

Performance & Weather Data April 17 - April 30

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 38% 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.

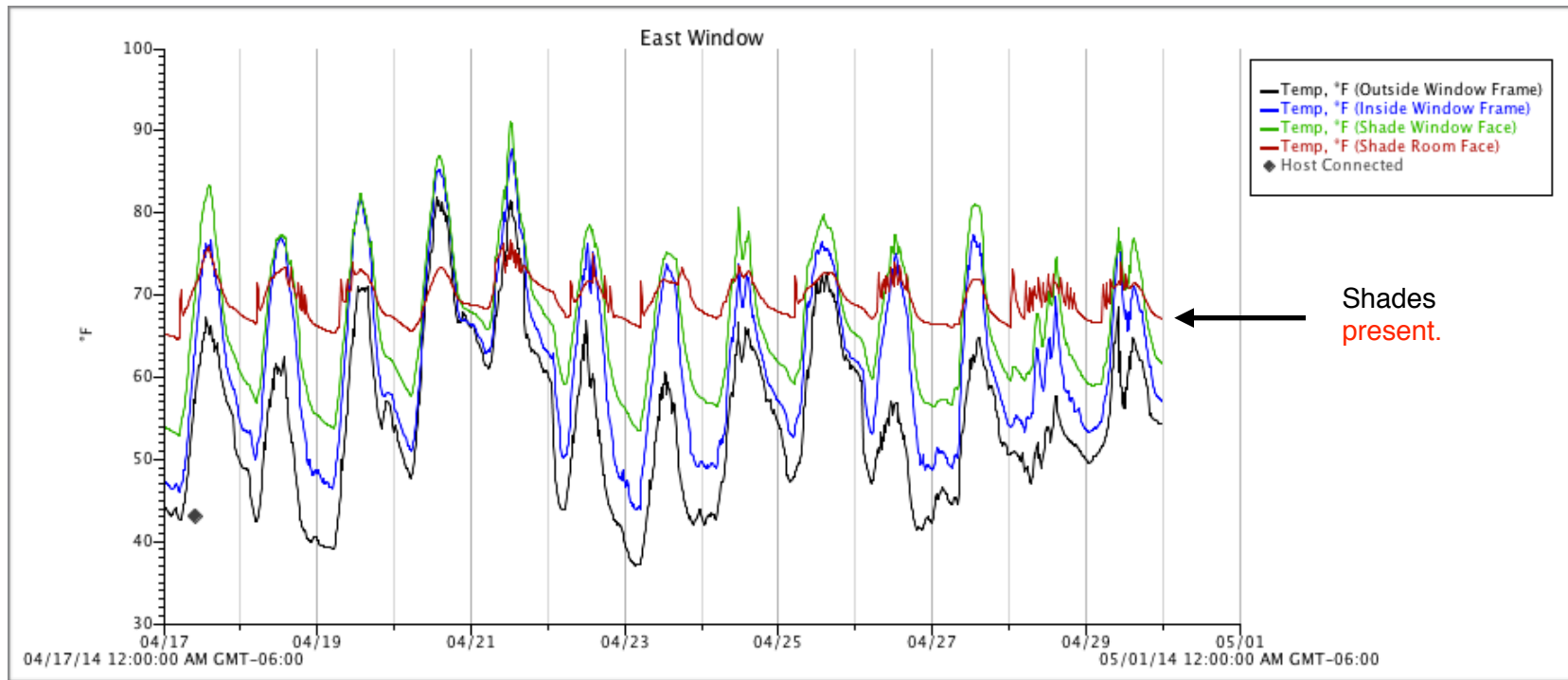
One [Onset](#) data logger and four sensors deployed per window assembly.

Black = outside window frame.

Blue = inside window frame.

Green = window side face of shade.

Red = room side face of shade.

