

SPECTROLINE®

SPECIALTY

**OFK-8000A**

**OPTIMAX™ Multi-Lite™  
LED FORENSIC LIGHT SOURCE KIT**

**OPERATOR'S MANUAL**

Patent Pending



**SPECTRO-UV**

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06/22 AM08022-14  
PRINTED IN U.S.A.

# OFK-8000A OPTIMAX™ Multi-Lite™ LED Forensic Light Source Kit

## INTRODUCTION

The OPTIMAX™ Multi-Lite™ LED forensic light source kit is a comprehensive, cost-effective inspection tool. It features a rugged, cordless, battery-operated, rechargeable black-anodized flashlight body with eight Qwik-Connect™ interchangeable LED head assemblies of different wavelengths: UV-A (365nm), violet (410nm), blue (450nm), cyan (500nm), green (525nm), amber (590nm), red (630nm) and white light (400-700nm).

Utilizing ultra-hi-flux LED technology and our exclusive **Electronic Intensity Stabilizer™**, the OPTIMAX Multi-Lite maintains the highest light output. The beam strength will not fade, even on a low battery. Instant-on operation allows the lamp to reach full intensity immediately. This ALS (alternative light source) offers hand-held practicality and versatility. It is portable and lightweight while maintaining the brightest visible LED optical output. The individual colors (wavelengths) aid in forensic inspections of potential evidence found at crime scenes, such as biological stains, latent fingerprints, bruises, bite marks, hair, fibers, grease, oil and other natural stains. Additionally, the lights are used for viewing dye-stained samples and questionable documents in the lab.

The OFK-8000A, an all-in-one inspection kit, is a full-spectrum light source. The three separate contrast filters supplied (yellow, orange and red) are easily attached onto the flashlight to enhance forensic inspections. Three separate contrast spectacles are also provided. The UV-absorbing spectacles ensure eye safety during use of the UV light source. All components are housed in a convenient industrial carrying case with foam cutout inserts, to provide protection while gathering potential evidence at a crime scene investigation or while executing forensic laboratory work.

## EXCLUSIVE KEY FEATURES

- Qwik-Connect interchangeable, single-wavelength LED head assemblies
- Electronic Intensity Stabilizer
- On-lamp, customized contrast viewing filters (yellow, orange and red)
- Rugged, corrosion-resistant, black-anodized lamp body
- Internal dome lens provides uniform beam profile, which eliminates typical LED hot spots

## EASE-OF-USE FEATURES

- Lightweight, single flashlight-style housing
- Instant-on operation
- Rechargeable NiMH battery stick with green/red LED battery status indicator
- AC and DC smart chargers with green/red LED charge status indicator

## KIT COMPONENTS

Unpack and inspect the components for possible damage in shipment. If any damage is noted, immediately notify the carrier and supplier and do not use the light source.

The OFK-8000A LED Forensic Light Source Kit includes:

### One OPTIMAX Lamp Housing with Eight interchangeable LED Head Assemblies

- 365nm UV-A LED Source, **OF-365AUV**
- 410nm Violet LED Source, **OF-410AV**
- 450nm Blue LED Source, **OF-450AB**
- 500nm Cyan LED Source, **OF-500AC**
- 525nm Green LED Source, **OF-525AG**
- 590nm Amber LED Source, **OF-590AA**
- 630nm Red LED Source, **OF-630AR**
- 6500°K Cool White LED Source, **OF-300AW**



### Three 5"x 6" On-lamp Contrasting Filters

- Yellow Filter, **FY-300**
- Orange Filter, **FO-300**
- Red Filter, **FR-300**



**Red Contrast Spectacles,**  
**125451**



**Orange Contrast Spectacles,**  
**125542**



**Yellow Contrast Spectacles,**  
**125452**



**UV-Absorbing Spectacles,**  
**125546**

### Chargers

- AC Smart Charger, 100-240V  
**RB-300** (see p. 8 for voltage listings)

