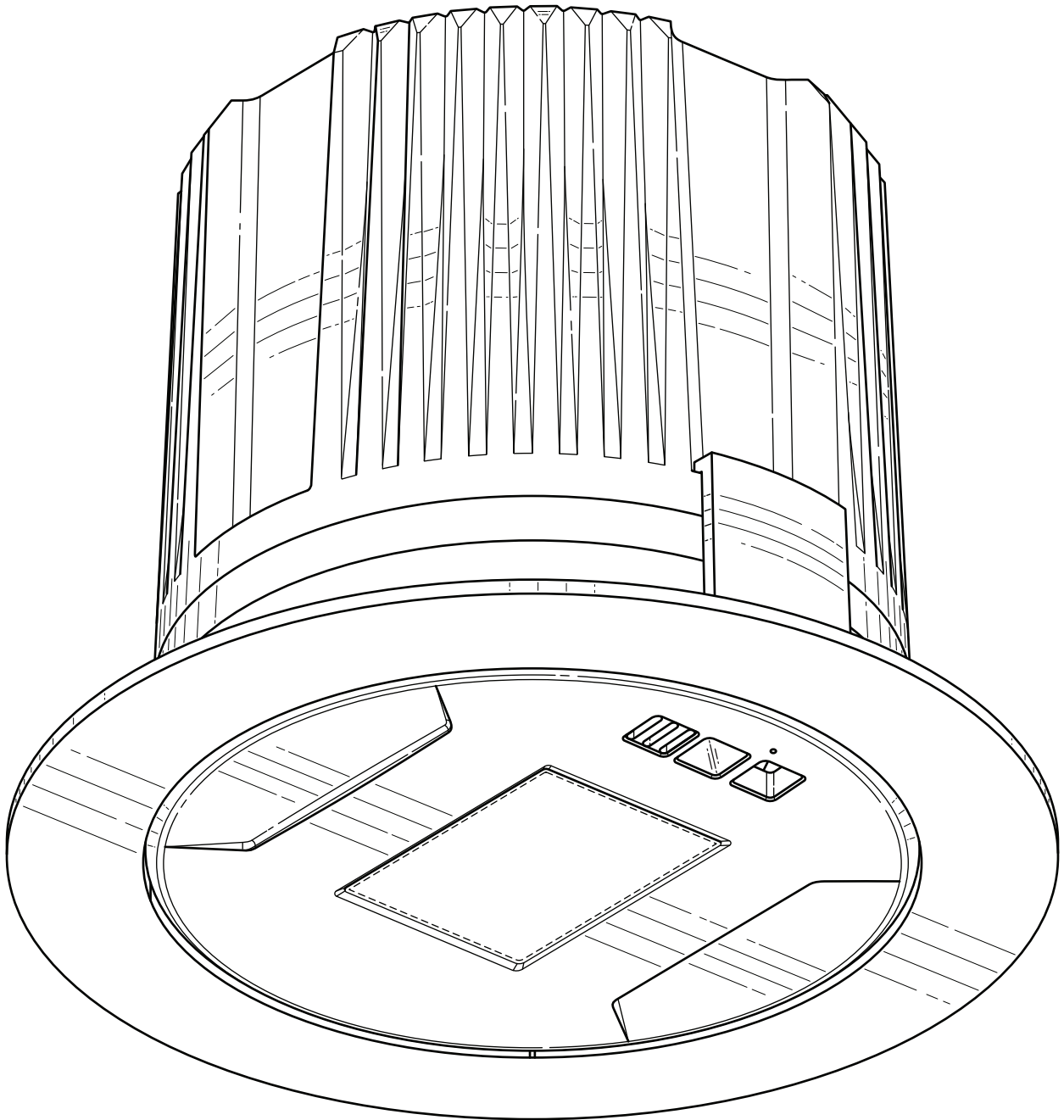




Visium

Far-UVC Light Fixture

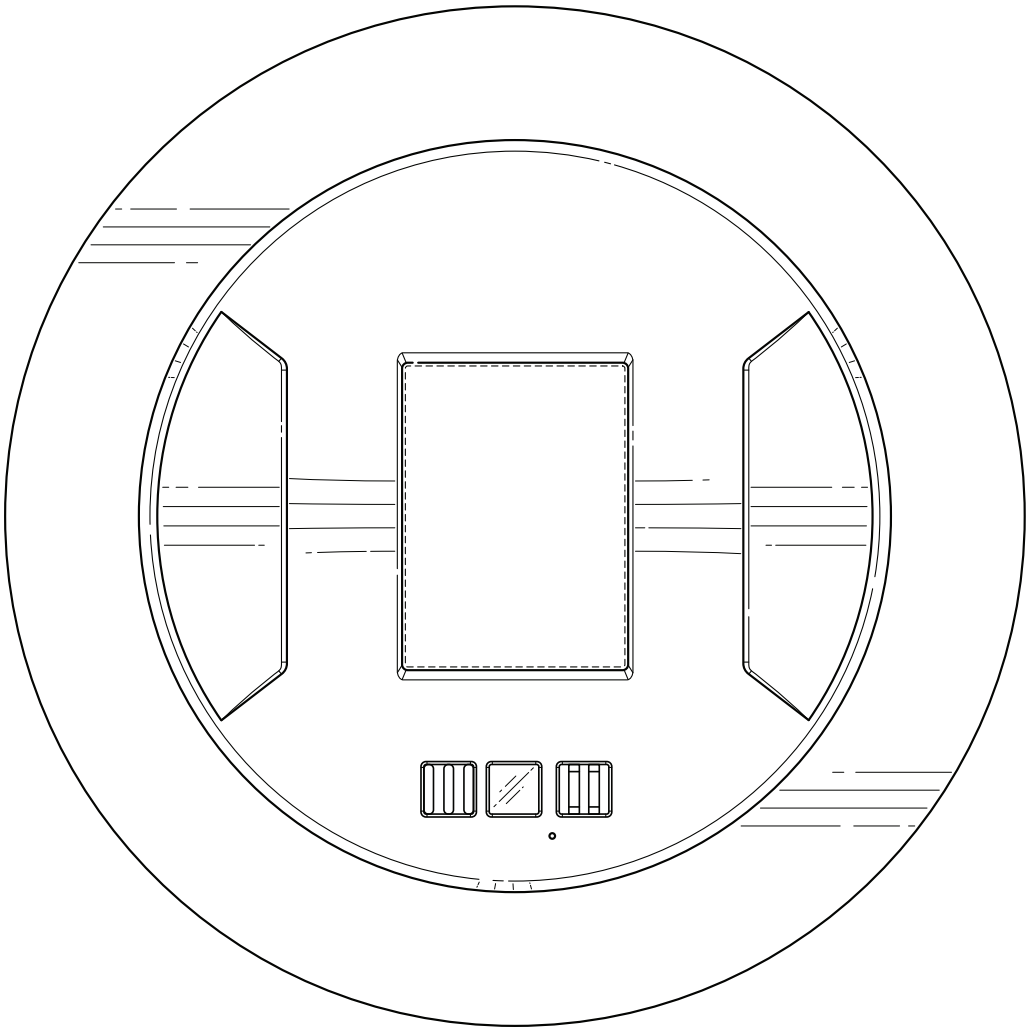


Instructions for Use

Read and retain this document for reference on Visium Far-UVC fixtures.

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Visium
Far-UVC Light Fixture



1: INTRODUCTION

About this manual

The purpose of this manual is to ensure the correct and safe operation and maintenance of Visium™ Far-UVC fixtures in commercial and healthcare indoor environments. Visium is a germicidal Far-UVC luminaire that utilizes Filtered Far-UVC (222nm) and is UL 8802 certified for safe and continuous operation in human-occupied environments when installed according to specifications.

Please read and retain this document which contains Instructions for Use (IFU) that include how to operate the fixtures, guidance for cleaning, how to replace the lamp module and other basic product information.

Visium is a patented device desigend and manufactured by Lit Thinking. For additional questions about Visium, including how to order new fixtures or replacement lamps, troubleshooting issues, comments or suggestions, please reach out to your authorized Visium distributor or contact us directly at litthinking.com or via email at customerservice@litthinking.com or (321) 299-0100.

Overview of Visium

Visium are ceiling-installed Far-UVC fixtures that are designed to provide continuous sanitization of air and surfaces in commercial indoor environments. The fixtures are equipped with Care222®, a krypton-chloride excimer lamp with a patented optical filter that selectively emits the 222nm wavelength to provide germicidal efficacy, while remaining safe for use in human-occupied environments. Visium is the first Far-UVC device in the U.S. to achieve UL 8802 certification as a germicidal ultraviolet device that is designated “Exempt” or Risk Group 0 and safe for continuous use when people are present.

Visium is a built-in, permanently installed environmental sanitization system that can supplement existing manual cleaning protocols and provide a consistent, passive and labor-free method of inactivating pathogens in the air and on surfaces.

Before installing Visium, it is highly recommended to request and use a Visium Blueprint analysis to identify the ideal number of fixtures and placement in each room or area to optimize performance. For more information or to request a custom Visium Blueprint analysis for your facility, contact your authorized Visium distributor or Lit Thinking.

Full details on Visium including Installation Guide, App/Dashboard Setup, Product Spec Sheet and Terms, Conditions & Warranty information are available on the Product Support page at LitThinking.com.

Overview of Far-UVC Technology

Visium is a Far-UVC device that specifically utilizes the 222nm wavelength of the germicidal UVC spectrum – which has been extensively researched and proven to be safe for use in indoor commercial and healthcare environments when people are present.¹

