

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: P1191616

Luminaire Tested: **LDA4A20927D010TE LAR35FL 4LLWW1**

Issue Date: 3/3/2020

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

**Test Information**

Test Method: LM-41-14
Report Number: P1191616
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: LDA4A20927D010TE 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

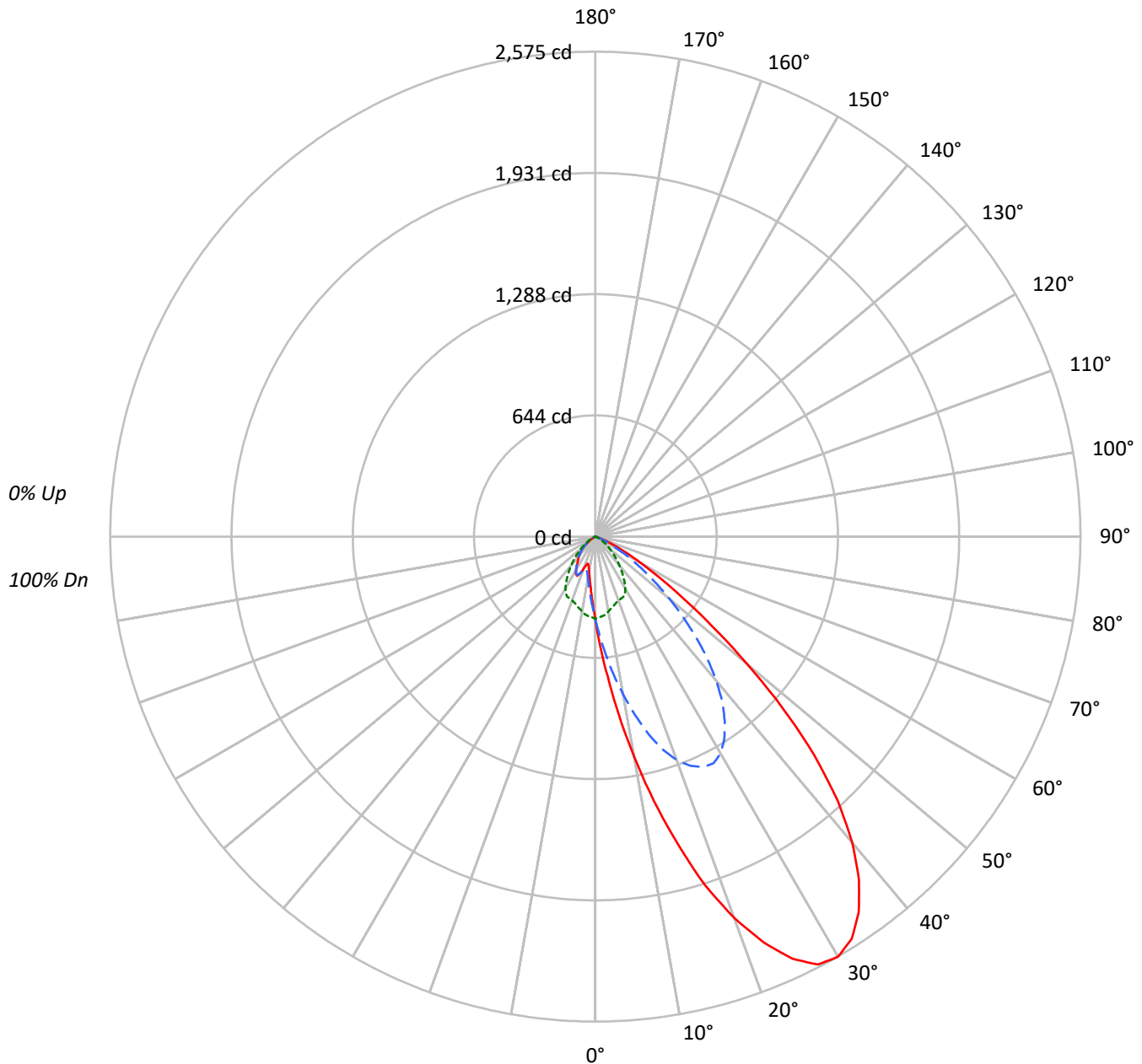
Lumens per Lamp: N/A
Luminaire Lumens: 1634.8 lumens
Efficiency: N/A
Efficacy: 56.8 lumens/watt
Spacing Criteria (0/90/45): 2.19 / 1.11 / 1.55
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 28.8
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	66	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°	53853	53853	53853
5°	91897	52535	34297
10°	148532	50450	23434
15°	215795	48423	19065
20°	282633	47359	23758
25°	336567	48001	31316
30°	366807	45292	29126
35°	366836	38638	24634
40°	341419	31946	21399
45°	286757	24962	18368
50°	201275	18652	13528
55°	121136	13419	7484
60°	66829	8585	2788
65°	32251	4174	292
70°	12911	1479	361
75°	3860	953	0
80°	1421	1421	0
85°	4246	2830	0

