

Performance & Weather Dec 25 - Jan 07

Southern exposure only with limited shading is an important factor. *The 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 Dec.

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.

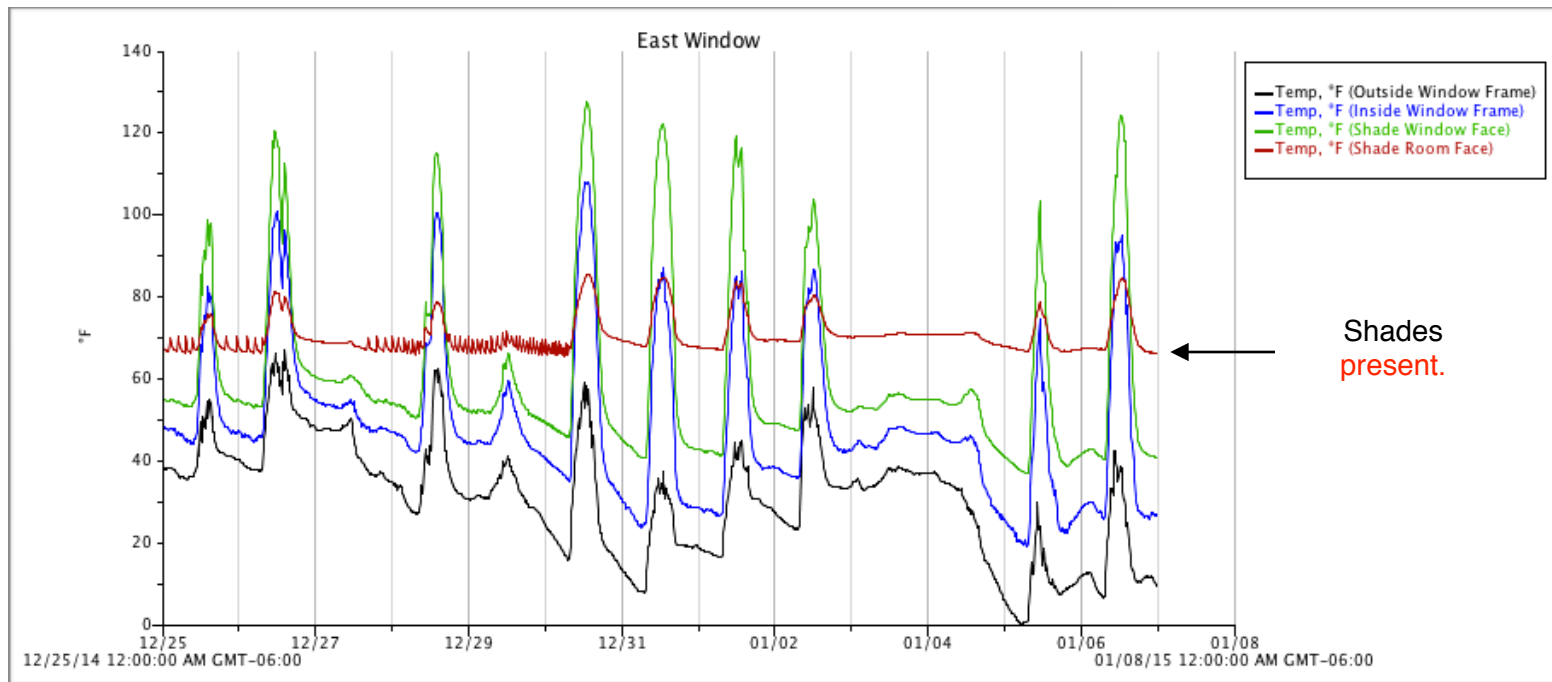
The ceilings are 128" high, there are four HVAC vents equally spaced across the ceiling. Both the vents and ducts are exposed. The thermostat dedicated to the room is on the opposite wall. Daily records of thermostat settings have not been available. It is safe to assume an average setting of 72°F.

