

CR9

LIGHT SOURCE FOR FORENSIC CRIME SCENE INVESTIGATION

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LIGHT SOURCE FOR FORENSIC CRIME SCENE INVESTIGATION

A new state-of-the-art LED Forensic Light Source, Obelux CR9, has been designed for robust operation at the crime scenes and within the laboratory. The light unit has been developed together with experienced crime scene investigators and it is fully designed and manufactured in Finland.

A wide light opening guarantees a smooth luminance distribution without hotspots. The product is slim and functional and with many features. An adjustable handle with a tripod socket makes it easy to control the light beam, for example in footprint examinations.

KEY FEATURES:

- ✓ Excellent surface illumination with 16 long lifetime LEDs
- ✓ Range of wavelengths including UV and white
- ✓ Spot light beam without hotspot
- ✓ Portable size (less than 2 kg)
- ✓ Rechargeable battery and plug-in option
- ✓ Slim and robust design
- ✓ Can be used while charging
- ✓ Tripod socket 1/4"-20 UNC in the handle
- ✓ Splash waterproof (IP 54)
- ✓ 8-step intensity control
- ✓ Automatical temperature regulator

TECHNICAL SPECIFICATIONS

Weight	With battery 1.9 kg	
Light unit size	Length 220 mm Width 88 mm Height 50 mm	
Battery	Lithium polymer (39 Wh) Mains charger supplied as standard	
Typical continuous operation time	100 % light output	120 min
	70 % light output	200 min
	35 % light output	400 min
Operating temperature range	-30°C...+50°C	
Housing	Black anodised marine grade aluminium body and end parts. AISI 316 acid proof steel screws.	

The photos below illustrate a test using Obelux CR9.



Photo 1: Footprint. The oval lens gives the maximum horizontal luminous efficiency.

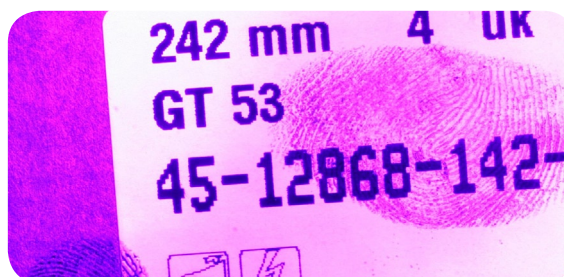


Photo 2: Bloodstained fingerprint. Obelux CR9, 417 nm, f22, time 4 s.

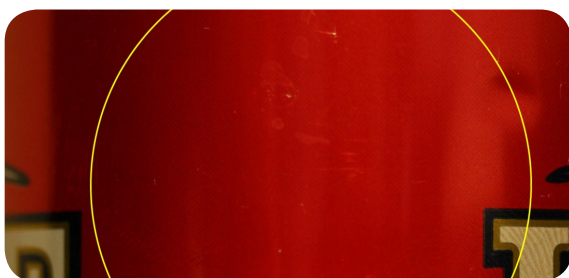


Photo 3: Bloodstained fingerprint. No light.

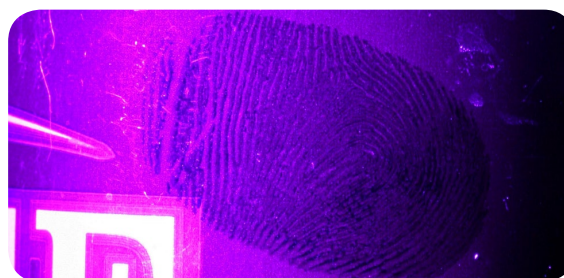


Photo 4: Bloodstained fingerprint. Obelux CR9, 417 nm, f22, time 15 s.