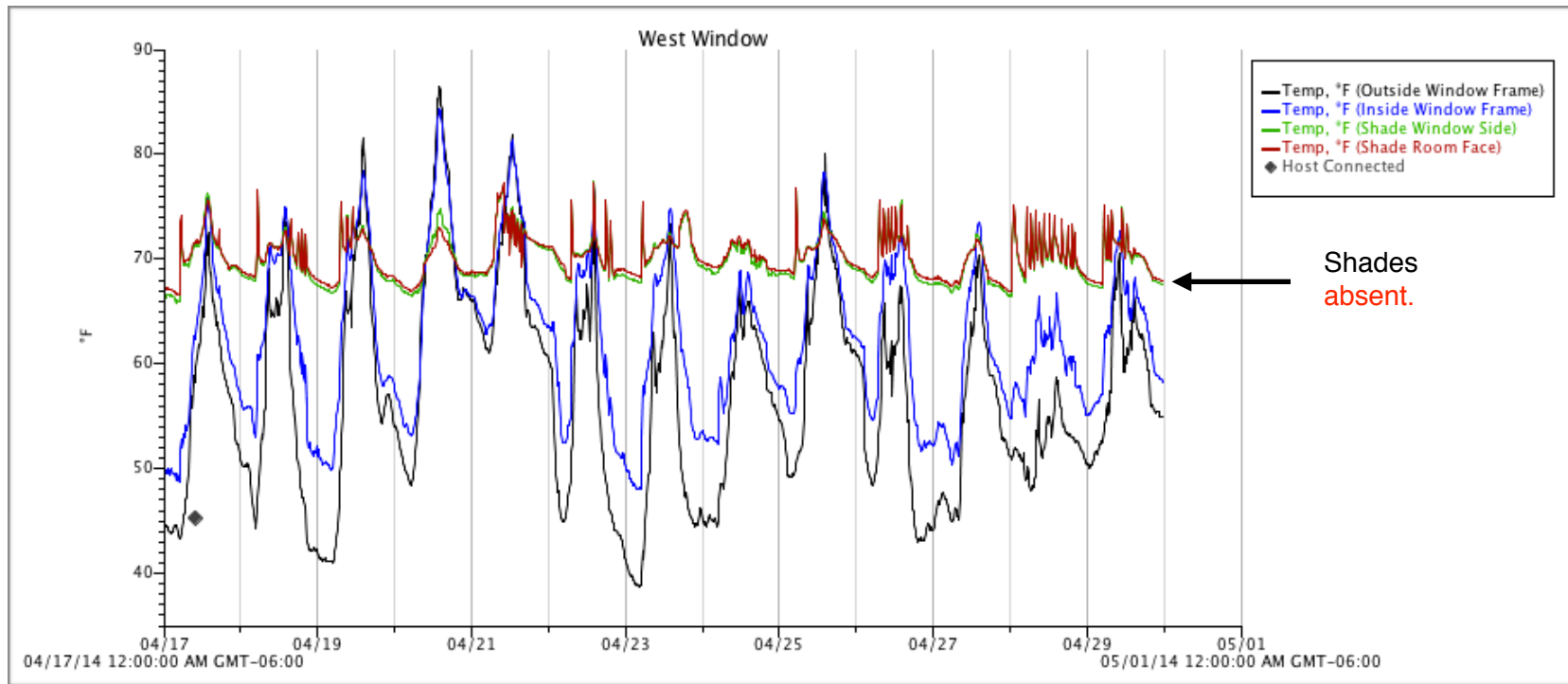


East Windows

Averages

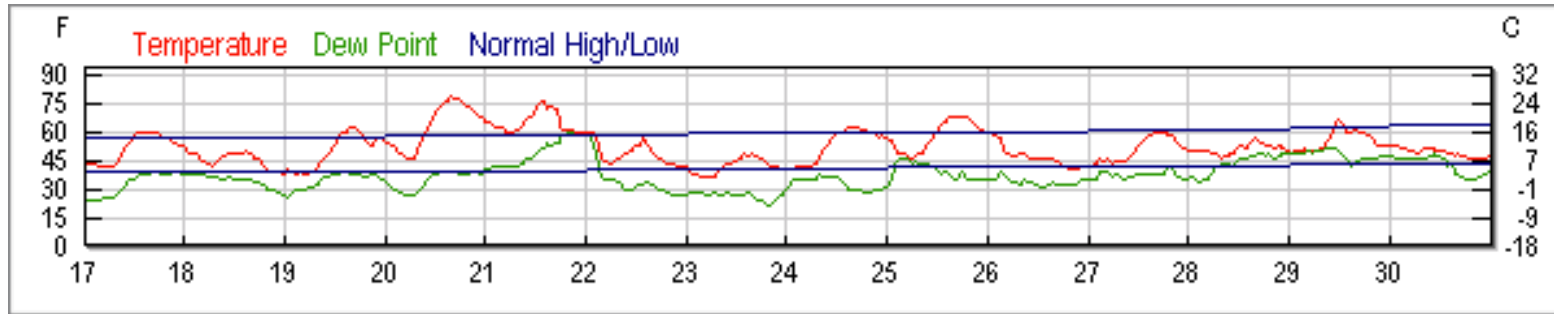
Temperature Comparisons

Outside Window Frame (1) (3)	Apr 21	High 82°	55.10°	04/21	78° High	59° Low
	Apr 23	Low 37°		04/23	51° High	37° Low
Inside Window Frame (4)	Apr 21	High 88°	62.00°	04/21	78° High	59° Low
	Apr 23	Low 44°		04/23	51° High	37° Low
Window Side Face (4)	Apr 21	High 91°	66.86°	04/21	78° High	59° Low
	Apr 17	Low 53°		04/17	63° High	43° Low
Room Side Face (3)	Apr 21	High 76°	69.60°	04/21	78° High	59° Low
	Apr 17	Low 65°		04/17	63° High	43° Low



