

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: P170870

Luminaire Tested: **LDA4A18830D010TE LAR35FL 4LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P170870
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: LDA4A18830D010TE LAR35FL 4LLWW1
Description: PORTFOLIO 4" Lensed Wall Wash, Self-flanged, 35° Flood Optic, at 30° tilt
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

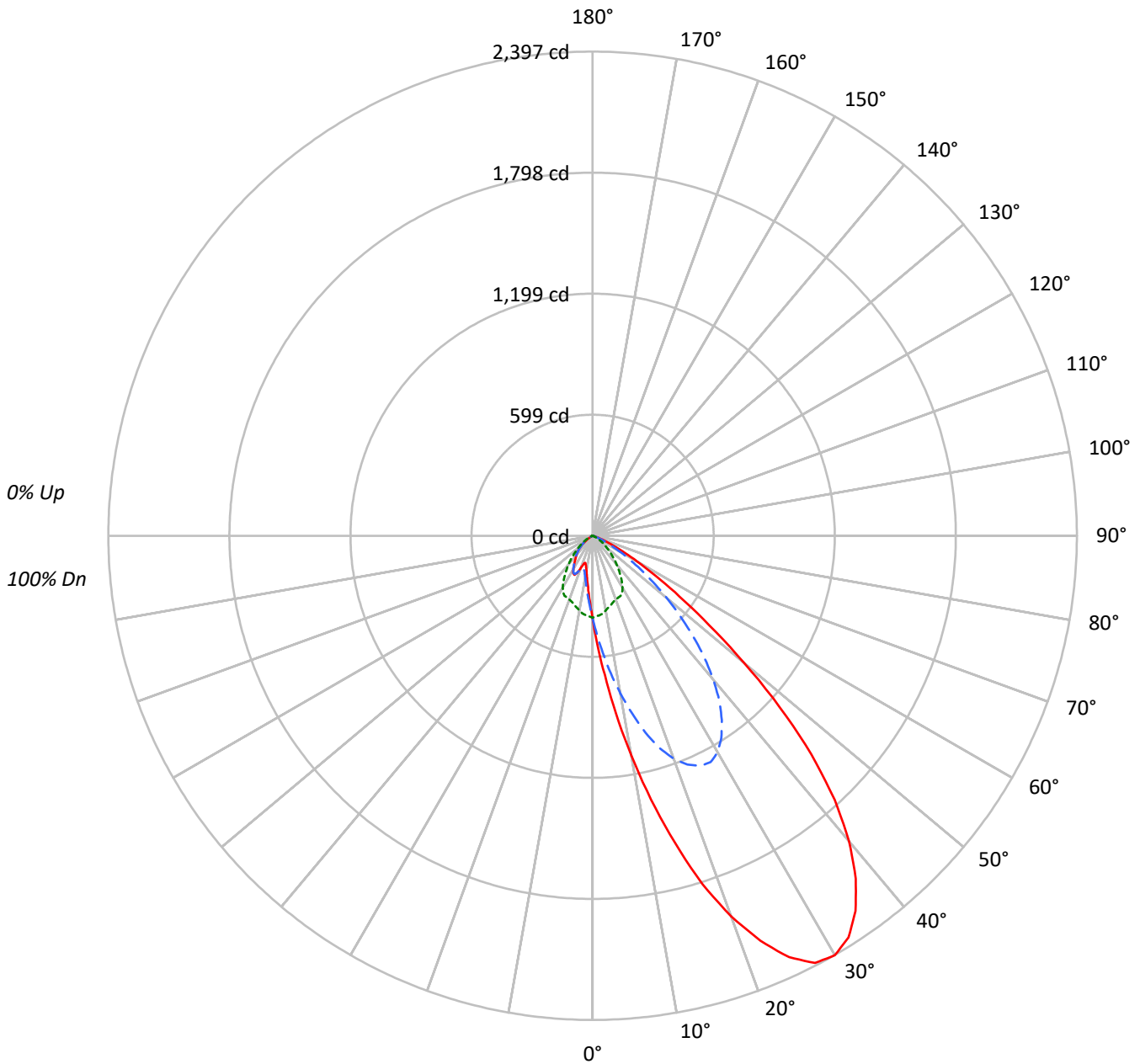
Lumens per Lamp: N/A
Luminaire Lumens: 1521.9 lumens
Efficiency: N/A
Efficacy: 52.3 lumens/watt
Spacing Criteria (0/90/45): 2.19 / 1.11 / 1.55
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 29.12
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	74	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	65	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°	50128	50128	50128
5°	85557	48908	31932
10°	138274	46968	21818
15°	200893	45090	17750
20°	263088	44104	22118
25°	313322	44681	29138
30°	341455	42158	27104
35°	341509	35973	22933
40°	317830	29724	19918
45°	266958	23235	17095
50°	187382	17347	12607
55°	112770	12494	6968
60°	62216	7993	2590
65°	30003	3882	292
70°	12009	1370	361
75°	3622	905	0
80°	1350	1350	0
85°	4104	2689	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.6	2.9
10°-20°	172.7	11.4
20°-30°	350.3	23.0
30°-40°	425.7	28.0
40°-50°	335.9	22.1
50°-60°	152.2	10.0
60°-70°	35.9	2.4
70°-80°	3.9	0.3
80°-90°	1.7	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°	566.7	37.2
0°-40°	992.3	65.2
0°-60°	1480.4	97.3
0°-90°	1521.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1521.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	406	406	406	406	406	
5°	691	582	395	289	258	79
15°	1573	1008	353	168	139	458
25°	2302	1257	328	209	214	1054
35°	2268	1114	239	155	152	1400
45°	1530	703	133	97	98	1158
55°	524	287	58	39	32	495
65°	103	61	13	3	1	116
75°	8	4	2	1	0	12
85°	3	3	2	1	0	3
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°	406.4	406.4	406.4	406.4	406.4	406.4	406.4	406.4	406.4	406.4	406.4
