

**DIGITAL NAVIGATION**

[Ordering Tree](#) [nLight Platform](#)

**FEATURES & SPECIFICATIONS**

**INTENDED USE** — BLT with Care222® technology combines the best-selling Lithonia Lighting® BLT Troffer and Care222 far-UVC disinfection\* technology with a patented filter for narrow band 222nm emission. Care222 technology targets the air and surfaces for pathogen control<sup>1</sup>. Care222 technology operates continually and meets exposure guidelines for occupied space established by the American Conference of Governmental Industrial Hygienists (ACGIH)<sup>2</sup>. The BLT with Care222 technology features a popular center basket design that offers a clean, versatile style and volumetric light distribution. The troffer's high efficacy LED light engines deliver energy savings and low maintenance compared to traditional sources. An extensive selection of configurations and options make the BLT with Care222 technology the perfect choice for many lighting applications including healthcare facilities, offices, conference rooms, educational facilities, and other public spaces.

**CONSTRUCTION** — BLT with Care222 fixture components are **painted after fabrication**. BLT components are coated with a proprietary paint blend and die-formed for dimensional consistency.

End plates contain easy-to-position integral T-bar clips for securely attaching the luminaire to the T-grid. For additional T-grid security, optional screw on T-bar clips are available.

Diffusers are extruded from **impact modified acrylic** for increased durability.

LED Drivers are accessible from the plenum.

**PCBAs and UV components are accessible from the room side.** The **status indicator LED is visible from room.** UV module designed for easy replacement.

**OPTICS** — Volumetric illumination is achieved by creating an optimal mix of light to walls, partitions and vertical and horizontal work surfaces — rendering the interior space, objects and occupants in a more balanced, complimentary luminous environment. High performance extruded acrylic diffusers conceal LEDs and efficiently deliver light in a volumetric distribution.

**ELECTRICAL** — Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and quality of illumination for extended service life. 80% LED lumen maintenance at 60,000 hours (L80/60,000) based on IESNA LM-80-08 LED extrapolated life, calculated per IESNA TM-21-21. Color Variation within **3-step MacAdam ellipse (3SDCM)**.

eldoLED driver delivers dimming to 1%, and choices for control, while providing low-current inrush, 89% efficiency and low EMI.

**CARE222 MODULE** — Care222 mercury-free far-UVC excimer lamp emits a soft violet glow from 1.75" x 2.38 [44.5mm x 60.3mm] opening when powered.

The BLT with Care222 emits a wavelength range of 200nm ~ 230nm with Peak Wavelength at 222nm far-UVC. Patented **short pass filter for narrow band 222nm emission** that removes longer wavelengths that can penetrate the living tissue in skin or beyond the top layer of the cornea in the eyes. Enables operation that **meets ACGIH® guidelines for occupied space**<sup>2</sup>.

Single circuit; not intended for use with wall switches. Connect to an unswitched circuit intended for 24/7/365 continuous operation.

**Requires no external controls or startup commissioning**

UV lamp module will operate on 12-minute cycles for a duration of between 10 and 50 seconds each cycle. The duration will depend on the specific dose chosen to meet the application design requirements.

UV Lamp rated for 3000 hours (approximately 5 years of life based on activated hours)<sup>3</sup>.

**LIGHTING CONTROLS** — Optional integrated nLight® controls make the visible light portion of each luminaire addressable — allowing them to digitally communicate with other nLight enabled controls such as dimmers, switches, occupancy sensors and photocontrols. Connection to nLight is simple. It can be accomplished with integrated nLight AIR wireless rIO and rES7 sensors, or through standard Cat-5 cabling. nLight offers unique plug-and-play convenience as devices and luminaires automatically discover each other and self-commission. nLight AIR is commissioned easily through an intuitive mobile app.

**Integrated Sensor (nLight Wired Networking):** The integrated sensor is nLight-enabled, meaning it has the ability to communicate over an nLight network. When wired, using CAT-5 cabling, with other nLight-enabled sensors, power packs, or wallPods, an nLight control zone is created. Once linked to a Gateway, directly or via a Bridge, the zone becomes capable of remote status monitoring and control via SensorView™ software. See page 5 for the nLight sensor options.

**Integrated Smart Sensor (nLight AIR Wireless Platform):** The RES7 sensor is nLight AIR enabled, meaning it has the ability to communicate over the wireless nLight control platform. It is available with an automatic dimming photocell, and either a digital PIR or a microphonics (PDT) dual technology occupancy sensor. It pairs to other luminaires and wall switches through our mobile app, CLAIRITY+, which allows for simple sensor adjustment. See page 5 for more details on the Integrated Smart Sensor.

**INSTALLATION** — The 4" low profile of the BLT provides increased installation flexibility. The BLT fits into standard 15/16" and narrow 9/16" T-grid ceiling systems. Available in single and dual module configuration for ceiling heights from 9' to 12.5'. For recessed mounting in hard ceiling applications, Drywall Grid Adapters (DGA) are available as an accessory. See Accessories section.

**LISTINGS** — **UL certified to meet US standards for LED luminaires and germicidal equipment for use in occupied spaces. IC rated.** Suitable for ambient temperatures from 32°F (0°C) to 77°F (25°C). Tested in accordance with ISO 14644-1; suitable for ISO Class 5-9 positive and negative pressure clean rooms.

**Damp location listed.**

EPA Establishment Number: 97727-MEX-2.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at [www.designlights.org/QPL](http://www.designlights.org/QPL) to confirm which versions are qualified.

**PRECAUTIONARY STATEMENTS** —

- Emitters used in this fixture are in the EXEMPT RISK GROUP for photobiological risk, as described in IEC 62471, when correctly commissioned and properly installed in accordance with written instructions. See [Installation Instructions](#) for proper usage guidelines and warnings regarding risks resulting from misuse.
- See below for information about potential limited photodegradation of materials.
- This fixture may generate ozone. Each emitter in the fixture has an ozone emission maximum concentration of 0.001 ppm over an 8-hour period, as tested in accordance with UL 867. Precautions that can be taken, if needed, to ensure that ozone concentration stays within applicable permissible exposure limits are described in the [Installation Instructions](#).

**WARRANTY** — 5-year limited fixture warranty excluding incorporated consumable UV-based devices which carry a 2-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at [www.acuitybrands.com/support/warranty/terms-and-conditions](http://www.acuitybrands.com/support/warranty/terms-and-conditions)

**NOTE:** Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions. LED values measured at 25 °C. Specifications subject to change without notice.

**SALES LIMITATIONS** — **For sale only in the United States of America and Mexico.** Dual module configurations do not meet California air cleaner regulation requirements; dual module configurations cannot be shipped to California.

Catalog Number
Notes
Type

BLT Series with Care222

# 2BLT2/2BLT4

2' x 2' and 2' x 4'  
LED



eldoLED

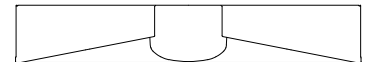


\*All references to "disinfection" are referring generally to the reduction of bioburden and are not intended to refer to any specific definition of the term as may be used for other purposes by the U.S. Food and Drug Administration or the U.S. Environmental Protection Agency. Reference page 2 of this document for full disclaimer.

1. Reference page 9-23 of this document under Projected Virus Inactivation and Projected Bacteria Inactivation
2. ACGIH® 2021 TLVs® and BEIs® - Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices ; when installed and used in accordance with written instructions.
3. Average rated life based on industry standard measurements and not a performance claim specific to any individual product.

*Specifications*

2x2	2x4
Length: 23-3/4 (60.3)	Length: 47-3/4 (121.2)
Width: 23-3/4 (60.3)	Width: 23-3/4 (60.3)
Depth: 4 (10.2)	Depth: 4 (10.2)



All dimensions are inches (centimeters) unless otherwise specified.

**Embed nLight controls today. Prepare for tomorrow.**

<p><b>Now</b></p> <ul style="list-style-type: none"> <li> User-friendly install</li> <li> Enhanced energy savings</li> <li> Code compliance</li> </ul>	<p><b>Tomorrow</b></p> <ul style="list-style-type: none"> <li> Scalability</li> <li> Space configuration</li> <li> Future-ready</li> </ul>
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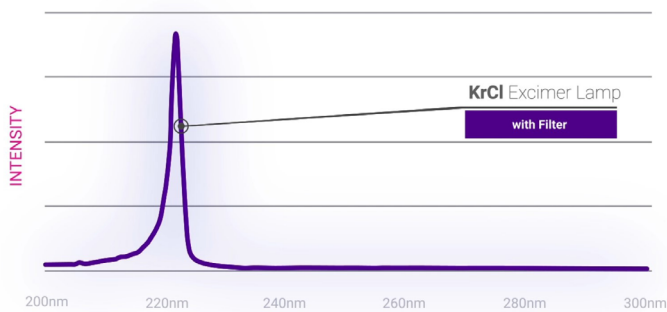
## A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® control networks when ordered with drivers marked by a shaded background\*
- This luminaire is part of an A+ Certified solution for nLight control networks, providing advanced control functionality at the luminaire level, when selection includes driver and control options marked by a shaded background\*

To learn more about A+, visit [www.acuitybrands.com/aplus](http://www.acuitybrands.com/aplus)

\*See ordering tree for details

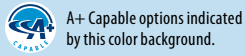


Care222® delivers a narrow band of 222nm UV, at energy levels that do not penetrate living tissue in skin or beyond the top layer of the cornea in the eyes.

### Disclaimer

\*All references to "disinfection" 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. Bioburden reduction is a function of fixture run time and the distance to the UV light source, airflow, room size, shadow areas and/or other factors, and the level of reduction will vary within a specific space. These fixtures are not intended for use in the cure, mitigation or prevention of disease and are not certified or approved for use as or for the disinfection of medical devices by the FDA. It is the obligation of the end-user to consult with appropriately qualified Professional Engineer(s), a Certified Infection Control professional and a Certified Industrial Hygienist, as applicable, to determine whether these fixtures meet the applicable requirements for system performance, code compliance, safety (including safety and hazard alerting signs), suitability and effectiveness for use in a particular application design.

# 2BLT Volumetric Recessed Lighting 2' x 2' and 2' x 4' with Care222 Technology



## ORDERING INFORMATION

Lead times will vary depending on options selected. Consult with your sales representative.

**Example:** 2BLT2 1UV222 D120 40L ADSMT EZ1 LP835 NLTAIR2 RES7

Series	Wavelength	Programming	Lumens ‡	Diffuser	Voltage	Driver
2BLT2	1UV222 Single 222nm Module	D108 Dose Level for 108 inch (min) to 113.9 inch (max) Height from Floor to Module Face	20L 2000 Lumens ‡ 33L 3300 Lumens ‡ 40L 4000 Lumens	ADSMT Curved, Smooth with trim rings	(blank) MVOLT	EZ1 eldoLED dims to 1% (0-10 volt dimming)
2BLT4 ‡	2UV222 Two 222nm Modules ‡	D114 Dose Level for 114 inch (min) to 119.9 inch (max) Height from Floor to Module Face D120 Dose Level for 120 inch (min) to 125.9 inch (max) Height from Floor to Module Face D126 Dose Level for 126 inch (min) to 131.9 inch (max) Height from Floor to Module Face D132 Dose Level for 132 inch (min) to 137.9 inch (max) Height from Floor to Module Face D138 Dose Level for 138 inch (min) to 143.9 inch (max) Height from Floor to Module Face D144 Dose Level for 144 inch (min) to 149.9 inch (max) Height from Floor to Module Face D150 Dose Level for 150 inch (min) or Greater Height from Floor to Module Face	30L 3000 Lumens ‡ 40L 4000 Lumens 48L 4800 Lumens ‡ 60L 6000 Lumens ‡			

Color Temperature	nLight Interface	Visible Light Control ‡	Options
LP830 82CRI, 3000 K LP835 82CRI, 3500 K LP840 82CRI, 4000 K LP850 82CRI, 5000 K	<b>nLight Wired</b> (blank) no nLight® interface N100 nLight without lumen management N100EMG nLight without lumen management For use with generator supply EM power ‡  <b>nLight Wireless</b> (blank) no nLight interface NLTAIR2 nLight AIR Generation 2 enabled ‡	<b>nLight Wired</b> (blank) No sensor control NES7 nLight nES 7 PIR integral occupancy sensor ‡ NESPDT7 nLight nES PDT 7 dual technology integral occupancy control ‡ NES7ADCX nLight nES 7 ADCX PIR integral occupancy sensor with automatic dimming photocell ‡ NESPDT7ADCX nLight nES PDT 7 dual technology integral occupancy sensor with automatic dimming photocell ‡  <b>nLight Wireless</b> RES7 nLight AIR PIR integral occupancy sensor with automatic dimming photocell for Networking Capabilities RES7PDT nLight AIR microphonics dual technology occupancy sensor with automatic dimming photocell RIO nLight AIR radio module without sensor RES7EM nLight AIR PIR integral occupancy sensor with automatic dimming photocell and UL924 Emergency Operation, via power interrupt detection ‡ RES7PDTEM nLight AIR microphonics dual technology occupancy sensor with automatic dimming photocell and UL924 Emergency Operation, via power interrupt detection ‡ RIOEM nLight AIR radio module less sensor, with UL924 Emergency Operation, via power interrupt detection ‡	E10WCP EM battery pack, 10W Constant Power, Certified in CA Title 20 MAEDBS ‡  CP Chicago plenum ‡

NOTE: ‡ indicates option value has ordering restrictions. Please reference the Option Value Ordering Restrictions chart on the next page. Options are sorted alphanumerically.

# 2BLT Volumetric Recessed Lighting 2' x 2' and 2' x 4' with Care222 Technology

‡ Option Value Ordering Restrictions	
Option value	Restriction
CP	Not available with N100, or N100EMG or any nES7 variation, or any PWS variation.
E10WCP	Emergency battery only powers visible light.
20L, 33L	Not available with 2BLT4.
2BLT4	Not available with D150.
30L, 48L, 60L	Not available with 2BLT2.
NES7, NESPDT7, NES7ADCX, NESPDT7ADCX	Requires N100, or N100EMG.
NLTAIR2	Must order with nLight Wireless option from Control section.
N100EMG	nLight EMG option requires a connection to existing nLight network. Power is provided from a separate N100 enabled fixture.
RES7EM, RES7PDTEM, RIOEM	See UL924 Sequence of Operation chart on page 4.
2BLT2 2UV222	Not available with D108.
All variations of rES7 & nES7	Not available with 2UV222.

## Diffuser



**ADSM**  
Curved Smooth

### UL924 Sequence of Operation

The below information applies to all nLight AIR devices with an EM option.

