

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: P1212758

Luminaire Tested: **LDA4A15950D010TE 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: P1212758
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: LDA4A15950D010TE 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 / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

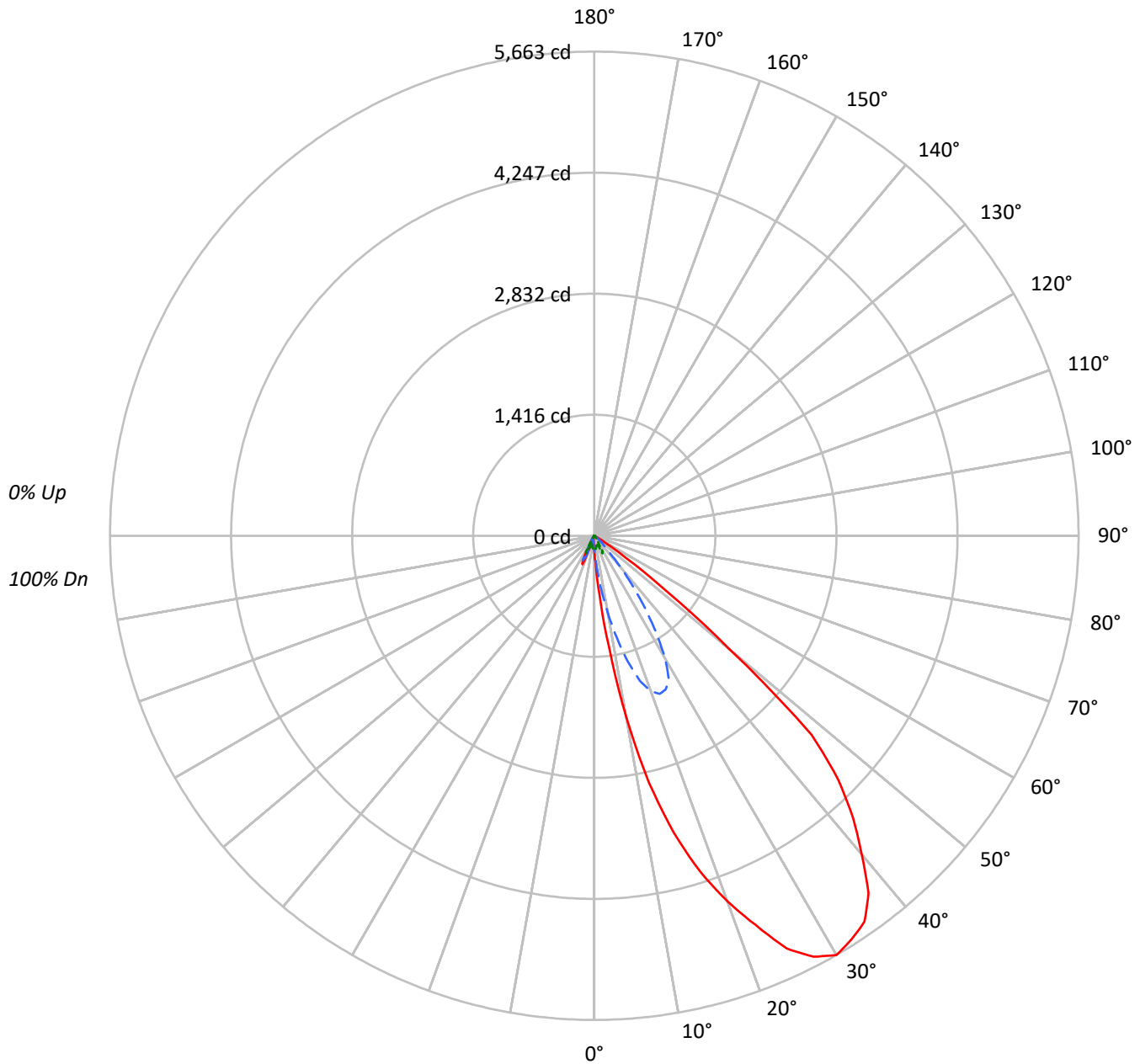
Lumens per Lamp: N/A
Luminaire Lumens: 2058.3 lumens
Efficiency: N/A
Efficacy: 100.9 lumens/watt
Spacing Criteria (0/90/45): 2.71 / 1.11 / 1.33
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 20.4
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	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°	20870	20870	20870
5°	84059	19699	9237
10°	271000	16520	5285
15°	459734	13102	4112
20°	597516	11761	12430
25°	725083	30989	44000
30°	806580	10896	11608
35°	829695	6520	5466
40°	783393	2769	1948
45°	704080	1570	523
50°	396256	979	0
55°	98362	645	0
60°	15147	740	0
65°	3532	876	0
70°	721	1082	0
75°	0	1430	0
80°	0	2841	0
85°	0	5661	1415



