

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: P174899

Luminaire Tested: **LDA4A18930D010TE LAR35FL 4LA1 30° Tilt**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P174899
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26217)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A18930D010TE LAR35FL 4LA1 30° Tilt
Description: PORTFOLIO 4" Adjustable Reflector, Self-flanged Trim Ring, 35° Flood Optic, at 30° tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1499.1 lumens
Efficiency: N/A
Efficacy: 51.5 lumens/watt
Spacing Criteria (0/90/45): 2.3 / 0.86 / 1.17
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

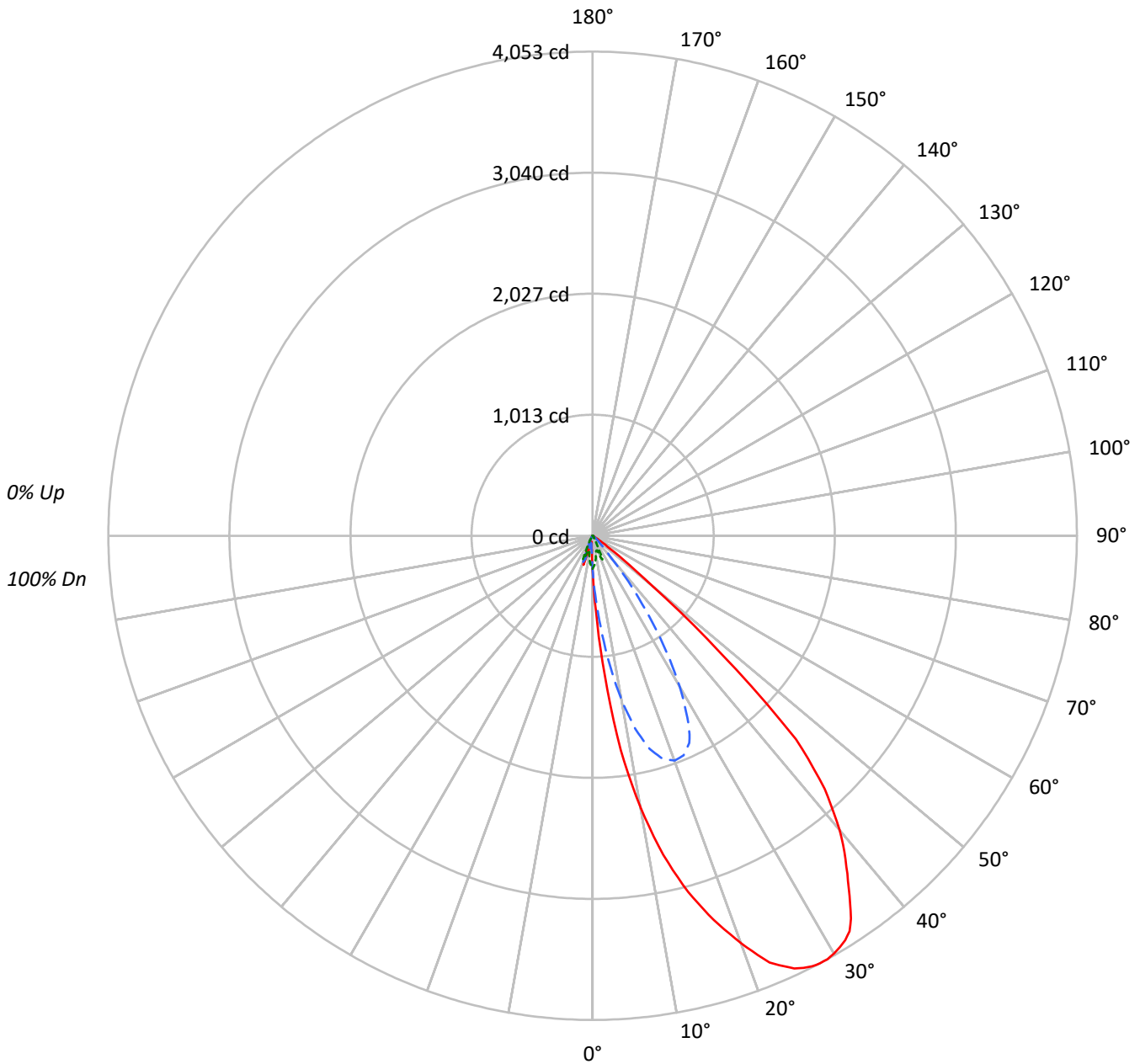
Input Watts (W): 29.12
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	113	110	107	104	110	107	105	103	103	101	99	100	98	96	96	95	94	92																			
2	106	101	96	92	104	99	95	91	96	92	89	92	90	87	90	87	85	84																			
3	100	92	87	82	98	91	86	81	88	84	80	86	82	79	83	80	78	76																			
4	93	85	78	74	92	84	78	73	81	76	72	79	75	71	77	74	70	69																			
5	88	78	71	66	86	77	71	66	75	70	65	73	68	65	72	67	64	62																			
6	82	72	65	60	81	71	64	60	69	64	59	68	63	59	66	62	58	57																			
7	77	66	59	54	76	66	59	54	64	58	54	63	58	54	62	57	53	52																			
8	72	61	54	50	71	61	54	49	59	54	49	58	53	49	57	52	49	47																			
9	68	57	50	45	67	56	50	45	55	49	45	54	49	45	53	48	45	43																			
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	34327	34327	34327
5°	144222	28725	10599
10°	289712	19752	6438
15°	394085	16039	14494
20°	476283	24362	26882
25°	543952	14467	7485
30°	575150	6808	3461
35°	565719	3012	1295
40°	517716	1497	338
45°	419940	750	0
50°	124499	403	0
55°	22558	452	0
60°	4218	518	0
65°	1051	613	0
70°	252	757	0
75°	0	1001	0
80°	0	2060	0
85°	0	4104	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.6	3.4
