

LUMATEC®

HongKe

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LIGHT SPECTRA FOR CRIME SCENES AND LABS

FORENSICS

www.lumatec.de

INTRO

Investigators need powerful multispectral light sources to solve crimes. We put these tools into their hands. Engineered for portability and equipped with all the features needed to tackle challenging tasks, our light sources illuminate trace evidence so it can be seen even in daylight. Having developed the first models in a joint effort with the Munich police department, we continue to improve on these designs in collaboration with criminologists at home and abroad. Today these versatile tools serve many specialists well, worldwide.

TYPICAL APPLICATIONS

- Crime scene evidence collection
- Trace analyses in labs
- Forensic medicine
- Building forensics



IT'S ALL ABOUT THE LIGHT SOURCE

SPECIALTY LIGHTING TO BENEFIT CRIMINOLOGISTS

Powerful light sources make working life easier and save time for the people tasked to find the clues that clear up crimes. Searches conducted and documented with hands-off tools do not compromise DNA analyses' integrity. And as stricter safety regulations limit the use of chemical agents, investigators increasingly need to secure evidence right there on the scene with a camera. This is why sophisticated lighting solutions such as flexible light guides with variable intensity are so important these days: They offer a safe and proven way of gathering evidence. Criminal identification bureaus, crime scene investigators, and forensic labs need such simple yet powerful tools; tools that provide incident illumination at variable angles, diffused, collimated and oblique lighting, as well as the means to heighten contrasts and excite fluorescence. And our light sources offer the right accessories for every application.

Their selling points are very persuasive: Able to provide plenty of light intensity in a portable package, they come in very handy indeed. And that's why our remarkably versatile SUPERLITE S04 and ultra efficient SUPERLITE M05 come out on top in every comparison.

APPLICATIONS

400 – 700 NM (WHITE)

Illumination, Searching/identifying objects and people Photographing shoe prints

Detecting drag marks and indented impressions

Macroscopic particles, dander and hair

Treated fingerprints

Bloodstain patterns on all surfaces

Untreated fingerprints on shiny surfaces

400 – 500 NM (BLUE)

Bodily fluids (with an orange filter)

Fluorescent fingerprint powders

Dyed fingerprints

320 – 400 NM (UVA)

Bodily fluids, cleaning agents, fats, oils

Contrasts with background fluorescence

Lumicyano* / Policiano*

SUPERLITE S04 – YOUR MOST VERSATILE OPTION



Readily portable with a battery pack
for use on the go

THE MOST POWERFUL CRIME SCENE TOOL

One for all: Our SUPERLITE S04 delivers UV light intense enough to even outshine daylight. The low proportion of white light in the ultraviolet spectrum brings out remarkably revealing contrasts. Crime scene investigators can simply turn two knobs to readily adjust the color and intensity to suit a wide range of trace evidence. This leaves just a few types of material evidence that require elaborate lab tests.

Another compelling benefit is that the device consumes very little power so it may be battery operated. You can connect many slim, flexible light guides on the fly to conveniently illuminate corners and inaccessible spots.

Do you need special accessories, for example, for fingerprinting? Then get in touch with us. We'll be happy to advise you on which of our many accessories fit your needs best.

YOUR BENEFITS AT A GLANCE

- Extraordinarily high UV output
- High energy efficiency for battery operation
- Lights up trace evidence without compromising DNA
- Sharp contrasts due to low proportion
- Many accessories for utmost versatility
- Portable
- Light guides to protect users against radiation
- Patented safety switch to prevent inadvertent manual switching
- Quiet fan
- Slim, flexible Liquid Light Guides

LIGHTING DESIGNED FOR AND WITH CRIME-FIGHTERS

The SUPERLITE S04 was developed with the help of people who work in your chosen field. Rather than waste energy on unnecessary radiation, we limited its range to the spectra that matter to forensics so that this lamp consumes 80% less power than comparable systems. Yet its light output is so intense that it can help you find traces others would overlook, and photograph evidence without any pretreatment. Thanks to its high-performance battery, the SUPERLITE S04 is the only lamp in its performance class that can be operated cordlessly, which is practical at the crime scene.

The experience of years spent developing state-of-the-art aviation inspection instruments flowed into the SUPERLITE S04's filters and optics. Its UVA spectrum and coated fused silica optics enable you to detect and document even weakly fluorescing materials.

