

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: P1191661

Luminaire Tested: **LDA4A20940D010TE 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: P1191661
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: LDA4A20940D010TE 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 / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

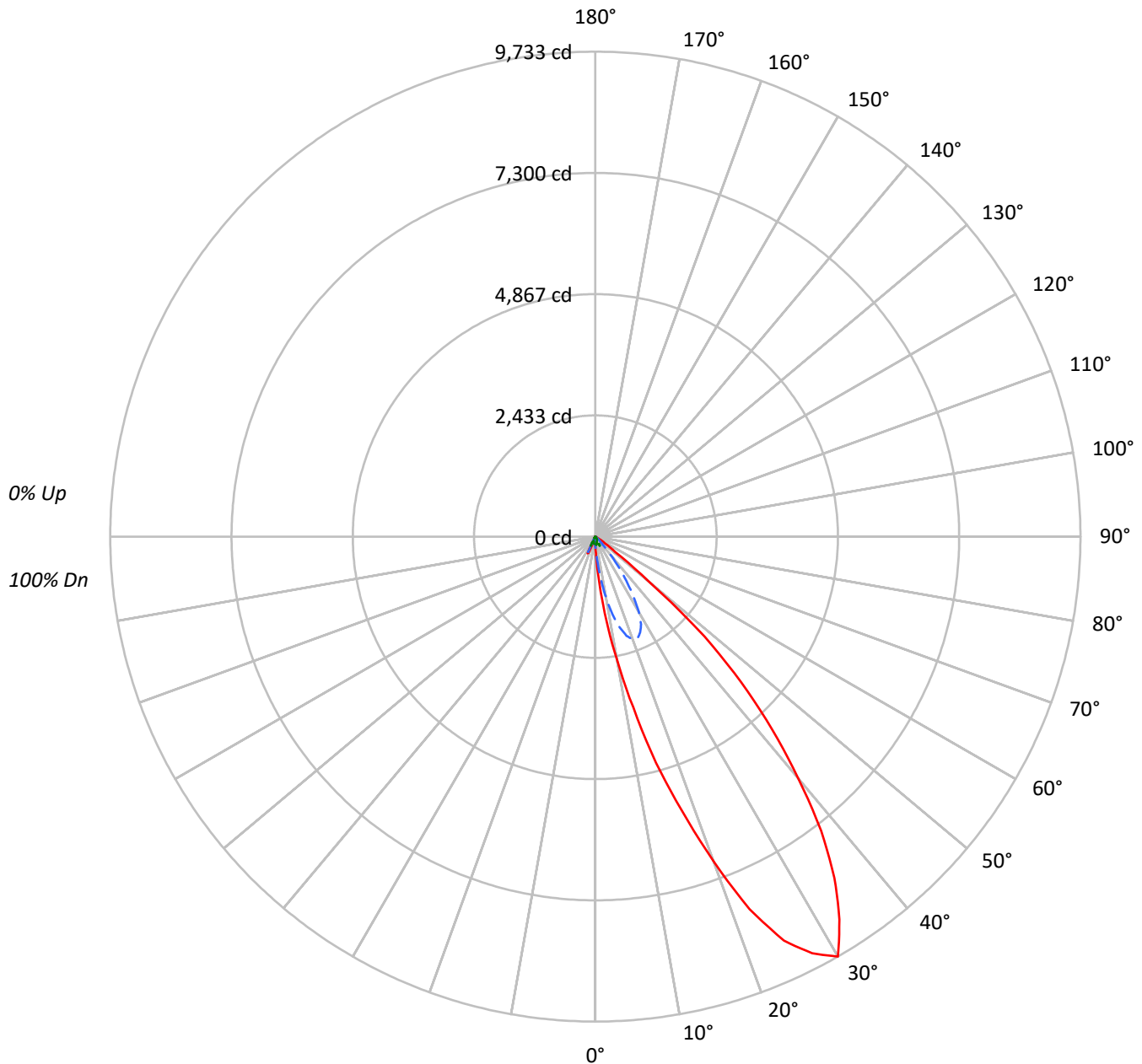
Lumens per Lamp: N/A
Luminaire Lumens: 2533.6 lumens
Efficiency: N/A
Efficacy: 88.0 lumens/watt
Spacing Criteria (0/90/45): 2.53 / 1.09 / 1.29
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 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					0
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°	23251	23251	23251
5°	119582	21618	10091
10°	315188	18023	5260
15°	599881	14162	4074
20°	911153	11709	10868
25°	1217495	27927	50288
30°	1386273	10511	10169
35°	1259172	5948	4608
40°	1019845	2657	1836
45°	721681	1570	454
50°	263333	979	0
55°	54794	817	0
60°	13223	937	0
65°	4086	1109	0
70°	1370	1370	0
75°	620	1811	0
80°	0	2699	0
85°	0	5378	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	42.7	1.7
10°-20°	318.7	12.6
20°-30°	808.2	31.9
30°-40°	864.9	34.1
40°-50°	442.1	17.5
50°-60°	46.2	1.8
60°-70°	5.3	0.2
70°-80°	2.9	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°	1169.6	46.2
0°-40°	2034.5	80.3
0°-60°	2522.8	99.6
0°-90°	2533.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2533.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	188	188	188	188	188	
5°	966	525	175	101	82	141
15°	4698	1888	111	40	32	1388
25°	8946	2126	205	344	370	4065
35°	8362	1078	40	31	31	5134
45°	4137	144	9	5	3	3087
55°	255	23	4	3	0	346
65°	14	5	4	3	0	19
75°	1	3	4	4	0	1
85°	0	3	4	4	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°	188.5	188.5	188.5	188.5	188.5	188.5	188.5	188.5	188.5	188.5	188.5
2.5°	381.0	384.7	356.8	365.6	372.0	359.2	356.8	356.8	370.8	363.2	375.9
5°	965.8	962.0	913.5	927.6	937.7	913.5	925.0	907.2	928.9	914.8	928.9
7.5°	1686.9	1731.5	1670.4	1684.4	1693.3	1667.8	1674.2	1648.7	1673.0	1656.4	1667.8