Photos 1-4 courtesy of NBI Forensic Laboratory, Finland

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LIGHT SOURCE FOR FORENSIC CRIME SCENE INVESTIGATION

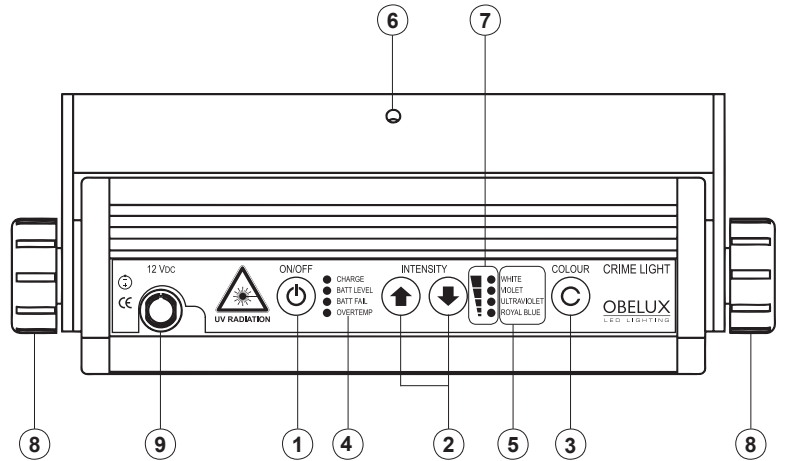
CR9-UWV-A1 UV/WHITE/VIOLET

3-THREE COLOUR

LIGHT UNIT TYPE CR9-UWV-A1

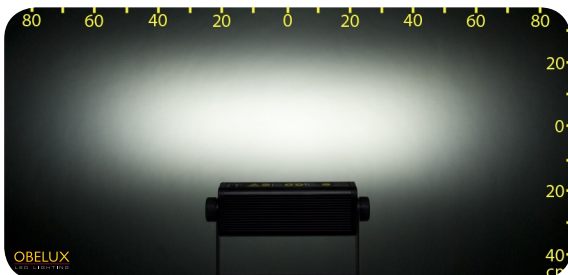
Light colour	UV	White	Violet
Beam	Spot	Oval	Spot
Beam width	12° (±6°)	12° x 45°	12° (±6°)
Wavelength	385 ± 5 nm	5500 ± 500 K	417 ± 5 nm
Spectra half width	10 nm	220 nm	15 nm
Light output	1600 mW	3000 lm	1600 mW
Operating time at 100% light output using batteries			
	120 min	60 min	120 min
Operating time at 85% light output using batteries (one step dimming)			
	160 min	120 min	160 min

ORDER CODE: **CR9-UWV-A1** OVAL LENS FOR WHITE LEDS
 ORDER CODE: **CR9-UWV-A2** SPOT LENS FOR WHITE LEDS



- ① ON / OFF
- ② INTENSITY CONTROL
- ③ COLOUR SELECTOR
- ④ STATUS LIGHTS
- ⑤ COLOUR INDICATOR
- ⑥ TRIPOD SOCKET
- ⑦ MULTIMODE INDICATOR
- ⑧ HANDLE POSITIONING KNOB
- ⑨ DC CONNECTOR 12 VDC

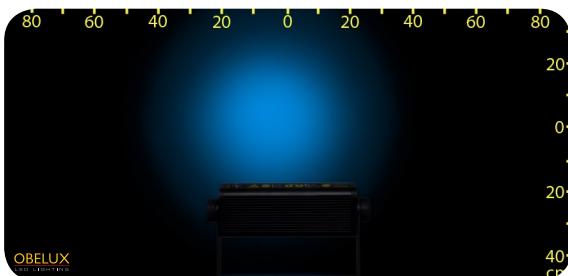
The photos below illustrate a test using Obelux CR9.



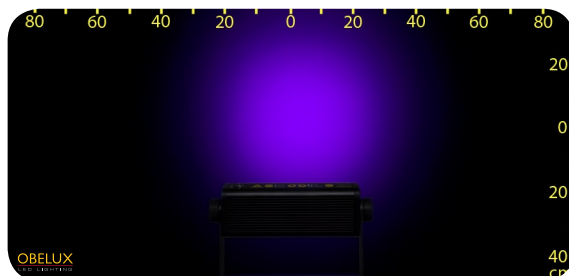
CR9-UWV-A1 Lens oval 12° x 45°, colour white. (Distance from wall 1 m.)