Far-UVC (222nm) is part of the germicidal ultraviolet spectrum which ranges from 100nm to 280nm. At 222nm, Far-UVC retains its germicidal efficacy, but its shorter wavelengths cannot penetrate human skin and eyes – making it highly beneficial for use in occupied environments. This is an important difference from traditional 254nm UVC which, while highly effective at inactivating pathogens, penetrates the skin and eyes much deeper than Far-UVC and requires strict precautions to prevent erythema (reddening of the skin) and photokeratitis (an eye condtion similar to a ‘sunburn’ of the cornea).

The commercial use of Far-UVC was enabled in 2012 when radiological physicist David Brenner, PhD and Columbia University pioneered an optical filtering technology to block harmful UVC wavelengths and only permit the peak 222nm wavelength to pass through.² Today, Visium utilizes this patented Filtered Far-UVC produced by Ushio’s Care222® excimer lamp, to deliver the benefit of continuous environmental sanitization to indoor environments.

¹ Blatchley, E. R., III, Brenner, D. J., Claus, H., Cowan, T. E., Linden, K. G., Liu, Y., ... Sliney, D. H. (2022). Far UV-C radiation: An emerging tool for pandemic control. *Critical Reviews in Environmental Science and Technology*, 53(6), 733–753. <https://doi.org/10.1080/10643389.2022.2084315>

² Ushio’s Care222® filtered Far UV-C technology (“Care222 Technology”) is protected under U.S. and non-U.S. patents covering apparatuses and methods for inactivating viruses or killing bacteria with combinations of a light source and an optical filter that block potentially harmful UV-C wavelengths. Inventions in these patents are credited to Dr. David Brenner, et al., and assigned to Columbia University. Ushio Inc. is the worldwide exclusive licensee of these patents.



2: INDICATIONS FOR USE

Intended Use

Visium is intended to provide continuous sanitization of air and surfaces in a commercial indoor environment when installed and operated according to the manufacturer instructions. Visium Far-UVC devices (using both Diffused and Clear Optics) can be operated continuously (24/7) without risk or limitations in commercial indoor environments when people are present. It is important to note that the use of Visium is not designed to replace regular manual cleaning protocols.

The UV technology in Visium products is an EPA pesticide device intended for bioburden reduction in the air and on surfaces. Visium efficacy is based on independent laboratory testing. Bioburden reduction is a function of various factors (including device run time, distance to the Far-UVC light, airflow, room size, and/or other factors) and the level of bioburden reduction can and will vary within a specific space.

Regulatory Compliance

Visium is certified to UL 8802 - Safety Standards for Ultraviolet Germicidal Products and is classified as Risk Exempt - Risk Group 0 under UL 8802 Photobiological test.

