

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: P1191631

Luminaire Tested: **LDA4A20930D010TE 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: P1191631
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: LDA4A20930D010TE 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 / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

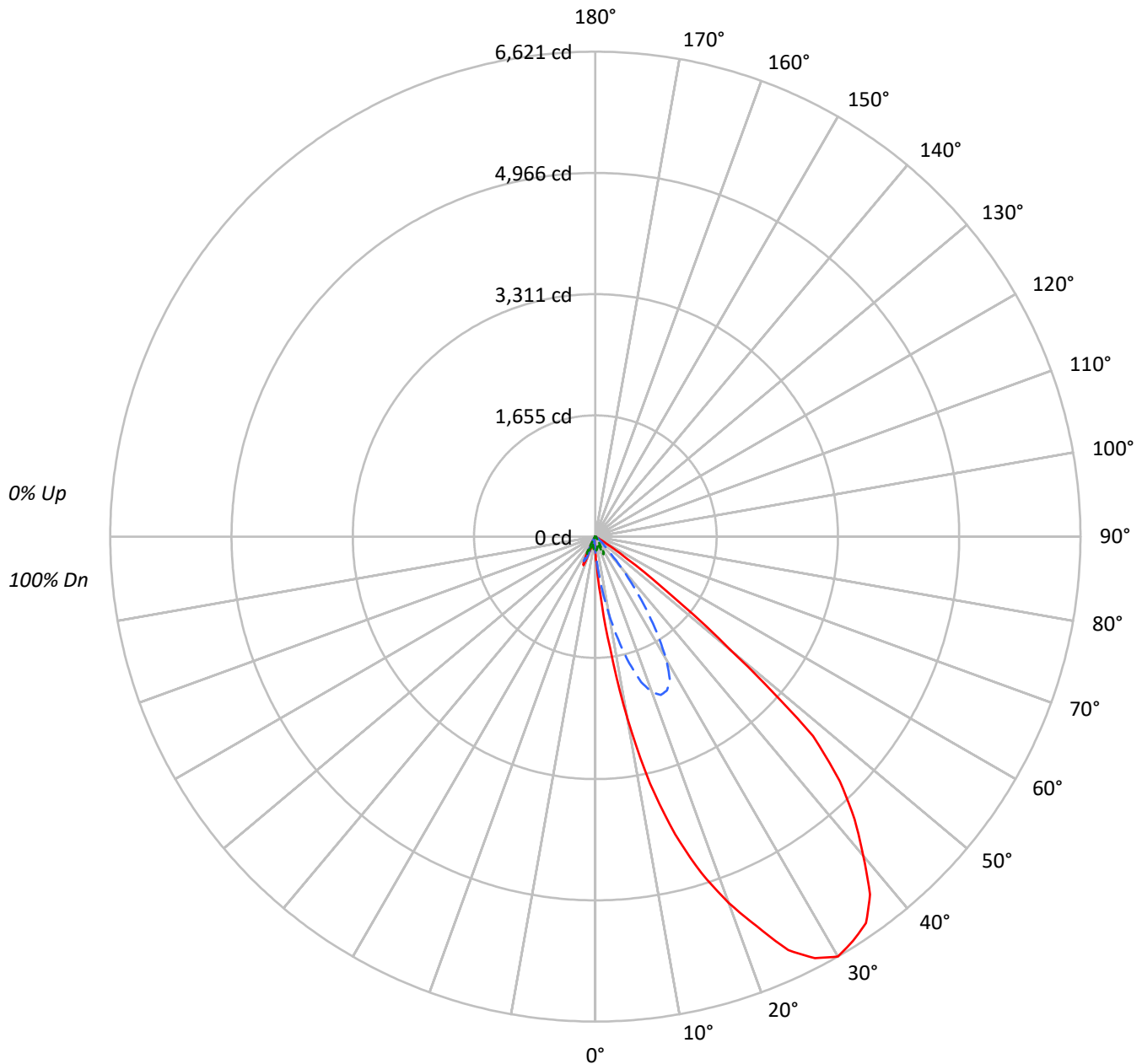
Lumens per Lamp: N/A
Luminaire Lumens: 2406.3 lumens
Efficiency: N/A
Efficacy: 83.6 lumens/watt
Spacing Criteria (0/90/45): 2.71 / 1.11 / 1.33
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 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					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°	24398	24398	24398
5°	98286	23042	10797
10°	316828	19313	6200
15°	537463	15349	4801
20°	698548	13756	14518
25°	847679	36215	51458
30°	942982	12747	13588
35°	969973	7634	6384
40°	915861	3220	2286
45°	823151	1849	611
50°	463265	1132	0
55°	114964	753	0
60°	17712	863	0
65°	4144	1022	0
70°	829	1262	0
75°	0	1668	0
80°	0	3410	0
85°	0	6793	1698