10°-20°	261.8	17.5
20°-30°	458.6	30.6
30°-40°	460.5	30.7
40°-50°	242.6	16.2
50°-60°	20.2	1.3
60°-70°	2.0	0.1
70°-80°	1.4	0.1
80°-90°	1.3	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°	771.0	51.4
0°-40°	1231.5	82.1
0°-60°	1494.3	99.7
0°-90°	1499.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1499.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	278	278	278	278	278	
5°	1165	762	232	106	86	149
15°	3086	1847	126	84	114	881
25°	3997	1913	106	61	55	1829
35°	3757	831	20	11	9	2323
45°	2407	86	4	1	0	1650
55°	105	9	2	1	0	158
65°	4	1	2	1	0	5
75°	0	1	2	1	0	0
85°	0	1	3	1	0	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	22.5°	45°	67.5°
0°	278.3	278.3	278.3	278.3	278.3	278.3	278.3	278.3	278.3	278.3	278.3
2.5°	631.6	632.4	633.1	638.1	626.6	623.8	618.8	611.7	588.1	491.0	370.4
5°	1164.8	1173.3	1171.2	1164.1	1146.2	1136.2	1121.2	1105.5	1041.3	761.5	459.6
7.5°	1810.0	1826.4	1822.8	1812.1	1782.1	1768.6	1730.8	1710.1	1613.0	1081.3	526.0
10°	2313.1	2356.7	2357.4	2347.4	2302.4	2283.2	2243.9	2206.8	2084.0	1394.6	556.7
12.5°	2738.5	2739.2	2772.8	2764.9	2712.8	2704.3	2671.4	2615.8	2486.6	1655.8	556.7
15°	3086.1	3133.2	3125.4	3116.8	3061.8	3050.4	3019.0	2967.6	2817.0	1847.1	529.6
17.5°	3373.0	3415.1	3403.0	3393.7	3338.8	3313.8	3279.5	3218.1	3052.6	1960.6	473.2
20°	3628.5	3668.5	3644.2	3627.8	3554.3	3523.6	3473.6	3403.0	3213.9	2002.7	407.5
22.5°	3866.9	3909.0	3878.3	3855.5	3760.6	3701.3	3630.7	3541.4	3318.8	1989.1	372.6
25°	3996.8	4051.8	4022.5	4004.6	3914.0	3844.8	3751.3	3636.4	3378.7	1912.8	280.5
26°	4025.3	4083.2	4055.3	4039.6	3947.6	3874.0	3774.1	3653.5	3383.7	1849.9	216.3
27°	4045.3	4109.6	4077.4	4057.5	3962.5	3884.0	3779.8	3654.2	3375.9	1765.0	172.0
28°	4053.2	4123.8	4084.6	4060.3	3961.8	3876.2	3765.6	3638.5	3355.2	1667.2	146.3
29°	4052.5	4129.5	4083.9	4057.5	3952.5	3857.6	3744.1	3616.4	3326.6	1565.2	132.0
