

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: P1212776

Luminaire Tested: **LDA4A20950D010TE LAR35FL 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: P1212776
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26106)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A20950D010TE LAR35FL 4LAL1 30° Tilt
Description: PORTFOLIO 4" Lensed Adjustable, Self-flanged, 35° Flood Optic, at 30° tilt. --- 27.9W
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

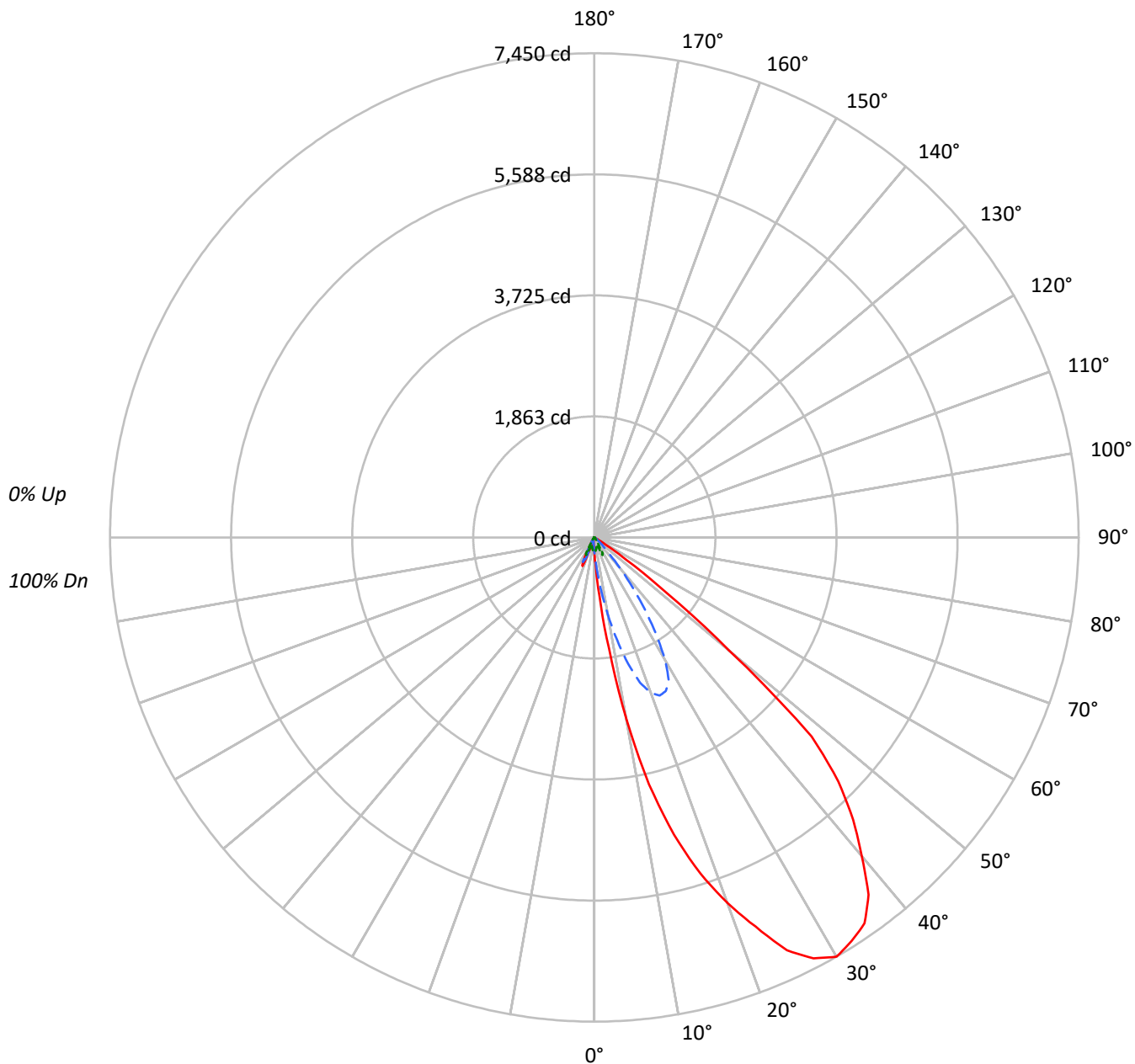
Lumens per Lamp: N/A
Luminaire Lumens: 2707.9 lumens
Efficiency: N/A
Efficacy: 94.0 lumens/watt
Spacing Criteria (0/90/45): 2.71 / 1.11 / 1.33
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P1212776

