

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: P1191901

Luminaire Tested: **LDA4A35930D010TE 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: P1191901
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: LDA4A35930D010TE 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

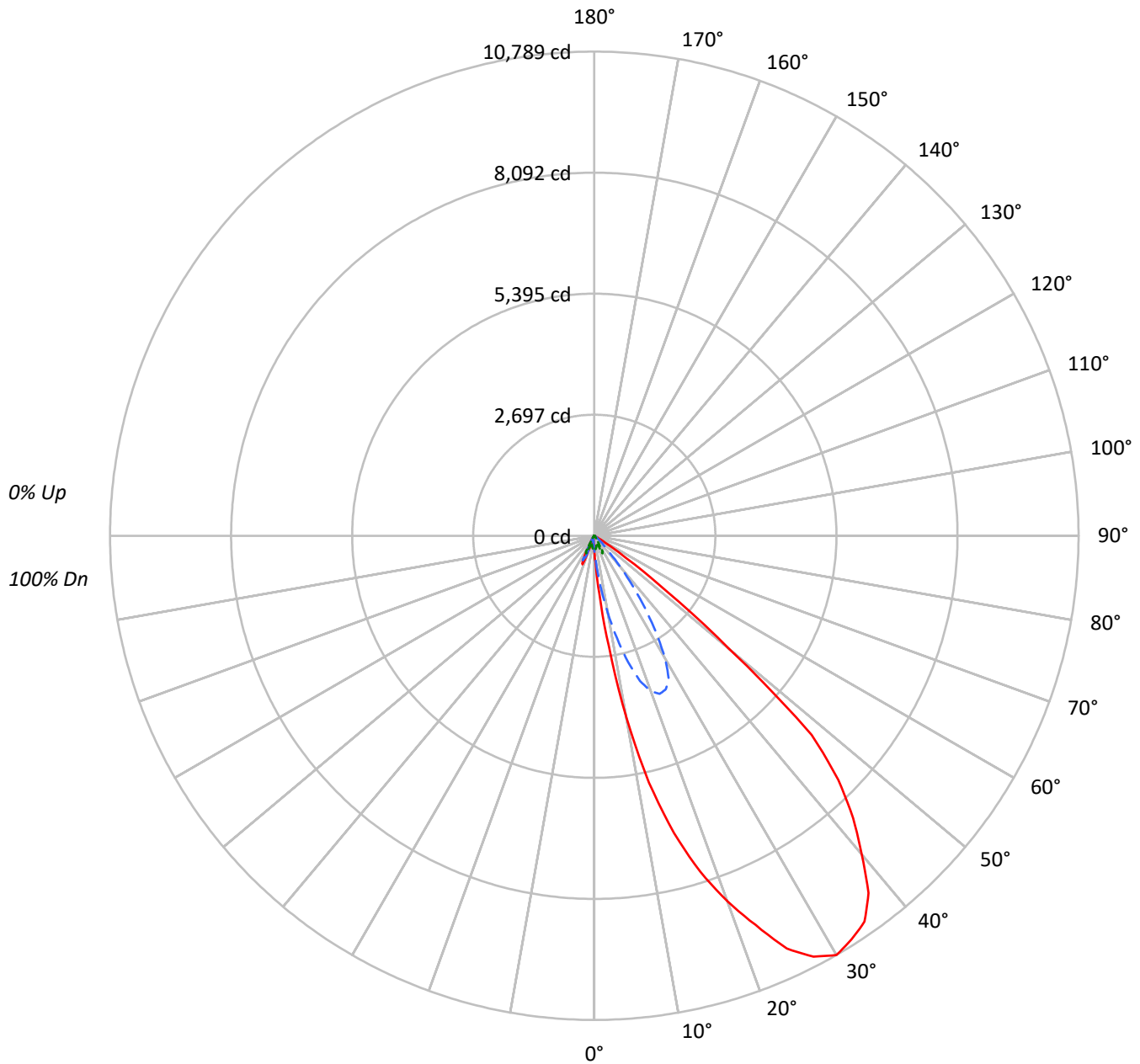
Lumens per Lamp: N/A
Luminaire Lumens: 3921.3 lumens
Efficiency: N/A
Efficacy: 83.3 lumens/watt
Spacing Criteria (0/90/45): 2.71 / 1.11 / 1.33
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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	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°	39754	39754	39754
5°	160145	37541	17582
10°	516287	31487	10095
15°	875834	25003	7853
20°	1138314	22406	23680
25°	1381356	59025	83836
30°	1536633	20780	22147
35°	1580639	12438	10390
40°	1492460	5233	3719
45°	1341351	3018	994
50°	754902	1842	0
55°	187370	1226	0
60°	28888	1406	0
65°	6742	1664	0
70°	1370	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°	64.8	1.7
10°-20°	481.3	12.3
20°-30°	1111.6	28.3
30°-40°	1246.9	31.8
40°-50°	870.0	22.2
50°-60°	129.9	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°	1657.6	42.3
0°-40°	2904.5	74.1
0°-60°	3904.4	99.6
0°-90°	3921.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3921.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	322	322	322	322	322	
5°	1293	756	303	177	142	214
15°	6859	2919	196	75	62	1960
25°	10150	3773	434	604	616	4640
35°	10497	1961	83	69	69	6457
45°	7690	296	17	10	6	5642
55°	871	38	6	4	0	1145
65°	23	6	6	4	0	35
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°	322.3	322.3	322.3	322.3	322.3	322.3	322.3	322.3	322.3	322.3	322.3
2.5°	587.3	581.5	566.2	562.2	575.7	564.2	569.9	581.5	569.9	556.5	569.9
5°	1293.4	1326.1	1293.4	1287.7	1310.7	1289.6	1299.1	1320.4	1291.4	1264.6	1283.9
7.5°	2496.7	2517.8	2425.7	2458.3	2450.6	2456.3	2462.2	2462.2	2444.9	2396.9	2423.8
10°	4122.1	4137.5	4014.6	4056.8	4001.2	4056.8	4047.3	4005.0	4014.6	3949.4	3983.9
