

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: P1191553

Luminaire Tested: **LDA4A15935D010TE LAR25NF 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: P1191553
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26105)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A15935D010TE LAR25NF 4LAL1 30° Tilt
Description: PORTFOLIO 4" Lensed Adjustable, Self-flanged, 25° Narrow Flood
Optic, at 30° tilt. --- 27.9W
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

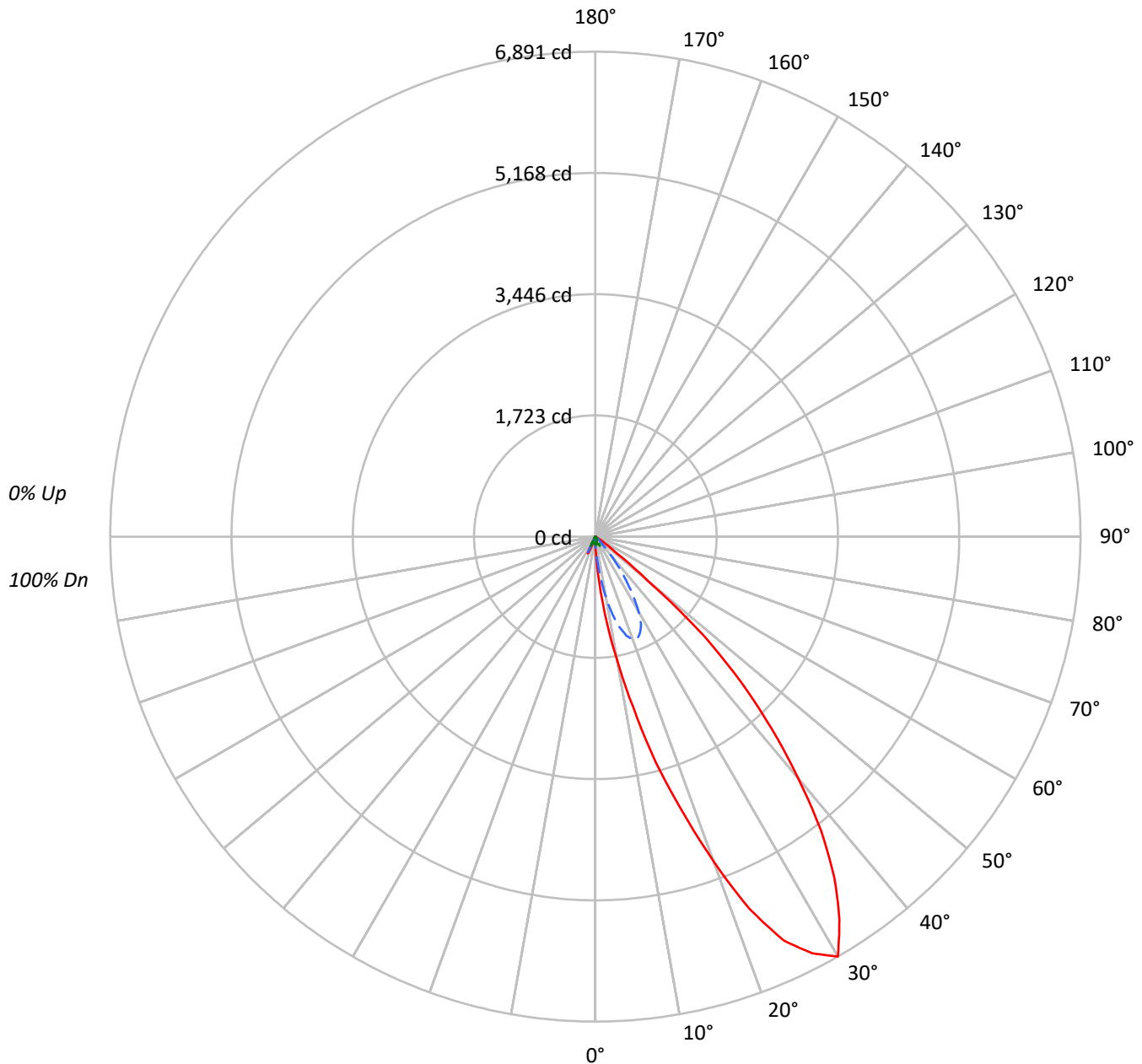
Lumens per Lamp: N/A
Luminaire Lumens: 1793.7 lumens
Efficiency: N/A
Efficacy: 87.9 lumens/watt
Spacing Criteria (0/90/45): 2.53 / 1.09 / 1.29
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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	104	110	107	104	102	103	101	99	99	98	96	96	94	93	91		
2	106	100	95	91	103	98	94	90	95	91	88	92	89	86	89	86	84	83		
3	99	91	85	81	97	90	84	80	87	82	79	84	81	77	82	79	76	74		
4	92	83	77	72	90	82	76	71	80	74	70	78	73	69	76	72	69	67		
5	86	76	69	64	84	75	69	64	73	67	63	71	66	62	70	65	62	60		
6	80	70	63	57	79	69	62	57	67	61	57	66	60	56	64	60	56	54		
7	75	64	57	52	74	63	56	51	62	56	51	61	55	51	59	54	51	49		
8	70	59	52	47	69	58	51	47	57	51	46	56	50	46	55	50	46	44		
9	66	54	47	42	64	54	47	42	53	46	42	52	46	42	51	45	42	40		
10	62	50	43	38	60	50	43	38	49	42	38	48	42	38	47	42	38	36		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	16467	16467	16467
5°	84654	15291	7144
10°	223143	12763	3720
15°	424694	10024	2873
20°	645072	8283	7692
25°	861942	19761	35589
30°	981424	7463	7193
35°	891432	4216	3268
40°	722013	1884	1320
45°	510926	1099	314
50°	186423	672	0
55°	38794	581	0
60°	9350	666	0
65°	2919	788	0
70°	974	974	0
75°	477	1287	0
80°	0	1918	0
85°	0	3821	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.2	1.7
10°-20°	225.6	12.6
20°-30°	572.2	31.9
30°-40°	612.4	34.1
40°-50°	313.0	17.5
50°-60°	32.7	1.8
60°-70°	3.8	0.2
70°-80°	2.1	0.1
80°-90°	1.8	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°	828.0	46.2
0°-40°	1440.4	80.3
0°-60°	1786.0	99.6
