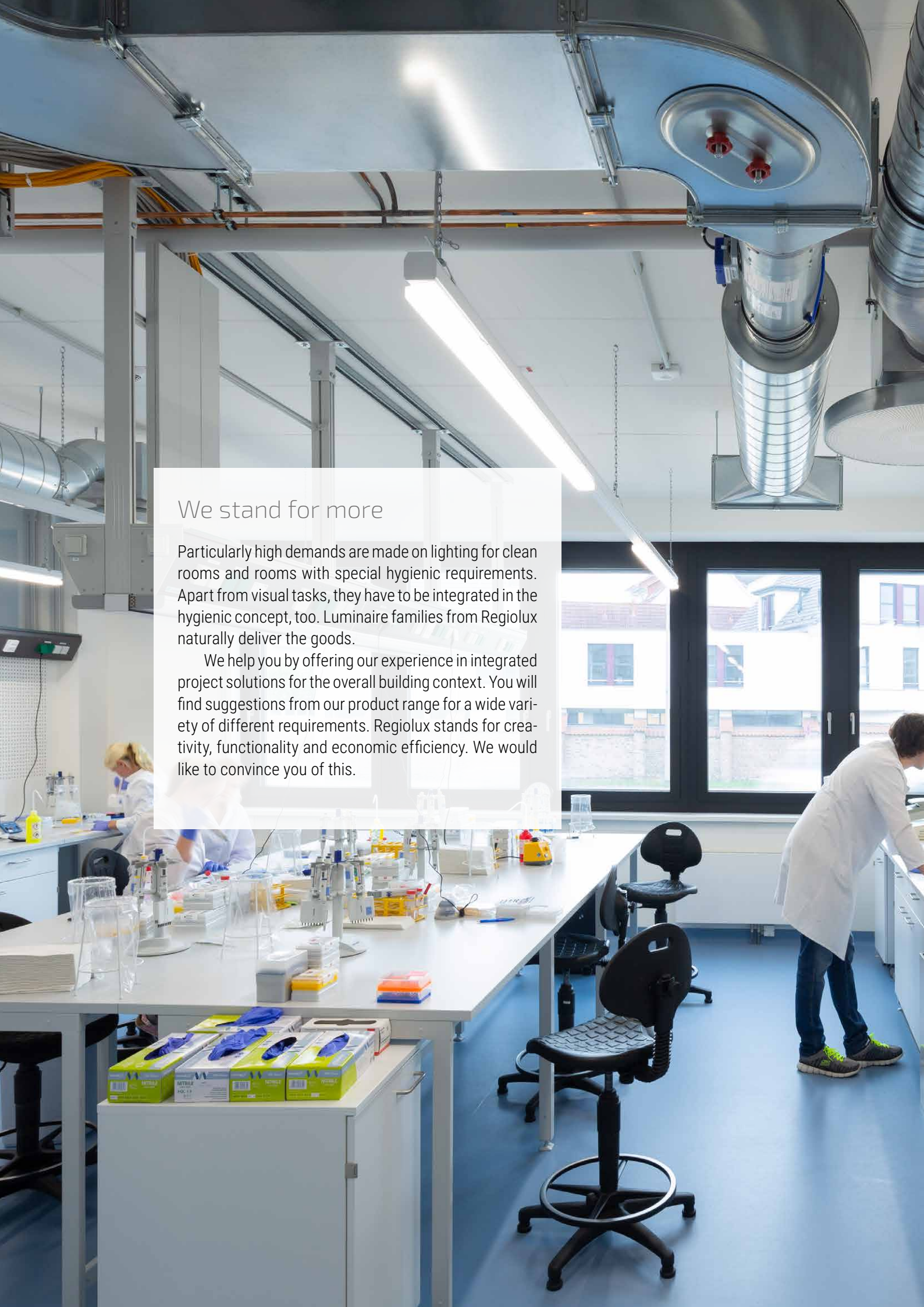
LIGHTING CLEAN ROOM

REGIOLUX



We stand for more

Particularly high demands are made on lighting for clean rooms and rooms with special hygienic requirements. Apart from visual tasks, they have to be integrated in the hygienic concept, too. Luminaire families from Regiolux naturally deliver the goods.

We help you by offering our experience in integrated project solutions for the overall building context. You will find suggestions from our product range for a wide variety of different requirements. Regiolux stands for creativity, functionality and economic efficiency. We would like to convince you of this.

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Clean Room Lighting

Core Competencies

Healthcare & Care Homes

with medical intervention

Clinics & Hospitals

as well as surgeries and health centres

Chemical Industry

incl. pharmaceutical & biotechnology and laboratories

Food & Cosmetics Industry

with aseptic areas

Industry and Commerce

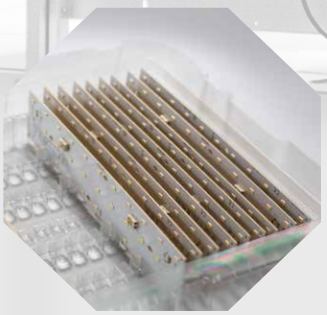
Laser and optical industry
Microelectronics and microsystems technology
Surface and plastics technology
Aerospace engineering
Automotive and electromobility

Lighting for clean rooms and rooms with special hygienic requirements is a complex topic. The solutions are always customised.

Technical values such as lumen, luminance and illuminance play their classic role for light planning. In addition, suitability for clean room and cleanliness also manifests itself in the product design and in luminaire production. Regiolux documents these quality factors through certification.

Clean Room
Production

Luminaire production in our clean room has been an integral part of our production lines since 2016. Tested in accordance with DIN EN ISO 14644, this achieves at least ISO class 5. Air locks for personnel and material, as well as the work area, the clean room, are controlled individually via laminar flow modules with differential pressure. This results in differently regulated flow rates in the individual rooms, so that our luminaires can be produced according to cleanroom requirements.



VDI directive 2083: definition and function of a clean room

The directive classifies the permitted particles per cubic metre of air in the different clean room areas in orders of magnitude. In addition, it deals with comprehensive concepts that are intended to generate control over the various environmental influences. Because which and how many particles are in the room air does not depend solely on the room itself. Particles are released by people or by processes and can enter the room via the supply and discharge lines of ventilation and air-conditioning systems. The VDI directive provides a uniform and cross-sectoral description of process and specifications for clean room technology.

Regiolux works in conformity with these specifications in luminaire production. This means you can expect first-class clean room luminaires with consistently high standards.

Made According to the Highest Quality Standards

The production line for clean room luminaires at Regiolux.

Suitability for clean rooms and cleanliness

In clean or hygienic areas of industry, research and medicine, suitability for clean rooms is one of the most important criteria. It describes the release behaviour of airborne particles. The number of particles per air volume unit as well as the size distribution of the particles are decisive for meeting the cleanliness requirements. The cleanliness requirements are contrasted with the release of particles from equipment and lighting systems.

All versions of our clean room luminaires achieve Class ISO 1 particle emissions. The assessment of the hygienic design, carried out according to GMP regulations and recommendations by EHEDG, confirms the suitability for clean and hygienic production. The good product properties were also confirmed during the test of cleanability using the riboflavin test. Complete cleaning is ensured by simply wiping the surface of the luminaire down.

Materials

Materials used in the production of the luminaires are tested for their suitability for clean rooms and cleanliness. The tests according to national or international regulations gather information on materials for use in cleanliness-critical environments. Chemical and biological resistance, for example, were tested on the luminaire housing and the laminated safety glass pane and classified as excellent.

IPA Fraunhofer TESTED® DEVICE
REGIOLUX GmbH
ADAMP/1200 LED 10000 IPA
Report No. RE 2011-1189

Example: test mark for the Regiolux luminaire aduna ADAMP/1200

Clean room classes

Particles – everywhere: clean rooms make especially high demands on ambient air. The number of particles has to be reduced to a minimum.

Clean rooms are defined using so-called clean room classes. The individual classes describe the maximum permissible concentration of airborne particles or germs and/or CFU (colony forming units) that may not be exceeded inside a clean room. It is possible to verify these classes today using standardized measuring procedures. This means air quality is a factor which documents the effects of measures intended to achieve compliance with air quality requirements at manufacturing facilities.

TBH GmbH, Straubenhardt, DE

DIN ISO 14644-1 standard

The *DIN ISO 14644-1 standard* defines the degree of cleanness of the air in ISO classes. The limits are specified as the particle concentration per m³.

Class	**Maximum number of particles permitted per m³**					
	>= 0.1 µm	>= 0.2 µm	>= 0.3 µm	>= 0.5 µm	>= 1.0 µm	>= 5.0 µm
ISO 1	10	2				
ISO 2	100	24	10	4		
ISO 3	1,000	237	102	35	8	
ISO 4	10,000	2,370	1,020	352	83	
ISO 5	100,000	23,700	10,200	3,520	832	29
ISO 6	1,000,000	237,000	102,000	35,200	8,320	293
ISO 7				352,000	83,200	2,930
ISO 8				3,520,000	832,000	29,300
ISO 9				35,200,000	8,320,000	293,000

EU GMP guideline

The *GMP guideline ("Good Manufacturing Practice")* is binding for the production of sterile medicinal products. This means it is applicable in laboratories and the pharmaceutical sector. The guideline defines the categorisation of clean room classes via microbiological contamination and maximum particle values of the air.

Class	**Maximum number of particles permitted per m³**			
	Idle state		Operating state	
	>= 0.5 µm	>= 5.0 µm	>= 0.5 µm	>= 5.0 µm
A	3,520	20	3,520	20
B	3,520	29	352,000	2,900
C	352,000	2,900	3,520,000	29,000
D	3,520,000	29,000	not determined	not determined

Laboratory

Range of Services

Reliable technical data are a guarantee for our customers' satisfaction when developing new lighting systems and luminaires. They stand for the high quality standards of our product developments.

In our own TDAP-certified laboratory with far-field goniometer, thermal test benches, EMC measuring stations, climate simulation rooms, IP test facilities and much more, we have a broad range of equipment and are always at the cutting edge of technology. This is where we determine the exact data for high-quality LED lighting solutions and incorporate this in guarantee commitments for luminaire service life. Every type of new development is examined in the process, and follow-up tests are carried out in the event of product changes. Regiolux also offers photometric measurements as a service.

Systematic testing of all parameters for quality and functionality is essential in the development of new LEDs and luminaires for general lighting as well as for individual lighting solutions.

Customer solutions

Customer wishes are implemented quickly and simply thanks to our broad expertise and know-how in luminaire development.

Luminaire safety

- In accordance with the Low Voltage Directive and the set of luminaire standards from the 60598 series, the EMC Directive and/or the RED Directive
- In the VDE TDAP-certified laboratory

EMC

In accordance with EN 55015 (Cispr 15)

Result:
Exclusion of damaging electromagnetic interference

Thermal aspects

In accordance with EN 60598 (always in normal position, thermally settled, loaded DV, in planned mounting position)

Test of all the relevant components of a luminaire and identification of further hotspots through thermography.

Results:
- Product safety (F or D marking, no injuries at parts that can be touched)
- Determination of Ta release and service life

Light/photo goniometer

Light measurement and presentation of photometric measurement results according to DIN EN 13032-4, colorimetric measurements and presentation of results according to ANSI/IES LM-79

Results:
- Lamp luminous flux, luminous efficiency, luminous intensity distribution
- Spectral distribution, colour temperature, colour rendering index

IP protection category

Tests in accordance with 60598 incl. permanency test

Results:
Classification in the correct protection category for resistance to dust, solid foreign objects and water

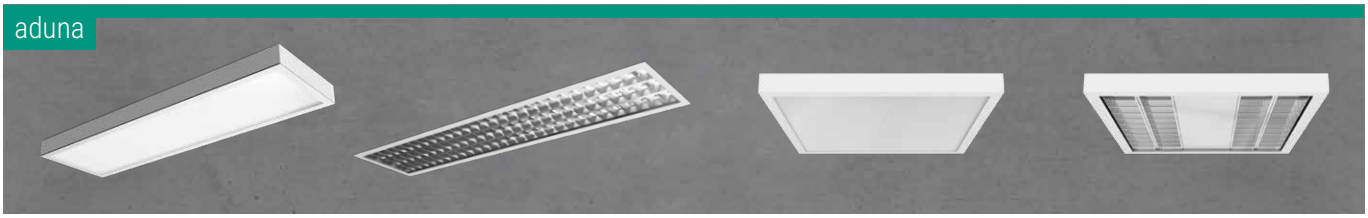
Chemical Industry

The pharmaceutical industry is divided into sectors with different requirement profiles for mechanical product properties. These in turn are derived from the definitions of the GMP directive: certified clean room suitability, durability, IP65 protection category coupled with the highest quality and safety standards for materials and components used, flexible mounting options, good cleanability and a design that is unfavourable for germs.

Thanks to the lighting system used, *aduna* fully meets the high requirements for efficiency, colour rendering and glare reduction. It thus expands our range of clean room luminaires, the *protection IPA*.