10°	2516.5	2562.4	2491.0	2502.4	2508.8	2484.6	2485.9	2452.8	2474.3	2456.5	2464.2
12.5°	3507.8	3525.6	3491.1	3500.1	3503.8	3472.0	3412.2	3418.6	3440.1	3409.6	3417.3
15°	4697.7	4685.0	4644.3	4673.5	4644.3	4628.9	4538.6	4533.4	4546.1	4511.8	4456.9
17.5°	5746.3	5843.2	5797.3	5814.0	5778.2	5778.2	5662.4	5643.3	5644.4	5552.8	5542.6
20°	6941.5	7065.2	6953.0	6958.2	6911.0	6909.7	6768.3	6728.8	6712.2	6607.8	6578.4
22.5°	8093.4	8129.0	8127.9	8106.1	7995.2	8058.9	7881.8	7819.4	7768.5	7650.0	7591.4
25°	8945.8	9057.9	8981.4	8926.7	8829.8	8910.1	8711.4	8629.9	8553.4	8453.9	8377.5
27.5°	9427.4	9532.0	9514.0	9432.5	9333.2	9410.9	9193.0	9087.3	8979.0	8906.3	8810.7
30°	9733.2	9892.5	9840.3	9663.2	9517.9	9543.4	9298.7	9157.2	9037.5	8962.3	8841.3
32.5°	9112.8	9277.1	9261.8	9133.1	9057.9	9120.3	8907.6	8767.4	8652.8	8592.8	8457.9
35°	8362.3	8554.6	8512.6	8405.6	8350.7	8423.4	8215.8	8098.5	7982.5	7930.4	7782.5
37.5°	7443.5	7624.5	7582.4	7480.5	7427.0	7480.5	7281.8	7173.5	7063.9	7009.1	6908.4
40°	6333.8	6493.1	6448.5	6354.2	6309.6	6347.8	6175.8	6081.6	5988.5	5947.8	5814.0
42.5°	5249.5	5377.0	5336.1	5254.6	5220.1	5245.6	5104.3	5020.2	4938.7	4904.2	4825.1
45°	4137.2	4263.3	4223.8	4153.7	4121.8	4135.9	4017.4	3942.2	3872.1	3840.2	3769.0
47.5°	2968.8	3110.1	3061.8	3001.8	2968.8	2962.4	2857.9	2790.4	2796.8	2688.5	2622.2
50°	1372.3	1492.0	1443.6	1411.8	1379.9	1362.1	1325.1	1248.6	1270.3	1172.1	1133.9
52.5°	498.3	527.5	516.1	505.8	495.6	491.9	479.1	460.0	462.5	438.3	426.9
55°	254.8	268.9	265.0	258.6	258.6	254.8	248.5	240.8	235.7	231.8	228.1
57.5°	117.3	124.8	122.4	119.7	119.7	117.3	114.7	110.9	113.4	107.0	105.7
60°	53.6	57.3	56.0	54.7	54.7	54.7	53.6	52.3	52.3	51.0	49.7
62.5°	25.5	28.1	26.8	26.8	26.8	26.8	25.5	25.5	25.5	25.5	24.2
65°	14.0	14.0	14.0	14.0	14.0	14.0	14.0	12.7	14.0	12.7	12.7
67.5°	7.7	7.7	7.7	7.7	6.4	7.7	7.7	6.4	6.4	6.4	6.4
70°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
72.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
