

**SPECTROLINE®**

# Inspection Products for **Nondestructive Testing**

Solutions for the NDT Technician



# NDT: AN OVERVIEW

Nondestructive testing (NDT) is a procedure used to examine and/or inspect materials and components to locate surface and subsurface defects in a way that allows such materials to be examined without changing or destroying their original design or structure.

NDT plays a crucial role in everyday life. It is necessary to assure structural integrity, safety and reliability in aircraft, motor vehicles, pipelines, seafaring vessels, bridges, trains, tunnels, power stations, refineries and oil platforms, all of which are inspected using some method of nondestructive testing.

Nondestructive testing is also a quality assurance production and management tool which can provide impressive results when used correctly.

It requires an understanding of the various methods available, their capabilities and limitations, knowledge of the relevant standards and specifications for performing the tests.

Materials, products and equipment that fail to achieve their design requirements or projected life due to undetected defects may require expensive repair or early replacement. Such defects may also be the cause of unsafe conditions or catastrophic failure, as well as loss of revenue due to unplanned shutdowns.

Nondestructive testing can be applied to each stage of an item's development, manufacture or construction. Such item's materials and assembly can be examined using NDT and either accepted, rejected or repaired. NDT techniques can then be used to monitor the integrity of the item or structure throughout its service life.

The most commonly used NDT methods are visual inspection, liquid penetrant inspection, magnetic particle inspection, Eddy current inspection, acoustic emission, ultrasonic inspection and radiography.

Spectronics Corporation manufactures a wide array of medium and high-intensity inspection lamps and products that are used to detect and identify surface and subsurface flaws in the performance of nondestructive testing utilizing the visual inspection, liquid penetration and magnetic particle methods.



Surface metal defect revealed using OPTIMAX™ 365 UV flashlight and Zyglo® liquid penetrant

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OPX-365/OPTIMAX™ 365  
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## OPX-365

### OPTIMAX™ 365 UV-A LED Inspection Flashlight (Patent Pending)

**Powerful, rechargeable, high-intensity UV-A inspection flashlight featuring state-of-the-art, ultra-hi-flux LED technology!**

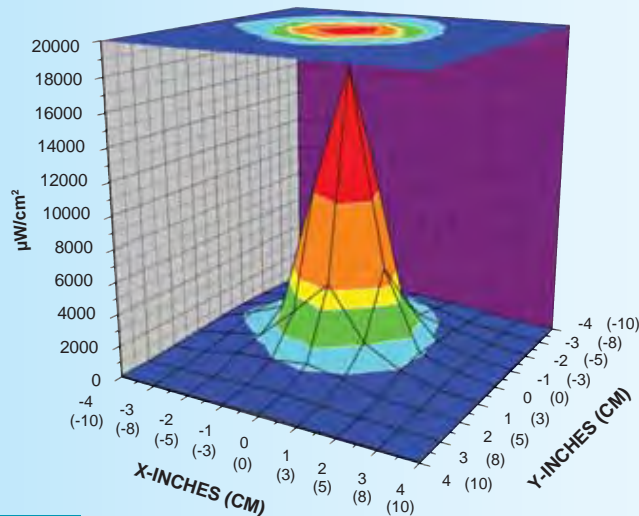
- Nominal steady-state UV-A intensity of  $18,000 \mu\text{W}/\text{cm}^2$  at 15 inches (38 cm)
- 30,000-hour LED service life
- Low visible light emission — less than 2 foot-candles (22 lux)
- Electronic Intensity Stabilizer assures consistent performance. Beam strength will not weaken between charges!
- Instant-on operation. Lamp reaches full intensity immediately!
- Ergonomic, portable and rugged. Anodized aluminum lamp body minimizes corrosion and stands up to years of heavy use.
- Powered by a rechargeable NiMH battery. Provides 90 minutes of continuous inspection between charges.
- Meets ASTM UV-A intensity specifications for FPI and MPI

Note: For even greater light uniformity, order our optional DF-365 diffusing filter.

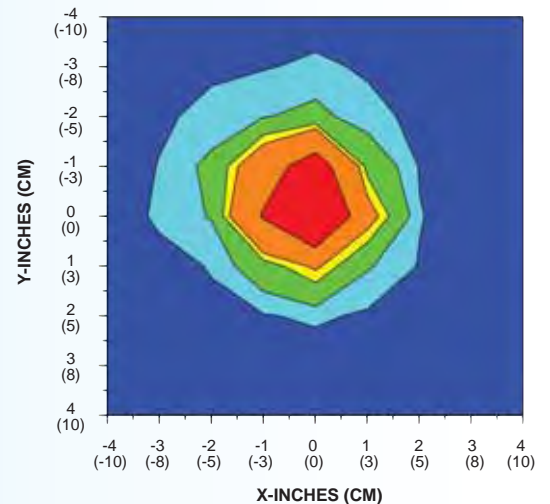


Comes complete with smart AC and DC chargers, UV-absorbing spectacles, belt holster and padded carrying case. AC charger available in 120V, 230V, 240V and 100V versions.

SURFACE CONTOUR PROFILE AT 15 IN (38 CM)



TOP INTENSITY PROFILE AT 15 IN (38 CM)



# TRI-365

## TRITAN™ 365 Multi-LED, Broad-Beam UV-A Inspection Lamp

(Patent Pending)

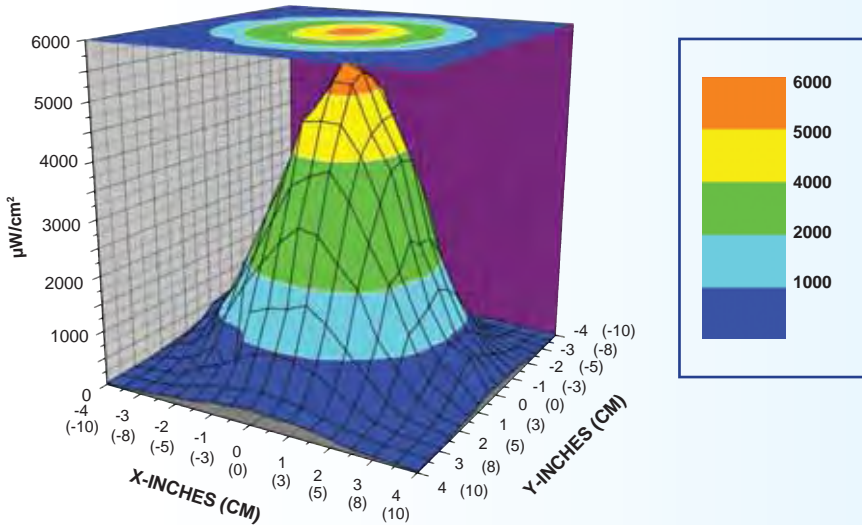
Features three cool-running, ultra-high-flux UV-A LEDs for inspection, plus a convenient white light LED to illuminate dark work areas. This lamp's broad-beam configuration provides a wider coverage area than conventional UV-A inspection lamps, while its compact head design allows access into areas inaccessible to larger lamps.

- Nominal steady-state UV-A intensity of  $5,500 \mu W/cm^2$  at 15 inches (38 cm)
- Large 4 inch (10 cm) diameter coverage area, with minimum UV-A intensity of  $2,000 \mu W/cm^2$
- 30,000-hour LED service life
- UV LEDs produce low visible light emission — less than 2 foot-candles (22 lux)
- Electronic Intensity Stabilizer assures consistent LED performance
- Convenient grip-mounted, three-way rocker switch: White light/Off/UV
- Instant-on operation. Lamp reaches full intensity immediately!
- Rugged, ergonomic, angled lamp body provides safe, fatigue-free use
- Rubber bumper with Borofloat® glass lens protects LEDs from damage
- Built-in fan keeps LEDs cool to maintain optimum light output during extended use
- Choice of 8 foot (2.4 m) or extra-long 20 foot (6.1 m) power cord with AC plug. Available in 120V, 230V, 240V and 100V models.
- Meets ASTM UV-A intensity specifications for FPI and MPI

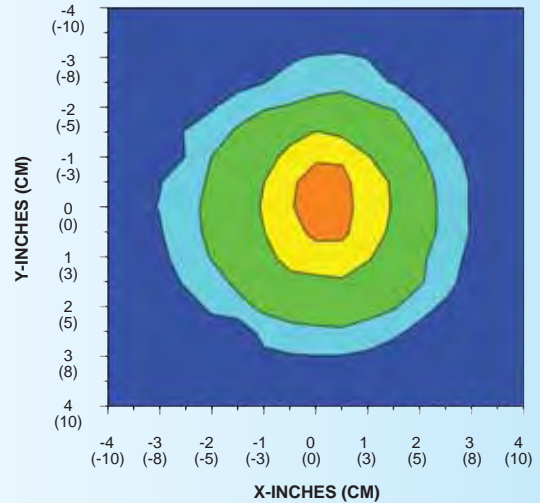


**Also available: TRI-365M** portable, battery-operated AC/DC lamp kit. Includes TRITAN 365M UV lamp, rechargeable NiMH battery pack with adjustable shoulder strap and belt loop, AC and DC cord sets, smart AC charger, UV-absorbing spectacles and soft carrying case. AC charger available in 120V, 230V, 240V and 100V versions.

SURFACE CONTOUR PROFILE AT 15 IN (38 CM)



TOP INTENSITY PROFILE AT 15 IN (38 CM)



## ML-3500 Series MAXIMA™ Ultra-High Intensity UV-A Lamps

These super-powerful lamps make NDT inspections easier, safer and more reliable. They feature state-of-the-art micro discharge light (MDL) technology with a fatigue-free ergonomic design.

- Deliver up to 10 times the UV-A output of conventional HID inspection lamps
- Prefocused at the factory
- Instant on/off/restrike
- Lightweight, solid-state ballast
- Integral bulb/reflector assembly
- Stay-cool, impact-resistant and dent-proof housing
- Available in 120V, 230V, 240V and 100V versions, as well as battery-operated versions
- All bulbs feature a rated life of 2,000 hours



### The MAXIMA™ series consists of three models:

The **ML-3500S** with a spot reflector has a nominal steady-state UV-A intensity of  $50,000 \mu\text{W}/\text{cm}^2$  at 15 inches (38 cm).

The **ML-3500D** with a spot reflector and diffusing filter has a nominal steady-state UV-A intensity of  $14,000 \mu\text{W}/\text{cm}^2$  at 15 inches (38 cm).

The **ML-3500FL** with a flood reflector has a nominal steady-state UV-A intensity of  $4,500 \mu\text{W}/\text{cm}^2$  at 15 inches (38 cm).

