

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: P1191787

Luminaire Tested: **LDA4A30927D010TE 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: P1191787
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: LDA4A30927D010TE 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 / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

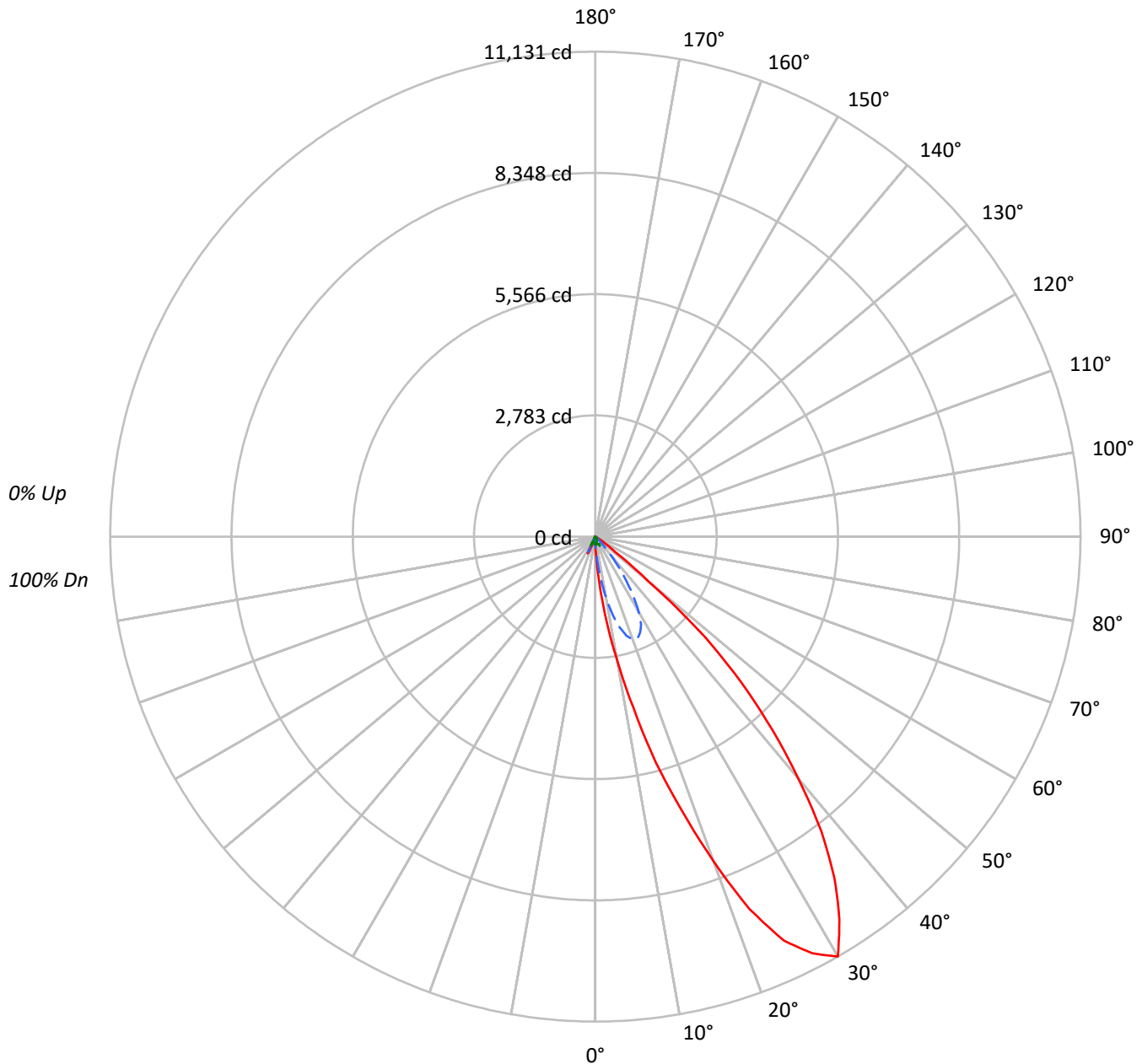
Lumens per Lamp: N/A
Luminaire Lumens: 2897.4 lumens
Efficiency: N/A
Efficacy: 73.5 lumens/watt
Spacing Criteria (0/90/45): 2.53 / 1.09 / 1.29
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 39.4
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
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	98	96			96
2	106	100	95	91	103	98	94	90		95	91	88			92	89	86			89
3	99	91	85	81	97	90	84	80		87	82	79			84	81	77			82
4	92	83	77	72	90	82	76	71		80	74	70			78	73	69			76
5	86	76	69	64	84	75	69	64		73	67	63			71	66	62			70
6	80	70	63	57	79	69	62	57		67	61	57			66	60	56			64
7	75	64	57	52	74	63	56	51		62	56	51			61	55	51			59
8	70	59	52	47	69	58	51	47		57	51	46			56	50	46			55
9	66	54	47	42	64	54	47	42		53	46	42			52	46	42			51
10	62	50	43	38	60	50	43	38		49	42	38			48	42	38			47

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	26606	26606	26606
5°	136756	24714	11552
10°	360440	20616	6024
15°	686025	16192	4648
20°	1041981	13389	12430
25°	1392298	31942	57515
30°	1585315	12035	11622
35°	1439970	6791	5270
40°	1166273	3059	2109
45°	825297	1779	506
50°	301117	1113	0
55°	62665	946	0
60°	15098	1085	0
65°	4699	1284	0
70°	1587	1587	0
75°	715	2097	0
80°	0	3125	0
85°	0	6227	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.8	1.7
10°-20°	364.4	12.6
20°-30°	924.2	31.9
30°-40°	989.1	34.1
40°-50°	505.6	17.4
50°-60°	52.8	1.8
60°-70°	6.1	0.2
70°-80°	3.3	0.1
80°-90°	3.0	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°	1337.5	46.2
0°-40°	2326.6	80.3
0°-60°	2885.0	99.6
0°-90°	2897.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2897.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	216	216	216	216	216	
5°	1104	600	200	115	93	161
15°	5372	2159	127	45	36	1587
25°	10230	2432	235	394	423	4648
