

BIOS Static Engine

Lighting Control Protocol

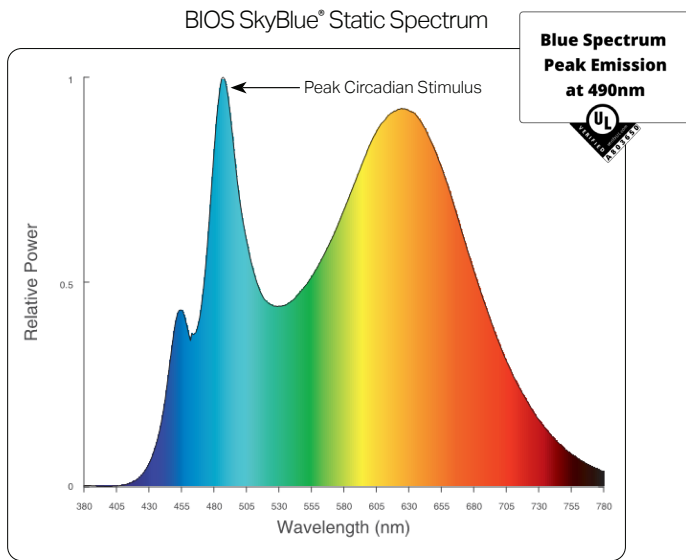
DW DAY WORKING ENVIRONMENTS

BIOS Static Engine

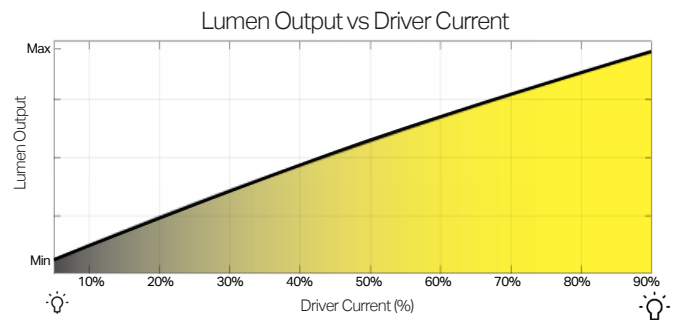
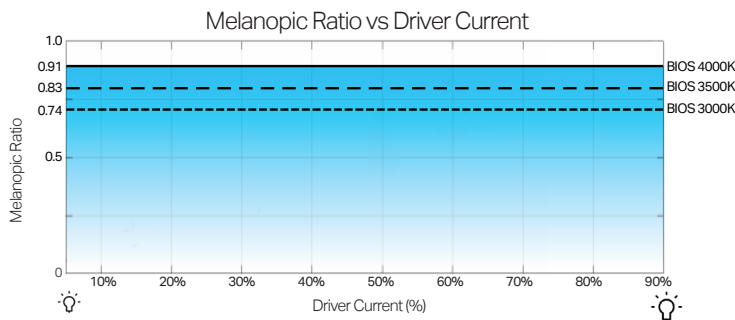
BIOS SkyBlue® Static Light Engine provides the industry's highest melanopic lux - for a given color temperature - as compared to traditional LEDs. BIOS SkyBlue® does not require complicated lighting controls and is compatible with single channel constant current (CC) LED drivers and any standard dimming interface. BIOS is pleased to offer static SkyBlue® lighting solutions in 3000K, 3500K, and 4000K. Dimming with BIOS Static Light Engine is simple and easy. BIOS melanopic ratio remains constant as you dim down the light intensity.

Note: While melanopic ratio remains constant, dimming/reducing light output will have an overall impact on Equivalent Melanopic Lux (EML). That is because $EML = \text{Vertical Lux} * \text{melanopic ratio}$. Therefore, if you reduce light levels by dimming the LEDs, you will reduce your effective EML, even when the melanopic ratio stays constant.

