

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: P1191877

Luminaire Tested: **LDA4A35927D010TE 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: P1191877
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: LDA4A35927D010TE 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

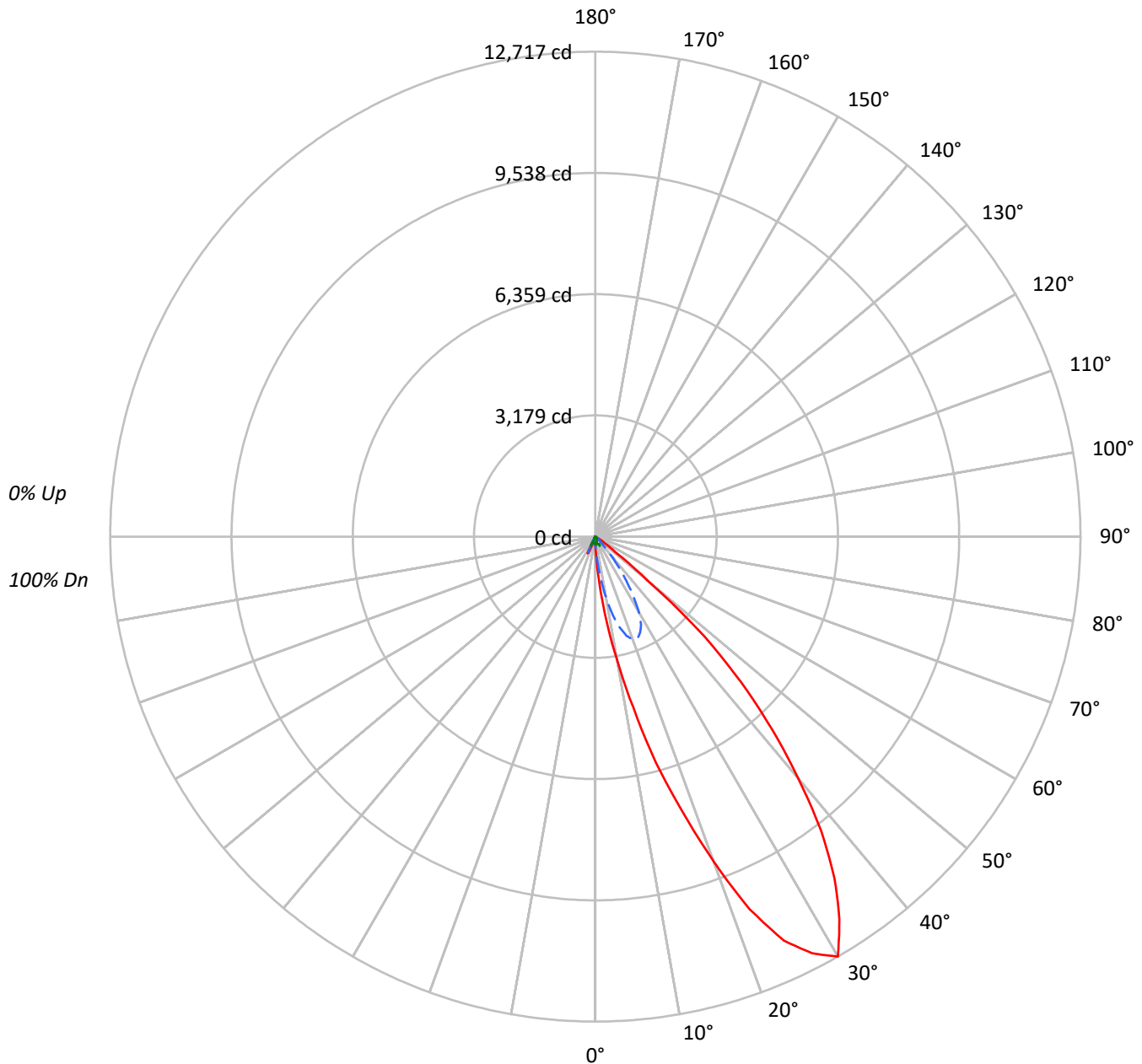
Lumens per Lamp: N/A
Luminaire Lumens: 3310.1 lumens
Efficiency: N/A
Efficacy: 70.3 lumens/watt
Spacing Criteria (0/90/45): 2.53 / 1.09 / 1.29
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	30392	30392	30392
5°	156244	28230	13186
10°	411792	23559	6889
15°	783777	18490	5312
20°	1190438	15292	14203
25°	1590673	36488	65708
30°	1811191	13758	13288
35°	1645131	7755	6008
40°	1332442	3494	2399
45°	942867	2023	576
50°	344023	1266	0
55°	71589	1075	0
60°	17244	1233	0
65°	5370	1459	0
70°	1803	1803	0
75°	810	2383	0
80°	0	3552	0
85°	0	7076	0

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Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.8	1.7
10°-20°	416.3	12.6
20°-30°	1055.9	31.9
30°-40°	1130.1	34.1
40°-50°	577.6	17.4
50°-60°	60.3	1.8
60°-70°	6.9	0.2
70°-80°	3.8	0.1
80°-90°	3.4	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°	1528.0	46.2
0°-40°	2658.1	80.3
0°-60°	3296.0	99.6
0°-90°	3310.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3310.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	246	246	246	246	246	
5°	1262	686	228	132	106	184
15°	6138	2467	145	52	42	1813
25°	11688	2778	268	450	483	5310
35°	10926	1408	52	40	40	6707
45°	5405	188	12	7	3	4034
55°	333	30	5	3	0	451
65°	18	7	5	3	0	24
75°	2	3	5	5	0	2
85°	0	3	5	5	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°	246.4	246.4	246.4	246.4	246.4	246.4	246.4	246.4	246.4	246.4	246.4
2.5°	497.7	502.7	466.1	477.7	486.1	469.4	466.1	466.1	484.5	474.4	491.1
5°	1261.9	1256.8	1193.6	1211.9	1225.1	1193.6	1208.6	1185.2	1213.5	1195.3	1213.5
7.5°	2204.1	2262.4	2182.4	2200.7	2212.3	2179.0	2187.5	2154.2	2185.8	2164.1	2179.0