FACTS & FIGURES

80%

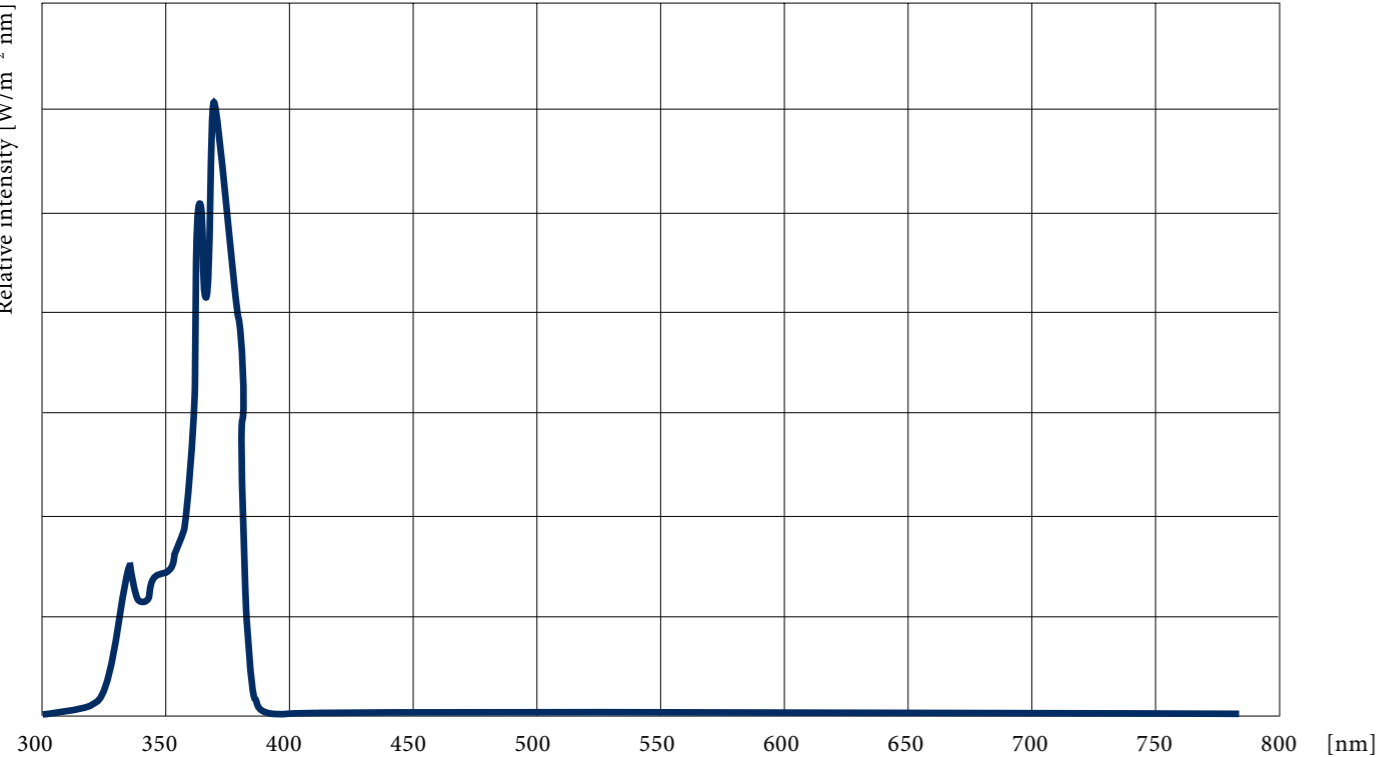
lower power consumption than systems with comparable performance

50%

lighter than systems with comparable performance

UVA 320–400 NM SPECTRUM

- Output ø 5 mm: 1.8 W
- Output ø 8 mm: 3.0 W



OPTICAL PERFORMANCE

	Spectrum	Power	Filter goggle	Application
White	400 – 700 nm	9,700 mW	Transparent	Illumination Searching/identifying objects and people Photographing shoe prints Macroscopic particles, dander and hair Detecting drag marks and indented impressions Treated fingerprints Bloodstain patterns on all surfaces
UVA + blue	320 – 500 nm	6,900 mW	Orange	Object and DNA searches at the crime scene Bone fragments, teeth, etc.
Blue	400 – 500 nm	4,800 mW	Orange	Object and DNA searches at the crime scene
UVA	365 nm	2,100 mW	Transparent	Bodily fluids, cleaning agents, fats, oils Contrasts with background fluorescence Lumicyano [®] /Policyano [®]
Violet	415 nm	2,000 mW	Transparent/Yellow	Fingerprints in blood, bloodstains (even diluted), DNA, gunshot residue
Blue 440	440 nm	2,300 mW	Yellow /Orange	Saliva, semen, urine and other bodily fluids
Blue 460	460 nm	2,000 mW	Yellow /Orange	Ardrox [®] , Basic Yellow [®] , and others
Turquoise	490 nm	1,200 mW	Orange / Red	Ninhydrin, Rhodamin, Basic Red [®] Untreated fingerprints on dark, shiny surfaces
Green	550 nm	1,400 mW	Orange / Red	DFO
Yellow	570 nm	1,800 mW	Red	Ninhydrin



