

**Performance & Weather - October 2014**

**Southern exposure only with limited shading is an important factor. *These tests are limited. In particular they do not include glazing on the west, north and east building faces.* As such they may not accurately reflect building envelope performance under optimal control conditions.**

**Solar panels extending 36" from the building above the windows average 0% shading during October.**

The weather and temperature information gathered is based on the U.S. Postal Code for the Chicago Center for Green Technology (60612) and sourced through the [WeatherUnderground website](#).

The room is approximately 47 feet wide from east to west. The windows being tested are at opposite ends, approximately 40 feet apart. They are double glazed, wood cased with no films applied or gasses present. The window wells are quite deep. At almost exactly 11" from the inside face of the glass to the face of the shades there is ample room for convection currents.

The ceilings are 128" high, there are four HVAC vents equally spaced across the ceiling. Both the vents and ducts are exposed. The thermostat dedicated to the room is on the opposite wall. Daily records of thermostat settings have not been available. It is safe to assume an average setting of 72°F.

High and Low temperatures originate from the graphs below. Temperatures were confirmed and averages were taken from the Onset data spreadsheets.

East Windows = Shades **permanently deployed** throughout test period.  
West Windows = Shades **permanently raised** throughout test period.

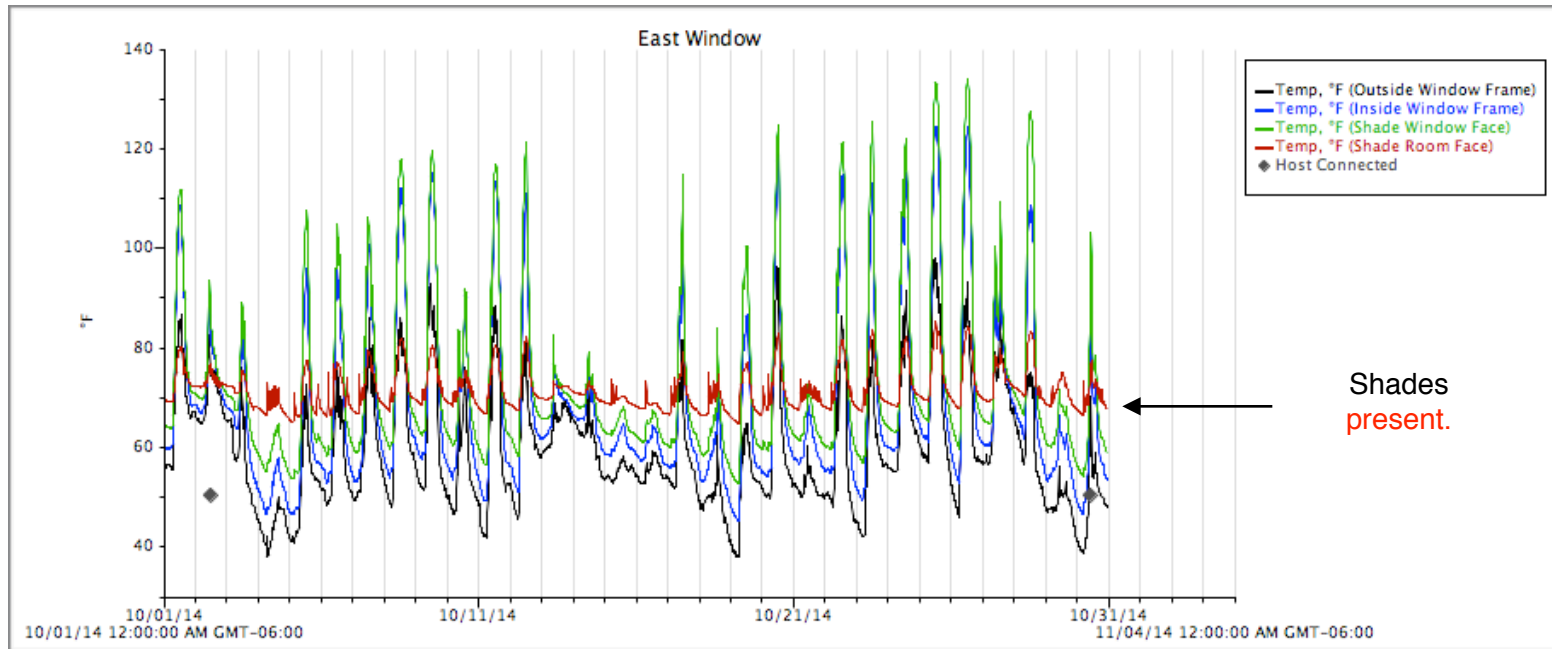
One [Onset](#) data logger and four sensors deployed per window assembly.

