HeatSaver® Thermal Shades

Part of the Solution...

Performance & Weather Data August 7 - 20

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.

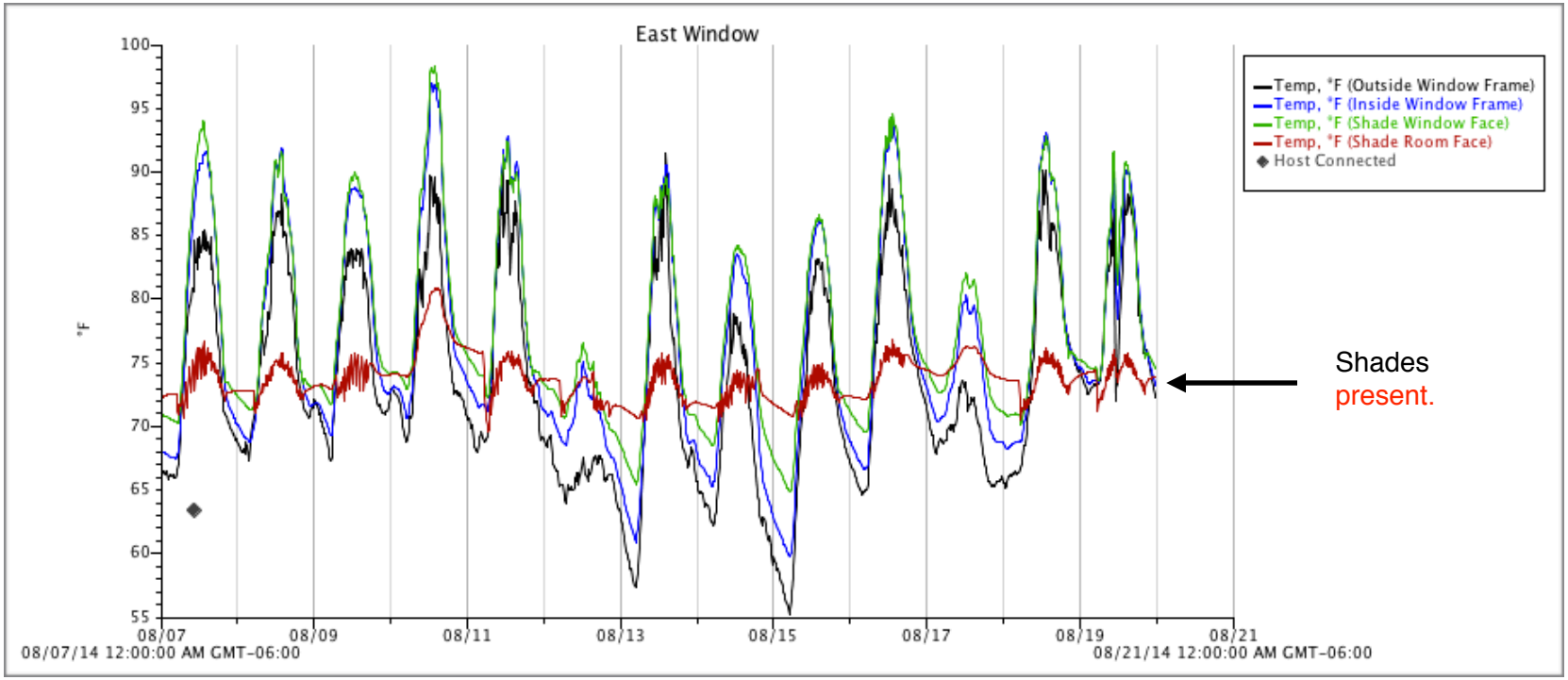
The ceilings are 128" high, there are four HVAC vents equally spaced across the ceiling. Both the vents and ducts are exposed. The thermostat dedicated to the room is on the opposite wall. Daily records of thermostat settings have not been available. It is safe to assume an average setting of 72ºF.

