

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: P1191701

Luminaire Tested: **LDA4A25927D010TE LAR35FL 4LA1 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: P1191701
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: LDA4A25927D010TE 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 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

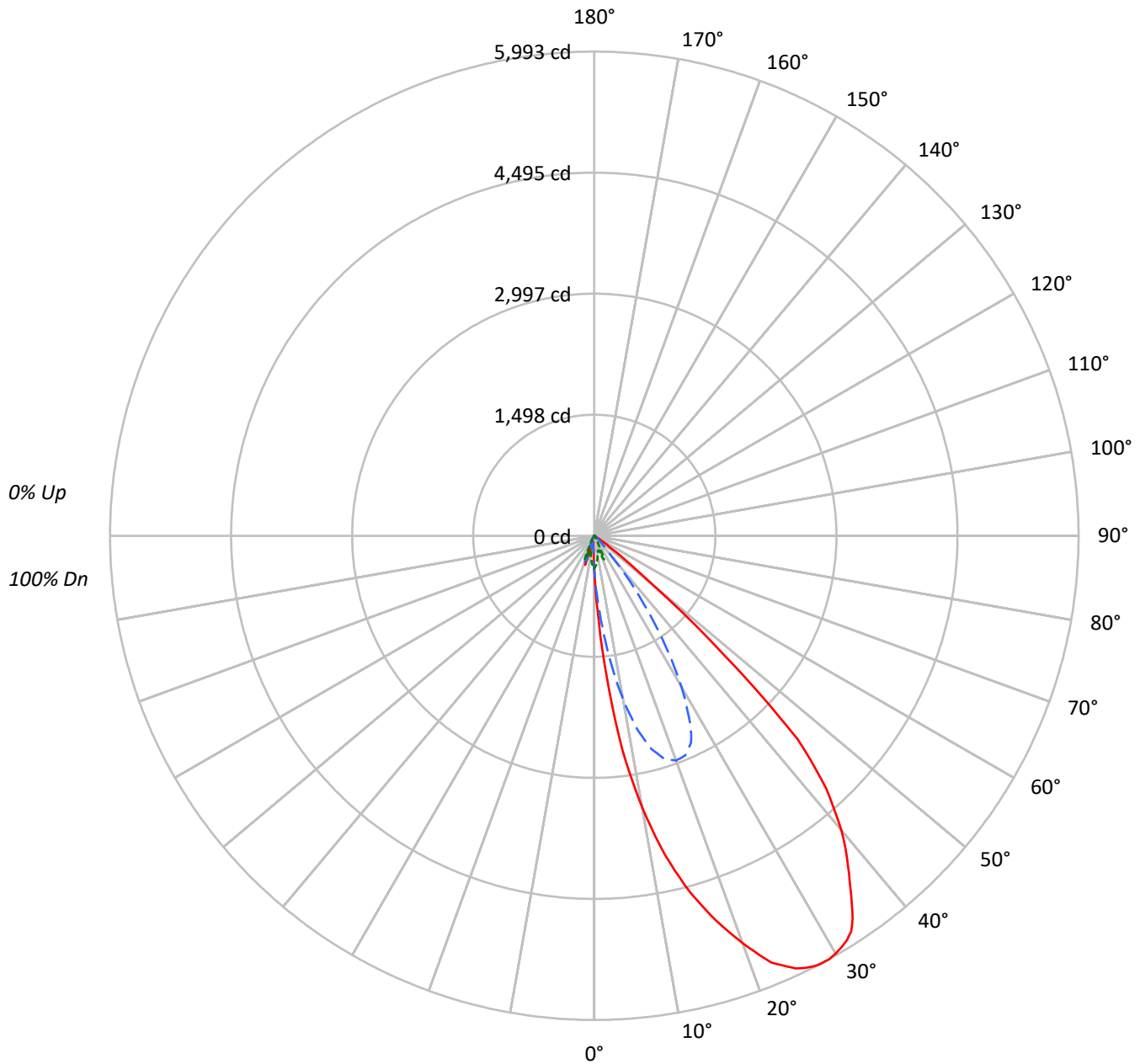
Lumens per Lamp: N/A
Luminaire Lumens: 2216.7 lumens
Efficiency: N/A
Efficacy: 71.7 lumens/watt
Spacing Criteria (0/90/45): 2.3 / 0.86 / 1.17
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
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	113	110	107	104	110	107	105	103	103	101	99	100	98	96	96	95	94	92		
2	106	101	96	92	104	99	95	91	96	92	89	92	90	87	90	87	85	84		
3	100	92	87	82	98	91	86	81	88	84	80	86	82	79	83	80	78	76		
4	93	85	78	74	92	84	78	73	81	76	72	79	75	71	77	74	70	69		
5	88	78	71	66	86	77	71	66	75	70	65	73	68	65	72	67	64	62		
6	82	72	65	60	81	71	64	60	69	64	59	68	63	59	66	62	58	57		
7	77	66	59	54	76	66	59	54	64	58	54	63	58	54	62	57	53	52		
8	72	61	54	50	71	61	54	49	59	54	49	58	53	49	57	52	49	47		
9	68	57	50	45	67	56	50	45	55	49	45	54	49	45	53	48	45	43		
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	50769	50769	50769
5°	213250	42469	15675
10°	428387	29220	9519
15°	582706	23713	21415
20°	704245	36018	39746
25°	804292	21408	11051
30°	850433	10084	5113
35°	836471	4442	1897
40°	765504	2206	515
45°	620909	1099	0
50°	184063	614	0
55°	33354	688	0
60°	6266	789	0
65°	1518	934	0
70°	397	1154	0
75°	0	1525	0
80°	0	2983	0
85°	0	5944	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.8	3.4
10°-20°	387.2	17.5
20°-30°	678.0	30.6
30°-40°	680.9	30.7
40°-50°	358.7	16.2
50°-60°	29.9	1.3
60°-70°	3.0	0.1
70°-80°	2.2	0.1
80°-90°	2.0	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°	1140.0	51.4