High and Low temperatures originate from the graphs below. Temperatures were confirmed and averages were taken from the Onset data spreadsheets.

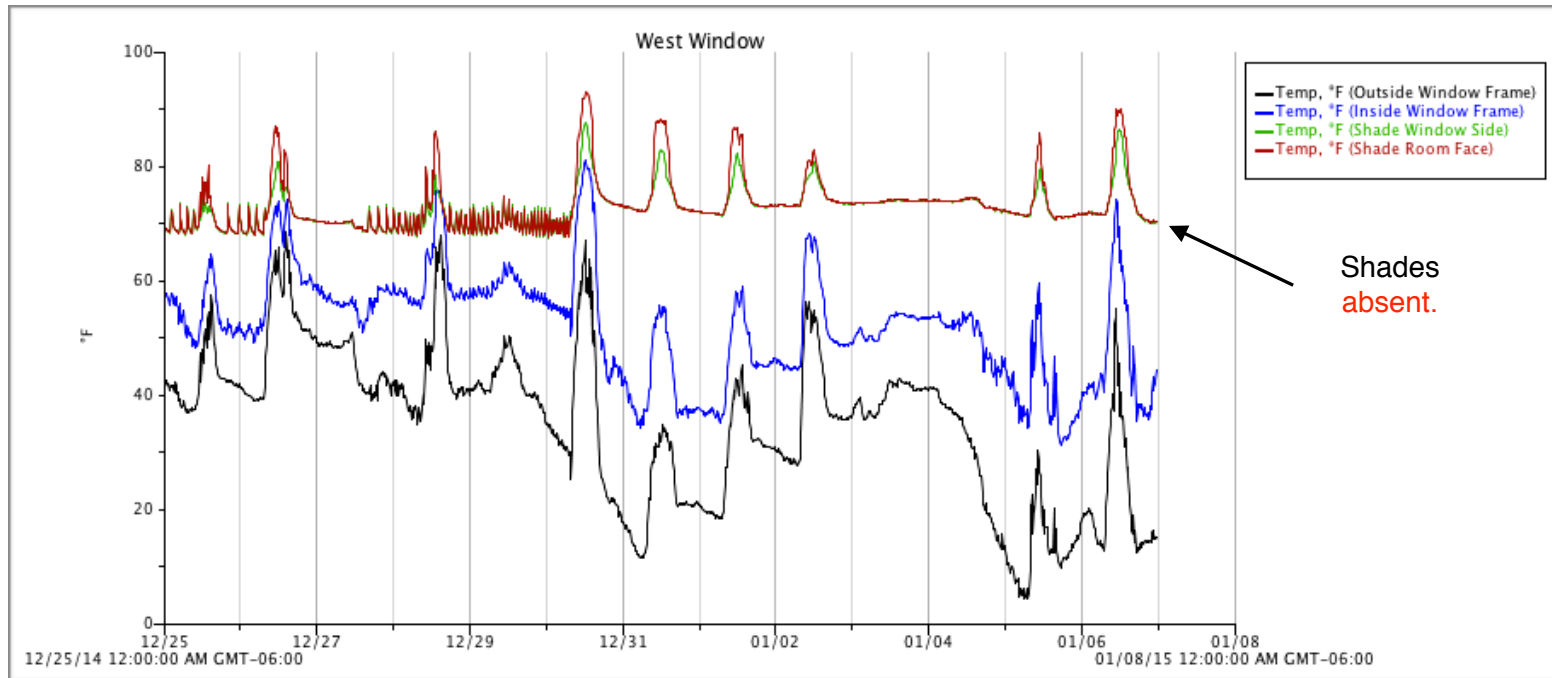
East Windows = Shades **permanently deployed** throughout test period.
West Windows = Shades **permanently raised** throughout test period.

