

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: P1191919

Luminaire Tested: **LDA4A35935D010TE 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: P1191919
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: LDA4A35935D010TE 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 / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

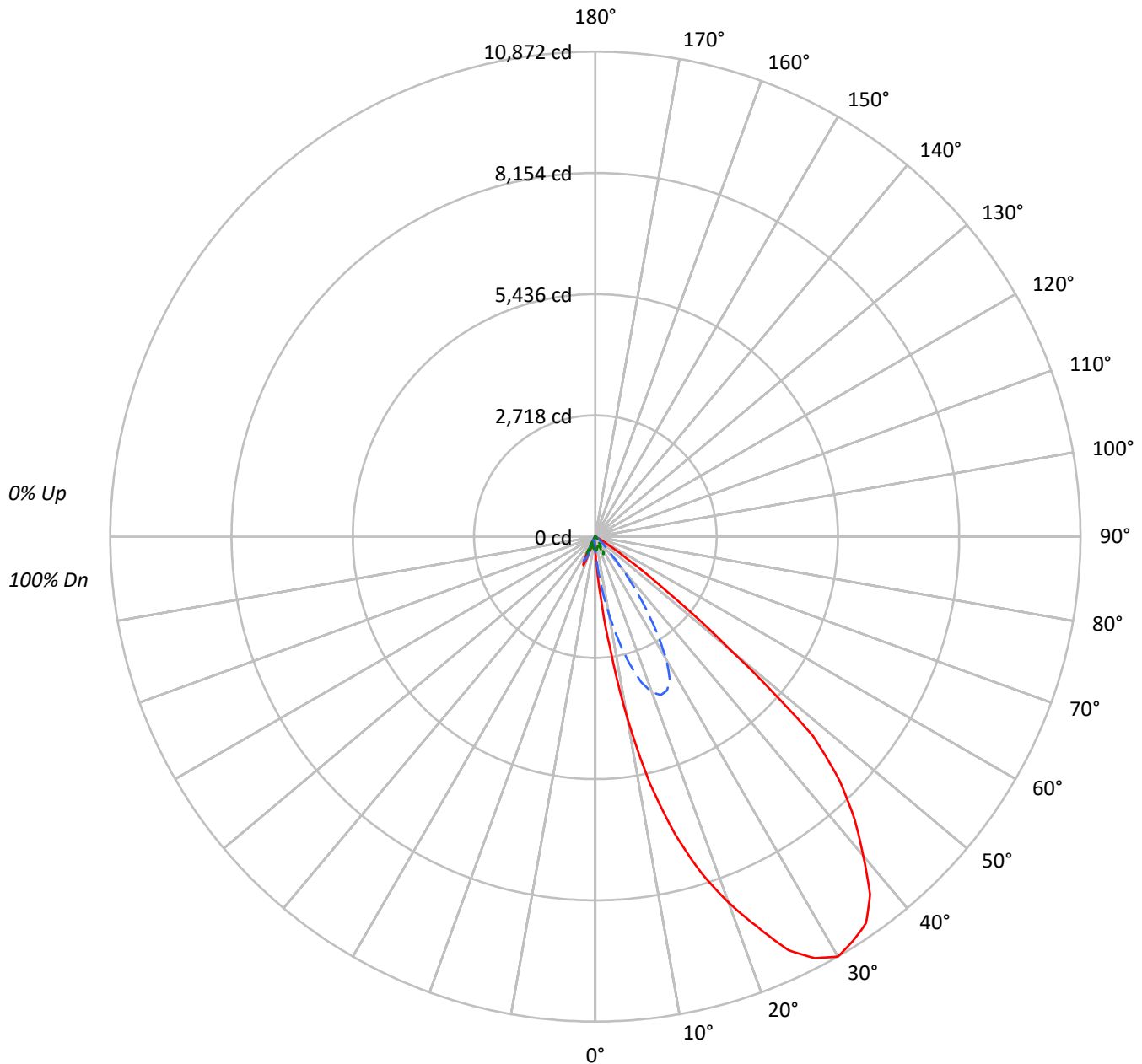
Lumens per Lamp: N/A
Luminaire Lumens: 3951.5 lumens
Efficiency: N/A
Efficacy: 83.9 lumens/watt
Spacing Criteria (0/90/45): 2.71 / 1.11 / 1.33
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 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
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111			106	106	106			102
1	112	109	106	103	110	107	104	102		103	101	99			99	97	96			95
2	105	99	94	90	103	97	93	89		94	90	87			91	88	85			88
3	98	90	84	79	96	89	83	79		86	81	77			84	79	76			81
4	91	82	75	70	89	81	75	70		79	73	69			77	72	68			75
5	85	75	68	62	83	74	67	62		72	66	61			70	65	61			68
6	79	68	61	56	78	67	60	55		66	60	55			64	59	55			63
7	74	62	55	50	72	62	55	50		60	54	49			59	53	49			58
8	69	57	50	45	68	57	50	45		55	49	44			54	48	44			53
9	64	53	45	40	63	52	45	40		51	45	40			50	44	40			49
10	60	48	41	37	59	48	41	37		47	41	36			46	40	36			45

