US 20240224400A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2024/0224400 A1**

Snook (43) **Pub. Date: Jul. 4, 2024**

(54) **DEVELOPING BIOLOGICAL ILLUMINATION SYSTEMS**

(71) Applicant: **Circadian Tunable Lighting, LLC**, Mamorneck, NY (US)

(72) Inventor: **Joel Snook**, Grass Valley, CA (US)

(21) Appl. No.: **18/530,677**

(22) Filed: **Dec. 6, 2023**

Related U.S. Application Data

(63) Continuation of application No. 17/960,617, filed on Oct. 5, 2022.

(60) Provisional application No. 63/252,475, filed on Oct. 5, 2021.

Publication Classification

(51) **Int. Cl.**

H05B 47/11	(2006.01)
H05B 47/115	(2006.01)

(52) **U.S. Cl.**

CPC ***H05B 47/11*** (2020.01); ***H05B 47/115*** (2020.01)

(57) **ABSTRACT**

Disclosed, in one general aspect, is a method of designing an illumination system for illuminating an occupied space to be occupied by one or more occupants that includes selecting illumination parameters for a first area illumination element, selecting illumination parameters for a second area illumination element, and deriving control parameters to derive, from selected levels of a first multi-level illumination control and selected levels of a second multi-level illumination control, a first control signal to drive the first area illumination element and a second control signal operative to drive the second area illumination element for each combination of levels from the first and second controls to independently vary an illumination level and a biological attribute of the illumination of the occupied space in response to independent actuation of the first and second multi-level illumination controls.