

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: P170882

Luminaire Tested: **LDA4A09930D010TE LAR35FL 4LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P170882
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26103)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A09930D010TE LAR35FL 4LLWW1
Description: PORTFOLIO 4" Lensed Wall Wash, Self-flanged, 35° Flood Optic, at 30° tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 707.8 lumens
Efficiency: N/A
Efficacy: 51.1 lumens/watt
Spacing Criteria (0/90/45): 2.19 / 1.11 / 1.55
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

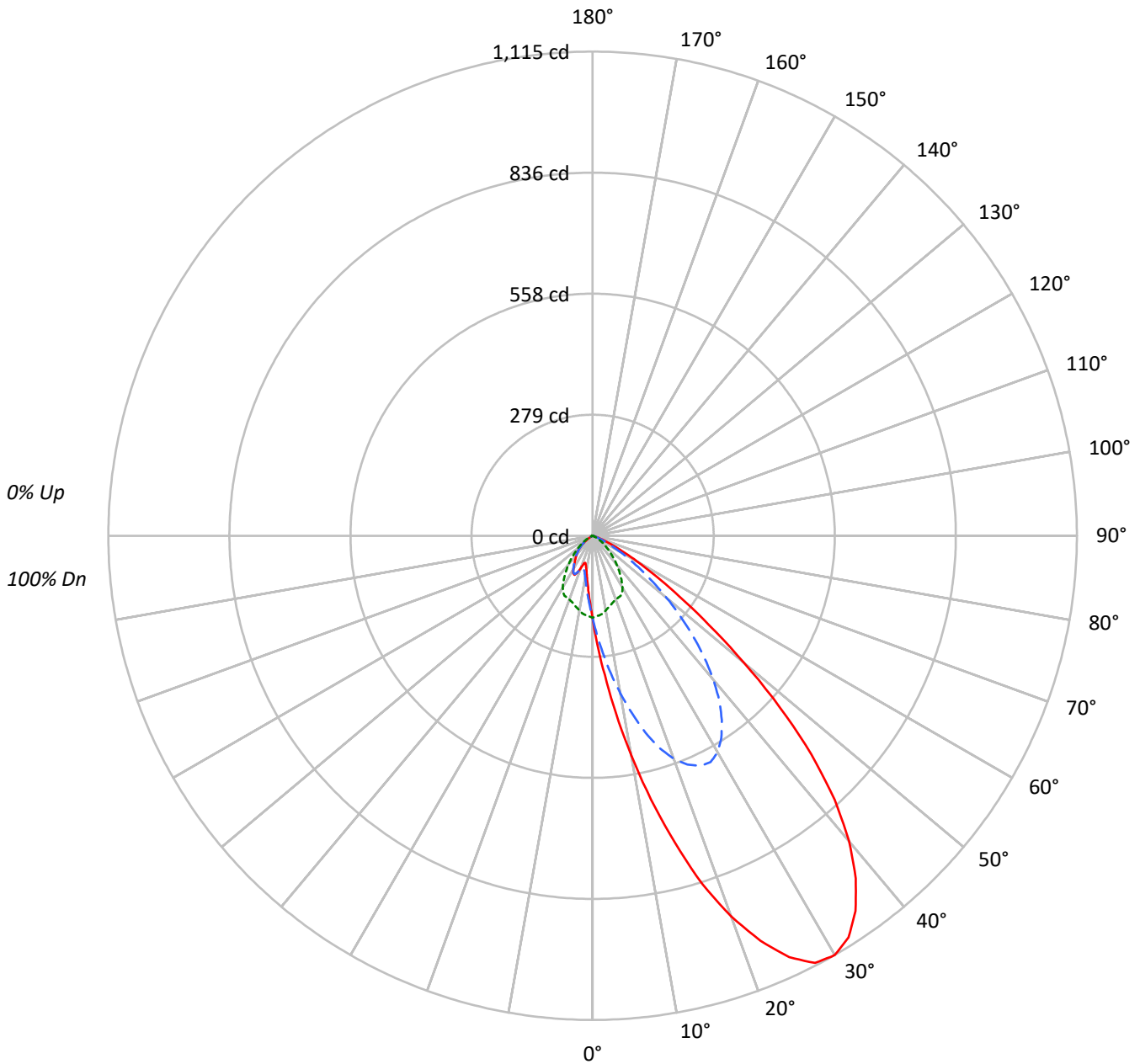
Input Watts (W): 13.84
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90																			
2	104	98	92	88	102	96	91	87	93	89	85	89	86	83	87	84	81	80																			
3	97	88	82	76	94	87	81	76	84	79	75	81	77	73	79	75	72	70																			
4	90	80	72	67	87	78	72	66	76	70	66	74	69	65	72	67	64	62																			
5	83	72	64	59	81	71	64	59	69	63	58	67	62	57	65	61	57	55																			
6	77	66	58	52	75	65	57	52	63	56	52	61	56	51	60	55	51	49																			
7	72	60	52	46	70	59	52	46	57	51	46	56	50	46	55	50	45	44																			
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	50	45	41	39																			
9	62	50	43	38	61	50	42	37	49	42	37	47	41	37	47	41	37	35																			
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	23312	23312	23312
5°	39795	22745	14858
10°	64315	21843	10145
15°	93436	20968	8249
20°	122362	20516	10291
25°	145732	20782	13555
30°	158821	19612	12605
35°	158844	16729	10661
40°	147829	13831	9258
45°	124164	10815	7954
50°	87157	8079	5853
55°	52450	5806	3247
60°	28937	3725	1209
65°	13951	1810	117
70°	5590	649	144
75°	1668	429	0
80°	639	639	0
85°	1840	1274	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	20.3	2.9
10°-20°	80.3	11.4
20°-30°	162.9	23.0
30°-40°	198.0	28.0
40°-50°	156.2	22.1
50°-60°	70.8	10.0
60°-70°	16.7	2.4
70°-80°	1.8	0.3
80°-90°	0.8	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°	263.6	37.2
0°-40°	461.6	65.2
