MORE LIGHT
LESS SHADOW

Increasing light as protection in our later years – that’s our passion. Experience, close links with science and frequent collaboration with the healthcare sector enable us to meet specific requirements with our lighting solutions. Scientific evaluations support our innovations.
PERCEPTION
SIGHT IN OUR SENIOR YEARS

When eyesight deteriorates due to age or illness, it has far-reaching consequences for independence. Those affected quickly become anxious and increasingly insecure about moving around. Light cannot correct deteriorating eyesight, but it can help to compensate, restoring self-confidence. Proper illumination helps avoid visual missteps and prevent falls.

Age-related visual impairments

Macular degeneration  Cataracts  Diabetic retinopathy

Glaucoma  Retinitis pigmentosa
FALL PREVENTION
LIGHT AS A SILENT HELPER

One in three “over 65s” typically have a fall at least once a year. Among “over 80s,” this figure is one in two.¹ Serious injuries, such as hip fractures, lead to a lasting reduction in independence for the majority of those affected. A bad fall can also cause the person to fear further falls and to limit the scope of their activities as a preventive measure.

Alarming figures ¹
- There are between around 1.6 and 2 million falls per year in Germany
- 30-40% of falls are preventable
- 30-40% of accidents occur while standing up or sitting down
- 20-25% of fall-related injuries are avoidable

Falls in senior care homes ²
- Most hospital patients and senior living residents fall in their room
- Falls also occur in bathrooms and corridors
- Fall rates are high in hospitals and in rehabilitation and geriatric wards

Risk factors for falls ³
- Medication
- Previous falls
- Difficulties with mobility and balance
- Incontinence
- Reduced cognitive abilities

List of references
¹ Prof. Dr. Cornelius Becker: Evidenzbasierte Sturzprävention im Pflegeheim (Evidence-based Fall Prevention in Care Homes), German Federal Institute for Fall Prevention, Robert-Bosch Hospital, Stuttgart
² 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

Locations of falls ²
- Residences’ rooms: 62.26%
- Recreation areas: 22.05%
- Lavatory areas: 12.65%
- Outdoor areas: 3.05%
Light-related causes of falls

- Shadows (sharp transitions between light and dark and shiny patches) are interpreted as obstacles

- Reflections on the floor are confusing and are interpreted as water

- Shadows due to incorrect lighting increase the risk of missteps

- Passing shadows can be unsettling and frightening

- Shadows across a person's face caused by lighting trigger fear and change the appearance of the face

- Dark ceilings and recesses make areas feel confined and threatening
Preserving the independence of residents begins with exercise programs to maintain mobility but also includes modifications to the environment such as lighting, floor coverings and handrails. Sophisticated lighting design helps to instill a feeling of security and increases residents’ confidence when moving about. Elderly people can thus enjoy a more active involvement in their surroundings. Pleasant lighting also encourages use of the recreation and communal areas.

- **Orientation light by the bed close to the floor**
- **Room light for basic lighting**

Other light-related causes of falls
- Older people are very sensitive to glare, which can cause them to miss obstacles in their path
- Older people require more time for their eyes to adjust to extreme transitions between light and dark, for example between the corridor and the resident’s room

Fall prevention as a central issue
- Suitable measures in senior care facilities and geriatric wards in hospitals enable an active life
- Many falls and associated costs can be prevented
- Interior design, including using lighting adapted to the requirements of the elderly, in combination with exercise programs, constitute useful measures
DEMENTIA
THE GREATEST CHALLENGE

Dementia patients require intensive support and care – often around the clock. The progression of the disease causes the sufferer to be increasingly confused by his surroundings. It is difficult for the person concerned to process environmental stimuli properly and to react accordingly. Consequently, secondary symptoms such as anxiety, agitation, passiveness or delusions can develop. Some also experience day/night confusion, which in some cases is a complete reversal of the wake/sleep cycle.

