

Performance & Weather Data May 29 - June 11

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 June.

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.

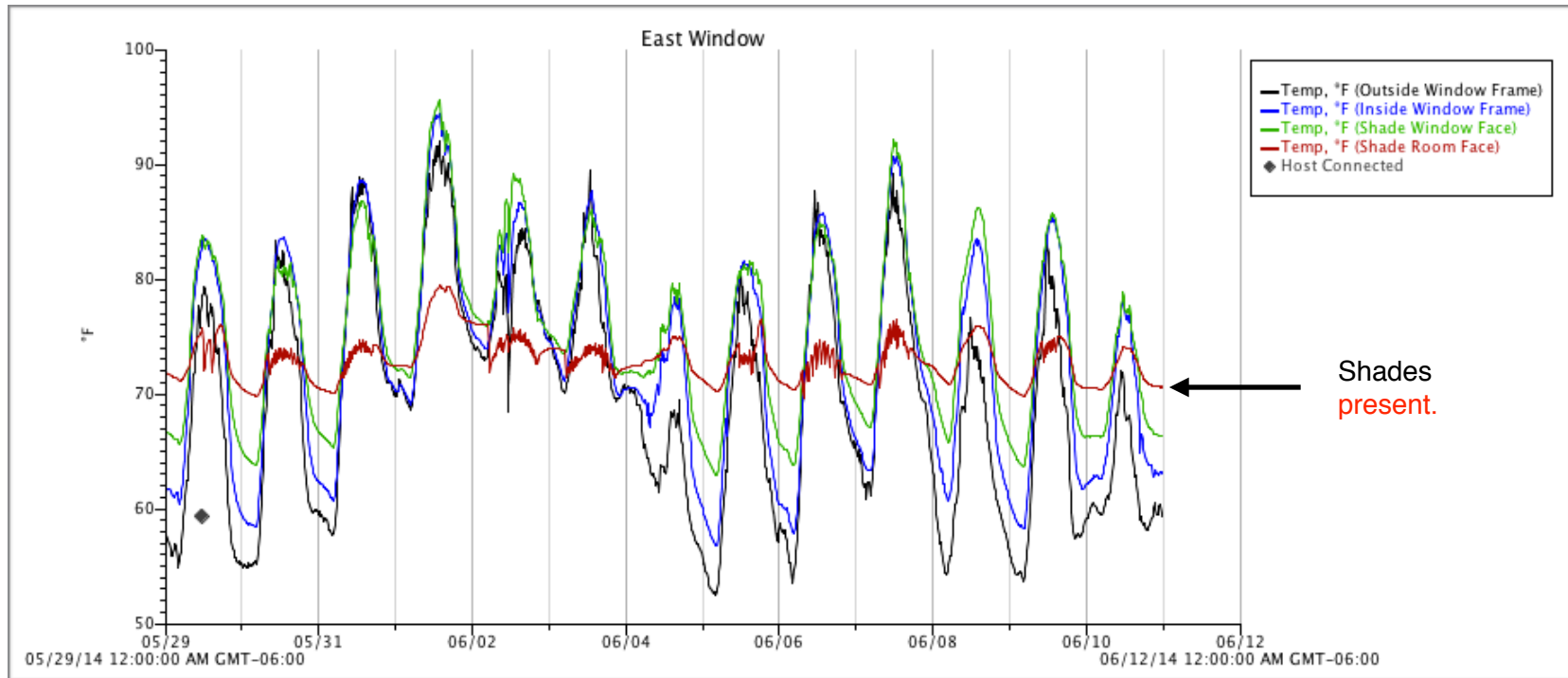
One [Onset](#) data logger and four sensors deployed per window assembly.

[Black](#) = outside window frame.

[Blue](#) = inside window frame.

