

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: P1191913

Luminaire Tested: **LDA4A35935D010TE 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: P1191913
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: LDA4A35935D010TE 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

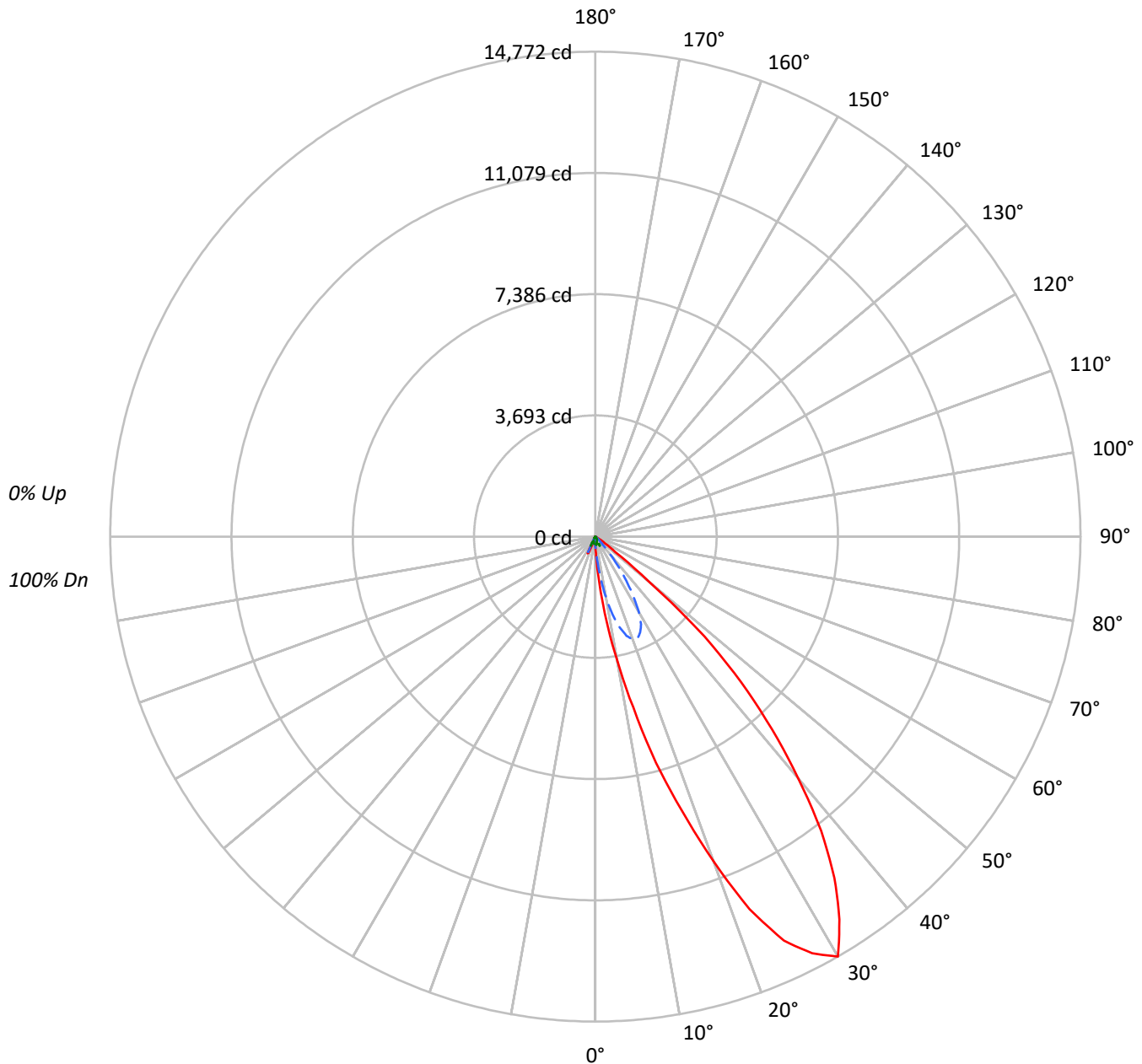
Lumens per Lamp: N/A
Luminaire Lumens: 3845.1 lumens
Efficiency: N/A
Efficacy: 81.6 lumens/watt
Spacing Criteria (0/90/45): 2.53 / 1.09 / 1.29
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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	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°	35302	35302	35302
5°	181491	32799	15316
10°	478349	27367	7978
15°	910465	21479	6181
20°	1382881	17760	16500
25°	1847800	42367	76309
30°	2103964	15966	15425
35°	1911036	9035	6987
40°	1547817	4058	2786
45°	1095290	2372	680
50°	399653	1478	0
55°	83180	1226	0
60°	20031	1406	0
65°	6187	1664	0
70°	2056	2056	0
75°	953	2716	0
80°	0	4049	0
85°	0	8067	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.8	1.7
10°-20°	483.6	12.6
20°-30°	1226.6	31.9
30°-40°	1312.7	34.1
40°-50°	671.0	17.5
50°-60°	70.0	1.8
60°-70°	8.0	0.2
70°-80°	4.4	0.1
80°-90°	3.9	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°	1775.0	46.2
0°-40°	3087.8	80.3
0°-60°	3828.8	99.6
0°-90°	3845.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3845.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	286	286	286	286	286	
5°	1466	797	265	153	124	214
15°	7130	2866	168	60	48	2107
25°	13577	3227	311	522	561	6169
35°	12691	1636	60	46	46	7792
45°	6279	218	14	8	4	4686
55°	387	35	6	4	0	525
65°	21	8	6	4	0	28
75°	2	4	6	6	0	2
85°	0	4	6	6	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°	286.2	286.2	286.2	286.2	286.2	286.2	286.2	286.2	286.2	286.2	286.2
2.5°	578.2	583.9	541.4	555.0	564.7	545.4	541.4	541.4	562.7	551.1	570.5
5°	1465.8	1460.1	1386.5	1407.8	1423.3	1386.5	1403.9	1376.9	1409.7	1388.5	1409.7
7.5°	2560.3	2628.0	2535.1	2556.5	2569.9	2531.4	2541.0	2502.3	2539.0	2513.9	2531.4