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	40075	40075	40075
5°	161395	37838	17731
10°	520282	31725	10170
15°	882602	25195	7904
20°	1147122	22590	23850
25°	1392026	59474	84475
30°	1548512	20923	22304
35°	1592851	12528	10480
40°	1503989	5297	3736
45°	1351713	3018	994
50°	760755	1842	0
55°	188789	1226	0
60°	29110	1406	0
65°	6771	1664	0
70°	1406	2056	0
75°	0	2716	0
80°	0	5469	0
85°	0	10897	2830

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	65.3	1.7
10°-20°	485.0	12.3
20°-30°	1120.2	28.3
30°-40°	1256.5	31.8
40°-50°	876.8	22.2
50°-60°	130.9	3.3
60°-70°	8.5	0.2
70°-80°	4.2	0.1
80°-90°	4.1	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°	1670.4	42.3
0°-40°	2927.0	74.1
0°-60°	3934.6	99.6
0°-90°	3951.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3951.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	325	325	325	325	325	
5°	1304	762	306	178	143	216
15°	6912	2941	197	75	62	1975
25°	10228	3802	437	609	621	4676
35°	10578	1976	83	70	70	6507
45°	7749	298	17	10	6	5685
55°	878	39	6	4	0	1154
65°	23	6	6	4	0	36
75°	0	4	6	6	0	1
85°	0	4	8	6	2	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°	324.9	324.9	324.9	324.9	324.9	324.9	324.9	324.9	324.9	324.9	324.9
2.5°	591.8	585.9	570.5	566.6	580.2	568.6	574.3	585.9	574.3	560.9	574.3
5°	1303.5	1336.4	1303.5	1297.6	1320.8	1299.6	1309.2	1330.5	1301.5	1274.4	1293.7
7.5°	2516.0	2537.2	2444.4	2477.3	2469.6	2475.3	2481.2	2481.2	2463.7	2415.5	2442.4
10°	4154.0	4169.4	4045.7	4088.2	4032.1	4088.2	4078.5	4036.0	4045.7	3980.0	4014.8
12.5°	5673.9	5724.3	5600.5	5641.1	5573.4	5637.3	5612.1	5600.5	5501.8	5501.8	5538.6
15°	6911.7	7025.8	6913.5	6956.2	6878.7	6967.8	6898.2	6929.1	6840.2	6729.8	6826.6
17.5°	7913.4	8025.5	7921.1	7973.4	7901.8	7971.4	7890.2	7955.9	7841.8	7762.5	7828.3
20°	8739.2	8822.4	8698.5	8772.0	8686.9	8756.5	8667.6	8754.7	8621.2	8563.2	8601.9
22.5°	9458.6	9491.5	9427.6	9551.4	9385.1	9458.6	9352.2	9441.1	9282.6	9209.1	9218.7
25°	10228.2	10301.7	10180.0	10226.4	10110.4	10160.5	10040.7	10123.8	9926.5	9822.1	9800.8
27.5°	10655.6	10760.0	10651.8	10703.9	10586.1	10628.6	10508.6	10628.6	10427.4	10325.0	10301.7
30°	10872.3	10922.5	10852.8	10887.6	10754.3	10775.5	10651.8	10781.4	10580.2	10489.4	10477.8
32.5°	10746.6	10847.1	10756.2	10800.7	10677.0	10698.2	10578.3	10717.5	10516.5	10433.3	10392.6
35°	10578.3	10680.7	10595.7	10642.2	10528.1	10543.5	10415.8	10537.7	10305.7	10203.2	10116.1
37.5°	10112.2	10208.9	10137.3	10152.9	10042.5	10030.9	9893.7	9996.1	9769.9	9682.8	9624.8
40°	9340.6	9427.6	9369.6	9402.6	9292.2	9267.1	9174.3	9269.0	9093.0	9029.3	8948.1
42.5°	8601.9	8673.5	8619.2	8671.5	8547.7	8514.8	8431.6	8551.6	8352.4	8300.2	8242.2
45°	7749.0	7793.4	7750.9	7795.4	7677.4	7625.3	7549.9	7652.4	7457.1	7408.7	7283.0
47.5°	6621.6	6573.3	6565.4	6608.1	6461.0	6352.8	6283.2	6414.6	6132.3	6037.6	5892.6
50°	3964.5	4045.7	4080.5	4051.4	3950.9	3802.0	3689.9	3850.4	3699.5	3467.5	3235.4
52.5°	2042.2	1951.3	1970.6	1980.3	1860.3	1815.9	1779.1	1815.9	1697.9	1638.0	1491.0
55°	877.9	835.4	851.0	856.7	833.5	779.4	759.9	783.2	729.1	705.9	645.9
57.5°	324.9	324.9	315.3	319.0	311.3	292.0	288.1	297.8	280.4	274.6	251.4
60°	118.0	118.0	118.0	118.0	108.3	106.4	106.4	110.2	104.4	102.5	94.8
62.5°	50.3	52.1	48.4	50.3	48.4	46.4	48.4	46.4	46.4	44.5	44.5
65°	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	21.2	21.2
67.5°	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	9.6	9.6	9.6
70°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
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°	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

