

Performance & Weather Nov 27 - Dec 10

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 0% 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.

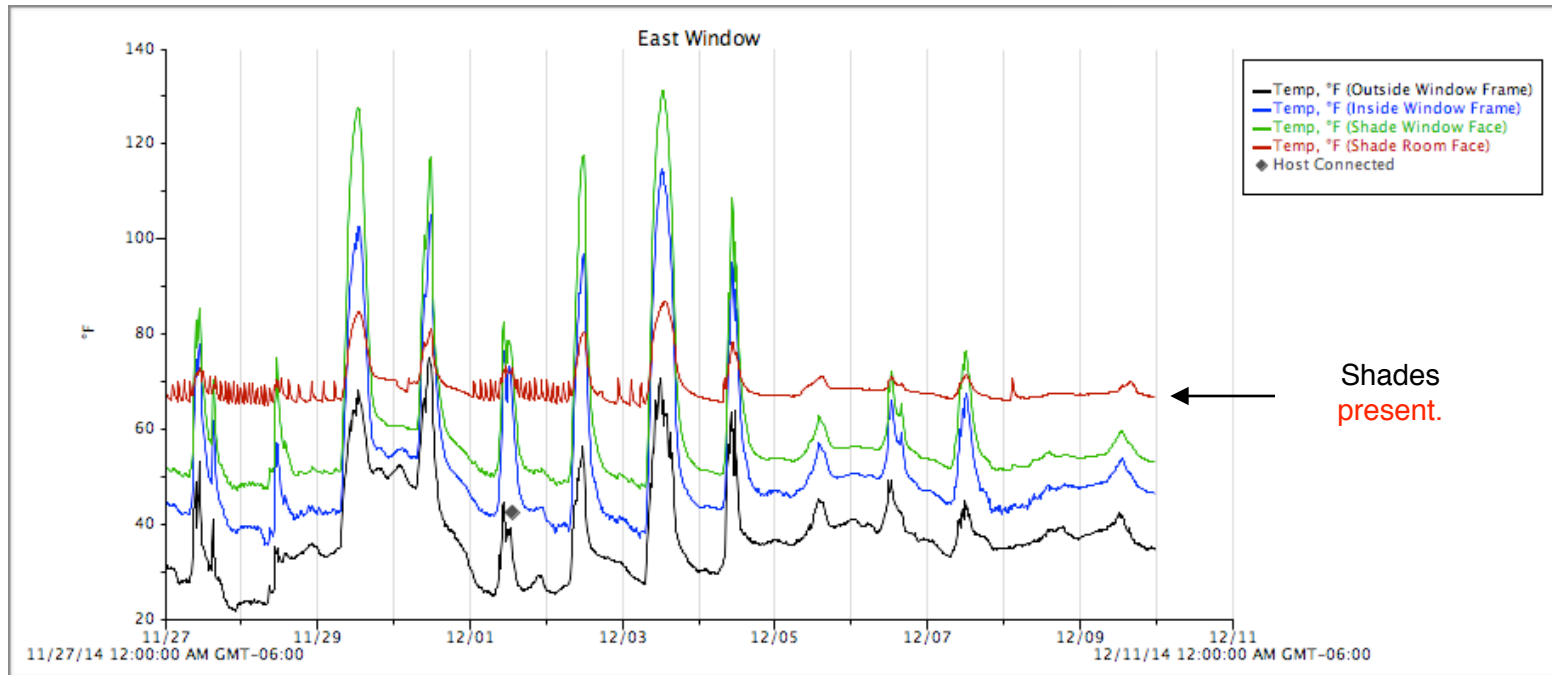
The ceilings are 128" high, there are four HVAC vents equally spaced across the ceiling. Both the vents and ducts are exposed. The thermostat dedicated to the room is on the opposite wall. Daily records of thermostat settings have not been available. It is safe to assume an average setting of 72°F.

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.

