

SMPTE RECOMMENDED PRACTICE

RP 145-2004

Revision of RP 145-1999

SMPTE C Color Monitor Colorimetry



1 Scope

This practice specifies the chromaticity values of the red, green, and blue visible radiation emitted by the primaries and the chromaticity of the white point for professional monitors used in systems based on SMPTE C colorimetry.

2 Specifications

2.1 The chromaticity coordinates of monitor primaries, specified as 1931 CIE x,y coordinates (CIE 15), are:

	x	y
Red	0.630	0.340
Green	0.310	0.595
Blue	0.155	0.070

2.2 Tolerances for x and y coordinates of the primaries shall be ± 0.005 (see annex A).

2.3 The white reference for professional color monitors shall have the chromaticity coordinates of CIE illuminant D65 (CIE 15), which are:

$$x = 0.3127 \quad y = 0.3290$$

Annex A (informative)

Tolerances

The tolerances specified for phosphor chromaticities have been accepted as necessary for critical evaluation of color and brightness. It is recognized, however, that the metrology to ensure this tolerance is complex and not widely available.

Annex B (informative)

Bibliography

SMPTE 170M-2004, Television — Composite Analog Video Signal — NTSC for Studio Applications

SMPTE 240M-1999, Television — 1125-Line High-Definition Production Systems — Signal Parameters

CIE 15:2004, Colorimetry, Third Edition