Lighting for people with dementia must perform three main functions:

Sufficient, low-shadow basic lighting
- Fall prevention and accessibility
- Avoidance of missteps

Biologically effective lighting
- Regulation of the body’s internal clock
- Stimulation in the morning and calming effect in the evening

Care and examination lighting
- Care and medical treatment
- Examination lighting with optimal color rendering properties

VISUAL TIMING LIGHT
Biologically effective lighting

VISUAL TIMING LIGHT is a light management system using daylight tracking. It is biologically effective Human Centric Lighting and is a form of circadian lighting.

- Structures daily routine
- Promotes hormonal balance
- Improves sleep/wake cycle
- Leads to increased activity and well-being
Whether a new building or renovation, in the recreation area, bathroom or residents’ rooms – light is an important design tool. Used effectively, lighting can have a positive impact on well-being, health and capability. Lighting should not dominate the room, but blend harmoniously into the overall architectural design. Sophisticated lighting design should take into account the daily needs of residents and caregivers as well as how the individual rooms will be used. Additional light sources, such as windows, skylights etc., must also be considered.

<table>
<thead>
<tr>
<th>Area</th>
<th>Light scenario</th>
<th>Illumination intensity</th>
<th>Light color</th>
<th>Type of lighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>CORRIDORS</td>
<td>day lighting close to floor (10 cm above floor) eye level (140-160 cm above floor)</td>
<td>200 - 300 Lux (500 Lux (cylindrical))</td>
<td>warm white/daylight white</td>
<td>direct/indirect</td>
</tr>
<tr>
<td></td>
<td>night lighting close to floor</td>
<td>20 - 50 Lux</td>
<td>warm white</td>
<td>direct/indirect</td>
</tr>
<tr>
<td>RECREATION AREAS</td>
<td>day lighting close to floor table height (75 cm above floor)</td>
<td>200 - 500 Lux (500 Lux)</td>
<td>warm white/daylight white</td>
<td>direct/indirect</td>
</tr>
<tr>
<td>RESIDENTS’ ROOMS</td>
<td>care light bed level (85 cm above floor)</td>
<td>300 - 500 Lux</td>
<td>warm white</td>
<td>direct/indirect, depending on care case two-component lighting</td>
</tr>
<tr>
<td></td>
<td>reading light, work light bed level/reading level (if necessary, separate additional lighting)</td>
<td>300 - 1000 Lux</td>
<td>warm white</td>
<td>direct/two-component lighting</td>
</tr>
<tr>
<td></td>
<td>living area light, close to floor</td>
<td>100 - 500 Lux</td>
<td>warm white</td>
<td>direct/indirect</td>
</tr>
<tr>
<td></td>
<td>night light, close to floor monitoring lights for care staff at night, close to floor</td>
<td>50 - 100 Lux (approx. 5 Lux)</td>
<td>warm white</td>
<td>indirect</td>
</tr>
<tr>
<td>LAVATORY AREAS</td>
<td>For residents: basic lighting close to floor, mirror lighting, accent lighting at face level</td>
<td>200 Lux (200 - 500 Lux)</td>
<td>warm white</td>
<td>direct/indirect</td>
</tr>
</tbody>
</table>

Recommended illumination values:
VDI/VDE Guidelines 6008-3, Barrierefreie und behindertengerechte Lebensräume (Accessible Living Spaces)
IESNA Recommended Practice for Lighting and the Visual Environment for Senior Living
RECOMMENDATIONS
FEATURES OF GOOD LIGHTING

Daylight and artificial light, colors and materials form a whole. This interplay can be targeted to facilitate architectural and interior design. Along with the calculated use of color, proper use of light also plays a major role. Sophisticated light planning can compensate for reduced mobility and sensory abilities caused by advancing age. In some cases, some symptoms of dementia can also be reduced.