Battery pack with head:
The SUPERLITE M 05 lamp
system consisting of handle
with 10A battery and
“Ultrathrow” LED white light head
2000 lumens



UVA 365 nm



LED head for uniform
white light, focusable,
2000 lumens



Blue 445 nm



Amber/Yellow 595 nm



Red 620 nm



UVA 390 nm



Green 530 nm



Violet 405 nm



Red 850 nm

SUPERLITE M05 – YOUR MOST PORTABLE OPTION

SMALL, LIGHT, POWERFUL

The most compact light source for forensics, the SUPERLITE M05 weighs just half as much as comparable devices in its performance class. Equipped with premium-quality optics, this state-of-the-art LED source emits very intense and extraordinarily uniform light.

The SUPERLITE M05 is the only device in its class to feature interchangeable heads. Finding the right light is an exercise in convenience with nine different light spectra to choose from. You can even connect a number of compatible light guides and adjust the light intensity in three levels to match the given attachment.

The SUPERLITE M05 covers the major light spectra you need to surely detect and document all kinds of trace evidence.

YOUR BENEFITS AT A GLANCE

The most powerful specialty light source in its size class (power-to-weight ratio)

Smaller and lighter than comparable portable light sources

Uniform light for excellent imaging and vivid photographs

Robust features and design

The only light source in its class with interchangeable heads

All specialty light heads may be operated with just one battery pack

Wide range of applications in forensics

The perfect complement to the SUPERLITE S04 for police and security forces

Optional available light heads to connect flexible light guides.

SUPERLITE M05 – WITH LIGHT GUIDES

ADAPTABLE

The M05 is an equally efficient tool for technical inspections and other mobile applications. Having invented specialty Liquid Light Guides, we are also able to offer a range of light guides that attach to the most portable of all our light sources. And that makes the M05 the go-to portable tool for endoscopy and microscopy . You can also use the accessories designed for the SUPERLITE S04 light guide system (formerly known as SUPERLITE S400).