30°	4038.2	4122.4	4076.7	4043.2	3930.4	3828.4	3713.5	3585.7	3294.5	1453.8	117.8
31°	4018.9	4105.3	4057.5	4016.1	3894.0	3783.4	3670.6	3544.3	3251.7	1334.6	107.8
32°	3991.1	4077.4	4024.6	3970.4	3842.6	3727.0	3618.5	3495.8	3199.6	1209.0	95.6
33°	3946.8	4023.2	3961.8	3899.0	3771.3	3662.8	3560.0	3439.4	3140.3	1078.4	82.8
34°	3866.2	3933.3	3869.8	3806.2	3692.0	3591.4	3492.9	3373.0	3071.1	957.8	71.4
35°	3757.0	3814.1	3757.0	3703.5	3602.8	3509.3	3415.1	3298.1	2987.6	830.8	61.4
36°	3645.7	3695.6	3642.8	3600.7	3504.3	3420.8	3333.0	3211.7	2893.4	710.1	54.2
37°	3541.4	3586.4	3537.9	3495.8	3413.0	3328.0	3241.0	3116.8	2789.2	594.5	45.0
38°	3438.0	3477.9	3436.5	3389.4	3313.1	3226.7	3138.9	3011.9	2672.9	485.3	38.5
39°	3330.2	3363.0	3323.1	3275.2	3197.4	3111.8	3021.9	2890.5	2539.4	371.8	33.5
40°	3215.3	3246.0	3196.7	3153.9	3076.1	2988.3	2896.3	2759.9	2394.5	249.1	28.5
42.5°	2875.6	2894.1	2852.7	2793.5	2715.7	2619.3	2508.0	2355.3	1931.3	131.3	20.0
45°	2407.4	2410.9	2378.8	2271.0	2166.8	2017.7	1851.4	1622.3	1122.7	85.6	12.8
47.5°	1453.1	1444.6	1393.9	1301.8	1204.7	1047.0	891.4	733.7	436.1	50.0	8.6
50°	648.8	638.8	613.8	566.0	509.6	451.1	381.8	323.3	212.0	27.1	5.7
51°	470.3	461.8	443.2	406.8	365.4	324.0	276.2	236.2	158.4	22.1	5.0
52°	330.4	325.5	312.6	286.9	264.1	232.0	199.1	174.1	119.2	17.8	3.6
53°	230.5	227.0	219.1	202.0	188.4	164.9	144.2	124.2	86.4	14.3	3.6
54°	156.3	154.2	149.2	137.7	126.3	113.5	98.5	87.1	60.7	11.4	2.9
55°	104.9	103.5	99.2	93.5	87.1	79.2	69.2	60.7	42.8	9.3	2.1
57.5°	38.5	38.5	37.1	35.0	32.8	30.7	27.8	25.0	20.0	5.7	2.1
60°	17.1	16.4	16.4	15.7	15.0	14.3	13.6	12.1	10.0	3.6	2.1
61°	12.8	12.8	12.1	11.4	11.4	10.7	10.0	9.3	7.9	2.9	2.1
62°	9.3	9.3	9.3	8.6	8.6	7.9	7.9	7.1	5.7	2.1	2.1
63°	7.1	7.1	7.1	6.4	6.4	6.4	5.7	5.7	4.3	2.1	2.1
64°	5.0	5.0	5.0	5.0	5.0	5.0	4.3	4.3	3.6	1.4	2.1
65°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	2.9	1.4	2.1
66°	2.9	2.9	2.9	2.9	2.9	2.9	2.1	2.1	2.1	1.4	2.1



