

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: P1191667

Luminaire Tested: **LDA4A20940D010TE 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: P1191667
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: LDA4A20940D010TE 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 / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

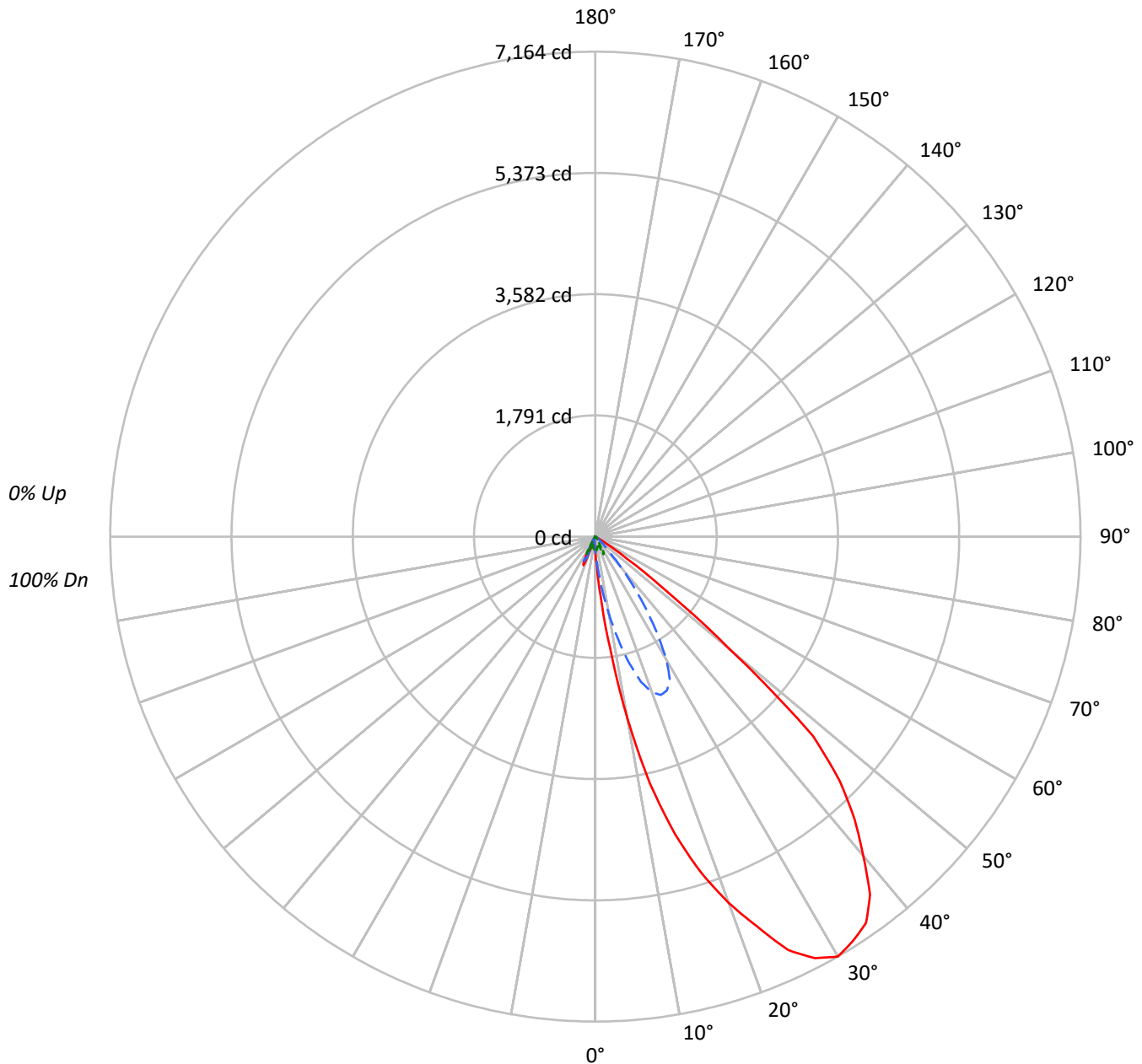
Lumens per Lamp: N/A
Luminaire Lumens: 2603.7 lumens
Efficiency: N/A
Efficacy: 90.4 lumens/watt
Spacing Criteria (0/90/45): 2.71 / 1.11 / 1.33
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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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CATALOG NUMBER: LDA4A20940D010TE LAR35FL 4LAL1 30° Tilt

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°	26396	26396	26396
5°	106334	24924	11676
10°	342805	20916	6713
15°	581544	16601	5210
20°	755818	14885	15712
25°	917184	39196	55677
30°	1020292	13801	14698
35°	1049508	8237	6911
40°	990959	3494	2464
45°	890641	1989	663
50°	501260	1228	0
55°	124404	817	0
60°	19193	937	0
65°	4465	1109	0
70°	938	1370	0
75°	0	1811	0
80°	0	3623	0
85°	0	7218	1840



