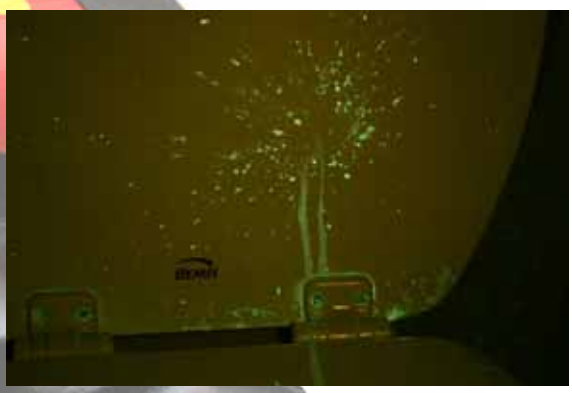
Regulated White/Blue/Ultraviolet Selectable Rechargeable Lantern

featuring high-flux LED Technology and 365nm or 385nm mode

APPLICATIONS:

- Crime scene ALS — two wavelengths plus white.
- Crime scene cleanup.
- Inspection, laboratory, scientific, law enforcement where cordless high UV and Blue emission is required.
- Arson investigation (UV).
- Bodily fluids by fluorescence: semen, urine (UV/Blue).
- Blood by absorption (UV/Blue).
- Forensic fluorescence (365nm UV/Blue)
- Document validation (365nm UV)
- Education in schools.
- Hotel room inspection.



Upper toilet seat, missed by cleaning crew (UV mode).

FEATURES:

- Reliable regulated solid-state UV and Blue emission from seven high flux LEDs, selectable between wavelengths plus white.
- Same high-flux 365nm emitter and optics as our XeLED-Ni1UV-R3-365nm model (intensity >1750uW/cm^2 at 15").
- 365nm peak emission for UV, 325mW output, center emitter.
- —OR— available with high-flux 385nm peak, 400mW output.
- 450-455nm emission for Blue, 9W total output. 3 emitters.
- White 9W output, three emitters.
- Current regulated circuitry maintains constant output until low battery indication.
- Rechargeable sealed lead acid battery.
- External universal 120-250V AC three-stage smart charger.
- Features low battery indication by flashing to alert user to charge.
- Trigger switch locks for continuous operation.
- 8" long x 4.5" wide.
- LED Lifetime 10,000 hours.
- Runtime approaches 4+ hours on full charge (longer for 365nm mode).
- Beam angle 30 degrees approximately.
- Patent pending.

PART NUMBER	DESCRIPTION
XeLED-Cr7UV-MR4-CSE-365-K XeLED-Cr7UV-MR4-CSE-385-K	Rechargeable crime scene lantern with high-flux LED technology, selectable 365 or 385/455nm/white. Kit option includes Carrying case, high quality yellow and orange viewing glasses.

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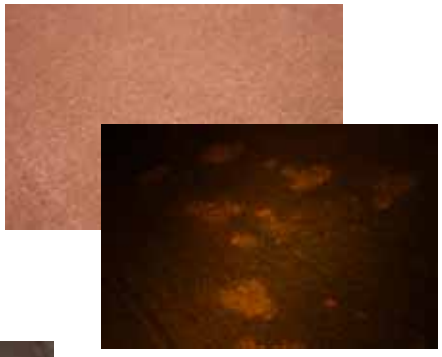
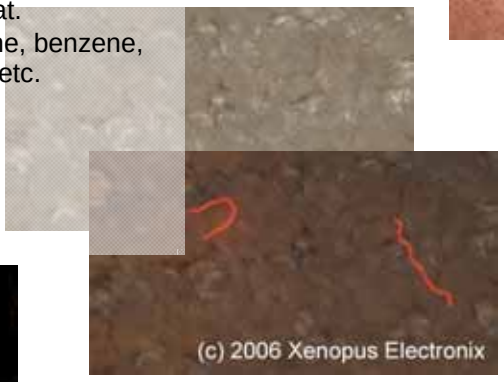
APPLICATION SPECIFICS:

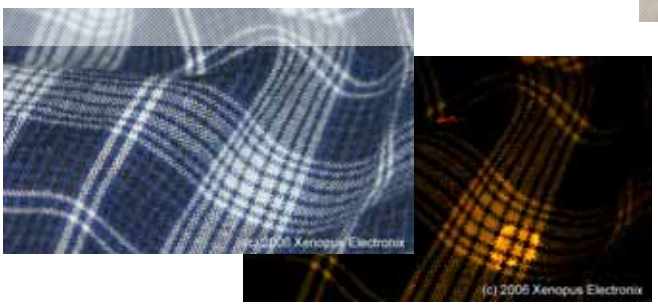
- Detecting items of forensic interest at crime scene or in the lab.
- Arson investigation — 365nm UV lights are a reliable, cost-effective method of detecting accelerant residues, and the point of origin of the fire: the fluorescence wavelength (color under UV) of accelerants is affected by exposure to heat.
- Detectable accelerants include gasoline, kerosene, benzene, acetone, grease, lard, oils (including vegetable), etc.



Organic evidence in girl's bedroom: viewed normally (top), and under 465nm with orange filter (bottom).



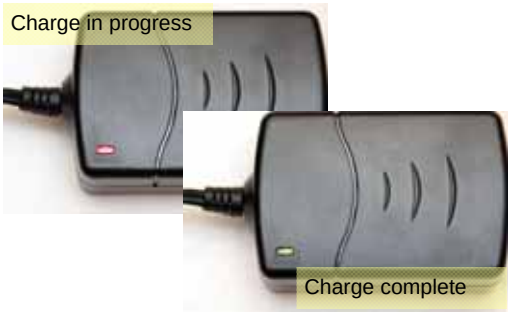
Fiber evidence viewed in carpet: normally (top), and under 465nm with orange filter (bottom).



