

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: P1191427

Luminaire Tested: **LDA4A10927D010TE 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: P1191427
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: LDA4A10927D010TE 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 / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

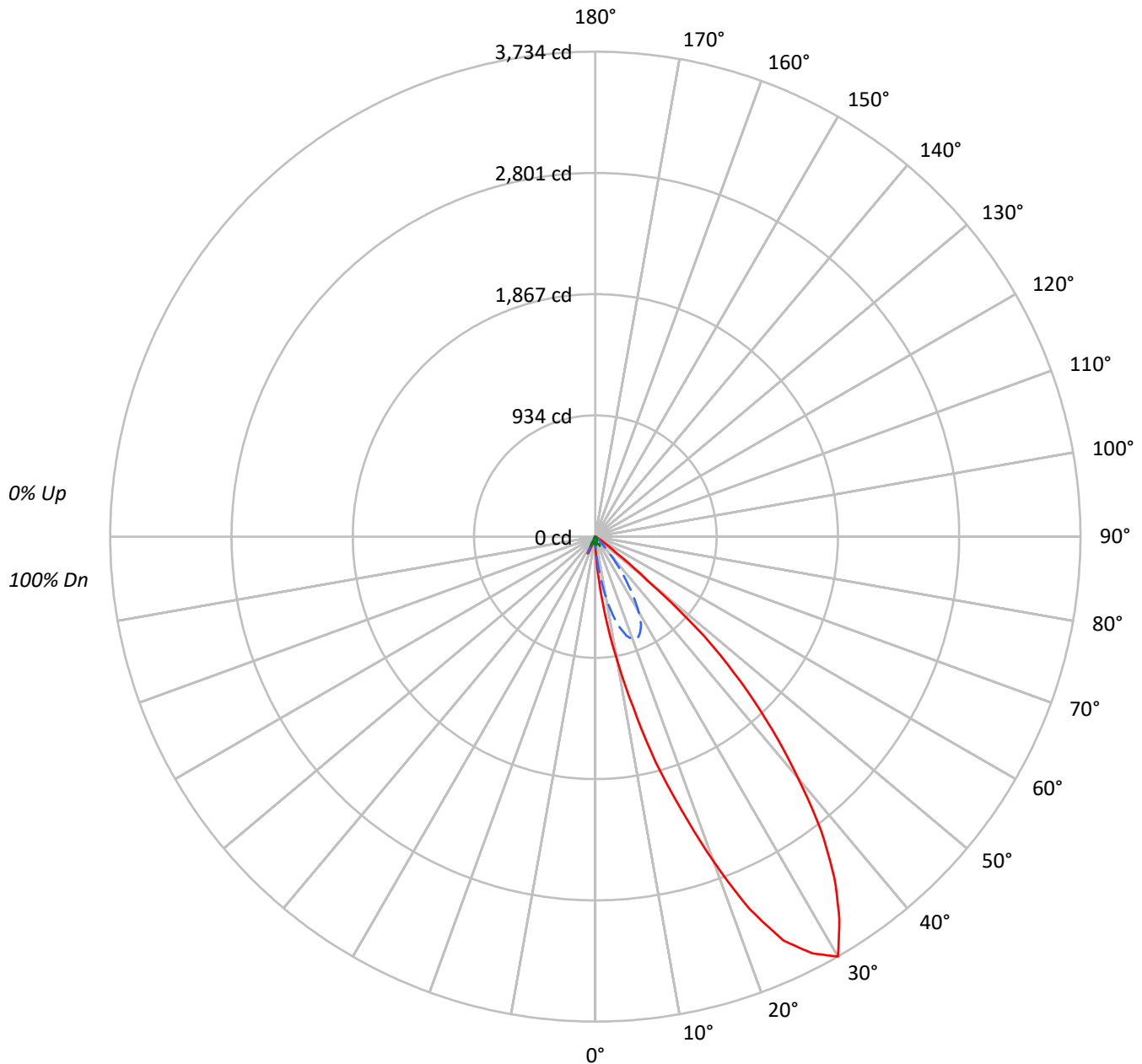
Lumens per Lamp: N/A
Luminaire Lumens: 971.9 lumens
Efficiency: N/A
Efficacy: 78.4 lumens/watt
Spacing Criteria (0/90/45): 2.53 / 1.09 / 1.29
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 12.4
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	104	110	107	104	102	103	101	99	99	98	96	96	94	93	91		
2	106	100	95	91	103	98	94	90	95	91	88	92	89	86	89	86	84	83		
3	99	91	85	81	97	90	84	80	87	82	79	84	81	77	82	79	76	74		
4	92	83	77	72	90	82	76	71	80	74	70	78	73	69	76	72	69	67		
5	86	76	69	64	84	75	69	64	73	67	63	71	66	62	70	65	62	60		
6	80	70	63	57	79	69	62	57	67	61	57	66	60	56	64	60	56	54		
7	75	64	57	52	74	63	56	51	62	56	51	61	55	51	59	54	51	49		
8	70	59	52	47	69	58	51	47	57	51	46	56	50	46	55	50	46	44		
9	66	54	47	42	64	54	47	42	53	46	42	52	46	42	51	45	42	40		
10	62	50	43	38	60	50	43	38	49	42	38	48	42	38	47	42	38	36		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	8918	8918	8918
5°	45874	8296	3875
10°	120890	6926	2029
15°	230110	5427	1558
20°	349497	4502	4161
25°	467016	10711	19299
30°	531752	4045	3903
35°	483007	2289	1762
40°	391205	1031	725
45°	276832	593	174
50°	101012	365	0
55°	21010	323	0
60°	5057	370	0
65°	1547	438	0
70°	541	541	0
75°	238	715	0
