HeatSaver® Thermal Shades

Part of the Solution...

Performance & Weather Data August 21 - Sept 3

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 56% shading during August.

The weather and temperature comparison 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.

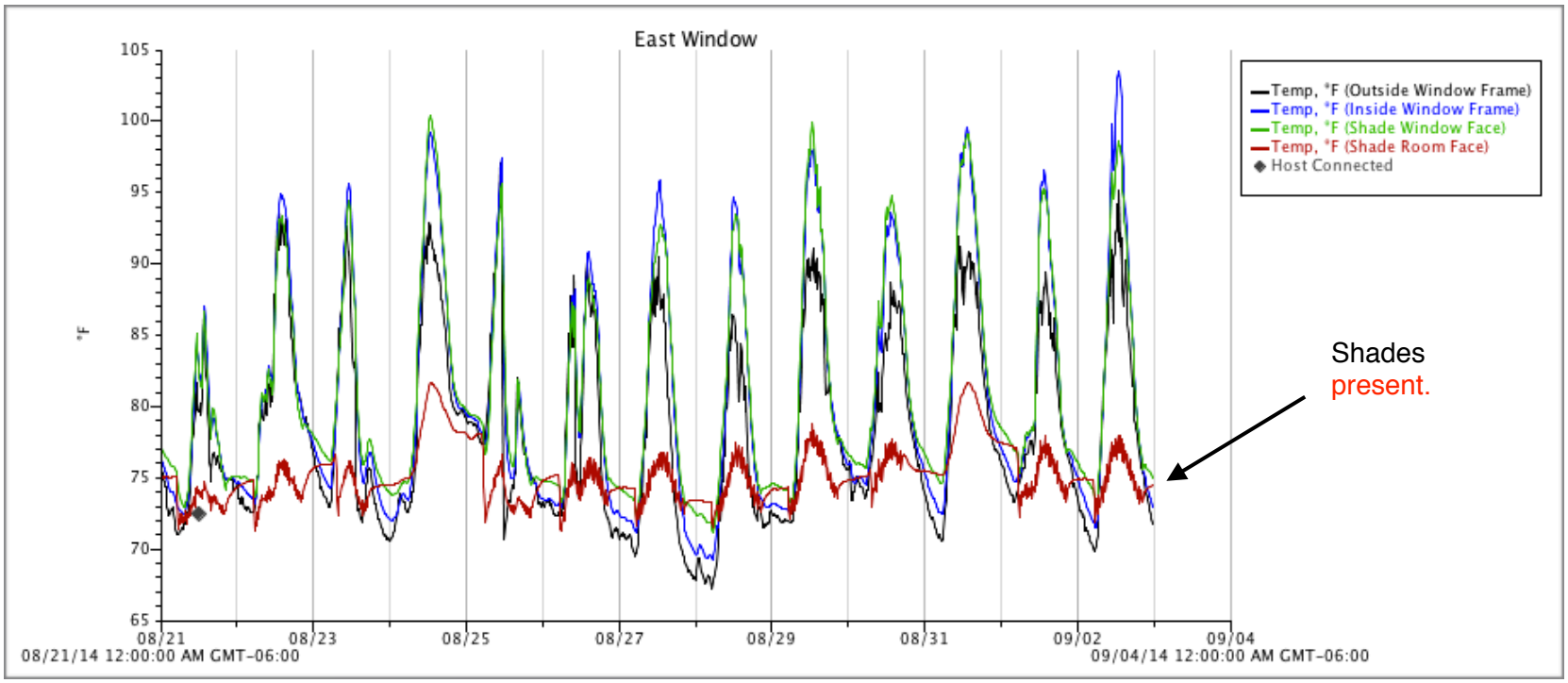
The ceilings are 128" high, there are four HVAC vents equally spaced across the ceiling. Both the vents and ducts are exposed. The thermostat dedicated to the room is on the opposite wall. Daily records of thermostat settings have not been available. It is safe to assume an average setting of 72ºF.

