Flanders Scientific Inc.

FSI Calibration Guide

Using I1 / CalMAN / BoxIO

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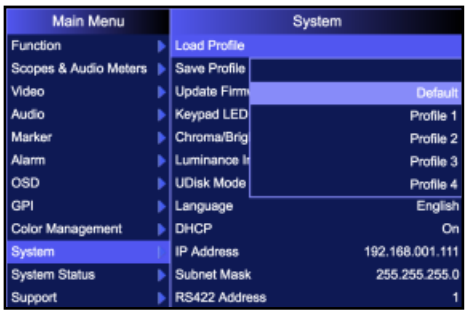


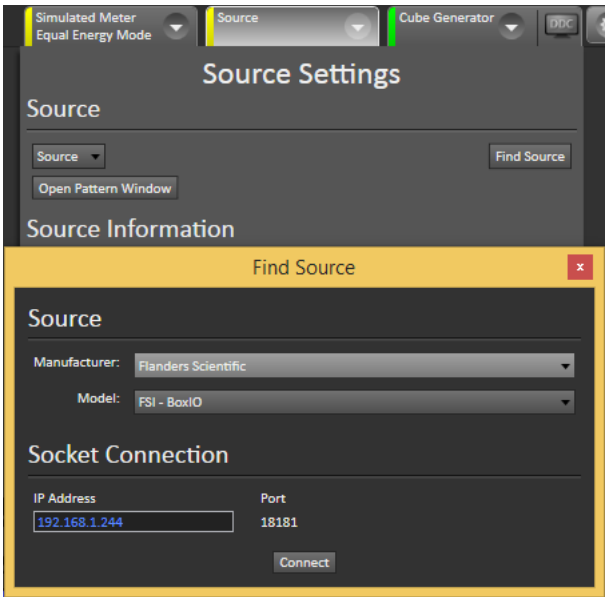
Begin by setting your FSI monitor to the default profile.
Menu > System > Load Profile > Default.
When prompted, confirm by selecting Yes.

Bypass the 3D LUT in the monitor's Color Management menu.
Color Management > LUT Bypass > 3D LUT.

Start CalMAN and select Color Cube 3D LUT as your workflow.

From the Source Tab in CalMAN select Find Source.

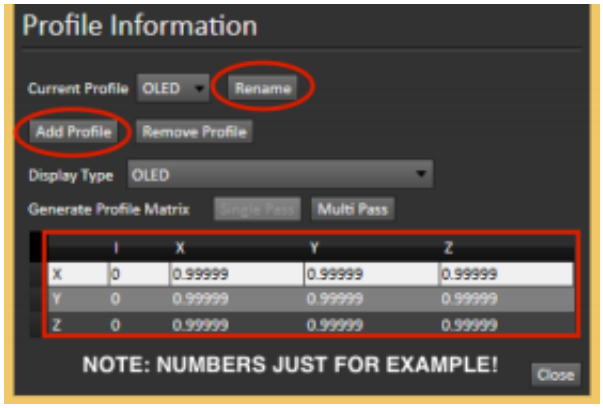
Select Flanders Scientific, then select FSI BoxIO. Enter the IP Address of BoxIO and click Connect.



With the I1 connected and the diffusor open, click on the Meters tab. Select Find Meter, then select All Meters except those listed below and click search.

Once your I1 probe is connected select New/Edit.

In the Create Profile window select Add Profile and rename the profile to match the corresponding panel type matrix screenshot that was created for your I1 probe (contact Support@FlandersScientific.com if you do not have matrix screenshots for your I1).



Change Display type and enter data from the matrix screenshot to match exactly. Note that this will only need to be done once as CalMAN stores the matrices once added.

From Direct Display Control Tab select Find Display, then select SpectraCal, then select SpectraCal - Cube Generator (3D LUT) and connect the matrices once added.

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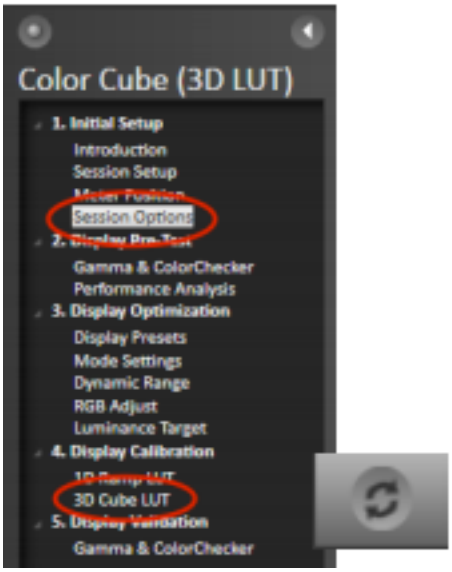
Click on Session Options on the left side and set your Calibration Standard or create your own.

We recommend changing Lum. Response Target to Power 2.4.

Once your Calibration Standard is set click on 3D Cube LUT on the left side under Display Calibration then click on the AutoCal button on the lower right hand side.