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CANDELA DISTRIBUTION (continued):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	22.5°	45°	67.5°
72.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.4	2.1
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	1.4	2.1
77.5°	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.7	1.4	2.1
80°	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.7	1.4	2.1
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	1.4	2.1
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	1.4	2.1
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	1.4	2.1
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):

	90°	112.5°	135°	157.5°	180°
0°	278.3	278.3	278.3	278.3	278.3
2.5°	256.2	179.1	142.7	129.2	124.9
5°	232.0	134.2	106.3	91.4	85.6
7.5°	194.8	110.6	79.9	66.4	62.1
10°	157.7	91.4	64.9	54.2	51.4
12.5°	134.9	79.2	60.7	56.4	56.4
15°	125.6	83.5	84.2	101.3	113.5
17.5°	129.2	130.6	204.1	248.4	256.2
20°	185.6	234.8	232.7	211.3	204.8
22.5°	214.8	154.9	117.0	96.4	92.8
25°	106.3	70.7	60.7	55.7	55.0
26°	80.6	59.2	52.8	50.0	48.5
27°	67.1	52.1	47.1	43.5	42.1
28°	60.0	46.4	40.7	37.1	35.7
29°	54.2	40.0	34.3	30.7	30.0
30°	47.8	33.5	28.5	25.0	24.3
31°	40.7	27.8	22.8	20.7	19.3
32°	34.3	22.8	18.6	16.4	15.0
33°	28.5	18.6	15.7	13.6	12.1
34°	24.3	15.7	12.8	10.7	10.0
35°	20.0	12.8	10.7	9.3	8.6
36°	17.1	11.4	8.6	7.1	6.4
37°	15.0	9.3	7.1	5.7	5.7
38°	12.8	7.9	6.4	4.3	4.3
39°	10.7	6.4	5.0	3.6	3.6
40°	9.3	5.7	4.3	2.9	2.1
42.5°	6.4	3.6	2.9	1.4	0.7
45°	4.3	2.9	1.4	0.7	0.0
47.5°	2.9	2.1	1.4	0.7	0.0
50°	2.1	2.1	1.4	0.0	0.0
51°	2.1	1.4	1.4	0.0	0.0
52°	2.1	1.4	0.7	0.0	0.0
53°	2.1	1.4	0.7	0.0	0.0
54°	2.1	1.4	0.7	0.0	0.0
55°	2.1	1.4	0.7	0.0	0.0
57.5°	2.1	1.4	0.7	0.0	0.0
60°	2.1	1.4	1.4	0.0	0.0
61°	2.1	2.1	1.4	0.0	0.0
62°	2.1	2.1	1.4	0.0	0.0
63°	2.1	2.1	1.4	0.0	0.0
64°	2.1	2.1	1.4	0.7	0.0
65°	2.1	2.1	1.4	0.7	0.0
66°	2.1	2.1	1.4	0.7	0.0



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CATALOG NUMBER: LDA4A18930D010TE LAR35FL 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
72.5°	2.1	2.1	1.4	0.7	0.0
75°	2.1	2.1	1.4	0.7	0.0
77.5°	2.9	2.1	1.4	0.7	0.0
80°	2.9	2.1	1.4	0.7	0.0
82.5°	2.9	2.1	1.4	0.7	0.0
85°	2.9	2.1	1.4	0.7	0.0
87.5°	2.9	2.1	1.4	0.7	0.0
90°	0.0	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - - 90°-270°







67.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	2.1
70°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.4	2.1





67.5°	2.1	2.1	1.4	0.7	0.0
70°	2.1	2.1	1.4	0.7	0.0



(END OF REPORT)