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.0	1.7
10°-20°	252.6	12.3
20°-30°	583.5	28.3
30°-40°	654.5	31.8
40°-50°	456.7	22.2
50°-60°	68.2	3.3
60°-70°	4.4	0.2
70°-80°	2.2	0.1
80°-90°	2.2	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°	870.1	42.3
0°-40°	1524.6	74.1
0°-60°	2049.5	99.6
0°-90°	2058.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2058.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	169	169	169	169	169	
5°	679	397	159	93	75	112
15°	3600	1532	103	39	32	1029
25°	5328	1980	228	317	323	2436
35°	5510	1030	43	36	36	3389
45°	4036	155	9	5	3	2961
55°	457	20	3	2	0	601
65°	12	3	3	2	0	19
75°	0	2	3	3	0	1
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°	169.2	169.2	169.2	169.2	169.2	169.2	169.2	169.2	169.2	169.2	169.2
2.5°	308.2	305.2	297.1	295.2	302.2	296.1	299.2	305.2	299.2	292.1	299.2
5°	678.9	696.1	678.9	675.9	688.0	676.9	682.0	693.1	677.9	663.8	673.9
7.5°	1310.5	1321.6	1273.3	1290.4	1286.3	1289.4	1292.4	1292.4	1283.4	1258.1	1272.2
10°	2163.7	2171.8	2107.2	2129.4	2100.2	2129.4	2124.4	2102.4	2107.2	2073.1	2091.2
12.5°	2955.5	2981.6	2917.2	2938.3	2903.1	2936.3	2923.3	2917.2	2865.8	2865.8	2885.1
15°	3600.2	3659.7	3601.2	3623.4	3583.0	3629.4	3593.1	3609.3	3562.9	3505.4	3555.9
17.5°	4121.9	4180.4	4125.9	4153.1	4115.9	4152.2	4109.9	4144.1	4084.7	4043.4	4077.5
20°	4552.1	4595.3	4531.0	4569.2	4524.8	4561.1	4514.7	4560.2	4490.7	4460.5	4480.6
22.5°	4926.8	4944.0	4910.6	4975.2	4888.5	4926.8	4871.4	4917.7	4835.2	4796.9	4801.8
25°	5327.7	5366.0	5302.5	5326.7	5266.2	5292.4	5230.0	5273.4	5170.6	5116.1	5105.0
27.5°	5550.4	5604.7	5548.4	5575.4	5514.1	5536.1	5473.7	5536.1	5431.5	5378.0	5366.0
30°	5663.1	5689.3	5653.0	5671.2	5601.6	5612.8	5548.4	5615.9	5511.1	5463.7	5457.6
32.5°	5597.7	5650.0	5602.7	5626.0	5561.4	5572.5	5510.1	5582.5	5477.8	5434.5	5413.4
35°	5510.1	5563.4	5519.2	5543.3	5483.8	5491.9	5425.4	5488.9	5368.0	5314.6	5269.3
37.5°	5267.3	5317.6	5280.3	5288.4	5231.0	5225.1	5153.4	5206.9	5089.0	5043.6	5013.4
40°	4865.3	4910.6	4880.4	4897.6	4840.2	4827.1	4778.7	4828.1	4736.5	4703.1	4660.9
42.5°	4480.6	4517.8	4489.6	4516.8	4452.3	4435.2	4392.0	4454.4	4350.5	4323.5	4293.1
45°	4036.3	4059.5	4037.3	4060.6	3999.0	3971.9	3932.7	3985.9	3884.3	3859.0	3793.5
47.5°	3449.1	3423.9	3419.8	3442.1	3365.5	3309.1	3272.8	3341.2	3194.2	3144.9	3069.2
50°	2065.0	2107.2	2125.4	2110.4	2058.0	1980.4	1921.9	2005.6	1927.0	1806.1	1685.2
52.5°	1063.8	1016.4	1026.5	1031.5	969.1	945.9	926.7	945.9	884.4	853.2	776.6
55°	457.4	435.1	443.1	446.3	434.1	405.9	395.8	408.0	379.8	367.7	336.4
57.5°	169.2	169.2	164.2	166.2	162.2	152.2	150.1	155.2	146.1	143.1	130.9
60°	61.4	61.4	61.4	61.4	56.5	55.4	55.4	57.4	54.5	53.4	49.4
62.5°	26.2	27.2	25.3	26.2	25.3	24.1	25.3	24.1	24.1	23.1	23.1
65°	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	11.0	11.0
67.5°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	5.1	5.1	5.1
70°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
72.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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°	169.2	169.2	169.2	169.2	169.2	169.2	169.2	169.2	169.2	169.2	169.2
2.5°	290.2	289.1	293.2	289.1	282.0	278.0	283.1	273.0	233.7	194.5	165.3
5°	655.7	650.6	643.8	645.7	628.6	614.5	614.5	587.3	397.0	225.7	159.1
7.5°	1243.0	1230.9	1179.5	1216.8	1180.6	1152.4	1133.3	1077.9	641.7	258.9	147.1
10°	2053.0	2031.7	1995.6	2002.6	1943.0	1895.8	1838.4	1745.6	922.7	288.1	131.9
12.5°	2851.7	2830.6	2733.8	2789.3	2709.7	2663.3	2566.6	2457.8	1225.8	302.2	117.8
15°	3529.6	3511.6	3405.8	3458.1	3360.3	3317.2	3192.2	3071.3	1532.0	297.1	102.6
17.5°	4056.4	4053.5	3931.6	3983.9	3876.2	3840.8	3694.8	3575.9	1780.0	275.0	92.6
20°	4462.4	4455.4	4332.4	4384.8	4267.0	4232.7	4047.4	3922.6	1937.1	244.8	89.6
22.5°	4782.6	4768.6	4636.7	4682.0	4550.1	4505.7	4301.2	4171.3	2001.5	225.7	110.8
25°	5070.8	5045.7	4895.6	4930.8	4785.8	4794.9	4487.6	4344.6	1980.4	253.9	227.7
27.5°	5324.7	5279.4	5128.3	5138.3	4968.1	4879.4	4615.5	4457.3	1883.6	283.1	211.6
30°	5419.3	5375.0	5215.0	5220.9	5043.6	4918.7	4636.7	4460.5	1652.0	177.3	76.5
32.5°	5367.0	5318.7	5151.4	5153.4	4971.2	4844.2	4563.1	4368.7	1343.7	116.9	58.4
35°	5215.0	5164.4	4998.2	5006.4	4830.1	4704.1	4429.2	4221.7	1029.5	92.6	43.3
37.5°	4958.0	4922.8	4764.7	4778.7	4628.6	4494.7	4215.7	3991.1	726.2	66.6	27.2
40°	4627.7	4600.4	4447.2	4469.4	4306.3	4182.4	3883.3	3639.5	452.3	45.3	17.2
42.5°	4240.8	4211.6	4060.6	4077.5	3938.6	3761.3	3456.1	3180.1	236.7	32.2	12.1
45°	3758.4	3724.0	3570.9	3580.1	3415.9	3208.4	2891.9	2648.2	155.2	22.2	9.0
47.5°	2999.8	2938.3	2738.9	2730.8	2596.9	2257.4	1808.1	1463.6	102.6	15.2	6.1
50°	1648.9	1585.5	1410.2	1391.1	1242.1	1019.4	753.5	586.2	59.4	10.1	5.1
52.5°	750.5	717.2	635.6	622.5	559.0	463.3	356.5	293.2	34.2	7.1	4.0
55°	325.3	313.2	278.9	277.0	247.7	214.6	171.2	145.1	20.2	5.1	3.0
57.5°	127.9	124.0	116.9	111.8	100.7	89.6	74.6	62.4	13.0	4.0	3.0
60°	48.4	47.3	43.3	44.4	40.2	38.3	33.2	28.2	8.1	3.0	3.0
62.5°	22.2	22.2	21.1	21.1	20.2	18.2	16.1	15.2	5.1	3.0	3.0
65°	11.0	11.0	10.1	10.1	10.1	9.0	8.1	8.1	3.0	3.0	3.0
67.5°	5.1	5.1	5.1	5.1	5.1	4.0	4.0	4.0	2.0	3.0	3.0
70°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0
72.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	3.0	3.0
75°	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	2.0	3.0	3.0
77.5°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	2.0	3.0	4.0
80°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	2.0	3.0	4.0
82.5°	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	2.0	3.0	4.0
85°	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	2.0	3.0	4.0
87.5°	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	2.0	3.0	4.0
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):