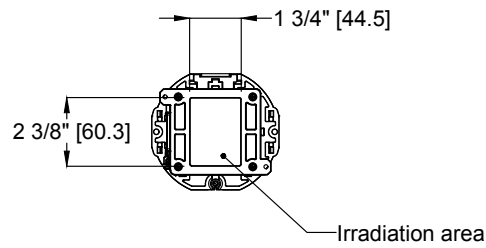
- EM devices will remain at their high-end trim and ignore wireless lighting control commands, unless a normal-power-sensed (NPS) broadcast is received at least every 8 seconds.
- Using the CLAIRITY+ mobile app, EM devices must be associated with a group that includes a normal power sensing device to receive NPS broadcasts.
- Only non-emergency rPP20, rLSXR, rSBOR, rSDGR, and nLight AIR luminaires with version 3.4 or later firmware can provide normal power sensing for EM devices. See specification sheets for control devices and luminaires for more information on options that support normal power sensing.

## Accessories & Replacement Parts

Accessories: Order as separate catalog number.	
DGA22	Drywall grid adapter for 2x2 recessed fixture
DGA24	Drywall grid adapter for 2x4 recessed fixture
2X2SMKSH PAF	Surface mount troffer kit for 2x2 Luminaire, Post Painted
2x4 SMKSH PAF	Surface mount troffer kit for 2x4 Luminaire, Post Painted
RK8BDP 2P U	Disconnect Plug (BDP), 2 Pole, Package of 1
RK8BDP 3P U	Disconnect Plug (BDP), 3 Pole, Package of 1
RK8BDP 2P J10	Disconnect Plug (BDP), 2 Pole, Package of 10
RK8BDP 2P J40	Disconnect Plug (BDP), 2 Pole, Package of 40

# 2BLT Volumetric Recessed Lighting 2' x 2' and 2' x 4' with Care222 Technology

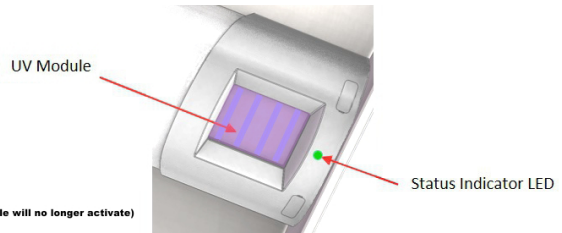
## Dimensions (Care222 Module without Trim plates)



## Embedded Status Indicator LED

### Status Indicator LED States

- Normal operation
- Approximately 6 months left in lamp life
- Cycle power to clear error
- Replace lamp module immediately (module will no longer activate)



## nLight Platform (Visible Light Control)

nLight embedded fixtures offer:	Customers get:
Manual Dimming	Convenience and visual comfort for occupants
Motion Sensing and/or Daylight Harvesting	Energy savings and code compliance
Fixture or Group Level Control	Ability to configure lighting to the space requirements
Flexibility	Ease of fixture moves, adds and changes
Wireless Wall Switch (nLight AIR Only)	Ease and flexibility of placement
Astronomical and Time of Day Scheduling	Energy savings and building security
Scalable Solution	nLight controls to grow with your business
Future-Ready	nLight platform to set foundation for future upgrades and capabilities

## nLight Air Wireless



### Simple as 1,2,3

1. Install the nLight® AIR fixtures with embedded smart sensor.
2. Install the wireless battery-powered wall switch.
3. With CLAIRITY+ app, pair the fixtures with the wall switch and if desired, customize the sensor settings for the desired outcome.



## nLight Wired Networking



### Simple as 1,2,3

1. Install the nLight® Wired fixtures with embedded control.
2. Install the nLight Wired wall switch.
3. Connect the fixtures using standard CAT5e cables and the devices will automatically discover each other and work (plug and play).

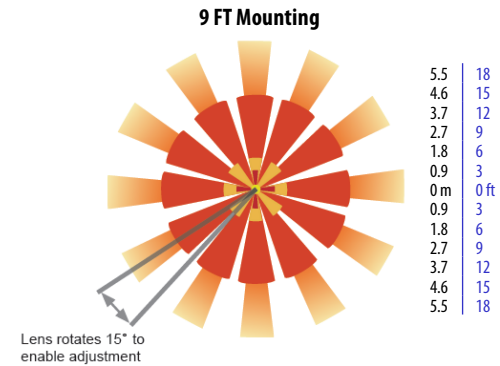


# 2BLT Volumetric Recessed Lighting 2' x 2' and 2' x 4' with Care222 Technology

Sensor Options					
Option	Automatic Dimming Photocell	Occupancy Sensing		nLight Wired Networking	nLight AIR Networking
		PIR	PDT		
NES7		X		X	
NES7ADCX	X	X		X	
NESPDT7			X	X	
NESPDT7ADCX	X		X	X	
RES7	X	X			X
RESPDT7	X	X	X		X

## Sensor Coverage Pattern Mini 360° Lens

- Recommended for walking motion detection from mounting heights between 8 ft (2.44 m) and 20 ft (6.10 m).
- Initial detection of walking motion along sensor axes at distances of 2x the mounting height up to 15 ft (4.57 m) and 1.75x up to 20 ft (6.10 m).
- Provides 12 ft (3.66 m) radial detection of small motion when mounted at 9 ft (2.74 m).
- Initial detection will occur earlier when walking across sensor's field of view than when walking directly at sensor.



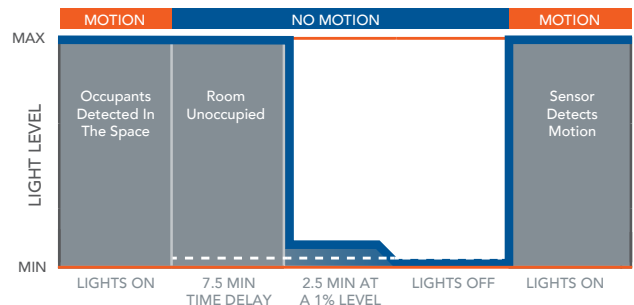
### nLight AIR Wireless

nLight AIR is the ideal solution for retrofit or new construction spaces where adding additional wiring can be labor intensive and nLight AIR is available with or without an integral sensor. The integrated rES7 or rES7PDT smart sensors are part of each luminaire in the nLight AIR network, which can be grouped to control multiple luminaires. The granularity of control with the digital PIR occupancy detection and daylight sensing makes a great solution for any application.

### nLight Wired Networking

The nES 7 is ideal for small rooms without obstructions or areas with primarily walking motion. Ideal areas include hallways, corridors, storage rooms, and breakrooms. Additionally, the nES7ADCX includes an integrated photocell, which enables daylight harvesting controls. For areas like restrooms, private offices, open offices, conference rooms or any space with obstructions, the nES PDT 7 dual technology sensor is recommended. The nES PDT 7 utilizes both PIR (passive infrared) and Microphonics technologies to detect occupancy. Additionally, the nESPDT7ADCX includes an integrated photocell, which enables daylight harvesting controls which is ideal for areas where windows are present.

### Sequence of Operation (nES7 and rES7 and Sensor)



\*The presetting on the automatic dimming photocell is 5fc (NES7) and 10fc (RES7).

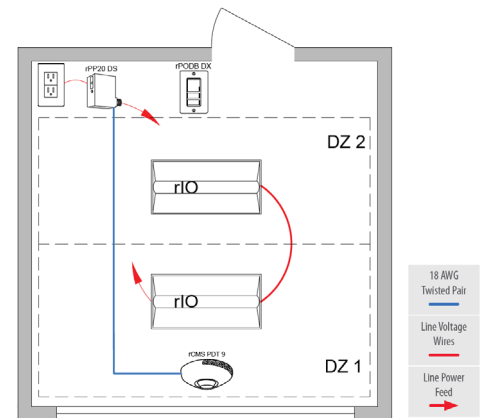
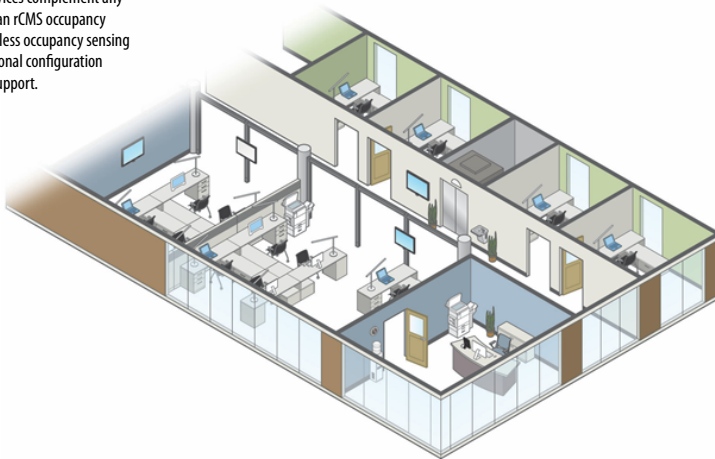
# 2BLT Volumetric Recessed Lighting 2' x 2' and 2' x 4' with Care222 Technology

## Controls Accessories (Visible Light)

nLight® Wired Control Accessories: <i>Order as separate catalog number. Visit <a href="http://www.acuitybrands.com/products/controls/nlight">www.acuitybrands.com/products/controls/nlight</a>.</i>			
<b>WallPod stations</b>	<b>Model number</b>	<b>Occupancy sensors</b>	<b>Model number</b>
On/Off	nPODMA [Color]	Small motion 360°, ceiling (PIR / dual tech)	nCM 9 RJB / nCM PDT 9 RJB
On/Off & raise/lower	nPODMA DX [Color]	Large motion 360°, ceiling (PIR / dual tech)	nCM10 RJB / nCM PDT 10 RJB
Graphic touchscreen	nPOD TOUCH [Color]	Wall switch with raise/lower	nWSX PDT LV DX [color]
<b>Photozell controls</b>	<b>Model number</b>	<b>Cat-5 cable (plenum rated)</b>	<b>Model number</b>
Full range dimming	nCM ADCX RJB	10' cable	CATS 10FT J1
		30' cable	CATS 30FT J1

nLight® AIR Control Accessories: <i>Order as separate catalog number. Visit <a href="http://www.acuitybrands.com/products/controls/nlightair">www.acuitybrands.com/products/controls/nlightair</a>.</i>	
<b>Wall switches</b>	<b>Model number</b>
On/Off single pole	rPODBA [color] G2
On/Off two pole	rPODB A2P [color] G2
On/Off & raise/lower single pole	rPODBA DX [color] G2
On/Off & raise/lower two pole	rPODBA 2P DX [color] G2

BLT fixtures with integrated rIO devices complement any small office space. Pair them with an rCMS occupancy sensor and the space now has wireless occupancy sensing and dimming capability. For additional configuration options please consult with Tech Support.



rCMS <sup>1</sup>						Example: RCMS PDT 10 AR G2	
Series / Detection	Power Supply <sup>1</sup>	Occupancy Detection	Lens (Required)	Operating Mode	Generation		
RCMS nLight AIR occupancy and daylight sensor	[blank] Power Supply ordered separately PS 150 Standard 150 mA Power Supply	[blank] PIR Detection PDT Dual Tech PIR/Microphonics	10 Large Motion/ Extended Range 360° 9 Small Motion/ Extended Range 360° 6 High Bay 360° Lens	[BLANK] None AR Auxiliary Relay	G2	Generation 2 compatibility	

### Notes

- 1 RCMS requires low voltage power from either RPP20 DS 24V G2 or PS150.



Sensor Switch  
WSX



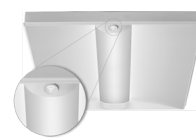
nLight WIRED  
NPOD UNITOUCH



nLight WIRED  
nPODMA DX



nLight AIR  
rPODBA



BLT with rIO



rPODBA



RCMS

# 2BLT Volumetric Recessed Lighting 2' x 2' and 2' x 4' with Care222 Technology

## Lighting Performance Data

Luminaire Catalog	Total Lumen Output	Visible Light Input Wattage	Lumens Per Watt
2BLT2 1UV222 20L ADSMT LP830	2155	18	118
2BLT2 1UV222 20L ADSMT LP835	2174	18	120
2BLT2 1UV222 20L ADSMT LP840	2174	18	120
2BLT2 1UV222 20L ADSMT LP850	2287	18	126
2BLT2 1UV222 33L ADSMT LP830	3484	31	114
2BLT2 1UV222 33L ADSMT LP835	3516	31	115
2BLT2 1UV222 33L ADSMT LP840	3516	31	115
2BLT2 1UV222 33L ADSMT LP850	3698	31	121
2BLT2 1UV222 40L ADSMT LP830	4227	39	108
2BLT2 1UV222 40L ADSMT LP835	4266	39	109
2BLT2 1UV222 40L ADSMT LP840	4266	39	109
2BLT2 1UV222 40L ADSMT LP850	4486	39	115
2BLT2 2UV222 20L ADSMT LP830	2155	18	118
2BLT2 2UV222 20L ADSMT LP835	2174	18	120
2BLT2 2UV222 20L ADSMT LP840	2174	18	120
2BLT2 2UV222 20L ADSMT LP850	2287	18	126
2BLT2 2UV222 33L ADSMT LP830	3484	31	114
2BLT2 2UV222 33L ADSMT LP835	3516	31	115
2BLT2 2UV222 33L ADSMT LP840	3516	31	115
2BLT2 2UV222 33L ADSMT LP850	3698	31	121
2BLT2 2UV222 40L ADSMT LP830	4227	39	108
2BLT2 2UV222 40L ADSMT LP835	4266	39	109
2BLT2 2UV222 40L ADSMT LP840	4266	39	109
2BLT2 2UV222 40L ADSMT LP850	4486	39	115
2BLT4 1UV222 30L ADSMT LP830	3023	24	128
2BLT4 1UV222 30L ADSMT LP835	3051	24	129
2BLT4 1UV222 30L ADSMT LP840	3051	24	129
2BLT4 1UV222 30L ADSMT LP850	3208	24	136
2BLT4 1UV222 40L ADSMT LP830	4013	32	127
2BLT4 1UV222 40L ADSMT LP835	4049	32	128
2BLT4 1UV222 40L ADSMT LP840	4049	32	128
2BLT4 1UV222 40L ADSMT LP850	4259	32	135
2BLT4 1UV222 48L ADSMT LP830	4834	39	124
2BLT4 1UV222 48L ADSMT LP835	4878	39	125
2BLT4 1UV222 48L ADSMT LP840	4878	39	125
2BLT4 1UV222 48L ADSMT LP850	5130	39	132
2BLT4 1UV222 60L ADSMT LP830	5981	50	120
2BLT4 1UV222 60L ADSMT LP835	6036	50	121
2BLT4 1UV222 60L ADSMT LP840	6036	50	121
2BLT4 1UV222 60L ADSMT LP850	6348	50	127
2BLT4 2UV222 30L ADSMT LP830	3023	24	128
2BLT4 2UV222 30L ADSMT LP835	3051	24	129
2BLT4 2UV222 30L ADSMT LP840	3051	24	129
2BLT4 2UV222 30L ADSMT LP850	3208	24	136
2BLT4 2UV222 40L ADSMT LP830	4013	32	127
2BLT4 2UV222 40L ADSMT LP835	4049	32	128
2BLT4 2UV222 40L ADSMT LP840	4049	32	128
2BLT4 2UV222 40L ADSMT LP850	4259	32	135
2BLT4 2UV222 48L ADSMT LP830	4834	39	124
2BLT4 2UV222 48L ADSMT LP835	4878	39	125
2BLT4 2UV222 48L ADSMT LP840	4878	39	125
2BLT4 2UV222 48L ADSMT LP850	5130	39	132
2BLT4 2UV222 60L ADSMT LP830	5981	50	120
2BLT4 2UV222 60L ADSMT LP835	6036	50	121
2BLT4 2UV222 60L ADSMT LP840	6036	50	121
2BLT4 2UV222 60L ADSMT LP850	6348	50	127

### Care222 UV Module Wattage Consumption

Single UV Module (1UV222) and Dual UV Modules (2UV222) consume approximately 16.5 watts. Highest power programming uses .0537 kWh per 24hr period, usage varies based on programming selected.