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Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.9	2.9
10°-20°	185.6	11.4
20°-30°	376.3	23.0
30°-40°	457.3	28.0
40°-50°	360.8	22.1
50°-60°	163.4	10.0
60°-70°	38.6	2.4
70°-80°	4.1	0.3
80°-90°	1.8	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°	608.7	37.2
0°-40°	1066.0	65.2
0°-60°	1590.3	97.3
0°-90°	1634.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1634.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	437	437	437	437	437	
5°	742	625	424	311	277	85
15°	1690	1083	379	180	149	492
25°	2473	1350	353	225	230	1132
35°	2436	1197	257	167	164	1504
45°	1644	756	143	104	105	1244
55°	563	309	62	42	35	532
65°	110	65	14	3	1	124
75°	8	4	2	1	0	13
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°	436.6	436.6	436.6	436.6	436.6	436.6	436.6	436.6	436.6	436.6	436.6
2.5°	579.6	565.3	565.3	555.2	563.3	546.9	550.1	549.1	559.2	556.2	546.9
5°	742.2	729.9	728.9	715.6	725.9	704.4	705.5	702.4	713.6	702.4	689.1
7.5°	951.8	930.3	929.3	914.0	924.3	896.6	895.6	889.5	899.6	878.2	858.8
10°	1185.9	1155.2	1153.2	1134.8	1146.1	1110.3	1107.3	1097.0	1104.1	1070.4	1042.8
12.5°	1436.4	1402.7	1398.6	1379.2	1389.3	1346.5	1338.2	1324.9	1328.1	1279.0	1242.2
15°	1689.9	1661.3	1657.2	1636.8	1647.1	1593.8	1580.6	1564.3	1561.1	1495.8	1448.7
17.5°	1942.5	1884.3	1902.7	1882.1	1891.4	1829.0	1811.6	1791.2	1779.9	1699.2	1639.8
20°	2153.2	2103.1	2116.2	2097.8	2106.1	2034.4	2013.0	1987.5	1968.1	1870.9	1802.5
22.5°	2331.0	2278.8	2271.8	2271.8	2276.8	2199.1	2170.5	2141.9	2114.2	1998.7	1929.2
25°	2473.0	2415.8	2407.7	2405.5	2406.7	2324.9	2291.2	2259.4	2223.7	2096.8	2021.2
27.5°	2561.1	2500.7	2491.6	2490.4	2485.3	2401.5	2363.7	2328.9	2285.9	2156.2	2071.3
30°	2575.4	2520.1	2509.9	2509.9	2496.6	2414.8	2373.0	2336.0	2288.0	2157.2	2066.1
32.5°	2532.4	2476.2	2464.9	2465.9	2444.5	2367.8	2322.9	2284.9	2234.8	2106.1	2012.0
35°	2436.2	2382.1	2371.8	2373.0	2346.3	2274.8	2227.7	2191.0	2137.8	2015.0	1919.0
37.5°	2298.2	2247.1	2236.9	2239.0	2206.3	2141.9	2093.8	2059.0	2004.9	1891.4	1797.2
40°	2120.4	2071.3	2062.1	2063.1	2027.3	1971.1	1924.1	1891.4	1837.2	1736.0	1645.9
42.5°	1904.7	1857.6	1850.5	1849.5	1814.6	1763.5	1717.6	1689.9	1634.8	1554.0	1468.1
45°	1643.9	1604.1	1572.4	1593.8	1558.0	1517.2	1474.2	1451.8	1399.6	1342.3	1265.7
