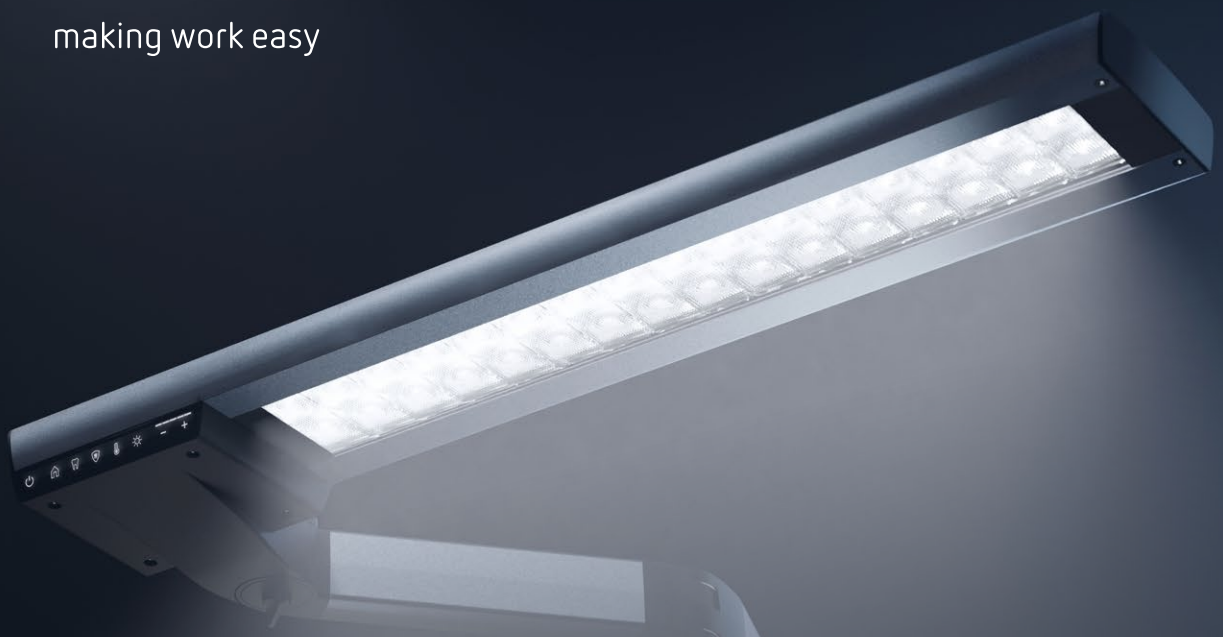
Renfert

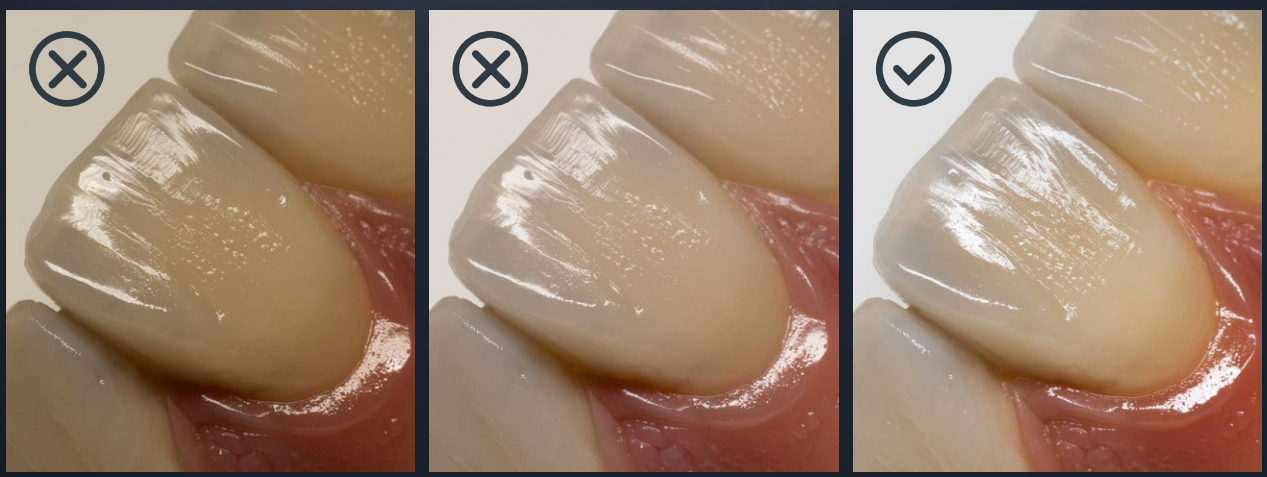
making work easy



LIGHT 1

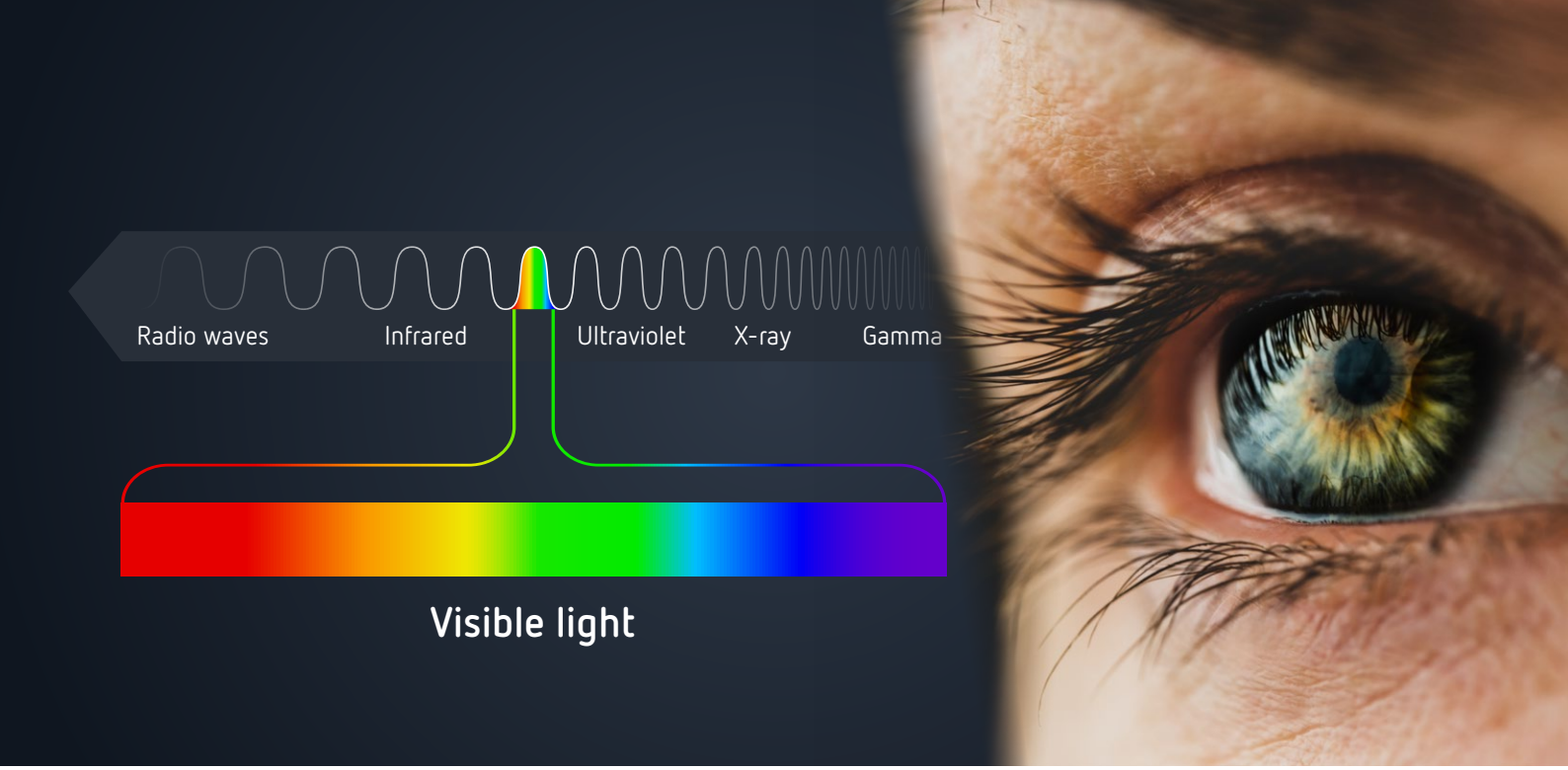
Professional Dental Worklight

Low-price segment light in comparison | High-price segment light in comparison | Professional Dental Worklight



