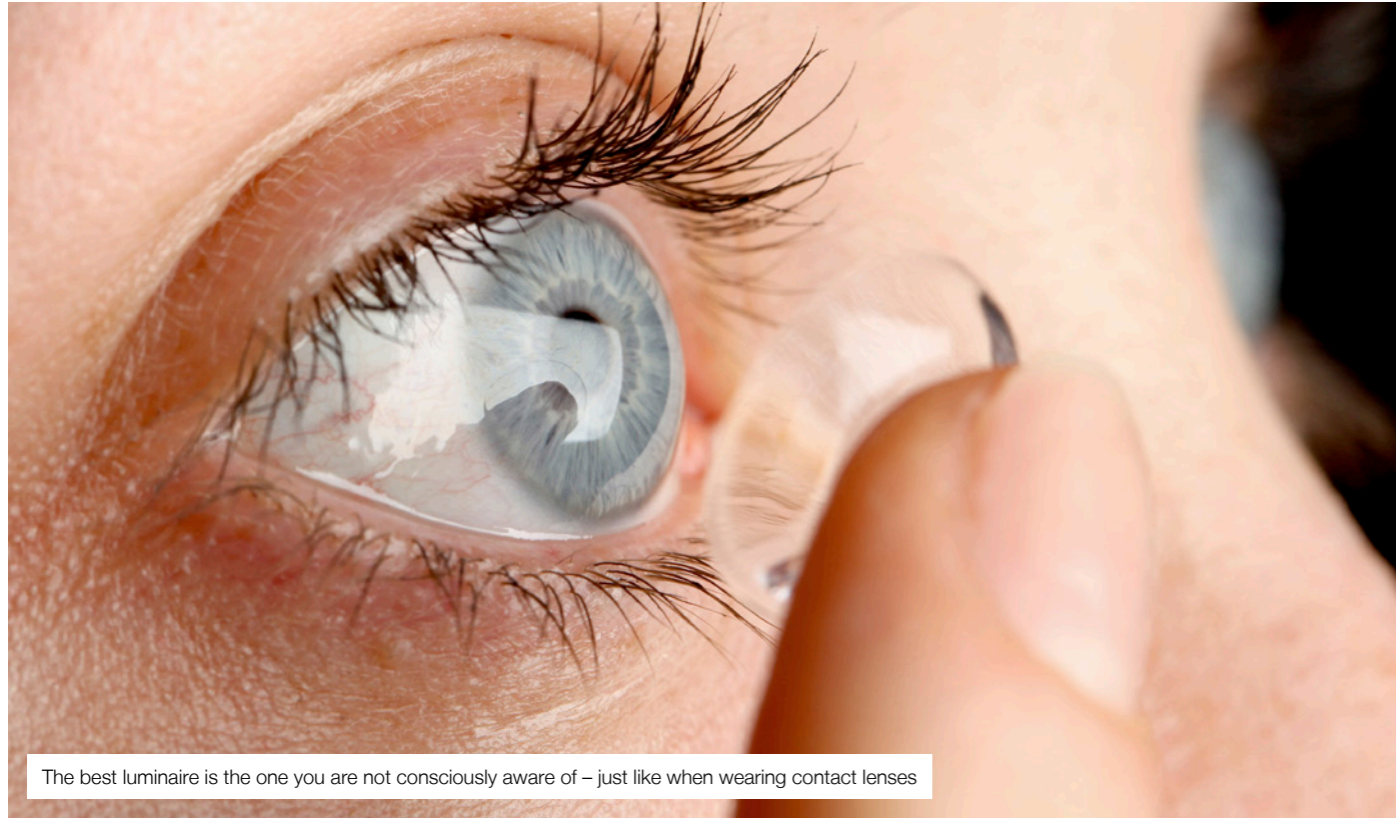# ECO S
Efficiency in the office

ECO S
THE BEST LIGHTING SOLUTION WITH REGARD TO PEOPLE, THE ENVIRONMENT AND COST-EFFECTIVENESS

ECO S sets the standard for energy-efficient and ergonomic lighting solutions for the office setting. The impressive efficiency of up to 151 lumens per watt combined with the Sensonic EDR light control optimised for the application allows resources to be conserved while ensuring ergonomic workplace lighting. The patented light control system regulates the direct and indirect light output asynchronously, which significantly increases efficiency in use. With the slim profile of the luminaire head of just 30 mm thick and the simple design and choice of materials, the ECO S fits discreetly into any office.

INSPIRATION

USING RESOURCES AS SUSTAINABLY AS POSSIBLE – THIS APPLIES TO
BOTH ECOLOGICAL PRINCIPLES AND HUMAN INVOLVEMENT

The best luminaire is the one you are not consciously aware of – just like when wearing contact lenses

The ECO S is characterised by its timeless and simple design

Today more important than ever the ECO S is designed to be extremely energy-efficient
and is the perfect lighting tool for using energy resources responsibly

Connectivity is becoming increasingly important, including in the lighting industry – just like us,
luminaires also communicate with each other in a network, enabling additional applications

