

# Reducing Light Damage in Collections

## TIPS AND TECHNIQUES

Light exposure is damaging to collection materials. The damage is cumulative and irreversible. Both visible light and UV radiation can cause fading, darkening, and weakening of collection objects. But light is necessary to use collection materials and to share them with the public.

The key is to **eliminate** unnecessary light and to **reduce** the potential harm of necessary light.

### Storage

- Store collections in opaque folders, boxes, drawers, or cabinets.
- Put artifacts away at the end of the day.
- Use fitted alkaline cardboard covers to protect framed objects that are stored hanging.
- Keep storage room lights off whenever the room is unoccupied.

*“Since all light is damaging to light-sensitive materials, excessive lighting causes damage with no justification, and under-lighting causes damage with no benefit.”*

–ANSI Recommended Practice for Museum Lighting

### Affordable methods to monitor light:

- UV-detecting beads
- Smartphone light meter apps
- Blue Wool textile fading cards

### Exhibition

- Use facsimiles for display whenever possible.
- Choose less sensitive objects (see the chart on the next page) for brighter areas or longer displays.
- Rotate exhibits regularly. Objects should spend more time in dark storage than on display.
- Turn book pages during exhibits.
- Use motion sensors or timers to ensure exhibit lights are only on when needed.
- Keep a record of exhibition dates and light levels for each object.



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## Exhibit Design

- Give visitors' eyes enough time to adjust to lower light levels.
- Consider the visitor's age and the detail level of the objects.
- Use darker backgrounds/wall colors so that the exhibited object is brighter in contrast.
- Use UV-filtering glazing in frames and display cases.

## Categories of light sensitivity of common museum materials

Adapted from Museum Galleries Scotland

Very sensitive	Moderately sensitive	Insensitive
Costumes and other textiles Fur and feathers Dyed leather Most drawings Watercolors Stamps Manuscripts Newsprint Colored and old photographs Miniatures Transparencies Unprimed, thinly colored paintings on canvas Digital prints	Oil and tempera paintings Lacquer ware Plastics Wood Furniture Horn Bone Ivory Undyed leather Modern black and white photographs Photocopies Charcoal drawings Prints	Stone Ceramic Metal Glass

## Artificial Lights

- Select lower wattage, UV-free bulbs.
- Reduce the number of lights.
- Install UV-filters.
- Install diffusers.
- Use dimmer switches.

## Windows

- Keep collections in less bright locations: further from windows and out of direct sunlight
- Use opaque blinds, curtains, or shutters whenever possible.
- Use solar control film to reduce total light and heat gain.
- Install translucent fluted plastic in windows: this is easy to remove and will reduce and diffuse light.
- Install UV-filtering film on windows when natural light is needed. Note: this film will become exhausted and should be replaced every 10 years.



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