

Performance & Weather Data June 12 - 25

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.

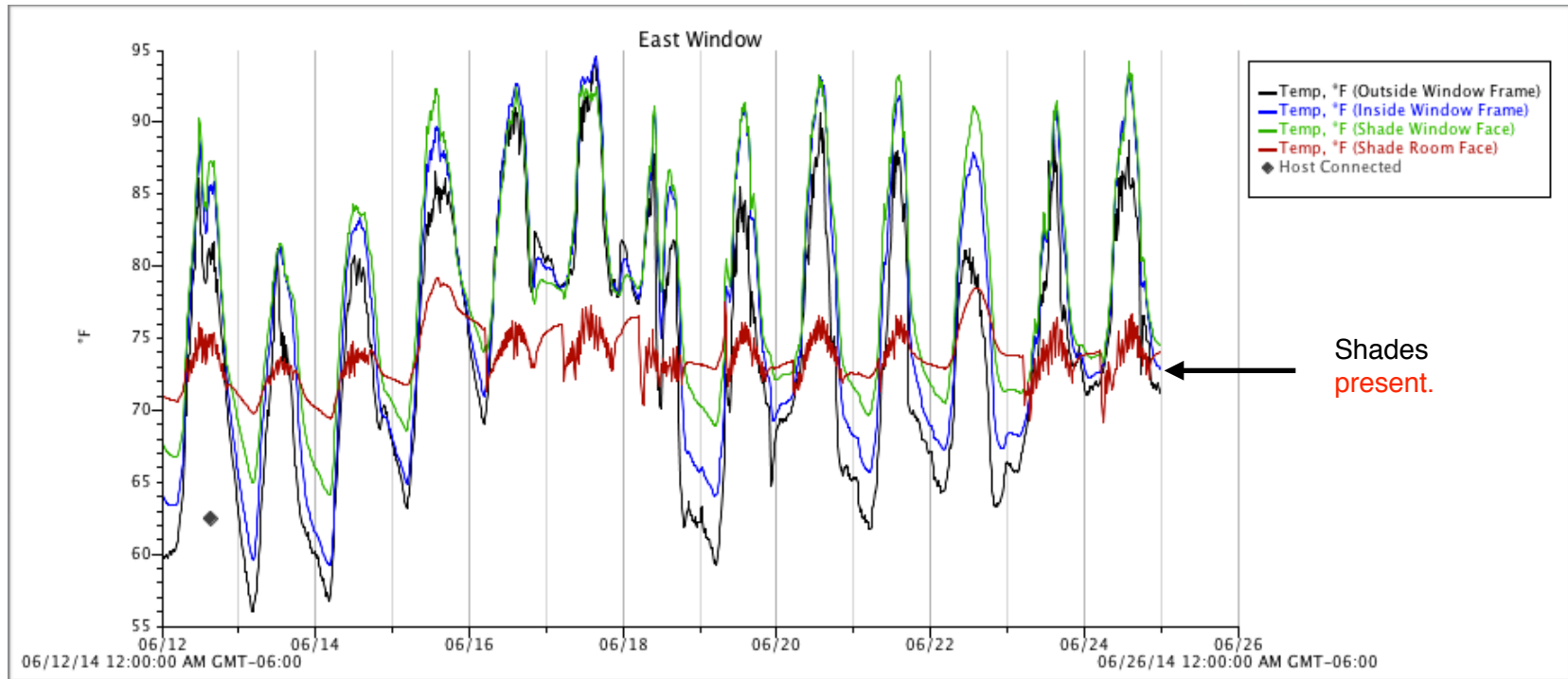
One [Onset](#) data logger and four sensors deployed per window assembly.

Black = outside window frame.

Blue = inside window frame.

Green = window side face of shade.

Red = room side face of shade.