TECHNICAL DATA

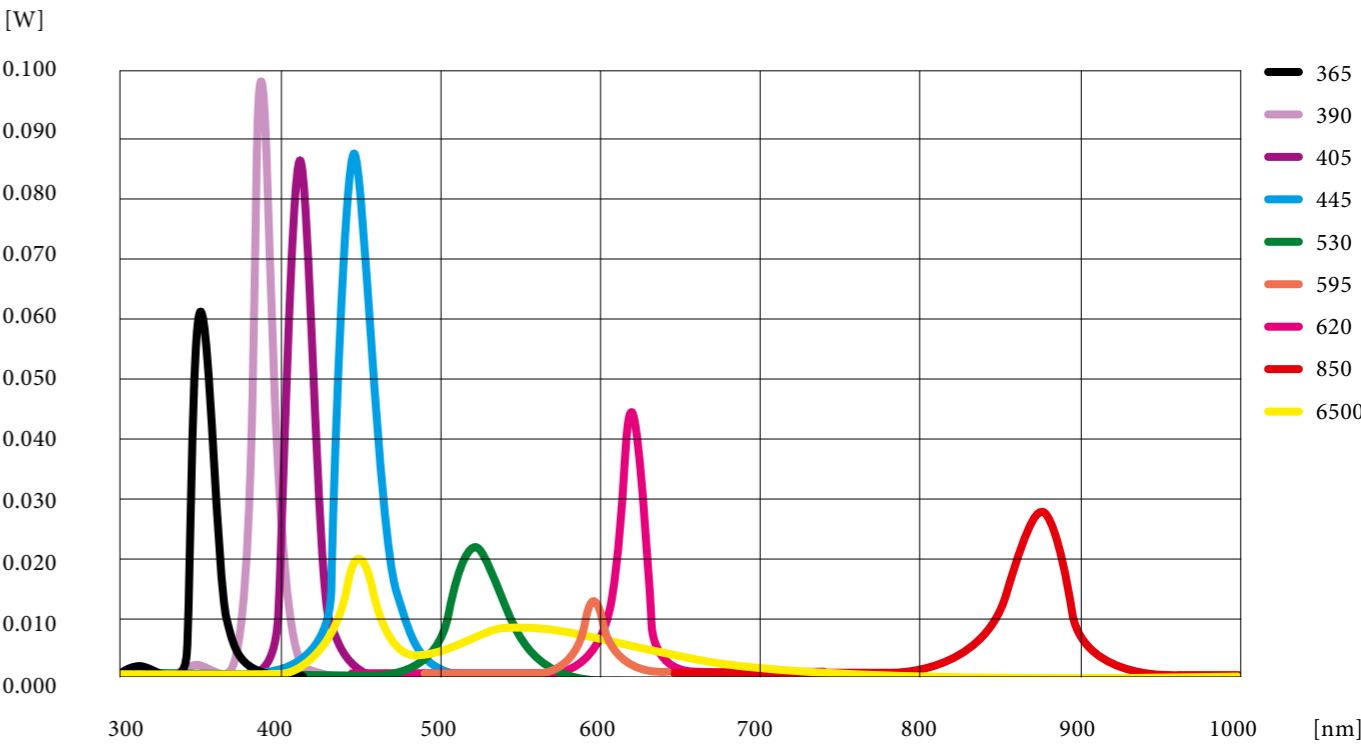
- LED type: 15 – 30 W
- Dimensions (L/Ø): 240 mm/50 mm
- Weight: 500 g
- Operating temperature: +10° C to +35° C
- Storage temperature: -10° C to +60° C
- Mains (Charger): 5 – 6 VDC
- Power consumption (charger): 24 W



OPTICAL PERFORMANCE

	Spectrum	Power	Filter goggle	Application
White	400 – 700 nm	2,300 mW	Transparent	Illumination Searching/identifying objects and people Photographing shoe prints Macroscopic particles, dander and hair Detecting drag marks and indented impressions Treated fingerprints Bloodstain patterns on all surfaces
UVA	365 nm	1,100 mW	Transparent	Bodily fluids, cleaning agents, fats, oils Contrasts with background fluorescence Lumicyano´ /Policyano´ Fluorescent powder
UVA	390 nm	2,100 mW	Transparent / Yellow	Fluorescent powder , deposits, calcium carbonate
Violet	405 nm	2,100 mW	Transparent / Yellow	Fingerprints in blood, bloodstains (even diluted), DNA, gunshot residue, calcium carbonate, deposits
Blue	445 nm	3,000 mW	Yellow / Orange	Saliva, semen, urine and other bodily fluids Ardrox´ , Basic Y ellow´ and others, as well as DFO, contrasts against specific surfaces
Green	530 nm	1,100 mW	Orange / Red	DFO, contrasts
Infrared	850 nm	1,500 mW	Red	Contrasts using special camera technology

SPECTRUM



ACCESSORIES FOR SPECIALISTS

THE RIGHT LIGHT FOR EVERY APPLICATION

Joining forces with experts, we develop versatile accessories that broaden our multispectral light sources' application range to help you tackle your day-to-day tasks. Quality lenses for close-up work and for larger spaces, lamps that deliver transmitted light and uniform diffused light — you'll find all this and more in our offering. An attached magnifier enables you to examine fingerprints and macroscopic particles. Two-pole and multi-pole Liquid Light Guides serve to illuminate footwear tracks from several sides. And the LitePad is a universally applicable device for examinations with transmitted light.



