

**Performance & Weather Data July 24 - August 06**

**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.

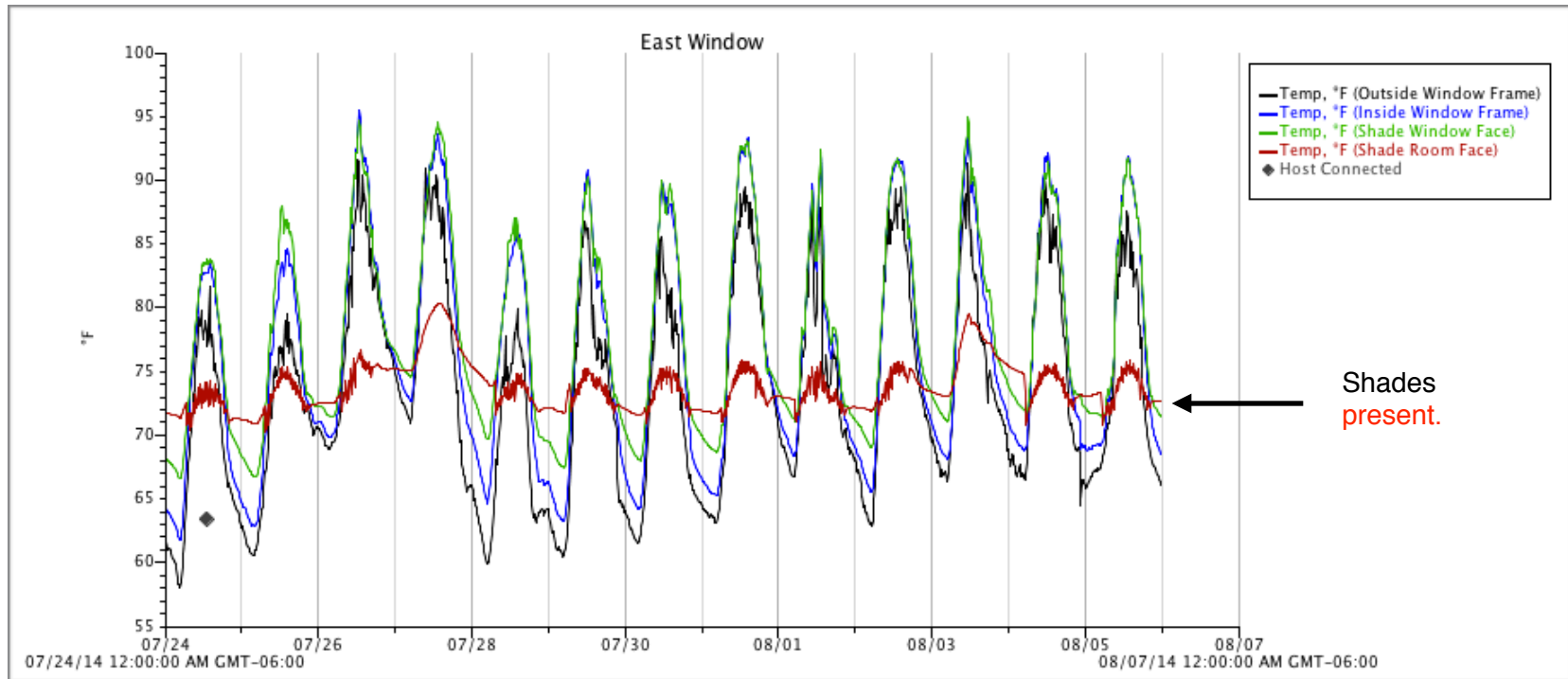
One [Onset](#) data logger and four sensors deployed per window assembly.