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

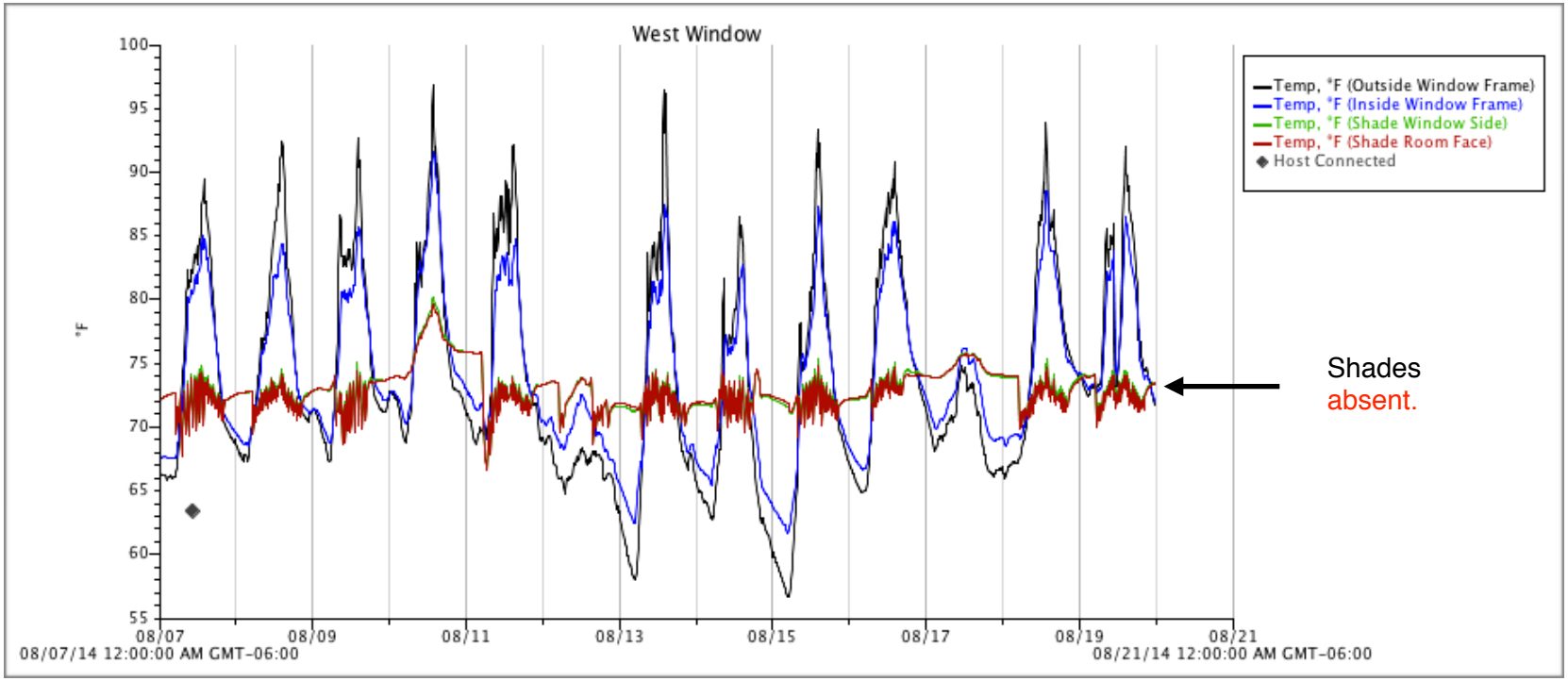
East Windows = Shades ***permanently deployed*** throughout test period.
West Windows = Shades ***permanently raised*** throughout test period.

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.



