



2130 Fillmore St. Suite 282 • San Francisco, CA 94115 • Voice/Fax: 800.798.1779 • www.infraredsauna.com

## **Infrared Sauna Emitter Comparison Test**

In an effort to bring greater clarity and accuracy to the evaluation of infrared sauna emitters, Sauna Works performed an objective test to observe and measure levels of infrared energy from a sample of available infrared emitters.

The test utilizes a Cholesteric Liquid Crystal 'Test Screen'. The Cholesteric Liquid Crystals change color when heated.

### ***Test Procedure***

- 1) Four sample infrared emitters were chosen to represent the variety of emitters used in the infrared sauna industry (two 'Element Type' and two 'Panel Type' emitters). The emitters were of similar wattage to ensure a valid comparison.
- 2) The emitters were installed one at a time, 12" above the Liquid Crystal Test Screen.
- 3) Each emitter was turned on for 35 minutes. This provided sufficient time for the emitters to warm to their maximum temperature and exert their full radiant heating effect on the Test Screen.
- 4) At the end of each 35 minute test period the Test Screen was photographed by a Panasonic LZ5SE digital camera from a fixed overhead position.

### ***Infrared Evaluation***

The emitters infrared output was assessed by the images colors, intensity of the colors and the size of the image.

A) **Color & Infrared Intensity:** The different colored crystals represent the degree to which they have been heated by the infrared. Dark Navy Blue indicates the greatest intensity of Infrared heating, then Blue, Green and Red representing descending levels of infrared.

B) **Size:** The size of the color image gages the size of an emitters Infrared projection. The size of the image indicated an emitters ability to cover a sauna users body with infrared.

### ***Conclusions***

A) The two 'Element Type' emitters displayed very similar Infrared Output in both intensity and size of projection.

B) The Carbon Panel emitter displayed the least infrared output of all 4 emitters tested

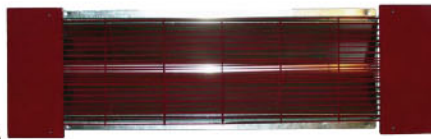
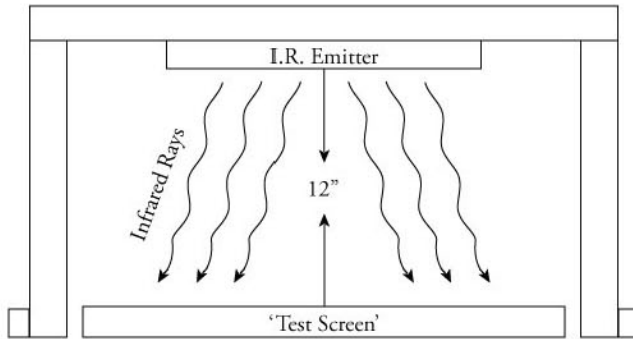
C) **The Clearlight Infrared True Wave II emitter exhibited significantly greater infrared output than all of the other emitters tested.**

### ***Comment***

Many people have reported sweating quicker and more profusely with the Clearlight Infrared True Wave II emitters compared to other infrared emitters. This test verifies that the True Wave II emitters have a greater infrared output that is projected over a larger area than element type and carbon panel emitters. The test results explain the superior Clearlight Infrared Sauna experience because the sauna user receives better body coverage of infrared, producing a better sweat.

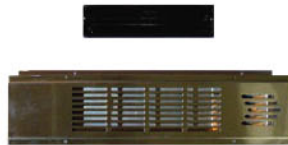
True Wave II emitters produce greater levels of **far infrared** than other types of emitters and produce less **convective** (air transfered) heat than element type emitters. Thus, True Wave II emitters operate at a **lower air temperature** than element type saunas for greater comfort and more effectiveness.