All models come standard with 8 foot (2.4 m) primary and secondary cords. Lamps are also available with extended length primary cords or with a 35 foot (10.7 m) secondary cord housed in a retractable "flying" reel.

In addition, all MAXIMA™ lamps are available in battery-operated "M" versions. Each includes a 12-volt, 7 amp/hr rechargeable battery that will operate the lamp for a full two hours. A battery charger and carrying case are included. Visit [www.spectroline.com](http://www.spectroline.com) for more details.



Line voltage model

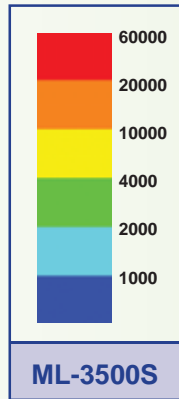
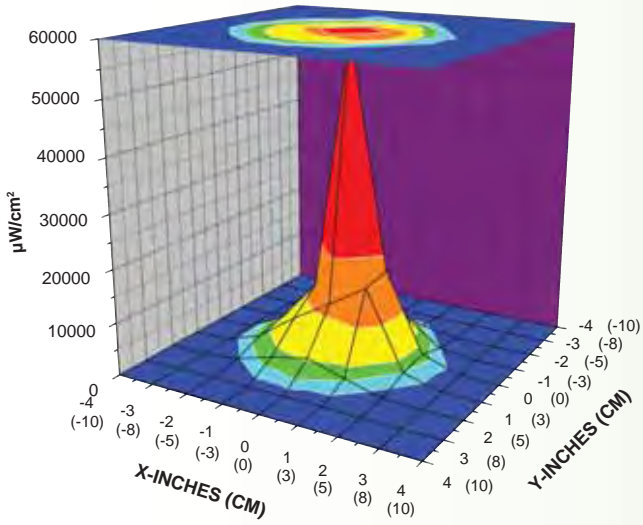


Battery-operated "M" version

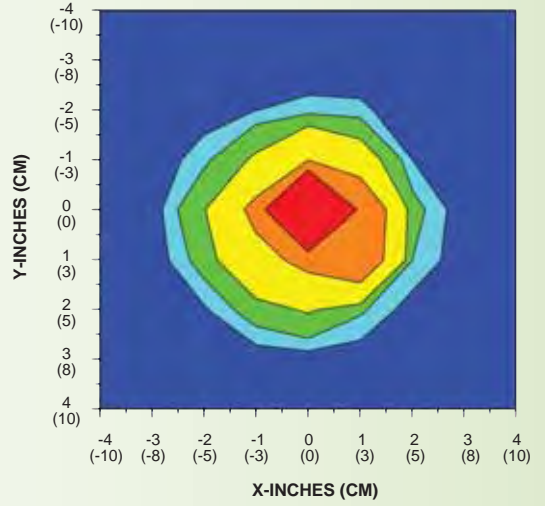


ML-3500 Series lamp with 35 foot (10.7 m) secondary cord housed in a retractable "flying" reel

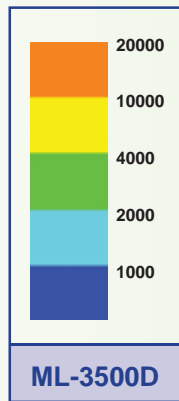
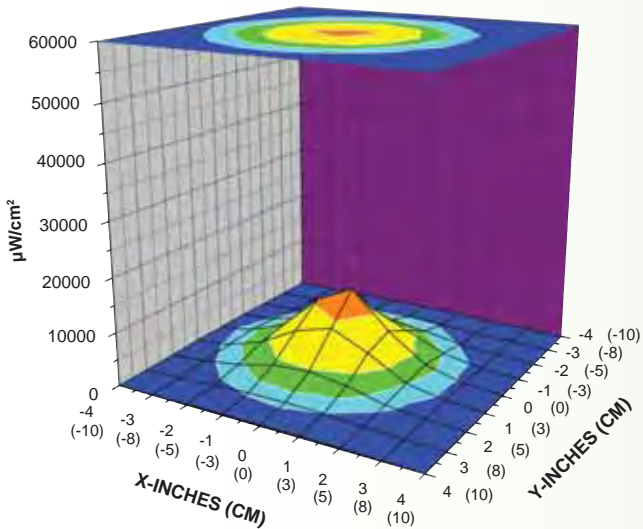
**SURFACE CONTOUR PROFILE AT 15 IN (38 CM)**



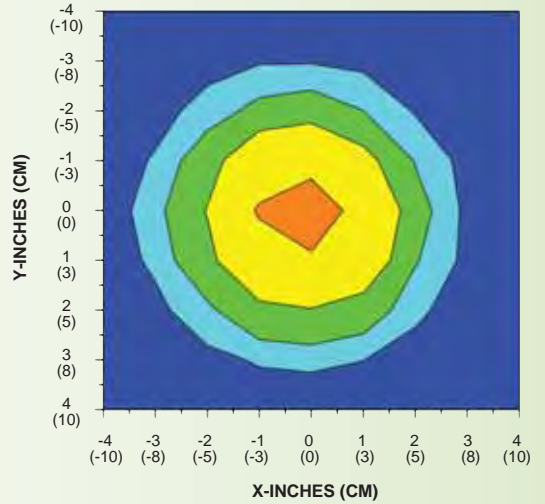
**TOP INTENSITY PROFILE AT 15 IN (38 CM)**



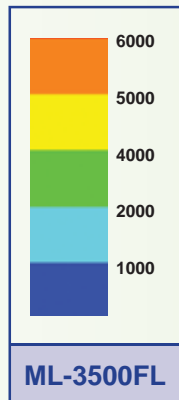
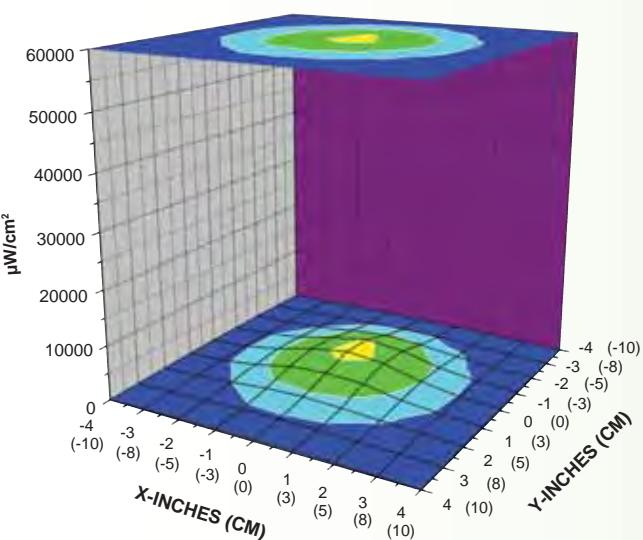
**SURFACE CONTOUR PROFILE AT 15 IN (38 CM)**



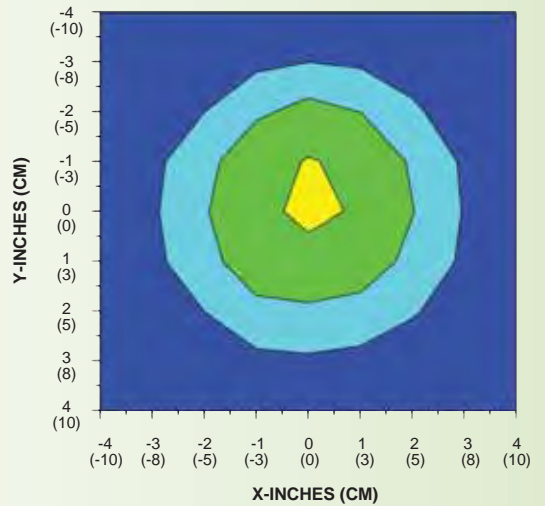
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**SURFACE CONTOUR PROFILE AT 15 IN (38 CM)**



**TOP INTENSITY PROFILE AT 15 IN (38 CM)**



## BIB-150P Series

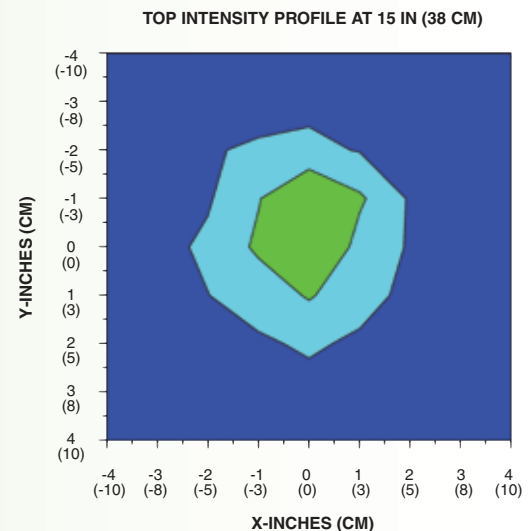
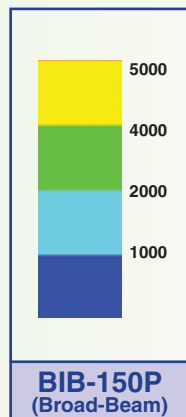
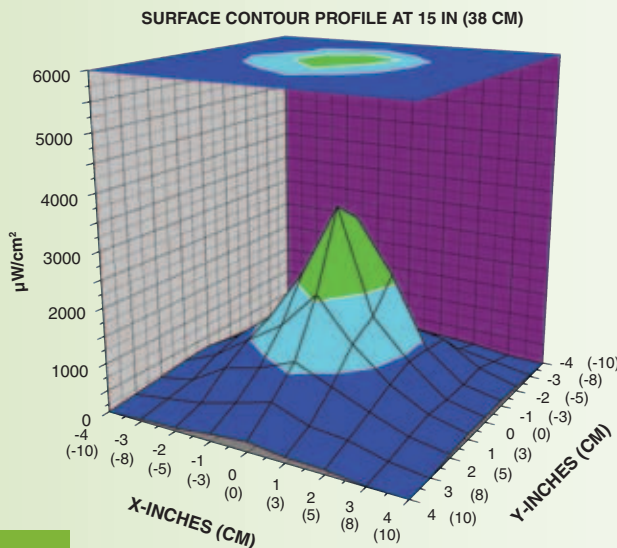
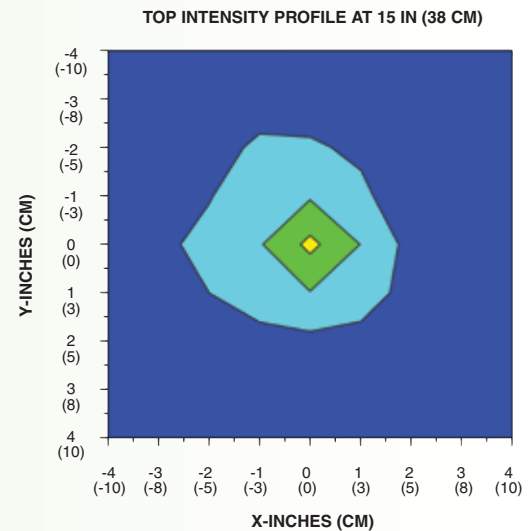
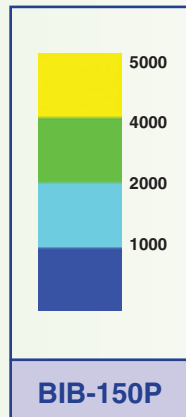
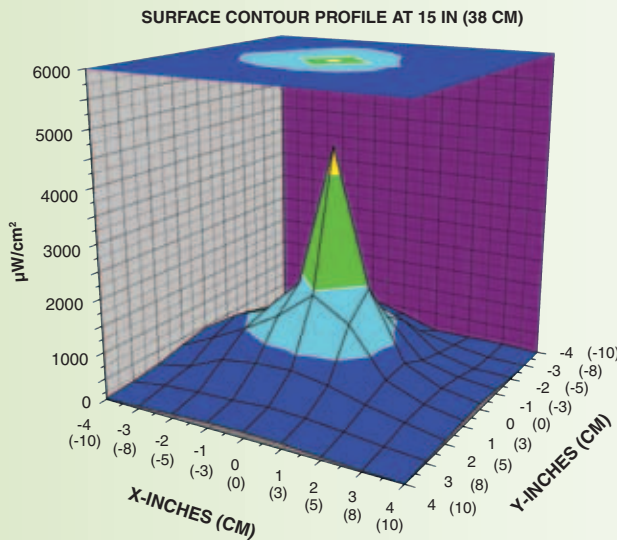
### World's Highest Intensity, Self-Ballasted UV-A Lamp

