Derungs

LIGHT FOR PEOPLE

LIGHT FOR CARE AND HEALTH

ROOM LIGHTING

SEPTEMBER 2019

LIGHT FOR CARE & HEALTH

Switzerland
- University Hospital, Zurich
- Schweizer Paraplegiker-Stiftung, Nottwil

France
- Hôtel Club Saint Max, Nancy
- Korian Castel Voltaire, Châtillon

The Netherlands
- Woonzorg Coloriet, Lelystad
- Woonzorg Haaglanden, the Hague

Poland
- ENT Projekt, Wroclaw

Israel
- Ichilov Sourasky Medical Center, Tel Aviv

USA
- St. Elizabeth Youngstown Hospital, Youngstown, Ohio

Germany
- Marienhospital, Cologne
- Uniklinik, Bonn
- "Pro PersonaCare" senior care, Neubrandenburg and Altentreptow
- Caritas, Paderborn

Austria
- Kuratorium Wiener Pensionisten, Wohnhäuser, Vienna

Peru
- Hospital Yantalo, San Martín

Japan
- Obihiro Kosei Hospital, Hokkaido
- Kumamoto Saishun Medical Center

Derungs Licht AG is a member of the Waldmann Group.

Waldmann
ENGINEERS OF LIGHT

IN USE WORLDWIDE

Innovation and premium quality.
Our designers and engineers are constantly blazing new trails as they build on technologies already used in our products. We work hard to develop light that meets the needs of people in their everyday lives — all over the world.

Your brand for healthcare lighting: **Derungs**

Derungs
MEDICAL LIGHTING

SWISS MADE

Derungs luminaires have Swiss roots
Our lighting solutions can be found around the globe. Our national companies and international partnership networks contribute to worldwide success.

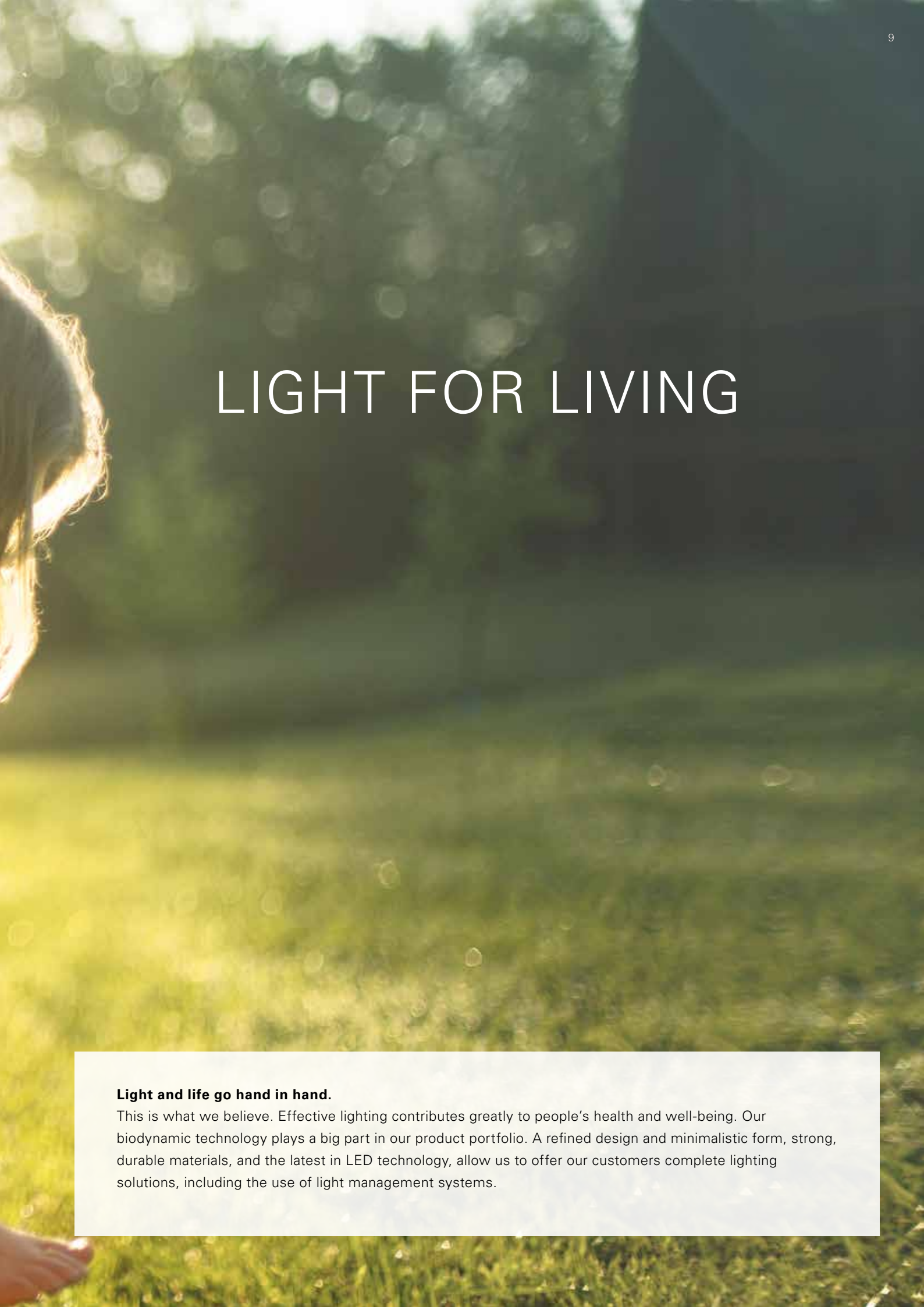
reddot award 2018
winner

i NOVO AWARDS 2017

Certified Management System
SQS
ISO 13485

MADE SWISS

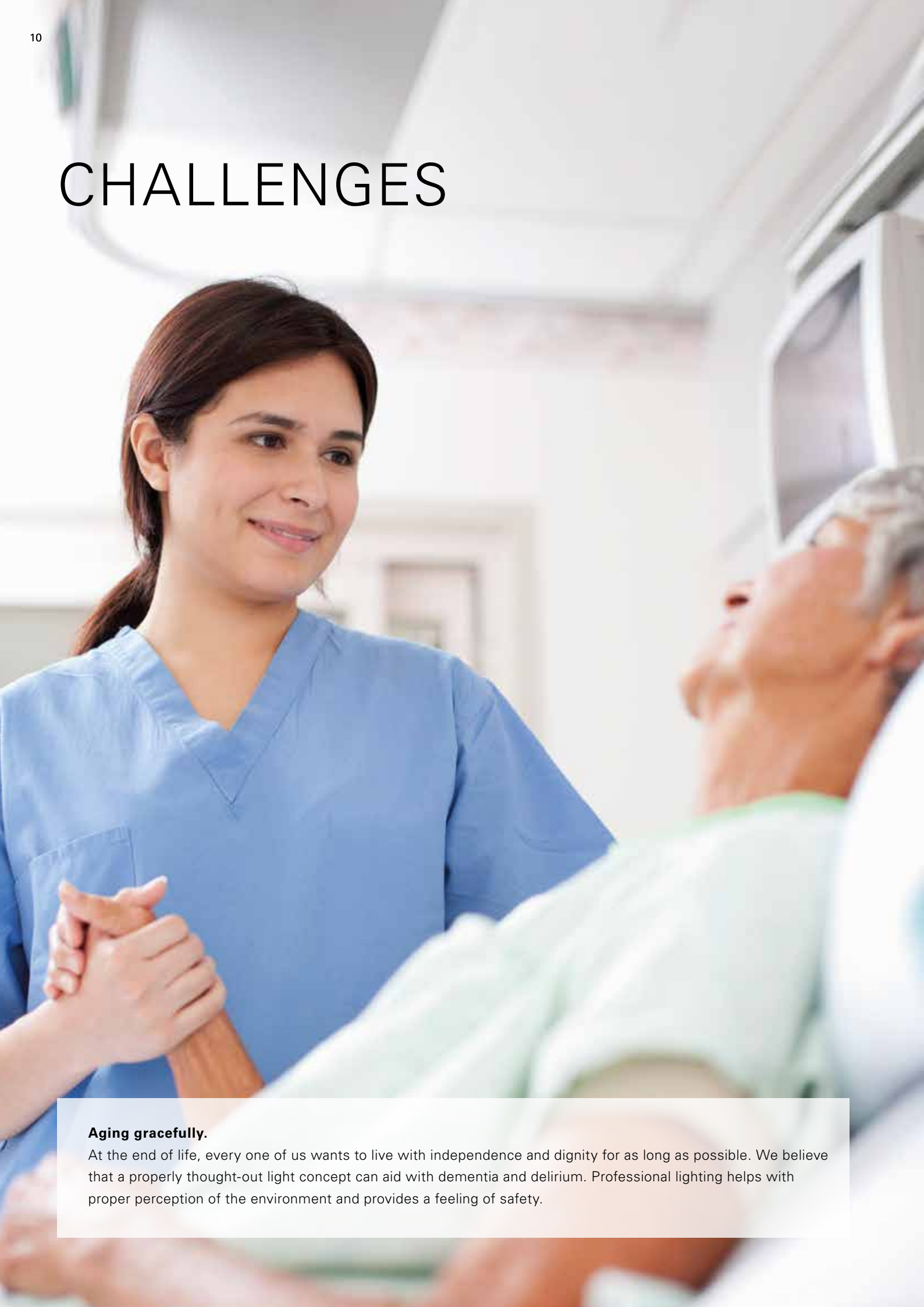
HEALTH MEDIA AWARD



LIGHT FOR LIVING

Light and life go hand in hand.
This is what we believe. Effective lighting contributes greatly to people's health and well-being. Our biodynamic technology plays a big part in our product portfolio. A refined design and minimalistic form, strong, durable materials, and the latest in LED technology, allow us to offer our customers complete lighting solutions, including the use of light management systems.

CHALLENGES



Aging gracefully.
At the end of life, every one of us wants to live with independence and dignity for as long as possible. We believe that a properly thought-out light concept can aid with dementia and delirium. Professional lighting helps with proper perception of the environment and provides a feeling of safety.

DEMENTIA AND DELIRIUM

People who have dementia or suffer from acute delirium can completely change from night to day. Because the brain recovers in deep sleep, it is especially important to restore the circadian rhythm. As part of a preventive approach, it is important to maintain the patient's sleep-wake rhythm and orientation, so that no delirium occurs. Another fundamental challenge is that age demographics of patients are changing and more older patients are being treated in hospitals than in years past.

Delirium [1]

- At this time no comprehensive delirium prevention protocol exists
- Mainly problematic at intensive care units
- Up to 80% of patients given artificial respiration, and up to 50% of those not provided with it, develop delirium
- Up to 75% of delirium patients are diagnosed too late or not at all
- Significantly increased mortality

Possible symptoms

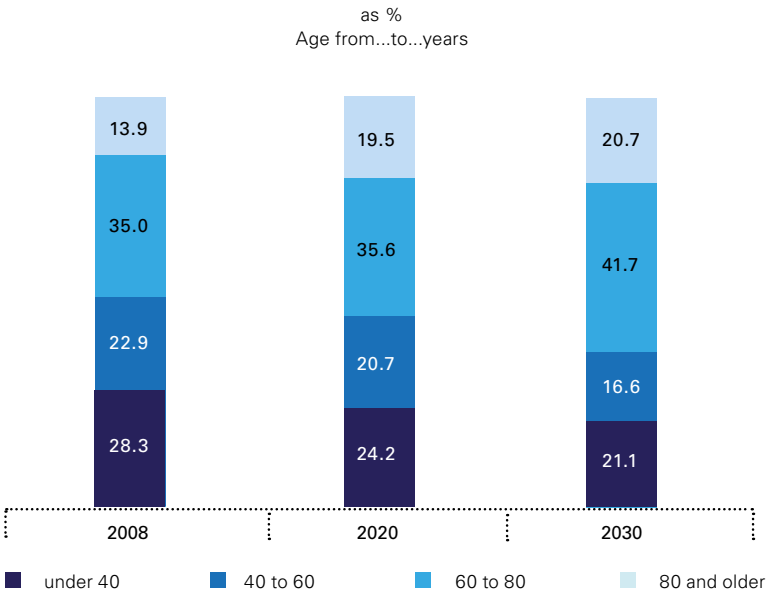
- Perception of surroundings becomes confused
- Visual hallucinations
- Psychomotor disturbances
- Anxiety, agitation, passivity or delusions
- Disturbed sleep-wake rhythm
- Increased mortality
- Extended hospitalizations

Dementia [2]

Estimates from Alzheimer's Disease International (source: Statista):

- Internationally, 46.8 million people are affected by dementia
- Each year, about 7.7 million new cases occur, and by the year 2025, approximately 131.5 million people may be affected worldwide

Hospital cases by age group (status quo scenario) [3]



List of references

1 R. Tomasi, V. von Dossow-Hanfstingl: Delir-Prophylaxe und Behandlung, Leipzig, May 2014
2 https://de.statista.com/themen/2032/demenzerkrankungenweltweit, 18.07.2019
3 Statitische Ämter des Bundes und der Länder, Demografischer Wandel in Deutschland, Volume 2, 2010

PERCEPTION AND VISION IN OLD AGE

Decreasing eyesight

When eyesight declines in old age or due to illness, it seriously affects the independence and activity of the person affected. Professional light planning can improve the immediate environment to maintain safe surroundings and so, quality of life.

We are convinced:

A professional light concept helps people perceive their environment properly. It can relieve anxiety and improve participation in everyday life.

Age-related visual impairments:

Macular degeneration

Diabetic retinopathy

Retinitis pigmentosa

Glaucoma

Cataract

EVERYDAY FALLING HAZARDS

Falling hazards
Falls are the most frequent reason for the elderly to undergo medical care. In addition to painful bruises and hematomas, 15% of the people suffer severe injuries (head injuries, fractures, etc.). [4]

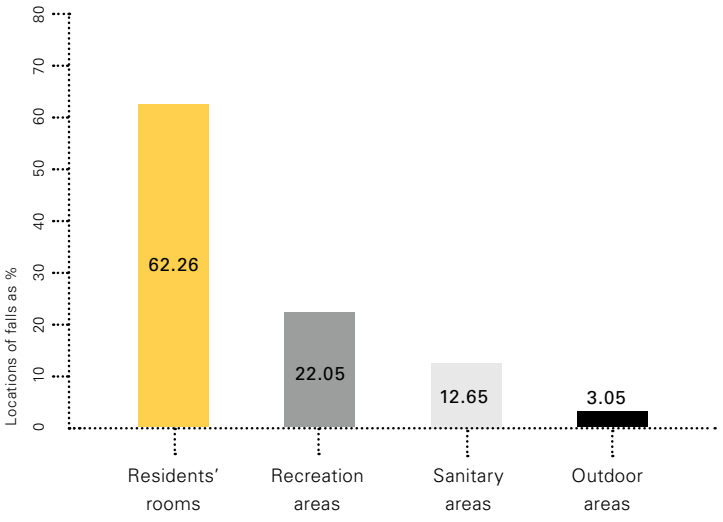
One out of three people over 65 fall at least once a year – and one out of every two people are over 80 years old. [5]

Alarming figures [5]
- There are between 1.6 and 2 million falls per year in Germany
- 30-40% of falls are preventable
- 30-40% of accidents occur during the process of standing up or sitting down
- 20-25% of fall-related injuries are avoidable

Risk factors [4]
Intrinsic factors, i.e.
personally related causes:
- Sudden illnesses, such as stroke
- Visual disturbances
- Speech disorders
- Changed walking pattern and balance issues
- Confusion, agitation and dizziness

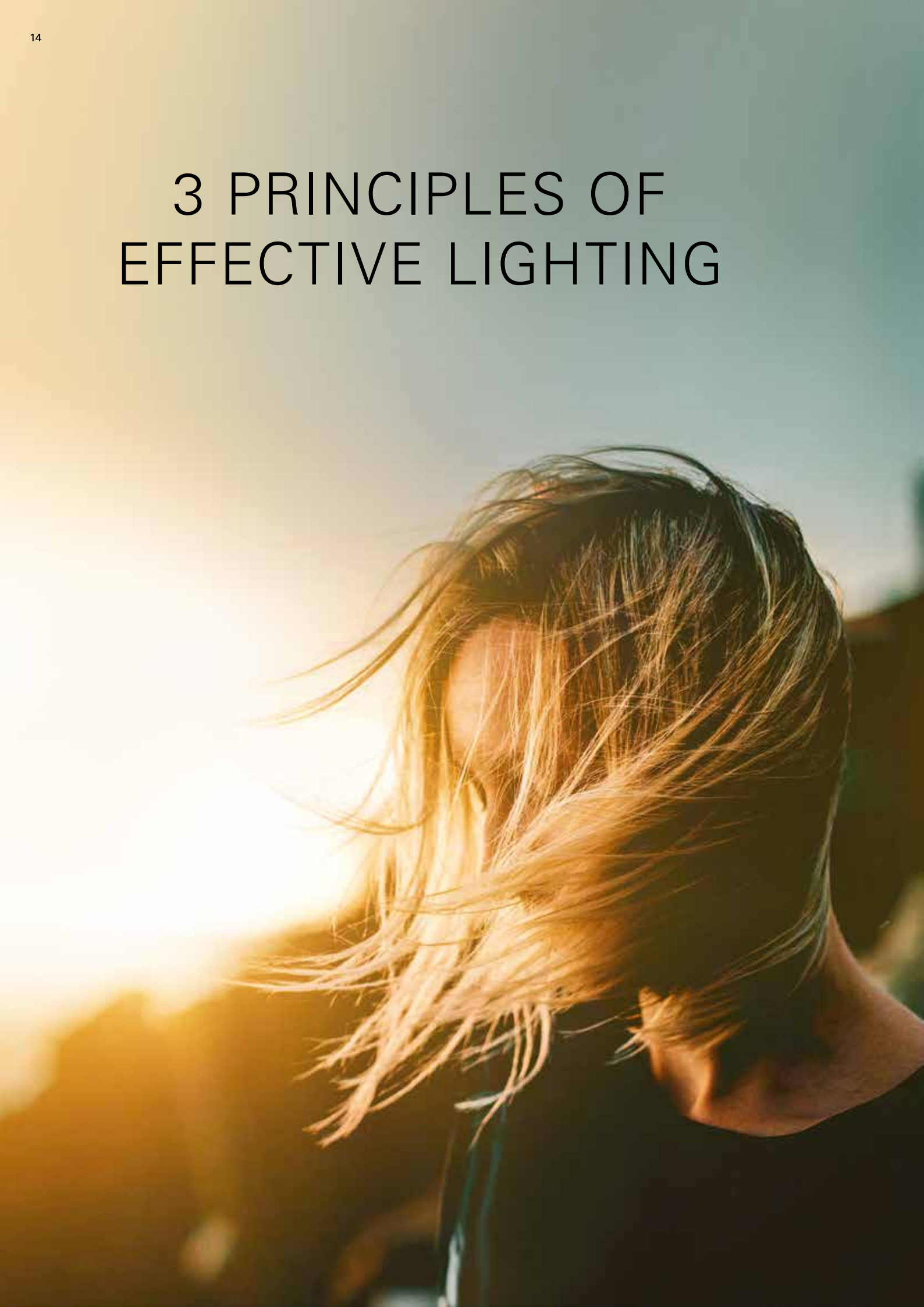
Extrinsic factors, i.e.
environmentally related factors:
- Tripping hazards, such as cords lying about
- Light conditions that are inadequate alone give off glare or throw shadows
- Changes in the environment suddenly pose hurdles
- Unsuitable clothing or shoes

Fall locations [6]



List of references
4 https://flexikon.doccheck.com/de/Sturzprophylaxe, 18.07.2019
5 Prof. Dr. C. Becker: Evidenzbasierte Sturzprävention im Pflegeheim, Bundesinitiative Sturzprävention, Robert-Bosch-Krankenhaus, Stuttgart, https://docplayer.org/14413489-Evidenzbasierte-sturzpraevention-im-pflegeheim-was-funktioniert-und-was-nicht-und-warum-nicht.html, July 18, 2019
6 C. Becker MD et. al: Epidemiology of Falls in Residential Aged Care: Analysis of More Than 70,000 Falls From Residents of Bavarian Nursing Homes, 2011, 2011

3 PRINCIPLES OF EFFECTIVE LIGHTING

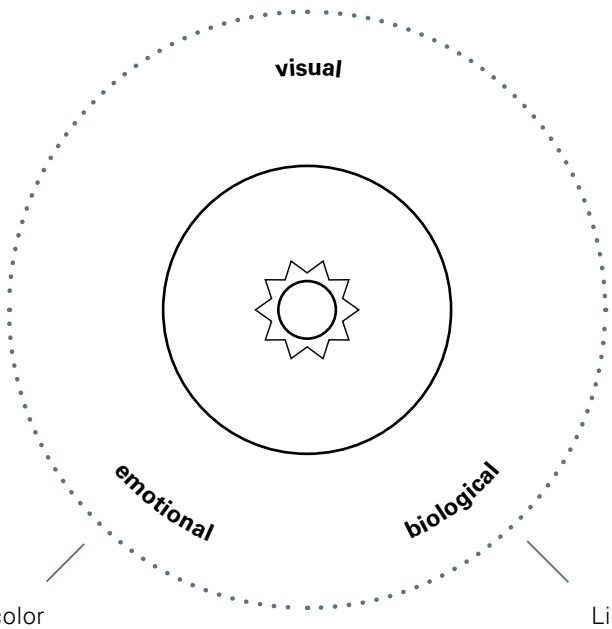


01 | THE RIGHT LIGHT IN THE RIGHT PLACE

02 | THE RIGHT LIGHT COLOR AND COLOR RENDERING

03 | THE RIGHT LIGHT AT THE RIGHT TIME VISUAL TIMING LIGHT

The visual dimension makes it possible to see, to perceive our environment and perform cognitive tasks.



