

Performance & Weather Data July 10 - 23

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 100% shading during July.

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.

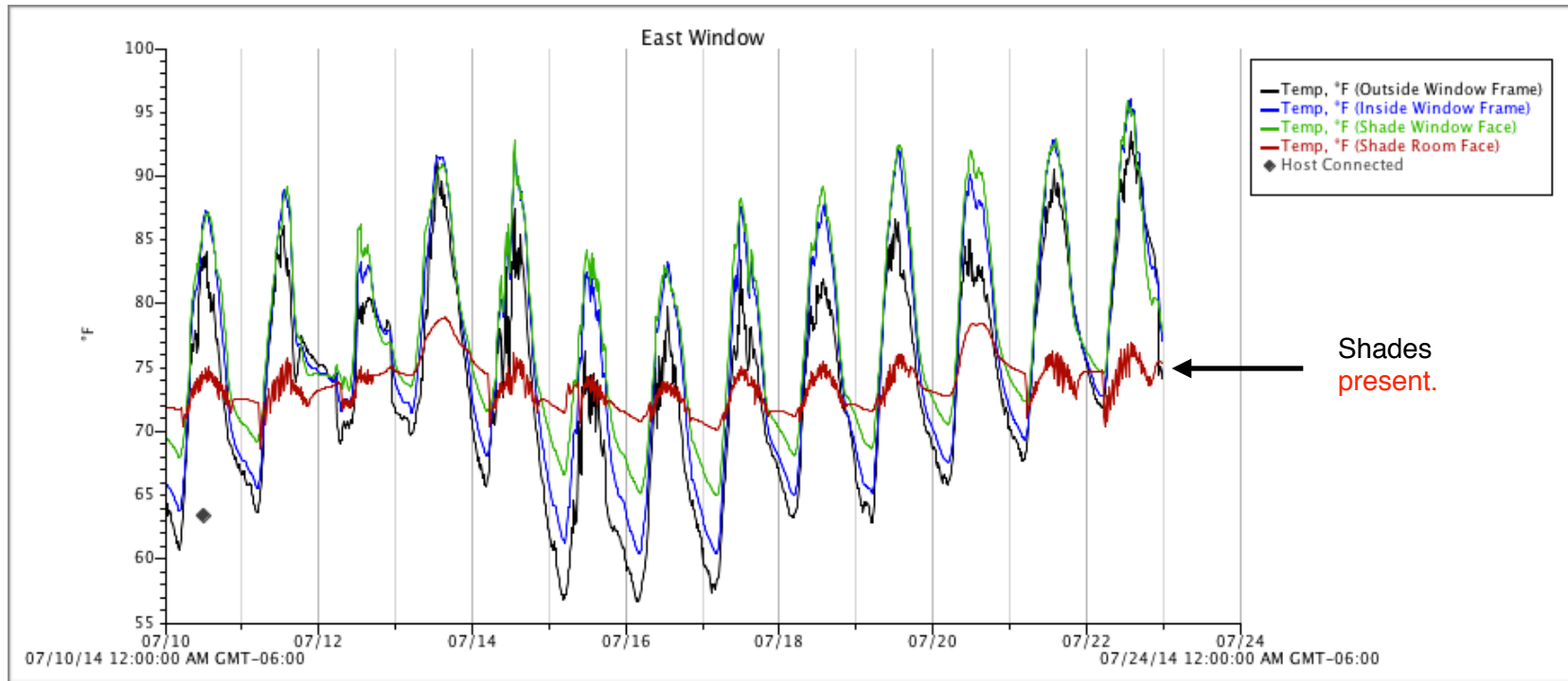
One [Onset](#) data logger and four sensors deployed per window assembly.

Black = outside window frame.

Blue = inside window frame.

Green = window side face of shade.

Red = room side face of shade.

