

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: P170817

Luminaire Tested: **LDA4A09927D010TE LAR35FL 4LAL1 30° Tilt**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P170817
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: LDA4A09927D010TE 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 / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 784.2 lumens
Efficiency: N/A
Efficacy: 56.7 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

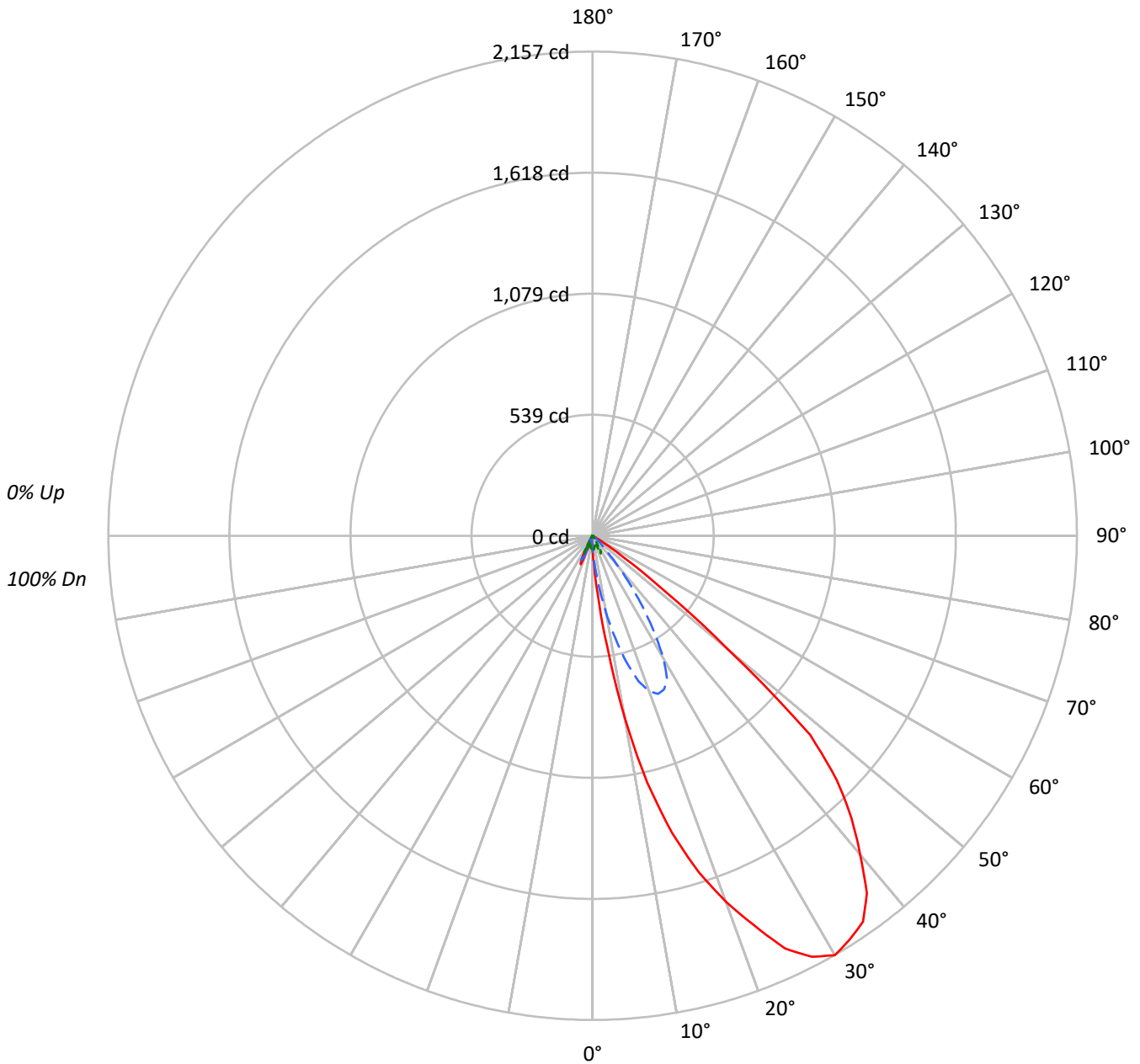
Input Watts (W): 13.84
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P170817

