

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: P1191559

Luminaire Tested: **LDA4A15935D010TE 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: P1191559
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: LDA4A15935D010TE 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

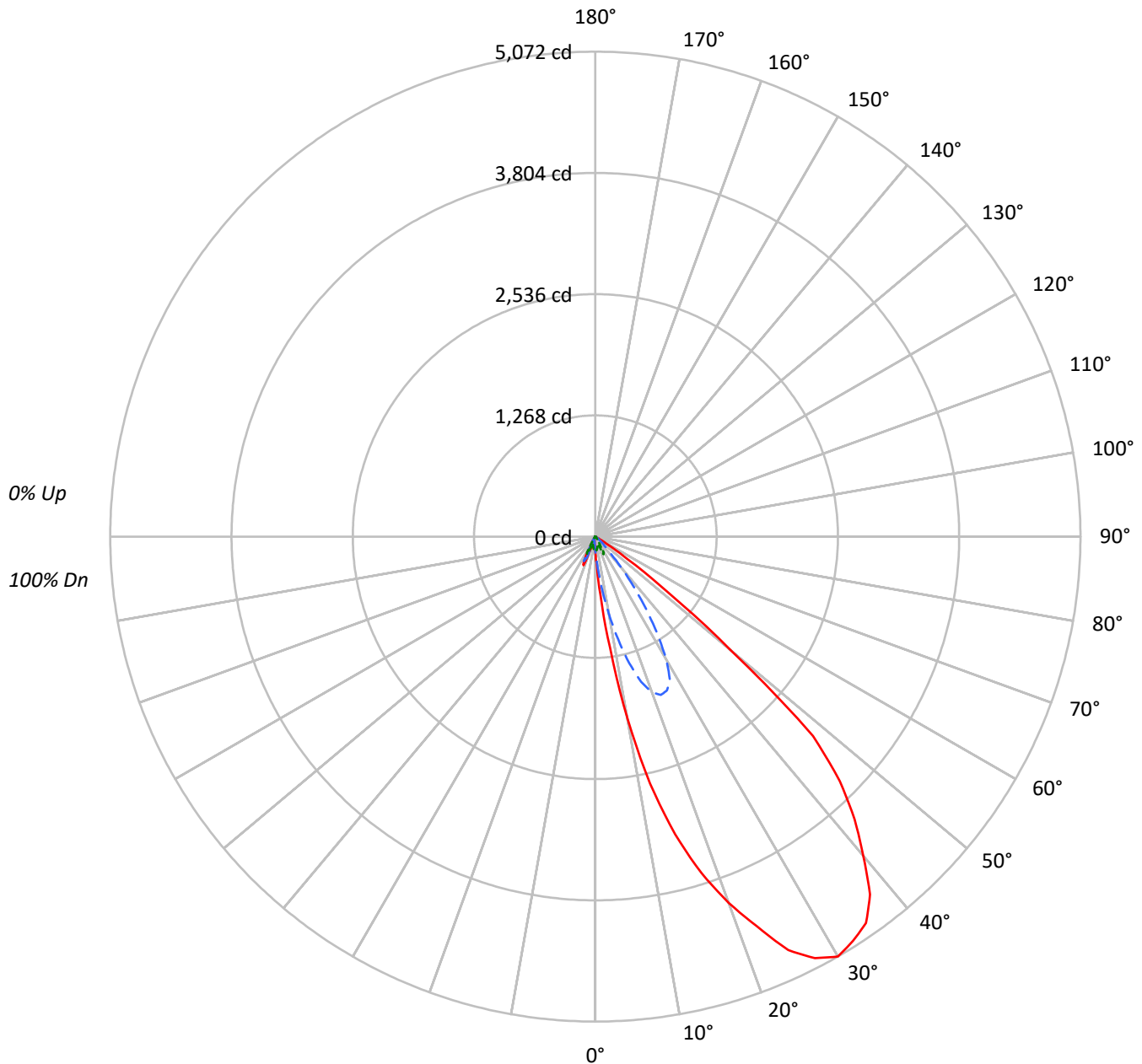
Lumens per Lamp: N/A
Luminaire Lumens: 1843.3 lumens
Efficiency: N/A
Efficacy: 90.4 lumens/watt
Spacing Criteria (0/90/45): 2.71 / 1.11 / 1.33
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 20.4
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°	18687	18687	18687
5°	75281	17644	8271
10°	242694	14804	4747
15°	411707	11748	3690
20°	535101	10540	11131
25°	649332	27750	39414
30°	722320	9771	10411
35°	743023	5827	4894
40°	701564	2464	1739
45°	630538	1430	471
50°	354846	864	0
55°	88062	581	0
60°	13593	666	0
65°	3152	788	0
70°	649	974	0
75°	0	1287	0
80°	0	2486	0
85°	0	4953	1415