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

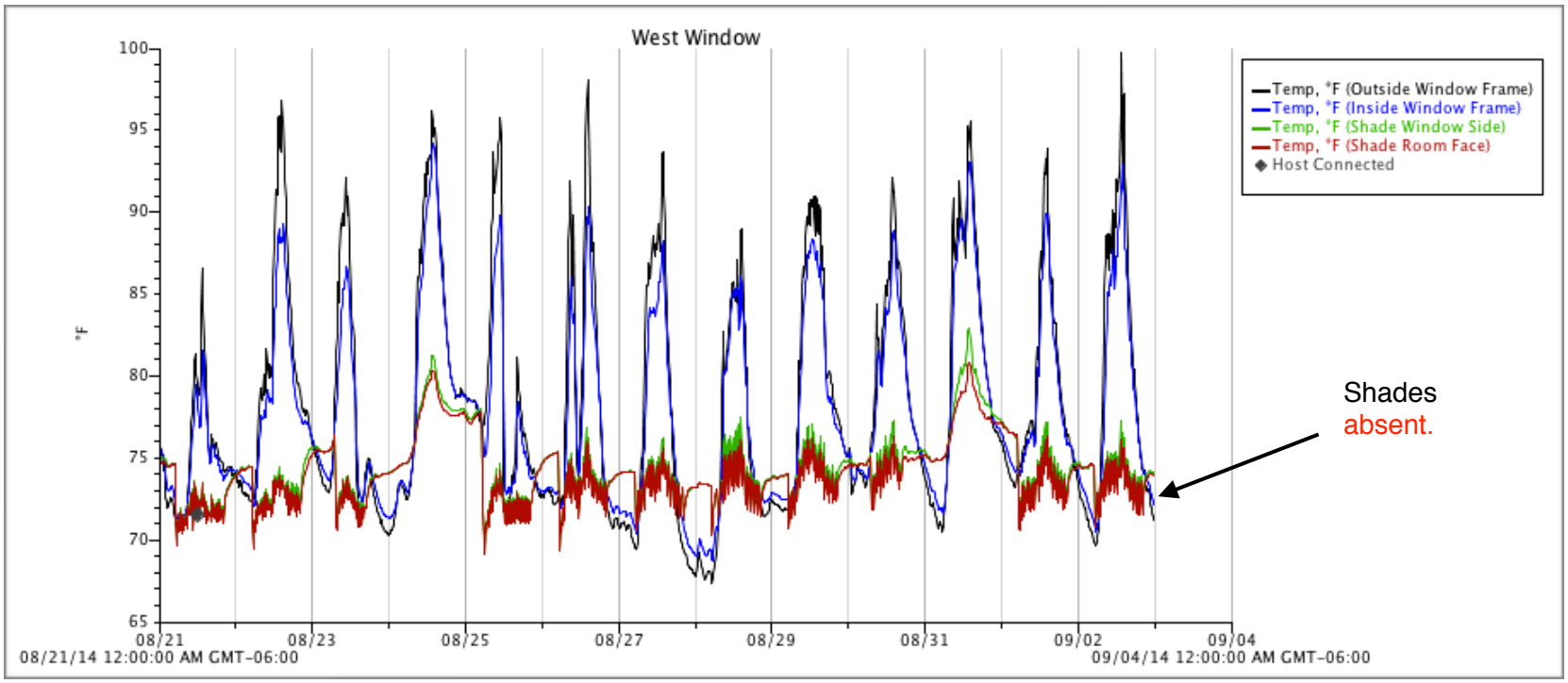
East Windows = Shades ***permanently deployed*** throughout test period.
West Windows = Shades ***permanently raised*** throughout test period.

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.



