

foster+freeman

Instruments for the analysis of

Forensic Light Sources



Reveal More Evidence

Powerful Intense Illumination

UV to IR Wavelengths

For CSI or Laboratory



Light Sources

+ Handheld Light Sources

for use at the crime scene and in the forensic laboratory

A forensic examiner's most valuable tool, foster+freeman Crime-lites are used at crime scenes and in forensic laboratories worldwide to reveal evidence that cannot be detected using other, less powerful, light sources.

High intensity narrowband illumination can be used to excite fluorescence in body fluids, fingerprints, fibres, drugs, accelerants, fragments of bone and tooth, and to improve the visible details of bite marks, bruises, gun shot residues and shoeprints.

Ultra bright, robust and durable, with wide ranging applications, Crime-lites are the essential forensic light source.

The original LED forensic light source, Crime-lites offer many features that remain unmatched:

- Wide range of models available
- Hand-picked LEDs selected for peak performance at every wavelength
- Instantly recognisable quality of construction
- 100% light output throughout battery lifespan
- Comprehensive range of accessories



Detect More Evidence

intense collimated, shadow-free illumination maximise the clarity of forensic evidence including fingerprints, body fluids, blood, hair, and fibres etc.



UV-Vis-IR Wavebands

available in ten wavebands from UV to IR to meet the needs of the forensic examiner



Recognisable Quality

instantly recognisable by their quality of performance & construction, Crime-lite® products stand head and shoulders above all competitors



Constant Power Output

providing 100% light output, with no drop off, throughout the battery lifespan

Crime-lite 82S[®] POWERFUL AND VERSATILE FORENSIC LIGHT SOURCE

Where serious crime demands intensive crime scene investigation, the Crime-lite 82S range offers levels of illumination and ease of use that will almost certainly increase the quantity and value of evidence detected.

Each Crime-lite 82S features 16 LEDs hand-picked for brightness and wavelength accuracy, ensuring consistent performance and effectiveness.

The range includes UV, Violet, Blue, Blue/Green, Green, Orange, Red and Infrared narrow bandwidth light sources for detecting blood, body fluids, drugs and fibres as well as for examining chemically treated fingerprints.

Crime-lite 82S features include:

- ▶ Intense shadow-free beam without hotspots
- ▶ Up to 600 minutes operating time on a fully charged battery
- ▶ Constant light output regardless of battery charge
- ▶ Anti-glare viewing goggles and camera filters



16 x high intensity LEDs
available in 9 wavebands



Crime-lite 82L[®] LOW-ANGLE SURFACE ILLUMINATION

16 high intensity LEDs mounted behind a cylindrical lens give a wide floor level light beam that is ideal for detecting surface debris and shoe prints.

A concept developed by Foster + Freeman, the Crime-lite 82L produces a 'sheet' of variable intensity (10%, 50%, 100%) light to reveal floor level evidence.

Crime-lite 82L features include:

- ▶ Detects surface evidence over a large area
- ▶ Rechargeable battery provides up to 600mins operation
- ▶ Lightweight, telescopic pole available to aid floor searches



16 x high intensity LEDs available in 2 wavebands



Viewing Evidence Anti-Glare Viewing Goggles and Camera Filters

Crime-lite anti-glare viewing goggles and camera filters are essential for the examination and photography of fluorescent evidence and are supplied as standard with all Crime-lite cased sets.

Foster + Freeman camera filters and viewing goggles are manufactured from Schott glass with an additional coating to suppress auto-fluorescent emissions from the Schott glass itself, thus ensuring maximum optical performance when using high power light sources.

Illumination Waveband	Goggle/Filter Wavelength
UV 350-380nm	UV Safety 420nm
Violet 395-425nm	Pale Yellow 455nm
Blue 420-470nm	Yellow 495nm
Blue/Green 450-510nm	Orange 550nm
Green 490-510nm	Red 590nm
Orange 570-610nm	Bright Red 645nm

Light sources & Goggles/Filters are paired for optimum performance

Crime-lite[®] 42S DUAL-WAVELENGTH LED LIGHT SOURCES

Switchable between two arrays of 8 high intensity LEDs, the Crime-lite 42S provides the forensic examiner with three illumination outputs in a single alternate light source.

