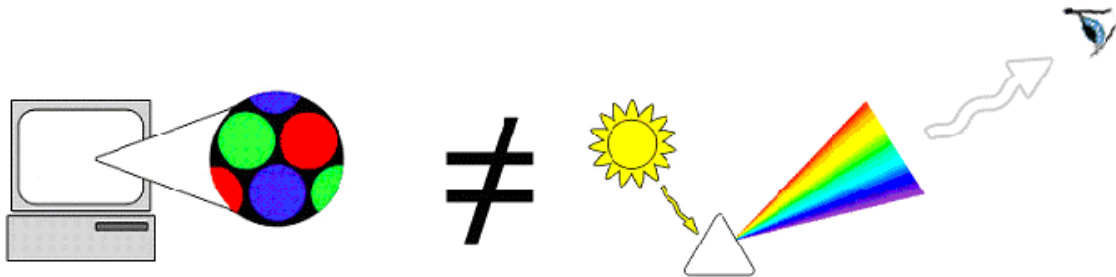


DCF Full Spectrum Technology Overview

The RGB (Red, Green, Blue) color model was designed for the efficient production of colors using a trichromatic light emitter, such as a computer monitor or a camera LCD. It is a model for producing illumination; it was not designed to simulate the complexity of human color vision. Although RGB can be used to produce millions of color combinations, the hues are not arranged in a way that is consistent with how we see. As a result, digital cameras generate a simplified, limited spectrum.

You can confirm the failures of the RGB model with a simple visual analysis – point your camera at our website (www.tribecalabs.com) and compare the colors of the image on the camera LCD with the actual colors on the website. You can repeat this experiment with multiple camera types, and you will notice that all of them have problems with these colors. The color inaccuracy of the RGB color model occurs throughout the visible spectrum, but it is particularly evident in violets, indigos, blues and greens.

Tribeca Labs' unique DCF Full Spectrum technology is a color difference model that corrects for the inherent shortcomings of the RGB color model. As the name implies, a color difference model is a model that translates the difference between two color systems. In the case of DCF Full Spectrum, the two systems in question are RGB, a simple linear model, and human color perception, a complex and fundamentally non-linear model. DCF Full Spectrum is based on years of empirical research conducted on tens of thousands of images to identify and measure the differences between default digital camera performance and human color vision.



The primary difference between RGB and human color vision is the failure of RGB to characterize the chromaticity of hues. Simply put, the RGB model can make a hue “lighter” or “darker” but does not characterize the human sensation of a “deep” hue. For example, deep blue has a red chromaticity, but a digital representation of a deep blue will simply be a darker value of a blue hue. DCF Full Spectrum re-quantifies dark blue data to produce a deep blue image.

DCF Full Spectrum is a device-independent color model that works within the infrastructure of the existing RGB system. It remaps every color possible in RGB from its default R, G and B values to a more correct R', G' and B' triplet. Consequently, it works on any image taken from any camera and is fully compatible with industry recommended methods of digital imaging and reproduction.

DCF Full Spectrum is the only technology that provides true Digital Color Fidelity.