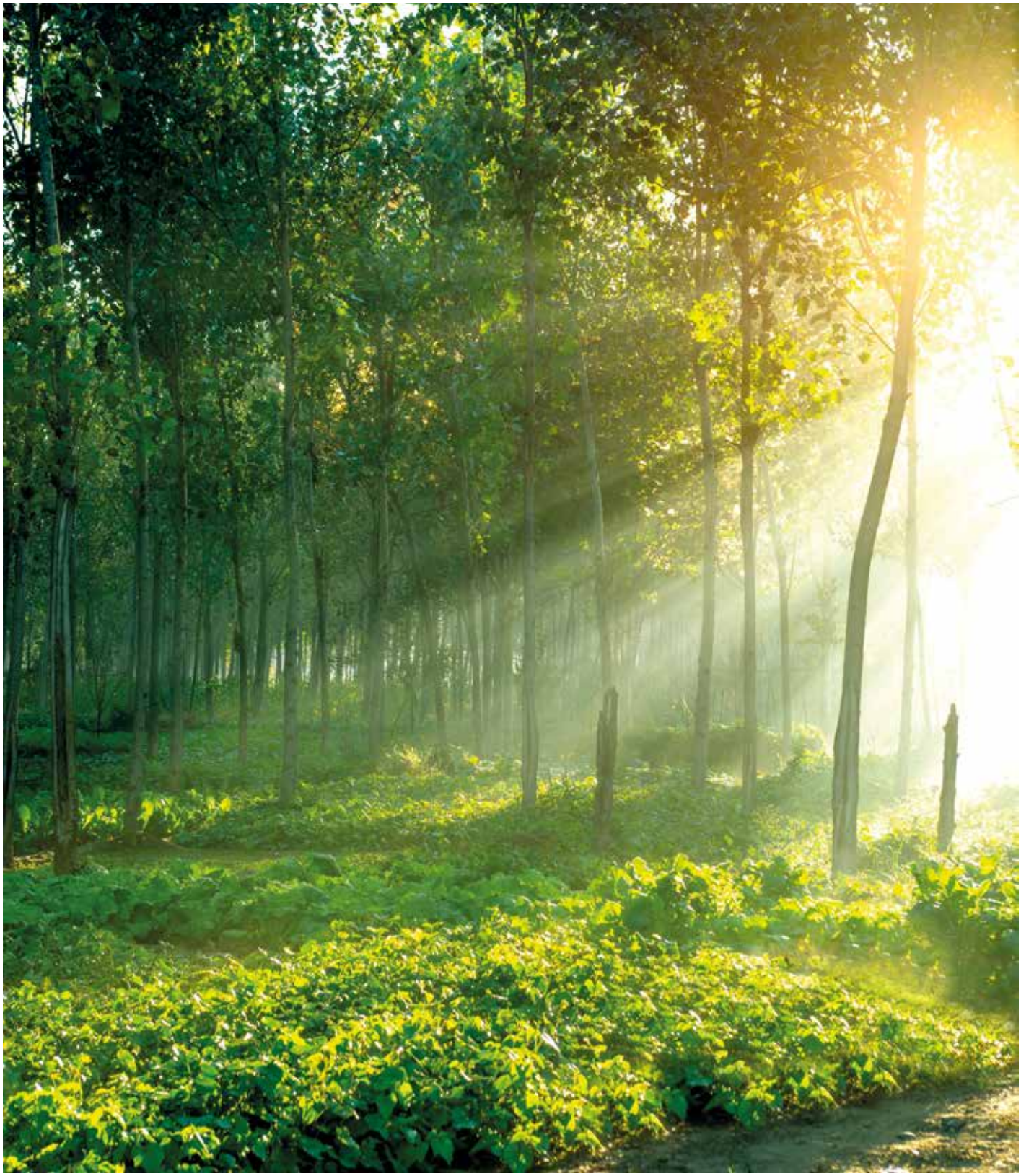
The interplay of light and color triggers moods and is therefore particularly important in the interior design field.

Light controls our circadian rhythm and affects our health and well-being.

01 |

THE RIGHT LIGHT IN THE RIGHT PLACE

Not all light is the same.
Light used too sparingly can make a room look threatening to someone with failing vision, while other lights can glare or throw confusing shadows. It is important to look at each room individually, and considering each room's primary use, include natural and artificial light effectively.



Undesirable shadow formation due to poor lighting


DON'Ts


DOs


DON'Ts


DON'Ts

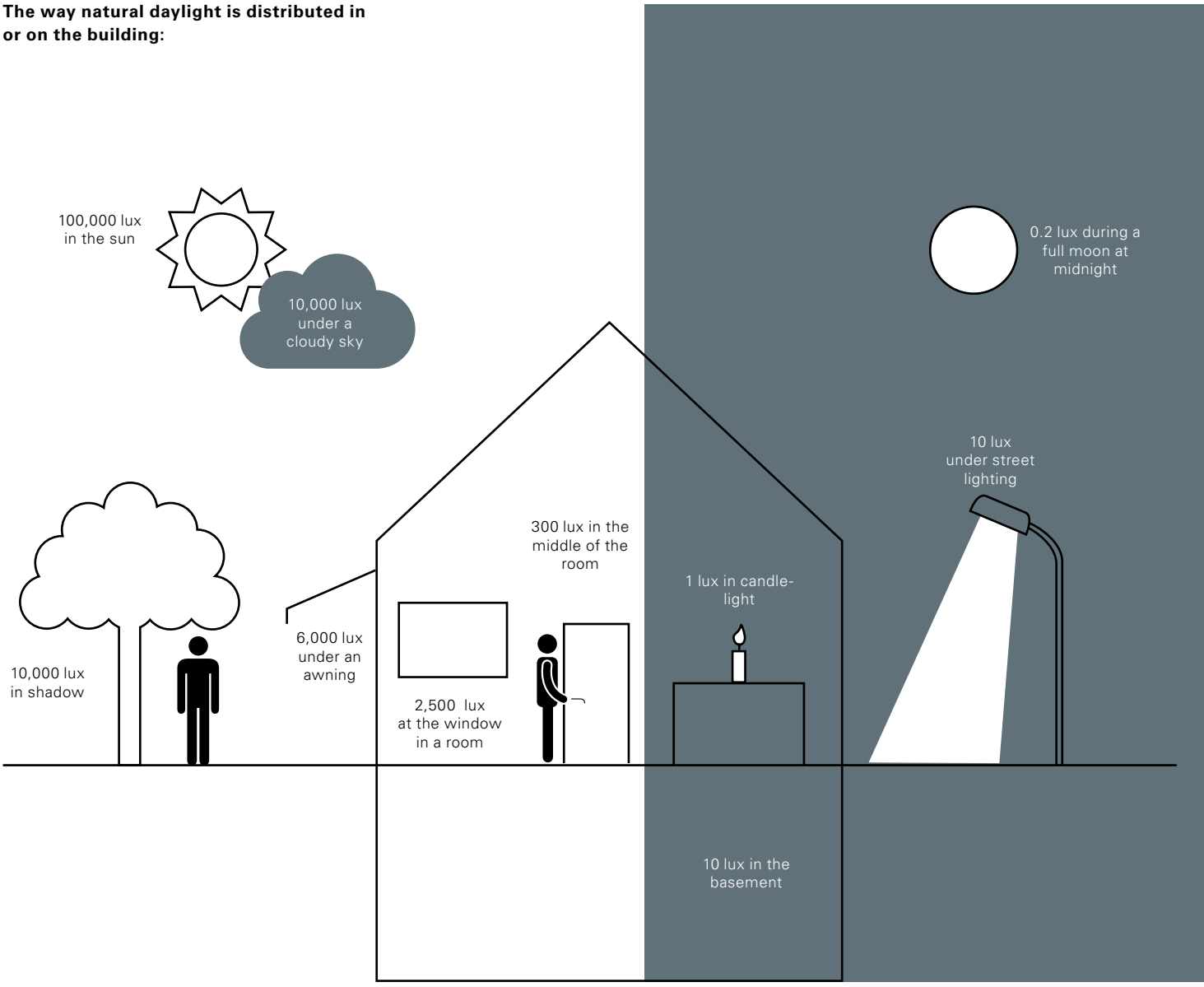

DON'Ts


DOs

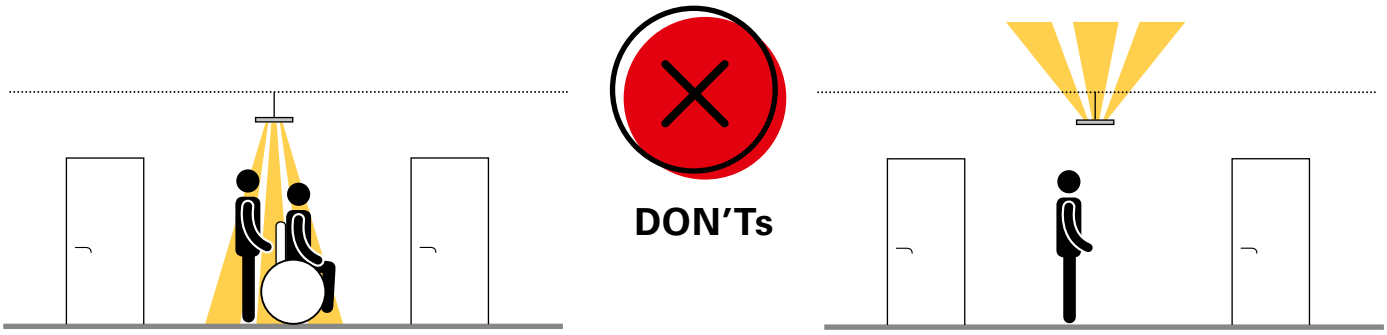

DON'Ts


DOs

The way natural daylight is distributed in or on the building:



Unfavorable room lighting



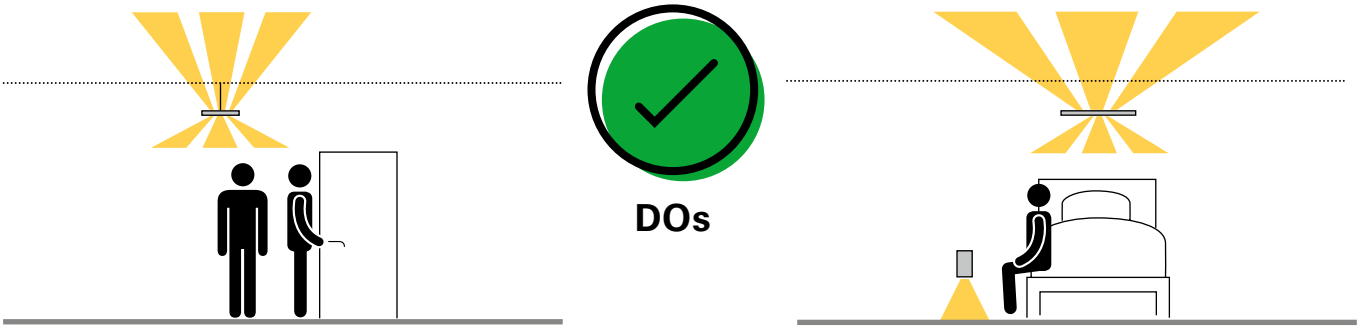
100 % Direct lighting alone

- Reflexive glare and undesirable shadow formations occur due to close bundling of light and concentrated light sources
- Unsettling reflections on the floor appear that could be interpreted as water
- Dark, oppressive room appearance triggers anxiety and does not appear inviting
- Emits uncomfortable lighting for people lying down, because they are looking directly into the light source

100 % Indirect lighting alone

- Diffuses lighting atmosphere as contrasts become blurred
- Room illumination can be too light in some areas, and too dark in other parts of the room

Our recommendation



Direct/indirect lighting

- Low shadow formation due to even lighting
- Low reflection, because light is optimally directed and distributed in the room
- Good glare limitation even for people lying down, because they do not look directly into the light source
- Bright room appearance assists the eyes' visual capabilities
- Uniform lighting is safer and more welcoming

Two-component lighting

- Direct/indirect lighting is supplemented using an individually switchable care and examination light or reading light
- Meets recommended light intensity per VDI/VDE guideline 6008-3
- Elderly people require illumination intensity that is up to four times higher than for younger people

02 |

THE RIGHT LIGHT COLOR AND COLOR RENDERING

Light is a design tool.
It brings dimensions, materials and colors to life. Light affects how we perceive rooms, and also whether we feel well and safe.

Quality feature – Ra color rendering index
Light sources with the same light color can have different color rendering properties. Therefore, the Ra color rendering index (CRI) is used to evaluate artificial light sources.

The index indicates how true to nature colors are under the relevant light source compared to color rendering under natural daylight. The highest Ra value is 100. Ra 100 means that all of an object's colors can be recognized as under optimal daylight — the viewer perceives them as "natural". The more the Ra color rendering index deviates from 100, the less the light is duplicating the light quality of natural daylight.

How is the the Ra color rendering index determined?
To determine the Ra value of a light source, eight common test colors are generally used. 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.

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

Ra is the index made up of R1–R8

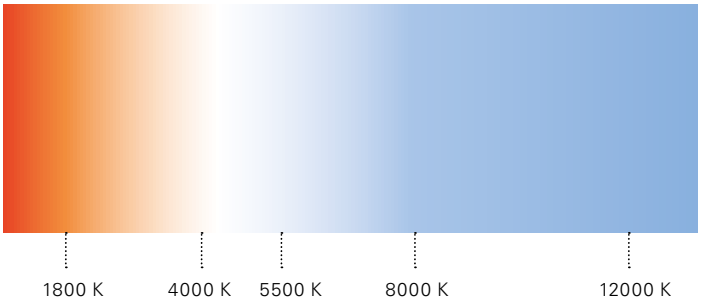
Color temperature

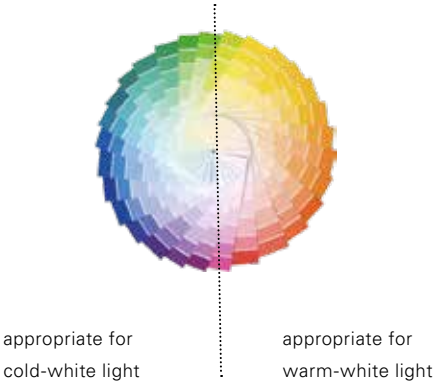
The color temperature characterizes the light color of a light source. The comparison object is the "black body" (made of platinum), which is heated and takes on certain colors at certain temperatures. Initially, it is dark red, then red, later orange, and then yellow. Finally, it is white, and at very high temperatures light blue. A specific color can be defined by specifying the Kelvin (K) temperature of the "black body". The Kelvin temperature scale begins at absolute zero (–273°C or –459.67°F).