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

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

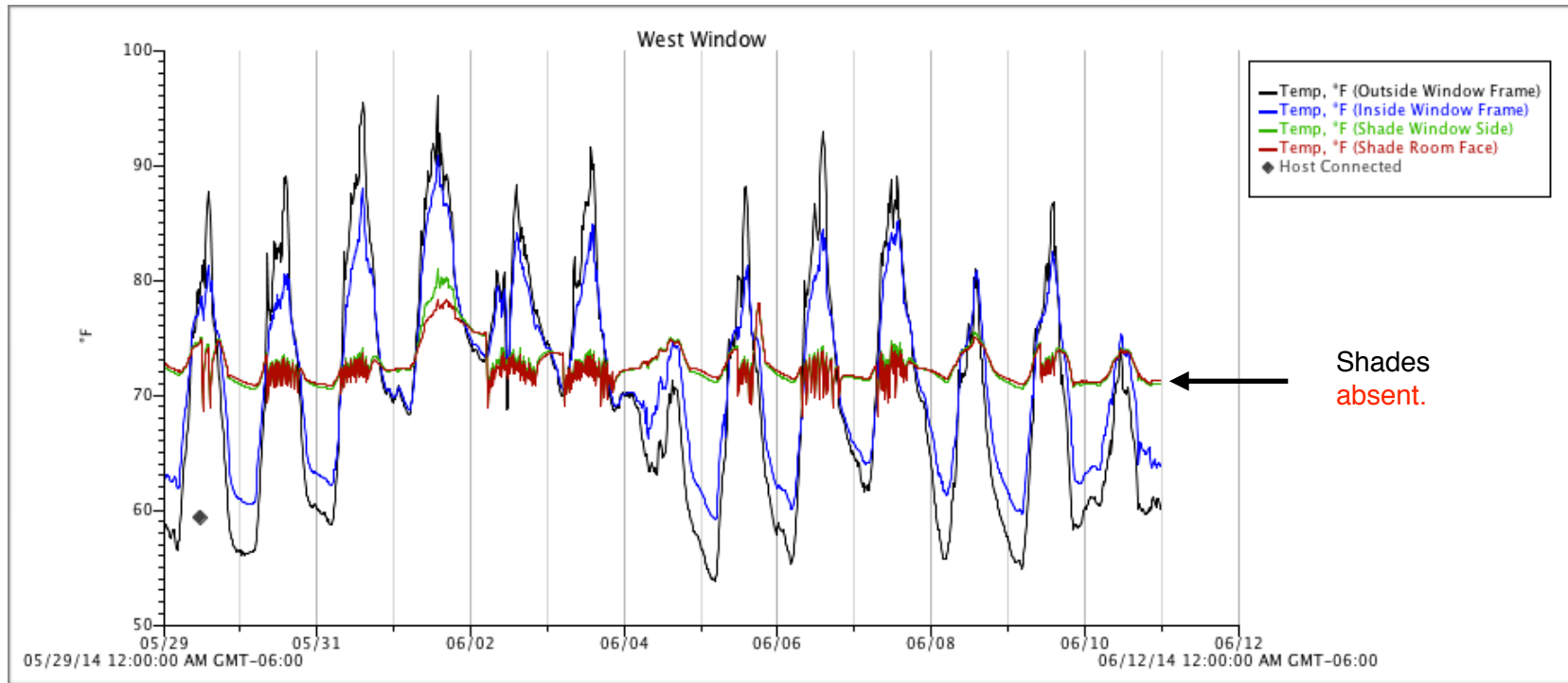


East Windows

Averages

Temperature Comparisons

Outside Window Frame (1) (3)	Jun 1	High 92°	69.58°	06/01	92° High	69° Low
	(2) Jun 5	Low 53°		06/05	75° High	56° Low
Inside Window Frame (4)	Jun 1	High 94°	73.16°	06/01	92° High	69° Low
	Jun 5	Low 57°		06/05	75° High	56° Low
Window Side Face (4)	Jun 1	High 96°	75.35°	06/01	92° High	69° Low
	Jun 5	Low 63°		06/05	75° High	56° Low
Room Side Face (3)	Jun 1	High 79°	72.96°	06/01	92° High	69° Low
	May 30	Low 70°		05/30	79° High	57° Low



