



TENNESSEE BUREAU OF INVESTIGATION

Forensic Services Division

Violent Crime Response Team Standard Operating Procedures

10.23 Alternate Light Source

10. VCRT Procedures

10.23 Alternate Light Source (ALS)

10.23.1 Scope

An alternate light source (ALS) is an illumination source that can be used to visualize latent prints with applied chemical dyes or to evaluate items or lifts with fluorescent powder. An ALS may also detect naturally fluorescing substances, such as semen. An ALS produces high-energy wavelengths between 350 and 630 nm.

An ALS may be used on any non-porous or semi-porous evidence in which a dye stain has been applied. The ALS may also be used to visualize fluorescent powder. Items with substances such as blood, perspiration, chemicals or other organic substances may fluoresce under different wavelengths.

ALS can be used on all surface types.

10.23.2 Definitions

Refer to VCRT 11.0 Definitions and Abbreviations

10.23.3 Chemicals and Reagents

none

10.23.4 Precautions/Limitations

Protective goggles shall be worn consistent with the wavelength range in order to prevent eye injury.

10.23.5 Equipment and Supplies

Polilight or Alternate Light Source
Yellow, orange and red goggles
Yellow, orange, and red filters (for camera)
Fluorescent ruler
Camera
Protective goggles

10.23.6 Test Procedure

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Use the following procedure when using the Polilight or Alternate Light Source.

1. Turn the power rocker switch on. This switch will turn on the fan, which will come to full operating speed within a few seconds.
2. Turn on the lamp switch.
3. Choose the appropriate wavelength and goggles. View evidence and photograph with the same filter and wavelength.
4. Turn off the lamp switch. Wait for the unit to cool down. Feel the fan from the back of the unit to determine if the unit is cool. Once the unit is cool, turn the power switch off. The unit should be allowed to run for longer periods of time, rather than repeatedly turning the unit on and off for short periods of time.

Latent prints of comparable value should be marked and photographed using the appropriate filter with a ruler included in the photograph. Refer to VCRT 10.34 Comparison Photography for further information.