CONCEPT

OUR LIGHTING SOLUTIONS AIM TO OFFER EFFECTIVE ADDED VALUE FOR
PEOPLE AND THE ENVIRONMENT IN EVERY RESPECT
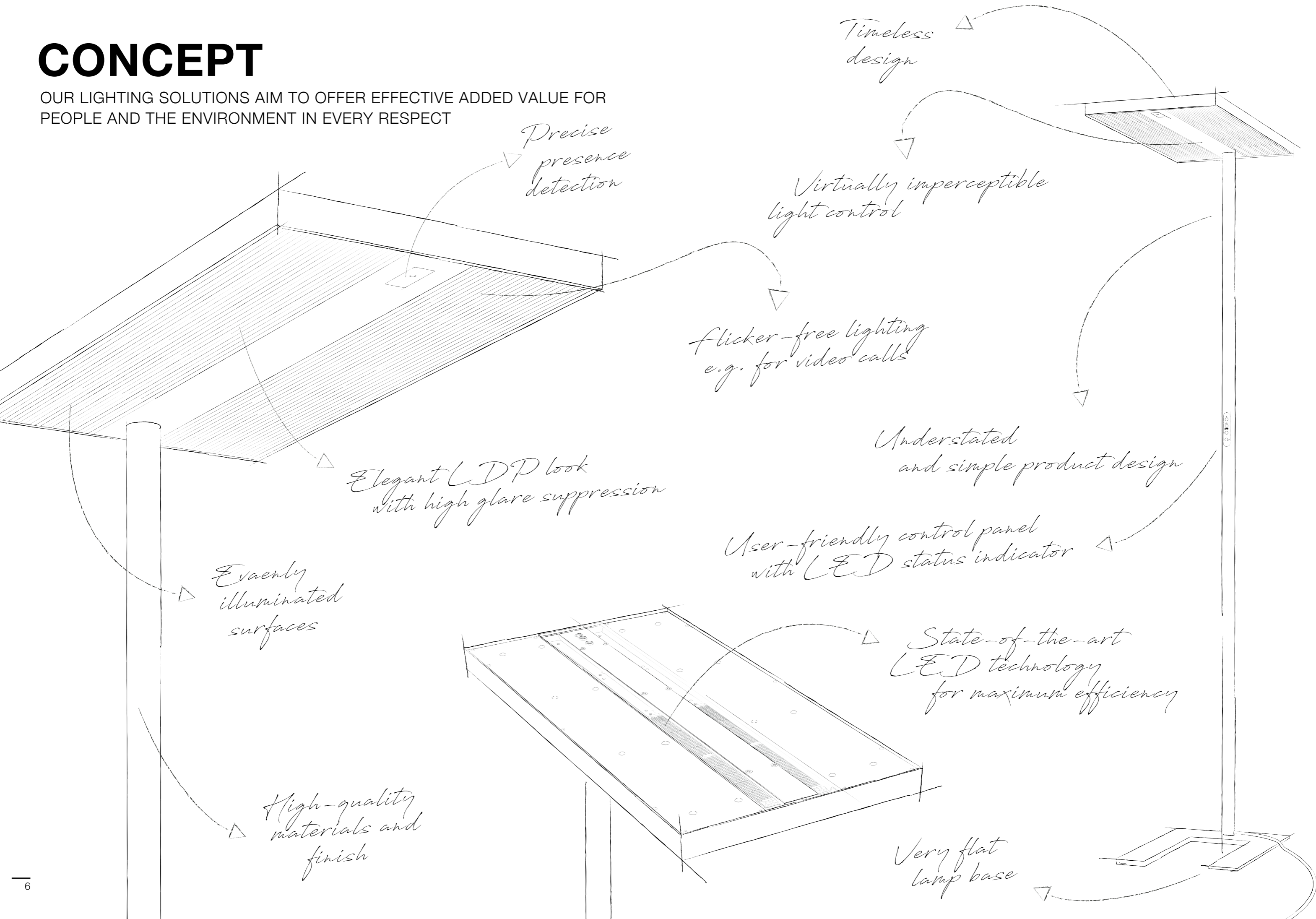
Precise presence detection