This lamp is a favorite with NDT inspectors because it provides super-high UV-A intensity at an economical price. Its light weight and ergonomic design ensure easy handling for long inspections.

- Unique Built-In-Ballast™ 150-watt bulb eliminates the need for a heavy, external transformer
- Space-age engineering polymer housing is impact-resistant and dent-proof
- Total weight of only 3¼ lbs (1.5 kg). Measures just 9⅝ inches (24 cm) long, including the heat guard/stand
- Vinyl-coated, stainless-steel, wraparound caging protects against burns and acts as a lamp stand
- Special Bulb-Saver™ minimizes bulb movement during handling and reduces the risk of breakage
- Easily meets ASTM UV-A intensity specifications for FPI and MPI
- Available in either concentrated spot or broad-beam versions. Concentrated spot configuration has a nominal steady-state UV-A intensity of 4,500  $\mu\text{W}/\text{cm}^2$  at 15 inches (38 cm). Broad-beam configuration has a nominal steady-state UV-A intensity of 3,000  $\mu\text{W}/\text{cm}^2$  at 15 inches (38 cm).



Both models come standard with an 8 foot (2.4 m) power cord. Lamps are also available with extended length power cords or with a 35 foot (10.7 m) cord housed in a retractable "flying" reel. Visit [www.spectroline.com](http://www.spectroline.com) for more details.





## SB-100P Series

### Designed for Maximum Efficiency and Versatility

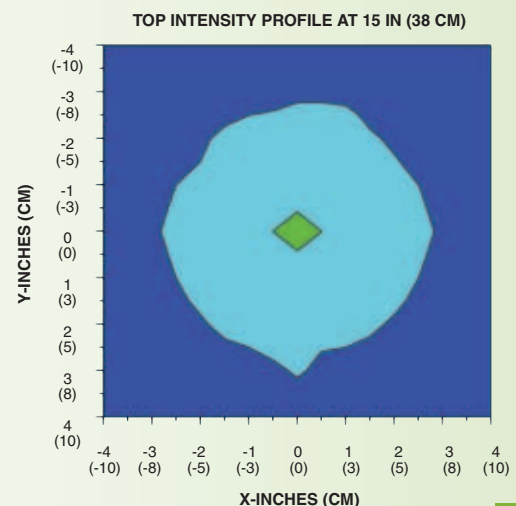
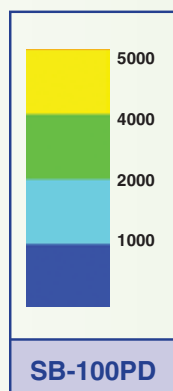
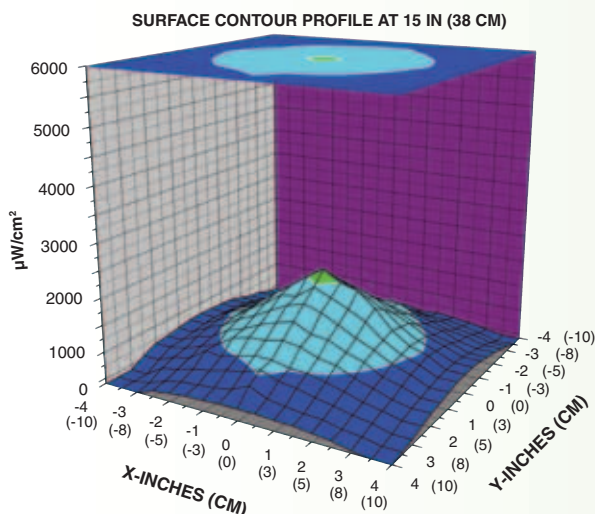
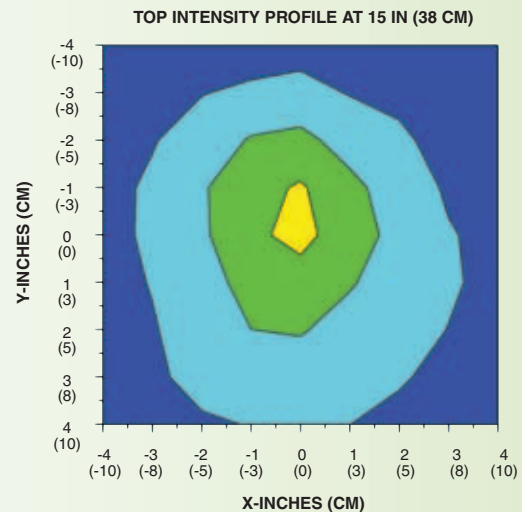
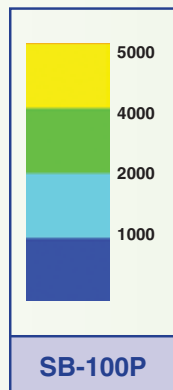
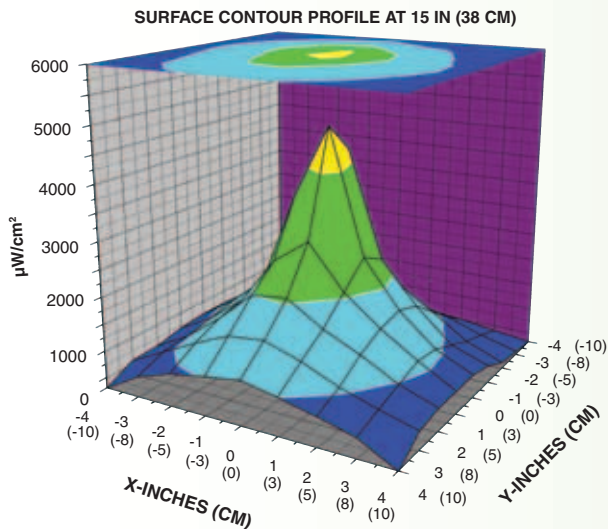
We developed the SB-100P Series UV-A lamps to be very affordable, super-high intensity “workhorses” for MPI and FPI inspections.

- Combines state-of-the-art innovations with proven features. The cord comes out of the staycool, contoured handle to prevent tangling, and the crack-resistant, tempered filter reduces replacement costs significantly.
- Lamp head and transformer base housings are constructed of a special heat-resistant engineering polymer that ensures years of rugged use
- Lamp head is ergonomically designed and detaches easily from the transformer base for comfortable, fatigue-free handling
- Transformer provides maximum power to the unit and features an indicator light to show when the lamp is on
- Easily meets ASTM UV-A intensity specifications for FPI and MPI
- Available in concentrated spot (**SB-100P**) and diffused (**SB-100PD**) versions. Spot configuration has a nominal steady-state UV-A intensity of  $4,800 \mu\text{W}/\text{cm}^2$  at 15 inches (38 cm). Diffused configuration has a nominal steady-state UV-A intensity of  $2,200 \mu\text{W}/\text{cm}^2$  at 15 inches (38 cm).
- Bulbs feature average rated life of 5,000 hours



Both models come with a special heat-resistant, 3-wire secondary cord. The primary and secondary cords are both 8 feet (2.4 m) long. Lamps are also available with extended length primary or secondary cords, or with a 35 foot (10.7 m) secondary cord housed in a retractable “flying” reel. Visit [www.spectroline.com](http://www.spectroline.com) for more details.

**Also available: 100S/M-PQL upgraded, Premium Quality Lighting (PQL), 100-watt, medium base, HID replacement spot bulb, for SB-100P Series lamps. Average rated bulb life is 12,000 hours. With upgraded bulb, SB-100P lamp has a nominal steady-state UV-A intensity of  $7,500 \mu\text{W}/\text{cm}^2$  at 15 inches (38 cm).**



## FC-Series

### World's Lightest Fan-Cooled, Portable UV-A Lamps

NDT inspectors find that **FC-Series UV-A lamps make prolonged inspections seem much shorter because they provide cool operation and increased comfort.**

- Quiet, *built-in fan* dramatically reduces running temperature, provides more comfort and safety for users, and ensures long bulb life.
- Ergonomically designed with the handle and cord at the balance point of the lamp head. As a result, the lamp can be held for long periods with little user fatigue.
- Special remote lamp switch in the pistol grip prevents accidental shutoff, while separate fan control switch allows for safe cool-down.
- Lamp head is housed in a super-strong engineering polymer that is dent-proof and impact-resistant. Weighs just  $3\frac{5}{8}$  lbs (1.6 kg).
- Easily meets ASTM UV-A intensity specifications for FPI and MPI
- Bulb features average rated life of 5,000 hours

The **FC-100** comes with a 100-watt bulb, available in concentrated spot (FC-100) and diffused filter (FC-100D) versions. Spot configuration has a nominal steady-state UV-A intensity of  $4,800 \mu W/cm^2$  at 15 inches (38 cm). Diffused configuration has a nominal steady-state UV-A intensity of  $2,200 \mu W/cm^2$  at 15 inches (38 cm). Both lamps come with 8 foot (2.4 m) primary and secondary cords. Lamp head weighs just  $3\frac{5}{8}$  lbs (1.6 kg).