Dental work by Nasser ShadeMan

LIGHT 1 – the first work light, specially designed for the needs of dental technology

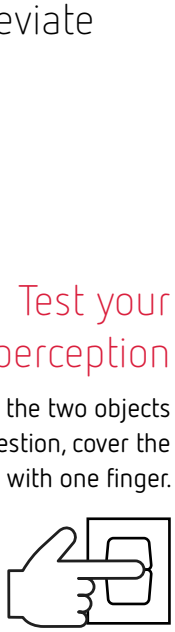


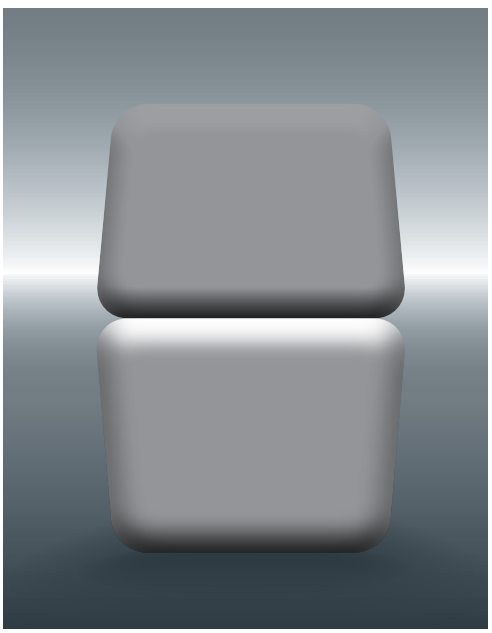
Why colors are never as they seem?

Light is a form of electromagnetic radiation that our eyes absorb and the brain converts into impressions of color and brightness. However, the surrounding lighting conditions can significantly influence or disrupt this perception. Various factors can cause our visual experience to deviate from physical reality.

Test your color perception

How do the surfaces of the two objects differ? To solve the question, cover the center of the image with one finger.





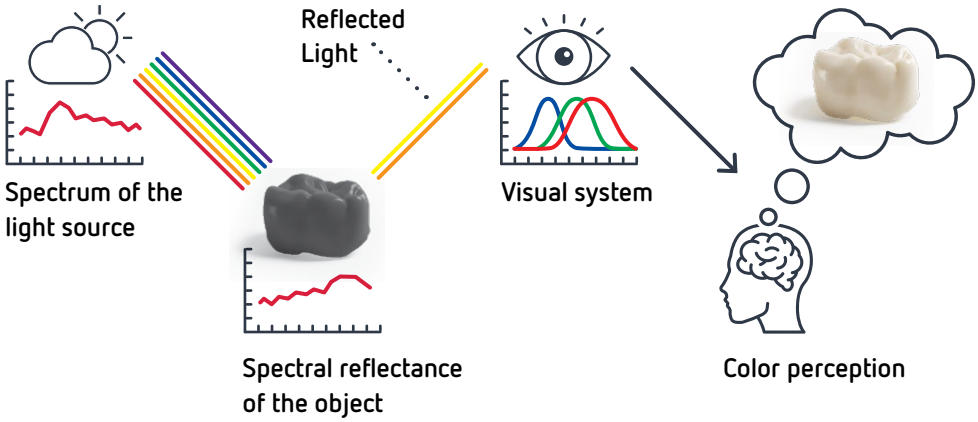
Light, the underestimated factor for perfect results

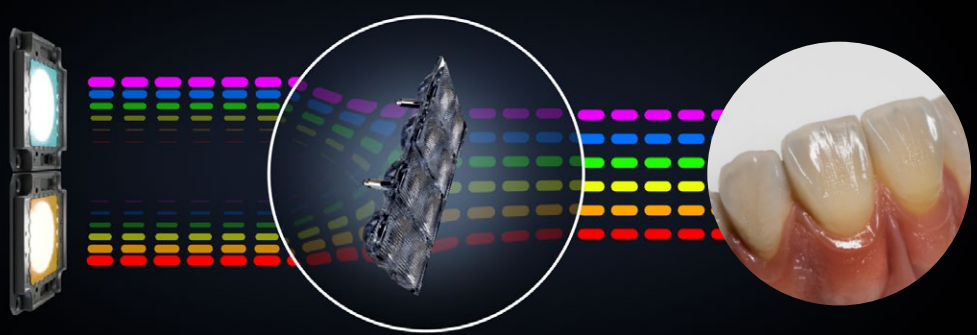
Light plays a central role in dental technology. It is not just a question of better visibility, but is also crucial for the quality, aesthetics and precision of the work. Only the right light creates the basis for perfect results and fatigue-free work.