0°-90°	1793.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1793.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	134	134	134	134	134	
5°	684	372	124	71	58	100
15°	3326	1337	78	28	22	983
25°	6333	1506	145	244	262	2878
35°	5920	763	28	22	22	3635
45°	2929	102	6	4	2	2186
55°	180	16	3	2	0	245
65°	10	4	3	2	0	13
75°	1	2	3	3	0	1
85°	0	2	3	3	0	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°	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5
2.5°	269.7	272.5	252.5	259.0	263.5	254.3	252.5	252.5	262.5	257.0	266.0
5°	683.7	681.0	646.8	656.7	664.0	646.8	654.8	642.3	657.5	647.7	657.5
7.5°	1194.3	1225.9	1182.5	1192.5	1198.8	1180.8	1185.3	1167.3	1184.3	1172.6	1180.8
10°	1781.6	1814.1	1763.5	1771.6	1776.1	1759.0	1759.9	1736.5	1751.7	1739.2	1744.5
12.5°	2483.3	2496.0	2471.6	2477.9	2480.6	2458.1	2415.7	2420.2	2435.5	2413.9	2419.2
15°	3325.8	3316.8	3288.0	3308.7	3288.0	3277.1	3213.1	3209.5	3218.5	3194.2	3155.3
17.5°	4068.3	4136.7	4104.3	4116.0	4090.8	4090.8	4008.7	3995.2	3996.0	3931.1	3923.9
20°	4914.4	5001.8	4922.5	4926.0	4892.7	4891.8	4791.7	4763.7	4752.0	4678.0	4657.2
22.5°	5729.7	5755.1	5754.2	5738.9	5660.3	5705.5	5580.0	5535.8	5499.8	5415.8	5374.4
25°	6333.3	6412.7	6358.5	6319.8	6251.2	6308.1	6167.3	6109.5	6055.4	5985.2	5931.0
27.5°	6674.2	6748.2	6735.6	6677.9	6607.5	6662.5	6508.2	6433.4	6356.7	6305.3	6237.7
30°	6890.7	7003.5	6966.6	6841.1	6738.3	6756.3	6583.1	6483.0	6398.2	6345.0	6259.2
32.5°	6451.4	6567.8	6556.9	6465.8	6412.7	6456.8	6306.2	6207.0	6125.7	6083.5	5987.7
35°	5920.1	6056.3	6026.6	5950.8	5912.1	5963.5	5816.3	5733.4	5651.3	5614.4	5509.7
37.5°	5269.8	5397.8	5368.1	5296.0	5258.1	5296.0	5155.2	5078.5	5001.0	4962.1	4891.0
40°	4484.1	4596.8	4565.2	4498.5	4466.9	4494.0	4372.2	4305.4	4239.6	4210.8	4116.0
42.5°	3716.5	3806.6	3777.8	3720.0	3695.7	3713.7	3613.6	3554.1	3496.4	3472.0	3416.1
45°	2929.0	3018.3	2990.3	2940.7	2918.2	2928.0	2844.1	2791.0	2741.3	2718.8	2668.2
47.5°	2101.8	2201.9	2167.6	2125.2	2101.8	2097.3	2023.2	1975.5	1980.0	1903.4	1856.5
50°	971.5	1056.3	1022.0	999.4	976.9	964.2	938.2	884.0	899.3	829.9	802.8
52.5°	352.6	373.5	365.3	358.1	350.9	348.1	339.1	325.6	327.4	310.4	302.2