Proper lighting in the right location
- Entrances to buildings should be particularly well-lit during the day and dimly-lit at night, as the entrance performs a "gateway role" and the eye adapts to the light/dark transition
- Reduce illumination intensity at the exits in living areas to ensure the safety of particularly vulnerable residents
- Illuminating communal areas, corridors and lounges encourages their use
- Emphasize doors to washrooms, recreation areas or public spaces with effective lighting
- Low-shadow lighting prevents missteps and falls

Color temperatures and color rendering
- The interaction between color temperatures and the color scheme of the rooms should be considered
- Warm-white light is preferred in the living area
- VTL changes the look and feel of the room throughout the day to help adjust the circadian rhythm of residents
- Good color rendering in a dining area enhances the appearance of food

Lighting color as a room design tool

<table>
<thead>
<tr>
<th>Suitable for Daylight White Light</th>
<th>Suitable for Warm White Light</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suitable color temperatures</td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
RECOMMENDATIONS

Unfavorable room lighting

Direct lighting
- Reflected glare and unfavorable shadows
- Confusing reflections on the floor
- Room appears dark and oppressive
- Poor glare limitation for people lying down

Indirect lighting
- Average to poor energy efficiency
- Diffuse lighting atmosphere as contrasts become blurred

Recommended room lighting

Direct/indirect lighting
- Good energy efficiency
- Casts few shadows
- Low levels of reflection
- Good glare reduction
- Room appears bright
- Uniform lighting

Two-component lighting
- Direct/indirect lighting is supplemented using a care and examination light or reading light, which can be switched on and off independently
- Recommended illumination intensity in accordance with VDI/VDE-guideline 6008-3
- Elderly people require illumination intensity which is up to four times higher than younger people

FAVORABLE

UNFAVORABLE
• Cozy lighting in the living areas
• Bright, practical lighting in the social, recreation and patient care areas
• Pleasant, efficient lighting for offices and administrative areas
CORRIDORS AND STAIRCASES

VANERA ORBIT

AMADEA PENDANT

OBLO

VANERA

AMADEA

CORRIDORS AND STAIRCASES

VIVAA

RIGU

CUBE
In the interests of holistic care, healthcare facilities are now equipped to fully meet the requirements of the elderly in relation to safety and security. This is essential to ensure that residents feel at home and can move around as freely as possible. Further light planning aspects should also be considered, such as the illumination values in accordance with VDI/VDE Guideline 6008-3 and accessibility requirements.

**CORRIDORS AND STAIRCASES**

**SAFETY AS A TOP PRIORITY**

Windowless corridors
- Optimal room lighting creates conditions similar to daylight
- Combined use of wall and ceiling lights accentuates rooms
- Interplay of light and color encourages movement and promotes use of sitting areas

Corridors with windows and doors
- Changing lighting conditions unsettles residents
- Low-shadow lighting and supporting artificial light should be used to balance light levels where outside light sources are a factor
- A uniform, glare-free lighting system offsets these differences

Recesses and corners
- Small orientation lighting at eye level emphasizes doorways and dark recesses or corners
- Ambient light is supplemented by orientation lighting

Stairways
- Lighting which is as low-shadow as possible makes visual perception easier
- Use of different colors, materials or special fabrics makes recognition and use of stairs easier
- Indirect lighting prevents confusing shadows
RECREATION AREAS

OBLO

AMADEA PENDANT

VANERA ORBIT

AMADEA

RECREATION AREAS

ViVAA

AMALIA
RECREATION AREAS
TOGETHER, NOT ALONE

Healthcare facilities now often offer a garden area adapted to the needs of the elderly, providing a calming environment for light exercise and relaxation. However, some elderly residents rarely use this facility. Could this be due to dazzling sunlight or the risk of falling in bad weather? A safe and comfortable design for the recreation areas assumes even more importance in these situations. This includes a sophisticated lighting solution.