**Black** = outside window frame.

**Blue** = inside window frame.

**Green** = window side face of shade.

**Red** = room side face of shade.



### East Windows

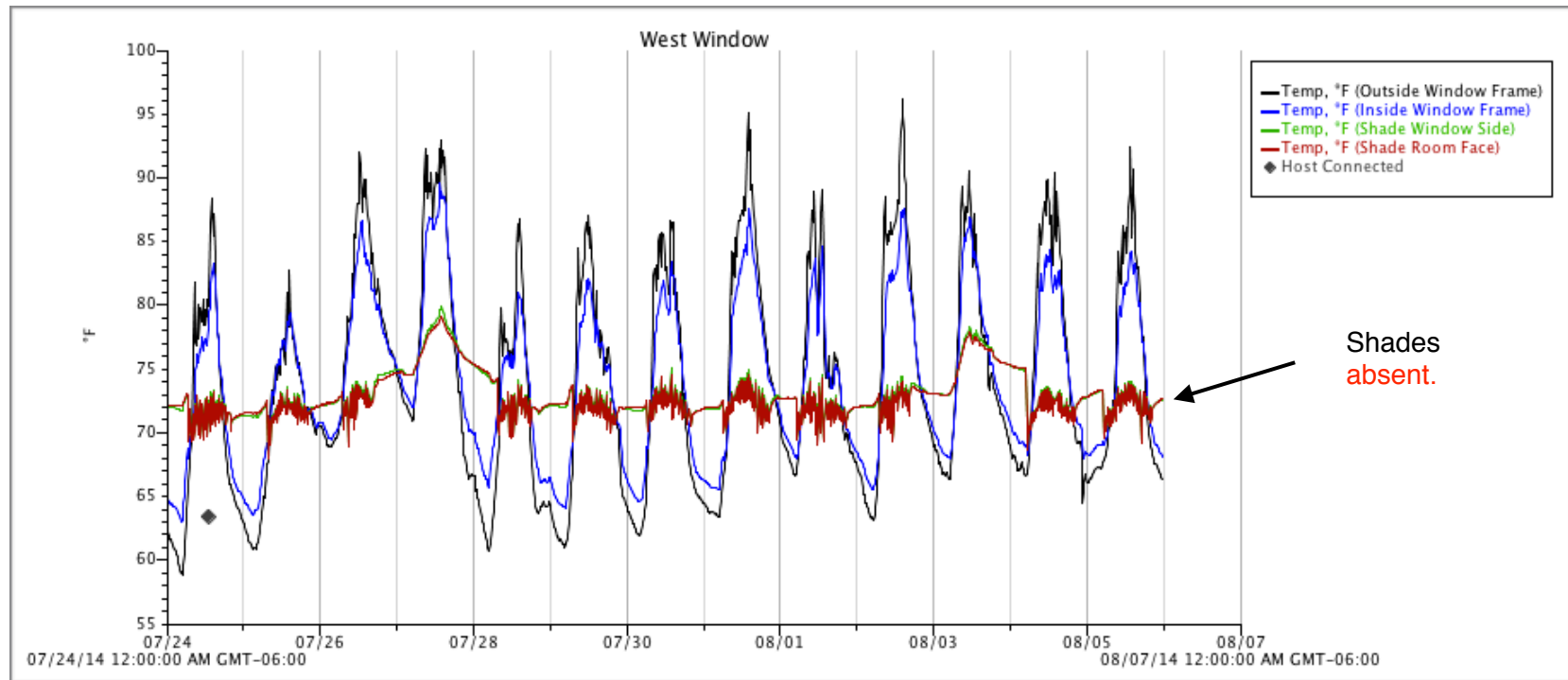
Outside Window Frame (1) (3)	July 26 High 92°
	July 24 Low 58°
Inside Window Frame (4)	July 26 High 95°
	July 24 Low 62°
Window Side Face (4)	Aug 3 High 95°
	July 24 Low 67°
Room Side Face (3)	July 27 High 80°
	July 25 Low 70°

