

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: P1191895

Luminaire Tested: **LDA4A35930D010TE 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: P1191895
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: LDA4A35930D010TE 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 / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

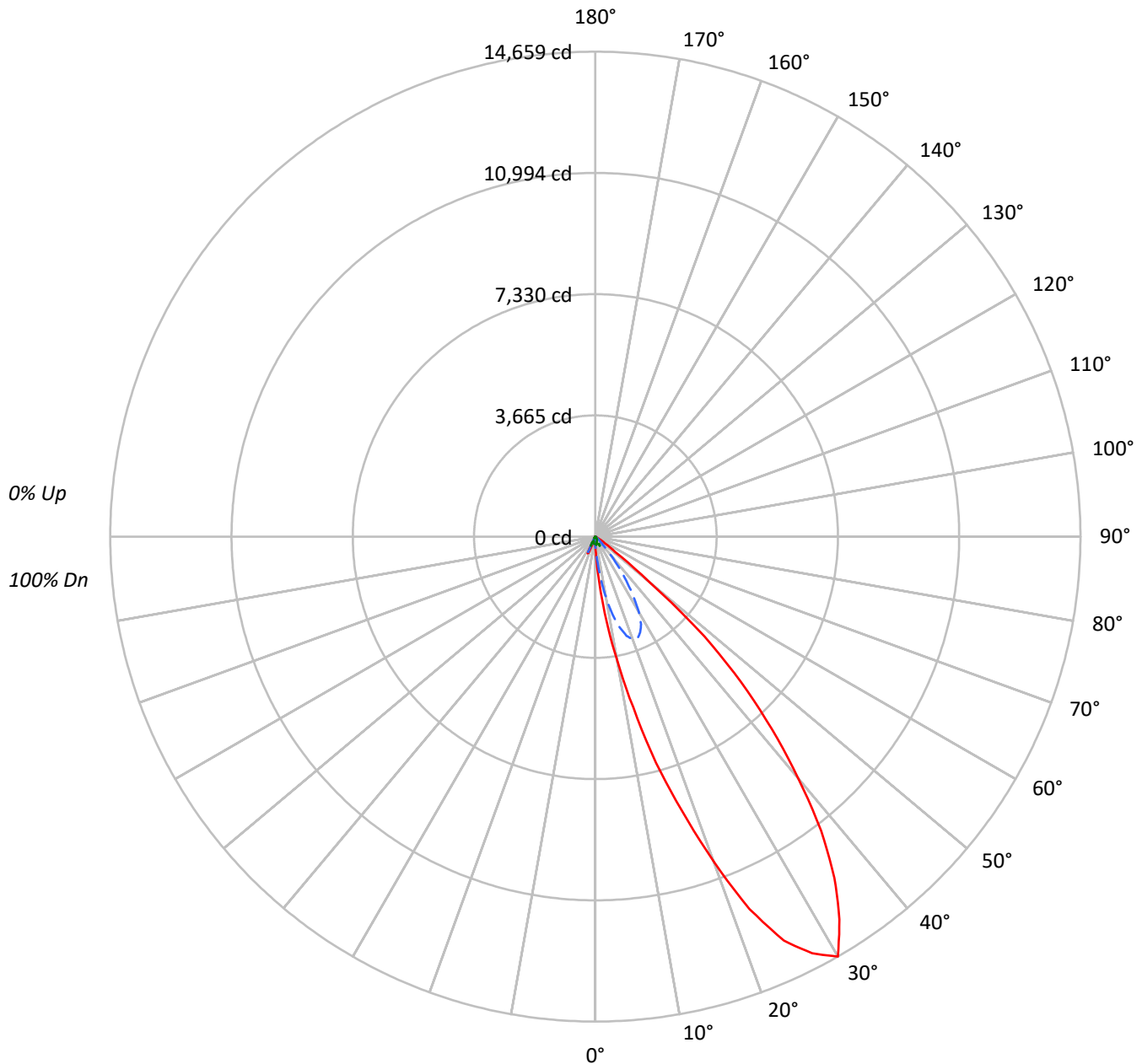
Lumens per Lamp: N/A
Luminaire Lumens: 3815.7 lumens
Efficiency: N/A
Efficacy: 81.0 lumens/watt
Spacing Criteria (0/90/45): 2.53 / 1.09 / 1.29
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 47.1
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°	35042	35042	35042
5°	180092	32564	15205
10°	474692	27154	7928
15°	903480	21325	6117
20°	1372275	17628	16381
25°	1833646	42040	75738
30°	2087827	15866	15297
35°	1896384	8959	6942
40°	1535967	4025	2786
45°	1086900	2337	663
50°	396602	1478	0
55°	82535	1226	0
60°	19883	1406	0
65°	6158	1664	0
70°	2056	2056	0
75°	953	2716	0
80°	0	4049	0
85°	0	8067	0

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Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.3	1.7
10°-20°	479.9	12.6
20°-30°	1217.2	31.9
30°-40°	1302.7	34.1
40°-50°	665.9	17.5
50°-60°	69.5	1.8
60°-70°	8.0	0.2
70°-80°	4.4	0.1
80°-90°	3.9	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°	1761.4	46.2
0°-40°	3064.1	80.3
0°-60°	3799.5	99.6
0°-90°	3815.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3815.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	284	284	284	284	284	
5°	1454	790	263	152	123	212
15°	7075	2844	167	60	48	2090
25°	13473	3203	309	518	556	6122
35°	12594	1623	60	46	46	7732
45°	6231	217	13	8	4	4650
55°	384	34	6	4	0	521
65°	21	8	6	4	0	28
75°	2	4	6	6	0	2
85°	0	4	6	6	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°	284.1	284.1	284.1	284.1	284.1	284.1	284.1	284.1	284.1	284.1	284.1
2.5°	573.8	579.6	537.4	550.8	560.3	541.1	537.4	537.4	558.5	546.9	566.2
5°	1454.5	1448.8	1375.8	1396.9	1412.3	1375.8	1393.2	1366.3	1398.9	1377.8	1398.9