Timeless design

Virtually imperceptible light control

flicker-free lighting e.g. for video calls

Elegant LDP look with high glare suppression

Understated and simple product design

User-friendly control panel with LED status indicator

Evaenly illuminated surfaces

State-of-the-art LED technology for maximum efficiency

High-quality materials and finish

Very flat lamp base

PRESENTATION

THE ECO S EMBODIES THE PERFECT SYMBIOSIS OF AESTHETICS AND
STATE-OF-THE-ART LIGHTING TECHNOLOGY

APPLICATION

OUR LUMINAIRES ENSURE MAXIMUM COMFORT FOR PEOPLE WHEN WOR-
KING AND IMPROVE THEIR ENERGY LEVELS

APPLICATION EXAMPLE
A workplace set-up with ECO S

FEATURES & BENEFITS

ENERGY-EFFICIENT LIGHTING SOLUTIONS

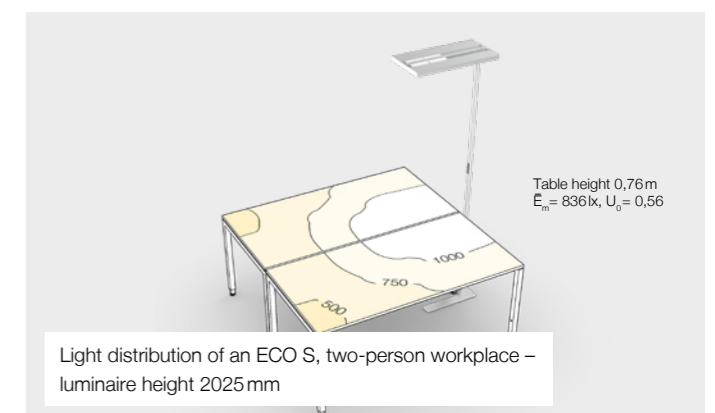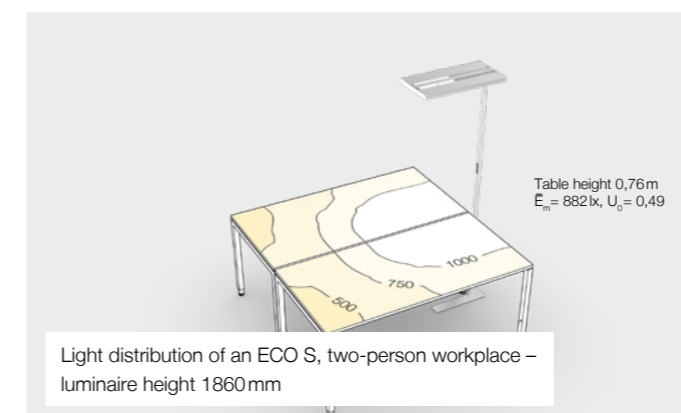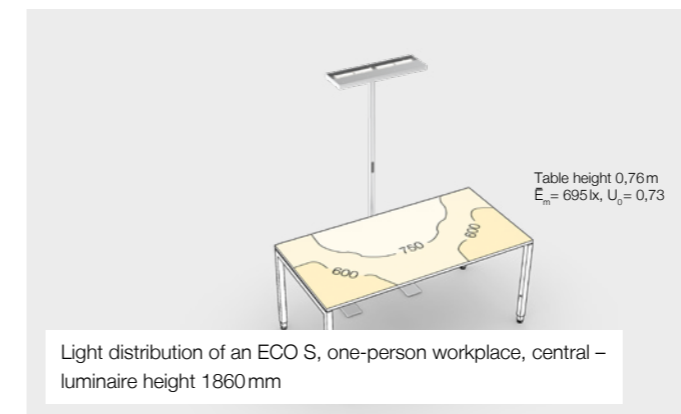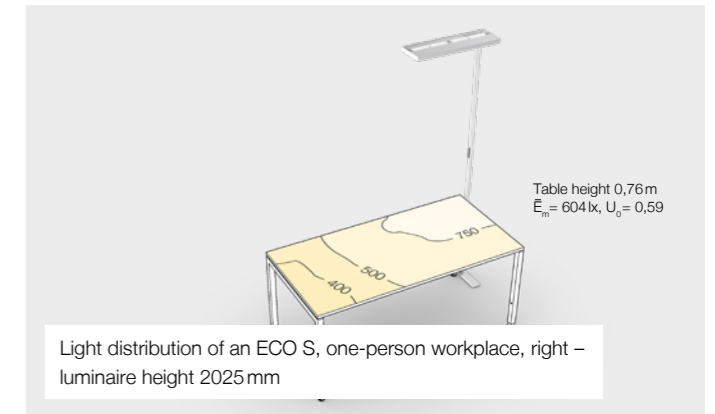Thanks to state-of-the-art lighting technology, the ECO S office floor luminaire is top of the list when it comes to energy efficiency. With up to 151 lumens per watt, it is one of the most energy-efficient workplace luminaires on the market. The luminaires for two or four workstations have a net luminous flux of over 13 740 lumens with a connected wattage of 95 watts. ECO S is also available as an option with just a single light field for individual workplaces, whereby the connected wattage is reduced to 82 watts.
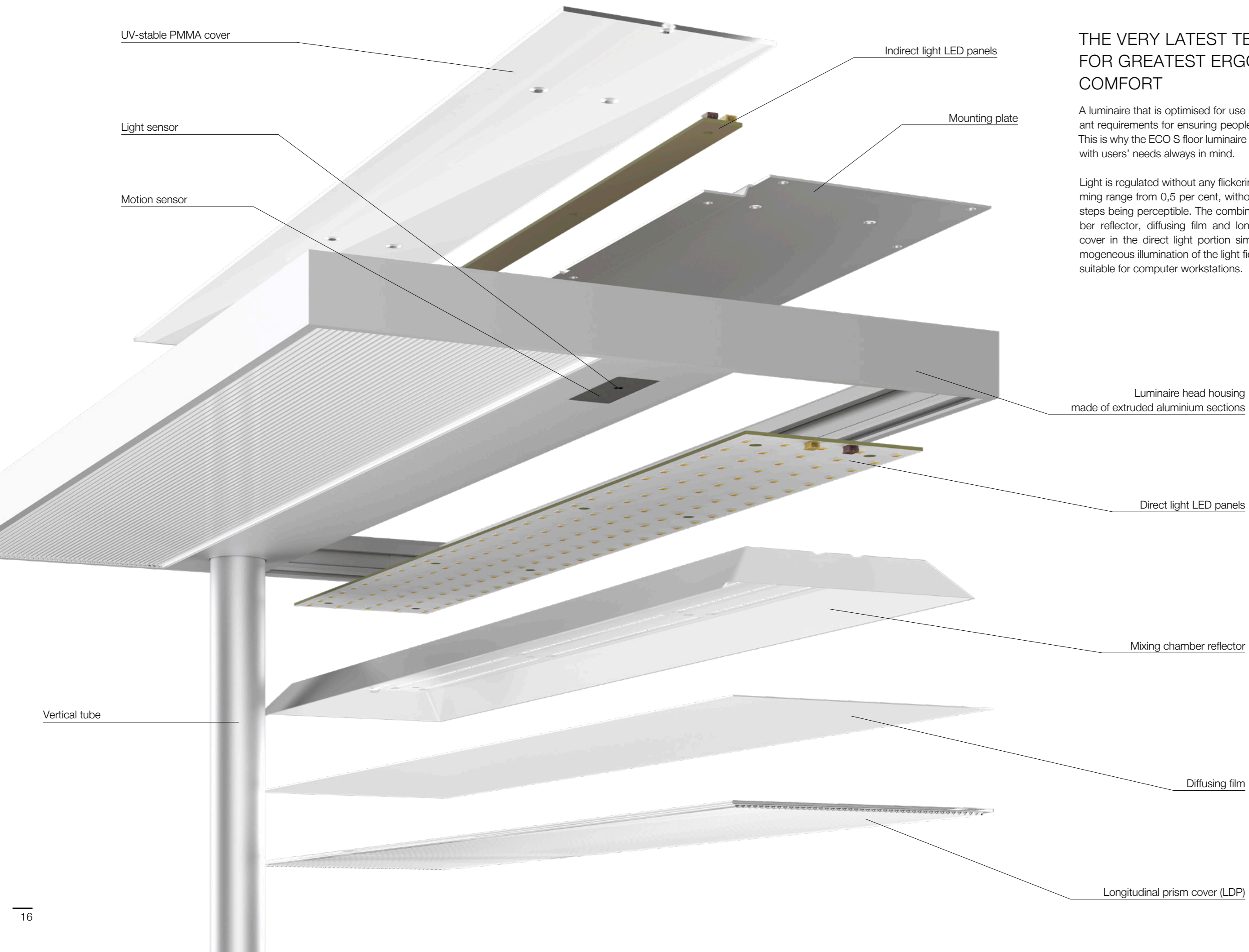
UNIFORM DISTRIBUTION OF BRIGHTNESS

Evenly balanced distribution of brightness tailored to the room size, colour scheme and surfaces of furniture ensures a sense of well-being. The ECO S floor luminaire ensures that the right distribution of brightness and degree of illuminance are achieved on the work surface in a variety of workplace configurations.