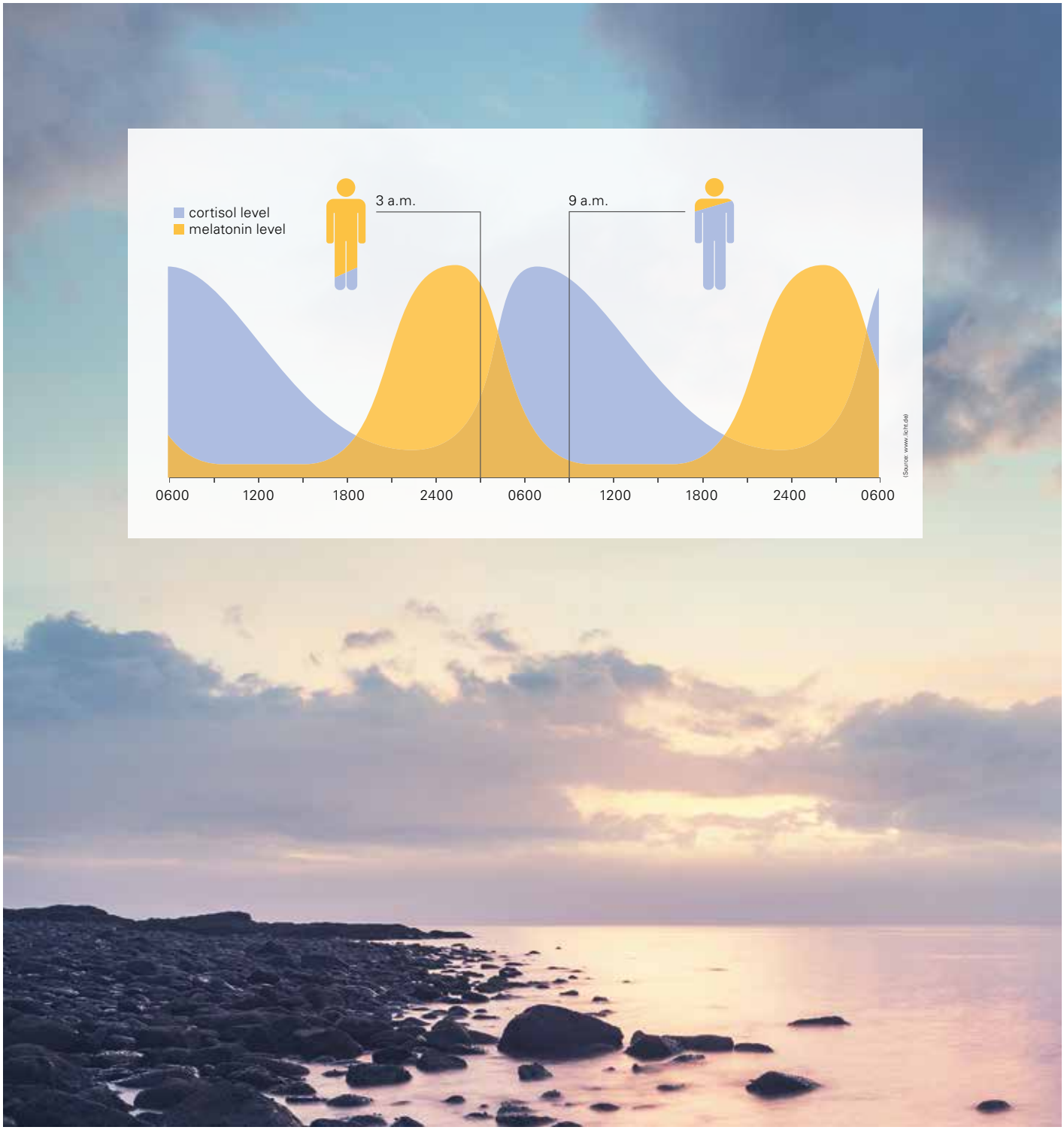
Color impression

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 out red, yellow and orange tones.






cortisol level
melatonin level
3 a.m.
9 a.m.
0600
1200
1800
2400
0600
1200
1800
2400
0600
(Source: www.licht.de)


EARLY MORNING


MID MORNING


MIDDAY

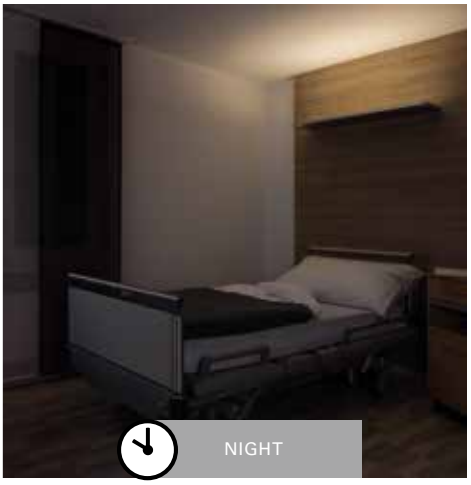
03 |

THE RIGHT LIGHT AT THE RIGHT TIME

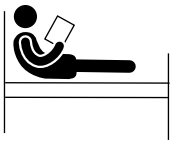
Light not only allows us to see, but affects the human body in many ways:
It guides biological processes and sets our sleep-wake rhythm. How is this possible? The hormones melatonin (the "sleep hormone") and cortisol (the "stress hormone") play an important role. The low-wave spectral component allows the cortisol level to rise as it suppresses production of the sleep hormone melatonin. Our sleep-wake phases are significantly affected by daylight as a result. The problem is obvious: Most people spend about 90% of their day in closed rooms with artificial light. "Normal" artificial light sends our body the same type of light throughout the day, regardless of time. Too much light at the wrong time disturbs the natural sleep pattern. Discomfort, fatigue and a drop in productivity can result.

Learned from nature
"Human Centric Lighting" (HCL) for lighting buildings can recreate the characteristics of natural daylight. The Visual Timing Light (VTL) is such a light management system.

How does the Visual Timing Light work?
It simulates the course of daylight by automatically changing the intensity and color of indirect general lighting. The firmly defined, time-dependent control curve is based on scientific findings and evaluations. The light color varies between 6500 K (daylight white, energetic) and 3000 K (warm white, relaxing). This process comes closest to natural light. It stimulates the body's own metabolic processes, which supports well-being and recovery in a natural way.



Added value



Residents and patients

Scientifically evaluated
International studies and reports from actual experience confirm the effects of Human Centric Lighting (HCL). It's no wonder that more and more design concepts in senior care homes and health facilities provide for biologically effective light**. There are many benefits to using Human Centric Lighting.**

- Lack of daylight is compensated for, which can prevent development of mood fluctuations and even depression.
- Stabilization of the day-night rhythm through changes in light intensity and light color based on the time of day, which is particularly helpful for dementia patients.
- Aids in the balancing of active and resting phases throughout the day, keeping the continuity of the circadian rhythm.
- When the progression of the circadian rhythm is controlled throughout the day, it elicits a positive response overall. Positive patients and residents have much better days (and nights) in general.
- Emotional and physical well-being improves thanks to restful nights.

ADVANTAGES
FOR EVERYONE VTL

St. Marien-Hospital, Cologne, Germany
Prof. Dr. med. Ralf-Joachim Schulz, MD

Experience report: Biologically effective light in the clinical environment of a delirium/dementia unit
"The Visual Timing Light concept is a building block in our light therapy as an overall approach to improving the milieu of our dementia ward. Through stabilization of the day/night rhythm, our patients are provided with ample light and at the same time prepared for a refreshing night's sleep. In this and many other ways, we hope to use lighting to reduce the risk of delirium and to provide dementia patients with natural support."

pro-persona.care GmbH,
therapeutic care centers
Altentreptow and Neubrandenburg, Germany
Gerd Bekel

Biodynamic light management as part of an "enriched environment" concept
"We can see a direct effect on individual symptoms in clients with Parkinson's disease and other neurodegenerative diseases. Moreover, we see a positive influence on all people who come to us in need of care. This is especially shown by general fitness throughout the day and alertness in the afternoon. Among our patients with dementia, we have noticed that they barely ever walk around aimlessly. Due to widespread use of biodynamic light, we have no dark corners or corridors. Among clients who visit our facilities only occasionally or have been absent for an extended time, we often notice a great deal of fatigue, agitation, and hangover syndrome."

Caregivers

- Improved well-being through biodynamic light that conforms to and supports the employees' internal clock.
- Easing stress on personnel by supporting active and resting phases at the right times and basically balancing residents' sleep/wake cycles.
- Feeling relaxed relaxed thanks to less tired eyes and less headaches, which are often a result of poor lighting.
- Personnel feels more gratified and less stressed working with more comfortable people in general.

Operators

- Enormous perceived value enhancement due to interior design measures, particularly within renovation projects.
- Added value through reduced employee absenteeism and lost days, increased employee commitment and motivation.
- Clear signaling in terms of comprehensive, holistic care of the residents.
- Improved reputation of the facility through the use of need-based lighting systems for the elderly, especially dementia patients.

ZERA Bed / Eco

VANERA Bed

Linea Ambience

Linea Living LED

VIVAA

OBLO

DOTOO.spot

IDOO.fit

DOTOO.fit

DOTOO.line

VANERA LED

VIVAA

VIVAA Ring

LAVIGO

IDOO.pendant

IDOO.line

DOTOO.line

ZERA Wand

ZERA Bath

VANERA LED

VANERA LED Bath

LAVIGO Wand

VIVAA Free

AMALIA

LAVIGO

AMALIA

CULTA

PARA.MI

RIGU

CUBE

Healthy light for all rooms

Discover our versatile lighting solutions and bring perfect light to every room! Seek and find the right luminaire — choose among various luminaire types, designs and mounting options.

Offices and conference rooms

Examination rooms

Corridors and stairways

Lavatory (bath/toilet)

Entrance and waiting areas

We are a full provider.
Also discover our treatment, examination and magnifier luminaires:
www.waldmann.com/P&G

Nurses' stations

Patient rooms

Bathrooms

Residents' rooms

Business and public areas

Restaurant & recreation areas

LIGHT FOR CARE AND HEALTH
ROOM LIGHTING

● ideally suitable
○ well suited

Further options and technical information online:
www.waldmann.com

Luminaire	Residents' rooms	Patient rooms	
Wall-mounted luminaires			
ZERA Bed	●	●	
VANERA LED Bed	●	○	
Built-in and mounted luminaries			
VIVAA			
OBLO	○		
DOTOO.spot	●	●	
IDOO.fit		●	
DOTOO.fit			
DOTOO.line			
VANERA LED	○	○	
Suspended luminaires			
VIVAA			
VIVAA Ring			
LAVIGO			
IDOO.pendant			
IDOO.line			
DOTOO.line			
Wall-mounted luminaires			
ZERA Wand	○	○	
ZERA Bath			
VANERA LED	○	○	
VANERA LED Bath			
LAVIGO Wand			
Freestanding luminaires			
VIVAA Free	●		
AMALIA	●		
LAVIGO			
Table and reading luminaries			
AMALIA	●	●	
CULTA	●	○	
PARA.MI	○	○	
Orientation lighting			
RIGU	●	●	
CUBE	●	●	

Waldmann
ENGINEERS OF LIGHT

We are a full provider.

Discover our medical lighting and workplace lighting for office and nursing care.

	Entry areas	Waiting and recreation areas, restaurants, cafés	Sanitary areas	Corridors and stairways	Examination rooms	Business and public areas	Offices and conference rooms
	●	●		○			○
	○		○	●		●	
			○			○	○
		○		●	●		●
				○	○	●	○
	○			○			○
	○	○		●			
	●	●		○			●
	●	●					○
					●		●
		○					●
	○	●		○			●
	○	○		○			○
	●	●		●			
			●				
	○	○		●			
			●				
					○		●
	●	●					○
	●	●					○
					○		●
	○	○					
					○		●
	●	●		○			

WALL-MOUNTED LUMINAIRES OVER THE BED

Our wall-mounted luminaires bathe resident and patient rooms in light that promotes healing and well-being. With pleasant general lighting, there's no room for gloom. At the same time, the multifunctional luminaires can assist with medical care, thanks to integrated examination lights and night lights.

WALL-MOUNTED LUMINAIRES
ZERA Bed

ZERA Bed

The smart wall luminaire. As linear as its name – ZERA Bed LED wall-mounted luminaire with its slender design and technical finesse, suits any need in a patient or resident room. Multi-functional: it includes an examination light, general lighting, reading light and night light. And with capabilities to be equipped with the VTL system, ZERA Bed provides biodynamic lighting that can be custom-programmed for natural well-being.

www.waldmann.com/zera-bed

ZERA Bed applications

- Residents' rooms
- Patient rooms

ZERA Bed – données techniques

Lighting efficiency	General lighting to 120 lm/W
Color rendering	• General lighting Ra > 80 • Examination light Ra > 90 • Reading light Ra > 80"
Materials	• Anodized aluminum • PMMA satinized cover
Installation options	Wall mounted
Options	• Visual Timing Light (VTL) • DALI • Switch for examination light • Reading light switched by a call system (LVC) • Night light

ZERA Bed versions

Versions	General lighting	Examination light	Reading light	Dimensions
ZERA Bed VTL 36/60	5400 lm, 3000 K* - 6500 K* (VTL)	1000 lx at examination level	900 lm, 2700 K*	Length 1050 mm
ZERA Bed VTL 36/33	5400 lm, 3000 K* - 6500 K* (VTL)	500 lx at examination level	900 lm, 2700 K*	Length 1050 mm
ZERA Bed 36/60	5200 lm, 3000 K*	1000 lx at examination level	900 lm, 2700 K*	Length 1050 mm
ZERA Bed 36/33	5200 lm, 3000 K*	500 lx at examination level	900 lm, 2700 K*	Length 1050 mm
ZERA Bed Eco 36/20	5200 lm, 3000 K*	none	1700 lm, 3000 K*	Length 1050 mm

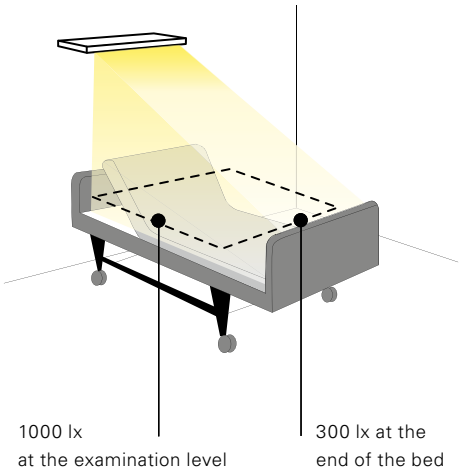
Further models and technical information online

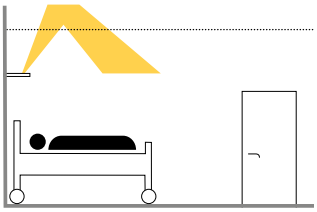
* -10% / +20% tolerance


Derungs

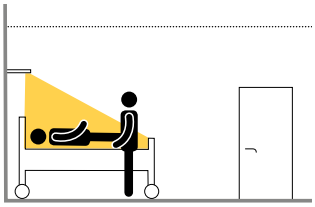
FOUR LIGHTS
IN ONE.

The innovative free-form optic enables a clearly defined, smooth, clear, even light

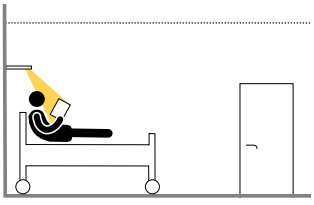




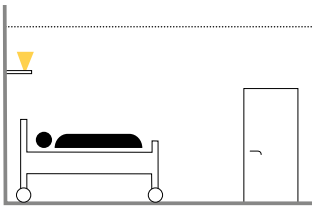
General lighting
- warm white light 3000 K*
- pleasant spatial perception
- indirect
- smooth, clear, even light
- glare-free



Examination light
- neutral white light 4000 K*
- color rendering Ra > 90
- asymmetrical
- clearly defined
- glare-free



Reading light
- warm white light 2700 K*
- calming
- age appropriate illumination intensity
- asymmetrical
- glare-free



Night light
- warm white light 2700 K*
- calming
- indirect
- smooth, clear even light
- glare-free

* -10% / +20% tolerance

WALL-MOUNTED LUMINAIRES
VANERA LED Bed

VANERA LED Bed

The VANERA LED BED LIGHT is a solid wall-mounted luminaire from the ground up. The same sleek design and performance of the original VANERA family: high-quality materials, smooth, even light ideal for rooms, corridors and stairways. The satine acrylic cover provides timeless elegance.

www.waldmann.com/vanera-bed

VANERA LED Bed applications

- Residents' rooms
- Patient rooms

VANERA LED Bed – données techniques

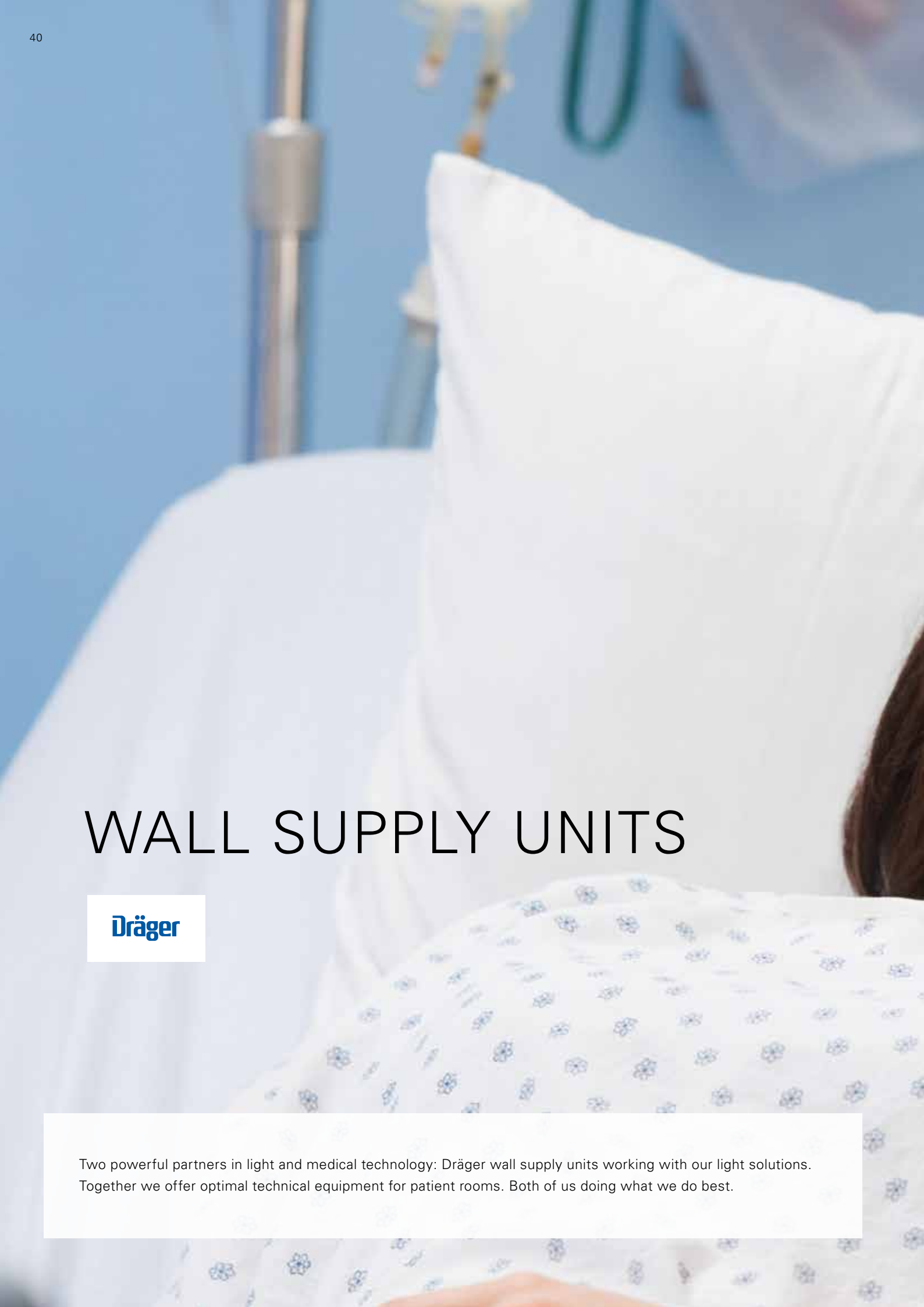
Luminous flux	• Direct light 5200 lm • Direct light 2300 lm
Lighting efficiency	105 lm/W
Color rendering	Ra >80
Light output	71 W
Materials	• Anodized aluminum • PMMA satine cover
Mounting options	Wall-mounted
Options	• DALI • Reading light switched by a call system (LVC)

VANERA LED Bed versions

Versions	General lighting	Examination light	Reading light	Dimensions
VANERA LED Bed 50/20 W	5200 lm, 3000 K*	500 lx at examination level (General lighting and reading light together)	2300 lm, 3000 K*	Length 1200 mm

Further models and technical information online

* -10% / +20% tolerance



WALL SUPPLY UNITS

Dräger

Two powerful partners in light and medical technology: Dräger wall supply units working with our light solutions. Together we offer optimal technical equipment for patient rooms. Both of us doing what we do best.

MEDICAL WALL SUPPLY UNITS

Combining the strengths of two well-established, well-respected manufacturers: Dräger, a leader in the field of medical and safety equipment, offers a comprehensive portfolio of wall supply units for every room type and application. Our lighting consultants work closely with the experts from Dräger to create the perfect solution for the medical environment.