Project Solutions

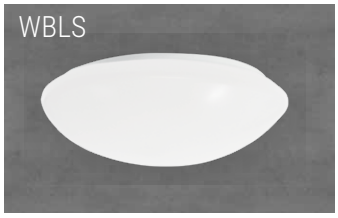
Selection

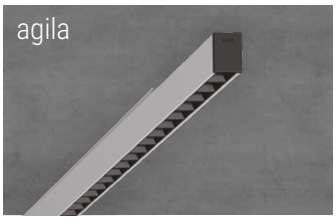


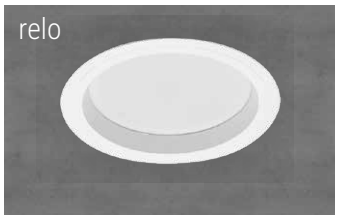
Laboratory | Manufacturing | Filling | Packaging

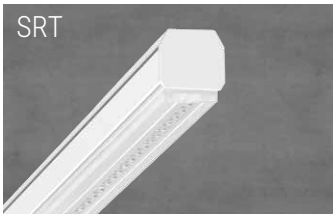
Areas of Use

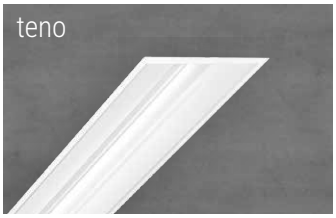
Warehouse | Offices | Corridors | Social rooms

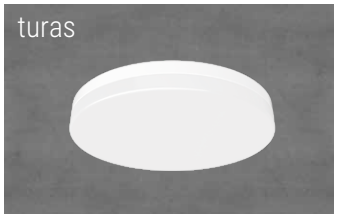


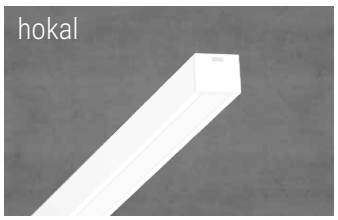


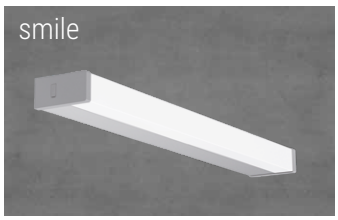












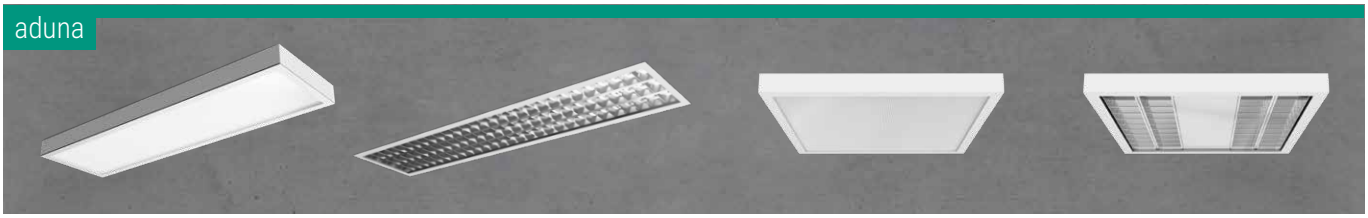
Food & Cosmetics Industry

The highest demands on hygiene standards, e.g. in aseptic production, long shelf lives and increasingly imaginative food design require controlled conditions in the development, production and packaging of food. The advent of biotechnology into the food sector has further accelerated the expansion of manufacturing facilities under clean room conditions.

aduna and *protection IPA* provide the solution in terms of lighting and material requirements for this rapidly evolving production environment.

Project Solutions

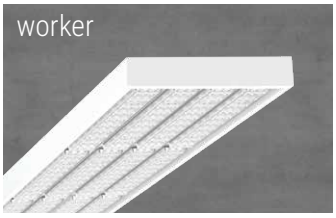
Selection

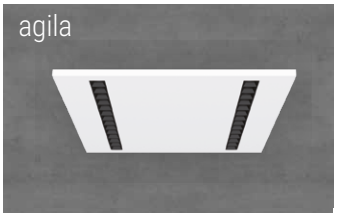


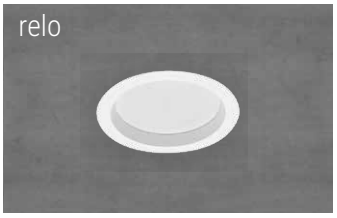
Laboratory | Manufacturing | Filling | Packaging

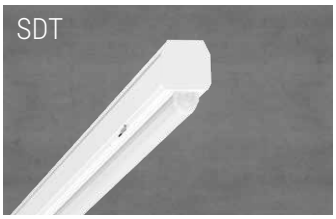
Areas of Use

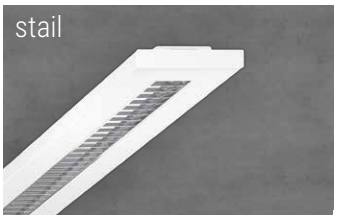
Warehouse | Offices | Corridors | Social rooms

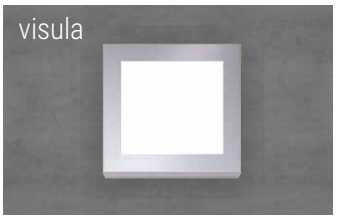


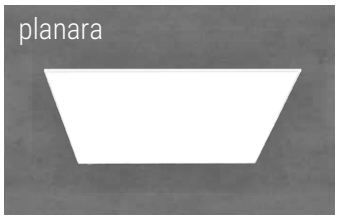


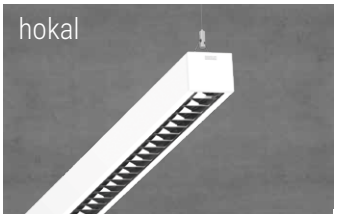


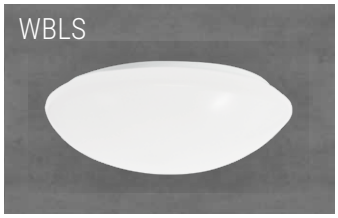


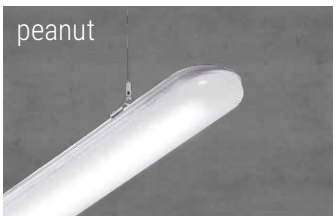


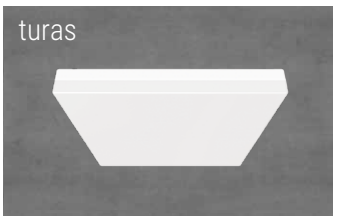


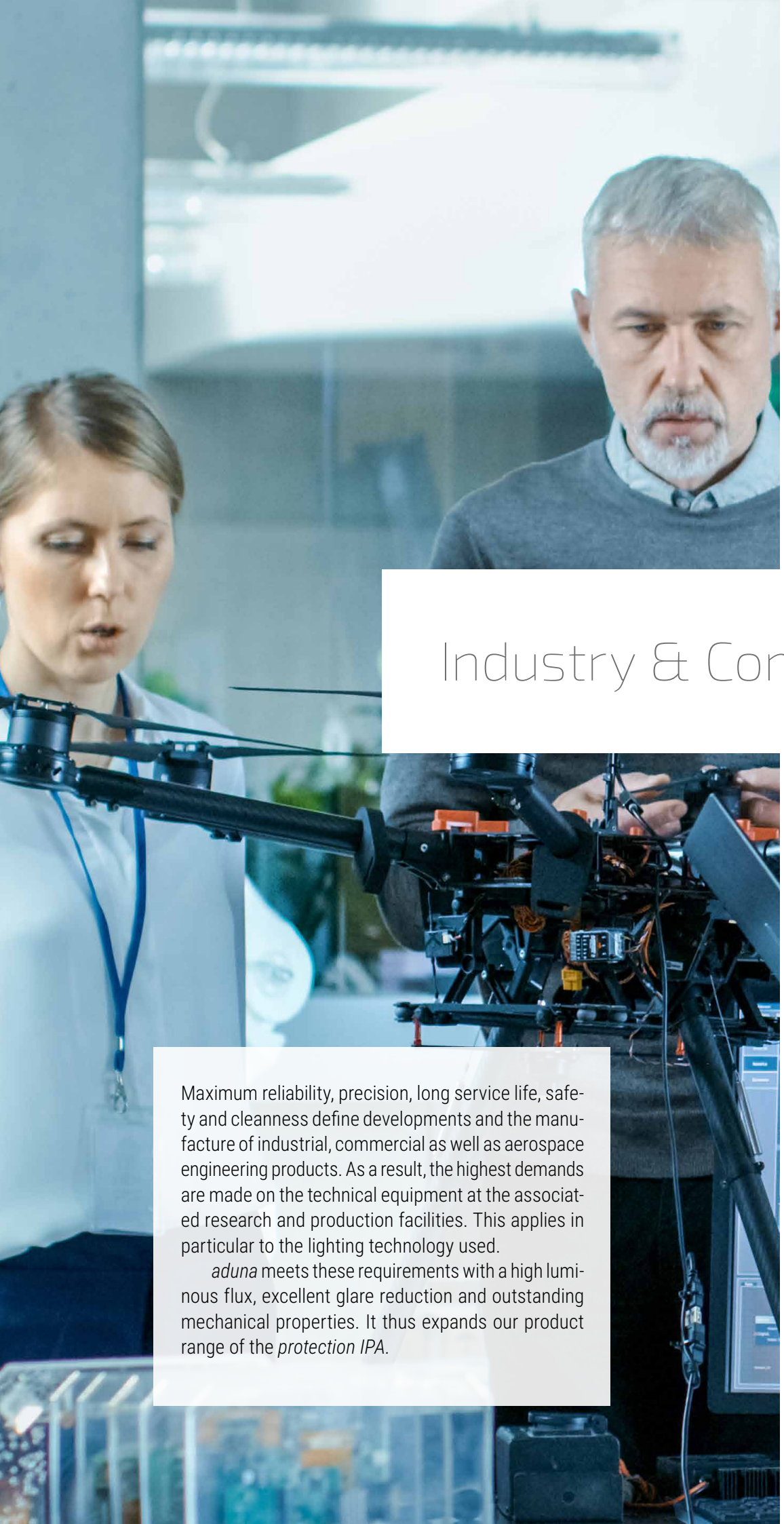












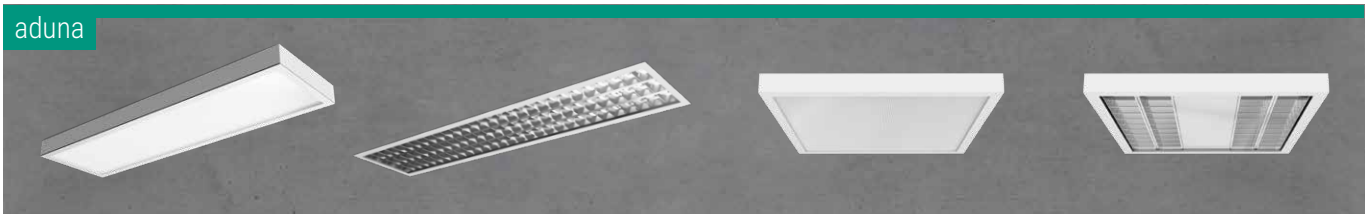
Industry & Commerce

Maximum reliability, precision, long service life, safety and cleanness define developments and the manufacture of industrial, commercial as well as aerospace engineering products. As a result, the highest demands are made on the technical equipment at the associated research and production facilities. This applies in particular to the lighting technology used.

aduna meets these requirements with a high luminous flux, excellent glare reduction and outstanding mechanical properties. It thus expands our product range of the *protection IPA*.