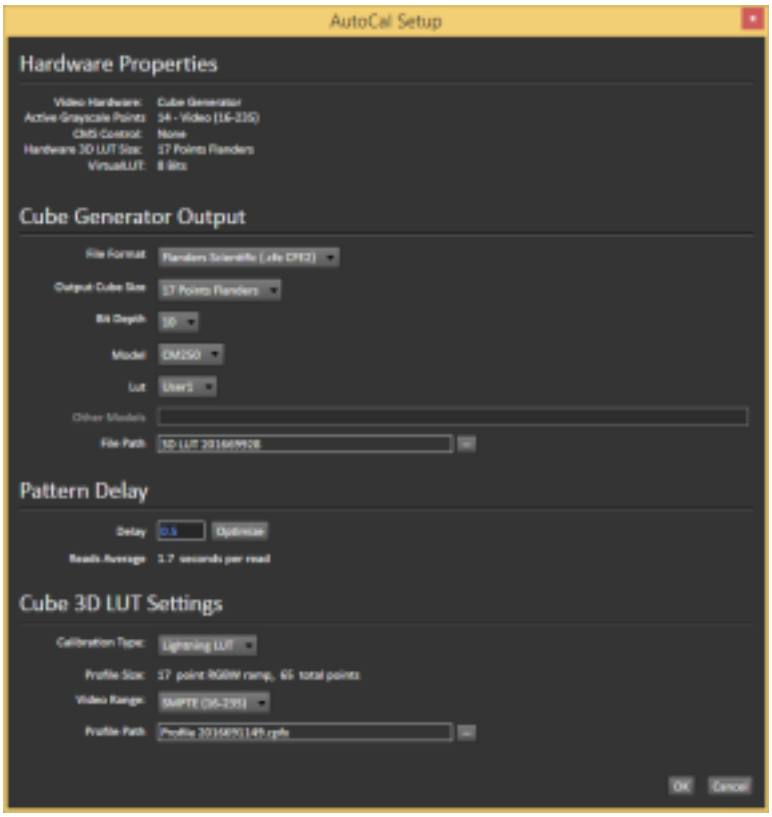
In the AutoCal Setup Window set FlandersScientific (.cfe CFE2) as the File Format and then select your monitor model from the drop-down list.



Select the LUT position name (we suggest the user1, user2 or user3 LUT positions) and location to save your LUT under the File Path option.

Select your calibration type. All selections are valid, but generally speaking larger profiles will yield better results. If you are short on time we suggest you use CalMAN's Lightning LUT capability instead of a smaller display characterization. See the appendix for more details.

Center your i1 probe in front of the screen and select OK from the AutoCal Setup window in CalMAN to begin the profiling process. Once the profile is complete your LUT file will be stored in the location previously selected.



Copy this LUT file. Finally plug the provided update cable into your computer and monitor, paste the file onto the monitor (shown as mass storage device when connected), and Select Update LUT (or Update CFE) from the Color Management (or Display Alignment menu) on your monitor.

When the LUT update is complete set LUT Bypass back to None on the monitor and then select your corresponding LUT position from the Color Management / Display Alignment menu to activate your LUT.

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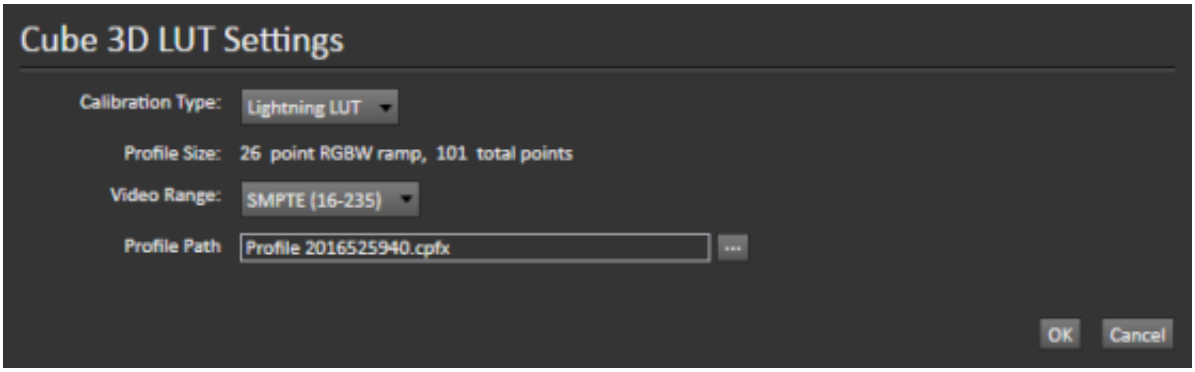
Appendix: Tips and Tricks

Short on Time?

If you have time and want to generate optimal results a large test patch sequence is ideal (3000+ patches). However, CalMAN's Lightning LUT can generate extremely good calibration results very quickly. Keep in mind that the more linear the display is the better the results will be. You can start the Lightning LUT by following the steps above. On the AutoCAL Setup page select Lightning LUT from the Calibration Type drop down and complete the remaining steps.



DCI P3 Calibration

If calibrating to a P3 target please note that the P3 setting on the monitor activates a unique gamma and white balance response separate from the standard settings. One of the two methods below may be used for accurate P3 calibration:

1. You can follow the standard procedure outlined above and save your custom P3 calibration to one of the USER positions on the monitor (e.g. user1, user2, or user3). If using this method do not save to the P3 position on the monitor as you will get a poor result.

2. The monitor may be placed in P3 mode and a unity LUT can be loaded to the P3 position. Then you will profile without bypassing the 3D LUT (bypass LUT set to none). When complete you will override the unity LUT loaded into the P3 position with your new 3D LUT.

OLED Black Level Setup and BT.1886 Calibration

The default black level of OLED monitors is effectively 0 nits (cd/m2), which is well below the accurate or repeatable thresholds of most measuring devices. A BT.1886 EOTF on a display with a black level of 0 nits is actually equal to a 2.4 gamma response. For both of these reasons it is advisable to calibrate to a target of 2.4 gamma when calibrating an OLED with black at 0 nits so that noise or junk readings are not being factored into your calibration's EOTF. Once calibration is complete you can use the "bright" knob/key on the monitor to adjust your black level higher if desired. When calibrated to a target of 2.4 with black at 0 the brightness rotary knob control maintains a BT.1886 response for any given black level. The appropriate black level is a function of both viewing environment and personal preference, but a range of 0 nits to no more than 0.05 nits is generally advisable.

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