
LIGHT FOR THE MEDICAL WORKPLACE
MINOR PROCEDURE AND EXAMINATION LUMINAIRES





MADE IN SWITZERLAND

i NOVO®
AWARDS
2017



reddot award 2018
winner



suitable for
Laboratories, medical
practices, clinics, etc.

**APPROVED
MEDICAL DEVICE**

compliant with

EN 60601-1

LUMINAIRES

TRIANGO 100

12



TRIANGO 30

16



VISIANO 20

22



VISIANO 10

26



HALUX N50

28



OPTICLUX 10

34



ACCESSORIES

40



FATIGUE-FREE WORK



Quality lighting enlivens tired eyes

Poor lighting conditions put strain on our eyes. Headaches, burning eyes and reduced performance can result. A smooth, glare-free light field noticeably relieves strain and promotes efficiency. A well thought-out lighting concept should therefore include medical exam and task lights used in medical-care scenarios, as well as general lighting for public spaces. With hospitals, clinics and senior care facilities often operating 24/7, high quality lighting that maximizes visual comfort becomes even more essential in supporting everyday use.

Ideal lighting conditions

Illuminance, color temperature and color rendering should be optimally matched to the varied everyday clinical and practice routine tasks. Waldmann medical lights offer exceptional color rendering to facilitate accurate diagnoses and care. Specially developed optics ensure a uniform illuminated work area. Adjustable color temperatures and dimming are also very helpful tools for the practitioner.

**Hygiene in focus**

When designing and developing luminaires for the medical field, our engineers pay close attention to ergonomic comfort for the practitioner, as well as making sure that they are easy to clean in the course of everyday use.

Cleanliness through closed housing

The closed design minimizes the penetration of liquid and dust and makes cleaning surfaces noticeably easier. The handles of treatment lights TRIANGO 100 and TRIANGO 30 are removable for easy sterilization.

Active germ resistance with antimicrobial hygiene function

The examination light VISIANO 20 is equipped with an antimicrobial Sanitized® hygiene function. The biocidal agent is integrated in critical areas, such as the luminaire top housing. Tests have shown that 99% of bacteria and microbes could be destroyed.

CLEANING AND STERILIZATION



Solutions for examination and treatment areas

Waldmann medical luminaires are designed to be used in many different hospital or clinic settings.

Find your application and we will help you find the right luminaire: Choose between various performance and equipment features, as well as mounting options.



Treatment

Minor Procedure
Outpatient Surgery
Endoscopy



Emergency

Trauma Room





Examination

General medicine
Dermatology
Gynecology
Neonatology
Anesthesia



Surgery Prep

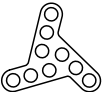
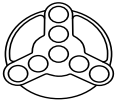

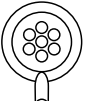


Anesthesia



Intensive Care





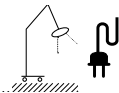
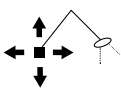
MEDICAL LUMINAIRES

PRODUCT	TREATMENT	SURGERY PREPARATION	EMERGENCY	EXAMINATION
	Minor Procedure Outpatient Surgery Endoscopy	Anesthesia	Trauma Room	General Medicine Dermatology Gynecology / Urology Neonatology Anesthesia
	TRIANGO 100	●	○	○
	TRIANGO 30	●	○	○
	VISIANO 20	○	○	●
	VISIANO 10	○	○	●
	HALUX N50	○	○	●
	OPTICLUX	○	○	●

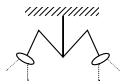
Discover our room and workplace lighting for office and nursing care as well.

- ideally suitable
- well suited



INTENSIVE CARE	MOUNTING OPTIONS				LIGHT STRENGTH	MEDICAL COMPLIANCE
	Ceiling 	Wall 	Rolling Floor Stand 	Universal Pin Mount 	Lumens	Standards Met
	✓	✓	✓		100,000 lux at 1.0 m	EN 60601-1, EN 60601-2-41
	✓ ✓	✓	✓		60,000 lux at 1.0 m	EN 60601-1, EN 60601-2, EN 60601-2-41, AAMI ES60601-1, CSA 22.2#60601-1
○	✓	✓	✓	✓	60,000 lux at 0.5 m	EN 60601-1, EN 60601-2-41
●		✓	✓	✓	50,000 lux at 0.5 m	EN 60601-1, EN 60601-2-41
●		✓	✓	✓	50,000 lux at 0.5 m	EN 60601-1, EN 60601-2-41
	✓	✓	✓	✓	6,000 lux at 0.15 m	EN 60601-1, EN 60601-2-41

✓ ✓ also as dual arm system





MINOR PROCEDURE LUMINAIRES



Light and ergonomics

Universal minor procedure lights create the best light conditions for examination and smaller surgical-type procedures. High-quality LED technology optimally reproduces color nuances and supports practitioners in their daily work. Also, premium arm systems with large movement radius as well as strong, precise positioning provide simple, dependable ergonomic operation.

Requirements according to 60601-2-41

- Illumination intensity 40–160 klx
- Color temperature 3000 K to 6700 K
- Color rendering index $R_a > 85$
- For examination and operating rooms, etc.
- Removable, sterilizable hand grip
- Stable light quality
- High quality arm system

MINOR PROCEDURE LUMINAIRE **TRIANGO 100**



Intuitive operation

Simple operation with an easy-to-reach keypad



Ideal color temperature

Optional, adjustable to three levels (3700 K / 4300 K / 4700 K)*



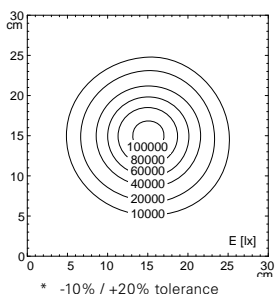
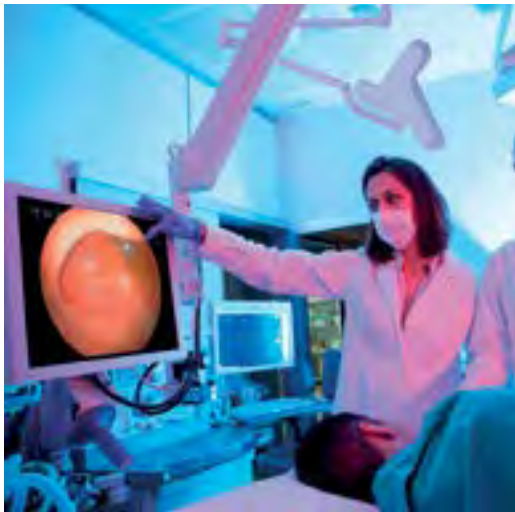
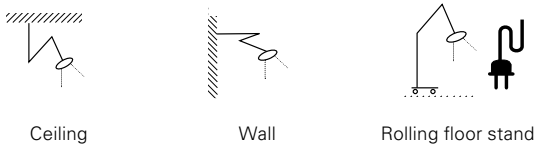
Diamond cluster optics

