

**Performance & Weather Data April 4 - April 16**

**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 face above the windows provide 46% shading during April.**

The weather 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.

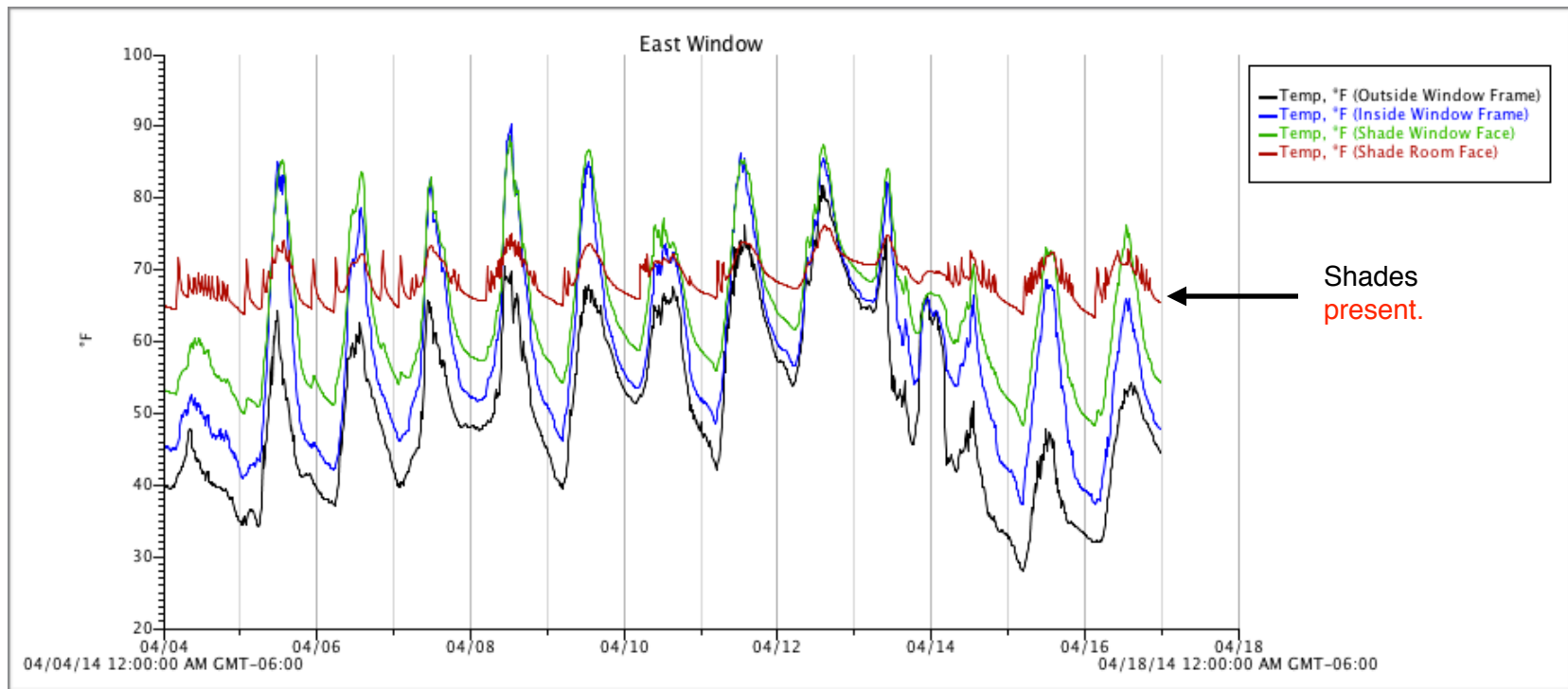
One [Onset](#) data logger and four sensors deployed per window assembly.

[Black](#) = outside window frame.

[Blue](#) = inside window frame.