Project Solutions

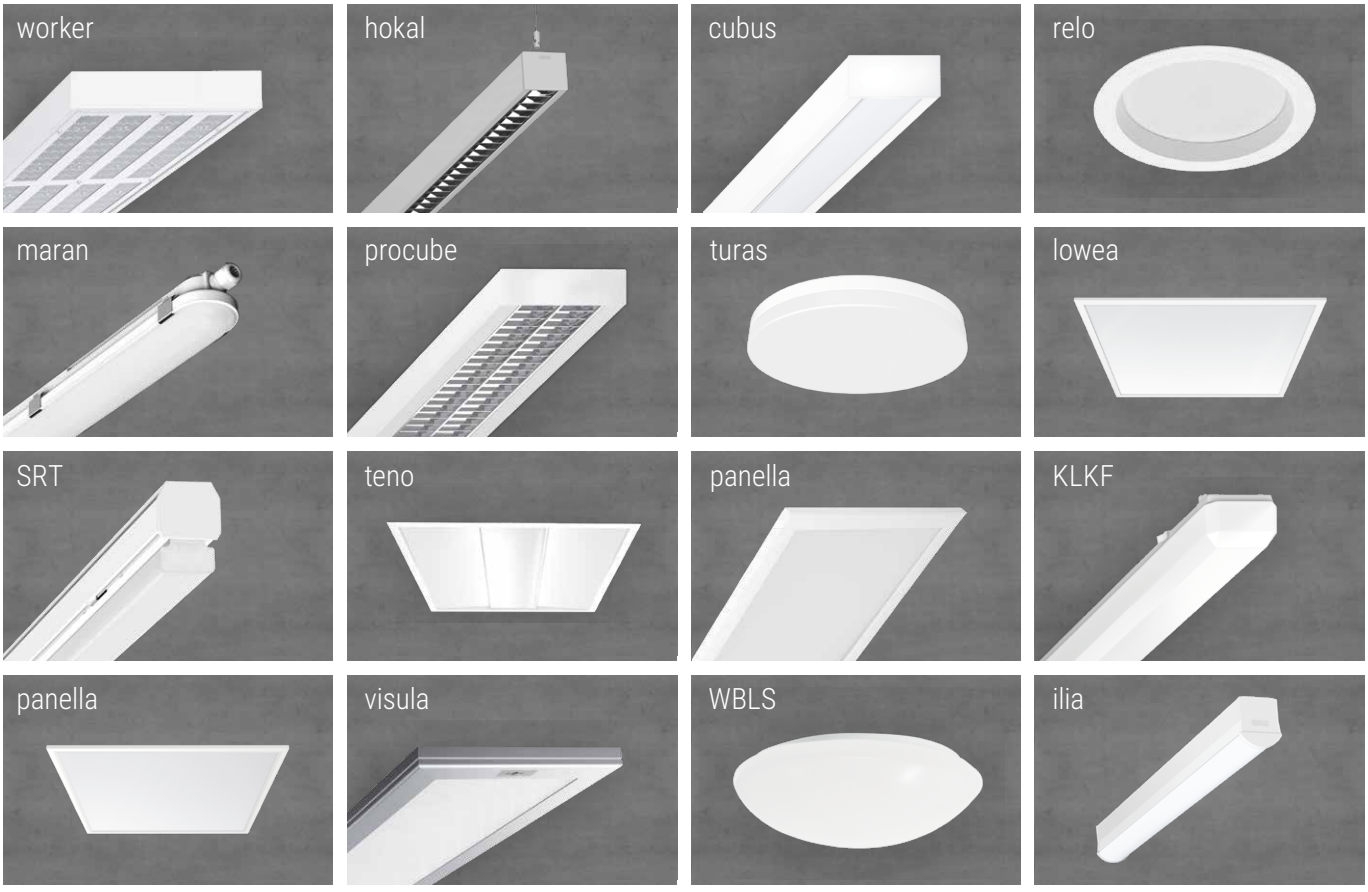
Selection



R&D laboratory | Manufacturing | Test laboratory | Test bench

Areas of Use

Warehouse | Offices | Corridors | Social rooms



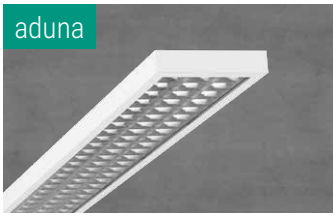
Clinics and hospitals

Medical facilities need the right light for difficult visual tasks. Durable and reliable solutions are needed for the highest hygienic requirements. The avoidance of reflective surfaces, excellent colour rendering and good glare reduction while maintaining high luminous fluxes and freedom from flicker are indispensable here. a*duna* and *protection IPA* meet these requirements.

In addition, the nano-prism version of *aduna* can be used for spectral cyanosis detection.

Preparation for operating theatre

aduna

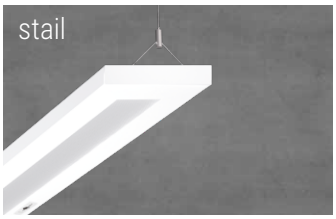


protection IPA

Examination

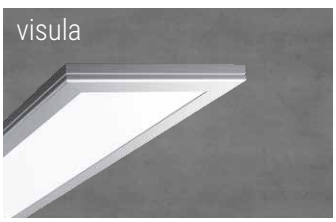
kayak

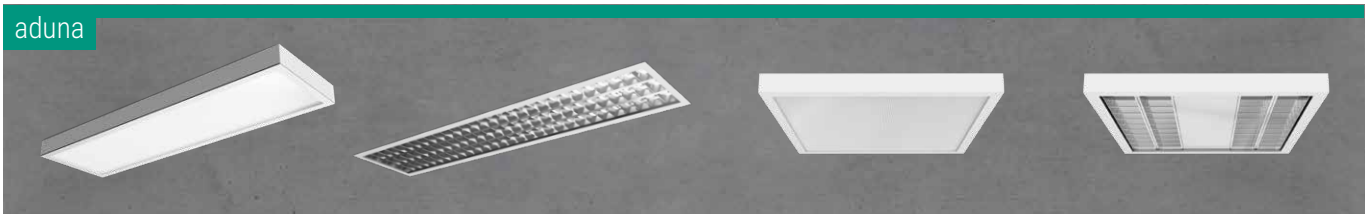
stail



teno

visula

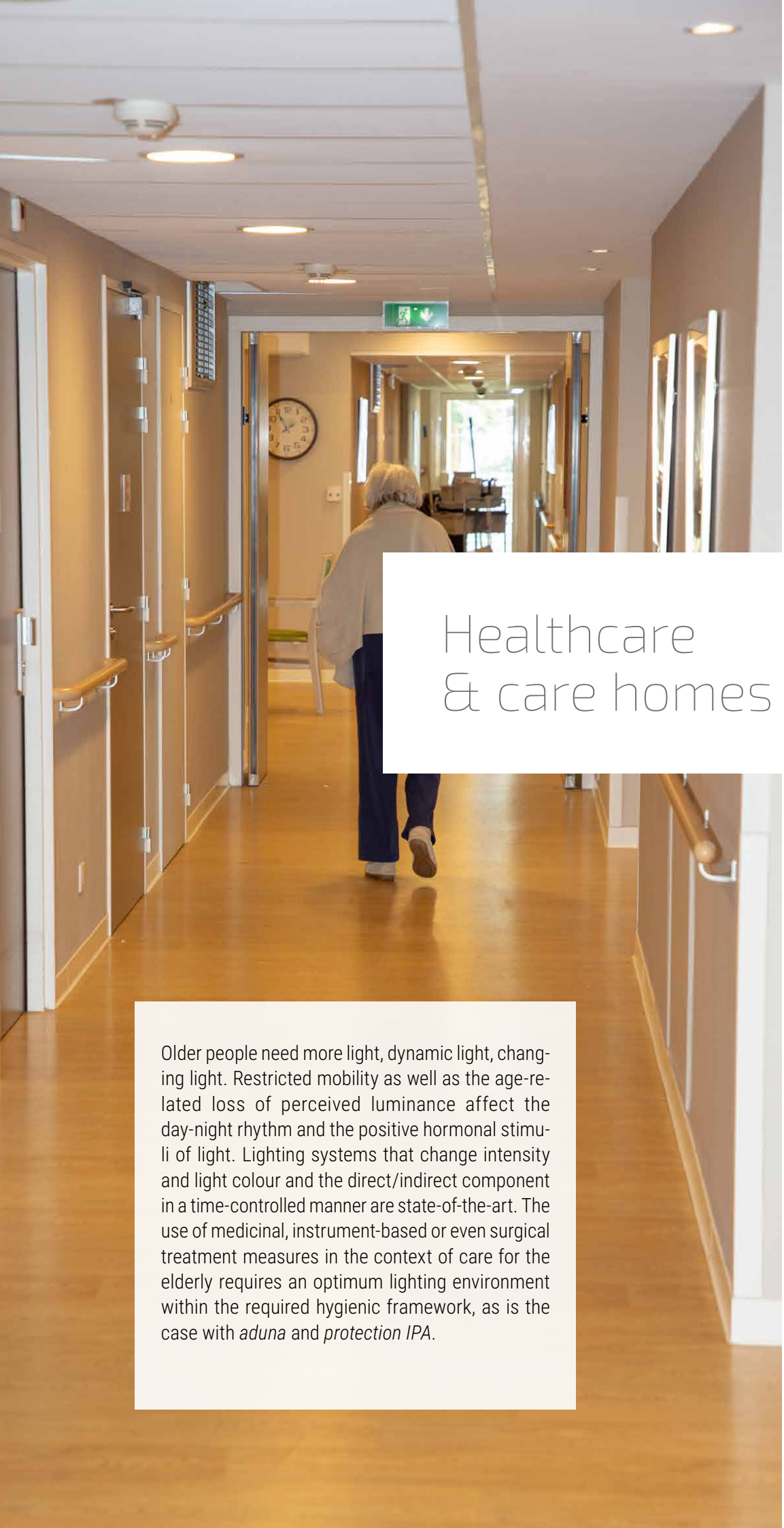




Operating theatre	Intensive care unit	Intermediate care	Recovery room

Areas of Use

Patients	Offices	Corridors	Social rooms
relo	agila	procube	relo
hokal	alvia	WBLS	lens pro
MLS	hokal	visula	turas
WBLS	visula	doma	smile

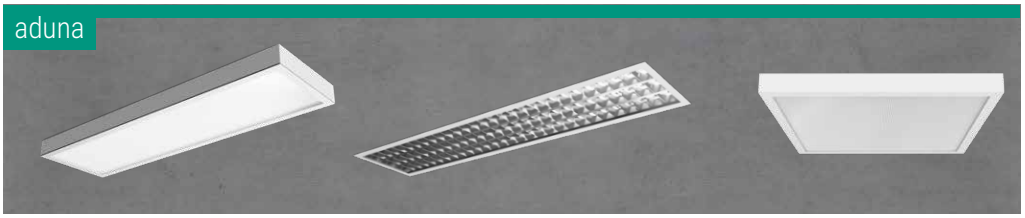


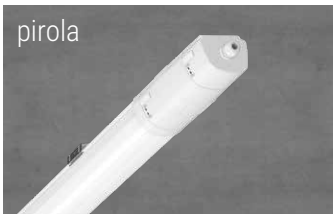
Healthcare & care homes

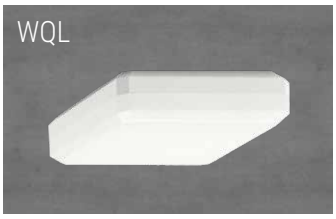
Older people need more light, dynamic light, changing light. Restricted mobility as well as the age-related loss of perceived luminance affect the day-night rhythm and the positive hormonal stimuli of light. Lighting systems that change intensity and light colour and the direct/indirect component in a time-controlled manner are state-of-the-art. The use of medicinal, instrument-based or even surgical treatment measures in the context of care for the elderly requires an optimum lighting environment within the required hygienic framework, as is the case with *aduna* and *protection IPA*.

Project Solutions

Selection



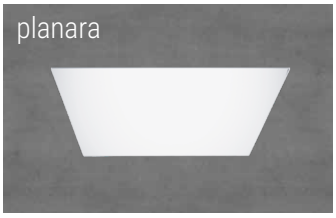


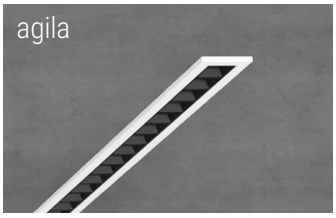


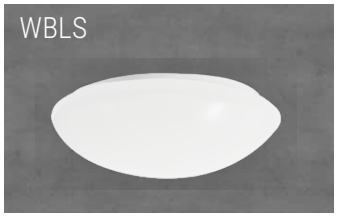
Intermediate care | Common rooms | Examination | Utility rooms

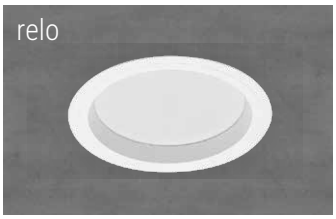
Areas of Use

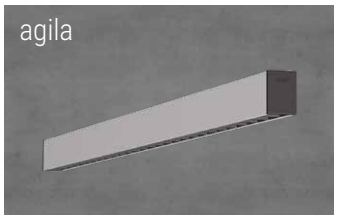
Patients | Offices | Corridors | Social rooms

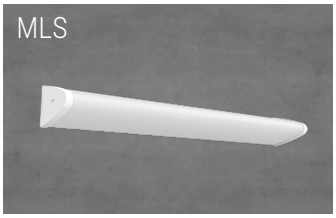


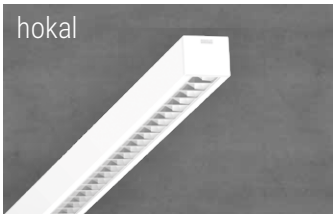


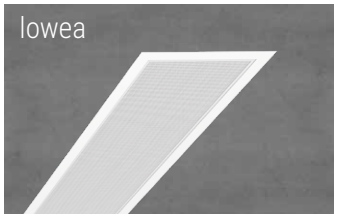


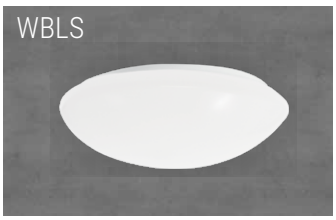


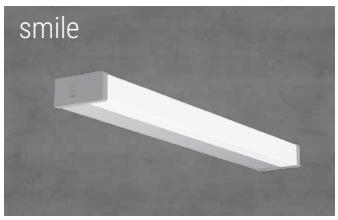








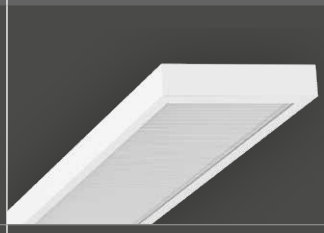




CLEAN ROOM LUMINAIRES

Families

Clean room luminaires

Families	aduna	protection IPA
		
IP protection category	IP 65	IP 54
Type of installation	Individual surface mounting Surface-mounted light run installation Ceiling installation clean room ceilings	Individual surface mounting Ceiling installation single mounting
DIN standard ISO 14644-1 GMP class	Class ISO 1 GMP Class D	Class ISO 1
Light distribution	Direct distribution	Direct distribution
Lighting technology	Multilayer lighting technology Silky matt parabolic louvres	Micro prism diffuser Satin-finished diffuser
Luminaire luminous flux	4200–14800	4200–5000
Light colour	840 850 940 950	840
Features	HACCP/IFS	HACCP/IFS

Visit www.regiolux.com for the latest and more detailed data.