for uniform light with 100,000 lux at 1.0 m



Unique arm system

High positional accuracy and long reach



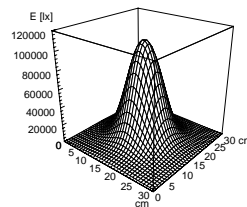
Waldmann's TRIANGO 100 minor procedure light is especially suited for minimally invasive interventions and in-depth examinations. The Endo mode version also offers optimum light for endoscopic treatments. With its first-class features, such as $Ra > 95$ color rendering and LEDs in two different light colors, it is also an ideal tool for fields like dermatology, gynecology and urology. With 100,000 lux at one meter, it is Waldmann's highest performing medical luminaire. Special versions with focusing light fields extend possible applications even further.

Endo mode

When doctors perform treatments or examinations using monitors, Triango 100's illumination intensity can be adjusted to bring glare or reflections to a minimum. If complications occur during a procedure and the situation changes quickly, the touch of a button brings the full power of 100,000 lux to the table.

Focusable light field

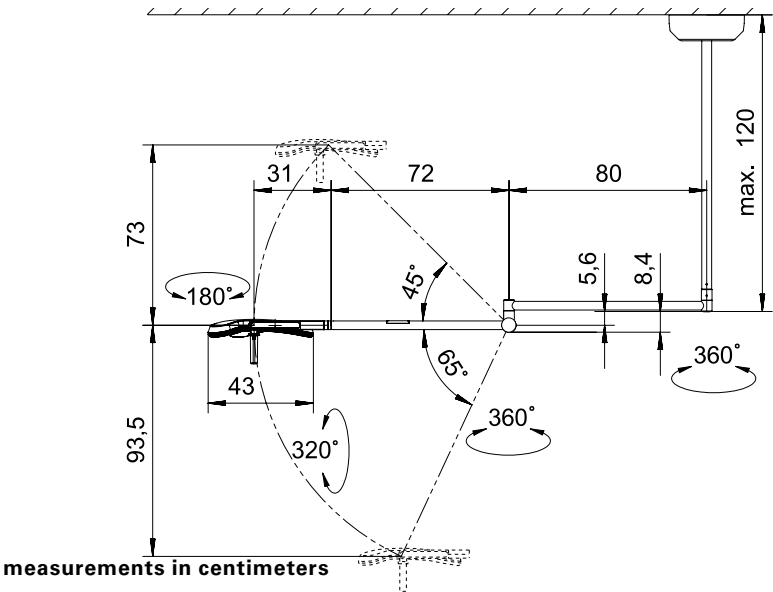
An adjustable light field gives the practitioner a great deal of everyday flexibility throughout the day. The light can be optimally adjusted as needed to the treatment surface. During treatment to the patient's face, a smaller light field protects from glare. For larger treatment surfaces, a large light field reduces the need to reposition the luminaire.



TRIANGO 100 technical data

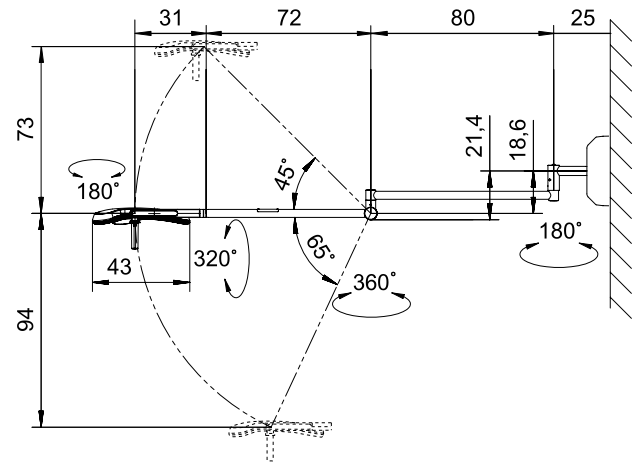
Luminous power	100,000 lux at 1.0 m *
Color temperature	fixed 4300 K * adjustable: 3700 K / 4300 K / 4700 K *
Illuminance field at 1.0 m	fixed Ø 7 in. (18 cm) * focusable: Ø 7-11 in. (18-28 cm) *
Depth of illumination	3.9 ft (1.2 m)
Color rendering index	$Ra > 95$
Usage	keypad at luminaire head
Accessories	sterilizable hand grip, disposable grip covers, ceiling adapter
Standards met	EN 60601-1, EN 60601-2-41
Protection rating	IP43 (luminaire head)
Special Features	4-stage dimmable, 3-stage color changing (optional), focusable (optional), Endo mode (optional)

TRIANGO 100



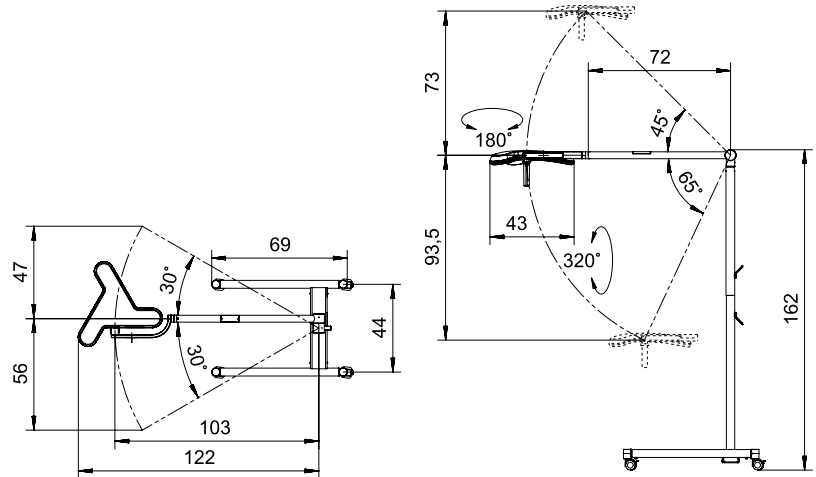
TRIANGO 100 – Ceiling mount	Connection	Special features	Part no.
TRIANGO 100-1 C	direct power supply	dimnable	D16072000
TRIANGO 100-3 C	direct power supply	dimnable, 3 color temperatures	D16073000
TRIANGO Fokus 100-1 C	direct power supply	dimnable, focusable	D16074000
TRIANGO Fokus 100-3 C	direct power supply	dimnable, focusable, 3 color temperatures	D16075000
TRIANGO Endo 100-1 C	direct power supply	dimnable, Endo mode	D16076000





