

Abstract: The light fading of transparent glazes is described from two perspectives: first in terms of the colorant loss from photochemical reaction, then in terms of the color changes that result from that colorant loss. The authors postulate that if the rate of colorant loss depends only on the amount of light absorbed at the photochemically active wavelengths, then the results of light exposure of dark and pale glazes should be very different. The loss of colorant in highly absorbing glazes should be constant with exposure, but only minor spectral changes that cause slight hue and chroma changes are produced. In paler glazes that absorb less light, colorant loss from light exposure should be slower than for dark glazes, and it should also become progressively slower as colorant is lost. Despite this slower colorant loss in pale glazes, large spectral changes result, giving rise to the large chroma losses and value increases that are the changes normally associated with fading paints. The general trends predicted by this simple model were observed in fading experiments of Pigment Red 66 glazes. Although some discrepancies from the idealized fading behavior were observed, these trends are suggested as a starting point for identifying glaze applications that may be at high risk of light-induced damage and may thus warrant special care or condition monitoring.