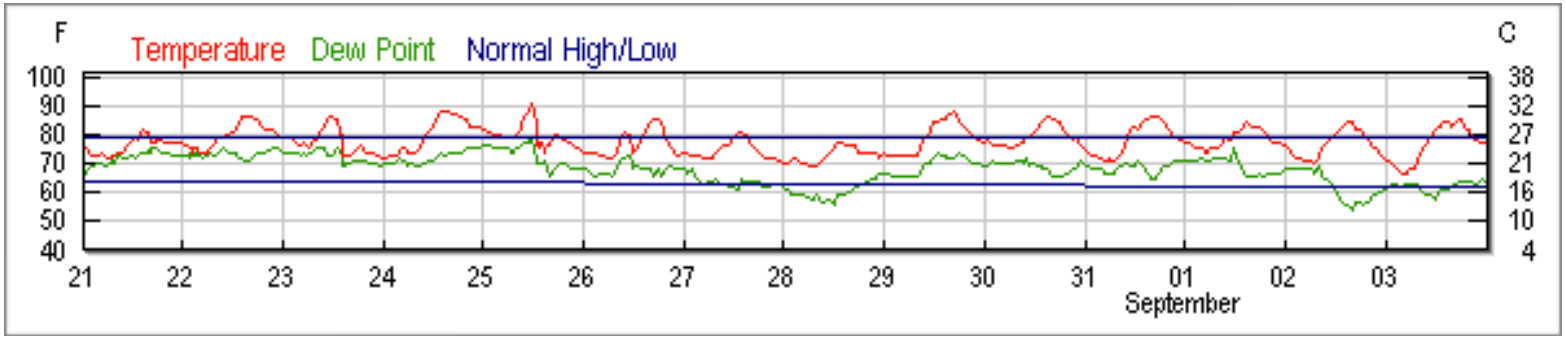
East Windows		Averages	Temperature Comparisons		
Outside Window Frame (1) (3)	Sept 2 High 95º	78.26º	09/02	85º High	69º Low
(2)	Aug 28 Low 67º		08/28	77º High	69º Low
Inside Window Frame (4)	Sept 2 High 103º	80.47º	09/02	85º High	69º Low
	Aug 28 Low 69º		08/28	77º High	69º Low
Window Side Face (4)	Aug 24 High 100º	81.03º	08/24	89º High	73º Low
	Aug 28 Low 71º		08/28	77º High	69º Low
Room Side Face (3)	Aug 31 High 82º	75.19º	08/31	87º High	71º Low
	Aug 22 Low 71º		08/22	87º High	74º Low



West Windows		Averages	Temperature Comparisons		
Outside Window Frame	Sept 2 High 100º	78.42º	09/02	85º High	74º Low
	Aug 28 Low 67º		08/28	77º High	69º Low
Inside Window Frame	Aug 24 High 94º	77.66º	08/24	89º High	73º Low
	Aug 28 Low 69º		08/28	77º High	69º Low
Window Side Face	Aug 31 High 83º	74.37º	08/31	87º High	71º Low
(4.5” inset from wall face)	Aug 25 Low 69º		08/25	92º High	73º Low
Room Side Face	Aug 31 High 81º	74.09º	08/31	87º High	71º Low
(4” inset from wall face)	Aug 25 Low 69º		08/25	92º High	73º Low

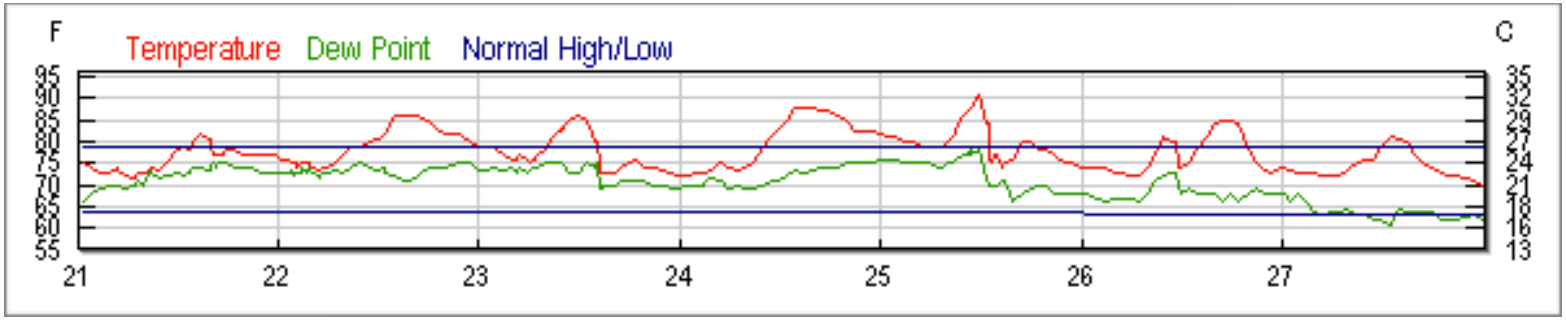
Weather Data Aug 21 - Sept 03 http://bit.ly/WpZ5ew

