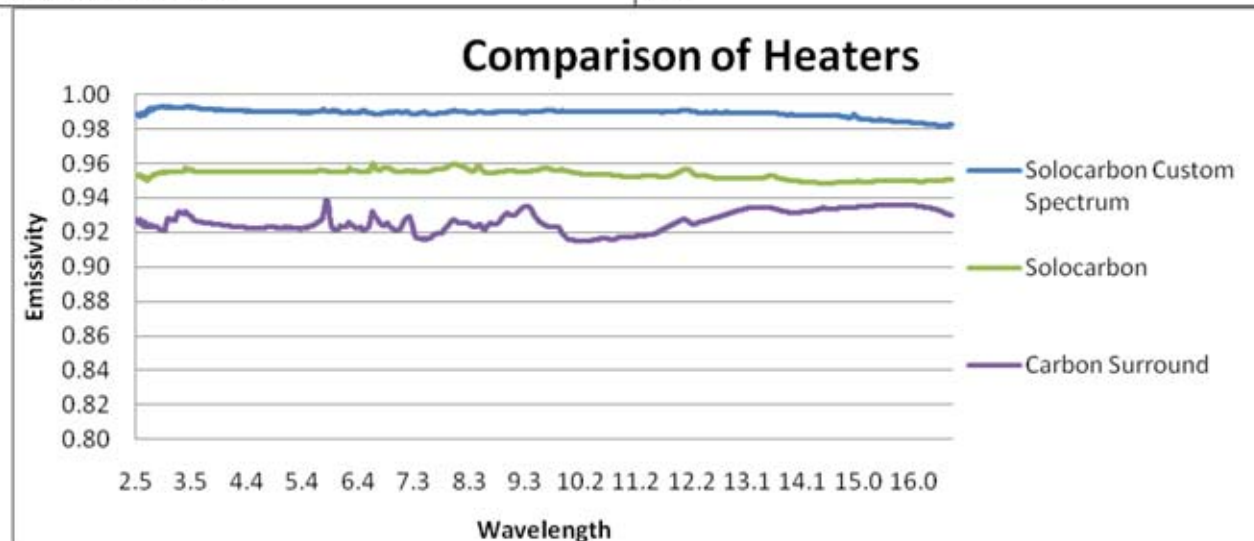


Sunlighten contracted the services of Bruker Analytical Services to verify the emissivity of several heater materials. Emissivity is the ability of a material to absorb and release energy in the form of infrared heat.

To best measure emissivity, we measured the reflection of energy off of a heater and subtracted that from 1 to calculate the emissivity. For example, if a surface reflects .30 of radiant energy, then its emissivity is .70.

The reflection was measured using a Bruker Optics Vertex 70 FTIR spectrometer and the Auto Seagull sample accessory from Harrick Scientific to measure the reflectivity at a 45 degree incidence angle. Using the formula  $1 - \text{reflection} = \text{emissivity}$ , we compared the emissivity of 3 heaters sent for testing and attest to the accuracy of the table below.

Heater	Emissivity
Solocarbon Custom Spectrum	.99
Solocarbon	.95
Carbon Surround	.93



\*Testing by Peng Wang, Ph.D., Bruker Optics Applications Specialist, Infrared Laser Spectroscopy

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