

TABLE I. SUMMARY OF ISO VIEWING CONDITIONS SPECIFIED IN ISO 3664

ISO Viewing Condition	Reference Illuminant and Chromaticity Tolerance (1)	Illuminance/Luminance	Color Index (according to CIE 13.2)	Metamerism Index (according to CIE 51)	Illumination Uniformity (min:max)	Surround Luminous Reflectance/Luminance/Illuminance
Critical Comparison Prints (P1)	Illuminant D ₅₀ (0.005)	2000 lx ± 500 lx (should be ± 250 lx)	General Index: ≥90 Special Indices for Samples 1 to 8: ≥80	Visual: C or better and should be B or better UV: <4	For surfaces up to 1m × 1m ≥0.75 For surfaces greater than 1m × 1m ≥0.6	<60% (Shall also be neutral and matte)
Transparencies (direct viewing) (T1)	Illuminant D ₅₀ (0.005)	1270 ± 320 cd/m ² (should be 160 cd/m ²) (2)	General Index: ≥90 Special Indices for Samples 1 to 8: ≥80	Visual: C or better and should be B or better	≥0.75	5–10% of the luminance level (Shall also be neutral and extend at least 50 mm on all sides)
Practical Appraisal of Prints (P2)	Illuminant D ₅₀ (0.005)	500 ± 125 lx	General Index: ≥90 Special Indices for Samples 1 to 8: ≥80	Visual: C or better and should be B or better UV: <4	≥0.75	<60% (Shall also be neutral and matte)
Transparencies (projection viewing) (T2)	Illuminant D ₅₀ (0.005)	1270 ± 320 cd/m ²	General Index: ≥90 Special Indices for Samples 1 to 8: ≥80	Visual: C or better and should be B or better	≥0.75	5–10% of the luminance level (Shall also be neutral and extend at least 50 mm on all sides)
Color Monitors	Chromaticity of illuminant D65 (0.025)	75 cd/m ² (Should be >100 cd/m ²)	Not Applicable	Not Applicable	Not Applicable	Shall be neutral and dark grey or black (3)

- (1) This specifies the spectral power distribution of the reference illuminant except for color monitors, in which case it specifies the chromaticity of the white point of the monitor. Permitted tolerances in chromaticity, from that of the reference illuminant, are given in parentheses. These are specified at the plane of viewing, according to the 1976 u'_{10}, v'_{10} UCS system.
- (2) When comparing a transparency to a print, the ratio of the luminance of the transparency illuminator to the equivalent illuminance of the print viewing surface shall be 2 (± 0.2):1.
- (3) The ambient illumination for color monitors should be less than or equal to 32 lux and shall be less than or equal to 64 lux.

ANSI committee to assist in the revision, with the goal of accepting the ISO document as the ANSI standard.

We are almost there. The final steps have not been taken, but as soon as the ISO document is published, ANSI/PIMA/PH2 can begin to take action with respect to the ANSI status.

What Is Specified?

Several items are critical to ensure consistent viewing conditions throughout the graphic arts production chain.

These are the

- Spectral power distribution of the illumination,
 - Intensity and uniformity of the illumination,
 - Backing and surround conditions (the viewing booth or illuminator environment), and
 - Maintenance recommendations.
- They are all included in ISO 3664. The standard also provides recommendations for the viewing conditions for images on color monitors and viewing conditions for the exhibition and judg-

ing of photographs. (This standard is intended to cover the needs of both the graphic arts and photographic industries.)

The issues critical to graphic arts are summarized in Table I. Let's look at them one at a time.

Illuminant Definition

The basic illuminant specified for viewing is (and has been for some time) something called CIE Illuminant D₅₀. This defines the spectral distribution