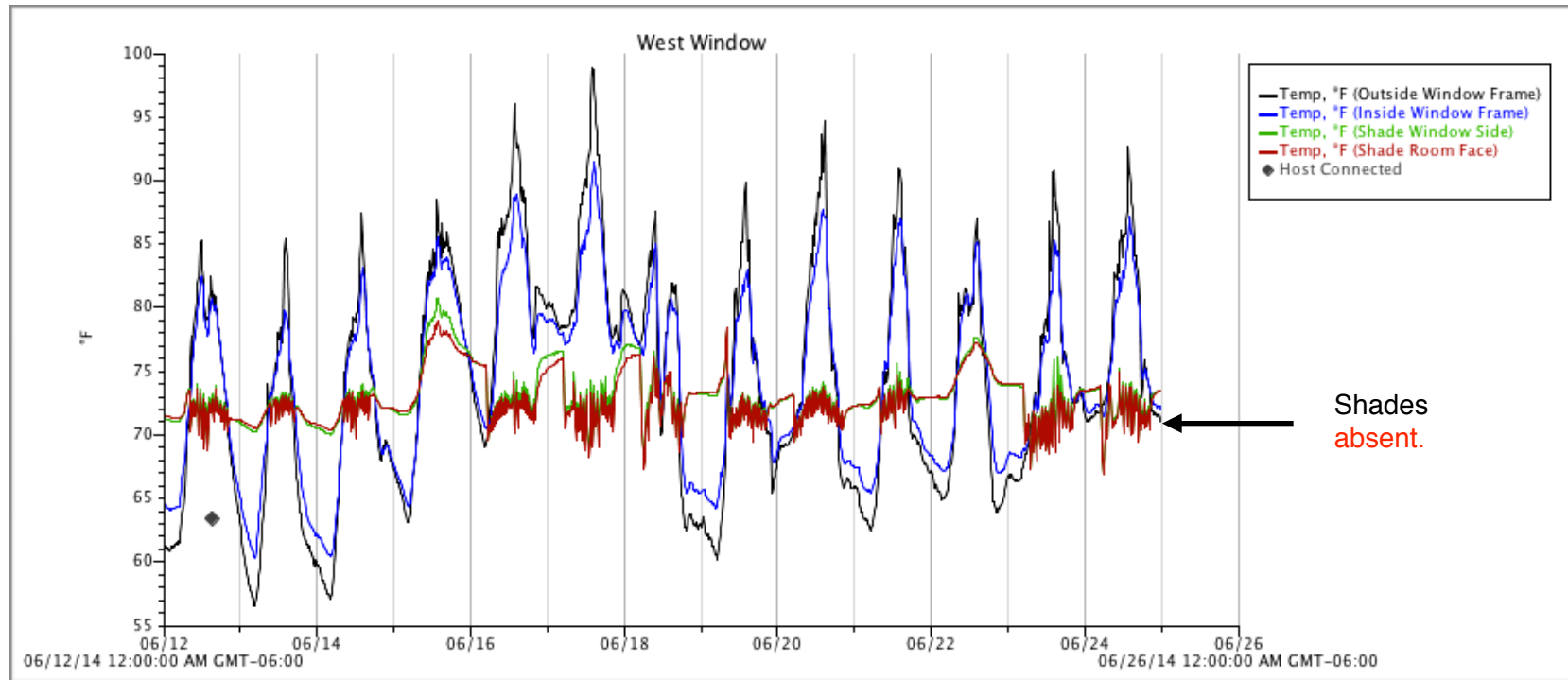


East Windows

Averages

Temperature Comparisons

| | | | | | | |
|------------------------------|--------|----------|--------|---------|----------|----------|
| Outside Window Frame (1) (3) | Jun 17 | High 94° | 73.97° | 06/17 | 93° High | 79° Low |
| | (2) | Jun 13 | | Low 56° | 06/13 | 75° High |
| Inside Window Frame (4) | Jun 17 | High 94° | 76.82° | 06/17 | 93° High | 79° Low |
| | Jun 14 | Low 59° | | 06/14 | 80° High | 57° Low |
| Window Side Face (4) | Jun 24 | High 94° | 78.60° | 06/24 | 85° High | 70° Low |
| | Jun 14 | Low 64° | | 06/14 | 80° High | 57° Low |
| Room Side Face (3) | Jun 15 | High 79° | 73.75° | 06/15 | 86° High | 64° Low |
| | Jun 24 | Low 69° | | 06/24 | 85° High | 70° Low |



