

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: P174918

Luminaire Tested: **LDA4A28827D010TE LAR35FL 4LA1 30° Tilt**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P174918
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: LDA4A28827D010TE 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 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2535.7 lumens
Efficiency: N/A
Efficacy: 57.0 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

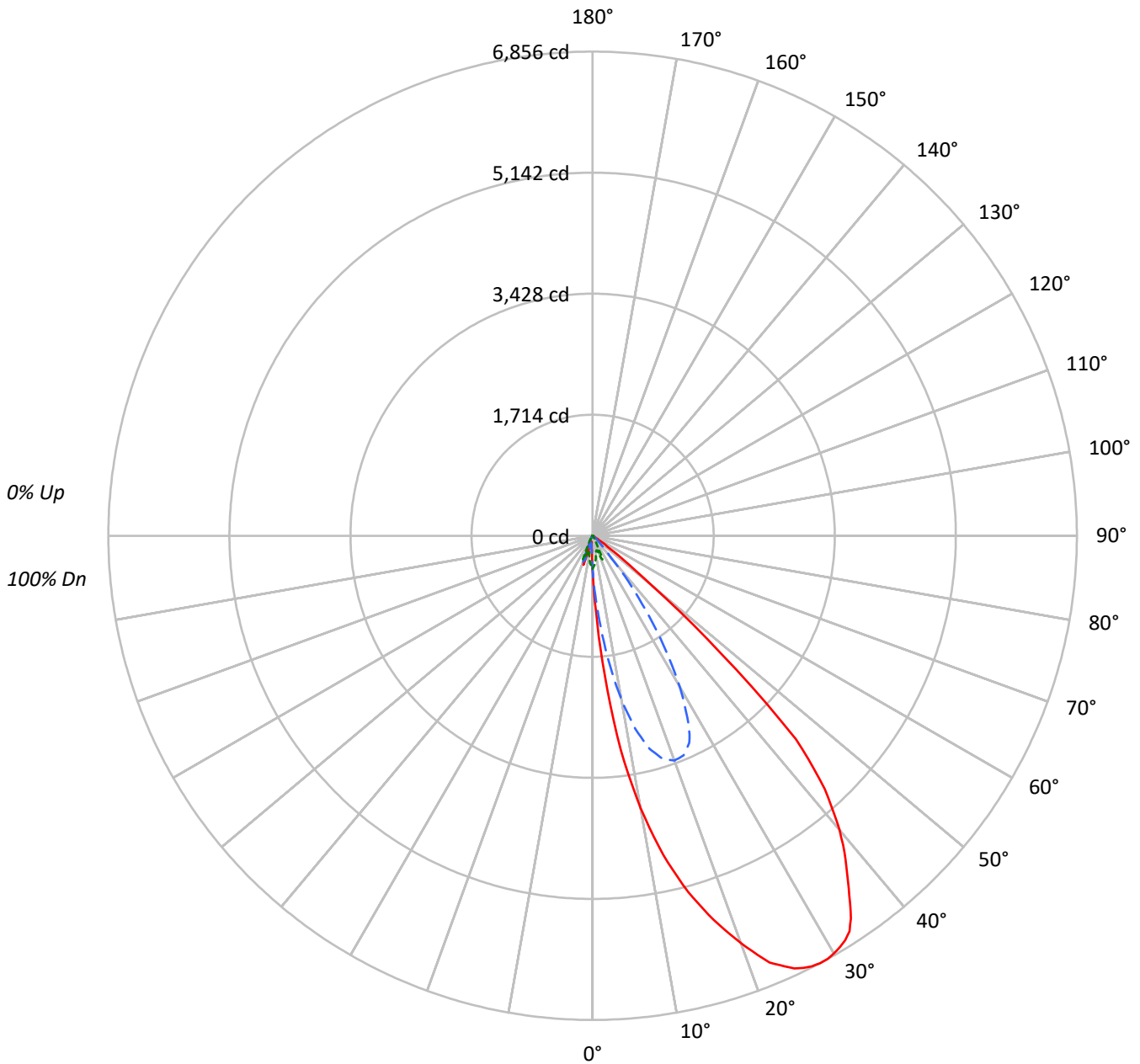
Input Watts (W): 44.49
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	58071	58071	58071
5°	243931	48573	17941
10°	490034	33416	10884
15°	666564	27136	24505
20°	805605	41203	45482
25°	920055	24484	12657
30°	972821	11522	5840
35°	956858	5090	2183
40°	875671	2528	580
45°	710290	1256	0
50°	210563	691	0
55°	38171	774	0
60°	7154	888	0
65°	1751	1051	0
70°	433	1298	0
75°	0	1716	0
80°	0	3410	0
85°	0	6793	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.6	3.4
10°-20°	442.9	17.5
20°-30°	775.6	30.6
30°-40°	778.9	30.7
40°-50°	410.3	16.2
50°-60°	34.2	1.3
60°-70°	3.4	0.1
70°-80°	2.5	0.1
80°-90°	2.3	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°	1304.1	51.4
0°-40°	2083.0	82.1
0°-60°	2527.5	99.7
0°-90°	2535.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2535.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	471	471	471	471	471	
5°	1970	1288	392	180	145	252
15°	5220	3124	212	142	192	1490
25°	6760	3235	180	103	93	3093
35°	6355	1405	34	18	14	3929
45°	4072	145	7	2	0	2791
55°	178	16	4	1	0	267
65°	6	2	4	2	0	9
75°	0	2	4	2	0	0
85°	0	2	5	2	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°	470.8	470.8	470.8	470.8	470.8	470.8	470.8	470.8	470.8	470.8	470.8
2.5°	1068.4	1069.6	1070.8	1079.2	1059.9	1055.1	1046.6	1034.6	994.7	830.5	626.5
5°	1970.1	1984.6	1981.0	1968.9	1938.7	1921.8	1896.5	1869.9	1761.3	1288.1	777.4
7.5°	3061.4	3089.2	3083.2	3065.1	3014.4	2991.4	2927.4	2892.4	2728.2	1828.9	889.7
10°	3912.5	3986.1	3987.3	3970.4	3894.4	3861.8	3795.4	3732.6	3525.0	2358.8	941.6
12.5°	4632.0	4633.2	4689.9	4676.7	4588.5	4574.0	4518.5	4424.4	4205.9	2800.7	941.6
15°	5219.9	5299.6	5286.3	5271.8	5178.8	5159.5	5106.4	5019.5	4764.8	3124.2	895.7
17.5°	5705.2	5776.4	5755.9	5740.2	5647.2	5605.0	5547.0	5443.2	5163.2	3316.2	800.4
20°	6137.4	6205.0	6163.9	6136.1	6011.8	5959.9	5875.4	5755.9	5436.0	3387.4	689.3
22.5°	6540.6	6611.8	6559.9	6521.2	6360.7	6260.5	6141.0	5990.1	5613.4	3364.4	630.2