### How to Estimate Delivered Lumens in Emergency Mode

Use the formula below to estimate the delivered lumens in emergency mode

$$\text{Delivered Lumens} = 1.25 \times P \times \text{LPW}$$

P = Output power of emergency driver. P = 10W for E10WLCP option.

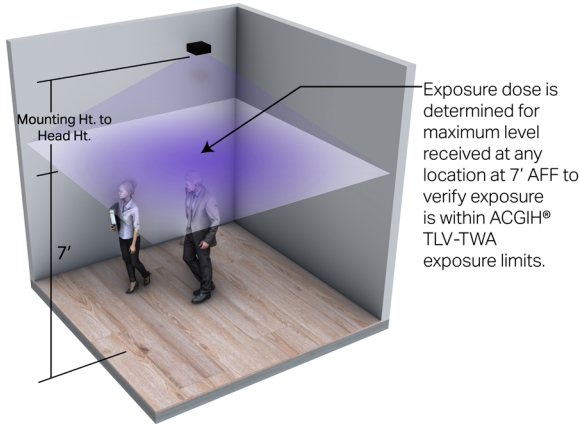
LPW = Lumen per watt rating of the luminaire. This information is available on the Acuity Brands Lighting luminaire spec sheet. LPW = Lumen per watt rating of the luminaire. LPW information available in Performance Data section.



# 2BLT Volumetric Recessed Lighting 2' x 2' and 2' x 4' with Care222 Technology

## 2x2 and 2x4 BLT with C222 Single Module

### Projected UV Exposure and Exposure Limits



This chart illustrates mounting height configurations for the BLT fixture, incorporating Care222® technology, that provide a UV exposure dose within the exposure guidelines<sup>1</sup> established and published by the American Conference of Governmental Industrial Hygienists (ACGIH®). For the UV exposure dose to remain within the ACGIH guidelines for the level of UV exposure a typical worker can be exposed to without adverse health effects, the maximum exposure dose must not exceed 23 mJ/cm<sup>2</sup> (millijoules per square centimeter) for an 8-hour period of time. Per the UL 8802 standard, the upper limit of occupied space is defined to be a test plane 7' Above Finished Floor (AFF). This calculated maximum exposure dose represents the dose an individual would receive over an 8-hour period at 7' Above Finished Floor (AFF) even if stationary in the location of maximum dose.

ACGIH guidelines are designed for use by industrial hygienists in making decisions regarding safe levels of exposure to hazards in the workplace. The levels of exposure in the ACGIH guidelines are quantified as Threshold Limit Values (TLVs®) and are expressed as Time-Weighted Averages (TWAs). The TLVs refer to incoherent ultraviolet (UV) radiation with wavelengths between 180 and 400nm and represent conditions under which it is believed that nearly all healthy workers may be repeatedly exposed without acute adverse health effects such as erythema and photokeratitis.

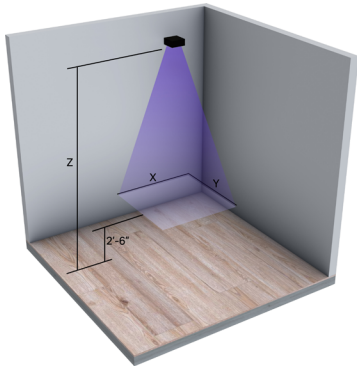
Distance		Maximum 8 hr Dose	Meets ACGIH <sup>1</sup>
Mounting Ht.	Mounting Ht. to Head Ht.	mJ/cm <sup>2</sup>	<23 mJ/cm <sup>2</sup>
9'	2'	18.99	Yes
9'-6"	2'-6"	20.26	Yes
10'	3'	19.7	Yes
10'-6"	3'-6"	20.26	Yes
11'	4'	19.31	Yes
11'-6"	4'-6"	15.26	Yes
12'	5'	12.36	Yes

#### Notes

- ACGIH® 2021 TLVs® and BEIs® - Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices; when installed and used in accordance with written instructions.

# 2BLT Volumetric Recessed Lighting 2' x 2' and 2' x 4' with Care222 Technology

## 2x2 and 2x4 BLT with C222 Single Module



### Projected Virus Inactivation

Use this chart to estimate the effectiveness of one single module fixture mounted at varying mounting heights (Z) and having different areas of coverage (X x Y), at inactivating the pathogens listed below on surfaces. The calculated average dose for each scenario is determined from Visual® Lighting application software radiometric modeling<sup>1</sup> and is then correlated with laboratory research<sup>2</sup> to derive projected inactivation effectiveness for specific pathogens. The analysis assumes that a horizontal plane positioned 2'-6" Above Finished Floor (AFF) is receiving the dose. For different areas of coverage or multiple fixture layouts, consult an Acuity Brands UV Lighting Specialist.

#### Notes

1. The results presented here are based upon a 12'x12'x15' high empty room with all surface reflectance assumed to be 5%.
2. Reference [Pathogen Inactivation Dose Reference List - 222nm, 254nm & Pulsed Xenon UV Light Sources](#).
3. As a result of computational limitations and simplifying modeling assumptions in Visual, variations in actual product performance from tested product samples, and/or variations in field conditions from laboratory testing conditions, the accuracy of calculated output values identifying radiometric quantities and any resulting derived radiation dose predictions may be adversely affected. See complete disclaimer at: [Visual Disclaimer](#)
4. This data is reported in reference to Projected Photodegradation Effect. See pages 24 and 25 for Photodegradation Testing Results.

4' x 4' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	Feline Calicivirus			Influenza			SARS-CoV-2		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D108	9'	4.6 mJ/cm <sup>2</sup> over 24 hr	32.16	81.0 %	33.3 hr	100.0 hr	99.5 %	10.4 hr	31.3 hr	>99.9 %	6.3 hr	18.8 hr
D114	9'-6"	6.8 mJ/cm <sup>2</sup> over 24 hr	21.76	91.2 %	22.7 hr	68.1 hr	>99.9 %	7.1 hr	21.3 hr	>99.9 %	4.3 hr	12.8 hr
D120	10'	8.4 mJ/cm <sup>2</sup> over 24 hr	17.61	95.1 %	18.3 hr	54.9 hr	>99.9 %	5.7 hr	17.2 hr	>99.9 %	3.4 hr	10.3 hr
D126	10'-6"	10.4 mJ/cm <sup>2</sup> over 24 hr	14.23	97.7 %	14.7 hr	44.1 hr	>99.9 %	4.6 hr	13.8 hr	>99.9 %	2.8 hr	8.3 hr
D132	11'	11.7 mJ/cm <sup>2</sup> over 24 hr	12.64	98.5 %	13.2 hr	39.5 hr	>99.9 %	4.1 hr	12.4 hr	>99.9 %	2.5 hr	7.4 hr
D138	11'-6"	10.5 mJ/cm <sup>2</sup> over 24 hr	14.09	97.7 %	14.6 hr	43.8 hr	>99.9 %	4.6 hr	13.7 hr	>99.9 %	2.7 hr	8.2 hr
D144	12'	9.5 mJ/cm <sup>2</sup> over 24 hr	15.57	96.7 %	16.2 hr	48.5 hr	>99.9 %	5.1 hr	15.2 hr	>99.9 %	3.0 hr	9.1 hr

6' x 6' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	Feline Calicivirus			Influenza			SARS-CoV-2		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D108	9'	3.8 mJ/cm <sup>2</sup> over 24 hr	38.93	74.4 %	40.6 hr	121.7 hr	98.7 %	12.7 hr	38.1 hr	>99.9 %	7.6 hr	22.9 hr
D114	9'-6"	5.7 mJ/cm <sup>2</sup> over 24 hr	25.96	87.3 %	26.8 hr	80.4 hr	99.9 %	8.4 hr	25.2 hr	>99.9 %	5.0 hr	15.1 hr
D120	10'	7.3 mJ/cm <sup>2</sup> over 24 hr	20.27	92.7 %	21.1 hr	63.3 hr	>99.9 %	6.6 hr	19.8 hr	>99.9 %	4.0 hr	11.9 hr
D126	10'-6"	9.2 mJ/cm <sup>2</sup> over 24 hr	16.08	96.4 %	16.6 hr	49.9 hr	>99.9 %	5.2 hr	15.6 hr	>99.9 %	3.1 hr	9.4 hr
D132	11'	10.4 mJ/cm <sup>2</sup> over 24 hr	14.23	97.7 %	14.7 hr	44.1 hr	>99.9 %	4.6 hr	13.8 hr	>99.9 %	2.8 hr	8.3 hr
D138	11'-6"	9.5 mJ/cm <sup>2</sup> over 24 hr	15.57	96.8 %	16.1 hr	48.3 hr	>99.9 %	5.0 hr	15.1 hr	>99.9 %	3.0 hr	9.1 hr
D144	12'	8.7 mJ/cm <sup>2</sup> over 24 hr	17.01	95.7 %	17.6 hr	52.9 hr	>99.9 %	5.5 hr	16.6 hr	>99.9 %	3.3 hr	9.9 hr

8' x 8' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	Feline Calicivirus			Influenza			SARS-CoV-2		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D108	9'	2.8 mJ/cm <sup>2</sup> over 24 hr	52.84	63.8 %	54.4 hr	163.1 hr	96.1 %	17.0 hr	51.1 hr	99.6 %	10.2 hr	30.6 hr
D114	9'-6"	4.5 mJ/cm <sup>2</sup> over 24 hr	32.88	79.9 %	34.4 hr	103.3 hr	99.4 %	10.8 hr	32.4 hr	>99.9 %	6.5 hr	19.4 hr
D120	10'	5.8 mJ/cm <sup>2</sup> over 24 hr	25.51	87.8 %	26.2 hr	78.8 hr	99.9 %	8.2 hr	24.7 hr	>99.9 %	4.9 hr	14.8 hr
D126	10'-6"	7.7 mJ/cm <sup>2</sup> over 24 hr	19.21	93.7 %	20.0 hr	60.1 hr	>99.9 %	6.3 hr	18.8 hr	>99.9 %	3.8 hr	11.3 hr
D132	11'	8.9 mJ/cm <sup>2</sup> over 24 hr	16.62	95.9 %	17.3 hr	51.8 hr	>99.9 %	5.4 hr	16.2 hr	>99.9 %	3.2 hr	9.7 hr
D138	11'-6"	8.3 mJ/cm <sup>2</sup> over 24 hr	17.82	94.9 %	18.6 hr	55.7 hr	>99.9 %	5.8 hr	17.5 hr	>99.9 %	3.5 hr	10.5 hr
D144	12'	7.7 mJ/cm <sup>2</sup> over 24 hr	19.21	93.7 %	20.0 hr	60.0 hr	>99.9 %	6.3 hr	18.8 hr	>99.9 %	3.8 hr	11.3 hr

(Continued on next page)

# 2BLT Volumetric Recessed Lighting 2' x 2' and 2' x 4' with Care222 Technology

## 2x2 and 2x4 BLT with C222 Single Module Projected Virus Inactivation (continued)

10' x 10' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	Feline Calicivirus			Influenza			SARS-CoV-2		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D108	9'	2.0 mJ/cm <sup>2</sup> over 24 hr	73.97	51.4 %	76.6 hr	230.0 hr	90.0 %	24.0 hr	72.0 hr	97.8 %	14.4 hr	43.2 hr
D114	9'-6"	3.3 mJ/cm <sup>2</sup> over 24 hr	44.83	69.0 %	47.2 hr	141.5 hr	97.6 %	14.8 hr	44.3 hr	99.8 %	8.9 hr	26.6 hr
D120	10'	4.4 mJ/cm <sup>2</sup> over 24 hr	33.62	79.7 %	34.7 hr	104.0 hr	99.4 %	10.9 hr	32.6 hr	>99.9 %	6.5 hr	19.5 hr
D126	10'-6"	6.0 mJ/cm <sup>2</sup> over 24 hr	24.66	88.3 %	25.7 hr	77.2 hr	99.9 %	8.1 hr	24.2 hr	>99.9 %	4.8 hr	14.5 hr
D132	11'	7.1 mJ/cm <sup>2</sup> over 24 hr	20.84	92.3 %	21.6 hr	64.7 hr	>99.9 %	6.8 hr	20.3 hr	>99.9 %	4.1 hr	12.2 hr
D132	11'-6"	6.8 mJ/cm <sup>2</sup> over 24 hr	21.76	91.3 %	22.6 hr	67.8 hr	>99.9 %	7.1 hr	21.2 hr	>99.9 %	4.2 hr	12.7 hr
D132	12'	6.4 mJ/cm <sup>2</sup> over 24 hr	23.12	90.2 %	23.8 hr	71.4 hr	>99.9 %	7.5 hr	22.4 hr	>99.9 %	4.5 hr	13.4 hr

