

Performance & Weather Oct. 02 - 15

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.

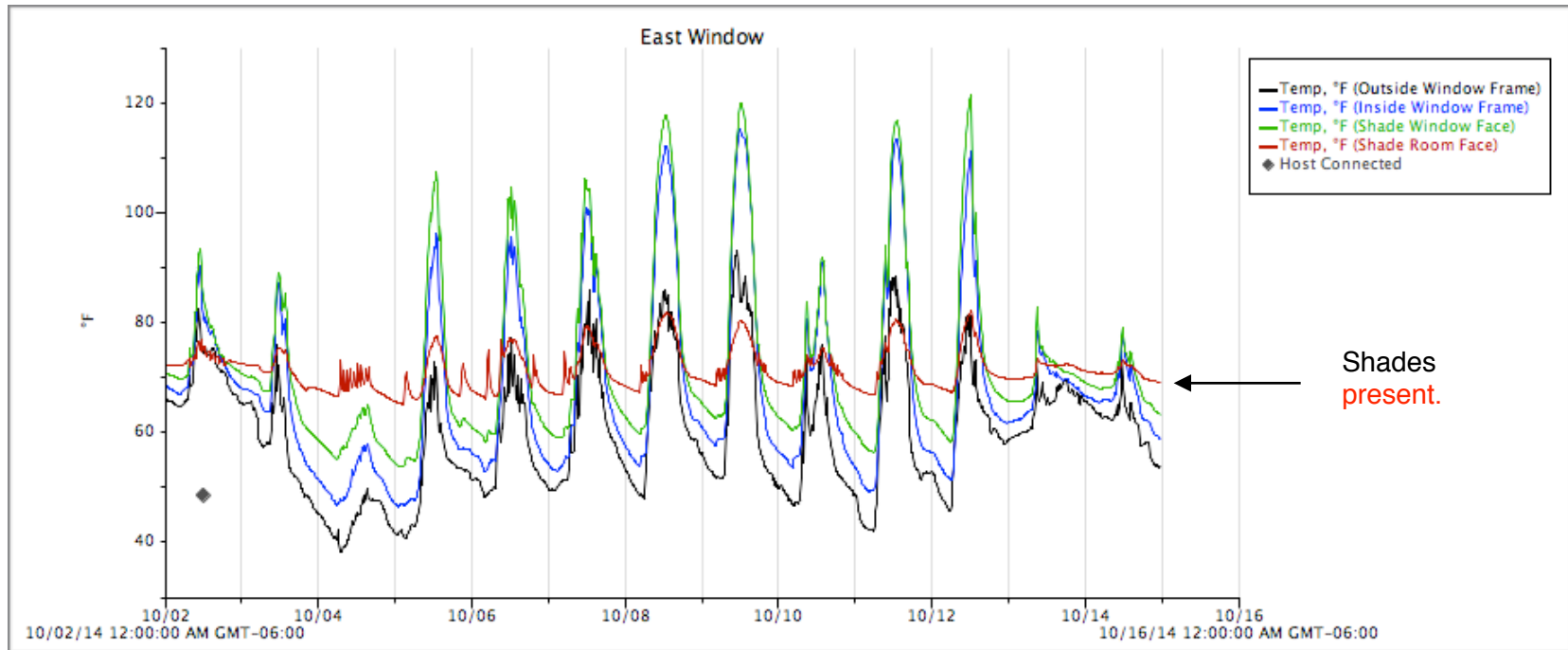
The ceilings are 128" high, there are four HVAC vents equally spaced across the ceiling. Both the vents and ducts are exposed. The thermostat dedicated to the room is on the opposite wall. Daily records of thermostat settings have not been available. It is safe to assume an average setting of 72°F.