0°-60°	688.6	97.3
0°-90°	707.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	707.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	189	189	189	189	189	
5°	321	270	184	135	120	37
15°	732	469	164	78	65	213
25°	1071	585	153	97	100	490
35°	1055	518	111	72	71	651
45°	712	327	62	45	46	539
55°	244	134	27	18	15	230
65°	48	28	6	1	0	54
75°	4	2	1	0	0	6
85°	1	1	1	0	0	1
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°	20°	22.5°	25°
0°	189.0	189.0	189.0	189.0	189.0	189.0	189.0	189.0	189.0	189.0	189.0
2.5°	251.0	244.8	244.8	240.4	243.9	236.8	238.2	237.7	242.1	240.8	236.8
5°	321.4	316.1	315.6	309.9	314.3	305.0	305.4	304.1	309.0	304.1	298.4
7.5°	412.1	402.8	402.4	395.7	400.2	388.2	387.8	385.1	389.5	380.2	371.8
10°	513.5	500.2	499.3	491.4	496.2	480.7	479.4	475.0	478.1	463.5	451.5
12.5°	621.9	607.3	605.6	597.2	601.6	583.0	579.4	573.7	575.0	553.8	537.8
15°	731.7	719.3	717.6	708.7	713.1	690.1	684.4	677.3	675.9	647.6	627.3
17.5°	841.1	815.8	823.8	814.9	818.9	791.9	784.4	775.5	770.7	735.7	710.0
20°	932.2	910.6	916.3	908.3	911.9	880.9	871.6	860.5	852.1	810.1	780.4
22.5°	1009.3	986.7	983.6	983.6	985.8	952.2	939.8	927.4	915.4	865.4	835.3
25°	1070.8	1046.0	1042.5	1041.6	1042.0	1006.6	992.0	978.3	962.8	907.9	875.1
27.5°	1108.9	1082.8	1078.8	1078.3	1076.1	1039.8	1023.4	1008.4	989.8	933.6	896.8
30°	1115.1	1091.2	1086.7	1086.7	1081.0	1045.6	1027.4	1011.5	990.7	934.0	894.6
32.5°	1096.5	1072.1	1067.3	1067.7	1058.4	1025.2	1005.7	989.3	967.7	911.9	871.2
35°	1054.9	1031.4	1027.0	1027.4	1015.9	984.9	964.6	948.6	925.6	872.5	830.9
37.5°	995.1	973.0	968.5	969.4	955.3	927.4	906.6	891.5	868.1	818.9	778.2
40°	918.1	896.8	892.8	893.3	877.8	853.5	833.1	818.9	795.5	751.6	712.7
42.5°	824.7	804.3	801.2	800.8	785.7	763.6	743.7	731.7	707.8	672.8	635.7
45°	711.8	694.5	680.8	690.1	674.6	656.9	638.3	628.6	606.0	581.2	548.0
47.5°	584.8	569.7	556.0	564.8	550.7	537.4	521.0	514.8	494.5	481.6	453.7
50°	454.2	441.3	428.9	436.5	425.4	416.5	403.7	400.6	383.8	382.0	360.3
52.5°	337.3	328.0	318.3	324.0	315.6	309.9	300.1	299.2	286.4	290.8	275.8
55°	243.9	237.3	229.7	234.2	228.0	224.4	217.3	217.8	208.1	214.7	204.1
