

**Performance & Weather Data Sept. 04 - 17**

**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 provide 14.5% shading during Sept.**

The weather and temperature comparison 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.

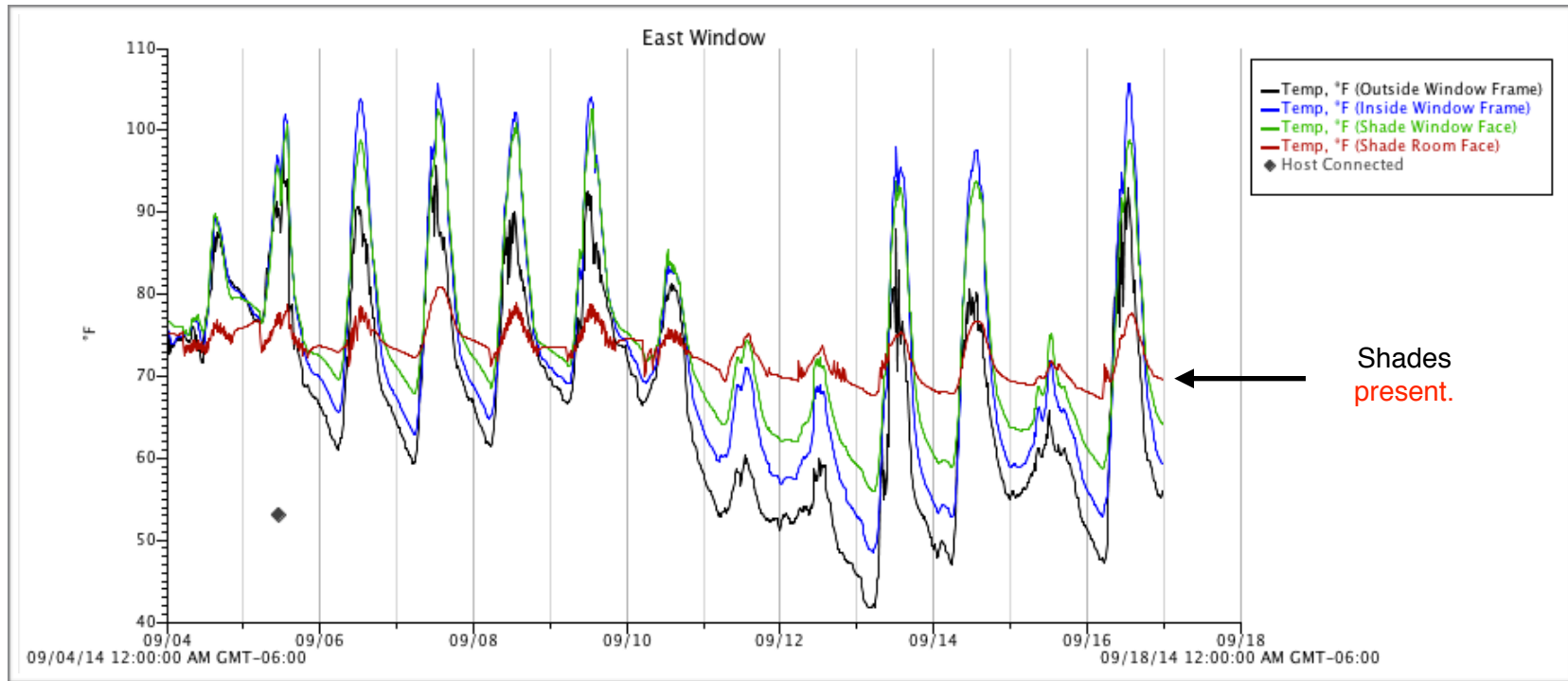
One [Onset](#) data logger and four sensors deployed per window assembly.

[Black](#) = outside window frame.

[Blue](#) = inside window frame.

[Green](#) = window side face of shade.

[Red](#) = room side face of shade.