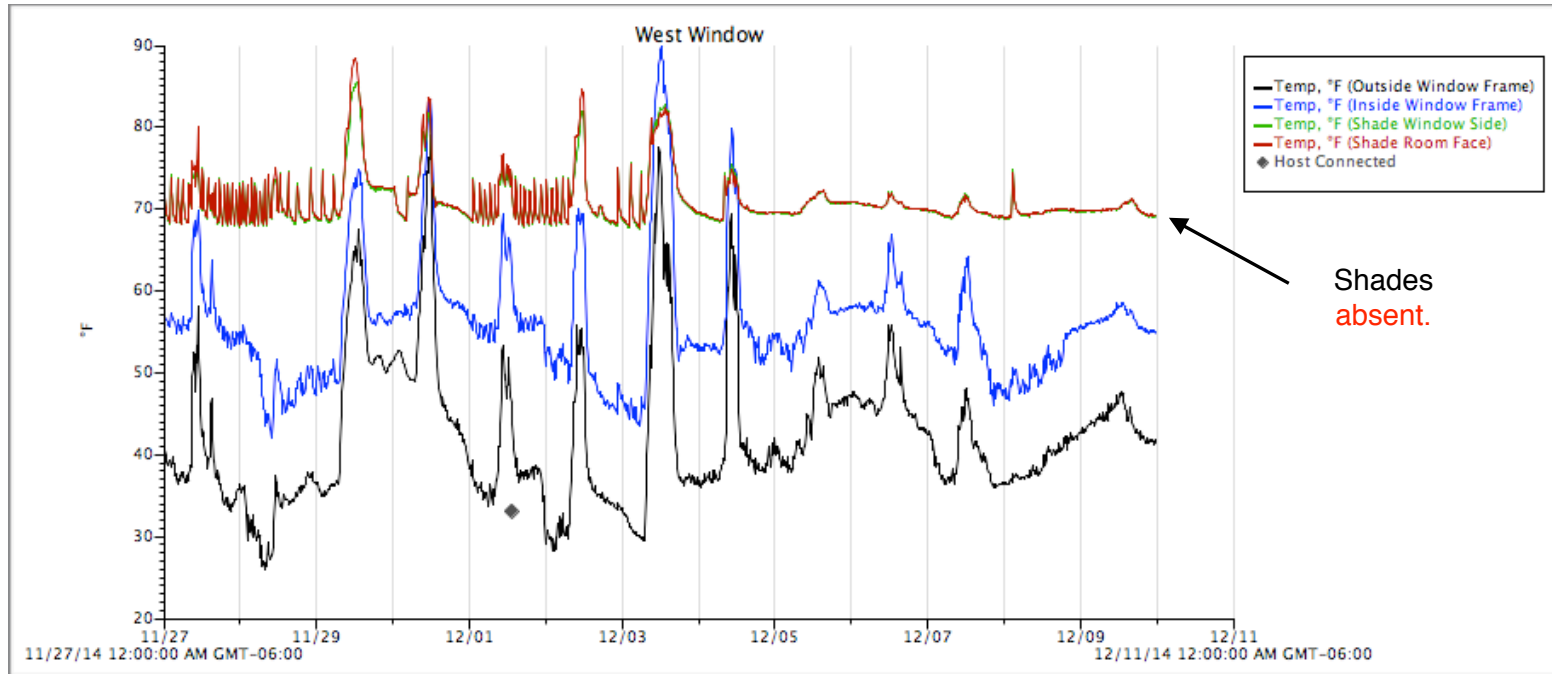


East Windows

Averages

Temperature Comparisons

Outside Window Frame (1) (3)	Nov 30	High 75°	37.54°	11/30	56° High	29° Low
	Nov 27	Low 22°		11/27	30° High	19° Low
Inside Window Frame (4)	Dec 03	High 115°	51.76°	12/03	39° High	26° Low
	Nov 28	Low 36°		11/28	36° High	20° Low
Window Side Face (4)	Dec 03	High 131°	60.15°	12/03	39° High	26° Low
	Nov 27	Low 50°		11/27	30° High	19° Low
Room Side Face (3)	Dec 03	High 87°	68.93°	12/03	39° High	26° Low
	Nov 28	Low 65°		11/28	36° High	20° Low