When installed per manufacturer recommendations, Visium complies with OSHA and the ACGIH Threshold Limit Values for UVC exposure. Visium fixtures with Diffused and Clear Optics are certified to meet California ozone emission limits. Visium fixtures with Diffused Optics are certified at zero ozone emissions. Visium is certified to FCC Part 15 Class A standards. Visium is manufactured in the USA at an EPA registered facility. For a detailed list of regulatory compliance and certifications, see section 11, Regulatory and Certifications on page 22.

Visium is not a medical device and is not intended to diagnose, treat, cure, mitigate or prevent disease, nor has it been evaluated or cleared by the FDA. All references to sanitization or sanitize are referring generally to bioburden reduction and are not intended to refer to any specific definition of the term as may be used for other purposes by the U.S. Food and Drug Administration or the U.S. Environmental Protection Agency.

Use Recommendations and Suitable Environments

- Visium is intended for use in any commercial indoor space with adequate ventilation (two or more air changes per hour)
- Visium is suitable for general use after professional electrician installation
 - Lamp replacement and maintenance can be completed by a facility maintenance person or electrician
 - Visium is not intended for use in a domicile
 - Visium is suitable for use in damp locations and the following conditions:
 - Temperature: 0-40°C (32 to 104°F)
 - Humidity: < 90% non-condensing

Claimed Performance

The claimed reduction of microorganisms is based on modified ASTM E1053 and ASTM E1153 surface cleaning protocols, as well as antimicrobial aerosol chamber tests informed by ASHRAE 241. The below independently collected data from an ISO 17025 accredited facility supports the claim bioburden reduction in the air and on non-medical surfaces.

Table 1. Reduction of specific microorganisms by the Visium Clear optics device.

Microorganism	Type	Exposure Time (min)	% Reduction (vs. Control)	Log Reduction (vs. Control)
Aerosol				
<i>Esherichia coli</i> , ATCC 8739	Bacteria	30	96	1.5
<i>Staphylococcus aureus</i> ATCC 6538	Bacteria	30	99.9	3
Surface				
<i>Acinetobacter baumannii</i> (MDR) ATCC 19606	Bacteria	40	99.99	4
<i>Clostridioides difficile</i> ATCC 43598	Bacteria	40	99	2
<i>Enterococcus faecalis</i> (Vancomycin-resistant) (VRE) ATCC 51575	Bacteria	40	99.6	2.5
<i>Staphylococcus aureus</i> (Methicillin-Resistant) (MRSA) ATCC 33591	Bacteria	40	99.6	2.5
<i>Streptococcus pyogenes</i> ATCC 19615	Bacteria	40	99	2
<i>Candida auris</i> CDC AR BANK 381	Fungi	40	99.9	3
Adenovirus ATCC VR-5	Virus	33	99.44	2.25
Human coronavirus 229E strain ATCC VR-740	Virus	10	99.9	3
Influenza A (H1N1) virus A/PR/8/34 strain ATCC VR-1469	Virus	5	98.22	1.75
Norovirus surrogate (Feline calicivirus ATCC VR-782)	Virus	5	82.22	0.75
Respiratory syncitial virus (RSV) ATCC VR-26	Virus	5	99.44	2.25

Table 2. Reduction of specific microorganisms by the Visium Diffused optics device.

Microorganism	Type	Exposure Time (min)	% Reduction (vs. Control)	Log Reduction (vs. Control)
Aerosol				
<i>Esherichia coli</i> , ATCC 8739	Bacteria	30	98.2	1.75
Surface				
<i>Acinetobacter baumannii</i> (MDR) ATCC 19606	Bacteria	252	99.999	5
<i>Clostridioides difficile</i> ATCC 43598	Bacteria	252	98.9	1.97
<i>Enterococcus faecalis</i> (Vancomycin-resistant) (VRE) ATCC 51575	Bacteria	252	98.2	1.75
<i>Staphylococcus aureus</i> (Methicillin-Resistant) (MRSA) ATCC 33591	Bacteria	252	99.9	3
<i>Streptococcus pyogenes</i> ATCC 19615	Bacteria	252	99.9	3
<i>Candida auris</i> CDC AR BANK 381	Fungi	252	99.8	2.75
Adenovirus ATCC VR-5	Virus	199	99.9	3
Human coronavirus 229E strain ATCC VR-740	Virus	33	99	2
Influenza A (H1N1) virus A/PR/8/34 strain ATCC VR-1469	Virus	33	99	2
Norovirus surrogate (Feline calicivirus ATCC VR-782)	Virus	33	98.2	1.75
Respiratory syncitial virus (RSV) ATCC VR-26	Virus	33	99	2