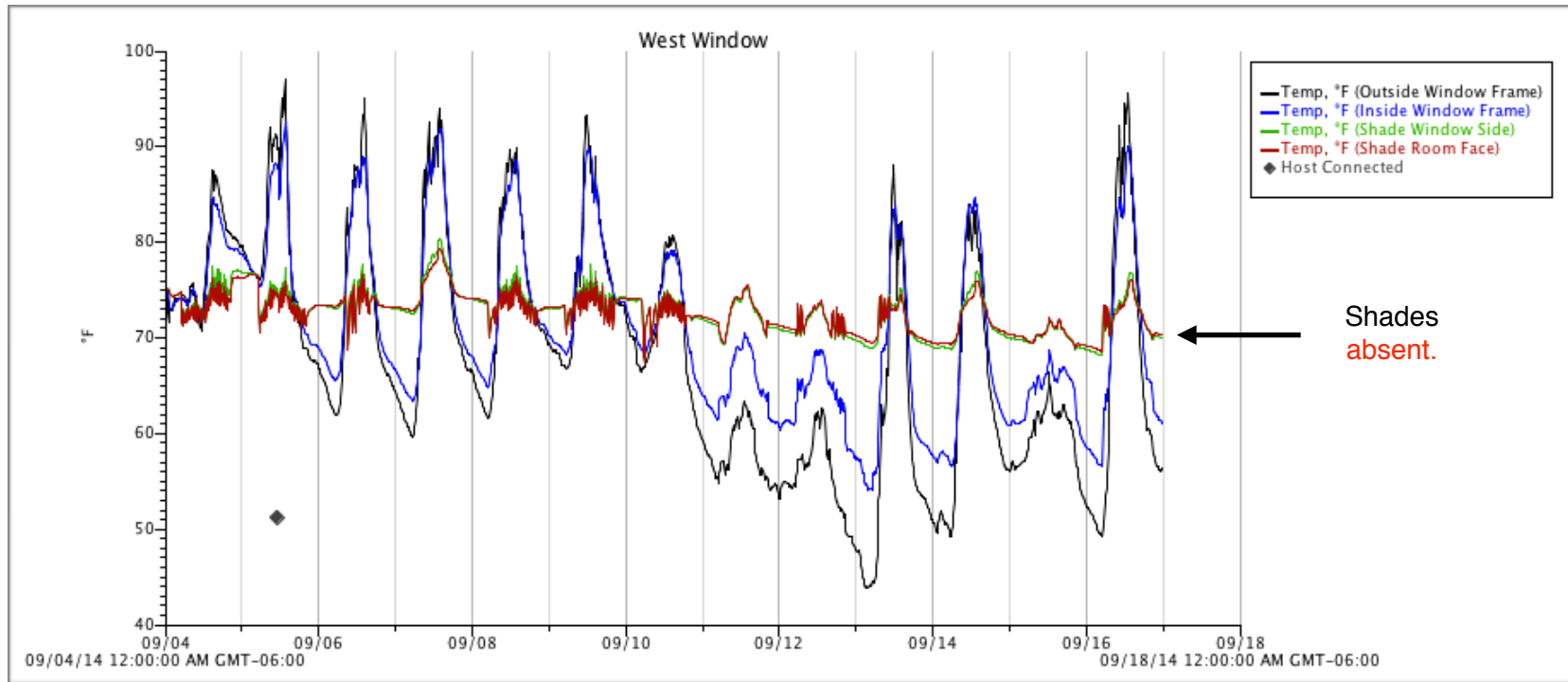


### East Windows

### Averages

### Temperature Comparisons

Outside Window Frame (1) (3)	Sept 7	High	96°	67.21°	09/07	79° High	58° Low
	(2)	Sept 13	Low		42°	09/13	60° High
Inside Window Frame (4)	Sept 16	High	106°	72.66°	09/16	69° High	47° Low
	Sept 13	Low	49°		09/13	60° High	42° Low
Window Side Face (4)	Sept 9	High	103°	74.75°	09/09	81° High	66° Low
	Sept 13	Low	56°		09/13	60° High	42° Low
Room Side Face (3)	Sept 7	High	81°	72.97°	09/07	79° High	58° Low
	Sept 16	Low	67°		09/16	69° High	47° Low



