

Performance & Weather Data May 15 - 28

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 *90% shading during May.*

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.

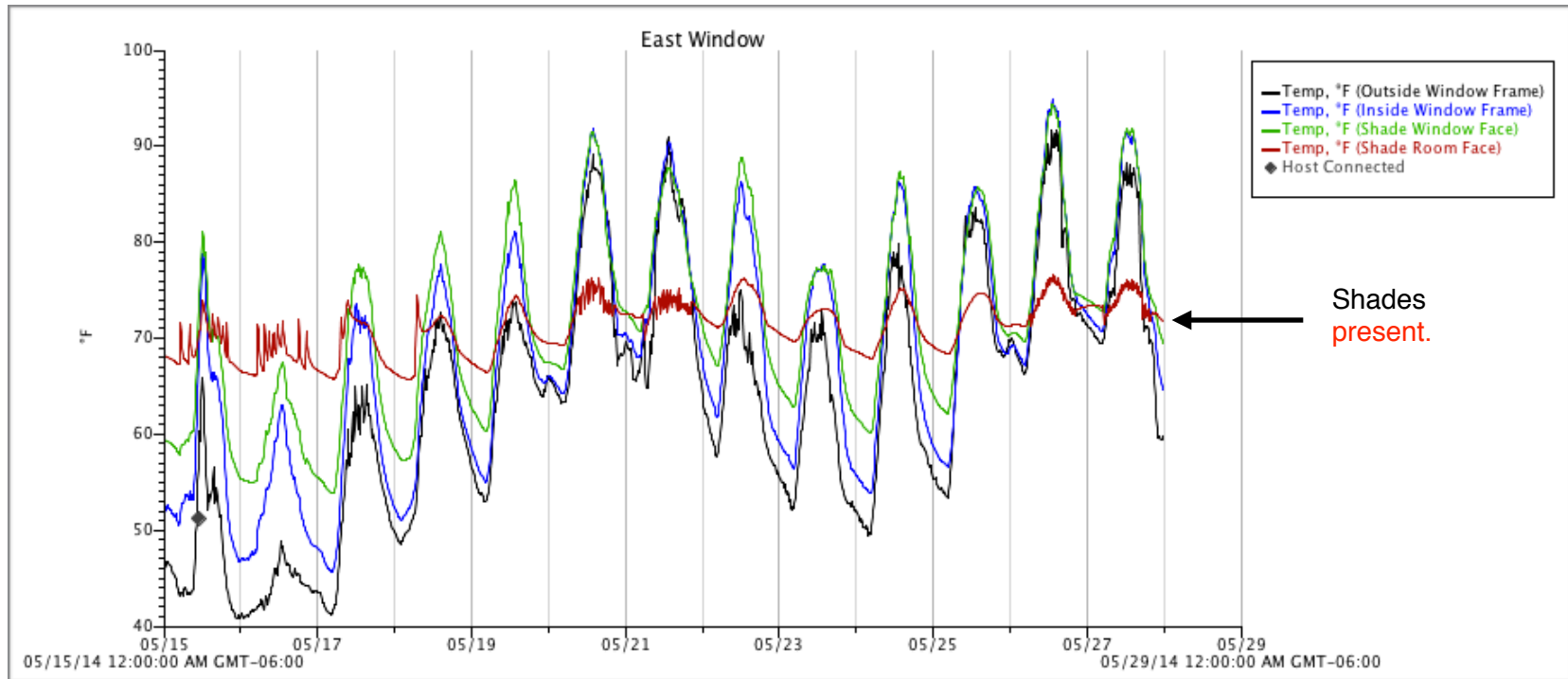
One [Onset](#) data logger and four sensors deployed per window assembly.

Black = outside window frame.

Blue = inside window frame.

Green = window side face of shade.

Red = room side face of shade.