47.5°	1350.5	1315.8	1284.1	1304.5	1271.8	1241.1	1203.3	1188.9	1142.0	1112.3	1047.9
50°	1048.9	1019.2	990.7	1008.1	982.5	962.0	932.4	925.3	886.3	882.3	832.2
52.5°	779.0	757.6	735.1	748.3	728.9	715.6	693.2	691.1	661.4	671.7	637.0
55°	563.3	547.9	530.5	540.8	526.5	518.4	502.0	503.0	480.4	495.8	471.3
57.5°	398.8	386.5	374.2	380.4	371.1	365.0	353.7	355.8	350.7	355.8	338.4
60°	270.9	263.8	254.6	259.6	251.5	248.5	241.2	242.2	230.1	246.4	234.1
62.5°	178.0	172.7	172.7	169.7	163.6	161.6	157.4	157.4	150.3	162.6	154.4
65°	110.5	108.3	107.3	105.3	101.2	100.2	97.2	97.2	91.9	101.2	95.1
67.5°	65.4	64.4	63.4	62.4	59.4	58.2	57.2	56.2	53.1	59.4	55.2
70°	35.8	35.8	34.8	33.7	31.7	31.7	30.7	30.7	28.7	31.7	28.7
72.5°	17.4	17.4	16.4	16.4	15.3	15.3	14.3	14.3	13.3	15.3	13.3
75°	8.1	8.1	7.1	7.1	7.1	7.1	6.1	6.1	6.1	7.1	6.1
77.5°	4.1	4.1	4.1	4.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0
80°	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	2.0	2.0
82.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
85°	3.0	3.0	3.0	3.0	4.1	3.0	4.1	4.1	4.1	4.1	4.1
87.5°	4.1	4.1	4.1	4.1	4.1	5.1	5.1	5.1	4.1	5.1	4.1
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°	436.6	436.6	436.6	436.6	436.6	436.6	436.6	436.6	436.6	436.6	436.6
2.5°	550.1	541.8	544.9	535.8	528.5	525.5	525.5	524.5	476.4	428.3	394.6
5°	688.1	672.7	674.8	658.4	651.3	641.0	638.0	624.7	520.4	424.3	358.8
7.5°	851.6	829.1	815.8	800.4	791.3	772.9	763.7	737.2	561.2	416.2	324.1
10°	1027.5	995.8	974.4	949.7	940.6	911.9	894.6	849.5	597.0	402.8	291.3
12.5°	1217.6	1174.8	1135.8	1109.3	1098.0	1042.8	1031.5	967.1	629.7	390.5	264.8
15°	1412.9	1358.6	1309.7	1271.8	1257.4	1203.3	1168.5	1082.7	658.4	379.2	244.3
17.5°	1586.7	1528.5	1469.1	1420.0	1399.6	1322.9	1290.2	1183.9	679.8	368.1	233.1
20°	1741.1	1670.5	1608.1	1540.7	1517.2	1430.3	1377.2	1262.6	692.1	360.8	234.1
22.5°	1858.6	1777.8	1706.3	1630.7	1601.0	1505.9	1445.7	1316.8	696.2	355.8	241.2
25°	1944.5	1854.6	1774.8	1692.0	1657.2	1556.0	1489.5	1350.5	695.2	352.7	244.3
27.5°	1988.5	1892.4	1806.5	1717.6	1679.7	1575.4	1503.9	1357.6	680.8	340.4	244.3
30°	1982.3	1881.1	1791.2	1699.2	1658.2	1555.0	1481.4	1330.1	650.3	318.0	226.9
32.5°	1928.1	1824.9	1733.0	1640.9	1600.0	1498.8	1425.1	1273.8	606.3	288.3	203.4
35°	1838.2	1736.0	1644.9	1555.0	1514.2	1416.0	1344.5	1197.2	556.2	256.6	182.0