CR9-UWV-A2 Lens spot 12°, colour white. (Distance from wall 1 m.)



CR9-UWV-A1 Lens spot 12°, UV 385 nm. (Distance from wall 1 m.)



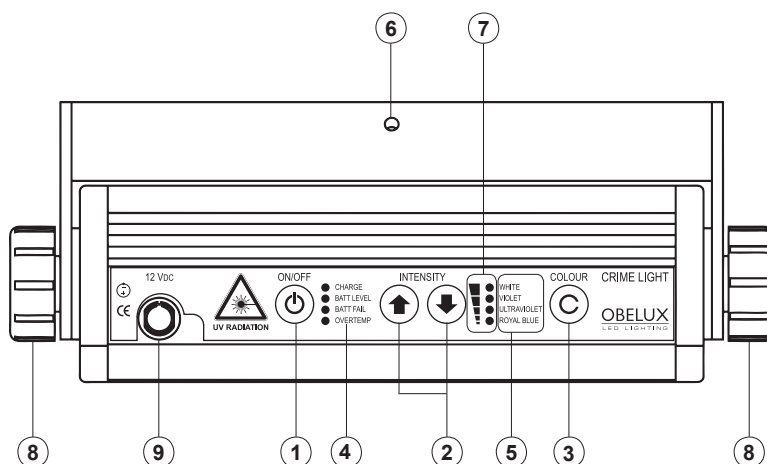
CR9-UWV-A1 Lens spot 12°, Violet 417 nm. (Distance from wall 1 m.)

3-THREE COLOUR

LIGHT UNIT TYPE CR9-BCG-A1

Light colour	Royal Blue	Cyan	Green
Beam	Spot	Spot	Spot
Beam width	12° (±6°)	12° (±6°)	12° (±6°)
Wavelength	450 ± 10 nm	500 ± 10 nm	530 ± 10 nm
Spectra half width	24 nm	30 nm	30 nm
Light output	6800 mW	640 lm	800 lm
Operating time at 100% light output using batteries			
	120 min	120 min	120 min
Operating time at 85% light output using batteries (one step dimming)			
	160 min	160 min	160 min

ORDER CODE: **CR9-BCG-A1**

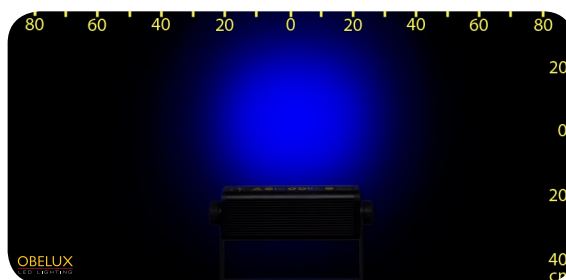


- ① ON / OFF
- ② INTENSITY CONTROL
- ③ COLOUR SELECTOR
- ④ STATUS LIGHTS
- ⑤ COLOUR INDICATOR
- ⑥ TRIPOD SOCKET
- ⑦ MULTIMODE INDICATOR
- ⑧ HANDLE POSITIONING KNOB
- ⑨ DC CONNECTOR 12 VDC

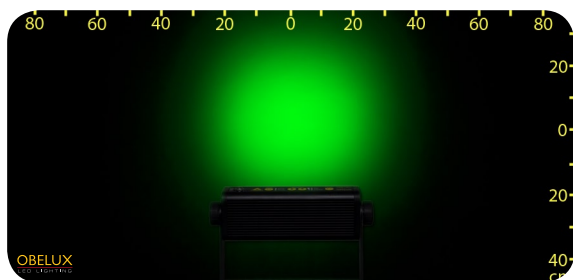
The photos below illustrate a test using Obelux CR9.



CR9-BCG-A1 Lens spot 12°, Cyan 500 nm. (Distance from wall 1 m.)



CR9-BCG-A1 Lens spot 12°, Blue 450 nm. (Distance from wall 1 m.)



CR9-BCG-A1 Lens spot 12°, Green 530 nm. (Distance from wall 1 m.)

