A more natural way to interact with light

saluz®
Technology inspired by the sun

NORMALIT
by Normagrup
SaLuz® is the technology from Normalit that creates healthy, comfortable and efficient environments.

SaLuz® luminaires are inspired by the sun to adapt to the biological cycles. No network or external device connection is required.
Why some lighting makes us feel good while others create stress?

Light does have an impact on our vital rhythms, as well as on our physiological processes, our mood, our capacity to focus, our emotions and of course, our health. And, even though artificial lighting is quite useful, our biology is still programmed to adapt to natural lighting, to its cycles and its features.
SaLuz® technology is inspired by natural light.

Thanks to its features, luminaires with SaLuz® technology offer important advantages:

• They adapt to our vital natural rhythms.
• They prevent damages to eyes and skin.
• They prevent headaches, nausea and dizziness.
How does the SaLuz® technology work?

SaLuz® is a technology that stresses some aspects of the light.

Adapts to the circadian rhythm.

SaLuz® modifies the temperature colour of light through the day, to match our natural biological rhythms, improving the activation level, the mood and the sleep / awake cycle.

Flickering control (under 8%): Flickering are small brightness fluctuations in the artificial lighting that can be perceived as blinks. Prolonged exposure to lights with high flickering can cause headaches, even migraines and nausea. SaLuz® guarantees a flickering level under 8%.
Light with a high predominance of blue estimulates the ganglionic cells in charge of producing the following hormones:

- **Dopamine**: involved in the muscular coordination, attention and pleasure.
- **Serotonin**: stimulant and motivator, increasing the levels of energy.
- **Cortisol**: (Stress hormone), stimulates the metabolism and prepares the body for the day.

This type of light rich in blue content also suppresses the production of melatonin, the hormone that causes tiredness, slows down the activity of the body and reduces activity for a better rest.

**THE INFLUENCE OF LIGHT IN OUR BRAIN**

The axions of the ganglionic cells form together the optic nerve, used to provide information to the brain. This information arrives to visual areas forming images, but also to different areas of the brain (non visual) that have to do with other functions, such as regulate the biological clock, hormone production and sleep function, amongst others.

Controls the photobiological safety.

Luminaires equipped with SaLuz® technology are considered to be risk free for the eye and the skin, according to the European Norm about photobiological safety (EN 62471).
Do you know what Circadian Rhythm is and how does it affect your life?

People are naturally synchronized with the sun.

In the mornings, the intensity of the light and the proportion of blue light shades help us to be more active. In the evenings, the intensity and the proportion of the blue light shades decreases, which helps us to relax and get ready to rest.
In indoors atmospheres where we usually spend most our our day (offices, schools, etc.), artificial light does not change its tone or its intensity and there is a desynchronization from our vital rythms. Science has proven that this directly affects our performance, our mood and our sleep.

SaLuz® synchronizes with our natural rhythms and automatically modifies the colour temperature during the day.

SaLuz® luminaires reproduce by themselves the luminic cycle of the sun. To do this, we have considered as a reference the sunrise and sunset of Madrid each day of the year, and this has been associated to a light spectrum for each time of the day. This variation of spectra takes place continuously, but is imperceptible with the naked eye. Out of the day cycle, the luminaires emit a spectrum that has been designed to mimiz the melatonin inhibition.
Areas of installation

Saluz® technology has been specially thought for indoor atmospheres where there is a constant artificial light all over the day.

Hospitals

There are patients with a limited movility that have little exposure to natural light and, hence, to the stimulus that help them to synchronize their internal clocks.

Saluz® technology stabilizes their circadian rythm. It relaxes or activates them as the sunlight would do, according to the time of the day, and also helps them to improve their sleep.

The professionals looking after them will also improve their performance and well-being.

Schools

There are many kids that are subject to a lighting which is not healthy. Even in places where photobiological risks, flickering and UGR have been considered, they are still exposed to an unsuitable and/or constant colour temperature that makes them loose biological rythm.

This affects their attention capacity, alters their coordination, their reaction capacity, etc.
Self-contained and universal luminaires

Ready to mains

Luminaires including SaLuz® technology are the first ones in the market that can simulate circadian cycle without connection to any other fittings.

The luminaire includes a clock and a calendar with the date, the time and the season of the year. It is only necessary to connect it to mains.

Just installation to mains
Without additional wiring
Without control elements
Without commissioning
Without configuration

Automatic synchronization with the sunlight
Luminaires with SaLuz®

Hat HR salUZ®

Hat HR is a reviewed version of the recessed popular downlight of Normalit. This has a new design keeping the essence of the standard model and achieves a lower glaring.

<table>
<thead>
<tr>
<th>IP</th>
<th>Ceiling mounted</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-54</td>
<td></td>
</tr>
</tbody>
</table>

Photobiological risk 0
Flickering < 8%
UGR 21

Versions

Self-contained

Once the luminaire has been connected to mains, it automatically modifies the intensity and the tone of the light all over the day.

Tunable white

This version makes it possible to modify circadian cycles from Normalink in remote, and also to adapt them to the specific needs of the project.