The **FC-150** with a Built-In-Ballast™ 150-watt concentrated spot bulb has a nominal steady-state UV-A intensity of  $4,500 \mu W/cm^2$  at 15 inches (38 cm), has an 8 foot (2.4 m) power cord. Lamp head weighs just  $3\frac{1}{2}$  lbs (1.6 kg).

The **FC-100M** has the same specifications as the FC-100 model, but is a direct replacement lamp for use with Magnaflux® magnetic particle machines.

Models are also available with extended length primary or secondary cords, or with a 35 foot (10.7 m) secondary cord housed in a retractable "flying" reel. Visit [www.spectroline.com](http://www.spectroline.com) for more details.

**Also available: 100S/M-PQL upgraded, Premium Quality Lighting (PQL), 100-watt, medium base, HID replacement spot bulb, for FC-100 Series lamps. Average rated bulb life is 12,000 hours. With the upgraded bulb, lamp has a nominal steady-state UV-A intensity of  $7,500 \mu W/cm^2$  at 15 inches (38 cm).**

*Magnaflux® is a registered trademark of Magnaflux Corporation*



CE

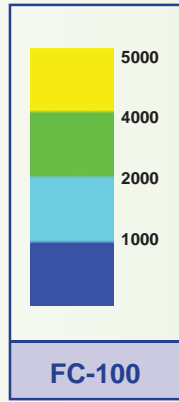
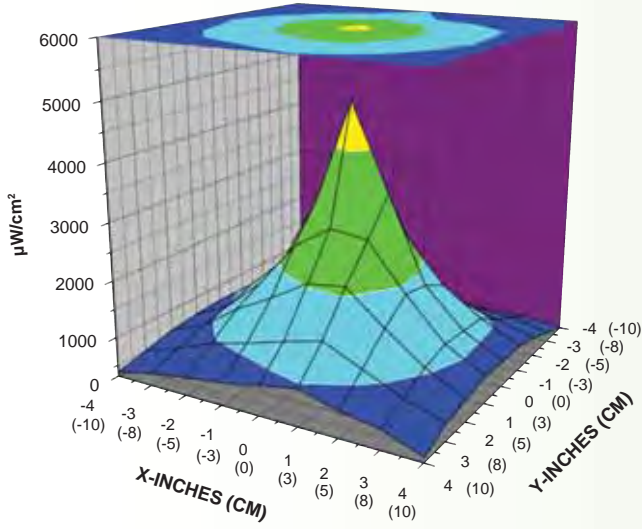
FC-100



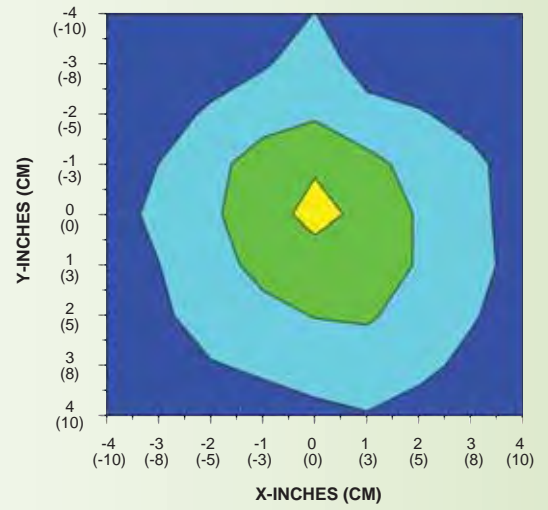
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FC-150

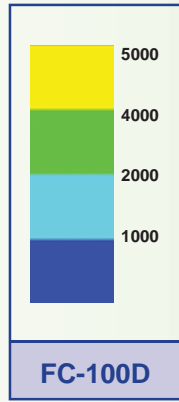
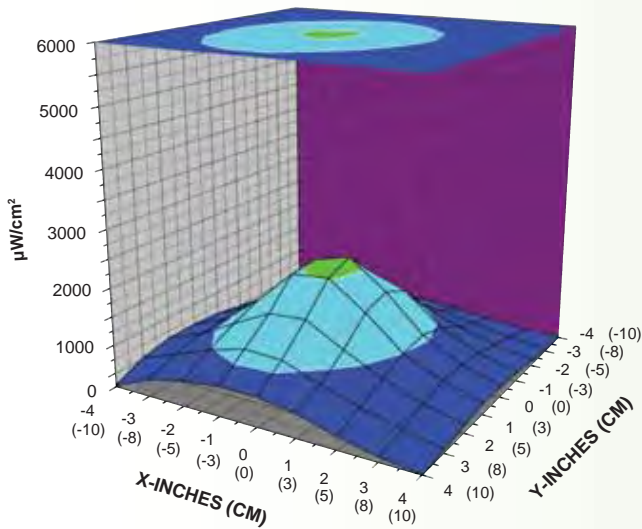
**SURFACE CONTOUR PROFILE AT 15 IN (38 CM)**



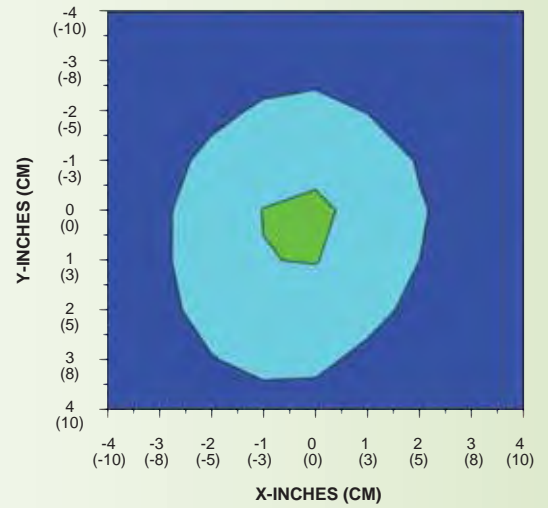
**TOP INTENSITY PROFILE AT 15 IN (38 CM)**



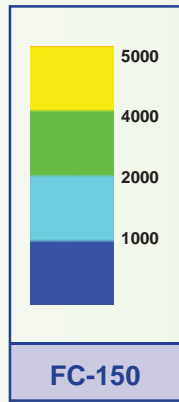
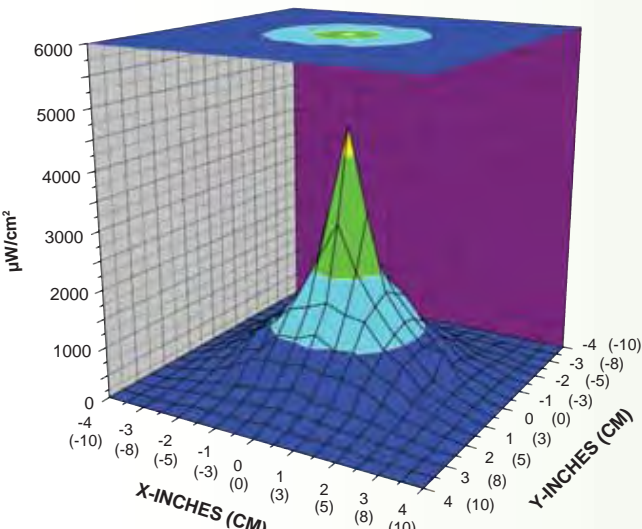
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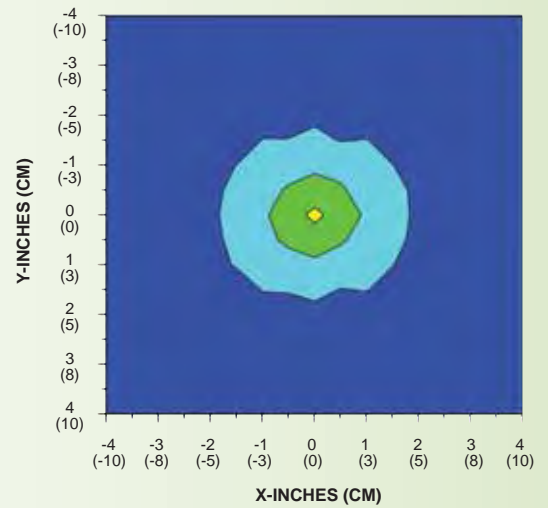
**TOP INTENSITY PROFILE AT 15 IN (38 CM)**



**SURFACE CONTOUR PROFILE AT 15 IN (38 CM)**



**TOP INTENSITY PROFILE AT 15 IN (38 CM)**



## C-100PA Series

### Compact, Lightweight, High-Intensity UV-A Lamp for NDT Inspections

Compact lamp head provides users with maximum comfort. Easily fits in tight places that are taboo to larger lamps, making it ideal for spotting surface flaws in confined areas.



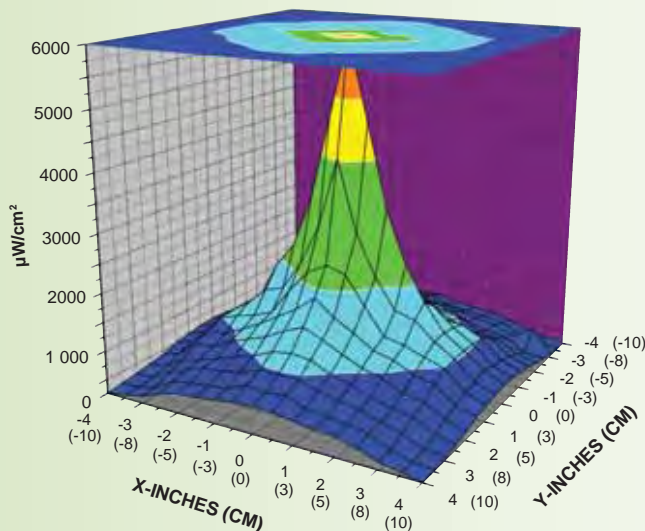
- This 100-watt lamp is powered by a magnetic ballast encapsulated in a high-impact plastic housing.
- Compact lamp head measures just 4½ inches (11 cm) wide and weighs only 1⅝ lbs (0.7 kg)
- Features a spot bulb with a nominal steady-state UV-A intensity of 6,000  $\mu\text{W}/\text{cm}^2$  at 15 inches (38 cm)
- Flexible, heat-resistant filter holder virtually eliminates filter movement during use, reduces the risk of breakage and prevents any visible light leakage
- Constructed of anodized aluminum with a stay-cool pistol grip for extra safety and long life
- Easily meets ASTM UV-A intensity specifications for FPI and MPI
- Bulb features average rated life of 5,000 hours

**C-100PA** comes with 8 foot (2.4 m) primary and 8 foot secondary cords

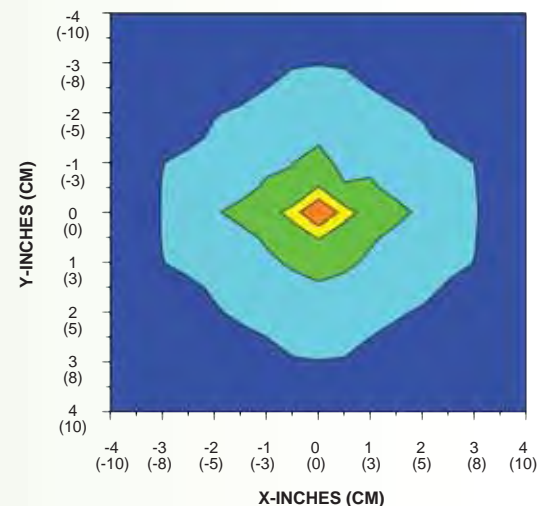
**C-100PAR** comes with 8 foot (2.4 m) primary cord and 35 foot (10.7 m) retractable secondary cord in “flying reel”. Also features attached FP-50 filter protector/lamp stand.