LINEA AMBIENCE

As a striking design element with cozy wood decor, Linea Ambience lends a refined appearance to every hospital room. Laterally positioned, the power connections are easily accessible to caregivers but not visible to the patient from the front.

LINEA LIVING LED

An elegant wall supply unit in a classic design with individual configuration options for patient- and provider-friendly care. Linea Living fits into the existing design concept with ease, optimizing the benefits of the wall unit.

BUILT-IN AND SURFACE-MOUNTED LUMINAIRES

Light accompanies and assists us in all our daily activities. It's just there — almost invisible. With surface-mounted and built-in luminaires, space and light merge into a single functional unit. Discover the DOTOO, IDOO and VIVAA luminaire families for patients and residents' rooms, as well as corridors and public areas.

SURFACE-MOUNTED LUMINAIRES
VIVAA Surface-mounted

VIVAA
Surface-mounted

The VIVAA stylized light design. It enhances any ceiling landscape with its seamless decorative ring — only 36 mm (1.4 in.) high. Two size options extend the design possibilities.

DALI VTL

www.waldmann.com/vivaa-anbau

VIVAA applications

- Entry areas
- Waiting and recreation areas
- Restaurants, cafés
- Corridors and stairways
- Offices and conference rooms

VIVAA - technical features

Lighting efficiency	up to 125 lm/W
Color temperature	3000 K*, 4000 K* or VTL 3000 K – 6500 K*
Color rendering	Ra >80
Materials	• Stainless steel • PMMA satine or CDP micro-prism lens
Installation options	Pendant length 15 cm
Options	Visual Timing Light (VTL)
Accessories	Lampshades*

**see page 68

VIVAA versions

Versions	Luminous flux	Light output	Dimensions
VIVAA C 400	5300 – 5500 lm (depending on cover)	45 W	∅ 400 mm
VIVAA C 600	8600 – 8800 lm (depending on cover)	76 W	∅ 600 mm

Further variants and technical information online

* -10% / +20% tolerance

SURFACE-MOUNTED LUMINAIRES
OBLO

OBLO

The straight lines are especially appealing. The matte acrylic lens material features premium workmanship and fits effortlessly into the ceiling. Three choices of diameter extend the design options. The warm white light gives rooms a homey, inviting feeling. With the optional DALI interface, OBLO can be controlled through DALI.

www.waldmann.com/oblo

OBLO applications

- Residents' rooms
- Entry areas
- Sanitary area
- Corridors and stairways
- Business and public areas

OBLO technical features

Lighting efficiency	up to 80 lm/W
Color temperature	3,000 K* or 4,000 K*
Color rendering	Ra >80
Lens materials	PMMA
Installation	surface-mounted
Options	DALI

OBLO versions

Versions	Luminous flux	Light output	Dimensions
OLBO 460	4500 lm	60 W	∅ 460 mm
OBLO 370	2200 lm	30 W	∅ 370 mm
OBLO 300	1200 lm	15 W	∅ 300 mm

Further variants and technical information online

* -10% / +20% tolerance

BUILT-IN LUMINAIRES
DOTOO.spot

DOTOO.spot

The DOTOO.spot surface-mount spot light is the ideal accent light for any room, working together with the ambient room lighting. For safety and comfort, every part of the room – corners, thresholds, etc. should be bright enough to see clearly. Even an inconsistency in the floor can cause a fall, which can be very dangerous. DOTOO.spot is dimmable, and can easily be installed without tools. This product is suitable for ceiling heights of 1 to 42 mm.

www.waldmann.com/dotoo-spot

DOTOO.spot applications

- Residents' rooms
- Patient rooms
- Sanitary areas
- Corridors and stairways
- Business and public areas
- Offices and conference rooms

DOTOO.spot technical features

Lighting efficiency	up to 105 lm/W
Color temperature	3000 K* or 4000 K*
Color rendering	Ra >80
Materials	• Steel • Acrylic prismatic lens
Installation options	Integration
Options	DALI Switchable

DOTOO.spot versions

Versions	Luminous flux	Light output	Dimensions
DSE 1000	1400 lm	14 W	∅ 216 mm
DSE 2000	2100 lm	20 W	∅ 166 mm

Further variants and technical information online

* -10% / +20% tolerance

BUILT-IN AND SURFACE-MOUNTED LUMINAIRES
IDOO.fit

IDOO.fit

Flat design, high efficiency. The IDOO.fit built-in and surface-mounted ceiling light is distinctive for its flat design and efficient lighting. The innovative Edgelight and Lightguide technology ensures smooth, even direct light. The indirect portion, with specially developed optics for ceiling illumination, gives a pleasant feel to the room. Optionally, the IDOO.fit can be equipped with biodynamic VTL light. This luminaire is very versatile and is simple to integrate with various international standard measurements in ceiling cutouts and mounting options.

www.waldmann/idoo

IDOO.fit applications

- Patient rooms
- Sanitary areas
- Waiting and recreation areas
- Restaurants, cafés
- Corridors and stairways
- Examination rooms
- Offices and conference rooms

IDOO.fit technical features

Lighting efficiency	approx. 125 lm/W
Color temperature	3000 K*, 4000 K* or VTL 2700 K - 6500 K*
Color rendering	Ra >80
Materials	• Metal, white • Conical prismatic lens
Installation options	• Integration (ceiling grid 600 x 600 mm, or 625 x 625 mm) • Installation ceiling cutout 575 x 575 mm • Surface-mounted version 590 x 590 mm
Options	Visual Timing Light (VTL)

IDOO.fit versions

Versions	Luminous flux	Light output	Dimensions	Assembly
IFE 5000	5400 lm	43 W	Ceiling grid 600 x 600 mm	Integration
IFE 5000	5400 lm	43 W	Ceiling grid 625 x 625 mm	Integration
IFE 5000	5400 lm	43 W	Ceiling cutout 575 x 575 mm	Integration
IFA 5000	5400 lm	43 W	590 x 590 mm	Surface-mounted version
IFE 5000/VTL**	6700 lm	59 W	Ceiling grid 600 x 600 mm	Integration
IFE 5000/VTL**	6700 lm	59 W	Ceiling grid 625 x 625 mm	Integration
IFE 5000/VTL**	6700 lm	59 W	Ceiling cutout 575 x 575 mm	Integration
IFA 5000/VTL**	6700 lm	59 W	590 x 590 mm	Surface-mounted version

Further variants and technical information online

** Control required, e.g. NET module
Specified values when using NET module

* -10% / +20% tolerance

BUILT-IN LUMINAIRES
DOTOO.fit

DOTOO.fit

The DOTOO.fit is a recessed luminaire for drop ceilings – compatible with national and international system dimensions. A special feature is the direct light portion and Lightguide technology for smooth, clear light output. DOTOO.fit can be easily integrated by inlaying the luminaire into drop ceilings.

www.waldmann.com/dotoo-fit

DOTOO.fit applications

- Corridors and stairways
- Examination rooms
- Business and functional rooms
- Offices and conference rooms

DOTOO.fit technical features

Luminous flux	4,100 lm
Lighting efficiency	approx. 120 lm/W
Color temperature	3,000 K* or 4,000 K*
Color rendering	Ra >80
Light output	34 W
Materials	• Metal, white • Conical prismatic lens
Installation options	• Ceiling grid 600 x 600 mm • Ceiling grid 625 x 625 mm
Options	DALI

DOTOO.fit versions

Versions	Luminous flux	Light output	Dimensions	Assembly
DFE 4000	4100 lm	34 W	Ceiling grid 600 x 600 mm	Integration
DFE 4000	4100 lm	34 W	Ceiling grid 625 x 625 mm	Integration

Further variants and technical information online

* -10% / +20% tolerance

SURFACE-MOUNTED LUMINAIRES
DOTOO.line

DOTOO.line

The DOTOO.line surface-mounted luminaire can actually make an architect's heart beat a little faster. The direct light output bathes the room in soft, even light.

www.waldmann.com/dotoo-line

- Entry areas
- Sanitary areas
- Corridors and stairways
- Offices and conference rooms

DOTOO.line technical features

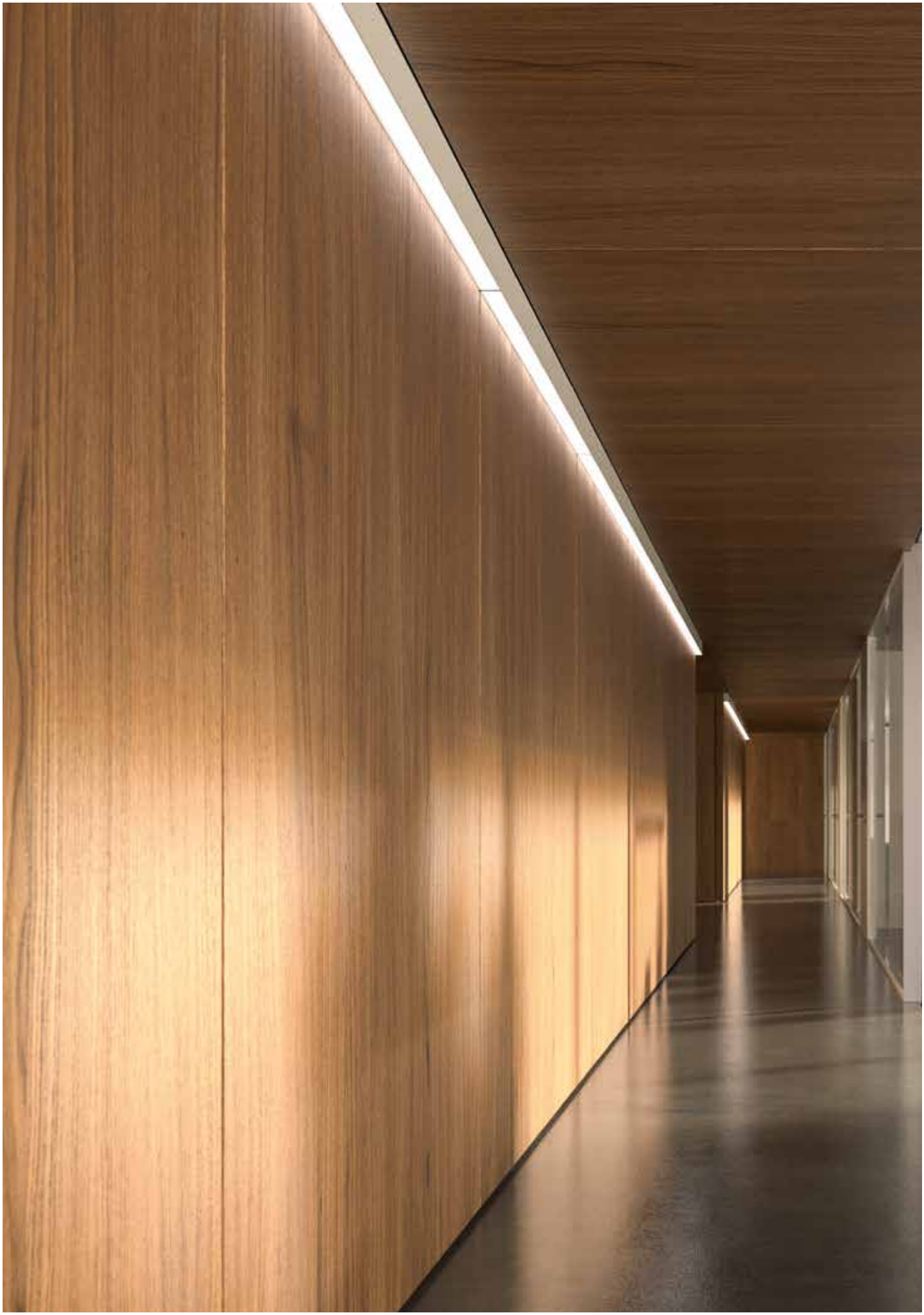
Lighting efficiency	approx. 90 lm/W
Color temperature	3000 K* or 4000 K*
Color rendering	Ra >80
Materials	• Metal, white or silver • Conical prismatic lens
Installation options	Surface-mounted version

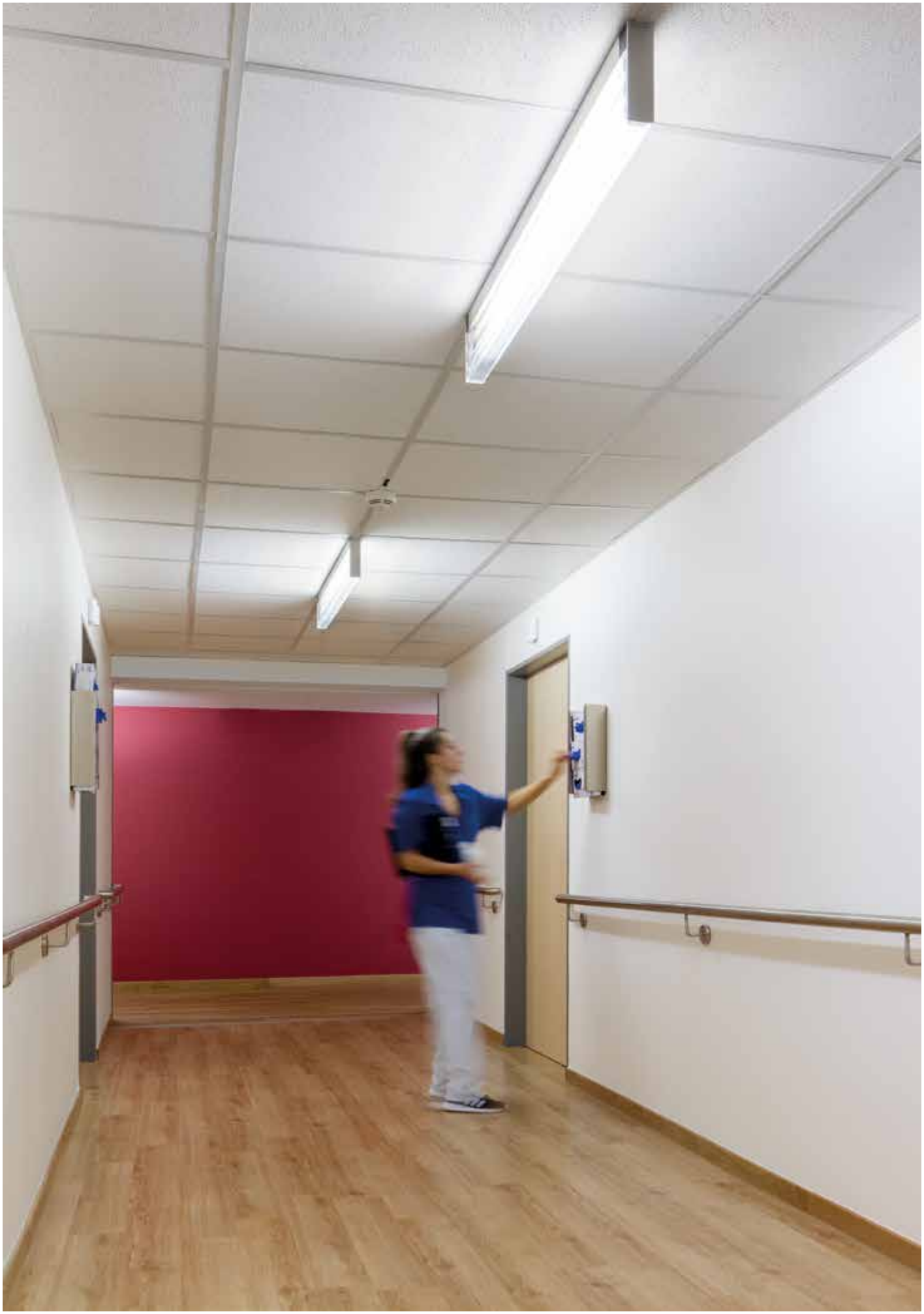
DOTOO.line versions

Versions	Luminous flux	Light output	Dimensions
DLA 1000	1000 lm	11 W	Length 854 mm
DLA 1500	1350 lm	16 W	Length 1134 mm
DLA 2000	1700 lm	19 W	Length 1414 mm
DLA 3000	2700 lm	30 W	Length 2256 mm

Further variants and technical information online

* -10% / +20% tolerance





SURFACE-MOUNTED LUMINAIRES
VANERA LED

VANERA LED

Subtle design, high-quality materials, intelligent lighting technology and energy-efficiency are blended into one luminaire family. These are the components that make up modern classics. Simple and straightforward, VANERA LED blends with any style and fits perfectly into its surroundings.

www.waldmann.com/vanera

VANERA LED applications

- Residents' rooms
- Patient rooms
- Sanitary areas
- Entry areas
- Waiting and recreation areas
- Restaurants, cafés
- Corridors and stairways

VANERA LED technical

Lighting efficiency	up to 83 lm/W
Color temperature	3000 K*, 4000 K* or VTL 3000 K – 6500 K*
Color rendering	Ra >80
Materials	Anodized aluminum PMMA prismatic lens
Installation options	Surface-mounted version
Options	Visual Timing Light (VTL)

VANERA LED versions

Versions	Luminous flux	Light output	Dimensions
VANERA LED VTL 80	6200 lm	80 W	Length 924 mm
VANERA LED VTL 60	5000 lm	60 W	Length 924 mm
VANERA LED 80	5100 lm	71 W	Length 924 mm
VANERA LED 60	4100 lm	53 W	Length 924 mm

Further variants and technical information online

* -10% / +20% tolerance

SUSPENDED LUMINAIRES

The interplay of elegance and function brings a new feel to the room. The atmosphere you create is up to you – with the use of color temperature, dimming options and light placement, light to nurture health and well-being, light to support focus and concentration, light to encourage a feeling of activity. With the VIVAA, LAVIGO, IDOO or DOTOO luminaire families, the perfect light is available for almost any room.

