

DOT SERIES

COMPACT PIXEL DOT

The XAD 3 is a compact, high-output architectural dot designed for dynamic façade and feature lighting applications. Engineered for both indoor and outdoor environments, it delivers precise, uniform illumination.

Equipped with high-density LEDs, the XAD 3 offers vibrant colour performance or clean white output, making it ideal for media features, structural accents, and creative lighting installations.

Built for reliability in demanding conditions, the XAD 3 features a durable die-cast aluminium housing and is IP66-rated for protection against dust and water ingress.



At a glance

Emitters

RGBW
(W = 2200K, 2700K
3000K, 3500K, 4000K
5000K, 6000K)

OR

RGB

OR

Dynamic
White (DW)
(2000K to 6000K)

OR

White
(2200K, 2700K
3000K, 3500K, 4000K
5000K, 6000K)

Controls

X
Stream

Voltage

24V DC

Protection

Ingress – IP66

Temperature

-20°C to 50°C
-4°F to 122°F

Dimensions

Optics

Dimensions

FIXTURE PRODUCT CONFIGURATOR

Prefix	Model	LED Colour	White CCT	Control	Power	Voltage	Lens Options	Housing Colour	Mounting
XAD	3	RGBW RGB DW – Dynamic White (20K - 60K) W – White	22K – 2200K 27K – 2700K 30K – 3000K 35K – 3500K 40K – 4000K 50K – 5000K 60K – 6000K	S – SPI X – X-Stream XB – X-Stream Boosted XB Booster lives in the inside of the product. Refer to PXT/R page for differences between X and XB.	3 – 3W	24 – 24V DC	F – Flat D – Dome FD – Flat Diffused DD – Dome Diffused	A – Anodised Aluminium B – Black W – White C – Custom RAL	C – Clip Mount S – Surface Mount

EXAMPLE: XAD – 3 – RGBW – 22K – X – 3 – 24 – DD – A – C

X

LED
CTRL

WWW.LEDCTRL.COM

LED CTRL, 1/483 BALMAIN
LILYFIELD, NSW 2040, AUSTRALIA

SPECIFICATIONS SUBJECT TO CHANGE
WITHOUT NOTICE. VISIT WWW.LEDCTRL.COM
FOR THE MOST CURRENT SPECIFICATIONS.
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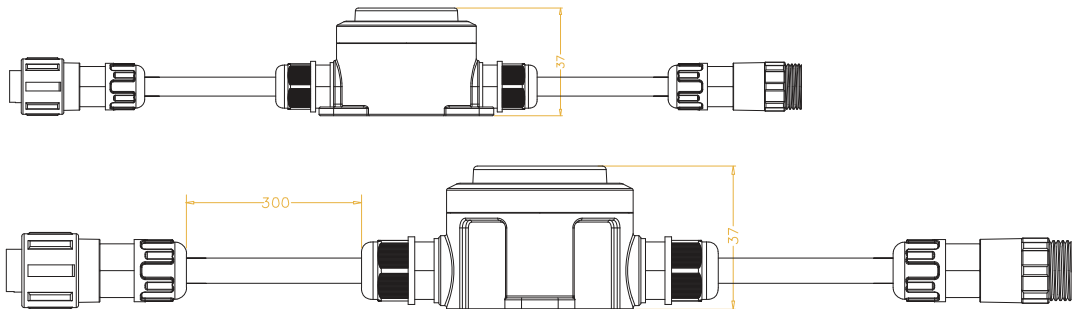
COMPACT PIXEL DOT