The basis for the calculation underlying the light distribution curves shown below can be found in the general information.

Table height 0,76 m
$\bar{E}_m$ = 624 lx, U_0 = 0,56

Light distribution of an ECO S, one-person workplace, right – luminaire height 1860 mm

Table height 0,76 m
$\bar{E}_m$ = 604 lx, U_0 = 0,59

Light distribution of an ECO S, one-person workplace, right – luminaire height 2025 mm

Table height 0,76 m
$\bar{E}_m$ = 695 lx, U_0 = 0,73

Light distribution of an ECO S, one-person workplace, central – luminaire height 1860 mm

Table height 0,76 m
$\bar{E}_m$ = 667 lx, U_0 = 0,76

Light distribution of an ECO S, one-person workplace, central – luminaire height 2025 mm

Table height 0,76 m
$\bar{E}_m$ = 882 lx, U_0 = 0,49

Light distribution of an ECO S, two-person workplace – luminaire height 1860 mm

Table height 0,76 m
$\bar{E}_m$ = 836 lx, U_0 = 0,56

Light distribution of an ECO S, two-person workplace – luminaire height 2025 mm

Table height 0,76 m
$\bar{E}_m$ = 713 lx, U_0 = 0,43

Light distribution of an ECO S, four-person workplace – luminaire height 1860 mm

Table height 0,76 m
$\bar{E}_m$ = 685 lx, U_0 = 0,47

Light distribution of an ECO S, four-person workplace – luminaire height 2025 mm

UV-stable PMMA cover

Indirect light LED panels

Light sensor

Mounting plate

Motion sensor

THE VERY LATEST TECHNOLOGY FOR GREATEST ERGONOMIC COMFORT

A luminaire that is optimised for use is one of the most important requirements for ensuring people can work ergonomically. This is why the ECO S floor luminaire series has been designed with users' needs always in mind.

Light is regulated without any flickering throughout the full dimming range from 0,5 per cent, without the individual dimming steps being perceptible. The combination of the mixing chamber reflector, diffusing film and longitudinal prismatic (LDP) cover in the direct light portion simultaneously achieves homogeneous illumination of the light field and glare suppression suitable for computer workstations.

Luminaire head housing made of extruded aluminium sections

Direct light LED panels

Mixing chamber reflector

Vertical tube

Diffusing film

Longitudinal prism cover (LDP)

SIMPLE DESIGN AND
HIGH-QUALITY MATERIALS

ECO S is the perfect symbiosis of aesthetics and state-of-the-art LED lighting technology. Thanks to its understated appearance, the ECO S can be easily integrated into any modern workspace.

The high-quality materials of the luminaire head, which made of chemically matted and transparent-anodised aluminium, as well as its sleek proportions, give it an extremely elegant overall look. The standard aluminium vertical tube comes in a matt or high-gloss polished finish, both featuring a transparent-anodised finish. In addition to the standard versions, project-specific surface treatments such as painted, colour-anodised or chrome-plated finishes are also available.
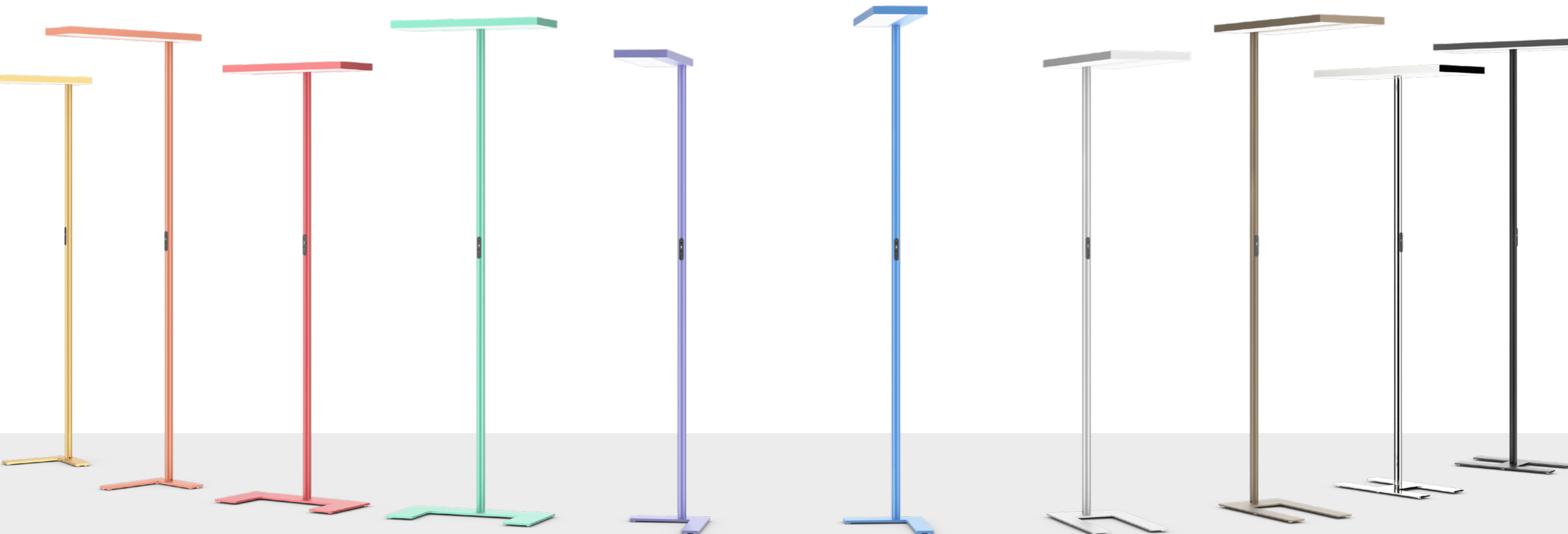
TABLE ADAPTER

Not only is the ECO S available with a simple stand, but also with a universal table adapter and a vertical tube in the correct length for your needs.