measurements in centimeters

TRIANGO 100 – Wall mount	Connection	Special features	Part no.
TRIANGO 100-1 W	direct power supply	dimnable	D16077000
TRIANGO 100-3 W	direct power supply	dimnable, 3 color temperatures	D16078000
TRIANGO Fokus 100-1 W	direct power supply	dimnable, focusable	D16079000
TRIANGO Fokus 100-3 W	direct power supply	dimnable, focusable, 3 color temperatures	D16080000
TRIANGO Endo 100-1 W	direct power supply	dimnable, Endo mode	D16081000



measurements in centimeters

TRIANGO 100 – Rolling floor stand	Connection	Special features	Part no.
TRIANGO 100-1 F	10 ft cable with plug	dimnable	D15915000
TRIANGO 100-3 F	10 ft cable with plug	dimnable, 3 color temperatures	D15916000
TRIANGO Fokus 100-1 F	10 ft cable with plug	dimnable, focusable	D15917000
TRIANGO Fokus 100-3 F	10 ft cable with plug	dimnable, focusable, 3 color temperatures	D15918000
TRIANGO Endo 100-1 F	10 ft cable with plug	dimnable, Endo mode	D15976000

MINOR PROCEDURE LUMINAIRE

TRIANGO 30

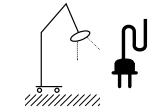




Ceiling



Wall

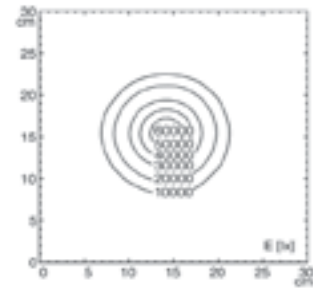
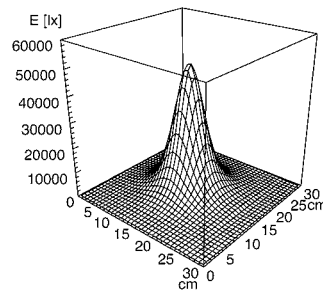
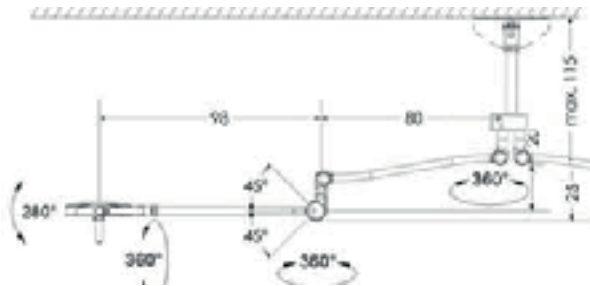


Rolling floor stand

The TRIANGO 30 is a solid minor procedure luminaire, well-established for small procedures in the emergency room, in surgery preparation and in trauma rooms. With a 60,000 lux light intensity at one meter, an ideal color rendering of $Ra > 95$, and several mounting options, it is very well-suited for many types of applications. It is designed for comfort for right- and left-handers to position and the removable handle allows for easy cleaning and sterilization.



reddot design award
winner 2012



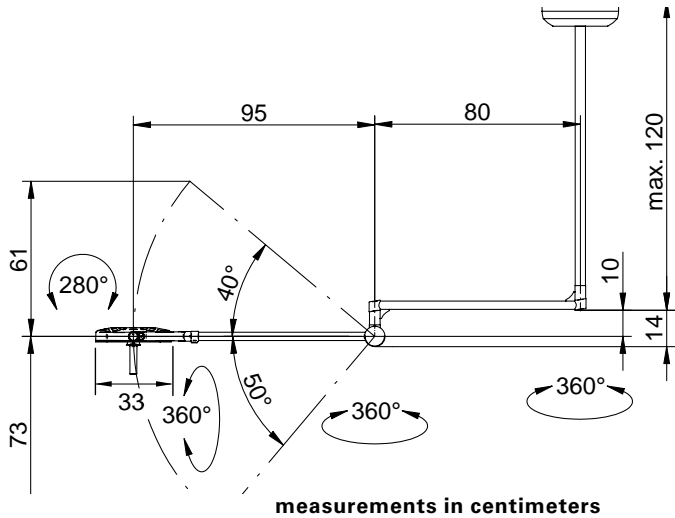
TRIANGO 30 technical data

Luminous power	60,000 lux at 1.0 m *
Color temperature	4500 K *
Illuminance field @ 1.0 m	Ø 6.3 in. (16 cm) *
Depth of illumination	3.9 ft (1.2 m)
Color rendering index	$Ra > 95$
Usage	control knob on the luminaire head
Accessories	sterilizable handle, ceiling adapter
Standards met	EN 60601-1, EN 60601-2-41
Protection rating	IP 43 (luminaire head)

Special features continuous dimming, removable sterilizable handle

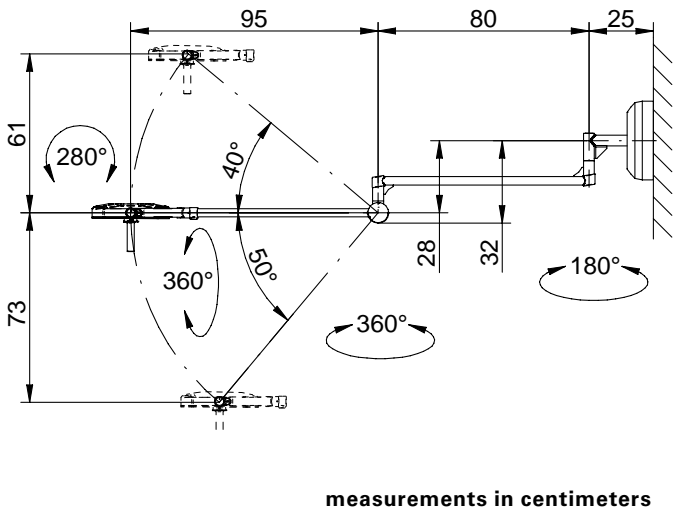
* -10% / +20% tolerance

TRIANGO 30



TRIANGO 30 – Ceiling mount	Connection	Special features	Part no.
TRIANGO 30 C	direct power supply	dimmable	D15170101*