Semen spot on fabric (1/2" in diameter). Viewed normally (top), and under 465nm (bottom) with orange filter).

INSTRUCTIONS FOR USE:

- This unit is supplied with a 3-stage universal 120-250V smart volt AC charger .
- Charge type 4 hours (for full charge).
- Red LED on charger indicates charging.
- Green LED on charger indicates charge is complete.
- (Red LED on back of lantern handle has no function).
- If unit is not used for two months, typically 1 hours of charging will be required.
- Do not operate the lantern during charging.
- Do not submerge in water — unit is splash-resistant, not waterproof.
- Do not unscrew head.
- Not a toy — keep out of reach of children!
- Yellow UV-blocking viewing goggles must be worn in UV mode.
- Appropriate clear UV-blocking goggles can be used, check for block at 400nm and below (eg: NOIR Laser Shield brand)
- Lead-acid battery is fully recyclable, and must be recycled in accordance with local and state guidelines.
- Glass lens can shatter if dropped, use caution.



CAUTION: Device emits intense UV radiation: Avoid direct or strongly reflected exposure.

Standard clear "UV Blocking" safety glasses offer little or no protection. Use appropriate approved eyewear.

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Assembled in USA

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FINGERPRINT COLLECTION (Blue and UV):

- Use fluorescent fingerprint powder on both smooth and rough surfaces. Both the blue and UV wavelengths will create fluorescence in many cases, but UV will provide enhanced viewing (and photographic) opportunities on blue-tinted backgrounds.
- Fluorescent powders preferred when dusting a dark or patterned surface.
- Fluorescent *magnetic* powder may be used with ridge detail is very weak (coming soon).

Colorful surface, photographed with no powder (left), then dusted and viewed (in order) with white, blue, and ultraviolet modes of the CSE lantern. Shown for reference without filter on camera (appropriate filter on camera would greatly enhance contrast).

BLOOD DETECTION by absorption (Blue and UV):

- Blood absorbs blue and ultraviolet wavelengths (peak absorption around 410nm), making it possible to detect blood against red or dark backgrounds.
- Orange viewing goggles are not used when viewing absorption in this manner.

ARSON INVESTIGATION (UV):

- Ultraviolet light is used to detect accelerants and spill, splash, or pour patterns.
- Fluorescent hydrocarbons include gasoline (petrol), kerosene, benzene, grease, etc.
- Ultraviolet light can be used to detect pour lines, and splash areas on clothing.
- May be more effective than sniffers in windy conditions or after an intensely hot fire.

SHOEPRINT LIFTING (White):

- Oblique illumination from the white emitter will be effective when viewing imprints from electrostatic lifters like the Path-Finder.

Shoeprint on mylar film lifted from newspaper with PathFinder

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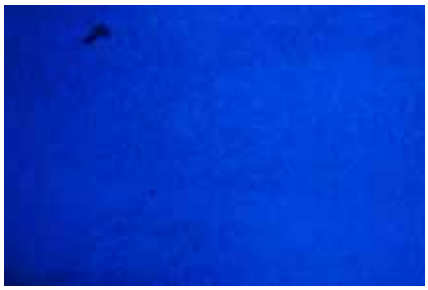
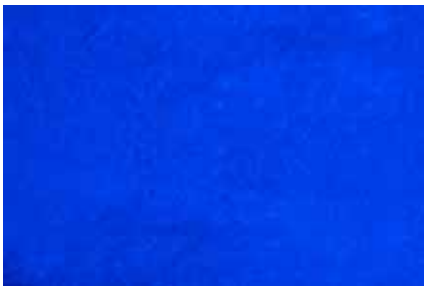
SEMEN ON WHITE TOWEL (Blue and UV compared):

- Although semen fluoresces under both UV and Blue wavelengths, detergents commonly have brightening agents causing the whole towel (or clothing article) to fluoresce under UV. In this case, 455nm blue is preferred to visualize the evidence.
- Yellow barrier filter or orange barrier filter employed (for example U50 or U60 LaserShield material) at 455nm excitation.
- See photographs below to compare different excitation wavelength and barrier filter combinations…

NO FILTER:



365nm mode, no filter.



455nm mode, no filter.

White towel, viewed normally, under 365nm and 455nm modes, without filter (as the naked eye would see it). Under UV towel is generally fluorescing a blue color—this is not "purple haze" from 365nm UV light, but is a true fluorescence. Note some tissue paper absorbs UV and does not fluoresce.

YELLOW FILTER:

- Normally good results would be expected with 365nm, but not in the case where detergents with brightening agents have been used to previously wash the article. In this case, 455nm blue excitation yields superior results with yellow filter.

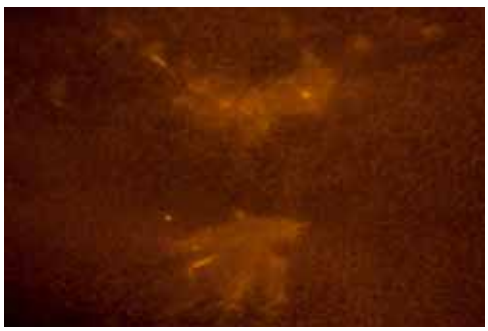
365nm mode, yellow filter. Semen fluorescence obscured.

Excellent results with 455nm excitation and yellow filter.

ORANGE FILTER:

- Good results with orange filter and 455nm excitation.

365nm mode, orange filter.



455nm mode, orange filter. Improved contrast over yellow filter.

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