This has the advantage that, when using an adjustable table, the luminaire is raised with the table so that the main focus of light on the table is not changed. The simple design of the luminaire is also continued in the universal table adapter. Table adapters for USM tables are also available. We are happy to provide other special designs on request.

ECO S attached to a table with the universal adapter

ECO S attached to the USM adaptation point with the table adapter

ECO S attached to the USM Haller table with USM table leg adapter

CONTROL

INTELLIGENT LIGHTING CONTROL

Daylight is the best light for people. However, as different amounts of daylight are available in rooms, the Sensonic EDR control system measures the lighting conditions on the work surface fully automatically and continuously adapts the required light intensity to the existing ambient light. The integrated motion detector ensures that the light is only switched on when there is a person at the workstation, thus ensuring energy-conscious operation.

In addition to the standard function, the control system also has a semi-automatic mode. In this case, the floor luminaire does not switch on automatically, but has to be switched on manually by the user and automatically switches off again once the switch-off time has elapsed. If you only enter a room for a short time, this prevents the system from being switched on automatically and saves additional energy.

GENTLE ADJUSTMENT OF
THE LIGHT LEVEL

If the ambient light fades abruptly, the Sensonic EDR immediately adjusts the light intensity to ensure the desired brightness without any noticeable interruption. In the case of slight changes in light, the control system reacts more slowly to the lighting situation, thus ensuring optimum lighting control for the user, which is as imperceptible as possible.

The control panel on the vertical tube allows users to adjust the lighting control system manually at any time, if required.

Situations with lots of daylight require only minimal assistance from artificial light

If the daylight intensity decreases, the ECO S floor luminaire automatically keeps the level of illumination on the work surfaces constant

At night – without natural light – the artificial light takes over the task of fully lighting the workstation

EDR (ECONOMICAL DAYLIGHT REGULATION)
ASYNCHRONOUS LIGHT CONTROL FOR MAXI-
MUM EFFICIENCY AND EASE OF USE

Pure direct lighting has the disadvantage that, although the work surface is bright, the ceiling remains relatively dark, creating a cave-like feeling. Luminaires with indirect light distribution brighten the room evenly and create a friendly, pleasant ambience. In rooms with high or poorly reflective ceilings, however, the indirect element has little effect on the table illumination.

The light intensity emitted by a light source decreases in proportion to the distance covered in the square. The ceiling reflectance affects how much light is transmitted from the indirect component to the work surface.

The patented EDR control system initially only regulates the indirect light when the amount of ambient light increases. Only then can the direct light also be adjusted. This asynchronous light control allows for significant energy savings compared to a light control system with synchronous control, while at the same time taking into account the effect the light regulation has on the space.

SIMPLE CONFIGURATION
AND OPERATION

The design process for the ECO S placed great importance on uncomplicated and intuitive operation in order to enable easy configuration.

When the luminaire is being set up, the target brightness value is configured via the control panel once. From this point on, the luminaire automatically regulates the light and continuously adjusts its intensity to the ambient light. The lighting intensity for each workstation can be manually overridden using the buttons on the control panel. Pressing the AUTO button switches the luminaire back to its automatic mode. The lamp's status is indicated by the illuminated buttons on the control panel.

A high-frequency sensor discreetly integrated into the luminaire head acts as a motion detector. Thanks to its sensitivity, which can be individually adjusted for direct and indirect light, the indirect light of the ECO S floor luminaire switches on as soon as you approach the workstation. The direct light is only switched on when you sit down at your workstation.

Elegant control panel with three or four LED buttons

NETWORKED SWARM

In a network with several Sensonic EDR luminaires with Bluetooth Low Energy (BLE) capabilities, the swarm function can be activated and configured. This prevents «islands of light» from being created in a dark open-plan office where your desk can be lit but the rest of the room is unlit, creating an unpleasant atmosphere.

When the swarm function is activated, the luminaires «communicate» with each other within the same room, the same group or within a defined radius of operation, illuminating the office environment to a pleasant level with their indirect light.

A traditional office set-up during the day: most workstations are in use, ECO S floor luminaires support their respective workstation automatically and in a targeted way

If an individual employee works until late in the evening, the surrounding ECO S floor luminaires enhance the lighting atmosphere with a reduced amount of indirect light, thus creating an «extended island of light». This creates a pleasant lighting ambiance in the office, which has a positive effect on the well-being of the employee.

