

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: P170812

Luminaire Tested: **LDA4A18940D010TE LAR35FL 4LAL1 30° Tilt**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P170812
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: LDA4A18940D010TE 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 / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1798.1 lumens
Efficiency: N/A
Efficacy: 61.7 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

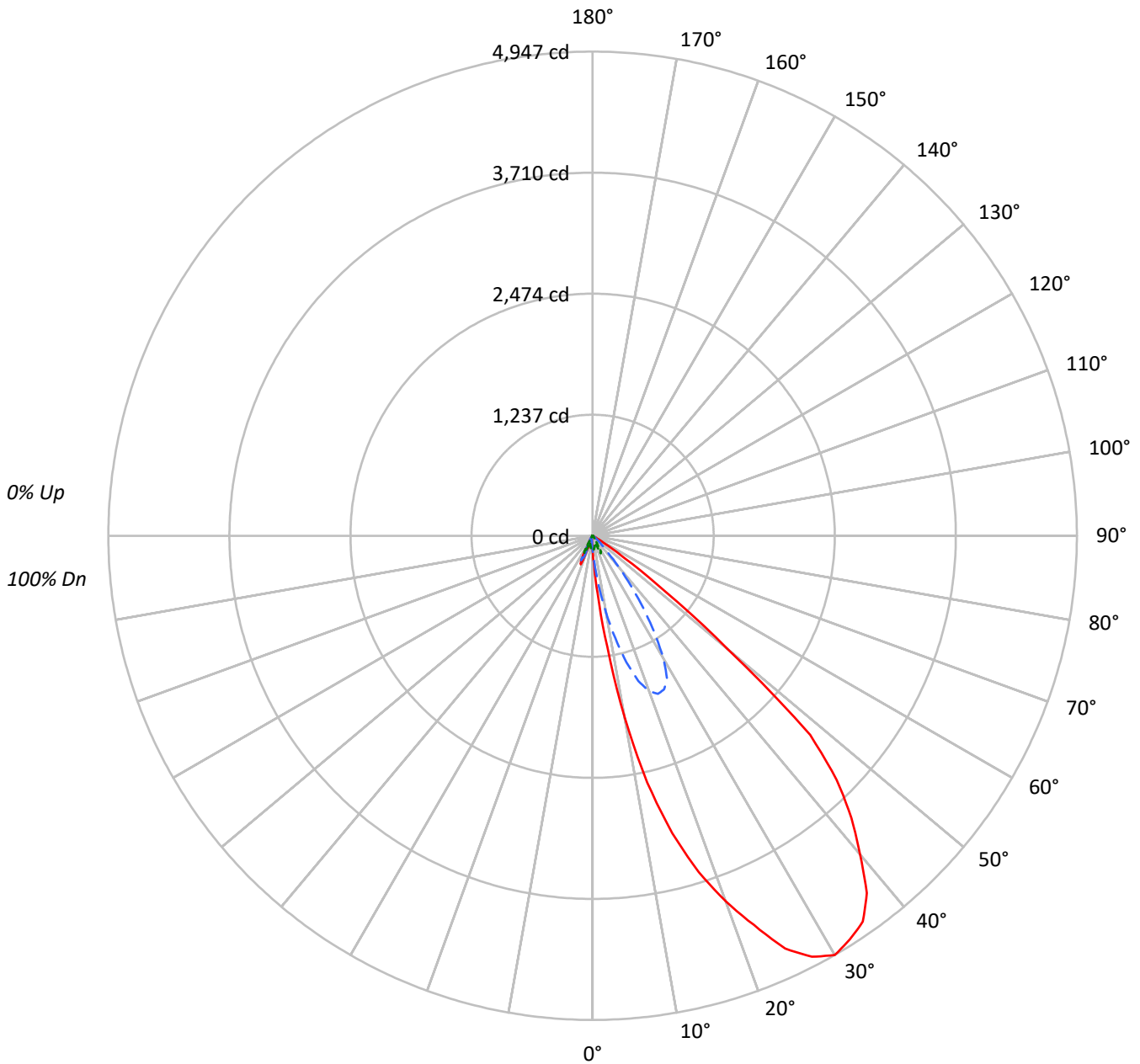
Input Watts (W): 29.12
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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	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°	18230	18230	18230
5°	73436	17211	8060
10°	236745	14441	4634
15°	401619	11467	3601
20°	521975	10278	10855
25°	633422	27070	38447
30°	704630	9528	10155
35°	724803	5692	4773
40°	684367	2415	1707
45°	615083	1378	454
50°	346173	844	0
55°	85911	559	0
60°	13247	641	0
65°	3094	759	0
70°	649	938	0
75°	0	1239	0
80°	0	2486	0
85°	0	4953	1274