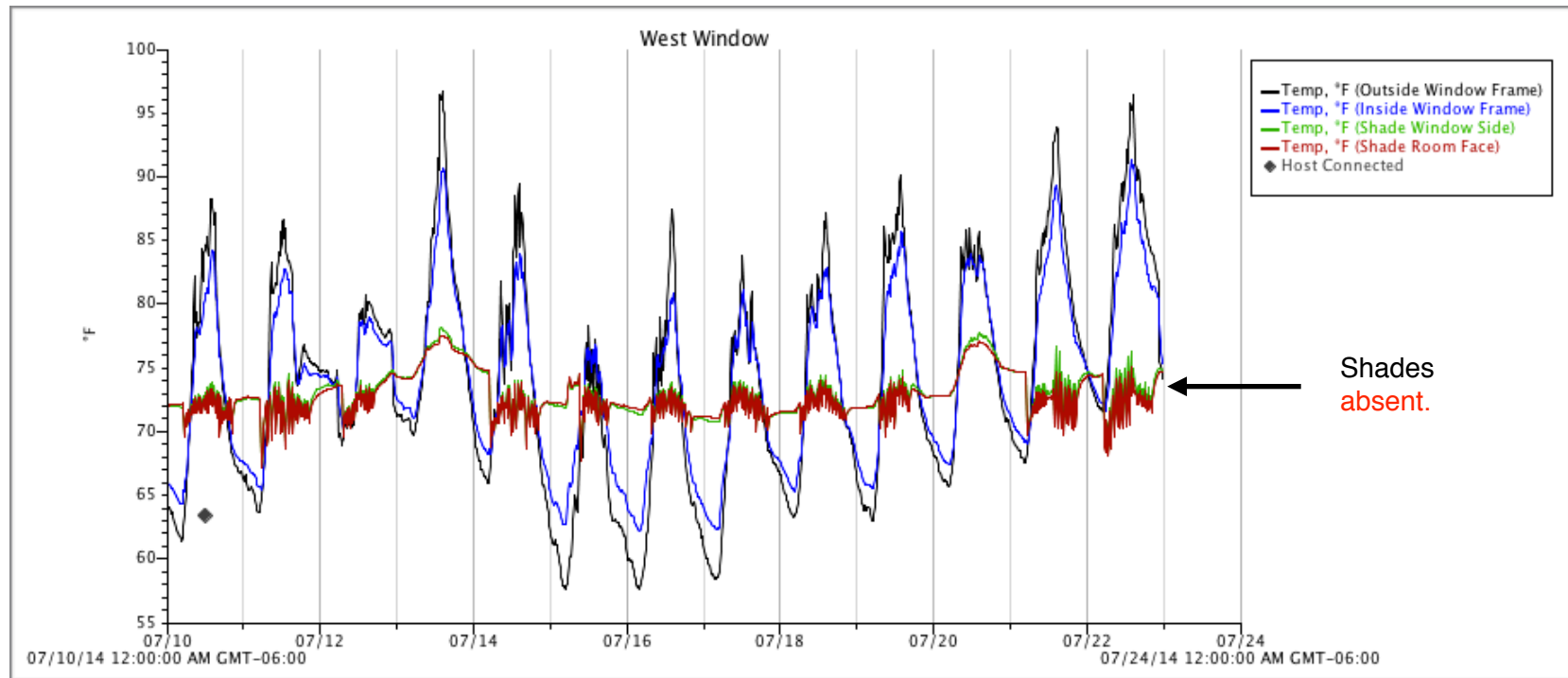


East Windows

Averages

Temperature Comparisons

Outside Window Frame (1) (3)	July 22	High	93°	73.65°	07/22	91° High	76° Low
	(2)	July 16	Low		57°	07/16	73° High
Inside Window Frame (4)	July 22	High	96°	76.36°	07/22	91° High	76° Low
	July 17	Low	60°		07/17	78° High	58° Low
Window Side Face (4)	July 22	High	96°	78.00°	07/22	91° High	76° Low
	July 17	Low	65°		07/17	78° High	58° Low
Room Side Face (3)	July 13	High	79°	73.62°	07/13	86° High	71° Low
	July 11	Low	69°		07/11	83° High	63° Low



West Windows

Averages

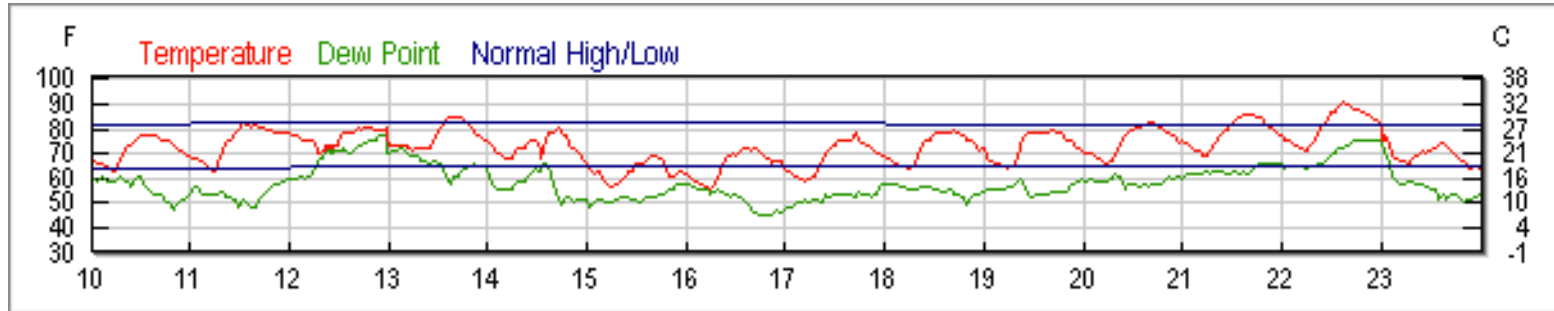
Temperature Comparisons

Outside Window Frame	July 13 High 97° July 15 Low 58°	74.13°	07/13 86° High 07/15 71° High	71° Low 57° Low
Inside Window Frame	July 22 High 91° July 16 Low 62°	74.12°	07/22 91° High 07/16 73° High	72° Low 56° Low
Window Side Face (4.5" inset from wall face)	July 13 High 78° July 17 Low 70°	72.89°	07/13 86° High 07/17 78° High	71° Low 58° Low
Room Side Face (4" inset from wall face)	July 13 High 77° July 11 Low 67°	72.74°	07/13 86° High 07/11 83° High	71° Low 63° Low

