Wavelength Check procedure for Spectroradiometers

PREREQUISITE

Any Mercury or Helium gas lamp can be used for this test.
Colorimetry Research manufactures and recommends the mercury gas light source model WC-250.

Colorimeter Utility Version 1.41 or later
The Colorimeter Utility is parts of the CRIApp application package which can be downloaded from http://www.colorimetryresearch.com/downloads/#application

PROCEDURE

⊛ Place the rubber hood of the Spectroradiometer aligned and against the white diffuser of the WC-250 as shown on Figure 1.
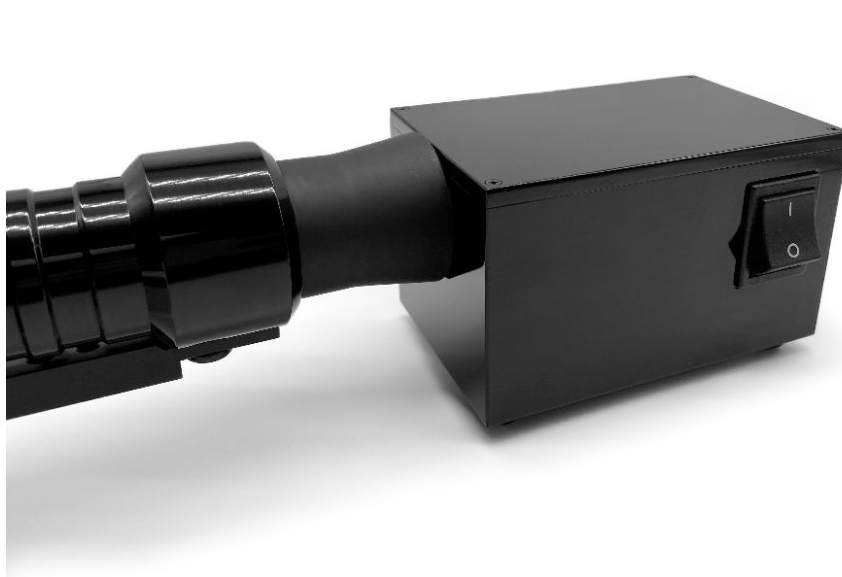

Figure 1: CR-250 with WC-250

⊛ Turn the power switch to the ON position and let the light source warm up for 5 minutes

⊛ Connect the Spectroradiometer USB cable to your computer, and then run the Colorimeter Utility

→ Click on the Setup icon ⦿ Setup and set Sync: Manual 60 Hz (or 50 Hz depending on to the power line frequency of your country)
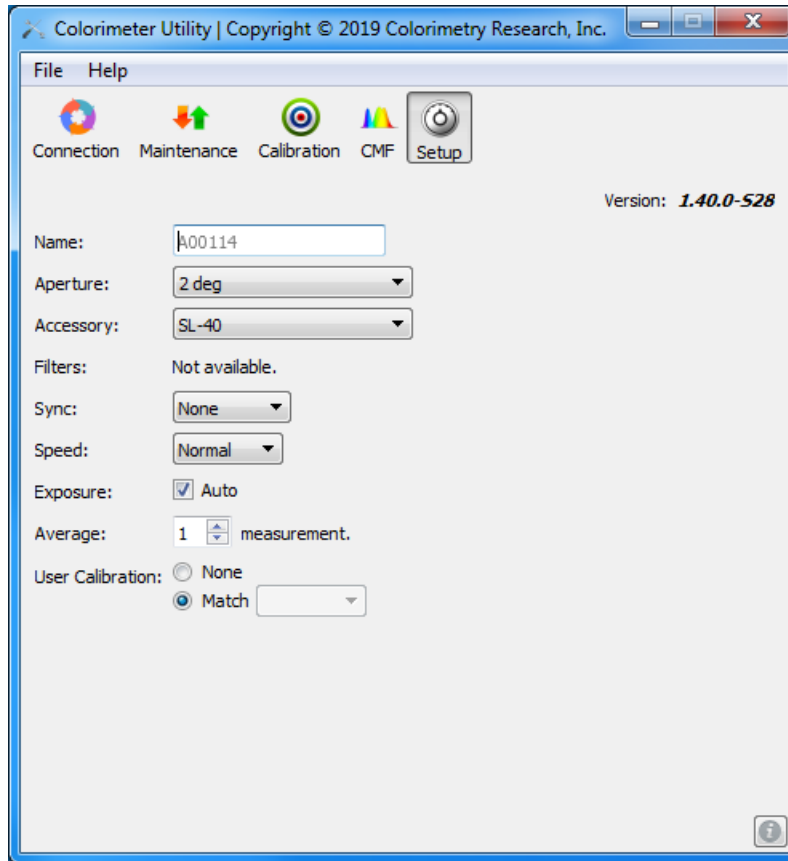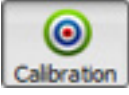