SUSPENDED LUMINAIRES
VIVAA

VIVAA

Sunshine for the indoors. Outstanding lighting packaged in a slender, seamless stainless steel frame. With the latest LED technology, VIVAA is highly energy efficient and economical. Its high light output means that fewer luminaires are needed to create smooth, even room lighting. Choices of light size, fabric shades and styles are available, as well as DALI and VTL.

www.waldmann.com/vivaa

VIVAA applications

- Entry areas
- Waiting and recreation areas
- Restaurants, cafés
- Corridors and stairways
- Offices and conference rooms

VIVAA - technical features

Lighting efficiency	up to 125 lm/W
Color temperature	3000 K*, 4000 K* or VTL 3000 K – 6500 K*
Color rendering	Ra >80
Materials	• Stainless steel • PMMA or CDP micro-prism
Installation options	• Suspension cable length 30 cm • Suspension cable length 50 cm
Options	Visual Timing Light (VTL)
Accessories	Lampshades**

**see page 68

VIVAA versions

Versions	Luminous flux	Light output	Dimensions
VIVAA C 400	5300 – 5500 lm (depending on cover)	45 W	∅ 400 mm
VIVAA C 600	8600 – 8800 lm (depending on cover)	76 W	∅ 600 mm
VIVAA VTL C 400	6300 – 6600 lm (depending on cover)	55 W	∅ 400 mm
VIVAA VTL C 600	10700 – 11000 lm (depending on cover)	90 W	∅ 600 mm

Further variants and technical information online

* -10% / +20% tolerance

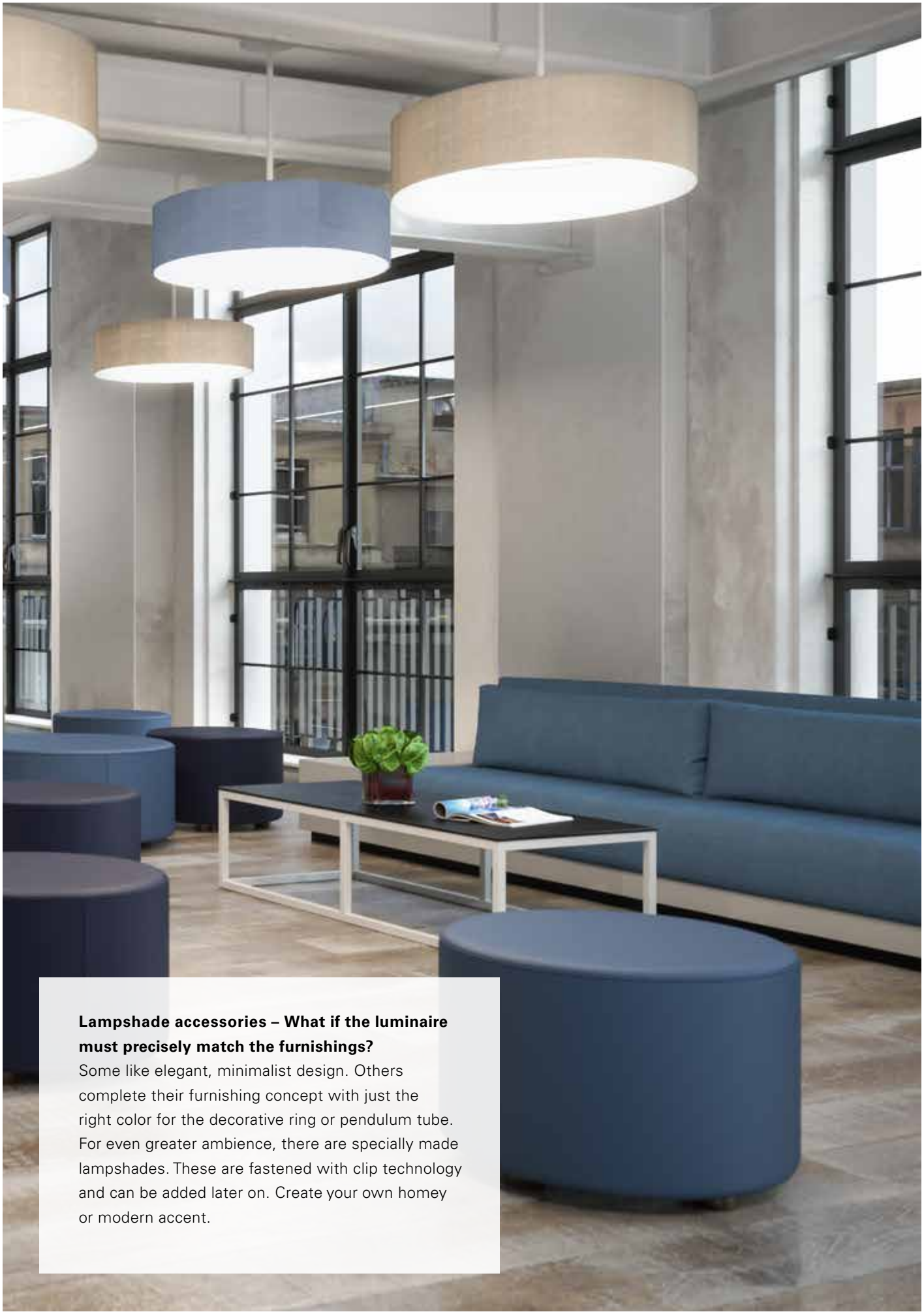
Lampshades
VIVAA

4111 blue* | 4112 pink* | 4113 green* | 1110 beige | 8110 gray* | 8261 charcoal*

*Special equipment at additional charge
Colors may differ from printed image. If interested, please request an original fabric sample.

Compact lampshade

- Flammability:
  DIN 4102/B1, M1, BS 5867, TYP B, IMO Res. A471 (XII), EN 13773 C1
- Lightfastness DIN EN ISO 105-B02: Note 5
- Palette of 50 colors



Lampshade accessories – What if the luminaire must precisely match the furnishings?
Some like elegant, minimalist design. Others complete their furnishing concept with just the right color for the decorative ring or pendulum tube. For even greater ambience, there are specially made lampshades. These are fastened with clip technology and can be added later on. Create your own homey or modern accent.

SUSPENDED LUMINAIRES
VIVAA Ring

VIVAA Ring

A design statement. With its cable suspension Derungs brings a new design highlight to the VIVAA luminaire family. The VIVAA Ring levitates in space with its slim anatomy and filigreed suspension. Its large proportion of indirect lighting distributes illumination perfectly within the room and creates a friendly atmosphere. Optional features, such as VTL, further enhance comfort.

www.waldmann.com/vivaa-ring

VIVAA Ring applications

- Entry areas
- Waiting and recreation areas
- Restaurants, cafés
- Offices and conference rooms

VIVAA Ring technical features

Lighting efficiency	up to 125 lm/W
Color temperature	3000 K*, 4000 K* or VTL 3000 K – 6500 K*
Color rendering	Ra >80
Materials	• Stainless steel • PMMA satinized or CDP micro-prism shade
Installation options	Suspension cable adjustable to 150 cm
Options	Visual Timing Light (VTL)

VIVAA Ring versions

Versions	Luminous flux	Light output	Dimensions
VIVAA Ring C 600	8600 – 8800 lm (depending on lens)	70 W	∅ 600 mm
VIVAA Ring VTL C 600	10700 – 11000 lm (depending on lens)	90 W	∅ 600 mm

Further variants and technical information online

* -10% / +20% tolerance

SUSPENDED LUMINAIRES
LAVIGO

LAVIGO

The simplicity principle. Keeping it simple - uncomplicated, clean lines that go with any style and will remain fresh in the future. Unwavering light — uniformly bright light — offers the best conditions for an environment comfortable on the eyes and free from fatigue. LAVIGO luminaires offer an optimal proportion of direct- and indirect light. In the biodynamic VTL version, LAVIGO simulates natural daylight in the room, which has a positive effect on the people there.

www.waldmann.com/lavigo

LAVIGO applications

- Examination rooms
- Offices and conference rooms

Lavigo technical features

Lighting efficiency	up to 151 lm/W
Color temperature	4000 K*, 5000 K* or VTL 2700 K – 6500 K*
Color rendering	Ra >80 or Ra >90, R9 >50
Materials	• steel, plastic white • Conical prismatic lens
Installation	Suspension cable
Options	• Visual Timing Light (VTL)

LAVIGO versions

Versions	Luminous flux	Light output	Dimensions
DPP 16000/840/D/G2	16500 lm	112 W	Length 1245 mm
DPP 456/950/D***	15400 lm	143 W	Length 1245 mm
DPP 480 D (VTL)**	10300 lm	79 W	Length 1245 mm
DPP 24000/840/D/G2	24000 lm	158 W	Length 2430 mm
DPP 960 D (VTL)**	13900 lm	105 W	Length 2430 mm

Further variants and technical information online

** Control required, e.g. NET module

*** 5000 K, Ra >90, R9>50

* -10% / +20% tolerance

SUSPENDED LUMINAIRES
IDOO.pendant

IDOO.pendant

Finesse in a low profile. The IDOO.pendant suspended luminaire amazes with its striking look. Despite a design height of just 20 mm, all operating devices can be integrated into the luminaire, which eases installation considerably. Thanks to the latest Edgelight technology, the light output is soft and evenly distributed. In addition to single luminaires specific models are designed to form continuous runs as well as biodynamic lighting scenarios.

www.waldmann.com/idoo

IDOO.pendant applications

- Waiting and recreation areas
- Restaurants, cafés
- Offices and conference rooms

IDOO.pendant technical features

Lighting efficiency	approx. 141 lm/W
Color temperature	4000 K* or VTL 2700 K - 6500 K*
Color rendering	Ra >80
Materials	• Metal, white or silver • Conical prismatic lens
Installation	• Single-luminaire suspension cable • Linkable luminaire suspension cable, up to 6 pieces
Options	Visual Timing Light (VTL)

IDOO.pendant versions

Versions	Luminous flux	Light output	Dimensions
IPP 7000/840/D	7000 lm	49 W	Length 1200 mm
IPP 7000/VTL/D**	8400 lm	65 W	Length 1200 mm

Further variants and technical information online

** Control required, e.g. NET module
Specified values when using NET module

* -10% / +20% tolerance

SUSPENDED LUMINAIRES
IDOO.line

IDOO.line

Minimalistic yet full of design possibilities. IDOO.line's sleek profile can stand on its own, or several can be linked together easily to form continuous runs across and throughout any space. Design options are endless as both direct and indirect light output help to create an easy, comfortable ambience.

www.waldmann.com/idoo

IDOO.line applications

- Entry areas
- Waiting and recreation areas
- Restaurants, cafés
- Corridors and stairways
- Offices and conference rooms

IDOO.line technical features

Lighting efficiency	approx. 134 lm/W
Color temperature	3000 K* or 4000 K*
Color rendering	Ra >80
Materials	• Metal, white or silver • Conical prismatic lens
Installation	• Single-luminaire suspension cable • Linkable luminaire suspension cable up to 18 m

IDOO.line versions

Versions	Luminous flux	Light output	Dimensions
ILP 2000/840/D	2350 lm	17 W	Length 854 mm
ILP 3000/840/D	3150 lm	23 W	Length 1134 mm
ILP 4000/840/D	3950 lm	29 W	Length 1414 mm
ILP 6000/840/D	6300 lm	46 W	Length 2256 mm

Further variants and technical information online

* -10% / +20% tolerance

SUSPENDED LUMINAIRES
DOTOO.line

DOTOO.line

Simplicity at its best. DOTOO.line suspended luminaire is sleek and striking. Hung individually or linked together in a continuous run, DOTOO.line offers pleasant, glare-free room lighting with a look that beautifully blends in with any décor.

www.waldmann.com/dotoo-pendel

DOTOO.line applications

- Entry areas
- Waiting and recreation areas
- Restaurants, cafés
- Corridors and stairways
- Offices and conference rooms

DOTOO.line technical features

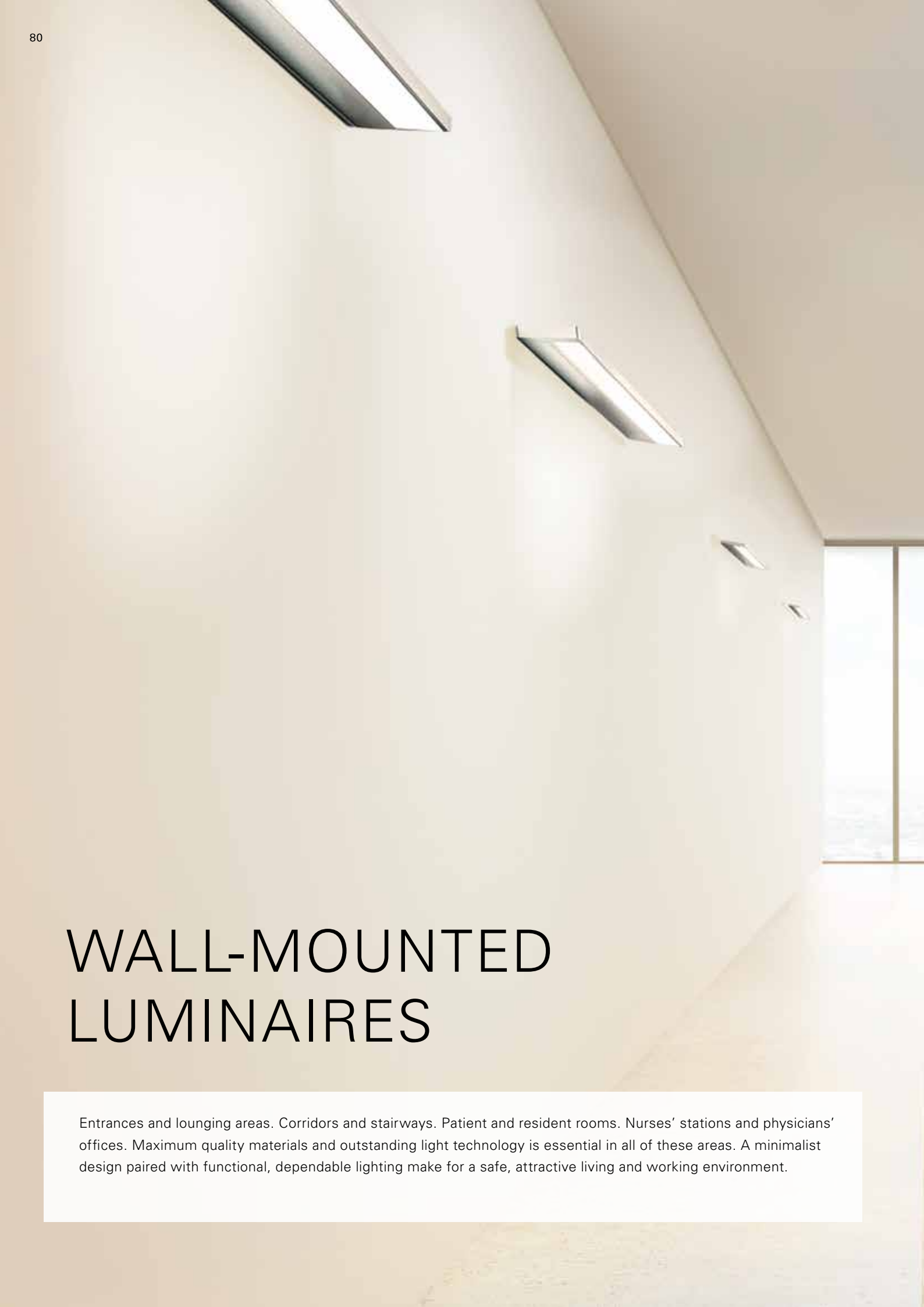
Lighting efficiency	approx. 105 lm/W
Color temperature	3000 K* or 4000 K*
Color rendering	Ra >80
Materials	• Metal, white or silver • Conical prismatic screen
Installation options	• Single-luminaire suspension cable • Linkable luminaire suspension cable up to 18 m

DOTOO.line versions

Versions	Luminous flux	Light output	Dimensions
DLP 1000	1000 lm	9.5 W	Length 854 mm
DLP 1500	1350 lm	13 W	Length 1134 mm
DLP 2000	1700 lm	16 W	Length 1414 mm
DLP 3000	2750 lm	26 W	Length 2256 mm

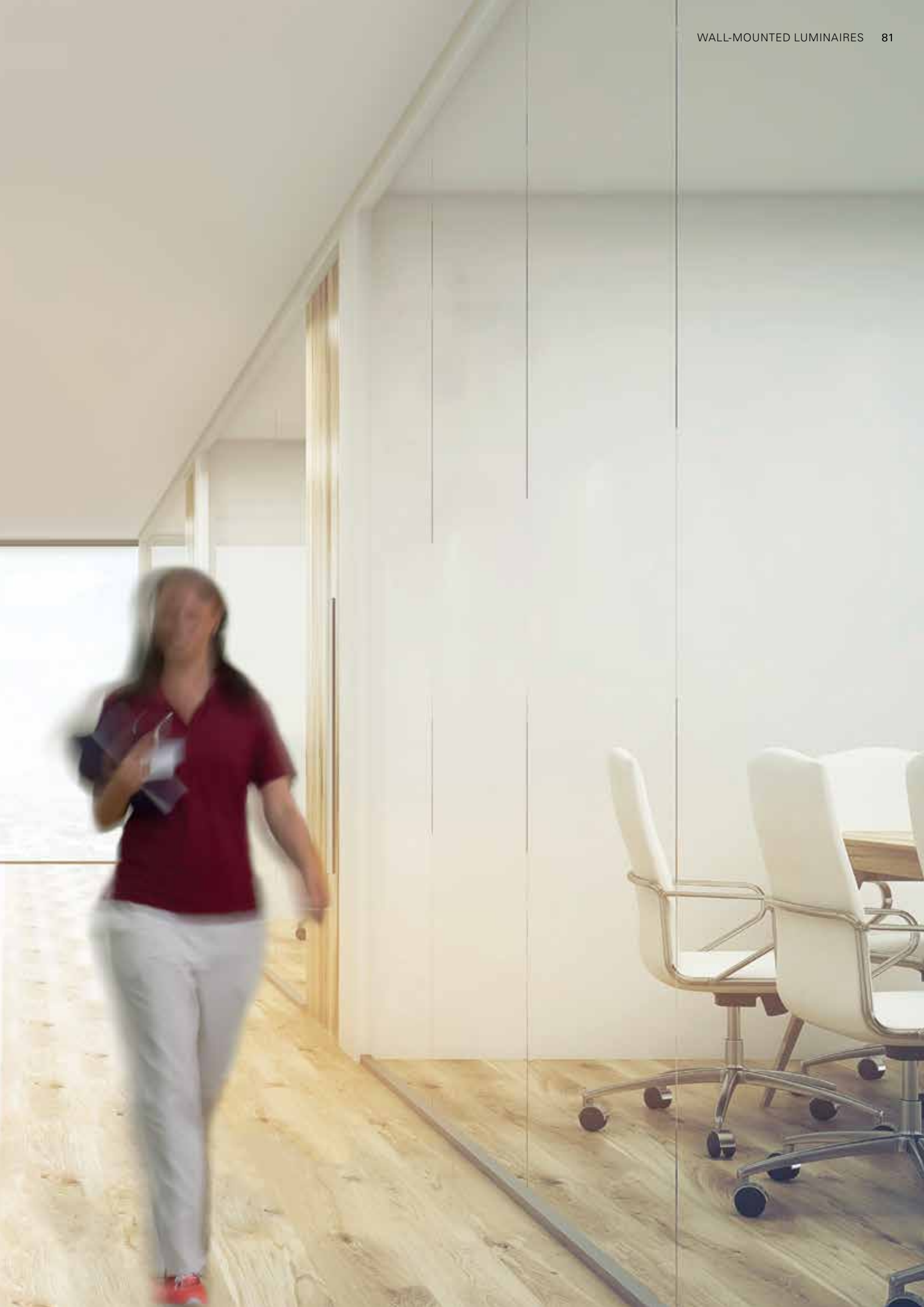
Further variants and technical information online

* -10% / +20% tolerance



WALL-MOUNTED LUMINAIRES

Entrances and lounging areas. Corridors and stairways. Patient and resident rooms. Nurses' stations and physicians' offices. Maximum quality materials and outstanding light technology is essential in all of these areas. A minimalist design paired with functional, dependable lighting make for a safe, attractive living and working environment.



WALL-MOUNTED LUMINAIRES
ZERA

ZERA

The latest in LED technology, a self-contained housing and only the most durable components available make ZERA bed light a maintenance-free, functional lighting solution for medical facilities, senior residences, or any other public living or care-giving environment. With several self-switchable lighting scenarios: ambient light to softly illuminate the general environment, a more focused examination light directed towards the bed area and a glare-free reading light for comfortable quiet time.

