

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: P174913

Luminaire Tested: **LDA4A13840D010TE LAR35FL 4LA1 30° Tilt**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P174913
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26217)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A13840D010TE LAR35FL 4LA1 30° Tilt
Description: PORTFOLIO 4" Adjustable Reflector, Self-flanged Trim Ring, 35° Flood Optic, at 30° tilt
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1525.7 lumens
Efficiency: N/A
Efficacy: 68.5 lumens/watt
Spacing Criteria (0/90/45): 2.3 / 0.86 / 1.17
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

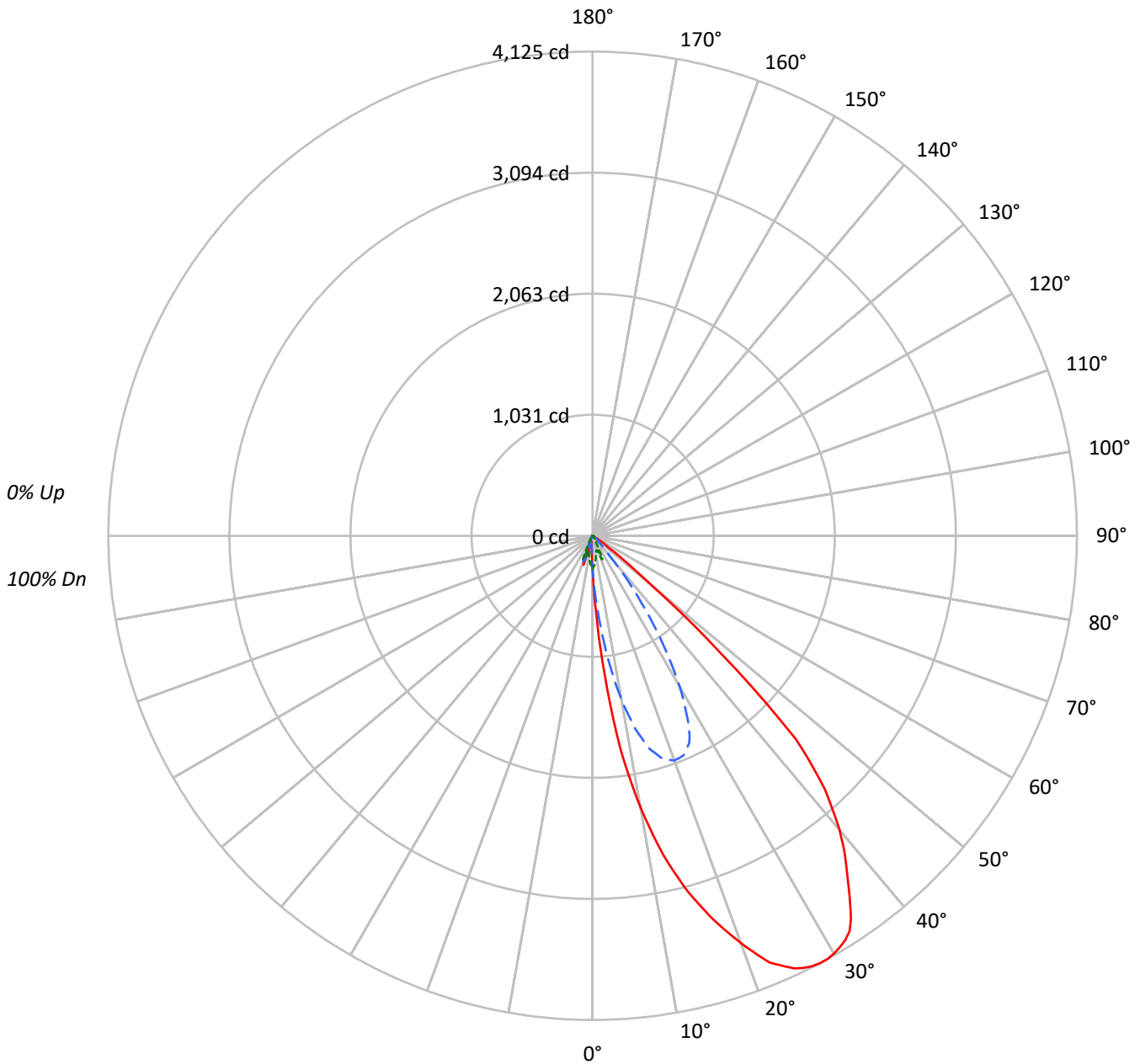
Input Watts (W): 22.27
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	113	110	107	104	110	107	105	103	103	101	99	100	98	96	96	95	94	92																			
2	106	101	96	92	104	99	95	91	96	92	89	92	90	87	90	87	85	84																			
3	100	92	87	82	98	91	86	81	88	84	80	86	82	79	83	80	78	76																			
4	93	85	78	74	92	84	78	73	81	76	72	79	75	71	77	74	70	69																			
5	88	78	71	66	86	77	71	66	75	70	65	73	68	65	72	67	64	62																			
6	82	72	65	60	81	71	64	60	69	64	59	68	63	59	66	62	58	57																			
7	77	66	59	54	76	66	59	54	64	58	54	63	58	54	62	57	53	52																			
8	72	61	54	50	71	61	54	49	59	54	49	58	53	49	57	52	49	47																			
9	68	57	50	45	67	56	50	45	55	49	45	54	49	45	53	48	45	43																			
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	34944	34944	34944
5°	146772	29233	10797
10°	294847	20102	6550
15°	401057	16320	14749
20°	484723	24795	27368
25°	553574	14726	7608
30°	585333	6936	3518
35°	575732	3057	1310
40°	526877	1514	354
45°	427371	768	0
50°	126706	422	0
55°	22967	473	0
60°	4292	543	0
65°	1051	642	0
70°	252	793	0
75°	0	1048	0
80°	0	2060	0
85°	0	4104	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.5	3.4