25°	6760.3	6853.2	6803.7	6773.5	6620.2	6503.1	6345.0	6150.6	5714.8	3235.3	474.4
26°	6808.6	6906.3	6859.3	6832.7	6677.0	6552.6	6383.6	6179.6	5723.3	3129.0	365.8
27°	6842.4	6951.0	6896.7	6862.9	6702.3	6569.5	6393.3	6180.8	5710.0	2985.4	290.9
28°	6855.6	6975.1	6908.7	6867.7	6701.1	6556.3	6369.1	6154.3	5675.0	2820.0	247.5
29°	6854.4	6984.8	6907.5	6862.9	6685.4	6524.9	6332.9	6116.8	5626.7	2647.4	223.3
30°	6830.3	6972.7	6895.5	6838.7	6648.0	6475.4	6281.0	6064.9	5572.4	2459.0	199.2
31°	6797.7	6943.8	6862.9	6792.9	6586.4	6399.3	6208.6	5994.9	5500.0	2257.4	182.3
32°	6750.6	6896.7	6807.3	6715.6	6499.5	6303.9	6120.5	5912.8	5411.8	2045.0	161.8
33°	6675.8	6804.9	6701.1	6594.9	6378.8	6195.3	6021.5	5817.4	5311.6	1824.1	140.0
34°	6539.3	6652.8	6545.4	6437.9	6244.8	6074.6	5908.0	5705.2	5194.5	1620.0	120.7
35°	6354.6	6451.2	6354.6	6264.1	6093.9	5935.8	5776.4	5578.4	5053.3	1405.2	103.8
36°	6166.3	6250.8	6161.5	6090.3	5927.3	5786.1	5637.6	5432.4	4893.9	1201.2	91.7
37°	5990.1	6066.1	5984.0	5912.8	5772.8	5629.1	5481.9	5271.8	4717.7	1005.6	76.1
38°	5815.0	5882.6	5812.6	5732.9	5603.8	5457.7	5309.2	5094.3	4520.9	820.9	65.2
39°	5632.7	5688.3	5620.7	5539.8	5408.2	5263.3	5111.2	4889.1	4295.2	628.9	56.7
40°	5438.4	5490.3	5407.0	5334.6	5203.0	5054.5	4898.8	4668.2	4050.1	421.3	48.3
42.5°	4863.8	4895.2	4825.1	4724.9	4593.4	4430.4	4242.1	3983.7	3266.7	222.1	33.8
45°	4071.9	4077.9	4023.6	3841.3	3665.0	3412.7	3131.5	2743.9	1898.9	144.9	21.7
47.5°	2457.8	2443.4	2357.6	2201.9	2037.7	1770.9	1507.8	1241.0	737.6	84.5	14.5
50°	1097.3	1080.4	1038.2	957.3	861.9	762.9	645.8	546.9	358.5	45.9	9.7
51°	795.5	781.1	749.7	688.1	618.1	548.1	467.2	399.6	268.0	37.4	8.5
52°	558.9	550.5	528.7	485.3	446.7	392.3	336.8	294.6	201.6	30.2	6.0
53°	389.9	383.9	370.6	341.6	318.7	278.9	243.9	210.1	146.1	24.1	6.0
54°	264.4	260.8	252.3	233.0	213.7	191.9	166.6	147.3	102.6	19.3	4.8
55°	177.5	175.0	167.8	158.1	147.3	134.0	117.1	102.6	72.4	15.7	3.6
57.5°	65.2	65.2	62.8	59.2	55.5	51.9	47.1	42.3	33.8	9.7	3.6
60°	29.0	27.8	27.8	26.6	25.4	24.1	22.9	20.5	16.9	6.0	3.6
61°	21.7	21.7	20.5	19.3	19.3	18.1	16.9	15.7	13.3	4.8	3.6
62°	15.7	15.7	15.7	14.5	14.5	13.3	13.3	12.1	9.7	3.6	3.6
63°	12.1	12.1	12.1	10.9	10.9	10.9	9.7	9.7	7.2	3.6	3.6
64°	8.5	8.5	8.5	8.5	8.5	8.5	7.2	7.2	6.0	2.4	3.6
65°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	4.8	2.4	3.6
66°	4.8	4.8	4.8	4.8	4.8	4.8	3.6	3.6	3.6	2.4	3.6



