

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: P1212764

Luminaire Tested: **LDA4A20950D010TE LAR15SP 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: P1212764
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26104)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A20950D010TE LAR15SP 4LAL1 30° Tilt
Description: PORTFOLIO 4" Lensed Adjustable, Self-flanged, 15° Spot Optic, at 30° tilt. --- 27.9W
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

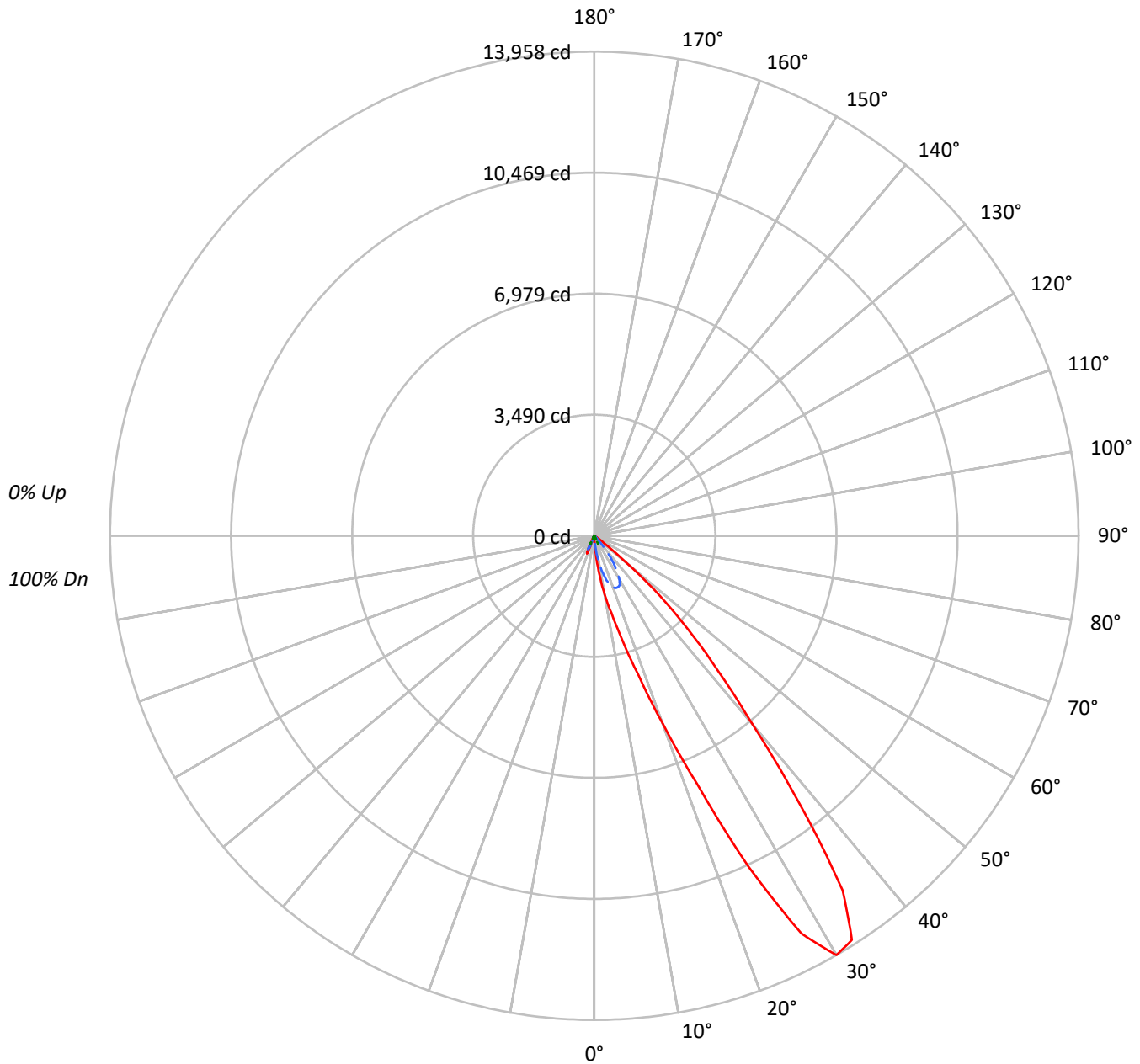
Lumens per Lamp: N/A
Luminaire Lumens: 2416.3 lumens
Efficiency: N/A
Efficacy: 83.9 lumens/watt
Spacing Criteria (0/90/45): 2.57 / 1.16 / 1.36
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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	97	96	96	94	93	91		
2	105	100	95	91	103	98	93	90	94	91	88	91	88	86	89	86	84	82		
3	99	91	85	80	96	89	84	79	87	82	78	84	80	77	82	78	76	74		
4	92	83	76	71	90	82	75	70	79	74	70	77	72	69	75	71	68	66		
5	86	75	68	63	84	74	68	63	73	67	62	71	66	62	69	65	61	59		
6	80	69	62	56	78	68	61	56	66	60	56	65	59	55	63	59	55	53		
7	74	63	56	51	73	62	55	50	61	55	50	60	54	50	58	53	49	48		
8	69	58	50	45	68	57	50	45	56	50	45	55	49	45	54	48	45	43		
9	65	53	46	41	64	52	46	41	51	45	41	50	45	40	49	44	40	39		
10	61	49	42	37	59	48	41	37	47	41	37	46	41	37	46	40	36	35		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	14061	14061	14061
5°	74154	13286	7045
10°	216905	11285	4634
15°	394570	9488	5248
20°	752759	10803	25557
25°	1430596	37508	56453
30°	1987985	12648	10938
35°	1878692	5782	4201
40°	1138675	2560	1514
45°	667292	1395	471
50°	221462	1017	0
55°	42149	860	0
60°	9473	666	0
65°	2743	1167	0
70°	974	1443	0
75°	0	1906	0
80°	0	2841	0
85°	0	5661	1981



