

Comparison: Thermio Spectrophotometer to Webcam

I conducted five tests comparing the spectrograph readings of the Thermio spectrophotometer against the Logitech webcam spectrophotometer. Tests were conducted by shining a light source through a glass flask containing an aqueous sample and collecting the spectrograph produced by the spectrophotometer. Two light sources were used for these spectroscopy tests: a 365 nm rated UV flashlight and a 2700K light bulb. Each light source was used independently of one another, so each test had two associated spectrographs--one for each light source.

The five test mediums were distilled water, distilled water with canola oil suspended, distilled water with salt added until saturation, distilled water with flour added to cloud the solution, and unfiltered tap water. All solutions were tested at 20.6 °C.

Table 1: Spectrograph results from the Thermio Spectrophotometer.

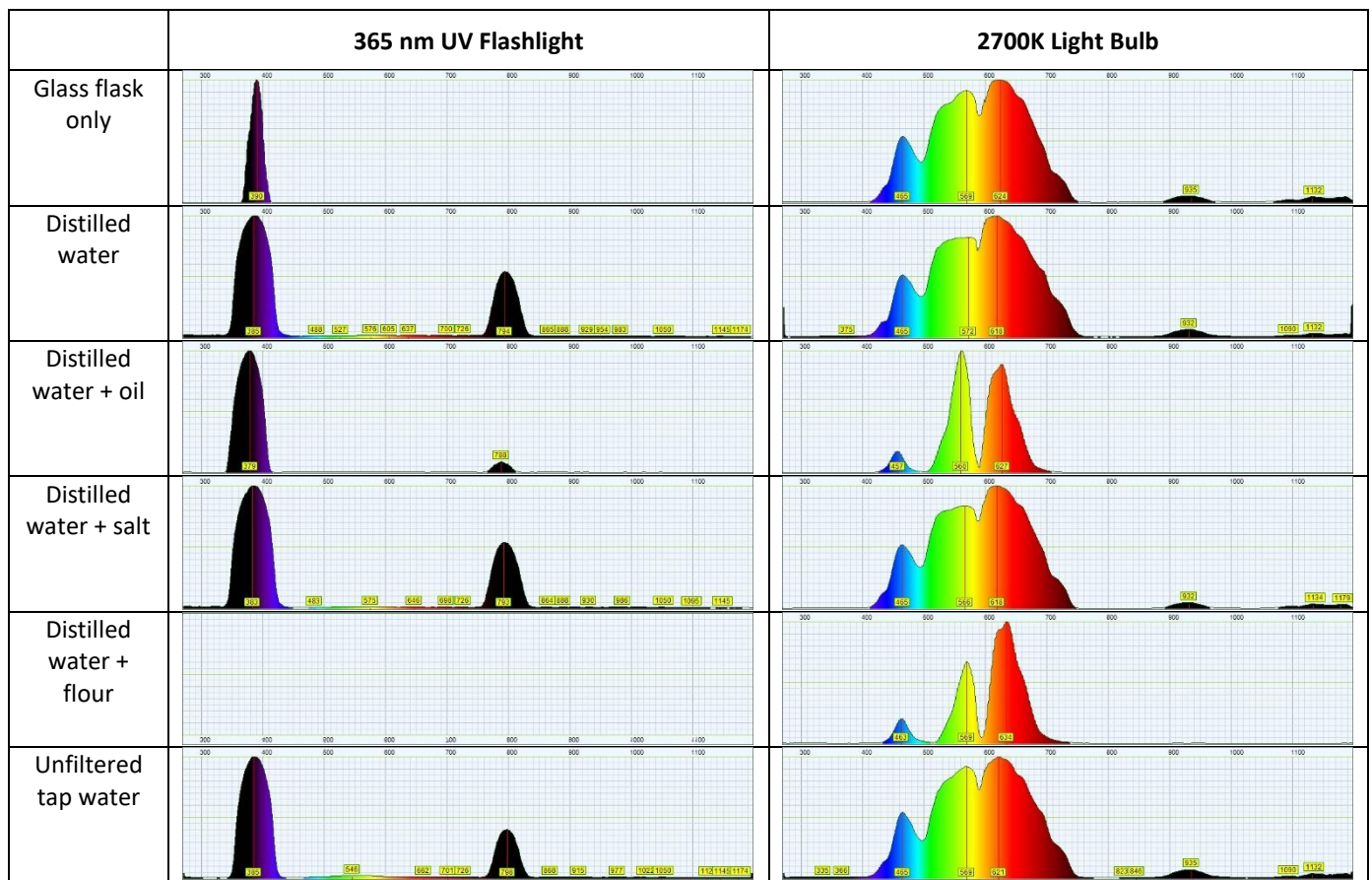


Table 2: Spectrograph results from the modified Logitech Webcam.

	365 nm UV Flashlight	2700K Light Bulb
Glass flask only		

Distilled water		
Distilled water + oil		
Distilled water + salt		
Distilled water + flour		
Unfiltered tap water		