- DC Auto Charger, 12-24V  
**RB-300DC**



Carrying Case with Foam Inserts,  
CC-600



## APPLICATIONS

Typical Applications of Forensic Wavelengths and Contrast Filters

Lamp Head Color/ Dominant Wavelength	Spectacles/Filter	Application
Black UV-A 365nm	UV-absorbing spectacles	Natural and UV-fluorescent dyes and powders, bite marks, bruises
Violet 410nm	Yellow filter as needed	Untreated blood absorption
Blue 450nm	Yellow or Orange	Biological stains on white background, basic yellow, bone, trace
Cyan 500nm	Orange	Rhodamine 6G, DFO or Indanedione latent fingerprints
Green 525nm	Orange or Red	Enhanced Ninhydrin-treated samples, fibers
Amber 590nm	Red	Fluorescent background sample contrast
Red 630nm	N/A	Questionable documents
White 400-700nm	N/A	General illumination and field inspection

## SAFETY AND PRECAUTIONS

Before operating your OPTIMAX Multi-Lite Forensic LED Light Source, please read these important safety instructions.



### WARNING

UV light emitted from this product. Avoid eye and skin exposure to unshielded products.

FOR PROFESSIONAL EXAMINATION USE ONLY

- The OPTIMAX Multi-Lite must be fully charged before first use.
- **CAUTION:** Use *only* the battery charger packed with the flashlight. Do not attempt to use the charger to recharge any other product.
- Use *only* the included battery stick (part no. 125608, see Replacement Parts for listing).
- NiMH and Ni-Cd batteries are close cousins. The chemistry is similar. The difference is NiMH batteries are nontoxic and there is no memory loss from short cycling.
- The OPTIMAX Multi-Lite is not approved for use in hazardous atmospheres. Do not attempt to use it in areas requiring explosion-proof lighting.

## OPERATION

### CHARGING AND USE

The OPTIMAX Multi-Lite is available with different chargers. See Replacement Parts for listing.

- Fully charge your OPTIMAX Multi-Lite before first use.
- **A lamp head must be attached to the lamp in order to charge.**
- The OPTIMAX Multi-Lite lamp is equipped with a **battery strength indicator light**. When the battery is of sufficient strength to power the lamp at its specified performance, **GREEN** will be indicated. When the battery requires recharging, **RED** will be indicated. The lamp will continue to function. However, using it when the indicator is **RED** will shorten the life of the battery.
- Insert the smart charger (AC and DC supplied) into the tail-cap of the OPTIMAX Multi-Lite and attach the plug to the corresponding live power source. The flashlight can operate for approximately 90 minutes after a full charge.
- Press the switch on to light and use the OPTIMAX Multi-Lite. Lamp indicator will be **GREEN**.

## CHANGING LAMP HEADS

The OPTIMAX Multi-Lite is available with eight interchangeable, single-wavelength LED lamp heads: UV-A, violet, blue, cyan, green, amber, red and white.

### To remove or install a lamp head to the lamp base:

1. Firmly hold the lamp base and lamp head.
2. With the thumb and the forefinger, grip the lamp head-locking ring and pull down (see figure right).
3. Remove or install the appropriate wavelength lamp head in the socket by pulling up or pushing down on the lamp head and hold in place.
4. Slide the lamp head-locking ring back into place (covering the socket of the lamp head). The grip will lock lamp head firmly into place.



### IMPORTANT

When viewing UV fluorescence, use the flashlight in low-light conditions to achieve the best inspection results. Wear the UV-absorbing spectacles supplied for eye protection.

## INSTALLING CONTRAST FILTERS

For the correct placement of the contrast filters, hold the lamp with LED indicator in view. Align the filter to the grooves on the lamp, just below the lamp head-locking ring. Push down and secure into place.



## SPECIFICATIONS

PART NO.	LED LIGHT COLOR OUTPUT	DOMINANT WAVELENGTH/ COLOR TEMP AT 77°F (25°C)	BANDWIDTH	TYPICAL OUTPUT AT 700 mA
OF-365AUV	UV-A	365nm	360-370nm	310 mW
OF-410AV	Violet	410nm	400-410nm	400 mW
OF-450AB	Blue	450nm	440-460nm	480 mW
OF-500AC	Cyan	500nm	490-510nm	100 lumens
OF-525AG	Green	525nm	520-550nm	100 lumens
OF-590AA	Amber	590nm	585-597nm	75 lumens
OF-630AR	Red	630nm	620-645nm	100 lumens
OF-300AW	White	6500°K	4,500- 10,000°K	100 lumens

## TECHNICAL SPECIFICATIONS

### Product Number

Style

Lamp Head (diameter)

Length

Weight (with battery)

Light Source

Power Requirement

Continuous Run Time

Charge Time

### OPTIMAX™ Multi-Lite OFK-8000A

Multiple-wavelength LED flashlight with interchangeable lamp heads

2.0 in (5.1 cm)

9.0 in (22.9 cm)

15.4 oz (435.5 gm)

LED assembly

3.6V, 2Ahr NiMH internal battery stick, rechargeable

90 minutes

5 hours

## ELECTRICAL SPECIFICATIONS

A 3.6V, 2 Amp-Hour NiMH rechargeable internal battery stick is included. Typical charge time is five hours with a continuous run time of 90 minutes.

