

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: P1191643

Luminaire Tested: **LDA4A20935D010TE 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: P1191643
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: LDA4A20935D010TE 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 / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

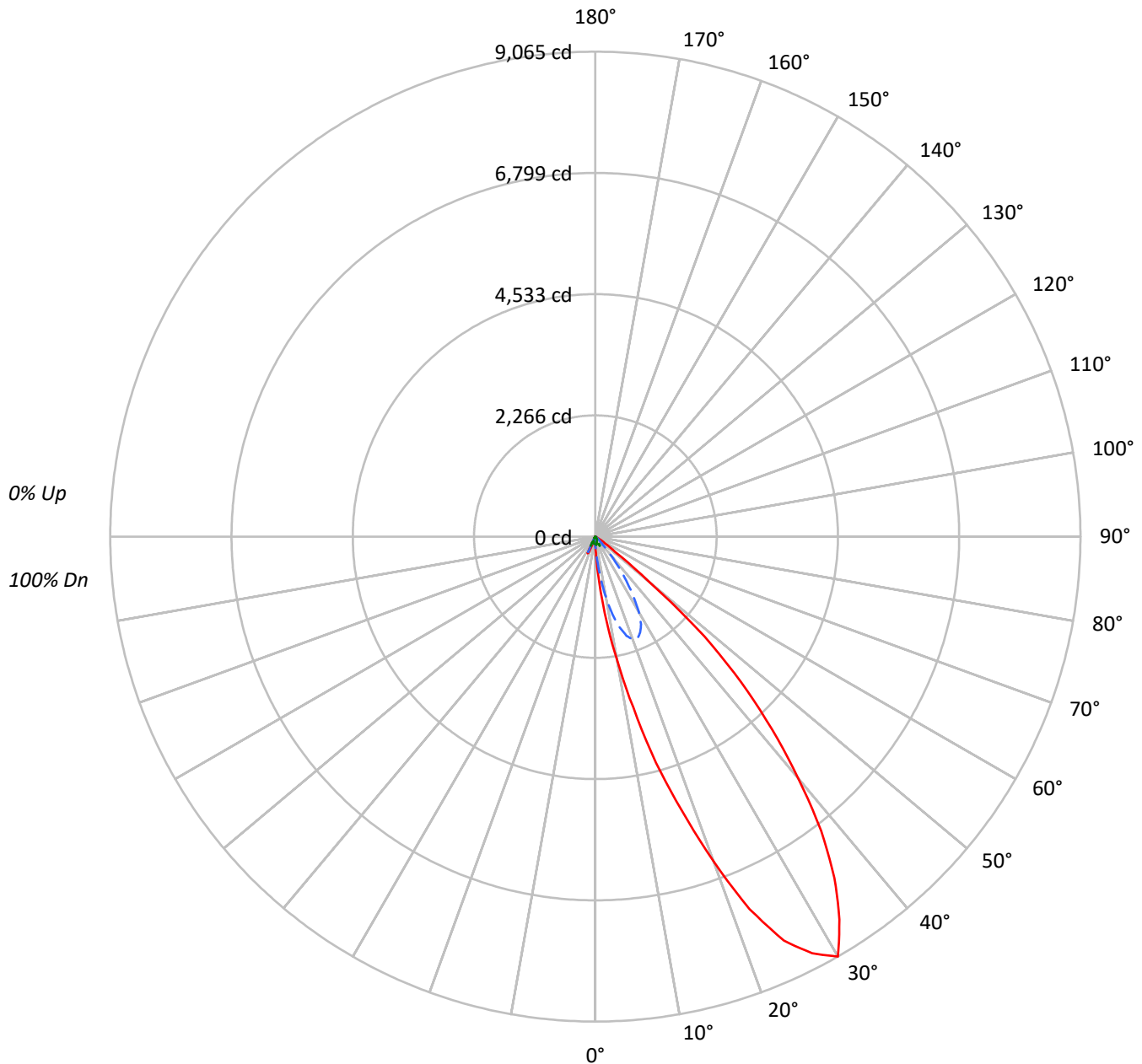
Lumens per Lamp: N/A
Luminaire Lumens: 2359.7 lumens
Efficiency: N/A
Efficacy: 81.9 lumens/watt
Spacing Criteria (0/90/45): 2.53 / 1.09 / 1.29
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 28.8
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	112	109	106	104	110	107	104	102	103	101	99	99	98	96	96	94	93	91		
2	106	100	95	91	103	98	94	90	95	91	88	92	89	86	89	86	84	83		
3	99	91	85	81	97	90	84	80	87	82	79	84	81	77	82	79	76	74		
4	92	83	77	72	90	82	76	71	80	74	70	78	73	69	76	72	69	67		
5	86	76	69	64	84	75	69	64	73	67	63	71	66	62	70	65	62	60		
6	80	70	63	57	79	69	62	57	67	61	57	66	60	56	64	60	56	54		
7	75	64	57	52	74	63	56	51	62	56	51	61	55	51	59	54	51	49		
8	70	59	52	47	69	58	51	47	57	51	46	56	50	46	55	50	46	44		
9	66	54	47	42	64	54	47	42	53	46	42	52	46	42	51	45	42	40		
10	62	50	43	38	60	50	43	38	49	42	38	48	42	38	47	42	38	36		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	21659	21659	21659
5°	111373	20133	9410
10°	293545	16796	4897
15°	558699	13178	3793
20°	848620	10908	10133
25°	1133918	25994	46845
30°	1291117	9799	9471
35°	1172725	5541	4291
40°	949835	2496	1723
45°	672123	1448	401
50°	245238	921	0
55°	51031	774	0
60°	12285	888	0
65°	3794	1051	0
70°	1298	1298	0
75°	572	1716	0
80°	0	2557	0
85°	0	5095	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.8	1.7
10°-20°	296.8	12.6
20°-30°	752.7	31.9
30°-40°	805.6	34.1
40°-50°	411.8	17.5
50°-60°	43.0	1.8
60°-70°	5.0	0.2
70°-80°	2.7	0.1
80°-90°	2.4	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°	1089.3	46.2
0°-40°	1894.8	80.3
0°-60°	2349.6	99.6
0°-90°	2359.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2359.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	176	176	176	176	176	
5°	900	489	163	94	76	131
15°	4375	1759	103	37	30	1293
25°	8332	1981	191	320	344	3786
35°	7788	1004	37	28	28	4781
45°	3853	134	8	5	2	2875
55°	237	21	4	2	0	322
65°	13	5	4	2	0	17
75°	1	2	4	4	0	1
85°	0	2	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°	175.6	175.6	175.6	175.6	175.6	175.6	175.6	175.6	175.6	175.6	175.6
2.5°	354.8	358.4	332.3	340.6	346.5	334.6	332.3	332.3	345.3	338.3	350.1
