

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: P1191463

Luminaire Tested: **LDA4A10935D010TE 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: P1191463
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: LDA4A10935D010TE 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 / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

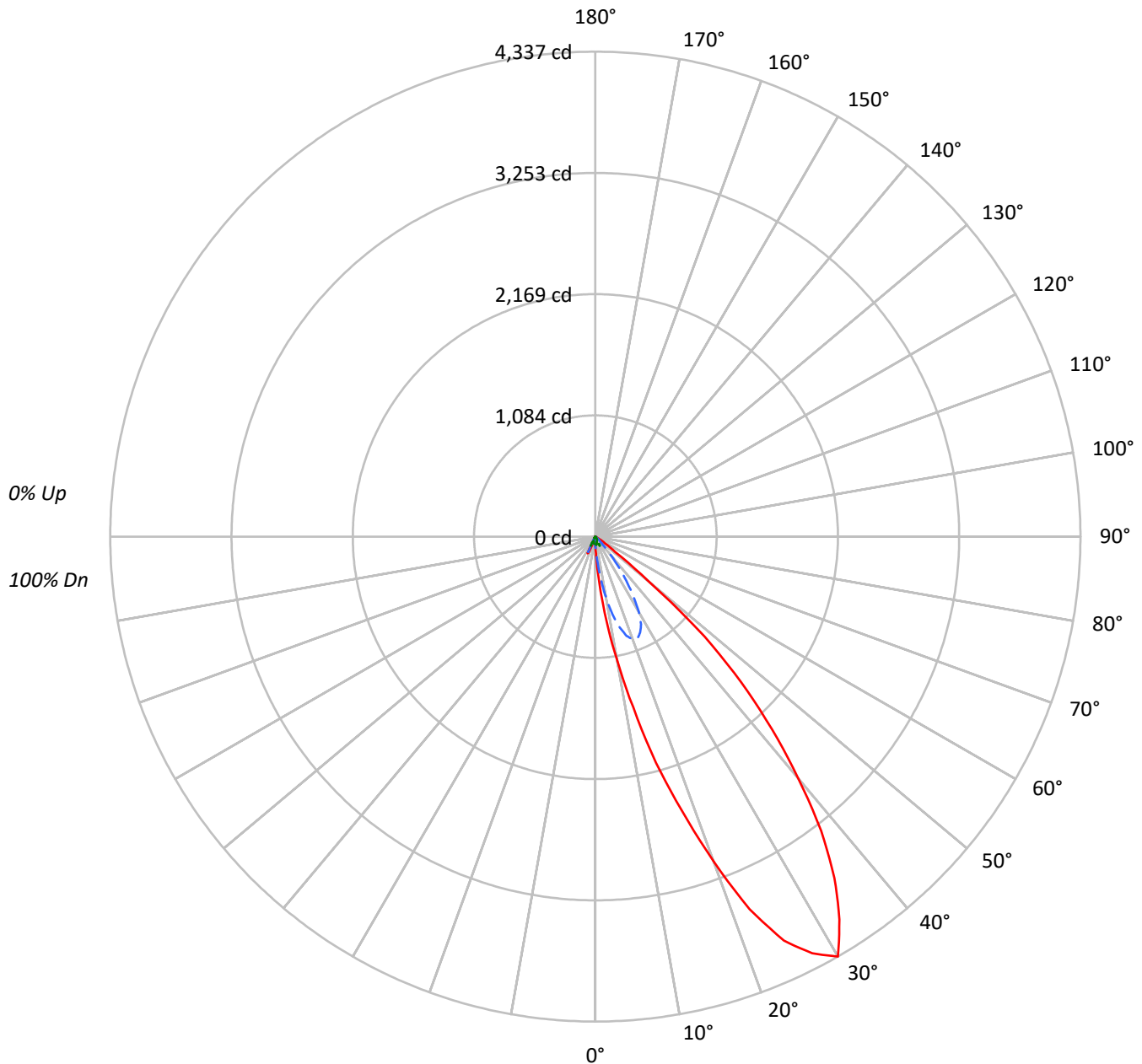
Lumens per Lamp: N/A
Luminaire Lumens: 1128.8 lumens
Efficiency: N/A
Efficacy: 91.0 lumens/watt
Spacing Criteria (0/90/45): 2.53 / 1.09 / 1.29
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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°	10373	10373	10373
5°	53291	9633	4495
10°	140441	8041	2342
15°	267308	6308	1801
20°	405992	5211	4844
25°	542509	12453	22415
30°	617707	4700	4529
35°	561066	2650	2048
40°	454420	1192	821
45°	321575	680	192
50°	117342	441	0
55°	24408	366	0
60°	5871	419	0
65°	1810	496	0
70°	613	613	0
75°	238	810	0
80°	0	1208	0
85°	0	2406	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	19.0	1.7
10°-20°	142.0	12.6
20°-30°	360.1	31.9
30°-40°	385.4	34.1
40°-50°	197.0	17.5
50°-60°	20.6	1.8
60°-70°	2.3	0.2
70°-80°	1.3	0.1
80°-90°	1.1	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°	521.1	46.2
0°-40°	906.6	80.3
0°-60°	1124.1	99.6
0°-90°	1128.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1128.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	84	84	84	84	84	
5°	430	234	78	45	36	63
15°	2093	841	49	18	14	618
25°	3986	948	92	153	165	1811
35°	3726	480	18	14	14	2288
45°	1844	64	4	2	1	1376
55°	114	10	2	1	0	154
65°	6	2	2	1	0	8
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°	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1
2.5°	169.8	171.4	159.0	162.9	165.8	160.1	159.0	159.0	165.2	161.8	167.5
5°	430.4	428.6	407.1	413.3	417.9	407.1	412.2	404.3	413.8	407.6	413.8
7.5°	751.6	771.5	744.4	750.6	754.6	743.2	746.0	734.7	745.4	738.1	743.2