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LIGHT SOURCE FOR FORENSIC CRIME SCENE INVESTIGATION

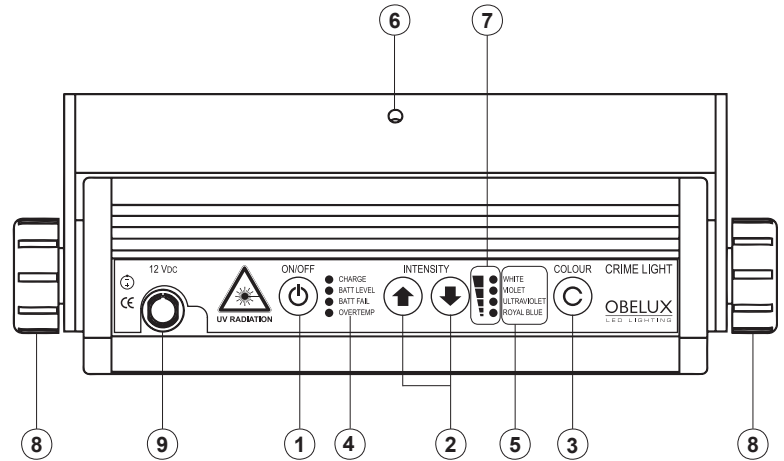
CR9-W-A1 WHITE

WHITE

LIGHT UNIT TYPE CR9-W-A1

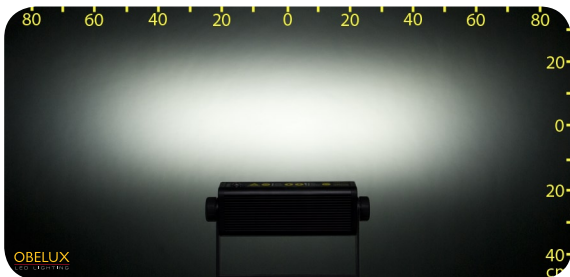
Light colour	White
Beam	Oval
Beam width	12° x 45°
Wavelength	6000 ± 500 K
Spectra half width	220 nm
Light output	5000 lm
Operating time at 100% light output using batteries	45 min
Operating time at 85% light output using batteries (one step dimming)	90 min

ORDER CODE: **CR9-W-A1**, OVAL LENSES
ORDER CODE: **CR9-W-A2**, SPOT LENSES



- ① ON /OFF
- ② INTENSITY CONTROL
- ③ COLOUR SELECTOR
- ④ STATUS LIGHTS
- ⑤ COLOUR INDICATOR
- ⑥ TRIPOD SOCKET
- ⑦ MULTIMODE INDICATOR
- ⑧ HANDLE POSITIONING KNOB
- ⑨ DC CONNECTOR 12 VDC

The photos below illustrate a test using Obelux CR9.



CR9-W-A1 Lens oval 12° x 45°, colour white. (Distance from wall 1 m.)



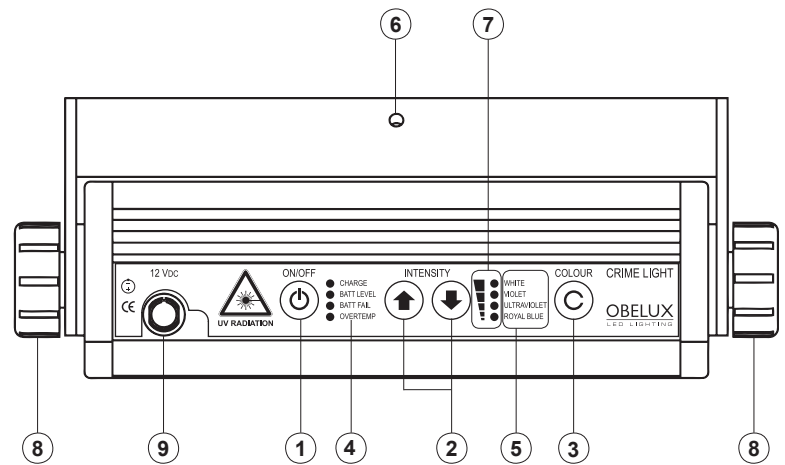
CR9-W-A2 Lens spot 12°, colour white. (Distance from wall 1 m.)

