# TECHNICAL INFORMATION

## BLUEMAXX™ Forensic Light Source

### Catalog Nos. BM300

**BLUEMAXX™ SYSTEMS OVERVIEW**


BLUEMAXX™ systems are illumination sources useful for performing fluorescent examinations on materials of forensic interest having excitation bands between 390 and 520 nanometers (nm), including physiological fluids such as urine, semen and saliva, and materials treated with certain powders and dyes. These devices are especially useful in the search for evidence at crime scenes.

BLUEMAXX™ systems work with any potential evidence having excitation bands between approximately 390nm and 520nm. BLUEMAXX™ systems are essential in area searches for evidence at the crime scene, and excellent for the photography of evidence after location. BLUEMAXX™ light sources provide the best results when used under subdued lighting conditions. Total darkness is not necessary to see the fluorescence produced from most items of evidentiary value.

**CAUTIONS**

*The BLUEMAXX is generally not intense enough to cause eye damage, but caution should be taken to not overly expose eyes to the direct beam. Use of the orange barrier filter for viewing minimizes any risks to the user.*

100 HUNTER PLACE, YOUNGSVILLE, NC 27596 USA
Ph: (919) 554-2244, (800) 356-7311 • Fax: (919) 554-2266, (800) 899-8181 • Web: www.sirchie.com • Email: sirchieinfo@sirchie.com

## HOW IT WORKS

The BLUEMAXX™ system emits light at a wavelength of approximately 455nm (blue region). This excitation source causes certain materials to give off weak fluorescence. When used in a totally darkened room, only the light emitted by the BM300 is present. This light frequency causes some materials to fluoresce, but this fluorescence is hidden or masked by the intense blue light. For this reason, BLUEMAXX™ alternate light sources employ an orange barrier filter between the objects being examined and your eyes. This filtration effectively blocks the blue light permitting viewing of the weaker fluorescence.

## INTRODUCTION

The BLUEMAXX™ Forensic Light offers a convenient means of searching crime scenes for physical evidence that exhibits fluorescent properties. The light source provides an alternate light operating at or near 455 nanometers (nm), a light frequency known to be of value when seeking items of forensic interest. The BM300 is powered by 3 alkaline D-cell batteries (not included) and features a halogen lamp that emits a high-intensity blue light (455nm) that can be viewed through the orange barrier filter provided. The light is excellent for locating and facilitating photographs of a variety of forensic evidence including physiological fluids (urine, saliva and semen), and latent prints enhanced with fluorescent powders or dyes. The light source measures 12.3" (31.3cm) in length and weighs 30.2 oz. (856.2g) with batteries.

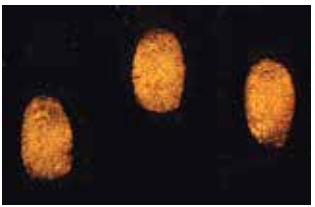
## PHOTOGRAPHY

Evidence photos may be taken using a standard 35mm or digital camera. The camera lens must be equipped with a barrier filter, which may be ordered from the factory. Lengthy exposures may be necessary, therefore we recommend that the camera be mounted on a sturdy tripod. The area must be darkened as much as possible. When using film (ASA400), begin with a trial exposure of f/5.6 at 1/2 second and bracket exposures on either side of this value. If the camera is equipped with a full automatic mode (film or digital camera), use this mode for best results.

### BLUEMAXX™ Forensic Photography

Not all substances are capable of luminescence. They will not luminesce at all, regardless of the light wavelength used, or may require excitation by specific wavelengths. Fortunately, many substances of primary interest at the crime scene do luminesce when exposed to radiation from a BLUEMAXX™ light source. Those substances that are non-luminescent or are weakly luminescent such as blood and palmer oils, may be made luminescent by bonding luminescent agents to them. The photographs shown to the right are of latent prints developed with SIRCHIE fluorescent powders and exposed to the BLUEMAXX™ light. The maximum level of brilliance for optimum photographic fingerprint ridge detail may be obtained by varying exposure time. This type of photographic enhancement is not possible with powder-developed fingerprints that have not been externally excited by a forensic light

source. ***Note:*** *A standard 35mm camera and Kodak Ektachrome Elite 150 color slide film were used, and exposure times were varied.*



***REDESCENT™ LL701 treated prints, excited by BLUEMAXX™ light—exposed for 15 sec. @ f/5.6.***

## CARE AND MAINTENANCE

### Blue Light Filter

If the filter becomes foggy or dirty, clean with a lens cloth ONLY. Do not use cleaners or water, as they will damage the filter coating. If the filter is damaged or broken, please contact customer service to order a replacement (BMF100B).

### Bulbs

Best results are obtained with quartz envelope bulbs. Krypton or halogen gas and similar bulbs are highly preferable to standard incandescent bulbs.

### Lamp Replacement

***Note:*** *Allow the lamp to cool before removing.*

- Unscrew the face cap. The reflector assembly will also come out, revealing the lamp.
- Grasp the lamp firmly with thumb and forefinger and lift the lamp out of the socket.
- Line up the two pins on the new lamp with the holes in the socket (press in as far as it will go).
- Slide the lamp head back into its original position. Replace the reflector assembly and face cap.

SIRCHIE®

100 HUNTER PLACE, YOUNGSVILLE, NC 27596 USA

919-554-2244 ▪ 800-356-7311

**www.sirchie.com**

**BM300 SPECIFICATIONS:**

- Bulb Type: Krypton, high-intensity, 3.7V, 2.6-watt
- Reflector: Para-bolic, calibrated for 5"-8" (12.7cm-20.3cm) spot at 10' (3m)
- Beam Pattern: Adjustable
- Max. Output: 13,000 PBC at 10' (3m)
- Length: 12.3" (31.3cm)
- Weight w/Battery: 30.2 oz. (856.2g)
- Switch: Recessed, push-button, self-cleaning, 3 position
- Battery: 3 Alkaline "D" Cells (not included)
- Construction: Rugged machined aluminum w/knurled design, anodized inside and out (corrosion, water, and shock resistant)
- Battery Contacts: Plated coil spring