75°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
77.5°	0.0	1.3	1.3	1.3	0.0	1.3	1.3	1.3	1.3	1.3	1.3
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	1.3	0.0	1.3	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°	188.5	188.5	188.5	188.5	188.5	188.5	188.5	188.5	188.5	188.5	188.5
2.5°	346.5	355.5	364.5	361.9	349.1	347.8	342.7	345.3	268.9	217.9	182.2
5°	879.2	890.7	902.1	895.7	863.9	856.2	830.7	825.6	524.9	257.3	174.6
7.5°	1606.7	1613.1	1622.0	1614.4	1567.2	1545.6	1492.0	1439.7	883.0	310.9	161.9
10°	2395.4	2392.8	2396.7	2386.4	2327.9	2285.8	2203.0	2166.0	1251.2	356.8	143.9
12.5°	3315.3	3305.2	3249.1	3275.8	3193.0	3107.7	2971.3	2856.6	1599.0	382.3	127.4
15°	4389.4	4358.9	4338.5	4307.9	4206.0	4068.4	3860.6	3733.2	1888.3	379.7	110.9
17.5°	5457.2	5407.5	5318.3	5329.8	5211.3	5018.9	4744.9	4527.0	2088.3	347.8	98.2
20°	6467.6	6393.7	6281.5	6272.7	6129.9	5876.4	5531.0	5261.0	2197.9	295.5	89.2
22.5°	7441.1	7326.4	7175.9	7128.9	6945.4	6586.0	6135.0	5806.3	2208.0	247.2	107.0
25°	8208.1	8064.1	7897.2	7815.7	7613.1	7154.4	6592.4	6188.6	2126.5	244.6	205.2
27.5°	8636.2	8473.1	8306.1	8195.3	7990.2	7470.3	6834.5	6368.3	1986.4	262.5	194.9
30°	8659.1	8475.7	8302.3	8162.2	7958.3	7402.8	6727.5	6242.0	1734.1	165.7	73.8
32.5°	8278.2	8082.0	7908.6	7750.7	7549.4	6990.0	6327.4	5863.6	1410.5	116.0	52.3
35°	7611.8	7409.2	7243.6	7076.6	6888.1	6361.9	5754.0	5322.1	1077.9	91.8	39.5
37.5°	6704.6	6517.3	6370.7	6257.3	6053.5	5634.3	5078.8	4621.4	761.9	65.0	24.2
40°	5689.0	5531.0	5411.3	5313.3	5124.6	4752.6	4191.9	3805.9	462.5	45.9	16.5
42.5°	4667.2	4519.5	4413.6	4320.7	4146.0	3817.3	3356.2	2968.8	221.7	31.9	11.4
45°	3630.1	3497.5	3408.3	3324.3	3167.5	2843.9	2478.2	2197.9	143.9	22.9	9.0
47.5°	2479.5	2410.8	2264.2	2172.4	2011.8	1764.7	1421.9	1113.6	95.6	16.5	6.4
50°	1030.8	995.1	898.3	835.8	744.1	618.0	448.4	375.9	58.6	11.4	5.1
52.5°	400.1	391.1	366.9	352.9	330.0	296.8	247.2	220.4	35.6	9.0	5.1
55°	215.3	212.9	200.1	192.4	179.7	163.0	133.8	117.3	22.9	6.4	3.8
57.5°	99.3	98.2	91.8	91.8	82.8	76.5	63.7	57.3	14.0	5.1	3.8