DALI VTL

www.waldmann.com/zera

ZERA applications

- Residents' rooms
- Patient rooms
- Entry areas
- Waiting and recreation areas
- Restaurants, cafés
- Corridors and stairways

ZERA technical features

Lighting efficiency	up to 136 lm/W
Color temperature	3000 K*, 4000 K* or VTL 3000 K – 6500 K*
Color rendering	Ra >80
Materials	• Anodized aluminum • PMMA lens
Installation	Wall-mounted
Options	• DALI • Visual Timing Light (VTL)

ZERA versions

Versions	Luminous flux	Light output	Dimensions
ZERA 40 W	5600 lm	41 W	Length 1050 mm
ZERA 20 W	2800 lm	18 W	Length 550 mm
ZERA VTL 40 W	6600 lm	49 W	Length 1050 mm
ZERA VTL 20 W	3300 lm	25 W	Length 550 mm

Further variants and technical information online

* -10% / +20% tolerance


09

WALL-MOUNTED LUMINAIRES
ZERA Bath

ZERA Bath

Lighting for baths and sanitary areas is always a challenge. The ZERA Bath wall-mounted luminaire can change any small, windowless bath into a safe and inviting space. This narrow bath luminaire offers uniform, low-shadow illumination without glare. ZERA Bath is rated IP 44 – splash-proof for additional safety.

reddot award 2018
winner

www.waldmann.com/zera-bath

ZERA Bath applications

- Sanitary areas

ZERA Bath technical

Lighting efficiency	up to 122 lm/W
Color temperature	3000 K* or 4000 K*
Color rendering	Ra >80
Features	• IP 44 • Protection class II
Materials	• Anodized aluminum • PMMA lens
Installation options	Wall-mounted

ZERA Bath versions

Versions	Luminous flux	Light output	Dimensions
Zera Bath 20 W	3300 lm	27 W	Length 600 mm
Zera Bath 20 W	3300 lm	27 W	Length 550 mm

Further variants and technical information online

* -10% / +20% tolerance

WALL-MOUNTED LUMINAIRES
VANERA LED

VANERA LED

Subtle design language, high-quality materials, intelligent lighting technology and energy-efficiency are blended into one luminaire family. Simple and straightforward, VANERA LED blends with any decor and fits seamlessly into its surroundings. VANERA LED is especially effective in areas with low ceilings or narrow corridors – also small or cramped areas in residents' rooms.

DALI VTL

www.waldmann.com/vanera

VANERA LED applications

- Residents' rooms
- Patient rooms
- Entry areas
- Waiting and recreation areas
- Restaurants, cafés
- Corridors and stairways

VANERA LED technical

Lighting efficiency	up to 83 lm/W
Color temperature	3000 K*, 4000 K* or VTL 3000 K – 6500 K*
Color rendering	Ra >80
Materials	• Anodized aluminum • PMMA prismatic profile*
Installation options	Wall-mounted
Options	DALI Visual Timing Light (VTL)

VANERA LED versions

Versions	Luminous flux	Light output	Dimensions
VANERA LED VTL 80	6200 lm	80 W	Length 924 mm
VANERA LED VTL 60	5000 lm	60 W	Length 924 mm
VANERA LED 80	5100 lm	71 W	Length 924 mm
VANERA LED 60	4100 lm	53 W	Length 924 mm

Further variants and technical information online

* -10% / +20% tolerance

WALL-MOUNTED LUMINAIRES
VANERA LED Bath

VANERA LED Bath

There's nothing cheerier than the sun shining through the bathroom window. However, that doesn't always happen, because many bathrooms have no windows or are insufficiently lit. VANERA Bath creates sun-like light conditions: soft, uniform and low in shadows. And the facial area is illuminated glare-free. Good illumination enhances safety and can reduce falls. Naturally, the lights have IP 44 splash protection.

www.waldmann.com/vanera-bath

VANERA LED Bath applications

- Sanitary areas

VANERA LED Bath technical

Lighting efficiency	up to 73 lm/W
Color temperature	3000 K*
Color rendering	Ra >80
Features	• IP 44 • Protection class II
Materials	• Anodized aluminum • PMMA prismatic lens
Installation options	Wall Mounted

VANERA LED Bath versions

Versions	Luminous flux	Light output	Dimensions
VANERA LED Bath 40	2800 lm	38 W	Length 643 mm

Further variants and technical information online

* -10% / +20% tolerance

WALL-MOUNTED LUMINAIRES
LAVIGO

LAVIGO

The simplicity principle. Keeping it simple - uncomplicated, clean lines that go with any style and remain fresh in the future. Unwavering light – uniformly bright light – offers the best conditions for an environment comfortable on the eyes and free from fatigue. LAVIGO luminaires offer an optimal proportion of direct- and indirect light. In the biodynamic VTL version, LAVIGO simulates natural daylight in the room, which has a positive effect on the people there.

DALI

www.waldmann/lavigo

LAVIGO applications

- Rooms for examinations
- Offices and conference rooms

Lavigo technical features

Lighting efficiency	up to 117 lm/W
Color temperature	4000 K*
Color rendering	Ra >80
Materials	• Metal, white • Conical prismatic lens
Installation options	Wall-mounted
Options	DALI

LAVIGO versions

Versions	Luminous flux	Light output	Dimensions
DPW 3000	3000 lm	28 W	Length 600 mm
DPW 4500	4600 lm	38 W	Length 900 mm

Further variants and technical information online

* -10% / +20% tolerance

FREESTANDING LUMINAIRES

To add accent, interest and light to a room, especially one used by many people in many different ways, the freestanding luminaire is a very functional and practical solution. A freestanding light can turn a dark corner into an ideal workspace and can enhance the décor in any existing area.


PRODUKT
2019
DES JAHRES
elektrobörse
smarthouse

FREESTANDING LUMINAIRES
VIVAA Free

VIVAA Free

The VIVAA Free freestanding luminaire: Equipped with the Waldmann VTL professional light management system, the VIVAA Free offers biodynamic lighting in a beautiful floor lamp. Proud winner of the Smarthouse Elektroborse Product of the Year 2019, VIVAA Free is simple to use. Plug it in and VIVAA FREE VTL will recognize the time of day and adjust the light color and illuminance to the human internal clock. Powerful LEDs ensure a high output of indirect light, creating comfortable, glare-free light in the room.

www.waldmann.com/VIVAAfree

VIVAA Free Wood applications

- Residents' rooms
- Entry areas
- Waiting and recreation areas
- Restaurants, cafés
- Offices and conference rooms

VIVAA Free Metal technical features

- Central steel tube
- Powder-coated RAL 7024
- Graphite gray fabric shade
- Additional colors for luminaire shade and base available upon request

VIVAA Free technical features

Lighting efficiency	98 lm/W
Luminous flux	4400 lm
Color temperature	3000 K* or VTL 3000 K - 6500 K*
Color rendering	Ra > 80
Light output	45 W
Materials	• Plastic housing • Graphite gray opaque fabric shade
Options	• Visual Timing Light (VTL) Plug & Light • Additional color and material options*

*see page 108

VIVAA Free versions

Versions	Pedestal	Special features	Dimensions
VIVAA Free VTL Wood	Ash wood tripod, stained walnut tone	Automatic day progression, Plug & Light	Height 1650 mm, Ø 510 mm
VIVAA Free Wood	Ash wood tripod, stained walnut tone	dimmable with pull cord	Height 1650 mm, Ø 510 mm
VIVAA Free VTL Metal	Lacquered steel base, graphite gray	Automatic day progression, Plug & Light	Height 1650 mm, Ø 510 mm
VIVAA Free Metal	Lacquered steel base, graphite gray	dimmable with pull cord	Height 1650 mm, Ø 510 mm

Further variants and technical information online

* -10% / +20% tolerance

“My light, my style.” Create your own custom VIVAA Free. Exactly according to your taste and decorating style. Select from various colored lampshades and luminaire bases.

Lampshades
VIVAA

4111 blue* | 4112 pink* | 4113 green* | 1110 beige | 8110 gray* | 8261 graphite

Colors may differ from printed image. If interested, please request an original fabric sample.

Compact lampshade

- Flammability: DIN 4102/B1, M1, BS 5867, TYP B, IMO Res. A471 (XII), EN 13773 C1
- Lightfastness DIN EN ISO 105-B02: Note 5
- Palette of 50 colors

Wooden base
VIVAA Free Wood

Light ash

Ash stained in walnut tone

Wood

Other types of wood upon request*

Metal base
VIVAA Free Metal

white

graphite gray

RAL

free choice of colors per RAL color data*

*Special equipment at additional charge

Lampshades
AMALIA

White shade, painted, washable

Rattan shade, sewn, not washable

Foil shade, glued on, washable

The AMALIA luminaire family doesn't just provide ideal reading light, but also an individual flair and cozy ambience. Additional shade styles are available.

FREESTANDING LUMINAIRES
AMALIA

AMALIA

The AMALIA freestanding luminaire is equipped with a warm white reading light and an amber-colored night light. The lampshade is rotatable 360 degrees, so that AMALIA can also be used as ambient light. Its closed design is especially easy to clean. The flex arm with plastic cover is not only easy to clean, but it also allows individual positioning of the light field.

www.waldmann.com/amalia

AMALIA applications

- Residents' rooms
- Entry areas
- Waiting and recreation areas
- Restaurants, cafés
- Offices and conference rooms

AMALIA technology

Illuminance	1000 lx / 0.5m
Color temperature	3000 K*
Color rendering	Ra > 95, R9 > 90
Light output	9 W
Special features	• Rotary feedthrough (360° Turnover axis) • Night light (LED)"
Accessories	lampshade decors

AMALIA versions

Versions	Color	Dimensions
AMALIA 9 F S3 (30°)	white aluminum	Height 1500 mm
AMALIA 9 F S3 (30°)	pure white	Height 1500 mm

Further variants and technical information online

* -10% / +20% tolerance

FREESTANDING LUMINAIRES
LAVIGO

LAVIGO

The simplicity principle. Keeping it simple - uncomplicated, clean lines that go with any style and remain fresh in the future. Designed by STRUCTURELAB Architects in Düsseldorf, LAVIGO LED freestanding luminaire combines classic form with innovative technology. Its clean, low-profile shape makes LAVIGO compatible with many furniture systems and ideal for lighting the modern office. The PULSE VTL biodynamic version simulates natural daylight in the room, which has a positive effect on people.

VTL

www.waldmann/lavigo

LAVIGO applications

- Examination rooms
- Offices and conference rooms

Lavigo technical features

Lighting efficiency	up to 147 lm/W
Color temperature	4000 K* or VTL 3000 K - 6500 K*
Color rendering	Ra > 80
Materials	• Metal, white • Conical prismatic lens
Options	• Visual Timing Light (VTL) • PIR sensor
Accessories	TALK module for swarm control

LAVIGO freestanding luminaire versions

Versions	Luminous flux	Light output	Dimensions	
DPS 14000/840 /R/G2	14050 lm	120 W	Head length	675 mm
DPS 14000/VTL /R/G2	14250 lm	103 W	Head length	675 mm
DPS 16000/840 /R/G2	16450 lm	112 W	Head length	1265 mm
DPS 18000/VTL /R/G2	18850 lm	128 W	Head length	1265 mm

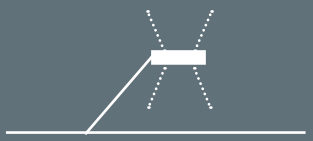
Further variants and technical information online

* -10% / +20% tolerance

TABLE AND READING LIGHTS

Nestle in and read in bed: with the AMALIA and CULTA reading lights. They offer glare-free, relaxing reading light and ergonomic comfort. With the PARA.MI table luminaire, you can make a very personal design statement and pamper your eyes with the best light quality.

TABLE AND READING LIGHTS **AMALIA**



AMALIA

reddot design award
winner 2012

In addition to a warm, white reading light, the AMALIA has an illuminating night light. The movable pivoting arm and the 360° pivoting lampshade bring glare-free light exactly where it's needed. This means the AMALIA can be used as ambient light. The hand grip, with its light-up ON/OFF switch, makes AMALIA easy to use. The closed design and flex arm with plastic cover make cleaning easy.

www.waldmann.com/amalia-leseleuchte

AMALIA applications

- Residents' rooms
- Patient rooms
- Entry areas
- Waiting and recreation areas
- Restaurants, cafés

AMALIA technology

Illuminance	1000 lx / 0.5 m
Color temperature	3000 K*
Color rendering	Ra > 95, R9 > 90
Light output	9 W
Special features	• Rotary feedthrough (360° Turnover axis) • LED night light
Accessories	• Lampshade decors • Rail clamp • Table clamp • Universal mount • Wall bracket

AMALIA versions

Versions	Fastening	Application
AMALIA 9 P S4	16 mm pin	Suitable for wall, table or rail fastening
AMALIA 9 P S4 clinic	16 mm pin	Suitable for wall, table or rail fastening
AMALIA 9 P S7	16 mm pin	Suitable for table mounting
AMALIA 9 B S8	Universal bed adapter	Suitable for fastening to bed

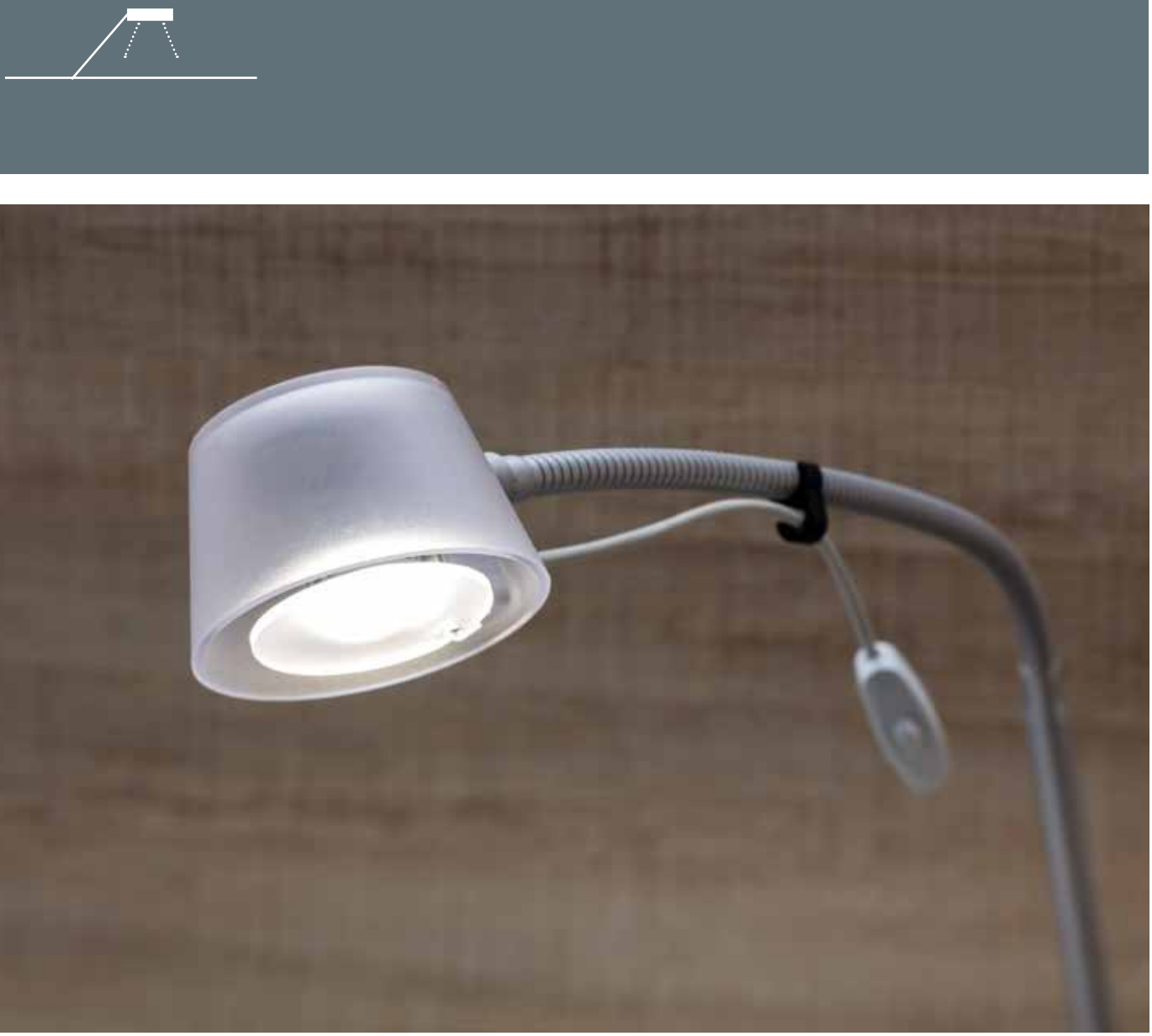
Further variants and technical information online

* -10% / +20% tolerance

Lampshade with decoration for a cozy atmosphere. See page 109.