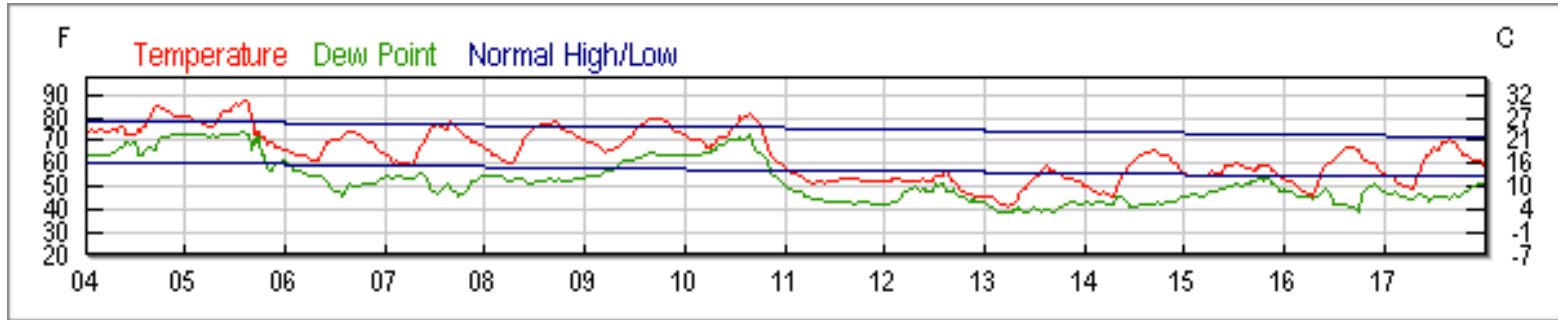
**West Windows**

**Averages**

**Temperature Comparisons**

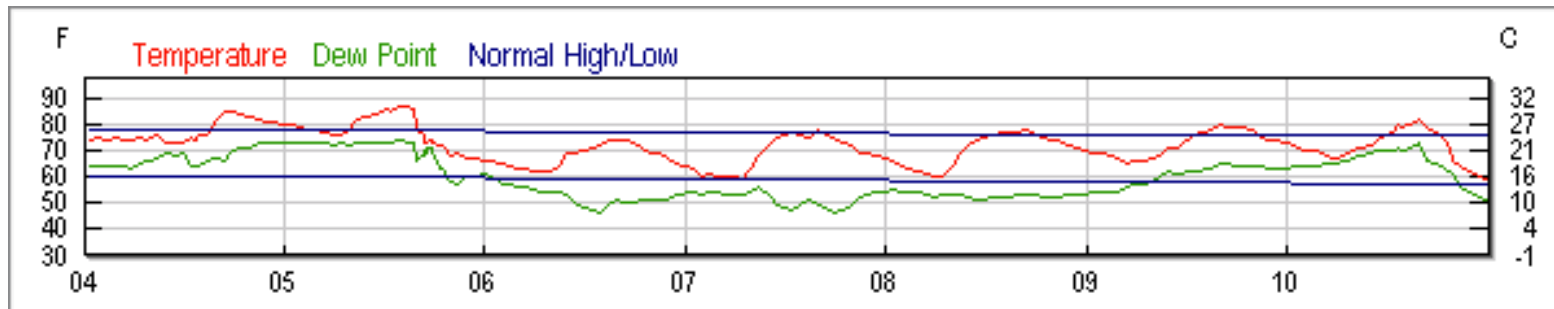
Outside Window Frame	Sept 5 High 97° Sept 13 Low 44°	68.22°	09/05 89° High 09/13 60° High	67° Low 42° Low
Inside Window Frame	Sept 7 High 92° Sept 13 Low 54°	70.86°	09/07 79° High 09/13 60° High	58° Low 42° Low
Window Side Face (4.5" inset from wall face)	Sept 7 High 80° Sept 16 Low 68°	72.73°	09/07 79° High 09/16 69° High	58° Low 47° Low
Room Side Face (4" inset from wall face)	Sept 7 High 79° Sept 16 Low 69°	72.67°	09/07 79° High 09/16 69° High	58° Low 47° Low