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	27.2	1.1
10°-20°	222.3	9.2
20°-30°	788.4	32.6
30°-40°	934.7	38.7
40°-50°	397.6	16.5
50°-60°	36.0	1.5
60°-70°	4.5	0.2
70°-80°	3.0	0.1
80°-90°	2.7	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°	1037.9	43.0
0°-40°	1972.6	81.6
0°-60°	2406.2	99.6
0°-90°	2416.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2416.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	114	114	114	114	114	
5°	599	296	107	68	57	93
15°	3090	1301	74	41	41	997
25°	10512	1631	276	433	415	4870
35°	12477	963	38	29	28	7207
45°	3825	106	8	5	3	2998
55°	196	16	4	3	0	274
65°	9	4	4	3	0	13
75°	0	3	4	4	0	1
85°	0	3	4	4	1	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°	114.0	114.0	114.0	114.0	114.0	114.0	114.0	114.0	114.0	114.0	114.0
2.5°	209.4	197.4	205.4	202.7	204.0	208.0	204.0	204.0	202.7	197.4	197.4
5°	598.9	563.2	580.4	571.1	576.5	583.1	573.8	571.1	567.1	555.3	552.6
7.5°	1115.7	1095.8	1117.1	1101.2	1115.7	1118.3	1105.0	1102.5	1095.8	1078.6	1071.9
10°	1731.8	1698.6	1718.5	1701.3	1723.8	1722.7	1701.3	1703.9	1696.1	1673.6	1663.0
12.5°	2277.7	2251.2	2271.0	2222.2	2277.7	2242.0	2245.9	2251.2	2240.7	2211.5	2198.1
15°	3089.9	3017.0	3051.6	2966.8	3051.6	3039.7	2993.3	2990.6	2962.8	2913.8	2884.5
17.5°	4168.6	4188.4	4163.2	4113.0	4225.6	4195.0	4128.9	4115.7	4062.7	3928.8	3926.1
20°	5734.8	5708.4	5750.6	5591.8	5736.1	5595.6	5577.1	5540.0	5449.9	5263.0	5233.9
22.5°	7739.6	7754.0	7678.6	7568.7	7746.2	7529.0	7462.7	7373.8	7209.6	6922.0	6831.9
25°	10511.6	10493.0	10395.0	10212.2	10401.7	10050.5	9884.8	9702.0	9395.8	8948.0	8732.0
27.5°	12927.2	13002.6	12937.7	12752.2	12878.1	12532.3	12150.6	12034.0	11619.3	11054.9	10665.3
30°	13957.9	13993.8	13966.0	13824.1	13869.2	13584.4	13206.6	13068.8	12643.6	12109.7	11604.7
32.5°	13816.3	13833.5	13838.7	13649.3	13657.3	13388.3	12993.4	12789.4	12325.6	11811.5	11208.5
35°	12476.6	12548.1	12594.5	12417.0	12240.8	11973.0	11525.2	11208.5	10720.8	10251.9	9635.7
37.5°	9662.2	9752.3	9823.8	9672.7	9589.3	9266.0	8893.8	8648.6	8312.0	8036.4	7599.1
40°	7071.8	7089.0	7132.7	7054.6	6924.6	6838.5	6625.2	6486.1	6282.0	6133.6	5843.3
42.5°	5256.4	5247.2	5277.6	5233.9	5229.8	5100.1	4965.0	4882.8	4812.6	4656.3	4452.0
45°	3825.4	3828.0	3857.3	3829.4	3755.1	3727.3	3638.5	3564.3	3471.6	3422.6	3260.9
47.5°	2601.0	2608.9	2628.9	2613.1	2545.4	2534.8	2477.8	2403.5	2402.4	2326.8	2184.9
50°	1154.1	1156.7	1180.6	1175.4	1094.5	1105.0	1068.0	1000.4	1018.9	973.9	865.3
52.5°	382.9	384.3	388.2	385.5	372.4	372.4	363.1	361.7	351.2	340.5	316.7
55°	196.0	196.0	198.7	197.4	190.8	190.8	180.2	186.9	181.5	177.5	163.0
57.5°	83.4	83.4	84.8	84.8	80.9	84.8	80.9	80.9	78.2	76.8	71.6
60°	38.4	38.4	38.4	38.4	37.0	39.7	37.0	37.0	37.0	35.9	33.2
62.5°	19.9	19.9	19.9	19.9	19.9	19.9	19.9	18.5	18.5	18.5	17.2
65°	9.4	9.4	9.4	9.4	9.4	10.5	9.4	9.4	9.4	9.4	9.4