0°-40°	1820.9	82.1
0°-60°	2209.5	99.7
0°-90°	2216.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2216.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	412	412	412	412	412	
5°	1722	1126	343	157	127	221
15°	4563	2731	186	124	168	1303
25°	5910	2828	157	90	81	2704
35°	5555	1228	30	16	13	3435
45°	3560	127	6	2	0	2440
55°	155	14	3	1	0	233
65°	5	2	3	2	0	8
75°	0	2	3	2	0	0
85°	0	2	4	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°	411.6	411.6	411.6	411.6	411.6	411.6	411.6	411.6	411.6	411.6	411.6
2.5°	934.0	935.1	936.0	943.4	926.6	922.3	914.9	904.4	869.5	726.1	547.8
5°	1722.3	1734.9	1731.8	1721.2	1694.9	1680.1	1657.8	1634.7	1539.7	1126.0	679.6
7.5°	2676.3	2700.6	2695.2	2679.4	2635.1	2615.0	2559.2	2528.6	2385.0	1598.7	777.8
10°	3420.3	3484.6	3485.7	3470.9	3404.4	3375.9	3317.9	3263.0	3081.5	2062.0	823.2
12.5°	4049.3	4050.2	4099.9	4088.2	4011.3	3998.5	3950.0	3867.7	3676.7	2448.3	823.2
15°	4563.2	4632.8	4621.2	4608.6	4527.2	4510.4	4464.0	4388.0	4165.3	2731.1	783.0
17.5°	4987.4	5049.6	5031.7	5018.0	4936.7	4899.8	4849.1	4758.3	4513.5	2898.9	699.7
20°	5365.2	5424.3	5388.4	5364.1	5255.5	5210.1	5136.2	5031.7	4752.0	2961.2	602.6
22.5°	5717.7	5779.9	5734.5	5700.8	5560.4	5472.9	5368.4	5236.4	4907.1	2941.1	550.9
25°	5909.7	5991.0	5947.7	5921.3	5787.3	5684.9	5546.7	5376.8	4995.9	2828.2	414.7
26°	5951.9	6037.4	5996.2	5973.0	5836.9	5728.2	5580.5	5402.1	5003.3	2735.4	319.7
27°	5981.5	6076.4	6029.0	5999.4	5859.1	5743.0	5588.9	5403.2	4991.6	2609.8	254.3
28°	5993.1	6097.6	6039.5	6003.6	5858.0	5731.4	5567.8	5380.0	4961.0	2465.2	216.3
29°	5992.1	6106.1	6038.5	5999.4	5844.3	5703.9	5536.1	5347.2	4918.8	2314.2	195.3
30°	5971.0	6095.5	6027.9	5978.4	5811.6	5660.6	5490.8	5301.8	4871.3	2149.6	174.2
31°	5942.4	6070.1	5999.4	5938.2	5757.7	5594.2	5427.5	5240.7	4808.0	1973.4	159.4