BLUE

LIGHT UNIT TYPE CR9-B-A2

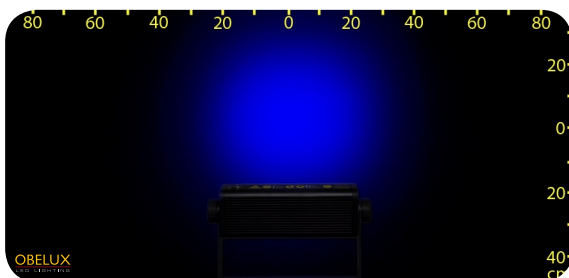
Light colour	Royal Blue
Beam	Spot
Beam width	12° (±6°)
Wavelength	455 ± 10 nm
Spectra half width	24 nm
Light output	15000 mW
Operating time at 100% light output using batteries	45 min
Operating time at 85% light output using batteries (one step dimming)	90 min

ORDER CODE: **CR9-B-A2**



- ① ON /OFF
- ② INTENSITY CONTROL
- ③ COLOUR SELECTOR
- ④ STATUS LIGHTS
- ⑤ COLOUR INDICATOR
- ⑥ TRIPOD SOCKET
- ⑦ MULTIMODE INDICATOR
- ⑧ HANDLE POSITIONING KNOB
- ⑨ DC CONNECTOR 12 VDC

The photo below illustrate a test using Obelux CR9.



CR9-B-A2 Lens spot 12°, Blue 450 nm. (Distance from wall 1 m.)

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AC ADAPTER

AC ADAPTER AC-DC70-A1

Voltage	90...264 Vac
Frequency	50...60 Hz
Inrush Current	60 A max. @240 Vac
Conducted EMI	CISPR/FCC Class B
Isolation	Input to output = 4242 VDC
Leakage Current	3.5 mA max.
Holdup Time	8 ms typ. @115 Vac
Short Circuit Protection	Continuous
Over Voltage Protection	Yes
Operating Temperature	0...40°C
Storage Temperature	-20...+85°C
Dimensions	132 x 58 x 30.5 mm
Weight	345 g
AC inlet	IEC 320/ C14
DC cable length	Extra long 3 m

- The universal AC Adapter for simultaneous battery charging and operation of the light unit
- Typical charging time 2.5 h.

ORDER CODE: **AC-DC70-A1**



AC-DC70-A1 AC Adapter and standard cord



AC plug available also with other country standards

FILTER GOGGLES

	ORDER CODE	UV	Violet	Royal Blue	Cyan	Green	Red
○ Clear	FGC-33-10						
● Yellow	FGY-33-5032	•	•				
● Orange	FGO-33-60	•	•	•	•		
● Red	FGR-33-90				•	•	•

Available for both coherent and non-coherent UV, Blue, Green, Yellow and Red light sources.
Universal fit for those with and without Rx glasses.