Amalia with night light function

TABLE AND READING LIGHTS
CULTA LED



CULTA LED

The CULTA LED bed reading luminaire stands out for its minimalist look and solid construction. The cord switch makes it especially easy to operate, ideal for someone with limited mobility. Positioning CULTA LED is child's play with its flexible gooseneck arm and rotating light head. The extra-large light field allows for the patient or resident to read in bed more easily. Also, the CULTA medical standards are in accordance with DIN 60598-2-25, approving it for use in medical and care facilities.

www.waldmann.com/culta

CULTA LED applications

- Residents' rooms
- Patient rooms

CULTA LED technical

Illuminance	1100 lx / 0.5m
Color temperature	3000 K*
Color rendering	Ra > 80
Light output	5.2 W
Options	electrical connection for bed motor
Accessories	• Rail clamp • Table clamp • Universal mount • Wall bracket

CULTA LED versions

Versions	Fastening	Application
CULTA LED S4 P S3	16 mm pin	Suitable for wall, table or rail mounting
CULTA LED S4 B S9	Universal bed adapter	Suitable for mounting to bed

Further variants and technical information online

* -10% / +20% tolerance

TABLE AND READING LIGHTS **PARA.MI**

PARA.MI

PARA.MI task light comes in many shapes and colors that can be mixed and matched for an individual look and feel. Round or square head, square or round base, single or double arm, table mount or attached to a furniture system.
This award-winning ergonomic task light is a great addition to any office or room decor. The PARA.MI is engineered with a very minimalist design - less than ½-inch in thickness - however, still includes many great features such as a robust arm system, continuous dimming, integral memory, and glare-free optics.

www.waldmann.com/parami

PARA.MI applications

- Residents' rooms
- Patient rooms
- Offices and conference rooms

PARA.MI technical features

Illuminance	775 lx / 0.5 m
Color temperature	3000 K* or 4000 K*
Color rendering	Ra > 85
Light output	7 W
Special features	• Light-touch switch – on/off and dimming with memory function • Integrated setting for auto shut-off in 2-hour increments up to 8 hours • Color Rendering >90 exceptional CRI for a task light

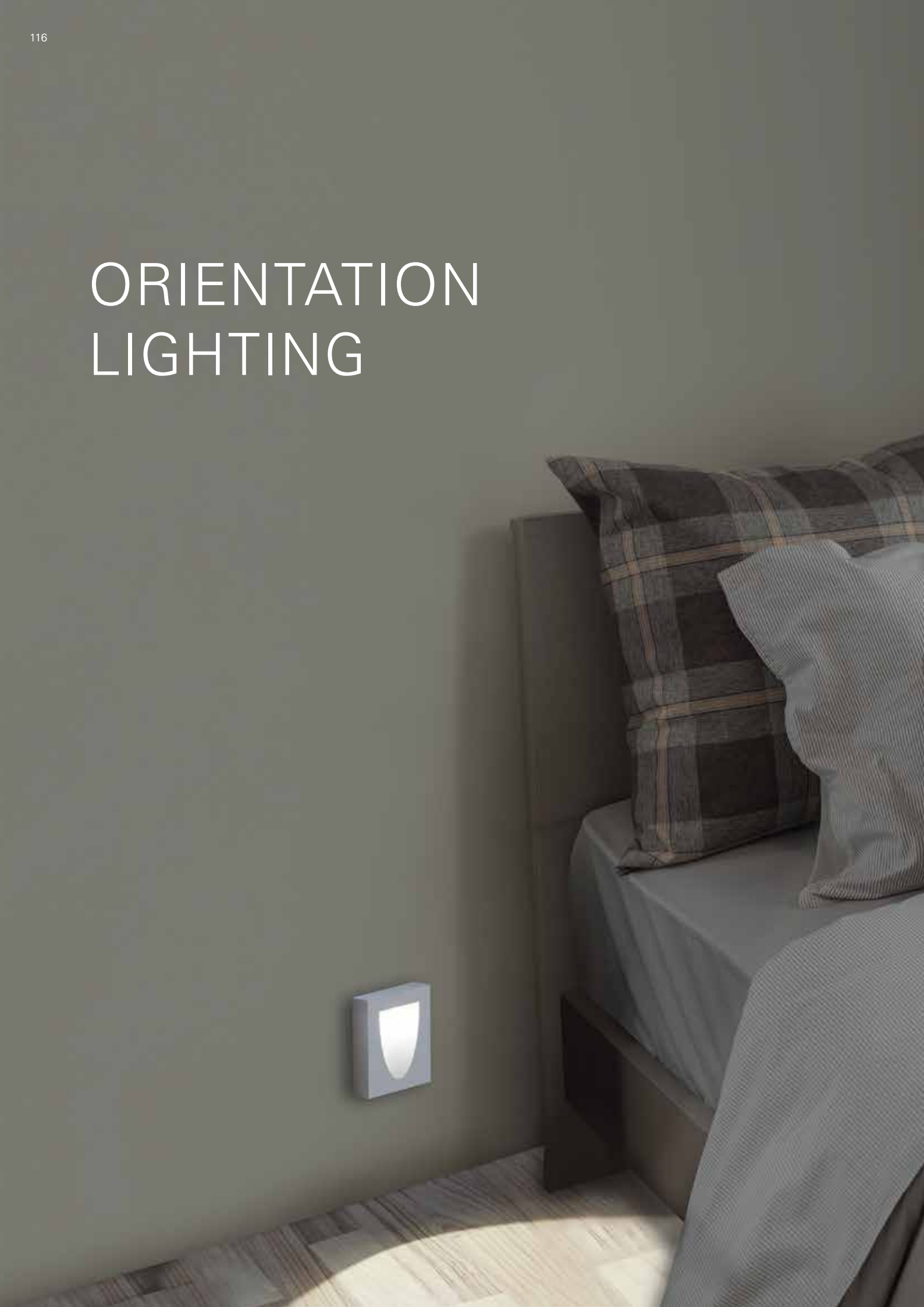
PARA.MI versions

Versions	Luminaire head	Arm system
PARA.MI FTL 102 R	round	double arm
PARA.MI FTL 108 R	square	double arm
PARA.MI MFTL 102 R	round	single arm
PARA.MI MFTL 108 R	square	single arm

Further variants and technical information online

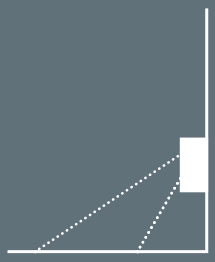
* -10% / +20% tolerance

ORIENTATION LIGHTING



These discrete luminaires were originally developed to help guide patients and residents along in an unfamiliar or dark environment and to avoid falls. However, they have since been discovered to be popular as a design element. Premium workmanship and attractive design make these “night lights” an appealing accent.

ORIENTATION LIGHTING
RIGU



RIGU

The RIGU is an orientation light designed for lighting floors to help in preventing falls. Its warm white light also provides additional safety in halls and stairways, as well as in the bedroom. The RIGU works in tandem with the general room lighting. The white aluminum housing and slim profile deliver a premium look that blends with any decor.

www.waldmann.com/rigu

RIGU applications

- Residents' rooms
- Patient rooms

RIGU technical features

Lighting efficiency	approx. 48 lm/W
Color temperature	3000 K*
Color rendering	Ra >80
Light output	3 W
Features	IP 54
Materials	White aluminum
Installation	Wall-mounted

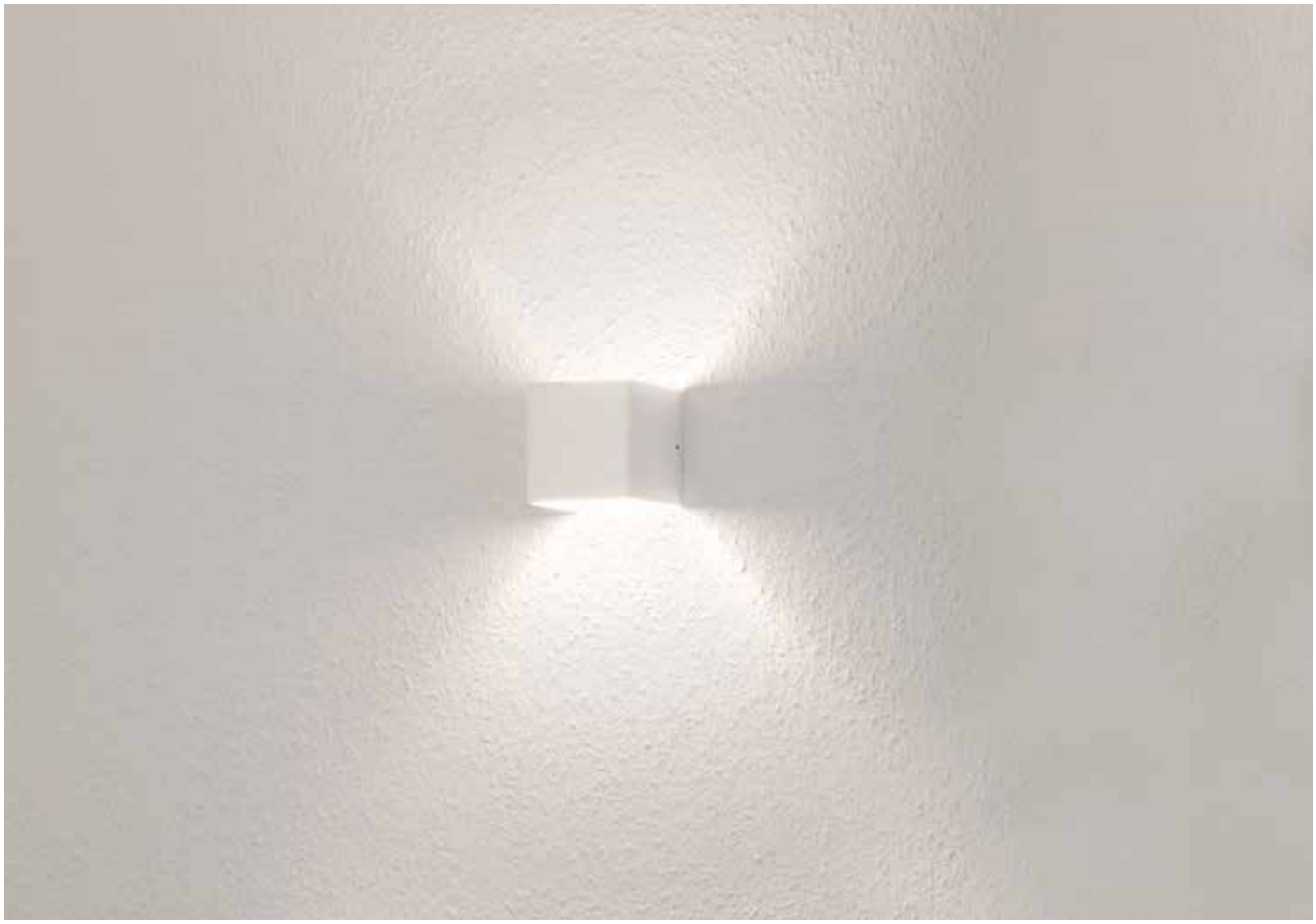
RIGU versions

Versions	Luminous flux	Light output
RIGU	144 lm	3 W

Further variants and technical information online

* -10% / +20% tolerance

ORIENTATION LIGHTING
CUBE



CUBE

The CUBE wall-mounted luminaire is ideal for lighting dark corners or niches where traditional luminaires won't fit. Direct/indirect light enhances the general room lighting and sets accents in hallways, lounge areas and living areas. In the evening and throughout the night, the CUBE provides easy orientation and a pleasant ambience. The powder-coated aluminum light body holds its own against daily wear and tear.

www.waldmann.com/cube

CUBE applications

- Residents' rooms
- Patient rooms
- Entry areas
- Waiting and recreation areas
- Restaurants, cafés
- Corridors and stairways

CUBE technical features

Lighting efficiency	approx. 54 lm/W
Color temperature	3000 K*
Color rendering	Ra >80
Light output	6 W
Materials	White aluminum
Installation	Wall-mounted

CUBE versions

Versions	Luminous flux	Light output
CUBE	326 lm	6 W

Further variants and technical information online

* -10% / +20% tolerance

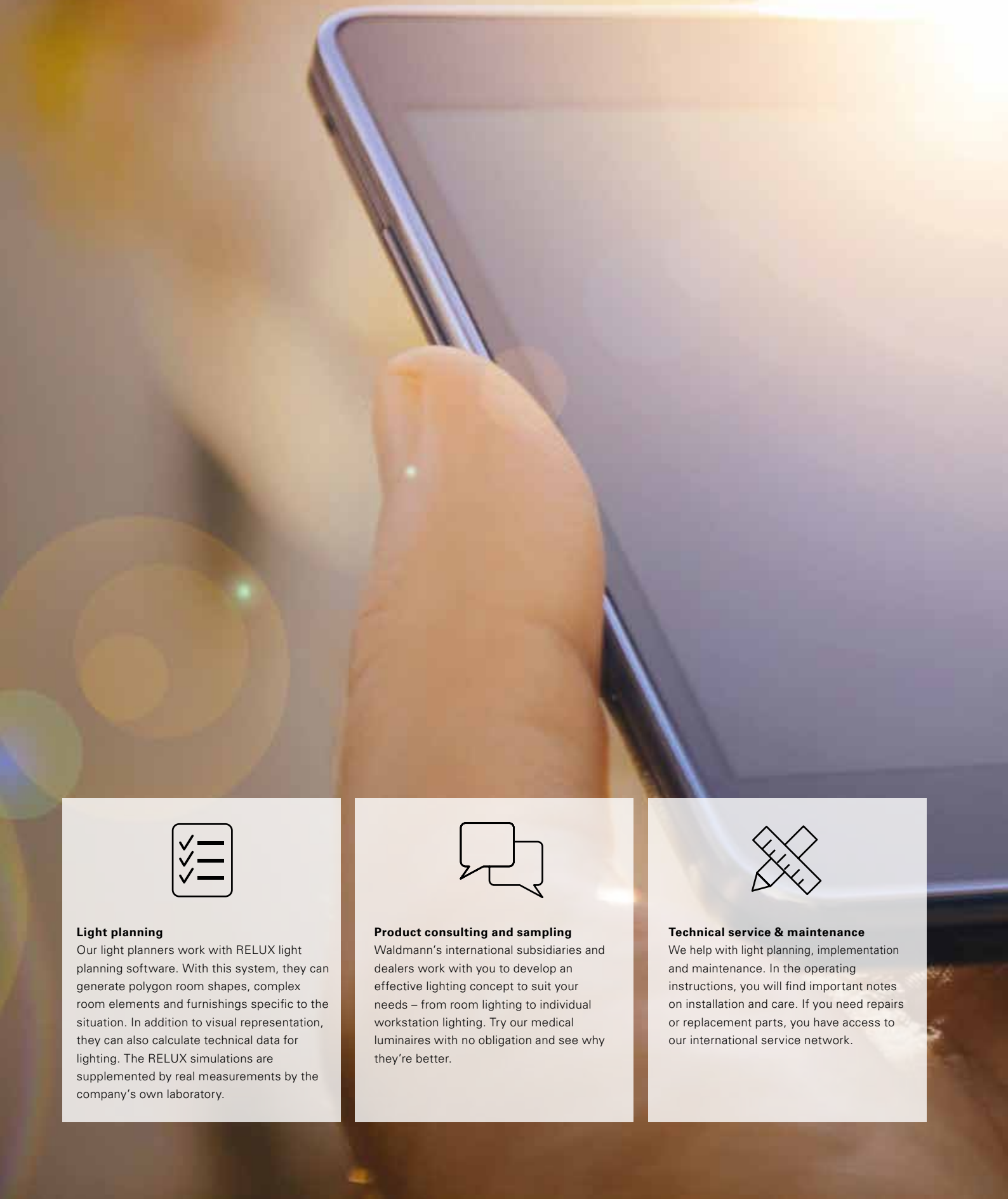
GOOD TO KNOW

STANDARD REQUIREMENTS FOR LIGHT

OUR SERVICES

Service, support and partnership.
We not only aim to develop optimal products, but we want to be your optimal partner. That's why we are glad to assist you in all phases of your project, and in all matters of planning, installation and maintenance of our products.

ALWAYS UP TO DATE.
ALWAYS THERE.

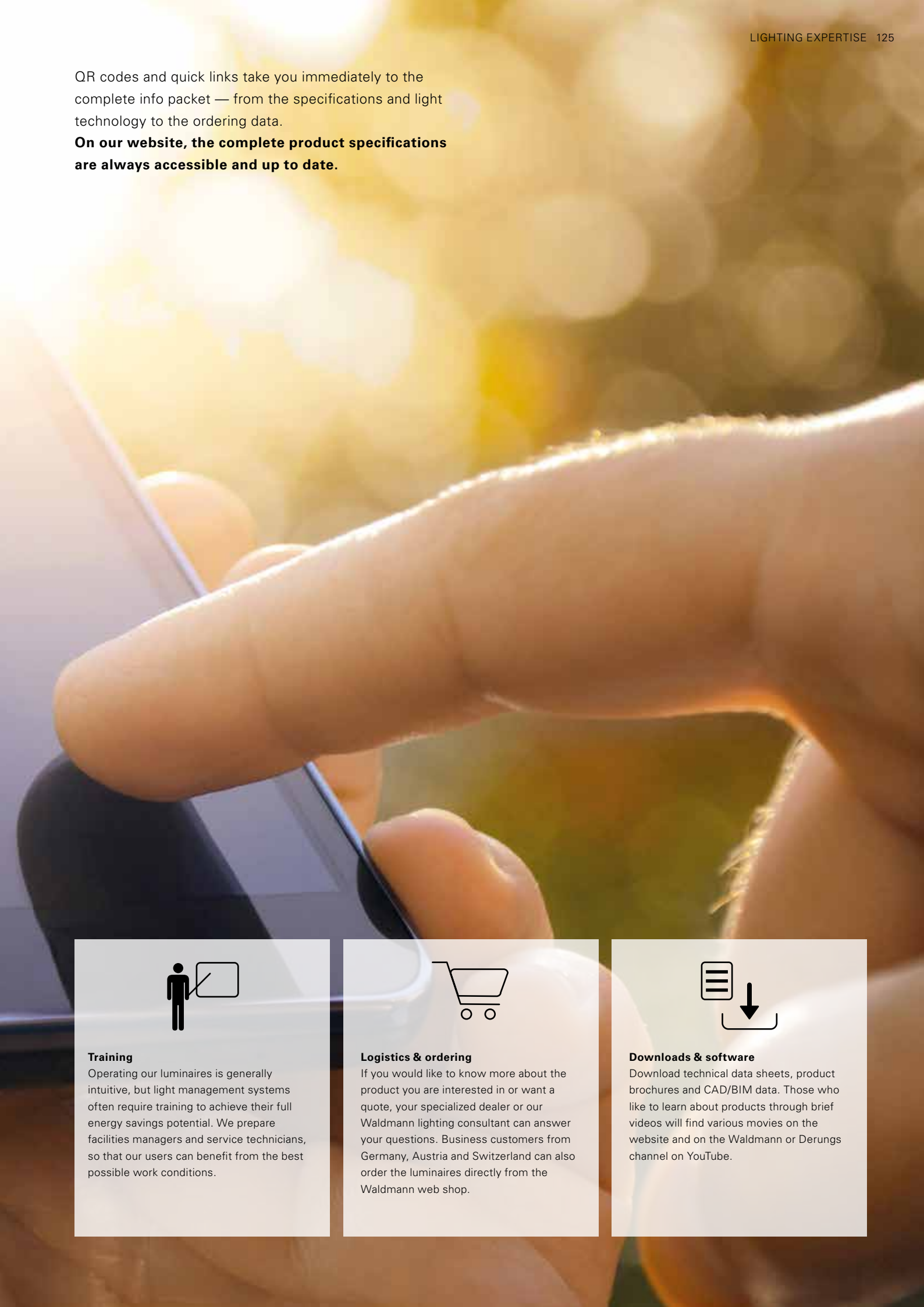


Light planning
Our light planners work with RELUX light planning software. With this system, they can generate polygon room shapes, complex room elements and furnishings specific to the situation. In addition to visual representation, they can also calculate technical data for lighting. The RELUX simulations are supplemented by real measurements by the company's own laboratory.

Product consulting and sampling
Waldmann's international subsidiaries and dealers work with you to develop an effective lighting concept to suit your needs – from room lighting to individual workstation lighting. Try our medical luminaires with no obligation and see why they're better.

Technical service & maintenance
We help with light planning, implementation and maintenance. In the operating instructions, you will find important notes on installation and care. If you need repairs or replacement parts, you have access to our international service network.

QR codes and quick links take you immediately to the complete info packet — from the specifications and light technology to the ordering data.
On our website, the complete product specifications are always accessible and up to date.



Training
Operating our luminaires is generally intuitive, but light management systems often require training to achieve their full energy savings potential. We prepare facilities managers and service technicians, so that our users can benefit from the best possible work conditions.

Logistics & ordering
If you would like to know more about the product you are interested in or want a quote, your specialized dealer or our Waldmann lighting consultant can answer your questions. Business customers from Germany, Austria and Switzerland can also order the luminaires directly from the Waldmann web shop.

Downloads & software
Download technical data sheets, product brochures and CAD/BIM data. Those who like to learn about products through brief videos will find various movies on the website and on the Waldmann or Derungs channel on YouTube.

STANDARD TECHNICAL REQUIREMENTS FOR LIGHT PER DIN EN 12464-1

The tables and values come form the European standards.

The following limit values are specified in the tables:

$\bar{E}_m$

The maintenance values for illuminance $\bar{E}_m$ must not go below a particular range designated to a particular visual task (see below). If the exact location is not known, the entire room or specified work area should be used.

The maintenance factors can be determined individually from manufacturer-supplied data. If there is no individual maintenance available, for modern technology and three-year maintenance, the measurement of 0.67 inches is recommended as a reference value in clean room environments or for heavily soiled rooms.
According to EN 12464, the planner must document the maintenance factor and maintenance program.