West Windows

Averages

Temperature Comparisons

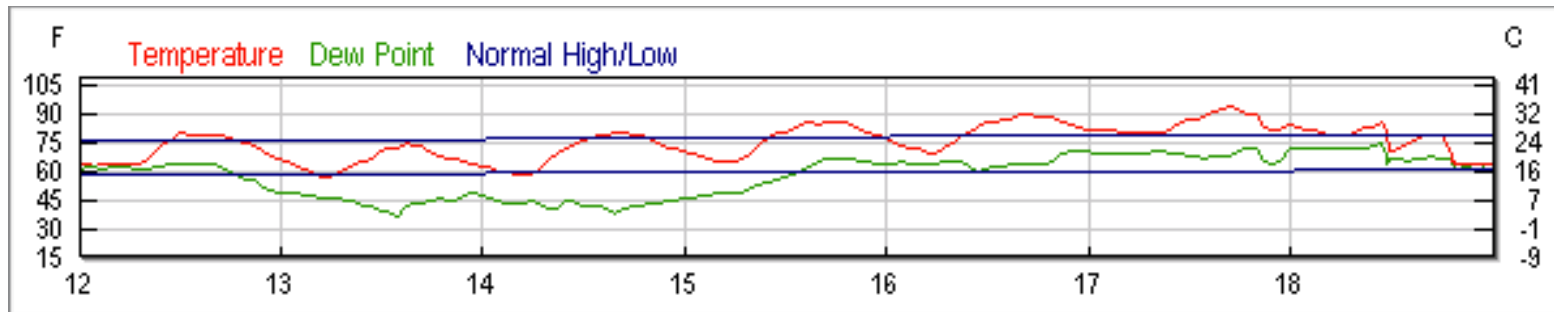
| | | | | |
|---|-----------------------------------|--------|----------------------------------|--------------------|
| Outside Window Frame | Jun 17 High 99° Jun 13 Low 56° | 74.35° | 06/17 93° High 06/13 75° High | 79° Low 57° Low |
| Inside Window Frame | Jun 17 High 91° Jun 13 Low 60° | 74.31° | 06/17 93° High 06/13 75° High | 79° Low 57° Low |
| Window Side Face (4.5" inset from wall face) | Jun 15 High 81° Jun 14 Low 70° | 72.91° | 06/15 86° High 06/14 80° High | 64° Low 57° Low |
| Room Side Face (4" inset from wall face) | Jun 15 High 79° Jun 24 Low 67° | 72.71° | 06/15 86° High 06/24 85° High | 64° Low 70° Low |

Weather Data June 12 - 25 <http://bit.ly/1qOx7Tk>
 High June 17 93° Low June 13 57°



Daily Data June 12 - 18

| | | |
|---|---|---|
| 06/12 http://bit.ly/1vad9VR | 06/13 http://bit.ly/1qLVvVX | 06/14 http://bit.ly/1ICWcAo |
| 06/15 http://bit.ly/1vsXAsz | 06/16 http://bit.ly/1lz4Awe | 06/17 http://bit.ly/1qsx7LH |
| 06/18 http://bit.ly/1IFlxLI | | |