3: PRODUCT DESCRIPTION

Main Device Unit and Accessories

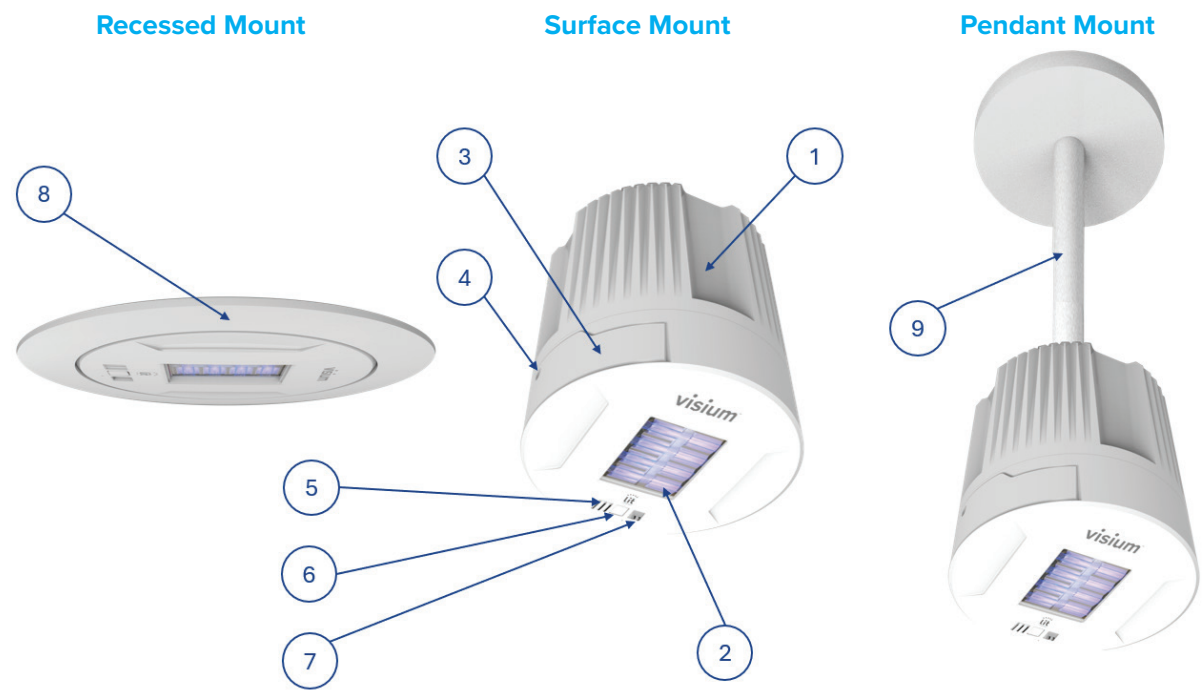
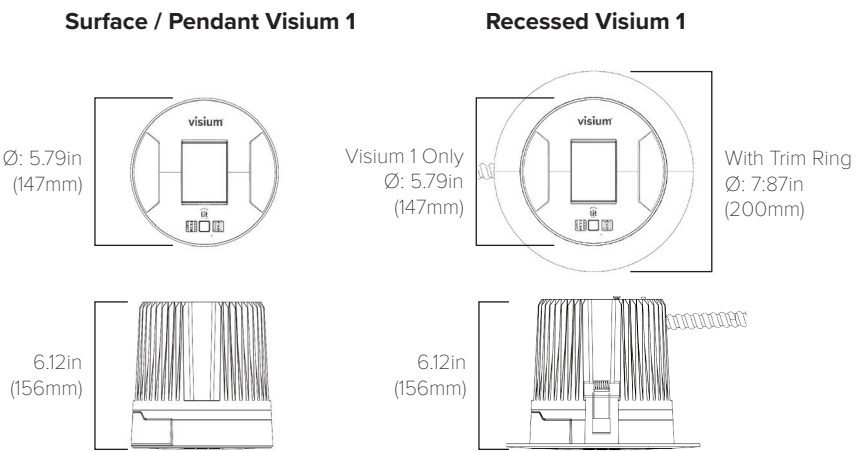


Figure 1 – Visium Feature Identification

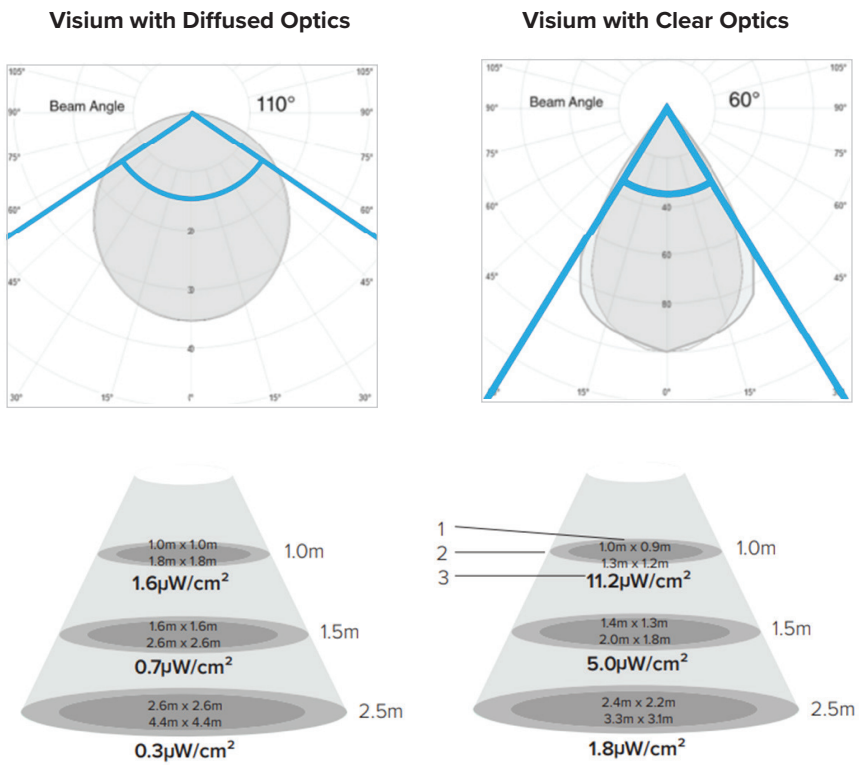
#	Feature Name	Feature Description
1	Visium Device	Visium, Surface/Pendant or Recessed configurations
2	Far-UVC Lamp	Far-UVC emitter, Clear (60°) or Diffused optics (110°)
3	Service Door	Removable door to service and replace Far-UVC lamp
4	Service Door Screw	Screw to secure service door, T8 or Phillips driver
5	LED Indicator Light	Multi-color LED to indicate lamp life and WiFi status
6	PIR Sensor	Passive Infrared Sensor, used to detect occupancy
7	IAQ Sensor	Air quality sensor
8	Recessed Trim Ring	Trim ring for recessed models only
9	Pendant Mount Kit	Pendant mount assembly for pendant models only

Dimensions



Optics

The Far-UVC lamp is available in two configurations: Clear Optics (60° beam angle) or Diffused Optics (110° beam angle). For compliance with UL safety standards, the Diffused Optics option requires a minimum mounting height of 7 ft 4 in (2.23 m), while the Clear Optics option requires a minimum mounting height of 9 ft 4 in (2.85 m).



1 = Area of >60% Peak Irradiance
2 = Area of >30% Peak Irradiance
3 = Peak Irradiance

* Irradiance and other technical information are for reference only and are subject to change. This is not a formal specification and does not indicate any warranted values. Please refer to the UVC lamp's formal specification sheet for complete details and specifications.