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)	Dec 26	High 66°	31.03°	12/26	51° High	38° Low
	Jan 05	Low 0.24°		01/05	10° High	-1° Low
Inside Window Frame (4)	Dec 30	High 108°	48.50°	12/30	24° High	13° Low
	Jan 05	Low 19°		01/05	10° High	-1° Low
Window Side Face (4)	Dec 30	High 127°	60.82°	12/30	24° High	13° Low
	Jan 05	Low 37°		01/05	10° High	-1° Low
Room Side Face (3)	Dec 31	High 85°	70.62°	12/31	20° High	06° Low
	Dec 30	Low 65°		12/30	24° High	13° Low



West Windows

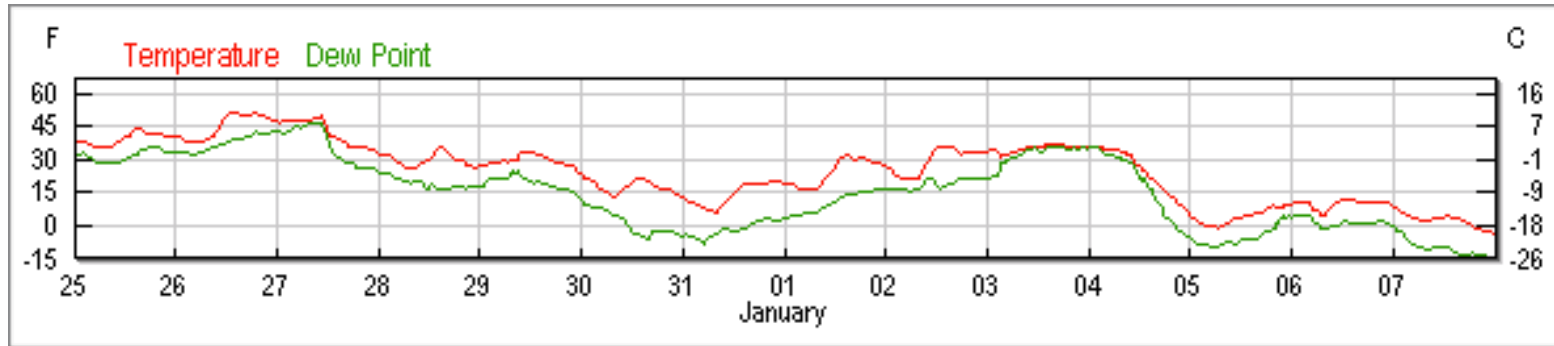
Averages

Temperature Comparisons

Outside Window Frame	Dec 28 High 68° Jan 05 Low 04°	35.08°	12/28 01/05	36° High 10° High	26° Low -1° Low
Inside Window Frame	Dec 30 High 81° Jan 05 Low 31°	52.02°	12/30 01/05	24° High 10° High	13° Low -1° Low
Window Side Face (4" inset from wall face)	Dec 30 High 88° Dec 29 Low 68°	72.62°	12/30 12/29	24° High 35° High	13° Low 24° Low
Room Side Face (4.5" inset from wall face)	Dec 30 High 93° Dec 29 Low 68°	73.31°	12/30 12/29	24° High 35° High	13° Low 24° Low

