Agrosta®Roxanne

Smart Colorimeter + IR

Agrosta®Roxanne has been designed in 2023 in order to provide a simple and efficient colorimeter (spectrophotometer) coming with machine learning

Roxanne comes with :

- The measurement unit itself
- 2 softwares for Windows on a USB stick
- Usb cable

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1/ SETUP

- Connect the USB stick :

- Then double click on **Agrosta_Driver** in order to install the driver
- Connect the Roxanne colorimeter to your computer using the Usb cable provided
- It should make a small sound as driver recognizes the device

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2 executable files are availabl, corresponding to the 2 softwares (You can make a shortcut on your desktop if you want) :

- The first file, USE is the sofware for using the device, either with or without using machine learning (Roxanne can be used as a simple colorimeter)

- The second file, TEACH the software for teaching the device (Associating each sample category with a number) and creating a neural file (The neural file can be opened in the “use” software afterwards)

Software TEACH :

- After having connected the device to your computer,
- Double click on TEACH
- The software starts immediately

Software USE :

- After having connected the device to your computer,
- Close the TEACH software if open
- Double click on the USE file
- The software starts immediately
- Please note that the 2 software cannot be opened simultaneously

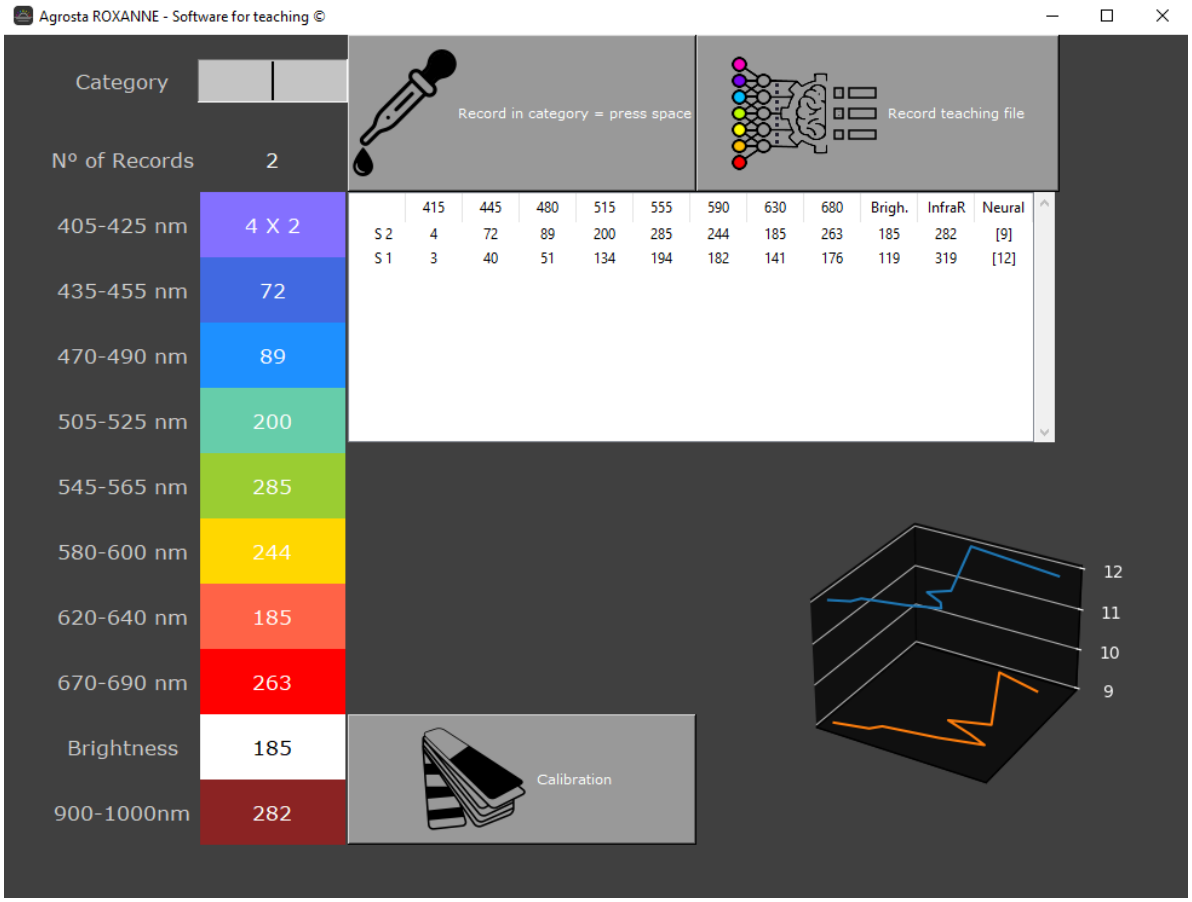
2/ CALIBRATION

- The calibration has been made in our factory using a pure white CERTIFIED REFLECTANCE STANDARD from **labsphere** at a temperature of 20°C
- Please note that the cost of this standard is more than € 1500
- Thus it can be difficult to make the calibration in the same conditions at user location
- You can use any “pure white” sheet of paper in order to re-make the calibration if you want