### Averages

73.54°
76.58°
78.15°
73.76°

### Temperature Comparisons

07/26	85° High	70° Low
07/24	75° High	60° Low
07/26	85° High	70° Low
07/24	75° High	60° Low
08/03	87° High	66° Low
07/24	75° High	60° Low
07/27	89° High	66° Low
07/25	77° High	60° Low



### West Windows

### Averages

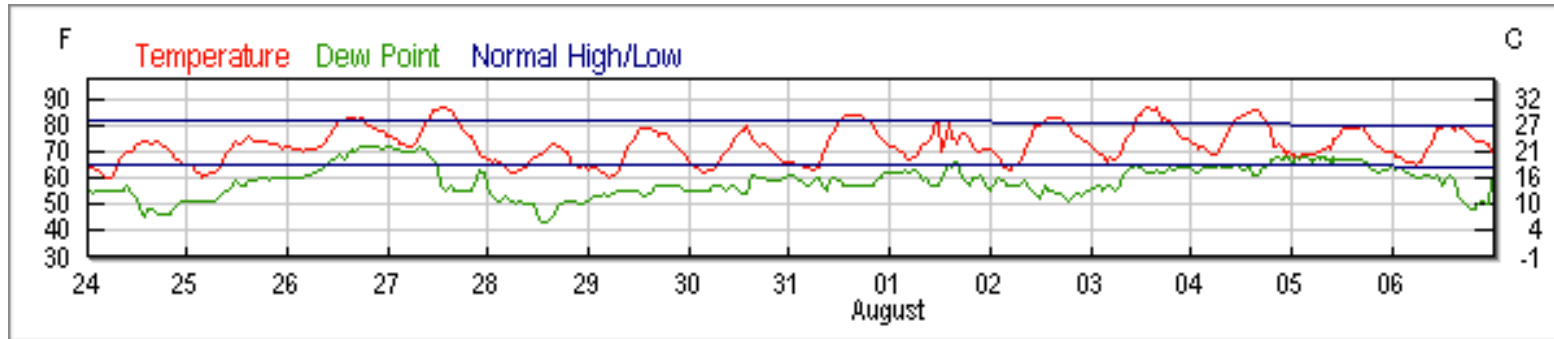
### Temperature Comparisons

Outside Window Frame	Aug 2 High 96° July 24 Low 59°	74.12°	08/02 84° High 07/24 75° High	63° Low 60° Low
Inside Window Frame	July 27 High 90° July 24 Low 63°	73.95°	07/27 89° High 07/24 75° High	66° Low 60° Low
Window Side Face (4.5" inset from wall face)	July 27 High 80° July 25 Low 68°	72.86°	07/27 89° High 07/25 77° High	66° Low 60° Low
Room Side Face (4" inset from wall face)	July 27 High 79° July 25 Low 68°	72.79°	07/27 89° High 07/25 77° High	66° Low 60° Low