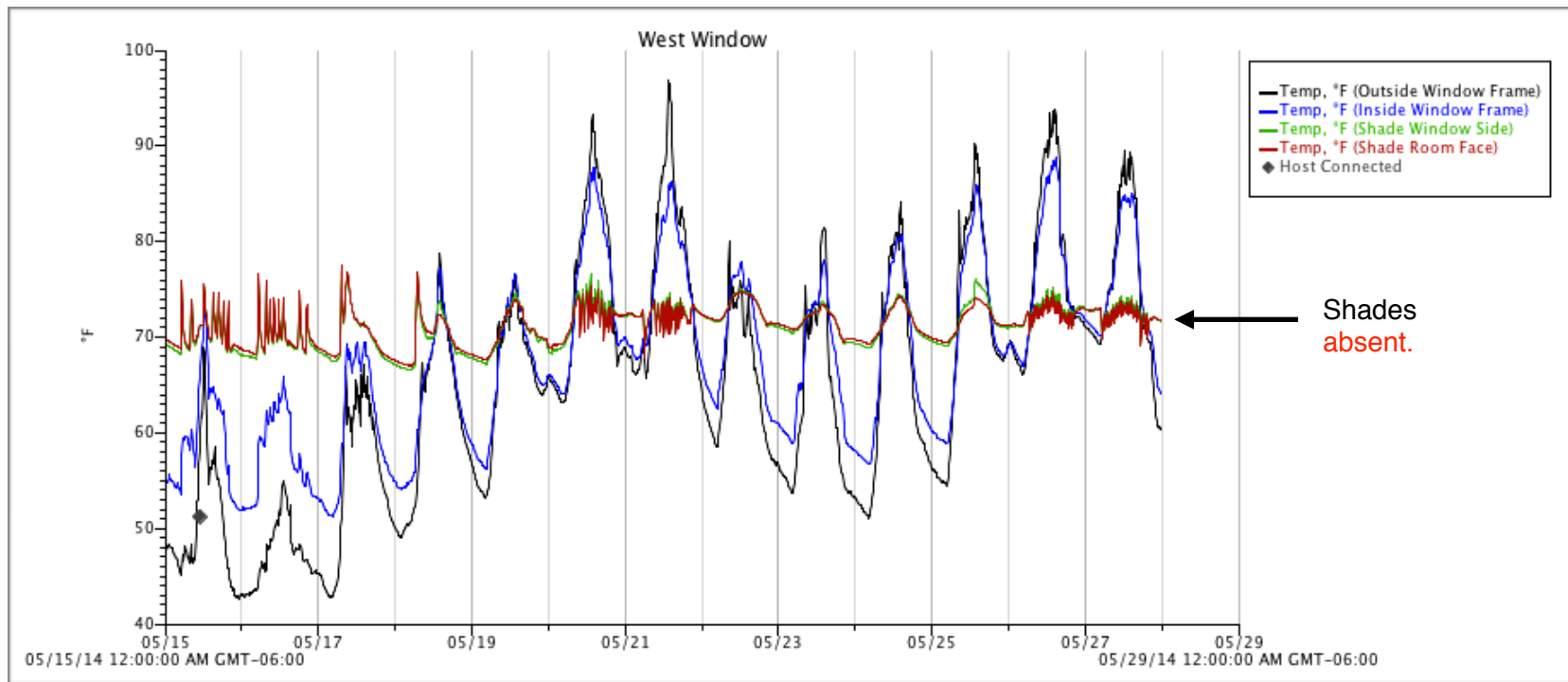


East Windows

Averages

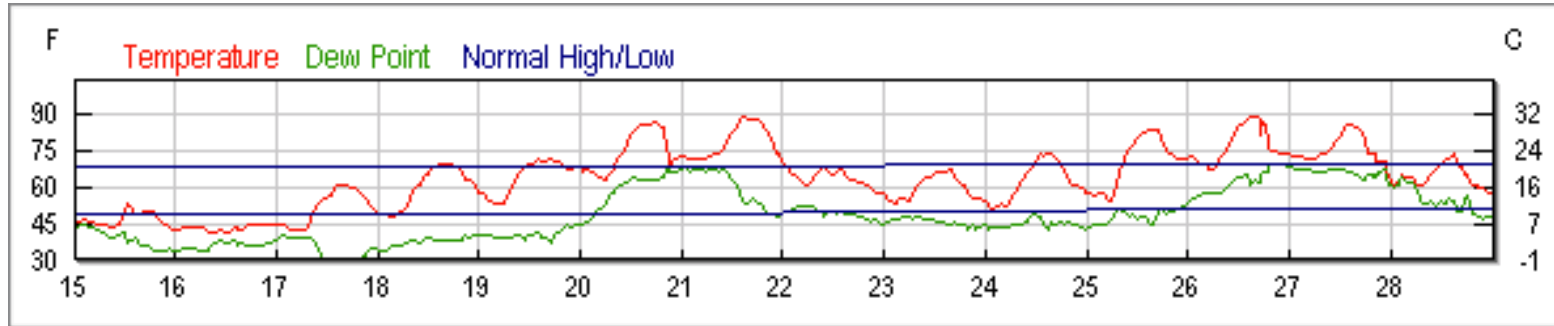
Temperature Comparisons

Outside Window Frame (1) (3)	May 26	High 92°	63.77°	05/26	90° High	67° Low
	May 15	Low 41°		05/15	57° High	42° Low
Inside Window Frame (4)	May 26	High 95°	68.38°	05/26	90° High	67° Low
	May 17	Low 46°		05/17	61° High	41° Low
Window Side Face (4)	May 26	High 94°	71.83°	05/26	90° High	67° Low
	May 17	Low 54°		05/17	61° High	41° Low
Room Side Face (3)	May 26	High 77°	71.15°	05/26	90° High	67° Low
	May 18	Low 66°		05/18	70° High	48° Low



West Windows		Averages	Temperature Comparisons	
Outside Window Frame	May 21 High 97° May 16 Low 43°	65.03°	05/21 89° High 05/16 00° High	68° Low 00° Low
Inside Window Frame	May 26 High 89° May 17 Low 51°	67.62°	05/26 90° High 05/17 61° High	67° Low 41° Low
Window Side Face (4.5" inset from wall face)	May 20 High 76° May 19 Low 67°	71.19°	05/20 87° High 05/19 71° High	63° Low 53° Low
Room Side Face (4" inset from wall face)	May 17 High 78° May 18 Low 67°	71.23°	05/17 61° High 05/18 70° High	41° Low 48° Low

