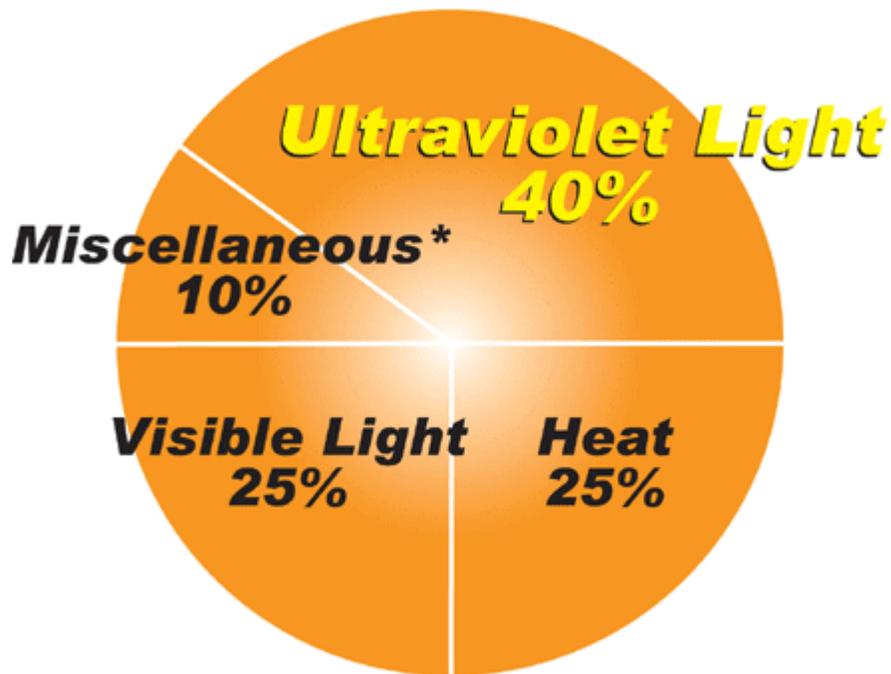


# What Causes Fading?



**\* Miscellaneous includes indoor artificial lighting, humidity, and poor dye anchorage.**

All materials fade from sunlight in time. Fading is inevitable and the same applies whether it is caused by exposure to intensive sunlight for a short time or a long exposure to the weaker light of cloudy overcast days. Here in the North East, the sun's damage can be especially harmful, because in spite of our cloudy winter months, damage from fading still continues.

Visible light and infra-red heat are other factors that contribute to fading, which is why effective film installations must harness all three sunlight elements. Ultraviolet light rays bounce off solid objects-buildings, trees, streets, etc. Therefore regardless of a window's compass orientation, you can still have a fading problem. Natural fibers like silk or wool are less fade resistant than synthetic fibers. Antiques, tapestries, rugs, etc., use less stable dyes and will fade more quickly. Fluorescent dyes are less color stable than other colors.

Severe fading can be minimized with the use of solar control window film, which blocks 99.9% of all UV rays drastically reducing the damage and enabling most fabrics and furnishings to look fresh and vibrant for years to come. No window film can totally eliminate fading.

## **What Causes Fading?**

To understand the causes of fading, one needs to know a little about the makeup of sunlight.

Sunlight is basically made up of three elements:

**Visible light** – the part which enables us to see

**Infrared light** – the part which we feel as heat

**Ultraviolet light** – we cannot feel it or see it, but it is the main factor in causing fabrics, furniture and works of art to fade.

Fading is a result of these three “sunlight “ factors and, to a lesser degree... indoor artificial lighting, humidity and poor dye anchorage play a role as well

### **Will 3M™ Sun Control Window Film stop my furnishings from fading?**

Nothing stops fading. 3M™ Sun Control Window Films are designed to help reduce the major causes of fading (ultraviolet light, visible light, and solar heat), thus helping to prolong the life and preserving the appearance of your furnishings.

As a general rule of thumb, Ultraviolet (UV) is approximately 40% of the cause of furniture fading, visible light about 25%, and heat about 25%. The remaining 10% can be attributed to humidity, pollutants, interior lights, dye anchorage, and other causes.

### **Summary Facts About Fading**

**FADING IS INEVITABLE...** all materials fade in time.

**FADING OCCURS...** whether exposure is from intense sunlight over a short period of time or weak sunlight over a long period of time.

**SEVERE FADING CAN BE MINIMIZED...** with the use of 3M™ Solar Control Window Films.

### **Reducing the Inevitability of Fading**

#### **UV Reduction:**

Average clear glass filters 25%

Dual-pane glass filters 50%

Low-E glass filters 60%

Our 3M™ Sun Control Window Films filters 99.9% of UV

Window film is an effective means by which to help reduce fading. Remember, fading can never be eliminated, however the installation of film on windows can drastically reduce the damage, enabling most fabrics and furnishings to look fresh and vibrant for years to come. And, even more importantly, the composition of the film you choose will always make a dramatic difference in the results achieved.

### **What Fades?**

Laboratory tests using Xenon arc simulated sunlight per test conditions from The American Association of Textile Chemists and Colorists show that furniture, fabrics, works of art, flooring and, even decorative wall paint fades with time (some more than others).

### **Here are some tips from the pros:**

**Wood:** Natural wood finishes are much more stable than stains or finishes which alter the color of the original wood. And, wood may actually darken with prolonged exposure to UV rather than fade to a lighter color.

**Fabrics:** Results differ depending upon fiber type, dye color and stability and/or pattern printing techniques. Fabric cost has no bearing on the degree of fade damage and expensive fabrics may be as vulnerable to fading as less expensive fabrics.

**Artwork:** From photographs to paintings, tapestries to wood sculptures, certain media will fade more rapidly than other works of art. A watercolor, for example, is far more vulnerable than an oil painting. A tapestry of bright bold colors may deteriorate more rapidly than a solid wall hanging. To be safe, never place art in direct sunlight.

**Occupants:** The sun's harmful UV rays damage more than furniture and fabrics, this is why The Skin Cancer Foundation recommends the use of Window Film as a device for the protection of skin.

[Please give us a call if you have any questions](#)

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