THE RIGHT LIGHT AT ALL TIMES

The integrated RTC module (real time clock) and the geographical location stored in the control system enable the tunable white circadian function (TWC) and cycle time programming.
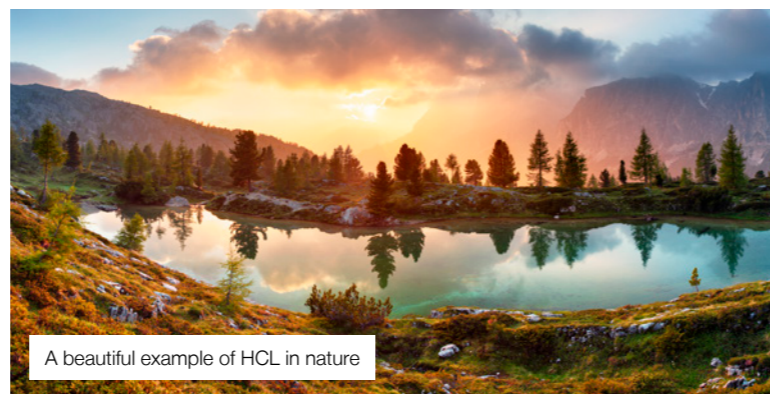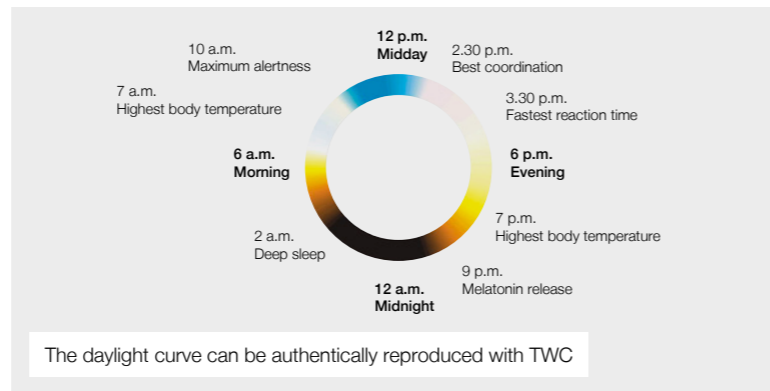
With the location definition feature,the luminaire «knows» where it is located and what time it is. This allows different scenarios to be programmed using cycles times that specify, for example, when the motion detector should be activated or deactivated or whether a stored lighting scene should be called up at a certain time.

The TWC luminaire version is a tunable white luminaire where the colour temperature follows the daylight temperature curve, making it ideal for HCL (human centric lighting) projects. This curve can be customised on request.

With the BLE version, both the daylight temperature curve and the cycle times can be set and adjusted on site or the time and location can be updated.

BLE CONTROL APP

With the optional BLE (Bluetooth Low Energy) module, the luminaire can be operated via an iOS or Android app on a smartphone. This provides a multitude of additional settings options.

The BLE module also allows several luminaires to be networked. These can be divided into rooms and/or groups so that they can be jointly controlled using an external wireless switch, for example, or a swarm function can be configured.

A gateway can also be used to establish a connection to a superordinate information or management system. For example, light settings can be transmitted from a building management system to the luminaires, or monitoring functions can be carried out.

10 a.m.
Maximum alertness

12 p.m.
Midday

2.30 p.m.
Best coordination

7 a.m.
Highest body temperature

3.30 p.m.
Fastest reaction time

6 a.m.
Morning

6 p.m.
Evening

2 a.m.
Deep sleep

7 p.m.
Highest body temperature

12 a.m.
Midnight

9 p.m.
Melatonin release

The daylight curve can be authentically reproduced with TWC

Thanks to the RTC module, the correct daylight temperature curve is automatically used wherever it is in the world

A beautiful example of HCL in nature

ECO S TWC

AUTO 1 2 3 4
PRESET

6500 K

51 %

44 % 100 %

MODEL OVERVIEW

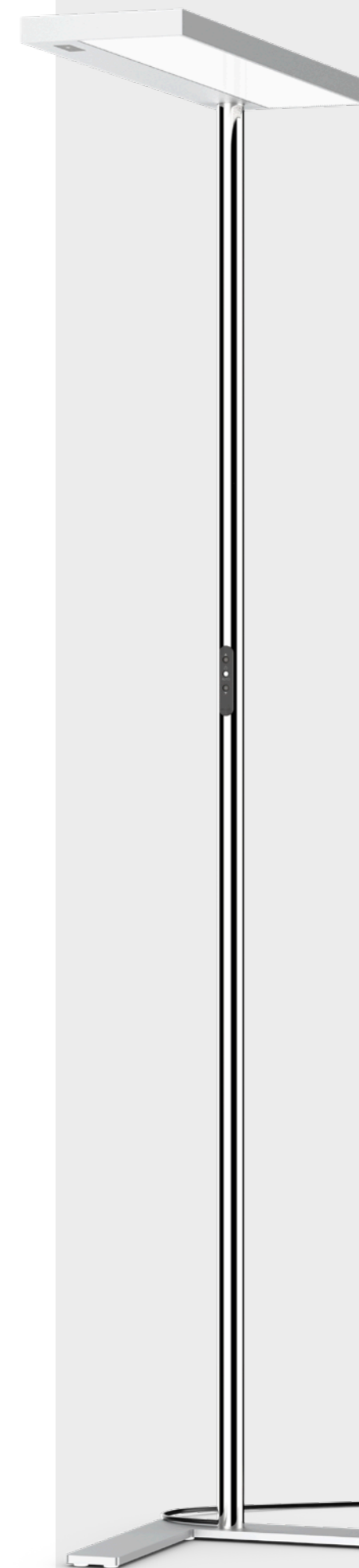| Types	Lamp height	Vertical tube materials		Colour temperature	CRI	Connectivity	Page
Luminaire for 1 workplace, left	1860 mm / 2025 mm	Matt anodised/high-gloss polished		4000 K / 2700 K – 6500 K (TWC)	CRI ≥ 80 / CRI ≥ 90	without / with Bluetooth Low Energy (BLE)	30
Luminaire for 1 workplace, right	1860 mm / 2025 mm	Matt anodised/high-gloss polished		4000 K / 2700 K – 6500 K (TWC)	CRI ≥ 80 / CRI ≥ 90	without / with Bluetooth Low Energy (BLE)	31
Luminaire for 1 workplace, central	1860 mm / 2025 mm	Matt anodised/high-gloss polished		4000 K / 2700 K – 6500 K (TWC)	CRI ≥ 80 / CRI ≥ 90	without / with Bluetooth Low Energy (BLE)	32
Luminaire for 2 workplaces	1860 mm / 2025 mm	Matt anodised/high-gloss polished		4000 K / 2700 K – 6500 K (TWC)	CRI ≥ 80 / CRI ≥ 90	without / with Bluetooth Low Energy (BLE)	33
Luminaire for 4 workplaces	1860 mm / 2025 mm	Matt anodised/high-gloss polished		4000 K / 2700 K – 6500 K (TWC)	CRI ≥ 80 / CRI ≥ 90	without / with Bluetooth Low Energy (BLE)	34

