

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: P170897

Luminaire Tested: **LDA4A28927D010TE LAR35FL 4LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P170897
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: LDA4A28927D010TE LAR35FL 4LLWW1
Description: PORTFOLIO 4" Lensed Wall Wash, Self-flanged, 35° Flood Optic, at 30° tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1767.8 lumens
Efficiency: N/A
Efficacy: 39.7 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

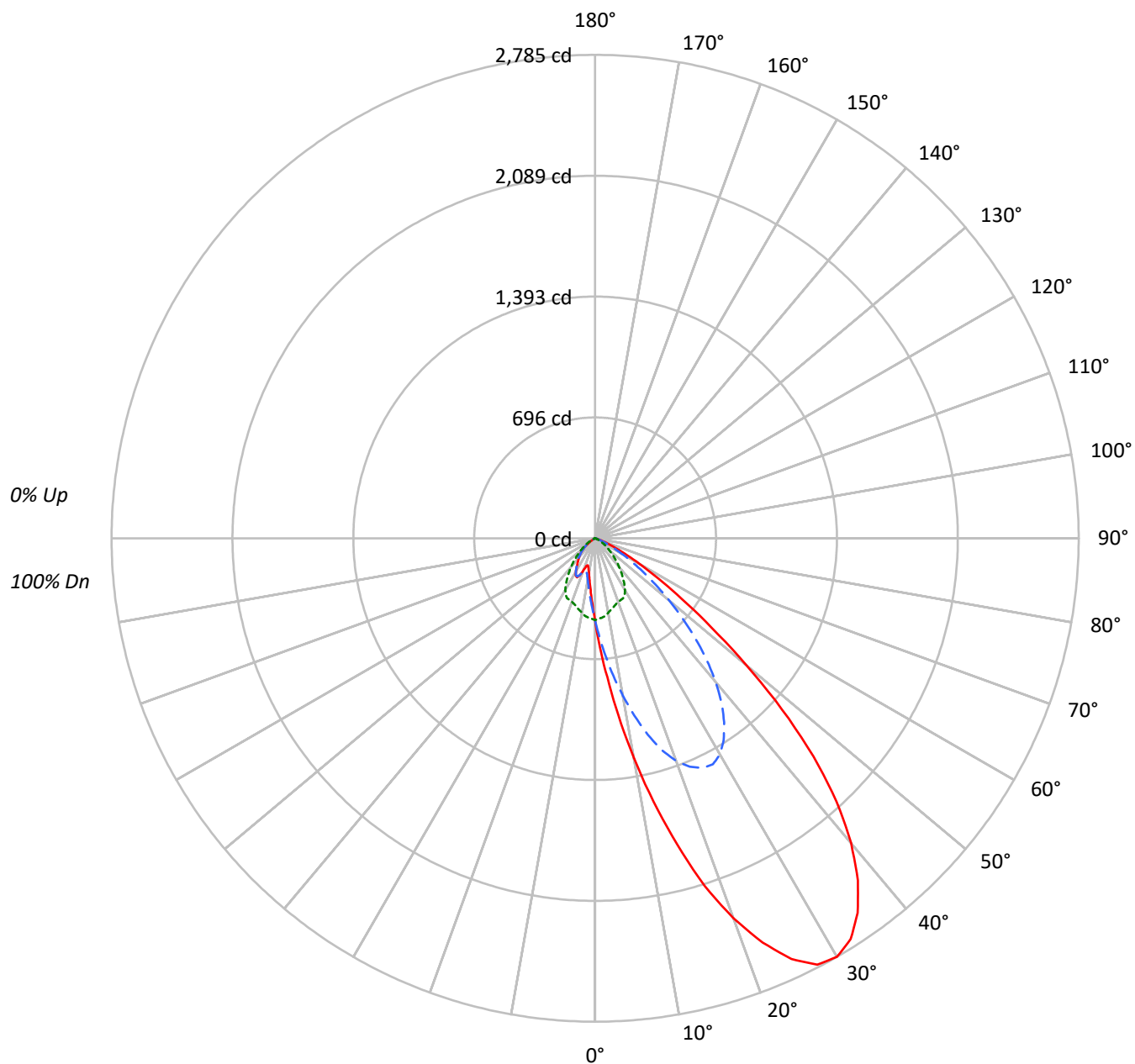
Input Watts (W): 44.49
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
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°	58231	58231	58231
5°	99375	56807	37096
10°	160619	54558	25338
15°	233366	52381	20610
20°	305617	51231	25688
25°	363964	51907	33847
30°	396646	48966	31491
35°	396696	41785	26637
40°	369194	34538	23138
45°	310097	27003	19868
50°	217663	20149	14641
55°	131006	14494	8086
60°	72281	9276	3010
65°	34848	4524	321
70°	13957	1587	397
75°	4194	1048	0
80°	1563	1563	0
85°	4670	3114	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.7	2.9
10°-20°	200.7	11.4
20°-30°	406.9	23.0
30°-40°	494.5	28.0
40°-50°	390.2	22.1
50°-60°	176.7	10.0
60°-70°	41.7	2.4
70°-80°	4.5	0.3
80°-90°	2.0	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°	658.3	37.2
0°-40°	1152.7	65.2
0°-60°	1719.7	97.3
0°-90°	1767.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1767.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	472	472	472	472	472	
5°	803	676	459	336	300	92
15°	1828	1171	410	195	161	532
25°	2674	1460	381	243	249	1224
35°	2634	1295	278	180	177	1627
45°	1778	817	155	113	114	1345
55°	609	334	67	45	38	575
65°	119	71	16	3	1	135
75°	9	4	2	1	0	14
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°	472.1	472.1	472.1	472.1	472.1	472.1	472.1	472.1	472.1	472.1	472.1
2.5°	626.8	611.4	611.4	600.3	609.2	591.5	594.8	593.7	604.7	601.4	591.5
5°	802.6	789.4	788.3	773.9	784.9	761.7	762.8	759.5	771.7	759.5	745.1
