

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: P170869

Luminaire Tested: **LDA4A18827D010TE LAR35FL 4LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P170869
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: LDA4A18827D010TE LAR35FL 4LLWW1
Description: PORTFOLIO 4" Lensed Wall Wash, Self-flanged, 35° Flood Optic, at 30° tilt
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1405.9 lumens
Efficiency: N/A
Efficacy: 48.3 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

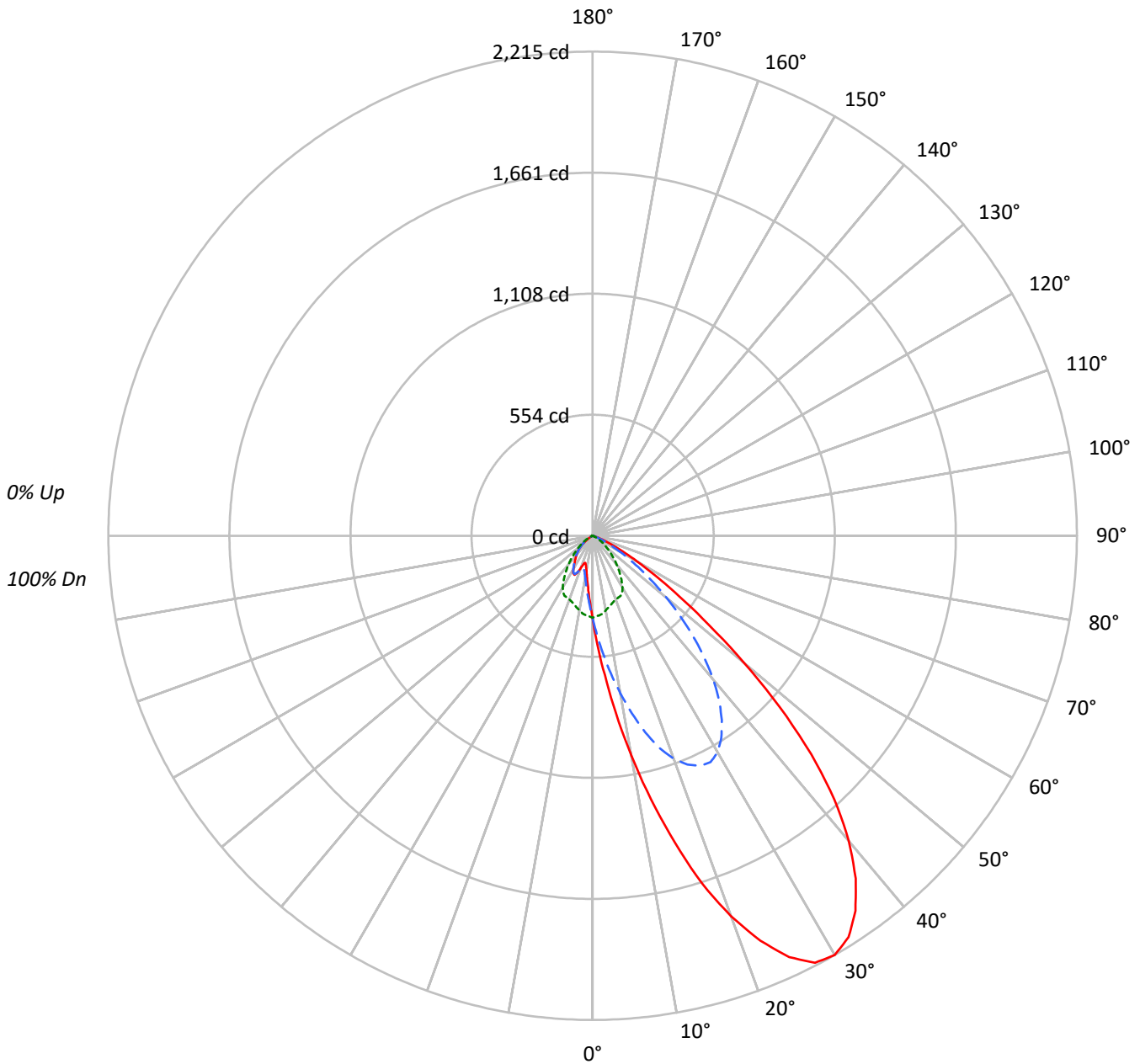
Input Watts (W): 29.12
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P170869