CATALOG NUMBER: LDA4A20950D010TE LAR35FL 4LAL1 30° Tilt

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P1212776

CATALOG NUMBER: LDA4A20950D010TE LAR35FL 4LAL1 30° Tilt

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	103	110	107	104	102	103	101	99	99	97	96	95	94	93	91		
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	83	82		
3	98	90	84	79	96	89	83	79	86	81	77	84	79	76	81	78	75	73		
4	91	82	75	70	89	81	75	70	79	73	69	77	72	68	75	70	67	65		
5	85	75	68	62	83	74	67	62	72	66	61	70	65	61	68	64	60	58		
6	79	68	61	56	78	67	60	55	66	60	55	64	59	55	63	58	54	52		
7	74	62	55	50	72	62	55	50	60	54	49	59	53	49	58	53	49	47		
8	69	57	50	45	68	57	50	45	55	49	44	54	48	44	53	48	44	42		
9	64	53	45	40	63	52	45	40	51	45	40	50	44	40	49	44	40	38		
10	60	48	41	37	59	48	41	37	47	41	36	46	40	36	45	40	36	35		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	27457	27457	27457
5°	110593	25927	12146
10°	356520	21756	6976
15°	604810	17265	5414
20°	786047	15476	16342
25°	953876	40761	57909
30°	1061097	14357	15282
35°	1091489	8568	7183
40°	1030601	3639	2560
45°	926261	2076	698
50°	521312	1286	0
55°	129372	860	0
60°	19957	987	0
65°	4641	1167	0
70°	974	1443	0
75°	0	1906	0
80°	0	3765	0
85°	0	7501	1981



TEST NUMBER: P1212776

CATALOG NUMBER: LDA4A20950D010TE LAR35FL 4LAL1 30° Tilt

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.7	1.7
10°-20°	332.3	12.3
20°-30°	767.6	28.3
30°-40°	861.0	31.8
40°-50°	600.8	22.2
50°-60°	89.7	3.3
60°-70°	5.9	0.2
70°-80°	3.0	0.1
80°-90°	2.9	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°	1144.7	42.3
0°-40°	2005.7	74.1
0°-60°	2696.2	99.6
0°-90°	2707.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2707.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	223	223	223	223	223	
5°	893	522	209	122	98	148
15°	4736	2016	135	52	42	1353
25°	7009	2605	300	418	426	3204
35°	7249	1354	57	48	48	4459
45°	5310	204	12	7	4	3896
55°	602	26	4	3	0	791
65°	16	4	4	3	0	24
75°	0	3	4	4	0	1
85°	0	3	5	4	1	0
90°	0	0	0	0	0	

TEST NUMBER: P1212776

CATALOG NUMBER: LDA4A20950D010TE LAR35FL 4LAL1 30° Tilt

CANDELA DISTRIBUTION (FULL):

