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## Procedure for the Use of an Alternate Light Source

**1.0 Purpose** - This procedure specifies the methods for using an alternate light source in forensic casework to observe body fluids.

**2.0 Scope** - This procedure applies to those Forensic Scientists who have been released to use an alternate light source in forensic casework.

**3.0 Definitions** – Alternate Light source (ALS) – an instrument that uses wavelengths of light that are not visible to the naked eye to enhance potential stains on evidence.

### 4.0 Equipment, Materials and Reagents

- Crime-Lite 82S, Blue 420nm-470 nm, Blue-green 445 nm-510 nm and Crime-Lite 82S IR or equivalent light
- Surface Pro Tablet or equivalent (for the Crime-Lite IR)
- Goggles (Orange OG 550 AG or Yellow GG 495 AG or equivalent)
- Permanent marker

### 5.0 Procedure

**5.1** The evidence shall be viewed with the ALS under normal lighting.

**5.1.1** The blue and blue-green ALS lights may be used to examine articles with suspected semen and /or saliva stains.

**5.1.2** The Infrared (IR) light may be used to visualize dark and/or patterned clothes for potential bloodstains.

### 5.2 Visualizing Stains with Blue and Blue Green Lights

**5.2.1** Put on the applicable goggles for visualizing stains using the blue and blue green ALS lights.

**5.2.1.1** The yellow goggles shall be used with the blue light (420nm – 470 nm).

**5.2.1.2** The orange goggles shall be used with the blue-green light (445nm – 510nm).

**5.2.2** Power on the ALS.

**5.2.3** Scan the evidence using the ALS. The optimal light can depend on the surface material and the stain itself. The blue and blue-green lights can be interchanged to best visualize the stain.

**5.2.4** Mark the areas that fluoresce with a permanent marker according to the Forensic Biology Section Procedure for Semen and Sperm Analysis.

**5.2.5** When the analysis is complete, turn off the light and remove goggles. Clean the goggles by wiping with alcohol.

### 5.3 Visualizing Stains with (IR) Light

- 5.3.1 The tablet computer will be needed to visualize stains using the IR light.
- 5.3.2 Power on the ALS.
- 5.3.3 Turn on the tablet and open the software for use with the IR light
- 5.3.4 Scan the evidence using the ALS. The optimal light can depend on the surface material and the stain itself.
- 5.3.5 Mark the areas that absorb light with a permanent marker.
- 5.3.6 When the analysis is complete, turn off the light and tablet after closing the software.

#### 5.4 Reporting Guidelines

- 5.4.1 This phrase shall be used when only a visual examination is performed for semen and/or saliva, no stains of interest are observed, and no chemical analysis is performed.

A visual examination (with an alternate light source, if used) of \_\_\_\_\_ (Item(s) \_\_\_\_\_) failed to reveal the presence of semen like and/or saliva like stains.

- 5.4.2 This phrase shall be used when a visual examination is performed using an ALS for semen, no stains of interest are observed, and chemical analysis is performed

A visual examination with an alternate light source of \_\_\_\_\_ (Item(s) \_\_\_\_\_) failed to reveal the presence of semen stains; however, sample(s) were taken for further analysis.

- 5.4.3 This phrase shall be used when only a visual examination is performed for semen and stains of interest are observed; however, no further chemical analysis is performed.

A visual examination (with an alternate light source, if used) of \_\_\_\_\_ (Item(s) \_\_\_\_\_) revealed areas of interest; however, no further chemical analysis was performed.

#### 5.5 Standards and Controls – N/A

#### 5.6 Calibration – N/A

#### 5.7 Maintenance – N/A

- 5.8 **Sampling** – No sampling is performed using this procedure. Areas that were marked with a permanent marker during the examination may be further evaluated by additional body fluid testing.

#### 5.9 Calculations - NA

#### 5.10 Uncertainty of Measurement – N/A

#### 6.0 Limitations – Many items/ substances other than body fluids will fluoresce/absorb light using the ALS.

#### 7.0 Safety – Protective goggles shall be worn when operating the ALS with the blue and blue green lights.

**8.0 References**

Crime-Lite 82S manual

**9.0 Records – N/A**

**10.0 Attachments - N/A**

<b>Revision History</b>		
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04/06/2016	1	Original Document