

# Linear Luminance Gradients

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## What is Linear Luminance

Luminance is the perceived brightness of a color. Since the sensitivity of the eye is different for the three primary colors red, green and blue, luminance is computed as a weighted average of these three channels. A series of colors that varies from black to white in equal steps in luminance is called a linear luminance gradient. The simplest one is simply as set of neutral grays that vary uniformly from black to white.

This type of gradient is sometimes called a false-color map and is useful, for example, when converting a black and white image to color in such a way as to preserve its perceived brightness while using color to help identify different tonal values as is done in weather maps.

## Examples

There are many ways to add color to a neutral gradient without changing its luminance. A number of these gradients, in the form of color line files, have been pre-computed and are distributed with Picture Window Pro. You can apply them to a black and white or color image using Transformation/Gray/Tint and loading the color line files by clicking the Opt button just to the right of the color line control and then selecting Load... from the options menu.

Below are illustrated the effects of applying these color lines to a uniform neutral gradient:



Red Luminance.cln



Green Luminance.cln



Blue Luminance.cln



Blue-Red-Green Luminance.cln



Blue-Red-Green-Yellow Luminance.cln



Magenta-Cyan-Green-Yellow Luminance.cln



Blue-Magenta-Cyan-Green-Yellow Luminance.cln



Blue-Orange-Pink.cln



Brown-Green.cln



Indigo-Purple-Pink.cln



Indigo-Green-Pink.cln