2.5°	539.6	526.3	526.3	516.8	524.4	509.2	512.0	511.1	520.6	517.7	509.2
5°	691.0	679.5	678.6	666.2	675.7	655.7	656.7	653.8	664.3	653.8	641.5
7.5°	886.1	866.1	865.1	850.8	860.4	834.7	833.7	828.0	837.5	817.5	799.4
10°	1104.0	1075.4	1073.5	1056.4	1066.9	1033.6	1030.7	1021.2	1027.9	996.5	970.8
12.5°	1337.2	1305.8	1302.0	1283.9	1293.4	1253.4	1245.8	1233.4	1236.3	1190.6	1156.3
15°	1573.2	1546.5	1542.7	1523.7	1533.2	1483.7	1471.4	1456.1	1453.3	1392.4	1348.6
17.5°	1808.3	1754.0	1771.2	1752.1	1760.7	1702.6	1686.5	1667.4	1656.9	1581.8	1526.6
20°	2004.3	1957.7	1970.1	1952.9	1960.5	1893.9	1873.9	1850.1	1832.1	1741.7	1677.9
22.5°	2169.9	2121.4	2114.7	2114.7	2119.5	2047.2	2020.5	1993.9	1968.2	1860.6	1795.9
25°	2302.2	2248.9	2241.3	2239.4	2240.4	2164.2	2132.8	2103.3	2070.0	1952.0	1881.6
27.5°	2384.1	2327.9	2319.3	2318.4	2313.6	2235.6	2200.4	2168.0	2128.1	2007.2	1928.2
30°	2397.4	2346.0	2336.5	2336.5	2324.1	2248.0	2208.9	2174.7	2130.0	2008.1	1923.4
32.5°	2357.4	2305.1	2294.6	2295.6	2275.6	2204.2	2162.3	2127.1	2080.5	1960.5	1873.0
35°	2268.0	2217.5	2208.0	2208.9	2184.2	2117.6	2073.8	2039.5	1990.1	1875.8	1786.4
37.5°	2139.5	2091.9	2082.4	2084.3	2053.8	1993.9	1949.1	1916.8	1866.3	1760.7	1673.1
40°	1973.9	1928.2	1919.6	1920.6	1887.3	1834.9	1791.1	1760.7	1710.2	1616.0	1532.3
42.5°	1773.1	1729.3	1722.6	1721.7	1689.3	1641.7	1598.9	1573.2	1521.8	1446.6	1366.7
45°	1530.4	1493.3	1463.7	1483.7	1450.4	1412.4	1372.4	1351.4	1302.9	1249.6	1178.2
47.5°	1257.2	1224.9	1195.4	1214.4	1183.9	1155.4	1120.2	1106.9	1063.1	1035.5	975.5
50°	976.5	948.9	922.2	938.4	914.6	895.6	868.0	861.3	825.1	821.3	774.7
52.5°	725.2	705.2	684.3	696.7	678.6	666.2	645.3	643.4	615.8	625.3	592.9
55°	524.4	510.1	493.9	503.5	490.1	482.5	467.3	468.2	447.3	461.6	438.7
57.5°	371.2	359.8	348.3	354.0	345.5	339.8	329.3	331.2	326.4	331.2	315.0
60°	252.2	245.5	237.0	241.7	234.1	231.3	224.6	225.6	214.1	229.4	217.9
62.5°	165.6	160.8	160.8	158.0	152.3	150.4	146.6	146.6	139.9	151.3	143.7