**C-100PAX** comes with 8 foot (2.4 m) primary and 20 foot (6.1 m) secondary cords

SURFACE CONTOUR PROFILE AT 15 IN (38 CM)



TOP INTENSITY PROFILE AT 15 IN (38 CM)



## CH-50P/12

### Portable and Very Affordable High-Intensity UV-A Lamp

Battery-operated lamp delivers UV-A light in tight areas that defy conventional lamps. “Instant-on” operation enables you to perform inspections *immediately!*

- Features a 50-watt bulb with nominal steady-state UV-A intensity of  $1,200 \mu W/cm^2$  at 15 inches (38 cm)
- Lamp head measures only  $5\frac{1}{4} \times 7\frac{1}{2}$  inches (13 x 19 cm) at its widest point, so it's easy to inspect in confined areas
- Battery-operated unit weighs a mere 2 lbs (0.9 kg)
- Very economical to operate, because it consumes 50% less power than competitors' 12-volt lamps
- Housing is made of a super-tough engineering polymer that's impact-resistant and dent-proof
- Includes a 4 foot (1.2 m) cord with cigarette-lighter plug and a 1-foot (0.3 m) adapter cord with alligator clips. Connects to any 12-volt battery or cigarette-lighter outlet. A 12 foot (3.6 m) extension cord is also provided.



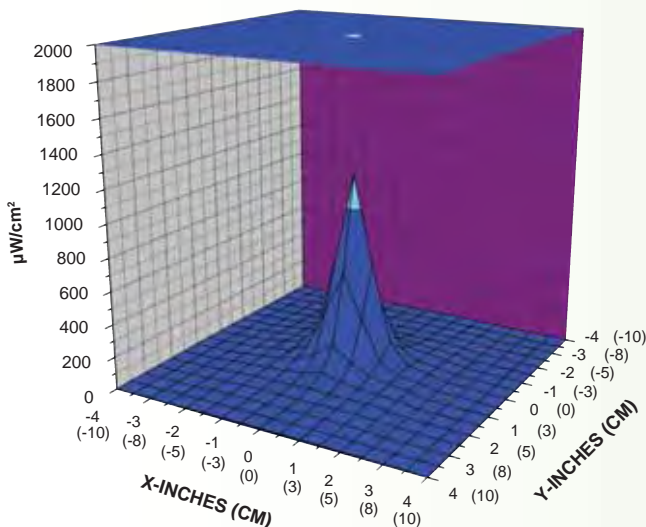
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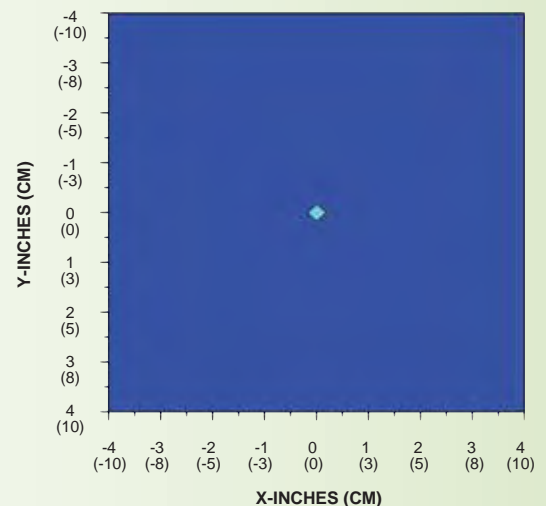
Optional BP-12A battery pack

**Note:** A compact, lightweight battery pack (model BP-12A) is available as an accessory for the CH-50P/12. It comes with a 12V, 7 amp/hr sealed lead acid rechargeable battery, a charger and a nylon case with belt loop and shoulder strap. Permits field use of the lamp in areas where there are no AC outlets.

SURFACE CONTOUR PROFILE AT 15 IN (38 CM)



TOP INTENSITY PROFILE AT 15 IN (38 CM)



## UV-400 Series SuperFlood™

### Our Most Powerful UV-A Flood Lamps Designed Specifically for NDT

These super-powerful and versatile lamps have been specially engineered for fluorescent penetrant and magnetic particle inspection, parts degreasing inspections and wash station inspections.

- Powerful, 400-watt metal halide bulb, combined with tempered, heat-resistant low solarization UV filters provide the highest intensity over the largest area
- Easily mounts over automated magnetic particle systems or above penetrant inspection booths for the most accurate inspections of even the largest parts
- Unique twin-filter system eliminates hazardous UV-B and UV-C radiation escaping from lamp
- Compact design and built-in mounting features allow lamps to be positioned anywhere – even in previously inaccessible areas

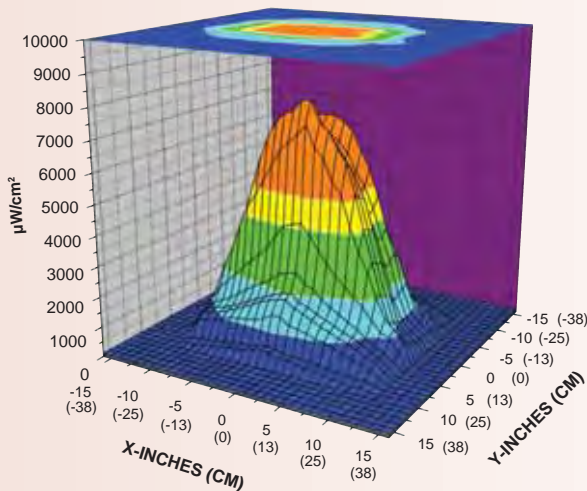


**UV-400A** features a concentrated-beam reflector designed to assure the highest concentrated UV-A intensity available. It has a nominal steady-state UV-A intensity of  $8,000 \mu\text{W}/\text{cm}^2$  at lamp center, measured at 15 inches (38 cm). Irradiates an area as large as 16" x 10" (41 cm x 25 cm), producing a nominal steady-state UV-A irradiance of not less than  $2,000 \mu\text{W}/\text{cm}^2$ .

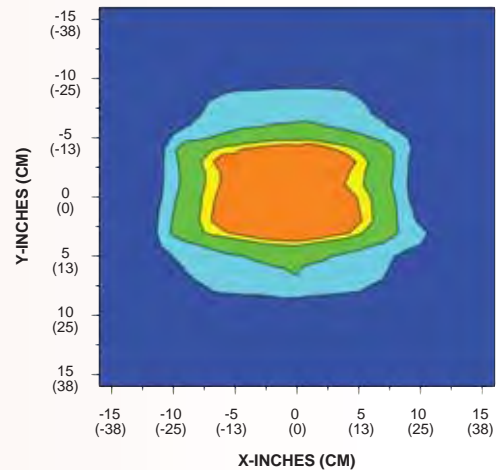
**UV-400B** features a unique broad-beam reflector designed to provide NDT inspectors with maximum uniformity of coverage over the largest area. It has a nominal steady-state UV-A intensity of  $4,000 \mu\text{W}/\text{cm}^2$  at lamp center, measured at 15 inches (38 cm). The lamp irradiates an area as wide as 20" x 12" (51 cm x 31 cm) with unmatched uniformity, producing a nominal steady-state UV-A irradiance of not less than  $2,000 \mu\text{W}/\text{cm}^2$ .



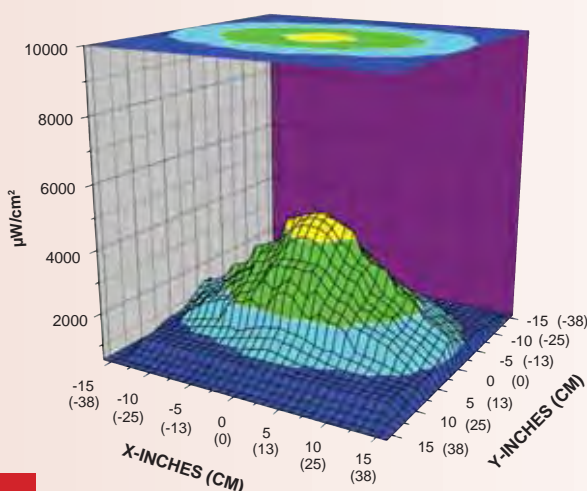
SURFACE CONTOUR PROFILE AT 15 IN (38 CM)



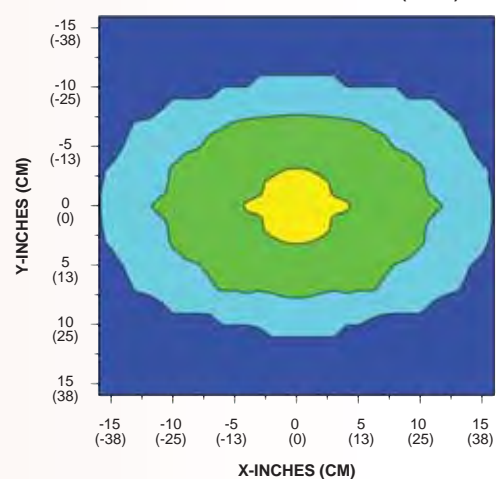
TOP INTENSITY PROFILE AT 15 IN (38 CM)