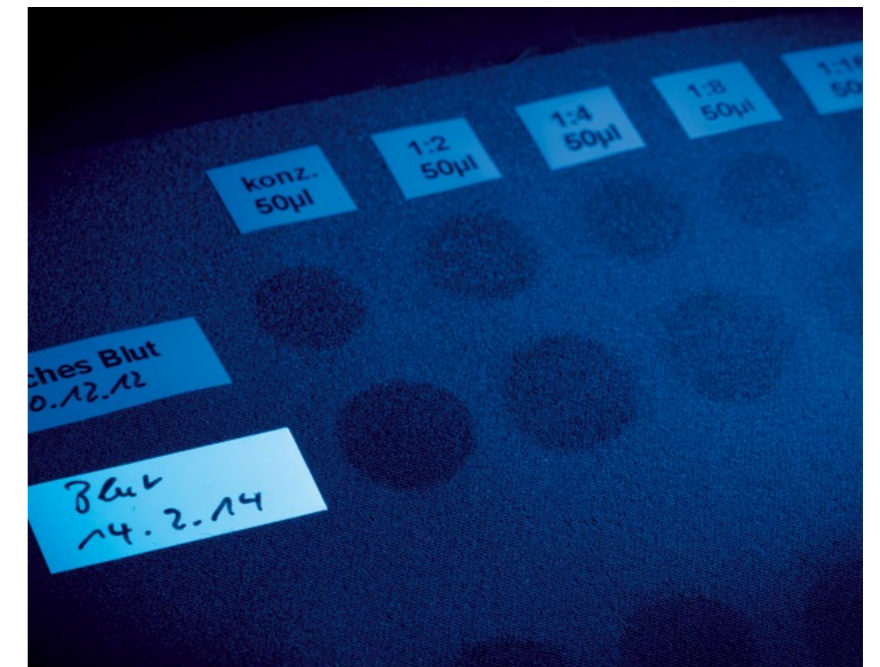
INCIDENT, TRANSMITTED OR OBLIQUE: WHAT KIND OF LIGHT DO YOU NEED?

Detecting trace evidence on the scene is simply a matter of getting the angle of illumination right, using a light source that delivers powerful enough performance, and choosing the proper contrast color. Tracks that are present in relief such as fingerprints, footwear tracks, drag marks in the dust, and indented impressions on paper or soft surfaces can often be clearly delineated with powerful light sources set to the proper angle. In many cases, our devices enable you to document footwear marks and fingerprints very easily in photographs, and frequently even on shiny, polished surfaces without any pretreatment.

SHARP CONTRASTS

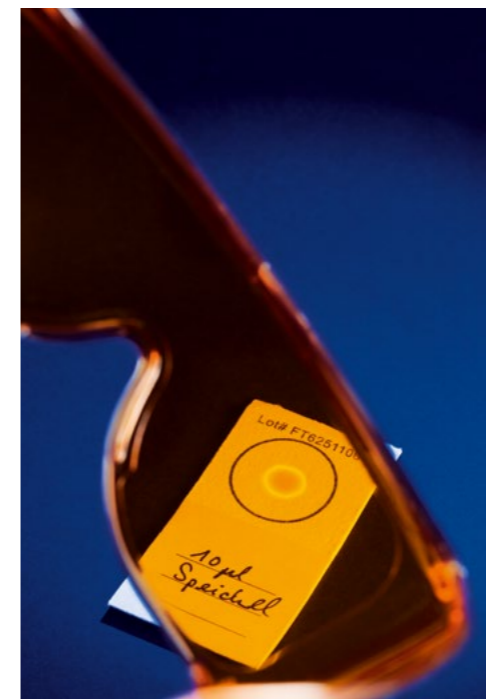
FLUORESCENCE FOR CLEAR IMAGES OF FAINT TRACES

Our SUPERLITES afford you utmost flexibility to work at the crime scene. These battery-powered devices go where you go, are ready to work straight out of their compact boxes, and don't need power outlets to get the job done. Their high-output light exposes bodily fluids, bloodstains, traces of cleaning agents, and fibers that would otherwise remain unseen. These lamps' shortwave light brings out biological traces' natural fluorescence even at scenes that haven't been darkened. You can also make the most of visual effects in the powerful UVA spectrum such as background fluorescence to get excellent contrasts. And you have an even broader range of application options if you use UV IR-sensitized forensic cameras.



HEIGHTENING CONTRASTS TO GATHER EVIDENCE

Optical filters enable you to highlight indistinct contours and patterns. We provide goggles and camera attachments with these filters built in. You can readily determine which combination of wavelength and filter gives you the best contrast using our five color filter set. Our SUPERLITES provide the right light spectra for all standard contrast agents. Their exceptionally powerful shortwave light illuminates even weakly fluorescing materials to reveal many latent traces that would normally go undetected.



FORENSIC LIGHT TECH IN ACTION

SAVING ALASKAN BEARS WITH SUPERLITE

The Alaska Department of Fish and Game's Wildlife Conservation division tried out our SUPERLITE S400 (now known the SUPERLITE S04) for a rather unusual forensic purpose. It passed muster with flying colors.