ECO S

LUMINAIRE FOR 1 WORKPLACE, LEFT

Luminaire head with incline levelling and aluminium vertical tube (Ø 34 millimetres), chemically matted and transparently anodised. Stand base made from silver powder-coated steel with 6 Bumpons. Form-fit LDP inlays with diffusing film for high glare suppression and homogeneous light distribution on the finish. Protection of the indirect light LED panels using a transparent and UV-stable PMMA cover. Halogen-free internal wiring. Power cable in black, length = 3000 millimetres. Cable outlet on the side above base plate. Dimming range from 100 % to approx. 0.5 %. Flicker-free analogue dimming in the range from 100 % to 7.5 %. Visually imperceptible PWM dimming from 7.5 % at 1500 Hz. Presence-dependent Sensonic EDR daylight control with usage-optimised asynchronous regulation of direct/indirect proportions of light.

HALOGEN		IP20		LED
SENSONIC EDR	BLE	TUNABLE WHITE CIRCADIAN	EN 12464	

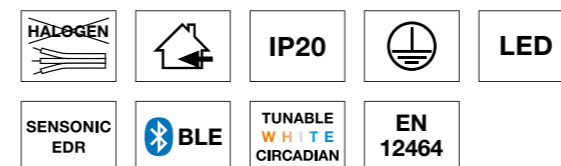|	
Colour temperatures	4000 K, 2700–6500 K TWC
Colour rendering	CRI ≥ 80, CRI ≥ 90
Net luminous flux	9870 to 12355 lm
Proportion of direct light	1180 to 1385 lm (approx. 11 %)
Longitudinal glare suppression (UGR)	8,4
Lateral glare suppression (UGR)	6,2
Connected wattage	82 to 83 W
Preservation of luminous flux	L90/B10 50 000 h
Control system	Sensonic EDR
Connectivity	Mobile app, wireless switches, gateway

Scan the QR code or click to find out more about this family of luminaires at alteme.ch

ECO S

LUMINAIRE FOR 1 WORKPLACE, RIGHT

Luminaire head with incline levelling and aluminium vertical tube (Ø 34 millimetres), chemically matted and transparently anodised. Stand base made from silver powder-coated steel with 6 Bumpons. Form-fit LDP inlays with diffusing film for high glare suppression and homogeneous light distribution on the finish. Protection of the indirect light LED panels using a transparent and UV-stable PMMA cover. Halogen-free internal wiring. Power cable in black, length = 3000 millimetres. Cable outlet on the side above base plate. Dimming range from 100 % to approx. 0.5 %. Flicker-free analogue dimming in the range from 100 % to 7.5 %. Visually imperceptible PWM dimming from 7.5 % at 1500 Hz. Presence-dependent Sensonic EDR daylight control with usage-optimised asynchronous regulation of direct/indirect proportions of light.

HALOGEN		IP20		LED
SENSONIC EDR	BLE	TUNABLE WHITE CIRCADIAN	EN 12464	

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Proportion of direct light	1180 to 1385 lm (approx. 11 %)
Longitudinal glare suppression (UGR)	8,4
Lateral glare suppression (UGR)	6,2
Connected wattage	82 to 83 W
Preservation of luminous flux	L90/B10 50 000 h
Control system	Sensonic EDR
Connectivity	Mobile app, wireless switches, gateway

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ECO S

LUMINAIRE FOR 1 WORKPLACE, CENTRAL

Luminaire head and aluminium vertical tube (Ø 34 millimetres), chemically matted and transparently anodised. Stand base made from silver powder-coated steel with 6 Bumpons. Form-fit LDP inlays with diffusing film for high glare suppression and homogeneous light distribution on the finish. Protection of the indirect light LED panels using a transparent and UV-stable PMMA cover. Halogen-free internal wiring. Power cable in black, length = 3000 millimetres. Cable outlet on the side above base plate. Dimming range from 100% to approx. 0.5%. Flicker-free analogue dimming in the range from 100% to 7.5%. Visually imperceptible PWM dimming from 7.5% at 1500Hz. Presence-dependent Sensonic EDR daylight control with usage-optimised asynchronous regulation of direct/indirect proportions of light.

HALOGEN		IP20		LED
SENSONIC EDR	BLE	TUNABLE WHITE CIRCADIAN	EN 12464	

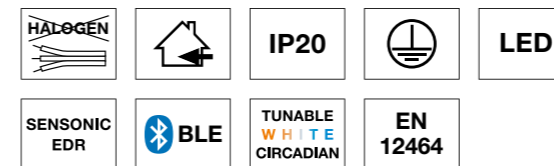|	
Colour temperatures	4000K, 2700–6500K TWC
Colour rendering	CRI ≥ 80, CRI ≥ 90
Net luminous flux	9870 to 12355 lm
Proportion of direct light	1180 to 1385 lm (approx. 11%)
Longitudinal glare suppression (UGR)	8,4
Lateral glare suppression (UGR)	6,2
Connected wattage	82 to 83 W
Preservation of luminous flux	L90/B10 50000h
Control system	Sensonic EDR
Connectivity	Mobile app, wireless switches, gateway

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ECO S

LUMINAIRE FOR 2 WORKPLACES

Luminaire head with incline levelling and aluminium vertical tube (Ø 34 millimetres), chemically matted and transparently anodised. Stand base made from silver powder-coated steel with 6 Bumpons. Form-fit LDP inlays with diffusing film for high glare suppression and homogeneous light distribution on the finish. Protection of the indirect light LED panels using a transparent and UV-stable PMMA cover. Halogen-free internal wiring. Power cable in black, length = 3000 millimetres. Cable outlet on the side above base plate. Dimming range from 100% to approx. 0.5%. Flicker-free analogue dimming in the range from 100% to 7.5%. Visually imperceptible PWM dimming from 7.5% at 1500Hz. Presence-dependent Sensonic EDR daylight control with usage-optimised asynchronous regulation of direct/indirect proportions of light.