Technical Specifications

FAR-UVC LIGHT SOURCE	
Peak Wavelength	222nm
Lamp Type	Ushio Care222 KrCl Excimer Lamp Module
UVC Lifetime	> 10,000 Hours
Band-Pass Filter	Yes
UVC Irradiance (at 5cm away)	Diffused Optics: 0.55 ± 0.15 mw/cm2; Clear Optics: 2.5 ± 0.7 mw/cm2;
UVC Emission Angle	Diffused Optics: 110°; Clear Optics: 60°
Device Coverage	Up to 200 sq. ft.
Visible Light Lumen Output	Diffused Optics: 0.51 lumens; Clear Optics 1.35 lumens
ELECTRICAL	
Input Voltage / Frequency	120-277V, 50-60 Hz
Power Consumption	14W
Device Control	Standalone (dedicated ON/OFF switch) or Connected (WiFi)
Sensors	Motion, IAQ (via Bosch BME688 sensor)
MECHANICAL	
Housing	ABS/Polycarbonate Housing
Finish	Matte White Finish
Dimensions (ØD x H)	Ø5.79in x 6.12in (Ø147mm x 156mm)
Weight	2.4lb (1,089g)
Operating Temperature	0 to 40°C (32 to 104°F)
Installation	Ceiling Mounted Only – Surface / Recessed / Pendant (with optional kit)
Mounting Height	Diffused Optics: 7ft 4in Above Finished Floor (AFF), Clear Optics: 9ft 4in AFF
Device Spacing	Minimum of 48in on center spacing required between all devices
Serviceability	Yes, Far-UVC lamp is field replaceable
Indication	Multi-Color Configurable LED Indicator
WARRANTY & REGULATORY	
Warranty	1 Year Limited on Visium Device
Compliance	• Certified to UL 8802 - Standard for Ultraviolet (UV) Germicidal Equipment and Systems
	• Classified as Risk Exempt – Risk Group 0 under UL 8802 Photobiological Test
	• Certified to meet California ozone emissions limits – CARB Certified
	• Certified to UL 2998, classified as zero ozone emissions (Diffused Optic Models Only)
	• Certified to FCC Part 15 Class A standards (EMC Model Only)
	• Complies with ACGIH Threshold Limit Values (TLV) for UV exposure
Environment	• Visium is manufactured at an EPA registered facility
	Suitable for Damp Locations

4: SAFETY INFORMATION

4.1 Warnings & Precautions

NOTE: THE FOLLOWING GUIDELINES ARE GENERALIZED FOR ALL FORMS OF GERMICIDAL UV-C EQUIPMENT AND SOURCES. THE VISIUM FAR-UVC DEVICE IS CERTIFIED PER UL 8802 FOR SAFE USE IN OCCUPIED SPACES WHEN INSTALLED PER MANUFACTURERS GUIDELINES. PLEASE READ AND FOLLOW ALL SAFETY NOTES, WARNINGS, AND INSTRUCTIONS.

Risk of Exposure to Ultraviolet Radiation

Caution: This equipment is designed for use with germicidal UV radiation sources and must be installed in compliance with competent technical directions to prevent risk of personal injury from UV radiation.

Caution: UV radiation can pose a risk of personal injury. Overexposure can result in damage to eyes and bare skin. To reduce the risk of overexposure this equipment must be installed in accordance with the manufacturer’s site planning recommendations. This may include instructions on the relative location of each germicidal system component, the minimum distances between UV-generating devices and other objects or surfaces, and protection from line-of-sight exposure to UV radiation in occupied spaces located above the equipment mounting area (e.g. upper floor balconies, open staircases, etc.).

Caution: UV and optical radiation can be reflected by surrounding surfaces such as ceilings and walls. Since the reflective properties of surfaces can vary widely, it should be considered as part of site planning. Follow the manufacturer’s recommendations for selecting appropriate ceiling and wall finishes.

Caution: Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.

Caution: Maintenance and servicing of this UV generating equipment shall be performed by authorized personnel.

Caution: When replacing UV light source, replace them only with the UV light source for which the equipment is marked and intended.

Caution: The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.



Electrical Safety

WARNING: Risk of electric shock. Disconnect power at the fuse or circuit breaker before installing or servicing.

WARNING: Risk of fire or electric shock. This product installation requires knowledge of luminaire electrical systems. Installation should be performed only by a qualified electrician in accordance with the National Electrical Code and local building codes.

WARNING: Risk of fire or electric shock. The input voltage rating of this product is 120–277VAC. AC line voltage must meet the product input voltage rating before installation.

WARNING: Risk of fire or electric shock. ONLY install this product in ceilings that have the construction features and dimensions shown in the product documents and/or drawings.

WARNING: Risk of fire or electric shock. Do not make or alter any open holes in an enclosure of wiring or electrical components. Only those open holes indicated in the photographs and/or drawings may be used during installation.

WARNING: Risk of electric shock. To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects.

WARNING: Risk of electric shock. Do not use or proceed with installation when enclosure is broken.

Operating Environment Hazards

NOTE: Installation and servicing of this product should be performed only by a qualified service personnel.

WARNING: Risk of personal injury. Never touch or clean glass surface of Far-UVC Lamp when the device is energized. Always turn off power and allow device to cool for 15 minutes before touching, cleaning, or servicing Far-UVC lamp.

CAUTION: Risk of personal injury. This equipment is designed for use with germicidal lamps or UV sources and must be installed in compliance with competent technical directions to prevent the user’s eye and bare skin from overexposure to harmful UV or optical radiation.

NOTE: This equipment emits UV radiation at wavelengths less than 250 nm which can generate ozone. Take precautions to ensure that the concentration of ozone in the installation is limited to a value that is within applicable permissible exposure limits. Verify acceptable ozone concentrations in the installation taking into account the number of products in a given volume of space, the characteristics of the ventilation system, access, and other factors. Permissible exposure limits vary based on the place of ozone application, the length of exposure, and other factors and are publicly available.

