

# PRODUCT SPECIFICATION UVEN Disinfection Unit

P/N: 100021



## DESCRIPTION

BrainLit UVEN is a unique system that uses UVC lighting to quickly, safely and automatically disinfect both air and surfaces to create a safe and healthy environment.

BrainLit UVEN comes in the shape of a troffer designed for standard recessed ceilings. It includes both the UVC disinfection capabilities and high quality illumination with excellent color rendering, efficacy and flicker properties.

## AREAS OF USE

BrainLit UVEN safeguards and disinfects frequently visited closed spaces with high degree of pathogens such as restrooms.

## MEASUREMENTS / PACKAGING

Weight (lb)	21,5
Size LxWxH (in)	23,75 x 23,75 x 5,88
Box quantity	1
Boxed size LxWxH (in)	28.75 x 28.75 x 9.45
Boxed weight (lb)	28,3

## UV-C PROPERTIES

Light source type	LED
Peak wavelength	260-280 nm
Radiated power	450 mW
Lifetime UVC	10 000 h (L70B50)
Number of disinfections	300 000 à 2 min

## LIGHT PROPERTIES

Light source type	LED
LED color temperature	4700K
Color rendering	CRI/Ra >90
Lumen output	2000 lm
Efficacy	110 lm/W
Beam angle	110°
Flicker handling	$P_{st}^{LM} \leq 1$ , SVM $\leq 0.4$ , IEEE 1789 comp.
Lifetime	0.9 (LLMF 50 000h) >100 000h (L70B50) 50 000h (L90B50)
Typical energy consumption/24h*	0.3 kWh

\*Assuming 20 disinfection cycles.

## POWER PROPERTIES

Maximum rated power	115W
Supply voltage range	120-277V
Supply power frequency	50/60Hz

## MECHANICAL PROPERTIES

Colors	White
Material	Sheet metal + acrylic + silicone
Configuration	Backlit troffer for drop down ceiling
Mounting	Recessed
IP rating	IP20
Certifications	UL, RoHS

## DISINFECTION AND SAFETY PROPERTIES<sup>1)</sup>

The disinfection efficacy of BrainLit UVEN has been independently verified by the Swedish Defence Research Agency (FOI)<sup>2</sup>. The BrainLit UVEN system utilizes an advanced presence detection system to automatically detect when a zone is unoccupied and the germicidal UVC radiation can be activated. The exposure is automatically stopped if someone enters the zone. The presence detection and safety mechanisms ensure that human exposure is minimized and well within safe limits.<sup>3</sup>

2 minute disinfection cycle; UVC dose 1.4 mJ/cm<sup>2</sup>. This dose corresponds to:

- Deactivation of >90% SARS-CoV-2<sup>4,5</sup>
- Deactivation of >99% E. coli<sup>6,7</sup>. Salmonella<sup>6</sup>

- 1.) Requires that system configuration and installation follow the BrainLit design manual and installation manual.
- 2.) UVEN disinfection evaluation with SARS-CoV-2 plaque assay, Swedish Defence Research Agency, 2021
- 3.) Threshold Limit Values and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, 2012
- 4.) Quantitative evaluation of SARS-CoV-2 inactivation using a deep ultraviolet light-emitting diode, Minamikawa, T., Koma, T., Suzuki, A. et al., Sci Rep, 2021
- 5.) UV-LED disinfection of Coronavirus: Wavelength effect, Gerchman, Y., Mamane, H., Friedman, N., Mandelboim, M., J. Photobiology and Photochemistry B: Biology, 2020
- 6.) Fundamental Characteristics of Deep-UV Light-Emitting Diodes and Their Application To Control Foodborne Pathogens, Joo-Yeon Shin, Soo-Ji Kim, Do-Kyun Kim, Dong-Hyun Kang, Food Microbiology, 2015
- 7.) Inactivation of Listeria and E. coli by Deep-UV LED: effect of substrate conditions on inactivation kinetics., Cheng, Y., Chen, H., Sánchez Basurto, L.A. et al., Sci Rep, 2020.
- 8.) Disinfection of Methicillin-Resistant Staphylococcus aureus, Vancomycin-resistant Enterococcus faecium and Acinetobacter baumannii using Klaran WD array system, Richard M. Mariita, Rajul V. Randive, bioRxiv, 2020

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### UVC WARNING TEXT

*This product emits ultra violet radiation (UVC) that is harmful to humans. UVC exposure to the skin or eyes can cause both short-term injury and long-term health effects. Do not use it for other than its intended purpose as described in the manual.*

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