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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°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	2.4	3.6
75°	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	2.4	3.6
77.5°	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	2.4	3.6
80°	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	2.4	3.6
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	2.4	3.6
85°	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	2.4	3.6
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	2.4	3.6
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: LDA4A28827D010TE LAR35FL 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
0°	470.8	470.8	470.8	470.8	470.8
2.5°	433.4	303.0	241.4	218.5	211.3
5°	392.3	227.0	179.9	154.5	144.9
7.5°	329.6	187.1	135.2	112.3	105.0
10°	266.8	154.5	109.9	91.7	86.9
12.5°	228.2	134.0	102.6	95.4	95.4
15°	212.5	141.2	142.4	171.4	191.9
17.5°	218.5	220.9	345.3	420.1	433.4
20°	313.9	397.2	393.5	357.3	346.5
22.5°	363.4	262.0	198.0	163.0	156.9
25°	179.9	119.5	102.6	94.2	93.0
26°	136.4	100.2	89.3	84.5	82.1
27°	113.5	88.1	79.7	73.6	71.2
28°	101.4	78.5	68.8	62.8	60.4
29°	91.7	67.6	57.9	51.9	50.7
30°	80.9	56.7	48.3	42.3	41.0
31°	68.8	47.1	38.6	35.0	32.6
32°	57.9	38.6	31.4	27.8	25.4
33°	48.3	31.4	26.6	22.9	20.5
34°	41.0	26.6	21.7	18.1	16.9
35°	33.8	21.7	18.1	15.7	14.5
36°	29.0	19.3	14.5	12.1	10.9
37°	25.4	15.7	12.1	9.7	9.7
38°	21.7	13.3	10.9	7.2	7.2
39°	18.1	10.9	8.5	6.0	6.0
40°	15.7	9.7	7.2	4.8	3.6
42.5°	10.9	6.0	4.8	2.4	1.2
45°	7.2	4.8	2.4	1.2	0.0
47.5°	4.8	3.6	2.4	1.2	0.0
50°	3.6	3.6	2.4	0.0	0.0
51°	3.6	2.4	2.4	0.0	0.0
52°	3.6	2.4	1.2	0.0	0.0
53°	3.6	2.4	1.2	0.0	0.0
54°	3.6	2.4	1.2	0.0	0.0
55°	3.6	2.4	1.2	0.0	0.0
57.5°	3.6	2.4	1.2	0.0	0.0
60°	3.6	2.4	2.4	0.0	0.0
61°	3.6	3.6	2.4	0.0	0.0
62°	3.6	3.6	2.4	0.0	0.0
63°	3.6	3.6	2.4	0.0	0.0
64°	3.6	3.6	2.4	1.2	0.0
65°	3.6	3.6	2.4	1.2	0.0
66°	3.6	3.6	2.4	1.2	0.0



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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
72.5°	3.6	3.6	2.4	1.2	0.0
75°	3.6	3.6	2.4	1.2	0.0
77.5°	4.8	3.6	2.4	1.2	0.0
80°	4.8	3.6	2.4	1.2	0.0
82.5°	4.8	3.6	2.4	1.2	0.0
85°	4.8	3.6	2.4	1.2	0.0
87.5°	4.8	3.6	2.4	1.2	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°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.6
70°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	2.4	3.6





67.5°	3.6	3.6	2.4	1.2	0.0
70°	3.6	3.6	2.4	1.2	0.0



(END OF REPORT)