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

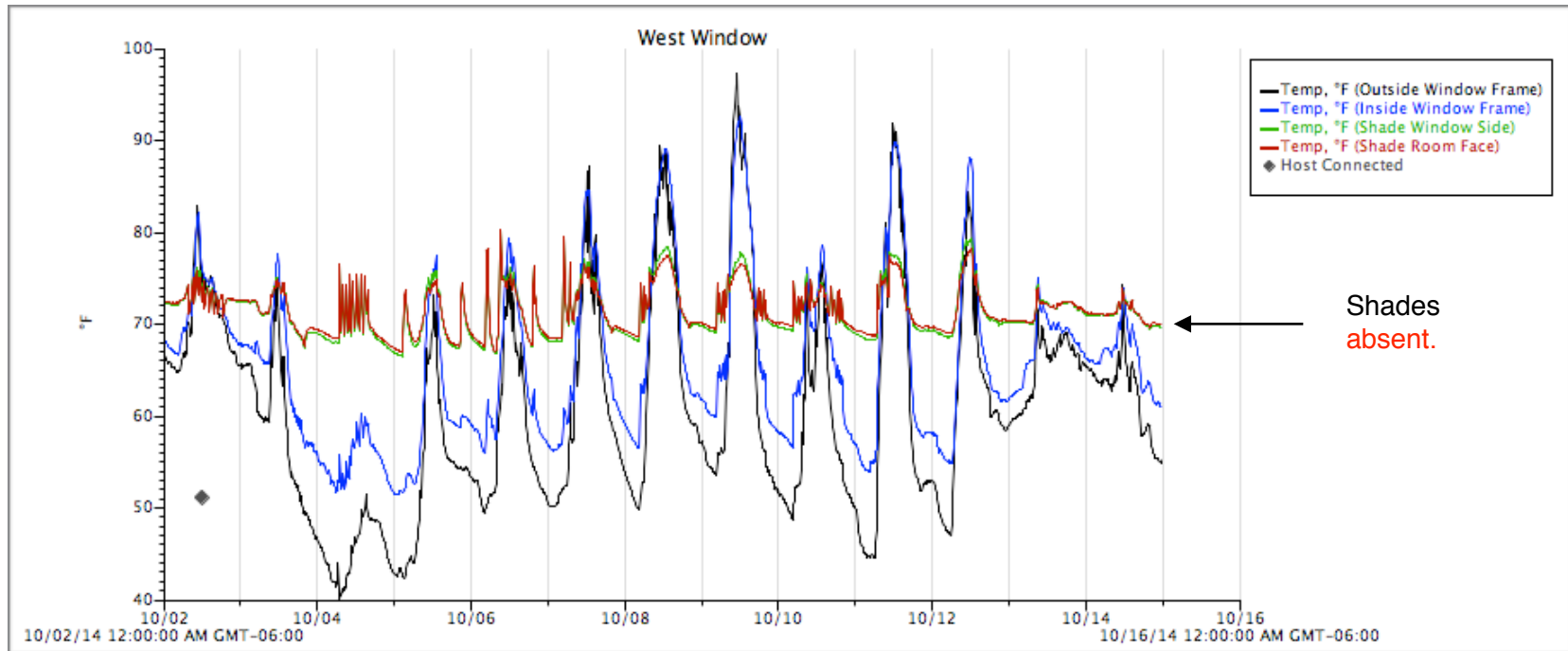
East Windows = Shades **permanently deployed** throughout test period.
West Windows = Shades **permanently raised** throughout test period.

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.



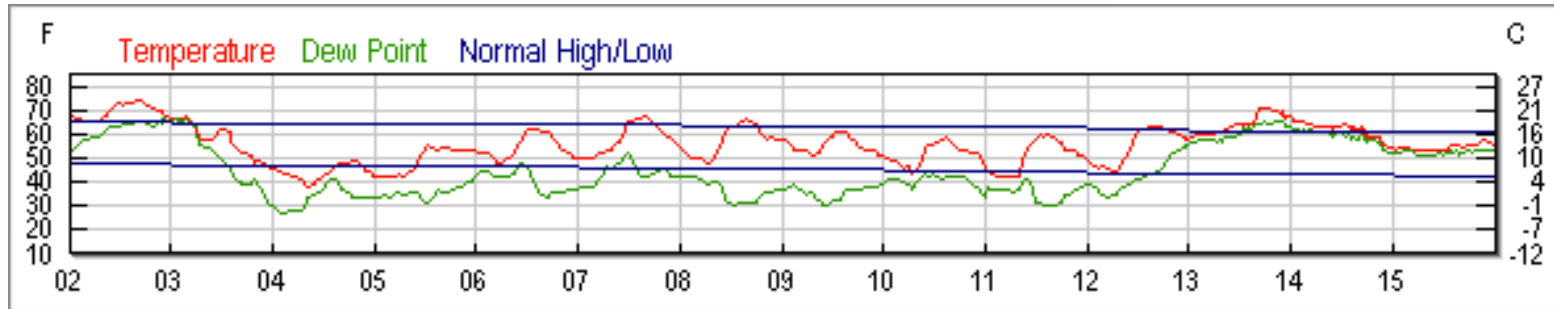
East Windows		Averages	Temperature Comparisons	
Outside Window Frame (1) (3)	Oct 09 High 93°	59.64°	10/09	64° High 50° Low
	Oct 04 Low 38°		10/04	49° High 37° Low
Inside Window Frame (4)	Oct 09 High 115°	67.64°	10/09	64° High 50° Low
	Oct 05 Low 46°		10/05	56° High 42° Low
Window Side Face (4)	Oct 12 High 121°	72.36°	10/12	64° High 45° Low
	Oct 05 Low 54°		10/05	00° High 48° Low
Room Side Face (3)	Oct 08 High 82°	71.36°	10/08	67° High 48° Low
	Oct 05 Low 65°		10/05	56° High 42° Low