7.5°	2540.7	2607.9	2515.7	2536.9	2550.3	2511.9	2521.6	2483.1	2519.6	2494.6	2511.9
10°	3790.0	3859.0	3751.5	3768.9	3778.5	3742.0	3743.8	3694.0	3726.7	3699.7	3711.3
12.5°	5282.9	5309.7	5258.0	5271.4	5277.2	5229.2	5139.0	5148.6	5181.2	5135.2	5146.7
15°	7075.2	7056.1	6994.6	7038.8	6994.6	6971.6	6835.3	6827.6	6846.8	6795.1	6712.5
17.5°	8654.5	8800.4	8731.2	8756.2	8702.4	8702.4	8527.9	8499.1	8500.9	8362.8	8347.5
20°	10454.5	10640.7	10471.7	10479.4	10408.4	10406.5	10193.5	10134.0	10109.2	9951.7	9907.5
22.5°	12189.2	12243.0	12241.0	12208.5	12041.5	12137.5	11870.8	11776.7	11699.9	11521.5	11433.2
25°	13473.1	13641.9	13526.7	13444.3	13298.4	13419.3	13119.9	12997.1	12881.9	12732.3	12617.2
27.5°	14198.4	14355.7	14328.9	14206.1	14056.4	14173.5	13845.3	13686.0	13523.0	13413.6	13269.7
30°	14658.9	14898.8	14820.2	14553.4	14334.6	14373.0	14004.6	13791.5	13611.1	13498.0	13315.6
32.5°	13724.5	13971.9	13949.0	13755.0	13641.9	13735.9	13415.5	13204.4	13031.7	12941.5	12738.0
35°	12594.1	12883.9	12820.6	12659.4	12576.9	12686.3	12373.5	12196.9	12022.4	11943.6	11721.0
37.5°	11210.6	11483.0	11419.7	11266.2	11185.6	11266.2	10966.9	10803.7	10638.7	10556.3	10404.7
40°	9539.2	9779.0	9711.9	9569.8	9502.8	9560.3	9301.1	9159.2	9019.2	8957.7	8756.2
42.5°	7906.2	8098.0	8036.7	7913.8	7862.0	7900.4	7687.4	7560.8	7438.0	7386.1	7267.1
45°	6230.9	6420.9	6361.4	6255.8	6207.8	6228.9	6050.5	5937.3	5831.7	5783.8	5676.3
47.5°	4471.2	4684.2	4611.2	4521.1	4471.2	4461.6	4304.3	4202.6	4212.0	4049.0	3949.2
50°	2066.8	2247.1	2174.2	2126.1	2078.2	2051.4	1995.8	1880.5	1913.2	1765.4	1707.8
52.5°	750.3	794.5	777.1	761.8	746.5	740.7	721.5	692.7	696.7	660.2	642.9
55°	383.8	404.9	399.2	389.5	389.5	383.8	374.2	362.7	355.0	349.3	343.4
57.5°	176.6	188.1	184.1	180.4	180.4	176.6	172.7	167.0	170.7	161.2	159.3
60°	80.6	86.3	84.4	82.6	82.6	82.6	80.6	78.7	78.7	76.7	74.9
62.5°	38.4	42.2	40.2	40.2	40.2	40.2	38.4	38.4	38.4	38.4	36.5
65°	21.1	21.1	21.1	21.1	21.1	21.1	21.1	19.1	21.1	19.1	19.1
67.5°	11.5	11.5	11.5	11.5	9.6	11.5	11.5	9.6	9.6	9.6	9.6