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.7	1.7
10°-20°	220.7	12.3
20°-30°	509.7	28.3
30°-40°	571.8	31.8
40°-50°	399.0	22.2
50°-60°	59.5	3.3
60°-70°	3.9	0.2
70°-80°	1.9	0.1
80°-90°	1.9	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°	760.1	42.3
0°-40°	1331.9	74.1
0°-60°	1790.4	99.6
0°-90°	1798.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1798.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	148	148	148	148	148	
5°	593	347	139	81	65	98
15°	3145	1338	90	34	28	899
25°	4654	1730	199	277	282	2128
35°	4814	899	38	32	32	2961
45°	3526	136	8	4	3	2587
55°	400	18	3	2	0	525
65°	11	3	3	2	0	16
75°	0	2	3	3	0	0
85°	0	2	4	3	1	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°	147.8	147.8	147.8	147.8	147.8	147.8	147.8	147.8	147.8	147.8	147.8
2.5°	269.3	266.6	259.6	257.8	264.0	258.7	261.4	266.6	261.4	255.2	261.4
5°	593.1	608.1	593.1	590.5	601.0	591.3	595.7	605.4	592.2	579.9	588.7
7.5°	1144.9	1154.5	1112.3	1127.3	1123.7	1126.4	1129.0	1129.0	1121.1	1099.1	1111.4
10°	1890.2	1897.2	1840.9	1860.3	1834.8	1860.3	1855.9	1836.5	1840.9	1811.0	1826.8
12.5°	2581.9	2604.8	2548.4	2566.9	2536.1	2565.2	2553.7	2548.4	2503.6	2503.6	2520.3
15°	3145.1	3197.0	3145.9	3165.3	3130.1	3170.6	3138.9	3153.0	3112.5	3062.3	3106.3
17.5°	3600.9	3651.9	3604.4	3628.2	3595.6	3627.3	3590.3	3620.3	3568.3	3532.3	3562.2
20°	3976.6	4014.5	3958.2	3991.6	3952.9	3984.6	3944.1	3983.7	3923.0	3896.6	3914.2
22.5°	4304.0	4319.0	4289.9	4346.2	4270.6	4304.0	4255.6	4296.1	4223.9	4190.5	4194.9
25°	4654.2	4687.7	4632.2	4653.4	4600.6	4623.4	4568.9	4606.7	4517.0	4469.4	4459.8
27.5°	4848.7	4896.2	4846.9	4870.7	4817.0	4836.4	4781.8	4836.4	4744.9	4698.2	4687.7
30°	4947.3	4970.1	4938.5	4954.3	4893.6	4903.3	4846.9	4905.9	4814.4	4773.0	4767.8
32.5°	4890.1	4935.8	4894.5	4914.7	4858.4	4868.1	4813.5	4876.9	4785.4	4747.5	4729.0
35°	4813.5	4860.1	4821.4	4842.5	4790.6	4797.7	4739.6	4795.0	4689.4	4642.8	4603.2
37.5°	4601.4	4645.4	4612.9	4619.9	4569.8	4564.5	4502.0	4548.6	4445.7	4406.1	4379.7
40°	4250.3	4289.9	4263.5	4278.5	4228.3	4216.9	4174.6	4217.8	4137.7	4108.6	4071.7
42.5°	3914.2	3946.7	3922.1	3945.8	3889.5	3874.6	3836.7	3891.3	3800.6	3776.9	3750.5
45°	3526.1	3546.3	3527.0	3547.2	3493.5	3469.8	3435.5	3482.1	3393.2	3371.2	3314.0
47.5°	3013.1	2991.1	2987.5	3006.9	2940.0	2890.7	2859.1	2918.9	2790.4	2747.3	2681.3
50°	1804.0	1840.9	1856.8	1843.6	1797.8	1730.0	1679.0	1752.0	1683.4	1577.8	1472.2
52.5°	929.3	887.9	896.7	901.1	846.5	826.3	809.6	826.3	772.6	745.3	678.5
55°	399.5	380.2	387.2	389.8	379.3	354.6	345.8	356.4	331.8	321.2	293.9
57.5°	147.8	147.8	143.4	145.2	141.7	132.9	131.1	135.5	127.6	125.0	114.4
60°	53.7	53.7	53.7	53.7	49.3	48.4	48.4	50.2	47.5	46.6	43.1
62.5°	22.9	23.8	22.0	22.9	22.0	21.1	22.0	21.1	21.1	20.2	20.2
65°	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	9.7	9.7
67.5°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	4.4	4.4	4.4
70°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
72.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
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°	147.8	147.8	147.8	147.8	147.8	147.8	147.8	147.8	147.8	147.8	147.8
2.5°	253.4	252.6	256.1	252.6	246.4	242.9	247.3	238.5	204.2	169.8	144.3
5°	572.9	568.5	562.3	564.1	549.1	536.8	536.8	513.0	346.7	197.1	139.0
7.5°	1085.9	1075.3	1030.5	1063.0	1031.3	1006.7	990.0	941.6	560.5	226.2	128.5
10°	1793.4	1774.9	1743.2	1749.4	1697.5	1656.1	1606.0	1525.0	806.1	251.7	115.3
