



lighting affects color - a lot!

Standard Lighting

In order to see the same color we all have to view it under the same viewing conditions. Simply **changing the lighting can change the appearance of an object or print**. This is why standardized lighting is so vital.

The standard lighting in graphic arts and photography is **D50** as defined in ISO 3664:2009. D50 consists of a spectral power distribution curve based on average daylight. If everyone viewed originals, proofs and prints under D50 lighting, apparent errors caused by incorrect lighting would be minimized.

Metameric Failure

Metameric failure is when two images match under one light source but not under another. An example would be a press sheet that simulates the proof in the press console but not under office lighting. This often causes unjustified rejection of otherwise good printing. To minimize metameric failures, **color decisions should only be made in standard D50 lighting**.

Standard Color Vision

We all see color differently—some more differently than others. In extreme cases, this is known as color blindness. Standard color vision is defined by the CIE (International Commission on Illumination) and can be tested.

Getting Standardized

D50 viewing booths are available from several manufacturers including GTI (gtilite.com) and JUST Normlicht (justnormlicht.com). Full-size D50 booths are used in pressroom and prepress areas. Similar desktop booths can be dimmed to match the brightness of an adjacent soft-proofing monitor. Individual D50 tubes can be used as room lighting—a great idea for customer lounges and conference rooms where proofs or press sheets may sometimes be compared.

How Good is Good Enough?

When judging print quality, remember you are evaluating the overall effectiveness of the printed product. Don't be too distracted by small color differences. Good printing should simulate the proof well enough that the desired impression is conveyed to the end consumer, remembering that the consumer will never see the proof. If you hold the proof directly adjacent to the press sheet you will be setting expectations that cannot be maintained throughout the press run.

