

365DisInFx™

UVA technology

365DisInFx™ LED Luminaires

LBU Recessed Luminaire with 365DisInFx™ UVA technology

LBU22 Series -Back lit T-Grid, Disinfection Series D-Light

Product Description:

Current's 365DisInFx™ LBU Series Recessed LED Luminaires offer a conventional look similar to the LBT Series with significantly more capability. In addition to delivering a smooth uniform lit appearance with LED technology, the LBU series also provides Current's 365DisInFx™ UVA technology to help in the inactivation of surface bacteria where people are present and conventional lighting is needed.



Product Dimensions:



A = 23.82in (605mm)
B = 23.82in (605mm)
C = 3.5in (39mm)

Technical Summary:

Testing Results: 365DisInFx™ UVA disinfection technology was tested using in-vitro methods (as described in Livingston, Kvam^{1,2}) which resulted in 99.7% reduction in MRSA on surfaces exposed to 3W/m² of 365nm UVA over a single 8-hour period. Results of this testing also showed significant reduction over a similar exposure period of certain common pathogens including *Staphylococcus aureus*, *Enterococcus faecalis*, *Escherichia coli*, *Acinetobacter baumannii*, *Pseudomonas aeruginosa*, *Candida albicans* and *and auris*, associated with Hospital Acquired Infections (HAIs). Photobiological science and mathematical modeling enables us to calculate expected inactivation rates for 24-hour continuous operation of the 365DisInFx™ UVA technology.

Safety: 24-hour dosage is designed to operate below human health exposure limits per IEC 62471 Photobiological Safety for Lamps and Lamp Systems standard and American Conference of American Hygienists (ACGIH®) TLVs® guidelines.

Disinfection Light Source: 365nm UVA light emitted is invisible to the human eye and does not impact CCT or CRI.

Light Control: Fixture LED white light source may be controlled by wired or wireless controls and is dimmable to 5%. The UVA disinfection lightsource has a fixed output and operates continuously.

Product Availability:

Product Ordering: Product is commercially available and can be ordered for general use.

Notes:

- Livingston SH, Cadnum JL, Benner KJ, Donskey CJ (2020) Efficacy of an ultraviolet-A lighting system for continuous decontamination of health care-associated pathogens on surfaces. *Am. J. Infect. Control* 48: 337-339. <https://doi.org/10.1016/j.ajic.2019.08.003>
 - Kvam E, Benner K (2017) Disinfection via LED Lighting: summary of mechanism and results for 365nm-mediated inactivation of microbes. GE Global Research Technical Information Series 2017GRC0545, GE Confidential (Class 3)
- Kvam E, Benner K. Mechanistic insights into UV-A mediated bacterial disinfection via endogenous photosensitizers. *Journal of Photochemistry and Photobiology B: Biology*. 2020;209:111899. doi:10.1016/j.jphotobiol.2020.111899.
- Inoculated steel disk carriers, modification of ASTM E-2197-02
 - using a benchtop device that delivered the 3W/m² irradiance

Ordering Number Logic

LBU	22	A	0	XX	MM	AD		VQ	LT	WHAM
FAMILY	FIXTURE TYPE	GENERATION	VOLTAGE	NOMINAL LUMENS	DISTRIBUTION	UV	CRI/CRT	CONTROLS	MOUNTING	FINISH
LBU = 365DisInFx™ Backlit UVA	22 = 2' x 2'	A = 1st Generation	0 = 120-277V	22 = 2200 Lumen Level 33 = 3300 Lumen Level 40 = 4000 Lumen Level	MM = Med. Lambertain	AD = All Day Continuous	835 = 80CRI, 3500K 840 = 80CRI, 4000K	VQ = 0-10V Dimming	LT = T-Grid	WHAM = White Antimicrobial Paint

PRODUCT OFFERING					
PRODUCT CODE	CATALOGIC	CCT	LUMENS CODE	WHITE LED WATTS	UV LED WATTS
93140171	LBU22A022MMAD835VQLTWHAM	3500K	22	16	18
93124567	LBU22A033MMAD835VQLTWHAM	3500K	33	27	18
93137039	LBU22A040MMAD835VQLTWHAM	3500K	40	32	18
93140172	LBU22A022MMAD840VQLTWHAM	4000K	22	16	18
93124569	LBU22A033MMAD840VQLTWHAM	4000K	33	27	18
93134257	LBU22A040MMAD840VQLTWHAM	4000K	40	32	18

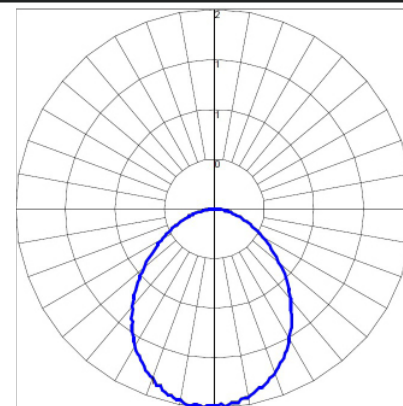
ACCESSORIES	DESCRIPTION CODE	PRODUCT CODE
Drywall mount kit 2' x 2'	GESK07	67657
2' X 2' Surface Mount kit for backlit T-grid	B22 SMK	212462