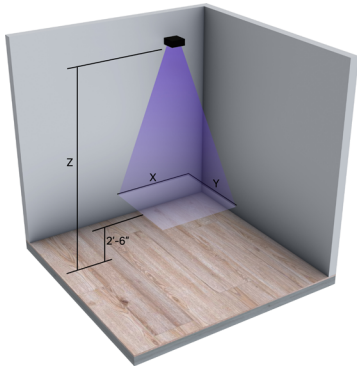
12' x 12' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	Feline Calicivirus			Influenza			SARS-CoV-2		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D108	9'	1.4 mJ/cm <sup>2</sup> over 24 hr	105.68	40.5 %	106.5 hr	319.4 hr	80.9 %	33.3 hr	100.0 hr	93.7 %	20.0 hr	60.0 hr
D114	9'-6"	2.4 mJ/cm <sup>2</sup> over 24 hr	61.64	57.4 %	64.7 hr	194.1 hr	93.5 %	20.3 hr	60.8 hr	98.9 %	12.2 hr	36.5 hr
D120	10'	3.3 mJ/cm <sup>2</sup> over 24 hr	44.83	69.3 %	46.7 hr	140.2 hr	97.7 %	14.6 hr	43.9 hr	99.8 %	8.8 hr	26.3 hr
D126	10'-6"	4.5 mJ/cm <sup>2</sup> over 24 hr	32.88	80.3 %	34.0 hr	102.0 hr	99.4 %	10.6 hr	31.9 hr	>99.9 %	6.4 hr	19.2 hr
D132	11'	5.5 mJ/cm <sup>2</sup> over 24 hr	26.90	86.2 %	27.9 hr	83.6 hr	99.8 %	8.7 hr	26.2 hr	>99.9 %	5.2 hr	15.7 hr
D132	11'-6"	5.4 mJ/cm <sup>2</sup> over 24 hr	27.40	85.5 %	28.6 hr	85.8 hr	99.8 %	9.0 hr	26.9 hr	>99.9 %	5.4 hr	16.1 hr
D144	12'	5.2 mJ/cm <sup>2</sup> over 24 hr	28.45	84.7 %	29.5 hr	88.4 hr	99.7 %	9.2 hr	27.7 hr	>99.9 %	5.5 hr	16.6 hr

### Notes

- The results presented here are based upon a 12'x12'x15' high empty room with all surface reflectance assumed to be 5%.
- Intentionally omitted.
- As a result of computational limitations and simplifying modeling assumptions in Visual, variations in actual product performance from tested product samples, and/or variations in field conditions from laboratory testing conditions, the accuracy of calculated output values identifying radiometric quantities and any resulting derived radiation dose predictions may be adversely affected. See complete disclaimer at: [Visual Disclaimer](#)
- This data is reported in reference to Projected Photodegradation Effect. See pages 24 and 25 for Photodegradation Testing Results.

# 2BLT Volumetric Recessed Lighting 2' x 2' and 2' x 4' with Care222 Technology

## 2x2 and 2x4 BLT with C222 Single Module



### Projected Bacteria Inactivation

Use this chart to estimate the effectiveness of one single module fixture, mounted at various mounting heights (Z) and having different areas of coverage (X x Y), at inactivating the pathogens listed below on surfaces. The calculated average dose for each scenario is determined from Visual® Lighting application software radiometric modeling<sup>1</sup> and is then correlated with laboratory research<sup>2</sup> to derive projected inactivation effectiveness for specific pathogens. The analysis assumes that a horizontal plane positioned 2'-6" Above Finished Floor (AFF) is receiving the dose. For different areas of coverage or multiple fixture layouts, consult an Acuity Brands UV Lighting Specialist.

#### Notes

1. The results presented here are based upon a 12'x12'x15' high empty room with all surface reflectance assumed to be 5%.
2. Reference [Pathogen Inactivation Dose Reference List - 222nm, 254nm & Pulsed Xenon UV Light Sources](#).
3. As a result of computational limitations and simplifying modeling assumptions in Visual, variations in actual product performance from tested product samples, and/or variations in field conditions from laboratory testing conditions, the accuracy of calculated output values identifying radiometric quantities and any resulting derived radiation dose predictions may be adversely affected. See complete disclaimer at: [Visual Disclaimer](#)
4. This data is reported in reference to Projected Photodegradation Effect. See pages 24 and 25 for Photodegradation Testing Results.

4' x 4' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	MRSA			E-Coli			Salmonella		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D108	9'	4.6 mJ/cm <sup>2</sup> over 24 hr	32.16	91.0 %	23.0 hr	68.9 hr	99.5 %	10.4 hr	31.3 hr	97.5 %	14.9 hr	44.8 hr
D114	9'-6"	6.8 mJ/cm <sup>2</sup> over 24 hr	21.76	97.1 %	15.7 hr	47.0 hr	>99.9 %	7.1 hr	21.4 hr	99.6 %	10.2 hr	30.5 hr
D120	10'	8.4 mJ/cm <sup>2</sup> over 24 hr	17.61	98.7 %	12.6 hr	37.9 hr	>99.9 %	5.7 hr	17.2 hr	99.9 %	8.2 hr	24.6 hr
D126	10'-6"	10.4 mJ/cm <sup>2</sup> over 24 hr	14.23	99.6 %	10.1 hr	30.4 hr	>99.9 %	4.6 hr	13.8 hr	>99.9 %	6.6 hr	19.7 hr
D132	11'	11.7 mJ/cm <sup>2</sup> over 24 hr	12.64	99.8 %	9.1 hr	27.2 hr	>99.9 %	4.1 hr	12.4 hr	>99.9 %	5.9 hr	17.7 hr
D138	11'-6"	10.5 mJ/cm <sup>2</sup> over 24 hr	14.09	99.6 %	10.1 hr	30.2 hr	>99.9 %	4.6 hr	13.7 hr	>99.9 %	6.6 hr	19.7 hr
D144	12'	9.5 mJ/cm <sup>2</sup> over 24 hr	15.57	99.3 %	11.1 hr	33.4 hr	>99.9 %	5.1 hr	15.2 hr	>99.9 %	7.2 hr	21.7 hr

6' x 6' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	MRSA			E-Coli			Salmonella		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D108	9'	3.8 mJ/cm <sup>2</sup> over 24 hr	38.93	86.1 %	28.0 hr	83.9 hr	98.7 %	12.7 hr	38.1 hr	95.2 %	18.2 hr	54.5 hr
D114	9'-6"	5.7 mJ/cm <sup>2</sup> over 24 hr	25.96	95.0 %	18.5 hr	55.4 hr	99.9 %	8.4 hr	25.2 hr	99.0 %	12.0 hr	36.0 hr
D120	10'	7.3 mJ/cm <sup>2</sup> over 24 hr	20.27	97.8 %	14.6 hr	43.7 hr	>99.9 %	6.6 hr	19.9 hr	99.7 %	9.5 hr	28.4 hr
D126	10'-6"	9.2 mJ/cm <sup>2</sup> over 24 hr	16.08	99.2 %	11.5 hr	34.4 hr	>99.9 %	5.2 hr	15.6 hr	>99.9 %	7.5 hr	22.4 hr
D132	11'	10.4 mJ/cm <sup>2</sup> over 24 hr	14.23	99.6 %	10.1 hr	30.4 hr	>99.9 %	4.6 hr	13.8 hr	>99.9 %	6.6 hr	19.7 hr
D138	11'-6"	9.5 mJ/cm <sup>2</sup> over 24 hr	15.57	99.3 %	11.1 hr	33.3 hr	>99.9 %	5.0 hr	15.1 hr	>99.9 %	7.2 hr	21.7 hr
D144	12'	8.7 mJ/cm <sup>2</sup> over 24 hr	17.01	98.9 %	12.2 hr	36.5 hr	>99.9 %	5.5 hr	16.6 hr	>99.9 %	7.9 hr	23.7 hr

8' x 8' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	MRSA			E-Coli			Salmonella		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D108	9'	2.8 mJ/cm <sup>2</sup> over 24 hr	52.84	77.1 %	37.5 hr	112.5 hr	96.1 %	17.0 hr	51.1 hr	89.6 %	24.4 hr	73.1 hr
D114	9'-6"	4.5 mJ/cm <sup>2</sup> over 24 hr	32.88	90.2 %	23.8 hr	71.3 hr	99.4 %	10.8 hr	32.4 hr	97.2 %	15.4 hr	46.3 hr
D120	10'	5.8 mJ/cm <sup>2</sup> over 24 hr	25.51	95.3 %	18.1 hr	54.3 hr	99.9 %	8.2 hr	24.7 hr	99.1 %	11.8 hr	35.3 hr
D126	10'-6"	7.7 mJ/cm <sup>2</sup> over 24 hr	19.21	98.2 %	13.8 hr	41.5 hr	>99.9 %	6.3 hr	18.8 hr	99.8 %	9.0 hr	27.0 hr
D132	11'	8.9 mJ/cm <sup>2</sup> over 24 hr	16.62	99.0 %	11.9 hr	35.8 hr	>99.9 %	5.4 hr	16.3 hr	>99.9 %	7.7 hr	23.2 hr
D138	11'-6"	8.3 mJ/cm <sup>2</sup> over 24 hr	17.82	98.7 %	12.8 hr	38.4 hr	>99.9 %	5.8 hr	17.5 hr	99.9 %	8.3 hr	25.0 hr
D144	12'	7.7 mJ/cm <sup>2</sup> over 24 hr	19.21	98.2 %	13.8 hr	41.3 hr	>99.9 %	6.3 hr	18.8 hr	99.8 %	9.0 hr	26.9 hr

- #### Notes
1. The results presented here are based upon a 12'x12'x15' high empty room with all surface reflectance assumed to be 5%.
  2. Reference [Pathogen Inactivation Dose Reference List - 222nm, 254nm & Pulsed Xenon UV Light Sources](#).
  3. As a result of computational limitations and simplifying modeling assumptions in Visual, variations in actual product performance from tested product samples, and/or variations in field conditions from laboratory testing conditions, the accuracy of calculated output values identifying radiometric quantities and any resulting derived radiation dose predictions may be adversely affected. See complete disclaimer at: [Visual Disclaimer](#)
  4. This data is reported in reference to Projected Photodegradation Effect. See pages 24 and 25 for Photodegradation Testing Results.

(Continued on next page)



# 2BLT Volumetric Recessed Lighting 2' x 2' and 2' x 4' with Care222 Technology

## 2x2 and 2x4 BLT with C222 Single Module Projected Bacteria Inactivation (continued)

10' x 10' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	MRSA			E-Coli			Salmonella		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D108	9'	2.0 mJ/cm <sup>2</sup> over 24 hr	73.97	64.8 %	52.9 hr	158.6 hr	90.0 %	24.0 hr	72.1 hr	80.0 %	34.4 hr	103.1 hr
D114	9'-6"	3.3 mJ/cm <sup>2</sup> over 24 hr	44.83	81.7 %	32.5 hr	97.6 hr	97.6 %	14.8 hr	44.4 hr	92.7 %	21.1 hr	63.4 hr
D120	10'	4.4 mJ/cm <sup>2</sup> over 24 hr	33.62	90.1 %	23.9 hr	71.8 hr	99.4 %	10.9 hr	32.6 hr	97.1 %	15.5 hr	46.6 hr
D126	10'-6"	6.0 mJ/cm <sup>2</sup> over 24 hr	24.66	95.6 %	17.7 hr	53.2 hr	99.9 %	8.1 hr	24.2 hr	99.2 %	11.5 hr	34.6 hr
D132	11'	7.1 mJ/cm <sup>2</sup> over 24 hr	20.84	97.6 %	14.9 hr	44.6 hr	>99.9 %	6.8 hr	20.3 hr	99.7 %	9.7 hr	29.0 hr
D138	11'-6"	6.8 mJ/cm <sup>2</sup> over 24 hr	21.76	97.1 %	15.6 hr	46.8 hr	>99.9 %	7.1 hr	21.3 hr	99.6 %	10.1 hr	30.4 hr
D144	12'	6.4 mJ/cm <sup>2</sup> over 24 hr	23.12	96.5 %	16.4 hr	49.2 hr	>99.9 %	7.5 hr	22.4 hr	99.4 %	10.7 hr	32.0 hr

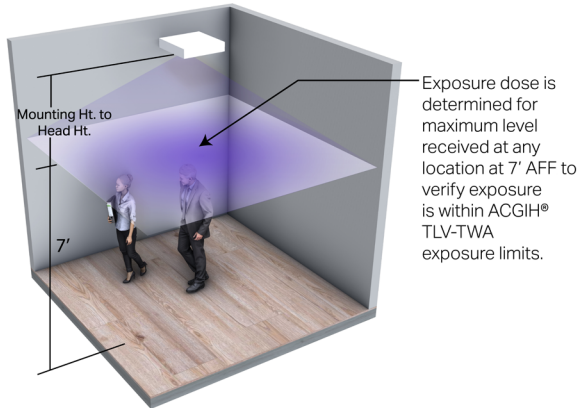
12' x 12' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	MRSA			E-Coli			Salmonella		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D108	9'	1.4 mJ/cm <sup>2</sup> over 24 hr	105.68	52.9 %	73.4 hr	220.2 hr	80.9 %	33.4 hr	100.1 hr	68.6 %	47.7 hr	143.2 hr
D114	9'-6"	2.4 mJ/cm <sup>2</sup> over 24 hr	61.64	71.0 %	44.6 hr	133.8 hr	93.5 %	20.3 hr	60.8 hr	85.1 %	29.0 hr	87.0 hr
D120	10'	3.3 mJ/cm <sup>2</sup> over 24 hr	44.83	82.0 %	32.2 hr	96.7 hr	97.7 %	14.6 hr	43.9 hr	92.8 %	21.0 hr	62.9 hr
D126	10'-6"	4.5 mJ/cm <sup>2</sup> over 24 hr	32.88	90.5 %	23.4 hr	70.3 hr	99.4 %	10.7 hr	32.0 hr	97.3 %	15.2 hr	45.7 hr
D132	11'	5.5 mJ/cm <sup>2</sup> over 24 hr	26.90	94.4 %	19.2 hr	57.7 hr	99.8 %	8.7 hr	26.2 hr	98.8 %	12.5 hr	37.5 hr
D138	11'-6"	5.4 mJ/cm <sup>2</sup> over 24 hr	27.40	93.9 %	19.7 hr	59.2 hr	99.8 %	9.0 hr	26.9 hr	98.7 %	12.8 hr	38.5 hr
D144	12'	5.2 mJ/cm <sup>2</sup> over 24 hr	28.45	93.4 %	20.3 hr	61.0 hr	99.7 %	9.2 hr	27.7 hr	98.5 %	13.2 hr	39.6 hr

- Notes**
- The results presented here are based upon a 12'x12'x15' high empty room with all surface reflectance assumed to be 5%.
  - Intentionally omitted.
  - As a result of computational limitations and simplifying modeling assumptions in Visual, variations in actual product performance from tested product samples, and/or variations in field conditions from laboratory testing conditions, the accuracy of calculated output values identifying radiometric quantities and any resulting derived radiation dose predictions may be adversely affected. See complete disclaimer at: [Visual Disclaimer](#)
  - This data is reported in reference to Projected Photodegradation Effect. See pages 24 and 25 for Photodegradation Testing Results.