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.0	1.7
10°-20°	319.5	12.3
20°-30°	738.1	28.3
30°-40°	827.9	31.8
40°-50°	577.7	22.2
50°-60°	86.2	3.3
60°-70°	5.6	0.2
70°-80°	2.8	0.1
80°-90°	2.7	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°	1100.6	42.3
0°-40°	1928.6	74.1
0°-60°	2592.5	99.6
0°-90°	2603.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2603.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	214	214	214	214	214	
5°	859	502	201	117	94	142
15°	4554	1938	130	50	41	1301
25°	6739	2505	288	401	409	3081
35°	6970	1302	55	46	46	4287
45°	5106	196	11	6	4	3746
55°	578	26	4	3	0	760
65°	15	4	4	3	0	24
75°	0	3	4	4	0	1
85°	0	3	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°	214.0	214.0	214.0	214.0	214.0	214.0	214.0	214.0	214.0	214.0	214.0
2.5°	389.9	386.0	375.9	373.3	382.3	374.6	378.5	386.0	378.5	369.5	378.5
5°	858.8	880.5	858.8	855.0	870.2	856.2	862.6	876.6	857.5	839.7	852.4
7.5°	1657.8	1671.7	1610.6	1632.3	1627.1	1631.0	1634.8	1634.8	1623.3	1591.5	1609.3
10°	2737.0	2747.1	2665.6	2693.7	2656.8	2693.7	2687.3	2659.2	2665.6	2622.3	2645.2
12.5°	3738.6	3771.7	3690.1	3716.8	3672.2	3714.4	3697.7	3690.1	3625.2	3625.2	3649.4
15°	4554.1	4629.2	4555.2	4583.3	4532.4	4591.0	4545.1	4565.5	4506.9	4434.2	4497.9
17.5°	5214.1	5287.9	5219.1	5253.6	5206.4	5252.3	5198.7	5242.2	5166.9	5114.7	5158.0
20°	5758.1	5813.0	5731.4	5779.8	5723.8	5769.7	5711.0	5768.4	5680.5	5642.2	5667.7
22.5°	6232.1	6253.9	6211.7	6293.3	6183.8	6232.1	6162.1	6220.7	6116.2	6067.8	6074.2
25°	6739.2	6787.7	6707.4	6738.1	6661.6	6694.6	6615.7	6670.5	6540.6	6471.6	6457.7
27.5°	7020.9	7089.6	7018.3	7052.7	6975.0	7003.1	6924.0	7003.1	6870.6	6802.9	6787.7
30°	7163.6	7196.7	7150.9	7173.8	7085.9	7099.9	7018.3	7103.7	6971.2	6911.3	6903.7
32.5°	7080.8	7147.0	7087.2	7116.4	7034.9	7049.0	6969.9	7061.7	6929.2	6874.3	6847.5
35°	6969.9	7037.4	6981.3	7011.9	6936.7	6947.0	6862.9	6943.1	6790.2	6722.7	6665.4
37.5°	6662.8	6726.5	6679.4	6689.6	6617.0	6609.4	6518.9	6586.3	6437.3	6380.0	6341.8
40°	6154.4	6211.7	6173.5	6195.2	6122.5	6106.0	6044.8	6107.3	5991.3	5949.2	5895.8
42.5°	5667.7	5714.8	5679.2	5713.5	5632.0	5610.4	5555.5	5634.6	5503.2	5468.9	5430.7
45°	5105.8	5135.0	5107.1	5136.3	5058.6	5024.2	4974.6	5042.0	4913.3	4881.5	4798.6
47.5°	4362.9	4331.1	4325.9	4354.0	4257.1	4185.7	4139.9	4226.5	4040.5	3978.1	3882.5
50°	2612.2	2665.6	2688.6	2669.5	2603.2	2505.0	2431.2	2536.9	2437.5	2284.6	2131.7
52.5°	1345.6	1285.7	1298.4	1304.8	1225.7	1196.5	1172.3	1196.5	1118.7	1079.2	982.5
55°	578.5	550.5	560.7	564.4	549.2	513.5	500.7	516.1	480.4	465.1	425.6
57.5°	214.0	214.0	207.6	210.2	205.2	192.4	189.8	196.2	184.8	181.0	165.7
60°	77.8	77.8	77.8	77.8	71.4	70.1	70.1	72.7	68.8	67.5	62.4
62.5°	33.2	34.5	31.9	33.2	31.9	30.6	31.9	30.6	30.6	29.2	29.2
65°	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	14.0	14.0
67.5°	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	6.4	6.4	6.4
70°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
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°	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°	214.0	214.0	214.0	214.0	214.0	214.0	214.0	214.0	214.0	214.0	214.0
2.5°	366.9	365.8	370.8	365.8	356.8	351.7	358.1	345.3	295.7	245.9	208.9
5°	829.6	823.2	814.2	816.8	795.1	777.3	777.3	742.8	502.0	285.4	201.3
7.5°	1572.4	1557.0	1492.2	1539.2	1493.3	1457.7	1433.5	1363.4	811.6	327.5	186.1