UGR_L

UGR_L is the upper limit value for limiting direct glare. In the plan, the calculated UGR value must be below that.

U_0

Regularity U_O is the ratio of the lowest E_{min} to the average $\bar{E}$ light intensity in the evaluation range. This value is a minimum.

R_a

R_a is the limit for the color rendering index.
The selected lamp must have at least this or a higher R_a.

Bedrooms, maternity rooms

Ref. No.	Type of space, task or activity	$\bar{E}_m$	UGR_L	U_0	R_a	Comments
39.1	General lighting	100	19	0.40	80	Illuminance on the floor. According to DIN 5035-3: Light intensity at 0.85 m (33.6 in.) above the floor. Luminance seen by the patient from luminaires max. 1,000 cd/m², from the ceiling and walls max. 500 cd/m²
–	General lighting in infant wards	200	19	0.60	80	–
39 .2	Reading lights	300	19	0.70	80	Area of the visual task "Evaluation levels (visual task area) on the patient bed"
39.3	Simple examinations	300	19	0.60	80	Evaluation level "Evaluation levels (visual task area) on the patient bed". According to LG2, for examinations by treatment personnel on the bed surface at 1.0 m (39.4 in.) above the floor, a 300 lx illuminance maintenance value with regularity of at least 0.5 should be present.
39 .4	Examination and treatment	1000	19	0.70	90	
39.5	Night lights, observation lighting	5	–	–	80	Per DIN 5035-3: Light intensity at 0.85 m (33.6 in.) above the floor
–	Night lighting, observation lighting in infant wards	20	–	–	80	Per DIN 5035-3: Light intensity at 0.85 m (33.6 in.) above the floor
–	Orientation lighting	–	–	–	80	Near the floor, separately switchable
39.6	Bathrooms and toilets for patients	200	22	0.40	80	–

Excessive light densities in the patients' field of vision must be avoided.

Technical requirements for light in bedrooms per DIN EN 12464-1

Examination rooms (general)

Ref. No.	Type of space, task or activity	$\bar{E}_m$	UGR_L	U_0	R_a	Comments
40.1	General lighting	500	19	0.60	90	Color temperature T_{CP} between 4000 K and 5000 K, and for dermatological examinations up to 6500 K.
40.2	Examination and treatment	1000	19	0.70	90	–

Technical requirements for light in examination rooms per DIN EN 12464-1

Spaces for diagnostic imaging

Ref. No.	Type of space, task or activity	$\bar{E}_m$	UGR_L	U_0	R_a	Comments
43.1	General lighting	300	19	0.60	80	For screen work, see the chapter "Lighting offices and rooms with computer workstations"
43.2	Diagnostic imaging with image amplifiers and television systems	50	19	–	80	–
–	Direct examination on display units	30	–	–	80	Illumination adjustable to 1 lx, if necessary

Technical requirements for light in diagnostic imaging rooms per DIN EN 12464-1

Delivery rooms

Ref. No.	Type of space, task or activity	$\bar{E}_m$	UGR_L	U_0	R_a	Comments
43.1	General lighting	300	19	0.60	80	Illumination adjustable, if necessary
39 .4	Examination and treatment	1000	19	0.70	80	–

Technical requirements for light in delivery rooms per DIN EN 12464-1

Treatment rooms (general)

Ref. No.	Type of space, task or activity	$\bar{E}_m$	UGR_L	U_0	R_a	Comments
45.1	Dialysis: For entry and exit	500	19	0.60	80	Illumination should be adjustable
–	Dialysis: General lighting for comfort	100	19	0.40	80	–
–	Dialysis: Reading lights	300	19	0.70	80	Area of the visual task "Evaluation levels (visual task area) on the patient bed".
45.2	Dermatology	500	19	0.60	90	Light color neutral white or daylight white
45.3	Endoscopy rooms	300	19	0.60	80	–
–	Endoscopic examinations	50	19	0.60	80	Illumination adjustable at even lower light intensities, if necessary
45.4	Dressing rooms	500	19	0.60	80	–
45.5	Medical baths	300	19	0.60	80	–
45.6	Massage and radiation therapy	300	19	0.60	80	–

Technical requirements for light in treatment rooms per DIN EN 12464-1

Intensive care

Ref. No.	Type of space, task or activity	$\bar{E}_m$	UGR_L	U_0	R_a	Comments
47.1	General lighting	100	19	0.60	90	Illuminance on the floor. According to DIN 5035-3: Illuminance at 0.85 m (33.6 in.) above the floor. Luminance seen by the patient from luminaires max. 1,000 cd/m², from the ceiling and walls max. 500 cd/m²
47.2	Simple examinations	300	19	0.60	90	Illuminance on the bed; see the figure "Evaluation levels (visual task area) on the patient bed"
47.3	Examination and treatment	1000	19	0.70	90	Illuminance on the bed; see the figure "Evaluation levels (visual task area) on the patient bed"
47.4	Night monitoring	20	19	–	90	Illuminance at 0.85 m (33.6 in.) above the floor

Technical requirements for light in intensive care units per DIN EN 12464-1

Laboratories and pharmacies

Ref. No.	Type of space, task or activity	$\bar{E}_m$	UGR_L	U_0	R_a	Comments
49.1	General lighting	500	19	0.60	80	–
49.2	Color inspection	1000	19	0.70	90	Light color daylight white, color temperature T_{CP} of 6000 K to 6500 K
–	Shelf/cabinet lighting	200	19	0.74	80	With supplementary lighting, if necessary

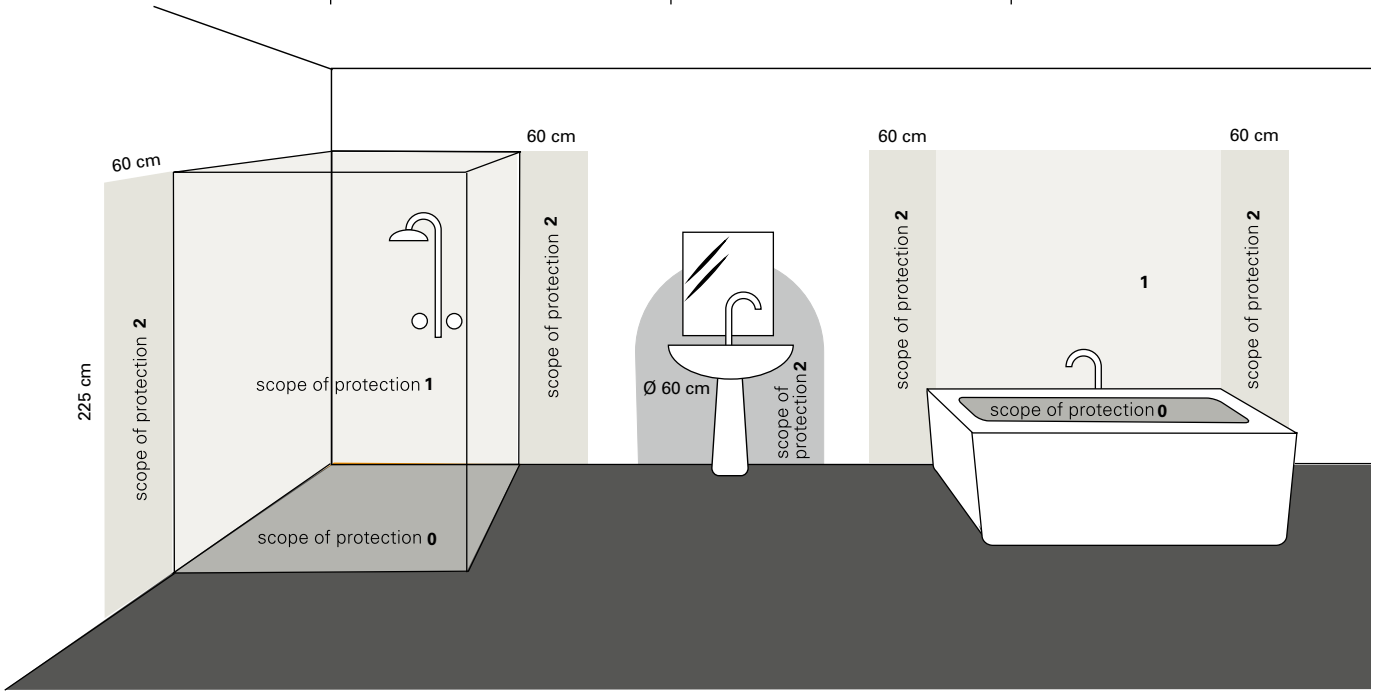
Technical requirements for light in laboratories per DIN EN 12464-1

Further information

Further information for light planning, such as room size, reflection values, maintenance factors, etc., must be acquired individually (according to project).

Installation rules for luminaires in baths in living areas per VDE 0100 Part 701

Area 0	Area 1	Area 2	Comments
Luminaires with IP X7, such as IP 67, and rated voltage to 12 V. Luminaires must be suitable for wet and saturated rooms.	Luminaires with IP X4, such as IP 44, rated voltage to 25 V. For showers with high jet pressure, such as massage jets, IP X5, such as IP 45, is required.	Luminaires with IP X4, such as IP 44. The luminaires must be splash protected.	In regard to water protection, the luminaires must at least meet the protection classes. The touch and foreign object protection rating is at least IP 2X.



Protection classes in relation to operating insulation

Protection class	Symbol	Meaning	Comments
I		Luminaires with connection ports for ground cables to which all touchable parts must be connected, to avoid taking on voltage during a malfunction.	Connection to grid ground cable is absolutely mandatory. The symbol is placed at the connection port.
II		On such luminaires, no metal parts are to be touchable so that they wouldn't directly take on voltage during a malfunction (protective insulation or double insulation).	Luminaire must have no ground cable connection and must not be connected to a grid ground cable.
III		Luminaires to be operated with safety voltage, i.e. voltage under 50 V drawn from a safety transformer per VDE 0551 or from regular or rechargeable batteries.	

IP protection classes per DIN EN 60529

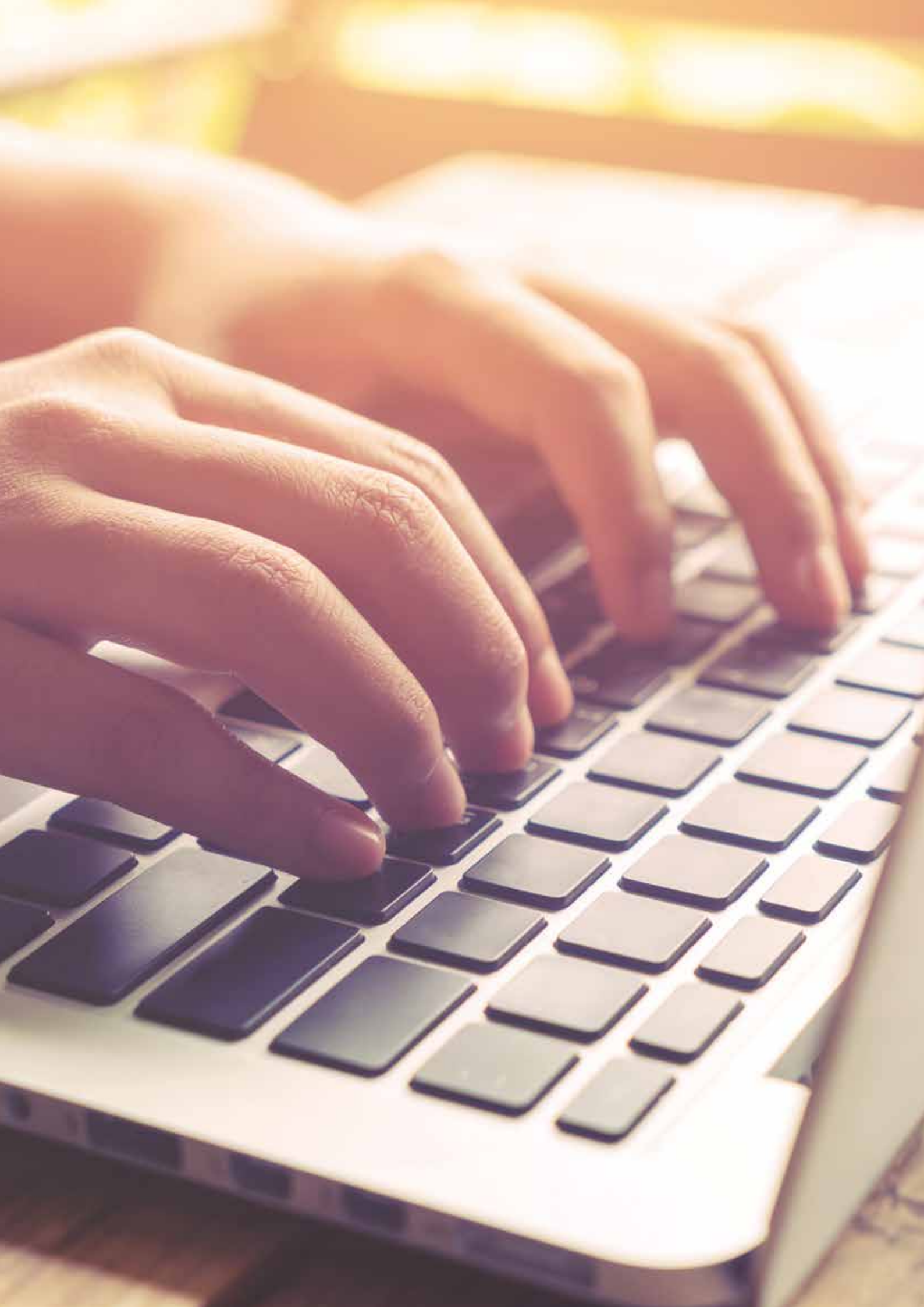
Foreign object protection beyond protection from contact

No. 1 Foreign object protection beyond protection from contact

Number	Symbol	Meaning
2	–	Protection against foreign objects more than 12 mm in diameter
4	–	Protection against foreign objects more than 1 mm in diameter
5		Protection against damaging dust deposits. Dust is not completely deterred, but dust must not enter in quantities so large that the luminaire's operation is hindered.
6		Protection from dust penetration; dustproof

No. 2 Water protection

Number	Symbol	Meaning
0	–	No special protection
3	 rain protected	Protection against water that falls at any angle up to 60 degrees to vertical
4	 splash protected	Protection against water that splashes against the luminaire from any direction
5	 spray protected	Protection against water spray from a nozzle aimed at the luminaire from any direction
7	 waterproof	Protection against water when the luminaire is immersed under specified pressure and time conditions
8	 ...m waterproof under pressure	The luminaire is suitable for sustained immersion in water under conditions described by the manufacturer



HEADQUARTERS GERMANY
Herbert Waldmann GmbH & Co. KG
Peter-Henlein-Straße 5
78056 VILLINGEN-SCHWENNINGEN
GERMANY
Telephone +49 7720 601 - 0
Telephone +49 7720 601 - 100 (Sales)
Fax +49 7720 601 - 290
www.waldmann.com
sales.germany@waldmann.com

FRANCE
Waldmann Eclairage S.A.S.
Zone Industrielle
Rue de l'Embranchement
67116 REICHSTETT
FRANCE
Telephone +33 3 88 20 95 88
Fax +33 3 88 20 95 68
www.waldmann.com
info-fr@waldmann.com

ITALY
Waldmann Illuminotecnica S.r.l.
Via della Pace, 18 A
20098 SAN GIULIANO MILANESE (MI)
ITALY
Telephone +39 02 98 24 90 24
Fax +39 02 98 24 63 78
www.waldmann.com
info-it@waldmann.com

THE NETHERLANDS
Waldmann B.V.
Lingewei 19
4004 LK TIEL
THE NETHERLANDS
Telephone +31 344 631019
Fax +31 344 627856
www.waldmann.com
info-nl@waldmann.com

AUSTRIA
Waldmann Lichttechnik Ges.m.b.H.
Gewerbepark Wagram 7
4061 PASCHING/LINZ
AUSTRIA
Telephone +43 7229 67400
Fax +43 7229 67444
www.waldmann.com
info-at@waldmann.com

SWEDEN
Waldmann Ljusteknik AB
Skebokvarnsvägen 370
124 50 BANDHAGEN
SWEDEN
Telephone +46 8 990 350
Fax +46 8 991 609
www.waldmann.com
info-se@waldmann.com

SWITZERLAND
Waldmann Lichttechnik GmbH
Benkenstrasse 57
5024 KÜTTIGEN
SWITZERLAND
Telephone +41 62 839 1212
Fax +41 62 839 1299
www.waldmann.com
info-ch@waldmann.com

USA
Waldmann Lighting Company
9 W. Century Drive
WHEELING, ILLINOIS 60090
USA
Telephone +1 847 520 1060
Fax +1 847 520 1730
www.waldmannlighting.com
waldmann@waldmannlighting.com

CHINA
Waldmann Lighting (Shanghai) Co., Ltd.
Part A11a, No. Five Normative Workshop
199 Changjian Road, Baoshan
SHANGHAI, P.R.C. 200949
CHINA
Telephone +86 21 5169 1799
Fax +86 21 3385 0032
www.waldmann.com.cn
info-cn@waldmann.com

SINGAPORE
Waldmann Lighting Singapore Pte. Ltd. 77A
Neil Road
SINGAPORE 088903
SINGAPORE
Telephone +65 6275 8300
Fax +65 6275 8377
www.waldmann.com
sales-sg@waldmann.com

LIST OF REFERENCES
Images:

Masterfile	S. 1	
kantlicht GmbH	S. 6/7	Jan Geerk
gettyimages	S. 29	Tetra Images
	S. 32/33	Tetra Images
	S. 40/41	Jose Luis Pelaez Inc
Shutterstock	S. 10	jakkapan
	S. 18	hxdbzxy
	S. 19	ImageFlow
	S. 82/83	ImageFlow
	S. 86	Marcel Derweduwen
	S. 88	adpePhoto
	S. 102 / 103	Marina_D
	S. 118/119	All About Space
	S. 126/ 127	PureSolution
	S. 133	jakkapan
123rf.com	S. 16	beephoto
	S. 20	Wavebreak Media Ltd
	S. 24	Sergey Galushko
	S. 29	Cathy Yeulet
	S. 29	Katarzyna Białasiewicz
	S. 67	Katarzyna Białasiewicz
	S. 72	bialasiewicz
	S. 98/99	Monika Mlynek
	S. 104	Belchonok
Fotolia	S. 21	Oleksii Sergieiev
istockphoto	S. 22	shaunl
	S. 29	andresr
	S. 103	Yuri_Arcurs
	S. 108/109	andresr

Product photos:
Constantin Meyer Photographie, Köln, Germany
Jerry Gross, Fotostudio AG, St.Gallen, Switzerland

All other photos and graphics come from:
Derungs Licht AG & Herbert Waldmann GmbH & Co. KG
Dräger Medical ANSY GmbH

Center for Expertise in Healthcare:

DERUNGS LICHT AG
Hofmattstrasse 12
9200 Gossau
Switzerland
Tel. +41 71 388 11 66
Fax +41 71 388 11 77
www.derungslicht.com
mailbox@derungslicht.com

Derungs Licht AG is a member of the Waldmann Group.

MADE SWISS

Certified Management System SQS ISO 13485

www.waldmann.com

© Derungs Licht AG · D80157000-00805949 · version 2019-10-21 · We reserve the right to changes. · Printed in Germany

ENG