HALOGEN		IP20		LED
SENSONIC EDR	BLE	TUNABLE WHITE CIRCADIAN	EN 12464	

Colour temperatures	4000K, 2700–6500K TWC
Colour rendering	CRI ≥ 80, CRI ≥ 90
Net luminous flux	11050 to 13740 lm
Proportion of direct light	2360 to 2770 lm (approx. 21%)
Longitudinal glare suppression (UGR)	10,5
Lateral glare suppression (UGR)	8,4
Connected wattage	95 to 96 W
Preservation of luminous flux	L90/B10 50000h
Control system	Sensonic EDR
Connectivity	Mobile app, wireless switches, gateway

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ECO S

LUMINAIRE FOR 4 WORKPLACES

Luminaire head and aluminium vertical tube (Ø 34 millimetres), chemically matted and transparently anodised. Stand base made from silver powder-coated steel with 6 Bumpons. Form-fit LDP inlays with diffusing film for high glare suppression and homogeneous light distribution on the finish. Protection of the indirect light LED panels using a transparent and UV-stable PMMA cover. Halogen-free internal wiring. Power cable in black, length = 3000 millimetres. Cable outlet on the side above base plate. Dimming range from 100 % to approx. 0.5 %. Flicker-free analogue dimming in the range from 100 % to 7.5 %. Visually imperceptible PWM dimming from 7.5 % at 1500 Hz. Presence-dependent Sensonic EDR daylight control with usage-optimised asynchronous regulation of direct/indirect proportions of light.

HALOGEN		IP20		LED
SENSONIC EDR	BLE	TUNABLE WHITE CIRCADIAN	EN 12464	

Colour temperatures	4000 K, 2700 – 6500 K TWC
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Net luminous flux	11050 to 13740 lm
Proportion of direct light	2360 to 2770 lm (approx. 21 %)
Longitudinal glare suppression (UGR)	10,5
Lateral glare suppression (UGR)	8,4
Connected wattage	95 to 96 W
Preservation of luminous flux	L90/B10 50 000 h
Control system	Sensonic EDR
Connectivity	Mobile app, wireless switches, gateway

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SUITABLE FOR ANY TABLE SET-UP

The simple stand base of the ECO S is made of steel and powder-coated in a silver finish. The various base plate shapes guarantee ideal positioning and ensure that the floor luminaire stands properly.
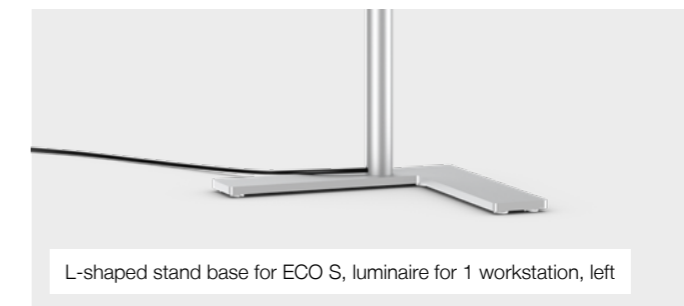
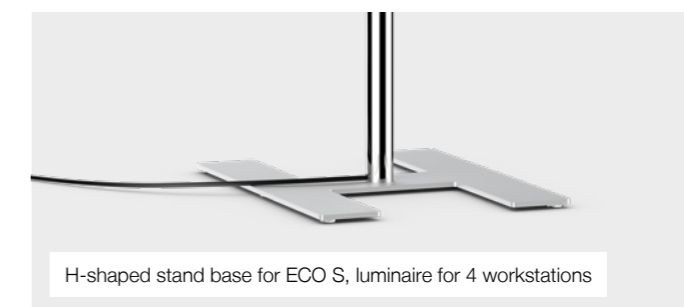L-shaped stand base for ECO S, luminaire for 1 workstation, left

L-shaped stand base for ECO S, luminaire for 1 workstation, right

C-shaped stand base for ECO S, luminaire for 1 workstation, central

U-shaped stand base for ECO S, luminaire for 2 workstations

H-shaped stand base for ECO S, luminaire for 4 workstations

GENERAL NOTES

GENERAL INFORMATION

We reserve the right to make technical and design changes to our products owing to new technical developments. The images and descriptions reflect the products as they were when this luminaire brochure went to print. Errors are reserved. We would be happy to provide up-to-date documents on request.

SYMBOLS AND ACRONYMS

HALOGEN — Halogen-free internal wiring

Only for use indoors

IP20 — Protection against the ingress of solid foreign bodies measuring more than 12 mm in diameter

Luminaires in protective class I with protective earth terminal

LED — LED lamps can be replaced at the factory

SENSONIC EDR — Internally developed presence-dependent control system with patented EDR technology

BLE — Connectivity via Bluetooth Low Energy

TUNABLE WHITE CIRCADIAN — Luminaire autonomously regulates the colour temperature between 2700 K and 6500 K in accordance with the daylight curve of the configured location
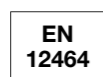
EN 12464 — Meets the requirements for office workspaces in accordance with the relevant standard

TECHNICAL AND ABBREVIATIONS

CRI
Colour rendering index

$\bar{E}_m$
Average illuminance of table surface

Light distribution calculations
Table dimensions (L × W) 160 × 80 cm
Dimensions of volume (L × W × H)
6 × 6 × 2.5 m
Reflectances 70 / 50 / 20
Maintenance factor 0.8

lm
Luminous flux (lumen)

U_0
Uniformity of illuminance

UGR glare rating
(unified glare rating)
X = 4 H, Y = 8 H, S = 0.25 H
Reflectances 70 / 50 / 20
Reference value in accordance with
EN 12464-1