# 2BLT Volumetric Recessed Lighting 2' x 2' and 2' x 4' with Care222 Technology

## 2x2 BLT with C222 Dual Module

### Projected UV Exposure and Exposure Limits



This chart illustrates mounting height configurations for the BLT fixture, incorporating Care222® technology, that provide a UV exposure dose within the exposure guidelines<sup>1</sup> established and published by the American Conference of Governmental Industrial Hygienists (ACGIH®). For the UV exposure dose to remain within the ACGIH guidelines for the level of UV exposure a typical worker can be exposed to without adverse health effects, the maximum exposure dose must not exceed 23 mJ/cm<sup>2</sup> (millijoules per square centimeter) for an 8-hour period of time. Per the UL 8802 standard, the upper limit of occupied space is defined to be a test plane 7' Above Finished Floor (AFF). This calculated maximum exposure dose represents the dose an individual would receive over an 8-hour period at 7' Above Finished Floor (AFF) even if stationary in the location of maximum dose.

ACGIH guidelines are designed for use by industrial hygienists in making decisions regarding safe levels of exposure to hazards in the workplace. The levels of exposure in the ACGIH guidelines are quantified as Threshold Limit Values (TLVs®) and are expressed as Time-Weighted Averages (TWAs). The TLVs refer to incoherent ultraviolet (UV) radiation with wavelengths between 180 and 400nm and represent conditions under which it is believed that nearly all healthy workers may be repeatedly exposed without acute adverse health effects such as erythema and photokeratitis.

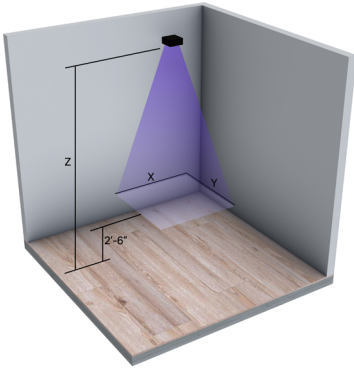
Distance		Maximum 8 hr Dose	Meets ACGIH® TLV-TWA
Mounting Ht.	Mounting Ht. to Head Ht.	mJ/cm <sup>2</sup>	<23 mJ/cm <sup>2</sup>
9'-6"	2'-6"	20.02	Yes
10'	3'	19.8	Yes
10'-6"	3'-6"	18.81	Yes
11'	4'	19.44	Yes
11'-6"	4'-6"	19.86	Yes
12'	5'	18.96	Yes
12'-6"	5'-6"	19.66	Yes

#### Notes

<sup>1</sup> ACGIH® 2021 TLVs® and BEIs® - Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices; when installed and used in accordance with written instructions.

# 2BLT Volumetric Recessed Lighting 2' x 2' and 2' x 4' with Care222 Technology

## 2x2 BLT with C222 Dual Module



### Projected Virus Inactivation

Use this chart to estimate the effectiveness of one dual module fixture mounted at varying mounting heights (Z) and having different areas of coverage (X x Y), at inactivating the pathogens listed below on surfaces. The calculated average dose for each scenario is determined from Visual® Lighting application software radiometric modeling<sup>1</sup> and is then correlated with laboratory research<sup>2</sup> to derive projected inactivation effectiveness for specific pathogens. The analysis assumes that a horizontal plane positioned 2'-6" Above Finished Floor (AFF) is receiving the dose. For different areas of coverage or multiple fixture layouts, consult an Acuity Brands UV Lighting Specialist.

#### Notes

1. The results presented here are based upon a 12x12x15' high empty room with all surface reflectance assumed to be 5%.
2. Reference [Pathogen Inactivation Dose Reference List - 222nm, 254nm & Pulsed Xenon UV Light Sources](#).
3. As a result of computational limitations and simplifying modeling assumptions in Visual, variations in actual product performance from tested product samples, and/or variations in field conditions from laboratory testing conditions, the accuracy of calculated output values identifying radiometric quantities and any resulting derived radiation dose predictions may be adversely affected. See complete disclaimer at: [Visual Disclaimer](#)
4. This data is reported in reference to Projected Photodegradation Effect. See pages 24 and 25 for Photodegradation Testing Results.

4' x 4' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	Feline Calicivirus			Influenza			SARS-CoV-2		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D114	9-6"	7.9 mJ/cm <sup>2</sup> over 24 hr	18.73	94.1 %	19.5 hr	58.5 hr	>99.9 %	6.1 hr	18.3 hr	>99.9 %	3.7 hr	11.0 hr
D120	10'	9.3 mJ/cm <sup>2</sup> over 24 hr	15.91	96.5 %	16.4 hr	49.3 hr	>99.9 %	5.2 hr	15.5 hr	>99.9 %	3.1 hr	9.3 hr
D126	10'-6"	10.4 mJ/cm <sup>2</sup> over 24 hr	14.23	97.7 %	14.7 hr	44.1 hr	>99.9 %	4.6 hr	13.8 hr	>99.9 %	2.8 hr	8.3 hr
D132	11'	12.4 mJ/cm <sup>2</sup> over 24 hr	11.93	98.8 %	12.4 hr	37.2 hr	>99.9 %	3.9 hr	11.7 hr	>99.9 %	2.3 hr	7.0 hr
D138	11'-6"	14.2 mJ/cm <sup>2</sup> over 24 hr	10.42	99.4 %	10.8 hr	32.4 hr	>99.9 %	3.4 hr	10.2 hr	>99.9 %	2.0 hr	6.1 hr
D144	12'	15 mJ/cm <sup>2</sup> over 24 hr	9.86	99.6 %	10.2 hr	30.7 hr	>99.9 %	3.2 hr	9.6 hr	>99.9 %	1.9 hr	5.8 hr
D150	12'-6"	16.8 mJ/cm <sup>2</sup> over 24 hr	8.81	99.8 %	9.2 hr	27.5 hr	>99.9 %	2.9 hr	8.6 hr	>99.9 %	1.7 hr	5.2 hr

6' x 6' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	Feline Calicivirus			Influenza			SARS-CoV-2		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D114	9-6"	6.7 mJ/cm <sup>2</sup> over 24 hr	22.08	90.9 %	23.0 hr	69.1 hr	>99.9 %	7.2 hr	21.6 hr	>99.9 %	4.3 hr	13.0 hr
D120	10'	8.1 mJ/cm <sup>2</sup> over 24 hr	18.26	94.6 %	19.0 hr	56.9 hr	>99.9 %	5.9 hr	17.8 hr	>99.9 %	3.6 hr	10.7 hr
D126	10'-6"	9.2 mJ/cm <sup>2</sup> over 24 hr	16.08	96.4 %	16.7 hr	50.0 hr	>99.9 %	5.2 hr	15.7 hr	>99.9 %	3.1 hr	9.4 hr
D132	11'	11.1 mJ/cm <sup>2</sup> over 24 hr	13.33	98.2 %	13.8 hr	41.5 hr	>99.9 %	4.3 hr	13.0 hr	>99.9 %	2.6 hr	7.8 hr
D138	11'-6"	12.9 mJ/cm <sup>2</sup> over 24 hr	11.47	99.0 %	11.9 hr	35.7 hr	>99.9 %	3.7 hr	11.2 hr	>99.9 %	2.2 hr	6.7 hr
D144	12'	13.8 mJ/cm <sup>2</sup> over 24 hr	10.72	99.3 %	11.1 hr	33.4 hr	>99.9 %	3.5 hr	10.5 hr	>99.9 %	2.1 hr	6.3 hr
D150	12'-6"	15.5 mJ/cm <sup>2</sup> over 24 hr	9.54	99.6 %	9.9 hr	29.7 hr	>99.9 %	3.1 hr	9.3 hr	>99.9 %	1.9 hr	5.6 hr

8' x 8' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	Feline Calicivirus			Influenza			SARS-CoV-2		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D114	9-6"	5.2 mJ/cm <sup>2</sup> over 24 hr	28.45	84.7 %	29.4 hr	88.3 hr	99.8 %	9.2 hr	27.6 hr	>99.9 %	5.5 hr	16.6 hr
D120	10'	6.5 mJ/cm <sup>2</sup> over 24 hr	22.76	90.5 %	23.5 hr	70.4 hr	>99.9 %	7.4 hr	22.1 hr	>99.9 %	4.4 hr	13.2 hr
D126	10'-6"	7.6 mJ/cm <sup>2</sup> over 24 hr	19.47	93.6 %	20.1 hr	60.2 hr	>99.9 %	6.3 hr	18.8 hr	>99.9 %	3.8 hr	11.3 hr
D132	11'	9.4 mJ/cm <sup>2</sup> over 24 hr	15.74	96.6 %	16.3 hr	48.9 hr	>99.9 %	5.1 hr	15.3 hr	>99.9 %	3.1 hr	9.2 hr
D138	11'-6"	11.2 mJ/cm <sup>2</sup> over 24 hr	13.21	98.2 %	13.7 hr	41.2 hr	>99.9 %	4.3 hr	12.9 hr	>99.9 %	2.6 hr	7.7 hr
D144	12'	12.1 mJ/cm <sup>2</sup> over 24 hr	12.23	98.7 %	12.6 hr	37.9 hr	>99.9 %	4.0 hr	11.9 hr	>99.9 %	2.4 hr	7.1 hr
D150	12'-6"	13.9 mJ/cm <sup>2</sup> over 24 hr	10.64	99.3 %	11.1 hr	33.2 hr	>99.9 %	3.5 hr	10.4 hr	>99.9 %	2.1 hr	6.2 hr

(Continued on next page)

# 2BLT Volumetric Recessed Lighting 2' x 2' and 2' x 4' with Care222 Technology

## 2x2 BLT with C222 Dual Module Projected Virus Inactivation (continued)

10' x 10' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height (Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	Feline Calicivirus			Influenza			SARS-CoV-2		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D114	9'-6"	3.9 mJ/cm <sup>2</sup> over 24 hr	37.93	75.1 %	39.7 hr	119.1 hr	98.8 %	12.4 hr	37.3 hr	>99.9 %	7.5 hr	22.4 hr
D120	10'	5 mJ/cm <sup>2</sup> over 24 hr	29.59	83.5 %	30.7 hr	92.2 hr	99.7 %	9.6 hr	28.9 hr	>99.9 %	5.8 hr	17.3 hr
D126	10'-6"	6 mJ/cm <sup>2</sup> over 24 hr	24.66	88.5 %	25.5 hr	76.7 hr	99.9 %	8.0 hr	24.0 hr	>99.9 %	4.8 hr	14.4 hr
D132	11'	7.6 mJ/cm <sup>2</sup> over 24 hr	19.47	93.5 %	20.2 hr	60.7 hr	>99.9 %	6.3 hr	19.0 hr	>99.9 %	3.8 hr	11.4 hr
D138	11'-6"	9.2 mJ/cm <sup>2</sup> over 24 hr	16.08	96.4 %	16.6 hr	49.9 hr	>99.9 %	5.2 hr	15.6 hr	>99.9 %	3.1 hr	9.4 hr
D144	12'	10.2 mJ/cm <sup>2</sup> over 24 hr	14.50	97.5 %	15.0 hr	45.0 hr	>99.9 %	4.7 hr	14.1 hr	>99.9 %	2.8 hr	8.5 hr
D150	12'-6"	11.9 mJ/cm <sup>2</sup> over 24 hr	12.43	98.6 %	12.9 hr	38.7 hr	>99.9 %	4.0 hr	12.1 hr	>99.9 %	2.4 hr	7.3 hr

12' x 12' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height (Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	Feline Calicivirus			Influenza			SARS-CoV-2		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D114	9'-6"	2.8 mJ/cm <sup>2</sup> over 24 hr	52.84	64.1 %	54.0 hr	161.9 hr	96.2 %	16.9 hr	50.7 hr	99.6 %	10.1 hr	30.4 hr
D120	10'	3.7 mJ/cm <sup>2</sup> over 24 hr	39.99	73.9 %	41.1 hr	123.3 hr	98.6 %	12.9 hr	38.6 hr	>99.9 %	7.7 hr	23.2 hr
D126	10'-6"	4.6 mJ/cm <sup>2</sup> over 24 hr	32.16	80.8 %	33.5 hr	100.4 hr	99.5 %	10.5 hr	31.4 hr	>99.9 %	6.3 hr	18.9 hr
D132	11'	5.9 mJ/cm <sup>2</sup> over 24 hr	25.08	88.1 %	26.0 hr	77.9 hr	99.9 %	8.1 hr	24.4 hr	>99.9 %	4.9 hr	14.6 hr
D138	11'-6"	7.3 mJ/cm <sup>2</sup> over 24 hr	20.27	92.9 %	20.9 hr	62.8 hr	>99.9 %	6.6 hr	19.7 hr	>99.9 %	3.9 hr	11.8 hr
D144	12'	8.3 mJ/cm <sup>2</sup> over 24 hr	17.82	94.9 %	18.5 hr	55.5 hr	>99.9 %	5.8 hr	17.4 hr	>99.9 %	3.5 hr	10.4 hr
D150	12'-6"	9.9 mJ/cm <sup>2</sup> over 24 hr	14.94	97.1 %	15.5 hr	46.6 hr	>99.9 %	4.9 hr	14.6 hr	>99.9 %	2.9 hr	8.8 hr

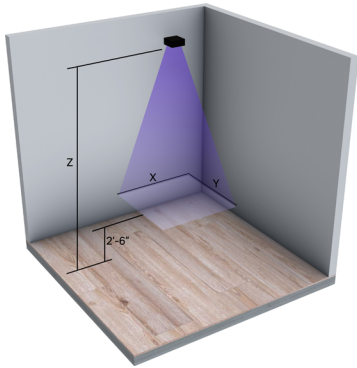
### Notes

1. The results presented here are based upon a 12'x12'x15' high empty room with all surface reflectance assumed to be 5%.
2. Intentionally omitted.
3. As a result of computational limitations and simplifying modeling assumptions in Visual, variations in actual product performance from tested product samples, and/or variations in field conditions from laboratory testing conditions, the accuracy of calculated output values identifying radiometric quantities and any resulting derived radiation dose predictions may be adversely affected. See complete disclaimer at: [Visual Disclaimer](#)
4. This data is reported in reference to Projected Photodegradation Effect. See pages 24 and 25 for Photodegradation Testing Results.