32°	5901.3	6029.0	5950.8	5870.7	5681.7	5510.8	5350.4	5168.9	4730.9	1787.7	141.4
33°	5835.9	5948.8	5858.0	5765.1	5576.3	5415.8	5263.9	5085.6	4643.4	1594.6	122.5
34°	5716.6	5815.9	5721.9	5628.0	5459.1	5310.3	5164.7	4987.4	4541.0	1416.2	105.5
35°	5555.1	5639.6	5555.1	5476.0	5327.2	5189.0	5049.6	4876.6	4417.5	1228.4	90.8
36°	5390.6	5464.4	5386.3	5324.0	5181.6	5058.1	4928.3	4748.9	4278.2	1050.0	80.2
37°	5236.4	5302.9	5231.2	5168.9	5046.5	4920.9	4792.2	4608.6	4124.2	879.1	66.5
38°	5083.4	5142.5	5081.3	5011.6	4898.8	4771.1	4641.2	4453.4	3952.2	717.6	57.0
39°	4924.1	4972.6	4913.6	4842.8	4727.7	4601.1	4468.1	4274.0	3754.8	549.8	49.6
40°	4754.2	4799.6	4726.8	4663.4	4548.4	4418.6	4282.4	4080.8	3540.6	368.3	42.2
42.5°	4251.8	4279.3	4218.1	4130.5	4015.4	3873.0	3708.3	3482.6	2855.7	194.2	29.5
45°	3559.5	3564.9	3517.3	3358.0	3203.9	2983.4	2737.5	2398.7	1660.0	126.6	19.0
47.5°	2148.6	2135.9	2061.0	1924.9	1781.4	1548.1	1318.1	1084.8	644.7	73.9	12.6
50°	959.2	944.5	907.5	836.9	753.5	666.9	564.6	478.1	313.4	40.1	8.5
51°	695.5	682.7	655.3	601.5	540.4	479.1	408.4	349.3	234.3	32.8	7.4
52°	488.6	481.2	462.2	424.2	390.5	343.0	294.5	257.5	176.2	26.3	5.2
53°	340.8	335.6	323.9	298.7	278.6	243.7	213.1	183.6	127.7	21.1	5.2
54°	231.1	227.9	220.5	203.7	186.8	167.7	145.6	128.8	89.7	16.9	4.2
55°	155.1	153.0	146.7	138.2	128.8	117.1	102.3	89.7	63.4	13.7	3.2
57.5°	57.0	57.0	54.9	51.7	48.5	45.4	41.1	36.9	29.5	8.5	3.2
60°	25.4	24.3	24.3	23.2	22.2	21.1	20.0	18.0	14.8	5.2	3.2
61°	19.0	19.0	18.0	16.9	16.9	15.8	14.8	13.7	11.6	4.2	3.2
62°	13.7	13.7	13.7	12.6	12.6	11.6	11.6	10.6	8.5	3.2	3.2
63°	10.6	10.6	10.6	9.5	9.5	9.5	8.5	8.5	6.3	3.2	3.2
64°	7.4	7.4	7.4	7.4	7.4	7.4	6.3	6.3	5.2	2.1	3.2
65°	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.2	2.1	3.2
66°	4.2	4.2	4.2	4.2	4.2	4.2	3.2	3.2	3.2	2.1	3.2



