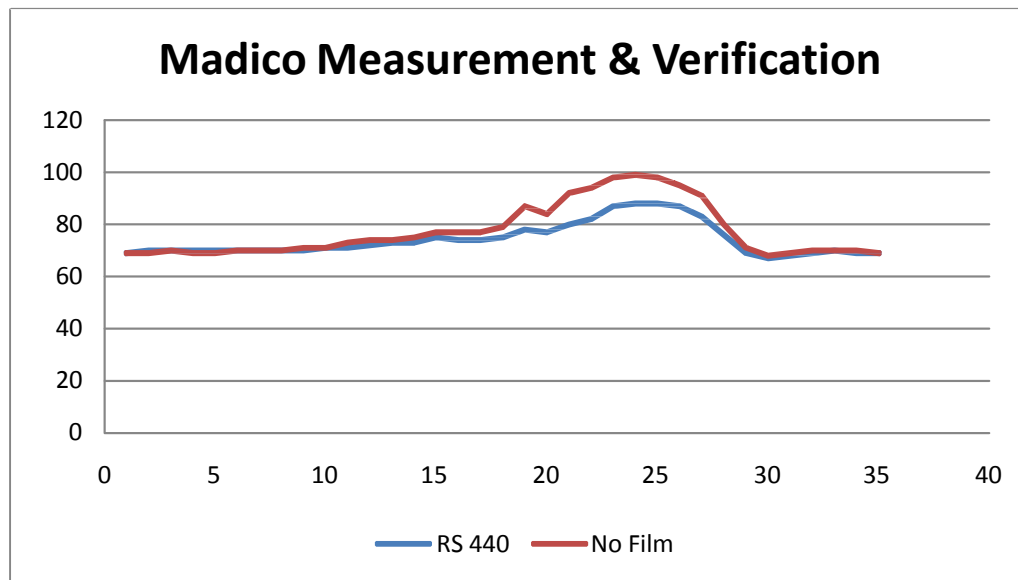


The Numbers Don't Lie



X Axis = Timeline (6hrs) Y Axis = Temperature (F)

The chart above depicts the solar heat gain coming through side by side windows, filmed versus non-filmed glass, in an actual building. Madico's RS 440 film was used in this application and temperature points were measured using data loggers. At peak sun exposure, the variance in temperature ranged from 11-12 degrees Fahrenheit. This visual representation shows graphically the fact that heat gain increases with sun exposure.

A significant change in heat gain creates major issues for a building's HVAC system as well as occupant comfort. Many building engineers will admit that some systems are trying to cool a floor on one side due to solar heat gain, while generating heat on the other side. Occupant comfort is very difficult to manage in this type of situation.

With the proper selection and application of window film a commercial property can recognize various advantages.

- **Energy Savings:** Simply stated, if solar heat gain doesn't enter through the building's glazing, you don't have to spend as much energy or money generating cold air to offset it.

- Occupant comfort: As the sun moves around the envelope of the building through a normal day's cycle, it creates hot and cold spots. An effective window film can manage the solar heat gain to greatly reduce these variances, increasing occupant comfort.
- Reduced wear on mechanical systems: Any machine that is forced to run at or near capacity will inherently have more maintenance and repair issues than one that runs at a lower percent of capacity. Film can reduce the load on mechanical equipment by managing the heat gain through the existing glass.
- Glare reduction: Glare is simply an overabundance of light. When the human eye is exposed to overwhelming amounts of light a number of physiological responses occur. The end result for an office environment is loss of productivity. Glare can be managed for optimal lighting allowing for maximum productivity.
- Daylight harvesting: While glare is often an issue, lack of light has a similar effect on the human body. Energy control window film used on existing glass can be gauged for optimal lighting. At Madico, we have the tools to simulate energy savings for multiple film selections. Once energy impacts are established, the aesthetics of the choices can then be assessed.
- Reduced deterioration of materials: Ultraviolet light, heat, and visible light contribute to 90% of the causes of fading, as well as contributing to the deterioration of the adhesives used in carpeting, wallpaper, etc. Film manages these elements by prolonging the life of any and all materials affected by solar energy as well as the heat generated from that solar energy.

As Darrell Smith, Executive Director of the International Window Film Association says "Window film works best when it's needed the most."