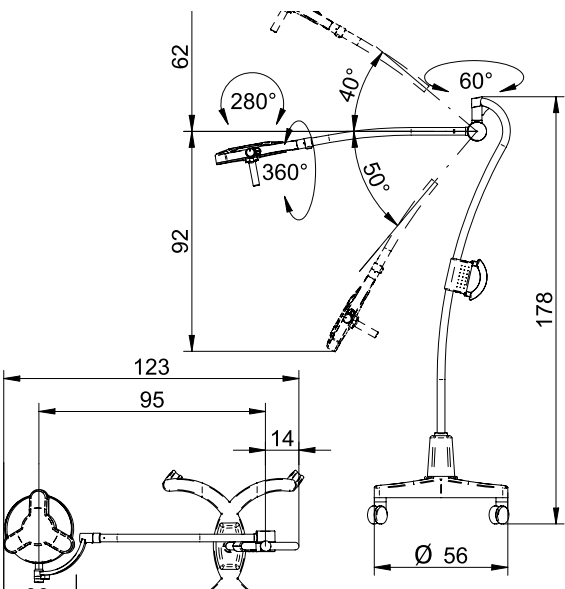
*several pole lengths available



TRIANGO 30 – Wall mount	Connection	Special features	Part no.
TRIANGO 30 W	direct power supply	dimmable	D16082000



Rolling floor stand



measurements in centimeters

TRIANGO 30 – Rolling floor stand	Connection	Special features	Part no.
TRIANGO 30 F	10 ft cable with plug	dimnable	D15174101



EXAMINATION LUMINAIRES





Design and light technology

Waldmann's versatile examination lights are designed to localize lighting on the patient's body. Their illumination intensity, light color and color rendering are adapted to assist in diagnosis. The examination luminaires' appealing design, modern light technology and high light quality ensure optimal lighting for examinations in all medical fields.

Standards met according to 60601-2-41

- Easy to move
- Color temperature 3000 K to 6700 K
- Color rendering index $R_a > 85$
- Meant for examination rooms, etc.
- Stable light quality

EXAMINATION LUMINAIRE **VISIANO 20**

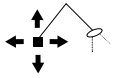




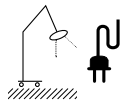
Ceiling



Wall



Universal pin

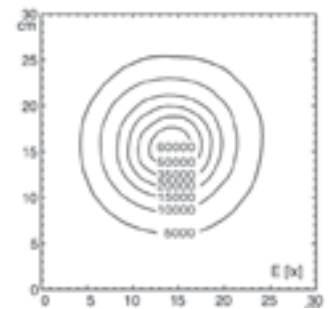
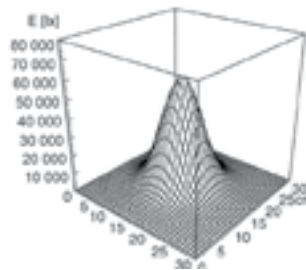


Rolling floor stand

The VISIANO 20 is an examination light with first-class performance and innovative features. At 60,000 lux at 0.5 m, the light field is outstanding in its class. This makes it ideal for many applications in general medicine, dermatology, gynecology, urology, neonatology and anesthesia. In intensive care and surgery preparation, it assists medical personnel with high quality LED illumination. Interchangeable light colors allow for matching the light to a specific task. Also unique to this luminaire category is the integrated Sanitized® hygiene function, making it easier to keep a clean, sterilized environment.



reddot award 2014
winner



VISIANO 20-2 technical data

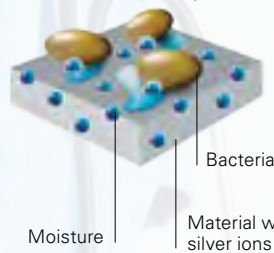
Luminous power	60,000 lux at 0.5 m *
Color temperature	3500 K and 4500 K *
Illuminance field at 0.5 m	Ø 8.3 in. (21 cm) *
Color rendering index	Ra>95
Usage	keypad on luminaire head
Accessories	ceiling adapter
Standards met	EN 60601-1, EN 60601-2-41
Protection rating	IP 20

Special features 2 color temperatures, 4 dimming levels, antimicrobial surface, continuously rotating luminaire head

* -10% / +20% tolerance



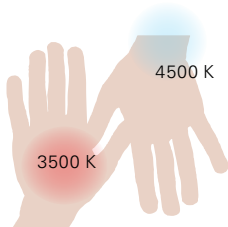
**BACTERIA
REDUCTION
WITH SILVER IONS**



Silver ions destabilize the cell membrane of microbes and bacteria

VISIANO 20 features antimicrobial protection against the spread of bacteria. In untreated materials, harmful bacteria and germs can multiply within 20 minutes. The integrated antimicrobial Sanitized® hygiene function in the upper luminaire housing helps to keep critical areas hygienic. Tests have shown that it is possible to destroy 99% of the bacteria and microbes that make their way onto the fixture's surface. PLEASE NOTE: The biocide is permanently resistant, but is not a substitute for regular cleaning.

With several mounting options to choose from, VISIANO 20 is as diverse as its potential applications. Whether on the ceiling, wall, or with the rolling floor stand, the VISIANO 20 is a valuable tool in the medical field.



Color changing
for optimal contrast viewing



Unique diamond optics
for best light color uniformity

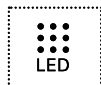


360° turnover axis
for maximum light availability

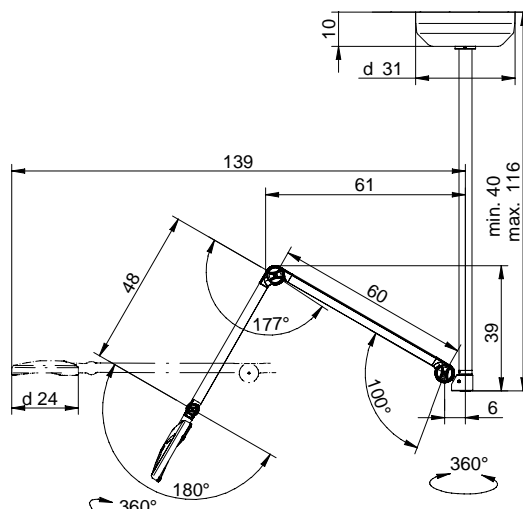


Spring-balanced friction joint
for effortless positioning and locking

VISIANO 20

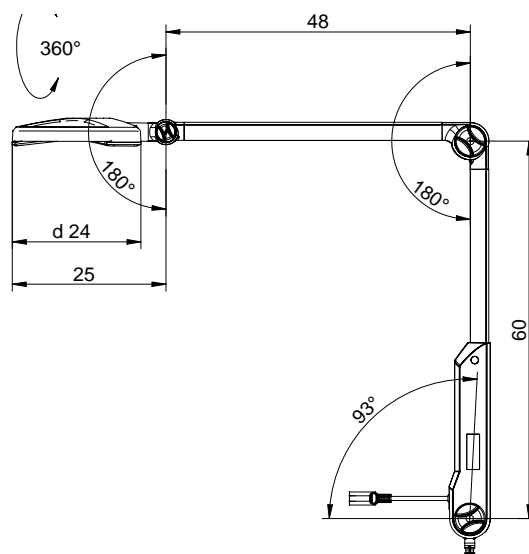


Ceiling tube
max. 3.8 ft



measurements in centimeters

VISIANO 20 – Ceiling version	Connection	Special features	Part no.
VISIANO 20-2 C T1	direct power supply	dimmable, 2 color temperatures	D15594000



