



Use light to boost your alertness

Do you feel like you perform better in the morning? Maybe you find it harder to focus in the afternoon? Light affects us day and night and we are dependent on light to perform our daily tasks, such as working, studying, exercising, or driving a car.

Alertness describes a state of environmental awareness and high sensitivity of incoming stimuli¹. Alertness is closely related to vitality, the feeling of being alive and having energy.

Certain situations may require us to feel more or less alert and in those cases we can control the light to fit our needs at the specific time. For example, to give elite athletes a boost in preparation for an important game, or support the various schedules of shift workers.

How does light impact your alertness?

- ✓ Light has a direct alerting effect, day and night
- ✓ Blue light can be used to avoid the post-lunch dip
- ✓ Red light can increase alertness at night without causing circadian disruption

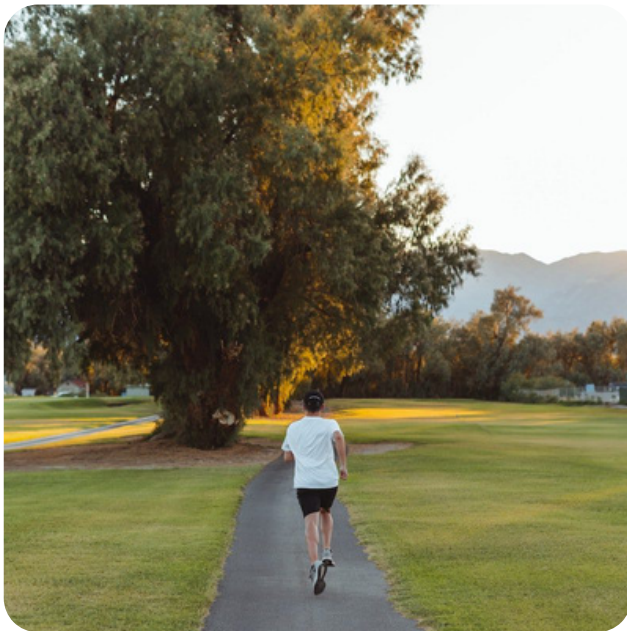
Biocentric lighting is a lighting system that simulates the most important aspects of daylight indoors. The light is designed to support a stable circadian rhythm with many benefits for our health and well-being, including instant and long-term effects on alertness.

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Mimize errors and improve performance

Studies show that bright, blue-enriched light can be used to sustain working memory during the post-lunch hours². Blue-enriched light improves attention and decreases the number of errors of shift workers³.

The direct alerting effect of blue light also proves useful in sports. Light “showers” that provide high intensity cold white light can be used to boost alertness, motivation and energy, in preparation for game time where performance is critical.



Light recipes ensure you receive the right amount of circadian impact at the right time.

Light at night

At night, there is a clear relationship between light intensity and alertness⁴. Research shows that red light at night can influence our brain activity, as measured by EEG, towards an alert state without suppressing melatonin^{5,6}. The capacity of red light to influence alertness is of great importance since it allows us to promote alertness without disturbing our circadian rhythm. Biocentric lighting has the capacity to deliver blue and red wavelengths according to individual needs and activity throughout the day.

Using our light recipes, we deliver light that adapts to the needs of different environments and activities.

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3. D. Canazei, P.; Staggl, S.; Pohl, W., Effects of dynamic ambient lighting on female permanent morning shift workers. *Lighting Res. Technol.* 46, 140-156 (2014).
4. Cajochen, C., Zeitzer, J. M., Czeisler, C. A. & Dijk, D. J. Dose-response relationship for light intensity and ocular and electroencephalographic correlates of human alertness. *Behav Brain Res* 115, 75-83, doi:10.1016/s0166-4328(00)00236-9 (2000).
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6. Figueiro, M. G., Bierman, A., Plitnick, B. & Rea, M. S. Preliminary evidence that both blue and red light can induce alertness at night. *BMC Neurosci* 10, 105, doi:10.1186/1471-2202-10-105 (2009)