A group of cells separated from vision (ganglion cells or ipRGC) are responsible for collecting this information, and depending on the amount and type of light present, activate a mechanism of inhibition of melatonin secretion. Recent studies show that this inhibition is extremely sensitive in a very narrow range of wavelengths, between 459 and 485 nm. Therefore, light (and in particular blue light) has a dominant role in the control of our biological clock (or more correctly, circadian rhythms).

Spanish Lighting Committee (CEI)

"The lighting industry must take a much more" dynamic "approach to illuminating workplaces. "What is needed is dynamic lighting, where in the early morning there is a bright light enriched in blue that would cross over and stimulate the photo receptors, and then, perhaps, throughout the day, this could be reduced."
The receivers are not only time receivers, but also have an effect on the alert state. Then, as light levels increase, concentration levels also increase. "

Professor Russell G. Foster,
Director of the Nuffield laboratory of ophthalmology and the institute of neuroscience during sleep and circadian,
University of Bristol. (United Kingdom)

"All these technological advances can help improve worker productivity. In fact, the measurements for such improvements are difficult to evaluate, but only reducing 5 minutes of lost time per day, say 1% of an eight-hour shift, could translate into a saving of $ 500 per person per year for someone who earns $ 50,000 annually. Such annual savings reduce fixed costs, save electricity and maintenance and minimize returns. "

Stan Walerczyk,
Director of Lighting Wizards
President of the Human Centric Lighting Society and Committee. (U.S))

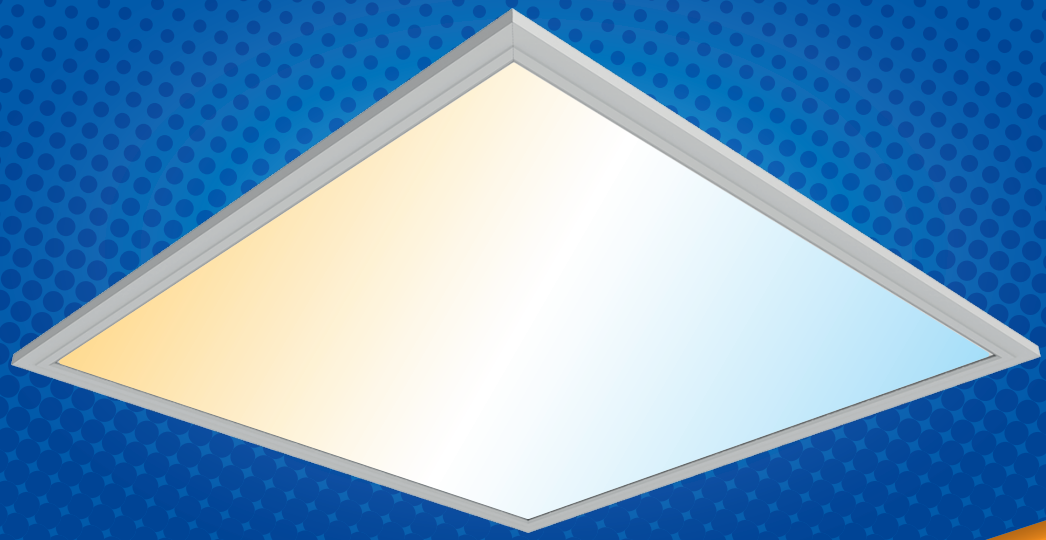
"The luminous environment acts through a chain of mechanisms on human physiological and psychological factors, which also influence their performance and productivity. Variations of luminances and colors can strengthen attractiveness, trigger emotions and affect our mood, the impact of lighting depends a lot on individuals and their mood. A lighting installation that does not meet the user's expectations can be considered unacceptable even if it provides the conditions for adequate visual performance. "

Professor Virgilio D. Gligor
Professor at the Carnegie Mellon University
Co-director of the CyLab of the university. (U.S

