

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: P1212788

Luminaire Tested: **LDA4A25950D010TE 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: P1212788
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: LDA4A25950D010TE 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 / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

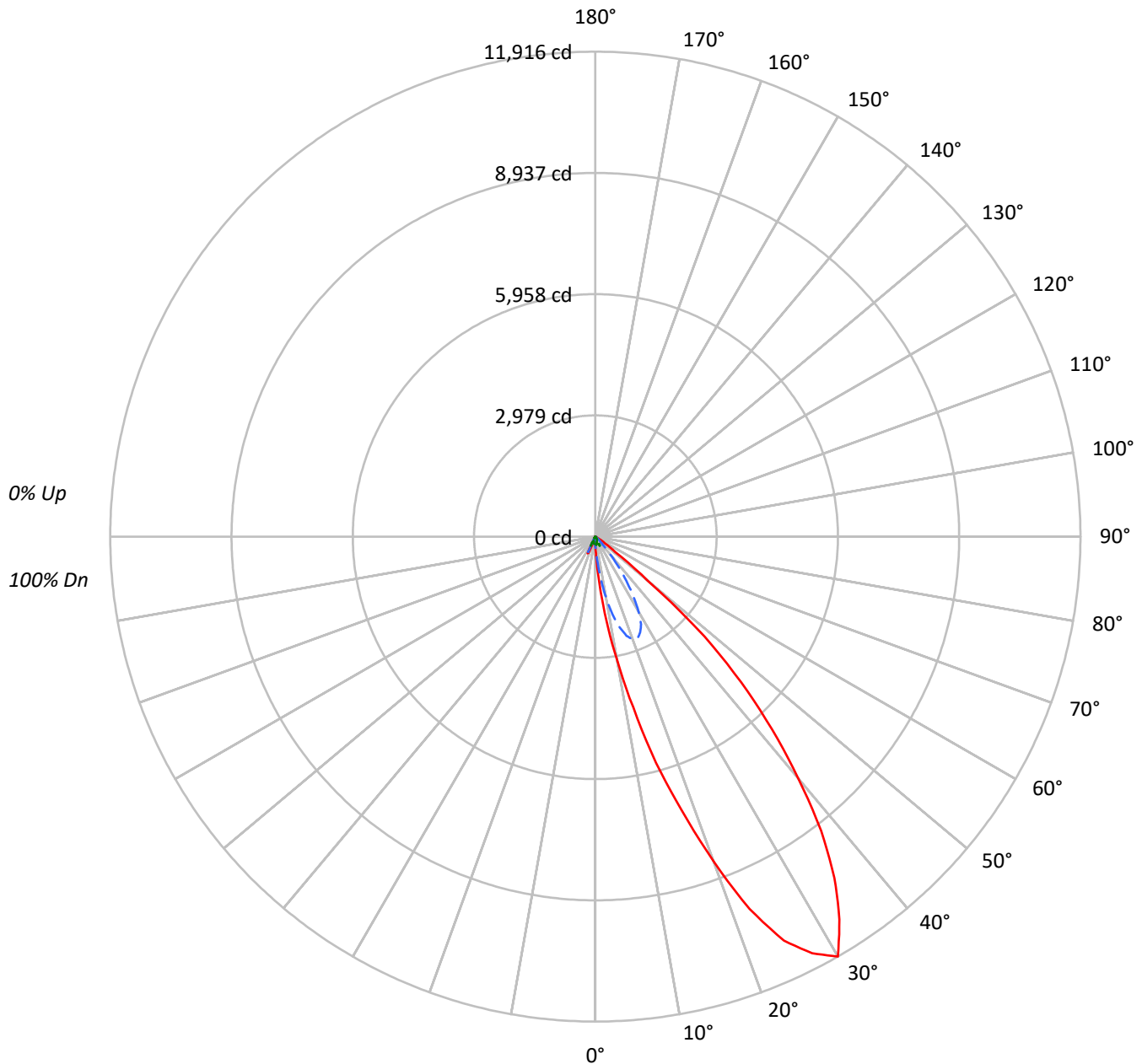
Lumens per Lamp: N/A
Luminaire Lumens: 3101.6 lumens
Efficiency: N/A
Efficacy: 100.4 lumens/watt
Spacing Criteria (0/90/45): 2.53 / 1.09 / 1.29
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 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
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°	28481	28481	28481
5°	146401	26460	12357
10°	385840	22081	6450
15°	734397	17328	4967
20°	1115435	14321	13310
25°	1490465	34174	61570
30°	1697092	12890	12448
35°	1541459	7288	5632
40°	1248488	3269	2254
45°	883471	1884	541
50°	322359	1190	0
55°	67095	1011	0
60°	16158	1159	0
65°	5020	1372	0
70°	1695	1695	0
75°	763	2240	0
80°	0	3339	0
85°	0	6652	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.3	1.7
10°-20°	390.1	12.6
20°-30°	989.4	31.9
30°-40°	1058.9	34.1
40°-50°	541.2	17.4
50°-60°	56.5	1.8
60°-70°	6.5	0.2
70°-80°	3.6	0.1
80°-90°	3.2	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°	1431.8	46.2
0°-40°	2490.6	80.3
0°-60°	3088.4	99.6
0°-90°	3101.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3101.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	231	231	231	231	231	
5°	1182	643	214	123	100	173
15°	5751	2312	136	48	39	1699
25°	10952	2603	251	421	452	4976
35°	10237	1320	48	37	37	6285
45°	5065	176	11	6	3	3780
55°	312	28	5	3	0	423
65°	17	6	5	3	0	23
75°	2	3	5	5	0	1
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°	230.9	230.9	230.9	230.9	230.9	230.9	230.9	230.9	230.9	230.9	230.9
2.5°	466.4	471.0	436.8	447.6	455.4	439.8	436.8	436.8	453.9	444.6	460.2
5°	1182.4	1177.7	1118.4	1135.6	1148.1	1118.4	1132.5	1110.6	1137.0	1120.0	1137.0