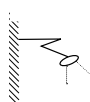
measurements in centimeters

VISIANO 20 – Pin version	Connection	Special features	Part no.
VISIANO 20-2 P TX	6 ft cable	dimable, 2 color temperatures	D15451000

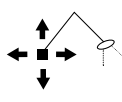
EXAMINATION LUMINAIRE

VISIANO 10

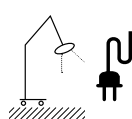




Wall

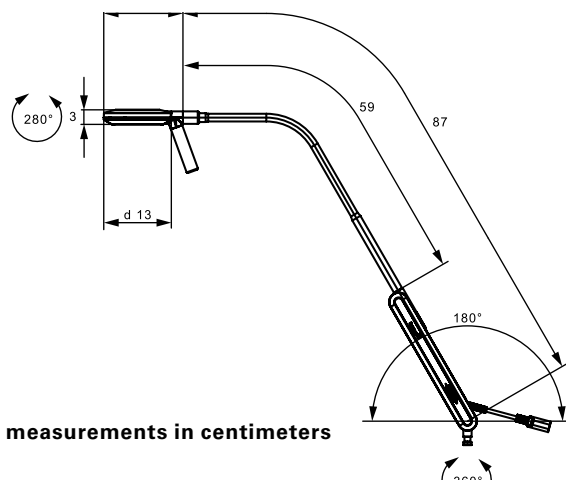


Universal pin

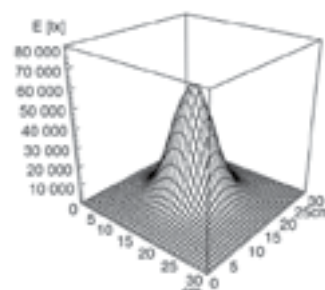


Rolling floor stand

The VISIANO 10 is an examination light reduced to the essentials, but without skimping on professional light technology. With 50,000 lux of illumination intensity at a distance of 0.5 m, it is ideal for general examinations, as well as intensive care and neonatology. The ergonomic hand grip allows for easy alignment of the light field.



VISIANO 10	Connection	Special features	Part no.
VISIANO 10-1 P S10	6 ft cable	ergonomic hand grip	D15732000



Visiano 10-1 technical data

Luminous power	approx. 50,000 lux at 0.5 m
Color temperature	4400 K *
Illuminance field at 1.0 m	Ø 7 in. (18 cm) *
Color rendering index	Ra>93
Usage	I/O switch on the arm
Standards met	IEC 60601-1
Protection rating	IP 20
Special features	hand grip, luminaire head can be turned 280°

* -10% / +20% tolerance

MEETING YOUR SPECIFIC NEEDS. THE HALUX EXAMINATION LIGHT.

A modern classic: HALUX is impressive for its minimalistic shape and its typical Swiss attention to detail. For three decades, it has been recognized as the reliable light source for the medical field. From general medical practice to the hospital bed, the right HALUX version is available.

APPLICATIONS

Patient care

- Five dimming light levels
- Various mounting options
- Robust and easy to clean

General medicine / emergency medicine

- Large illumination area
- High light output: 50,000 lux at 0.5 m
- Various mounting options

Dermatology

- Large illumination area
- Adjustable color temperature option
- Excellent color rendering: $R_a > 93$

Fast cleaning

Closed design and construction assure that cleaning agents don't enter into the luminaire head

Maintenance free

Closed design and construction and durable LED technology

Safe positioning

Two sophisticated arm systems, easy to position

Everything at a glance

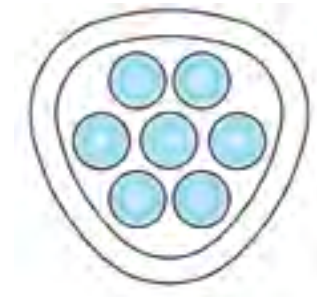
A large uniform light field for maximum ease of viewing



THE PREMIUM EXAM LIGHT

HALUX N50

The HALUX N50 is an ideal luminaire when seeking both outstanding lighting performance and the ability to change light color. With its 7-inch light field diameter and illumination intensity up to 50,000 lux at 0.5 m, the HALUX N50 offers optimal examination conditions.



HALUX N50

Outstanding color rendering

Optimal light color for precise diagnoses



Intuitive operation

Simple operation with an easy-to-reach keypad*



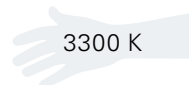
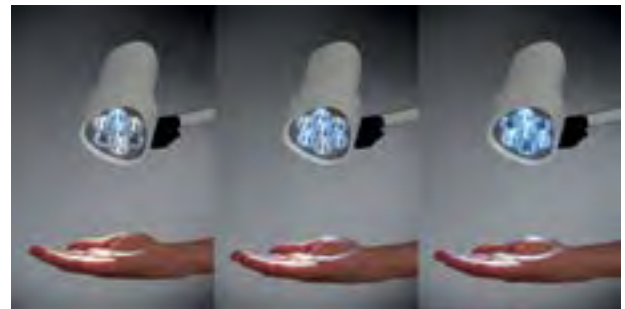
Individual light strength

5-level dimming* makes the light easily adaptable



Optimal contrast viewing

3 color levels* for accurate detail and perfect contrast



*HALUX N50-3 models

SPECIFICATIONS AT A GLANCE

HALUX N50



Halux N50 technical data

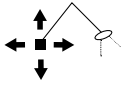
Luminous power	approx. 50,000 lux at 0.5 m
Color temperature	Adjustable: 4400 K/ 3800 K/ 3300 K *
Illuminance field	Ø 7 in. (18 cm) at 0.5 m
Color rendering index	Ra>93
Usage	keypad on luminaire head
Standards met	IEC 60601-1, 60601-2-41
Protection rating	IP 20
Special features	5 dimming levels, 3 color temperatures

*10%/+20% tolerance

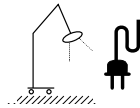




Wall



Universal pin



Rolling floor stand



HALUX N50 – Gooseneck arm system	Connection	Special features	Part no.
HALUX N50-3 P SX	6 ft cable	dimmable, 3 color temperatures	D160440100
HALUX N50-1 P SX	6 ft cable		D16043100