Without light, there would be no color

The colors we see is light reflected from objects.

Objects do not have their own colors, they simply reflect wavelengths of light into our eyes. The light source is therefore crucial for true-to-life color reproduction. The better the spectrum of the source, the better our brain can correctly interpret colors.





Dual-LED technology

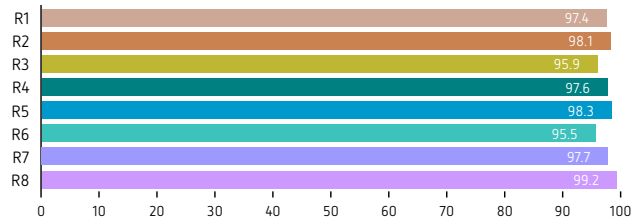
The LIGHT 1 uses innovative optics to combine the color spectrum of two different LEDs, achieving optimal color rendering and improved color perception.

Artificial vs. Natural Light

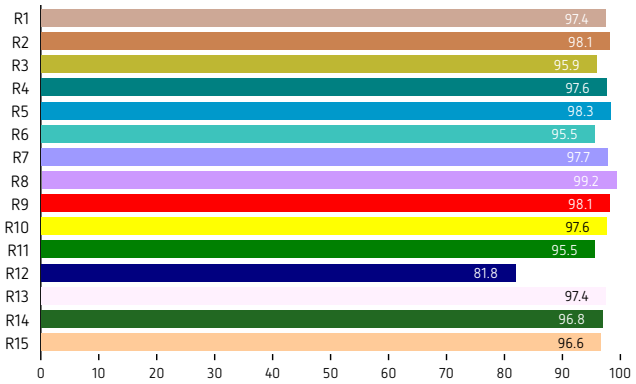
The color rendering index (CRI) is a measure of how well a light source can reproduce colors compared to natural light. The classic index **CRI Ra only covers 8 color fields**, whereby deviations in other tones often go undetected. Manufacturers usually only optimize their products for these values in order to simulate better results. The extended color rendering index **CRI Re uses 15 color fields**, but many manufacturers do not use it because they are not obliged to do so and the products could be rated worse.

Lighting	CRI Ra	CRI Re
LIGHT 1	97.5	96.0
Competitor light # 1	85.6	80.7
Competitor light # 2	86.8	81.7