Using a simple 3-way control the examiner is able to alternate between two narrowband wavelengths or to use all 16 LEDs in combination to provide high intensity wideband illumination.

Crime-lite 42S features include:

- Search using two wavebands from a single light source
- Supplied with unique dual-waveband viewing goggles
- NEW UV/IR combination for Beyond Visible applications



8+8 x high intensity LEDs
available in 7 combinations

Crime-lite[®] 2 SINGLE LED LIGHT SOURCES

A range of lightweight LED forensic light sources effective at short range providing intense, even and shadow free illumination for locating and examining evidence.

The range includes a white light model for general search and eight narrow band light sources.

With thousands of units in active use by crime scene and forensic investigators worldwide the Crime-lite 2 has proven effectiveness and reliability.



1 x high intensity LED
available in 9 wavebands

Crime-lite[®] XL THE WORLD'S MOST POWERFUL HANDHELD LED FORENSIC LIGHT SOURCE

96 high power LEDs providing 115 Watts of narrowband illumination effective in detecting trace evidence such as blood, body fluids, drugs, fibres, and explosive residues.

Fully portable and robust, the XL has been optimised for wide area examination of crime scenes and emulates the power density and effectiveness of a forensic laser at a fraction of the cost.

Crime-lite XL features include:

- 96x LEDs provide unrivalled illumination intensity
- Suitable for intense close-up examination or wide area search
- Reveals more evidence while dramatically reducing search times



96 x high intensity LEDs
available in 4 wavebands



Light Sources

+ Infrared Examination

for the detection of blood on dark surfaces, gunshot residues, and fingerprints

While a skilled investigator can learn a great deal through the visible examination of a crime scene, even more evidence may remain unseen, hidden, or masked by the background.

Foster + Freeman Infrared Imaging systems enable the examiner to extend the search for evidence, beyond the limits of human vision, into the IR spectrum where background information is greatly suppressed.

Searching for evidence in the IR spectrum, it is possible to reveal (with excellent contrast), gunshot residues, blood on dark fabrics, and fingerprints dusted with a new generation of IR fluorescent powders.



Gunshot Residues



Digital IR photography is widely used for the detection & imaging of GSR.

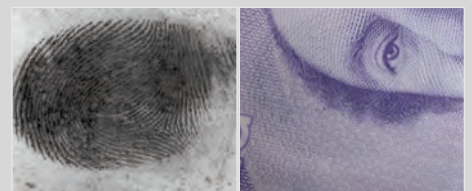
The portable Crime-lite IR kit improves the efficiency of searches by providing a full-screen live video preview of the scene in IR.

Blood on Dark Fabric



Crime-lite IR kits allow the investigator to easily detect blood, even against dark backgrounds, without the need to use chemical reagents such as Luminol that may dilute samples and smear blood patterns.

IR Fluorescent Fingerprints



*fp*Natural fingerprint powders emit bright fluorescence in the IR spectrum.

Using an IR pass filter to block out all other wavelengths suppresses the background leaving a clear, high-contrast print.



Light Sources

+ Laboratory Light Sources

multi-wavelength illumination for the forensic laboratory

Foster+Freeman manufacture two models of multi-wavelength laboratory light source, each designed to meet the requirements of very specific criminalistic applications:

Fingerprint Visualisation

Where intense multi-wavelength illumination is required to excite fluorescence and obtain the maximum contrast and ridge detail.

Marking up of Evidence

To quickly identify the presence of fingerprints, body fluids, suspect fibres etc. and to reveal areas of interest on large items of evidence.



Left: The bench-mounted Crime-lite ML2
Right: The Crime-lite 8x4 is part of the DCS 5 system



Application Focussed Designs

unique designs meet the specific demands of fingerprint visualisation and the 'marking up' of evidence



UV-Vis-IR Illumination

equipped with multiple wavelengths of LED to better detect and visualise a wide range of evidence types



8x4: Visualise Fingerprints

select multiple LEDs to create 98 different colours, tailoring illumination to suit the substrate or background



ML2: Mark-Up Evidence

combines multi-wavelength illumination with wide area bi-ocular magnification for the 'marking up' of large items of evidence

Crime-lite[®] ML2 BENCH TOP MAGNIFIER WITH MULTI-WAVELENGTH ILLUMINATION

Combining multi-wavelength with wide area magnification the Crime-lite ML2 is an ideal system for the examination and 'marking up' of evidence in the laboratory.