57.5°	172.6	167.3	162.0	164.7	160.7	158.0	153.2	154.0	151.8	154.0	146.5
60°	117.3	114.2	110.2	112.4	108.9	107.6	104.5	104.9	99.6	106.7	101.4
62.5°	77.0	74.8	74.8	73.5	70.8	69.9	68.2	68.2	65.1	70.4	66.8
65°	47.8	46.9	46.5	45.6	43.8	43.4	42.1	42.1	39.8	43.8	41.2
67.5°	28.3	27.9	27.4	27.0	25.7	25.2	24.8	24.3	23.0	25.7	23.9
70°	15.5	15.5	15.1	14.6	13.7	13.7	13.3	13.3	12.4	13.7	12.4
72.5°	7.5	7.5	7.1	7.1	6.6	6.6	6.2	6.2	5.8	6.6	5.8
75°	3.5	3.5	3.1	3.1	3.1	3.1	2.7	2.7	2.7	3.1	2.7
77.5°	1.8	1.8	1.8	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.3
80°	0.9	0.9	0.9	0.9	0.9	0.4	0.4	0.4	0.4	0.9	0.9
82.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
85°	1.3	1.3	1.3	1.3	1.8	1.3	1.8	1.8	1.8	1.8	1.8
87.5°	1.8	1.8	1.8	1.8	1.8	2.2	2.2	2.2	1.8	2.2	1.8
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):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
0°	189.0	189.0	189.0	189.0	189.0	189.0	189.0	189.0	189.0	189.0	189.0
2.5°	238.2	234.6	235.9	232.0	228.9	227.5	227.5	227.1	206.3	185.5	170.9
5°	297.9	291.3	292.2	285.1	282.0	277.5	276.2	270.5	225.3	183.7	155.4
7.5°	368.7	359.0	353.2	346.6	342.6	334.7	330.7	319.2	243.0	180.2	140.3
10°	444.9	431.2	421.9	411.2	407.2	394.9	387.3	367.9	258.5	174.4	126.2
12.5°	527.2	508.6	491.8	480.3	475.4	451.5	446.6	418.8	272.7	169.1	114.6
15°	611.8	588.3	567.1	550.7	544.5	521.0	506.0	468.8	285.1	164.2	105.8
17.5°	687.0	661.8	636.1	614.9	606.0	572.8	558.6	512.6	294.4	159.4	100.9
20°	753.9	723.3	696.3	667.1	656.9	619.3	596.3	546.7	299.7	156.3	101.4
22.5°	804.8	769.8	738.8	706.0	693.2	652.0	625.9	570.1	301.5	154.0	104.5
25°	841.9	803.0	768.5	732.6	717.6	673.7	645.0	584.8	301.0	152.7	105.8
27.5°	861.0	819.4	782.2	743.7	727.3	682.1	651.2	587.9	294.8	147.4	105.8
30°	858.3	814.5	775.5	735.7	718.0	673.3	641.4	575.9	281.5	137.7	98.3
32.5°	834.9	790.2	750.3	710.5	692.8	648.9	617.1	551.6	262.5	124.8	88.1
35°	795.9	751.6	712.2	673.3	655.6	613.1	582.1	518.4	240.8	111.1	78.8
37.5°	745.0	702.1	664.0	628.6	608.2	568.4	538.3	479.0	216.9	98.7	70.8
40°	681.7	641.0	605.1	572.4	550.7	513.9	486.5	432.5	191.7	85.9	63.3
