



- 2x4 [600 × 1200] LAY-IN TROFFER
- RGBW CENTER BAR
- CONCEALED UV-C CHAMBER

≤ 75 W
AIR CLEANING
DEMAND- BASED

18,000 h
UV
LAMP LIFE

23 - 33 W
LED
LIGHT POWER

≤ 75 W
AIR CLEANING
DEMAND- BASED

50 CFM
AIR FLOW
RATE

16
LIVE TELEMETRY
CHANNELS

HIGHLIGHTS

Concealed reflective UV-C air treatment chamber integrated into a 2x4 [600 × 1200] illuminated troffer — sealed UV-C, safe to operate in occupied spaces 24/7/365.

Air circulates through the mirror-lined chamber, is treated with high-intensity 254 nm UV-C to inactivate bacteria, fungi, and viruses, and returns to the room.

Closed-loop UV-C engine (patent pending): the fixture measures its own germicidal output in real time, holds every lamp at peak, and doubles usable lamp life — 18,000 h vs. the 9,000 h industry standard.

~27 W of germicidal UV-C from 72 W of lamp power — more cleaning power than a single 95 W lamp, using over 25% less electricity.

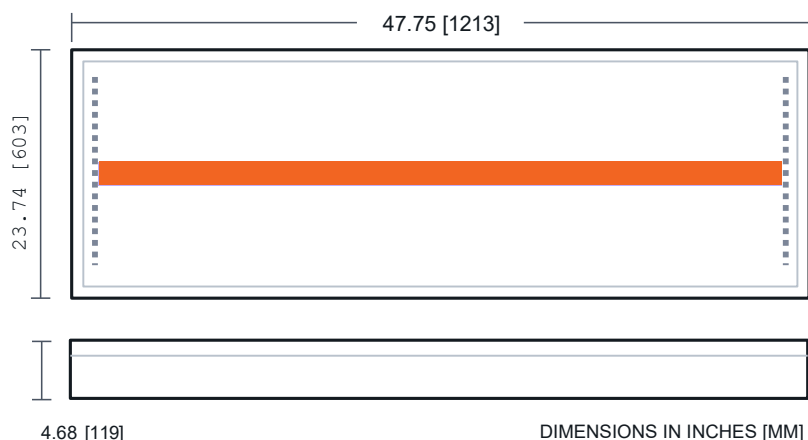
UV-C chamber, bipolar ionization, LED ambient light, and RGBW center strip operate independently or cooperatively — demand-based on occupancy, live air-quality readings, and acoustic events.

Onboard proof: full IAQ sensor suite plus UV-C intensity and power metering stream live to the **MethodWaves** cloud.

Casambi-native Bluetooth mesh control — commissions like any Casambi luminaire; no control wiring, no gateway box per room.

Drop-in grid, recessed hard ceiling, surface mount, or suspended. Tool-less lamp and filter service from below — no plenum access required.

DIMENSIONS



SENSOR POD, DUAL MICROPHONES
& INTAKE GRILLES

SPECIFICATIONS

Housing

Steel housing construction.

Lens

Main light source indirect LED. Center strip frosted acrylic non-yellowing diffuser.

Finish

Durable polyester powder coat with antimicrobial additive. Matte white and matte black available.

Mounting

Lay-in grid mounting standard for recess T-grid acoustical ceilings; fits 9/16" (14.3 mm), 15/16" (23.8 mm), and 1" (25.4 mm) grids. Hard-ceiling recessed mounting requires plaster frame kit; surface mounting requires surface mount kit; suspension cable kits available. All kits field-assembled — see installation instructions.

Source — UV

UV-C, 2× TUV T8 32 W lamps, 254 nm. Combined germicidal output ~27 W. Hi/Low settings reduce consumption as prescribed.

Source — LED main

Infinite color temperature settings 2700 K–6000 K; standard CRI >80. All LED within a 2.5-step MacAdam ellipse.

Source — LED strip

RGBW center bar programmable up to 16 M colors. Status notification, zoned fixed color, active-shooter/emergency exit direction (patent pending), or static area identification.

Bipolar ionization

2× 1.5 W soft bipolar ionization engines. No measurable ozone; meets California ozone emissions limits (CARB certified).

Expected lamp life

UV: 18,000 hours under closed-loop lamp management (2× the 9,000 h industry standard); end-of-life depreciation 15%.

LED: rated 60,000 hours (L80) at 77 °F (25 °C).

Ballast

Integral 64 W program-start ballast developed for use with UV. Hi/Low adjusts output 100% / 50% as prescribed.

Driver

Integral 48 W Class P dimming driver, 10% dimming; 60 W driver optional. Integral 12 VDC Class 2 power supply.

Voltage

120–277 VAC, 50/60 Hz.