80°	0	1065	0
85°	0	2123	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	16.4	1.7
10°-20°	122.2	12.6
20°-30°	310.0	31.9
30°-40°	331.8	34.1
40°-50°	169.6	17.4
50°-60°	17.7	1.8
60°-70°	2.0	0.2
70°-80°	1.1	0.1
80°-90°	1.0	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°	448.6	46.2
0°-40°	780.4	80.3
0°-60°	967.7	99.6
0°-90°	971.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	971.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	72	72	72	72	72	
5°	370	201	67	39	31	54
15°	1802	724	42	15	12	532
25°	3432	816	79	132	142	1559
35°	3208	414	15	12	12	1969
45°	1587	55	3	2	1	1184
55°	98	9	2	1	0	133
65°	5	2	2	1	0	7
75°	0	1	2	2	0	0
85°	0	1	2	2	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°	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3
2.5°	146.1	147.6	136.8	140.2	142.7	137.8	136.8	136.8	142.3	139.3	144.2
5°	370.5	369.0	350.4	355.8	359.7	350.4	354.9	348.0	356.3	350.9	356.3
7.5°	647.1	664.3	640.7	646.2	649.5	639.8	642.2	632.4	641.7	635.3	639.8
10°	965.2	982.8	955.4	959.9	962.3	953.0	953.5	940.8	949.2	942.3	945.2
12.5°	1345.5	1352.3	1339.2	1342.5	1344.1	1331.8	1308.9	1311.3	1319.6	1307.9	1310.8
15°	1802.0	1797.1	1781.5	1792.7	1781.5	1775.6	1741.0	1738.9	1743.9	1730.6	1709.6
17.5°	2204.2	2241.4	2223.8	2230.2	2216.5	2216.5	2172.0	2164.6	2165.1	2130.0	2126.0
20°	2662.6	2710.2	2667.1	2669.0	2650.9	2650.4	2596.3	2581.1	2574.8	2534.6	2523.4
22.5°	3104.5	3118.3	3117.8	3109.4	3066.9	3091.4	3023.4	2999.4	2979.9	2934.5	2911.9
25°	3431.5	3474.5	3445.2	3424.2	3387.0	3417.9	3341.6	3310.3	3280.9	3242.8	3213.5