3/ TEACHING SOFTWARE DETAILS

- Prepare your samples by category (Example with lemon hereafter, categories 1, 2 and 3)

- Connect your device to the computer, and start the TEACH software



- First fill the category corresponding to the sample you are going to measure
- Then place the sample on the sensor head

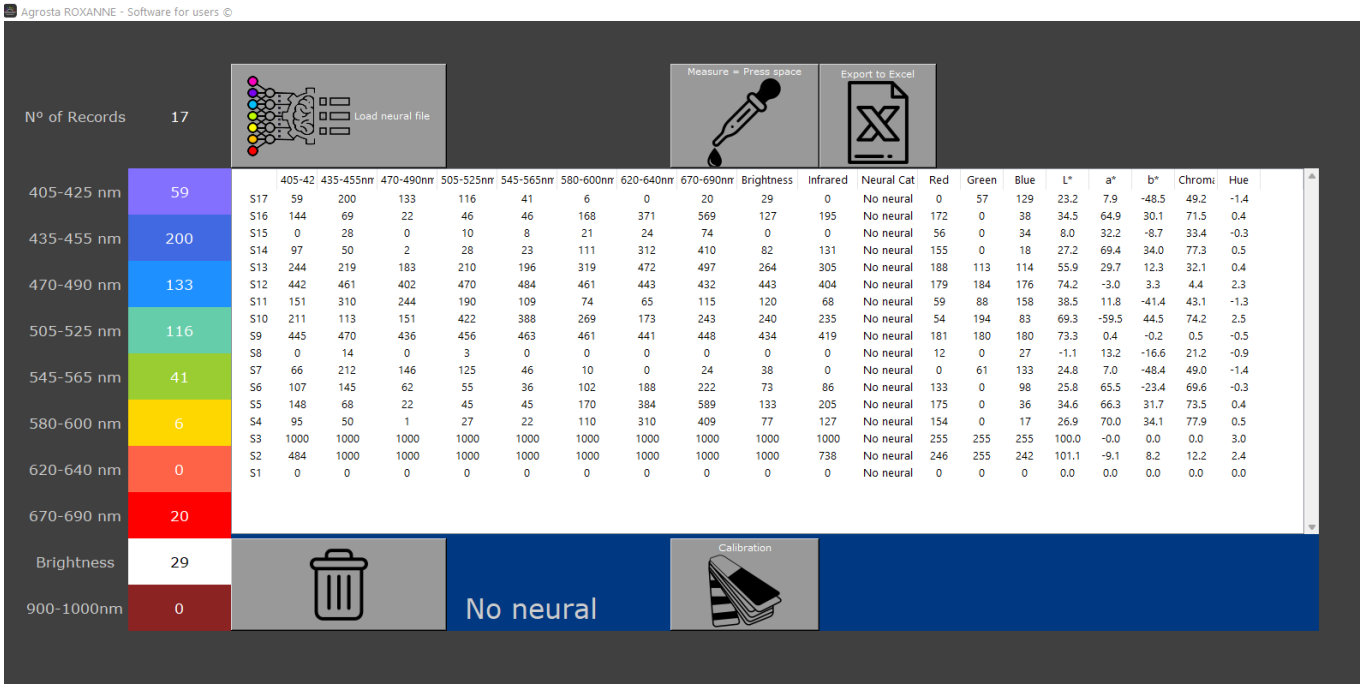
- Then press the “SPACE” key on your keyboard in order to launch the measurement
- The aim of this software is to generate a neural file that will store the teaching model
- The more samples you test for each category, the more your neural file will be accurate

After having tested all your samples, and covered each category several times, you can click on the button “Record Teaching File” and then give a name to the file to be created (Extension .lak to be used afterwards in the User sorftware)

4/ “USE” SOFTWARE DETAILS

- Connect your device to the computer, and start the USE software
- You can load a neural file if you want your samples to be classified – If you don’t, Roxanne will just be used as a simple colorimeter
- Then place the sample on the sensor head