12.5°	2491.2	2472.8	2388.3	2436.7	2367.2	2326.7	2242.2	2147.2	1070.9	264.0	103.0
15°	3083.5	3067.6	2975.2	3021.0	2935.6	2897.8	2788.7	2683.1	1338.5	259.6	89.8
17.5°	3543.7	3541.1	3434.6	3480.3	3386.2	3355.4	3227.8	3123.9	1554.9	240.2	81.0
20°	3898.3	3892.2	3784.8	3830.6	3727.6	3697.7	3535.8	3426.7	1692.2	213.8	78.3
22.5°	4178.2	4165.8	4050.6	4090.2	3974.9	3936.2	3757.5	3644.0	1748.5	197.1	96.8
25°	4429.8	4407.8	4276.7	4307.5	4180.8	4188.7	3920.3	3795.4	1730.0	221.8	198.9
27.5°	4651.6	4612.0	4480.0	4488.8	4340.1	4262.6	4032.1	3893.9	1645.6	247.3	184.8
30°	4734.3	4695.6	4555.7	4561.0	4406.1	4297.0	4050.6	3896.6	1443.2	154.9	66.9
32.5°	4688.6	4646.3	4500.2	4502.0	4342.7	4231.8	3986.3	3816.5	1173.9	102.1	51.0
35°	4555.7	4511.7	4366.5	4373.5	4219.5	4109.5	3869.3	3688.0	899.3	81.0	37.8
37.5°	4331.3	4300.5	4162.3	4174.6	4043.5	3926.5	3682.7	3486.5	634.5	58.1	23.8
40°	4042.6	4018.9	3885.1	3904.5	3761.9	3653.7	3392.3	3179.4	395.1	39.6	15.0
42.5°	3704.7	3679.2	3547.2	3562.2	3440.7	3285.9	3019.2	2778.1	206.8	28.2	10.6
45°	3283.2	3253.3	3119.5	3127.5	2984.0	2802.7	2526.4	2313.5	135.5	19.4	7.9
47.5°	2620.6	2566.9	2392.7	2385.6	2268.6	1972.0	1579.6	1278.6	89.8	13.2	5.3
50°	1440.5	1385.1	1232.0	1215.3	1085.0	890.5	658.2	512.2	51.9	8.8	4.4
52.5°	655.6	626.5	555.3	543.8	488.4	404.8	311.5	256.1	29.9	6.2	3.5
55°	284.2	273.7	243.8	242.0	216.5	187.4	149.6	126.7	17.6	4.4	2.6
57.5°	111.8	108.2	102.1	97.7	88.0	78.3	65.1	54.6	11.4	3.5	2.6
60°	42.2	41.4	37.8	38.7	35.2	33.4	29.0	24.6	7.0	2.6	2.6
62.5°	19.4	19.4	18.5	18.5	17.6	15.8	14.1	13.2	4.4	2.6	2.6
65°	9.7	9.7	8.8	8.8	8.8	7.9	7.0	7.0	2.6	2.6	2.6
67.5°	4.4	4.4	4.4	4.4	4.4	3.5	3.5	3.5	1.8	2.6	2.6
70°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.6	2.6
72.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.8	2.6	2.6
75°	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	1.8	2.6	2.6
77.5°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	1.8	2.6	3.5
80°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	1.8	2.6	3.5
82.5°	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	1.8	2.6	3.5
85°	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	1.8	2.6	3.5
87.5°	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	1.8	2.6	3.5
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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CATALOG NUMBER: LDA4A18940D010TE LAR35FL 4LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	112.5°	135°	157.5°	180°
0°	147.8	147.8	147.8	147.8
2.5°	124.1	110.0	97.7	95.0
5°	102.1	81.0	67.8	65.1
7.5°	82.7	59.0	49.3	47.5
10°	67.8	47.5	38.7	37.0
12.5°	56.3	38.7	30.8	29.0
15°	48.4	34.3	28.2	28.2
17.5°	46.6	37.8	36.1	37.0
20°	60.7	68.6	81.8	82.7
22.5°	140.8	228.8	302.7	316.8
25°	253.4	277.2	270.2	282.5
27.5°	133.8	104.7	106.5	109.1
30°	58.1	64.2	67.8	71.3
32.5°	48.4	50.2	51.0	53.7
35°	31.7	31.7	30.8	31.7
37.5°	19.4	18.5	17.6	17.6
40°	12.3	11.4	10.6	10.6
42.5°	8.8	7.0	6.2	6.2
45°	6.2	4.4	3.5	2.6
47.5°	4.4	2.6	1.8	0.9
50°	3.5	2.6	0.9	0.0
52.5°	2.6	1.8	0.9	0.0
55°	2.6	1.8	0.0	0.0
57.5°	2.6	1.8	0.0	0.0
60°	2.6	1.8	0.0	0.0
62.5°	2.6	1.8	0.0	0.0
65°	2.6	1.8	0.9	0.0
67.5°	2.6	1.8	0.9	0.0
70°	2.6	1.8	0.9	0.0
72.5°	2.6	1.8	0.9	0.0
75°	2.6	2.6	0.9	0.0
77.5°	3.5	2.6	0.9	0.0
80°	3.5	2.6	0.9	0.0
82.5°	3.5	2.6	0.9	0.0
85°	3.5	2.6	0.9	0.9
87.5°	3.5	2.6	0.9	0.0
90°	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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











(END OF REPORT)