10°	3819.2	3888.8	3780.6	3797.9	3807.6	3770.8	3772.8	3722.6	3755.4	3728.3	3739.9
12.5°	5323.7	5350.8	5298.6	5312.1	5317.8	5269.6	5178.8	5188.4	5221.2	5174.8	5186.4
15°	7129.9	7110.5	7048.7	7093.2	7048.7	7025.5	6888.1	6880.4	6899.7	6847.5	6764.4
17.5°	8721.4	8868.3	8798.7	8823.9	8769.8	8769.8	8593.8	8564.7	8566.7	8427.4	8411.9
20°	10535.3	10722.8	10552.6	10560.3	10488.9	10486.9	10272.2	10212.4	10187.2	10028.5	9984.1
22.5°	12283.4	12337.6	12335.7	12302.8	12134.5	12231.2	11962.4	11867.6	11790.3	11610.4	11521.5
25°	13577.1	13747.2	13631.2	13548.1	13401.1	13523.0	13221.3	13097.6	12981.5	12830.7	12714.7
27.5°	14308.1	14466.6	14439.5	14315.8	14164.9	14282.9	13952.3	13791.8	13627.4	13517.1	13372.1
30°	14772.2	15013.9	14934.7	14665.8	14445.4	14484.1	14112.8	13898.1	13716.3	13602.2	13418.5
32.5°	13830.4	14079.9	14056.7	13861.4	13747.2	13842.0	13519.1	13306.4	13132.4	13041.5	12836.4
35°	12691.4	12983.5	12919.6	12757.2	12674.0	12784.3	12469.0	12291.2	12115.2	12035.9	11811.5
37.5°	11297.2	11571.8	11507.9	11353.3	11272.1	11353.3	11051.6	10887.2	10721.0	10637.8	10485.0
40°	9612.8	9854.6	9786.8	9643.8	9576.2	9634.2	9373.0	9230.0	9088.8	9026.9	8823.9
42.5°	7967.2	8160.5	8098.7	7974.9	7922.7	7961.5	7746.7	7619.1	7495.4	7443.1	7323.3
45°	6279.0	6470.5	6410.5	6304.1	6255.8	6277.0	6097.2	5983.2	5876.8	5828.4	5720.2
47.5°	4505.8	4720.3	4647.0	4555.9	4505.8	4496.1	4337.4	4235.0	4244.6	4080.3	3979.7
50°	2082.7	2264.5	2190.9	2142.6	2094.3	2067.2	2011.2	1895.1	1928.0	1779.1	1721.1
52.5°	756.2	800.6	783.2	767.8	752.3	746.4	727.1	698.2	701.9	665.2	647.8
55°	386.8	408.1	402.2	392.6	392.6	386.8	377.0	365.4	357.7	352.0	346.1
57.5°	178.0	189.6	185.7	181.7	181.7	178.0	174.1	168.2	172.1	162.4	160.5
60°	81.2	87.0	85.1	83.2	83.2	83.2	81.2	79.3	79.3	77.3	75.3
62.5°	38.7	42.5	40.5	40.5	40.5	40.5	38.7	38.7	38.7	38.7	36.8
65°	21.2	21.2	21.2	21.2	21.2	21.2	21.2	19.3	21.2	19.3	19.3
67.5°	11.6	11.6	11.6	11.6	9.6	11.6	11.6	9.6	9.6	9.6	9.6
70°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