HALUX N50 – Spring-balanced arm system	Connection	Special features	Part no.
HALUX N50-3 FX	6 ft cable	dimmable, 3 color temperatures	D15473000
HALUX N50-1 FX	6 ft cable		D15474000

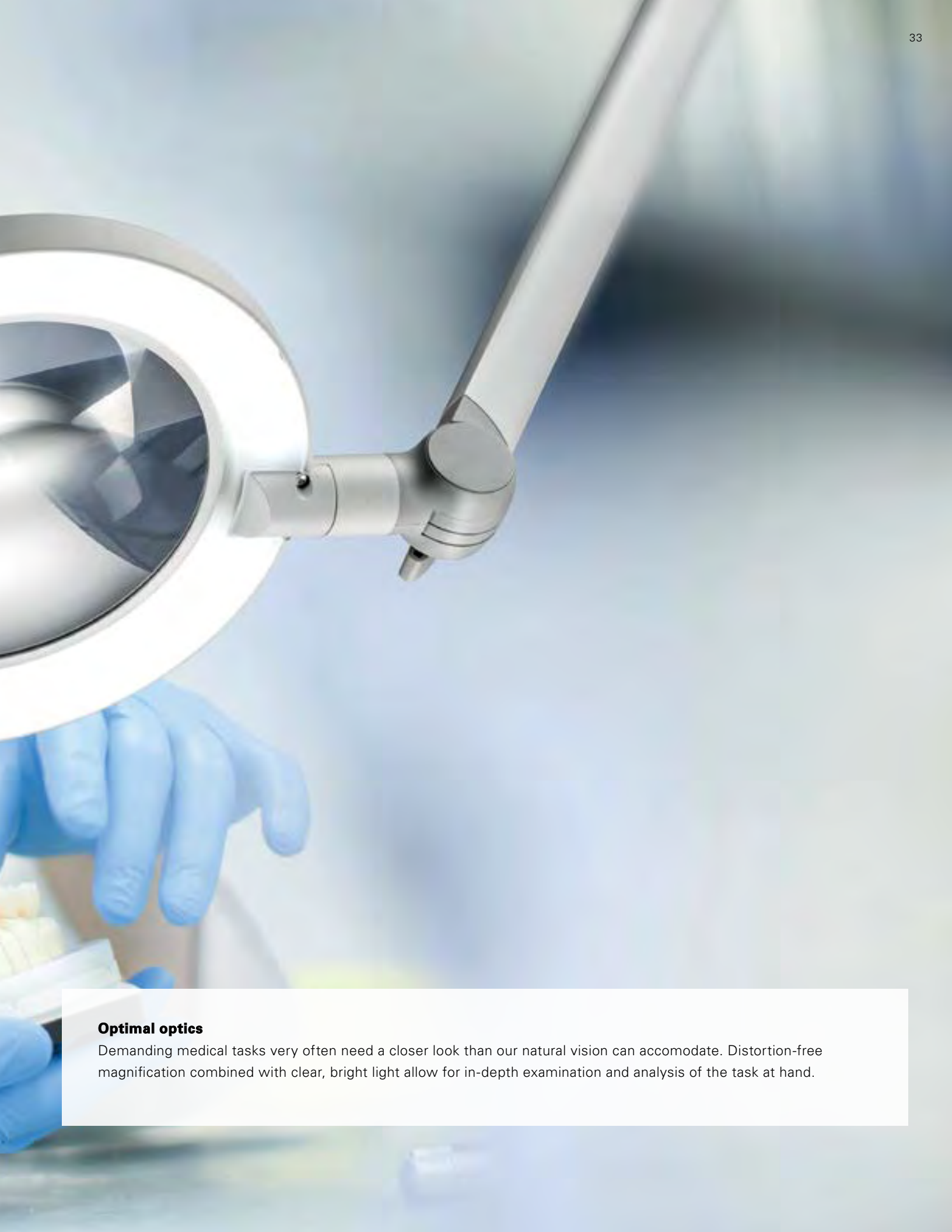
	Arm system	Emergency	Examination	Specialized examination	Intensive care	Dimmable	Changeable color
PRODUCT			General dermatology Neonatology Anesthesia	Gynecology / urology			
HALUX N50-1 P SX	Gooseneck arm	○			○	✓	
HALUX N50-3 P SX	Gooseneck arm	○	●		○	✓	✓
HALUX N50-1 P FX	Spring-balanced arm	●	●		●	✓	
HALUX N50-3 P FX	Spring-balanced arm	●	●		●	✓	✓

● ideally suited for task

○ well suited for task



MAGNIFYING LUMINAIRES

**Optimal optics**

Demanding medical tasks very often need a closer look than our natural vision can accommodate. Distortion-free magnification combined with clear, bright light allow for in-depth examination and analysis of the task at hand.

MAGNIFIER LUMINAIRE **OPTICLUX 10**

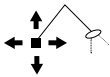




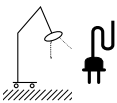
Ceiling



Wall



Universal pin

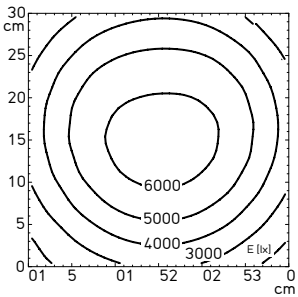
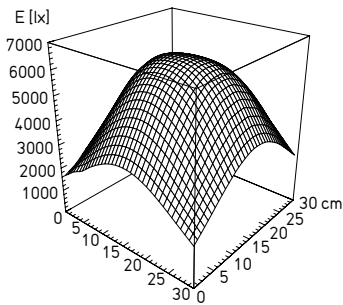


Rolling floor stand

OPTICLUX 10 magnifier luminaire combines a robust magnifying glass with outstanding light quality and ergonomic operation. As a proven medical device, it is ideal for use in dermatology, clinics and practices for dental, human and veterinary purposes, in laboratories and in the monitoring of sterilization goods.