West Windows

Averages

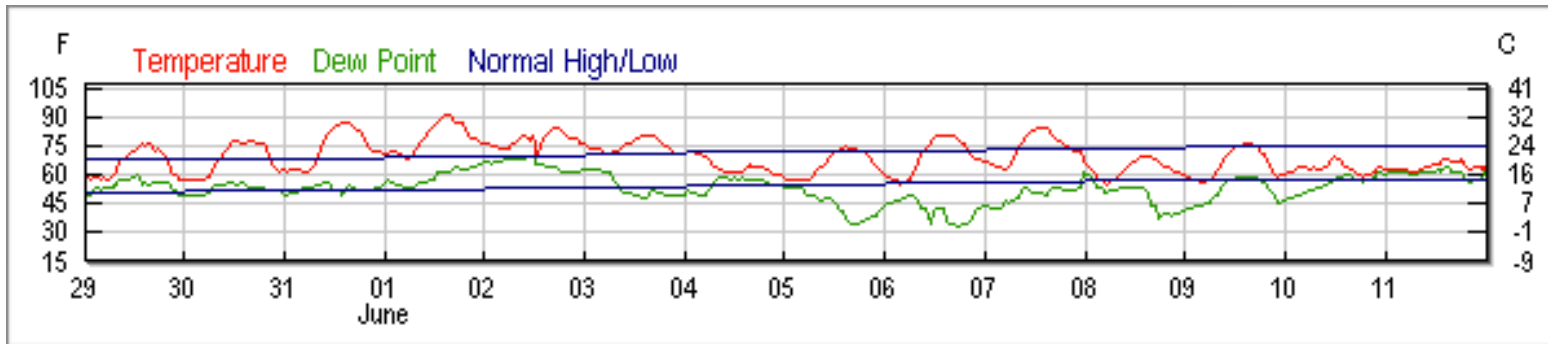
Temperature Comparisons

Outside Window Frame	Jun 1	High 96°	70.61°	06/01	92° High	69° Low
	Jun 5	Low 54°		06/05	75° High	56° Low
Inside Window Frame	Jun 1	High 91°	71.58°	06/01	92° High	69° Low
	Jun 5	Low 59°		06/05	75° High	56° Low
Window Side Face (4.5" inset from wall face)	Jun 1	High 81°	72.63°	06/01	92° High	69° Low
	May 30	Low 74°		05/30	79° High	57° Low
Room Side Face (4" inset from wall face)	Jun 5	High 78°	72.55°	06/05	75° High	56° Low
	Jun 6	Low 68°		06/06	82° High	54° Low

