

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: P1212824

Luminaire Tested: **LDA4A35950D010TE 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: P1212824
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: LDA4A35950D010TE 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 / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

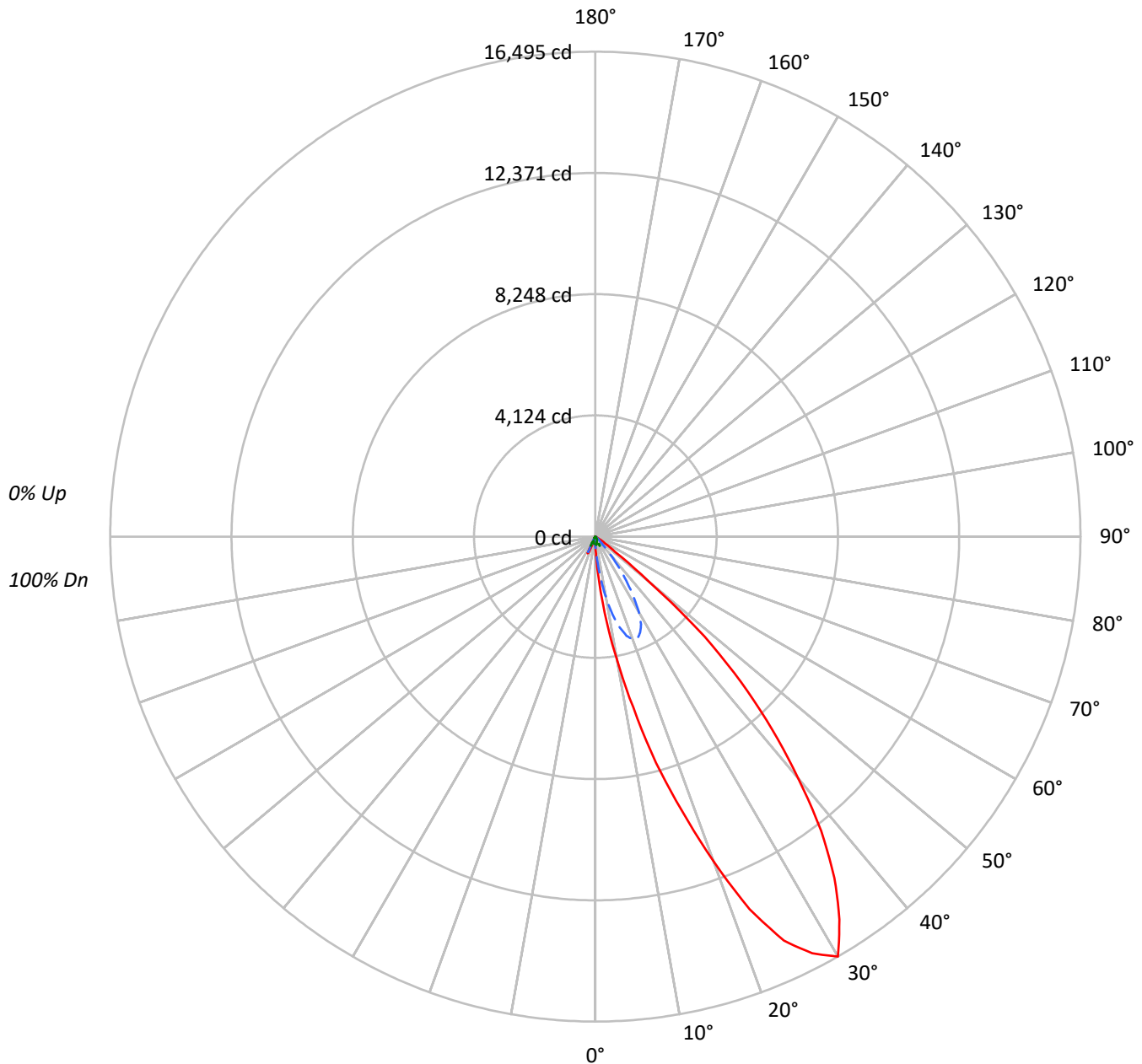
Lumens per Lamp: N/A
Luminaire Lumens: 4293.7 lumens
Efficiency: N/A
Efficacy: 91.2 lumens/watt
Spacing Criteria (0/90/45): 2.53 / 1.09 / 1.29
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	112	109	106	104	110	107	104	102	103	101	99	99	98	96	96	94	93
2	106	100	95	91	103	98	94	90	95	91	88	92	89	86	89	86	84
3	99	91	85	81	97	90	84	80	87	82	79	84	81	77	82	79	76
4	92	83	77	72	90	82	76	71	80	74	70	78	73	69	76	72	69
5	86	76	69	64	84	75	69	64	73	67	63	71	66	62	70	65	62
6	80	70	63	57	79	69	62	57	67	61	57	66	60	56	64	60	56
7	75	64	57	52	74	63	56	51	62	56	51	61	55	51	59	54	51
8	70	59	52	47	69	58	51	47	57	51	46	56	50	46	55	50	46
9	66	54	47	42	64	54	47	42	53	46	42	52	46	42	51	45	42
10	62	50	43	38	60	50	43	38	49	42	38	48	42	38	47	42	38

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	39421	39421	39421
5°	202663	36637	17111
10°	534147	30561	8930
15°	1016671	23994	6883
20°	1544189	19834	18429
25°	2063351	47307	85237
30°	2349395	17832	17234
35°	2133965	10074	7815
40°	1728381	4525	3124
45°	1223048	2634	768
50°	446244	1650	0
55°	92879	1376	0
60°	22400	1579	0
65°	6946	1868	0
70°	2308	2308	0
75°	1048	3050	0
80°	0	4546	0
85°	0	9057	0

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Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.4	1.7
10°-20°	540.1	12.6
20°-30°	1369.7	31.9
30°-40°	1465.9	34.1
40°-50°	749.3	17.5
50°-60°	78.2	1.8
60°-70°	9.0	0.2
70°-80°	4.9	0.1
80°-90°	4.4	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°	1982.1	46.2
0°-40°	3448.0	80.3
0°-60°	4275.5	99.6
0°-90°	4293.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4293.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	320	320	320	320	320	
5°	1637	890	296	171	138	239
15°	7962	3200	188	67	54	2352
25°	15161	3604	348	583	626	6888