Clear filter goggles

ORDER CODE: **FGC-33-10**



Yellow filter goggles

ORDER CODE: **FGY-33-5032**



Yellow filter sheet

ORDER CODE: **FSY-P4-5032**



Orange filter goggles

ORDER CODE: **FGO-33-60**



Orange filter sheet

ORDER CODE: **FSO-P4-60**



Red filter goggles

ORDER CODE: **FGR-33-90**



Red filter sheet

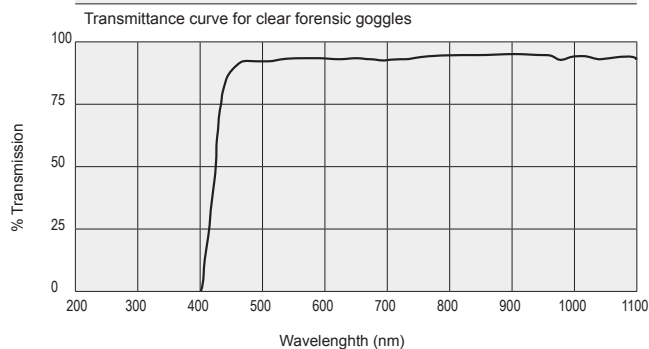
ORDER CODE: **FSR-P4-90**



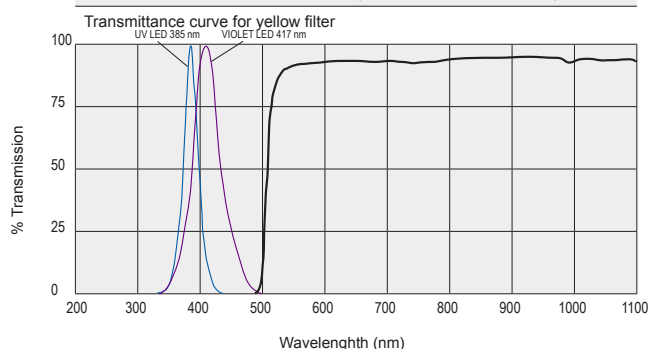
KEY FEATURES

- Each pair of filter goggles and camera sheets has the same transmittance curve
- Redesigned for better temple and cheek coverage
- Reinforced material for higher durability
- Universal fit for users with or without Rx glasses

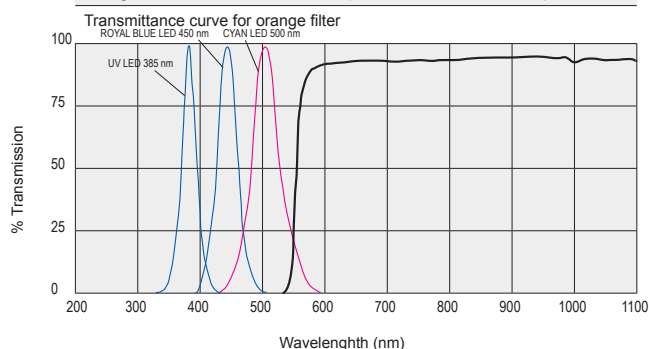
Clear Filter-10 190-406 nm OD 5+ (less than 0.001% transmittance)



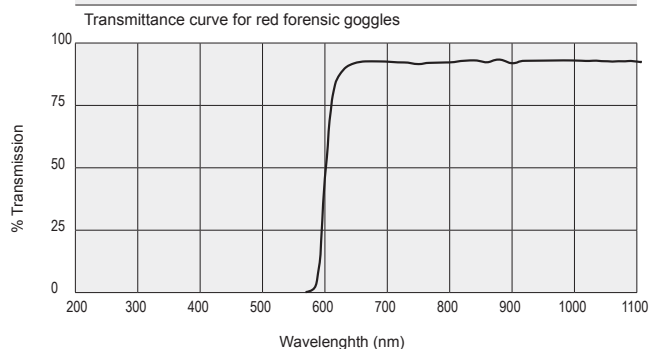
Yellow Filter-5032 190-487 nm OD 2+ (less than 1% transmittance)



Orange Filter-60 190-534 nm OD 2+ (less than 1% transmittance)



Red Filter-90 190-583 nm OD 2+ (less than 1% transmittance)



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CAMERA FILTER SYSTEM



Screw the adaptor ring onto your lens.

ADAPTOR RING ORDER CODE: AR-P4-XX, where XX is outer lens diameter of the camera.



Slide the filter-holder on the adaptor ring until it snaps in place.

The filter-holder is now attached to the lens, but can yet rotate both left and right.

FILTER-HOLDER ORDER CODE: FH-P4-01



Slide the filter sheet into the central filter-holder slot.