Harmony between space and light
• General lighting with indirect/direct lighting
• Low-shadow ceiling lighting, minimal reflection and good glare limitation prevent missteps
• Interplay of light and color influences spatial perception and should be considered when selecting the lighting color (daylight white or warm white)

In tune with nature
• Emphasis of the day’s structure using VTL biodynamic light management
• Emulation of the natural progression of daylight with focus on stimulation in the morning and relaxation in the evening
• Emphasis of the day’s structure by encouraging activity in the morning/daytime and tiredness in the evening
RESIDENTS' ROOMS

VANERA ORBIT

VANERA

OBLO

AMADEA

RESIDENTS' ROOMS

Culta LED

RIGU

ZERA Bed

ViVAA

CUBE

AMALIA
RESIDENTS' ROOMS
CENTRAL TO LIGHT PLANNING

A resident's room is a multi-functional area: it is the real living area for the resident, in which care and medical treatment are also administered. Statistically, falls most often occur in residents' rooms. A versatile lighting system meets the diverse requirements. These include a room light, a reading/care light and orientation lights.

General lighting
• Individually switchable direct/indirect lighting for uniform, glare-free illumination
• Make close-up vision and distance vision possible without causing tired eyes
• In rooms specially designed to provide special care for those with advanced dementia, the use of biologically effective lighting (VISUAL TIMING LIGHT) is recommended

Reading and relaxing
• Optimal lighting conditions for reading and relaxing
• Low heat generation to prevent burning or discomfort
• User-friendly, easy to position and to clean

Administering care and examinations
• Best lighting conditions for personal hygiene and medical treatment
• Care staff should not be cast in shadows due to incorrect lighting
• Two options: wall light with individually switchable direct light (examination light) or reading/care light which can be used as an examination light

Sleeping and orientation
• Integrated night light to guide caregivers
• Comforting night lighting is effective in combating anxiety or agitation, especially for people with dementia
• Adjustable illumination intensity which does not disturb sleep
• Orientation lighting to illuminate the floor
LAVATORY AREAS

VANERA LED Bath
LAVATORY AREAS
FOR A GOOD START TO THE DAY

Even a windowless washroom can offer a sunny start to the day using sophisticated lighting. A uniform, low-shadow wall light creates a pleasant ambiance and helps when attending to personal hygiene. Wet areas can increase the risk of falling. Lighting which is sufficiently bright and shadow-free allows for much better spatial perception and increased safety.

Positive self-perception
- Wall light with indirect/direct lighting
- Positive self-perception due to shadow-free lighting of the face
- Ideal color rendering properties and shadow-free lighting for personal hygiene

Shower area
- Minimized shadows and uniform illumination improves spatial awareness
- Safe movement reduces the risk of falling
- High level of safety due to IP 44 splash-proof rating
OFFICES AND ADMINISTRATIVE AREAS

LAVIGO

PARA.MI

ViVAA

ATARO

OBLO
People these days strive to achieve a sense of well-being, whether at work or in their spare time. Light therefore plays a fundamental role in office life, as it influences essential processes in the human body. Pleasant, glare-free light of daylight quality increases motivation and promotes the feel-good factor among employees. Waldmann lights provide perfect lighting for the workplace.

Sense of well-being
- Natural and healthy working environment
- Motivating lighting in the office using the PULSE VTL
- Avoidance of pools of light using PULSE TALK

Individuality
- Lighting solutions adapted to type of work, job profiles and personal requirements
- Choice of different colors and options offers creative freedom

Cost-effectiveness
- Cutting-edge sensor technology and intelligent control enable savings to be made
- Reliable presence detection and intuitive daylight adjustment
- Exceptional light efficiency due to high-performance LED modules and light-amplifying CDP microprisms

The coming and going of employees in offices with presence and daylight controlled lighting can give rise to pools of light – only occupied desks are lit while the rest of the room remains unlit. The innovative PULSE TALK radio module prevents this situation by enabling lights allocated to different areas and groups to communicate with each other.
LIGHTING SOLUTIONS OVERVIEW
THE RANGE AT A GLANCE