**Black** = outside window frame.

**Blue** = inside window frame.

**Green** = window side face of shade.

**Red** = room side face of shade.

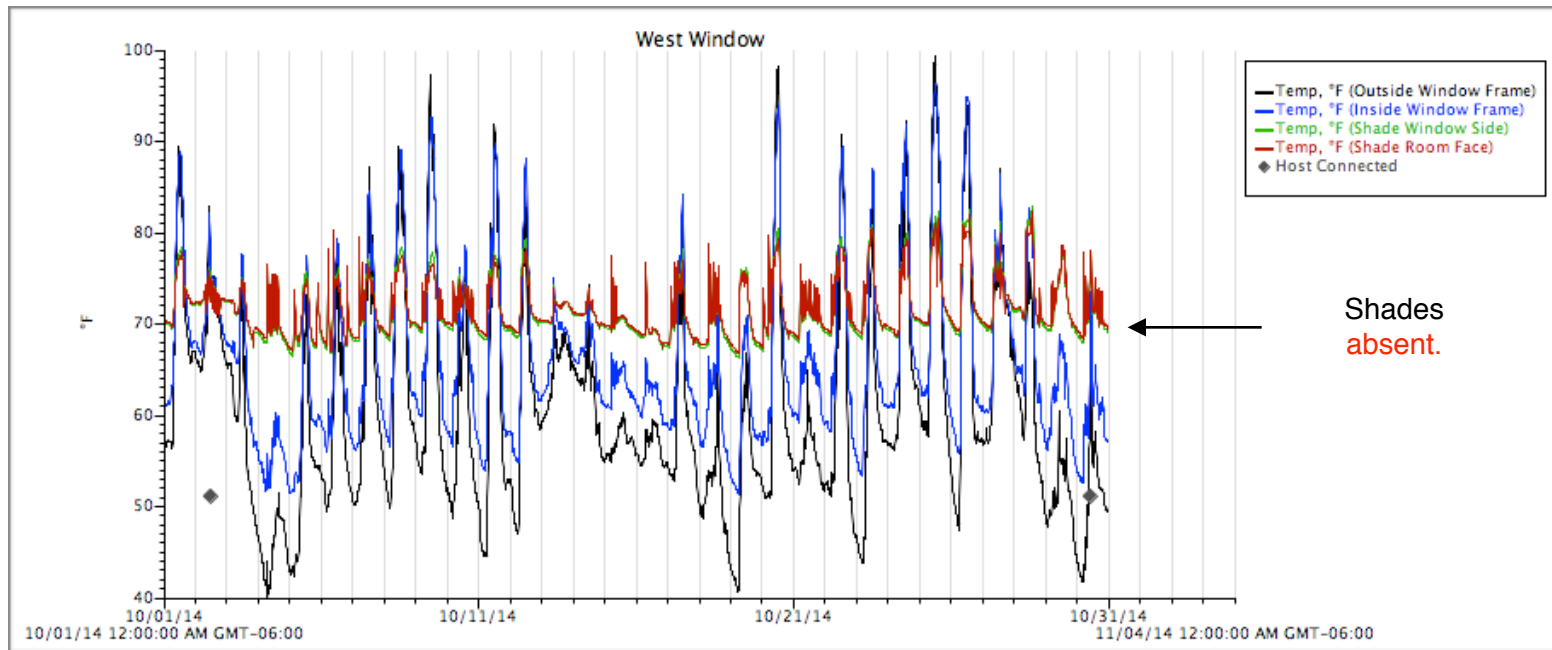


### East Windows

### Averages

### Temperature Comparisons

Outside Window Frame (1) (3) (2)	Oct 25	High 98°	59.14°	10/25	75° High	52° Low
	Oct 19	Low 38°		10/19	57° High	36° Low
Inside Window Frame (4)	Oct 25	High 125°	67.77°	10/25	75° High	52° Low
	Oct 19	Low 45°		10/19	57° High	36° Low
Window Side Face (4)	Oct 26	High 134°	72.84°	10/26	66° High	44° Low
	Oct 19	Low 53°		10/19	57° High	36° Low
Room Side Face (3)	Oct 25	High 85°	71.47°	10/25	75° High	52° Low
