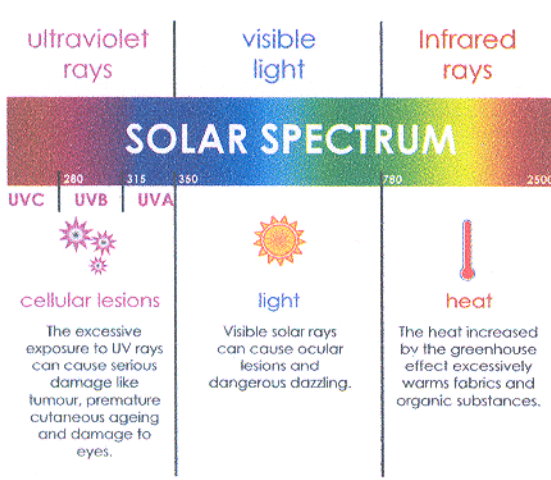


# SOLAR RADIATION

Solar radiation is an electromagnetic phenomenon. The sun emits energy to the Earth at different wavelengths forming the solar spectrum. The term solar radiation refers to the total solar energy which reaches the Earth's surface. The energy generated by the sun which arrives at Earth is practically constant and equal to  $1366 \pm 3 \text{ watt/m}^2$  outside the Earth's atmosphere, and covers a wide interval of wavelengths from 250 nm to 2500 nm. According to density, the atmosphere works as a filter on the spectrum by attenuating the various wavelengths in different ways.

There are five types of solar radiation, where the wavelength is measured in nano-meters :



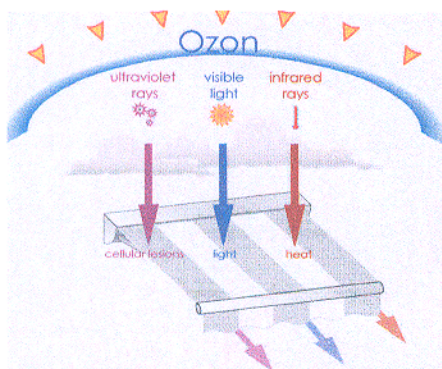
**UVC Radiation** has a wavelength between 200 nm and 280 nm. It is short wave radiation, rich in energy, absorbed by the ozone layer in the atmosphere.

**UVB Rays:** between 280 nm and 315 nm.  
This type of radiation causes suntan and damages skin.

**UVA Rays:** between 318 nm and 380 nm.  
This is partially responsible for tan and skin ageing.

**Visible light:** between 380 nm and 780 nm.

**Infrared:** between 780 nm and 2500 nm. Heat radiation.



Solar spectrum radiation is more or less filtered by various atmospheric compounds like ozone, clouds and gas compounds in the air. They reach the Earth in the shape of heat, light and colours. Damage of the ozone layer brings a major reduction of the filtering of the ultraviolet rays causing, in several cases, serious risks to health. Tempotest awnings greatly help filtration of noxious solar radiation.