Weather Data Dec 25 - Jan 07 <http://bit.ly/1yWPvP9>

High Dec 27 50° Low Jan 07 -4°



Daily Data Dec 25 - 31

12/25 <http://bit.ly/1BaGy4u>

12/26 <http://bit.ly/1xqBzPE>

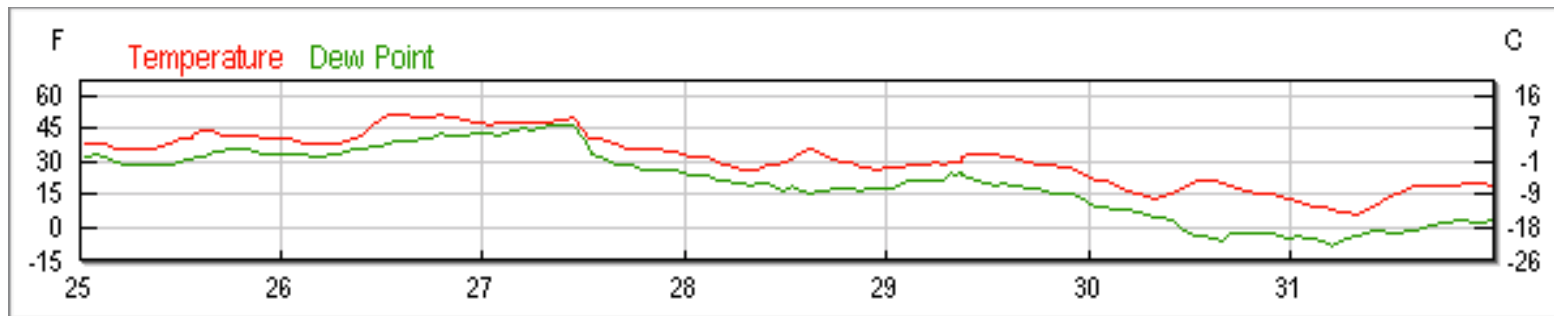
12/27 <http://bit.ly/147OZn4>

12/28 <http://bit.ly/1Aelzzu>

12/29 <http://bit.ly/1zu3EAV>

12/30 <http://bit.ly/14cLyva>

12/31 <http://bit.ly/1EPwfbX>



Daily Data Jan 01 - 07

01/01 <http://bit.ly/1vQAFWx>

01/02 <http://bit.ly/179mTZM>

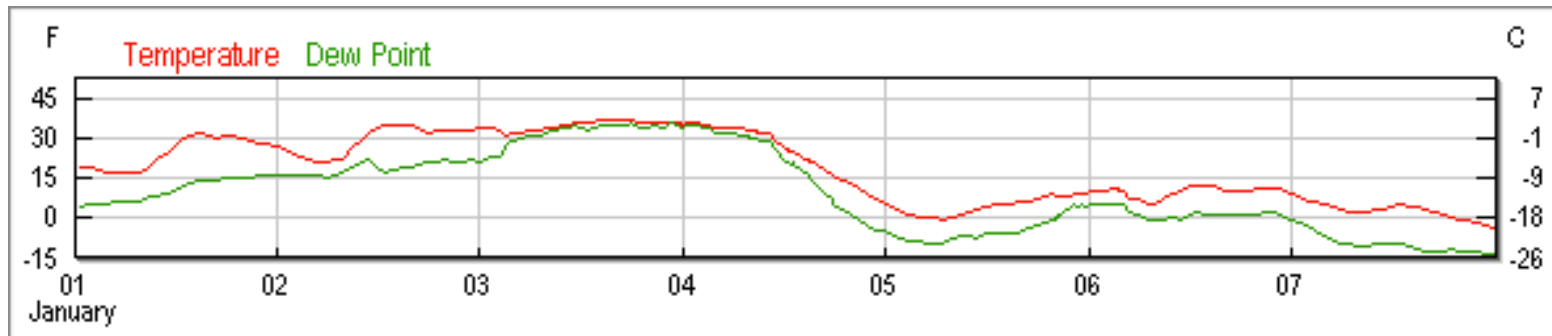
01/03 <http://bit.ly/1xH4Dmh>

01/04 <http://bit.ly/1vTg4QL>

01/05 <http://bit.ly/1wjgGA9>

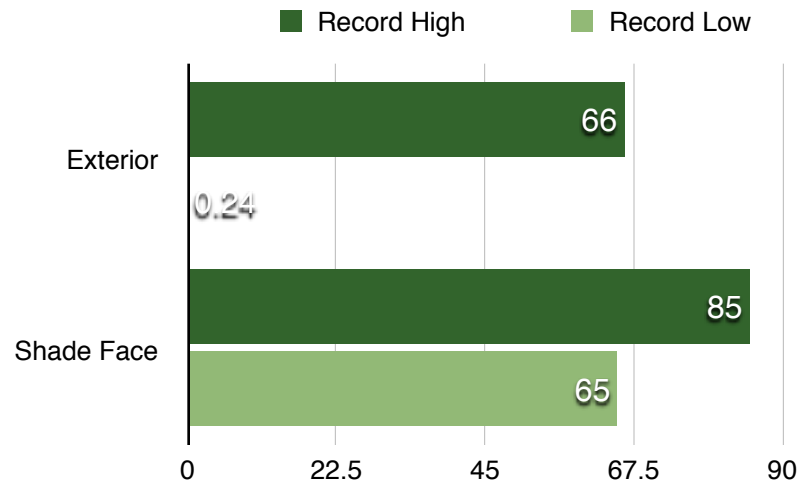