CAUTION: Do not use abrasive materials, harsh cleaning agents, chemical cleaners, or other solvents on cover plate or lens. Use of these substances may cause the damage to the product. For general cleaning as needed, use compatible cleaning agent and soft, non-abrasive, antistatic microfiber cloth. To determine the use of specialized cleaning agents, please refer to the cleaning product’s material compatibility document and determine if it safe for use on Visium’s external components listed on page 20 of this manual.

NOTE: When replacing equipment, replace only with the lamps for which the equipment is marked and intended. USE ONLY Lit Part Number: LIT UVC222 Module B1.5 DO for Visium with Diffused Optics and LIT UVC222 Module B1 CO for Visium with Clear Optics.

NOTE: Avoid short-range exposure of wallpaper and polymer-based products to UV light. Materials like PVC based plastics, wallpaper, etc. within the area of irradiation may experience discoloration. Keep at least 3ft of distance between lamp emitting surface to any objects in the space.

NOTE: Do not install the device in areas prone to water splashes.

NOTE: Avoid exposing plants to UV light, as prolonged exposure may damage or kill them.

4.2 Precautions

Maintenance

When performing maintenance or installing the Visium Far-UVC device, the power to the device should be OFF. The device should not be opened when the power is ON. Ensuring the power is off to the device will safeguard against damage to the device and potential hazard to the user.

Safe Distances and Shielding

WARNING: For compliance with UL safety standards, do not install device below the minimum height specified in installation manual. Emitting surface of Visium with Diffused Optics is required to be at least 7ft 4in above finished floor (AFF). Emitting surface of Visium with Clear Optics is required to be at least 9ft 4in above finished floor.

WARNING: When installing multiple devices, the devices must be installed with a minimum of 48in on center spacing.

NOTE: The equipment is an EPA regulated pesticide device intended to reduce bioburden in air and on surfaces. Bioburden reduction is a function various factors (including device run time, distance to the Far-UVC light, airflow, room size, and/or other factors) and the level of reduction can and will vary within a specific space.



Potential Interference with Other Equipment

For Visium EMC Models Only: This equipment has been UL tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

4.3 Contraindications

Caution: Do not install this equipment in a dwelling.

Caution: Do not install device with a ceiling height less than the manufacturer’s requirements.

Caution: Ceiling mounting only. Do not install on walls or point device horizontally.

Caution: Do not use this equipment for other than intended use.

Caution: Do not use this equipment if the fixture or Far-UVC lamp is damaged.

5: PREPARATION FOR USE

5.1 Visium Device Packaging

Unboxing and Inspection

Preinstallation Notes:

- Wear protective gloves when handling the lamp module.
- All electrical connections must be in accordance with local electrical codes, ordinances, or comply with the National Electrical Code (NEC).
- Make sure POWER is turned off at the main circuit breaker box to the location that you are installing the device.
- Refer to the proper section of the guide that corresponds to the mounting option.
- Consult with Lit Thinking Customer Service with any questions.
- Refer to device mounting guideline diagram to ensure proper safety and regulatory compliance.
- Installation of Visium Far-UVC device is a way to enhance air safety in well-ventilated spaces. It is not intended to be a replacement for number of air changes per hour (ACH), proper air ventilation, or proper air flow.
- Installers should note and record each device’s serial number and its corresponding location prior to installation.

It is recommended, when practical, to unbox the device in the room where it will be installed, close to the final installation location on the ceiling. Carefully open the packaging to avoid damaging the contents. Retain all packaging materials until the inspection is complete.

Look for signs of damage, defects, or tampering. Verify labels and markings for accuracy. Dispose of packaging materials responsibly.

Packaging Content

- Visium Device (Recessed configurations include a Flexible conduit)
- Visium Installation Manual
- Recessed Trim Ring (Recessed Model Only)
- Surface Mount Bracket (Surface Mount Only)
- FCC kit Components (EMC Models Only)
- Pendant Mount Kit and Bracket (Pendant Mount Models Only)

5.2 Device Placement and Positioning

Power Requirements and Connections

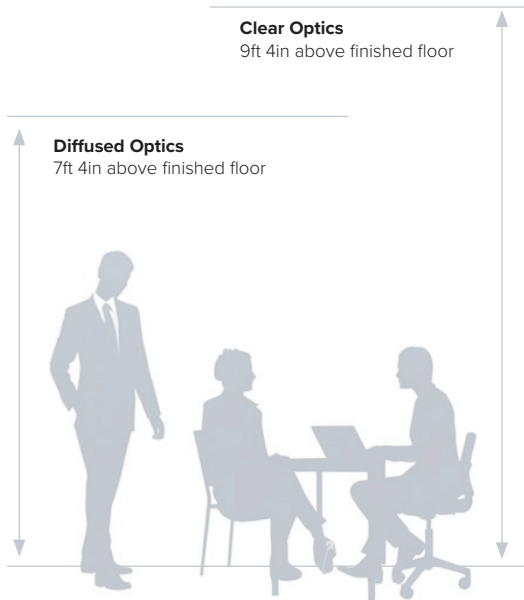
A 120-277V, 50-60hz dedicated circuit with a dedicated switch is recommended to manually turn the Visium fixtures on/off or to power cycle the fixtures. The power consumption of each device is 14W. Always verify circuit amperage capacity on the main panel. Follow the Visium installation instructions and follow local construction and electrical codes and NEC regulations for proper electrical installation.

Recommended Room Layout & Placement

To ensure compliance with regulatory and UVC exposure Threshold Limit Values (TLV) set forth by the American Conference of Governmental Industrial Hygienists (ACGIH) and recommended by OSHA, do not install below the minimum height specified in these installation instructions.

Visium with Diffused Optics Mounting Height: Emitting surface must always be installed at least 7ft 4in above finished floor. Device Spacing: When installing multiple devices, they must be installed with a minimum of 48in on center spacing.

Visium with Clear Optics Mounting Height: Emitting surface must always be installed at least 9ft 4in above finished floor. Device Spacing: When installing multiple devices, they must be installed with a minimum of 48in on center spacing.



Follow the **Visium Blueprint** provided by Lit Thinking sales representative to maximize the air sanitization effect. Please properly plan the placement of your Visium before drilling or cutting any holes in the ceiling. Installation should be performed by a licensed electrician.