COMPATIBLE WITH NORMALINK
Hat HR saLuz

Ceiling recessed mounted

LED  CE  

IP  20-54  CRI  >80  UGR  21  84°

- Expectancy 72000 h. L70B10
- Performance (%) 75,1

Photobiological risk
- RG0  Exempt from risk
- RG1  Low risk
- RG2  Moderate risk
- RG3  High risk

* Less than 3 h

- RG0  RG1*
- RG2
- RG3

Minimum height for ceiling installation 94

Cut range Ø220-225

Ideal cut Ø215

Round cut

<table>
<thead>
<tr>
<th>W</th>
<th>K</th>
<th>Lumen</th>
<th>Color</th>
<th>PVP (€)</th>
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<tbody>
<tr>
<td>EH12ZB</td>
<td>1x17W</td>
<td>2700-5600</td>
<td>2600 lm</td>
<td>0,8</td>
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More information on normalit.com
NASSEL AVANT is a LED panel made with a metal housing and a plastic multi-reflector system that provides a uniform and comfortable lighting in the working area.

Photobiological risk: 0
Flickering: < 8%
UGR: 16

Versions

**Self-contained**

Once the luminaire has been connected to mains, it autonomously modifies the intensity and the tone of the light all over the day.

**Self-contained + LIGHT SENSOR**

Same features as the self-contained version but additionally including a sensor which makes it possible to regulate the amount of light.

**Tunable white**

This version makes it possible to modify circadian cycles from Normalink in remote, and also to adapt them to the specific needs of the project.
Nassel Avant

Ceiling recessed mounted

LED

- IP 20-44
- CRI >80
- UGR 16
- UGR 77°

Expectancy: 72000 h.
Performance: 68.75%
L70B10

Photobiological risk
- RG0: Exempt from risk
- RG1: Low risk
- RG2: Moderate risk
- RG3: High risk

* Less than 3 h

Installation

Cover
Light source: LED
Photobiological security: 0
UGR: 16
CRI: > 80
Macadam ellipses: 3
Light beam: 77

Power (W): 25.9
Colour temperature (ºK): 2700 - 6500
Lumen output: 3345
Power factor: 0.96
Performance (%): 68.75
Life expectancy: 72000 h. L70B10

Maintained operation 24h: ✔
IP: 20-44
Category: II
Ideal cut (mm): 600x600 modular ceiling

More information on normalit.com
TRAZZO AVANT is a linear system for surface or suspension mounting. Made of extruded aluminium, it is available in 1,126 and 1,688 mm. configurations. It includes a LED multi-reflector system that improves the visual comfort of the luminaire.

### Versions

**SaLUZ** Tunable white

**COMPATIBLE WITH NORMALINK**

This version makes it possible to modify circadian cycles from Normalink in remote, and also to adapt them to the specific needs of the project.
Trazzo Avant  

**TX4TWRB**
- 1x25.9W
- 2700-6500K
- 3345 lm
- 1126 L70B10
- 2,5
- 285,00

**TX4TWRN**
- 1x25.9W
- 2700-6500K
- 3345 lm
- 1126 L70B10
- 2,5
- 285,00

**TX6TWRB**
- 1x38.9W
- 2700-6500K
- 5020 lm
- 1688 L70B10
- 2,5
- 344,00

**TX6TWRN**
- 1x38.9W
- 2700-6500K
- 5020 lm
- 1688 L70B10
- 2,5
- 344,00

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**LED**
- **W**
- **K**
- **LUMEN**
- **COLOUR**
- **L(mm)**
- **PVP (€)**

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<tr>
<th>Model</th>
<th>W</th>
<th>K</th>
<th>LUMEN</th>
<th>COLOUR</th>
<th>L(mm)</th>
<th>PVP (€)</th>
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<td>5020</td>
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**Photobiological risk**
- RG0: Exempt from risk
- RG1*: Low risk
- RG2: Moderate risk
- RG3: High risk

*Less than 3 h

**Installation**
- **Cover**
- **Light source**
- **Photobiological security**
- **UGR**
- **CRI**
- **Macadam ellipses**
- **Light beam**

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<tr>
<th>Model</th>
<th>Cover</th>
<th>Light source</th>
<th>Photobiological security</th>
<th>UGR</th>
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<tr>
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<td>0</td>
<td>16</td>
<td>&gt; 80</td>
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<td>77</td>
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**Power (W)**
- TX4TWRB: 25.9
- TX4TWRN: 25.9
- TX6TWRB: 38.9
- TX6TWRN: 38.9

**Colour temperature (ºK)**
- TX4TWRB: 2700 - 6500
- TX4TWRN: 2700 - 6500
- TX6TWRB: 2700 - 6500
- TX6TWRN: 2700 - 6500

**Lumen output**
- TX4TWRB: 3345
- TX4TWRN: 3345
- TX6TWRB: 5020
- TX6TWRN: 5020

**Performance (%)**
- TX4TWRB: 68,75
- TX4TWRN: 68,75
- TX6TWRB: 68,75
- TX6TWRN: 68,75

**Life expectancy**
- TX4TWRB: 50000 h L70B10
- TX4TWRN: 50000 h L70B10
- TX6TWRB: 50000 h L70B10
- TX6TWRN: 50000 h L70B10

**Maintained operation 24h**
- ✔

**IP**
- TX4TWRB: 30
- TX4TWRN: 30
- TX6TWRB: 30
- TX6TWRN: 30

**Category**
- I

**Dimensions (mm)**
- TX4TWRB: L=1126 (85 height x 56 width)
- TX4TWRN: L=1688 (85 height x 56 width)
- TX6TWRB: L=1688 (85 height x 56 width)
- TX6TWRN: L=1688 (85 height x 56 width)

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Opal cover

More information on normalit.com