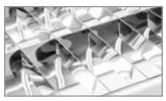
aduna

– not just clean; ultra clean

aduna

- Innovative IP65 clean room luminaire with IPA-certified reference types
- Certified for clean rooms up to class ISO 1 or GMP class D, ENEC planned
- Version with MIRO® high-quality louvre for VDU and best UGR and luminance values
- Version with nano-prism multilayer lighting technology – suitable for computer workstations
- Flicker and interference-free for sensitive opto-electronic devices such as pulsoximeter, scanner etc.
- Safe detection of critical cyanosis value thanks to the correct light colour spectrum, CRI ≥ 90 & COI ≤ 3.3
- Tested for microbial metabolic potential to ISO 846
- Luminaires equipped with a driver compatible with Constant Light Output (CLO)
- Prepared for connection to emergency supply (50-60 Hz) or central battery
- With laminated safety glass and dimensionally stable, laser-welded, steel sheet enclosure
- Surface-mounted luminaire with installation frame for installation in cut-out clean room ceilings

Types of installation

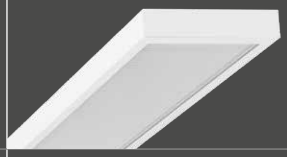
Dimensions		600 x 600				1200 x 340				1500 x 340				
Lighting technologies	**LF**	**lm**	**lm/W**	**3000**	**COI 940**	**lm**	**lm/W**	**3000**	**COI 940**	**lm**	**lm/W**	**3000**	**COI 940**	**flicker -free**
micro prism[1]	940[3]/950	5800	114	●	2.60	7400	109	●	2.78	9400	108	●	2.78	●
		7500	108		2.60	10000	104		2.78	12600	104		2.78	●
	840/850	6700	132	●		8600	127			11000	126			●
		8700	125			11700	120			14600	120			●
 Miro® louvres	940/950	4200	111	●		8200	103	●		10300	103	●		● [2]
		6000	101	●		9600	99	●		12000	99	●		● [2]
	840/850	5200	136	●		10100	127	●		12700	127	●		● [2]
		7300	124	●		11800	121			14800	121	●		● [2]

[1] Multilayer technology
[2] 0–400 Hz
[3] Cyanosis detection

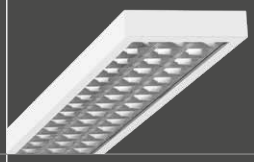
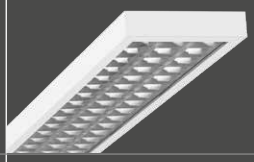
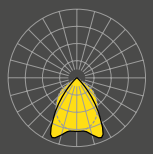
Light Quality Criteria

aduna

Clean Room Luminaires

Type	aduna-ADAMP/600	aduna-ADAMP/1200	aduna-ADAMP/1500
			
Lighting technology	Multilayer lighting technology	Multilayer lighting technology	Multilayer lighting technology
Light distribution	Direct distribution	Direct distribution	Direct distribution
LVK			
Certification mark	IP 65[1)]	IP 65[1)]	IP 65[1)]
ISO class/ GMP class	Class ISO 1 GMP Class D	Class ISO 1 GMP Class D	Class ISO 1 GMP Class D
IK value	IK07	IK07	IK07
Minimum ambient temperature	-20 °C	-20 °C	-20 °C
Maximum ambient temperature	35 °C	35 °C	35 °C
Type of installation	Individual surface mounting Surface-mounted light run installation Ceiling installation clean room ceilings	Individual surface mounting Surface-mounted light run installation Ceiling installation clean room ceilings	Individual surface mounting Surface-mounted light run installation Ceiling installation clean room ceilings
L x W x H	597 x 597 x 75	1173 x 340 x 75	1473 x 340 x 75
Luminaire luminous flux [lm]	5800–8700	7400–11700	9400–14600
Light colour	840, 850 940, 950	840, 850 940, 950	840, 850 940, 950
Luminaire efficiency [lm/W]	108–132	104–127	104–126
LED service life[2)]	100000h L80/B10	90000h L80/B10	90000h L80/B10
Controllers	DALI	DALI	DALI
Features	HACCP/IFS	HACCP/IFS	HACCP/IFS

[1)] ENEC planned
[2)] LED service life valid for Tq 25°C
Visit www.regiolux.com for the latest and more detailed data.

aduna-ADAX/600	aduna-ADAX/1200	aduna-ADAX/1500
		
Silky matt parabolic louvres	Silky matt parabolic louvres	Silky matt parabolic louvres
Direct distribution	Direct distribution	Direct distribution
		
IP 65[1)]	IP 65[1)]	IP 65[1)]
Class ISO 1 GMP Class D	Class ISO 1 GMP Class D	Class ISO 1 GMP Class D
IK07	IK07	IK07
-20 °C	-20 °C	-20 °C
35 °C	35 °C	35 °C
Individual surface mounting Surface-mounted light run installation Ceiling installation clean room ceilings	Individual surface mounting Surface-mounted light run installation Ceiling installation clean room ceilings	Individual surface mounting Surface-mounted light run installation Ceiling installation clean room ceilings
597 x 597 x 75	1173 x 340 x 75	1473 x 340 x 75
4200–7300	8200–11800	10300–14800
840, 850 940, 950	840, 850 940, 950	840, 850 940, 950
101–136	99–127	99–127
80000h L80/B10	80000h L80/B10	80000h L80/B10
DALI	DALI	DALI
HACCP/IFS	HACCP/IFS	HACCP/IFS

clean tested

Fraunhofer IPA TESTED® DEVICE
REGIOLUX GmbH
ADAMP/1200 LED 10000 IPA
Report No. RE 2011-1189

Fraunhofer IPA TESTED® DEVICE
REGIOLUX GmbH
ADAMP/1500 LED 12500 IPA
Report No. RE 2011-1189

Fraunhofer IPA TESTED® DEVICE
REGIOLUX GmbH
ADAMP/600 LED 7500 IPA
Report No. RE 2011-1189

Fraunhofer IPA TESTED® DEVICE
REGIOLUX GmbH
ADAX/1200 LED 9600 IPA
Report No. RE 2011-1189

Fraunhofer IPA TESTED® DEVICE
REGIOLUX GmbH
ADAX/1500 LED 12000 IPA
Report No. RE 2011-1189

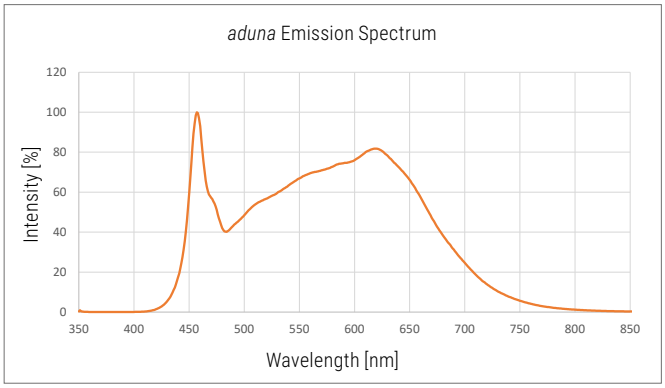
Fraunhofer IPA TESTED® DEVICE
REGIOLUX GmbH
ADAX/600 LED 6000 IPA
Report No. RE 2011-1189

aduna and Cyanosis

Cyanosis is the bluish discolouration of the skin or mucous membranes. In a figurative sense, the term is also used to describe reduced blood circulation in general. It is caused by a lack of oxygen saturation in the blood.

An important aspect of clinical observation is the rapid, reliable detection of cyanosis. A dangerously depleted oxygen content in the blood can be observed through a bluish discolouration of the skin and mucous membranes. It is an indication of disease patterns that have poor peripheral circulation.

If no monitoring apparatus is used, suitable lighting can help to detect discolourations. In the case of *aduna*, the choice of LEDs makes visual observation possible even for untrained personnel. These have a specially selected emission spectrum. In this way, *aduna* makes a reliable contribution to the ad-hoc detection of cyanosis.

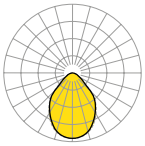


Emission spectrum of aduna MP in light colour 940 measured according to DIN EN 13032-4:2015-08 with goniospectrometer at Regiolux.

Cyanosis Observation Index (COI)

The requirements for a reliable diagnosis of cyanosis have been laid down in AS 1680.2.5, for example. To meet the standard, the COI value should be 3.3 or lower, and the colour temperature correlated with the light source should be around 4000 K.

Multilayer lighting technology direct distribution

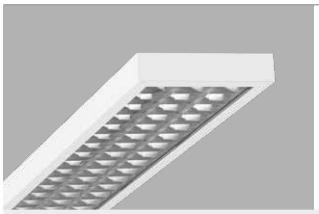


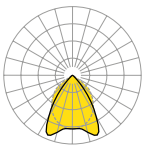
UGR ≤ 19 IP 65

COI ≤ 3,3 90000h L80/B10

Type	Configuration	Colour	Ballast[1)]	LxWxH/DxH	Part no.	lm/W	P_{Sys} [W]
aduna-ADAMP/600	LED 7500 940	vw	DALI	597 x 597 x 75	6216 4026 670	108	70
aduna-ADAMP/1200	LED 10000 940	vw	DALI	1173 x 340 x 75	6212 4026 670	104	97
aduna-ADAMP/1500	LED 12500 940	vw	DALI	1473 x 340 x 75	6215 4026 670	104	121

Silky matt parabolic louvres direct distribution



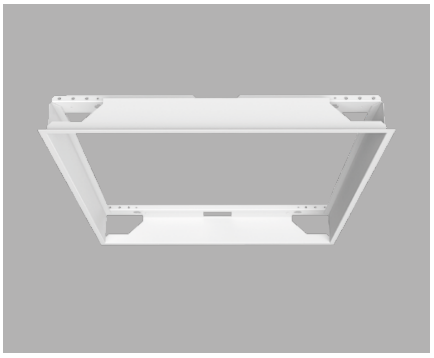


UGR ≤ 19 IP 65

80000h L80/B10

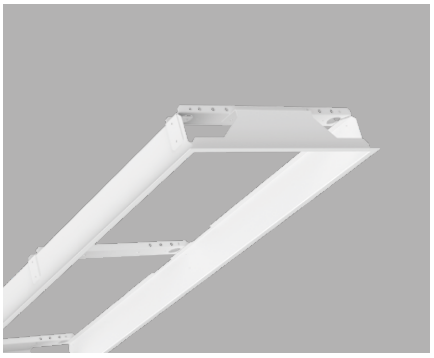
Type	Configuration	Colour	Ballast[1)]	LxWxH/DxH	Part no.	lm/W	P_{Sys} [W]
aduna-ADAX/600	LED 6000 940	vw	DALI	597 x 597 x 75	6216 4026 660	101	59
aduna-ADAX/1200	LED 9600 940	vw	DALI	1173 x 340 x 75	6212 4026 660	99	98
aduna-ADAX/1500	LED 12000 940	vw	DALI	1473 x 340 x 75	6215 4026 660	99	122

ADA-ER 600



ADA-ER 1200

ADA-ER 1500

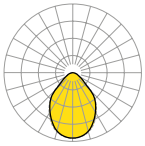


Accessories	Type	Colour	Material	Details	Part no.	
Mounting/Installation						
Ceiling attachment Ceiling installation	ADA-ER 600	vw	St	Ceiling mounting frame for aduna 600	6216 9000 100	1
	ADA-ER 1200	vw	St	Ceiling mounting frame for aduna 1200	6212 9000 100	1
	ADA-ER 1500	vw	St	Ceiling mounting frame for aduna 1500	6215 9000 100	1
Tool	SH 115	sw	Solid rubber	Vacuum lifting pad, d=115mm for strong, smooth diffuser panels, wide design	9203 0115 100	1

