

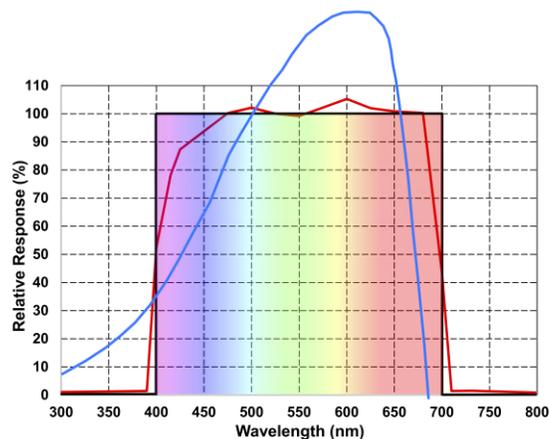
Selecting a LightScout[®] Quantum PAR Sensor

Photosynthetically active radiation (PAR) is light of wavelengths 400-700 nm, and is the portion of the light spectrum utilized by plants for photosynthesis. Spectrum Technologies offers two sensors that measure PAR light, and Plant Growth Stations that include the sensors. The sensors have the same range and accuracy specifications: Range: 0 to 3000 $\mu\text{Mol}/\text{m}^2\text{s}$, Band: 400 to 700nm, Accuracy: $\pm 5\%$. However, the differences in their spectral sensitivity suggest that a decision must be made based on the type of lighting being measured.

Ideally, a sensor would measure every shade of the spectrum exactly the same. In the chart to the right, the solid black line represents the ideal PAR light spectral sensitivity.

The red line shows the spectral sensitivity of the 3668A LightScout Full-Spectrum Quantum PAR Sensor.

The blue line indicates the spectral sensitivity of the 3668i Quantum PAR Sensor.



So which sensor is the right one for you?

3668A LightScout Full-Spectrum Quantum PAR Sensor

The 3668A sensor integrates multiple optical detector elements to accurately measure light across the entire PAR spectrum, from all light sources - including narrowband LED. This makes it the sensor to choose for all-artificial light installations, as well as locations supplementing natural light with LEDs. It also future-proofs locations currently using HPS lights, but are considering changing to LEDs.

3668i Quantum PAR Sensor

The 3668i sensor is an economical tool to measure broadband light sources. It is calibrated to accurately measure solar radiation, and other light sources can be determined by multiplying the measured value by a correction factor, such as 0.94 for metal halide lights. However, it cannot accurately measure narrowband supplemental lighting, such as the classic red/blue LED lights.

As a result, the 3668i is an effective choice when most or all of the light is provided by the sun, and supplemental lighting, if any, is provided by broadband sources such as HPS (High Pressure Sodium), metal halide, or fluorescent lights.