technologies team

# techTip #2

## Viewing Conditions

Everybody wants a brighter white paper, but achieving those bright paper whites can be difficult and costly. In come OBA's or optical brightening agents. These are additives to paper that fluoresce in UV light, appearing white to the human eye, and are a cost effective way to make paper appear whiter. Because of this, the use of these additives has increased greatly, along with some challenges for color matching. The amount the OBA's fluoresce depends on how much UV content is in the light source where they are being viewed, however previous standards for viewing conditions and measuring devices didn't define the amount of UV content in the light sources. This can lead to colors appearing different in different light booths, depending on the UV content in the bulbs. In 2009 ISO published ISO Standard 3664: Graphic technology and photography —Viewing Conditions, which outlines the conditions for viewing and comparing proofs to a print, including a more specific definition of the amount of UV content in the bulbs. Here is where we are today:

1. **The viewing area should be a neutral gray.**

2. **Bright colors, extraneous light, and anything else that may affect the viewing should be removed from the area.**
    a. The use of a light booth can help as they are generally painted neutral tones and block distractions in the room.

3. **The light source should be CIE Illuminant D50 and be uniform across the viewing area.**

4. **The images should be compared on either a black or white backing, similar to the conditions the profile data was measured on.**
    a. The graphic arts industry usually uses white unless the print is 2-sided, then black should be used to reduce or eliminate the amount of image show-through.
    b. We recommend choosing a standard paper or tile to be used throughout the plant.

5. **The images should be viewed at an angle to reduce the glare.**

If I already have a light booth, what does the new standard change for me?

1. **If you've replaced your bulbs in the last 2 years from a graphic arts source (not the local hardware store) then your bulbs are most likely compliant with the new standard.**
    a. If you haven't changed your bulbs in the last two years, you probably need to, regardless of the change in standard. They are most likely no longer conforming to the new standard or the old standard.

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**2. If you print on film or on stock without OBA's, this won't change much for you. The added UV in the lamps has nothing to react to in your substrate and therefore color will appear the same.**

a. There will be left-over polymer residue, inconsistent dot size, and inconsistent floors.

**3. If you print on substrates with OBA's you could start to see a difference between proofs and press samples that previously matched.**

a. 140 degrees Fahrenheit (at 150 degrees the polyester back could begin to distort).

b. Be sure to measure with a thermometer at both sides (left and right) of the dryer drawers.

What to do if I have OBA's?

You have two choices for comparing your proof and press sheet to view comparable results:

**1. Some light booth manufacturers have a filter for light booths that will filter out the UV, returning the light booths to the same state they were in pre the 2009 standard.**

a. This will create a visual match in the light booth, but will not meet the most recent standards.

**2. In order to get a match and comply with the latest standards, profiles will have to be recreated – printed then measured using the new M1 measuring light source standard that also includes a defined amount of UV content.**

a. This would comply with the latest standards and allow a proof to press match with this lighting condition.

Do you have questions? Send us an email at techteam@andvre.com and we will help you find the answer!