65°	102.8	100.9	99.9	98.0	94.2	93.3	90.4	90.4	85.7	94.2	88.5
67.5°	60.9	60.0	59.0	58.1	55.2	54.2	53.3	52.3	49.5	55.2	51.4
70°	33.3	33.3	32.4	31.4	29.5	29.5	28.6	28.6	26.6	29.5	26.6
72.5°	16.2	16.2	15.2	15.2	14.3	14.3	13.3	13.3	12.4	14.3	12.4
75°	7.6	7.6	6.7	6.7	6.7	6.7	5.7	5.7	5.7	6.7	5.7
77.5°	3.8	3.8	3.8	3.8	2.9	2.9	2.9	2.9	2.9	2.9	2.9
80°	1.9	1.9	1.9	1.9	1.9	1.0	1.0	1.0	1.0	1.9	1.9
82.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
85°	2.9	2.9	2.9	2.9	3.8	2.9	3.8	3.8	3.8	3.8	3.8
87.5°	3.8	3.8	3.8	3.8	3.8	4.8	4.8	4.8	3.8	4.8	3.8
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°	406.4	406.4	406.4	406.4	406.4	406.4	406.4	406.4	406.4	406.4	406.4
2.5°	512.0	504.4	507.3	498.7	492.0	489.2	489.2	488.2	443.5	398.8	367.4
5°	640.5	626.2	628.1	612.9	606.2	596.7	593.9	581.5	484.4	395.0	334.1
7.5°	792.8	771.8	759.5	745.2	736.6	719.5	710.9	686.2	522.5	387.4	301.7
10°	956.5	927.0	907.0	884.2	875.6	848.9	832.8	790.9	555.8	375.0	271.2
12.5°	1133.5	1093.5	1057.4	1032.6	1022.1	970.8	960.3	900.3	586.3	363.6	246.5
15°	1315.3	1264.8	1219.2	1183.9	1170.6	1120.2	1087.8	1007.9	612.9	353.1	227.5
17.5°	1477.1	1422.8	1367.6	1321.9	1302.9	1231.5	1201.1	1102.1	632.9	342.6	217.0
20°	1620.8	1555.1	1497.1	1434.2	1412.4	1331.5	1282.0	1175.4	644.3	336.0	217.9
22.5°	1730.2	1655.0	1588.4	1518.0	1490.4	1401.9	1345.7	1225.8	648.1	331.2	224.6
25°	1810.2	1726.4	1652.2	1575.1	1542.7	1448.5	1386.7	1257.2	647.2	328.3	227.5
27.5°	1851.1	1761.6	1681.7	1598.9	1563.7	1466.6	1400.0	1263.9	633.8	316.9	227.5
30°	1845.4	1751.2	1667.4	1581.8	1543.7	1447.6	1379.0	1238.2	605.3	296.0	211.3
32.5°	1794.9	1698.8	1613.2	1527.5	1489.4	1395.2	1326.7	1185.8	564.4	268.4	189.4
35°	1711.2	1616.0	1531.3	1447.6	1409.5	1318.1	1251.5	1114.5	517.7	238.9	169.4
37.5°	1601.7	1509.4	1427.6	1351.4	1307.7	1222.0	1157.3	1029.8	466.3	212.2	152.3
40°	1465.7	1378.1	1301.0	1230.6	1183.9	1104.9	1045.9	929.8	412.1	184.6	136.1
42.5°	1308.6	1226.8	1164.0	1093.5	1041.2	971.7	920.3	819.4	356.9	159.9	119.0