TEST NUMBER: P1191919

CATALOG NUMBER: LDA4A35935D010TE LAR35FL 4LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	11°	12°	13°	14°	15°	17.5°	20°	22.5°	45°	67.5°	90°
0°	324.9	324.9	324.9	324.9	324.9	324.9	324.9	324.9	324.9	324.9	324.9
2.5°	557.0	555.0	562.7	555.0	541.4	533.8	543.4	524.1	448.6	373.3	317.2
5°	1258.9	1249.3	1235.7	1239.6	1206.8	1179.6	1179.6	1127.5	761.9	433.2	305.6
7.5°	2386.4	2363.2	2264.6	2336.1	2266.4	2212.3	2175.6	2069.2	1231.9	497.0	282.4
10°	3941.3	3900.6	3830.9	3844.5	3730.4	3639.6	3529.3	3351.4	1771.4	553.0	253.3
12.5°	5474.9	5434.2	5248.5	5354.9	5202.1	5113.2	4927.5	4718.7	2353.5	580.2	226.2
15°	6776.3	6741.4	6538.5	6639.0	6451.4	6368.2	6128.4	5896.4	2941.4	570.5	197.3
17.5°	7787.7	7781.8	7548.0	7648.5	7441.6	7373.9	7093.5	6865.3	3417.1	527.9	178.0
20°	8567.1	8553.5	8317.6	8418.2	8191.9	8126.2	7770.2	7530.5	3718.8	469.9	172.1
22.5°	9182.1	9155.0	8901.6	8988.6	8735.3	8650.3	8257.6	8008.2	3842.5	433.2	212.8
25°	9735.1	9686.8	9398.6	9466.3	9187.8	9205.3	8615.5	8340.8	3802.0	487.3	437.0
27.5°	10222.5	10135.4	9845.3	9864.7	9537.9	9367.7	8861.0	8557.5	3616.4	543.4	406.1
30°	10404.2	10319.2	10011.7	10023.3	9682.8	9443.1	8901.6	8563.2	3171.5	340.4	146.9
32.5°	10303.7	10210.9	9889.9	9893.7	9543.6	9299.9	8760.4	8387.2	2579.7	224.4	112.1
35°	10011.7	9914.9	9595.9	9611.4	9273.0	9031.2	8503.2	8104.9	1976.4	178.0	83.2
37.5°	9518.6	9450.8	9147.3	9174.3	8886.1	8628.9	8093.3	7662.0	1394.4	127.6	52.1
40°	8884.2	8832.0	8538.0	8580.7	8267.4	8029.4	7455.1	6987.1	868.3	87.0	32.9
42.5°	8141.5	8085.5	7795.4	7828.3	7561.5	7221.1	6635.1	6105.2	454.5	61.9	23.2
45°	7215.2	7149.5	6855.5	6873.0	6557.8	6159.3	5552.2	5084.1	297.8	42.5	17.3
47.5°	5759.1	5641.1	5258.2	5242.8	4985.6	4333.8	3471.2	2810.0	197.3	28.9	11.6
50°	3165.8	3043.9	2707.4	2670.7	2384.4	1957.1	1446.5	1125.5	114.1	19.3	9.6
52.5°	1440.8	1376.9	1220.3	1195.2	1073.2	889.5	684.6	562.7	65.7	13.6	7.7
