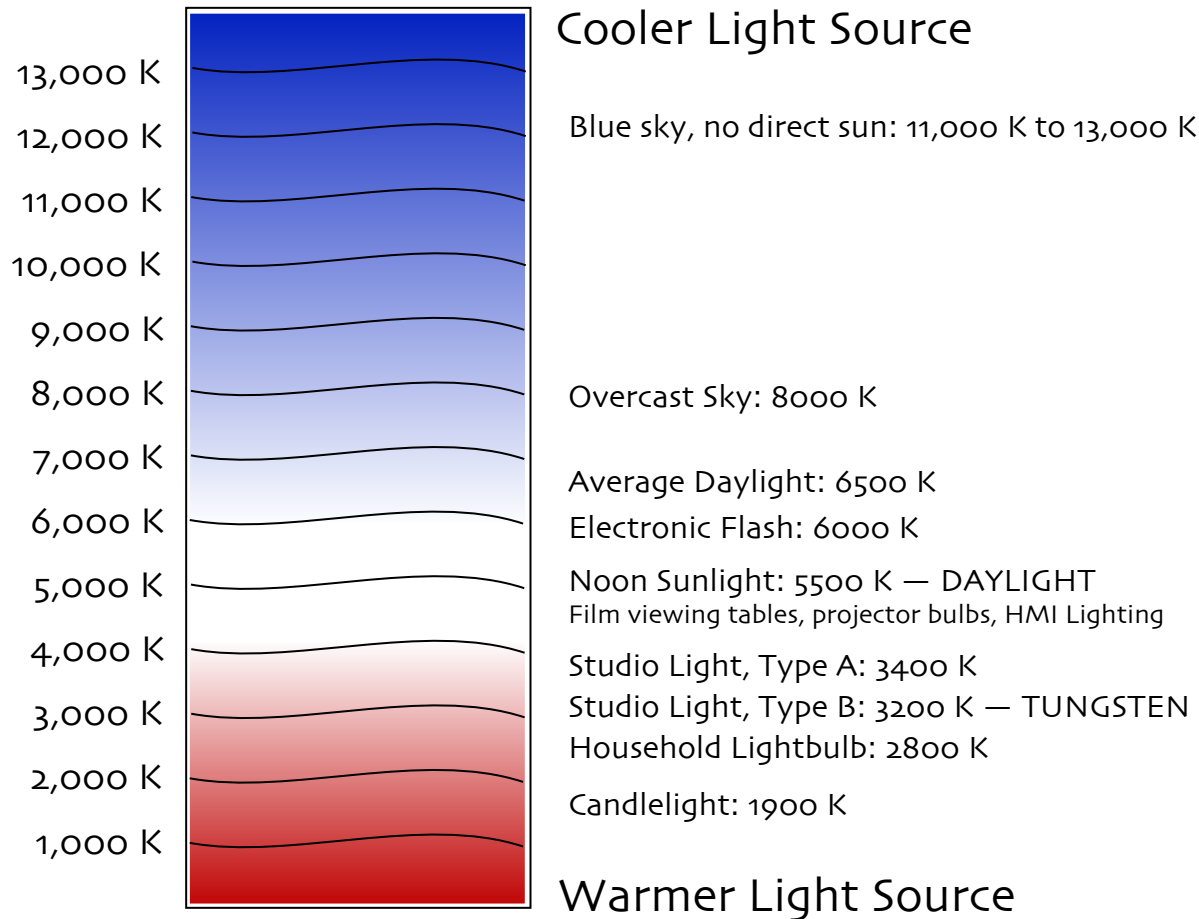
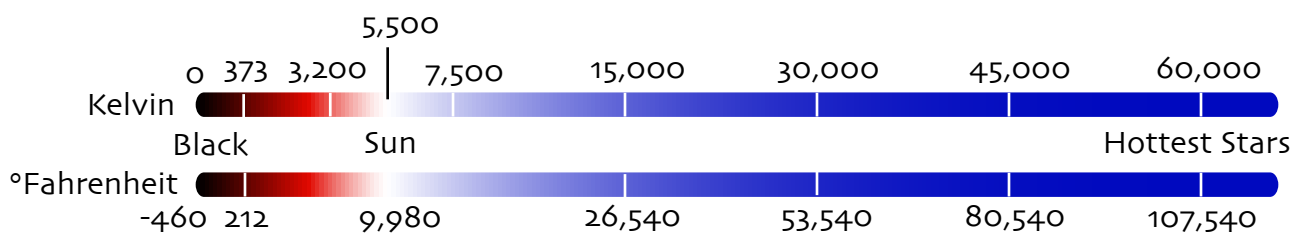


The Kelvin Scale Defines the Color Temperature of Light



Kelvin (K) defines a specific property of light that is emitted by a star or other astronomical object. A black body—known as absolute zero or 0 K—is a theoretical stellar object that has a surface which absorbs incident radiant energy but cannot reflect any (light). The scale interprets the degree to which a black body would have to be heated for it to emit light of a given color. The Sun at mid-day emits a color temperature of 5500 K (white light) and is the standard that color photographic materials, image input devices, analog or computer processing equipment, and output devices are manufactured.

The illustration above interprets commonly used color temperatures of light. Note that ordinary ideas of color—the warmth or coolness of thermal temperature—don't match what you think it to be. Although red is known as a warm color, the color temperature of red/warm light is LOW on the Kelvin Scale. Similarly, blue is known as a cool color but its color temperature is HIGH. The illustration below compares the relativity of the Kelvin and Fahrenheit scales.



—Text adapted from Sears and Zemansky's University Physics, 6th Edition, pg. 323

—Illustration adapted from Astronomy: From the Earth to the Universe, 2nd Edition, appendix 13