**Weather Data** July 24 - Aug 06 <http://bit.ly/VdGP7b>

High July 27 89°

Low July 29 60°



**Daily Data** July 24 - 30 <http://bit.ly/1nGc0iH>

07/24 <http://bit.ly/1omEFxN>

07/25 <http://bit.ly/1rJ7MOM>

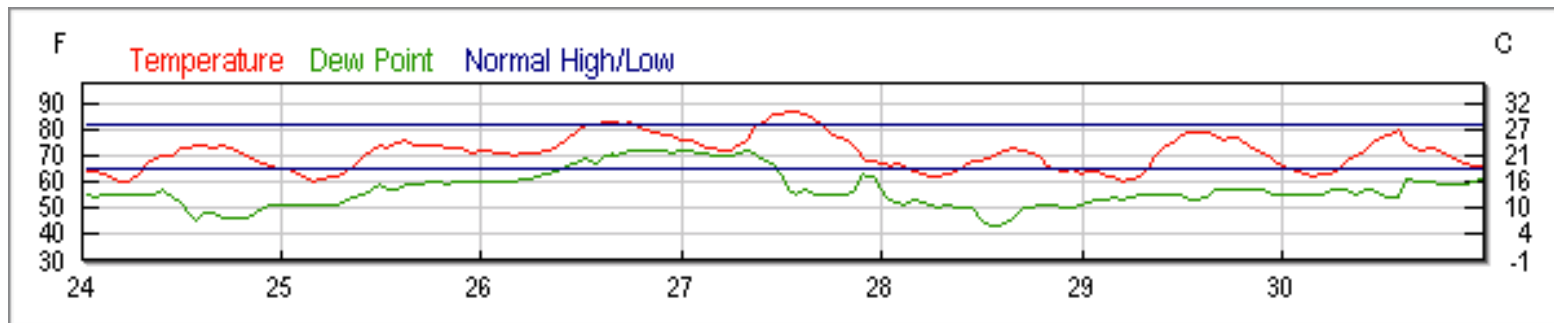
07/26 <http://bit.ly/1nvo7nc>

07/27 <http://bit.ly/1nRGvrB>

07/28 <http://bit.ly/XaPOi0>

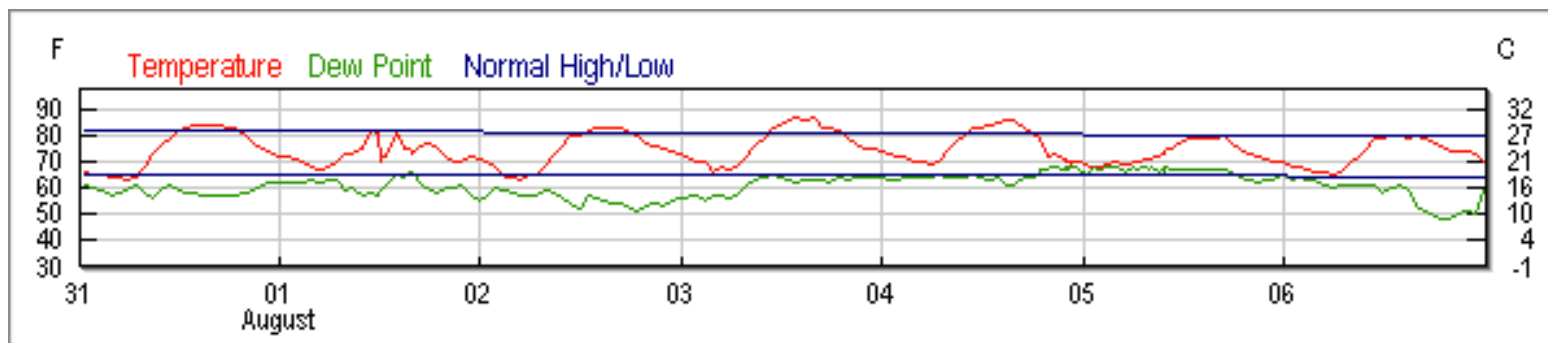
07/29 <http://bit.ly/1qmNTs2>

07/30 <http://bit.ly/1u3rbYw>



**Daily Data** July 31 - August 06 <http://bit.ly/1kuQC4R>

07/31 <http://bit.ly/1nbp13h>      08/01 <http://bit.ly/1o1pR92>      08/02 <http://bit.ly/1p2fJvM>  
08/03 <http://bit.ly/1oIRMdS>      08/04 <http://bit.ly/1p7NM5M>      08/05 <http://bit.ly/1or3dRL>  
08/06 <http://bit.ly/1sAmlwh>



**Notes.**

- (1) The **July 26 exterior High of 92° vs. Low of 69° = 23° difference.** By comparison the **July 27 face of shade High of 80° vs. Low of 75° = 05° difference.**
- (2) The **July 24 exterior Low of 58° vs. High of 82° = 24° difference.** By comparison the **July 25 face of shade Low of 70° vs. High of 75° = 05° difference.**
- (3) The **exterior High of 92° to Low of 58° = 00° swing.** The **face of shade High of 80° to Low of 70° = 10° 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.