10°-20°	266.5	17.5
20°-30°	466.7	30.6
30°-40°	468.7	30.7
40°-50°	246.9	16.2
50°-60°	20.6	1.3
60°-70°	2.1	0.1
70°-80°	1.5	0.1
80°-90°	1.4	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°	784.6	51.4
0°-40°	1253.3	82.1
0°-60°	1520.8	99.7
0°-90°	1525.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1525.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	283	283	283	283	283	
5°	1185	775	236	108	87	152
15°	3141	1880	128	86	116	897
25°	4068	1947	108	62	56	1861
35°	3824	846	20	11	9	2364
45°	2450	87	4	2	0	1679
55°	107	9	2	1	0	160
65°	4	2	2	2	0	5
75°	0	2	2	2	0	0
85°	0	2	3	2	0	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	22.5°	45°	67.5°
0°	283.3	283.3	283.3	283.3	283.3	283.3	283.3	283.3	283.3	283.3	283.3
2.5°	642.8	643.5	644.3	649.4	637.7	634.8	629.7	622.5	598.5	499.7	377.0
5°	1185.4	1194.1	1191.9	1184.7	1166.5	1156.3	1141.1	1125.1	1059.7	775.0	467.8
7.5°	1842.0	1858.7	1855.1	1844.2	1813.7	1799.9	1761.4	1740.3	1641.5	1100.4	535.3
10°	2354.1	2398.4	2399.1	2389.0	2343.2	2323.6	2283.6	2245.9	2120.9	1419.3	566.6
12.5°	2787.0	2787.7	2821.9	2813.9	2760.8	2752.1	2718.7	2662.1	2530.6	1685.1	566.6
15°	3140.7	3188.7	3180.7	3172.0	3116.0	3104.4	3072.5	3020.2	2866.9	1879.8	539.0
17.5°	3432.7	3475.6	3463.2	3453.8	3397.9	3372.4	3337.6	3275.1	3106.6	1995.3	481.6
20°	3692.8	3733.4	3708.7	3692.0	3617.2	3586.0	3535.1	3463.2	3270.7	2038.1	414.7
22.5°	3935.4	3978.2	3947.0	3923.7	3827.1	3766.8	3694.9	3604.1	3377.5	2024.3	379.2
25°	4067.5	4123.5	4093.7	4075.5	3983.3	3912.8	3817.7	3700.7	3438.5	1946.6	285.5
26°	4096.6	4155.4	4127.1	4111.1	4017.4	3942.6	3840.9	3718.2	3443.6	1882.7	220.1
27°	4116.9	4182.3	4149.6	4129.3	4032.7	3952.8	3846.7	3718.9	3435.6	1796.3	175.0
28°	4124.9	4196.8	4156.9	4132.2	4032.0	3944.8	3832.2	3702.9	3414.6	1696.7	148.9
29°	4124.2	4202.6	4156.2	4129.3	4022.5	3925.9	3810.4	3680.4	3385.5	1592.9	134.4