7.5°	1029.3	1006.1	1004.9	988.4	999.4	969.6	968.5	961.8	972.9	949.7	928.7
10°	1282.4	1249.3	1247.1	1227.2	1239.3	1200.6	1197.3	1186.3	1194.0	1157.5	1127.7
12.5°	1553.3	1516.8	1512.4	1491.4	1502.4	1456.0	1447.2	1432.8	1436.1	1383.0	1343.2
15°	1827.5	1796.5	1792.1	1770.0	1781.0	1723.6	1709.2	1691.5	1688.2	1617.4	1566.6
17.5°	2100.6	2037.5	2057.4	2035.3	2045.3	1977.8	1959.0	1936.9	1924.8	1837.4	1773.3
20°	2328.3	2274.1	2288.5	2268.6	2277.4	2200.1	2176.8	2149.2	2128.2	2023.2	1949.1
22.5°	2520.7	2464.3	2456.5	2456.5	2462.1	2378.0	2347.1	2316.1	2286.3	2161.4	2086.2
25°	2674.3	2612.4	2603.6	2601.4	2602.5	2514.0	2477.5	2443.3	2404.6	2267.5	2185.7
27.5°	2769.4	2704.2	2694.2	2693.1	2687.6	2596.9	2556.0	2518.5	2472.0	2331.6	2239.9
30°	2784.9	2725.2	2714.1	2714.1	2699.8	2611.3	2566.0	2526.2	2474.2	2332.7	2234.3
32.5°	2738.5	2677.7	2665.5	2666.6	2643.4	2560.5	2511.8	2470.9	2416.7	2277.4	2175.7
35°	2634.5	2575.9	2564.9	2566.0	2537.2	2459.9	2409.0	2369.2	2311.7	2179.0	2075.1
37.5°	2485.3	2430.0	2419.0	2421.2	2385.8	2316.1	2264.2	2226.6	2168.0	2045.3	1943.6
40°	2292.9	2239.9	2229.9	2231.0	2192.3	2131.5	2080.7	2045.3	1986.7	1877.2	1779.9
42.5°	2059.6	2008.8	2001.1	1999.9	1962.4	1907.1	1857.3	1827.5	1767.8	1680.4	1587.6
45°	1777.7	1734.6	1700.3	1723.6	1684.9	1640.6	1594.2	1569.9	1513.5	1451.6	1368.7
47.5°	1460.4	1422.8	1388.6	1410.7	1375.3	1342.1	1301.2	1285.8	1234.9	1202.8	1133.2
50°	1134.3	1102.2	1071.3	1090.1	1062.4	1040.3	1008.3	1000.5	958.5	954.1	899.9
52.5°	842.4	819.2	794.9	809.3	788.3	773.9	749.6	747.4	715.3	726.3	688.8
55°	609.2	592.6	573.8	584.8	569.4	560.5	542.8	543.9	519.6	536.2	509.7
57.5°	431.2	417.9	404.6	411.3	401.3	394.7	382.5	384.7	379.2	384.7	365.9
60°	293.0	285.2	275.3	280.8	272.0	268.6	260.9	262.0	248.7	266.4	253.2
62.5°	192.4	186.8	186.8	183.5	176.9	174.7	170.3	170.3	162.5	175.8	166.9
65°	119.4	117.2	116.1	113.9	109.4	108.3	105.0	105.0	99.5	109.4	102.8
67.5°	70.8	69.6	68.5	67.4	64.1	63.0	61.9	60.8	57.5	64.1	59.7