CATALOG NUMBER: LDA4A09927D010TE LAR35FL 4LAL1 30° Tilt

Luminous Intensity Polar Plot





TEST NUMBER: P170817

CATALOG NUMBER: LDA4A09927D010TE LAR35FL 4LAL1 30° Tilt

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	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	76	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°	7956	7956	7956
5°	32019	7503	3516
10°	103230	6300	2016
15°	175123	4993	1571
20°	227621	4489	4739
25°	276209	11800	16767
30°	307258	4159	4429
35°	316062	2485	2078
40°	298428	1047	741
45°	268214	611	209
50°	150942	365	0
55°	37461	258	0
60°	5773	296	0
65°	1343	350	0
70°	289	433	0
75°	0	572	0
80°	0	1065	0
85°	0	2123	566



TEST NUMBER: P170817

CATALOG NUMBER: LDA4A09927D010TE LAR35FL 4LAL1 30° Tilt

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	12.9	1.7
10°-20°	96.2	12.3
20°-30°	222.3	28.3
30°-40°	249.3	31.8
40°-50°	174.0	22.2
50°-60°	26.0	3.3
60°-70°	1.7	0.2
70°-80°	0.9	0.1
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°	331.5	42.3
0°-40°	580.8	74.1
0°-60°	780.7	99.6
0°-90°	784.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	784.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	64	64	64	64	64	
5°	259	151	61	35	28	43
15°	1371	584	39	15	12	392
25°	2030	754	87	121	123	928
35°	2099	392	16	14	14	1291
45°	1538	59	4	2	1	1128
55°	174	8	1	1	0	229
65°	5	1	1	1	0	7
75°	0	1	1	1	0	0
85°	0	1	2	1	0	0
90°	0	0	0	0	0	



TEST NUMBER: P170817

CATALOG NUMBER: LDA4A09927D010TE LAR35FL 4LAL1 30° Tilt

CANDELA DISTRIBUTION (FULL):