AIRIS EXILIS

SmartColour

Biorythmic Lighting



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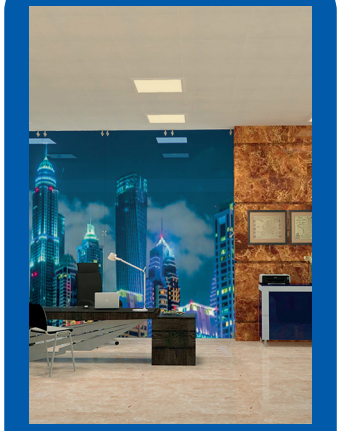
Lighting designed for Human welfare

Increase productivity by 4.5%

Reduce errors by 1%
Reduce absence by 1%

Current Lighting

Natural Light



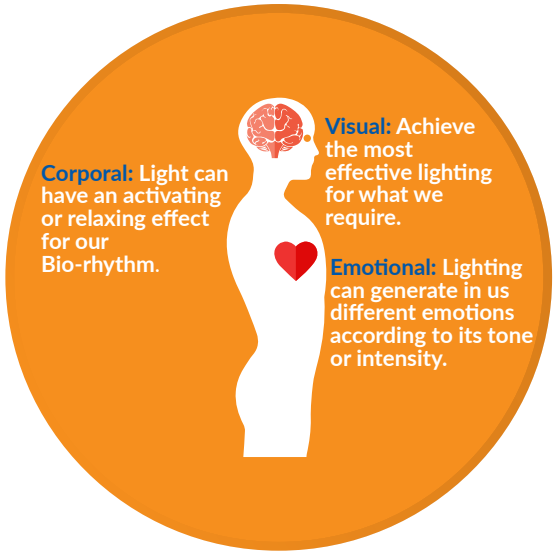
Artificial Light

Natural light is dynamic from dawn until sunset

Artificial light is fixed from when you get up until you go to sleep

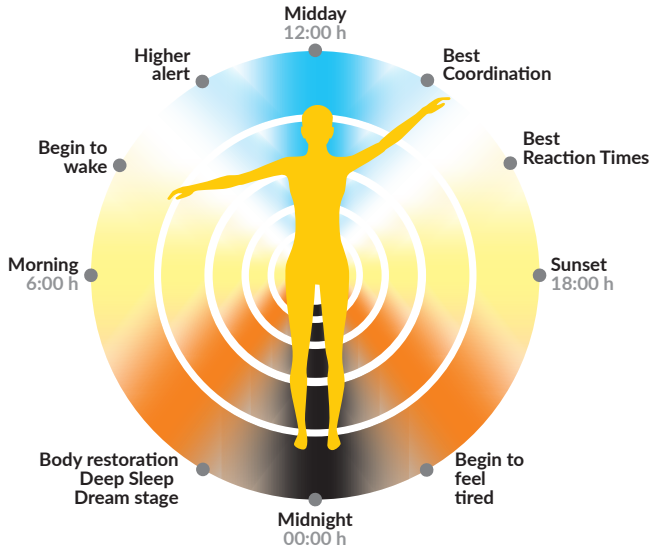
How should indoor lighting be?

The interior lighting must be dynamic in intensity and color. Varying according to time and activity



AIRIS EXILIS SmartColor solution

Driver EXILIS SmartColor



On a sunny day a person abroad receives 100.000 lux. On a cloudy day they receive 10.000 lux.

And in schools they only receive **300 lux**

In offices, they receive **500 lux**

90% of the time people remain indoors

APPLICATIONS

LIGHTING IMPROVEMENT - Productiviity + attention

Offices · Schools · Factories · Shops

LIGHTING IMPROVEMENT - Health + Comfort

Hospitals · Homes · Residences · Shops

BENEFITS

+4.5% Productivity*

-1% Absence

-1% Errors

((*) Average salary in 2017 in Spain: € 26,710 / year. 4.5% = € 1,202 / year
1 person every 4 panels. 1 Panel EXILIS SmartColor = € 300 / year saving improves productivity
Source: Study "Benefits of lighting focused on the human being". ZVEI, Lighting Europe and A.T. Kearne - April 2015 Human Centric Lighting