27.5°	3616.3	3656.3	3649.4	3618.2	3580.1	3609.9	3526.4	3485.7	3444.2	3416.3	3379.6
30°	3733.5	3794.6	3774.6	3706.6	3650.9	3660.8	3566.9	3512.6	3466.6	3437.9	3391.4
32.5°	3495.6	3558.6	3552.7	3503.3	3474.5	3498.5	3416.8	3363.1	3319.1	3296.1	3244.4
35°	3207.7	3281.4	3265.4	3224.2	3203.2	3231.1	3151.4	3106.4	3062.0	3042.0	2985.3
37.5°	2855.2	2924.7	2908.5	2869.4	2848.9	2869.4	2793.2	2751.7	2709.6	2688.6	2650.0
40°	2429.6	2490.7	2473.5	2437.3	2420.3	2434.9	2368.9	2332.7	2297.1	2281.4	2230.2
42.5°	2013.7	2062.5	2046.9	2015.6	2002.3	2012.1	1957.9	1925.7	1894.4	1881.2	1850.9
45°	1587.0	1635.4	1620.2	1593.3	1581.1	1586.5	1541.0	1512.2	1485.3	1473.1	1445.7
47.5°	1138.7	1193.0	1174.4	1151.5	1138.7	1136.3	1096.3	1070.3	1072.8	1031.2	1005.9
50°	526.4	572.3	553.7	541.5	529.4	522.5	508.4	478.9	487.3	449.6	435.0
52.5°	191.1	202.4	197.9	194.0	190.2	188.6	183.8	176.4	177.4	168.1	163.7
55°	97.7	103.2	101.6	99.2	99.2	97.7	95.3	92.3	90.4	88.9	87.5
57.5°	45.0	47.9	46.9	46.0	46.0	45.0	43.9	42.5	43.4	41.0	40.5
60°	20.5	22.0	21.5	21.0	21.0	21.0	20.5	20.0	20.0	19.5	19.1
62.5°	9.8	10.7	10.3	10.3	10.3	10.3	9.8	9.8	9.8	9.8	9.3
65°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	4.8	5.3	4.8	4.8
67.5°	2.9	2.9	2.9	2.9	2.4	2.9	2.9	2.4	2.4	2.4	2.4
70°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
72.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
75°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
77.5°	0.0	0.5	0.5	0.5	0.0	0.5	0.5	0.5	0.5	0.5	0.5
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	0.5	0.0	0.5	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: P1191427