5°	899.5	896.0	850.8	863.9	873.4	850.8	861.6	844.9	865.0	852.0	865.0
7.5°	1571.2	1612.8	1555.7	1568.8	1577.2	1553.4	1559.3	1535.6	1558.2	1542.7	1553.4
10°	2343.7	2386.4	2320.0	2330.7	2336.6	2314.0	2315.2	2284.3	2304.5	2288.0	2295.1
12.5°	3267.0	3283.6	3251.5	3259.9	3263.3	3233.7	3177.9	3183.8	3204.1	3175.6	3182.7
15°	4375.2	4363.4	4325.4	4352.8	4325.4	4311.2	4227.0	4222.2	4234.1	4202.1	4151.1
17.5°	5351.9	5442.1	5399.4	5414.9	5381.6	5381.6	5273.6	5255.8	5257.1	5171.6	5162.1
20°	6465.1	6580.2	6475.7	6480.5	6436.6	6435.4	6303.7	6266.9	6251.4	6154.1	6126.9
22.5°	7537.8	7571.1	7569.8	7549.7	7446.4	7505.8	7340.9	7282.7	7235.2	7124.8	7070.2
25°	8331.7	8436.1	8364.9	8313.9	8223.7	8298.4	8113.4	8037.4	7966.3	7873.7	7802.5
27.5°	8780.3	8877.6	8861.0	8785.1	8692.4	8764.8	8562.0	8463.5	8362.6	8295.0	8205.9
30°	9065.1	9213.4	9164.8	8999.8	8864.6	8888.3	8660.4	8528.7	8417.2	8347.1	8234.4
32.5°	8487.2	8640.3	8626.0	8506.2	8436.1	8494.3	8296.1	8165.7	8058.8	8003.0	7877.2
35°	7788.2	7967.4	7928.2	7828.6	7777.6	7845.2	7651.8	7542.6	7434.6	7385.9	7248.3
37.5°	6932.7	7101.1	7062.0	6967.0	6917.2	6967.0	6782.0	6681.0	6578.9	6528.0	6434.1
40°	5899.0	6047.4	6005.8	5917.9	5876.5	5912.1	5751.9	5664.1	5577.4	5539.4	5414.9
42.5°	4889.1	5007.9	4969.8	4893.9	4861.9	4885.5	4753.9	4675.6	4599.5	4567.5	4494.0
45°	3853.1	3970.7	3933.9	3868.6	3838.9	3851.9	3741.6	3671.7	3606.4	3576.7	3510.2
47.5°	2764.9	2896.7	2851.7	2795.8	2764.9	2759.0	2661.7	2598.9	2604.8	2503.9	2442.2
50°	1278.0	1389.6	1344.5	1314.9	1285.2	1268.6	1234.1	1162.9	1183.2	1091.8	1056.2
52.5°	463.9	491.3	480.6	471.2	461.6	458.0	446.1	428.5	430.8	408.2	397.5
55°	237.3	250.4	246.9	240.9	240.9	237.3	231.4	224.3	219.5	216.0	212.4
57.5°	109.2	116.3	114.0	111.5	111.5	109.2	106.9	103.2	105.6	99.6	98.5
60°	49.8	53.4	52.3	51.0	51.0	51.0	49.8	48.7	48.7	47.5	46.3
62.5°	23.7	26.1	24.9	24.9	24.9	24.9	23.7	23.7	23.7	23.7	22.6
65°	13.0	13.0	13.0	13.0	13.0	13.0	13.0	11.9	13.0	11.9	11.9
67.5°	7.1	7.1	7.1	7.1	5.9	7.1	7.1	5.9	5.9	5.9	5.9
70°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
72.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
75°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
77.5°	0.0	1.2	1.2	1.2	0.0	1.2	1.2	1.2	1.2	1.2	1.2
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	1.2	0.0	1.2	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°	175.6	175.6	175.6	175.6	175.6	175.6	175.6	175.6	175.6	175.6	175.6
2.5°	322.8	331.2	339.4	336.9	325.2	323.9	319.3	321.6	250.4	202.9	169.7
5°	818.8	829.6	840.1	834.2	804.5	797.4	773.7	769.0	489.0	239.6	162.6