CATALOG NUMBER: LDA4A18827D010TE LAR35FL 4LLWW1

Luminous Intensity Polar Plot





TEST NUMBER: P170869

CATALOG NUMBER: LDA4A18827D010TE LAR35FL 4LLWW1

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°	46304	46304	46304
5°	79032	45181	29506
10°	127741	43386	20152
15°	185582	41655	16396
20°	243044	40744	20424
25°	289437	41278	26920
30°	315434	38940	25039
35°	315474	33232	21186
40°	293597	27469	18404
45°	246602	21473	15804
50°	173086	16023	11648
55°	104169	11526	6430
60°	57479	7376	2393
65°	27727	3590	263
70°	11108	1262	325
75°	3336	858	0
80°	1279	1279	0
85°	3680	2547	0



TEST NUMBER: P170869

CATALOG NUMBER: LDA4A18827D010TE LAR35FL 4LLWW1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.3	2.9
10°-20°	159.6	11.4
20°-30°	323.6	23.0
30°-40°	393.2	28.0
40°-50°	310.3	22.1
50°-60°	140.6	10.0
60°-70°	33.2	2.4
70°-80°	3.6	0.3
80°-90°	1.6	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°	523.5	37.2
0°-40°	916.7	65.2
0°-60°	1367.6	97.3
0°-90°	1405.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1405.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	375	375	375	375	375	
5°	638	537	365	267	238	73
15°	1453	931	326	155	128	423
25°	2127	1161	303	193	198	973
35°	2095	1030	221	143	141	1294
45°	1414	650	123	90	91	1070
55°	484	266	54	36	30	457
65°	95	56	12	3	1	107
75°	7	4	2	1	0	11
85°	3	3	2	1	0	2
90°	0	0	0	0	0	



TEST NUMBER: P170869

CATALOG NUMBER: LDA4A18827D010TE LAR35FL 4LLWW1

CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
0°	375.4	375.4	375.4	375.4	375.4	375.4	375.4	375.4	375.4	375.4	375.4
2.5°	498.5	486.2	486.2	477.4	484.4	470.4	473.0	472.1	480.9	478.3	470.4
5°	638.3	627.7	626.9	615.4	624.2	605.8	606.6	604.0	613.7	604.0	592.6
7.5°	818.5	800.1	799.2	786.0	794.8	771.0	770.2	764.9	773.7	755.2	738.5
10°	1019.9	993.5	991.7	975.9	985.6	954.8	952.2	943.4	949.5	920.5	896.8
12.5°	1235.3	1206.2	1202.7	1186.0	1194.8	1157.9	1150.8	1139.4	1142.1	1099.9	1068.2
15°	1453.3	1428.7	1425.2	1407.6	1416.4	1370.6	1359.2	1345.1	1342.5	1286.2	1245.8
17.5°	1670.4	1620.3	1636.2	1618.6	1626.5	1572.9	1557.9	1540.3	1530.7	1461.2	1410.2