# Infrared Emitters Used In Test



① 'Sand Filled' Ceramic Tube 280 Watts  
with Standard Housing, Reflector and Cover Grill  
Surface Area: 42 sq. in.  
Surface Temperature: 620 F

② Carbon Panel  
Emitter  
220 Watts  
Surface Area:  
624 sq. in.  
Dimensions:  
14.5" x 43"  
Surface Temper-  
ature: 120 F



③ 'Concave Ceramic' Emitter 300 Watts  
with Standard Housing, Reflector and Cover Grill  
Surface Area: 56 sq. in.  
Surface Temperature: Max. 750 F

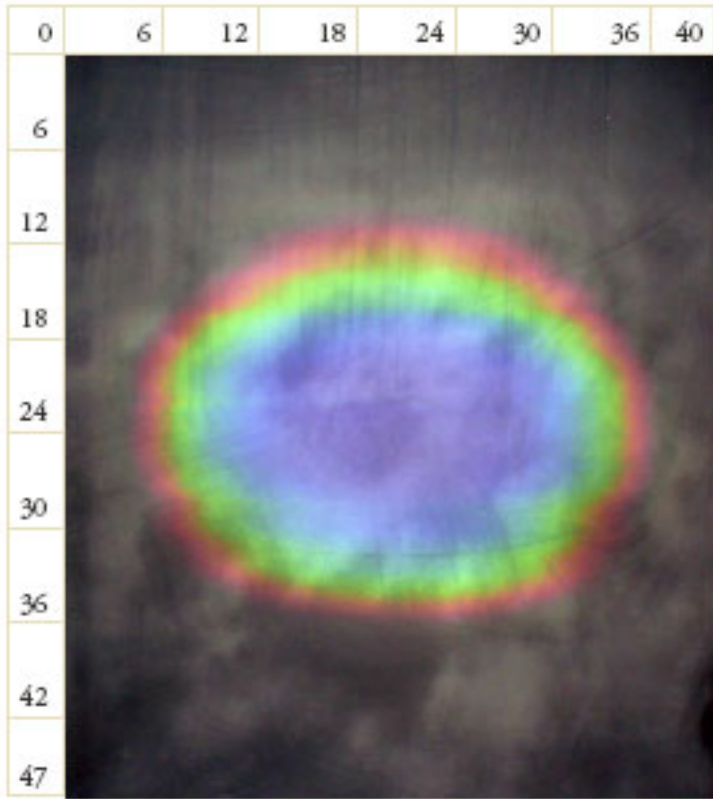


④ Clearlight Infrared  
True Wave II Emitter 285 Watts  
Surface Area: 382 sq. in.  
Dimensions: 17 5/8" x 21 5/8"  
Surface Temperature: 185 F