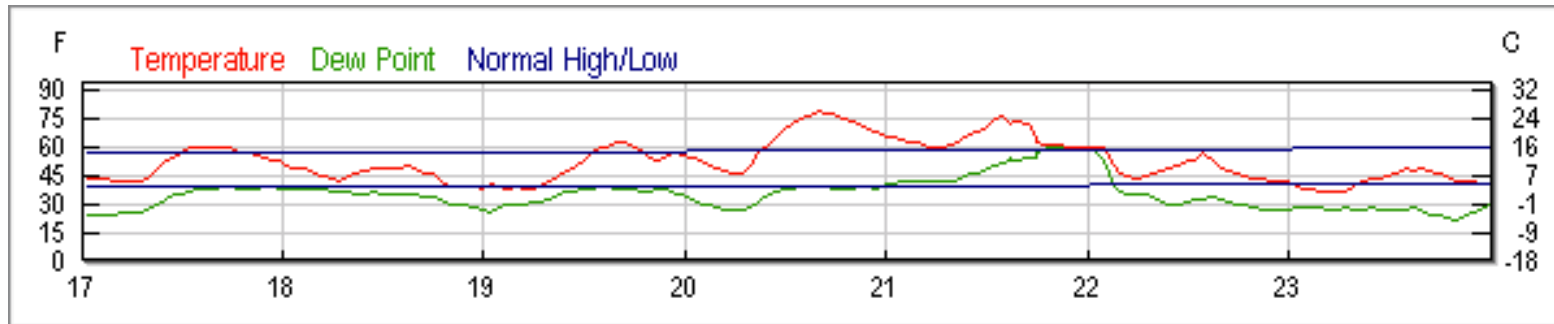
West Windows	Averages	Temperature Comparisons
Outside Window Frame Apr 20 High 86° Apr 23 Low 39°	57.17°	04/20 78° High 47° Low 04/23 51° High 37° Low
Inside Window Frame Apr 20 High 84° Apr 23 Low 48°	62.35°	04/20 78° High 47° Low 04/23 51° High 37° Low
Window Side Face (4.5" inset from wall face) Apr 17 High 76° Apr 17 Low 66°	70.02°	04/17 63° High 43° Low 04/17 63° High 43° Low
Room Side Face (4" inset from wall face) Apr 17 High 76° Apr 17 Low 66°	70.20°	04/17 63° High 43° Low 04/17 63° High 43° Low

Weather Data Apr 17 - 30 <http://bit.ly/1oxHisB>
 High Apr 20 78° Low Apr 23 37°



Daily Data Apr 17 - 23

04/17 http://bit.ly/1i2fn02	04/18 http://bit.ly/1mmhMbl	04/19 http://bit.ly/1jmT4DL
04/20 http://bit.ly/1mvNPIf	04/21 http://bit.ly/1gPc9xB	04/22 http://bit.ly/1pqNCIx
04/23 http://bit.ly/1roCS98		



Daily Data Apr 24 - 30

04/24 <http://bit.ly/1pxWHiM>

04/25 <http://bit.ly/1nPTTsL>

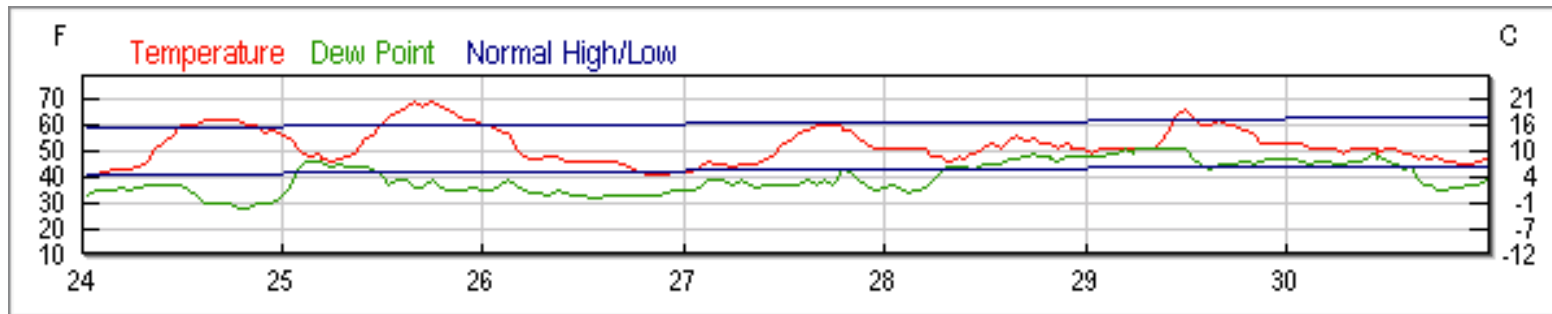
04/26 <http://bit.ly/1nSgzBK>

04/27 <http://bit.ly/1hI1QPN>

04/28 <http://bit.ly/1iCg9WT>

04/29 <http://bit.ly/1ktbYw3>

04/30 <http://bit.ly/1hWvLUt>



Notes.

- (1) The **April 21 exterior High of 82° vs. Low of 61° = 21° difference.** By comparison the **April 21 face of shade High of 77° vs Low of 66° = 11° difference.**
- (2) The **April 23 exterior Low of 37° vs. High of 61° = 24° difference.** By comparison the **April 23 face of shade Low of 66° vs. High of 73° = 7° difference.**
- (3) The **exterior High of 82° to Low of 37° = 45° swing.** The **face of shade High of 76° to Low of 65° = 11° swing.** The **exterior average of 55.10° vs. face of shade average of 69.60° = 14.50° 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.