20°	1851.6	1808.5	1819.9	1804.1	1811.1	1749.6	1731.1	1709.1	1692.4	1608.9	1550.0
22.5°	2004.5	1959.7	1953.5	1953.5	1957.9	1891.1	1866.5	1841.9	1818.1	1718.8	1659.0
25°	2126.7	2077.5	2070.5	2068.7	2069.6	1999.3	1970.2	1943.0	1912.2	1803.2	1738.1
27.5°	2202.4	2150.5	2142.6	2141.7	2137.3	2065.2	2032.7	2002.8	1965.9	1854.2	1781.2
30°	2214.7	2167.2	2158.4	2158.4	2147.0	2076.6	2040.6	2008.9	1967.6	1855.1	1776.8
32.5°	2177.7	2129.4	2119.7	2120.6	2102.1	2036.2	1997.5	1965.0	1921.9	1811.1	1730.2
35°	2095.1	2048.5	2039.7	2040.6	2017.7	1956.2	1915.7	1884.1	1838.4	1732.9	1650.2
37.5°	1976.4	1932.4	1923.7	1925.4	1897.3	1841.9	1800.6	1770.7	1724.1	1626.5	1545.6
40°	1823.4	1781.2	1773.3	1774.2	1743.4	1695.1	1654.6	1626.5	1579.9	1492.9	1415.5
42.5°	1637.9	1597.5	1591.3	1590.4	1560.5	1516.6	1477.0	1453.3	1405.8	1336.4	1262.5
45°	1413.7	1379.4	1352.2	1370.6	1339.9	1304.7	1267.8	1248.4	1203.6	1154.4	1088.4
47.5°	1161.4	1131.5	1104.3	1121.8	1093.7	1067.3	1034.8	1022.5	982.0	956.6	901.2
50°	902.0	876.5	851.9	866.9	844.9	827.3	801.8	795.7	762.3	758.7	715.7
52.5°	669.9	651.5	632.1	643.6	626.9	615.4	596.1	594.3	568.8	577.6	547.7
55°	484.4	471.2	456.3	465.1	452.8	445.7	431.7	432.6	413.2	426.4	405.3
57.5°	342.9	332.3	321.8	327.1	319.1	313.9	304.2	306.0	301.6	306.0	291.0
60°	233.0	226.8	218.9	223.3	216.3	213.6	207.5	208.4	197.8	211.9	201.3
62.5°	153.0	148.6	148.6	145.9	140.7	138.9	135.4	135.4	129.2	139.8	132.8
65°	95.0	93.2	92.3	90.6	87.0	86.2	83.5	83.5	79.1	87.0	81.8
67.5°	56.3	55.4	54.5	53.6	51.0	50.1	49.2	48.4	45.7	51.0	47.5
70°	30.8	30.8	29.9	29.0	27.3	27.3	26.4	26.4	24.6	27.3	24.6
72.5°	14.9	14.9	14.1	14.1	13.2	13.2	12.3	12.3	11.4	13.2	11.4
75°	7.0	7.0	6.2	6.2	6.2	6.2	5.3	5.3	5.3	6.2	5.3
77.5°	3.5	3.5	3.5	3.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6
80°	1.8	1.8	1.8	1.8	1.8	0.9	0.9	0.9	0.9	1.8	1.8
82.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
85°	2.6	2.6	2.6	2.6	3.5	2.6	3.5	3.5	3.5	3.5	3.5
87.5°	3.5	3.5	3.5	3.5	3.5	4.4	4.4	4.4	3.5	4.4	3.5
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: P170869

