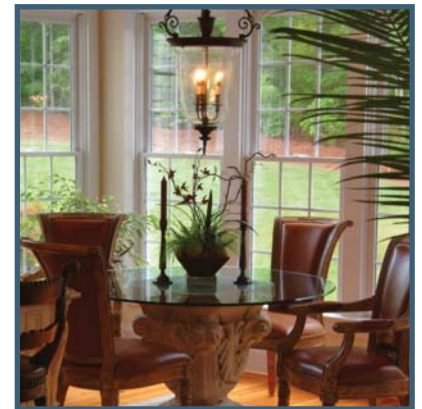
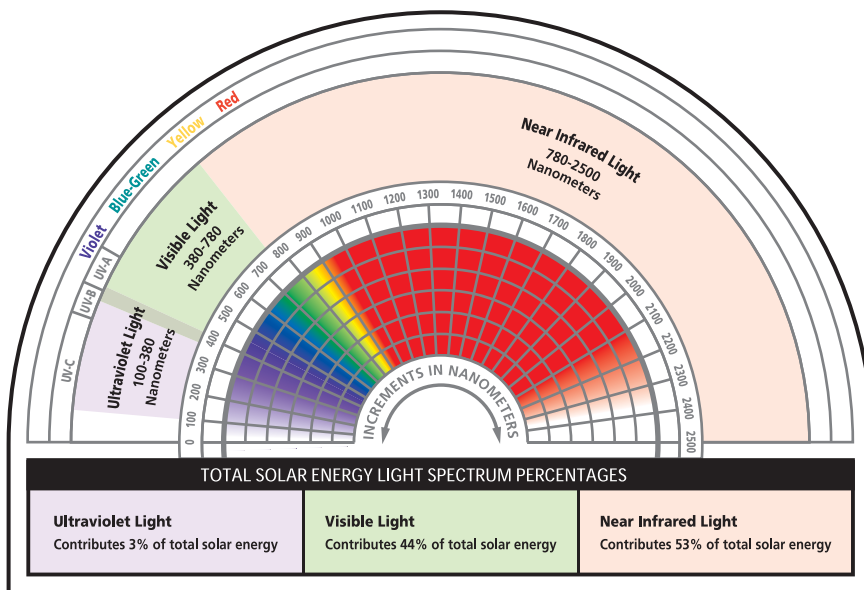


## Understanding Ultra-Violet Light and Fading

Ultra-violet Light, commonly referred to as UV light is in the low end of the nanometer range of measured light. Although it is a small factor in the overall measurement of total solar energy and doesn't contribute to solar energy we feel as heat, it affects us in many ways. Even though it isn't part of the spectrum that we feel or really see, it can be very harmful to humans as well as man-made and natural materials. The graph below shows where UV light falls in the solar spectrum:



Ultra-Violet light (UV) is responsible for 40% of the light spectrum that causes fading. Installing Sunscape window film will block out almost 100% of UV light.

### The solar spectrum consists of the following:

Ultra-Violet 3%	Visible Light 44%	Infrared 53%
100 to 380 nm	380 to 780 nm	780 to 2500

### UV light consists of three types:

**UV-A Long Wave**      315 to 400 nm Range  
Concerns: causes wrinkles and can cause skin cancer\*

**UV-B Medium Wave**      315 to 280 nm Range  
Concerns: Contributes to the development of skin cancer\*

**UV-C Short Wave**      280 to 100 nm Range  
Concerns: None because very little reaches earth

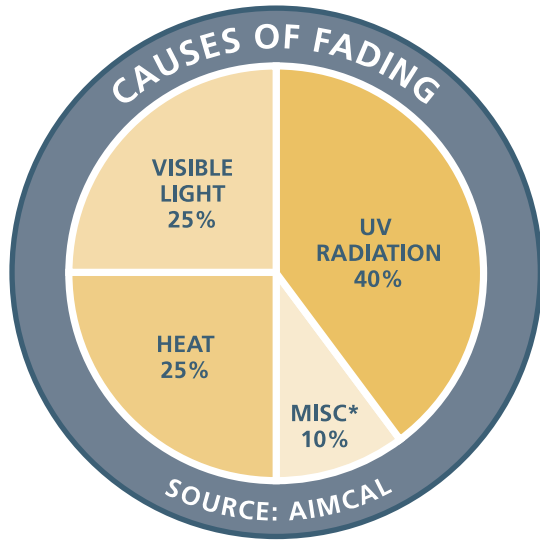
\*According to the Skin Cancer Foundation both UV-A & UV-B cause tanning and burning of the skin.



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## Understanding Ultra-Violet Light and Fading



Example of fading from light coming through unfilmed windows

To effectively control fading it is important to control not only the UV light but to control some amount of visible light and infrared heat. If you block out all of the UV light you are only blocking 40% of the cause of fading. If you blocked all the ultra-violet, visible and near infrared you would block out 90% of the cause of fading but be in the dark. In comparison, if you controlled all the UV and 50% of visible light and infrared you would control 65% of the cause of fading.

When addressing fading, be aware of several factors. Geographic location is important since locations closer to the equator are subject to more daylight hours and increased exposure to ultra-violet, visible light and near infrared. Pay attention to the types of interior lighting, as certain types of lighting generate all three aspects of the solar spectrum. Using meters to measure UV, visible light and heat can assist in discovering the actual cause of fading in a given location.

When applied to existing glass Sunscape® window films reject 99% of the sun's UV rays. This is accomplished by utilizing UV-treated polyesters and coatings as well as UV absorbers in our adhesives, therefore protecting the window film itself and providing filtered light to enter and pass through the window.

While Sunscape window film reduces fading from exterior sunlight it does not completely eliminate fading, as no window film does. However by choosing the right Sunscape window film for the situation, you can greatly reduce harmful solar rays and prolong the appearance and value of furnishings, fabrics, and finishes.



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