How does Daniel Smith test paint for lightfastness?

Testing · https://danielsmith.com/zh/kb/how-does-daniel-smith-test-paint-for-lightfastness/

We follow the protocol set by ASTM (American Standard of Testing Methods International), where we have been a member since 1990. ASTM sets industry standards for paint lightfastness testing methods. ASTM assigns their Lightfastness Specification* to the pigments used in making paint, which ranges from 1-4 (Roman numerals I-IV). It's not possible to alter the pigment's lightfastness during the production of a watercolor or oil color, so we start by purchasing pigments with the highest lightfastness rating available. We further test these pigments on our own Xenon Fadeometer* to assure the manufacturer's lightfastness rating is accurate before we begin paint production.

ASTM does not list lightfastness specifications for every single pigment used in our industry. If a particular pigment is not listed with ASTM, we refer to it as NR (not rated), but we then follow their same rigorous testing methods to assign the appropriate rating with our Xenon Fadeometer.

Contributor: Ron Harmon, Chief Chemist at Daniel Smith since 1989

** ASTM has following testing methods:*
ASTM D 4303 Specification for running lightfastness on artist paints
ASTM D 4236 Specification for the Labeling of Hazardous Art Materials Act (LHAMA)
ASTM D 5067 Specification for artist watercolors
** A Xenon Fadeometer is a machine that enables manufacturers to understand the effects of long-term weather exposure on their products by combining UV light, condensing humidity and heat to create a simulated environment.*