

Performance & Weather Data June - August 2014

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 average 85% shading during this period.

The weather and temperature 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.

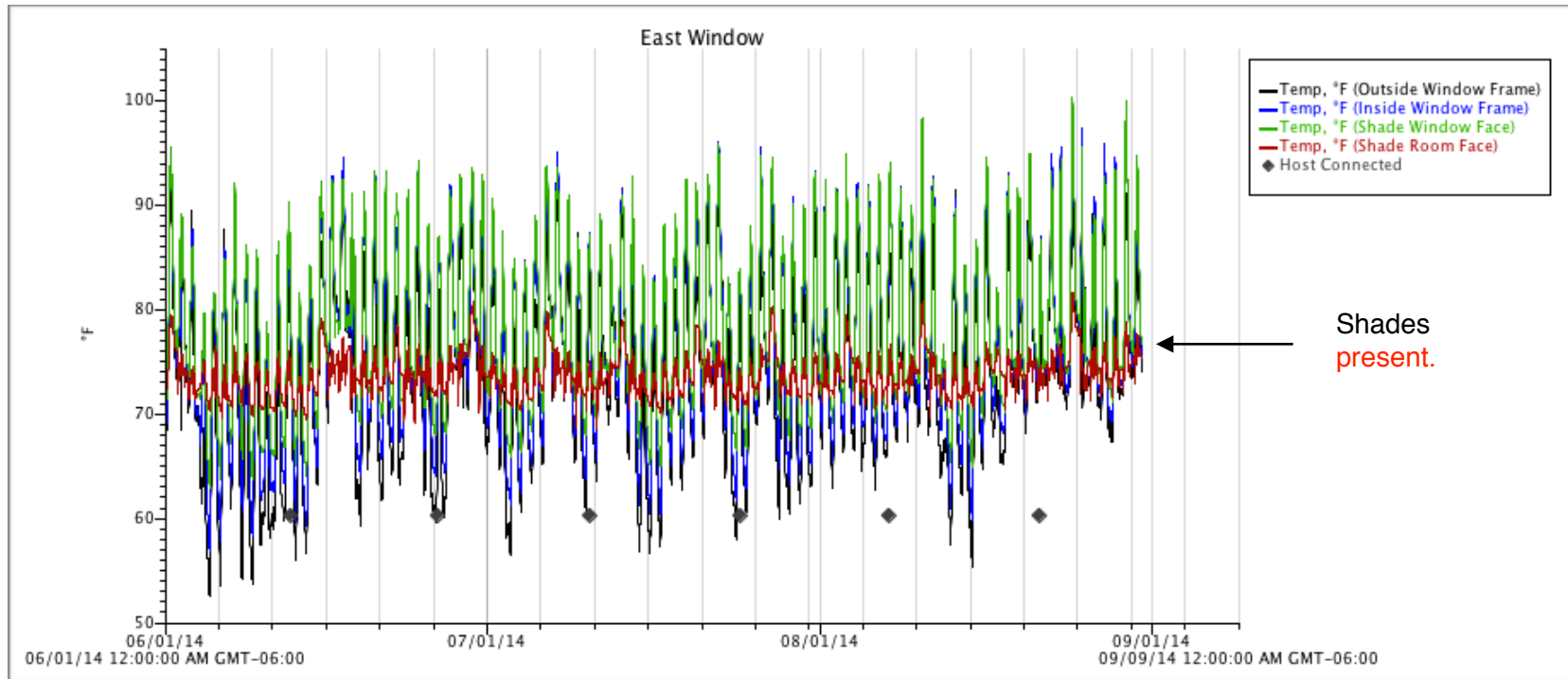
One [Onset](#) data logger and four sensors deployed per window assembly.

Black = outside window frame.

Blue = inside window frame.

Green = window side face of shade.

Red = room side face of shade.