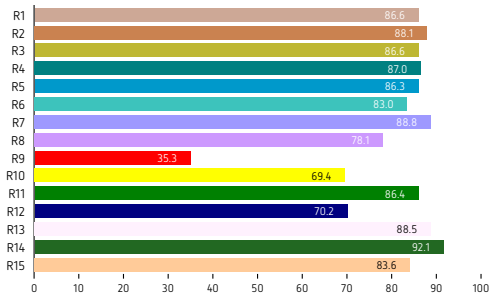
LIGHT 1 | Color rendering index CRI Ra



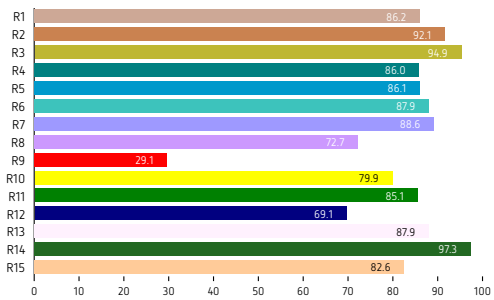
LIGHT 1 | Color rendering index CRI Re



Competitor light # 1 | Color rendering index CRI Re



Competitor light # 2 | Color rendering index CRI Re



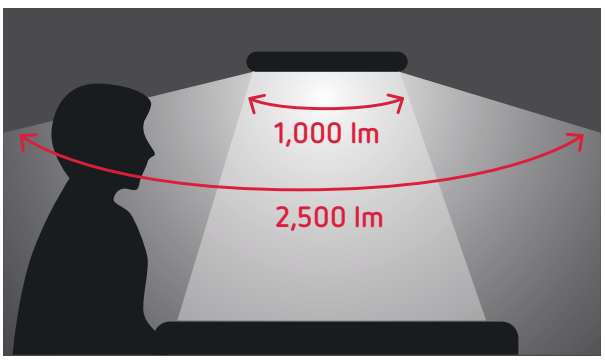
Not all light is the same

Illuminance value – Lumen

Lumen is a unit of measurement that tells us how bright a light source is for our eyes. The more lumens a light source has, the brighter it is. However, the lumen value only describes how much light a light source can emit overall. The term lumen does not take into account the angle at which the light source emits the light, i.e. how much of this light and in what concentration arrives in the room, on the work surface or on the illuminated object.

Lighting values LIGHT 1

Total luminous flux (lumens)	3,500 lm



Lumen (lm) describes the total amount of light from a light source. It does not take into account whether the light cone is focused or widely scattered.

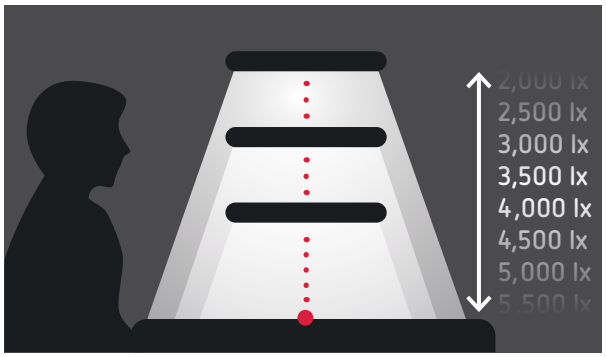
Illumination value – Lux

Lux is the unit of measurement for illuminance. Illuminance is also an indicator of brightness, but it only describes the brightness of a specific point on a surface. This brightness point varies greatly on the surface depending on the position and distance of the light source. However, the value does not say how bright the surface (work surface) or the object we are looking at is.

Lighting values LIGHT 1

Illuminance (lux)	max. 13,000 lx

The following values show how the illuminance of the LIGHT 1 changes at different working heights.

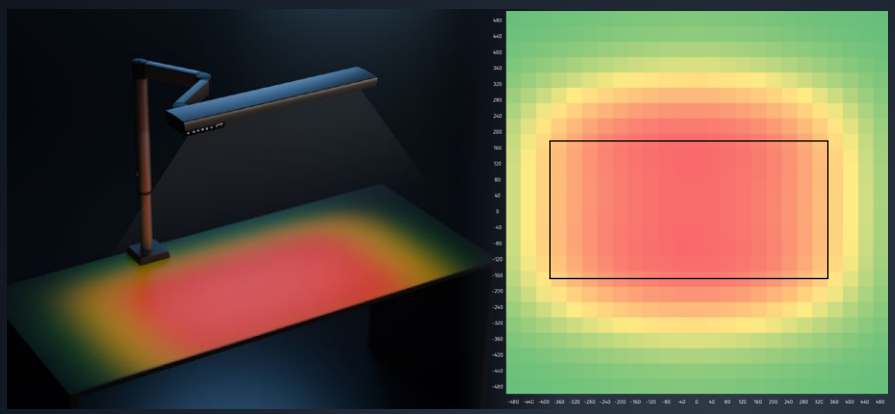


Lux (lx) takes into account the distance between the light source and the illuminated surface. Manufacturer specifications are usually measured directly in the center of the light cone.

Working Height	Level 1	Level 2	Level 3	Level 4	Level 5
Hole position 6	1,700 lx	3,200 lx	5,600 lx	9,000 lx	13,000 lx
Hole position 5	1,500 lx	2,900 lx	5,000 lx	8,100 lx	11,200 lx
Hole position 4	1,400 lx	2,600 lx	4,500 lx	7,300 lx	10,000 lx
Hole position 3	1,300 lx	2,400 lx	4,100 lx	6,500 lx	9,100 lx
Hole position 2	1,200 lx	2,200 lx	3,800 lx	6,000 lx	8,300 lx
Hole position 1	1,000 lx	2,000 lx	3,500 lx	5,500 lx	7,500 lx