70°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
72.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
75°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
77.5°	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0
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	2.0	0.0	2.0	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°	284.1	284.1	284.1	284.1	284.1	284.1	284.1	284.1	284.1	284.1	284.1
2.5°	522.0	535.4	548.8	545.1	525.8	523.8	516.1	520.0	404.9	328.2	274.4
5°	1324.1	1341.3	1358.7	1349.0	1301.1	1289.5	1251.2	1243.5	790.5	387.6	263.0
7.5°	2419.8	2429.3	2442.9	2431.3	2360.3	2327.8	2247.1	2168.5	1329.9	468.2	243.7
10°	3607.6	3603.8	3609.6	3594.2	3505.9	3442.6	3317.8	3262.2	1884.4	537.4	216.8
12.5°	4993.1	4977.7	4893.3	4933.7	4808.9	4680.4	4475.0	4302.3	2408.2	575.7	191.8
15°	6610.8	6564.8	6534.1	6488.0	6334.4	6127.2	5814.5	5622.5	2843.9	571.9	167.0
17.5°	8218.9	8144.1	8009.7	8027.0	7848.6	7558.8	7146.2	6818.0	3145.1	523.8	147.8
20°	9740.7	9629.3	9460.4	9447.0	9232.1	8850.3	8330.2	7923.3	3310.1	445.2	134.3
22.5°	11206.8	11034.0	10807.6	10736.6	10460.3	9919.1	9239.8	8744.8	3325.5	372.2	161.2
25°	12361.9	12145.2	11893.7	11770.9	11465.9	10774.9	9928.8	9320.4	3202.7	368.4	308.9
27.5°	13006.7	12761.1	12509.7	12342.7	12033.8	11250.8	10293.3	9590.9	2991.7	395.3	293.6
30°	13041.2	12765.0	12504.0	12292.9	11985.9	11149.1	10132.1	9401.0	2611.7	249.4	111.4
32.5°	12467.5	12172.0	11911.0	11673.1	11369.9	10527.5	9529.6	8831.1	2124.3	174.7	78.7
35°	11463.9	11158.7	10909.3	10658.0	10373.9	9581.4	8666.0	8015.6	1623.4	138.2	59.5
37.5°	10097.6	9815.5	9594.8	9424.0	9117.0	8485.6	7648.9	6960.1	1147.5	97.8	36.5
40°	8568.2	8330.2	8149.8	8002.0	7718.1	7157.7	6313.3	5731.9	696.7	69.0	25.0
42.5°	7029.1	6806.5	6647.3	6507.3	6244.3	5749.3	5054.6	4471.2	333.9	47.9	17.3
45°	5467.2	5267.5	5133.2	5006.5	4770.5	4283.2	3732.4	3310.1	216.8	34.5	13.4
47.5°	3734.3	3630.7	3410.1	3271.9	3030.0	2657.8	2141.5	1677.2	143.9	25.0	9.6
50°	1552.4	1498.7	1352.9	1258.9	1120.7	930.7	675.4	566.2	88.3	17.3	7.7