## ENVIRONMENTAL CONDITIONS

The OPTIMAX Multi-Lite LED forensic light source is designed to be operation safe under the following conditions:

- Altitude up to 2,000 m (6,562 ft.)
- Temperature 5°C to 40°C (41°F to 104°F)
- Maximum relative humidity 80% for temperatures up to 31°C (88°F) decreasing linearly to 50% relative humidity at 40°C (104°F)
- Mains supply voltage fluctuations not to exceed ±10% of the nominal voltage
- Installation Category II
- Pollution Degree 2

## CARE AND USE OF NICKEL-METAL HYDRIDE (NiMH) BATTERIES

- NiMH battery packs last longer when charged and stored in a temperature range between 50°F to 86°F (10°C to 30°C) away from heat, sunlight and humidity.
- Always charge batteries to full capacity before long-term storage (approximately 30 days) to prevent aging. After storage they must be charged, which may require conditioning (two or three charge/discharge cycles) to reach full capacity.
- Do not subject these batteries to repeated deep discharges that run the batteries down completely on a regular basis as this will greatly shorten battery life.
- NiMH batteries generally have no voltage sag until the last 10% of charge. The lamp usually will operate for better than 90% of the battery's rated capacity.
- NiMHs have no toxic lead or mercury, and a life expectancy of 500 charge/discharge cycles or more, provided the battery is not overcharged or heavily discharged. Recycle according to local disposal laws. Do not dispose of in fire. They will explode.

 **WARNING**

**Be sure to use genuine OPTIMAX Multi-Lite replacement parts. Using another manufacturer's replacement parts could affect product performance and will void the warranty.**

**ACCESSORIES**

**Description**

**Part No.**

Replacement LED Lamp Heads (Color and Wavelength)

- UV-A, 365nm with flashlight body
- Violet, 410nm
- Blue, 450nm
- Cyan, 500nm
- Green, 525nm
- Amber, 590nm
- Red, 630nm
- White, 400-700nm

OF-365AUV  
OF-410AV  
OF-450AB  
OF-500AC  
OF-525AG  
OF-590AA  
OF-630AR  
OF-300AW

Contrast Filters - 6.25 in x 5.0 in (15.9 x 12.7 cm)

- Red
- Orange
- Yellow

FR-300  
FO-300  
FY-300

Flashlight Body with Rechargeable Battery Stick and Charger

- (100–120V/50–60Hz)
- (230V/50Hz)
- (230V/50Hz)
- (240V/50Hz)

FB-100  
FB-100/F  
FB-100/FB  
FB-100/FA

Dome Lens

127423  
125608

Battery Stick, 3.6V, 2 Ahr, NiMH

AC Smart Charger for Lamp Kit No.

- OFK-8000A (100 – 120V/50 – 60Hz)
- OFK-8000A/F (230V/50Hz)
- OFK-8000A/FB (230V/50Hz)
- OFK-8000A/FA (240V/50Hz)

RB-300  
RB-300/F  
RB-300/FB  
RB-300/FA

12V DC Smart Charger

RB-300DC

Large Industrial Carrying Case

CC-600

Spectacles, UV-Absorbing

125546

Spectacles, Yellow Contrast

125452

Spectacles, Orange Contrast

125542

Spectacles, Red Contrast

125451

**NOTE: To read the serial number, open the tailcap of the lamp and remove the battery stick. The serial number label is inside the barrel of the lamp.**

**LIMITED WARRANTY**

The warranty policy for the OPTIMAX Multi-Lite is provided on the Certificate of Limited Warranty enclosed separately with each unit.

**NOTE:** Please contact our Customer Service Department for assistance. Have the model and serial numbers of the unit and the date of purchase available when calling.

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