35°	14172	1827	67	52	52	8701
45°	7011	244	15	9	4	5232
55°	432	39	6	4	0	586
65°	24	9	6	4	0	31
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°	319.6	319.6	319.6	319.6	319.6	319.6	319.6	319.6	319.6	319.6	319.6
2.5°	645.7	652.1	604.7	619.6	630.4	608.8	604.7	604.7	628.3	615.5	637.1
5°	1636.8	1630.4	1548.2	1572.1	1589.3	1548.2	1567.7	1537.4	1574.1	1550.4	1574.1
7.5°	2859.0	2934.6	2830.9	2854.7	2869.8	2826.6	2837.4	2794.2	2835.2	2807.2	2826.6
10°	4264.7	4342.4	4221.6	4241.0	4251.8	4210.8	4213.0	4156.8	4193.4	4163.3	4176.1
12.5°	5944.7	5975.0	5916.8	5931.7	5938.2	5884.3	5782.7	5793.5	5830.2	5778.4	5791.3
15°	7961.6	7940.0	7870.9	7920.5	7870.9	7845.0	7691.6	7683.0	7704.6	7646.3	7553.5
17.5°	9738.7	9902.8	9825.1	9853.1	9792.7	9792.7	9596.2	9563.8	9566.0	9410.5	9393.3
20°	11764.2	11973.7	11783.6	11792.2	11712.5	11710.3	11470.5	11403.5	11375.5	11198.4	11148.7
22.5°	13716.2	13776.8	13774.6	13737.9	13550.1	13658.0	13357.9	13252.1	13165.6	12964.8	12865.4
25°	15160.9	15350.9	15221.3	15128.5	14964.5	15100.5	14763.5	14625.4	14495.8	14327.4	14197.8
27.5°	15977.2	16154.2	16124.1	15985.7	15817.3	15949.1	15579.8	15400.5	15217.1	15093.8	14932.0
30°	16495.4	16765.3	16676.7	16376.7	16130.4	16173.7	15759.0	15519.4	15316.4	15189.0	14983.9
32.5°	15443.8	15722.3	15696.5	15478.3	15350.9	15456.7	15096.0	14858.6	14664.3	14562.7	14333.8
35°	14171.9	14498.0	14426.7	14245.4	14152.4	14275.5	13923.6	13724.9	13528.4	13439.8	13189.4
37.5°	12615.0	12921.6	12850.4	12677.7	12586.9	12677.7	12340.7	12157.2	11971.5	11878.8	11708.0
40°	10734.2	11004.0	10928.5	10768.7	10693.2	10758.0	10466.5	10306.6	10148.9	10079.9	9853.1
42.5°	8896.6	9112.6	9043.4	8905.2	8847.0	8890.0	8650.4	8507.9	8369.7	8311.5	8177.4
45°	7011.4	7225.2	7158.2	7039.4	6985.6	7009.2	6808.5	6681.1	6562.3	6508.3	6387.4
47.5°	5031.2	5271.0	5188.9	5087.5	5031.2	5020.6	4843.5	4729.1	4739.7	4556.2	4444.0
50°	2325.5	2528.6	2446.6	2392.5	2338.6	2308.4	2245.7	2116.2	2152.9	1986.6	1921.9
52.5°	844.3	894.0	874.5	857.3	840.0	833.5	811.9	779.6	784.0	742.9	723.4
55°	431.9	455.6	449.2	438.4	438.4	431.9	421.1	408.1	399.5	393.0	386.5