[1)] Luminaires suitable for IoT (Internet of Things):

aduna

Multilayer lighting technology direct distribution

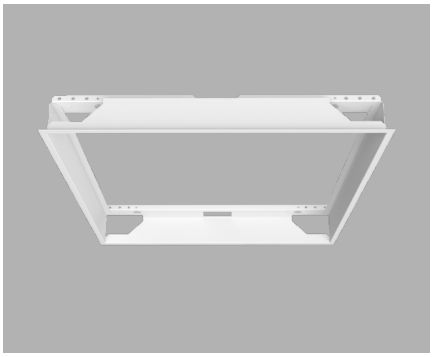


3000 [ ] UGR ≤ 19 IP 65

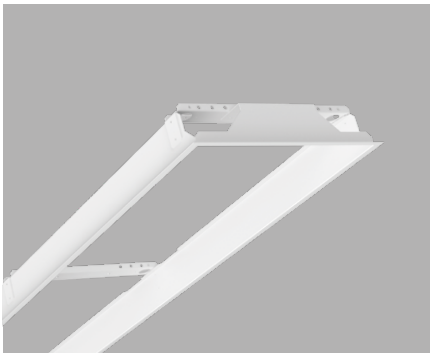
100000h L80/B10

Type	Configuration	Colour	Ballast[1)]	LxWxH/DxH	Part no.	lm/W	P_{Sys} [W]
aduna-ADAMP/600	LED 5800 940	vw	DALI	597 x 597 x 75	6216 4016 670	114	51
	LED 5800 950	vw	DALI	597 x 597 x 75	6216 5016 670	114	51
	LED 6700 840	vw	DALI	597 x 597 x 75	6216 2016 670	132	51
	LED 6700 850	vw	DALI	597 x 597 x 75	6216 3016 670	132	51
	LED 7500 950	vw	DALI	597 x 597 x 75	6216 5026 670	108	70
	LED 8700 840	vw	DALI	597 x 597 x 75	6216 2026 670	125	70
	LED 8700 850	vw	DALI	597 x 597 x 75	6216 3026 670	125	70
aduna-ADAMP/1200	LED 7400 940	vw	DALI	1173 x 340 x 75	6212 4016 670	109	68
	LED 7400 950	vw	DALI	1173 x 340 x 75	6212 5016 670	109	68
	LED 8600 840	vw	DALI	1173 x 340 x 75	6212 2016 670	127	68
	LED 8600 850	vw	DALI	1173 x 340 x 75	6212 3016 670	127	68
	LED 10000 950	vw	DALI	1173 x 340 x 75	6212 5026 670	104	97
	LED 11700 840	vw	DALI	1173 x 340 x 75	6212 2026 670	120	97
	LED 11700 850	vw	DALI	1173 x 340 x 75	6212 3026 670	120	97
aduna-ADAMP/1500	LED 9400 940	vw	DALI	1473 x 340 x 75	6215 4016 670	108	87
	LED 9400 950	vw	DALI	1473 x 340 x 75	6215 5016 670	108	87
	LED 11000 840	vw	DALI	1473 x 340 x 75	6215 2016 670	126	87
	LED 11000 850	vw	DALI	1473 x 340 x 75	6215 3016 670	126	87
	LED 12500 950	vw	DALI	1473 x 340 x 75	6215 5026 670	104	121
	LED 14600 840	vw	DALI	1473 x 340 x 75	6215 2026 670	120	121
	LED 14600 850	vw	DALI	1473 x 340 x 75	6215 3026 670	120	121

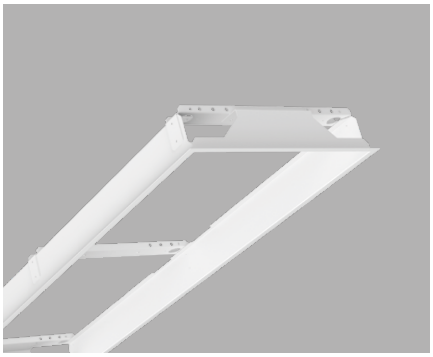
ADA-ER 600



ADA-ER 1200

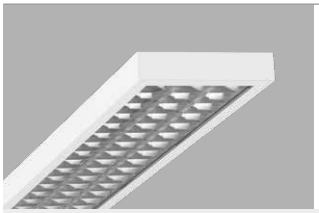


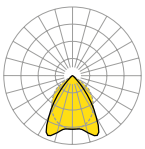
ADA-ER 1500



Accessories	Type	Colour	Material	Details	Part no.	
Mounting/Installation						
Ceiling attachment	ADA-ER 600	vw	St	Mounting frame for aduna 600	6216 9000 100	1
	ADA-ER 1200	vw	St	Mounting frame for aduna 1200	6212 9000 100	1
	ADA-ER 1500	vw	St	Mounting frame for aduna 1500	6215 9000 100	1
Tool	SH 115	sw	Solid rubber	Vacuum lifting pad, d=115mm for strong, smooth diffuser panels, wide design	9203 0115 100	1

Silky matt parabolic louvres direct distribution





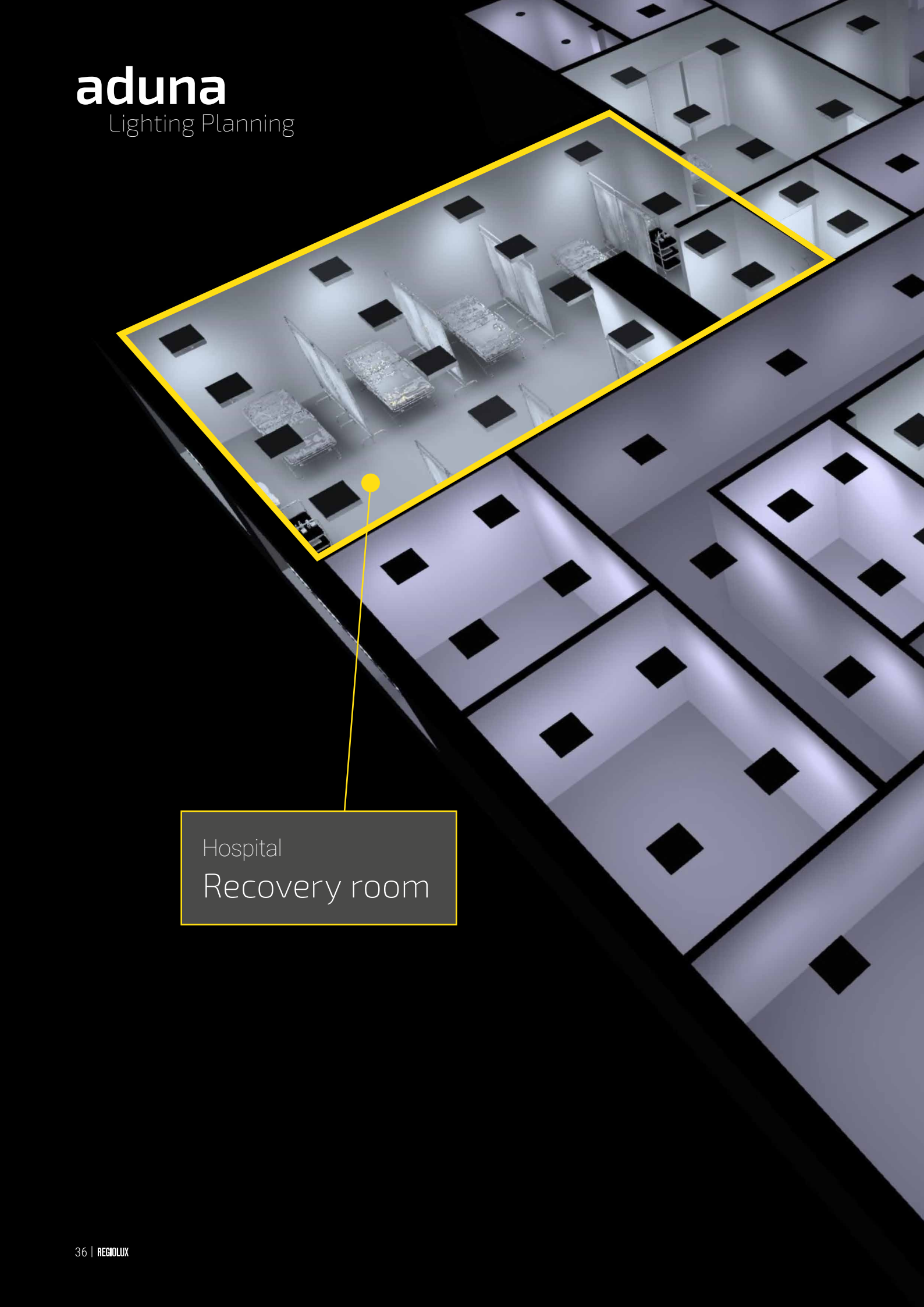
UGR ≤ 19 IP 65

80000h L80/B10

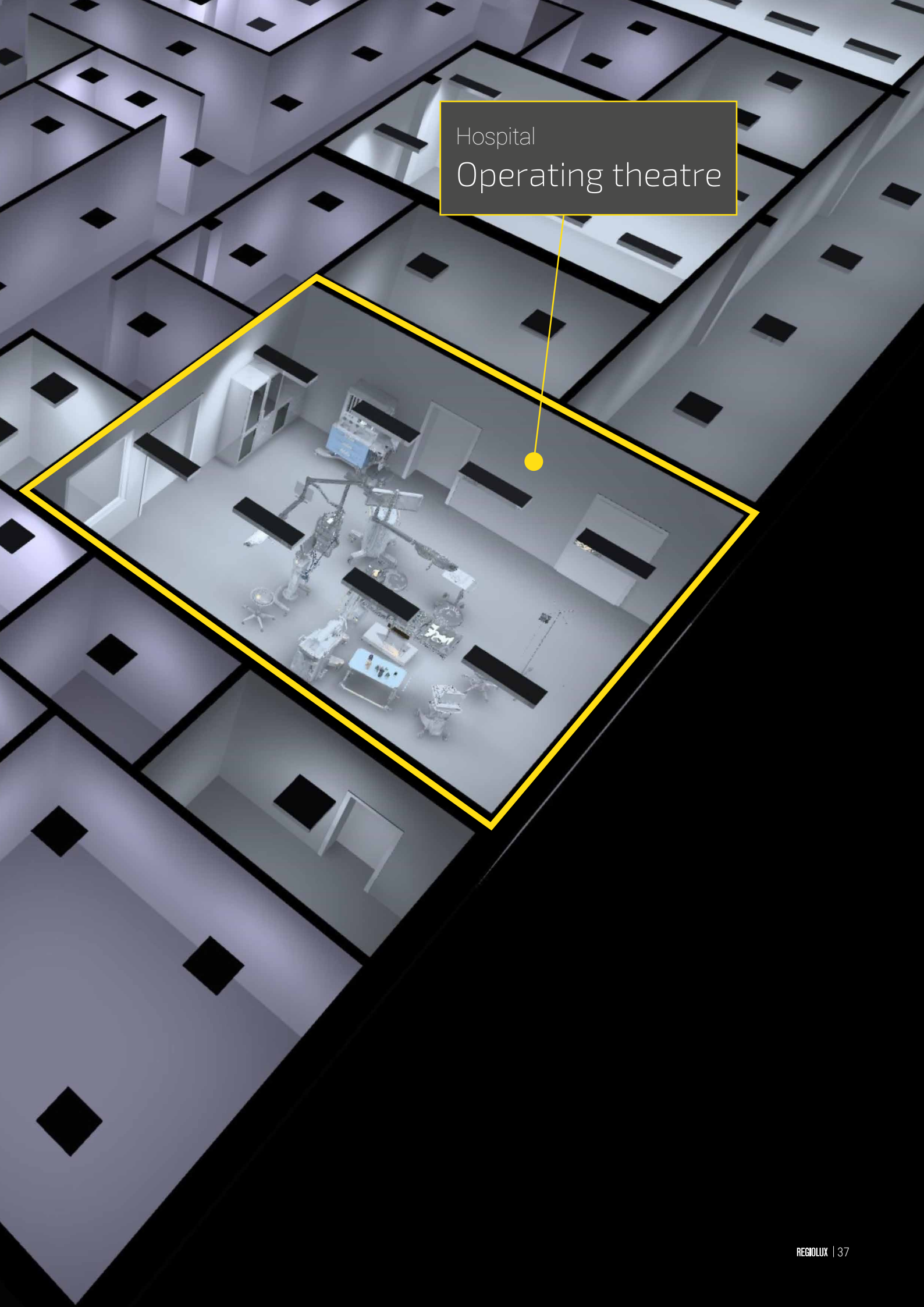
Type	Configuration	Colour	Ballast[1)]	LxWxH/DxH	Part no.	lm/W	P_{Sys} [W]
aduna-ADAX/600	LED 4200 940	vw	DALI	597 x 597 x 75	6216 4016 660	111	38
	LED 4200 950	vw	DALI	597 x 597 x 75	6216 5016 660	111	38
	LED 5200 840	vw	DALI	597 x 597 x 75	6216 2016 660	136	38
	LED 5200 850	vw	DALI	597 x 597 x 75	6216 3016 660	136	38
	LED 6000 950	vw	DALI	597 x 597 x 75	6216 5026 660	101	59
	LED 7300 840	vw	DALI	597 x 597 x 75	6216 2026 660	124	59
	LED 7300 850	vw	DALI	597 x 597 x 75	6216 3026 660	124	59
aduna-ADAX/1200	LED 8200 940	vw	DALI	1173 x 340 x 75	6212 4016 660	103	80
	LED 8200 950	vw	DALI	1173 x 340 x 75	6212 5016 660	103	80
	LED 9600 950	vw	DALI	1173 x 340 x 75	6212 5026 660	99	98
	LED 10100 840	vw	DALI	1173 x 597 x 75	6212 2016 660	127	80
	LED 10100 850	vw	DALI	1173 x 340 x 75	6212 3016 660	127	80
	LED 11800 840	vw	DALI	1173 x 340 x 75	6212 2026 660	121	98
	LED 11800 850	vw	DALI	1173 x 340 x 75	6212 3026 660	121	98
aduna-ADAX/1500	LED 10300 940	vw	DALI	1473 x 340 x 75	6215 4016 660	103	100
	LED 10300 950	vw	DALI	1473 x 340 x 75	6215 5016 660	103	100
	LED 12000 950	vw	DALI	1473 x 340 x 75	6215 5026 660	99	122
	LED 12700 840	vw	DALI	1473 x 340 x 75	6215 2016 660	127	100
	LED 12700 850	vw	DALI	1473 x 340 x 75	6215 3016 660	127	100
	LED 14800 840	vw	DALI	1473 x 340 x 75	6215 2026 660	121	122
	LED 14800 850	vw	DALI	1473 x 340 x 75	6215 3026 660	121	122