30°	4109.7	4195.4	4148.9	4114.8	4000.0	3896.1	3779.2	3649.2	3352.8	1479.6	119.8
31°	4090.1	4178.0	4129.3	4087.2	3963.0	3850.4	3735.6	3607.0	3309.2	1358.3	109.7
32°	4061.7	4149.6	4095.9	4040.7	3910.7	3793.0	3682.6	3557.7	3256.2	1230.4	97.3
33°	4016.7	4094.4	4032.0	3968.0	3838.0	3727.6	3623.0	3500.3	3195.9	1097.5	84.3
34°	3934.6	4002.9	3938.3	3873.6	3757.4	3655.0	3554.7	3432.7	3125.5	974.8	72.6
35°	3823.5	3881.6	3823.5	3769.0	3666.6	3571.5	3475.6	3356.5	3040.5	845.5	62.5
36°	3710.2	3761.0	3707.3	3664.4	3566.4	3481.4	3392.0	3268.6	2944.6	722.7	55.2
37°	3604.1	3649.9	3600.5	3557.7	3473.4	3387.0	3298.3	3172.0	2838.6	605.0	45.8
38°	3498.8	3539.5	3497.4	3449.4	3371.7	3283.8	3194.5	3065.2	2720.2	493.9	39.2
39°	3389.1	3422.6	3381.9	3333.2	3254.0	3166.9	3075.4	2941.7	2584.3	378.4	34.1
40°	3272.2	3303.4	3253.3	3209.7	3130.6	3041.2	2947.5	2808.8	2436.9	253.5	29.1
42.5°	2926.5	2945.3	2903.2	2842.9	2763.8	2665.7	2552.4	2396.9	1965.5	133.6	20.3
45°	2450.0	2453.6	2420.9	2311.2	2205.2	2053.4	1884.1	1651.0	1142.5	87.2	13.1
47.5°	1478.8	1470.1	1418.6	1324.9	1226.1	1065.6	907.2	746.7	443.8	50.8	8.7
50°	660.3	650.1	624.7	576.0	518.6	459.1	388.6	329.0	215.7	27.6	5.8
51°	478.7	469.9	451.1	414.0	371.9	329.8	281.1	240.4	161.2	22.5	5.1
52°	336.3	331.2	318.1	292.0	268.7	236.1	202.7	177.2	121.3	18.2	3.6
53°	234.6	231.0	223.0	205.6	191.8	167.8	146.7	126.4	87.9	14.5	3.6
54°	159.1	156.9	151.8	140.2	128.6	115.5	100.2	88.6	61.7	11.6	2.9
55°	106.8	105.3	101.0	95.2	88.6	80.6	70.5	61.7	43.6	9.4	2.2
57.5°	39.2	39.2	37.8	35.6	33.4	31.2	28.3	25.4	20.3	5.8	2.2
60°	17.4	16.7	16.7	16.0	15.3	14.5	13.8	12.3	10.2	3.6	2.2
61°	13.1	13.1	12.3	11.6	11.6	10.9	10.2	9.4	8.0	2.9	2.2
62°	9.4	9.4	9.4	8.7	8.7	8.0	8.0	7.3	5.8	2.2	2.2
63°	7.3	7.3	7.3	6.5	6.5	6.5	5.8	5.8	4.4	2.2	2.2
64°	5.1	5.1	5.1	5.1	5.1	5.1	4.4	4.4	3.6	1.5	2.2
65°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	2.9	1.5	2.2
66°	2.9	2.9	2.9	2.9	2.9	2.9	2.2	2.2	2.2	1.5	2.2