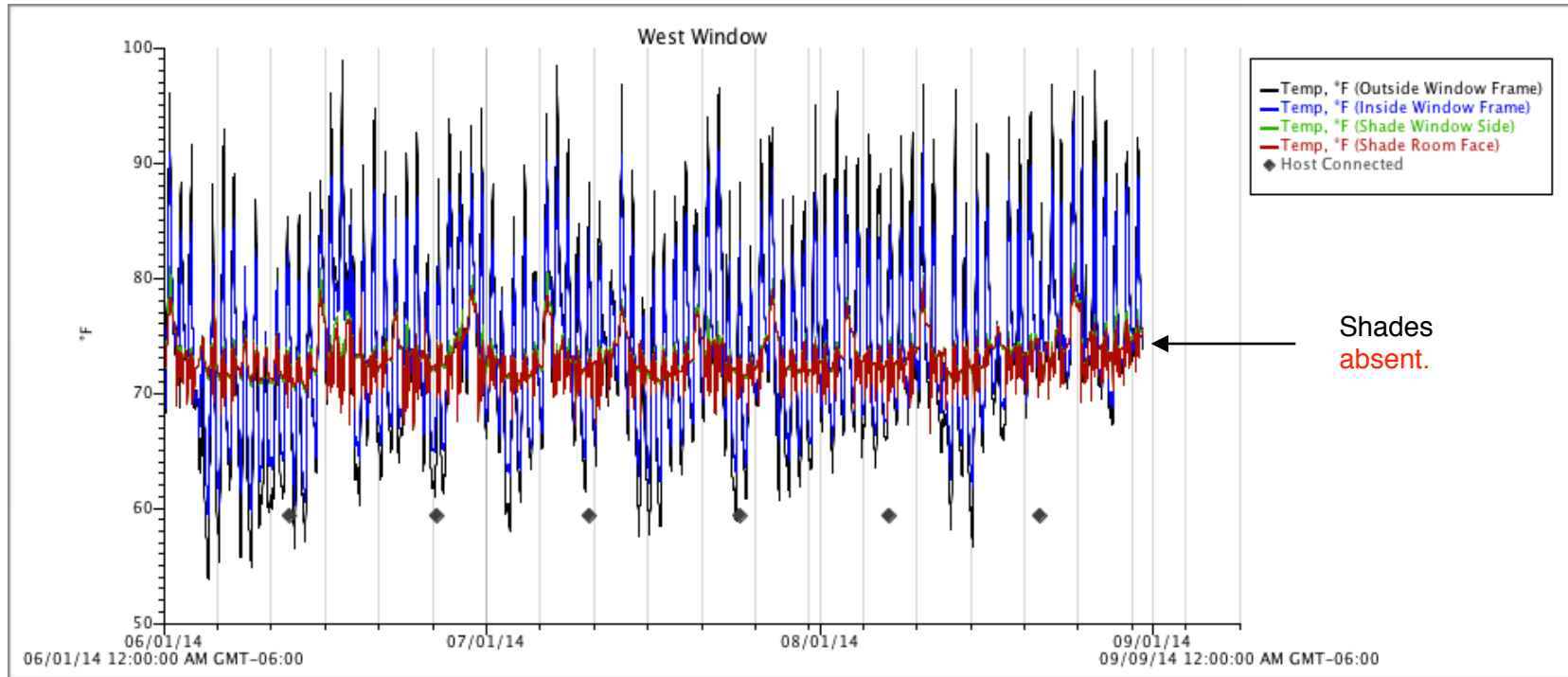


East Windows

Averages

Temperature Comparisons

Outside Window Frame (1) (3)	Jun 25	High	94°	73.72°	06/25	79° High	62° Low
	(2) Jun 5	Low	57°		06/05	75° High	56° Low
Inside Window Frame (4)	Aug 10	High	97°	76.64°	08/10	82° High	71° Low
	Jun 5	Low	57°		06/05	75° High	56° Low
Window Side Face (4)	Aug 24	High	89°	78.24°	08/24	89° High	73° Low
	Jun 5	Low	63°		06/05	75° High	56° Low
Room Side Face (3)	Aug 31	High	82°	73.79°	08/31	87° High	71° Low
	Jun 24	Low	69°		06/24	85° High	70° Low



