

# T 515 om-04

SUGGESTED METHOD – 1970  
OFFICIAL STANDARD – 1976  
OFFICIAL TEST METHOD – 1985  
REVISED – 1990  
STANDARD PRACTICE – 1999  
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## Visual grading and color matching of paper

### 1. Scope

1.1 This method describes the spectral, photometric, and geometric characteristics of a light source, the illuminating and viewing conditions, and the procedures to be used for the visual evaluation of color differences of paper, including those containing fluorescent whitening agents.

1.2 This method specifies light sources which are selected to accomplish three objectives: (a) simulation of the actual and illuminating conditions of ultimate use and (b) employment of two light sources which are spectrally very different in order to exaggerate observable differences between sample and standard if any difference exists, and (c) employment of a UV radiator to detect the presence of fluorescent whitening agents (FWA) and assess their impact on final appearance.

1.3 This method is applicable when the testers have normal color vision.

### 2. Significance

2.1 In order to achieve the best possible agreement between customer and supplier on visual color matches, the same set of illuminating and viewing conditions must be employed by both customer and supplier. For example, if the customer will be using the paper in a typical office which is illuminated by cool white fluorescent (CWF) lighting, then the paper supplier should also use CWF as the light source for the visual assessment of the product. If the paper being evaluated contains optical brightening agents which fluoresce when excited by ultraviolet light, it is very important that the customer's light source be matched in the ultraviolet region as well as the visible region of the spectrum. Many observation booths are equipped with a UV light which may be added to any illuminant. Since its intensity is not calibrated, it does not match any standard illuminant distribution but by adding UV light, the trained eye can assess the influence of the fluorescence and its impact on the final color.

2.2 In many instances, colored paper products may be used and viewed in a wide variety of light sources. It is recommended that such papers be visually color matched under two light sources which are spectrally quite different such as A and D65 or A and CWF. Doing so will exaggerate any color differences which may exist. This added discrimination capability allows one to better judge between closely matched specimens.