



SkyBlue™ LED Circadian Solutions

THE MODERN DILEMMA

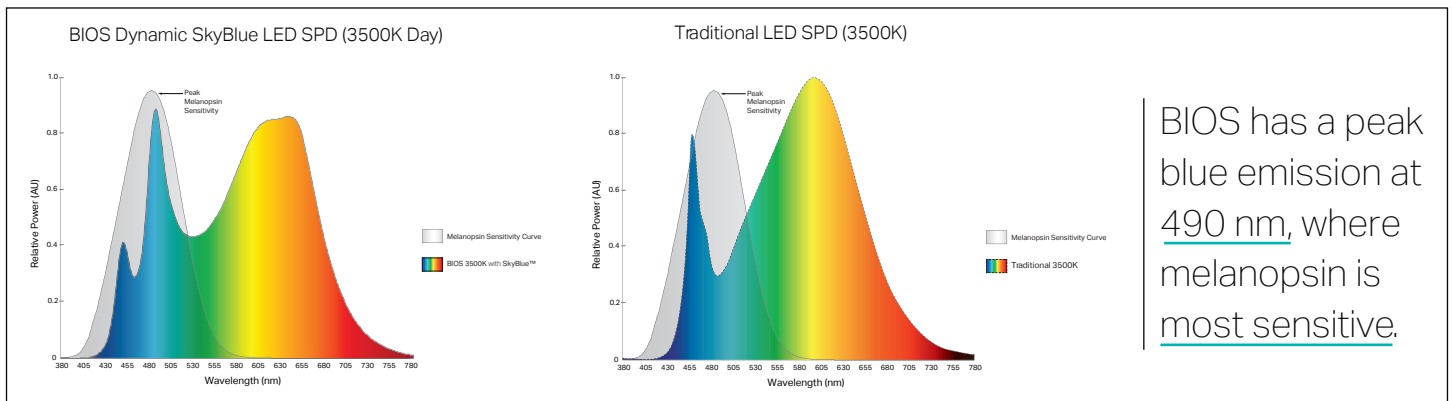
Most of us spend 90% of our time indoors. Our brains are naturally stimulated by and highly sensitive to the daylight signals; sitting indoors, we are not getting enough. Traditional lighting — even typical LED lighting — does not provide the proper light signals our bodies need to optimize our biological clocks and maintain healthy circadian rhythms.

- For **Patients**, this manifests as interrupted sleep patterns,
 - higher depression, lower tolerance to pain, and potential reduction in medicine efficacy.
- For **Students**, insufficient daytime light can make
 - students more sluggish during class time, impact academic performance, weight
- For **Employees**, insufficient lighting at work impacts mood,
 - productivity, and overall health; This not only contributes to higher error/accident rates, but can also leave people feeling unfocused, lethargic, and unmotivated.

THE SOLUTION

BIOS SkyBlue™ LED Circadian Solutions have been developed based on the latest developments in circadian photo-biological research. With a peak energy emission at 490nm, BIOS SkyBlue is the first circadian light source specifically engineered to align with the key blue sky signals our bodies need. BIOS SkyBlue Solutions provide the highest melanopic ratio for a given color temperature while ensuring comfortable and energy efficient illumination that helps to promote healthy circadian rhythms, allowing you to work more productively, sleep more soundly, and live healthier.

That's the natural brilliance of BIOS.





SkyBlue™ LED Circadian Solutions

THE BENEFITS

- **Patients:** Faster healing and shorter hospital stays. "Infants maintained in a light/dark cycle gained weight faster than infants in continuous light and therefore attained a shorter hospital stay" an average of 5 days.[i] Given NICU costs exceed \$3500 per day, the savings can add up quickly for the 500,000 premature babies born in US annually.[ii]
- **Students:** Higher cognitive performance, memory, and a doubling in the ability to multi-task with optimized light levels. [iii]
- **Workplace:** Better productivity. A study by the retailer Staples found that "visual acuity was better with the blue light, and after four weeks, 92% of people on the floor said they preferred it over the old lighting." [iv]

WHO WE ARE

Established in 2015, BIOS is a NASA spin-off whose lighting innovations are rooted in the development of the first circadian lighting system on-board the International Space Station. Robert Soler, co-founder of BIOS, was a subject matter expert and engineered the LED lights used to maximize safety, team cohesion, and quality of life for the astronauts in space. BIOS solutions have also been used to successfully reduced jet lag for professional athletes, including the US Olympic Ski and Snowboard Team, the Los Angeles Dodgers, and the Pittsburgh Pirates.

[i] <http://pubmed.ncbi.nlm.nih.gov/24831970/>

[ii] <http://journalofethics.ama-assn.org/article/cost-saving-tiniest-lives-nicus-versus-prevention/2008-10#:~:text=Daily%20NICU%20costs%20exceed%20%243%2C500,million%20for%20a%20prolonged%20stay.>

[iii] http://www.frontiersin.org/files/Articles/505444/fnins-14-00359-HTML/image_m/fnins-14-00359-t003.jpg

[iv] <http://www.forbes.com/sites/pragyaagarwaleurope/2018/12/31/how-does-lighting-affect-mental-health-in-the-workplace/?sh=531c18f4ccdf>

THE KEY FEATURES

- Industry leading melanopic (m/p) ratios (3000K, 35000K, 4000K)
- Brilliant color quality for visual comfort (CRI 80+ and R9>90)
- Simple lighting controls, single-channel dimming, compatible with 0-10V and wireless controls
- Contributes to WELL™ Circadian Lighting Feature

WHERE CAN YOU SPECIFY BIOS?

- Healthcare Facilities including Neonatal Intensive Care Units (NICU)
- Assisted and Senior Living/Adult Daytime Care Facilities
- K-12 Schools and Higher Education Facilities
- Corporate Offices
- Residences



Specifications subject to change without notice. Contact BIOS with any questions for the most current information.

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To learn more visit www.bioslighting.com or contact Ken Esterly at kesterly@bioslighting.com