72.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
75°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
77.5°	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0
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	2.0	0.0	2.0	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°	286.2	286.2	286.2	286.2	286.2	286.2	286.2	286.2	286.2	286.2	286.2
2.5°	525.9	539.5	553.0	549.1	529.8	527.9	520.2	524.1	408.1	330.6	276.5
5°	1334.2	1351.7	1369.1	1359.4	1311.0	1299.4	1260.9	1253.0	796.7	390.6	264.9
7.5°	2438.5	2448.2	2461.7	2450.1	2378.6	2345.7	2264.5	2185.2	1340.1	471.8	245.6
10°	3635.5	3631.6	3637.5	3621.9	3533.0	3469.3	3343.4	3287.4	1899.0	541.4	218.5
12.5°	5031.7	5016.3	4931.2	4971.7	4846.0	4716.6	4509.5	4335.6	2426.9	580.2	193.3
15°	6661.9	6615.5	6584.6	6538.2	6383.4	6174.5	5859.4	5665.9	2865.9	576.3	168.2
17.5°	8282.4	8206.9	8071.6	8089.0	7909.2	7617.1	7201.4	6870.7	3169.5	527.9	148.9
20°	9815.9	9703.8	9533.5	9520.1	9303.4	8918.7	8394.6	7984.5	3335.8	448.6	135.3
22.5°	11293.3	11119.3	10891.1	10819.5	10541.0	9995.7	9311.2	8812.3	3351.3	375.2	162.4
25°	12457.4	12238.9	11985.6	11861.9	11554.3	10858.3	10005.3	9392.5	3227.4	371.3	311.3
27.5°	13107.2	12859.6	12606.3	12438.1	12126.8	11337.8	10372.9	9665.1	3014.8	398.4	295.8
30°	13142.0	12863.5	12600.6	12387.8	12078.4	11235.3	10210.4	9473.7	2631.9	251.4	112.1
32.5°	12563.8	12266.0	12002.9	11763.2	11457.7	10608.7	9603.1	8899.2	2140.8	176.0	79.3
35°	11552.5	11244.9	10993.6	10740.3	10454.1	9655.4	8733.0	8077.3	1635.9	139.2	60.0
37.5°	10175.6	9891.3	9669.0	9496.9	9187.4	8551.1	7708.0	7013.9	1156.4	98.6	36.8
40°	8634.3	8394.6	8212.8	8063.9	7777.6	7213.0	6362.1	5776.3	701.9	69.6	25.2
42.5°	7083.5	6859.1	6698.6	6557.4	6292.5	5793.6	5093.6	4505.8	336.5	48.4	17.3
45°	5509.4	5308.2	5172.9	5045.2	4807.4	4316.2	3761.2	3335.8	218.5	34.8	13.6
47.5°	3763.1	3658.7	3436.3	3297.0	3053.5	2678.3	2158.1	1690.2	145.0	25.2	9.6
50°	1564.5	1510.3	1363.3	1268.5	1129.3	937.9	680.7	570.5	88.9	17.3	7.7
52.5°	607.1	593.7	557.0	535.7	500.9	450.6	375.2	334.5	54.1	13.6	7.7
