.6	78.3	32.0
40°	5451.8	5419.8	5239.4	5265.6	5073.3	4927.4	4574.9	4287.6	532.9	53.4	20.1
42.5°	4996.1	4961.8	4783.7	4804.0	4640.2	4431.3	4071.7	3746.5	278.9	37.9	14.2
45°	4427.7	4387.4	4207.0	4217.7	4024.3	3779.8	3407.1	3120.0	182.7	26.1	10.7
47.5°	3534.1	3461.7	3226.7	3217.3	3059.5	2659.5	2130.1	1724.3	121.1	17.8	7.1
50°	1942.6	1867.9	1661.4	1638.8	1463.2	1201.0	887.6	690.7	70.1	11.9	5.9
52.5°	884.1	844.9	748.9	733.4	658.7	545.9	420.1	345.3	40.4	8.3	4.8
55°	383.3	369.1	328.7	326.4	291.9	252.8	201.7	170.9	23.7	5.9	3.6
57.5°	150.7	146.0	137.7	131.8	118.7	105.6	87.7	73.6	15.5	4.8	3.6
60°	56.9	55.7	51.0	52.3	47.5	45.0	39.1	33.2	9.6	3.6	3.6
62.5°	26.1	26.1	24.9	24.9	23.7	21.4	19.0	17.8	5.9	3.6	3.6
65°	13.0	13.0	11.9	11.9	11.9	10.7	9.6	9.6	3.6	3.6	3.6
67.5°	5.9	5.9	5.9	5.9	5.9	4.8	4.8	4.8	2.3	3.6	3.6
70°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	3.6	3.6
72.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	2.3	3.6	3.6
75°	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	2.3	3.6	3.6
77.5°	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	2.3	3.6	4.8
80°	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	2.3	3.6	4.8
82.5°	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	2.3	3.6	4.8
85°	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	2.3	3.6	4.8
87.5°	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	2.3	3.6	4.8
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):

	112.5°	135°	157.5°	180°
0°	199.4	199.4	199.4	199.4
2.5°	167.4	148.3	131.8	128.1
5°	137.7	109.2	91.4	87.7
7.5°	111.5	79.5	66.5	64.1
10°	91.4	64.1	52.3	49.8
12.5°	76.0	52.3	41.6	39.1
15°	65.3	46.3	37.9	37.9
17.5°	62.8	51.0	48.7	49.8
20°	82.0	92.5	110.3	111.5
22.5°	189.8	308.6	408.2	427.2
25°	341.7	373.9	364.3	381.0
27.5°	180.4	141.2	143.6	147.1
30°	78.3	86.6	91.4	96.1
32.5°	65.3	67.6	68.8	72.4
35°	42.7	42.7	41.6	42.7
37.5°	26.1	24.9	23.7	23.7
40°	16.7	15.5	14.2	14.2
42.5°	11.9	9.6	8.3	8.3
45°	8.3	5.9	4.8	3.6
47.5°	5.9	3.6	2.3	1.2
50°	4.8	3.6	1.2	0.0
52.5°	3.6	2.3	1.2	0.0
55°	3.6	2.3	0.0	0.0
57.5°	3.6	2.3	0.0	0.0
60°	3.6	2.3	0.0	0.0
62.5°	3.6	2.3	0.0	0.0
65°	3.6	2.3	1.2	0.0
67.5°	3.6	2.3	1.2	0.0
70°	3.6	2.3	1.2	0.0
72.5°	3.6	2.3	1.2	0.0
75°	3.6	3.6	1.2	0.0
77.5°	4.8	3.6	1.2	0.0
80°	4.8	3.6	1.2	0.0
82.5°	4.8	3.6	1.2	0.0
85°	4.8	3.6	1.2	1.2
87.5°	4.8	3.6	1.2	0.0
90°	0.0	0.0	0.0	0.0

Classified

Scaled Data Report

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— 0°-180° - - 45°-225° - - - 90°-270°

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(END OF REPORT)