10°	3287.8	3347.7	3254.5	3269.5	3277.7	3246.1	3247.8	3204.5	3232.8	3209.5	3219.6
12.5°	4582.9	4606.3	4561.2	4573.0	4577.9	4536.3	4458.1	4466.4	4494.7	4454.7	4464.8
15°	6137.8	6121.0	6067.8	6106.1	6067.8	6047.8	5929.7	5923.0	5939.6	5894.7	5823.1
17.5°	7507.7	7634.3	7574.3	7596.0	7549.5	7549.5	7397.9	7373.0	7374.7	7254.7	7241.4
20°	9069.2	9230.8	9084.3	9090.9	9029.3	9027.6	8842.9	8791.3	8769.6	8633.1	8594.8
22.5°	10574.2	10620.8	10619.1	10590.8	10446.0	10529.1	10297.8	10216.3	10149.7	9994.8	9918.2
25°	11687.8	11834.3	11734.4	11662.8	11536.4	11641.3	11381.5	11274.9	11175.2	11045.3	10945.4
27.5°	12317.1	12453.7	12430.3	12323.8	12193.9	12295.4	12010.8	11872.6	11731.1	11636.3	11511.4
30°	12716.6	12924.7	12856.5	12625.0	12435.3	12468.6	12149.0	11964.2	11807.6	11709.5	11551.3
32.5°	11905.9	12120.6	12100.7	11932.6	11834.3	11915.8	11637.9	11454.7	11304.9	11226.7	11050.2
35°	10925.5	11176.8	11121.8	10982.0	10910.4	11005.3	10733.9	10580.8	10429.4	10361.1	10167.9
37.5°	9725.2	9961.5	9906.6	9773.4	9703.5	9773.4	9513.8	9372.3	9229.1	9157.5	9026.0
40°	8275.2	8483.3	8425.0	8301.9	8243.6	8293.4	8068.8	7945.6	7824.0	7770.8	7596.0
42.5°	6858.5	7025.1	6971.7	6865.2	6820.3	6853.6	6668.8	6559.0	6452.4	6407.4	6304.1
45°	5405.2	5570.1	5518.4	5426.9	5385.4	5403.6	5248.8	5150.6	5058.9	5017.4	4924.2
47.5°	3878.7	4063.5	4000.3	3922.0	3878.7	3870.4	3733.9	3645.7	3654.0	3512.5	3425.9
50°	1792.8	1949.4	1886.1	1844.5	1802.9	1779.5	1731.3	1631.4	1659.7	1531.5	1481.6
52.5°	650.8	689.1	674.2	660.9	647.5	642.6	626.0	601.0	604.3	572.6	557.7
55°	332.9	351.3	346.3	338.0	338.0	332.9	324.6	314.6	308.0	303.0	297.9
57.5°	153.1	163.2	159.7	156.4	156.4	153.1	149.8	144.8	148.1	139.8	138.2
60°	69.9	74.9	73.2	71.6	71.6	71.6	69.9	68.3	68.3	66.6	64.9
62.5°	33.3	36.6	35.0	35.0	35.0	35.0	33.3	33.3	33.3	33.3	31.6
65°	18.4	18.4	18.4	18.4	18.4	18.4	18.4	16.6	18.4	16.6	16.6
67.5°	9.9	9.9	9.9	9.9	8.3	9.9	9.9	8.3	8.3	8.3	8.3