West Windows

Averages

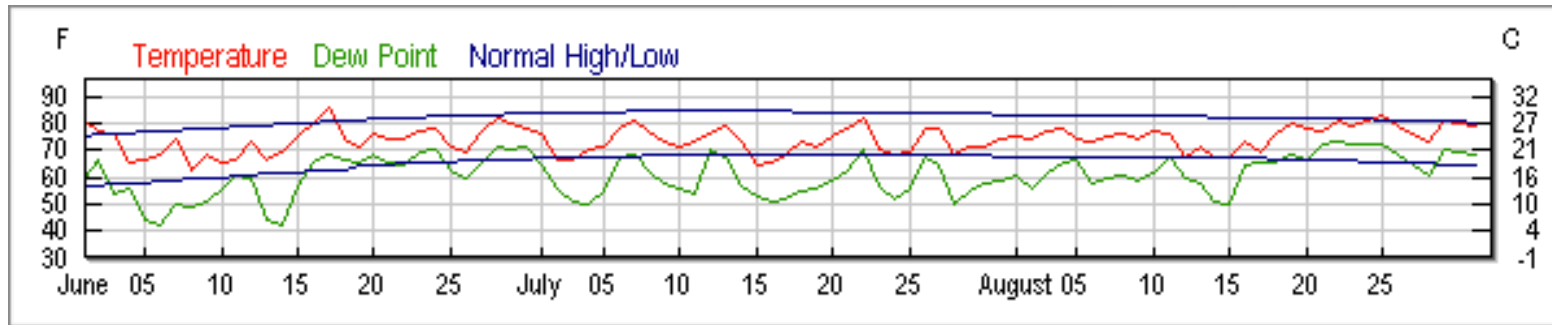
Temperature Comparisons

Outside Window Frame	June 17	High	99°	74.25°	06/17	93° High	79° Low
	June 5	Low	54°		06/05	75° High	56° Low
Inside Window Frame (5)	Aug 24	High	94°	74.25°	08/24	89° High	73° Low
	June 5	Low	59°		06/05	75° High	56° Low
Window Side Face (4.5" inset from wall face)	Aug 31	High	83°	73.02°	08/31	87° High	71° Low
	July 25	Low	68°		07/25	77° High	60° Low
Room Side Face (4" inset from wall face)	Aug 31	High	81°	72.88°	08/31	87° High	71° Low
	June 24	Low	67°		06/24	85° High	70° Low