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CANDELA DISTRIBUTION (continued):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	22.5°	45°	67.5°
72.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.5	2.2
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	1.5	2.2
77.5°	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.7	1.5	2.2
80°	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.7	1.5	2.2
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	1.5	2.2
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	1.5	2.2
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	1.5	2.2
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):

	90°	112.5°	135°	157.5°	180°
0°	283.3	283.3	283.3	283.3	283.3
2.5°	260.8	182.3	145.3	131.5	127.1
5°	236.1	136.6	108.2	93.0	87.2
7.5°	198.3	112.6	81.4	67.6	63.2
10°	160.5	93.0	66.1	55.2	52.3
12.5°	137.3	80.6	61.7	57.4	57.4
15°	127.8	85.0	85.7	103.1	115.5
17.5°	131.5	132.9	207.7	252.8	260.8
20°	188.9	239.0	236.8	215.0	208.5
22.5°	218.6	157.6	119.1	98.1	94.4
25°	108.2	71.9	61.7	56.7	55.9
26°	82.1	60.3	53.7	50.8	49.4
27°	68.3	53.0	47.9	44.3	42.9
28°	61.0	47.2	41.4	37.8	36.3
29°	55.2	40.7	34.9	31.2	30.5
30°	48.7	34.1	29.1	25.4	24.7
31°	41.4	28.3	23.2	21.1	19.6
32°	34.9	23.2	18.9	16.7	15.3
33°	29.1	18.9	16.0	13.8	12.3
34°	24.7	16.0	13.1	10.9	10.2
35°	20.3	13.1	10.9	9.4	8.7
36°	17.4	11.6	8.7	7.3	6.5
37°	15.3	9.4	7.3	5.8	5.8
38°	13.1	8.0	6.5	4.4	4.4
39°	10.9	6.5	5.1	3.6	3.6
40°	9.4	5.8	4.4	2.9	2.2
42.5°	6.5	3.6	2.9	1.5	0.7
45°	4.4	2.9	1.5	0.7	0.0
47.5°	2.9	2.2	1.5	0.7	0.0
50°	2.2	2.2	1.5	0.0	0.0
51°	2.2	1.5	1.5	0.0	0.0
52°	2.2	1.5	0.7	0.0	0.0
53°	2.2	1.5	0.7	0.0	0.0
54°	2.2	1.5	0.7	0.0	0.0
55°	2.2	1.5	0.7	0.0	0.0
57.5°	2.2	1.5	0.7	0.0	0.0
60°	2.2	1.5	1.5	0.0	0.0
61°	2.2	2.2	1.5	0.0	0.0
62°	2.2	2.2	1.5	0.0	0.0
63°	2.2	2.2	1.5	0.0	0.0
64°	2.2	2.2	1.5	0.7	0.0
65°	2.2	2.2	1.5	0.7	0.0
66°	2.2	2.2	1.5	0.7	0.0



TEST NUMBER: P174913

CATALOG NUMBER: LDA4A13840D010TE LAR35FL 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
72.5°	2.2	2.2	1.5	0.7	0.0
75°	2.2	2.2	1.5	0.7	0.0
77.5°	2.9	2.2	1.5	0.7	0.0
80°	2.9	2.2	1.5	0.7	0.0
82.5°	2.9	2.2	1.5	0.7	0.0
85°	2.9	2.2	1.5	0.7	0.0
87.5°	2.9	2.2	1.5	0.7	0.0
90°	0.0	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - - 90°-270°







67.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.2
70°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.5	2.2





67.5°	2.2	2.2	1.5	0.7	0.0
70°	2.2	2.2	1.5	0.7	0.0



(END OF REPORT)