

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: P1191925

Luminaire Tested: **LDA4A35940D010TE LAR15SP 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: P1191925
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26104)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A35940D010TE LAR15SP 4LAL1 30° Tilt
Description: PORTFOLIO 4" Lensed Adjustable, Self-flanged, 15° Spot Optic, at 30° tilt. --- 27.9W
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

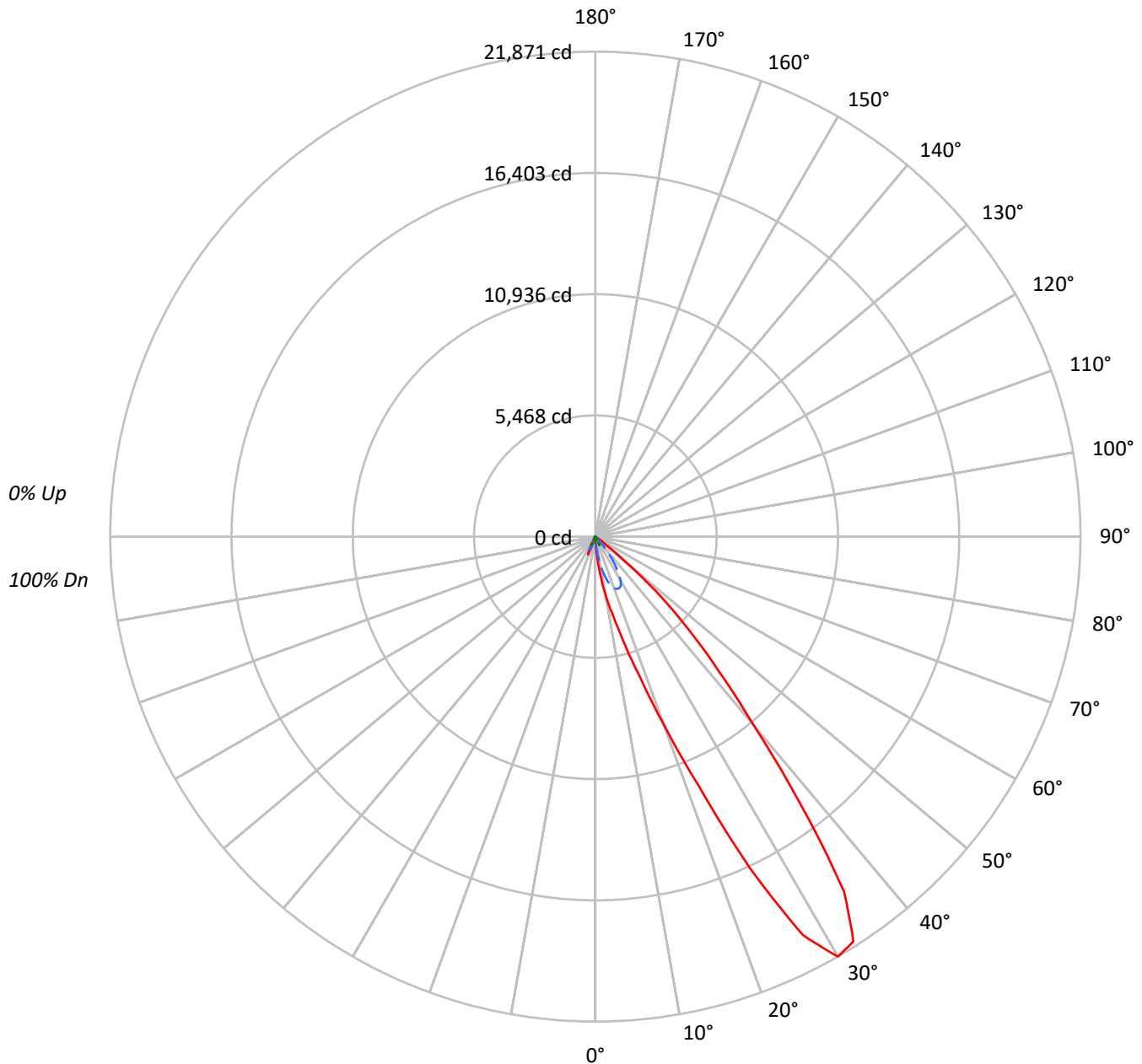
Lumens per Lamp: N/A
Luminaire Lumens: 3786.0 lumens
Efficiency: N/A
Efficacy: 80.4 lumens/watt
Spacing Criteria (0/90/45): 2.57 / 1.16 / 1.36
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 47.1
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
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111			106	106	106			102
1	112	109	106	104	110	107	104	102		103	101	99			99	97	96			96
2	105	100	95	91	103	98	93	90		94	91	88			91	88	86			89
3	99	91	85	80	96	89	84	79		87	82	78			84	80	77			82
4	92	83	76	71	90	82	75	70		79	74	70			77	72	69			75
5	86	75	68	63	84	74	68	63		73	67	62			71	66	62			69
6	80	69	62	56	78	68	61	56		66	60	56			65	59	55			63
7	74	63	56	51	73	62	55	50		61	55	50			60	54	50			58
8	69	58	50	45	68	57	50	45		56	50	45			55	49	45			54
9	65	53	46	41	64	52	46	41		51	45	41			50	45	40			49
10	61	49	42	37	59	48	41	37		47	41	37			46	41	37			46