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

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

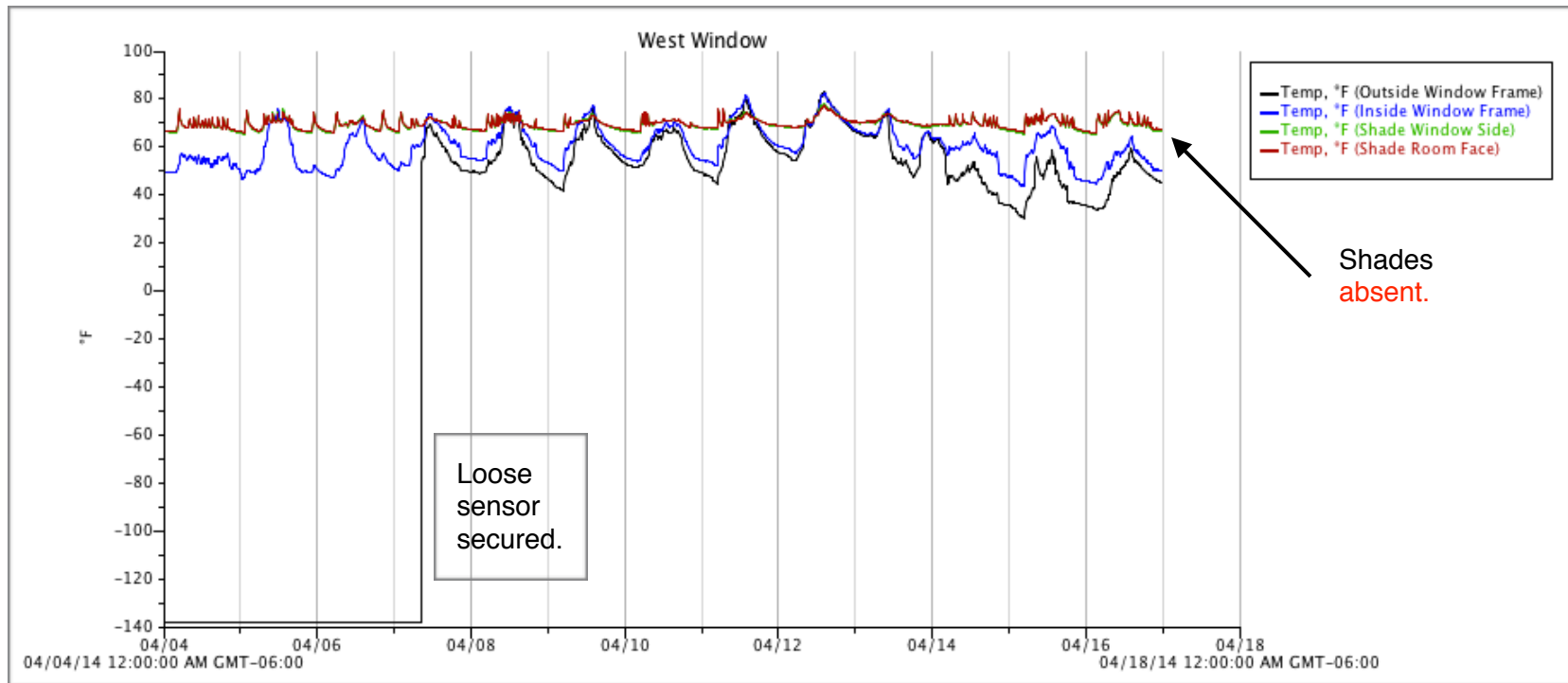


### East Windows

### Averages

### Temperature Comparisons

Outside Window Frame (1) (3)	Apr 11	High	76°	51.03°	04/11	70° High	41° Low
	(2)	Apr 15	Low		28°	04/15	38° High
Inside Window Frame (4)	Apr 8	High	90°	58.77°	04/08	57° High	40° Low
	Apr 15	Low	37°		04/15	38° High	27° Low
Window Side Face (4)	Apr 8	High	88°	64.37°	04/08	57° High	40° Low
	Apr 15	Low	48°		04/15	38° High	27° Low
Room Side Face (3)	Apr 12	High	76°	68.88°	04/12	80° High	52° Low
	Apr 16	Low	64°		04/16	52° High	31° Low



### West Windows

### Averages

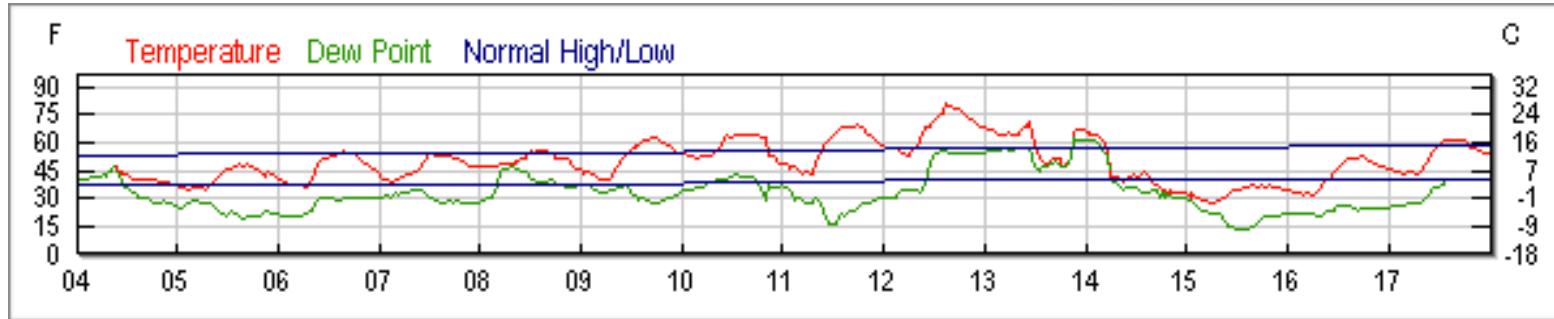
### Temperature Comparisons

Outside Window Frame (5)	Apr 11 High 80° Apr 15 Low 30°	55.60°	04/11 70° High 04/15 00° High	41° Low 00° Low
Inside Window Frame	Apr 12 High 82° Apr 15 Low 44°	60.19°	04/12 80° High 04/15 00° High	52° Low 00° Low
Window Side Face (4.5" inset from wall face)	Apr 12 High 78° Apr 16 Low 65°	69.63°	04/12 80° High 04/16 52° High	52° Low 31° Low
Room Side Face (4" inset from wall face)	Apr 12 High 78° Apr 16 Low 65°	69.86°	04/12 80° High 04/16 52° High	52° Low 31° Low

