A view on lighting conditions by Simon Prais – Technical Director, Colour Confidence

A key requirement when capturing a colour correct image, is setting the correct white point to match the ambient lighting in the shot. Failure to do this can result in a colour cast that can affect the colour balance of the whole image. Although cameras do have default white light settings, such as daylight, cloudy etc, these are approximations and using them may still result in a colour cast.

To ensure you capture your image correctly a neutral reference is required; a grey card is an invaluable tool that provides this. When included in an image it gives the ability to accurately balance all shots taken under those current lighting conditions. Targets are also available with White, Tri-tone grey and Colour references, providing additional information for exposure and general colour accuracy.

More complex charts, such as the Gretag ColorCheckerSG not only act as an excellent reference for checking white point and exposure, but can also be used with additional software to build camera profiles. Unlike the more basic cards that can be used in all conditions, full profile building is generally more beneficial in a controlled studio environment.

The lighting conditions for viewing prints are equally crucial.

It is important to assess images in consistent and correct viewing conditions. The colour of a print will look different from one lighting condition to another. From natural daylight to a fluorescent tube or to tungsten, images can look warm, cool, flatter and less vibrant.

Daylight (5000°k or D50) is the industry standard for viewing prints. Working near a window during daylight hours provides a good natural solution, but what happens for consistency when it gets dark? It is also important to consider your working environment and position of your monitor to avoid unacceptable reflections on the screen.

Viewing booths from Just Normlicht and GTI are available to provide a correct neutral backdrop and perfect 5000°k illumination. Superior units will also include a dimmer switch as a specified temperature can cover a range of intensities. Models with dimmer switches allow the intensity of the light to be adjusted to match the brightness of the monitor.

RHEM strips are used to validate if lighting conditions are at 5000°k. These are labels printed in bands of two colours - under 5000°k illumination both colours have the appearance of being the same colour. Under other lighting conditions the label has a striped effect of two shades of colour. This effect is called 'metamerism' and such effects reinforce the importance of assessing images in the industry standard 5000°k viewing conditions.

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A RHEM Strip is included in the Kodak Color Management Check-Up Kit. This is an ideal kit for visual verification of viewing conditions and monitor calibration and can also be used to check printer calibration.

TIP: Although viewing conditions should be with 5000°k illumination, when setting the target white point temperature for a monitor, 6500°k (or D65) will give a good match. A reason for this difference is that on the monitor you are viewing light emitted from the screen, whereas on a print you are viewing the effect of light reflecting off the paper. The general effect of 5000°k light reflecting off an 'average' white paper sample produces a white that is no longer 5000°k but is closer to 6500°k.