**Weather Data** Sept 04 - 17 <http://bit.ly/1rE5jiA>  
 High Sept 05 89°      Low Sept 13 42°



**Daily Data** Sept 04 - 10

09/04 <http://bit.ly/1Bg6rkc>      09/05 <http://bit.ly/1oQN6xg>      09/06 <http://bit.ly/YndLfV>  
 09/07 <http://bit.ly/1pHb7qC>      09/08 <http://bit.ly/1BpvmBP>      09/09 <http://bit.ly/1osMoXR>  
 09/10 <http://bit.ly/1pbTBLg>



### Daily Data Sept 11 - 17

09/11 <http://bit.ly/1nQEo2N>

09/12 <http://bit.ly/1nT03aw>

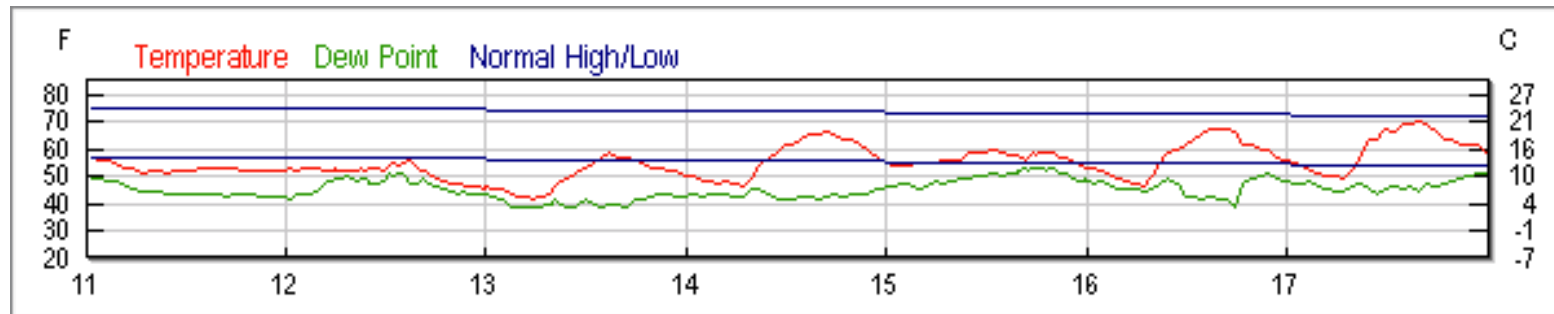
09/13 <http://bit.ly/YIGegv>

09/14 <http://bit.ly/1qYTRBf>

09/15 <http://bit.ly/1ybYE8T>

09/16 <http://bit.ly/1yh1YzD>

09/17 <http://bit.ly/YV2luQ>



### Notes.

- (1) The September 7 exterior **High of 96°** vs. **Low of 59°** = **37° difference**. By comparison the September 7 face of shade **High of 81°** vs **Low of 72°** = **9° difference**.
- (2) The September 13 exterior **Low of 42°** vs. **High of 88°** = **46° difference**. By comparison the September 13 face of shade **Low of 68°** vs. **High of 75°** = **07° difference**.
- (3) The exterior **High of 96°** to **Low of 42°** = **54° swing**. The face of shade **High of 81°** to **Low of 67°** = **14° 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.