12.5°	5630.5	5680.4	5557.6	5597.8	5530.8	5594.1	5569.0	5557.6	5459.6	5459.6	5496.1
15°	6858.7	6971.9	6860.6	6902.8	6826.1	6914.3	6845.3	6876.0	6787.7	6678.3	6774.3
17.5°	7852.8	7964.0	7860.5	7912.2	7841.2	7910.4	7829.8	7895.0	7781.7	7703.0	7768.3
20°	8672.1	8754.7	8631.9	8704.8	8620.5	8689.5	8601.2	8687.5	8555.2	8497.5	8535.9
22.5°	9386.1	9418.7	9355.4	9478.2	9313.2	9386.1	9280.5	9368.8	9211.5	9138.5	9148.2
25°	10149.8	10222.8	10101.9	10147.9	10032.8	10082.6	9963.7	10046.2	9850.4	9746.9	9725.8
27.5°	10573.9	10677.6	10570.1	10622.0	10504.9	10547.1	10428.2	10547.1	10347.6	10245.8	10222.8
30°	10788.9	10838.8	10769.6	10804.3	10671.8	10692.9	10570.1	10698.7	10499.2	10408.9	10397.4
32.5°	10664.2	10763.9	10673.8	10718.0	10595.1	10616.2	10497.2	10635.4	10435.9	10353.3	10313.0
35°	10497.2	10598.9	10514.5	10560.5	10447.3	10462.7	10336.0	10457.0	10226.7	10125.0	10038.5
37.5°	10034.7	10130.7	10059.7	10074.9	9965.7	9954.1	9817.9	9919.6	9695.0	9608.7	9551.1
40°	9269.0	9355.4	9297.8	9330.4	9221.0	9196.1	9104.0	9198.1	9023.4	8960.1	8879.5
42.5°	8535.9	8606.9	8553.2	8605.1	8482.3	8449.6	8367.1	8486.0	8288.3	8236.6	8179.1
45°	7689.6	7733.8	7691.6	7735.7	7618.6	7566.8	7491.9	7593.6	7399.8	7351.9	7227.1
47.5°	6570.9	6522.8	6515.1	6557.4	6411.6	6304.1	6235.0	6365.5	6085.3	5991.3	5847.4
50°	3934.0	4014.6	4049.1	4020.4	3920.6	3772.9	3661.6	3820.8	3671.2	3440.8	3210.5
52.5°	2026.5	1936.3	1955.6	1965.0	1846.2	1802.0	1765.5	1802.0	1684.9	1625.4	1479.5
55°	871.3	829.0	844.3	850.1	827.2	773.4	754.2	777.3	723.5	700.4	640.9
57.5°	322.3	322.3	312.8	316.6	308.9	289.8	285.9	295.5	278.3	272.5	249.5
60°	117.1	117.1	117.1	117.1	107.4	105.5	105.5	109.4	103.7	101.7	94.0
62.5°	49.9	51.8	47.9	49.9	47.9	46.1	47.9	46.1	46.1	44.2	44.2
65°	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1	21.1	21.1
67.5°	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	9.6	9.6	9.6
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°	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

