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Crimescope Alternate Light Source

Name of Procedure:

Crimescope Alternate Light Source

Suggested Uses:

This procedure is used to examine items of evidence for the presence of latent fingerprints, palmprints, footprints, footwear and other impressions. The Crimescope Alternate Light Source will often be a useful tool in discovering latent impressions which have compounds or residues which will fluoresce under the influence of a directed light. The use of laser dyes and other processing techniques in conjunction with the light source can be one of the most successful means of developing latent impressions on items of evidence. The Crimescope Alternate Light Source will also detect serological and trace evidence which may not visible to the naked eye.

Equipment Needed to Perform Procedures:

A - Crimescope Alternate Light Source

B- Camera Equipment

Chemicals Needed For Preparation of Chemical Solution(s):

Not Applicable

Formula/Directions for Preparation of Chemical Solution(s):

Not Applicable

Processing Procedures for Application to Item(s) of Evidence:

Items of evidence should be subjected to the light source prior to applying processing techniques. Numerous other processing techniques should be utilized and the Crimescope used where applicable to develop and photograph any latent impressions. The use of florescent dyes has been found to be one of the most effective ways of developing latent impressions and should be utilized to develop latent impressions as often as possible.

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Start Up Procedures:

1. Plug the unit into a standard electrical socket.
2. Attach the fiber optic cord.
3. Turn the power rocker switch on. This will activate the fan system of the unit (the fan sound will be evident in a few seconds).
4. Turn on the Power Control Switch. This will activate the lamp switch (a clicking sound will indicate the lamp is activated and the unit will initiate the light beam).

Shut Down Procedures:

1. Turn lamp power rocker to the "off" position.
2. Allow the unit to cool with the fan on for approximately ten (10) to fifteen (15) minutes.
3. After the unit has cooled, check the body of the unit to ensure the unit is cool.
4. Turn power rocker to the "off" position.

Wavelength and Filter Selections:

1. To select a particular wavelength, turn the wavelength control to the desired wavelength or use the selector on the fiber optic.
2. The system has a variety of wavelengths and the one in use will be designated in the display area of the unit.
3. Wavelength and Filter selections should be attempted on various surfaces to determine which is the most appropriate for a particular item of evidence.

Note: For lamp replacement and general maintenance consult the manufacturer's operating manual.

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Examination of Evidence:

1. Wearing safety goggles, scan the item of evidence with the light beam (a strong hand held magnifier may be utilized to enhance visualization of the latent impressions).
2. If a latent impression is noted, immediately note the location and direct the light beam away from the area.
3. Place the area noted under the appropriate camera and place the laser filter over the lens of the camera.
4. Direct the light beam over the area to be photographed and begin photography (a number of photographs may be taken at various times and F-stops to record the latent impression).
5. After each photograph is taken, it is advisable to direct the light beam away from the impression to avoid destruction of the area or surface (Prolonged exposure to the beam will cause the latent impression to photo degenerate over a short period of time until eventually the impression may disappear.)

Steps to Preserve Developed Impressions:

The most appropriate methods in preserving developed impressions is through photography, using the appropriate techniques (See Photographic Equipment/Procedures) and electronic recording (See Image Processing). The utilization of a 35 mm, 2 1/4, MP-4, or CU5 camera will suffice for developed impressions prints; however, all impressions must be photographed using a laser filter to be recorded on the film.

Negatives produced from the Polaroid film are the most effective manner to accurately reproduce the developed impressions (See Photographs/Negatives Preservation).

Safety Concerns:

Never look directly into the laser beam as this may cause eye damage.

Do not expose the light beam to the skin as it will not immediately cause harm, but may have long term effects with prolonged exposure.

Eye protection should be worn at all times and this includes any other individual(s) who may also be in the same room or area. This is particularly important when examining reflective surfaces as the beam may be reflected and result in eye damage.

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Storage and Location of Chemicals and Solutions:

Not Applicable

Shelf Life:

Not Applicable

Other Information:

The Crimescope should always be used as one of the first step in analyzing items of evidence. This will serve to detect any inherent latent impressions and to show the color and intensity of the surface's background. This will allow the analyst to determine which florescent dye will be appropriate to use in the sequence of processing evidence.