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	22030	22030	22030
5°	116190	20826	11044
10°	339862	17685	7289
15°	618257	14851	8211
20°	1179478	16893	40061
25°	2241597	58780	88436
30°	3114984	19812	17148
35°	2943709	9080	6565
40°	1784173	4009	2335
45°	1045576	2180	733
50°	346998	1593	0
55°	66084	1333	0
60°	14875	1036	0
65°	4232	1810	0
70°	1515	2236	0
75°	0	2955	0
80°	0	4404	0
85°	0	8774	2972



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	42.6	1.1
10°-20°	348.3	9.2
20°-30°	1235.3	32.6
30°-40°	1464.6	38.7
40°-50°	623.1	16.5
50°-60°	56.3	1.5
60°-70°	7.0	0.2
70°-80°	4.6	0.1
80°-90°	4.2	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°	1626.2	43.0
0°-40°	3090.8	81.6
0°-60°	3770.2	99.6
0°-90°	3786.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3786.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	179	179	179	179	179	
5°	938	463	168	106	89	146
15°	4842	2039	116	64	64	1562
25°	16471	2556	432	679	650	7631
35°	19550	1509	60	46	44	11293
45°	5994	166	12	8	4	4698
55°	307	25	6	4	0	430
65°	14	6	6	4	0	21
75°	0	4	6	6	0	1
85°	0	4	6	6	2	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°	178.6	178.6	178.6	178.6	178.6	178.6	178.6	178.6	178.6	178.6	178.6
2.5°	328.1	309.4	321.9	317.7	319.8	326.0	319.8	319.8	317.7	309.4	309.4
5°	938.4	882.3	909.4	894.8	903.1	913.5	899.0	894.8	888.6	870.0	865.7
7.5°	1748.2	1717.0	1750.2	1725.3	1748.2	1752.3	1731.5	1727.4	1717.0	1690.0	1679.6
10°	2713.5	2661.7	2692.9	2665.8	2701.2	2699.1	2665.8	2670.0	2657.5	2622.2	2605.6
12.5°	3569.0	3527.4	3558.6	3481.8	3569.0	3513.0	3519.2	3527.4	3510.9	3465.2	3444.4
15°	4841.6	4727.6	4781.5	4648.6	4781.5	4762.8	4690.2	4686.0	4642.4	4565.6	4519.9
17.5°	6531.7	6562.9	6523.4	6444.6	6621.0	6573.3	6469.4	6448.6	6365.6	6156.0	6151.8
20°	8985.7	8944.3	9010.7	8761.5	8987.8	8767.8	8738.7	8680.6	8539.4	8246.7	8200.9
22.5°	12127.1	12149.9	12031.6	11859.3	12137.5	11796.9	11693.1	11554.0	11296.6	10846.0	10704.8
25°	16470.6	16441.5	16287.8	16001.3	16298.2	15748.0	15488.5	15201.9	14722.4	14020.6	13682.1
27.5°	20255.4	20373.7	20272.0	19981.3	20178.5	19636.6	19038.7	18856.0	18206.2	17321.7	16711.4
30°	21870.7	21926.7	21883.2	21660.9	21731.6	21285.2	20693.5	20477.5	19811.1	18974.3	18183.3
32.5°	21648.5	21675.5	21683.8	21386.9	21399.3	20978.0	20359.2	20039.4	19312.8	18507.2	17562.6
35°	19549.5	19661.6	19734.3	19456.1	19179.9	18760.5	18058.7	17562.6	16798.5	16063.5	15098.2