10°	1121.3	1141.8	1109.9	1115.0	1117.8	1107.1	1107.7	1092.9	1102.6	1094.7	1098.0
12.5°	1563.0	1570.9	1555.6	1559.6	1561.4	1547.1	1520.5	1523.3	1533.0	1519.3	1522.8
15°	2093.3	2087.7	2069.5	2082.5	2069.5	2062.6	2022.3	2020.0	2025.8	2010.4	1986.0
17.5°	2560.5	2603.7	2583.3	2590.7	2574.8	2574.8	2523.0	2514.5	2515.1	2474.3	2469.7
20°	3093.0	3148.2	3098.3	3100.4	3079.4	3078.9	3015.9	2998.3	2990.9	2944.4	2931.3
22.5°	3606.4	3622.3	3621.7	3612.0	3562.7	3591.1	3512.1	3484.3	3461.5	3408.8	3382.7
25°	3986.2	4036.1	4002.1	3977.7	3934.5	3970.3	3881.8	3845.3	3811.3	3767.0	3733.0
27.5°	4200.8	4247.3	4239.4	4203.1	4158.8	4193.4	4096.4	4049.3	4001.0	3968.6	3926.0
30°	4337.0	4408.1	4384.8	4305.8	4241.1	4252.4	4143.4	4080.5	4027.1	3993.6	3939.6
32.5°	4060.6	4133.8	4127.0	4069.6	4036.1	4063.9	3969.1	3906.7	3855.6	3828.9	3768.8
35°	3726.1	3811.8	3793.1	3745.5	3721.0	3753.4	3660.9	3608.7	3556.9	3533.6	3467.8
37.5°	3316.8	3397.5	3378.6	3333.3	3309.5	3333.3	3244.8	3196.5	3147.6	3123.2	3078.4
40°	2822.2	2893.2	2873.3	2831.4	2811.5	2828.5	2751.9	2709.9	2668.4	2650.3	2590.7
42.5°	2339.1	2395.9	2377.7	2341.4	2326.1	2337.5	2274.4	2237.0	2200.7	2185.2	2150.1
45°	1843.5	1899.7	1882.1	1850.9	1836.6	1842.9	1790.1	1756.6	1725.4	1711.2	1679.4
47.5°	1322.9	1385.8	1364.3	1337.6	1322.9	1320.0	1273.5	1243.4	1246.2	1198.0	1168.4
50°	611.5	664.9	643.2	629.1	614.8	606.9	590.5	556.4	566.1	522.4	505.3
52.5°	222.0	235.0	229.9	225.5	220.9	219.2	213.5	204.9	206.1	195.3	190.2
55°	113.5	119.7	118.1	115.3	115.3	113.5	110.7	107.2	105.1	103.3	101.6
57.5°	52.2	55.7	54.5	53.4	53.4	52.2	51.1	49.4	50.6	47.6	47.1
60°	23.8	25.6	25.0	24.5	24.5	24.5	23.8	23.3	23.3	22.7	22.2
62.5°	11.3	12.5	12.0	12.0	12.0	12.0	11.3	11.3	11.3	11.3	10.8
65°	6.2	6.2	6.2	6.2	6.2	6.2	6.2	5.7	6.2	5.7	5.7
67.5°	3.4	3.4	3.4	3.4	2.8	3.4	3.4	2.8	2.8	2.8	2.8
70°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
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