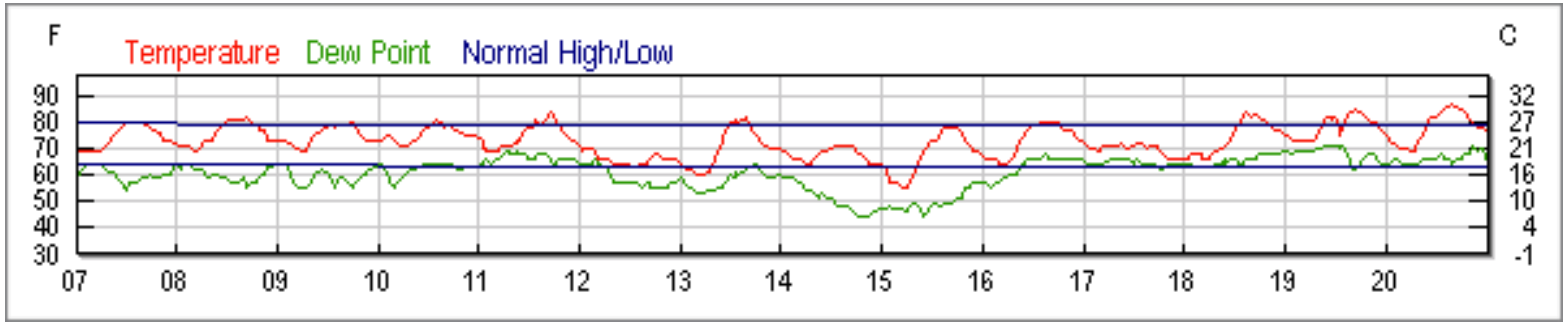
East Windows		Averages	Temperature Comparisons		
Outside Window Frame (1) (3)	Aug 18 High 90º	73.41º	08/18	85º High	67º Low
(2)	Aug 15 Low 55º		08/15	79º High	55º Low
Inside Window Frame (4)	Aug 10 High 97º	76.52º	08/10	82º High	71º Low
	Aug 15 Low 60º		08/15	79º High	55º Low
Window Side Face (4)	Aug 10 High 98º	78.01º	08/10	82º High	71º Low
	Aug 15 Low 65º		08/15	79º High	55º Low
Room Side Face (3)	Aug 10 High 81º	73.72º	08/10	82º High	71º Low
	Aug 11 Low 70º		08/11	84º High	68º Low



West Windows		Averages	Temperature Comparisons		
Outside Window Frame	Aug 10 High 97° Aug 15 Low 56°	74.06°	08/10 08/15	82° High 79° High	71° Low 55° Low
Inside Window Frame	Aug 10 High 92° Aug 15 Low 62°	74.10°	08/10 08/15	82° High 79° High	71° Low 55° Low
Window Side Face (4.5” inset from wall face)	Aug 10 High 80° Aug 11 Low 68°	72.93°	08/10 08/11	82° High 84° High	71° Low 68° Low
Room Side Face (4” inset from wall face)	Aug 10 High 80° Aug 11 Low 73°	72.85°	08/10 08/11	82° High 84° High	71° Low 68° Low

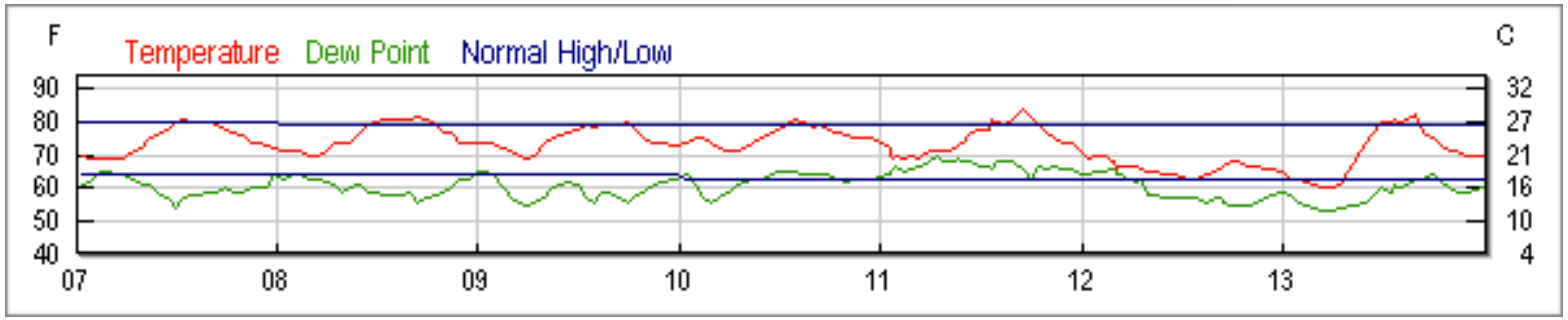
Weather Data Aug 07 - 20 http://bit.ly/1tEaLoZ