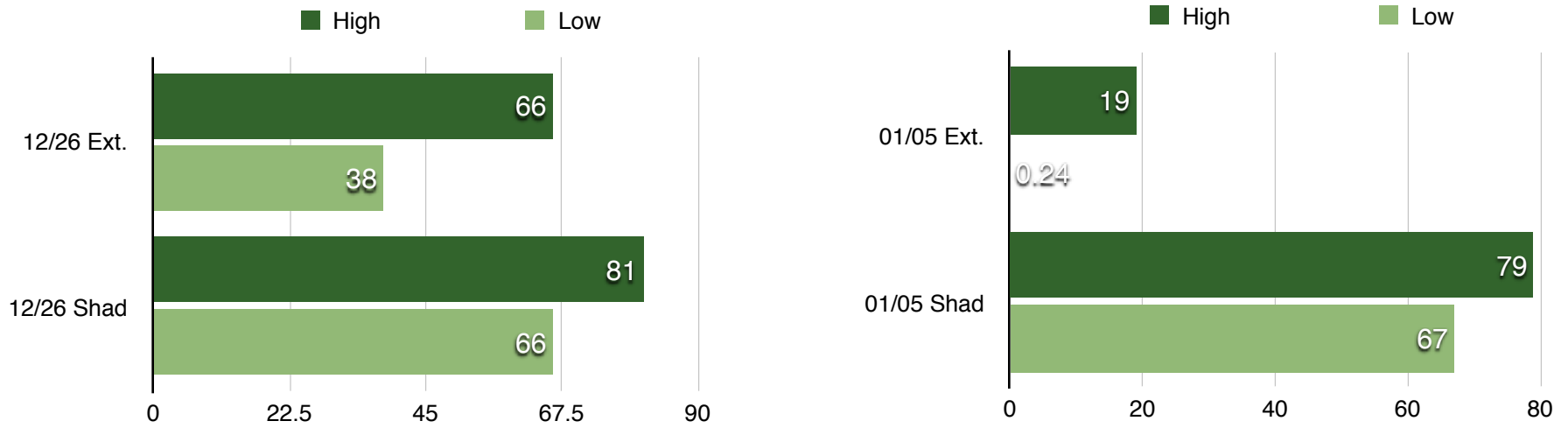
01/06 <http://bit.ly/1KIW1oE>

01/07 <http://bit.ly/1tQL4Xe>



Notes.

- (1) The Dec 26 exterior **High of 66°** vs. **Low of 38° = 28° difference**. By comparison the Dec 26 face of shade **High of 81°** vs **Low of 66° = 15° difference**.
- (2) The Jan 05 exterior **Low of .24°** vs. **High of 19° = 18.76° difference**. By comparison the Jan 05 face of shade **Low of 67°** vs. **High of 79° = 12° difference**.
- (3) The exterior **High of 66°** to **Low of .24° = 65.76° swing**. The face of shade **High of 85°** to **Low of 65° = 20° 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.