# 2BLT Volumetric Recessed Lighting 2' x 2' and 2' x 4' with Care222 Technology

## 2x2 BLT with C222 Dual Module



### Projected Bacteria Inactivation

Use this chart to estimate the effectiveness of one dual module fixture, mounted at various mounting heights (Z) and having different areas of coverage (X x Y), at inactivating the pathogens listed below on surfaces. The calculated average dose for each scenario is determined from Visual<sup>®</sup> Lighting application software radiometric modeling<sup>1</sup> and is then correlated with laboratory research<sup>2</sup> to derive projected inactivation effectiveness for specific pathogens. The analysis assumes that a horizontal plane positioned 2'-6" Above Finished Floor (AFF) is receiving the dose. For different areas of coverage or multiple fixture layouts, consult an Acuity Brands UV Lighting Specialist.

#### Notes

1. The results presented here are based upon a 12'x12'x15' high empty room with all surface reflectance assumed to be 5%.
2. Reference [Pathogen Inactivation Dose Reference List - 222nm, 254nm & Pulsed Xenon UV Light Sources](#).
3. As a result of computational limitations and simplifying modeling assumptions in Visual, variations in actual product performance from tested product samples, and/or variations in field conditions from laboratory testing conditions, the accuracy of calculated output values identifying radiometric quantities and any resulting derived radiation dose predictions may be adversely affected. See complete disclaimer at: [Visual Disclaimer](#)
4. This data is reported in reference to Projected Photodegradation Effect. See pages 24 and 25 for Photodegradation Testing Results.

4' x 4' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	MRSA			E-Coli			Salmonella		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D114	9'-6"	7.9 mJ/cm <sup>2</sup> over 24 hr	18.73	98.4 %	13.4 hr	40.3 hr	>99.9 %	6.1 hr	18.3 hr	99.8 %	8.7 hr	26.2 hr
D120	10'	9.3 mJ/cm <sup>2</sup> over 24 hr	15.91	99.2 %	11.3 hr	34.0 hr	>99.9 %	5.2 hr	15.5 hr	>99.9 %	7.4 hr	22.1 hr
D126	10'-6"	10.4 mJ/cm <sup>2</sup> over 24 hr	14.23	99.6 %	10.1 hr	30.4 hr	>99.9 %	4.6 hr	13.8 hr	>99.9 %	6.6 hr	19.8 hr
D132	11'	12.4 mJ/cm <sup>2</sup> over 24 hr	11.93	99.8 %	8.6 hr	25.7 hr	>99.9 %	3.9 hr	11.7 hr	>99.9 %	5.6 hr	16.7 hr
D138	11'-6"	14.2 mJ/cm <sup>2</sup> over 24 hr	10.42	>99.9 %	7.5 hr	22.4 hr	>99.9 %	3.4 hr	10.2 hr	>99.9 %	4.8 hr	14.5 hr
D144	12'	15 mJ/cm <sup>2</sup> over 24 hr	9.86	>99.9 %	7.0 hr	21.1 hr	>99.9 %	3.2 hr	9.6 hr	>99.9 %	4.6 hr	13.7 hr
D150	12'-6"	16.8 mJ/cm <sup>2</sup> over 24 hr	8.81	>99.9 %	6.3 hr	18.9 hr	>99.9 %	2.9 hr	8.6 hr	>99.9 %	4.1 hr	12.3 hr

6' x 6' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	MRSA			E-Coli			Salmonella		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D114	9'-6"	6.7 mJ/cm <sup>2</sup> over 24 hr	22.08	96.9 %	15.9 hr	47.6 hr	>99.9 %	7.2 hr	21.6 hr	99.5 %	10.3 hr	31.0 hr
D120	10'	8.1 mJ/cm <sup>2</sup> over 24 hr	18.26	98.5 %	13.1 hr	39.3 hr	>99.9 %	5.9 hr	17.8 hr	99.8 %	8.5 hr	25.5 hr
D126	10'-6"	9.2 mJ/cm <sup>2</sup> over 24 hr	16.08	99.2 %	11.5 hr	34.5 hr	>99.9 %	5.2 hr	15.7 hr	>99.9 %	7.5 hr	22.4 hr
D132	11'	11.1 mJ/cm <sup>2</sup> over 24 hr	13.33	99.7 %	9.5 hr	28.6 hr	>99.9 %	4.3 hr	13.0 hr	>99.9 %	6.2 hr	18.6 hr
D138	11'-6"	12.9 mJ/cm <sup>2</sup> over 24 hr	11.47	99.9 %	8.2 hr	24.6 hr	>99.9 %	3.7 hr	11.2 hr	>99.9 %	5.3 hr	16.0 hr
D144	12'	13.8 mJ/cm <sup>2</sup> over 24 hr	10.72	>99.9 %	7.7 hr	23.0 hr	>99.9 %	3.5 hr	10.5 hr	>99.9 %	5.0 hr	15.0 hr
D150	12'-6"	15.5 mJ/cm <sup>2</sup> over 24 hr	9.54	>99.9 %	6.8 hr	20.5 hr	>99.9 %	3.1 hr	9.3 hr	>99.9 %	4.4 hr	13.3 hr

8' x 8' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	MRSA			E-Coli			Salmonella		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D114	9'-6"	5.2 mJ/cm <sup>2</sup> over 24 hr	28.45	93.4 %	20.3 hr	60.9 hr	99.8 %	9.2 hr	27.7 hr	98.5 %	13.2 hr	39.6 hr
D120	10'	6.5 mJ/cm <sup>2</sup> over 24 hr	22.76	96.7 %	16.2 hr	48.6 hr	>99.9 %	7.4 hr	22.1 hr	99.5 %	10.5 hr	31.6 hr
D126	10'-6"	7.6 mJ/cm <sup>2</sup> over 24 hr	19.47	98.2 %	13.8 hr	41.5 hr	>99.9 %	6.3 hr	18.9 hr	99.8 %	9.0 hr	27.0 hr
D132	11'	9.4 mJ/cm <sup>2</sup> over 24 hr	15.74	99.3 %	11.2 hr	33.7 hr	>99.9 %	5.1 hr	15.3 hr	>99.9 %	7.3 hr	21.9 hr
D138	11'-6"	11.2 mJ/cm <sup>2</sup> over 24 hr	13.21	99.7 %	9.5 hr	28.4 hr	>99.9 %	4.3 hr	12.9 hr	>99.9 %	6.2 hr	18.5 hr
D144	12'	12.1 mJ/cm <sup>2</sup> over 24 hr	12.23	99.8 %	8.7 hr	26.2 hr	>99.9 %	4.0 hr	11.9 hr	>99.9 %	5.7 hr	17.0 hr
D150	12'-6"	13.9 mJ/cm <sup>2</sup> over 24 hr	10.64	>99.9 %	7.6 hr	22.9 hr	>99.9 %	3.5 hr	10.4 hr	>99.9 %	5.0 hr	14.9 hr

(Continued on next page)

# 2BLT Volumetric Recessed Lighting 2' x 2' and 2' x 4' with Care222 Technology

## 2x2 BLT with C222 Dual Module Projected Bacteria Inactivation (continued)

10' x 10' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	MRSA			E-Coli			Salmonella		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D114	9'-6"	3.9 mJ/cm <sup>2</sup> over 24 hr	37.93	86.7 %	27.4 hr	82.2 hr	98.8 %	12.4 hr	37.3 hr	95.5 %	17.8 hr	53.4 hr
D120	10'	5 mJ/cm <sup>2</sup> over 24 hr	29.59	92.6 %	21.2 hr	63.6 hr	99.7 %	9.6 hr	28.9 hr	98.2 %	13.8 hr	41.3 hr
D126	10'-6"	6 mJ/cm <sup>2</sup> over 24 hr	24.66	95.7 %	17.6 hr	52.9 hr	99.9 %	8.0 hr	24.0 hr	99.2 %	11.5 hr	34.4 hr
D132	11'	7.6 mJ/cm <sup>2</sup> over 24 hr	19.47	98.1 %	13.9 hr	41.8 hr	>99.9 %	6.3 hr	19.0 hr	99.8 %	9.1 hr	27.2 hr
D138	11'-6"	9.2 mJ/cm <sup>2</sup> over 24 hr	16.08	99.2 %	11.5 hr	34.4 hr	>99.9 %	5.2 hr	15.7 hr	>99.9 %	7.5 hr	22.4 hr
D144	12'	10.2 mJ/cm <sup>2</sup> over 24 hr	14.50	99.5 %	10.4 hr	31.1 hr	>99.9 %	4.7 hr	14.1 hr	>99.9 %	6.7 hr	20.2 hr
D150	12'-6"	11.9 mJ/cm <sup>2</sup> over 24 hr	12.43	99.8 %	8.9 hr	26.7 hr	>99.9 %	4.0 hr	12.1 hr	>99.9 %	5.8 hr	17.3 hr

12' x 12' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	MRSA			E-Coli			Salmonella		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D114	9'-6"	2.8 mJ/cm <sup>2</sup> over 24 hr	52.84	77.3 %	37.2 hr	111.7 hr	96.2 %	16.9 hr	50.8 hr	89.8 %	24.2 hr	72.6 hr
D120	10'	3.7 mJ/cm <sup>2</sup> over 24 hr	39.99	85.8 %	28.3 hr	85.0 hr	98.6 %	12.9 hr	38.6 hr	95.0 %	18.4 hr	55.3 hr
D126	10'-6"	4.6 mJ/cm <sup>2</sup> over 24 hr	32.16	90.9 %	23.1 hr	69.2 hr	99.5 %	10.5 hr	31.5 hr	97.5 %	15.0 hr	45.0 hr
D132	11'	5.9 mJ/cm <sup>2</sup> over 24 hr	25.08	95.4 %	17.9 hr	53.8 hr	99.9 %	8.1 hr	24.4 hr	99.1 %	11.6 hr	34.9 hr
D138	11'-6"	7.3 mJ/cm <sup>2</sup> over 24 hr	20.27	97.8 %	14.4 hr	43.3 hr	>99.9 %	6.6 hr	19.7 hr	99.7 %	9.4 hr	28.2 hr
D144	12'	8.3 mJ/cm <sup>2</sup> over 24 hr	17.82	98.7 %	12.8 hr	38.3 hr	>99.9 %	5.8 hr	17.4 hr	99.9 %	8.3 hr	24.9 hr
D150	12'-6"	9.9 mJ/cm <sup>2</sup> over 24 hr	14.94	99.4 %	10.7 hr	32.2 hr	>99.9 %	4.9 hr	14.6 hr	>99.9 %	7.0 hr	20.9 hr

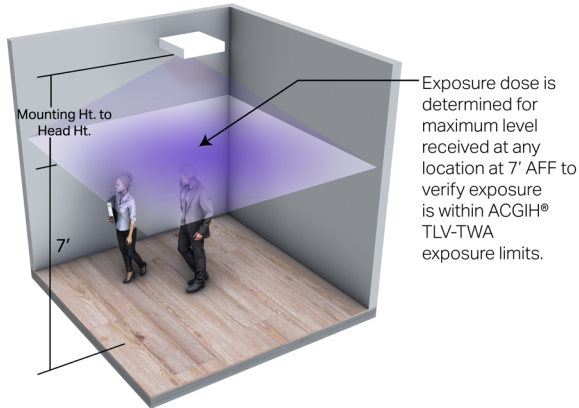
### Notes

- The results presented here are based upon a 12'x12'x15' high empty room with all surface reflectance assumed to be 5%.
- Intentionally omitted.
- As a result of computational limitations and simplifying modeling assumptions in Visual, variations in actual product performance from tested product samples, and/or variations in field conditions from laboratory testing conditions, the accuracy of calculated output values identifying radiometric quantities and any resulting derived radiation dose predictions may be adversely affected. See complete disclaimer at: [Visual Disclaimer](#)
- This data is reported in reference to Projected Photodegradation Effect. See pages 24 and 25 for Photodegradation Testing Results.

# 2BLT Volumetric Recessed Lighting 2' x 2' and 2' x 4' with Care222 Technology

## 2x4 BLT with C222 Dual Module

### Projected UV Exposure and Exposure Limits



This chart illustrates mounting height configurations for the BLT fixture, incorporating Care222® technology, that provide a UV exposure dose within the exposure guidelines<sup>1</sup> established and published by the American Conference of Governmental Industrial Hygienists (ACGIH®). For the UV exposure dose to remain within the ACGIH guidelines for the level of UV exposure a typical worker can be exposed to without adverse health effects, the maximum exposure dose must not exceed 23 mJ/cm<sup>2</sup> (millijoules per square centimeter) for an 8-hour period of time. Per the UL 8802 standard, the upper limit of occupied space is defined to be a test plane 7' Above Finished Floor (AFF). This calculated maximum exposure dose represents the dose an individual would receive over an 8-hour period at 7' Above Finished Floor (AFF) even if stationary in the location of maximum dose.

ACGIH guidelines are designed for use by industrial hygienists in making decisions regarding safe levels of exposure to hazards in the workplace. The levels of exposure in the ACGIH guidelines are quantified as Threshold Limit Values (TLVs®) and are expressed as Time-Weighted Averages (TWAs). The TLVs refer to incoherent ultraviolet (UV) radiation with wavelengths between 180 and 400nm and represent conditions under which it is believed that nearly all healthy workers may be repeatedly exposed without acute adverse health effects such as erythema and photokeratitis.

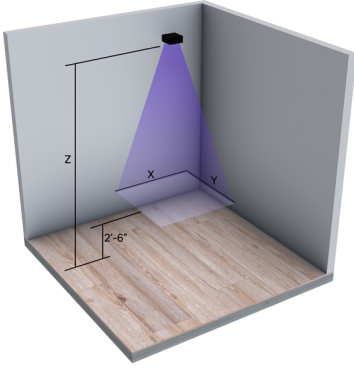
Distance		Maximum 8 hr Dose	Meets ACGIH® TLV-TWA
Mounting Ht.	Mounting Ht. to Head Ht.	mJ/cm <sup>2</sup>	<23 mJ/cm <sup>2</sup>
9'	2'	18.99	Yes
9'-6"	2'-6"	20.26	Yes
10'	3'	19.69	Yes
10'-6"	3'-6"	19.39	Yes
11'	4'	19.62	Yes
11'-6"	4'-6"	19.51	Yes
12'	5'	19	Yes

#### Notes

- 1 ACGIH® 2021 TLVs® and BEIs® - Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices; when installed and used in accordance with written instructions.