<table>
<thead>
<tr>
<th>CORRIDORS AND STAIRCASES</th>
<th>RECREATION AREAS</th>
<th>RESIDENTS’ ROOMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOVEMENT/VISION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VIVAA</td>
<td>ZERA Bed</td>
<td>VANERA ORBIT</td>
</tr>
<tr>
<td>RIGU</td>
<td></td>
<td>AMADEA COMPACT</td>
</tr>
<tr>
<td>ORIENTATION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CUBE</td>
<td>RIGU</td>
<td></td>
</tr>
<tr>
<td>READING/CARE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMALIA</td>
<td>MEDICool</td>
<td>CULTA LED</td>
</tr>
<tr>
<td>COSY / COSY LED</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WORKING</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**ViVAA**

SOPHISTICATED. HIGH-PERFORMANCE. ECONOMICAL.

- Surface-mounted or suspended luminaire (500/300 mm)
- Diameter 400 mm / 600 mm
- SENS, DALI or VTL light management
- On request: radio-control, emergency lighting
- Glare reduction: CDP microprisms or satin white acrylic

<table>
<thead>
<tr>
<th>Light distribution</th>
<th>direct/indirect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luminous flux</td>
<td>5300 lm - 11,000 lm</td>
</tr>
<tr>
<td>Light efficiency</td>
<td>98 lm/W - 111 lm/W</td>
</tr>
<tr>
<td>Color temperature</td>
<td>3000 K, 3000-6500 K, 4000 K</td>
</tr>
<tr>
<td>Color rendering</td>
<td>Ra &gt; 80</td>
</tr>
</tbody>
</table>

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**ZERA BED**

INNOVATIVE. HIGH-PERFORMANCE. ELEGANT.

- Bedside wall light
- Dimensions 1050 x 228 x 20 mm (L x W x H)
- Light management DALI, VTL, USB Network Gate
- Glare reduction: prism cover (PMMA clear, PMMA satine)
- Versions: ZERA Bed 33W or 60W examination light

<table>
<thead>
<tr>
<th>Light distribution</th>
<th>direct/indirect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luminous flux</td>
<td>7.200 lm* / 9.200 lm*</td>
</tr>
<tr>
<td>Light efficiency</td>
<td>general lighting 103 lm/W*</td>
</tr>
<tr>
<td>Color temperature</td>
<td>general lighting warm white 3000 K, 4000 K on request</td>
</tr>
<tr>
<td>Luminous power</td>
<td>300 lx at the end of bed or 1.000 lx on examination level</td>
</tr>
<tr>
<td>Color temperature</td>
<td>2.700 K, 3.000 K and 4.000 K</td>
</tr>
<tr>
<td>Color rendering</td>
<td>Ra &gt;80, Examination light Ra &gt;90</td>
</tr>
</tbody>
</table>
**VANERA**

TIMELESS. HIGH-PERFORMANCE. VERSATILE.

• Wall or ceiling surface-mounted luminaire
• Various lengths 600 mm / 643 mm / 900 mm / 924 mm / 1200 mm
• DALI, VTL light management
• On request: radio-control, emergency lighting
• Glare reduction: prism cover (PMMA)
• Versions: VANERA, LED, LED VTL, LED BATH, VTL, BED, BED RC, BATH, VANERA One

<table>
<thead>
<tr>
<th>Light distribution</th>
<th>direct/indirect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luminous flux</td>
<td>1400 lm - 6200 lm</td>
</tr>
<tr>
<td>Light efficiency</td>
<td>42 lm/W - 83 lm/W</td>
</tr>
<tr>
<td>Color temperature</td>
<td>warm white 3000 K, 4000K on request</td>
</tr>
<tr>
<td>Color rendering</td>
<td>Ra &gt; 80</td>
</tr>
</tbody>
</table>

**AMADEA**

COZY. CLASSIC. UNIVERSAL.

