

Avi-on Fixture Assembly Workflow

Driver Qualification & Testing

Looking for the *Fixture Assembly Checklist*? [Click this link](#) or scan QR at right →



Take these three steps to ensure a smooth installation experience. See separate instructions for each type of controller

Verifying Dimming & Color Performance with *Commissioning & Avi-on Pro* App Tests (A)

	1 Channel Applications <i>On/Off/Dimming</i>			2 Channel Applications <i>W/C (Warm/Cool) or CCT</i>		
	LVFA (B)	IFAC	XFAC	LVFA (B)	IFAC	XFAC
Pre-qualification & Re-qualification Tests + Fixture Demonstration						
App Test: LVFA 1-Channel Dim-to-off (B)	Required					
App Test: 1-Channel Dimming Quality (A)	Required	Best Practice				
App Test: 2-Ch Dim-to-Off Both Ends of Spectrum (D)				Required		
App Test: 2-Channel W/C or CCT Quality (D)				Required		
Closed Fixture Fit Test: Control+Sensor+Antenna (E)	Best Practice					
Assembly End-of-Line (EOL) Tests						
Test Wiring: Double-Tap (C)	Required					

Fixture & Driver Qualification Steps

- 1) **Pre-qualify driver + fixture + sensor + antenna** prior to specification or purchase of your driver and fixture
 - **For LVFA applications**, always do dim-to-off tests. Do not trust 0-10v factory labels on the LED driver, especially any aux power rating
 - **Verify physical installation** of your fixture/driver/sensor combination with Avi-on Controllers (LVFA, IFAC, and XFAC) and Direct Connect™ Sensors. See separate instructions for physical instruction details
 - **Verify dimming and color quality (multi-color fixtures)** with the Commissioning App or Avi-on Pro on your fixture/driver/sensor combination using the tests in the chart above
- 2) **Dim-to-Off Driver (LVFA): Re-qualify driver + fixture + sensor + antenna** upon receipt of EACH shipment of your driver and fixture. LED Driver Manufacturers often mix manufacturing lots and substitute drivers, regardless of the label on the product
- 3) **Test 100% End-of-Line Test (EOL): Do assembly end-of-line (EOL) tests to verify proper wiring and function on 100% of all fixtures built**

Notes on Dimming & Color Performance Tests

- A. **Dimming & Color Quality App Tests.** Dimming, CCT, and W/C (warm/cool) qualification tests must be performed with the *Avi-on Mobile Commissioning* App. The two button end of line test will verify dimming and wiring for color
- B. **For All LVFA Applications: Always Do Dim-to-off Tests**
 - There is a non-App (wiring only) test that will test dim-to-off of the driver, but it will NOT test dimming quality or power supply interference
 - If you are powering the LVFA from the driver aux power it is critical to perform the dimming quality tests. Many driver aux power sources do not meet the published spec, and when a fixture controller is connected, the aux power may push flicker back into the dimming circuit
- C. **Double-Tap Test.** With the double-tap test, the fixture dims up and down twice. For warm/cool or CCT applications, the test will cycle both color and dimming. This tests dim-to-off briefly and is only useful for validating wiring during the fixture assembly stage, not fixture color changing performance
- D. **For All 2-Channel Applications**
 - The Avi-on 0-10V dimming circuit can dim ANY driver between 0% and 100% on a linear basis. If you experience an issue with color changing dimming or color calibration, the chosen driver does not have adequate capabilities for your application
 - For color changing applications to have reliable smooth dimming at all dimming and color levels, drivers need to have 0.1% minimum dimming. If the driver has a larger minimum than 0.1% dim, then it is very likely that there will be “jumps” in color and light intensity at low dimming levels
 - If you do not validate dimming, color, and dim-to-off with the *App*, and it turns out that your fixture/driver combo does not behave according to spec, you will be really sad to swap out those fixtures after they have been installed
- E. **Closed Fixture Fit Test: Control+Sensor+Antenna.** Check that your closed fit gently holds the controller, sensor, and antenna. See fixture assembly instructions for each controller (LVFA and IFAC), as well as internal and outdoor antenna guidelines