7.5°	2065.1	2119.8	2044.8	2062.1	2072.9	2041.8	2049.6	2018.4	2048.1	2027.8	2041.8
10°	3080.6	3136.7	3049.5	3063.5	3071.3	3041.7	3043.2	3002.6	3029.1	3007.4	3016.6
12.5°	4294.2	4316.1	4274.0	4284.8	4289.5	4250.5	4177.2	4185.0	4211.5	4174.1	4183.4
15°	5751.1	5735.5	5685.6	5721.5	5685.6	5666.9	5556.0	5549.8	5565.5	5523.3	5456.3
17.5°	7034.8	7153.3	7097.2	7117.4	7073.8	7073.8	6931.8	6908.4	6910.0	6797.6	6785.3
20°	8497.8	8649.3	8511.9	8518.1	8460.5	8458.9	8285.7	8237.3	8217.1	8089.2	8053.2
22.5°	9908.0	9951.7	9950.1	9923.6	9787.9	9865.9	9649.1	9572.7	9510.2	9365.1	9293.3
25°	10951.5	11088.7	10995.1	10928.1	10809.6	10907.8	10664.5	10564.7	10471.0	10349.4	10255.8
27.5°	11541.1	11669.0	11647.2	11547.3	11425.6	11520.8	11254.2	11124.7	10992.1	10903.0	10786.2
30°	11915.5	12110.5	12046.5	11829.7	11651.8	11683.0	11383.5	11210.5	11063.8	10971.8	10823.6
32.5°	11155.9	11357.0	11338.4	11180.7	11088.7	11165.1	10904.7	10733.1	10592.8	10519.4	10354.0
35°	10237.0	10472.7	10421.1	10290.2	10223.0	10311.9	10057.7	9914.2	9772.3	9708.3	9527.3
37.5°	9112.5	9333.9	9282.5	9157.7	9092.2	9157.7	8914.4	8781.8	8647.6	8580.6	8457.3
40°	7753.8	7948.8	7894.2	7778.8	7724.2	7771.1	7560.5	7445.0	7331.2	7281.2	7117.4
42.5°	6426.5	6582.5	6532.6	6432.7	6390.6	6421.7	6248.6	6145.8	6045.8	6003.8	5907.0
45°	5064.7	5219.1	5170.8	5085.0	5046.0	5063.1	4918.1	4826.0	4740.2	4701.3	4614.0
47.5°	3634.3	3807.5	3748.2	3674.9	3634.3	3626.6	3498.7	3416.1	3423.8	3291.2	3210.2
50°	1679.9	1826.6	1767.3	1728.3	1689.3	1667.4	1622.2	1528.7	1555.1	1435.0	1388.3
52.5°	609.9	645.7	631.7	619.2	606.8	602.1	586.6	563.1	566.3	536.6	522.6
55°	312.0	329.1	324.5	316.7	316.7	312.0	304.2	294.8	288.6	283.9	279.1
57.5°	143.5	152.9	149.8	146.6	146.6	143.5	140.4	135.7	138.8	130.9	129.5
60°	65.5	70.2	68.6	67.0	67.0	67.0	65.5	64.0	64.0	62.4	60.8
62.5°	31.2	34.3	32.8	32.8	32.8	32.8	31.2	31.2	31.2	31.2	29.6
65°	17.2	17.2	17.2	17.2	17.2	17.2	17.2	15.6	17.2	15.6	15.6
67.5°	9.4	9.4	9.4	9.4	7.8	9.4	9.4	7.8	7.8	7.8	7.8