[1)] Luminaires suitable for IoT (Internet of Things):

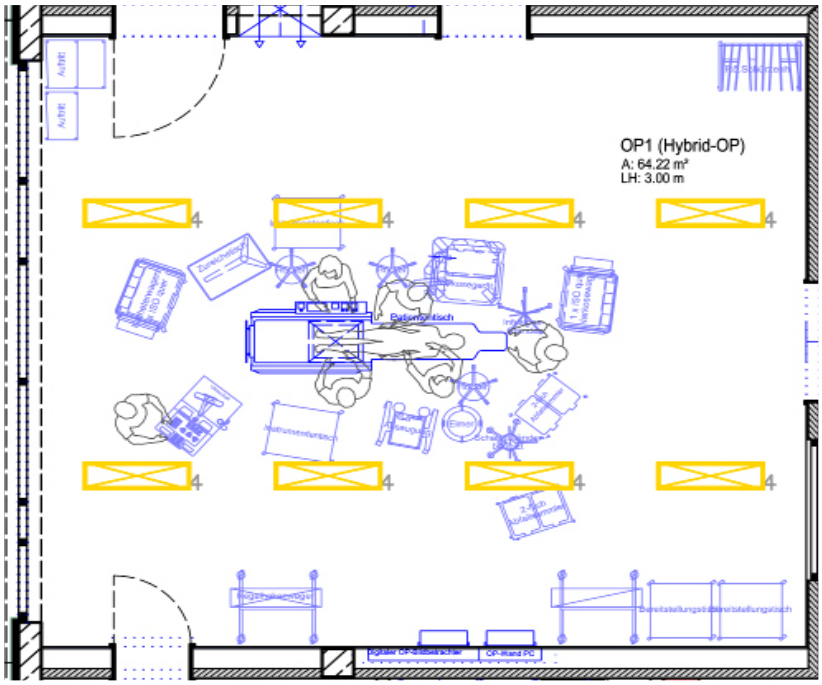
aduna
Lighting Planning



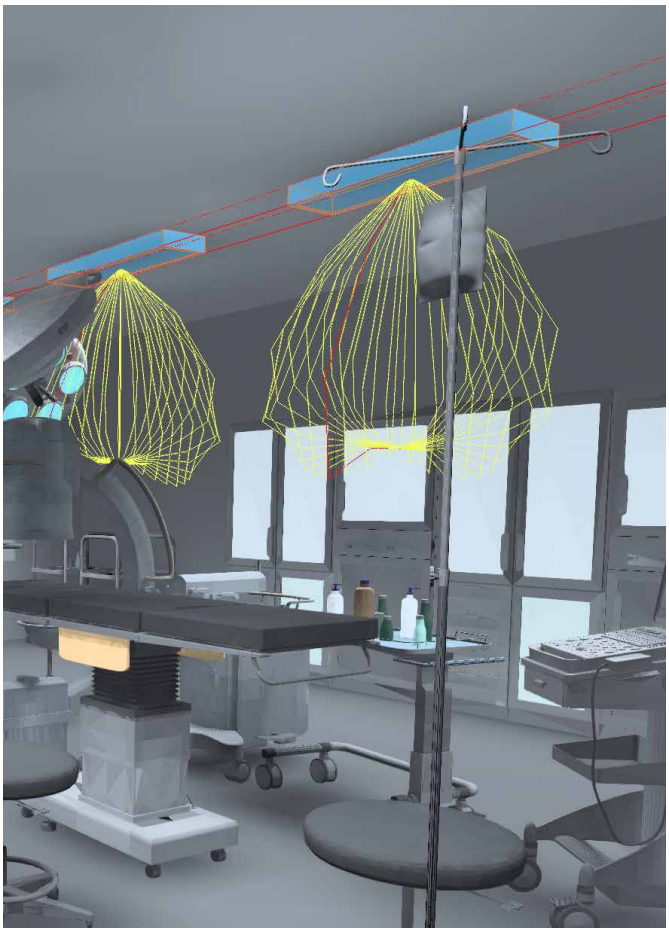
Hospital
Recovery room

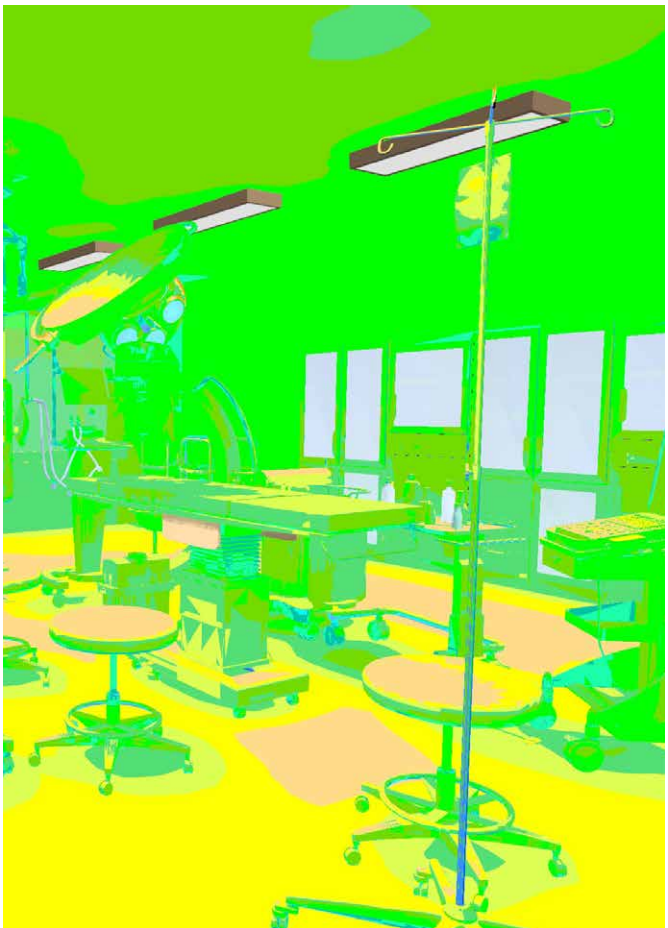

Hospital
Operating theatre

Operating theatre

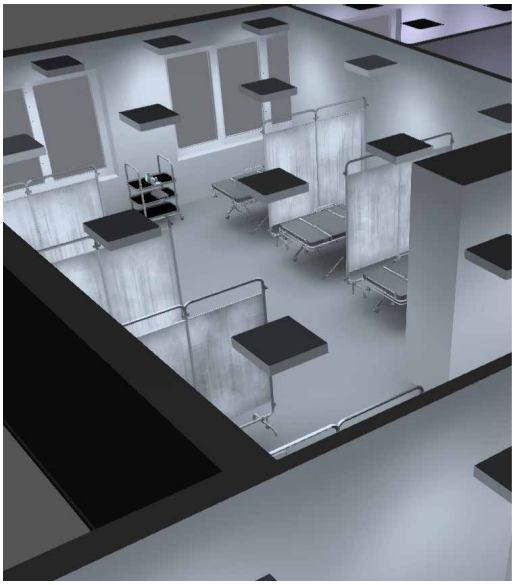


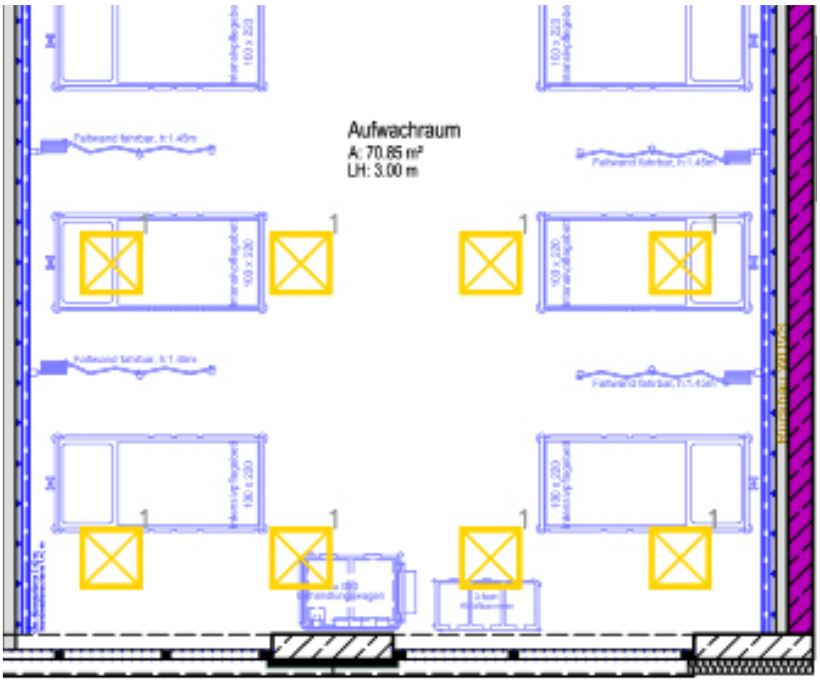
Floor space:	64.22 m²
Degrees of reflection:	Ceiling: 70.0 % Walls: 50.0 % Floor: 20.0 %
Maintenance factor:	0.80 (overall)
Clear room height:	3,000 m
Installation height:	3,000 m
Useful level:	1042 lx
Luminaire:	8 x aduna ADAX/340-1200 LED 9600 940 DALI IP65



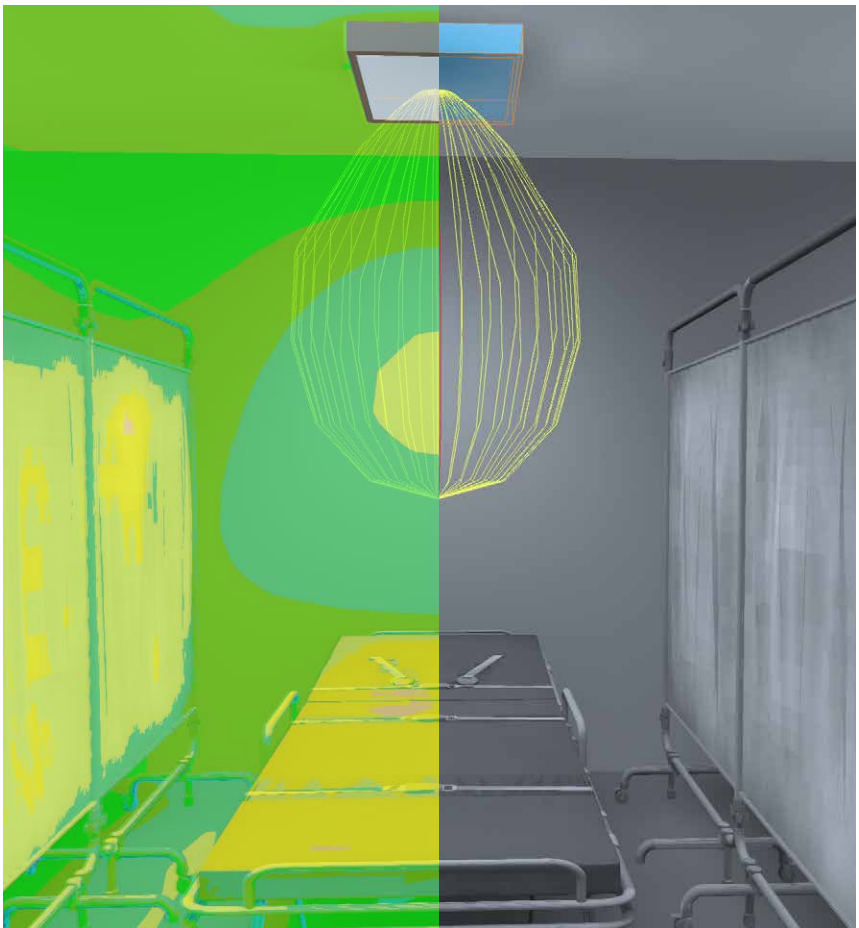


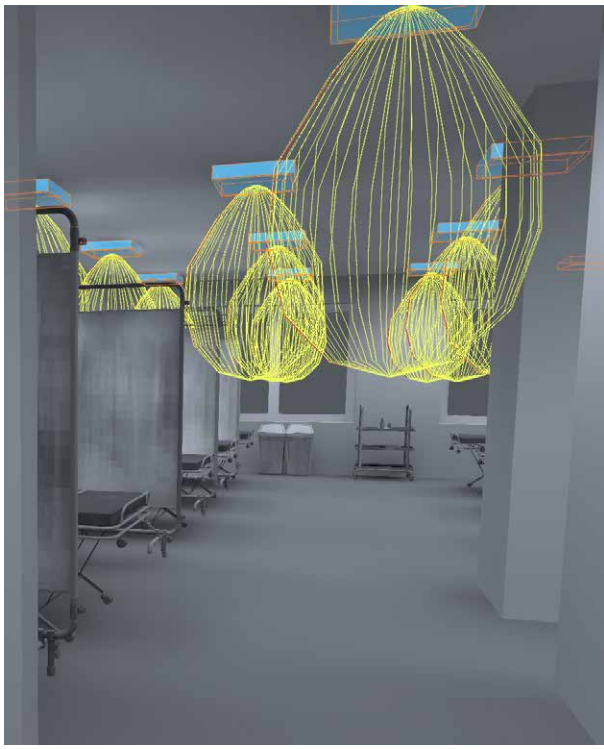
Recovery room





Floor space:	70.85 m²
Degrees of reflection:	Ceiling: 70.0 % Walls: 50.0 % Floor: 20.0 %
Maintenance factor:	0.80 (overall)
Installation height:	3,000 m
Useful level:	727 lx
Luminaire:	16 x aduna ADAMP/600 LED 5800 940 DALI IP65