	112.5°	135°	157.5°	180°
0°	169.2	169.2	169.2	169.2
2.5°	142.1	125.9	111.8	108.8
5°	116.9	92.6	77.6	74.6
7.5°	94.7	67.5	56.5	54.5
10°	77.6	54.5	44.4	42.2
12.5°	64.5	44.4	35.4	33.2
15°	55.4	39.3	32.2	32.2
17.5°	53.4	43.3	41.3	42.2
20°	69.5	78.5	93.7	94.7
22.5°	161.1	262.0	346.4	362.6
25°	290.2	317.2	309.3	323.3
27.5°	153.2	119.8	121.8	124.9
30°	66.6	73.6	77.6	81.5
32.5°	55.4	57.4	58.4	61.4
35°	36.3	36.3	35.4	36.3
37.5°	22.2	21.1	20.2	20.2
40°	14.0	13.0	12.1	12.1
42.5°	10.1	8.1	7.1	7.1
45°	7.1	5.1	4.0	3.0
47.5°	5.1	3.0	2.0	1.0
50°	4.0	3.0	1.0	0.0
52.5°	3.0	2.0	1.0	0.0
55°	3.0	2.0	0.0	0.0
57.5°	3.0	2.0	0.0	0.0
60°	3.0	2.0	0.0	0.0
62.5°	3.0	2.0	0.0	0.0
65°	3.0	2.0	1.0	0.0
67.5°	3.0	2.0	1.0	0.0
70°	3.0	2.0	1.0	0.0
72.5°	3.0	2.0	1.0	0.0
75°	3.0	3.0	1.0	0.0
77.5°	4.0	3.0	1.0	0.0
80°	4.0	3.0	1.0	0.0
82.5°	4.0	3.0	1.0	0.0
85°	4.0	3.0	1.0	1.0
87.5°	4.0	3.0	1.0	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)