67.5°	4.0	4.0	4.0	5.3	5.3	5.3	5.3	5.3	4.0	4.0	4.0
70°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	1.4
72.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	0.0	0.0	0.0	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°	114.0	114.0	114.0	114.0	114.0	114.0	114.0	114.0	114.0	114.0	114.0
2.5°	198.7	192.2	201.3	193.5	198.7	193.5	186.9	189.5	152.4	127.3	112.6
5°	553.9	534.0	551.2	534.0	535.4	526.0	500.9	498.2	295.5	144.5	107.3
7.5°	1042.8	1040.1	1061.3	1038.8	1036.3	1013.6	967.2	948.7	535.4	169.5	99.4
10°	1656.3	1617.9	1636.4	1612.5	1604.7	1563.5	1497.3	1461.5	796.3	194.7	90.1
12.5°	2161.1	2146.6	2159.8	2137.3	2129.4	2073.7	1995.4	1947.7	1064.0	209.4	80.9
15°	2821.0	2791.8	2801.1	2754.8	2730.9	2625.0	2491.1	2403.5	1301.2	208.0	74.3
17.5°	3828.0	3771.1	3765.8	3686.3	3628.0	3435.8	3196.0	3015.7	1474.7	192.2	71.6
20°	5089.6	4986.1	4951.8	4825.8	4727.8	4409.7	4040.1	3747.1	1583.5	170.9	82.3
22.5°	6601.3	6419.8	6317.8	6116.4	5948.2	5438.0	4896.0	4457.5	1631.2	164.3	117.9
25°	8363.7	8052.2	7836.3	7519.6	7236.0	6453.0	5692.3	5077.6	1631.2	213.4	275.6
27.5°	10151.2	9659.5	9262.1	8799.6	8369.0	7258.7	6278.0	5477.8	1591.4	266.3	251.8
30°	11056.1	10451.9	9911.3	9370.7	8830.0	7495.8	6409.3	5526.7	1441.6	156.3	88.8
32.5°	10672.0	10034.4	9437.0	8913.6	8379.6	7077.0	6054.0	5202.2	1211.1	91.4	56.9
35°	9198.4	8645.8	8126.5	7735.5	7319.5	6291.3	5375.7	4633.7	963.4	71.6	38.4
37.5°	7342.1	6965.7	6596.0	6345.6	6047.4	5275.1	4537.0	3928.8	689.0	51.7	23.8
40°	5695.0	5438.0	5179.6	5020.6	4809.9	4246.8	3671.7	3188.0	406.7	35.9	15.9
42.5°	4362.0	4184.4	3992.4	3882.4	3731.3	3311.4	2862.1	2520.3	188.1	25.2	11.9
45°	3206.5	3075.4	2928.4	2858.0	2752.0	2475.1	2177.1	1935.9	106.0	18.5	8.0
47.5°	2158.4	2041.8	1905.4	1861.8	1759.7	1517.2	1212.4	975.2	70.2	13.2	6.7
50°	858.6	781.8	735.4	674.5	614.8	515.4	385.5	307.3	42.4	10.5	5.3
52.5°	315.3	298.2	290.2	274.2	260.9	233.3	197.4	170.9	25.2	8.0	4.0
55°	164.3	153.7	148.3	143.1	135.1	119.3	99.4	84.8	15.9	5.3	4.0
57.5°	71.6	67.6	69.0	63.5	59.6	54.4	47.7	41.1	10.5	5.3	4.0
60°	34.5	31.8	33.2	30.4	29.2	27.9	25.2	21.2	6.7	4.0	2.7
62.5°	17.2	17.2	17.2	15.9	15.9	14.6	13.2	11.9	5.3	4.0	4.0
65°	9.4	8.0	9.4	8.0	8.0	8.0	6.7	6.7	4.0	4.0	4.0
67.5°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.7	4.0	4.0
70°	2.7	2.7	2.7	2.7	2.7	2.7	1.4	2.7	2.7	4.0	4.0
72.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	2.7	4.0	4.0
75°	0.0	0.0	0.0	0.0	0.0	1.4	1.4	1.4	2.7	4.0	4.0
77.5°	0.0	0.0	0.0	0.0	1.4	1.4	1.4	1.4	2.7	4.0	4.0
80°	0.0	0.0	0.0	0.0	0.0	1.4	1.4	1.4	2.7	4.0	4.0
82.5°	0.0	0.0	0.0	0.0	0.0	1.4	1.4	1.4	2.7	4.0	4.0
85°	0.0	0.0	0.0	0.0	1.4	1.4	1.4	1.4	2.7	4.0	4.0
87.5°	0.0	0.0	0.0	0.0	1.4	1.4	1.4	1.4	2.7	4.0	4.0
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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TEST NUMBER: P1212764

