Flanders Scientific Inc.

CRI Matrix Creation Using 3rd Party Spectroradiometer

CR100 FCMM matrix creation using CRI Utility and manual measurement entry from 3rd party spectroradiometer

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CRI Matrix Creation Using 3rd Party Spectroradiometer

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This guide is intended for users that would like to create a display specific matrix on a Colorimetry Research (CRI) CR100 colorimeter using a reference spectroradiometer from a company other than CRI. During this process you will manually enter measurement values from the 3rd party spectroradiometer. If you instead own a CRI spectroradiometer, please follow CRI's matrix creation instructions to bypass the need for any manual data entry.

Ideally a display specific matrix will be made by putting your display in its native gamut mode.

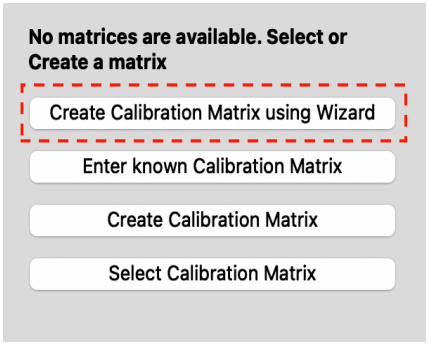
On FSI **XMP series** monitors you can accomplish this by temporarily setting the Color System on the Color Menu of the monitor to NONE. Please ensure that after your matrix is created that you return the Color System selection to GaiaColor.

On FSI **DM series** monitors you can accomplish this by selecting LUT Bypass -> 3D LUT from the monitor's color management menu, please ensure you return LUT Bypass to NONE once complete.

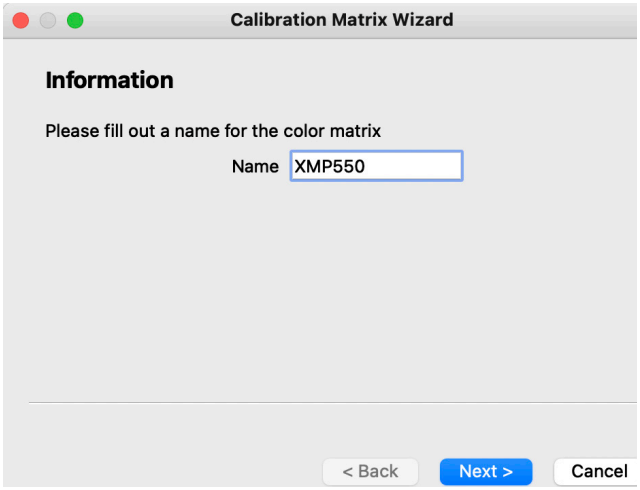
Once the monitor is set to it's native gamut mode connect the CR100 to your computer and launch the CRI Utility.

From the CRI Utility select the CR100 in the Meters window.
Select the Calibration button at the top of the program.

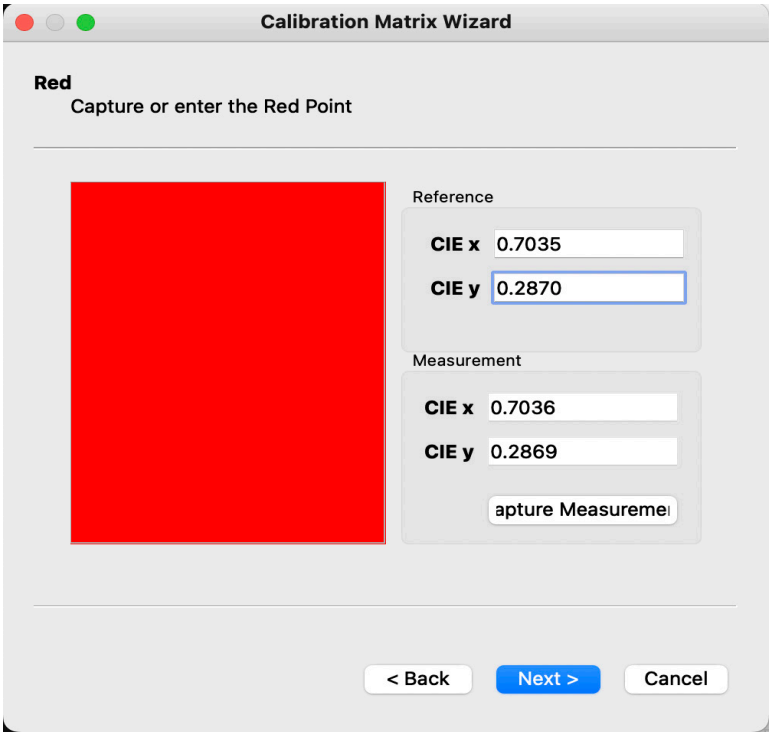
Select Create Calibration Matrix using Wizard.