7.5°	1496.4	1502.3	1510.7	1503.6	1459.6	1439.4	1389.6	1341.0	822.3	289.6	150.7
10°	2230.9	2228.6	2232.2	2222.7	2168.1	2129.0	2051.8	2017.3	1165.3	332.3	134.1
12.5°	3087.7	3078.3	3026.0	3050.9	2973.9	2894.4	2767.4	2660.5	1489.3	356.1	118.7
15°	4088.1	4059.6	4040.6	4012.2	3917.2	3789.1	3595.6	3477.1	1758.7	353.6	103.2
17.5°	5082.6	5036.3	4953.3	4963.9	4853.5	4674.4	4419.3	4216.3	1944.9	323.9	91.4
20°	6023.6	5954.9	5850.3	5842.1	5709.1	5473.0	5151.4	4899.9	2047.0	275.3	83.1
22.5°	6930.2	6823.5	6683.5	6639.5	6468.6	6134.0	5713.9	5407.7	2056.6	230.2	99.6
25°	7644.7	7510.6	7355.1	7279.2	7090.5	6663.2	6139.9	5763.7	1980.6	227.9	191.0
27.5°	8043.3	7891.4	7736.0	7632.8	7441.7	6957.6	6365.4	5931.1	1850.1	244.4	181.6
30°	8064.7	7893.9	7732.4	7601.9	7412.0	6894.6	6265.7	5813.5	1615.1	154.2	68.8
32.5°	7710.0	7527.1	7365.8	7218.7	7031.1	6510.2	5893.0	5461.1	1313.6	108.0	48.7
35°	7089.2	6900.5	6746.3	6590.8	6415.2	5925.2	5359.0	4956.8	1003.9	85.4	36.8
37.5°	6244.3	6069.8	5933.4	5827.9	5637.9	5247.5	4730.1	4304.2	709.7	60.5	22.6
40°	5298.5	5151.4	5039.9	4948.5	4772.9	4426.4	3904.2	3544.7	430.8	42.7	15.5
42.5°	4346.9	4209.2	4110.7	4024.1	3861.5	3555.2	3125.8	2764.9	206.5	29.7	10.7
45°	3380.9	3257.4	3174.4	3096.1	2950.1	2648.7	2308.1	2047.0	134.1	21.4	8.3
47.5°	2309.3	2245.3	2108.7	2023.3	1873.8	1643.6	1324.3	1037.2	89.1	15.5	5.9
50°	960.0	926.9	836.6	778.4	693.0	575.6	417.7	350.1	54.6	10.7	4.8
52.5°	372.6	364.3	341.7	328.7	307.4	276.6	230.2	205.3	33.2	8.3	4.8
55°	200.5	198.2	186.4	179.3	167.4	151.9	124.7	109.2	21.4	5.9	3.6
57.5°	92.5	91.4	85.4	85.4	77.2	71.2	59.4	53.4	13.0	4.8	3.6
60°	43.9	43.9	41.6	41.6	37.9	35.6	29.7	27.2	8.3	3.6	3.6
62.5°	21.4	21.4	21.4	21.4	20.1	19.0	16.7	15.5	5.9	3.6	3.6
65°	11.9	11.9	11.9	11.9	10.7	10.7	9.6	8.3	4.8	3.6	3.6
67.5°	5.9	5.9	5.9	5.9	5.9	5.9	4.8	4.8	3.6	3.6	3.6
70°	3.6	3.6	3.6	3.6	3.6	2.3	2.3	2.3	2.3	3.6	3.6
72.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	2.3	3.6	3.6
75°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	2.3	3.6	3.6
77.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	2.3	3.6	3.6
80°	0.0	0.0	1.2	1.2	1.2	1.2	1.2	1.2	2.3	3.6	3.6
82.5°	0.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	2.3	3.6	3.6
85°	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	2.3	3.6	3.6
87.5°	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	2.3	3.6	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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CANDELA DISTRIBUTION (continued):