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CANDELA DISTRIBUTION (continued):

	11°	12°	13°	14°	15°	17.5°	20°	22.5°	45°	67.5°	90°
0°	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3
2.5°	133.0	136.4	139.7	138.8	133.9	133.5	131.5	132.5	103.2	83.6	69.9
5°	337.3	341.6	346.1	343.5	331.4	328.5	318.7	316.7	201.4	98.7	67.0
7.5°	616.4	618.8	622.2	619.3	601.2	592.8	572.3	552.3	338.7	119.2	62.0
10°	918.9	917.9	919.4	915.4	892.9	876.8	845.0	830.9	479.9	136.8	55.3
12.5°	1271.7	1267.8	1246.4	1256.6	1224.8	1192.1	1139.8	1095.8	613.4	146.6	48.9
15°	1683.8	1672.1	1664.2	1652.4	1613.3	1560.6	1480.9	1432.1	724.4	145.6	42.5
17.5°	2093.3	2074.3	2040.0	2044.4	1999.0	1925.1	1820.1	1736.5	801.1	133.5	37.6
20°	2480.9	2452.5	2409.6	2406.1	2351.3	2254.2	2121.7	2018.0	843.1	113.4	34.3
22.5°	2854.3	2810.3	2752.6	2734.5	2664.2	2526.4	2353.4	2227.3	847.0	94.8	41.0
25°	3148.5	3093.3	3029.2	2998.0	2920.3	2744.3	2528.8	2373.9	815.7	93.9	78.7
27.5°	3312.8	3250.2	3186.2	3143.6	3064.9	2865.6	2621.6	2442.8	762.0	100.6	74.8
30°	3321.6	3251.1	3184.6	3130.9	3052.7	2839.6	2580.6	2394.4	665.2	63.6	28.4
32.5°	3175.3	3100.2	3033.7	2973.1	2895.9	2681.2	2427.1	2249.2	541.1	44.5	20.0
35°	2919.8	2842.1	2778.6	2714.5	2642.1	2440.4	2207.2	2041.4	413.5	35.2	15.2
37.5°	2571.8	2500.0	2443.7	2400.3	2322.0	2161.3	1948.2	1772.7	292.3	25.0	9.3
40°	2182.3	2121.7	2075.7	2038.1	1965.8	1823.0	1608.0	1459.8	177.4	17.6	6.4
42.5°	1790.3	1733.6	1693.1	1657.4	1590.4	1464.3	1287.4	1138.7	85.1	12.2	4.5
45°	1392.5	1341.6	1307.4	1275.2	1215.0	1090.8	950.6	843.1	55.3	8.8	3.4
47.5°	951.1	924.7	868.4	833.3	771.8	676.9	545.4	427.2	36.7	6.4	2.4
50°	395.4	381.7	344.5	320.6	285.4	237.0	172.1	144.2	22.5	4.5	1.9
52.5°	153.5	150.0	140.7	135.4	126.6	113.9	94.8	84.6	13.6	3.4	1.9
55°	82.5	81.6	76.7	73.8	68.9	62.5	51.3	45.0	8.8	2.4	1.5
57.5°	38.1	37.6	35.2	35.2	31.7	29.3	24.5	22.0	5.3	1.9	1.5
60°	18.1	18.1	17.1	17.1	15.7	14.6	12.2	11.2	3.4	1.5	1.5
62.5°	8.8	8.8	8.8	8.8	8.3	7.8	6.9	6.4	2.4	1.5	1.5
65°	4.8	4.8	4.8	4.8	4.5	4.5	3.9	3.4	1.9	1.5	1.5
67.5°	2.4	2.4	2.4	2.4	2.4	2.4	1.9	1.9	1.5	1.5	1.5
70°	1.5	1.5	1.5	1.5	1.5	1.0	1.0	1.0	1.0	1.5	1.5
72.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.5	1.5
75°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.5	1.5
77.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.5	1.5
80°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.5	1.5
82.5°	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.5	1.5
85°	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	1.0	1.5	1.5
87.5°	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5	1.0	1.5	1.5
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°	72.3	72.3	72.3	72.3
2.5°	60.1	52.4	48.4	47.4
5°	49.4	38.6	33.2	31.3
7.5°	40.1	27.9	23.4	21.5
10°	31.7	22.0	17.6	16.2
12.5°	26.4	17.6	14.1	13.2
15°	22.5	15.2	12.7	12.2
17.5°	20.5	16.2	15.2	15.7
20°	25.0	26.4	30.8	31.7
22.5°	52.7	91.5	124.2	131.5
25°	109.9	132.0	136.8	141.8
27.5°	61.1	47.4	46.5	48.4
30°	25.0	25.5	26.4	27.4
32.5°	18.6	18.6	18.1	18.6
35°	12.7	11.7	11.2	11.7
37.5°	7.8	7.4	6.9	6.9
40°	5.3	4.8	4.5	4.5
42.5°	3.9	2.9	2.4	2.4
45°	2.9	1.9	1.5	1.0
47.5°	2.4	1.5	0.5	0.5
50°	1.9	1.0	0.5	0.0
52.5°	1.5	1.0	0.5	0.0
55°	1.5	1.0	0.0	0.0
57.5°	1.5	1.0	0.0	0.0
60°	1.5	1.0	0.5	0.0
62.5°	1.5	1.0	0.5	0.5
65°	1.5	1.0	0.5	0.0
67.5°	1.5	1.0	0.5	0.0
70°	1.5	1.0	0.5	0.0
72.5°	1.9	1.0	0.5	0.0
75°	1.9	1.5	0.5	0.0
77.5°	1.9	1.5	0.5	0.0
80°	1.9	1.5	0.5	0.0
82.5°	1.9	1.5	0.5	0.0
85°	1.9	1.5	0.5	0.0
87.5°	1.9	1.5	0.5	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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Peachtree City, GA 30269

Scaled Data Report



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(END OF REPORT)