red dot award 2018
winner

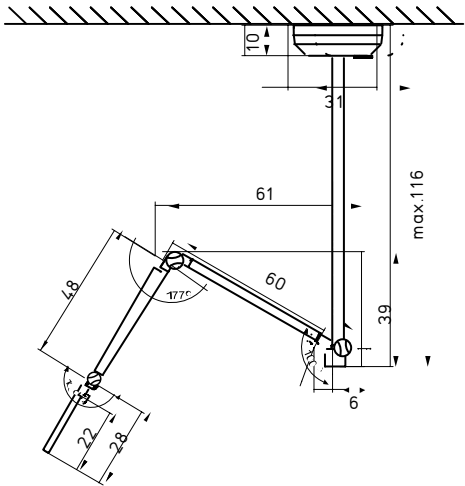


Illumination intensity
-10% / +20% tolerance

OPTICLUX 10 technical data

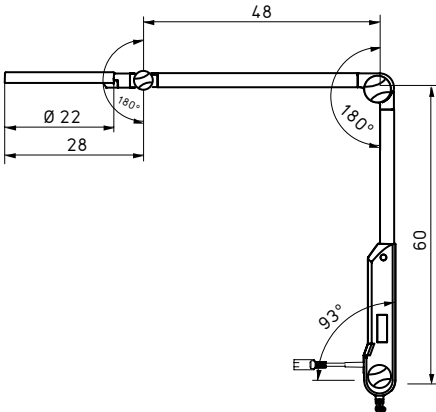
Luminous power	50,000 lux at 0.5 m
Color temperature	6500 K *
Lens diameter	Ø 6.3 in. (18 cm) *
Color rendering index	Ra>93
Usage	keypad at luminaire head
Standards met	EN 60601-1, EN 60601-2-41
Protection rating	IP 20
Special features	dimnable, Wood light mode (optional), lens cover

OPTICLUX



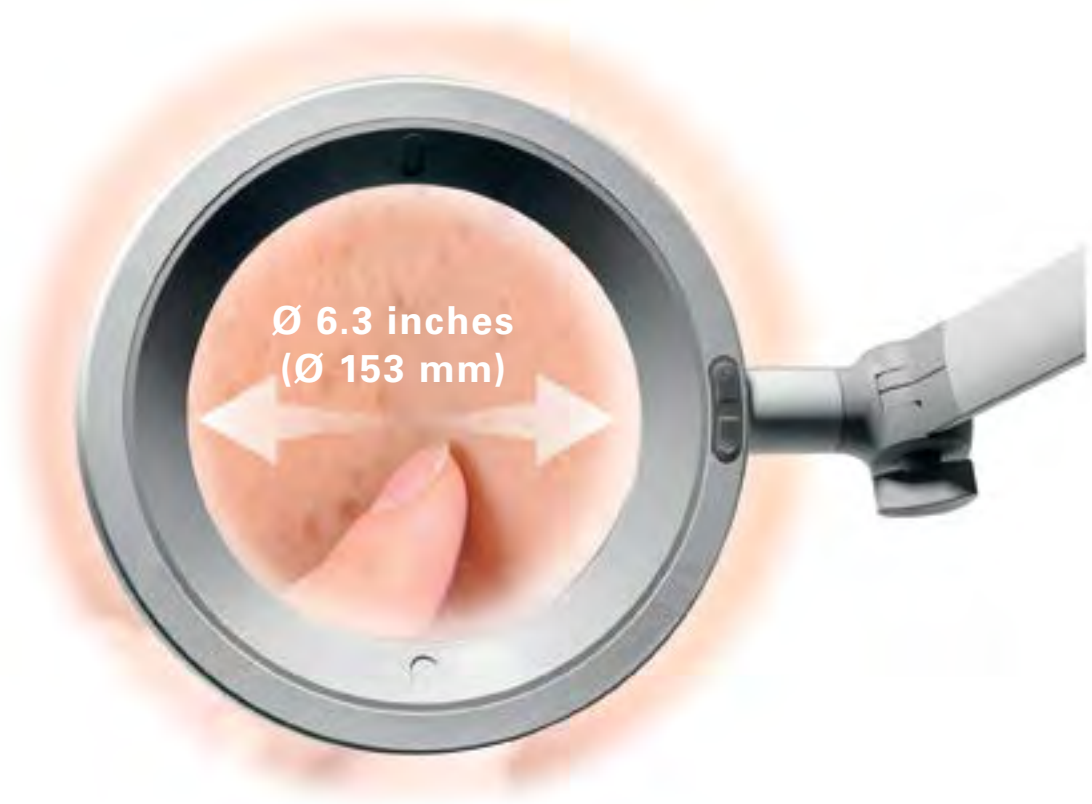
measurements in centimeters

OPTICLUX 10 – Ceiling version	Connection	Special features	Part no.
OPTICLUX 10-2 C T1	direct power supply	dimnable, Wood light	D16071000
OPTICLUX 10-1 C T1	direct power supply	dimnable	D16070000



measurements in centimeters

OPTICLUX 10 – Pin version	Connection Voltage	Speccial features	Part no.
OPTICLUX 10-2 P TX	100-240V	dimnable, Wood light	D15953000
OPTICLUX 10-1 P TX	100-240V	dimnable	D15954000



Peerless light field

Oversized 6.3" wide lens, 1.88X (3.5d) magnification and adjustable step-free dimming



Reliable color rendering

Top quality 6500 K LEDs ensure less shadow formation and optimal color rendering (CRI : Ra ≥ 93, R9 = 90, R13 = 95)



Special for dermatology *

Two lighting modes in one device: optional UV-A (Wood light) for examining fluorescent lesions and pigment changes



Ergonomic handling

Spring balanced arm and internal friction joints allow smooth handling without any drifting of the luminaire head



Long service life

Premium high-powered LEDs, scratch-resistant special-coated lens and precision components ensure strength and durability



Flexible positioning

Long, easily maneuverable joints and ergonomically tested arm for ease of use and reliable precision

*Wood light versions available

WOOD LIGHT

WOOD
LIGHT 



OPTICLUX 10 with Wood light

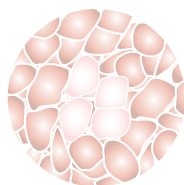
This special model for dermatologists, veterinarians and forensic medicine, et al., combines two lighting modes in one device: daylight white illumination as well as a Wood light option. This allows for different types of examinations to be performed with just one light.

Old-fashioned Wood lights require the room to be completely darkened for best results. Not the case with Opticlux, thanks to powerful BLB blacklight LEDs.

For radiation of certain dermatomycoses to obtain diagnostic indications based on the fluorescence that occurs:

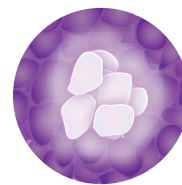
- ERYTHRASMA (red fluorescence)
- MICROSPORIA (weak green fluorescence)
- FAVUS (bilious green fluorescence)
- TRICHOBACTERIOSIS AXILLARIS (yellow ochre colored fluorescence)
- PITYRIASIS VERSICOLOR (yellow ochre colored fluorescence)
- TUBEROUS SCHLEROSIS (blue-white fluorescence versus normal skin)
- VITILIGO (blue/bright white fluorescence of depigmented areas)
- SCABIES (gray-white mite tracks)

Also for fluorescence diagnostics (FD) for in-vivo diagnostics of dysplastic tissues and surface tumors in connection with local or systemically applied pigment, such as PPIX or 5-ALA.