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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°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1	3.2
75°	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.1	2.1	3.2
77.5°	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.1	1.1	2.1	3.2
80°	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.1	1.1	2.1	3.2
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.1	2.1	3.2
85°	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.1	2.1	3.2
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.1	2.1	3.2
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):

	90°	112.5°	135°	157.5°	180°
0°	411.6	411.6	411.6	411.6	411.6
2.5°	378.8	264.8	211.1	191.0	184.7
5°	343.0	198.4	157.3	135.1	126.6
7.5°	288.1	163.6	118.2	98.2	91.8
10°	233.3	135.1	96.0	80.2	76.0
12.5°	199.4	117.1	89.7	83.4	83.4
15°	185.7	123.4	124.5	149.9	167.7
17.5°	191.0	193.1	301.9	367.3	378.8
20°	274.4	347.2	344.0	312.4	302.8
22.5°	317.6	229.0	173.1	142.5	137.2
25°	157.3	104.5	89.7	82.3	81.2
26°	119.3	87.6	78.0	73.9	71.7
27°	99.2	77.1	69.7	64.3	62.3
28°	88.6	68.6	60.2	54.9	52.8
29°	80.2	59.1	50.6	45.4	44.3
30°	70.8	49.6	42.2	36.9	35.9
31°	60.2	41.1	33.7	30.6	28.5
32°	50.6	33.7	27.4	24.3	22.2
33°	42.2	27.4	23.2	20.0	18.0
34°	35.9	23.2	19.0	15.8	14.8
35°	29.5	19.0	15.8	13.7	12.6
36°	25.4	16.9	12.6	10.6	9.5
37°	22.2	13.7	10.6	8.5	8.5
38°	19.0	11.6	9.5	6.3	6.3
39°	15.8	9.5	7.4	5.2	5.2
40°	13.7	8.5	6.3	4.2	3.2
42.5°	9.5	5.2	4.2	2.1	1.1
45°	6.3	4.2	2.1	1.1	0.0
47.5°	4.2	3.2	2.1	1.1	0.0
50°	3.2	3.2	2.1	0.0	0.0
51°	3.2	2.1	2.1	0.0	0.0
52°	3.2	2.1	1.1	0.0	0.0
53°	3.2	2.1	1.1	0.0	0.0
54°	3.2	2.1	1.1	0.0	0.0
55°	3.2	2.1	1.1	0.0	0.0
57.5°	3.2	2.1	1.1	0.0	0.0
60°	3.2	2.1	2.1	0.0	0.0
61°	3.2	3.2	2.1	0.0	0.0
62°	3.2	3.2	2.1	0.0	0.0
63°	3.2	3.2	2.1	0.0	0.0
64°	3.2	3.2	2.1	1.1	0.0
65°	3.2	3.2	2.1	1.1	0.0
66°	3.2	3.2	2.1	1.1	0.0

Classified

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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
72.5°	3.2	3.2	2.1	1.1	0.0
75°	3.2	3.2	2.1	1.1	0.0
77.5°	4.2	3.2	2.1	1.1	0.0
80°	4.2	3.2	2.1	1.1	0.0
82.5°	4.2	3.2	2.1	1.1	0.0
85°	4.2	3.2	2.1	1.1	0.0
87.5°	4.2	3.2	2.1	1.1	0.0
90°	0.0	0.0	0.0	0.0	0.0

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— 0°-180° - - 45°-225° - - - 90°-270°

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67.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	3.2
70°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1	3.2

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67.5°	3.2	3.2	2.1	1.1	0.0
70°	3.2	3.2	2.1	1.1	0.0

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(END OF REPORT)