70°	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
72.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
75°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
77.5°	0.0	1.6	1.6	1.6	0.0	1.6	1.6	1.6	1.6	1.6	1.6
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	1.6	0.0	1.6	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°	230.9	230.9	230.9	230.9	230.9	230.9	230.9	230.9	230.9	230.9	230.9
2.5°	424.3	435.1	446.2	442.9	427.3	425.8	419.5	422.8	329.1	266.8	223.0
5°	1076.3	1090.3	1104.4	1096.6	1057.6	1048.2	1016.9	1010.7	642.7	315.0	213.7
7.5°	1966.8	1974.6	1985.7	1976.3	1918.5	1892.1	1826.6	1762.7	1080.9	380.6	198.1
10°	2932.4	2929.4	2934.0	2921.6	2849.8	2798.3	2696.9	2651.7	1531.7	436.8	176.3
12.5°	4058.6	4046.2	3977.6	4010.2	3908.8	3804.3	3637.5	3497.1	1957.6	467.9	156.0
15°	5373.6	5336.1	5311.2	5273.7	5148.9	4980.5	4726.2	4570.2	2311.6	464.9	135.7
17.5°	6680.8	6619.8	6510.7	6524.8	6379.6	6144.1	5808.7	5542.0	2556.5	425.8	120.1
20°	7917.6	7827.2	7689.9	7679.0	7504.2	7193.9	6771.2	6440.5	2690.7	361.9	109.1
22.5°	9109.3	8969.0	8784.9	8727.3	8502.6	8062.7	7510.6	7108.1	2703.2	302.6	130.9
25°	10048.4	9872.1	9667.7	9567.9	9319.9	8758.4	8070.5	7576.0	2603.3	299.4	251.1
27.5°	10572.4	10372.9	10168.5	10032.8	9781.6	9145.1	8366.9	7795.9	2431.7	321.3	238.7
30°	10600.5	10375.9	10163.8	9992.2	9742.6	9062.6	8235.9	7641.5	2122.8	202.8	90.5
32.5°	10134.2	9893.9	9681.8	9488.4	9242.0	8557.2	7746.0	7178.3	1726.8	142.0	64.0
35°	9318.4	9070.4	8867.6	8663.3	8432.4	7788.1	7044.1	6515.4	1319.6	112.3	48.4
37.5°	8207.8	7978.5	7799.2	7660.2	7410.7	6897.6	6217.4	5657.5	932.7	79.6	29.6
40°	6964.6	6771.2	6624.6	6504.5	6273.6	5818.1	5131.9	4659.2	566.3	56.2	20.3
42.5°	5713.7	5532.7	5403.2	5289.3	5075.7	4673.2	4108.5	3634.3	271.3	38.9	14.0
45°	4443.9	4281.7	4172.5	4069.6	3877.7	3481.5	3033.9	2690.7	176.3	28.1	10.8
47.5°	3035.4	2951.2	2771.8	2659.5	2462.9	2160.4	1740.8	1363.2	116.9	20.3	7.8
50°	1261.9	1218.3	1099.7	1023.3	910.9	756.5	549.0	460.2	71.8	14.0	6.2