Weather Data July 10 - 23 <http://bit.ly/1kfvdNf>

High July 22 91°

Low July 16 56°



Daily Data July 10 - 16

07/10 <http://bit.ly/1qQBRK6>

07/11 <http://bit.ly/1oR0LHE>

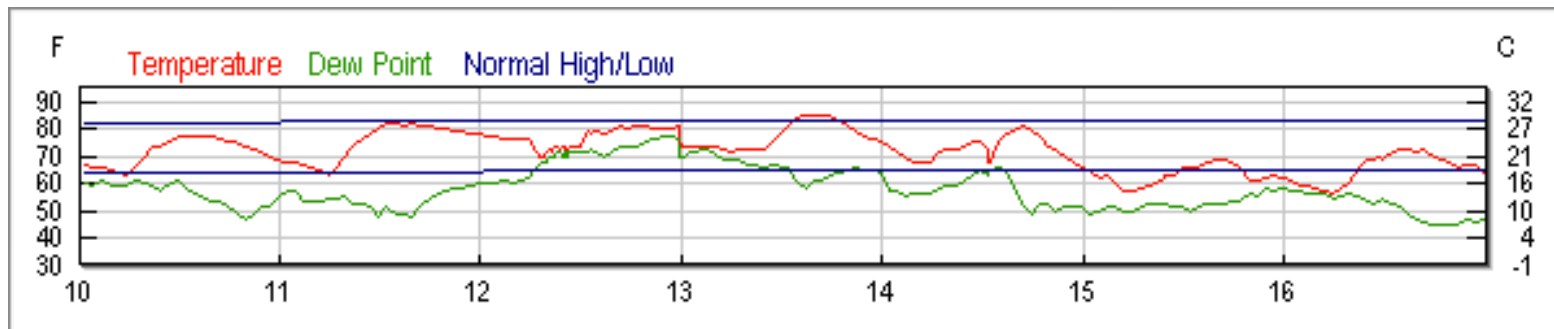
07/12 <http://bit.ly/1sPjqEZ>

07/13 <http://bit.ly/1ozyXog>

07/14 <http://bit.ly/1ksBG1l>

07/15 <http://bit.ly/1r4aD2H>

07/16 <http://bit.ly/1tVB0v8>



Daily Data July 17 - 23

07/17 <http://bit.ly/Wi77WY>

07/18 <http://bit.ly/1zTlz7s>

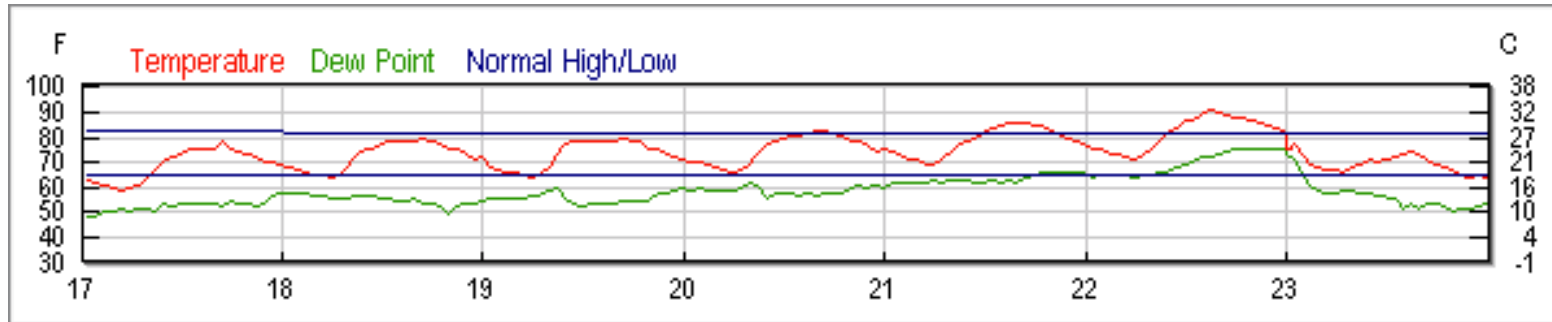
07/19 <http://bit.ly/1pruxBx>

07/20 <http://bit.ly/1rw29D2>

07/21 <http://bit.ly/1A3Cl3A>

07/22 <http://bit.ly/1kXOLk0>

07/23 <http://bit.ly/UqbfmB>



Notes.

- (1) The **July 22 exterior High of 93° vs. Low of 72° = 21° difference.** By comparison the **July 22 face of shade High of 77° vs Low of 70° = 7° difference.**
- (2) The **July 16 exterior Low of 57° vs. High of 80° = 23° difference.** By comparison the **July 16 face of shade Low of 71° vs. High of 74° = 3° difference.**
- (3) The **exterior High of 93° to Low of 57° = 36° swing.** The **face of shade High of 79° to Low of 69° = 10° swing.** The **exterior average of 73.65° vs. face of shade average of 73.62° = 0.03° 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.