70°	38.7	38.7	37.6	36.5	34.3	34.3	33.2	33.2	31.0	34.3	31.0
72.5°	18.8	18.8	17.7	17.7	16.6	16.6	15.5	15.5	14.4	16.6	14.4
75°	8.8	8.8	7.7	7.7	7.7	7.7	6.6	6.6	6.6	7.7	6.6
77.5°	4.4	4.4	4.4	4.4	3.3	3.3	3.3	3.3	3.3	3.3	3.3
80°	2.2	2.2	2.2	2.2	2.2	1.1	1.1	1.1	1.1	2.2	2.2
82.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
85°	3.3	3.3	3.3	3.3	4.4	3.3	4.4	4.4	4.4	4.4	4.4
87.5°	4.4	4.4	4.4	4.4	4.4	5.5	5.5	5.5	4.4	5.5	4.4
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°	472.1	472.1	472.1	472.1	472.1	472.1	472.1	472.1	472.1	472.1	472.1
2.5°	594.8	585.9	589.3	579.3	571.6	568.3	568.3	567.1	515.2	463.2	426.7
5°	744.0	727.5	729.7	712.0	704.2	693.2	689.9	675.5	562.7	458.8	388.0
7.5°	920.9	896.6	882.2	865.6	855.7	835.8	825.8	797.1	606.9	450.0	350.5
10°	1111.1	1076.8	1053.6	1027.1	1017.1	986.2	967.4	918.7	645.6	435.6	315.1
12.5°	1316.7	1270.3	1228.3	1199.5	1187.4	1127.7	1115.5	1045.9	681.0	422.3	286.3
15°	1527.9	1469.3	1416.2	1375.3	1359.8	1301.2	1263.6	1170.8	712.0	410.2	264.2
17.5°	1715.8	1652.8	1588.7	1535.6	1513.5	1430.6	1395.2	1280.2	735.2	398.0	252.1
20°	1882.8	1806.5	1739.0	1666.1	1640.6	1546.7	1489.2	1365.4	748.5	390.3	253.2
22.5°	2009.9	1922.6	1845.2	1763.4	1731.3	1628.5	1563.3	1424.0	752.9	384.7	260.9
25°	2102.8	2005.5	1919.2	1829.7	1792.1	1682.7	1610.8	1460.4	751.8	381.4	264.2
27.5°	2150.3	2046.4	1953.5	1857.3	1816.4	1703.7	1626.3	1468.2	736.3	368.1	264.2
30°	2143.7	2034.2	1936.9	1837.4	1793.2	1681.5	1601.9	1438.3	703.1	343.8	245.4
32.5°	2085.1	1973.4	1873.9	1774.4	1730.2	1620.7	1541.1	1377.5	655.6	311.8	220.0
35°	1987.8	1877.2	1778.8	1681.5	1637.3	1531.2	1453.8	1294.6	601.4	277.5	196.8
37.5°	1860.6	1753.4	1658.3	1569.9	1519.0	1419.5	1344.4	1196.2	541.7	246.5	176.9
40°	1702.6	1600.8	1511.3	1429.5	1375.3	1283.5	1215.0	1080.1	478.7	214.5	158.1
42.5°	1520.1	1425.1	1352.1	1270.3	1209.5	1128.8	1069.1	951.9	414.6	185.7	138.2
45°	1313.4	1229.4	1166.4	1094.5	1031.5	962.9	912.1	817.0	349.4	154.8	119.4