42.5°	608.7	570.6	541.4	508.6	484.3	452.0	428.1	381.1	166.0	74.4	55.3
45°	525.9	492.2	467.0	438.2	413.0	385.6	365.2	327.1	139.9	62.0	47.8
47.5°	436.9	409.0	389.5	365.6	340.8	318.7	302.8	272.2	115.1	51.8	40.7
50°	349.3	327.1	313.0	294.8	272.2	255.4	243.0	222.7	91.2	42.1	34.1
52.5°	268.7	252.8	243.0	229.7	209.8	198.3	189.5	175.3	69.5	34.1	27.4
55°	200.5	189.0	182.8	173.5	156.3	148.3	142.5	133.7	51.8	27.0	21.2
57.5°	144.8	137.2	133.2	127.0	112.9	108.0	104.0	98.7	37.6	20.8	15.5
60°	100.9	95.6	93.4	89.4	77.9	74.8	69.5	69.5	26.6	15.1	10.6
62.5°	66.8	63.3	62.4	59.3	50.5	48.7	47.4	46.5	18.1	10.2	6.2
65°	41.6	39.0	38.5	36.7	30.5	29.7	28.3	28.3	11.5	6.2	3.1
67.5°	23.9	22.6	22.1	21.2	16.8	16.4	15.5	16.4	6.6	3.1	1.3
70°	12.8	11.5	11.5	11.1	8.4	8.0	7.5	8.0	3.5	1.8	0.9
72.5°	6.2	5.3	5.3	4.9	3.5	3.5	3.1	4.0	1.8	0.9	0.9
75°	2.7	2.7	2.2	2.2	1.3	1.3	1.3	1.8	0.9	0.9	0.9
77.5°	1.3	1.3	1.3	1.3	0.4	0.4	0.4	0.9	0.9	0.9	0.9
80°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.9	0.9	0.9	0.9
82.5°	0.9	0.4	0.4	0.4	0.0	0.0	0.0	0.4	0.9	0.9	0.9
85°	1.3	1.3	1.3	1.3	0.9	0.9	0.9	1.3	0.9	0.9	0.9
87.5°	1.8	1.8	1.8	1.8	1.3	1.3	1.3	2.2	1.3	0.9	0.9
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):

	135°	157.5°	180°
0°	189.0	189.0	189.0
2.5°	158.5	149.2	150.1
5°	134.6	121.3	120.0
7.5°	113.8	99.6	97.8
10°	97.4	83.2	81.0
12.5°	85.4	72.6	70.4
15°	77.9	66.4	64.6
17.5°	76.6	67.7	66.8
20°	81.9	77.5	78.4
22.5°	91.2	89.9	92.1
25°	97.4	96.9	99.6
27.5°	96.1	95.2	96.9
30°	89.0	87.6	88.5
32.5°	80.6	78.4	79.2
35°	72.2	70.4	70.8
37.5°	65.1	63.7	63.7
40°	58.9	57.5	57.5
42.5°	52.2	51.3	51.8
45°	45.2	44.7	45.6
47.5°	38.1	37.6	38.5
50°	31.4	30.5	30.5
52.5°	24.8	23.5	22.6
55°	18.1	15.9	15.1
57.5°	12.4	10.2	9.3
60°	7.1	5.8	4.9
62.5°	3.5	2.2	1.8
65°	1.3	0.9	0.4
67.5°	0.9	0.4	0.4
70°	0.9	0.4	0.4
72.5°	0.4	0.4	0.4
75°	0.4	0.4	0.0
77.5°	0.4	0.4	0.4
80°	0.4	0.4	0.0
82.5°	0.4	0.4	0.0
85°	0.4	0.4	0.0
87.5°	0.4	0.4	0.0
90°	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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











(END OF REPORT)