37.5°	1720.6	1621.5	1533.6	1451.8	1404.7	1312.7	1243.2	1106.3	501.0	228.1	163.6
40°	1574.4	1480.4	1397.6	1321.9	1271.8	1186.9	1123.6	998.8	442.7	198.4	146.2
42.5°	1405.7	1317.8	1250.3	1174.8	1118.4	1043.9	988.7	880.2	383.4	171.7	127.9
45°	1214.6	1136.8	1078.6	1012.1	953.8	890.5	843.5	755.6	323.0	143.1	110.5
47.5°	1009.1	944.7	899.6	844.5	787.3	736.2	699.2	628.7	265.9	119.6	94.1
50°	806.7	755.6	722.8	680.8	628.7	589.9	561.2	514.2	210.5	97.2	78.8
52.5°	620.6	583.8	561.2	530.5	484.6	458.0	437.6	404.9	160.6	78.8	63.4
55°	463.1	436.6	422.2	400.8	360.8	342.4	329.1	308.7	119.6	62.4	49.1
57.5°	334.3	317.0	307.7	293.4	260.6	249.5	240.2	228.1	86.9	48.1	35.8
60°	233.1	220.8	215.8	206.5	180.0	172.7	160.6	160.6	61.4	34.8	24.5
62.5°	154.4	146.2	144.2	137.0	116.6	112.5	109.3	107.3	41.8	23.5	14.3
65°	96.1	89.9	88.9	84.9	70.5	68.5	65.4	65.4	26.6	14.3	7.1
67.5°	55.2	52.1	51.1	49.1	38.8	37.8	35.8	37.8	15.3	7.1	3.0
70°	29.7	26.6	26.6	25.6	19.4	18.4	17.4	18.4	8.1	4.1	2.0
72.5°	14.3	12.3	12.3	11.3	8.1	8.1	7.1	9.3	4.1	2.0	2.0
75°	6.1	6.1	5.1	5.1	3.0	3.0	3.0	4.1	2.0	2.0	2.0
77.5°	3.0	3.0	3.0	3.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0
80°	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0
82.5°	2.0	1.0	1.0	1.0	0.0	0.0	0.0	1.0	2.0	2.0	2.0
85°	3.0	3.0	3.0	3.0	2.0	2.0	2.0	3.0	2.0	2.0	2.0
87.5°	4.1	4.1	4.1	4.1	3.0	3.0	3.0	5.1	3.0	2.0	2.0
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°	436.6	436.6	436.6
2.5°	366.1	344.5	346.6
5°	310.7	280.2	277.0
7.5°	262.8	230.1	225.9
10°	224.9	192.1	187.1
12.5°	197.4	167.7	162.6
15°	180.0	153.3	149.3
17.5°	176.8	156.4	154.4
20°	189.1	179.0	181.0
22.5°	210.5	207.5	212.7
25°	224.9	223.9	230.1
27.5°	221.8	219.8	223.9
30°	205.5	202.4	204.5
32.5°	186.1	181.0	183.0
35°	166.7	162.6	163.6
37.5°	150.3	147.3	147.3
40°	136.0	132.9	132.9
42.5°	120.6	118.6	119.6
45°	104.3	103.2	105.3
47.5°	87.9	86.9	88.9
50°	72.5	70.5	70.5
52.5°	57.2	54.2	52.1
55°	41.8	36.8	34.8
57.5°	28.7	23.5	21.4
60°	16.4	13.3	11.3
62.5°	8.1	5.1	4.1
65°	3.0	2.0	1.0
67.5°	2.0	1.0	1.0
70°	2.0	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

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— 0°-180° - - 45°-225° - - - 90°-270°

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(END OF REPORT)