52.5°	602.6	589.1	552.6	531.5	497.0	447.1	372.2	332.0	53.8	13.4	7.7
55°	324.3	320.5	301.2	289.8	270.6	245.6	201.5	176.6	34.5	9.6	5.7
57.5°	149.6	147.8	138.2	138.2	124.8	115.1	96.0	86.3	21.1	7.7	5.7
60°	71.0	71.0	67.2	67.2	61.3	57.6	47.9	44.2	13.4	5.7	5.7
62.5°	34.5	34.5	34.5	34.5	32.5	30.7	26.8	25.0	9.6	5.7	5.7
65°	19.1	19.1	19.1	19.1	17.3	17.3	15.4	13.4	7.7	5.7	5.7
67.5°	9.6	9.6	9.6	9.6	9.6	9.6	7.7	7.7	5.7	5.7	5.7
70°	5.7	5.7	5.7	5.7	5.7	3.8	3.8	3.8	3.8	5.7	5.7
72.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.8	5.7	5.7
75°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.8	5.7	5.7
77.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.8	5.7	5.7
80°	0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	3.8	5.7	5.7
82.5°	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.8	5.7	5.7
85°	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	3.8	5.7	5.7
87.5°	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	3.8	5.7	5.7
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°	284.1	284.1	284.1	284.1
2.5°	236.0	205.4	190.0	186.1
5°	193.8	151.6	130.5	122.8
7.5°	157.3	109.4	92.1	84.4
10°	124.8	86.3	69.0	63.3
12.5°	103.7	69.0	55.6	51.8
15°	88.3	59.5	49.9	47.9
17.5°	80.6	63.3	59.5	61.3
20°	97.8	103.7	120.9	124.8
22.5°	207.2	358.8	487.3	516.1
25°	431.7	518.1	537.4	556.5
27.5°	239.9	186.1	182.3	190.0
30°	97.8	99.8	103.7	107.4
32.5°	72.9	72.9	71.0	72.9
35°	49.9	46.1	44.2	46.1
37.5°	30.7	28.8	26.8	26.8
40°	21.1	19.1	17.3	17.3
42.5°	15.4	11.5	9.6	9.6
45°	11.5	7.7	5.7	3.8
47.5°	9.6	5.7	2.0	2.0
50°	7.7	3.8	2.0	0.0
52.5°	5.7	3.8	2.0	0.0
55°	5.7	3.8	0.0	0.0
57.5°	5.7	3.8	0.0	0.0
60°	5.7	3.8	2.0	0.0
62.5°	5.7	3.8	2.0	2.0
65°	5.7	3.8	2.0	0.0
67.5°	5.7	3.8	2.0	0.0
70°	5.7	3.8	2.0	0.0
72.5°	7.7	3.8	2.0	0.0
75°	7.7	5.7	2.0	0.0
77.5°	7.7	5.7	2.0	0.0
80°	7.7	5.7	2.0	0.0
82.5°	7.7	5.7	2.0	0.0
85°	7.7	5.7	2.0	0.0
87.5°	7.7	5.7	2.0	0.0
90°	0.0	0.0	0.0	0.0

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— 0°-180° - - 45°-225° - - - 90°-270°

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