Figure 2: CR-250 Spectroradiometer Setup

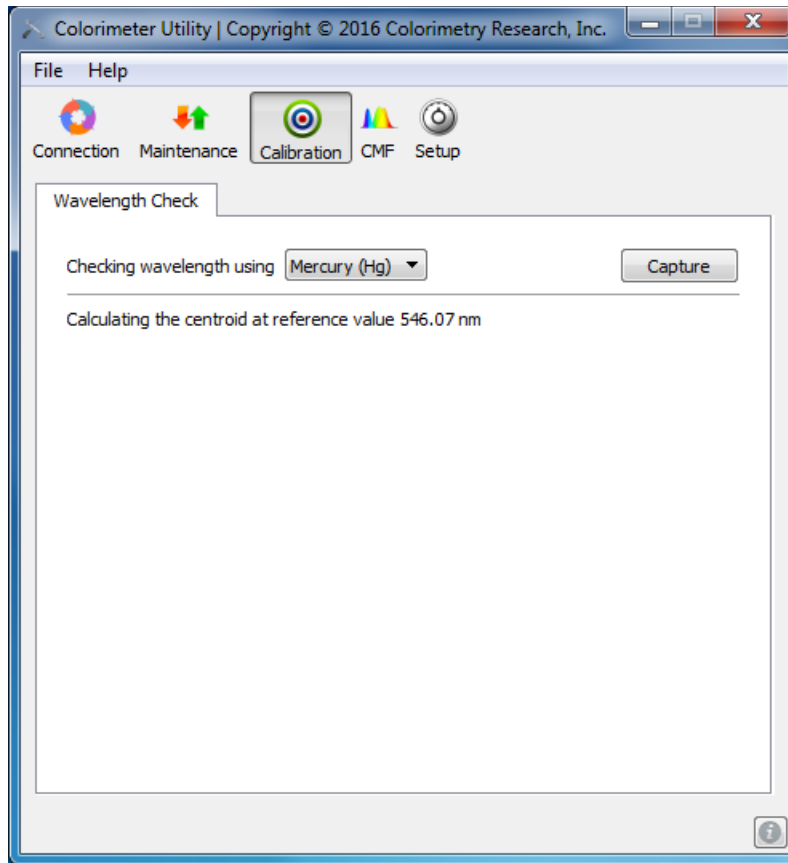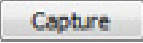→ Click on the Calibration Icon ⦿ Calibration and select the type of source you are using (Mercury or Helium)

Figure 3: Wavelength Check

➔ Click on Capture [Capture] and wait for the instrument to perform a capture and return with a test result

RESULTS

Possible results are

Pass	👍	**Message: Wavelength accuracy is within factory specifications** A pass doesn't warrant the unit is in perfect calibration but indicates that if there is some deviation this is usually small.
Fail	👎	**Message: Wavelength accuracy does not meet factory specifications.** A fail of the wavelength check is definitely an indication that the unit needs recalibration.
Warning	⚠️	**Message: Reduced wavelength accuracy, unit should be recalibrated.**
Error	❌	**Message: Invalid measurement spectrum is encountered.**