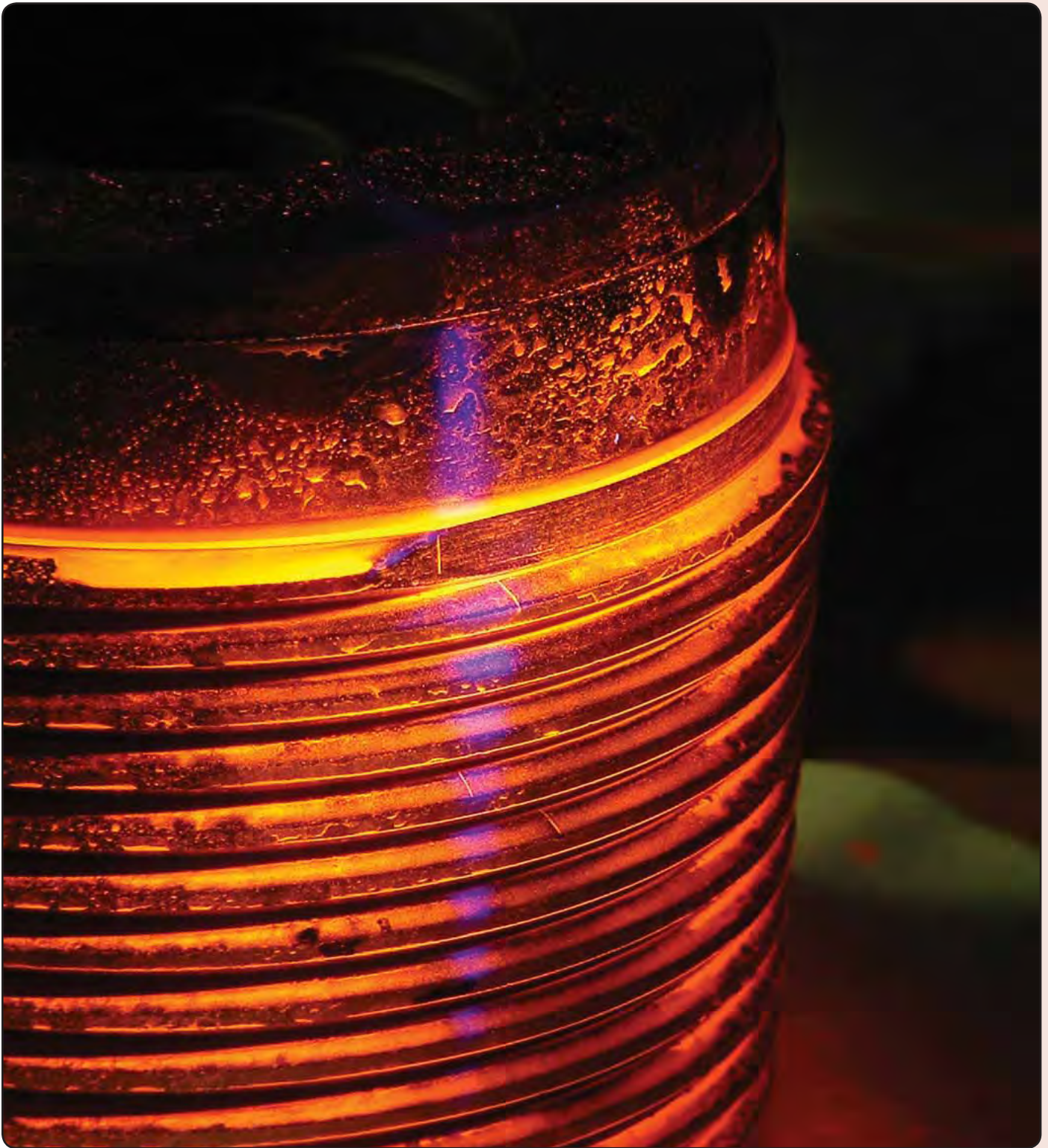
SURFACE CONTOUR PROFILE AT 15 IN (38 CM)



TOP INTENSITY PROFILE AT 15 IN (38 CM)



## *A weld defect...*



*Revealed by the MAXIMA™ ML-3500S UV-A inspection lamp using the liquid penetrant method.*

## Introducing Our Newest LED Light

The importance of high-intensity UV-A black lights for proper magnetic particle or always existed. Our new blue light inspection lamps address this concern. While still no quick pre-inspection or screening of fluorescent particles in operating conditions with



CE

### OPX-450

#### OPTIMAX™ 450 Rechargeable Blue Light LED Flashlight

(U.S. Patent No. 5,905,268; other patents pending)

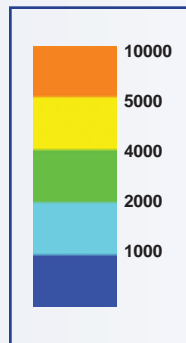
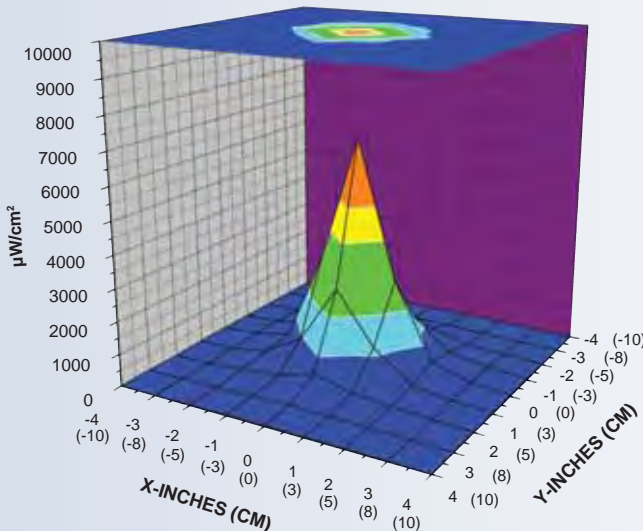
This versatile, cordless inspection lamp features a high-intensity, 450 nm blue light LED, a black anodized lamp body and our patented, thin-film dichroic lens to filter out long-wave visible light.

- Nominal steady-state blue light intensity of 7,000  $\mu\text{W}/\text{cm}^2$  at 15 inches (38 cm)
- 50,000-hour LED service life
- Electronic Intensity Stabilizer assures consistent performance. Beam strength will not weaken between charges!
- Instant-on operation. Lamp reaches full intensity immediately!
- Lightweight, cordless, ergonomic design eliminates fatigue
- Portable and rugged. Anodized aluminum lamp body minimizes corrosion and stands up to years of heavy use
- Powered by a rechargeable NiMH battery. Provides 90 minutes of continuous inspection between charges.

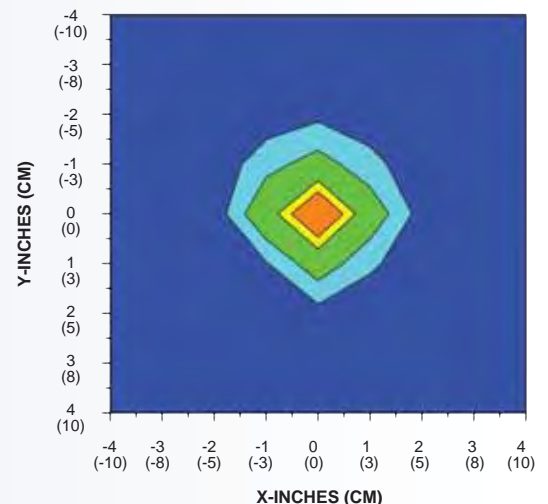


Comes complete with smart AC and DC chargers, yellow contrasting spectacles, belt holster and rugged, padded carrying case. AC charger available in 120V, 230V, 240V and 100V models.

SURFACE CONTOUR PROFILE AT 15 IN (38 CM)



TOP INTENSITY PROFILE AT 15 IN (38 CM)





# Sources...in Blue Wavelengths!

penetrant NDT inspection is well established. However, a concern for UV safety has substitute for UV-A lamps, blue light does provide the safety and convenience desired for ambient light, saving time and limiting the use of black lights to only when necessary.

## TRI-450

### TRITAN™ 450 Multi-LED, Broad-Beam Blue Light Lamp

(U.S. Patent No. 5,905,268; other patents pending)

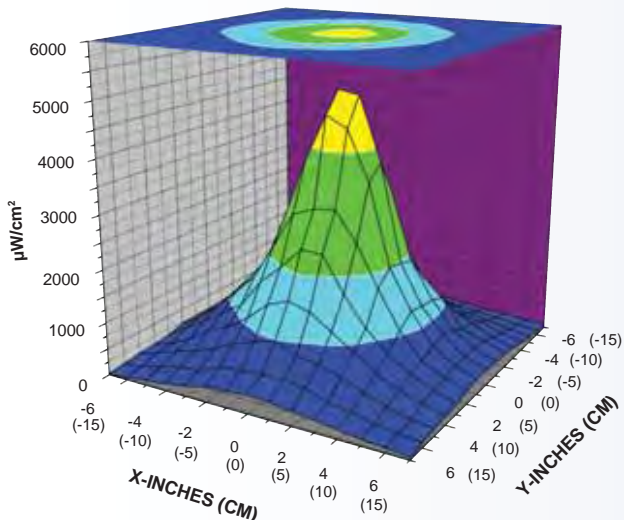
This lamp features three cool-running, ultra-high flux 450 nm blue light LEDs with a broad-beam configuration. This powerful lamp provides a wider coverage area than conventional inspection lamps, while its compact head design allows access into areas inaccessible to larger inspection lamps. Ideal for most non-destructive testing applications.

- Nominal steady-state blue light intensity of 5,000  $\mu\text{W}/\text{cm}^2$  at 15 inches (38 cm)
- Large 5 inch (13 cm) diameter coverage area at 15 inches (38 cm) with a minimum intensity of 2,000  $\mu\text{W}/\text{cm}^2$
- 50,000-hour LED service life
- Rubber bumper with patented thin-film dichroic lens filters out long-wave visible light
- Electronic Intensity Stabilizer ensures consistent LED performance
- Built-in fan keeps LEDs cool to maintain optimum light output during extended use
- Instant-on operation. Lamp reaches full intensity immediately!
- Rugged, ergonomic, angled lamp body provides safe, fatigue-free handling
- Choice of 8 foot (2.4 m) or extra-long 20 foot (6.1 m) power cord with AC plug. Available in 120V, 230V, 240V or 100V models.
- Includes yellow contrasting spectacles

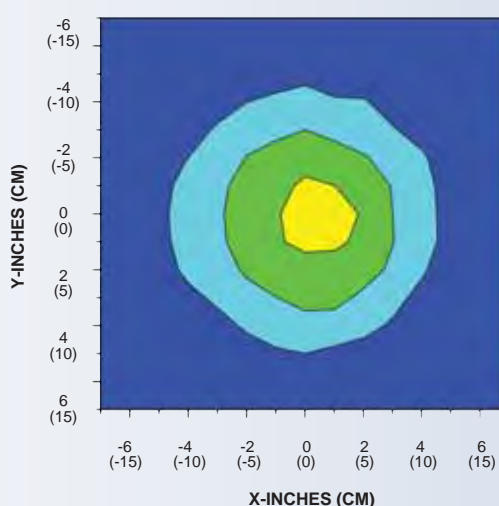


**Also available:** TRITAN™ 450M portable, battery-operated AC/DC lamp kit. Includes TRITAN 450M blue light LED lamp, rechargeable NiMH battery pack with adjustable shoulder strap and belt loop, AC and DC cord sets, smart AC charger, yellow contrasting spectacles and soft, lightweight carrying case. AC charger available in 120V, 230V, 240V or 100V versions.