Input current (maximum)

0.6 A @ 120 V for UV system; 0.58 A primary LED.
0.26 A @ 277 V for UV system; 0.25 A primary LED.

Wattage

UV light Hi 72 / Low 36 W. UV fans 0–3.5 W. Primary LED light 0–70 W (typical retrofit tuning 23–33 W). RGBW center strip 0–5 W. Bipolar ionization Hi 3 / Low 1.5 W. Demand-based air cleaning ≤ 75 W total.

Circuits

Single primary circuit. Single emergency circuit (optional).

Filter

Nylon filter, tool-less service from below.

Air flow rate

50 CFM (1.42 CMM).

Sound

Hi 38 / Low 32 dBS. Actual level varies by application; typical office ambient is 47–49 dBS.

Controls

Native Casambi Bluetooth mesh — commissions like any Casambi luminaire; scenes, schedules, presence and daylight response. Circadian rhythm or fixed CCT, LUX-sensing daylight harvesting, infinite dimming with upper/lower trim, occupancy-based dimming or on/off for primary light, center bar, UV, and ion generators. Light level, UV mode, ionizer, and fan controllable per fixture, group, or site from the Casambi app and **MethodWaves**.

Onboard sensing

Streams live to **MethodWaves** every few seconds:

- UV-C intensity (germicidal output over lamp life)
- TVOC · CO₂ · CO · CH₂O (formaldehyde)
- O₃ · NO₂
- Particulate matter PM1.0 / PM2.5 / PM10
- Sound level (dBA), dual microphones with acoustic event recognition and triangulated location
- Temperature · humidity · ambient light (lx)
- Power metering: watts, volts, power factor
- Camera for event detection (optional)

Cloud & fleet operations

Part of **MethodWaves**: same console, maps, alerts, and access model as the rest of your controls. Smart alerting (patent pending) surfaces what needs action and mutes the routine. Over-the-air firmware for the whole installed base, staged with automatic rollback. Lamp hours and ionizer runtime metered on-device and survive power cycles. Built-in power metering feeds driver end-of-life prediction.

Fixture weight

35.00 lbs (15.88 kg). Weight may vary by options and accessories.

Environment

Indoor dry location only.

Ambient operating temperature

+35 °F (+1.7 °C) to +122 °F (+50 °C).

Ambient operating humidity

<80% relative humidity, non-condensing.

Certification

UL Listed, certified to UL STD 507 and CAN/CSA STD C22.2 No. 113. Tested to be compliant with FCC Part 15 Class A. Meets California ozone emissions limits — California Air Resources Board (CARB) certified.

Buy American

With the BAA option, assembled in the USA and meets Buy America(n) government procurement requirements under FAR, DFARS and DOT.

Warranty

5-year limited warranty except as indicated: 3-year on RGB light-emitting components; 2-year on ion engines, UV-C lamps, and IAQ sensors.

THE UV-C ENGINE — CLOSEDLOOP, PATENT PENDING

Most fixtures treat the germicidal lamp as a consumable: switch it on, let it drift, replace it on a guess. LISA Waves measures real germicidal output with a dedicated UV-C intensity sensor and continuously manages how the lamps run — **2× lamp life**, output **held at peak 24/7**, and **zero silent failures**: by comparing lamp power draw against actual UV-C output, the fixture tells a healthy lamp from a failing one and alerts before the next walk-through.

PATHOGEN REDUCTION EFFECTIVENESS

Independently proven under GLP protocol at a Biosafety Level 2 laboratory. With the fixture running in an 800 ft³ (22.7 m³) chamber, airborne MS2 bacteriophage dropped ~89% (0.97 log) in the first 15 minutes, reaching -6.37 log over the 90-minute test (ARE Labs, GLP).

MS2 is a deliberately hard target: achieving 1-log inactivation of MS2 requires 15.9 mJ/cm² of UV irradiation (Wilson et al. 1992), whereas coronaviruses such as SARS-CoV-2 require approximately 3.7 mJ/cm² (Heßling et al. 2020) — projecting to roughly 96% reduction of airborne SARS-CoV-2 in about 5 minutes.*

*The SARS-CoV-2 figure is extrapolated from published UV-dose ratios, not directly tested. UV-C dose delivered inside the reflective chamber: 300 J/m² at 254 nm.

What it neutralizes: viruses, bacteria, mold & fungal spores.

Efficacy in a given space depends on quantity of fixtures, fixture run time, distance to the fixture, air flow, room size, occupant load, and other variables.

OPTIONAL FEATURES — SOFTWARE ENABLED

Every fixture ships with dual microphones and edge AI compute onboard; the **QI** ordering option adds the full IAQ sensor suite, and an onboard camera is available as a factory option. The capabilities below activate by software license — per fixture or per site, no truck roll; features built on IAQ or camera sensing require the corresponding hardware option. **U.S. patent pending:** an active application of 83 claims covers acoustic event detection, multi-fixture corroboration, and automated emergency alerting.