5.3 Installation

Fixture Installation

For details on how to install Visium, please download the latest version of the Visium Installation Guide available online at [LitThinking.com](https://litthinking.com) in the Product Support section.

5.4 How to Operate

Visium is installed like any standard ceiling light fixture and connected to a 120-277V power source. Once installed, the fixtures can be operated by a dedicated ON/OFF switch like traditional lights, described below as Standalone Operation.

If wireless controls are preferred, a facility can operate Visium fixtures with Connected Operation via the Lit Thinking Dashboard.

5.4.1 Standalone Operation

- Fixtures will operate as long as the switch is ON and the device has power.
- LED indicator will show the fixture's operational status and change color to indicate lamp life status.
- No Wi-Fi is required for Standalone Operation.

5.4.2 Connected Operation

Setup is required for each Visium fixture, described below:

- 1. Create Organizational Account:** Contact a Lit Thinking representative directly or by emailing customerservice@litthinking.com to create an account and receive a username and password.
- 2. Download the App:** Install the Lit Thinking Connect mobile app (available on iOS and Android).
- 3. Commission Over Bluetooth:** Use the app to commission the fixture to your local Wi-Fi network.
- 4. Access the Dashboard:** Log in to the Lit Thinking Dashboard from any computer or mobile browser to manage your device(s).

Additional Resources

For more detailed instructions on commissioning and dashboard features, visit: [Lit Thinking Visium Product Support](https://litthinking.com) and download the "App / Dashboard Setup" document.

6: OPERATING INSTRUCTIONS

6.1 Device Control

As described in Section 5.4, Visium can be operated in Standalone on a dedicated switch (on/off) or Connected via Wi-Fi to control the fixtures wirelessly by the Lit Thinking Dashboard.

In **Standalone operation**, the fixtures are controlled by a dedicated on/off switch. No further action is required.

In **Connected operation**, Visium can be controlled remotely once each fixture is commissioned via Wi-Fi and mapped to a room. With the Connected operation enabled, users with permission to access to the Lit Thinking Dashboard can choose from three operation modes: Continuous (24/7); Schedule (e.g. M-F, 6 am – 6 pm) or Occupancy (ON when motion is detected). The dashboard also provides information on Lamp Life status and IAQ metrics.

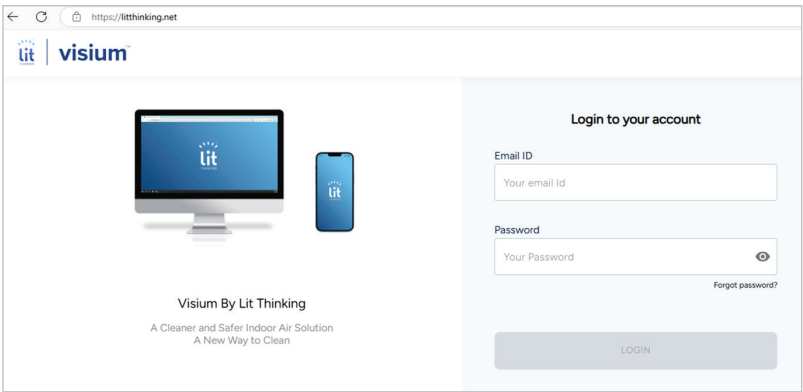


Figure – Screenshot of Lit Thinking Dashboard showing Login Screen

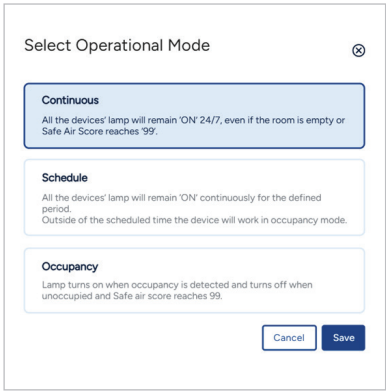
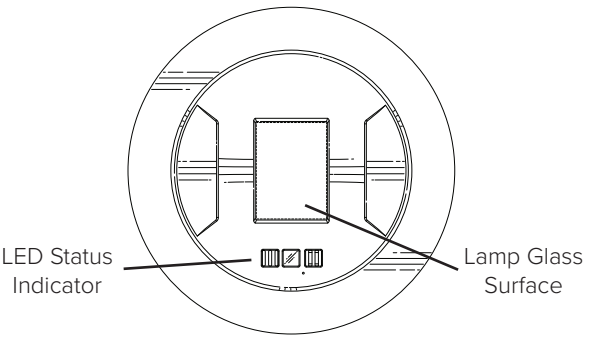


Figure – Screenshot of Lit Thinking Dashboard showing Operating Modes

6.2 LED Indicator Light

The multi-color LED provides a visual indication of the device’s operational status based on the control mode of either Standalone or Connected.



Indicator Color / Status for Standalone Mode

LED Color	Device Status
○ Solid White	Operating in Continuous mode, device in access point mode
● Solid Yellow	Far-UVC lamp life less than 10%
● Solid Red	Far-UVC lamp at end of life
Off	No power to Device

Note: A device in Standalone Mode can be changed to Connected Mode at any time.

Indicator Color / Status for Connected (Wi-Fi) Mode

LED Color	Device Status
○ Solid White	Operating in Continuous mode, device in access point mode
● Solid Green	Device online and operating normally
● Solid Blue	Device is commissioned yet device is not connected to WiFi router
● Solid Yellow	Far-UVC lamp life less than 10%, overrides White/Green/Blue
● Solid Red	Far-UVC lamp at end of life, overrides White/Green/Blue
● Flashing Light Blue	Firmware update in process
Off	No power to Device

Upon successful completion of the commissioning process, the device's LED status indicator shall display a solid green light. See Troubleshooting section if the LED is not solid green.



7: CLEANING, REPLACEMENT & MAINTENANCE

7.1 Routine Cleaning of External Surfaces

Routine cleaning is recommended to maintain optimal performance. Accumulation of dust or other organic contaminants on the front glass of the Far-UVC lamp may impact overall performance of Visium. If the glass of the device appears to be dirty, turn off device and wait 15 minutes to cool before cleaning. Use a material compatible cleaning agent and a soft non-abrasive anti-static microfiber cloth to gently wipe down the glass and polymer surfaces. Do not spray water or other liquids directly on the lamp emitting surface.