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.7	1.7
10°-20°	295.3	12.3
20°-30°	682.2	28.3
30°-40°	765.2	31.8
40°-50°	533.9	22.2
50°-60°	79.7	3.3
60°-70°	5.2	0.2
70°-80°	2.6	0.1
80°-90°	2.5	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°	1017.2	42.3
0°-40°	1782.4	74.1
0°-60°	2396.0	99.6
0°-90°	2406.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2406.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	198	198	198	198	198	
5°	794	464	186	108	87	131
15°	4209	1791	120	46	38	1203
25°	6228	2315	266	371	378	2848
35°	6442	1204	51	42	42	3962
45°	4719	181	11	6	4	3462
55°	535	24	4	2	0	703
65°	14	4	4	2	0	22
75°	0	2	4	4	0	1
85°	0	2	5	4	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°	197.8	197.8	197.8	197.8	197.8	197.8	197.8	197.8	197.8	197.8	197.8
2.5°	360.4	356.8	347.4	345.1	353.3	346.2	349.7	356.8	349.7	341.6	349.7
5°	793.8	813.8	793.8	790.2	804.4	791.3	797.3	810.2	792.5	776.1	787.9
7.5°	1532.1	1545.0	1488.5	1508.5	1503.9	1507.4	1511.0	1511.0	1500.3	1470.9	1487.4
10°	2529.6	2539.1	2463.6	2489.5	2455.4	2489.5	2483.6	2457.7	2463.6	2423.6	2444.8
12.5°	3455.2	3485.9	3410.5	3435.2	3393.9	3432.9	3417.5	3410.5	3350.4	3350.4	3372.8
15°	4208.9	4278.4	4210.0	4235.9	4188.9	4243.0	4200.6	4219.4	4165.3	4098.2	4157.0
17.5°	4818.9	4887.3	4823.7	4855.4	4811.8	4854.2	4804.7	4844.8	4775.3	4727.1	4767.1
20°	5321.8	5372.5	5297.0	5341.8	5289.9	5332.4	5278.2	5331.2	5250.0	5214.6	5238.1
22.5°	5759.8	5779.9	5741.0	5816.4	5715.1	5759.8	5695.1	5749.2	5652.7	5607.9	5613.9
25°	6228.5	6273.3	6199.1	6227.4	6156.7	6187.4	6114.3	6165.0	6044.8	5981.2	5968.3
27.5°	6488.9	6552.4	6486.4	6518.3	6446.5	6472.4	6399.4	6472.4	6349.9	6287.5	6273.3
30°	6620.8	6651.3	6608.9	6630.2	6548.8	6561.9	6486.4	6565.3	6442.8	6387.5	6380.4
32.5°	6544.2	6605.4	6550.1	6577.2	6501.8	6514.8	6441.7	6526.5	6404.0	6353.3	6328.7
35°	6441.7	6504.1	6452.4	6480.6	6411.1	6420.5	6342.8	6417.1	6275.7	6213.3	6160.3
37.5°	6157.9	6216.8	6173.2	6182.6	6115.4	6108.5	6024.8	6087.2	5949.5	5896.5	5861.2
40°	5688.0	5741.0	5705.7	5725.6	5658.6	5643.3	5586.8	5644.4	5537.3	5498.5	5448.9
42.5°	5238.1	5281.7	5248.8	5280.5	5205.2	5185.1	5134.6	5207.6	5086.2	5054.5	5019.2
45°	4718.9	4745.9	4720.0	4747.1	4675.3	4643.4	4597.5	4659.9	4541.0	4511.5	4435.0
47.5°	4032.2	4002.8	3998.0	4024.0	3934.5	3868.6	3826.2	3906.2	3734.4	3676.6	3588.3
50°	2414.2	2463.6	2484.9	2467.2	2406.0	2315.2	2247.0	2344.7	2252.8	2111.5	1970.1
52.5°	1243.5	1188.2	1199.9	1205.9	1132.9	1105.8	1083.4	1105.8	1034.0	997.5	908.0
55°	534.6	508.7	518.2	521.7	507.5	474.7	462.8	477.0	444.0	429.9	393.3
57.5°	197.8	197.8	192.0	194.3	189.5	177.8	175.5	181.3	170.7	167.2	153.1
60°	71.8	71.8	71.8	71.8	65.9	64.7	64.7	67.2	63.6	62.4	57.8
62.5°	30.6	31.9	29.4	30.6	29.4	28.2	29.4	28.2	28.2	27.1	27.1
65°	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	12.9	12.9
67.5°	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	5.9	5.9	5.9