A unique design, the Crime-lite ML2 features a magnifier viewing lens, 8x white LEDs for general search and a choice of up to 4 additional narrow band wavelengths.

Available wavelengths include, UV, Violet, Blue, Blue/Green, Green, Orange & Infrared - wavelengths that are effective in detecting body fluids, semen, bone and tooth fragments, fibres, drugs, explosives, accelerants and chemically treated evidence.

Crime-lite ML2 features include:

- ▶ Large bi-ocular lens providing nominal magnification of x 1.8
- ▶ Mounted on a long-reach articulated arm
- ▶ Supplied with fluorescence viewing filters to match selected LEDs
- ▶ Optional UV-Vis-IR camera attachment



Select up to 4 wavebands



Crime-lite[®] 8x4 MULTI-WAVELENGTH LED RING LIGHT

Two LED ring lights designed to meet the varying demands of forensic photography. Select wavelengths individually or in combination to create the optimum illumination for all types of evidence and backgrounds, enhancing image contrast and definition.

Crime-lite 8x4MK2 Visible Illumination Ring Light

A versatile ring light equipped with seven narrow bandwidth LED arrays: 365, 410, 445, 475, 520, 590, and 640nm plus white.

LED wavelengths may be selected individually or in multiple combinations to create 98 different colours, enabling the operator to tailor illumination to suit the evidence.

4 x each LED wavelength



Crime-lite 8x4MK3 Infrared Examination Ring Light

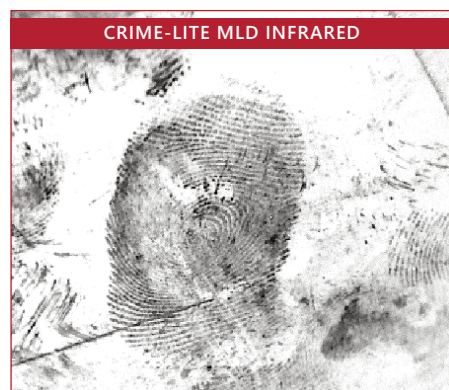
A specialized LED ring light for the examination of evidence in the infrared spectrum.

The light also includes blue and red LEDs for to excite IR fluorescence in specialist IR dusting powders such as *fp*NATURAL 1.

12x Blue, 16x red and 4x IR LEDs



Crime-lite[®] MLD SIMULTANEOUS LIVE REFLECTED-UV AND INFRARED EXAMINATION



Side-by-side Reflected-UV and Infrared imaging for the detection of fingerprints without the need for chemical staining.

By exploiting the differing UV/IR reflectance and absorption properties of fingerprint ridges, and the items of evidence that they are formed upon, it is possible to suppress background detail and visualise fingerprints with excellent contrast and clarity.

Searching for fingerprints using the Crime-lite MLD is straightforward and intuitive. Evidence is simply passed beneath the twin-camera imaging system with live video being displayed on-screen.

Examination Features Include:

- **Revolutionise Evidence Mark-Up**
Cost-effective and efficient processing of fingerprint evidence
- **Twin-Camera UV-IR Imaging**
Live simultaneous Reflected-UV 365nm and IR 860nm examination
- **View Evidence in 4K Ultra-HD**
Inspect live video of evidence on a sharp Ultra-HD 4K display

Improve Results Save Time & Reduce Costs

In-house research has identified R-UV/IR imaging to be an ideal alternative to the traditional dye/stain process.

For many fingerprint laboratories, the process of cyanoacrylate (superglue) fuming evidence followed by the application of a chemical dye or stain is a time-consuming daily occurrence.

Using the Crime-lite MLD, evidence is ready to examine immediately after fuming with no further treatment required.



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