60°	47.2	47.2	44.6	44.6	40.8	38.2	31.9	29.2	9.0	3.8	3.8
62.5°	22.9	22.9	22.9	22.9	21.7	20.4	17.8	16.5	6.4	3.8	3.8
65°	12.7	12.7	12.7	12.7	11.4	11.4	10.1	9.0	5.1	3.8	3.8
67.5°	6.4	6.4	6.4	6.4	6.4	6.4	5.1	5.1	3.8	3.8	3.8
70°	3.8	3.8	3.8	3.8	3.8	2.6	2.6	2.6	2.6	3.8	3.8
72.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	2.6	3.8	3.8
75°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	2.6	3.8	3.8
77.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	2.6	3.8	3.8
80°	0.0	0.0	1.3	1.3	1.3	1.3	1.3	1.3	2.6	3.8	3.8
82.5°	0.0	1.3	1.3	1.3	1.3	1.3	1.3	1.3	2.6	3.8	3.8
85°	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	2.6	3.8	3.8
87.5°	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3	2.6	3.8	3.8
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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CATALOG NUMBER: LDA4A20940D010TE LAR25NF 4LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	112.5°	135°	157.5°	180°
0°	188.5	188.5	188.5	188.5
2.5°	156.7	136.4	126.1	123.7
5°	128.7	100.6	86.6	81.5
7.5°	104.5	72.7	61.1	56.0
10°	82.8	57.3	45.9	42.0
12.5°	68.8	45.9	36.9	34.5
15°	58.6	39.5	33.2	31.9
17.5°	53.6	42.0	39.5	40.8
20°	65.0	68.8	80.2	82.8
22.5°	137.6	238.2	323.6	342.7
25°	286.7	344.0	356.8	369.5
27.5°	159.3	123.7	121.1	126.1
30°	65.0	66.3	68.8	71.4
32.5°	48.4	48.4	47.2	48.4
35°	33.2	30.6	29.2	30.6
37.5°	20.4	19.1	17.8	17.8
40°	14.0	12.7	11.4	11.4
42.5°	10.1	7.7	6.4	6.4
45°	7.7	5.1	3.8	2.6
47.5°	6.4	3.8	1.3	1.3
50°	5.1	2.6	1.3	0.0
52.5°	3.8	2.6	1.3	0.0
55°	3.8	2.6	0.0	0.0
57.5°	3.8	2.6	0.0	0.0
60°	3.8	2.6	1.3	0.0
62.5°	3.8	2.6	1.3	1.3
65°	3.8	2.6	1.3	0.0
67.5°	3.8	2.6	1.3	0.0
70°	3.8	2.6	1.3	0.0
72.5°	5.1	2.6	1.3	0.0
75°	5.1	3.8	1.3	0.0
77.5°	5.1	3.8	1.3	0.0
80°	5.1	3.8	1.3	0.0
82.5°	5.1	3.8	1.3	0.0
85°	5.1	3.8	1.3	0.0
87.5°	5.1	3.8	1.3	0.0
90°	0.0	0.0	0.0	0.0

Classified

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Scaled Data Report





— 0°-180° - - 45°-225° - - - 90°-270°

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(END OF REPORT)