• Wall or ceiling surface-mounted luminaire
• Various lengths 615 mm / 910 mm / 1210 mm
• DALI, VTL light management
• On request: radio-control, emergency lighting
• Glare reduction: DRS Double Reflector System
• Versions: AMADEA Standard, VTL, BED, BED RC, COMPACT

<table>
<thead>
<tr>
<th>Light distribution</th>
<th>direct/indirect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luminous flux</td>
<td>3300 lm - 12700 lm</td>
</tr>
<tr>
<td>Light efficiency</td>
<td>57 lm/W - 66 lm/W</td>
</tr>
<tr>
<td>Color temperature</td>
<td>warm white 3000 K</td>
</tr>
<tr>
<td>Color rendering</td>
<td>Ra &gt; 80</td>
</tr>
</tbody>
</table>
### ATARO LED
MODERN. EFFICIENT. ATTRACTIVE.

- Suspended, freestanding or desk-mounted luminaire
- Glare reduction: AMBIO microprisms including Light Forming Technology
- DALI light management

<table>
<thead>
<tr>
<th>Light distribution</th>
<th>direct/indirect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luminous flux</td>
<td>9800 lm</td>
</tr>
<tr>
<td>Light efficiency</td>
<td>90 lm/W</td>
</tr>
<tr>
<td>Color temperature</td>
<td>daylight white 4000 K</td>
</tr>
<tr>
<td>Color rendering</td>
<td>Ra &gt; 80</td>
</tr>
</tbody>
</table>

### VANERA ORBIT
HIGH-QUALITY. DISCREET. UNIVERSAL.

- Wall or ceiling surface-mounted luminaire
- Diameter 395 mm / 595 mm
- DALI light management
- Glare reduction with satine PMMA acrylic lens

<table>
<thead>
<tr>
<th>Light distribution</th>
<th>direct/indirect, mainly direct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luminous flux</td>
<td>1100 - 4700 lm</td>
</tr>
<tr>
<td>Light efficiency</td>
<td>82 - 90 lm/W (LED)</td>
</tr>
<tr>
<td>Color temperature</td>
<td>warm white 3000 K, 4000 K on request</td>
</tr>
<tr>
<td>Color rendering</td>
<td>Ra &gt; 80</td>
</tr>
</tbody>
</table>

### OBLO
SIMPLE. PRACTICAL. ROBUST.

- Wall or ceiling surface-mounted luminaire
- Glare reduction: opal acrylic light cover
- Diameter 300 mm / 370 mm

<table>
<thead>
<tr>
<th>Light distribution</th>
<th>direct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luminous flux</td>
<td>1200 lm/1900 lm</td>
</tr>
<tr>
<td>Light efficiency</td>
<td>92 lm/W / 90 lm/W</td>
</tr>
<tr>
<td>Color temperature</td>
<td>warm white 3000 K</td>
</tr>
<tr>
<td>Color rendering</td>
<td>Ra &gt; 80</td>
</tr>
</tbody>
</table>

### LED
**LAVIGO**
MINIMALISTIC. FUNCTIONAL. EFFICIENT.

- Freestanding luminaire, also available as TWIN-T or TWIN-U
- Glare reduction: CDP microprisms including Light Forming Technology
- Light management: PULSE VTL, PULSE TALK, PULSE HFMD, PULSE PIR

<table>
<thead>
<tr>
<th>Light distribution</th>
<th>direct/indirect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luminous flux</td>
<td>5000 lm / 8000 lm / 10000 lm / 12000 lm / 16000 lm</td>
</tr>
<tr>
<td>Light efficiency</td>
<td>115 lm/W</td>
</tr>
<tr>
<td>Color temperature</td>
<td>4000 K direct</td>
</tr>
<tr>
<td></td>
<td>(PULSE VTL 2700 – 6500 K indirect)</td>
</tr>
<tr>
<td>Color rendering</td>
<td>Ra &gt; 80</td>
</tr>
</tbody>
</table>

**PARA.MI**
INDIVIDUAL. PRACTICAL. TIMELESS.

- Task luminaire
- Individual elements and colors combinable
- Flexible attachment: base, clamp or rail system

<table>
<thead>
<tr>
<th>Light distribution</th>
<th>direct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light output</td>
<td>8 W</td>
</tr>
<tr>
<td>Illumination intensity</td>
<td>600 lm</td>
</tr>
<tr>
<td>Color temperature</td>
<td>3000 K, 4000 K</td>
</tr>
<tr>
<td>Color rendering</td>
<td>Ra &gt;85</td>
</tr>
</tbody>
</table>
AMALIA
ELEGANT. STURDY. FLEXIBLE.