SURFACE CONTOUR PROFILE AT 15 IN (38 CM)



TOP INTENSITY PROFILE AT 15 IN (38 CM)



## XRP-3000 AccuMAX™

### Digital Radiometer/Photometer

*Features an advanced microprocessor-controlled readout unit with a dual-wavelength sensor detector to measure both ultraviolet and visible light.*

- Large, easy-to-read LCD screen
- Provides readouts for UV-A, visible irradiance or radiance
- Overall accuracy greater than  $\pm 5\%$  per NIST standards
- Choice of direct or USB cable connection between sensor detector and readout unit
- Automatic zeroing, integration and signal hold
- Excellent cosine response
- User-defined power save and automatic shutoff
- Rugged meter housing features removable, protective rubber boot for better grip and to help prevent accidental breakage
- Sealed sensor housing and USB connection with water-resistant adapter
- Compact, lightweight and battery-operated for convenient use in the factory, field or anywhere measurements are needed
- Complies with ASTM specifications for MPI and FPI
- Comes complete with readout unit, dual-wavelength sensor detector, USB cable with water-resistant adapter, protective rubber boot, two 9V alkaline batteries and padded carrying case.

#### SPECIFICATIONS

##### Readout Unit (XR-1000)

<b>Resolution</b>	4-digit autoranging display
<b>Screen</b>	128 x 64 dot pixel chip on glass STN transmissive monochrome LCD 2.8 in (7.1 cm) diagonal illuminated (backlit)
<b>Sample Rate</b>	7.5 Hz (single sensor) 15 Hz (dual sensor)
<b>Read Update</b>	2 Hz
<b>Overall Accuracy</b>	Better than $\pm 5\%$ with reference to NIST standards
<b>Temperature Coefficient</b>	$\pm 0.025\%/^{\circ}\text{C}$ (0 to 50°C)
<b>Power Requirements</b>	Two 9V alkaline batteries (included)
<b>Length</b>	7.75 in (19.7 cm)
<b>Width</b>	4.25 in (10.8 cm)
<b>Thickness</b>	1.25 in (3.2 cm)
<b>Weight</b>	0.8 lb (360 g)

##### Dual UV-A/Visible Sensor Detector (XDS-1000)

<b>Irradiance Range</b>	
<b>UV-A Sensor</b>	0-100 mW/cm <sup>2</sup> (0-100,000 $\mu\text{W}/\text{cm}^2$ )
<b>Visible Sensor</b>	0-5,300 lux (0-500 fc)

##### Spectral Range

<b>UV-A Sensor</b>	320-400 nm
<b>Visible Sensor</b>	460-675 nm

##### Dimensions

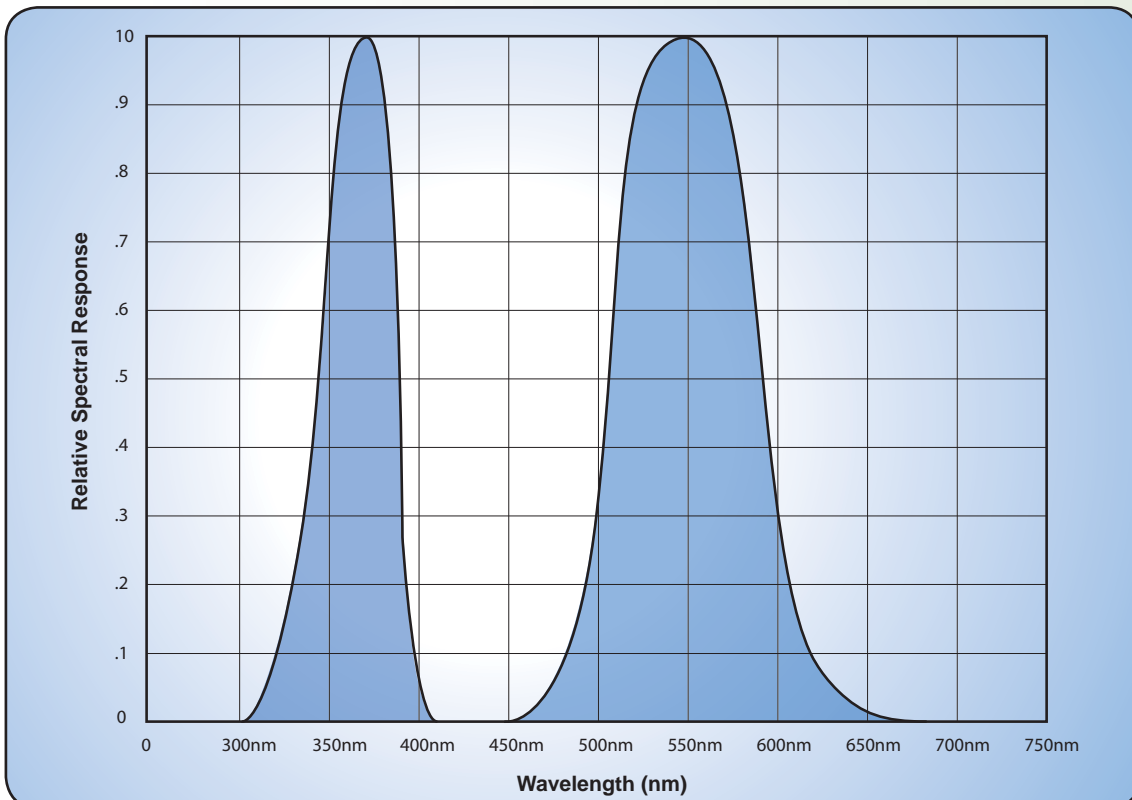
<b>Length</b>	4.75 in (12.1 cm)
<b>Width</b>	2.0 in (5.1 cm)
<b>Thickness</b>	7/8 in (2.2 cm)
<b>Weight</b>	0.22 lb (100 g)
<b>USB Cable Length</b>	5 ft (1.5 m)



XR-1000 readout unit with dual-wavelength sensor detector connected directly to unit



XR-1000 readout unit with dual-wavelength sensor detector connected to unit via USB cable



## DM-365XA

### Digital UV-A Radiometer

*Provides increased accuracy for more repeatable results.*

- Measures UV-A light sources with overall accuracy of  $\pm 5\%$  per NIST standards
- Autozeroing, excellent linearity and cosine response, solid-state design, compact, durable, simple operation, battery-level indicator
- Sealed silicone photodiode protects against shock and humidity
- Sensor housing is constructed with series of baffles and unique self-sealing mechanism to eliminate light leakage
- Compact, lightweight and battery operated so measurements can be taken anywhere
- Complies with ASTM specifications for MPI and FPI



## SPECIFICATIONS

### Readout Unit

<b>Resolution</b>	10 $\mu\text{W}/\text{cm}^2$
<b>Screen</b>	4½ digit, 7 segment, LED display 0.5 in (1.3 cm) high
<b>Overall Accuracy</b>	Better than $\pm 5\%$ with reference to NIST standards
<b>Temperature Coefficient</b>	$\pm 0.025\%/^{\circ}\text{C}$ (0 to 50°C)
<b>Irradiance Range</b>	0-19,900 $\mu\text{W}/\text{cm}^2$
<b>Spectral Range</b>	320-400 nm
<b>Power Requirements</b>	Two "AA" alkaline batteries (included)
<b>Length</b>	7¼ in (18.4 cm)
<b>Width</b>	3.5 in (8.9 cm)
<b>Thickness</b>	2 in (5.1 cm)
<b>Weight</b>	1 lb (0.45 kg)

### Sensor Detector

<b>Length</b>	3 in (7.6 cm)
<b>Width</b>	2 in (5.1 cm)
<b>Thickness</b>	0.70 in (1.8 cm)
<b>Weight</b>	1¼ lb (0.57 kg)
<b>Cord Length</b>	3 ft (91.4 cm)



**BP-12A**  
BATTERY PACK, Complete with RB-12S Smart Charger, 12 Volt Rechargeable NiMH Battery and Nylon Carrying Case for CH-50P/12 and MAXIMA™ ML-3500 Series Lamps



**BP-20**  
BATTERY PACK, Complete with BR-100 Smart Charger, 12 Volt Rechargeable NiMH Battery and Nylon Carrying Case for TRITAN™ TRI-365M and TRI-450M AC/DC Lamp Kits



**CC-75**  
CARRYING CASE  
for CH-50P/12 Lamp



**CC-120A**  
CARRYING CASE  
for BIB-150P Series,  
FC-Series and SB-100P  
Series Lamps



**CC-350**  
CARRYING CASE  
for MAXIMA™ ML-3500  
Series Lamps



**CC-365**  
CARRYING CASE  
for OPTIMAX™ OPX-365  
and OPX-450 Flashlights



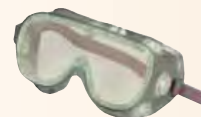
**CC-370A**  
SOFT CARRYING CASE  
for TRITAN™ TRI-365M and  
TRI-450M AC/DC Lamps



**UVS-30**  
SPECTACLES,  
UV-Absorbing



**UVS-40**  
SPECTACLES,  
Fluorescence-Enhancing



**UVG-50**  
GOGGLES,  
UV-Absorbing

Using genuine Spectroline® replacement parts ensures that lamps will operate at their optimum performance.