35°	9563	1233	45	35	35	5871
45°	4731	165	10	6	3	3531
55°	291	26	4	3	0	395
65°	16	6	4	3	0	21
75°	2	3	4	4	0	1
85°	0	3	4	4	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°	215.7	215.7	215.7	215.7	215.7	215.7	215.7	215.7	215.7	215.7	215.7
2.5°	435.7	440.0	408.0	418.1	425.5	410.9	408.0	408.0	424.1	415.2	429.9
5°	1104.5	1100.1	1044.8	1060.7	1072.4	1044.8	1057.8	1037.4	1062.2	1046.2	1062.2
7.5°	1929.2	1980.2	1910.2	1926.3	1936.4	1907.3	1914.7	1885.5	1913.2	1894.2	1907.3
10°	2877.8	2930.2	2848.7	2861.7	2869.0	2841.3	2842.7	2804.9	2829.7	2809.2	2818.1
12.5°	4011.4	4031.8	3992.4	4002.7	4007.0	3970.6	3902.2	3909.4	3934.2	3899.1	3908.0
15°	5372.3	5357.7	5311.1	5344.6	5311.1	5293.6	5190.2	5184.4	5198.9	5159.6	5096.9
17.5°	6571.4	6682.2	6629.7	6648.7	6608.0	6608.0	6475.3	6453.5	6455.0	6350.0	6338.4
20°	7938.2	8079.6	7951.4	7957.2	7903.2	7901.8	7740.1	7695.0	7676.0	7556.5	7523.0
22.5°	9255.5	9296.3	9294.8	9270.0	9143.2	9216.1	9013.6	8942.2	8883.9	8748.3	8681.3
25°	10230.2	10358.4	10271.0	10208.3	10097.7	10189.5	9962.1	9868.8	9781.5	9667.8	9580.4
27.5°	10781.1	10900.6	10880.1	10786.9	10673.2	10762.1	10512.9	10392.0	10268.1	10185.1	10075.8
30°	11130.7	11312.9	11253.1	11050.5	10884.5	10913.6	10633.9	10472.1	10335.1	10249.2	10110.7
32.5°	10421.1	10609.1	10591.7	10444.4	10358.4	10429.8	10186.6	10026.2	9895.1	9826.6	9672.2
35°	9563.0	9783.0	9734.8	9612.4	9549.8	9632.9	9395.3	9261.3	9128.7	9069.0	8899.9
37.5°	8512.4	8719.2	8671.2	8554.6	8493.4	8554.6	8327.3	8203.5	8078.1	8015.5	7900.3
40°	7243.2	7425.4	7374.3	7266.6	7215.5	7259.2	7062.5	6954.7	6848.3	6801.7	6648.7
42.5°	6003.2	6149.0	6102.3	6009.0	5969.7	5998.9	5837.1	5741.0	5647.7	5608.3	5517.9
45°	4731.2	4875.5	4830.2	4750.2	4713.7	4729.7	4594.2	4508.2	4428.0	4391.6	4310.1
47.5°	3395.0	3556.7	3501.4	3432.9	3395.0	3387.7	3268.2	3191.1	3198.3	3074.5	2998.6
50°	1569.2	1706.3	1650.9	1614.5	1578.1	1557.6	1515.4	1428.0	1452.8	1340.5	1296.9
52.5°	569.7	603.2	590.1	578.5	566.8	562.4	547.9	526.0	528.9	501.2	488.2
55°	291.4	307.5	303.1	295.9	295.9	291.4	284.1	275.4	269.6	265.3	260.8
57.5°	134.0	142.8	139.8	136.9	136.9	134.0	131.1	126.8	129.7	122.4	121.0