High Aug 20 87º Low Aug 15 55º



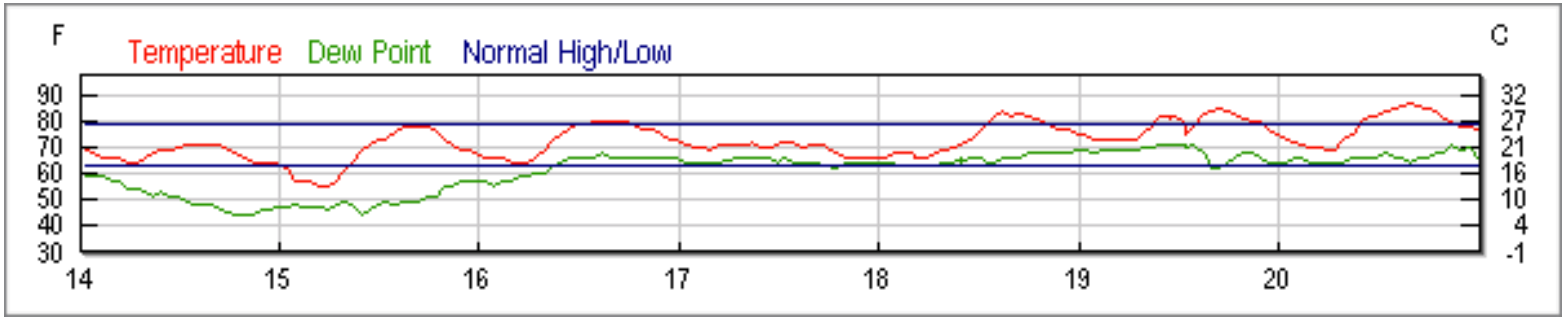
Daily Data Aug 07 - 13

08/07 http://bit.ly/1yddo28	08/08 http://bit.ly/1yjHTDF	08/09 http://bit.ly/1kuqWW6
08/10 http://bit.ly/1rigVJS	08/11 http://bit.ly/1oJbVuL	08/12 http://bit.ly/1BdXCbw
08/13 http://bit.ly/1oRrKVg		



Daily Data Aug 14 - 20

08/14 http://bit.ly/1kGOXcz	08/15 http://bit.ly/1oZa7Tx	08/16 http://bit.ly/1tbjZss
08/17 http://bit.ly/1mcaNQo	08/18 http://bit.ly/1Av9Smy	08/19 http://bit.ly/1pet0Sz
08/20 http://bit.ly/1s4qw7q		



Notes.

(1) The August 18 exterior **High of 90°** vs. **Low of 65°** = **25° difference.** By comparison the August 10 face of shade **High of 81°** vs **Low of 74°** = **7° difference.**

(2) The August 15 exterior **Low of 55°** vs. **High of 83°** = **28° difference.** By comparison the August 11 face of shade **Low of 70°** vs. **High of 76°** = **6° difference.**

(3) The exterior **High of 90°** to **Low of 55°** = **35° swing.** The face of shade **High of 81°** to **Low of 70°** = **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.