Spectral Power Distribution



Static Engine Dimming - SkyBlue® Content and Lumen Output



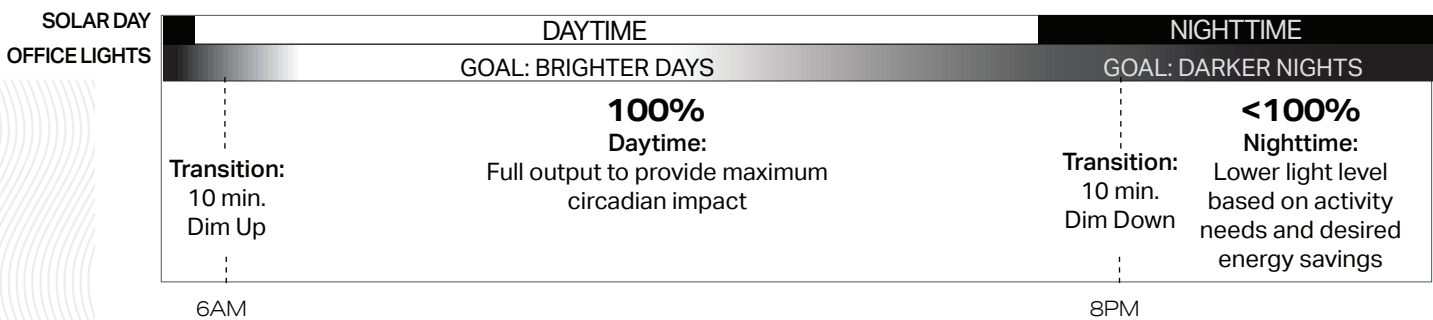
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DW DAY WORKING ENVIRONMENTS

BIOS Optimal Circadian Lighting Protocol

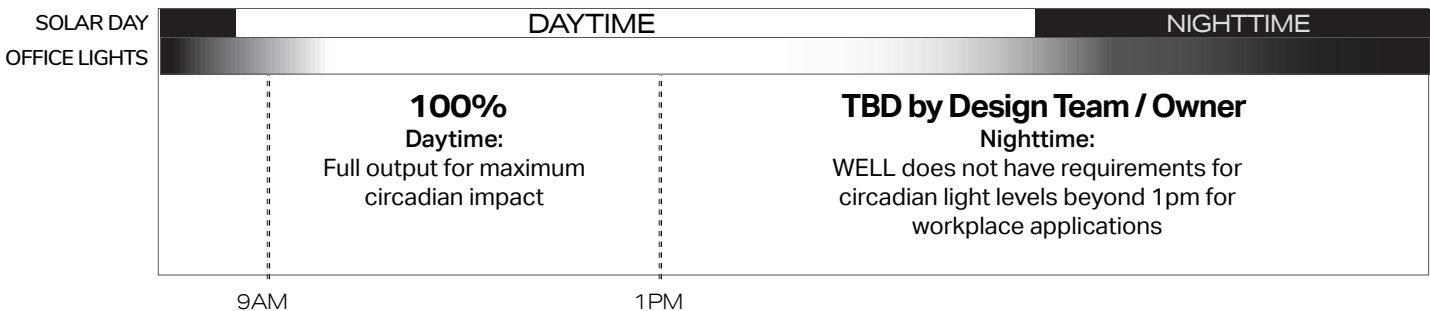
For day-working people circadian lighting control strategies should focus on creating brighter biological daytime signals. BIOS recommends setting the lighting system to dim up in the morning over the course of 10 minutes to full on around 6am. During the day the lights should remain at their full output until 8pm in the evening where they should dim down to meet energy savings targets.



Note: BIOS recommends lengthening the solar day, but not shortening it. This means, in the winter the electric lighting should provide daytime signals beyond the hours that the sun is up and in the summer the interior lighting should at least be on for the hours that the sun is up.

BIOS Recommended Protocol - WELL Building Standard™

The following schedule illustrates a basic lighting control schedule that helps satisfy the requirements for the WELL Building Standard Circadian Lighting Feature. Almost all program types for both WELL v1™ and WELL v2™ require Circadian Lighting to be implemented for at least 4 hours a day from the hours of 9am to 1pm.



Note: The following does not outline the lighting schedule to comply with WELL v1™ Feature 54 Part 1b for Work Areas or Parts 3a or 4a for Breakrooms and Living Environments. Parts 1b, 3a, and 4a require “maintained” light exposure.