TEST NUMBER: P1191559

CATALOG NUMBER: LDA4A15935D010TE LAR35FL 4LAL1 30° Tilt

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.4	1.7
10°-20°	226.2	12.3
20°-30°	522.5	28.3
30°-40°	586.1	31.8
40°-50°	409.0	22.2
50°-60°	61.0	3.3
60°-70°	4.0	0.2
70°-80°	2.0	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°	779.2	42.3
0°-40°	1365.4	74.1
0°-60°	1835.4	99.6
0°-90°	1843.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1843.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	152	152	152	152	152	
5°	608	355	142	83	67	101
15°	3224	1372	92	35	29	921
25°	4771	1774	204	284	290	2181
35°	4934	922	39	32	32	3035
45°	3615	139	8	4	3	2652
55°	410	18	3	2	0	538
65°	11	3	3	2	0	17
75°	0	2	3	3	0	0
85°	0	2	4	3	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°	151.5	151.5	151.5	151.5	151.5	151.5	151.5	151.5	151.5	151.5	151.5
2.5°	276.0	273.3	266.2	264.3	270.7	265.2	268.0	273.3	268.0	261.5	268.0
5°	608.0	623.3	608.0	605.3	616.1	606.1	610.8	620.6	607.1	594.4	603.5
7.5°	1173.7	1183.5	1140.3	1155.5	1152.0	1154.7	1157.3	1157.3	1149.3	1126.8	1139.3
10°	1937.7	1945.0	1887.1	1907.1	1880.9	1907.1	1902.6	1882.6	1887.1	1856.5	1872.7
12.5°	2646.7	2670.1	2612.5	2631.4	2599.8	2629.6	2617.9	2612.5	2566.5	2566.5	2583.6
15°	3224.1	3277.2	3225.0	3244.8	3208.8	3250.2	3217.8	3232.2	3190.6	3139.2	3184.4
17.5°	3691.4	3743.7	3694.9	3719.3	3685.9	3718.4	3680.5	3711.1	3658.0	3621.0	3651.7
20°	4076.6	4115.3	4057.6	4091.9	4052.2	4084.6	4043.2	4083.7	4021.5	3994.5	4012.5
22.5°	4412.1	4427.5	4397.7	4455.4	4377.8	4412.1	4362.6	4404.0	4330.0	4295.7	4300.2
25°	4771.1	4805.5	4748.6	4770.3	4716.1	4739.6	4683.7	4722.4	4630.4	4581.7	4571.7
27.5°	4970.5	5019.3	4968.7	4993.1	4938.0	4957.9	4902.0	4957.9	4864.1	4816.2	4805.5
30°	5071.5	5095.0	5062.5	5078.7	5016.6	5026.4	4968.7	5029.1	4935.3	4892.9	4887.6
32.5°	5012.9	5059.8	5017.4	5038.1	4980.4	4990.4	4934.5	4999.4	4905.6	4866.8	4847.9
35°	4934.5	4982.2	4942.5	4964.2	4911.0	4918.2	4858.6	4915.5	4807.2	4759.4	4718.9
37.5°	4717.0	4762.1	4728.7	4735.9	4684.5	4679.2	4615.1	4663.0	4557.4	4516.8	4489.6
40°	4357.1	4397.7	4370.6	4386.0	4334.6	4322.9	4279.5	4323.7	4241.6	4211.9	4174.0
42.5°	4012.5	4045.9	4020.6	4045.0	3987.3	3971.9	3933.1	3989.1	3896.1	3871.8	3844.6
45°	3614.7	3635.5	3615.6	3636.3	3581.3	3556.9	3521.7	3569.6	3478.5	3455.9	3397.2