**Weather Data** Apr 04 - 17 <http://bit.ly/1qVFmi9>

High Apr 12 80°

Low Apr 14 31°



**Daily Data** Apr 04 - 10

04/04 <http://bit.ly/QPizXG>

04/05 <http://bit.ly/1mPzYK1>

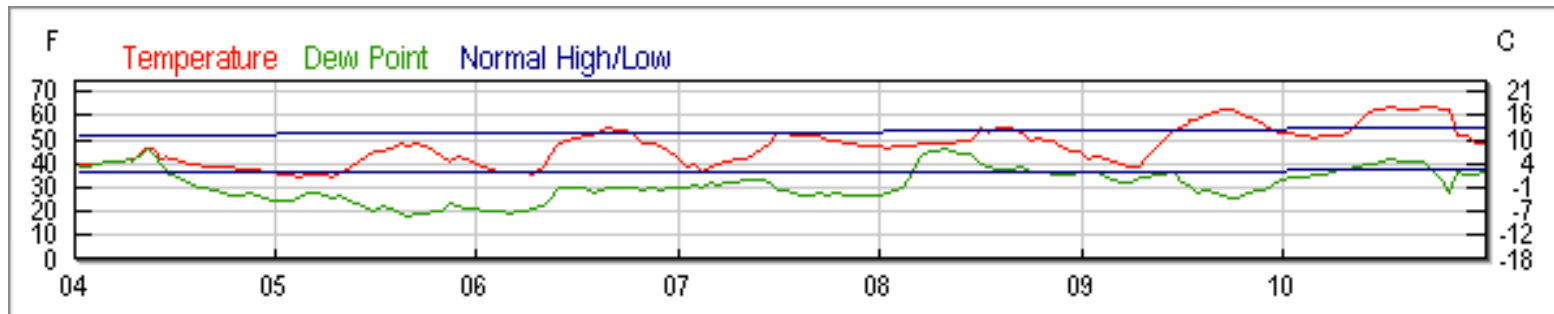
04/06 <http://bit.ly/1kraJ3t>

04/07 <http://bit.ly/1kraW6T>

04/08 <http://bit.ly/1IQoXLc>

04/09 <http://bit.ly/1hDFr1k>

04/10 <http://bit.ly/PY52wl>



### Daily Data Apr 11 - 17

04/11 <http://bit.ly/1gmJtPC>

04/12 <http://bit.ly/1jCcbfP>

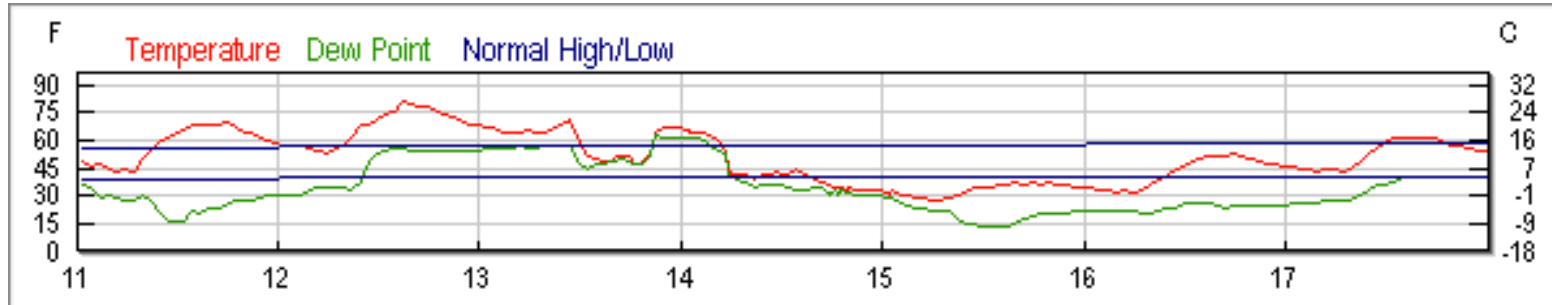
04/13 <http://bit.ly/1jEFwpX>

04/14 <http://bit.ly/1t5ldWF>

04/15 <http://bit.ly/1j0nQU0>

04/16 <http://bit.ly/1QrqRV3>

04/17 <http://bit.ly/1i2fn02>



### Notes.

- (1) The **April 11 exterior High of 76° vs. Low of 42° = 34° difference.** By comparison the **April 11 face of shade High of 74° vs Low of 66° = 8° difference.**
- (2) The **April 15 exterior Low of 28° vs. High of 48° = 20° difference.** By comparison the **April 15 face of shade Low of 64° vs. High of 73° = 9° difference.**
- (3) The **exterior High of 76° to Low of 28° = 48° swing.** The **face of shade High of 76° to Low of 64° = 12° swing.** The **exterior average of 51.03° vs. face of shade average of 68.88° = 17.85° difference.**
- (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.
- (5) The loose sensor was secured on April 7.