Weather Data May 29 - June 11 <http://bit.ly/1tXMZIF>

High June 1 92°

Low June 6 54°



Daily Data May 29 - June 04

05/29 <http://bit.ly/1wz14ep>

05/30 <http://bit.ly/1ruufPP>

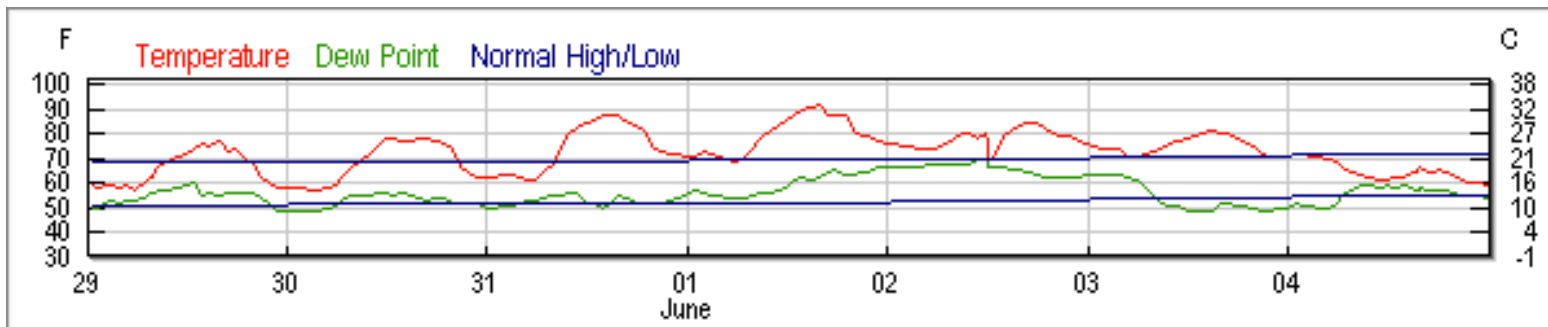
05/31 <http://bit.ly/1gTr6EF>

06/01 <http://bit.ly/1pM0pSh>

06/02 <http://bit.ly/1jOCZqb>

06/03 <http://bit.ly/1iV7qLS>

06/04 <http://bit.ly/1ofA1B4>



Daily Data June 5 - 11

06/05 <http://bit.ly/SAYXXA>

06/06 <http://bit.ly/1kTDxeK>

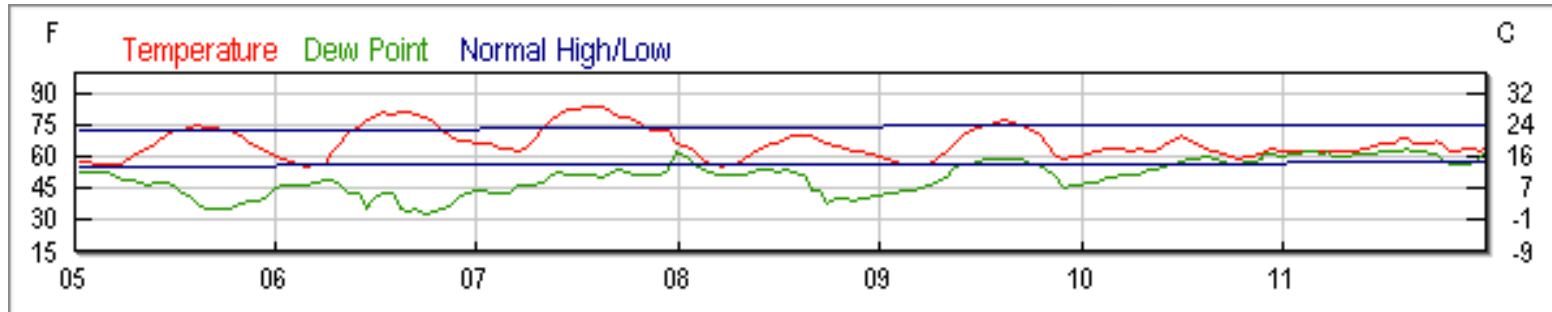
06/07 <http://bit.ly/SFpS4B>

06/08 <http://bit.ly/1pvEsHB>

06/09 <http://bit.ly/1hEwBqZ>

06/10 <http://bit.ly/1uXGnHs>

06/11 <http://bit.ly/1liMDX8>



Notes.

- (1) The **June 1 exterior High of 92° vs. Low of 69° = 23° difference.** By comparison the **June 1 face of shade High of 79° vs Low of 72° = 7° difference.**
- (2) The **June 5 exterior Low of 53° vs. High of 80° = 27° difference.** By comparison the **June 5 face of shade Low of 70° vs. High of 77° = 7° difference.**
- (3) The **exterior High of 92° to Low of 53° = 39° swing.** The **face of shade High of 79° to Low of 70° = 9° swing.** The **exterior average of 69.58° vs. face of shade average of 72.96° = 3.38° 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.