	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°
0°	222.6	222.6	222.6	222.6	222.6	222.6	222.6	222.6	222.6	222.6	222.6
2.5°	405.5	401.4	390.9	388.2	397.6	389.6	393.6	401.4	393.6	384.3	393.6
5°	893.2	915.7	893.2	889.2	905.0	890.4	897.1	911.7	891.8	873.3	886.5
7.5°	1724.1	1738.6	1675.0	1697.6	1692.2	1696.2	1700.2	1700.2	1688.2	1655.2	1673.7
10°	2846.5	2857.0	2772.2	2801.4	2763.1	2801.4	2794.8	2765.6	2772.2	2727.2	2751.0
12.5°	3888.1	3922.6	3837.7	3865.5	3819.1	3863.0	3845.6	3837.7	3770.2	3770.2	3795.4
15°	4736.3	4814.4	4737.4	4766.6	4713.7	4774.6	4726.9	4748.1	4687.2	4611.6	4677.8
17.5°	5422.7	5499.4	5427.9	5463.7	5414.7	5462.4	5406.6	5451.9	5373.6	5319.3	5364.3
20°	5988.4	6045.5	5960.7	6011.0	5952.8	6000.5	5939.4	5999.1	5907.7	5867.9	5894.4
22.5°	6481.4	6504.1	6460.2	6545.0	6431.2	6481.4	6408.6	6469.5	6360.8	6310.5	6317.2
25°	7008.8	7059.2	6975.7	7007.6	6928.1	6962.4	6880.3	6937.3	6802.2	6730.5	6716.0
27.5°	7301.7	7373.2	7299.0	7334.8	7254.0	7283.2	7201.0	7283.2	7145.4	7075.0	7059.2
30°	7450.1	7484.6	7436.9	7460.8	7369.3	7383.9	7299.0	7387.8	7250.0	7187.8	7179.8
32.5°	7364.0	7432.9	7370.7	7401.1	7316.3	7331.0	7248.7	7344.2	7206.4	7149.3	7121.4
35°	7248.7	7318.9	7260.6	7292.4	7214.2	7224.9	7137.4	7220.8	7061.8	6991.6	6932.0
37.5°	6929.3	6995.6	6946.6	6957.2	6881.7	6873.8	6779.7	6849.8	6694.8	6635.2	6595.5
40°	6400.6	6460.2	6420.4	6443.0	6367.4	6350.2	6286.6	6351.6	6231.0	6187.2	6131.6
42.5°	5894.4	5943.4	5906.4	5942.0	5857.3	5834.8	5777.7	5860.0	5723.3	5687.7	5647.9
45°	5310.0	5340.4	5311.4	5341.8	5260.9	5225.2	5173.6	5243.7	5109.8	5076.8	4990.5
47.5°	4537.4	4504.3	4498.9	4528.2	4427.4	4353.1	4305.5	4395.6	4202.1	4137.2	4037.8
50°	2716.7	2772.2	2796.1	2776.3	2707.3	2605.2	2528.4	2638.4	2535.0	2376.0	2217.0
52.5°	1399.4	1337.1	1350.3	1357.0	1274.7	1244.4	1219.2	1244.4	1163.4	1122.4	1021.8
55°	601.6	572.5	583.1	587.0	571.2	534.0	520.7	536.7	499.6	483.7	442.6
57.5°	222.6	222.6	215.9	218.6	213.4	200.1	197.4	204.0	192.2	188.2	172.3
60°	80.9	80.9	80.9	80.9	74.3	72.9	72.9	75.6	71.6	70.2	64.9
62.5°	34.5	35.9	33.2	34.5	33.2	31.8	33.2	31.8	31.8	30.4	30.4
65°	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	14.6	14.6
67.5°	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	6.7	6.7	6.7
70°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
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