Weather Data May 15 - 28 <http://bit.ly/UcxlmE>
High May 26 90° Low May 16 41°



Daily Data May 15 - 21

05/15 <http://bit.ly/1oxlKRE>

05/16 <http://bit.ly/1o0lebi>

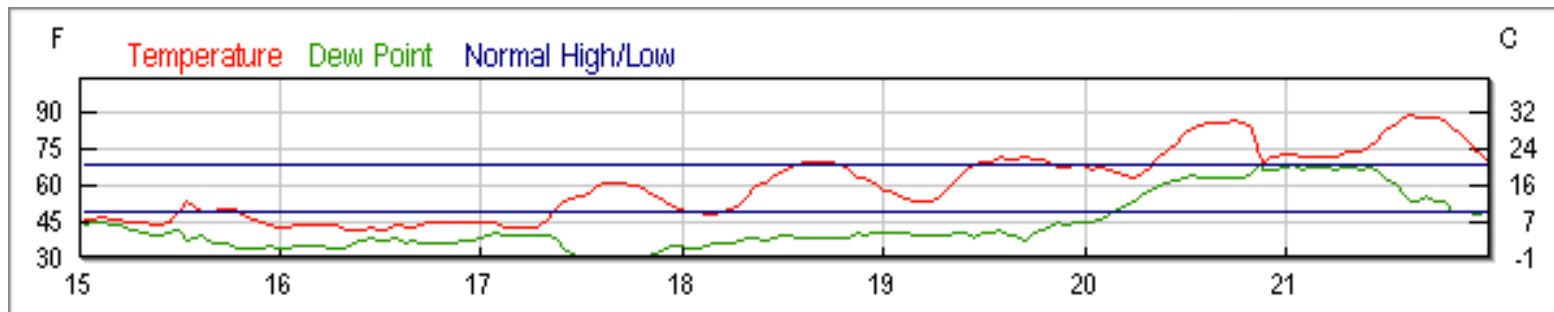
05/17 <http://bit.ly/1naxCFs>

05/18 <http://bit.ly/1gH3wLx>

05/19 <http://bit.ly/Tq4Ckv>

05/20 <http://bit.ly/1i4atRm>

05/21 <http://bit.ly/1nhn2AI>



Daily Data May 22 - 28

05/22 <http://bit.ly/1llmux4>

05/23 <http://bit.ly/1m6FnLI>

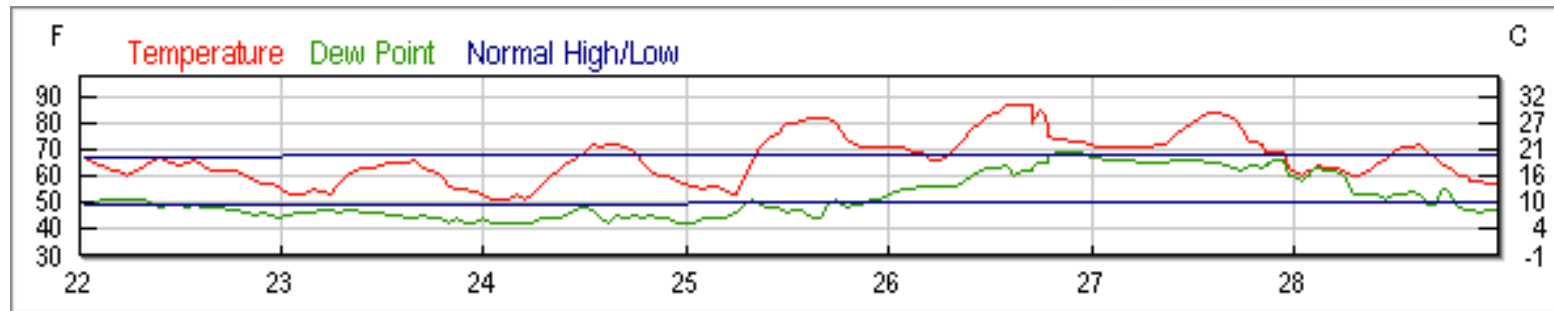
05/24 <http://bit.ly/1jRWML2>

05/25 <http://bit.ly/1oIROYO>

05/26 <http://bit.ly/1hursMV>

05/27 <http://bit.ly/1pjPx0z>

05/28 <http://bit.ly/1ivgFIM>



Notes.

- (1) The **May 26 exterior High of 92° vs. Low of 66° = 26° difference.** By comparison the **May 26 face of shade High of 77° vs Low of 71° = 6° difference.**
- (2) The **May 15 exterior Low of 41° vs. High of 66° = 25° difference.** By comparison the **May 15 face of shade Low of 67° vs. High of 74° = 7° difference.**
- (3) The **exterior High of 92° to Low of 41° = 51° swing.** The **face of shade High of 77° to Low of 66° = 11° swing.** The **exterior average of 63.77° vs. face of shade average of 71.15° = 7.38° 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.