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CANDELA DISTRIBUTION (continued):

	11°	12°	13°	14°	15°	17.5°	20°	22.5°	45°	67.5°	90°
0°	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1
2.5°	154.4	158.5	162.4	161.3	155.5	155.0	152.7	153.9	119.7	97.1	81.1
5°	391.8	396.9	402.0	399.1	384.9	381.5	370.2	367.9	233.9	114.6	77.8
7.5°	716.0	718.8	722.7	719.3	698.3	688.7	664.9	641.6	393.5	138.6	72.1
10°	1067.4	1066.3	1067.9	1063.5	1037.3	1018.5	981.7	965.1	557.5	159.0	64.2
12.5°	1477.3	1472.7	1447.7	1459.7	1422.8	1384.7	1323.9	1272.9	712.5	170.3	56.8
15°	1955.8	1942.2	1933.2	1919.5	1874.2	1812.8	1720.3	1663.5	841.4	169.2	49.4
17.5°	2431.7	2409.6	2369.8	2374.9	2322.0	2236.3	2114.3	2017.2	930.6	155.0	43.7
20°	2881.9	2849.0	2799.1	2795.0	2731.4	2618.4	2464.6	2344.2	979.4	131.7	39.7
22.5°	3315.7	3264.6	3197.6	3176.6	3094.8	2934.7	2733.7	2587.2	984.0	110.2	47.6
25°	3657.4	3593.2	3518.9	3482.6	3392.3	3187.9	2937.5	2757.5	947.5	109.0	91.5
27.5°	3848.3	3775.5	3701.1	3651.7	3560.4	3328.7	3045.4	2837.7	885.1	116.9	86.9
30°	3858.4	3776.7	3699.5	3637.1	3546.1	3298.6	2997.8	2781.4	772.7	73.8	33.0
32.5°	3688.7	3601.3	3524.1	3453.6	3364.0	3114.7	2819.4	2612.8	628.5	51.7	23.3
35°	3391.7	3301.4	3227.7	3153.3	3069.2	2834.7	2563.9	2371.5	480.3	40.9	17.6
37.5°	2987.5	2904.0	2838.8	2788.2	2697.4	2510.6	2263.1	2059.3	339.5	28.9	10.8
40°	2535.0	2464.6	2411.2	2367.5	2283.5	2117.7	1868.0	1695.9	206.1	20.4	7.4
42.5°	2079.7	2013.8	1966.7	1925.3	1847.4	1701.0	1495.5	1322.9	98.8	14.1	5.1
45°	1617.5	1558.4	1518.7	1481.2	1411.4	1267.3	1104.2	979.4	64.2	10.2	3.9
47.5°	1104.9	1074.2	1008.9	968.0	896.5	786.3	633.6	496.3	42.5	7.4	2.8
50°	459.3	443.4	400.2	372.4	331.6	275.4	199.9	167.5	26.1	5.1	2.3
52.5°	178.3	174.2	163.5	157.3	147.0	132.3	110.2	98.2	15.9	3.9	2.3
55°	95.9	94.8	89.2	85.7	80.0	72.7	59.6	52.2	10.2	2.8	1.7
57.5°	44.3	43.7	40.9	40.9	36.9	34.0	28.4	25.6	6.2	2.3	1.7
60°	21.0	21.0	19.9	19.9	18.2	17.1	14.1	13.1	3.9	1.7	1.7
62.5°	10.2	10.2	10.2	10.2	9.7	9.0	7.9	7.4	2.8	1.7	1.7
65°	5.7	5.7	5.7	5.7	5.1	5.1	4.6	3.9	2.3	1.7	1.7
67.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.3	2.3	1.7	1.7	1.7
70°	1.7	1.7	1.7	1.7	1.7	1.1	1.1	1.1	1.1	1.7	1.7
72.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.1	1.7	1.7
75°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.1	1.7	1.7
77.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.1	1.7	1.7
80°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5	1.1	1.7	1.7
82.5°	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.1	1.7	1.7
85°	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	1.1	1.7	1.7
87.5°	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5	1.1	1.7	1.7
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°	84.1	84.1	84.1	84.1
2.5°	69.8	60.8	56.2	55.0
5°	57.3	44.8	38.6	36.3
7.5°	46.5	32.4	27.3	25.0
10°	36.9	25.6	20.4	18.7
12.5°	30.7	20.4	16.4	15.3
15°	26.1	17.6	14.8	14.1
17.5°	23.8	18.7	17.6	18.2
20°	28.9	30.7	35.8	36.9
22.5°	61.3	106.2	144.2	152.7
25°	127.8	153.2	159.0	164.7
27.5°	70.9	55.0	53.9	56.2
30°	28.9	29.6	30.7	31.8
32.5°	21.5	21.5	21.0	21.5
35°	14.8	13.6	13.1	13.6
37.5°	9.0	8.5	7.9	7.9
40°	6.2	5.7	5.1	5.1
42.5°	4.6	3.4	2.8	2.8
45°	3.4	2.3	1.7	1.1
47.5°	2.8	1.7	0.5	0.5
50°	2.3	1.1	0.5	0.0
52.5°	1.7	1.1	0.5	0.0
55°	1.7	1.1	0.0	0.0
57.5°	1.7	1.1	0.0	0.0
60°	1.7	1.1	0.5	0.0
62.5°	1.7	1.1	0.5	0.5
65°	1.7	1.1	0.5	0.0
67.5°	1.7	1.1	0.5	0.0
70°	1.7	1.1	0.5	0.0
72.5°	2.3	1.1	0.5	0.0
75°	2.3	1.7	0.5	0.0
77.5°	2.3	1.7	0.5	0.0
80°	2.3	1.7	0.5	0.0
82.5°	2.3	1.7	0.5	0.0
85°	2.3	1.7	0.5	0.0
87.5°	2.3	1.7	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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(END OF REPORT)