

## What level of spectrometer can be used for photometry



### Overview

Ultraviolet visible (UV-Vis) spectrophotometers use a light source to illuminate a sample with light across the UV to the visible wavelength range (typically 190 to 900 nm). The instruments then measure the light absorbed, transmitted, or reflected by the sample at each wavelength.

Spectrophotometers use photometric range data to provide you with valuable insights into your products and help you ensure maximum quality assurance through color. At HunterLab, we understand color means everything and is essential to maintaining your brand integrity. The instrument may range in complexity from a simple single beam instrument, right through to dual beam or complex and sometimes highly automated instruments.

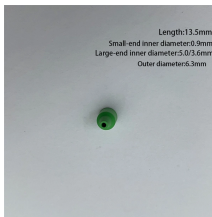
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To be useful, spectrophotometric measurements must be believable and practical. The basic standard for any believable spectrophotometric measurements is the ability to accurately compare fluxes of ...



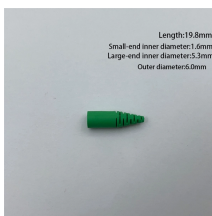
NIST Standard Reference Materials (SRMs) can be used to calibrate, validate, or characterize spectrophotometers. The catalog of SRMs related to optical properties can be found [here](#).



Photometric Range: Refers to the range of absorbance values the instrument can accurately measure, from very low (near-transparent samples) to very high (highly absorbing samples).



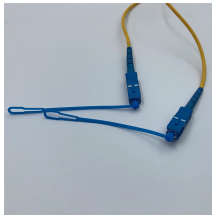
You need a spectrometer to produce a variety of wavelengths because different compounds absorb best at different wavelengths. For example, p-nitrophenol (acid form) has the maximum absorbance at ...



The photometric range spans both the visible spectrum of color and wavelengths invisible to the naked eye. Measuring the photometric range requires converting light into an electrical current ...



Although spectrophotometry is most commonly applied to ultraviolet, visible, and infrared radiation, modern spectrophotometers can interrogate wide swaths of the electromagnetic spectrum, including ...



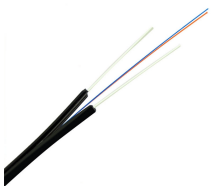
Spectrophotometers are commonly used in laboratories and in industry in order to determine the amount of light absorbed by a solution. A spectrophotometer consists of a light emission source, a sample ...



Spectrophotometers can measure either visible (white) light or ultraviolet light, down to about 190nm wavelength. Historically, the science of spectrophotometry originated through the study of visible light ...



Use the intensities you have measured to determine the solution transmittance,  $T$ .  $T$  represents the fraction of the light passing through the cell that ultimately reaches the detector.



As quartz glass is more expensive, optical glass or plastic (polystyrene) can be used when measurements below 340 nm (polystyrene) and 350 nm (optical glass) are not required.

## Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://www.indzawo.co.za>

Email: [sales@indzawo.co.za](mailto:sales@indzawo.co.za)

Phone: +27 71 296 8473

Address: 22 Quantum Street, Midrand, 1685, Gauteng, South Africa

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