West Windows

Averages

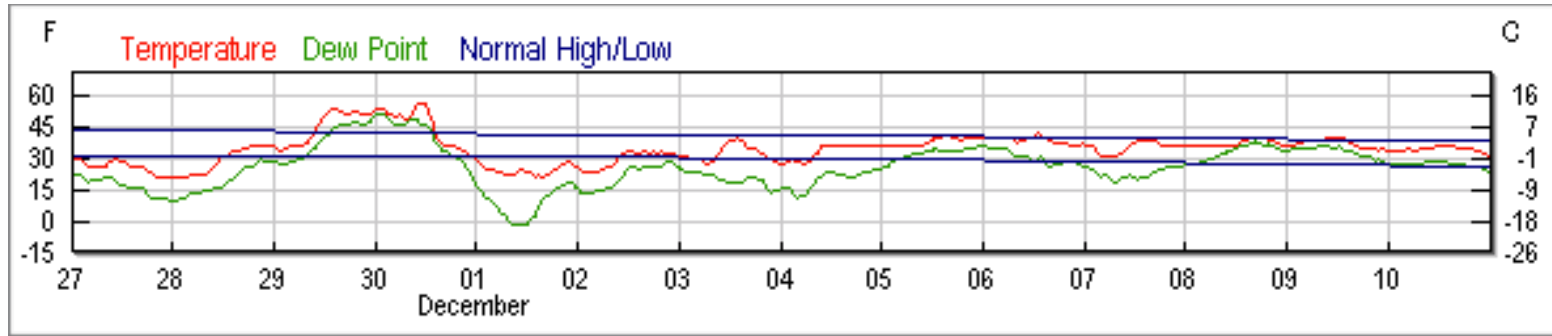
Temperature Comparisons

Outside Window Frame	Dec 03 High 78° Nov 28 Low 26°	42.20°	12/03 39° High 11/28 36° High	26° Low 20° Low
Inside Window Frame	Dec 03 High 90° Nov 28 Low 42°	56.08°	12/03 39° High 11/28 36° High	26° Low 20° Low
Window Side Face (4" inset from wall face)	Nov 29 High 85° Nov 28 Low 68°	70.95°	11/29 54° High 11/28 36° High	33° Low 20° Low
Room Side Face (4.5" inset from wall face)	Nov 29 High 88° Nov 28 Low 68°	71.12°	11/29 54° High 11/28 36° High	33° Low 20° Low