SIEMENS
Artis zee

protection IPA

– Talented Clean Room Luminaire

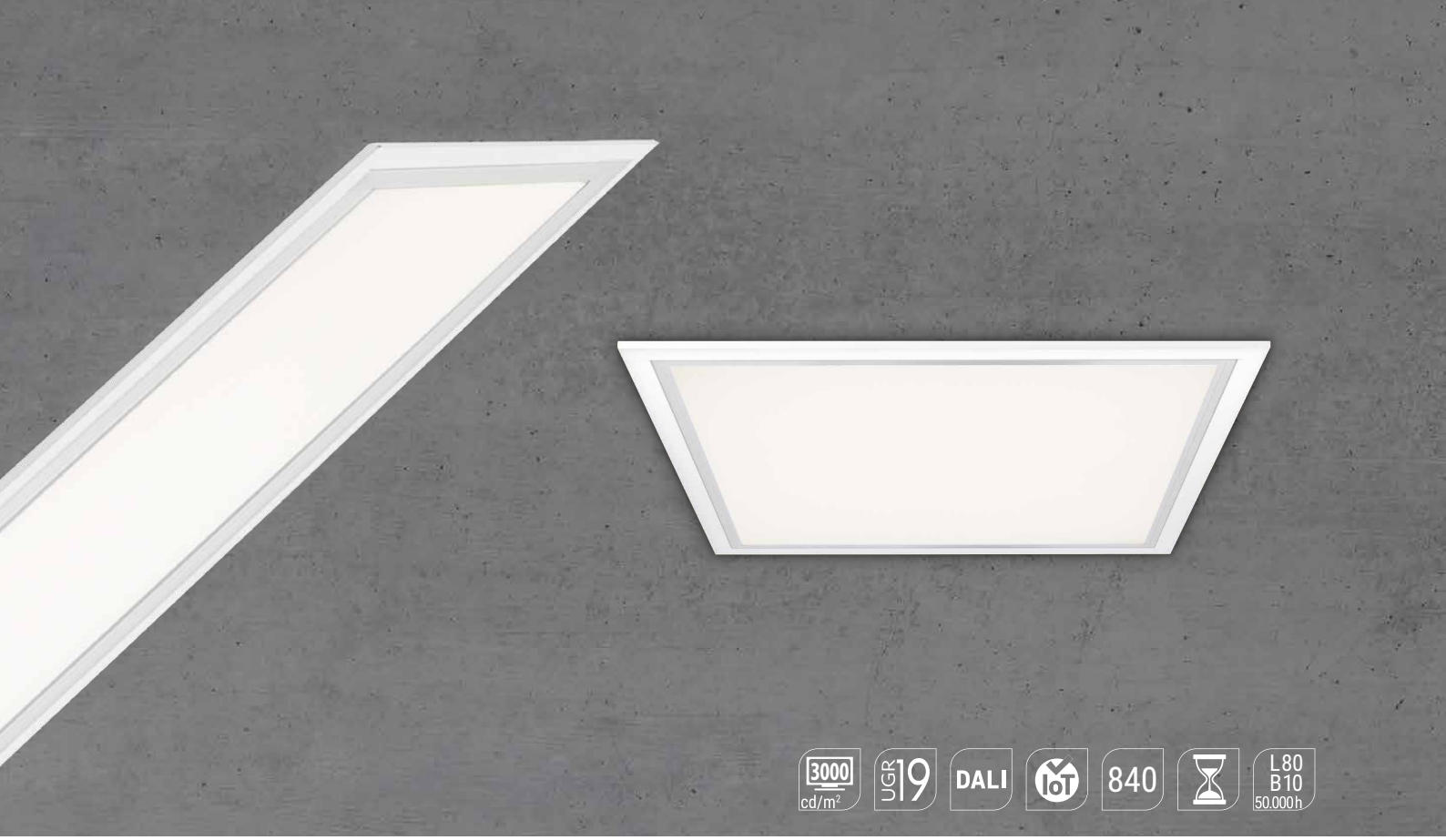
protection IPA

The diffuser frame has a natural anodised finish. Different ceiling modules are compensated for in the width of the housing

The prismatic or frosted diffuser frame can be easily removed using an extractor supplied with the luminaire.

Fields of application

- Clean rooms and controlled environments
- Laboratories and test facilities
- Treatment, examination and patient rooms in medical facilities
- Production and processing facilities for food products, in the cosmetic and pharmaceuticals industry, medical engineering, automotive or packaging production etc.



protection IPA

- Tried-and-trusted IP54 clean room luminaire with IPA-certified reference types
- Certified for clean rooms up to class ISO 1
- Diffuser pane optionally frosted or in micro prism version suitable for computer workstations
- Designed for easy installation, for surface and recessed mounting in system and clean room ceilings
- Designed with tested materials and manufactured in our own clean room
- Tested for microbial metabolic potential to ISO 846

protection IPA materials

Fraunhofer IPA TESTED® DEVICE
REGIOLUX GmbH
Dichtung Schaumraupe
Report No. RE 2011-1189

Fraunhofer IPA TESTED® DEVICE
REGIOLUX GmbH
Pulverlack Oberfläche
Report No. RE 2011-1189

Fraunhofer IPA TESTED® DEVICE
REGIOLUX GmbH
Dichtung Schaumstoff
Report No. RE 2011-1189

LED 5 years warranty

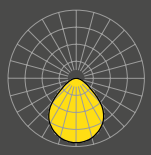
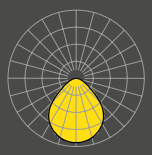
protection IPA

Surface-mounted luminaires

Type	protection IPA-PRAG/660 IPA	protection IPA-PRAG/660	protection IPA-PRAMP/660
Lighting technology	Satin-finished diffuser	Satin-finished diffuser	Micro prism diffuser
Light distribution	Direct distribution	Direct distribution	Direct distribution
LVK			
Certification mark	clean tested IP 54	IP 54	3000 IP 54
ISO class/GMP class	Class ISO 1		
Type of installation	Individual surface mounting	Individual surface mounting	Individual surface mounting
Installation depth			
Cut-out dimensions			
Module			
L x W x H	665 x 654 x 90	665 x 654 x 90	665 x 654 x 90
Luminaire luminous flux [lm]	5000	5000	5000
Light colour	840	840	840
Luminaire efficiency [lm/W]	154	165	165
LED service life	50000h L80/B10	50000h L80/B10	50000h L80/B10
Controllers	ED	DALI	DALI, ED
Features	HACCP/IFS	HACCP/IFS	HACCP/IFS

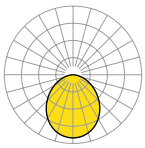
Visit www.regiolux.com for the latest and more detailed data.

Recessed luminaires

clean tested				
protection IPA- PREMP/625 IPA	**protection IPA- PREMP/600 PREMP/625**	**protection IPA- PREG/600 PREG/625**	**protection IPA- PREMP/300-1200 PREMP/312-1250**	**protection IPA- PREG/300-1200 PREG/312-1250**
Micro prism diffuser	Micro prism diffuser	Satin-finished diffuser	Micro prism diffuser	Satin-finished diffuser
Direct distribution	Direct distribution	Direct distribution	Direct distribution	Direct distribution
				
3000 clean tested IP 54	3000 IP 54	IP 54	3000 IP 54	IP 54
Class ISO 1				
Ceiling installation individual mounting	Ceiling installation individual mounting	Ceiling installation individual mounting	Ceiling installation individual mounting	Ceiling installation individual mounting
Et 150 Et 250 Et 150	Et 150 Et 250 Et 150	Et 150 Et 250 Et 150	Et 150 Et 250 Et 150	Et 150 Et 250 Et 150
585 x 585	585 x 585	585 x 585	285 x 1185	285 x 1185
625 x 625	600 x 600 625 x 625	600 x 600 625 x 625	300 x 1200 312.5 x 1250	300 x 1200 312.5 x 1250
622 x 622 x 89	597 x 597 x 89 622 x 622 x 89	597 x 597 x 89 622 x 622 x 89	1197 x 297 x 89 1247 x 309 x 89	1197 x 297 x 89 1247 x 309 x 89
4300	4300	4400	4700	4700
840	840	840	840	840
134	134	136	142	143
50000h L80/B10	50000h L80/B10	50000h L80/B10	50000h L80/B10	50000h L80/B10
ED	DALI, ED	DALI, ED	DALI, ED	DALI, ED
HACCP/IFS	HACCP/IFS	HACCP/IFS	HACCP/IFS	HACCP/IFS

protection IPA

Satin-finished diffuser direct distribution



IP 54

50000h L80/B10

Type	Configuration	Colour	Ballast	LxWxH/DxH	Part no.	lm/W	P_{Sys} [W]
protection IPA-PRAG/660 IP54 IPA	LED 5000 840	vw	ED	665 x 654 x 90	6200 0014 113	165	31

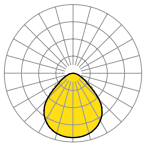
Satin-finished diffuser direct distribution

IP 54

50000h L80/B10

Type	Configuration	Colour	Ballast	LxWxH/DxH	Part no.	lm/W	P_{Sys} [W]
protection IPA-PRAG/660 IP54	LED 5000 840	vw	DALI[1)]	665 x 654 x 90	6200 0016 613	165	31

Micro prism diffuser direct distribution



SGR 19 3000 IP 54

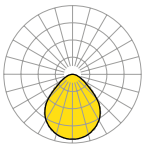
50000h L80/B10

Type	Configuration	Colour	Ballast	LxWxH/DxH	Part no.	lm/W	P_{Sys} [W]
protection IPA-PRAMP/660 IP54	LED 5000 840	vw	ED	665 x 654 x 90	6200 0014 153	165	31
			DALI[1)]	665 x 654 x 90	6200 0016 653	165	31

[1)] Luminaires suitable for IoT (Internet of Things):

protection IPA

Micro prism diffuser direct distribution

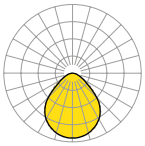


UGR ≤ 19 IP 54

50000h L80/B10

Type	Configuration	Colour	Ballast	LxWxH/DxH	Part no.	lm/W	P_{sys} [W]
protection IPA-PREMP/625 IP54 IPA	LED 4300 840	vw	ED	622 x 622 x 89	7250 0014 153	134	32

Micro prism diffuser direct distribution

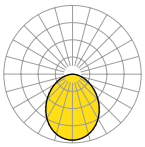


UGR ≤ 19 IP 54

50000h L80/B10

Type	Configuration	Colour	Ballast	LxWxH/DxH	Part no.	lm/W	P_{sys} [W]
protection IPA-PREMP/600 IP54	LED 4300 840	vw	ED	597 x 597 x 89	7256 0014 153	134	32
			DALI[1)]	597 x 597 x 89	7256 0016 653	134	32
protection IPA-PREMP/625 IP54	LED 4300 840	vw	DALI[1)]	622 x 622 x 89	7250 0016 653	134	32

Satin-finished diffuser direct distribution



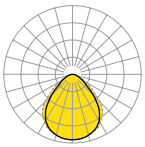
IP 54

50000h L80/B10

Type	Configuration	Colour	Ballast	LxWxH/DxH	Part no.	lm/W	P_{sys} [W]
protection IPA-PREG/600 IP54	LED 4400 840	vw	ED	597 x 597 x 89	7256 0014 113	136	32
			DALI[1)]	597 x 597 x 89	7256 0016 613	132	35
protection IPA-PREG/625 IP54	LED 4400 840	vw	ED	622 x 622 x 89	7250 0014 113	132	35
			DALI[1)]	622 x 622 x 89	7250 0016 613	132	35

[1)] Luminaires suitable for IoT (Internet of Things):

PREMP micro prism diffuser direct distribution

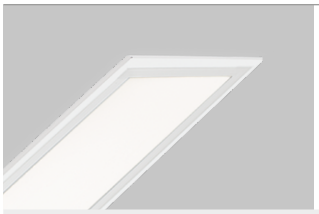


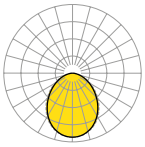
3000 [ ] UGR ≤ 19 IP 54

50000h L80/B10

Type	Configuration	Colour	Ballast	LxWxH/DxH	Part no.	lm/W	P_{Sys} [W]
protection IPA-PREMP/300-1200 IP54	LED 4700 840	vw	ED	1197 x 297 x 89	7253 2034 153	142	33
			DALI[1)]	1197 x 297 x 89	7253 2036 653	142	33
protection IPA-PREMP/312-1250 IP54	LED 4700 840	vw	ED	1247 x 309 x 89	7251 2034 153	142	33
			DALI[1)]	1247 x 309 x 89	7251 2036 653	142	33