	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°
0°	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5
2.5°	117.4	116.3	113.2	112.4	115.1	112.8	114.0	116.3	114.0	111.3	114.0
5°	258.6	265.2	258.6	257.5	262.1	257.9	259.8	264.0	258.2	252.9	256.7
7.5°	499.2	503.4	485.0	491.6	490.0	491.2	492.3	492.3	488.9	479.3	484.6
10°	824.2	827.3	802.8	811.2	800.1	811.2	809.3	800.8	802.8	789.7	796.6
12.5°	1125.9	1135.8	1111.3	1119.3	1105.9	1118.6	1113.6	1111.3	1091.7	1091.7	1099.0
15°	1371.4	1394.1	1371.8	1380.3	1364.9	1382.6	1368.7	1374.9	1357.2	1335.4	1354.6
17.5°	1570.2	1592.5	1571.7	1582.1	1567.9	1581.7	1565.6	1578.6	1556.0	1540.3	1553.3
20°	1734.1	1750.6	1726.0	1740.6	1723.7	1737.5	1719.9	1737.1	1710.6	1699.1	1706.8
22.5°	1876.8	1883.3	1870.7	1895.2	1862.2	1876.8	1855.7	1873.3	1841.9	1827.3	1829.2
25°	2029.5	2044.1	2019.9	2029.1	2006.1	2016.1	1992.3	2008.8	1969.7	1948.9	1944.7
27.5°	2114.3	2135.0	2113.6	2123.9	2100.5	2109.0	2085.2	2109.0	2069.0	2048.7	2044.1
30°	2157.3	2167.3	2153.5	2160.4	2133.9	2138.1	2113.6	2139.3	2099.4	2081.3	2079.0
32.5°	2132.4	2152.3	2134.3	2143.1	2118.5	2122.8	2099.0	2126.6	2086.7	2070.2	2062.1
35°	2099.0	2119.3	2102.4	2111.6	2089.0	2092.1	2066.7	2090.9	2044.9	2024.5	2007.3
37.5°	2006.5	2025.7	2011.5	2014.6	1992.7	1990.4	1963.1	1983.5	1938.6	1921.3	1909.8
40°	1853.4	1870.7	1859.1	1865.7	1843.8	1838.8	1820.4	1839.2	1804.3	1791.6	1775.5
42.5°	1706.8	1721.0	1710.3	1720.6	1696.1	1689.5	1673.0	1696.8	1657.3	1646.9	1635.4
45°	1537.6	1546.4	1538.0	1546.8	1523.4	1513.0	1498.1	1518.4	1479.6	1470.1	1445.1
47.5°	1313.9	1304.3	1302.7	1311.2	1282.0	1260.5	1246.7	1272.8	1216.8	1198.0	1169.2
50°	786.6	802.8	809.7	803.9	784.0	754.4	732.1	764.0	734.1	688.0	642.0
52.5°	405.2	387.2	391.0	392.9	369.1	360.3	353.0	360.3	336.9	325.0	295.9
55°	174.2	165.8	168.8	170.0	165.4	154.6	150.8	155.4	144.7	140.1	128.2
57.5°	64.5	64.5	62.5	63.3	61.8	57.9	57.2	59.1	55.6	54.5	49.9
60°	23.4	23.4	23.4	23.4	21.5	21.1	21.1	21.9	20.7	20.3	18.8
62.5°	10.0	10.4	9.6	10.0	9.6	9.2	9.6	9.2	9.2	8.8	8.8
65°	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.2	4.2
67.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	1.9	1.9	1.9
70°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
72.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
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: P170817

CATALOG NUMBER: LDA4A09927D010TE LAR35FL 4LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	11°	12°	13°	14°	15°	17.5°	20°	22.5°	45°	67.5°	90°
0°	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5
2.5°	110.5	110.1	111.7	110.1	107.4	105.9	107.8	104.0	89.0	74.1	62.9
5°	249.8	247.9	245.2	246.0	239.4	234.1	234.1	223.7	151.2	86.0	60.6
7.5°	473.5	468.9	449.3	463.5	449.7	439.0	431.7	410.6	244.4	98.6	56.0
10°	782.0	774.0	760.2	762.8	740.2	722.2	700.3	665.0	351.5	109.7	50.3
12.5°	1086.3	1078.3	1041.4	1062.5	1032.2	1014.6	977.7	936.3	467.0	115.1	44.9
15°	1344.6	1337.7	1297.4	1317.3	1280.1	1263.6	1216.0	1170.0	583.6	113.2	39.1
17.5°	1545.3	1544.1	1497.7	1517.6	1476.6	1463.1	1407.5	1362.2	678.0	104.8	35.3
20°	1699.9	1697.2	1650.4	1670.4	1625.5	1612.4	1541.8	1494.2	737.9	93.2	34.2
22.5°	1821.9	1816.6	1766.3	1783.6	1733.3	1716.4	1638.5	1589.0	762.5	86.0	42.2
25°	1931.7	1922.1	1864.9	1878.3	1823.1	1826.5	1709.5	1655.0	754.4	96.7	86.7
27.5°	2028.4	2011.1	1953.5	1957.4	1892.5	1858.8	1758.2	1698.0	717.6	107.8	80.6
30°	2064.4	2047.6	1986.5	1988.8	1921.3	1873.7	1766.3	1699.1	629.3	67.5	29.2
32.5°	2044.5	2026.1	1962.4	1963.1	1893.7	1845.3	1738.3	1664.2	511.9	44.5	22.3
35°	1986.5	1967.4	1904.0	1907.1	1840.0	1792.0	1687.2	1608.2	392.2	35.3	16.5
37.5°	1888.7	1875.3	1815.0	1820.4	1763.2	1712.2	1605.9	1520.3	276.7	25.3	10.4
40°	1762.8	1752.5	1694.1	1702.6	1640.4	1593.2	1479.3	1386.4	172.3	17.3	6.5
42.5°	1615.5	1604.4	1546.8	1553.3	1500.4	1432.8	1316.6	1211.4	90.2	12.3	4.6
45°	1431.7	1418.6	1360.3	1363.8	1301.2	1222.2	1101.7	1008.8	59.1	8.4	3.5
47.5°	1142.7	1119.3	1043.3	1040.3	989.2	859.9	688.8	557.6	39.1	5.8	2.3
50°	628.2	604.0	537.2	529.9	473.1	388.3	287.0	223.3	22.6	3.8	1.9
52.5°	285.9	273.2	242.1	237.1	213.0	176.5	135.8	111.7	13.0	2.7	1.5
55°	123.9	119.3	106.3	105.5	94.4	81.7	65.2	55.3	7.7	1.9	1.2
57.5°	48.7	47.2	44.5	42.6	38.4	34.2	28.4	23.8	5.0	1.5	1.2
60°	18.4	18.0	16.5	16.9	15.3	14.6	12.7	10.7	3.1	1.2	1.2
62.5°	8.4	8.4	8.1	8.1	7.7	6.9	6.1	5.8	1.9	1.2	1.2
65°	4.2	4.2	3.8	3.8	3.8	3.5	3.1	3.1	1.2	1.2	1.2
67.5°	1.9	1.9	1.9	1.9	1.9	1.5	1.5	1.5	0.8	1.2	1.2
70°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.2	1.2
72.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.8	1.2	1.2
75°	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.8	1.2	1.2
77.5°	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.8	1.2	1.5
80°	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.8	1.2	1.5
82.5°	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.8	1.2	1.5
85°	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.8	1.2	1.5
87.5°	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.8	1.2	1.5
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: P170817

