

THE NATIONAL GALLERY

GUIDELINES FOR LIGHTING FOR PHOTOGRAPHY AND TELEVISION

Guidelines for Lighting for Photography and Television

Professional photographers and film crews are permitted to illuminate the Collection at higher than normal light levels on the understanding that the following general rules are obeyed.

General positioning of lights:

Photographic lamps can generate considerable heat, some of which is emitted from the back of the fitting. For this reason the lamps must be kept well away from all paintings.

Camera and light stands:

For safety reasons, lamp and camera stands must be placed or arranged so that the distance between them and any painting or frame is greater than the height of the lamp or camera stand, so that were they to fall, they would not make contact with any painting or frame. Tripods should be arranged with one leg pointing towards a painting being photographed, so that if it is knocked and topples over it could only fall to the left, right or away from the object.

Tungsten incandescent or tungsten halogen (quartz iodine) lamps:

Illuminance should not exceed 1000lux on either the painting being photographed / filmed or on any other painting in the field of the lighting: this illuminance is equivalent to 1/60th-second at f4 using film rated at 100 ASA. **For particularly sensitive objects**, such as watercolour paintings and works on paper, the limit is reduced to 250lux.

HMI/Fluorescent/LED lamps:

Because these lamps emit less heat than incandescent lamps they may be used at illuminances up to 2500lux. **For particularly sensitive objects**, as described above, the limit is reduced to 500lux. The placement of the lamps must again be such that no damage could be caused by their falling.

Time of exposure:

The damage caused by light is proportional not only to the level of illumination but also to the length of time for which the object is exposed. For this reason the lighting should only be at the above intensities whilst photography or filming are in progress, or while the lights are being aimed. At all other times the photographic lights must be switched off or reduced significantly, below 250 lux for most paintings and below 50 lux for **particularly sensitive object**, as described above.

Ultraviolet radiation:

Ultraviolet (UV) radiation is particularly damaging and is not required for photography or filming. Because tungsten halogen and HMI lamps emit a significant amount of ultraviolet radiation, they must be fitted with an appropriate filter. If the heat of the light sources precludes the use of ultraviolet-absorbing plastic film, a suitable glass filter must be used. Plain glass filters are not acceptable, since they do not absorb uv radiation in the 320 - 400nm region. A heat-stable glass filter, such as Pilkington UV-stop or Corning Pyrex -UV-plus must be used.

Flash photography:

For authorized professional photography, electronic flash is permitted and is preferred to the use of photographic lamps, since the overall exposure of the paintings to light is greatly reduced. The maximum exposure for any painting in the field of the flash is 1250lux seconds per frame; equivalent to f22 at 100 ASA. A supplementary ultraviolet filter must be fitted to the flash unit unless the tube itself is coated to reduce ultraviolet emission.