PREG Satin-finished diffuser direct distribution





[ ] IP 54

50000h L80/B10

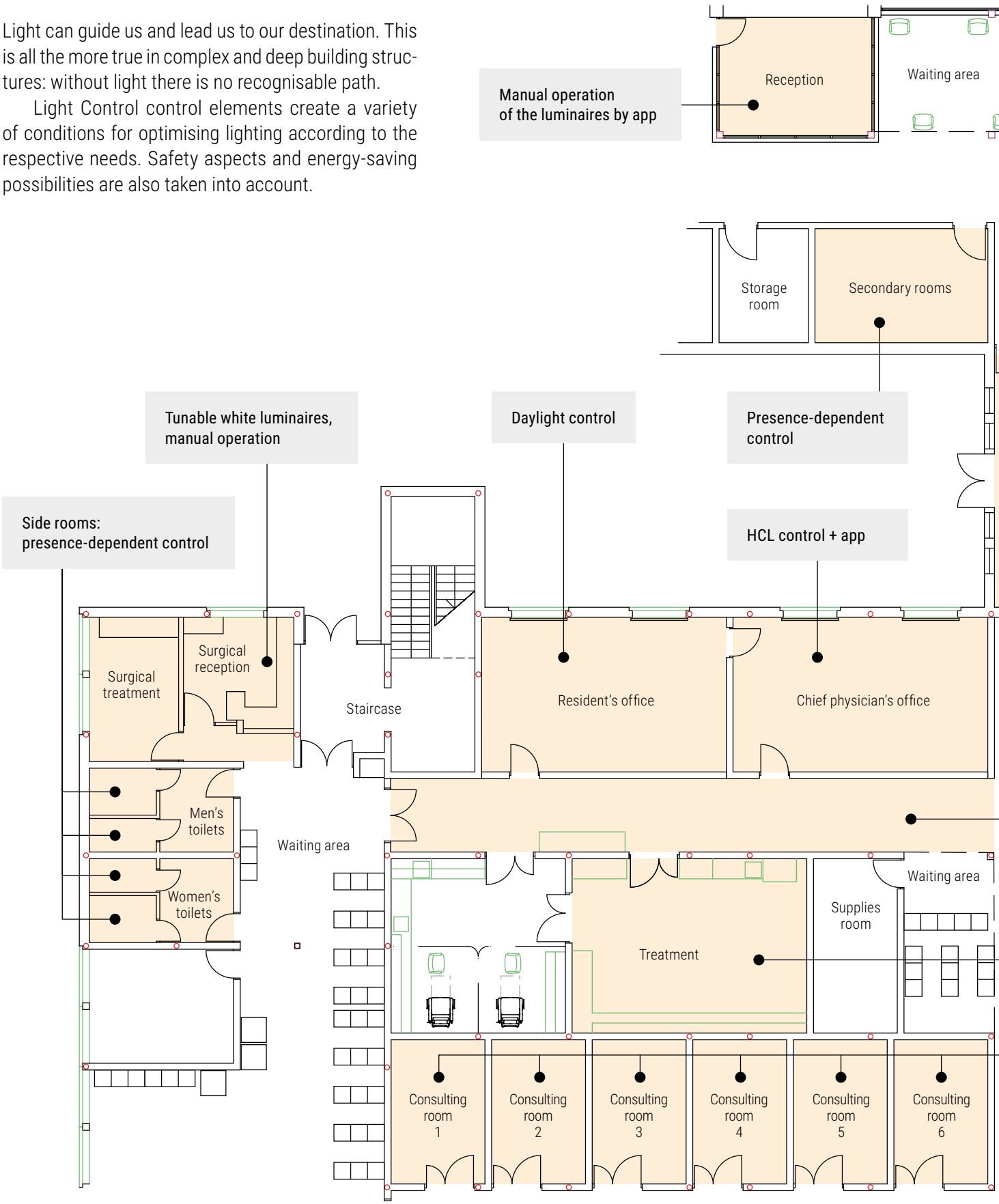
Type	Configuration	Colour	Ballast	LxWxH/DxH	Part no.	lm/W	P_{Sys} [W]
protection IPA-PREG/300-1200 IP54	LED 4700 840	vw	ED	1197 x 297 x 89	7253 2034 113	143	33
			DALI[1)]	1197 x 297 x 89	7253 2036 613	143	33
protection IPA-PREG/312-1250 IP54	LED 4700 840	vw	ED	1247 x 309 x 89	7251 2034 113	143	33
			DALI[1)]	1247 x 309 x 89	7251 2036 613	143	33

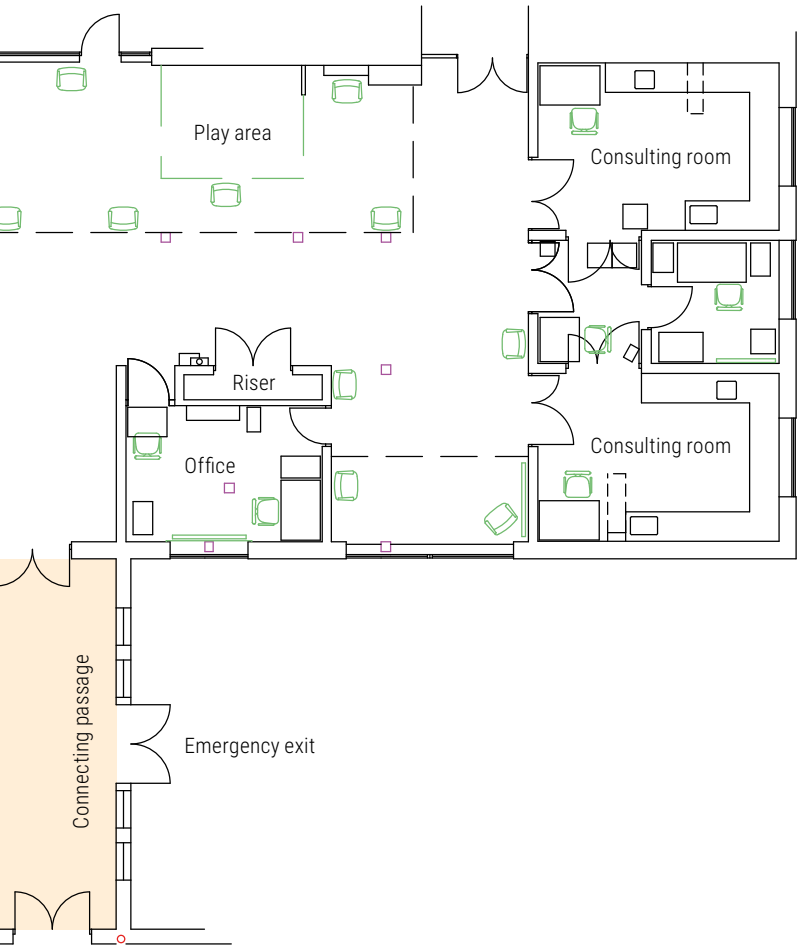
Light control

Potential Applications

Light can guide us and lead us to our destination. This is all the more true in complex and deep building structures: without light there is no recognisable path.

Light Control control elements create a variety of conditions for optimising lighting according to the respective needs. Safety aspects and energy-saving possibilities are also taken into account.





Indoor navigation
Asset tracking (e.g. medical equipment, beds)

Monitoring of the lighting system (IoT)

Corridor function

Tunable white luminaires, manual operation

Tunable white luminaires,
manual operation

netlife

The *netlife* family name embraces all light management/Light Control (LC) products and components. The different expansion stages define the scope of performance and are characteristic of the systems' field of application.

Stand-alone systems

Configurable wireless systems

Programmable systems

Luminaires for

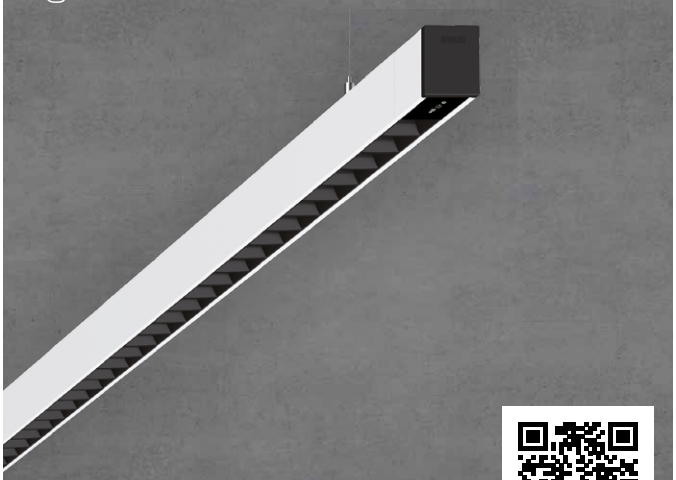
Project Solutions

The overall solution

As a central contact for light and lighting, Regiolux offers integrated solutions for light and lighting. We develop an individual concept for your planning project with the required performance and all essential details. What we mean by this is coordinated planning and flexible services from the beginning to the successful end.

Our product range illustrates our comprehensive expertise for all facets of equipping buildings with optimum lighting.

agila

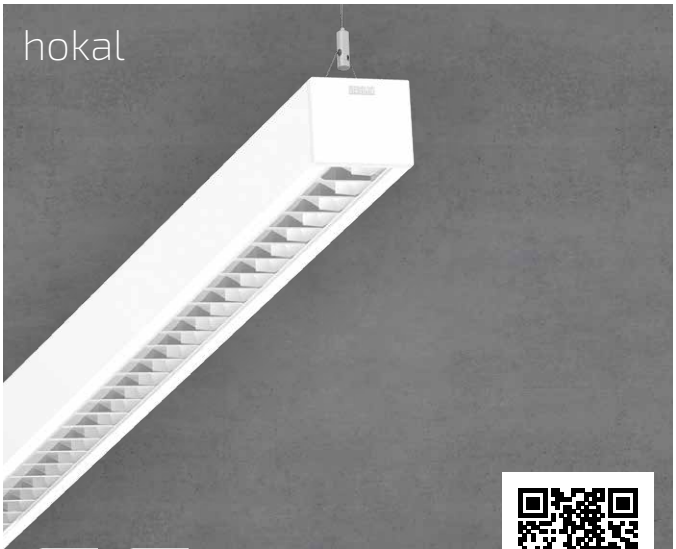


IP20 UGR16 4200–14800 lm

kayak

IP20 UGR19 4600–6400 lm

hokal

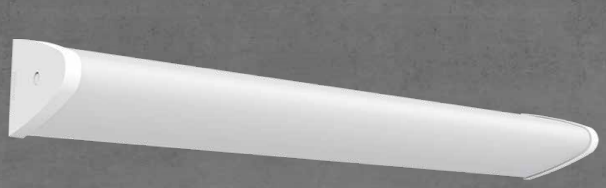


IP20 UGR13 2400–8600 lm

lens pro

IP44 2000–5400 lm

MLS



IP54 1000–1900 lm

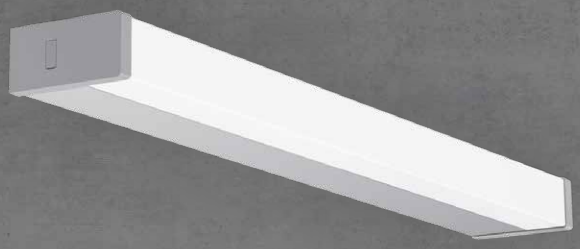
parsa

IP65 4500–9800 lm

planara

IP54 UGR19 4300–4600 lm

smile



IP44 1000–2000 lm

relo

IP44 4200–14800 lm

SRT

IP54 4000–22000 lm

teno

IP20 UGR19 3900–7300 lm

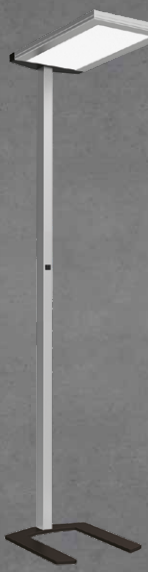
UEX

IP20 UGR19 3200–4000 lm

WBLS

IP65 2100–4500 lm

visula



IP20 UGR19 3700–6300 lm

worker

IP65 4200–29500 lm

visula

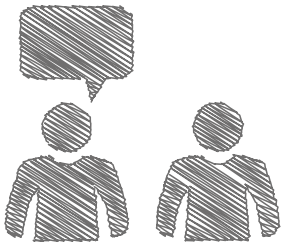
IP20 UGR19 3700–6300 lm

Contact

Want to find out more?
Use our all-round service:

Tel. +49 (0) 95 25 89-0
cleanroom@regiolux.de

For more information visit
www.regiolux.com



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Regiolux GmbH
Hellinger Straße 3
D 97486 Königsberg
T +49 9525 89 0
info@regiolux.de
www.regiolux.de

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