52.5°	489.7	478.9	449.2	432.1	404.0	363.4	302.6	269.9	43.7	10.8	6.2
55°	263.6	260.5	244.9	235.6	220.0	199.7	163.8	143.5	28.1	7.8	4.7
57.5°	121.7	120.1	112.3	112.3	101.4	93.6	78.0	70.2	17.2	6.2	4.7
60°	57.7	57.7	54.6	54.6	49.9	46.8	38.9	35.9	10.8	4.7	4.7
62.5°	28.1	28.1	28.1	28.1	26.5	24.9	21.8	20.3	7.8	4.7	4.7
65°	15.6	15.6	15.6	15.6	14.0	14.0	12.5	10.8	6.2	4.7	4.7
67.5°	7.8	7.8	7.8	7.8	7.8	7.8	6.2	6.2	4.7	4.7	4.7
70°	4.7	4.7	4.7	4.7	4.7	3.1	3.1	3.1	3.1	4.7	4.7
72.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	3.1	4.7	4.7
75°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	3.1	4.7	4.7
77.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	3.1	4.7	4.7
80°	0.0	0.0	1.6	1.6	1.6	1.6	1.6	1.6	3.1	4.7	4.7
82.5°	0.0	1.6	1.6	1.6	1.6	1.6	1.6	1.6	3.1	4.7	4.7
85°	0.0	0.0	0.0	0.0	1.6	1.6	1.6	1.6	3.1	4.7	4.7
87.5°	0.0	0.0	0.0	1.6	1.6	1.6	1.6	1.6	3.1	4.7	4.7
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°	230.9	230.9	230.9	230.9
2.5°	191.9	166.9	154.4	151.2
5°	157.6	123.1	106.1	99.8
7.5°	127.9	88.9	74.9	68.6
10°	101.4	70.2	56.2	51.5
12.5°	84.2	56.2	45.2	42.1
15°	71.8	48.4	40.6	38.9
17.5°	65.5	51.5	48.4	49.9
20°	79.6	84.2	98.3	101.4
22.5°	168.5	291.7	396.2	419.5
25°	350.9	421.1	436.8	452.4
27.5°	194.9	151.2	148.2	154.4
30°	79.6	81.0	84.2	87.4
32.5°	59.3	59.3	57.7	59.3
35°	40.6	37.4	35.9	37.4
37.5°	24.9	23.4	21.8	21.8
40°	17.2	15.6	14.0	14.0
42.5°	12.5	9.4	7.8	7.8
45°	9.4	6.2	4.7	3.1
47.5°	7.8	4.7	1.6	1.6
50°	6.2	3.1	1.6	0.0
52.5°	4.7	3.1	1.6	0.0
55°	4.7	3.1	0.0	0.0
57.5°	4.7	3.1	0.0	0.0
60°	4.7	3.1	1.6	0.0
62.5°	4.7	3.1	1.6	1.6
65°	4.7	3.1	1.6	0.0
67.5°	4.7	3.1	1.6	0.0
70°	4.7	3.1	1.6	0.0
72.5°	6.2	3.1	1.6	0.0
75°	6.2	4.7	1.6	0.0
77.5°	6.2	4.7	1.6	0.0
80°	6.2	4.7	1.6	0.0
82.5°	6.2	4.7	1.6	0.0
85°	6.2	4.7	1.6	0.0
87.5°	6.2	4.7	1.6	0.0
90°	0.0	0.0	0.0	0.0

Classified

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— 0°-180° - - 45°-225° - - - 90°-270°

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(END OF REPORT)