	Oct 19	Low 65°		10/19	57° High	36° Low



### West Windows

### Averages

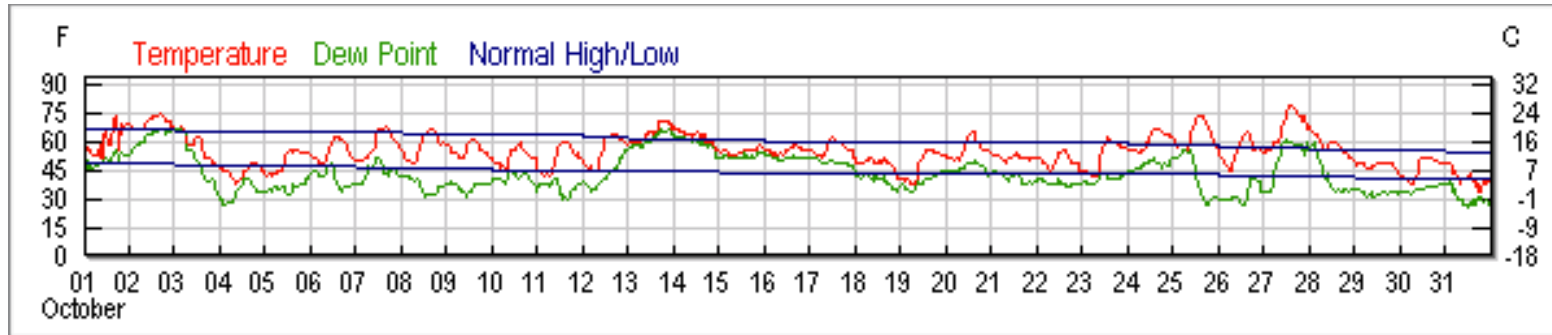
### Temperature Comparisons

Outside Window Frame	Oct 25 High 99° Oct 04 Low 40°	60.37°	10/25 75° High 10/04 49° High	52° Low 37° Low
Inside Window Frame	Oct 25 High 96° Oct 19 Low 51°	65.69°	10/25 75° High 10/19 57° High	52° Low 36° Low
Window Side Face (4" inset from wall face)	Oct 28 High 83° Oct 05 Low 66°	71.62°	10/28 66° High 10/05 56° High	48° Low 42° Low
Room Side Face (4.5" inset from wall face)	Oct 28 High 82° Oct 05 Low 67°	71.70°	10/28 66° High 10/05 56° High	48° Low 42° Low