60°	61.2	65.6	64.1	62.7	62.7	62.7	61.2	59.8	59.8	58.3	56.8
62.5°	29.2	32.1	30.6	30.6	30.6	30.6	29.2	29.2	29.2	29.2	27.7
65°	16.1	16.1	16.1	16.1	16.1	16.1	16.1	14.5	16.1	14.5	14.5
67.5°	8.7	8.7	8.7	8.7	7.3	8.7	8.7	7.3	7.3	7.3	7.3
70°	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
72.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
75°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
77.5°	0.0	1.5	1.5	1.5	0.0	1.5	1.5	1.5	1.5	1.5	1.5
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	1.5	0.0	1.5	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°	215.7	215.7	215.7	215.7	215.7	215.7	215.7	215.7	215.7	215.7	215.7
2.5°	396.4	406.5	416.7	413.8	399.3	397.8	392.0	394.9	307.5	249.2	208.4
5°	1005.3	1018.5	1031.6	1024.3	987.9	979.1	950.1	944.1	600.3	294.3	199.6
7.5°	1837.4	1844.6	1854.9	1846.1	1792.3	1767.5	1706.3	1646.5	1009.7	355.5	185.1
10°	2739.3	2736.4	2740.8	2729.2	2662.2	2614.0	2519.3	2477.1	1430.9	408.0	164.6
12.5°	3791.4	3779.8	3715.7	3746.1	3651.4	3553.8	3397.9	3266.8	1828.7	437.1	145.8
15°	5019.6	4984.7	4961.5	4926.4	4809.9	4652.5	4415.0	4269.2	2159.4	434.2	126.8
17.5°	6240.8	6183.9	6082.0	6095.0	5959.6	5739.5	5426.3	5177.1	2388.2	397.8	112.2
20°	7396.2	7311.7	7183.5	7173.3	7010.0	6720.1	6325.2	6016.4	2513.5	338.1	102.0
22.5°	8509.5	8378.2	8206.4	8152.4	7942.6	7531.7	7015.9	6640.0	2525.1	282.7	122.4
25°	9386.6	9222.0	9031.0	8937.7	8706.1	8181.6	7538.9	7077.1	2431.9	279.8	234.7
27.5°	9876.2	9689.7	9498.9	9372.0	9137.4	8543.0	7815.8	7282.5	2271.6	300.2	222.9
30°	9902.5	9692.6	9494.4	9334.1	9101.0	8465.7	7693.4	7138.4	1983.1	189.4	84.5
32.5°	9466.7	9242.3	9044.2	8863.5	8633.3	7993.6	7236.0	6705.6	1613.0	132.6	59.8
35°	8704.7	8473.1	8283.5	8092.7	7877.0	7275.3	6580.3	6086.3	1232.7	104.9	45.1
37.5°	7667.3	7453.1	7285.4	7155.8	6922.7	6443.2	5808.0	5284.9	871.3	74.3	27.7
40°	6505.9	6325.2	6188.3	6076.0	5860.5	5435.0	4793.8	4352.3	528.9	52.5	19.0
42.5°	5337.4	5168.3	5047.3	4941.0	4741.4	4365.4	3837.9	3395.0	253.5	36.4	13.1
45°	4151.3	3999.8	3897.7	3801.5	3622.4	3252.3	2834.0	2513.5	164.6	26.2	10.2