Bears are normally shy and elusive, but more and more of them in Alaska are overcoming their natural fear of humans. These encounters are getting too close for comfort, so wildlife rangers have begun taking saliva from anesthetized bears to learn which have been involved in incidents. The saliva serves to determine the bears' DNA so the animal can be identified when it leaves trace evidence.

This is where our high-performance light source has proven to be such a tremendous asset: The SUPERLITE's extraordinary light output enables rangers to see even the smallest traces of bear's saliva on human clothing so they can identify the 'perpetrator' with 90.9% accuracy. The rangers hope that this will help them save innocent bears from the public's wrath in the wake of such incidents.



ENSURING IT TASTES LIKE SODA POP, NOT BEER

Efficient inspection and monitoring are becoming increasingly important in standardized work environments. The food industry relies on the SUPERLITE M05's powerful light, special colors and ability to bring out fluorescence to identify oil leaks in bottling plants and make sure rinsing processes have flushed out any calcium carbonate or fat residues.

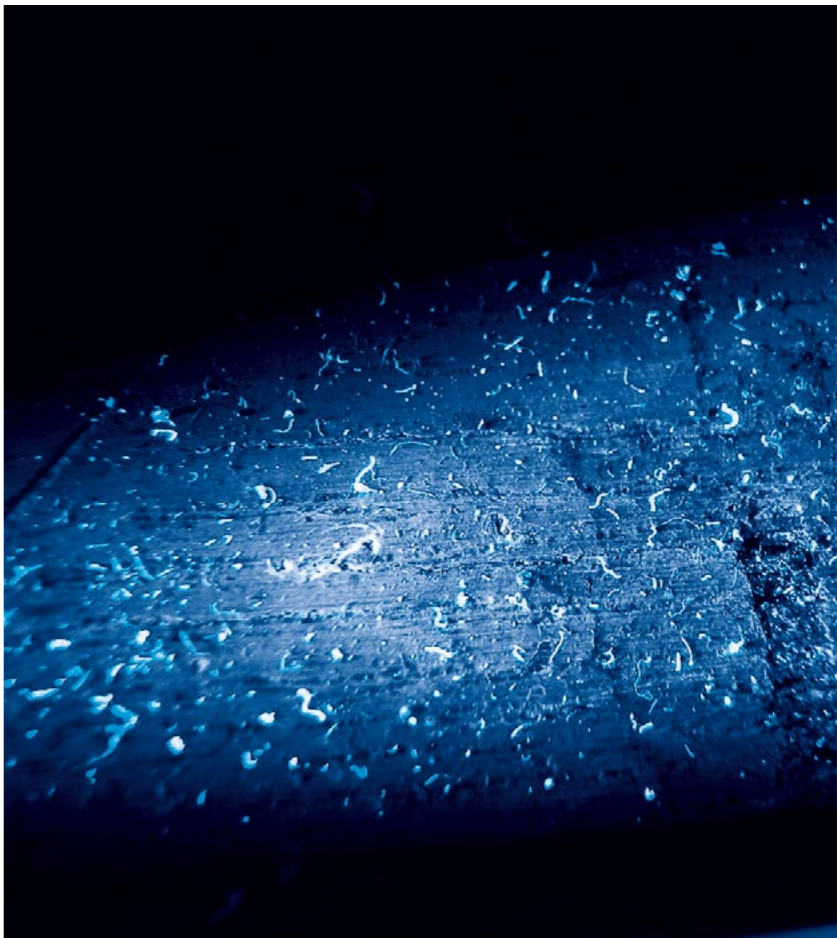
Without any special training, the staff on duty can thus check for compliance with regulations, monitor the operation and cleaning of manufacturing equipment, and thereby significantly enhance production quality and extend the equipment's service life.

UNCOVERING SHODDY CONSTRUCTION WORK WITH SUPERLITE

When costly construction defects are contested in court, judges call on experts to gather conclusive evidence. The procedure is much the same as in criminal investigations, which is why these experts are adopting crime-fighters' best practices.

Shoddy workmanship is much better documented in photographs with the benefit of our SUPERLITES. Hanover's Leibniz University used the SUPERLITE M 05 and special forensic cameras to develop optical methods for inspecting installed building materials. They enable court-appointed building surveyors to gather compelling photographic evidence.

This method is already being used to inspect the quality of wood fittings and furnishings, glued carpets, jointless floors, and adhesives and paints applied indoors and out. And with that, building surveyors have the tools they need to gather compelling evidence and win the battle against shoddy workmanship.



Are you unsure about which of our light sources best meets your needs?

Talk to us; we'll be happy to advise you!

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