10°	2596.8	2570.0	2524.1	2533.1	2458.0	2398.0	2325.5	2208.2	1167.2	364.5	167.0
12.5°	3607.2	3580.6	3458.2	3528.3	3427.7	3369.0	3246.7	3109.1	1550.7	382.3	149.1
15°	4464.9	4441.9	4308.1	4374.4	4250.7	4196.0	4038.0	3885.1	1938.1	375.9	130.0
17.5°	5131.2	5127.5	4973.3	5039.4	4903.2	4858.6	4673.8	4523.4	2251.5	347.8	117.3
20°	5644.7	5635.9	5480.4	5546.7	5397.5	5354.2	5119.8	4961.8	2450.3	309.6	113.4
22.5°	6050.0	6032.0	5865.2	5922.6	5755.6	5699.6	5440.8	5276.5	2531.8	285.4	140.2
25°	6414.3	6382.5	6192.6	6237.2	6053.8	6065.2	5676.6	5495.7	2505.0	321.2	288.0
27.5°	6735.5	6678.1	6487.0	6499.7	6284.4	6172.2	5838.4	5638.3	2382.8	358.1	267.6
30°	6855.2	6799.2	6596.6	6604.3	6380.0	6222.0	5865.2	5642.2	2089.7	224.3	96.9
32.5°	6789.0	6727.8	6516.2	6518.9	6288.2	6127.6	5772.1	5526.3	1699.8	147.8	73.8
35°	6596.6	6532.9	6322.6	6332.8	6109.8	5950.5	5602.7	5340.2	1302.2	117.3	54.7
37.5°	6271.7	6227.1	6027.0	6044.8	5854.9	5685.5	5332.5	5048.4	918.7	84.1	34.5
40°	5853.6	5819.3	5625.6	5653.7	5447.2	5290.5	4912.0	4603.7	572.1	57.3	21.7
42.5°	5364.4	5327.4	5136.3	5158.0	4982.1	4758.0	4371.8	4022.7	299.4	40.8	15.3
45°	4754.0	4710.7	4517.0	4528.6	4320.8	4058.3	3658.2	3349.9	196.2	28.1	11.4
47.5°	3794.6	3716.8	3464.6	3454.3	3284.9	2855.4	2287.2	1851.4	130.0	19.1	7.7
50°	2085.8	2005.6	1783.9	1759.7	1571.1	1289.4	953.1	741.7	75.2	12.7	6.4
52.5°	949.3	907.2	804.1	787.4	707.2	586.1	451.0	370.8	43.3	9.0	5.1
55°	411.5	396.3	353.0	350.4	313.5	271.4	216.6	183.5	25.5	6.4	3.8
57.5°	161.9	156.7	147.8	141.5	127.4	113.4	94.3	79.1	16.5	5.1	3.8
60°	61.1	59.9	54.7	56.0	51.0	48.4	42.0	35.6	10.1	3.8	3.8
62.5°	28.1	28.1	26.8	26.8	25.5	22.9	20.4	19.1	6.4	3.8	3.8
65°	14.0	14.0	12.7	12.7	12.7	11.4	10.1	10.1	3.8	3.8	3.8
67.5°	6.4	6.4	6.4	6.4	6.4	5.1	5.1	5.1	2.6	3.8	3.8
70°	2.6	2.6	2.6	2.6	2.6	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°	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3	2.6	3.8	3.8
77.5°	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	2.6	3.8	5.1
80°	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	2.6	3.8	5.1
82.5°	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3	2.6	3.8	5.1
85°	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3	2.6	3.8	5.1
87.5°	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3	2.6	3.8	5.1
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°	214.0	214.0	214.0	214.0
2.5°	179.7	159.3	141.5	137.6
5°	147.8	117.3	98.2	94.3
7.5°	119.7	85.4	71.4	68.8
10°	98.2	68.8	56.0	53.6
12.5°	81.5	56.0	44.6	42.0
15°	70.1	49.7	40.8	40.8
17.5°	67.5	54.7	52.3	53.6
20°	87.9	99.3	118.4	119.7
22.5°	203.9	331.3	438.3	458.7
25°	366.9	401.4	391.2	409.1
27.5°	193.7	151.6	154.2	158.0
30°	84.1	93.0	98.2	103.2
32.5°	70.1	72.7	73.8	77.8
35°	45.9	45.9	44.6	45.9
37.5°	28.1	26.8	25.5	25.5
40°	17.8	16.5	15.3	15.3
42.5°	12.7	10.1	9.0	9.0
45°	9.0	6.4	5.1	3.8
47.5°	6.4	3.8	2.6	1.3
50°	5.1	3.8	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	0.0	0.0
62.5°	3.8	2.6	0.0	0.0
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°	3.8	2.6	1.3	0.0
75°	3.8	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	1.3
87.5°	5.1	3.8	1.3	0.0
90°	0.0	0.0	0.0	0.0

Classified

Scaled Data Report

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Scaled Data Report





— 0°-180° - - 45°-225° - - - 90°-270°

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(END OF REPORT)