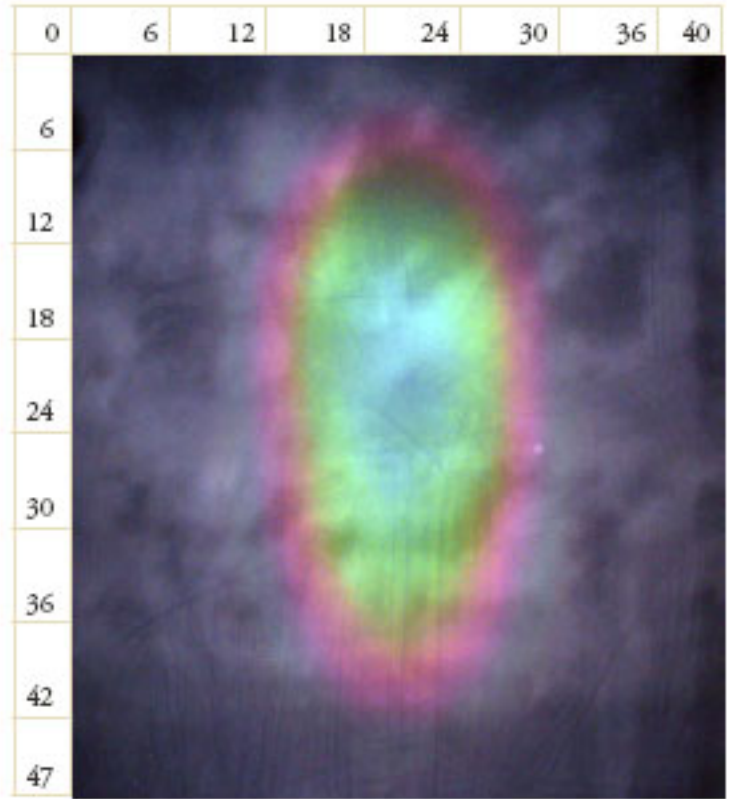
# Test Screens Images

Images Represent the IR Emitters' Infrared Projection

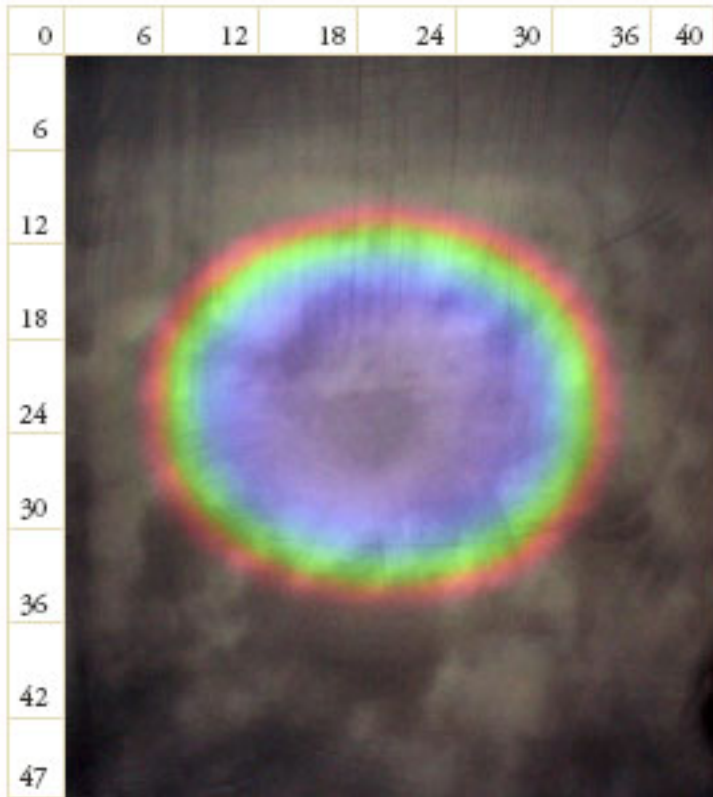
Screens are 40"



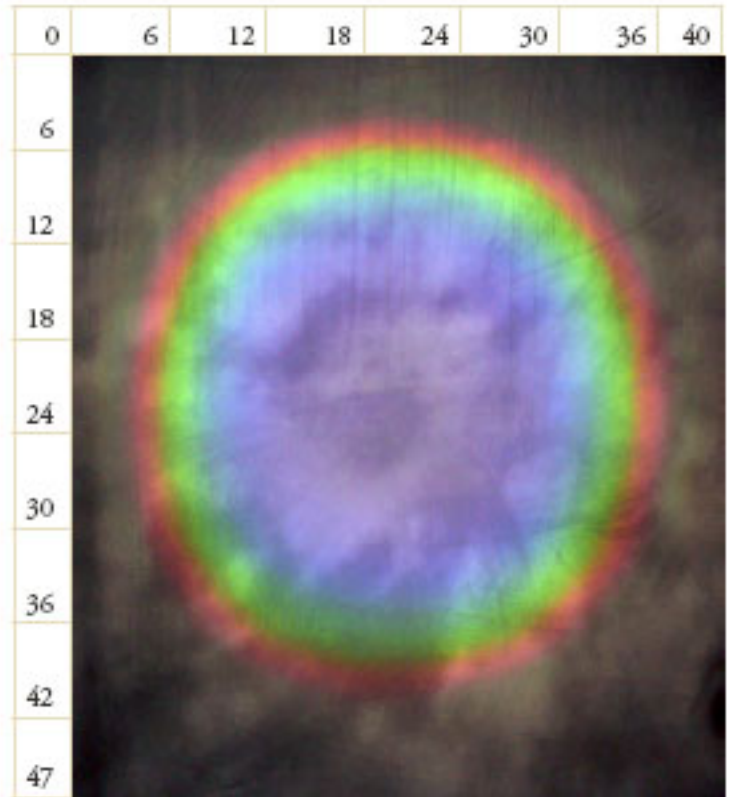
① Sand Filled Ceramic Tube Emitter



② Carbon Panel Emitter



③ Concave Ceramic Emitter



④ True Wave II Carbon/Ceramic Emitter