70°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
72.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
75°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
77.5°	0.0	1.7	1.7	1.7	0.0	1.7	1.7	1.7	1.7	1.7	1.7
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	1.7	0.0	1.7	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°	246.4	246.4	246.4	246.4	246.4	246.4	246.4	246.4	246.4	246.4	246.4
2.5°	452.8	464.4	476.0	472.7	456.2	454.5	447.9	451.2	351.3	284.7	238.1
5°	1148.6	1163.7	1178.6	1170.3	1128.7	1118.6	1085.4	1078.7	685.8	336.2	228.0
7.5°	2099.2	2107.5	2119.2	2109.1	2047.6	2019.3	1949.4	1881.1	1153.6	406.1	211.4
10°	3129.6	3126.3	3131.3	3118.0	3041.5	2986.5	2878.3	2830.0	1634.7	466.1	188.1
12.5°	4331.5	4318.3	4245.0	4279.9	4171.7	4060.1	3882.0	3732.2	2089.2	499.4	166.5
15°	5734.8	5694.9	5668.4	5628.3	5495.2	5315.4	5044.0	4877.5	2467.0	496.1	144.8
17.5°	7129.9	7065.0	6948.5	6963.4	6808.7	6557.3	6199.4	5914.7	2728.5	454.5	128.2
20°	8450.0	8353.4	8206.9	8195.3	8008.8	7677.6	7226.4	6873.6	2871.6	386.2	116.5
22.5°	9721.9	9571.9	9375.6	9313.9	9074.2	8604.8	8015.6	7586.1	2884.9	322.9	139.8
25°	10724.0	10535.9	10317.7	10211.2	9946.6	9347.2	8613.1	8085.5	2778.3	319.6	268.1
27.5°	11283.4	11070.3	10852.2	10707.3	10439.3	9760.1	8929.4	8320.1	2595.3	343.0	254.7
30°	11313.4	11073.6	10847.1	10664.0	10397.7	9671.8	8789.5	8155.4	2265.7	216.4	96.6
32.5°	10815.5	10559.1	10332.8	10126.3	9863.4	9132.5	8266.9	7661.0	1842.8	151.4	68.3
35°	9944.9	9680.3	9463.7	9245.7	8999.3	8311.8	7517.8	6953.5	1408.4	119.8	51.5
37.5°	8759.7	8515.0	8323.4	8175.3	7909.0	7361.3	6635.5	6037.9	995.5	84.8	31.6
40°	7432.8	7226.4	7070.0	6941.7	6695.5	6209.3	5476.8	4972.4	604.3	60.0	21.7
42.5°	6097.8	5904.6	5766.5	5645.0	5417.0	4987.4	4384.7	3878.7	289.6	41.6	14.9
45°	4742.8	4569.6	4453.0	4343.2	4138.5	3715.7	3237.8	2871.6	188.1	30.0	11.6
47.5°	3239.5	3149.7	2958.1	2838.3	2628.6	2305.6	1857.8	1455.0	124.9	21.7	8.3