57.5°	198.7	211.5	207.4	202.9	202.9	198.7	194.4	187.9	192.2	181.4	179.3
60°	90.8	97.1	95.0	92.8	92.8	92.8	90.8	88.5	88.5	86.3	84.1
62.5°	43.3	47.5	45.3	45.3	45.3	45.3	43.3	43.3	43.3	43.3	41.1
65°	23.8	23.8	23.8	23.8	23.8	23.8	23.8	21.6	23.8	21.6	21.6
67.5°	13.0	13.0	13.0	13.0	10.8	13.0	13.0	10.8	10.8	10.8	10.8
70°	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
72.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
75°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
77.5°	0.0	2.2	2.2	2.2	0.0	2.2	2.2	2.2	2.2	2.2	2.2
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	2.2	0.0	2.2	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°	319.6	319.6	319.6	319.6	319.6	319.6	319.6	319.6	319.6	319.6	319.6
2.5°	587.4	602.5	617.7	613.3	591.7	589.5	580.8	585.2	455.6	369.2	308.8
5°	1489.9	1509.4	1528.8	1518.0	1464.1	1451.1	1407.8	1399.2	889.7	436.2	295.9
7.5°	2722.9	2733.7	2748.9	2735.9	2656.0	2619.2	2528.6	2440.2	1496.4	526.9	274.2
10°	4059.5	4055.4	4061.7	4044.6	3945.1	3873.9	3733.6	3670.9	2120.5	604.7	244.0
12.5°	5618.6	5601.4	5506.4	5551.7	5411.3	5266.7	5035.6	4841.3	2710.0	647.7	216.0
15°	7438.9	7387.2	7352.6	7300.7	7128.1	6894.8	6542.8	6326.8	3200.1	643.4	187.9
17.5°	9248.6	9164.3	9013.3	9032.6	8831.8	8505.7	8041.4	7672.2	3539.2	589.5	166.3
20°	10961.0	10835.8	10645.6	10630.6	10388.7	9959.0	9373.8	8916.0	3725.0	501.1	151.1
22.5°	12610.6	12416.2	12161.4	12081.7	11770.7	11161.7	10397.4	9840.3	3742.2	418.9	181.4
25°	13910.6	13666.6	13383.8	13245.5	12902.1	12124.7	11172.5	10488.0	3604.0	414.5	347.6
27.5°	14636.1	14359.8	14076.9	13889.0	13541.4	12660.3	11582.8	10792.5	3366.4	444.8	330.4
30°	14674.9	14364.1	14070.5	13832.9	13487.3	12545.9	11401.5	10578.7	2938.8	280.7	125.2
32.5°	14029.4	13696.9	13403.2	13135.5	12794.3	11846.3	10723.3	9937.4	2390.4	196.6	88.5
35°	12900.1	12556.8	12276.1	11993.2	11673.6	10781.7	9751.7	9019.6	1826.8	155.5	66.9
37.5°	11362.6	11045.1	10796.9	10604.6	10259.2	9548.8	8607.1	7832.0	1291.3	110.1	41.1
40°	9641.5	9373.8	9170.9	9004.6	8684.9	8054.4	7104.3	6450.1	784.0	77.7	28.1
42.5°	7909.7	7659.3	7480.0	7322.3	7026.7	6469.4	5687.8	5031.2	375.6	53.9	19.4