55°	326.9	322.9	303.6	292.0	272.6	247.6	203.0	178.0	34.8	9.6	5.7
57.5°	150.8	148.9	139.2	139.2	125.7	116.0	96.7	87.0	21.2	7.7	5.7
60°	71.6	71.6	67.7	67.7	61.9	58.0	48.4	44.5	13.6	5.7	5.7
62.5°	34.8	34.8	34.8	34.8	32.9	30.9	27.1	25.2	9.6	5.7	5.7
65°	19.3	19.3	19.3	19.3	17.3	17.3	15.5	13.6	7.7	5.7	5.7
67.5°	9.6	9.6	9.6	9.6	9.6	9.6	7.7	7.7	5.7	5.7	5.7
70°	5.7	5.7	5.7	5.7	5.7	3.9	3.9	3.9	3.9	5.7	5.7
72.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.9	5.7	5.7
75°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.9	5.7	5.7
77.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.9	5.7	5.7
80°	0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	3.9	5.7	5.7
82.5°	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.9	5.7	5.7
85°	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	3.9	5.7	5.7
87.5°	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	3.9	5.7	5.7
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°	286.2	286.2	286.2	286.2
2.5°	237.8	206.9	191.4	187.6
5°	195.3	152.8	131.6	123.7
7.5°	158.5	110.2	92.8	85.1
10°	125.7	87.0	69.6	63.7
12.5°	104.4	69.6	56.1	52.1
15°	88.9	60.0	50.3	48.4
17.5°	81.2	63.7	60.0	61.9
20°	98.6	104.4	121.8	125.7
22.5°	208.9	361.7	491.1	520.2
25°	435.1	522.2	541.4	560.7
27.5°	241.7	187.6	183.7	191.4
30°	98.6	100.5	104.4	108.3
32.5°	73.5	73.5	71.6	73.5
35°	50.3	46.4	44.5	46.4
37.5°	30.9	28.9	27.1	27.1
40°	21.2	19.3	17.3	17.3
42.5°	15.5	11.6	9.6	9.6
45°	11.6	7.7	5.7	3.9
47.5°	9.6	5.7	2.0	2.0
50°	7.7	3.9	2.0	0.0
52.5°	5.7	3.9	2.0	0.0
55°	5.7	3.9	0.0	0.0
57.5°	5.7	3.9	0.0	0.0
60°	5.7	3.9	2.0	0.0
62.5°	5.7	3.9	2.0	2.0
65°	5.7	3.9	2.0	0.0
67.5°	5.7	3.9	2.0	0.0
70°	5.7	3.9	2.0	0.0
72.5°	7.7	3.9	2.0	0.0
75°	7.7	5.7	2.0	0.0
77.5°	7.7	5.7	2.0	0.0
80°	7.7	5.7	2.0	0.0
82.5°	7.7	5.7	2.0	0.0
85°	7.7	5.7	2.0	0.0
87.5°	7.7	5.7	2.0	0.0
90°	0.0	0.0	0.0	0.0

Classified

Scaled Data Report

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— 0°-180° - - 45°-225° - - - 90°-270°

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(END OF REPORT)