55°	624.6	601.4	535.7	531.8	475.7	411.8	328.8	278.5	38.7	9.6	5.7
57.5°	245.6	237.8	224.4	214.6	193.3	172.1	143.2	120.0	25.2	7.7	5.7
60°	92.8	90.9	83.2	85.1	77.3	73.5	63.7	54.1	15.5	5.7	5.7
62.5°	42.5	42.5	40.5	40.5	38.7	34.8	30.9	28.9	9.6	5.7	5.7
65°	21.2	21.2	19.3	19.3	19.3	17.3	15.5	15.5	5.7	5.7	5.7
67.5°	9.6	9.6	9.6	9.6	9.6	7.7	7.7	7.7	3.9	5.7	5.7
70°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	5.7	5.7
72.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.9	5.7	5.7
75°	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	3.9	5.7	5.7
77.5°	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	3.9	5.7	7.7
80°	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	3.9	5.7	7.7
82.5°	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	3.9	5.7	7.7
85°	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	3.9	5.7	7.7
87.5°	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	3.9	5.7	7.7
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°	324.9	324.9	324.9	324.9
2.5°	272.6	241.7	214.6	208.9
5°	224.4	178.0	148.9	143.2
7.5°	181.7	129.6	108.3	104.4
10°	148.9	104.4	85.1	81.2
12.5°	123.7	85.1	67.7	63.7
15°	106.4	75.3	61.9	61.9
17.5°	102.5	83.2	79.3	81.2
20°	133.4	150.8	179.8	181.7
22.5°	309.4	502.9	665.3	696.2
25°	557.0	609.1	593.7	620.7
27.5°	294.0	230.1	234.0	239.8
30°	127.6	141.2	148.9	156.6
32.5°	106.4	110.2	112.1	118.0
35°	69.6	69.6	67.7	69.6
37.5°	42.5	40.5	38.7	38.7
40°	27.1	25.2	23.2	23.2
42.5°	19.3	15.5	13.6	13.6
45°	13.6	9.6	7.7	5.7
47.5°	9.6	5.7	3.9	2.0
50°	7.7	5.7	2.0	0.0
52.5°	5.7	3.9	2.0	0.0
55°	5.7	3.9	0.0	0.0
57.5°	5.7	3.9	0.0	0.0
60°	5.7	3.9	0.0	0.0
62.5°	5.7	3.9	0.0	0.0
65°	5.7	3.9	2.0	0.0
67.5°	5.7	3.9	2.0	0.0
70°	5.7	3.9	2.0	0.0
72.5°	5.7	3.9	2.0	0.0
75°	5.7	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	2.0
87.5°	7.7	5.7	2.0	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)