55°	180.4	190.4	187.6	183.1	183.1	180.4	175.9	170.5	166.9	164.2	161.5
57.5°	83.0	88.4	86.6	84.8	84.8	83.0	81.1	78.5	80.3	75.8	74.9
60°	37.9	40.6	39.7	38.7	38.7	38.7	37.9	37.0	37.0	36.1	35.2
62.5°	18.0	19.9	19.0	19.0	19.0	19.0	18.0	18.0	18.0	18.0	17.2
65°	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	10.0	9.0	9.0
67.5°	5.5	5.5	5.5	5.5	4.5	5.5	5.5	4.5	4.5	4.5	4.5
70°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
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°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
77.5°	0.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0
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	1.0	0.0	1.0	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°	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5
2.5°	245.3	251.7	258.0	256.2	247.2	246.3	242.6	244.5	190.4	154.2	129.0
5°	622.4	630.5	638.6	634.1	611.6	606.1	588.1	584.6	371.6	182.2	123.5
7.5°	1137.5	1142.0	1148.3	1142.9	1109.5	1094.2	1056.3	1019.3	625.1	220.1	114.5
10°	1695.8	1694.0	1696.8	1689.5	1648.1	1618.2	1559.6	1533.4	885.8	252.5	101.9
12.5°	2347.1	2339.9	2300.2	2319.1	2260.5	2200.1	2103.6	2022.4	1132.1	270.5	90.1
15°	3107.6	3085.9	3071.5	3049.8	2977.6	2880.3	2733.1	2643.0	1336.8	268.8	78.5
17.5°	3863.5	3828.3	3765.1	3773.3	3689.3	3553.1	3359.2	3205.0	1478.5	246.3	69.4
20°	4578.8	4526.5	4447.1	4440.8	4339.8	4160.2	3915.8	3724.5	1556.0	209.3	63.1
22.5°	5268.0	5186.7	5080.4	5047.0	4917.0	4662.7	4343.3	4110.7	1563.3	175.0	75.8
25°	5811.0	5709.0	5590.9	5533.1	5389.8	5065.0	4667.2	4381.2	1505.5	173.2	145.2
27.5°	6114.0	5998.7	5880.4	5802.0	5656.8	5288.7	4838.6	4508.5	1406.3	185.9	138.0
30°	6130.4	6000.4	5877.7	5778.6	5634.2	5240.9	4762.8	4419.1	1227.7	117.3	52.4
32.5°	5860.7	5721.7	5599.0	5487.2	5344.7	4948.6	4479.6	4151.2	998.6	82.1	37.0
35°	5388.8	5245.4	5128.1	5010.0	4876.5	4504.0	4073.6	3767.9	763.1	64.9	28.0
37.5°	4746.6	4614.0	4510.2	4429.9	4285.6	3988.9	3595.5	3271.8	539.5	46.0	17.2
40°	4027.6	3915.8	3831.0	3761.6	3628.1	3364.6	2967.7	2694.4	327.4	32.5	11.7
42.5°	3304.2	3199.5	3124.6	3058.8	2935.2	2702.6	2376.0	2101.8	157.0	22.5	8.2