45°	1130.6	1058.3	1004.1	942.2	888.0	829.0	785.2	703.3	300.7	133.2	102.8
47.5°	939.3	879.4	837.5	786.1	732.8	685.2	651.0	585.3	247.4	111.4	87.6
50°	750.9	703.3	672.9	633.8	585.3	549.1	522.5	478.7	196.1	90.4	73.3
52.5°	577.7	543.4	522.5	493.9	451.1	426.4	407.3	376.9	149.4	73.3	59.0
55°	431.1	406.4	393.1	373.1	336.0	318.8	306.5	287.4	111.4	58.1	45.7
57.5°	311.2	295.0	286.5	273.1	242.7	232.2	223.7	212.2	80.9	44.7	33.3
60°	217.0	205.6	200.8	192.2	167.5	160.8	149.4	149.4	57.1	32.4	22.8
62.5°	143.7	136.1	134.2	127.5	108.5	104.7	101.8	99.9	39.0	21.9	13.3
65°	89.5	83.8	82.8	79.0	65.7	63.8	60.9	60.9	24.7	13.3	6.7
67.5°	51.4	48.5	47.6	45.7	36.2	35.2	33.3	35.2	14.3	6.7	2.9
70°	27.6	24.7	24.7	23.8	18.1	17.1	16.2	17.1	7.6	3.8	1.9
72.5°	13.3	11.4	11.4	10.5	7.6	7.6	6.7	8.6	3.8	1.9	1.9
75°	5.7	5.7	4.8	4.8	2.9	2.9	2.9	3.8	1.9	1.9	1.9
77.5°	2.9	2.9	2.9	2.9	1.0	1.0	1.0	1.9	1.9	1.9	1.9
80°	1.9	1.9	1.9	1.9	0.0	0.0	0.0	1.9	1.9	1.9	1.9
82.5°	1.9	1.0	1.0	1.0	0.0	0.0	0.0	1.0	1.9	1.9	1.9
85°	2.9	2.9	2.9	2.9	1.9	1.9	1.9	2.9	1.9	1.9	1.9
87.5°	3.8	3.8	3.8	3.8	2.9	2.9	2.9	4.8	2.9	1.9	1.9
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°	406.4	406.4	406.4
2.5°	340.7	320.7	322.6
5°	289.3	260.8	257.9
7.5°	244.6	214.1	210.3
10°	209.4	178.9	174.2
12.5°	183.7	156.1	151.3
15°	167.5	142.8	139.0
17.5°	164.6	145.6	143.7
20°	176.1	166.6	168.5
22.5°	196.1	193.2	198.0
25°	209.4	208.4	214.1
27.5°	206.5	204.6	208.4
30°	191.3	188.4	190.3
32.5°	173.2	168.5	170.4
35°	155.1	151.3	152.3
37.5°	139.9	137.0	137.0
40°	126.6	123.7	123.7
42.5°	112.3	110.4	111.4
45°	97.1	96.1	98.0
47.5°	81.8	80.9	82.8
50°	67.6	65.7	65.7
52.5°	53.3	50.4	48.5
55°	39.0	34.3	32.4
57.5°	26.6	21.9	20.0
60°	15.2	12.4	10.5
62.5°	7.6	4.8	3.8
65°	2.9	1.9	1.0
67.5°	1.9	1.0	1.0
70°	1.9	1.0	1.0
72.5°	1.0	1.0	1.0
75°	1.0	1.0	0.0
77.5°	1.0	1.0	1.0
80°	1.0	1.0	0.0
82.5°	1.0	1.0	0.0
85°	1.0	1.0	0.0
87.5°	1.0	1.0	0.0
90°	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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











(END OF REPORT)