47.5°	2835.5	2756.9	2589.2	2484.4	2300.7	2018.1	1626.1	1273.5	109.3	19.0	7.3
50°	1178.8	1138.0	1027.2	955.9	850.9	706.7	512.8	429.9	67.0	13.1	5.8
52.5°	457.6	447.3	419.6	403.6	377.4	339.5	282.7	252.1	40.8	10.2	5.8
55°	246.3	243.4	228.7	220.0	205.5	186.5	153.0	134.0	26.2	7.3	4.4
57.5°	113.7	112.2	104.9	104.9	94.7	87.5	72.8	65.6	16.1	5.8	4.4
60°	53.9	53.9	51.0	51.0	46.6	43.7	36.4	33.5	10.2	4.4	4.4
62.5°	26.2	26.2	26.2	26.2	24.8	23.3	20.4	19.0	7.3	4.4	4.4
65°	14.5	14.5	14.5	14.5	13.1	13.1	11.6	10.2	5.8	4.4	4.4
67.5°	7.3	7.3	7.3	7.3	7.3	7.3	5.8	5.8	4.4	4.4	4.4
70°	4.4	4.4	4.4	4.4	4.4	2.9	2.9	2.9	2.9	4.4	4.4
72.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.9	4.4	4.4
75°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.9	4.4	4.4
77.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.9	4.4	4.4
80°	0.0	0.0	1.5	1.5	1.5	1.5	1.5	1.5	2.9	4.4	4.4
82.5°	0.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.9	4.4	4.4
85°	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	2.9	4.4	4.4
87.5°	0.0	0.0	0.0	1.5	1.5	1.5	1.5	1.5	2.9	4.4	4.4
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°	215.7	215.7	215.7	215.7
2.5°	179.3	155.9	144.3	141.4
5°	147.2	115.1	99.1	93.3
7.5°	119.5	83.1	69.9	64.1
10°	94.7	65.6	52.5	48.1
12.5°	78.7	52.5	42.2	39.3
15°	67.0	45.1	37.9	36.4
17.5°	61.2	48.1	45.1	46.6
20°	74.3	78.7	91.8	94.7
22.5°	157.4	272.5	370.1	392.0
25°	327.9	393.5	408.0	422.6
27.5°	182.2	141.4	138.4	144.3
30°	74.3	75.7	78.7	81.6
32.5°	55.4	55.4	53.9	55.4
35°	37.9	35.0	33.5	35.0
37.5°	23.3	21.9	20.4	20.4
40°	16.1	14.5	13.1	13.1
42.5°	11.6	8.7	7.3	7.3
45°	8.7	5.8	4.4	2.9
47.5°	7.3	4.4	1.5	1.5
50°	5.8	2.9	1.5	0.0
52.5°	4.4	2.9	1.5	0.0
55°	4.4	2.9	0.0	0.0
57.5°	4.4	2.9	0.0	0.0
60°	4.4	2.9	1.5	0.0
62.5°	4.4	2.9	1.5	1.5
65°	4.4	2.9	1.5	0.0
67.5°	4.4	2.9	1.5	0.0
70°	4.4	2.9	1.5	0.0
72.5°	5.8	2.9	1.5	0.0
75°	5.8	4.4	1.5	0.0
77.5°	5.8	4.4	1.5	0.0
80°	5.8	4.4	1.5	0.0
82.5°	5.8	4.4	1.5	0.0
85°	5.8	4.4	1.5	0.0
87.5°	5.8	4.4	1.5	0.0
90°	0.0	0.0	0.0	0.0

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— 0°-180° - - 45°-225° - - - 90°-270°

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(END OF REPORT)