70°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
72.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
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°	197.8	197.8	197.8	197.8	197.8	197.8	197.8	197.8	197.8	197.8	197.8
2.5°	339.1	338.0	342.7	338.0	329.7	325.1	330.9	319.1	273.2	227.3	193.2
5°	766.7	760.8	752.5	754.8	734.9	718.3	718.3	686.6	463.9	263.8	186.1
7.5°	1453.2	1439.0	1379.1	1422.7	1380.2	1347.2	1324.9	1260.0	750.2	302.6	171.9
10°	2400.0	2375.3	2332.9	2341.1	2271.6	2216.3	2149.3	2040.8	1078.8	336.8	154.2
12.5°	3333.9	3309.2	3196.1	3260.9	3167.9	3113.8	3000.7	2873.4	1433.2	353.3	137.8
15°	4126.5	4105.3	3981.7	4042.8	3928.7	3878.0	3731.9	3590.6	1791.2	347.4	120.2
17.5°	4742.3	4738.8	4596.4	4657.6	4531.6	4490.4	4319.6	4180.6	2080.9	321.5	108.3
20°	5217.0	5208.7	5065.1	5126.3	4988.5	4948.5	4731.7	4585.8	2264.7	286.1	104.8
22.5°	5591.4	5574.9	5420.7	5473.7	5319.5	5267.6	5028.6	4876.7	2340.0	263.8	129.6
25°	5928.2	5898.8	5723.3	5764.6	5595.0	5605.6	5246.4	5079.1	2315.2	296.8	266.1
27.5°	6225.1	6172.1	5995.4	6007.1	5808.2	5704.5	5395.9	5211.0	2202.2	330.9	247.3
30°	6335.7	6283.8	6096.6	6103.7	5896.5	5750.4	5420.7	5214.6	1931.3	207.2	89.5
32.5°	6274.4	6218.0	6022.5	6024.8	5811.7	5663.2	5334.7	5107.5	1570.9	136.5	68.3
35°	6096.6	6037.8	5843.5	5852.9	5646.9	5499.6	5178.2	4935.5	1203.6	108.3	50.7
37.5°	5796.3	5755.2	5570.3	5586.8	5411.3	5254.6	4928.4	4665.9	849.1	77.8	31.9
40°	5410.1	5378.3	5199.3	5225.2	5034.4	4889.6	4539.9	4254.8	528.8	53.0	20.0
42.5°	4957.9	4923.7	4747.1	4767.1	4604.6	4397.3	4040.5	3717.9	276.7	37.6	14.2
45°	4393.8	4353.8	4174.7	4185.4	3993.4	3750.7	3381.1	3096.1	181.3	25.9	10.6
47.5°	3507.0	3435.2	3202.1	3192.5	3036.0	2639.1	2113.9	1711.1	120.2	17.7	7.1
50°	1927.9	1853.6	1648.7	1626.4	1452.0	1191.8	880.8	685.3	69.5	11.7	5.9
52.5°	877.3	838.5	743.1	727.8	653.6	541.7	416.9	342.7	40.1	8.3	4.8
55°	380.4	366.2	326.2	323.9	289.7	250.8	200.3	169.6	23.6	5.9	3.5
57.5°	149.6	144.8	136.5	130.8	117.7	104.8	87.2	73.0	15.3	4.8	3.5
60°	56.5	55.3	50.7	51.8	47.1	44.7	38.8	33.0	9.4	3.5	3.5
62.5°	25.9	25.9	24.8	24.8	23.6	21.1	18.8	17.7	5.9	3.5	3.5
65°	12.9	12.9	11.7	11.7	11.7	10.6	9.4	9.4	3.5	3.5	3.5
67.5°	5.9	5.9	5.9	5.9	5.9	4.8	4.8	4.8	2.3	3.5	3.5
70°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	3.5	3.5
72.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	2.3	3.5	3.5
75°	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	2.3	3.5	3.5
77.5°	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	2.3	3.5	4.8
80°	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	2.3	3.5	4.8
82.5°	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	2.3	3.5	4.8
85°	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	2.3	3.5	4.8
87.5°	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	2.3	3.5	4.8
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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CANDELA DISTRIBUTION (continued):