50°	1346.8	1300.2	1173.6	1092.1	972.1	807.4	585.9	491.1	76.6	14.9	6.6
52.5°	522.8	511.0	479.4	461.1	431.1	387.9	322.9	288.0	46.6	11.6	6.6
55°	281.3	278.0	261.3	251.4	234.8	213.1	174.8	153.1	30.0	8.3	5.0
57.5°	129.9	128.2	119.8	119.8	108.2	99.9	83.2	74.9	18.4	6.6	5.0
60°	61.6	61.6	58.3	58.3	53.2	49.9	41.6	38.3	11.6	5.0	5.0
62.5°	30.0	30.0	30.0	30.0	28.3	26.7	23.4	21.7	8.3	5.0	5.0
65°	16.6	16.6	16.6	16.6	14.9	14.9	13.3	11.6	6.6	5.0	5.0
67.5°	8.3	8.3	8.3	8.3	8.3	8.3	6.6	6.6	5.0	5.0	5.0
70°	5.0	5.0	5.0	5.0	5.0	3.3	3.3	3.3	3.3	5.0	5.0
72.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	3.3	5.0	5.0
75°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	3.3	5.0	5.0
77.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	3.3	5.0	5.0
80°	0.0	0.0	1.7	1.7	1.7	1.7	1.7	1.7	3.3	5.0	5.0
82.5°	0.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7	3.3	5.0	5.0
85°	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	3.3	5.0	5.0
87.5°	0.0	0.0	0.0	1.7	1.7	1.7	1.7	1.7	3.3	5.0	5.0
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°	246.4	246.4	246.4	246.4
2.5°	204.8	178.1	164.9	161.5
5°	168.2	131.6	113.2	106.5
7.5°	136.5	94.9	79.9	73.2
10°	108.2	74.9	60.0	55.0
12.5°	90.0	60.0	48.2	44.9
15°	76.6	51.5	43.2	41.6
17.5°	69.9	55.0	51.5	53.2
20°	84.8	90.0	104.9	108.2
22.5°	179.8	311.3	422.8	447.9
25°	374.6	449.5	466.1	482.8
27.5°	208.1	161.5	158.1	164.9
30°	84.8	86.5	90.0	93.3
32.5°	63.3	63.3	61.6	63.3
35°	43.2	39.9	38.3	39.9
37.5°	26.7	25.0	23.4	23.4
40°	18.4	16.6	14.9	14.9
42.5°	13.3	9.9	8.3	8.3
45°	9.9	6.6	5.0	3.3
47.5°	8.3	5.0	1.7	1.7
50°	6.6	3.3	1.7	0.0
52.5°	5.0	3.3	1.7	0.0
55°	5.0	3.3	0.0	0.0
57.5°	5.0	3.3	0.0	0.0
60°	5.0	3.3	1.7	0.0
62.5°	5.0	3.3	1.7	1.7
65°	5.0	3.3	1.7	0.0
67.5°	5.0	3.3	1.7	0.0
70°	5.0	3.3	1.7	0.0
72.5°	6.6	3.3	1.7	0.0
75°	6.6	5.0	1.7	0.0
77.5°	6.6	5.0	1.7	0.0
80°	6.6	5.0	1.7	0.0
82.5°	6.6	5.0	1.7	0.0
85°	6.6	5.0	1.7	0.0
87.5°	6.6	5.0	1.7	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)