37.5°	15139.6	15280.8	15392.9	15156.2	15025.4	14518.9	13935.4	13551.3	13024.0	12592.1	11906.9
40°	11080.7	11107.7	11176.2	11053.7	10850.3	10715.2	10381.0	10163.0	9843.2	9610.7	9156.0
42.5°	8236.3	8221.7	8269.5	8200.9	8194.7	7991.3	7779.6	7650.7	7540.7	7295.7	6976.1
45°	5994.0	5998.1	6043.9	6000.2	5884.0	5840.3	5701.2	5585.0	5439.6	5362.7	5109.6
47.5°	4075.5	4088.0	4119.2	4094.2	3988.4	3971.8	3882.5	3766.3	3764.2	3645.7	3423.6
50°	1808.3	1812.5	1849.9	1841.6	1714.9	1731.5	1673.5	1567.5	1596.6	1526.1	1355.8
52.5°	600.1	602.0	608.4	604.1	583.3	583.3	568.9	566.8	550.2	533.6	496.2
55°	307.3	307.3	311.5	309.4	299.0	299.0	282.4	292.8	284.5	278.2	255.4
57.5°	130.8	130.8	132.9	132.9	126.6	132.9	126.6	126.6	122.5	120.4	112.1
60°	60.3	60.3	60.3	60.3	58.2	62.2	58.2	58.2	58.2	56.1	51.8
62.5°	31.2	31.2	31.2	31.2	31.2	31.2	31.2	29.1	29.1	29.1	27.0
65°	14.5	14.5	14.5	14.5	14.5	16.6	14.5	14.5	14.5	14.5	14.5
67.5°	6.2	6.2	6.2	8.3	8.3	8.3	8.3	8.3	6.2	6.2	6.2
70°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	2.1
72.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
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°	178.6	178.6	178.6	178.6	178.6	178.6	178.6	178.6	178.6	178.6	178.6
2.5°	311.5	301.1	315.6	303.2	311.5	303.2	292.8	296.9	238.7	199.4	176.5
5°	867.8	836.7	863.6	836.7	838.8	824.3	784.8	780.6	462.9	226.3	168.2
7.5°	1634.0	1629.8	1663.1	1627.8	1623.6	1588.3	1515.7	1486.6	838.8	265.8	155.7
10°	2595.3	2535.0	2564.1	2526.7	2514.3	2450.0	2346.2	2290.1	1247.7	305.2	141.2
12.5°	3386.2	3363.5	3384.1	3348.9	3336.5	3249.3	3126.7	3052.0	1667.1	328.1	126.6
15°	4420.2	4374.5	4389.1	4316.5	4279.1	4112.9	3903.3	3766.3	2038.9	326.0	116.3
17.5°	5998.1	5908.9	5900.6	5776.0	5684.6	5383.5	5007.9	4725.5	2310.7	301.1	112.1
20°	7974.7	7812.7	7758.8	7561.5	7407.8	6909.6	6330.4	5871.5	2481.0	267.8	128.7
22.5°	10343.6	10059.1	9899.2	9583.7	9320.1	8520.7	7671.5	6984.4	2555.8	257.4	184.8
25°	13105.0	12617.0	12278.7	11782.5	11338.1	10111.1	8919.3	7956.0	2555.8	334.2	431.9
27.5°	15905.8	15135.6	14512.6	13788.0	13113.2	11373.5	9837.0	8583.1	2493.5	417.3	394.5
30°	17323.8	16377.1	15529.9	14682.9	13835.8	11745.1	10042.5	8659.8	2258.9	245.0	139.1
32.5°	16721.8	15723.1	14786.7	13966.6	13129.8	11089.0	9486.2	8151.2	1897.7	143.3	89.2
35°	14413.0	13547.2	12733.3	12120.8	11468.9	9857.8	8423.2	7260.4	1509.4	112.1	60.3
37.5°	11504.3	10914.6	10335.3	9942.9	9475.8	8265.4	7108.8	6156.0	1079.6	80.9	37.4