CATALOG NUMBER: LDA4A09927D010TE LAR35FL 4LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	112.5°	135°	157.5°	180°
0°	64.5	64.5	64.5	64.5
2.5°	54.1	48.0	42.6	41.4
5°	44.5	35.3	29.5	28.4
7.5°	36.1	25.7	21.5	20.7
10°	29.5	20.7	16.9	16.1
12.5°	24.6	16.9	13.4	12.7
15°	21.1	15.0	12.3	12.3
17.5°	20.3	16.5	15.7	16.1
20°	26.5	29.9	35.7	36.1
22.5°	61.4	99.8	132.0	138.1
25°	110.5	120.9	117.8	123.2
27.5°	58.3	45.7	46.4	47.6
30°	25.3	28.0	29.5	31.1
32.5°	21.1	21.9	22.3	23.4
35°	13.8	13.8	13.4	13.8
37.5°	8.4	8.1	7.7	7.7
40°	5.4	5.0	4.6	4.6
42.5°	3.8	3.1	2.7	2.7
45°	2.7	1.9	1.5	1.2
47.5°	1.9	1.2	0.8	0.4
50°	1.5	1.2	0.4	0.0
52.5°	1.2	0.8	0.4	0.0
55°	1.2	0.8	0.0	0.0
57.5°	1.2	0.8	0.0	0.0
60°	1.2	0.8	0.0	0.0
62.5°	1.2	0.8	0.0	0.0
65°	1.2	0.8	0.4	0.0
67.5°	1.2	0.8	0.4	0.0
70°	1.2	0.8	0.4	0.0
72.5°	1.2	0.8	0.4	0.0
75°	1.2	1.2	0.4	0.0
77.5°	1.5	1.2	0.4	0.0
80°	1.5	1.2	0.4	0.0
82.5°	1.5	1.2	0.4	0.0
85°	1.5	1.2	0.4	0.4
87.5°	1.5	1.2	0.4	0.0
90°	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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











(END OF REPORT)