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CANDELA DISTRIBUTION (continued):

	11°	12°	13°	14°	15°	17.5°	20°	22.5°	45°	67.5°	90°
0°	322.3	322.3	322.3	322.3	322.3	322.3	322.3	322.3	322.3	322.3	322.3
2.5°	552.7	550.8	558.5	550.8	537.4	529.7	539.2	520.0	445.2	370.4	314.6
5°	1249.3	1239.8	1226.3	1230.1	1197.4	1170.6	1170.6	1118.8	756.0	429.9	303.2
7.5°	2368.2	2345.1	2247.1	2318.3	2249.1	2195.5	2159.0	2053.4	1222.4	493.2	280.1
10°	3911.0	3870.7	3801.7	3815.1	3701.8	3611.7	3502.3	3325.7	1757.8	548.8	251.4
12.5°	5432.8	5392.6	5208.3	5313.9	5162.2	5074.0	4889.7	4682.5	2335.5	575.7	224.5
15°	6724.4	6689.8	6488.3	6588.0	6401.9	6319.5	6081.4	5851.1	2918.9	566.2	195.8
17.5°	7728.0	7722.3	7490.1	7589.9	7384.5	7317.4	7039.1	6812.6	3390.9	524.0	176.6
20°	8501.4	8488.0	8253.8	8353.6	8129.0	8063.8	7710.7	7472.8	3690.3	466.4	170.7
22.5°	9111.7	9084.7	8833.4	8919.7	8668.4	8584.0	8194.3	7946.8	3813.2	429.9	211.1
25°	9660.5	9612.5	9326.6	9393.8	9117.4	9134.6	8549.3	8276.9	3772.9	483.6	433.7
27.5°	10144.1	10057.8	9769.9	9789.1	9464.8	9295.9	8793.1	8491.8	3588.6	539.2	403.0
30°	10324.5	10240.1	9935.0	9946.4	9608.7	9370.8	8833.4	8497.5	3147.2	337.7	145.9
32.5°	10224.7	10132.7	9814.1	9817.9	9470.5	9228.7	8693.2	8323.0	2560.0	222.6	111.4
35°	9935.0	9839.0	9522.4	9537.7	9201.8	8961.9	8438.1	8042.7	1961.3	176.6	82.6
37.5°	9445.5	9378.4	9077.1	9104.0	8818.0	8562.7	8031.2	7603.3	1383.7	126.6	51.8
40°	8816.1	8764.4	8472.6	8514.8	8203.9	7967.9	7397.9	6933.6	861.7	86.3	32.5
42.5°	8079.2	8023.6	7735.7	7768.3	7503.5	7165.8	6584.3	6058.5	451.0	61.5	23.1
45°	7159.9	7094.7	6803.1	6820.3	6507.6	6112.1	5509.5	5045.2	295.5	42.2	17.3
47.5°	5714.9	5597.8	5217.9	5202.6	4947.3	4300.7	3444.7	2788.4	195.8	28.8	11.5
50°	3141.5	3020.7	2686.7	2650.3	2366.2	1942.1	1435.5	1116.9	113.2	19.1	9.6
52.5°	1429.6	1366.3	1211.0	1186.0	1065.1	882.8	679.3	558.5	65.3	13.4	7.7
55°	619.8	596.9	531.6	527.7	472.1	408.8	326.3	276.4	38.4	9.6	5.7
57.5°	243.7	236.0	222.6	213.1	191.8	170.7	142.0	119.0	25.0	7.7	5.7
60°	92.1	90.3	82.6	84.4	76.7	72.9	63.3	53.8	15.4	5.7	5.7
62.5°	42.2	42.2	40.2	40.2	38.4	34.5	30.7	28.8	9.6	5.7	5.7
65°	21.1	21.1	19.1	19.1	19.1	17.3	15.4	15.4	5.7	5.7	5.7
67.5°	9.6	9.6	9.6	9.6	9.6	7.7	7.7	7.7	3.8	5.7	5.7
70°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	5.7	5.7
72.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.8	5.7	5.7
75°	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	3.8	5.7	5.7
77.5°	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	3.8	5.7	7.7
80°	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	3.8	5.7	7.7
82.5°	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	3.8	5.7	7.7
85°	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	3.8	5.7	7.7
87.5°	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	3.8	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°	322.3	322.3	322.3	322.3
2.5°	270.6	239.9	213.1	207.2
5°	222.6	176.6	147.8	142.0
7.5°	180.4	128.5	107.4	103.7
10°	147.8	103.7	84.4	80.6
12.5°	122.8	84.4	67.2	63.3
15°	105.5	74.9	61.5	61.5
17.5°	101.7	82.6	78.7	80.6
20°	132.5	149.6	178.4	180.4
22.5°	307.1	498.9	660.2	690.9
25°	552.7	604.4	589.2	616.0
27.5°	291.7	228.3	232.2	237.9
30°	126.6	140.1	147.8	155.5
32.5°	105.5	109.4	111.4	117.1
35°	69.0	69.0	67.2	69.0
37.5°	42.2	40.2	38.4	38.4
40°	26.8	25.0	23.1	23.1
42.5°	19.1	15.4	13.4	13.4
45°	13.4	9.6	7.7	5.7
47.5°	9.6	5.7	3.8	2.0
50°	7.7	5.7	2.0	0.0
52.5°	5.7	3.8	2.0	0.0
55°	5.7	3.8	0.0	0.0
57.5°	5.7	3.8	0.0	0.0
60°	5.7	3.8	0.0	0.0
62.5°	5.7	3.8	0.0	0.0
65°	5.7	3.8	2.0	0.0
67.5°	5.7	3.8	2.0	0.0
70°	5.7	3.8	2.0	0.0
72.5°	5.7	3.8	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)