Then give the matrix a name. To work with GaiaColor AutoCal the name entered here must match the name of the monitor you intend to calibrate. For example, if you are going to calibrate an XMP550 please ensure that the matrix is named XMP550 in this field, then click Next.

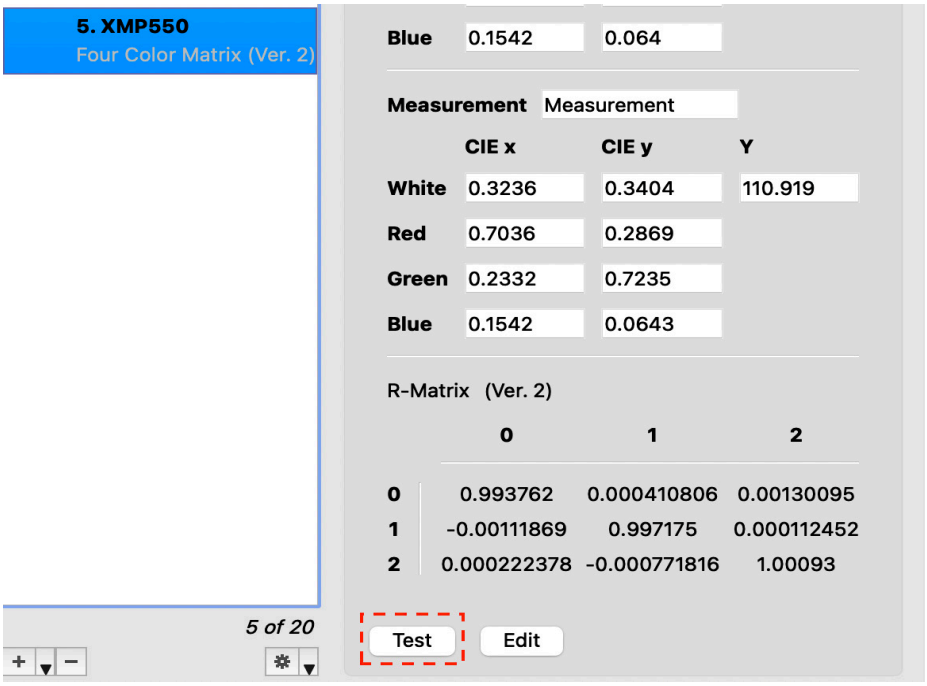


Next you will be prompted to both enter values as measured by your spectroradiometer and take a reading with your CR100 for Red, Green, Blue, and White. Please make sure you are sending those respective colors to your display when taking those readings. A test pattern generator or other reference source should ideally be used to ensure you are sending unadulterated red, green, blue, and white test patches to the screen.

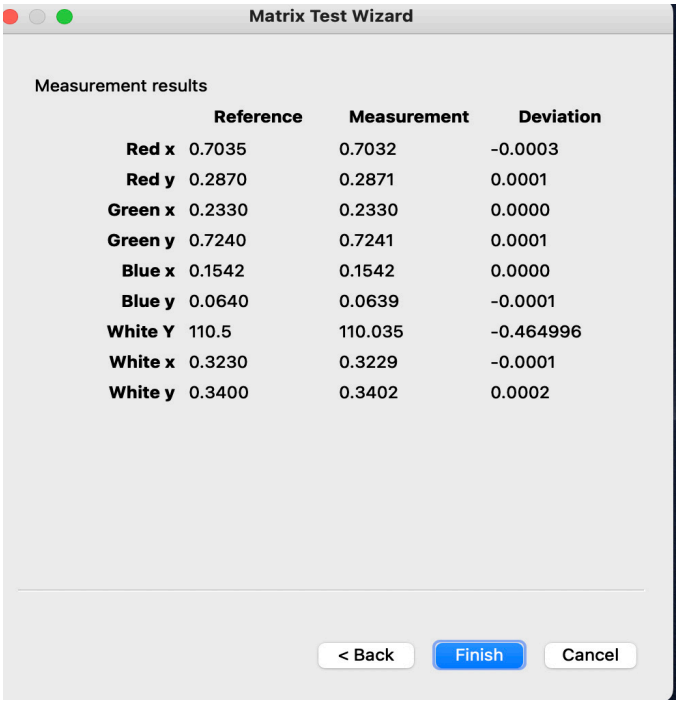


After taking the final reading for white your Matrix will be shown, select Finish to complete the process.

Once complete it is a best practice to validate your matrix. This can be easily done within the CRI Utility by highlighting the matrix you just created and then selecting TEST.



This will take you through a validation process where you can reread the measurements for Red, Green, Blue, and White with your custom display specific matrix now active. A close match with minimal deviation indicates your matrix was successfully created.



Please note all measurements / data in this document are for illustrative purposes only and not from an FSI display, please do not simply copy these numbers as they will not generate an appropriate matrix.