

# Lichen candelaris®

## The Illuminating magnifying glass with aplanatic/achromatic triplet-lens system for hard outdoor application



The Story of Lichen candelaris:

Which Biologist wasn't ever annoyed about bad light conditions in a summery forest or a shady rock outcrops. Emergency is the mother of invention and an illuminated magnifying glass was invented. By popular request the prototype was developed further: The case got smaller, the operation time was increased by selecting a more powerful battery. Lichen candelaris is produced in a small series. It worked satisfactorily under hardest conditions in the Antarctic and Amazon.

Erich Zimmermann

### General characteristics

- Optical system: triplet, aplanate, achromatic, closely glued waterproof to prevents damp contamination  
Standard lens: x10 Ø=19mm. Options: x14 Ø=19mm, x20 Ø=19mm, x20 Ø=16mm IWAMOTO Lens
- Neutral white light, with two laterally shifted LEDs (prevents shadows). Light temperature neutralwhite (nw), Option: cold white
- LED with low power consumption. Switching converter for high lifespan and constant intensity over battery lifetime and extended Temperature Range: -20...+40°C
- Operation time: 5'000 x 5sec. Flashes to low battery indicator lights up, additional 500 Flashes to battery empty
- 3V Lithium-Batteries (3 pcs. CR 2023 Renata): high energy density and extended shelf life
- Lichen candelaris is developed for hard outdoor applications. Water spray proof. Temperature Range: -20...+40°C
- Housing: aluminium milled, anodized, water spray proof IP67. Submerged key. Your name is laser-labelled on special Order
- Weight: 76gr. dimensions: l=70mm, w=26mm, h=25mm
- Swissmade and 4 years full Warranty. Full service: all parts are exchangeable
- Included in delivery: magnifying glass x10, 2 pcs. Lanyard. 2 pcs. replacement batteries, instruction manual
- Dispatch information: They can pursue their supply with TRACK & TRACE of SwissPost

### Source of supply – Time for delivery - Price

Time for delivery: Without name engraving: from Stock. Engraved with your Name; approx 2-6 weeks (same price!)  
 Price: incl. Packing / Postage / Shipment / Insurance **CH:** 300.- CHF, **EU:** ≈ 230.- EUR, **World:** ≈ 285.- CHF  
 Payment: only with the IBAN-number (non Cheque). Please contact your Bank office.  
 Order to: Erich Zimmermann Scheunenberg 46 CH-3251 Wengi - Switzerland  
 Tel: +41 031 765 57 00 (ab 18.00). Mobil: +41 79 3000 445. Email: [erich.zimmermann@swisscom.com](mailto:erich.zimmermann@swisscom.com)

### Technical Information

#### Enlargement/depth sharpness

Optical regularities: during rising enlargement, the visual field, the depth sharpness and the distance to the object becomes smaller. I.e. an enlargement > 20 is suitable only for ± planar structures. For most applications, I recommend the enlargement x10, to x14, what represents in practice an optimum. For specialists of lichenicolous fungi is x20 more favourably. Important note for Optics with enlargement 20: In damp and cold weather, we have the possibility of water vapour condensation on the inside surface of the optics. For hard Outdoor applications, I recommend enlargement x10.

Enlargement	Lens diameter	Distances Object - Lens	Waterproof closely glued	Lens type
X 10	19 mm	≈ 20 - 25 mm	Yes	Meniskus triplet
x 14	19 mm	≈ 15 mm	caused waterproof	Meniskus triplet
x 20	18 mm	≈ 5 - 8 mm	caused waterproof	Meniskus triplet
x 20	16 mm	≈ 5 - 15 mm	caused waterproof	IWAMOTO Lens

#### Color reproduction and Light temperature

The color temperature is a measure for the color impression of a source of light. This defines itself by the temperature black bodies as radiation source, with a certain color of light. The unit of the color temperature is Kelvin (°K). The natural environment light has different color temperatures as a function of the diurnal variation and the cloudy appearance; Midday sun approx. 5700°K, covered sky approx. 7000°K.

With the shining magnifying glass the quality of the color reproduction depends on natural environment light and/or on the emitted chromatic spectrum of the LED source of light. The psychologically caused organization into cold and warm colors is not evaluation of the color temperature

- ▶ The color temperature of the LEDs determines the color reproduction
- ▶ Lichen candelaris is available with different color temperatures

LED color	LED	°K	Color reproduction / contrast
Standart LC10nw Neutral white	c0 1b	≈ 6000	Medium contrast Optimal color reproduction
Warm white Option LC 10ww	c0 c0	≈ 4500	Small contrast, warm color
Cold white Option LC 10cw	1b 1b	≈ 8000	high contrast on dark objects/surfaces coold color reproduction