47.5°	3088.8	3066.1	3062.6	3082.4	3013.9	2963.3	2930.9	2992.2	2860.5	2816.3	2748.7
50°	1849.2	1887.1	1903.4	1889.9	1843.0	1773.6	1721.2	1796.1	1725.7	1617.4	1509.1
52.5°	952.6	910.2	919.2	923.7	867.8	847.1	829.9	847.1	792.0	764.0	695.5
55°	409.5	389.7	397.0	399.7	388.8	363.5	354.5	365.3	340.1	329.3	301.4
57.5°	151.5	151.5	147.0	148.9	145.2	136.2	134.5	139.0	130.8	128.0	117.3
60°	55.1	55.1	55.1	55.1	50.5	49.6	49.6	51.4	48.7	47.9	44.2
62.5°	23.5	24.4	22.5	23.5	22.5	21.7	22.5	21.7	21.7	20.7	20.7
65°	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.0	10.0
67.5°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	4.5	4.5	4.5
70°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
72.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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°	151.5	151.5	151.5	151.5	151.5	151.5	151.5	151.5	151.5	151.5	151.5
2.5°	259.8	259.0	262.5	259.0	252.5	249.0	253.5	244.5	209.3	174.1	148.0
5°	587.3	582.7	576.4	578.2	562.9	550.2	550.2	526.0	355.4	202.1	142.5
7.5°	1113.1	1102.4	1056.4	1089.7	1057.2	1032.0	1014.8	965.2	574.6	231.8	131.7
10°	1838.5	1819.5	1787.1	1793.3	1740.1	1697.7	1646.3	1563.3	826.4	258.0	118.2
12.5°	2553.8	2534.9	2448.3	2497.9	2426.6	2385.1	2298.6	2201.1	1097.9	270.7	105.5
15°	3160.9	3144.7	3049.9	3096.8	3009.4	2970.6	2858.7	2750.5	1372.1	266.2	92.0
17.5°	3632.7	3630.0	3520.9	3567.8	3471.3	3439.6	3308.9	3202.4	1594.0	246.3	83.0
20°	3996.3	3989.9	3879.8	3926.7	3821.2	3790.6	3624.6	3512.7	1734.7	219.3	80.3
22.5°	4283.1	4270.5	4152.3	4192.9	4074.7	4035.0	3851.9	3735.6	1792.5	202.1	99.3
25°	4541.1	4518.6	4384.1	4415.7	4285.8	4294.0	4018.8	3890.7	1773.6	227.3	203.9
27.5°	4768.4	4727.9	4592.6	4601.6	4449.1	4369.8	4133.3	3991.8	1687.0	253.5	189.4
30°	4853.2	4813.5	4670.1	4675.5	4516.8	4405.0	4152.3	3994.5	1479.4	158.7	68.6
32.5°	4806.3	4763.1	4613.3	4615.1	4451.9	4338.1	4086.4	3912.4	1203.4	104.6	52.4
35°	4670.1	4625.1	4476.1	4483.4	4325.5	4212.7	3966.4	3780.7	922.0	83.0	38.7
37.5°	4440.1	4408.5	4266.8	4279.5	4145.1	4025.1	3775.2	3574.1	650.5	59.6	24.4
40°	4144.2	4119.8	3982.8	4002.6	3856.4	3745.5	3477.6	3259.2	405.0	40.6	15.3
42.5°	3797.7	3771.7	3636.3	3651.7	3527.2	3368.5	3095.1	2848.0	212.0	28.9	10.8
45°	3365.7	3335.1	3197.9	3206.1	3058.9	2873.2	2590.0	2371.6	139.0	19.9	8.2