- Operation using backlit buttons
- Easy to position
- Luminaire head can be turned through 360°
- Attachment to Dewert bed motor systems (on request)
- Extensive accessory and mounting options*

<table>
<thead>
<tr>
<th>Light distribution</th>
<th>Reading light - direct, night light - indirect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light output</td>
<td>9 W</td>
</tr>
<tr>
<td>Illumination intensity</td>
<td>approx. 1000 Lux/0.5 m</td>
</tr>
<tr>
<td>Color temperature</td>
<td>warm white 3000 K</td>
</tr>
<tr>
<td>Color rendering</td>
<td>Ra &gt; 80</td>
</tr>
</tbody>
</table>

COSY
SMALL. POWERFUL. UNIVERSAL.

- Convenience switch with indicator for easy location (not pictured)
- Easy to position
- Compatible with various mounting options*
- Light distribution: direct

<table>
<thead>
<tr>
<th>Light output</th>
<th>15 W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illumination intensity</td>
<td>approx. 4600 Lux/0.5 m</td>
</tr>
<tr>
<td>Color temperature</td>
<td>warm white 2700 K</td>
</tr>
<tr>
<td>Color rendering</td>
<td>Ra &gt; 80</td>
</tr>
</tbody>
</table>

MEDICOOL
TRIED AND TESTED. DEPENDABLE. PRACTICAL.

- Indicator for locating the switch
- Available with spring balanced arm or flexible arm
- Luminaire head can be turned through 270°
- Compatible with various mounting options*

<table>
<thead>
<tr>
<th>Light distribution</th>
<th>direct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light output</td>
<td>14 W</td>
</tr>
<tr>
<td>Illumination intensity</td>
<td>approx. 450 Lux/0.5 m</td>
</tr>
<tr>
<td>Color temperature</td>
<td>warm white 2500 K</td>
</tr>
<tr>
<td>Color rendering</td>
<td>Ra &gt; 80</td>
</tr>
</tbody>
</table>

* Derungs components
**CULTA LED**
BEAUTIFUL. COZY. SIMPLE.

- Intuitive operation using the cord switch
- Simple positioning thanks to goose neck linkage
- Luminaire head can be turned by 240°
- Connection to an external control unit (on request)
- Extensive accessory and mounting options*

<table>
<thead>
<tr>
<th>Light distribution</th>
<th>Reading light - direct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light output</td>
<td>5.2 W</td>
</tr>
<tr>
<td>Illumination intensity</td>
<td>1,100 lx / 0.5m</td>
</tr>
<tr>
<td>Color temperature</td>
<td>3,000 K*</td>
</tr>
<tr>
<td>Color rendering</td>
<td>Ra &gt; 80</td>
</tr>
</tbody>
</table>

**RIGU**
DISCREET. RELIABLE. FUNCTIONAL.

- Orientation light
- Low power consumption
- High-quality materials

<table>
<thead>
<tr>
<th>Light distribution</th>
<th>direct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light output</td>
<td>3 W</td>
</tr>
<tr>
<td>Luminous flux</td>
<td>144 lm</td>
</tr>
<tr>
<td>Color temperature</td>
<td>warm white 3000 K</td>
</tr>
<tr>
<td>Color rendering</td>
<td>Ra &gt; 80</td>
</tr>
</tbody>
</table>