Daily Data June 19 - 25

06/19 <http://bit.ly/1lby6gj>

06/20 <http://bit.ly/1wfb1ws>

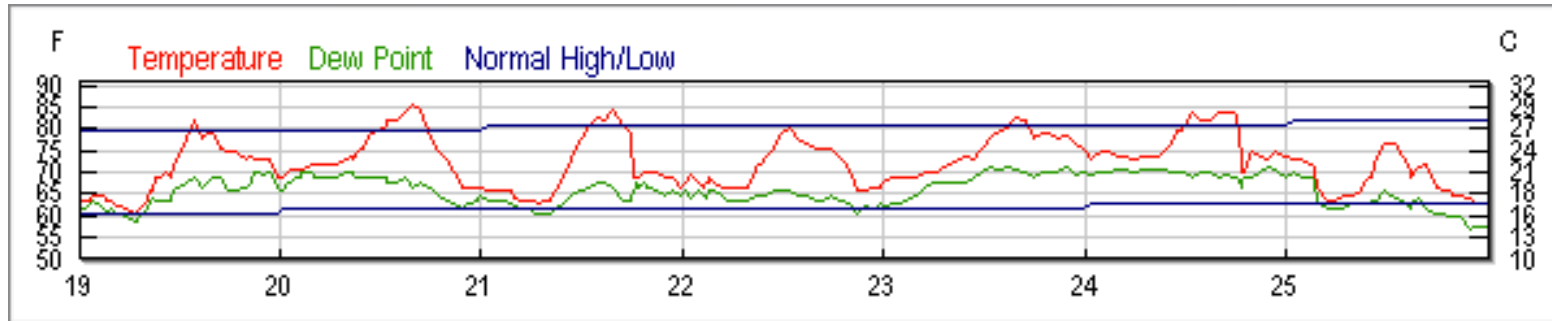
06/21 <http://bit.ly/1pYkeca>

06/22 <http://bit.ly/1iq4HQe>

06/23 <http://bit.ly/1ruqQN2>

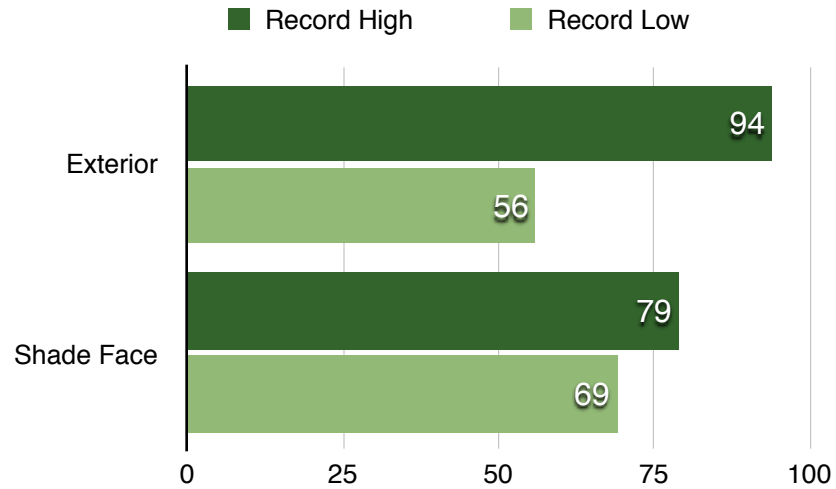
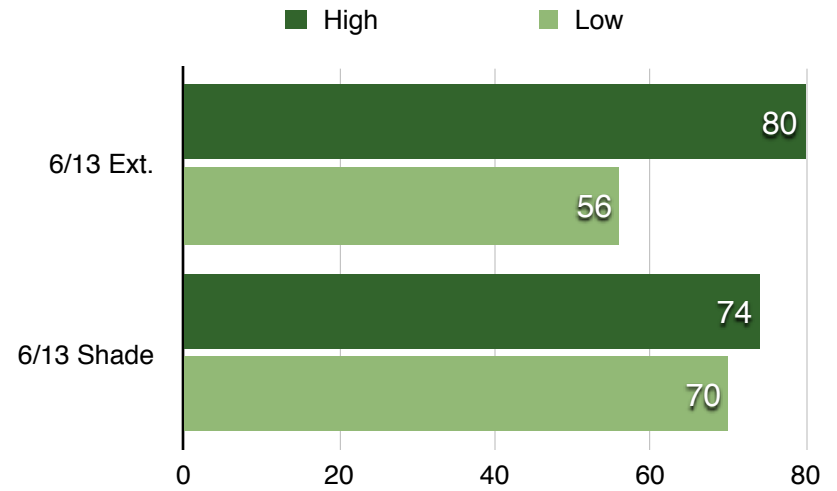
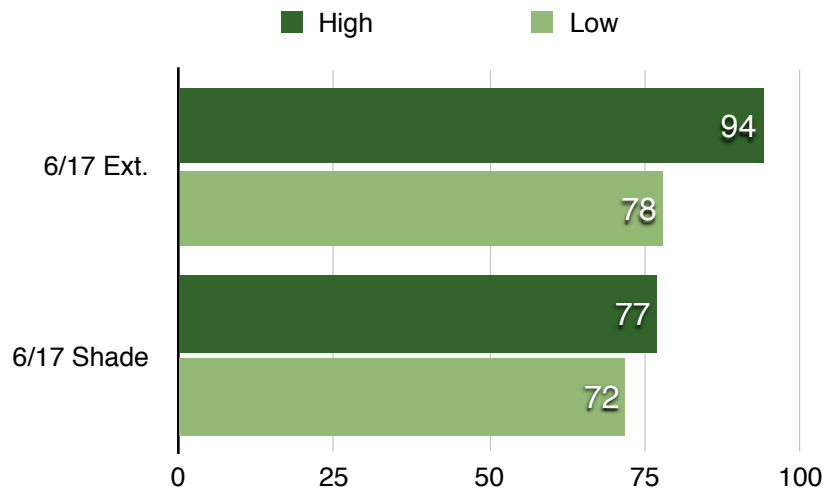
06/24 <http://bit.ly/1lvVxB4>

06/25 <http://bit.ly/1vdzX55>



Notes.

- (1) The **June 17 exterior High of 94° vs. Low of 78° = 16° difference.** By comparison the **June 17 face of shade High of 77° vs. Low of 72° = 5° difference.**
- (2) The **June 13 exterior Low of 56° vs. High of 80° = 24° difference.** By comparison the **June 13 face of shade Low of 70° vs. High of 74° = 4° difference.**
- (3) The **exterior High of 94° to Low of 56° = 38° swing.** The **face of shade High of 79° to Low of 69° = 10° swing.** The **exterior average of 73.97° vs. face of shade average of 73.75° = 0.22° 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.



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