45°	2569.9	2476.1	2413.0	2353.5	2242.5	2013.4	1754.5	1556.0	101.9	16.2	6.3
47.5°	1755.4	1706.7	1603.0	1538.0	1424.3	1249.4	1006.6	788.5	67.6	11.7	4.5
50°	729.8	704.5	636.0	591.7	526.8	437.5	317.5	266.0	41.5	8.2	3.5
52.5°	283.2	277.0	259.8	249.8	233.6	210.1	175.0	156.0	25.2	6.3	3.5
55°	152.5	150.7	141.7	136.2	127.2	115.5	94.8	83.0	16.2	4.5	2.7
57.5°	70.4	69.4	64.9	64.9	58.6	54.1	45.1	40.6	10.0	3.5	2.7
60°	33.4	33.4	31.6	31.6	28.9	27.0	22.5	20.7	6.3	2.7	2.7
62.5°	16.2	16.2	16.2	16.2	15.3	14.5	12.7	11.7	4.5	2.7	2.7
65°	9.0	9.0	9.0	9.0	8.2	8.2	7.2	6.3	3.5	2.7	2.7
67.5°	4.5	4.5	4.5	4.5	4.5	4.5	3.5	3.5	2.7	2.7	2.7
70°	2.7	2.7	2.7	2.7	2.7	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°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.8	2.7	2.7
77.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.8	2.7	2.7
80°	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.8	2.7	2.7
82.5°	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.8	2.7	2.7
85°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.8	2.7	2.7
87.5°	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.8	2.7	2.7
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°	133.5	133.5	133.5	133.5
2.5°	111.0	96.5	89.3	87.5
5°	91.1	71.3	61.4	57.7
7.5°	73.9	51.4	43.4	39.7
10°	58.6	40.6	32.5	29.7
12.5°	48.7	32.5	26.2	24.4
15°	41.5	28.0	23.5	22.5
17.5°	37.9	29.7	28.0	28.9
20°	46.0	48.7	56.9	58.6
22.5°	97.4	168.7	229.1	242.6
25°	202.9	243.5	252.5	261.5
27.5°	112.8	87.5	85.6	89.3
30°	46.0	46.9	48.7	50.5
32.5°	34.2	34.2	33.4	34.2
35°	23.5	21.7	20.7	21.7
37.5°	14.5	13.5	12.7	12.7
40°	10.0	9.0	8.2	8.2
42.5°	7.2	5.5	4.5	4.5
45°	5.5	3.5	2.7	1.8
47.5°	4.5	2.7	1.0	1.0
50°	3.5	1.8	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	1.0	0.0
62.5°	2.7	1.8	1.0	1.0
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°	3.5	1.8	1.0	0.0
75°	3.5	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	0.0
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



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— 0°-180° - - 45°-225° - - - 90°-270°

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(END OF REPORT)