47.5°	2686.4	2631.4	2452.8	2445.6	2325.6	2021.6	1619.2	1310.7	92.0	13.5	5.5
50°	1476.7	1419.8	1262.9	1245.8	1112.3	913.0	674.7	525.0	53.2	9.0	4.5
52.5°	672.0	642.3	569.2	557.5	500.6	415.0	319.4	262.5	30.7	6.3	3.5
55°	291.4	280.5	249.8	248.0	221.9	192.1	153.4	130.0	18.0	4.5	2.7
57.5°	114.5	111.0	104.6	100.1	90.3	80.3	66.8	55.9	11.7	3.5	2.7
60°	43.4	42.4	38.7	39.7	36.1	34.2	29.7	25.2	7.2	2.7	2.7
62.5°	19.9	19.9	19.0	19.0	18.0	16.2	14.5	13.5	4.5	2.7	2.7
65°	10.0	10.0	9.0	9.0	9.0	8.2	7.2	7.2	2.7	2.7	2.7
67.5°	4.5	4.5	4.5	4.5	4.5	3.5	3.5	3.5	1.8	2.7	2.7
70°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.7	2.7
72.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.8	2.7	2.7
75°	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.8	2.7	2.7
77.5°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.8	2.7	3.5
80°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.8	2.7	3.5
82.5°	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.8	2.7	3.5
85°	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.8	2.7	3.5
87.5°	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.8	2.7	3.5
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°	151.5	151.5	151.5	151.5
2.5°	127.2	112.8	100.1	97.4
5°	104.6	83.0	69.4	66.8
7.5°	84.8	60.4	50.5	48.7
10°	69.4	48.7	39.7	37.9
12.5°	57.7	39.7	31.6	29.7
15°	49.6	35.2	28.9	28.9
17.5°	47.9	38.7	37.0	37.9
20°	62.2	70.4	83.9	84.8
22.5°	144.3	234.5	310.4	324.8
25°	259.8	284.2	277.0	289.6
27.5°	137.2	107.3	109.1	111.8
30°	59.6	65.9	69.4	73.1
32.5°	49.6	51.4	52.4	55.1
35°	32.5	32.5	31.6	32.5
37.5°	19.9	19.0	18.0	18.0
40°	12.7	11.7	10.8	10.8
42.5°	9.0	7.2	6.3	6.3
45°	6.3	4.5	3.5	2.7
47.5°	4.5	2.7	1.8	1.0
50°	3.5	2.7	1.0	0.0
52.5°	2.7	1.8	1.0	0.0
55°	2.7	1.8	0.0	0.0
57.5°	2.7	1.8	0.0	0.0
60°	2.7	1.8	0.0	0.0
62.5°	2.7	1.8	0.0	0.0
65°	2.7	1.8	1.0	0.0
67.5°	2.7	1.8	1.0	0.0
70°	2.7	1.8	1.0	0.0
72.5°	2.7	1.8	1.0	0.0
75°	2.7	2.7	1.0	0.0
77.5°	3.5	2.7	1.0	0.0
80°	3.5	2.7	1.0	0.0
82.5°	3.5	2.7	1.0	0.0
85°	3.5	2.7	1.0	1.0
87.5°	3.5	2.7	1.0	0.0
90°	0.0	0.0	0.0	0.0

Classified

Scaled Data Report

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Scaled Data Report





— 0°-180° - - 45°-225° - - - 90°-270°

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Peachtree City, GA 30269

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(END OF REPORT)