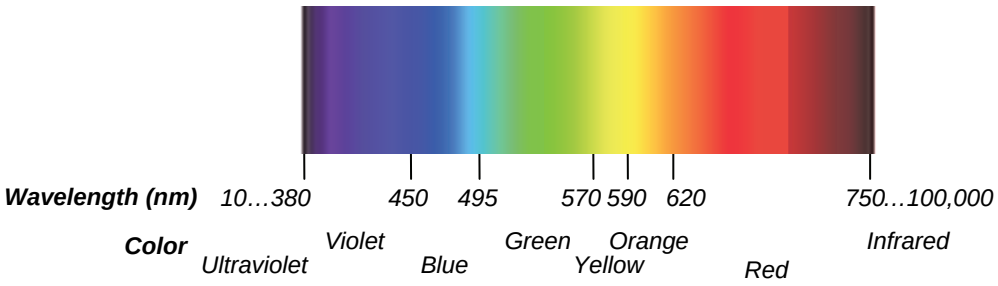
About the Cadmium Sulfide (CdS) Cell or Photoresistor

The Cadmium Sulfide (CdS) cell or photoresistor was one of the most common ambient light sensors in automatic lighting. With the advent of the European Union's Restriction of use of certain Hazardous Substances (RoHS) directive, cadmium sulfide photoresistors can no longer be built into most devices imported into or manufactured in Europe. This has increased the use of a number of photoresistor replacement products, including the phototransistor and linear light sensor. As a result of these changes, this edition now features a phototransistor for detecting light levels instead of a cadmium sulfide photoresistor.

Documentation for each light sensor describes the type of light it detects in terms of wavelength. *Wavelength* is the measure of distance between repeating shapes or cycles. For example, picture a wave traveling through the ocean, bobbing up and down. The wavelength of that wave would be the distance between each peak (or whitecap) of the wave's cycle. The wavelength of light can be measured in a similar way, instead we're measuring the distance between two peaks in the electromagnetic oscillations of light. Each color of light has its own wavelength and is considered to be *visible light*, meaning it can be detected by the human eye. Figure 7-2 shows wavelengths for visible light as well as for some types of light the human eye cannot detect, including ultraviolet and infrared. These wavelengths are measured in nanometers, abbreviated nm. One *nanometer* is one billionth of a meter.

Figure 7-2 Wavelengths and their Corresponding Colors



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