Skin: Organ of Photoreception and Immune Response

why lighting professionals need to understand unintentional biologic consequences of UVV general lighting intended for occupied spaces

Our skin is the largest organ in the human body, but A/E/D professionals often fail to understand the connection between extra-ocular photoreception and ambient light.

For the most part, technical application and practitioner understanding of UVC and UVB impacts on human skin are long established. That said however, the potential for unintentional biologic harm with the introduction of luminares which include UVA and UVV intended for occupied spaces including schools, workplace, and health care facilities is often overlook especially with regard to skin microbiome disruption, occupant drug and medical condition interactions, allergic photosensitivity response, and fractured first line immune system response.

Currently, physiological and medical consequences of the introduction of UVV impregnated general lighting is not fully understood, let alone adequately researched, in areas such as exposure duration limits, select wavelength presence and / or absence, circadian timing interferences, and industry silo average occupant demographic profile including age, race, health status and medical condition; all of which are major consideration factors for the safe introduction of lighting containing intentional doses of 405nm for non-transitory occupied spaces.

This session will provide attendees with a working understanding of how ambient light biologically impacts exposed skin amid a worldwide introductory rush of marketable "safe" UV solutions for combating aerosolized viral overloads and widespread need for surface decontamination. Participants in this one-hour session will:

- **Discover UVA and UVV as a potent biologic stimulant which penetrates human skin and initiates critical immune and circadian system response necessary for our very survival; but ONLY when received as nature intended.**
- **Learn how skin, as a primary immune system organ and photoreceptor, is linked to circadian entrainment; a critical consideration when specifying LED lighting**
- **Explore specific UVA and UVV wavelengths as absorbed energy resulting in skin biologic response which purposely destroys specific DNA critical for keeping us healthy and which wavelengths are now scientifically presumed to be responsible for interfering with DNA repair pathways which accelerates a potential dis-ease condition.**
- **Uncover the differences between phototoxic and photo allergic skin response and why lighting professionals need to know the difference**
- **Analyze various aspects of the photoreceptive superficial skin microbiome critical for maintaining occupant overall health status in a virus laden built environment.**

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