High Aug 25 92º Low Aug 28 69º



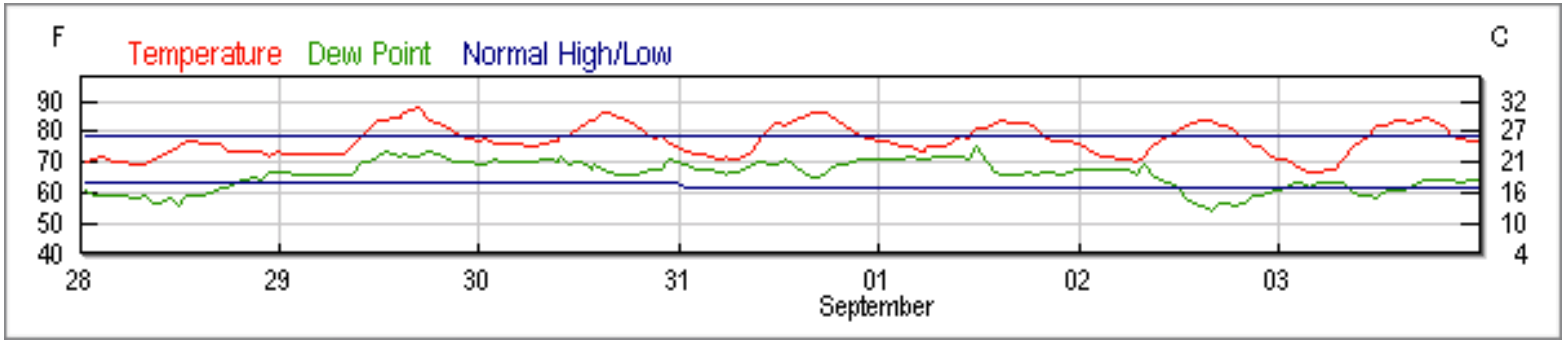
Daily Data Aug 21 - 27

08/21 http://bit.ly/1l0LWE3	08/22 http://bit.ly/1p2gaYq	08/23 http://bit.ly/1ojMPTa
08/24 http://bit.ly/1p5zNZD	08/25 http://bit.ly/1q1zW5C	08/26 http://bit.ly/YXmK7E
08/27 http://bit.ly/1tHm1Th		



Daily Data Aug 28 - Sept 03

08/28 http://bit.ly/1qbCJcm	08/29 http://bit.ly/1uaTiVn	08/30 http://bit.ly/1nfL9Le
08/31 http://bit.ly/1pAvewC	09/01 http://bit.ly/W6rpSD	09/02 http://bit.ly/1nWzfG2
09/03 http://bit.ly/1qfYjgl		



Notes.

(1) The September 2 exterior **High of 95°** vs. **Low of 70°** = **25° difference.** By comparison the September 2 face of shade **High of 78°** vs **Low of 72°** = **6° difference.**

(2) The August 28 exterior **Low of 67°** vs. **High of 86°** = **19° difference.** By comparison the August 28 face of shade **Low of 72°** vs. **High of 77°** = **5° difference.**

(3) The exterior **High of 95°** to **Low of 67°** = **28° swing.** The face of shade **High of 82°** to **Low of 71°** = **11° 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.