# 2BLT Volumetric Recessed Lighting 2' x 2' and 2' x 4' with Care222 Technology

## 2x4 BLT with C222 Dual Module



## Projected Virus Inactivation

Use this chart to estimate the effectiveness of one dual module fixture mounted at varying mounting heights (Z) and having different areas of coverage (X x Y), at inactivating the pathogens listed below on surfaces. The calculated average dose for each scenario is determined from Visual® Lighting application software radiometric modeling<sup>1</sup> and is then correlated with laboratory research<sup>2</sup> to derive projected inactivation effectiveness for specific pathogens. The analysis assumes that a horizontal plane positioned 2'-6" Above Finished Floor (AFF) is receiving the dose. For different areas of coverage or multiple fixture layouts, consult an Acuity Brands UV Lighting Specialist.

### Notes

1. The results presented here are based upon a 12'x12'x15' high empty room with all surface reflectance assumed to be 5%.
2. Reference [Pathogen Inactivation Dose Reference List - 222nm, 254nm & Pulsed Xenon UV Light Sources](#).
3. As a result of computational limitations and simplifying modeling assumptions in Visual, variations in actual product performance from tested product samples, and/or variations in field conditions from laboratory testing conditions, the accuracy of calculated output values identifying radiometric quantities and any resulting derived radiation dose predictions may be adversely affected. See complete disclaimer at: [Visual Disclaimer](#)
4. This data is reported in reference to Projected Photodegradation Effect. See pages 24 and 25 for Photodegradation Testing Results.

4' x 4' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	Feline Calicivirus			Influenza			SARS-CoV-2		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D108	9'	7.6 mJ/cm <sup>2</sup> over 24 hr	19.47	93.4 %	20.3 hr	60.9 hr	>99.9 %	6.4 hr	19.1 hr	>99.9 %	3.8 hr	11.4 hr
D114	9-6"	11.4 mJ/cm <sup>2</sup> over 24 hr	12.98	98.3 %	13.5 hr	40.4 hr	>99.9 %	4.2 hr	12.7 hr	>99.9 %	2.5 hr	7.6 hr
D120	10'	14.4 mJ/cm <sup>2</sup> over 24 hr	10.27	99.5 %	10.6 hr	31.8 hr	>99.9 %	3.3 hr	10.0 hr	>99.9 %	2.0 hr	6.0 hr
D126	10'-6"	16.9 mJ/cm <sup>2</sup> over 24 hr	8.75	99.8 %	9.1 hr	27.3 hr	>99.9 %	2.8 hr	8.5 hr	>99.9 %	1.7 hr	5.1 hr
D132	11'	16.7 mJ/cm <sup>2</sup> over 24 hr	8.86	99.8 %	9.2 hr	27.6 hr	>99.9 %	2.9 hr	8.6 hr	>99.9 %	1.7 hr	5.2 hr
D138	11'-6"	17.1 mJ/cm <sup>2</sup> over 24 hr	8.65	99.8 %	9.0 hr	26.9 hr	>99.9 %	2.8 hr	8.4 hr	>99.9 %	1.7 hr	5.1 hr
D144	12'	17.3 mJ/cm <sup>2</sup> over 24 hr	8.55	99.8 %	8.9 hr	26.6 hr	>99.9 %	2.8 hr	8.3 hr	>99.9 %	1.7 hr	5.0 hr

6' x 6' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	Feline Calicivirus			Influenza			SARS-CoV-2		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D108	9'	6.3 mJ/cm <sup>2</sup> over 24 hr	23.48	89.8 %	24.2 hr	72.7 hr	>99.9 %	7.6 hr	22.7 hr	>99.9 %	4.5 hr	13.6 hr
D114	9-6"	9.7 mJ/cm <sup>2</sup> over 24 hr	15.25	97.0 %	15.7 hr	47.2 hr	>99.9 %	4.9 hr	14.8 hr	>99.9 %	3.0 hr	8.9 hr
D120	10'	12.6 mJ/cm <sup>2</sup> over 24 hr	11.74	98.9 %	12.2 hr	36.6 hr	>99.9 %	3.8 hr	11.4 hr	>99.9 %	2.3 hr	6.9 hr
D126	10'-6"	14.9 mJ/cm <sup>2</sup> over 24 hr	9.93	99.5 %	10.3 hr	30.8 hr	>99.9 %	3.2 hr	9.7 hr	>99.9 %	1.9 hr	5.8 hr
D132	11'	15 mJ/cm <sup>2</sup> over 24 hr	9.86	99.5 %	10.2 hr	30.7 hr	>99.9 %	3.2 hr	9.6 hr	>99.9 %	1.9 hr	5.8 hr
D138	11'-6"	15.5 mJ/cm <sup>2</sup> over 24 hr	9.54	99.6 %	9.9 hr	29.6 hr	>99.9 %	3.1 hr	9.3 hr	>99.9 %	1.9 hr	5.6 hr
D144	12'	15.9 mJ/cm <sup>2</sup> over 24 hr	9.30	99.7 %	9.6 hr	28.9 hr	>99.9 %	3.0 hr	9.1 hr	>99.9 %	1.8 hr	5.4 hr

8' x 8' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	Feline Calicivirus			Influenza			SARS-CoV-2		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D108	9'	5 mJ/cm <sup>2</sup> over 24 hr	29.59	83.6 %	30.6 hr	91.8 hr	99.7 %	9.6 hr	28.7 hr	>99.9 %	5.7 hr	17.2 hr
D114	9-6"	7.9 mJ/cm <sup>2</sup> over 24 hr	18.73	94.2 %	19.5 hr	58.4 hr	>99.9 %	6.1 hr	18.3 hr	>99.9 %	3.7 hr	11.0 hr
D120	10'	10.4 mJ/cm <sup>2</sup> over 24 hr	14.23	97.6 %	14.8 hr	44.3 hr	>99.9 %	4.6 hr	13.9 hr	>99.9 %	2.8 hr	8.3 hr
D126	10'-6"	12.6 mJ/cm <sup>2</sup> over 24 hr	11.74	98.9 %	12.2 hr	36.6 hr	>99.9 %	3.8 hr	11.5 hr	>99.9 %	2.3 hr	6.9 hr
D132	11'	12.8 mJ/cm <sup>2</sup> over 24 hr	11.56	99.0 %	11.9 hr	35.8 hr	>99.9 %	3.7 hr	11.2 hr	>99.9 %	2.2 hr	6.7 hr
D138	11'-6"	13.5 mJ/cm <sup>2</sup> over 24 hr	10.96	99.2 %	11.3 hr	34.0 hr	>99.9 %	3.6 hr	10.7 hr	>99.9 %	2.1 hr	6.4 hr
D144	12'	14.1 mJ/cm <sup>2</sup> over 24 hr	10.49	99.4 %	10.9 hr	32.7 hr	>99.9 %	3.4 hr	10.2 hr	>99.9 %	2.0 hr	6.1 hr

(Continued on next page)

# 2BLT Volumetric Recessed Lighting 2' x 2' and 2' x 4' with Care222 Technology

## 2x4 BLT with C222 Dual Module Projected Virus Inactivation (continued)

10' x 10' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	Feline Calicivirus			Influenza			SARS-CoV-2		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D108	9'	3.8 mJ/cm <sup>2</sup> over 24 hr	38.93	74.5 %	40.4 hr	121.3 hr	98.7 %	12.7 hr	38.0 hr	>99.9 %	7.6 hr	22.8 hr
D114	9'-6"	6.1 mJ/cm <sup>2</sup> over 24 hr	24.25	88.9 %	25.1 hr	75.4 hr	>99.9 %	7.9 hr	23.6 hr	>99.9 %	4.7 hr	14.2 hr
D120	10'	8.2 mJ/cm <sup>2</sup> over 24 hr	18.04	94.9 %	18.6 hr	55.9 hr	>99.9 %	5.8 hr	17.5 hr	>99.9 %	3.5 hr	10.5 hr
D126	10'-6"	10.2 mJ/cm <sup>2</sup> over 24 hr	14.50	97.4 %	15.1 hr	45.3 hr	>99.9 %	4.7 hr	14.2 hr	>99.9 %	2.8 hr	8.5 hr
D132	11'	10.6 mJ/cm <sup>2</sup> over 24 hr	13.96	97.8 %	14.5 hr	43.5 hr	>99.9 %	4.5 hr	13.6 hr	>99.9 %	2.7 hr	8.2 hr
D138	11'-6"	11.3 mJ/cm <sup>2</sup> over 24 hr	13.09	98.3 %	13.5 hr	40.6 hr	>99.9 %	4.2 hr	12.7 hr	>99.9 %	2.5 hr	7.6 hr
D144	12'	12 mJ/cm <sup>2</sup> over 24 hr	12.33	98.7 %	12.8 hr	38.5 hr	>99.9 %	4.0 hr	12.0 hr	>99.9 %	2.4 hr	7.2 hr

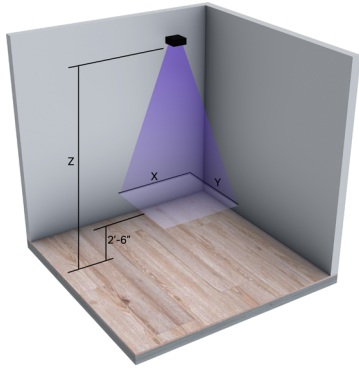
12' x 12' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	Feline Calicivirus			Influenza			SARS-CoV-2		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D108	9'	2.8 mJ/cm <sup>2</sup> over 24 hr	52.84	63.9 %	54.2 hr	162.5 hr	96.2 %	17.0 hr	50.9 hr	99.6 %	10.2 hr	30.5 hr
D114	9'-6"	4.6 mJ/cm <sup>2</sup> over 24 hr	32.16	81.2 %	33.1 hr	99.3 hr	99.5 %	10.4 hr	31.1 hr	>99.9 %	6.2 hr	18.7 hr
D120	10'	6.4 mJ/cm <sup>2</sup> over 24 hr	23.12	89.9 %	24.1 hr	72.4 hr	>99.9 %	7.6 hr	22.7 hr	>99.9 %	4.5 hr	13.6 hr
D126	10'-6"	8 mJ/cm <sup>2</sup> over 24 hr	18.49	94.4 %	19.2 hr	57.6 hr	>99.9 %	6.0 hr	18.0 hr	>99.9 %	3.6 hr	10.8 hr
D132	11'	8.5 mJ/cm <sup>2</sup> over 24 hr	17.41	95.3 %	18.1 hr	54.4 hr	>99.9 %	5.7 hr	17.0 hr	>99.9 %	3.4 hr	10.2 hr
D138	11'-6"	9.2 mJ/cm <sup>2</sup> over 24 hr	16.08	96.4 %	16.6 hr	49.9 hr	>99.9 %	5.2 hr	15.6 hr	>99.9 %	3.1 hr	9.4 hr
D144	12'	9.9 mJ/cm <sup>2</sup> over 24 hr	14.94	97.2 %	15.5 hr	46.5 hr	>99.9 %	4.9 hr	14.6 hr	>99.9 %	2.9 hr	8.7 hr

### Notes

- The results presented here are based upon a 12'x12'x15' high empty room with all surface reflectance assumed to be 5%.
- Intentionally omitted.
- As a result of computational limitations and simplifying modeling assumptions in Visual, variations in actual product performance from tested product samples, and/or variations in field conditions from laboratory testing conditions, the accuracy of calculated output values identifying radiometric quantities and any resulting derived radiation dose predictions may be adversely affected. See complete disclaimer at: [Visual Disclaimer](#)
- This data is reported in reference to Projected Photodegradation Effect. See pages 24 and 25 for Photodegradation Testing Results.

# 2BLT Volumetric Recessed Lighting 2' x 2' and 2' x 4' with Care222 Technology

## 2x4 BLT with C222 Dual Module



### Projected Bacteria Inactivation

Use this chart to estimate the effectiveness of one dual module fixture, mounted at various mounting heights (Z) and having different areas of coverage (X x Y), at inactivating the pathogens listed below on surfaces. The calculated average dose for each scenario is determined from Visual® Lighting application software radiometric modeling<sup>1</sup> and is then correlated with laboratory research<sup>2</sup> to derive projected inactivation effectiveness for specific pathogens. The analysis assumes that a horizontal plane positioned 2'-6" Above Finished Floor (AFF) is receiving the dose. For different areas of coverage or multiple fixture layouts, consult an Acuity Brands UV Lighting Specialist.

#### Notes

- The results presented here are based upon a 12'x12'x15' high empty room with all surface reflectance assumed to be 5%.
- Reference [Pathogen Inactivation Dose Reference List - 222nm, 254nm & Pulsed Xenon UV Light Sources](#).
- As a result of computational limitations and simplifying modeling assumptions in Visual, variations in actual product performance from tested product samples, and/or variations in field conditions from laboratory testing conditions, the accuracy of calculated output values identifying radiometric quantities and any resulting derived radiation dose predictions may be adversely affected. See complete disclaimer at: [Visual Disclaimer](#)
- This data is reported in reference to Projected Photodegradation Effect. See pages 24 and 25 for Photodegradation Testing Results.

