

Frequently Asked Questions

Full-Spectrum Lighting

What is full spectrum lighting and are there any related health benefits?

The term “full-spectrum” (FS) as applied to lamps and to lighting has no standard definition. Commonly, it is used to imply that the spectral power distribution has some degree of uniformity throughout the visible spectrum and, at times, that the ultraviolet (UV) radiation has been deliberately increased. Commonly, the correlation color temperature would be 5000K or higher with a color rendering index of about 90 or higher.

A variety of health-related benefits have been claimed for FS lighting, but none have been substantiated in a scientifically acceptable manner. An often quoted study claimed that children who were exposed to FS fluorescent lighting showed reduced hyperactivity when compared with cool white fluorescent lighting. A subsequent study¹ of the same issues at SUNY could not replicate the results and pointed out that the original study was seriously faulted. Although this claim has been discredited, it still is quoted as fact. Another popular claim was that human muscle strength is greater under FS fluorescent lighting than under cool white fluorescent lighting. This also has been discredited.² At one time, many claims for health benefits of FS lighting were associated with the Vita-Lite fluorescent lamp. In 1986, the FDA issued a Health Fraud Notice³ stating that the manufacturer’s health claims were “false and misleading” and were a “gross deception” of the consumer.

Speculation on putative advantages of FS lighting has continued for decades. A symposium on FS lighting was held at the August 1993 Annual Convention of the American Psychological Association in Toronto, and presentations were made from all sides of the issue. The symposium proceedings together with a critical analysis and literature review were published at the National Research Council Canada⁴. This report found no scientifically acceptable basis to substantiate claims of human health and performance benefits attributable to FS lighting.

The SYLVANIA fluorescent lamps that meet the popular conception of FS lamps are the DESIGN 50[®], the OCTRON[®] 950, and arguably, the DELUXE COOL WHITE colors. Note that the UV emission of these lamps has not been enhanced. Most important, no health claims are made in relation to these lamps. The spectra have been chosen to meet certain needs for color rendering properties.

¹ K. O’Leary, A. Rosenbaum, and P. Hughes, “Fluorescent Lighting: A Purported Source of Hyperactive Behavior,” *J. Abnormal Child Psychol.*, 6:285 (1978).

² D. Jewett, S. Berman, M. Greenberg, F. Fein, and R. Nahass, “The Lack of Effects on Human Muscle Strength of Light Spectrum and Low Frequency Electromagnetic Radiation in Electric Lighting,” *J. Illum. Engr. Soc.*, 15(2):19 (Summer 1986).

³ [FDA Enforcement Report: Health Fraud Notice](#), 1986 WL 59812 (F.D.A.).

⁴ [Full-Spectrum Lighting Effects on Performance, Mood, and Health](#), J. Veitch editor, Internal Report No. 659, National Research Council Canada (June 1994).