	112.5°	135°	157.5°	180°
0°	197.8	197.8	197.8	197.8
2.5°	166.1	147.3	130.8	127.1
5°	136.5	108.3	90.6	87.2
7.5°	110.6	78.9	65.9	63.6
10°	90.6	63.6	51.8	49.5
12.5°	75.4	51.8	41.3	38.8
15°	64.7	45.9	37.6	37.6
17.5°	62.4	50.7	48.2	49.5
20°	81.2	91.8	109.5	110.6
22.5°	188.4	306.2	405.1	424.0
25°	339.1	371.0	361.6	378.1
27.5°	179.0	140.2	142.5	146.0
30°	77.8	86.0	90.6	95.4
32.5°	64.7	67.2	68.3	71.8
35°	42.4	42.4	41.3	42.4
37.5°	25.9	24.8	23.6	23.6
40°	16.5	15.3	14.2	14.2
42.5°	11.7	9.4	8.3	8.3
45°	8.3	5.9	4.8	3.5
47.5°	5.9	3.5	2.3	1.2
50°	4.8	3.5	1.2	0.0
52.5°	3.5	2.3	1.2	0.0
55°	3.5	2.3	0.0	0.0
57.5°	3.5	2.3	0.0	0.0
60°	3.5	2.3	0.0	0.0
62.5°	3.5	2.3	0.0	0.0
65°	3.5	2.3	1.2	0.0
67.5°	3.5	2.3	1.2	0.0
70°	3.5	2.3	1.2	0.0
72.5°	3.5	2.3	1.2	0.0
75°	3.5	3.5	1.2	0.0
77.5°	4.8	3.5	1.2	0.0
80°	4.8	3.5	1.2	0.0
82.5°	4.8	3.5	1.2	0.0
85°	4.8	3.5	1.2	1.2
87.5°	4.8	3.5	1.2	0.0
90°	0.0	0.0	0.0	0.0

Classified

Scaled Data Report

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— 0°-180° - - 45°-225° - - - 90°-270°

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(END OF REPORT)