	112.5°	135°	157.5°	180°
0°	175.6	175.6	175.6	175.6
2.5°	146.0	127.0	117.4	115.1
5°	119.9	93.7	80.7	76.0
7.5°	97.3	67.6	56.9	52.3
10°	77.2	53.4	42.7	39.1
12.5°	64.1	42.7	34.5	32.0
15°	54.6	36.8	30.8	29.7
17.5°	49.8	39.1	36.8	37.9
20°	60.5	64.1	74.7	77.2
22.5°	128.1	222.0	301.5	319.3
25°	267.0	320.4	332.3	344.2
27.5°	148.3	115.1	112.8	117.4
30°	60.5	61.7	64.1	66.5
32.5°	45.0	45.0	43.9	45.0
35°	30.8	28.5	27.2	28.5
37.5°	19.0	17.8	16.7	16.7
40°	13.0	11.9	10.7	10.7
42.5°	9.6	7.1	5.9	5.9
45°	7.1	4.8	3.6	2.3
47.5°	5.9	3.6	1.2	1.2
50°	4.8	2.3	1.2	0.0
52.5°	3.6	2.3	1.2	0.0
55°	3.6	2.3	0.0	0.0
57.5°	3.6	2.3	0.0	0.0
60°	3.6	2.3	1.2	0.0
62.5°	3.6	2.3	1.2	1.2
65°	3.6	2.3	1.2	0.0
67.5°	3.6	2.3	1.2	0.0
70°	3.6	2.3	1.2	0.0
72.5°	4.8	2.3	1.2	0.0
75°	4.8	3.6	1.2	0.0
77.5°	4.8	3.6	1.2	0.0
80°	4.8	3.6	1.2	0.0
82.5°	4.8	3.6	1.2	0.0
85°	4.8	3.6	1.2	0.0
87.5°	4.8	3.6	1.2	0.0
90°	0.0	0.0	0.0	0.0

Classified

Scaled Data Report

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Peachtree City, GA 30269



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Scaled Data Report



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— 0°-180° - - 45°-225° - - - 90°-270°

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(END OF REPORT)