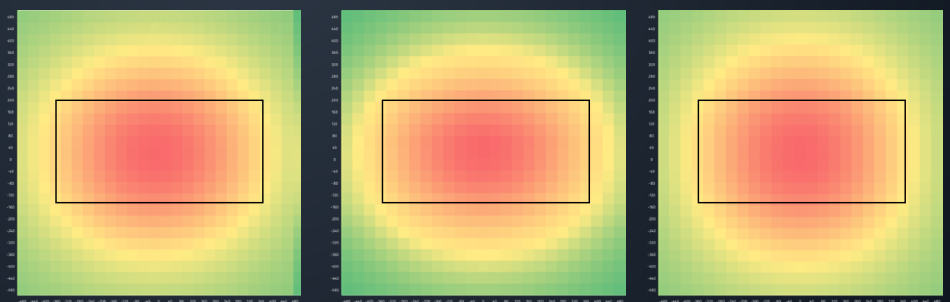
The working height of the LIGHT 1 can be adjusted from 410 – 570 mm.

Lighting level of the work surface



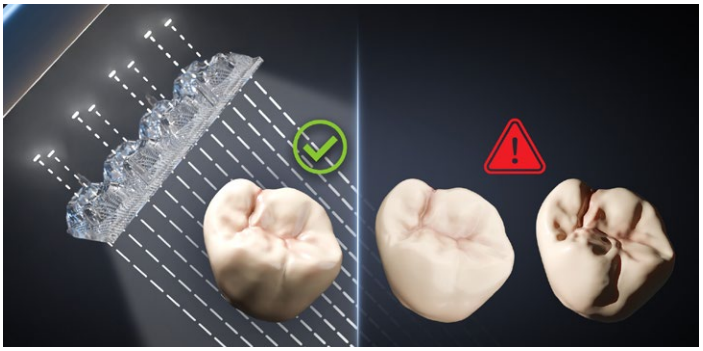
LIGHT 1 offers a high, uniform, rectangular lighting level of the work surface and thus a consistently high illuminance.

Competitor lights, both low and high price segments, lose illuminance outside the lighting center. A large amount of the light also shines outside the area of use.

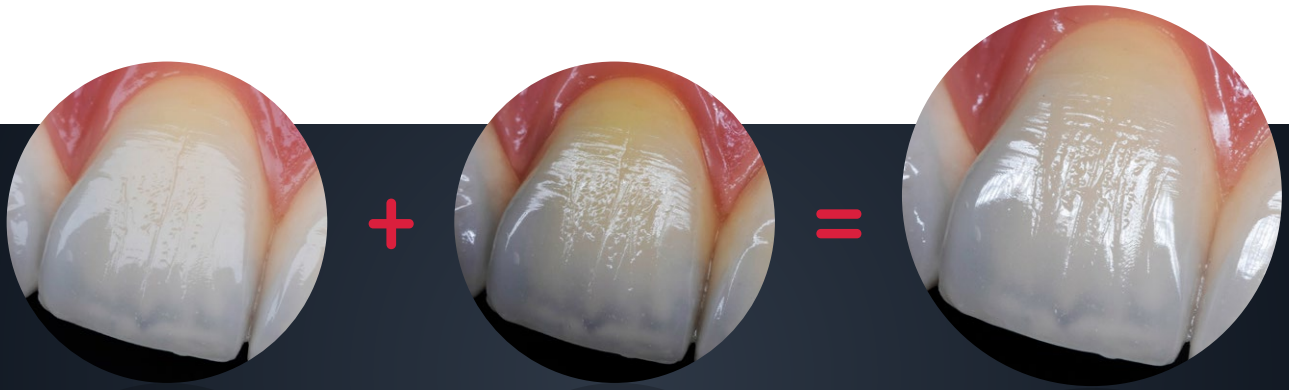


See more – Work better

Dental objects can be best viewed and assessed when the ratio of directed light and diffused light is optimally balanced. Only then can the smallest details of the surface textures be revealed. It also supports perspective vision.



Observing the smallest details and viewing from a certain perspective requires an optimally coordinated lighting ratio.