Photometric Data: 365DisInFx™ 2' x 2' LBU22 Series

ZONAL LUMEN SUMMARY	
Zone	Lumens
0-10°	105.23
10-20°	302.53
20-30°	460.02
30-40°	557.81
40-50°	583.15
50-60°	532.83
60-70°	414.99
70-80°	251.86
80-90°	79.83
90-100°	1.97
100-110°	1.63
110-120°	1.59
120-130°	1.54
130-140°	1.52
140-150°	1.37
150-160°	1.04
160-170°	0.78
170-180°	0.29

ZONAL LUMEN SUMMARY			
Zone	Lumens	% of Lamp	% of Fixture
0-20°	407.76	N.A.	12.40
0-30°	867.78	N.A.	26.30
0-40°	1425.59	N.A.	43.20
0-60°	2541.57	N.A.	77.00
0-80°	3208.42	N.A.	97.20
0-90°	3288.25	N.A.	99.60
10-90°	3183.02	N.A.	96.50
20-40°	1017.82	N.A.	30.80
20-50°	1600.97	N.A.	48.50
40-70°	1530.98	N.A.	46.40
60-80°	666.85	N.A.	20.20
70-80°	251.86	N.A.	7.60
80-90°	79.83	N.A.	2.40
90-110°	3.60	N.A.	0.10
90-120°	5.19	N.A.	0.20
90-130°	6.73	N.A.	0.20
90-150°	9.62	N.A.	0.30
90-180°	11.73	N.A.	0.40
110-180°	8.13	N.A.	0.20
0-180°	3299.98	N.A.	100.00

POLAR GRAPH



Maximum Candela = 1.963 Located At Horizontal Angle = 260, Verticle Angle = 3
#1 - Vertical Plane Through Horizontal Angles (260 - 80) (Through Max. Cd.)

White light + UVA light output

Contact your Sales representative for UVA photometric data

Product Specifications:

LED & Optical Assembly

CRIa: >80+

R9: >0

Color Consistency: Central limit 4-Step MacAdam Ellipse with LED recipe approach for tight unit to unit color control

Rated Luminaire Lumen Depreciation: L85@50,000 Hours

UV Output: 365nm +/- 5nm

Electrical

Input Voltage: 120-277 VAC

Input Frequency: 50/60 Hz

System Power Factor (PF): >0.9*

Total Harmonic Distortion (THD): <20%*

LED Driver Type: Class 2

**PF and THD may vary with options*

Ratings & Evaluations

Operating Temperature: -20°C to +25°C

Storage Temperature: -40°C to +70°C

Surge Protection: ANSI C82.77 Compliant

Location: Damp

Safety: UL/cUL Classified

Environmental: Compliant with material restrictions of RoHS

Construction & Finish

Housing: Durable, long lasting construction. Steel, electrogalvanized, powder-coated

Lensing: UV rated, tempered glass diffuser

Paint: Highly reflective white gloss finish, antimicrobial paint

Weight: <25 pounds

Make An Informed Decision

- UV radiation can pose a risk of personal injury. Overexposure can result in damage to eyes and bare skin. To reduce risk of overexposure, equipment must be installed in accordance with manufacturer's site planning and application recommendations, including minimum ceiling height restrictions.
- UV solutions are intended for common high traffic spaces and not recommended for dwellings or home use.
- Installation of the devices should be performed by qualified professionals as detailed in Current's installation guide.
- To allow for occupancy during use, Current products comply with IEC 62471 – Photobiological Safety of Lamps and Lamp Systems standards and American Conference of Governmental Industrial Hygienists (ACGIH®) TLVs® guidelines when installed as directed.
- Current's UV products are meant to be used in conjunction with other protective measures like manual cleaning and the use of proper PPE. They are not a substitute for other measures.
- Current products are not intended to be used as a medical device.
- If combining two or more UV solutions, whether from GE Current, a Daintree company and/or other manufacturers, please consult a trained product application representative to ensure the total irradiance (UV dose) does not exceed recommended human exposure limits. To the extent UV solutions are combined, it may impact inactivation rates.

Design Life & Warranty:

Warranty: 5 Year on visible light portion of fixture

Driver Design Lifetime: >10 year life of continuous operation, >100,000 hour design parameters

Reliability Testing: Components and systems evaluation

Controls

Standard Dimming: 0-10VDC ANSI C137.x compliant

Minimum Dimming: 5% of rated lumen LED drive current

Optional Dimming: Contact Manufacturer

Wireless Networking and Sensing Device Options*

Daintree Enterprise Wireless enabled **Power Addition for Controls:** <2 watts

**Contact Factory for specific option availability*

Mounting

Typical Mounting: Fits standard T-Bar grid (dropceilings)

Wiring Access: ½" trade-size KOs on a removable access plate provided

T-grid Clips: T-grid clips included on fixture body, with holes for seismic wires

Surface Mounting: Surface mount kit available

Accessories & Options:

Contact your GE Current, a Daintree company sales representative for available options. For more information and access to all of our resources, including our design tools, visit: www.gecurrent.com

CAUTION

UVA emitted from this product.
Install in compliance with manufacturer instructions
to prevent risk of personal injury from UV radiation.