**LED light
& dimming**

Skin under near daylight LED light



**Wood light
(365 nm)**

Skin disparity appears much more dramatically in Wood light

ACCESSORIES








ACCESSORIES



MOUNTING OPTIONS

Table clamp		VISIANO 20, VISIANO 10, HALUX N50, OPTICLUX 10		
	Material	Color	Weight	Part no.
	polyamide/steel	black	0.8 lb	D14228000
	For luminaires with 16 mm mounting pin			


Rolling floor stand		VISIANO 20, VISIANO 10, HALUX N50, OPTICLUX 10		
	Material	Color	Weight	Part no.
	steel	grey/silver	16.5 lbs	D15595000
	For luminaires with 16 mm mounting pin			


Rail clamp		VISIANO 20, VISIANO 10, HALUX N50, OPTICLUX 10		
	Material	Color	Weight	Part no.
	aluminum	silver	1 lb	D13269000
	For luminaires with 16 mm mounting pin			

ACCESSORIES



MOUNTING OPTIONS

Wall bracket		VISIANO 20, VISIANO 10, HALUX N50, OPTICLUX 10		
	Material	Color	Weight	Part no.
	polyamide GF	white	0.2 lb	D13231000
For luminaires with 16 mm mounting pin				


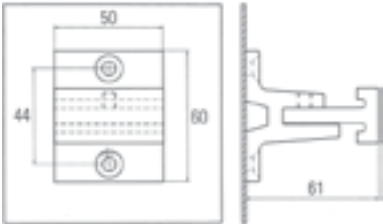
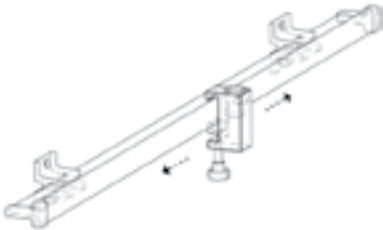
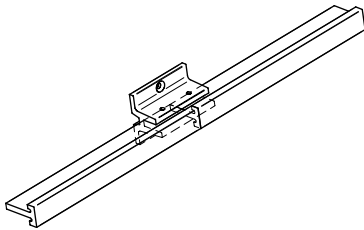
Universal mount		VISIANO 20, VISIANO 10, HALUX LED 20, OPTICLUX 10			
	Material	Color	Weight	Specifications	Part no.
	polyamide GF	black	0.09 kg	60 x 60 x 60 mm	204090019-00000599
	For luminaires with 16 mm pin fastening.				


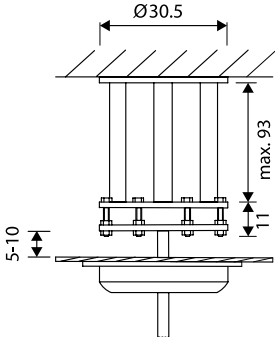


ACCESSORIES



MOUNTING HARDWARE

Standard wall track system 1 x 0.4 in.		VISIANO 20, VISIANO 10, HALUX LED 20, OPTICLUX 10		
Standard met: EN ISO 19054	Material	Weight	Specifications	Part no.
	anodized aluminum	5.5 lbs	length 3.3 ft. (1 m) includes 2 mounts	D13505000
		8.3 lbs	length 4.9 ft. (1.5 m) includes 3 mounts	D13506000
	3 in. track connector		complete project-related lengths on request, up to 20 ft. (6 m)	D56045000
  				

Ceiling adapter		TRIANGO 100, TRIANGO 30, VISIANO 20, OPTICLUX 10		
	Material	Weight	Specifications	Part no.
	steel	5 lbs	max. 3 ft. (93 cm), shortening available upon request	D15074000
				

ACCESSORIES




HAND GRIPS

Hand grips		TRIANGO 100, TRIANGO 30		
	For use with	Features	Part no.	
Hand grip	TRIANGO 30	sterilizable	D10295000	
Hand grip	TRIANGO 100	sterilizable	D10442000	
Disposable handle covers	TRIANGO 100, TRIANGO 30	plastic	D15445000	

		
sterilizable hand grip for TRIANGO 30	sterilizable hand grip for TRIANGO 100	disposable grip cover for all TRIANGO models

EXTENSION ARM

Extension arm		VISIANO 20, VISIANO 10, HALUX LED 20, OPTICLUX 10			
	Material	Color	Weight	Specifications	Part no.
	powder-coated steel / steel pipe	pure white	1.4 lbs	15.7 in	D13.363.000
For luminaires with 16 mm pin fastening.					

A photograph of the back of a person with dark, curly hair, viewed from behind. A vertical color gradient overlay is applied to the image, transitioning from a light, warm tone on the left to a darker, cooler tone on the right. The text "COLOR RENDERING" is centered in white, uppercase letters across the lower half of the image.

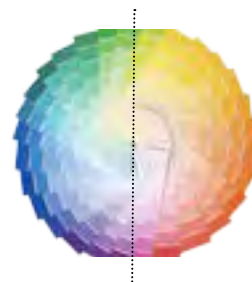
COLOR RENDERING

Color rendering

The color impression of a lighted object depends on the spectral composition of the light:

- Cool white light emphasizes blue, violet and green tones
- Warm white light brings forward red, yellow and orange tones

Highlighted hues through cool white light



Highlighted hues through warm white light

What is the Ra color rendering index?

The Ra color rendering index (CRI) is for evaluating artificial light sources. This index indicates how true to nature the colors are under a given light source compared to the color rendering under natural light.

The highest Ra value is 100 - it indicates that all of an object's colors can be recognized as optimal daylight: They appear "natural" to the viewer. The more the Ra color rendering index diverges from 100, the less like natural daylight the lighted object is reproduced.

Ra is the index made up of R1–R8

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
Rose	Mustard yellow	Yellow-green	Light green	Turquoise	Sky blue	Violet	Lilac	Red saturated	Yellow saturated	Green saturated	Blue saturated	Pink (flesh colored)	Leaf green

How is the Ra value determined?

To determine the Ra value of a light source, eight common test colors are generally illuminated, each with a reference light source and the light source to be tested. The smaller the divergence between the reference light source and the light source to be tested, the better the tested light source's color rendering properties.

- Test color R9 is especially important for differentiating various red tones in tissue and blood
- Test color R13 is the "flesh color", important for better recognition of veins and blood vessels

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