45°	6151.9	5927.4	5776.3	5633.8	5368.2	4819.7	4199.9	3725.0	244.0	38.9	15.1
47.5°	4202.2	4085.5	3837.2	3681.7	3409.6	2990.7	2409.9	1887.3	161.9	28.1	10.8
50°	1747.0	1686.5	1522.4	1416.6	1261.1	1047.2	760.1	637.1	99.3	19.4	8.6
52.5°	678.0	662.9	621.9	598.2	559.3	503.0	418.9	373.7	60.5	15.1	8.6
55°	365.0	360.6	339.0	326.1	304.5	276.4	226.8	198.7	38.9	10.8	6.4
57.5°	168.5	166.3	155.5	155.5	140.4	129.6	108.0	97.1	23.8	8.6	6.4
60°	80.0	80.0	75.5	75.5	69.2	64.7	53.9	49.7	15.1	6.4	6.4
62.5°	38.9	38.9	38.9	38.9	36.7	34.5	30.3	28.1	10.8	6.4	6.4
65°	21.6	21.6	21.6	21.6	19.4	19.4	17.3	15.1	8.6	6.4	6.4
67.5°	10.8	10.8	10.8	10.8	10.8	10.8	8.6	8.6	6.4	6.4	6.4
70°	6.4	6.4	6.4	6.4	6.4	4.4	4.4	4.4	4.4	6.4	6.4
72.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	4.4	6.4	6.4
75°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	4.4	6.4	6.4
77.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	4.4	6.4	6.4
80°	0.0	0.0	2.2	2.2	2.2	2.2	2.2	2.2	4.4	6.4	6.4
82.5°	0.0	2.2	2.2	2.2	2.2	2.2	2.2	2.2	4.4	6.4	6.4
85°	0.0	0.0	0.0	0.0	2.2	2.2	2.2	2.2	4.4	6.4	6.4
87.5°	0.0	0.0	0.0	2.2	2.2	2.2	2.2	2.2	4.4	6.4	6.4
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°	319.6	319.6	319.6	319.6
2.5°	265.6	231.0	213.7	209.4
5°	218.2	170.6	146.8	138.2
7.5°	177.1	123.0	103.6	95.0
10°	140.4	97.1	77.7	71.3
12.5°	116.6	77.7	62.7	58.3
15°	99.3	66.9	56.1	53.9
17.5°	90.8	71.3	66.9	69.2
20°	110.1	116.6	136.0	140.4
22.5°	233.2	403.8	548.5	580.8
25°	485.9	583.0	604.7	626.3
27.5°	269.9	209.4	205.2	213.7
30°	110.1	112.2	116.6	121.0
32.5°	82.2	82.2	80.0	82.2
35°	56.1	51.9	49.7	51.9
37.5°	34.5	32.4	30.3	30.3
40°	23.8	21.6	19.4	19.4
42.5°	17.3	13.0	10.8	10.8
45°	13.0	8.6	6.4	4.4
47.5°	10.8	6.4	2.2	2.2
50°	8.6	4.4	2.2	0.0
52.5°	6.4	4.4	2.2	0.0
55°	6.4	4.4	0.0	0.0
57.5°	6.4	4.4	0.0	0.0
60°	6.4	4.4	2.2	0.0
62.5°	6.4	4.4	2.2	2.2
65°	6.4	4.4	2.2	0.0
67.5°	6.4	4.4	2.2	0.0
70°	6.4	4.4	2.2	0.0
72.5°	8.6	4.4	2.2	0.0
75°	8.6	6.4	2.2	0.0
77.5°	8.6	6.4	2.2	0.0
80°	8.6	6.4	2.2	0.0
82.5°	8.6	6.4	2.2	0.0
85°	8.6	6.4	2.2	0.0
87.5°	8.6	6.4	2.2	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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(END OF REPORT)