TEST NUMBER: P1212776

CATALOG NUMBER: LDA4A20950D010TE LAR35FL 4LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	11°	12°	13°	14°	15°	17.5°	20°	22.5°	45°	67.5°	90°
0°	222.6	222.6	222.6	222.6	222.6	222.6	222.6	222.6	222.6	222.6	222.6
2.5°	381.6	380.4	385.6	380.4	371.1	365.8	372.4	359.1	307.5	255.7	217.3
5°	862.8	856.1	846.8	849.5	826.9	808.4	808.4	772.5	522.1	296.8	209.4
7.5°	1635.3	1619.3	1551.9	1600.8	1553.0	1516.0	1490.8	1417.9	844.1	340.6	193.5
10°	2700.7	2672.8	2625.1	2634.4	2556.3	2493.9	2418.5	2296.5	1213.9	379.1	173.7
12.5°	3751.5	3723.8	3596.5	3669.4	3564.8	3503.8	3376.6	3233.5	1612.7	397.6	155.1
15°	4643.5	4619.6	4480.4	4549.4	4420.7	4363.8	4199.5	4040.5	2015.6	390.9	135.2
17.5°	5336.4	5332.6	5172.2	5241.0	5099.3	5052.9	4860.8	4704.3	2341.6	361.7	122.0
20°	5870.5	5861.3	5699.6	5768.6	5613.4	5568.4	5324.6	5160.3	2548.3	322.0	117.9
22.5°	6292.0	6273.3	6099.8	6159.5	5985.8	5927.6	5658.4	5487.6	2633.1	296.8	145.8
25°	6670.9	6637.8	6440.3	6486.7	6296.0	6307.8	5903.7	5715.5	2605.2	334.0	299.5
27.5°	7004.9	6945.2	6746.5	6759.7	6535.8	6419.1	6071.9	5863.8	2478.1	372.4	278.3
30°	7129.4	7071.2	6860.5	6868.5	6635.2	6470.9	6099.8	5867.9	2173.3	233.3	100.8
32.5°	7060.6	6996.9	6776.8	6779.7	6539.7	6372.7	6003.0	5747.4	1767.8	153.7	76.8
35°	6860.5	6794.2	6575.5	6586.1	6354.2	6188.5	5826.8	5553.8	1354.3	122.0	56.9
37.5°	6522.6	6476.2	6268.1	6286.6	6089.1	5912.9	5545.8	5250.3	955.4	87.5	35.9
40°	6087.7	6052.1	5850.6	5879.8	5665.1	5502.1	5108.5	4787.8	595.0	59.6	22.6
42.5°	5579.0	5540.5	5341.8	5364.3	5181.4	4948.3	4546.7	4183.6	311.4	42.4	15.9
45°	4944.2	4899.1	4697.7	4709.7	4493.6	4220.6	3804.5	3483.9	204.0	29.2	11.9
47.5°	3946.4	3865.5	3603.2	3592.5	3416.3	2969.6	2378.7	1925.5	135.2	19.9	8.0
50°	2169.2	2085.8	1855.3	1830.1	1633.9	1341.0	991.2	771.4	78.2	13.2	6.7
52.5°	987.3	943.5	836.3	818.9	735.5	609.5	469.0	385.6	45.0	9.4	5.3
55°	428.0	412.2	367.1	364.4	326.0	282.3	225.3	190.8	26.5	6.7	4.0
57.5°	168.4	163.0	153.7	147.2	132.5	117.9	98.1	82.3	17.2	5.3	4.0
60°	63.5	62.3	56.9	58.2	53.0	50.3	43.7	37.0	10.5	4.0	4.0
62.5°	29.2	29.2	27.9	27.9	26.5	23.8	21.2	19.9	6.7	4.0	4.0
65°	14.6	14.6	13.2	13.2	13.2	11.9	10.5	10.5	4.0	4.0	4.0
67.5°	6.7	6.7	6.7	6.7	6.7	5.3	5.3	5.3	2.7	4.0	4.0
70°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	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	1.4	1.4	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	5.3
80°	0.0	0.0	0.0	0.0	1.4	1.4	1.4	1.4	2.7	4.0	5.3
82.5°	0.0	0.0	0.0	1.4	1.4	1.4	1.4	1.4	2.7	4.0	5.3
85°	0.0	0.0	0.0	1.4	1.4	1.4	1.4	1.4	2.7	4.0	5.3
87.5°	0.0	0.0	0.0	1.4	1.4	1.4	1.4	1.4	2.7	4.0	5.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P1212776

CATALOG NUMBER: LDA4A20950D010TE LAR35FL 4LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	112.5°	135°	157.5°	180°
0°	222.6	222.6	222.6	222.6
2.5°	186.9	165.7	147.2	143.1
5°	153.7	122.0	102.1	98.1
7.5°	124.5	88.8	74.3	71.6
10°	102.1	71.6	58.2	55.7
12.5°	84.8	58.2	46.4	43.7
15°	72.9	51.7	42.4	42.4
17.5°	70.2	56.9	54.4	55.7
20°	91.4	103.3	123.1	124.5
22.5°	212.1	344.6	455.8	477.0
25°	381.6	417.5	406.8	425.5
27.5°	201.4	157.7	160.4	164.3
30°	87.5	96.7	102.1	107.3
32.5°	72.9	75.6	76.8	80.9
35°	47.7	47.7	46.4	47.7
37.5°	29.2	27.9	26.5	26.5
40°	18.5	17.2	15.9	15.9
42.5°	13.2	10.5	9.4	9.4
45°	9.4	6.7	5.3	4.0
47.5°	6.7	4.0	2.7	1.4
50°	5.3	4.0	1.4	0.0
52.5°	4.0	2.7	1.4	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°	4.0	2.7	1.4	0.0
70°	4.0	2.7	1.4	0.0
72.5°	4.0	2.7	1.4	0.0
75°	4.0	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

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



Report Generated By 670245859 / DESKTOP-T8S5UU9

Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



— 0°-180° - - 45°-225° - - - 90°-270°

Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



(END OF REPORT)