West Windows		Averages	Temperature Comparisons		
Outside Window Frame	Oct 09 High 97° Oct 04 Low 40°	60.73°	10/09	64° High	50° Low
Inside Window Frame	Oct 09 High 93° Oct 05 Low 52°	65.63°	10/09	64° High	50° Low
Window Side Face (4" inset from wall face)	Oct 12 High 79° Oct 05 Low 66°	71.42°	10/12	64° High	45° Low
Room Side Face (4.5" inset from wall face)	Oct 06 High 80° Oct 05 Low 67°	71.49°	10/06	63° High	48° Low
			10/05	56° High	42° Low
			10/05	56° High	42° Low

Weather Data Oct 02 - 15 <http://bit.ly/1DHSpXL>

High Oct 02 75° Low Oct 04 37°



Daily Data Oct 02 - 08

10/02 <http://bit.ly/Z07kiy>

10/03 <http://bit.ly/1nUcMiR>

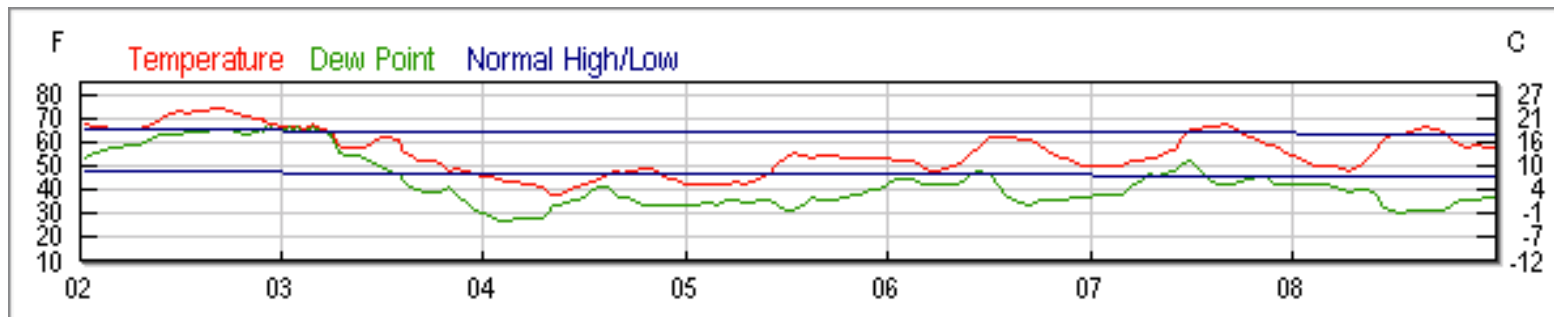
10/04 <http://bit.ly/1BGWt9I>

10/05 <http://bit.ly/1uQGqaP>

10/06 <http://bit.ly/1vKheQf>

10/07 <http://bit.ly/1vW27TI>

10/08 <http://bit.ly/1rj0Sto>



Daily Data Oct 09 - 15

10/09 <http://bit.ly/1rlfdpm>

10/10 <http://bit.ly/1EHtB5v>

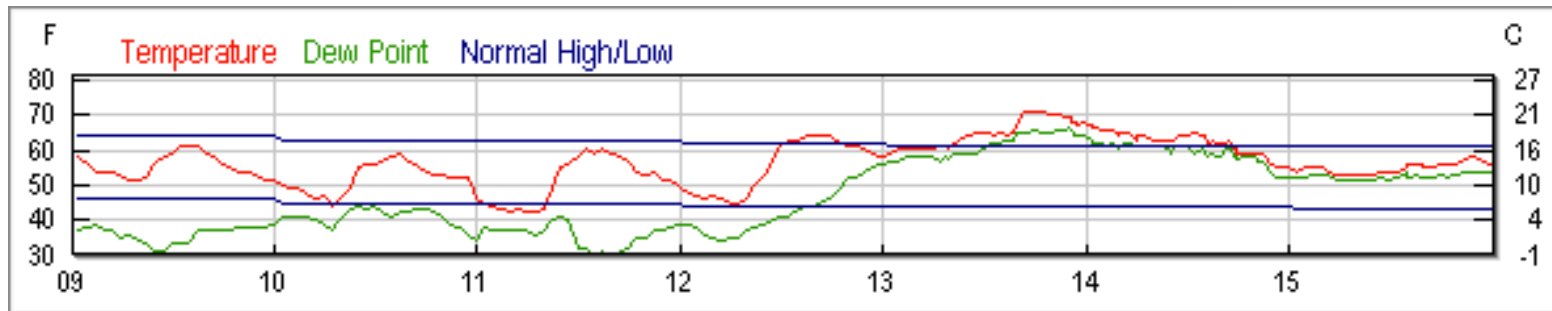
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10/12 <http://bit.ly/1w60tkF>

