Hot water lines are found in a variety of sources including hydrocarbon flames and astronomical objects such as brown dwarfs. Thus far, our laboratory has reported on high resolution emission spectra of water vapor at 1550 °C in the region of 400 - 6000 cm⁻¹. In our current investigation, we have now recorded our laboratory hot water spectra from 5000 - 9000 cm⁻¹ with a Bruker IFS 120 HR spectrometer. The spectra will be compared with absorption spectra of water in sunspots in the same spectral region.