PATENT PENDING

Gunshot & emergency event detection

On-device acoustic classification distinguishes firearm discharge from indoor explosive and outdoor pyrotechnic events. Neighboring fixtures corroborate and triangulate before an alert dispatches — suppressing false alarms — and the RGBW center bar switches to directed exit guidance.

SOFTWARE ENABLED

Audio transcription

Transcribes room audio as a service to the people in it: a medical office can hand patients a written record of their visit and the doctor's instructions; a school can flag spoken language that signals a problem — threats or bullying — for staff review. Access-controlled and site-enabled.

SOFTWARE ENABLED · REQUIRES QI OPTION

Vape & smoking detection

Particulate and TVOC signatures identify vaping and smoking in restrooms, locker rooms, and other camera-free spaces — real-time alerts with zone-level location, no cameras required.

SOFTWARE ENABLED · REQUIRES QI OPTION

Indoor air quality auditing

Continuous, per-zone IAQ records across every measured channel with automated compliance-style reporting — documented proof of air quality for schools, clinics, offices, and public buildings.

SOFTWARE ENABLED

Environmental data storage & analytics

Long-term retention of every telemetry channel with trends, baselines, and anomaly detection — plus export and API access for integration with building systems.

SOFTWARE ENABLED

Acoustic health analytics

Machine-learned cough and sneeze detection trends respiratory events by zone — an anonymous, aggregate wellness signal that can automatically drive demand-based air cleaning.

SOFTWARE ENABLED

Energy metering & reporting

Per-fixture true-power metering (watts, volts, power factor) rolls up to site-level energy reporting, and feeds predictive maintenance including driver end-of-life alerts.

SOFTWARE ENABLED

Occupancy & space utilization

Presence and ambient sensing aggregate into utilization trends by room and zone — data for right-sizing space, cleaning schedules, and HVAC coordination.

SOFTWARE ENABLED · REQUIRES CAMERA OPTION

Camera event detection

The optional onboard camera corroborates acoustic events with visual snapshots delivered to r9Controls, giving responders eyes on the space the moment an alert fires.

CATALOG NUMBER

Example: STS24 · ID · UV254 · WV · QI · WAM · BA

SERIES	LIGHT FUNCTION	WAVELENGTH	VOLTAGE	CONTROLS
STS24 UV Air Disinfection Luminaire	ID Indirect CT Ceiling Tile	UV254 Ultraviolet 254 nm	WV 120–277 V	QI IAQ Sensors
FRAME KIT	MOUNT ADAPTOR	FINISH		US MADE
PF Plaster Frame Kit (hard ceiling mount)	SMW Surface Mount Kit, matte white antimicrobial SMB* Surface Mount Kit, matte black antimicrobial SC72 Suspension Cable Kit 72" (1.8 m) SC120 Suspension Cable Kit 120" (3.1 m) SC180 Suspension Cable Kit 180" (4.6 m)	WAM Matte white antimicrobial BKAM* Matte black antimicrobial *Ceiling tile version only		BA Buy America(n) Act compliant

REPLACEMENT PART ORDERING

Example: RK · STS24 · KIT

SERIES	PART
RK STS24 Replacement Parts	FLT Filter only · LMP UV254 lamp (2 pk) · KIT Filter & UV254 lamp (2 pk) · ION Ion generators (2 pk)

At \$14.95 a tube, re-lamp the whole fixture for under \$30 — and it lasts twice as long as the 9,000 h industry standard. Replace UV lamps only with lamps manufactured or approved by the manufacturer; see manual.

PRECAUTIONARY STATEMENTS

⚠ WARNING

- Skin or eye damage may result from directly viewing the light produced by the UV lamps within this apparatus.
- Installed safety switch disables power to entire fixture when main cover is opened. See manual.
- Replace UV lamps only with manufacturer-supplied or approved lamps. See manual.

DISCLAIMER

All references to "disinfection" in this context refer broadly to the reduction of pathogens and are not aligned with any specific definitions by the U.S. Food and Drug Administration (FDA) or the U.S. Environmental Protection Agency (EPA). The disinfection technology in this product is not designed for curing, mitigating, or preventing diseases and is not certified or approved by the FDA as a disinfecting medical device. The reduction of pathogens depends on factors such as quantity of fixtures, fixture run time, distance to the fixture, air flow, room size, occupant load, and other variables, leading to variability in reduction levels within a given space. The antimicrobial properties incorporated in this product are intended to inhibit the growth of bacteria on the product itself; these properties do not protect users or others against bacteria, viruses, germs, or other pathogens.