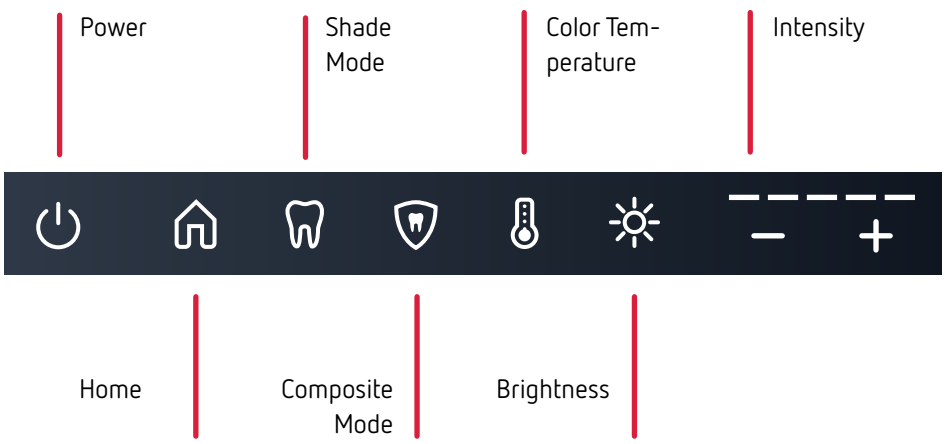
Diffused light
Very evenly distributed, fine, diffused light prevents shadow formation

Directional light
Focused beam of light with partial, hard shadows

Combination
Optimized object illumination through coordinated ratio

Simple Operation

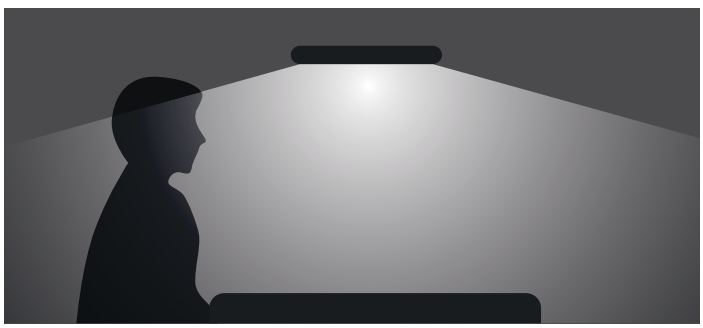
LIGHT 1 was developed to meet the complex lighting requirements of everyday laboratory work. Equipped with innovative optical technology, LIGHT 1 enables unprecedented illumination of the work area. See more, work better. Every detail and every facet of dental work becomes visible. A special ray tracing process ensures homogeneous light distribution, high average illuminance and brilliant color and surface reproduction.



Glare-Free Light

Just like insufficient light, excessive light can also negatively impact health if it leads to glare.

The glare-free LIGHT 1 (graphic above) compared to competitor lights (graphic below).



Glare Rating UGR

The Unified Glare Rating (UGR) is a measure of how disruptive light is in a room. It describes the extent to which the brightness of light sources causes glare to the human eye. A lower UGR value means less glare and therefore greater comfort, promoting well-being and concentration. This is especially important in tasks that require working with the smallest details, such as dental technology. Since these tasks put significant strain on the eyes, it is crucial to choose lighting that provides good, natural illumination without causing glare.

Lighting	Glare Rating UGR
LIGHT 1	19.0
Competitor light # 1	26.1
Competitor light # 2	24.7

Technical Details

Dimensions min. (retracted) (W x H x D)	660 x 88 x 310 mm
Dimensions max. (extended) (W x H x D)	660 x 88 x 515 mm
Tolerance specification calibrated luminaire / illuminance	± 5 %
Tolerance specification calibrated luminaire / color temperature	± 50 K
Permissible mains voltage	100–240 V
Permissible grid frequency	50–60 Hz
Weight	3.7 kg | 2.9 kg
Power consumption	53 W
Color temperature (level 1-5)	3,500–6,000 K
Energy efficiency class of the included light source	A+

LIGHT 1

Light years ahead

Product Name		Scope of Delivery	Ref. No.
LIGHT 1 100–240V		Workstation lamp, table mounting, arm left	25000600
LIGHT 1 100–240V		Workplace light, wall mounting	25000700
LIGHT 1 100-240V US/JP		Workstation lamp, table mounting, arm left	25001600
LIGHT 1 100-240V US/JP		Workplace light, wall mounting	25001700
Table clamp LIGHT 1 (for table mounted version)		18–74 mm, 1 piece	25000510
Stand LIGHT 1 (for table mounted version)		Heavy stand for LIGHT 1 Weight: 12 kg Material: steel plate, powder-coated Dimensions (WxDxH): 300 mm x 250 mm x 20 mm Color: anthracite	25000520

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More details