40°	8923.5	8520.7	8115.9	7866.7	7536.7	6654.2	5753.2	4995.4	637.4	56.1	24.9
42.5°	6834.9	6556.7	6255.6	6083.2	5846.6	5188.4	4484.7	3948.9	294.8	39.5	18.7
45°	5024.4	4818.9	4588.3	4478.3	4312.3	3878.4	3411.3	3033.3	166.1	29.1	12.5
47.5°	3382.2	3199.4	2985.5	2917.0	2757.2	2377.2	1899.6	1528.0	110.0	20.8	10.4
50°	1345.4	1225.0	1152.4	1056.8	963.4	807.6	604.1	481.6	66.5	16.6	8.3
52.5°	494.1	467.2	454.6	429.8	409.0	365.4	309.4	267.8	39.5	12.5	6.2
55°	257.4	240.8	232.5	224.2	211.7	186.9	155.7	132.9	24.9	8.3	6.2
57.5°	112.1	105.9	107.9	99.6	93.4	85.1	74.7	64.3	16.6	8.3	6.2
60°	53.9	49.9	51.8	47.8	45.7	43.6	39.5	33.2	10.4	6.2	4.2
62.5°	27.0	27.0	27.0	24.9	24.9	22.9	20.8	18.7	8.3	6.2	6.2
65°	14.5	12.5	14.5	12.5	12.5	12.5	10.4	10.4	6.2	6.2	6.2
67.5°	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	4.2	6.2	6.2
70°	4.2	4.2	4.2	4.2	4.2	4.2	2.1	4.2	4.2	6.2	6.2
72.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	4.2	6.2	6.2
75°	0.0	0.0	0.0	0.0	0.0	2.1	2.1	2.1	4.2	6.2	6.2
77.5°	0.0	0.0	0.0	0.0	2.1	2.1	2.1	2.1	4.2	6.2	6.2
80°	0.0	0.0	0.0	0.0	0.0	2.1	2.1	2.1	4.2	6.2	6.2
82.5°	0.0	0.0	0.0	0.0	0.0	2.1	2.1	2.1	4.2	6.2	6.2
85°	0.0	0.0	0.0	0.0	2.1	2.1	2.1	2.1	4.2	6.2	6.2
87.5°	0.0	0.0	0.0	0.0	2.1	2.1	2.1	2.1	4.2	6.2	6.2
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°	178.6	178.6	178.6	178.6
2.5°	149.5	132.9	120.4	118.3
5°	126.6	105.9	91.3	89.2
7.5°	107.9	85.1	72.6	70.5
10°	95.5	72.6	60.3	58.2
12.5°	85.1	64.3	56.1	53.9
15°	79.0	64.3	62.2	64.3
17.5°	85.1	87.3	95.5	105.9
20°	141.2	201.3	261.6	305.2
22.5°	317.7	587.6	778.6	870.0
25°	600.1	678.9	681.0	649.8
27.5°	326.0	259.5	232.5	220.0
30°	128.7	122.5	122.5	120.4
32.5°	85.1	79.0	76.9	74.7
35°	51.8	45.7	43.6	43.6
37.5°	33.2	29.1	27.0	24.9
40°	22.9	18.7	16.6	14.5
42.5°	16.6	12.5	8.3	8.3
45°	12.5	8.3	4.2	4.2
47.5°	10.4	6.2	2.1	2.1
50°	8.3	4.2	2.1	0.0
52.5°	6.2	4.2	0.0	0.0
55°	6.2	4.2	0.0	0.0
57.5°	6.2	4.2	0.0	0.0
60°	6.2	4.2	0.0	0.0
62.5°	6.2	4.2	0.0	0.0
65°	6.2	4.2	2.1	0.0
67.5°	8.3	4.2	2.1	0.0
70°	8.3	4.2	2.1	0.0
72.5°	8.3	4.2	2.1	0.0
75°	8.3	6.2	2.1	0.0
77.5°	8.3	6.2	2.1	0.0
80°	8.3	6.2	2.1	0.0
82.5°	8.3	6.2	2.1	0.0
85°	8.3	6.2	2.1	2.1
87.5°	8.3	6.2	2.1	0.0
90°	0.0	0.0	0.0	0.0

Classified

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Scaled Data Report





— 0°-180° - - 45°-225° - - - 90°-270°

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(END OF REPORT)