- Then press the “SPACE” key on your keyboard in order to launch the measurement

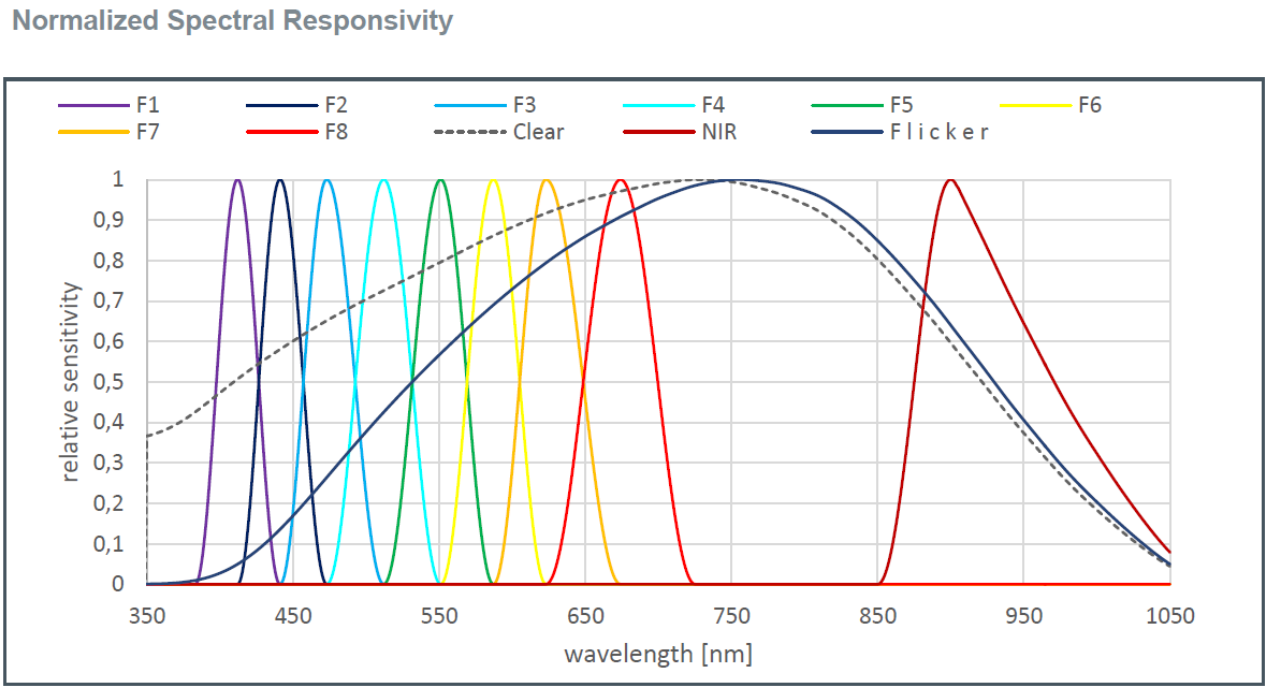


- Once you have finished to measure your samples, you can click on the button “Export to Excel” in order to save the data

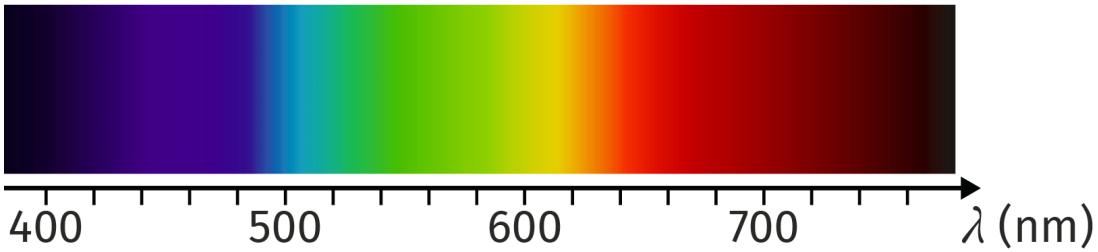
5/ SPECIFICATIONS

Agrosta®Roxanne is a spectrophotometer that measures the reflectance on a sample (between 0 and 1000 after calibration) for 9 different wavelengths

Those 9 wavelengths cover the full visible range as well as near Infrared



The accuracy on each wavelength for the visible range is 1/1000 = 0.1%, which is extremely good
The accuracy on Infrared is 10/1000 = 1%



The room temperature has an incidence on measurements – If the room temperature varies of more than 5°Celsius, re-make the calibration procedure using the small miror provided