10/13 <http://bit.ly/ZXWtaa>

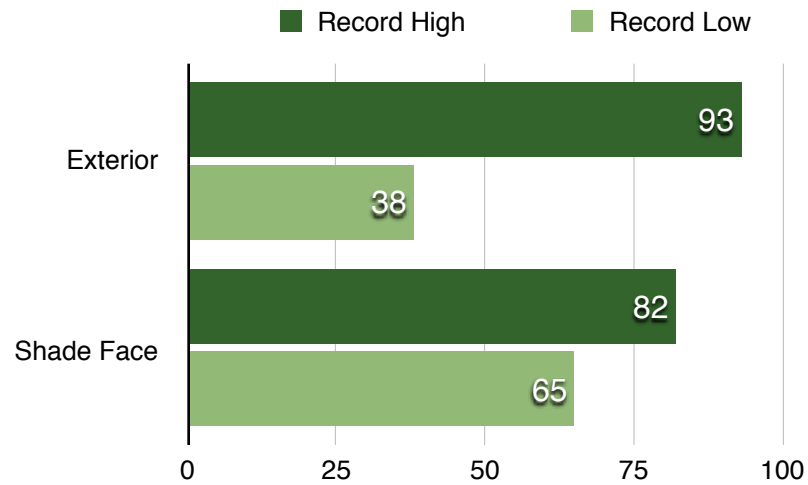
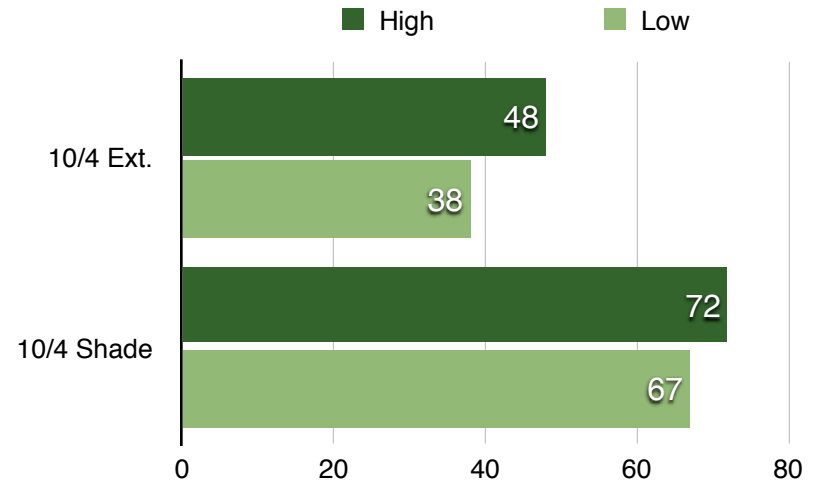
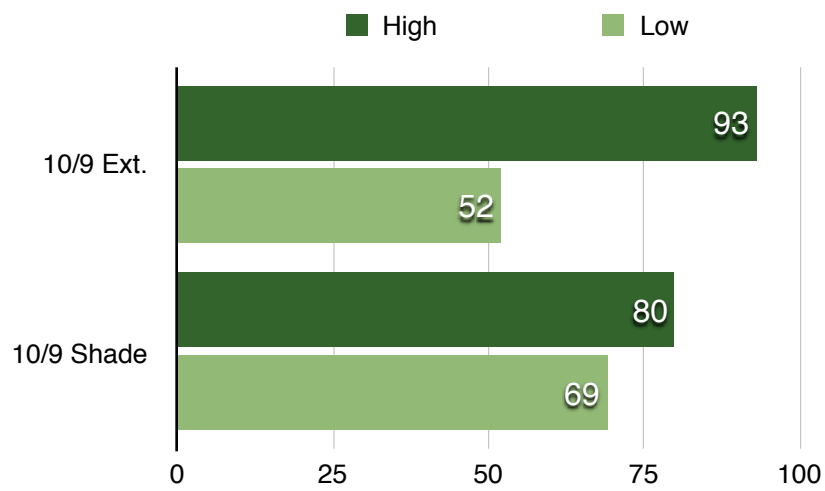
10/14 <http://bit.ly/1sLHHiK>

10/15 <http://bit.ly/1vzGR9S>



Notes.

- 1) The **Oct. 9 exterior High of 93° vs. Low of 52° = 41° difference.** By comparison the **Oct 9 face of shade High of 80° vs Low of 69° = 11° difference.**
- (2) The **Oct 4 exterior Low of 38° vs. High of 48° = 10° difference.** By comparison the **Oct 4 face of shade Low of 67° vs. High of 72° = 5° difference.**
- (3) The **exterior High of 93° to Low of 38° = 55° swing.** The **face of shade High of 82° to Low of 65° = 17° 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.