CATALOG NUMBER: LDA4A18827D010TE LAR35FL 4LLWW1

CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
0°	375.4	375.4	375.4	375.4	375.4	375.4	375.4	375.4	375.4	375.4	375.4
2.5°	473.0	466.0	468.6	460.7	454.5	451.9	451.9	451.0	409.7	368.4	339.4
5°	591.7	578.5	580.3	566.2	560.0	551.2	548.6	537.2	447.5	364.9	308.6
7.5°	732.4	713.0	701.6	688.4	680.5	664.7	656.7	633.9	482.7	357.8	278.7
10°	883.6	856.3	837.9	816.8	808.8	784.2	769.3	730.6	513.4	346.4	250.6
12.5°	1047.1	1010.2	976.8	953.9	944.2	896.8	887.1	831.7	541.6	335.8	227.7
15°	1215.0	1168.4	1126.2	1093.7	1081.4	1034.8	1004.9	931.1	566.2	326.2	210.1
17.5°	1364.5	1314.4	1263.4	1221.2	1203.6	1137.7	1109.5	1018.1	584.7	316.5	200.5
20°	1497.2	1436.6	1383.0	1324.9	1304.7	1230.0	1184.3	1085.8	595.2	310.4	201.3
22.5°	1598.4	1528.9	1467.4	1402.3	1376.8	1295.0	1243.2	1132.4	598.7	306.0	207.5
25°	1672.2	1594.8	1526.3	1455.0	1425.2	1338.1	1281.0	1161.4	597.8	303.3	210.1
27.5°	1710.0	1627.4	1553.5	1477.0	1444.5	1354.8	1293.3	1167.6	585.5	292.8	210.1
30°	1704.7	1617.7	1540.3	1461.2	1426.0	1337.2	1273.9	1143.8	559.2	273.4	195.2
32.5°	1658.1	1569.3	1490.2	1411.1	1375.9	1288.9	1225.6	1095.5	521.4	247.9	175.0
35°	1580.8	1492.9	1414.6	1337.2	1302.1	1217.7	1156.1	1029.5	478.3	220.7	156.5
37.5°	1479.7	1394.4	1318.8	1248.4	1208.0	1128.9	1069.1	951.3	430.8	196.1	140.7
40°	1353.9	1273.1	1201.8	1136.8	1093.7	1020.7	966.2	859.0	380.7	170.6	125.7
42.5°	1208.9	1133.3	1075.2	1010.2	961.8	897.6	850.2	757.0	329.7	147.7	109.9
45°	1044.5	977.7	927.5	870.4	820.3	765.8	725.3	649.7	277.8	123.1	95.0
47.5°	867.8	812.4	773.7	726.2	677.0	633.0	601.4	540.7	228.6	102.9	80.9
50°	693.7	649.7	621.6	585.5	540.7	507.3	482.7	442.2	181.1	83.5	67.7
52.5°	533.7	502.0	482.7	456.3	416.7	393.9	376.3	348.2	138.0	67.7	54.5
55°	398.3	375.4	363.1	344.6	310.4	294.5	283.1	265.5	102.9	53.6	42.2
57.5°	287.5	272.5	264.6	252.3	224.2	214.5	206.6	196.1	74.7	41.3	30.8
60°	200.5	189.9	185.5	177.6	154.7	148.6	138.0	138.0	52.8	29.9	21.1
62.5°	132.8	125.7	124.0	117.8	100.2	96.7	94.1	92.3	36.0	20.2	12.3
65°	82.6	77.4	76.5	73.0	60.7	58.9	56.3	56.3	22.9	12.3	6.2
67.5°	47.5	44.8	44.0	42.2	33.4	32.5	30.8	32.5	13.2	6.2	2.6
70°	25.5	22.9	22.9	22.0	16.7	15.8	14.9	15.8	7.0	3.5	1.8
72.5°	12.3	10.6	10.6	9.7	7.0	7.0	6.2	7.9	3.5	1.8	1.8
75°	5.3	5.3	4.4	4.4	2.6	2.6	2.6	3.5	1.8	1.8	1.8
77.5°	2.6	2.6	2.6	2.6	0.9	0.9	0.9	1.8	1.8	1.8	1.8
80°	1.8	1.8	1.8	1.8	0.0	0.0	0.0	1.8	1.8	1.8	1.8
82.5°	1.8	0.9	0.9	0.9	0.0	0.0	0.0	0.9	1.8	1.8	1.8
85°	2.6	2.6	2.6	2.6	1.8	1.8	1.8	2.6	1.8	1.8	1.8
87.5°	3.5	3.5	3.5	3.5	2.6	2.6	2.6	4.4	2.6	1.8	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



TEST NUMBER: P170869

CATALOG NUMBER: LDA4A18827D010TE LAR35FL 4LLWW1

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	375.4	375.4	375.4
2.5°	314.7	296.3	298.0
5°	267.3	240.9	238.3
7.5°	225.9	197.8	194.3
10°	193.4	165.3	160.9
12.5°	169.7	144.2	139.8
15°	154.7	131.9	128.4
17.5°	152.1	134.5	132.8
20°	162.6	153.9	155.6
22.5°	181.1	178.5	182.9
25°	193.4	192.5	197.8
27.5°	190.8	189.0	192.5
30°	176.7	174.1	175.8
32.5°	160.0	155.6	157.4
35°	143.3	139.8	140.7
37.5°	129.2	126.6	126.6
40°	116.9	114.3	114.3
42.5°	103.7	102.0	102.9
45°	89.7	88.8	90.6
47.5°	75.6	74.7	76.5
50°	62.4	60.7	60.7
52.5°	49.2	46.6	44.8
55°	36.0	31.7	29.9
57.5°	24.6	20.2	18.5
60°	14.1	11.4	9.7
62.5°	7.0	4.4	3.5
65°	2.6	1.8	0.9
67.5°	1.8	0.9	0.9
70°	1.8	0.9	0.9
72.5°	0.9	0.9	0.9
75°	0.9	0.9	0.0
77.5°	0.9	0.9	0.9
80°	0.9	0.9	0.0
82.5°	0.9	0.9	0.0
85°	0.9	0.9	0.0
87.5°	0.9	0.9	0.0
90°	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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











(END OF REPORT)