Weather Data June 1 - August 31 <http://bit.ly/1xuRDzK>

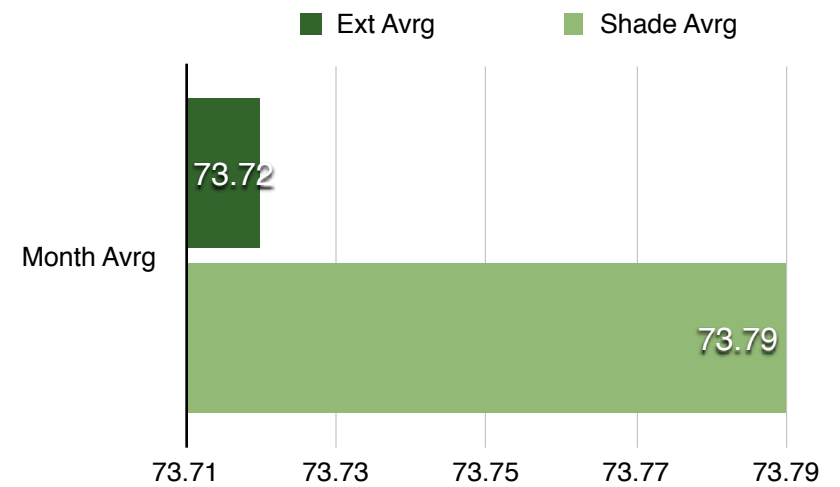
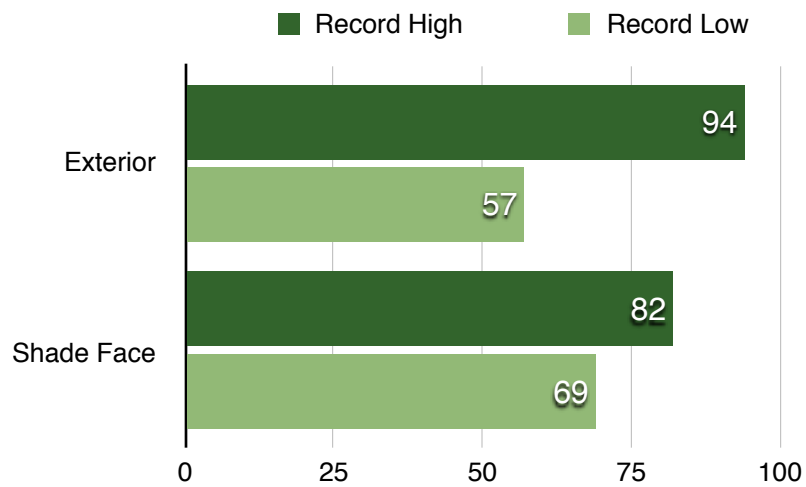
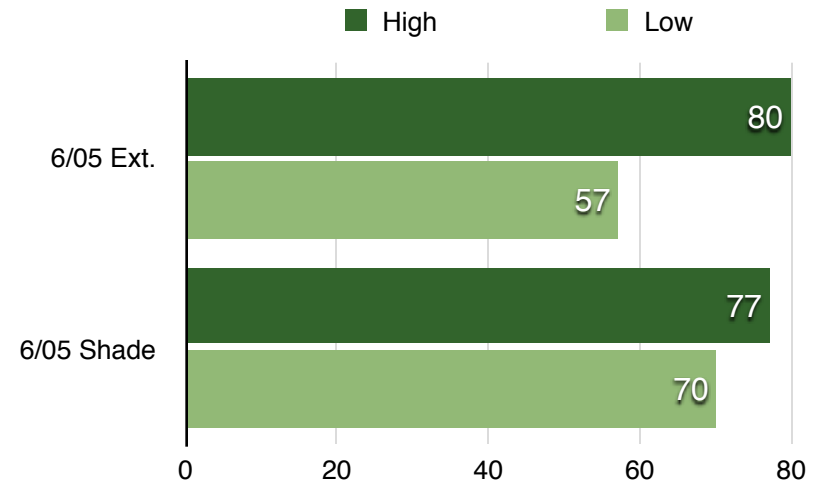
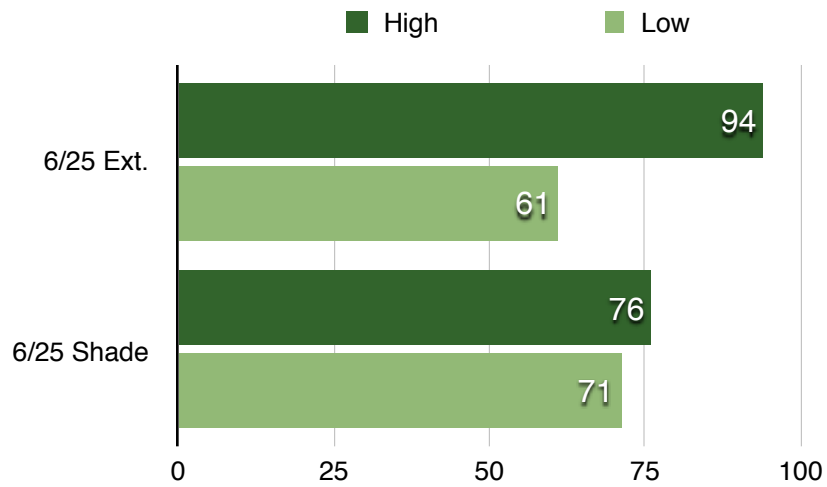
High June 17 93°

Low June 6 54°



Notes.

- (1) The **June 25 exterior High of 94° vs. Low of 61° = 33° difference.** By comparison the **June 25 face of shade High of 76° vs Low of 71° = 5° difference.**
- (2) The **June 5 exterior Low of 57° vs. High of 80° = 23° difference.** By comparison the **June 5 face of shade Low of 70° vs. High of 77° = 7° difference.**
- (3) The **exterior High of 94° to Low of 57° = 37° swing.** The **face of shade High of 82° to Low of 69° = 13° swing.** The **exterior average of 73.72° vs. face of shade average of 73.79° = 0.07° 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.* A more accurate representation would be to use the High temperatures from the West Windows. Similarly some of this heat penetration to the inside face of the shades is likely to raise those temperatures somewhat.



The energy savings and increased comfort due to the temperature moderating and stabilizing effect of **HeatSaver® Thermal Shades** is evident.