47.5°	1091.2	1021.5	972.9	913.2	851.3	796.0	756.2	679.9	287.4	129.3	101.7
50°	872.3	817.0	781.6	736.3	679.9	637.9	606.9	556.1	227.7	105.0	85.1
52.5°	671.1	631.3	606.9	573.8	524.0	495.3	473.2	437.8	173.6	85.1	68.5
55°	500.8	472.1	456.6	433.4	390.3	370.4	356.0	333.9	129.3	67.4	53.1
57.5°	361.5	342.7	332.8	317.3	281.9	269.8	259.8	246.5	94.0	52.0	38.7
60°	252.1	238.8	233.3	223.3	194.6	186.8	173.6	173.6	66.3	37.6	26.5
62.5°	166.9	158.1	155.9	148.1	126.0	121.6	118.3	116.1	45.3	25.4	15.5
65°	103.9	97.3	96.2	91.8	76.3	74.1	70.8	70.8	28.7	15.5	7.7
67.5°	59.7	56.4	55.3	53.1	42.0	40.9	38.7	40.9	16.6	7.7	3.3
70°	32.1	28.7	28.7	27.6	21.0	19.9	18.8	19.9	8.8	4.4	2.2
72.5°	15.5	13.3	13.3	12.2	8.8	8.8	7.7	9.9	4.4	2.2	2.2
75°	6.6	6.6	5.5	5.5	3.3	3.3	3.3	4.4	2.2	2.2	2.2
77.5°	3.3	3.3	3.3	3.3	1.1	1.1	1.1	2.2	2.2	2.2	2.2
80°	2.2	2.2	2.2	2.2	0.0	0.0	0.0	2.2	2.2	2.2	2.2
82.5°	2.2	1.1	1.1	1.1	0.0	0.0	0.0	1.1	2.2	2.2	2.2
85°	3.3	3.3	3.3	3.3	2.2	2.2	2.2	3.3	2.2	2.2	2.2
87.5°	4.4	4.4	4.4	4.4	3.3	3.3	3.3	5.5	3.3	2.2	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):

	135°	157.5°	180°
0°	472.1	472.1	472.1
2.5°	395.8	372.6	374.8
5°	336.1	302.9	299.6
7.5°	284.1	248.7	244.3
10°	243.2	207.8	202.3
12.5°	213.4	181.3	175.8
15°	194.6	165.8	161.4
17.5°	191.3	169.1	166.9
20°	204.5	193.5	195.7
22.5°	227.7	224.4	230.0
25°	243.2	242.1	248.7
27.5°	239.9	237.7	242.1
30°	222.2	218.9	221.1
32.5°	201.2	195.7	197.9
35°	180.2	175.8	176.9
37.5°	162.5	159.2	159.2
40°	147.0	143.7	143.7
42.5°	130.5	128.2	129.3
45°	112.8	111.7	113.9
47.5°	95.1	94.0	96.2
50°	78.5	76.3	76.3
52.5°	61.9	58.6	56.4
55°	45.3	39.8	37.6
57.5°	31.0	25.4	23.2
60°	17.7	14.4	12.2
62.5°	8.8	5.5	4.4
65°	3.3	2.2	1.1
67.5°	2.2	1.1	1.1
70°	2.2	1.1	1.1
72.5°	1.1	1.1	1.1
75°	1.1	1.1	0.0
77.5°	1.1	1.1	1.1
80°	1.1	1.1	0.0
82.5°	1.1	1.1	0.0
85°	1.1	1.1	0.0
87.5°	1.1	1.1	0.0
90°	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





— 0°-180° - - 45°-225° - - - 90°-270°











(END OF REPORT)