Weather Data Nov 27 - Dec 10 <http://bit.ly/1wNyDME>

High Nov 30 56°

Low Nov 27 19°



Daily Data Nov 27 - Dec 03

11/27 <http://bit.ly/1vVITIR>

11/28 <http://bit.ly/1A1GjZq>

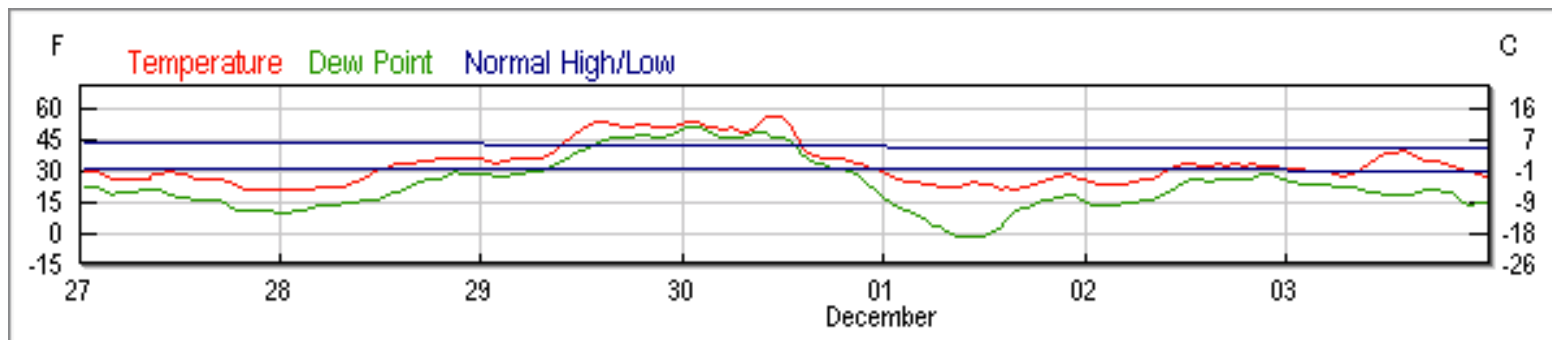
11/29 <http://bit.ly/1tBENlb>

11/30 <http://bit.ly/1yBKnpjP>

12/01 <http://bit.ly/1yRN7c2>

12/02 <http://bit.ly/1rUPOKG>

12/03 <http://bit.ly/1yqqr3F>



Daily Data Dec 04 - 10

12/04 <http://bit.ly/1FTWIAAn>

12/05 <http://bit.ly/1zd5YPY>

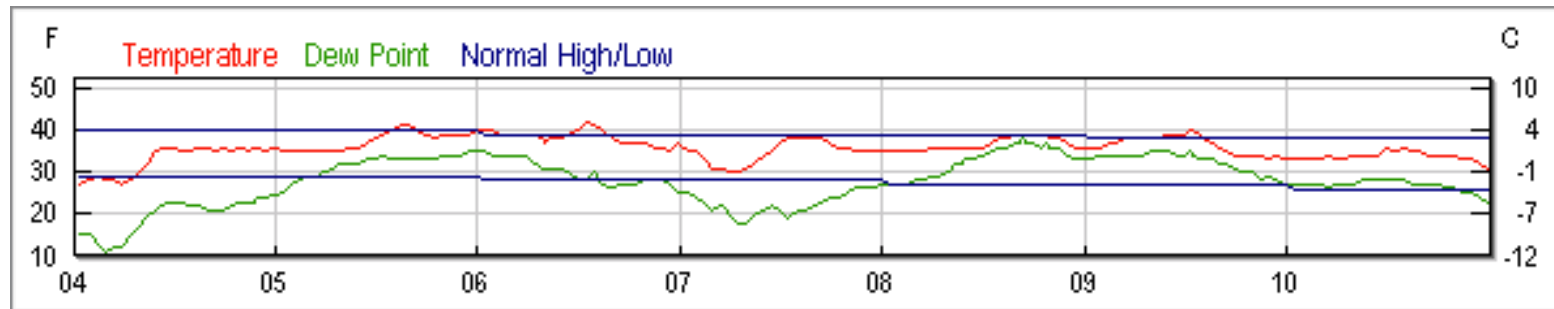
12/06 <http://bit.ly/1ALbWqm>

12/07 <http://bit.ly/1ucu5YM>

12/08 <http://bit.ly/1vA7zcC>

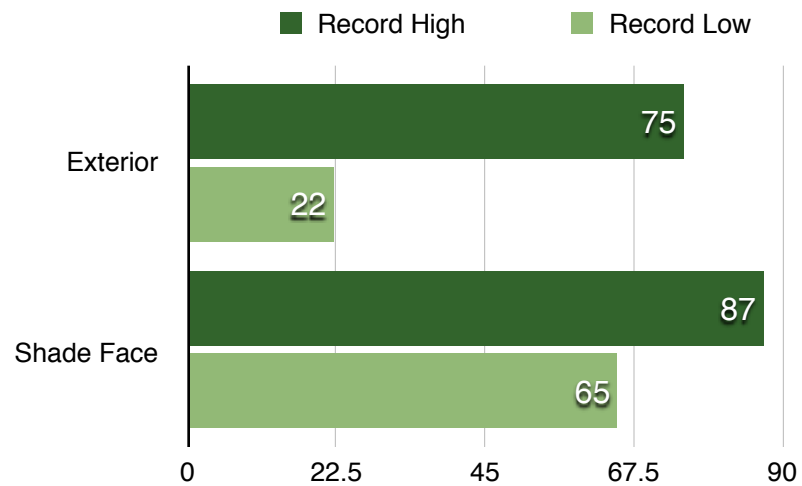
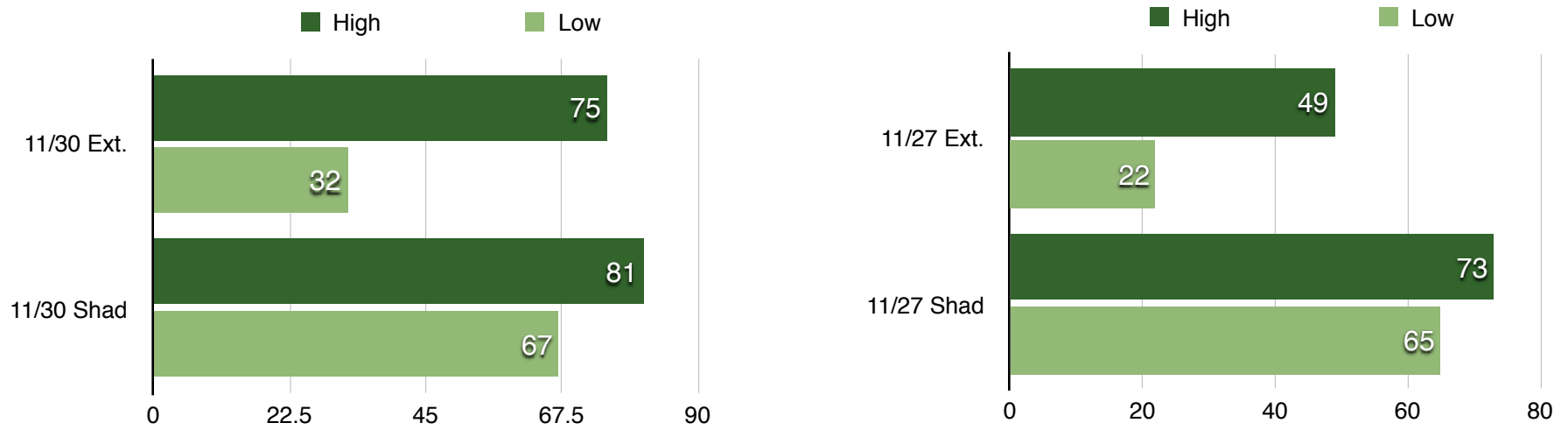
12/09 <http://bit.ly/1x2bWE0>

12/10 <http://bit.ly/1urE51s>



Notes.

- (1) The Nov 30 exterior High of 75° vs. Low of 32° = 43° difference. By comparison the Nov 30 face of shade High of 81° vs Low of 67° = 14° difference.
- (2) The Nov 27 exterior Low of 22° vs. High of 49° = 27° difference. By comparison the Nov 27 face of shade Low of 65° vs. High of 73° = 8° difference.
- (3) The exterior High of 75° to Low of 22° = 53° swing. The face of shade High of 87° to Low of 65° = 22° 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.



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