FILTER SHEET ORDER CODES:

YELLOW: FSY-P4-5032 / ORANGE: FSO-P4-60 / RED: FSR-P4-90

FILTER SYSTEM RINGS

CAMERA OUTER LENS DIAMETER (mm)	ADAPTOR RING ORDER CODE
48 Ø	P4-48
49 Ø	P4-49
52 Ø	P4-52
55 Ø	P4-55
58 Ø	P4-58
62 Ø	P4-62
67 Ø	P4-67
72 Ø	P4-72
77 Ø	P4-77
82 Ø	P4-82

FILTER SYSTEM

Consists of 3 three main components:

1. Adaptor Ring
2. Filter Holder
3. One or more filters



STANDARD KIT 1. KIT-UWV-A1 INCLUDES

ITEM	CODE	DESCRIPTION
CR9 LED Lamp	CR9-UWV-A1	UV/WHITE/VIOLET
AC Adapter 230 V	AC-DC70-A1	70 W 12 DC
Car Adapter	AD-CAR-A1	Cable length 1.5 m
Carrying Case	CC-1U-A1	IP 67
Yellow goggles	FGY-33-5032	Goggle protection bag also suitable for lens cleaning
Clear goggles	FGC-33-10	Ideal for lamp cleaning
Obelux Lens Cloth		

ORDER CODE: **KIT-UWV-A1**



STANDARD KIT 2. KIT-BCG-A1 INCLUDES

ITEM	CODE	DESCRIPTION
CR9 LED Lamp	CR9-BCG-A1	ROYAL BLUE/CYAN/GREEN
AC Adapter 230 V	AC-DC70-A1	70 W 12 DC
Car Adapter	AD-CAR-A1	Cable length 1.5 m
Carrying Case	CC-1U-A1	IP 67
Orange goggles	FGO-33-60	Goggle protection bag also suitable for lens cleaning
Yellow goggles	FGY-33-5032	
Clear goggles	FGC-33-10	Ideal for lamp cleaning
Obelux Lens Cloth		

ORDER CODE: **KIT-BCG-A1**



ORDER CODES

ITEM	ORDER CODE	DESCRIPTION
Light unit 3-colour	CR9-UWV-A1	UV/WHITE/VIOLET
Light unit 3-colour	CR9-BCG-A1	ROYAL BLUE/CYAN/GREEN
Light unit white oval	CR9-W-A1	WHITE Oval lens
Light unit white spot	CR9-W-A2	WHITE Spot lens
Light unit royal blue spot	CR9-B-A2	ROYAL BLUE Spot lens
Camera filter sheet yellow	FSY-P4-5032	Various sizes (page 10.)
Camera filter sheet orange	FSO-P4-60	
Camera filter sheet red	FSR-P4-90	
Camera filter adaptor ring	AR-P4-XX	
Camera filter holder	FH-P4-01	
Car DC adapter	AD-CAR-A1	Cable length 1.5 m
AC Adapter	AC-DC70-A1	AC Adapter and standard cord
Spare battery	LPB-07V4-39	Lithium polymer 39 Wh
Clear goggles	FGC-33-10	Goggle protection bag also suitable for lens cleaning
Yellow goggles	FGY-33-5032	
Orange goggles	FGO-33-60	
Red goggles	FGR-33-90	
Carrying case for 1-light unit	CC-1U-A1	PELLI case 1450, IP 67
Carrying case for 2-light unit	CC-2U-A1	PELLI case 1550, IP 67



FEEL FREE TO ASK FOR LIGHT UNITS WITH CUSTOM COLOURS

AVAILABLE LED COLOURS

COLOUR	WAVELENGTHS
Uv	365 / 385 nm
Violet	405 / 410 / 415 / 438 nm
Royal Blue	450 nm
Blue	470 nm
Cyan	500 nm
Green	530 nm
Yellow (amber)	590 nm
Red orange	615 nm
Red	630 nm
White	2700 / 3500 / 5500 K
Infrared	850 / 940 nm

LENS

All colours also available with $\pm 3^\circ$ $\pm 6^\circ$ $\pm 25^\circ$ and Oval $\pm 6^\circ \times \pm 22,5^\circ$ lens.

Maximum four different colours for one light unit.



FILTER GOGGLES Available also in style 700.

OBELUX

LED LIGHTING

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