4' x 4' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	MRSA			E-Coli			Salmonella		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D108	9'	7.6 mJ/cm <sup>2</sup> over 24 hr	19.47	98.1 %	14.0 hr	42.0 hr	>99.9 %	6.4 hr	19.1 hr	99.8 %	9.1 hr	27.3 hr
D114	9-6"	11.4 mJ/cm <sup>2</sup> over 24 hr	12.98	99.7 %	9.3 hr	27.9 hr	>99.9 %	4.2 hr	12.7 hr	>99.9 %	6.0 hr	18.1 hr
D120	10'	14.4 mJ/cm <sup>2</sup> over 24 hr	10.27	>99.9 %	7.3 hr	22.0 hr	>99.9 %	3.3 hr	10.0 hr	>99.9 %	4.8 hr	14.3 hr
D126	10'-6"	16.9 mJ/cm <sup>2</sup> over 24 hr	8.75	>99.9 %	6.3 hr	18.8 hr	>99.9 %	2.9 hr	8.6 hr	>99.9 %	4.1 hr	12.2 hr
D132	11'	16.7 mJ/cm <sup>2</sup> over 24 hr	8.86	>99.9 %	6.3 hr	19.0 hr	>99.9 %	2.9 hr	8.6 hr	>99.9 %	4.1 hr	12.4 hr
D138	11'-6"	17.1 mJ/cm <sup>2</sup> over 24 hr	8.65	>99.9 %	6.2 hr	18.6 hr	>99.9 %	2.8 hr	8.4 hr	>99.9 %	4.0 hr	12.1 hr
D144	12'	17.3 mJ/cm <sup>2</sup> over 24 hr	8.55	>99.9 %	6.1 hr	18.3 hr	>99.9 %	2.8 hr	8.3 hr	>99.9 %	4.0 hr	11.9 hr

6' x 6' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	MRSA			E-Coli			Salmonella		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D108	9'	6.3 mJ/cm <sup>2</sup> over 24 hr	23.48	96.3 %	16.7 hr	50.1 hr	>99.9 %	7.6 hr	22.8 hr	99.4 %	10.9 hr	32.6 hr
D114	9-6"	9.7 mJ/cm <sup>2</sup> over 24 hr	15.25	99.4 %	10.9 hr	32.6 hr	>99.9 %	4.9 hr	14.8 hr	>99.9 %	7.1 hr	21.2 hr
D120	10'	12.6 mJ/cm <sup>2</sup> over 24 hr	11.74	99.9 %	8.4 hr	25.2 hr	>99.9 %	3.8 hr	11.5 hr	>99.9 %	5.5 hr	16.4 hr
D126	10'-6"	14.9 mJ/cm <sup>2</sup> over 24 hr	9.93	>99.9 %	7.1 hr	21.3 hr	>99.9 %	3.2 hr	9.7 hr	>99.9 %	4.6 hr	13.8 hr
D132	11'	15 mJ/cm <sup>2</sup> over 24 hr	9.86	>99.9 %	7.1 hr	21.2 hr	>99.9 %	3.2 hr	9.6 hr	>99.9 %	4.6 hr	13.8 hr
D138	11'-6"	15.5 mJ/cm <sup>2</sup> over 24 hr	9.54	>99.9 %	6.8 hr	20.4 hr	>99.9 %	3.1 hr	9.3 hr	>99.9 %	4.4 hr	13.3 hr
D144	12'	15.9 mJ/cm <sup>2</sup> over 24 hr	9.30	>99.9 %	6.6 hr	19.9 hr	>99.9 %	3.0 hr	9.1 hr	>99.9 %	4.3 hr	13.0 hr

8' x 8' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	MRSA			E-Coli			Salmonella		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D108	9'	5 mJ/cm <sup>2</sup> over 24 hr	29.59	92.7 %	21.1 hr	63.3 hr	99.7 %	9.6 hr	28.8 hr	98.2 %	13.7 hr	41.2 hr
D114	9-6"	7.9 mJ/cm <sup>2</sup> over 24 hr	18.73	98.4 %	13.4 hr	40.2 hr	>99.9 %	6.1 hr	18.3 hr	99.8 %	8.7 hr	26.2 hr
D120	10'	10.4 mJ/cm <sup>2</sup> over 24 hr	14.23	99.6 %	10.2 hr	30.5 hr	>99.9 %	4.6 hr	13.9 hr	>99.9 %	6.6 hr	19.8 hr
D126	10'-6"	12.6 mJ/cm <sup>2</sup> over 24 hr	11.74	99.9 %	8.4 hr	25.3 hr	>99.9 %	3.8 hr	11.5 hr	>99.9 %	5.5 hr	16.4 hr
D132	11'	12.8 mJ/cm <sup>2</sup> over 24 hr	11.56	99.9 %	8.2 hr	24.7 hr	>99.9 %	3.7 hr	11.2 hr	>99.9 %	5.4 hr	16.1 hr
D138	11'-6"	13.5 mJ/cm <sup>2</sup> over 24 hr	10.96	>99.9 %	7.8 hr	23.5 hr	>99.9 %	3.6 hr	10.7 hr	>99.9 %	5.1 hr	15.2 hr
D144	12'	14.1 mJ/cm <sup>2</sup> over 24 hr	10.49	>99.9 %	7.5 hr	22.6 hr	>99.9 %	3.4 hr	10.3 hr	>99.9 %	4.9 hr	14.7 hr

(Continued on next page)

# 2BLT Volumetric Recessed Lighting 2' x 2' and 2' x 4' with Care222 Technology

## 2x4 BLT with C222 Dual Module Projected Bacteria Inactivation (continued)

10' x 10' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	MRSA			E-Coli			Salmonella		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D108	9'	3.8 mJ/cm <sup>2</sup> over 24 hr	38.93	86.2 %	27.9 hr	83.7 hr	98.7 %	12.7 hr	38.0 hr	95.3 %	18.1 hr	54.4 hr
D114	9'-6"	6.1 mJ/cm <sup>2</sup> over 24 hr	24.25	95.9 %	17.3 hr	52.0 hr	>99.9 %	7.9 hr	23.6 hr	99.3 %	11.3 hr	33.8 hr
D120	10'	8.2 mJ/cm <sup>2</sup> over 24 hr	18.04	98.6 %	12.8 hr	38.5 hr	>99.9 %	5.8 hr	17.5 hr	99.9 %	8.4 hr	25.1 hr
D126	10'-6"	10.2 mJ/cm <sup>2</sup> over 24 hr	14.50	99.5 %	10.4 hr	31.2 hr	>99.9 %	4.7 hr	14.2 hr	>99.9 %	6.8 hr	20.3 hr
D132	11'	10.6 mJ/cm <sup>2</sup> over 24 hr	13.96	99.6 %	10.0 hr	30.0 hr	>99.9 %	4.5 hr	13.6 hr	>99.9 %	6.5 hr	19.5 hr
D138	11'-6"	11.3 mJ/cm <sup>2</sup> over 24 hr	13.09	99.7 %	9.3 hr	28.0 hr	>99.9 %	4.2 hr	12.7 hr	>99.9 %	6.1 hr	18.2 hr
D144	12'	12 mJ/cm <sup>2</sup> over 24 hr	12.33	99.8 %	8.8 hr	26.5 hr	>99.9 %	4.0 hr	12.1 hr	>99.9 %	5.7 hr	17.2 hr

12' x 12' Area (X x Y)		Calculated Average Dose <sup>3</sup>		Surface Pathogen Inactivation <sup>1</sup>								
Programming	Mounting Height(Z)	mJ/cm <sup>2</sup>	Years to 54,000 mJ/cm <sup>2</sup> <sup>4</sup>	MRSA			E-Coli			Salmonella		
				% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%	% in 24 Hours	Hrs to 90	Hrs to 99.9%
D108	9'	2.8 mJ/cm <sup>2</sup> over 24 hr	52.84	77.2 %	37.4 hr	112.1 hr	96.1 %	17.0 hr	50.9 hr	89.7 %	24.3 hr	72.9 hr
D114	9'-6"	4.6 mJ/cm <sup>2</sup> over 24 hr	32.16	91.1 %	22.8 hr	68.5 hr	99.5 %	10.4 hr	31.1 hr	97.6 %	14.8 hr	44.5 hr
D120	10'	6.4 mJ/cm <sup>2</sup> over 24 hr	23.12	96.4 %	16.6 hr	49.9 hr	>99.9 %	7.6 hr	22.7 hr	99.4 %	10.8 hr	32.5 hr
D126	10'-6"	8 mJ/cm <sup>2</sup> over 24 hr	18.49	98.5 %	13.2 hr	39.7 hr	>99.9 %	6.0 hr	18.1 hr	99.8 %	8.6 hr	25.8 hr
D132	11'	8.5 mJ/cm <sup>2</sup> over 24 hr	17.41	98.8 %	12.5 hr	37.5 hr	>99.9 %	5.7 hr	17.0 hr	99.9 %	8.1 hr	24.4 hr
D138	11'-6"	9.2 mJ/cm <sup>2</sup> over 24 hr	16.08	99.2 %	11.5 hr	34.4 hr	>99.9 %	5.2 hr	15.7 hr	>99.9 %	7.5 hr	22.4 hr
D144	12'	9.9 mJ/cm <sup>2</sup> over 24 hr	14.94	99.4 %	10.7 hr	32.1 hr	>99.9 %	4.9 hr	14.6 hr	>99.9 %	7.0 hr	20.9 hr

### Notes

- The results presented here are based upon a 12'x12'x15' high empty room with all surface reflectance assumed to be 5%.
- Intentionally omitted.
- As a result of computational limitations and simplifying modeling assumptions in Visual, variations in actual product performance from tested product samples, and/or variations in field conditions from laboratory testing conditions, the accuracy of calculated output values identifying radiometric quantities and any resulting derived radiation dose predictions may be adversely affected. See complete disclaimer at: [Visual Disclaimer](#)
- This data is reported in reference to Projected Photodegradation Effect. See pages 24 and 25 for Photodegradation Testing Results.

# 2BLT Volumetric Recessed Lighting 2' x 2' and 2' x 4' with Care222 Technology

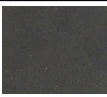
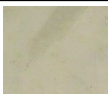
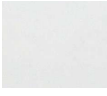

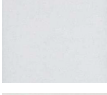
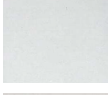
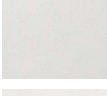
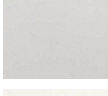
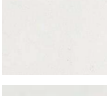
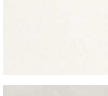

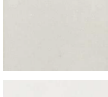
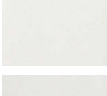
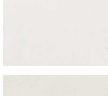
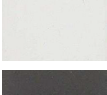
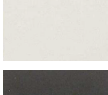
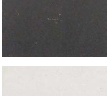
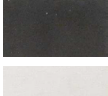
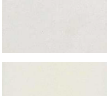
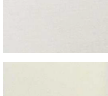
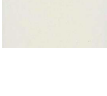
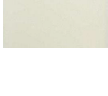
## Projected Photodegradation Effect

Refer to the "Years to 54,000 mJ/cm<sup>2</sup>" data reported on Projected Virus Inactivation and Projected Bacteria Inactivation Tables above and the Photodegradation Testing Results below to estimate the photodegradation effect on surfaces resulting from UV irradiation from one BLT fixture (single module or dual module, as applicable) with the coverage areas (XxY)<sup>1</sup> and at the mounting heights specified in the tables above. The calculated average dose<sup>2</sup> for each scenario identified in the Projected Virus Inactivation and Projected Bacteria Inactivation Tables is determined from Visual<sup>®</sup> Lighting application software radiometric modeling and is used to calculate the amount of time required to reach the dose used in independent laboratory photodegradation testing<sup>3</sup>. The analysis assumes that a horizontal plane positioned 2'-6" Above Finished Floor (AFF) is receiving the dose. Note that the calculated doses as presented in the Projected Virus Inactivation and Projected Bacteria Inactivation Tables are average values on the designated calculation plane. Calculated doses at specific points may be higher or lower than the average value. To estimate the photodegradation effect for different areas of coverage, at specific points, or multiple fixture layouts, consult an Acuity Brands UV Lighting Specialist.

### Notes

1. The results presented here are based upon a 12'x12'x15' high empty room with all surface reflectance assumed to be 5%.
2. As a result of computational limitations and simplifying modeling assumptions in Visual, variations in actual product performance from tested product samples, and/or variations in field conditions from laboratory testing conditions, the accuracy of calculated output values identifying radiometric quantities and any resulting derived radiation dose predictions may be adversely affected. [See complete disclaimer at VISUAL LIGHTING DISCLAIMER](#)
3. Independent laboratory photodegradation testing performed by Assured Testing Services, Ridgeway, PA, Test Report 28545, August 12, 2020.

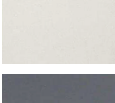



### Photodegradation Testing Results<sup>3</sup>

Material	Photodegradation Effect at Dose of 54,000 mJ/cm <sup>2</sup> *			
	Before UV exposure	After UV exposure	Average Δ E**	Average Δ - Durometer Hardness***
Polyvinyl chloride (PVC)			27.27	3
Polypropylene			3.86	-1
Polyethylene			5.50	0
Polytetrafluoroethylene (PTFE)			1.02	0
Clear polymethyl methacrylate			2.50	3
White polymethyl methacrylate			9.08	-3
Polyoxymethylene			4.47	5
Polycarbonate			6.89	-3
Acrylonitrile butadiene styrene (ABS)			0.90	0
Polyester			1.13	-1
Nylon			6.77	-4



## Projected Photodegradation Effect (continued)

Photodegradation Testing Results<sup>3</sup>

Material	Photodegradation Effect at Dose of 54,000 mJ/cm <sup>2</sup> *			
	Before UV exposure	After UV exposure	Average $\Delta E^{**}$	Average $\Delta$ - Durometer Hardness***
Cotton			2.12	N/A
Wool			2.73	N/A
Pine/Fir			7.79	1
Oak			8.73	-14
Poplar			11.65	-7
Low grade paper (copy paper)			4.15	N/A
Rag paper (stationary writing paper)			7.44	N/A
Oil paint on paper			1.47	N/A
Watercolors on rag paper			3.12	N/A
Window glass			0.11	N/A
Vinyl flooring			2.13	-2
Wall paper			3.83	N/A
Newsprint color			8.13	N/A
Barcode paper label			1.34	N/A

### Independent Lab Test Results<sup>3</sup> for Determining Photodegradation Effect for Far-UVC Filtered 222nm technology (Care222<sup>®</sup>)

\* The independent test lab results compared materials at an initial state of no UV exposure and a final state of UV exposure at 54,000 mJ/cm<sup>2</sup>.

\*\*  $\Delta E$  is a benchmark used to measure color difference compared to a known set of CIELAB color coordinates defined by the International Commission on Illumination (CIE). The Photodegradation Testing Results table presents data calculated by the CIE76 formula,  $\Delta E^{*ab}$ . CIE76 is a formula that relates a measured color difference to a known set of CIELAB coordinates.  $\Delta E^{*ab} \sim 2.3$  equates to a Just Noticeable Difference

\*\*\*Durometer Hardness is a benchmark of the material hardness, as measured by a Shore Durometer device. The Photodegradation Testing Results table presents the difference in measured material hardness over the exposure dose. For the majority of the materials tested there was no or only a very small change in Durometer Hardness. Unvarnished Oak and Poplar showed some change in Durometer Hardness.

#### Comparing Far-UVC Filtered 222nm Disinfection Technology (Care222<sup>®</sup>) Photodegradation Effect to General Illumination Photodegradation Effect

To compare photodegradation caused by UV to photodegradation caused by general illumination, which also causes a photodegradation effect, a Just Noticeable Difference ( $\Delta E^{*ab} \sim 2.3$ ) in a space illuminated by a white light source to an illuminance of 50 fc would occur as soon as 6 months for highly sensitive materials and as long as 30 years for minimally sensitive materials.\* There is recognizable photodegradation of materials caused by almost all light sources including incandescent, fluorescent, halogen, metal halide, LED, and UV. While some UV sources, depending on spectral content and intensity, can cause substantial photodegradation, the information presented in the Photodegradation Testing Results table illustrates specifically the generally minimal photodegradation effect of far-UVC filtered 222nm technology (Care222<sup>®</sup>) when utilizing these products in typical application.

\* ANSI/IES RP-30-20 Recommended Practice: Lighting Museums, Table C-2

#### Notes

3. Independent laboratory photodegradation testing performed by Assured Testing Services, Ridgeway, PA, Test Report 28545, August 12, 2020.