**Weather Data** Oct 01 - 31 <http://bit.ly/1xCKjiq>

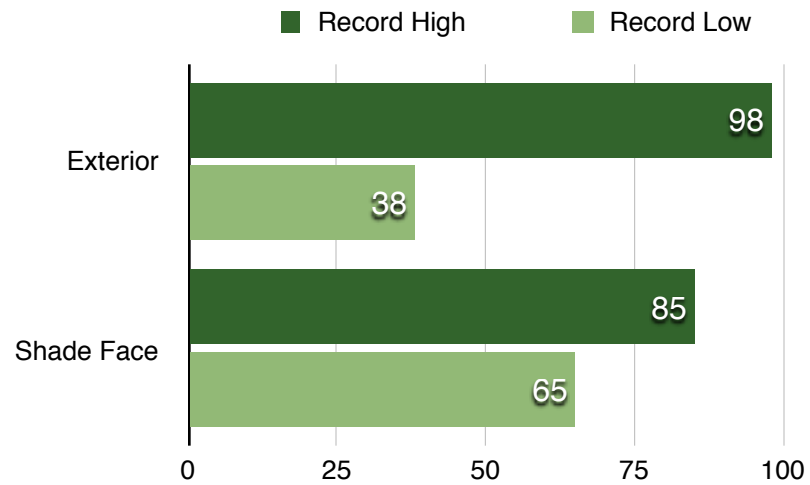
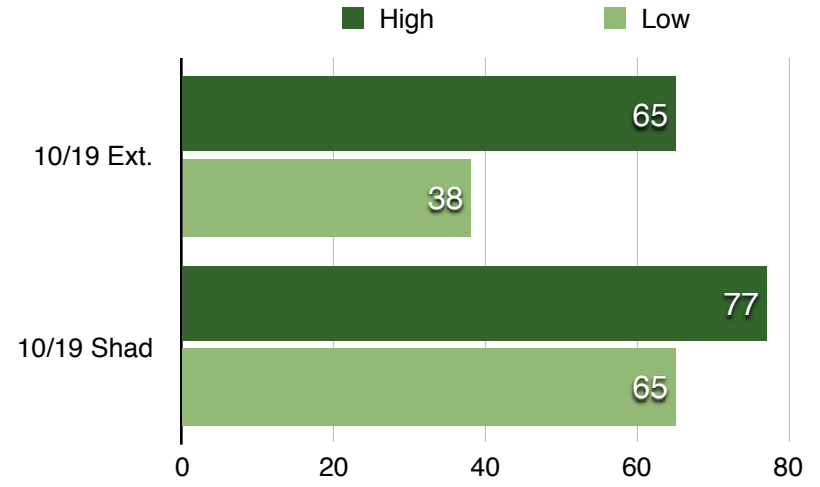
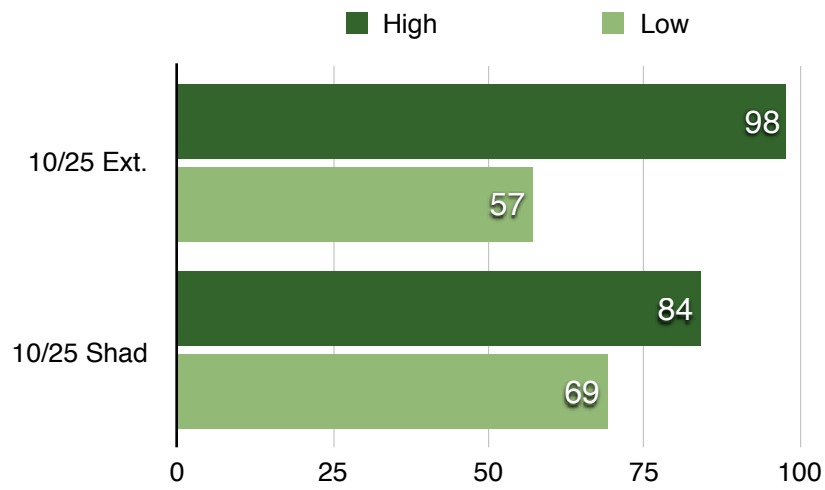
High Oct 27 79°

Low Oct 31 34°



#### Notes.

- (1) The October 25 exterior **High of 98°** vs. **Low of 57° = 41° difference**. By comparison the October 25 face of shade **High of 84°** vs. **Low of 69° = 15° difference**.
- (2) The October 19 exterior **Low of 38°** vs. **High of 65° = 27° difference**. By comparison the October 19 face of shade **Low of 65°** vs. **High of 77° = 12° difference**.
- (3) The exterior **High of 98°** to **Low of 38° = 60° swing**. The face of shade **High of 85°** to **Low of 65° = 20° swing**.
- (4) The East Window High temperatures recorded on the inside of the window frame and window side face of the shades is not indicative of a typical installation where the shades would normally be raised during the day to allow for passive gains. Similarly some of this heat penetration to the inside face of the shade is likely to raise those temperatures somewhat.



The energy savings and increased comfort due to the temperature moderating and stabilizing effect of **HeatSaver® Thermal Shades** is evident.