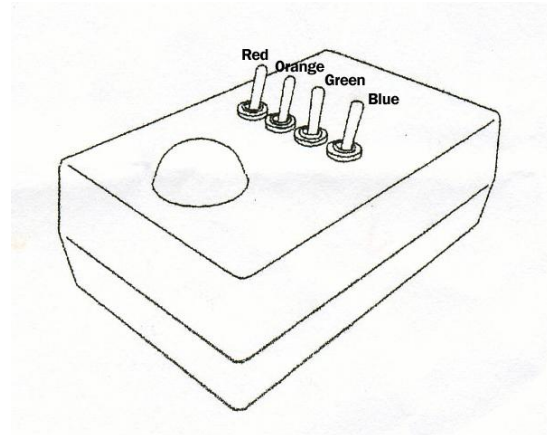


Spectroscope Calibration Light Source

P2-7059



DESCRIPTION:



The Calibration Light Source Consists of an enclosure with 4 independent LED light sources that can be turned on or off in any combination. The visible spectrum is broadly represented by the Red, Orange, Green, and Blue LED's. This light source provides a good reference to verify the proper operation of your spectroscope. The Calibration light source is also a great tool to investigate color mixing and spectroscopic identification of various colored light sources. Red = 660 nm, Orange = 610 nm, Green = 502 nm, Blue = 470 nm.

ACCESSORIES:

You will need 2 AA Batteries (**not included**) and a quantitative **spectroscope** (P2-7061) to use with the Spectroscope Calibration Light Source.

ACTIVITY:

CAPTURING SPECTRA USING A DIGITAL CAMERA

If you have a quantitative spectroscope and a digital camera (or web cam on a laptop) it's possible to capture a digital image of the spectrum for further analysis.

1. Set up the light source.
2. Aim the spectroscope's slit at the light source's diffusion dome and hold the camera lens over the eyepiece of the spectroscope.
3. Align the camera so that the spectrum is in the field of view and orient the spectroscope in relation to the light source so that the spectrum is it's brightest.
4. When the camera is focused on the numbered scale, take the photo.
5. Load the image into your computer and view it using image editing software that is capable of displaying the intensity of individual pixels.
6. Convert the image to gray scale.
7. Zoom in on the spectrum and begin recording the intensity of pixels at regular intervals across the spectrum. Also record the pixel locations of the major scale divisions to convert the pixel numbers to nanometers.
8. Enter the collected data into a spread sheet.
9. Normalize the pixel intensity to the maximum peak value and convert the pixel position to it's appropriate physical dimension (nm).

RELATED PRODUCTS:

Color Mixing Demo (P2-9550)

Color Addition Spotlights (P2-9700)

Light Box & Optical Set (P2-9561)