CATALOG NUMBER: LDA4A20950D010TE LAR15SP 4LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	112.5°	135°	157.5°	180°
0°	114.0	114.0	114.0	114.0
2.5°	95.5	84.8	76.8	75.6
5°	80.9	67.6	58.2	56.9
7.5°	69.0	54.4	46.4	45.0
10°	60.9	46.4	38.4	37.0
12.5°	54.4	41.1	35.9	34.5
15°	50.3	41.1	39.7	41.1
17.5°	54.4	55.7	60.9	67.6
20°	90.1	128.4	167.0	194.7
22.5°	202.7	374.9	496.9	555.3
25°	382.9	433.3	434.6	414.8
27.5°	208.0	165.7	148.3	140.5
30°	82.3	78.2	78.2	76.8
32.5°	54.4	50.3	49.1	47.7
35°	33.2	29.2	27.9	27.9
37.5°	21.2	18.5	17.2	15.9
40°	14.6	11.9	10.5	9.4
42.5°	10.5	8.0	5.3	5.3
45°	8.0	5.3	2.7	2.7
47.5°	6.7	4.0	1.4	1.4
50°	5.3	2.7	1.4	0.0
52.5°	4.0	2.7	0.0	0.0
55°	4.0	2.7	0.0	0.0
57.5°	4.0	2.7	0.0	0.0
60°	4.0	2.7	0.0	0.0
62.5°	4.0	2.7	0.0	0.0
65°	4.0	2.7	1.4	0.0
67.5°	5.3	2.7	1.4	0.0
70°	5.3	2.7	1.4	0.0
72.5°	5.3	2.7	1.4	0.0
75°	5.3	4.0	1.4	0.0
77.5°	5.3	4.0	1.4	0.0
80°	5.3	4.0	1.4	0.0
82.5°	5.3	4.0	1.4	0.0
85°	5.3	4.0	1.4	1.4
87.5°	5.3	4.0	1.4	0.0
90°	0.0	0.0	0.0	0.0

Classified

Scaled Data Report

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Scaled Data Report



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— 0°-180° - - 45°-225° - - - 90°-270°

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(END OF REPORT)