**CUBE**
EFFECTIVE. FLEXIBLE. ROBUST.

- Orientation light
- Low power consumption
- High-quality materials

<table>
<thead>
<tr>
<th>Light distribution</th>
<th>direct/indirect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light output</td>
<td>6 W</td>
</tr>
<tr>
<td>Luminous flux</td>
<td>326 lm</td>
</tr>
<tr>
<td>Color temperature</td>
<td>warm white 3000 K</td>
</tr>
<tr>
<td>Color rendering</td>
<td>Ra &gt; 80</td>
</tr>
</tbody>
</table>

* Derungs components
VANERA: customized front cover designs on request
CUSTOMIZED SOLUTIONS
OFF-THE-SHELF LIGHTING IS A THING OF THE PAST

Our lighting solutions can be personalized to reflect the varied styles of today’s healthcare and senior living facilities. There is an extensive range available with solutions to suit every type of institution and budget. Customized designs and color variations provide inspiring interior design options, while modular equipment packages offer suitable lighting for every need. The possibilities are endless.

Designs and colors
- Available to order in any RAL color
- Various patterns or finishes on request

Technical equipment
- Biodynamic light management with VISUAL TIMING LIGHT
- State-of-the-art LED luminaires
- Presence sensor and much more

AMALIA: various light shade/body designs on request

ViVAA: various trim ring/casing/suspension tube designs on request
VISUAL TIMING LIGHT
THE CHOICE IS YOURS

ViVAA VTL
Sunshine for rooms
The ViVAA’s elegant polished stainless steel luminaire head not only looks good, its highly-efficient LED technology and outstanding light yield make it a real trailblazer in terms of cost-effectiveness.

ZERA BED
The smart light (available from mid 2016)
The new LED bedside luminaire convinces by its modularity and technical details. Its slimline design fascinates by highest light quality, different light scenarios and appropriate light colors.

VANERA VTL
The modern classic
The VANERA, with its timeless, simple silhouette, is particularly well-suited to hallways and corridors and shines with light at the highest level. The room is uniformly illuminated.

AMADEA VTL
The cozy room light
Not only does it have a special charm, but it is also distinguished by excellent lighting efficiency. The AMADEA illuminates every room uniformly.

DALI control system
The heart of lighting control
VTL lighting units can be controlled individually using the DALI short address and their intensity can be adjusted (dimming).

Operation using the iPad or buttons
The modern control option
Lighting can be controlled entirely via an iPad app, allowing simple activation of customized lighting moods.

Daylight sensor and presence sensor
The cost-effective accessory
The VTL system is extremely versatile. Additional system components, such as the daylight sensor and the presence detector further optimize energy efficiency.
SERVICES
WE'RE HERE TO HELP

With our comprehensive range of services, you have the full spectrum of support available for your project. We are happy to offer you a full service package as well as individual services as part of our modular approach.

Design advice
We are happy to advise you. Discover that light is not just light and learn more about the different benefits of our lighting solutions.

Commissioning
We not only assemble the lighting units for you, but also ensure that they are optimally positioned, adjusted and connected to BUS systems.

Light planning
Our lighting planners will draw up a customized, sophisticated lighting plan according to your requirements and preferences.

Maintenance
If required, we are happy to provide cleaning, lamp replacement and regular operational testing services.

Project management
If required, we will provide comprehensive project management: from conceptual design and preparation of specifications through to documentation and coordination of delivery.

Spare parts service, repair and warranty
Do you have a question about one of our products or require a spare part? We will be happy to help.
OUR PASSION
LIGHT FOR PEOPLE

Derungs is the division of the Waldmann Group which specializes in designing solutions for the medical and healthcare sector. We have been developing and producing high-quality lighting solutions for over 75 years. Our VISUAL TIMING LIGHT biodynamic light management system makes us a trailblazer in the field of Human Centric Lighting. Consultation and recommendations are available through Waldmann's sales departments.
Our lighting expertise

- Treatment lights
- Examination lights
- Care and reading lights
- Magnifying lights
- Room and orientation lights
- Visual Timing Light (Human Centric Lighting)