7.2 Material Compatibility with Cleaning Agents

To determine if a cleaning agent or chemistry is compatible with Visium, please check the cleaning product’s Material Compatibility documentation for use recommendations with the exterior components listed below.

Exterior Mechanical Part	Material
Polymer Housing Parts	ABS/Polycarbonate Blend
Clear Optics Lamp	Quartz Glass
Diffuse Optics Lamp	Quartz Glass w/ FEP (Fluorinated ethylene propylene) film

NOTE: Do not touch the lamp module during operation.

7.3 Inspection and Replacement of Components

This device has serviceable components. Please follow all the instructions and safety precautions to replace the components.

Far-UVC Lamp Replacement

The integral Far-UVC lamp of the Visium has an operating life of up to 10,000 hours and it is serviceable and field replaceable. Please refer the “Service and Maintenance” section of the installation manual for a full set of instructions to replace the Far-UVC lamp. When the LED status indicator of the device turns solid yellow [●], it indicates the Far-UVC lamp is near the end of its life and will require replacement soon. When the LED status light turns solid red [●], it indicates the Far-UVC lamp is at the end of its life and the lamp must be replaced to resume proper operations.

7.4 Maintenance Schedule

Lamp replacement and maintenance is highly dependent on the use and operational mode chosen. For example, if the operational mode is set to Continuous Mode for an uninterrupted operation, lamp replacement will be take place every ~13.6 months. If operational mode is set to Schedule Mode operating 5 days a week from 9am to 5pm, lamp replacement will take place every ~41.1 months.

8: TROUBLESHOOTING

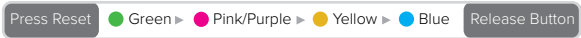
If you encounter any issues when using the device post-installation, refer to the table below.

Failure Mode	Cause	Solution
Device is unresponsive	Unexpected error or failure	Power cycle device. Turn off, wait 10s, then turn on power. If device is still unresponsive, perform a factory reset
The LED Indicator is OFF	There is no power to the device	Verify power is properly supplied to the device
The LED Indicator is ‘Solid Blue’	Wifi is not connected or network configurations may have changed	Visium device is in discovery state. Verify WiFi connection is available and confirm Wifi SSID/password. Open Lit Thinking Connect App to reconnect device to WiFi.
The LED Indicator is ‘Solid Yellow’	Far-UVC lamp life less than 10%	Refer to the Visium installation guide for detail instructions on how to replace the Far-UVC lamp
The LED Indicator is ‘Solid Red’	Far-UVC lamp at end of life	Refer to the Visium installation guide for detail instructions on how to replace the Far-UVC lamp

If the issue persists, disconnect the power supply and contact the manufacturer.

8.1 Factory Reset

To perform a factory reset, insert a paper clip to depress and hold the reset button on the device for about 10 seconds. LED will change from Green, Pink/Purple, Yellow, and Blue. Once LED is Blue, release the reset button.



Upon completion of factory reset, LED will then change to White (○) and is now ready for commissioning.

9: STORAGE & TRANSPORT

Keep Visium device and accessories in original packaging for transportation or long term storage.

10: DISPOSAL

Dispose of this the Visium fixture in accordance with local regulations for plastic and electronic waste. Excimer lamps do not contain hazardous materials and can be recycled by standard electronics recyclers. For proper recycling, consult your municipal waste authority or a certified recycling facility.



11: REGULATORY & COMPLIANCE INFORMATION

EPA Device

The Visium Far-UVC device is an EPA Pesticide device assembled in an EPA Registered Facility in West Melbourne, Florida. Visium reduces microbial burden in indoor environments as outlined in the Indications for Use. Visium is not a replacement for proper Personal Protective Equipment or regular manual cleanings. Visium is not intended to diagnose, treat, cure, mitigate or prevent disease.

EPA Facility Number: 102552-FL-1

Contact Lit Thinking for more info: 321-299-0100 or CustomerService@LitThinking.com.

UL/IEC Standards Compliance

Visium has been rigorously tested and Certified by Underwriters Laboratories (UL) to UL 8802 - Ultraviolet (UV) Germicidal Equipment and Systems for the US and Canada (cUL). Certification for UL 8802 includes testing for electronics safety, fire safety, UV exposure safety, and installation safety. As part of UL 8802, Visium was tested for compliance with the American Conference of Governmental Industrial Hygienists (ACGIH) threshold limit values for UVC exposure, classified as UV Risk Group Exempt, and certified for continuous use in occupied spaces.

Safety Standard: UL 8802 -Standard for Ultraviolet (UV) Germicidal Equipment and Systems, Edition 5
File Number: E535942
Category: IFHD - Ultraviolet Germicidal Irradiation Equipment and Similar Devices
Category: IFHD7 - Ultraviolet Germicidal Irradiation Equipment and Similar Devices Certified for Canada

Other Environmental Compliance

- Visium Clear and Visium Diffused optics have completed UL 867 Section 40 ozone emissions testing has demonstrated ozone within acceptable limits.
- Visium Clear and Visium Diffused optics are CARB certified for ozone below California emission limits. (EO Number: G-24-056)
- Visium Diffused optics has been UL Environmental Claim Validated (ECV) for ozone production below 0.005ppm based on UL 2998 ozone testing.
- Visium EMC model has been UL tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules.

12: WARRANTY & SERVICE

Warranty

1-year limited warranty on Visium device / 1-year limited warranty on Far-UVC Lamp and lamp electronics.

Service / Replacement Parts

Ushio recommends replacing the Far-UVC lamp every 10,000 hours of use.

Part Number	Description
LIT UVC222 Module B1.5 DO	Visium Diffused Replacement Lamp
LIT UVC222 Module B1.0 CO	Visium Clear Replacement Lamp

Replacement lamps can be ordered at <https://visiumshop.com>, contacting a Lit Thinking representative directly or by emailing sales@litthinking.com.

13: CONTACT INFORMATION

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REVISIONS

Revision	Date	Description
A	1/23/2025	New Release



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