# REPLACEMENT PARTS & ACCESSORIES



**100S**  
SPOT BULB, Ad-Medium Base, 100 Watt for SB-100P  
and FC-Series Lamps

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**100S/M**  
SPOT BULB, Medium Base, 100 Watt for SB-100P  
and FC-Series Lamps

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**100S/M-PQL**  
UPGRADED, PREMIUM QUALITY LIGHTING SPOT  
BULB, Medium Base, 100 Watt for SB-100P and FC-100  
Series Lamps

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**BLE-35PRA**  
MDL BULB/POLISHED REFLECTOR ASSEMBLY  
for MAXIMA™ ML-3500 Series Lamps

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**BLE-35RA**  
MDL BULB/COATED REFLECTOR ASSEMBLY  
for MAXIMA™ ML-3500 Series Lamps



**BLE-35RAF**  
MDL BULB/ANODIZED REFLECTOR ASSEMBLY  
for MAXIMA™ ML-3500 Series Lamps

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**BLE-50/12**  
BULB, Set of three, for CH-50P/12 Lamp

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**BLE-100S/MC**  
SPOT BULB, Compact, Medium Base, 100 Watt,  
for C-100PA Series Lamps

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**BLE-125B**  
BULB, 125 Watt BLB (Non-Certified) for SB-125  
Series Lamps. **Manufactured by Phillips**

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**BLE-125B/C**  
BULB, 125 Watt BLB (Certified) for SB-125  
Series Lamps. **Manufactured by Phillips**

Using genuine Spectroline® replacement parts ensures that lamps will operate at their optimum performance.



**BLE-150BS-115/M**  
BROAD-BEAM BULB, Self-Ballasted, 150 Watt for  
BIB-150P Series Lamps (115 volt version)



**BLE-150CS-100/M**  
CONCENTRATED SPOT BULB, Self-Ballasted,  
150 Watt for BIB-150P Series Lamps (100 volt version)



**BLE-150CS-115/M**  
CONCENTRATED SPOT BULB, Self-Ballasted,  
150 Watt for BIB-150P Series Lamps (115 volt version)



**BLE-150CS-230/M**  
CONCENTRATED SPOT BULB, Self-Ballasted,  
150 Watt for BIB-150P Series Lamps (230 volt version)



**BLE-150FC-115/M**  
CONCENTRATED SPOT BULB, Self-Ballasted,  
150 Watt for FC-150 Lamp (115 volt version)



**BLE-150FC-230/M**  
CONCENTRATED SPOT BULB, Self-Ballasted,  
150 Watt for FC-150 Lamp, (230 volt version)



**BLE-400**  
METAL HALIDE BULB, 400 Watt for SuperFlood™  
UV-400 Series Lamps



**119584**  
MDL BULB, 35 Watt for MAXIMA™ ML-3500  
Series Lamps

Using genuine Spectrolite® replacement parts ensures that lamps will operate at their optimum performance.



**120344**  
COATED SPOT REFLECTOR for MAXIMA™ ML-3500 Series Lamps

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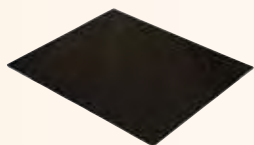
**120514**  
ANODIZED FLOOD REFLECTOR for MAXIMA™ ML-3500 Series Lamps

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**123378**  
POLISHED REFLECTOR for MAXIMA™ ML-3500 Series Lamps

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**2F110**  
UV-A FILTER for SuperFlood™ UV-400 Series Lamps

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**2F400B**  
UV-B BLOCKING FILTER for SuperFlood™ UV-400 Series Lamps



**2F123**  
FILTER for CH-50P/12 and C-100PA Series Lamps

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**2F958**  
FILTER for BIB-150P Series, FC-Series and MAXIMA™ ML-3500 Series Lamps

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**2F350**  
DIFFUSING FILTER for FC-Series and MAXIMA™ ML-3500 Series Lamps

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**DF-365**  
DIFFUSING FILTER for OPTIMAX™ OPX-365 Flashlight

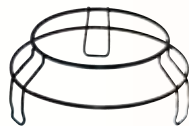
Using genuine Spectroline® replacement parts ensures that lamps will operate at their optimum performance.





**FP-50**  
FILTER PROTECTOR/LAMP STAND for  
C-100PA Series Lamps

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**FP-175**  
FILTER PROTECTOR/LAMP STAND for BIB-150PR,  
FC-Series and MAXIMA™ Series Lamps

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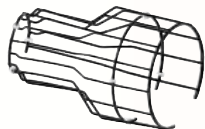
**FP-365**  
FILTER PROTECTOR with Rubber Bumper/Borofloat®  
Glass for TRITAN™ 365 Series Lamps

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**FP-450**  
FILTER PROTECTOR with Rubber Bumper/Dichroic  
Filter for TRITAN™ 450 Series Lamps

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**HGS-100A**  
HEAT GUARD/STAND for SB-100P Series Lamps



**HGS-150A**  
HEAT GUARD/STAND for BIB-150P and  
BIB-150PX Lamps

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**VF-100A**  
SPEC-STIK™ VERIFICATION FIXTURE for All  
Spectroline® Sensors, as well as HID, TRITAN™  
and OPTIMAX™ Series Lamps.

NOTE: Lamp mounting accessories for TRITAN™  
and OPTIMAX™ Series Lamps are sold separately  
(see LH-200 and LH-300)

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**LH-200**  
LAMP HOLDER for OPTIMAX™ OPX-365  
and OPX-450 Flashlights (for use with VF-100A)

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**LH-300**  
LAMP HOLDER for TRITAN™ Series Lamps  
(for use with VF-100A, FA-100, WM-100, B-6 and W-6)

Using genuine Spectroline® replacement parts ensures that lamps will operate at their optimum performance.

# REPLACEMENT PARTS & ACCESSORIES



**LH-600**  
HOLSTER for OPTIMAX™ OPX-365 and  
OPX-450 Flashlights



**WM-100**  
WALL MOUNTING BRACKET for All Spectrolite® HID  
and TRITAN™ Series Lamps



**124826**  
CORD SET, 2 Foot, 7 Pin for MAXIMA™ ML-3500  
Series Lamps (12V DC version)



**124827**  
CORD SET, 8 Foot, 7 Pin for MAXIMA™ ML-3500  
Series Lamps (230V version)



**124828**  
CORD SET, 8 Foot, 7 Pin for MAXIMA™ ML-3500  
Series Lamps (115V and 100V versions)



**RB-12S**  
SMART BATTERY CHARGER for BP-12A  
Battery Pack



**BR-100**  
SMART BATTERY CHARGER for BP-20  
Battery Pack



**PSA-200**  
POWER SUPPLY ADAPTER with a 12V DC charging  
cord for TRITAN™ TRI-365M and TRI-450M Series  
Lamps

Using genuine Spectrolite® replacement parts ensures that lamps will operate at their optimum performance.



**RB-300**  
SMART AC CHARGER for OPTIMAX™  
OPX-365 and OPX-450 Flashlights



**RB-300DC**  
12V DC CHARGER for OPTIMAX™  
OPX-365 and OPX-450 Flashlights



**125608**  
BATTERY STICK with Tailcap for OPTIMAX™  
OPX-365 and OPX-450 Flashlights



**XCB-100**  
WATER-RESISTANT USB CABLE with adapter for  
AccuMAX™ Meter



**XCC-100**  
CARRYING CASE for AccuMAX™ XRP-3000 Meter



**XRB-100**  
RUBBER BOOT for AccuMAX™ XR-1000 Readout Unit



**AB-100**  
ADAPTER BRACKET for Mounting Transformer-Based  
Spectroline® HID Lamps onto a Magnaflux® Wet  
Horizontal Mag Machine



**AF-100**  
ABSORPTION FILTER/SPLASH GUARD ASSEMBLY  
for SB-100P, BIB-150P, FC- and MAXIMA™ ML-3500  
Series Lamps (for rubber filter holder design)

Using genuine Spectroline® replacement parts ensures that lamps will operate at their optimum performance.



**AF-100A**  
ABSORPTION FILTER/SPLASH GUARD ASSEMBLY  
for SB-100P, BIB-150P, FC- and MAXIMA™ ML-3500  
Series Lamps (for plastic filter holder design)



**AF-125**  
ABSORPTION FILTER/SPLASH GUARD ASSEMBLY  
for SB-125 Lamp



**FA-100**  
FLEXIBLE ARM for All Spectroline® HID and  
TRITAN™ Series Lamps



**B-6**  
BENCH MOUNT for All Spectroline® HID and  
TRITAN™ Series Lamps



**W-6**  
BENCH MOUNT for All Spectroline® HID and  
TRITAN™ Series Lamps

Using genuine Spectroline® replacement parts ensures that lamps will operate at their optimum performance.

## Company Background

Spectronics Corporation is the world's leading manufacturer of ultraviolet equipment and fluorescent materials. Spectronics supplies over 1,000 different products for the nondestructive testing, laboratory, biotechnology, industrial, electronics, semi-conductor, forensics, financial, automotive, HVAC/R and other markets.

Spectronics' modern, 100,000 square-foot manufacturing facility and office headquarters is located in Westbury, New York. Nearly 200 personnel are involved in all phases of research and development, manufacturing, sales, marketing, customer service, and logistical and technical support.

Over five decades since its inception, the goal of Spectronics is still the same — to produce effective, top-quality products with the utmost dedication to customer satisfaction.



## Warranty

All equipment is warranted against defects in manufacture. Spectronics Corporation's obligation under this warranty is limited to repairing or replacing, at the option of Spectronics Corporation, any part(s) of the product which, if properly installed, used and maintained, proves upon factory examination to have been defective in materials or workmanship within 12 months from the date of delivery to the customer.

This warranty does not apply to any component which (1) is normally consumed in operation or (2) has a normal life inherently shorter than the warranty stated. For example, bulbs, filters and rechargeable batteries are warranted for 30 days. In addition, Spectronics Corporation does not warrant any instrument that has been subjected to misuse, negligence or accident, or has been repaired or altered by anyone other than Spectronics Corporation.

This warranty is in place of all other warranties of quality. There are no other warranties either oral, written, express, implied or statutory. **IMPLIED WARRANTIES OF FITNESS FOR PURPOSE AND MERCHANTABILITY ARE EXCLUDED.** This warranty and your remedies thereunder are solely as stated in this form. In no event shall Spectronics Corporation be liable for special, indirect, incidental or consequential damages, nor for any damages arising out of delay in shipment or production.

## PRODUCT SPECIFICATIONS

Spectronics Corporation reserves the right to alter product specifications without notice. Spectronics is under no obligation to make similar changes in its products previously produced.

## Product/Customer Support & Technical Assistance

Product literature, instructions and a full staff of trained customer service representatives and technical service engineers are available for support. Additional product information and support are available on our website.

- **Order Information** • **Technical Assistance**
- **Local Sales Representatives** • **Authorized Distributors**



**CUSTOMER SERVICE**



**TECHNICAL ASSISTANCE**

### **Call Toll-Free:**

**1-800-274-8888**

**(Outside the U.S. and Canada: 516-333-4840)**

### **Fax Toll-Free:**

**1-800-491-6868**

**(Outside the U.S. and Canada: 516-333-4859)**

### **Website**

**[www.spectroline.com](http://www.spectroline.com)**

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FC-150	10
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