XAD 3 SPECIFICATIONS

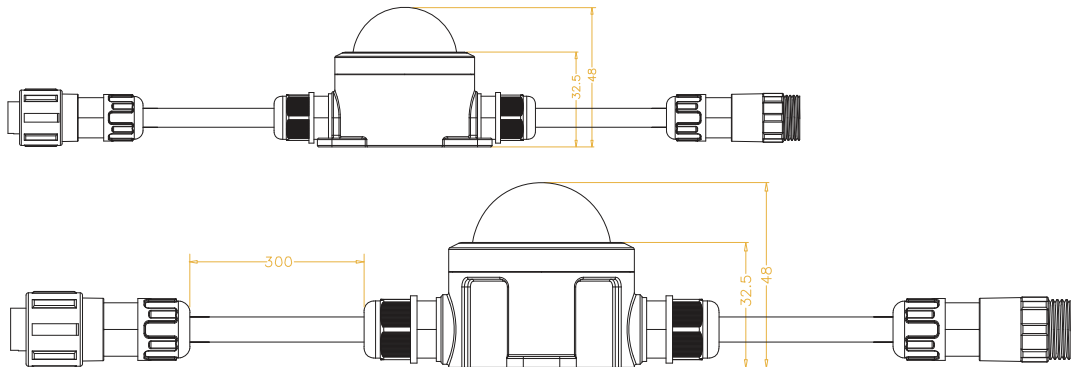
ELECTRICAL	POWER CONSUMPTION OPERATING VOLTAGE OPERATING TEMPERATURE STORAGE TEMPERATURE	3W MAX 24V DC -20°C TO 50°C (-4°F TO 122°F) -20°C TO 70°C (-4°F TO 158°F)
PHYSICAL	STANDARD FIXTURE DIMENSIONS FXITURE HOUSING HOUSING COLOURS LENS OPTIONS CONNECTION IP RATING MOUNTING OPTIONS SOURCE LIFE CABLES	Ø: 48MM X 37MM (H) DIE-CAST ALUMINIUM WHITE, BLACK, CUSTOM RAL FLAT, DOME, FLAT DIFFUSED, DOME DIFFUSED 5-PIN DC/DMX BOTH SIDE ENTRY CABLE C/W IP CONNECTORS IP66 CLIP MOUNT, SURFACE MOUNT 50,000 ≈ 70,00 HOURS / L70 AT 25°C FLEXIBLE CABLE
OPTICAL	BEAM ANGLE COLOUR RANGE ACCURATE COLOUR CONTROL LED TYPES LUMEN OUTPUT	125° WHITE (2200K, 2700K, 3000K, 3500K, 4000K, 5000K, 6000K), RGB, DYNAMIC WHITE (2000K – 6000K) RGBW CONFIGURATIONS WITH SELECTABLE CCT HIGH INTENSITY LEDs 86LM (RGBW) and 265LM (6000K, DIFFUSED DOME)
DIMING & CONTROL	CONTROL PROTOCOLS DIMMING RESOLUTION	X-STREAM PROTOCOL WITH DATA REDUNDANCY AND SPI 8 BIT RESOLUTION DOING 65536 STEP WITH BUILT-IN GAMMA 2.2, 12-BIT, 14-BIT, 16-BIT.
FIXTURE RATING & CERTIFICATIONS	CE / IP66	 
LIMITED WARRANTY	5 YEARS *Extendable warranty available	

DIMENSIONS

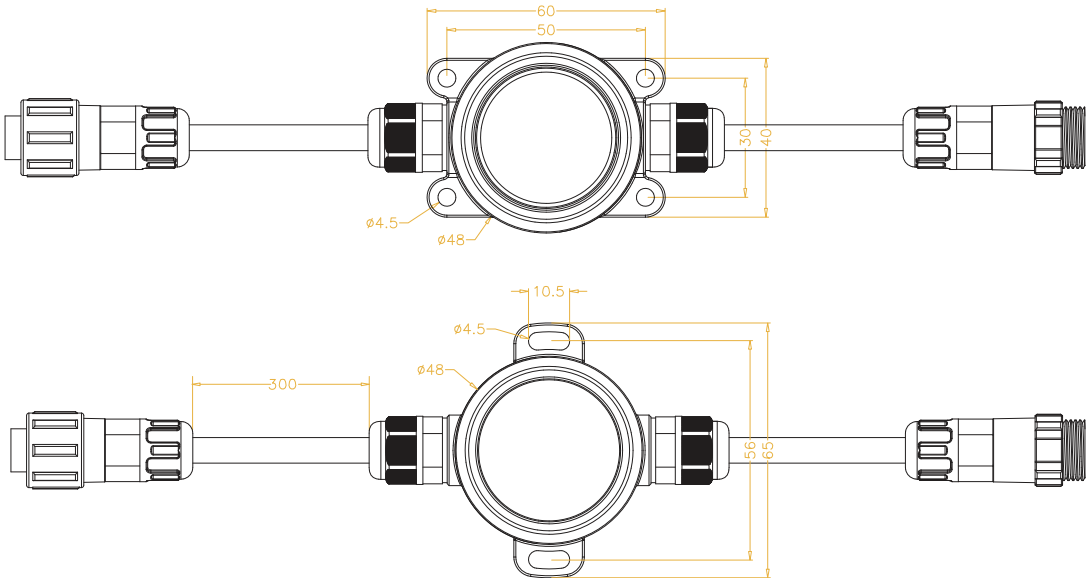
XAD 3 FLAT DIMENSIONS



XAD 3 DOME DIMENSIONS



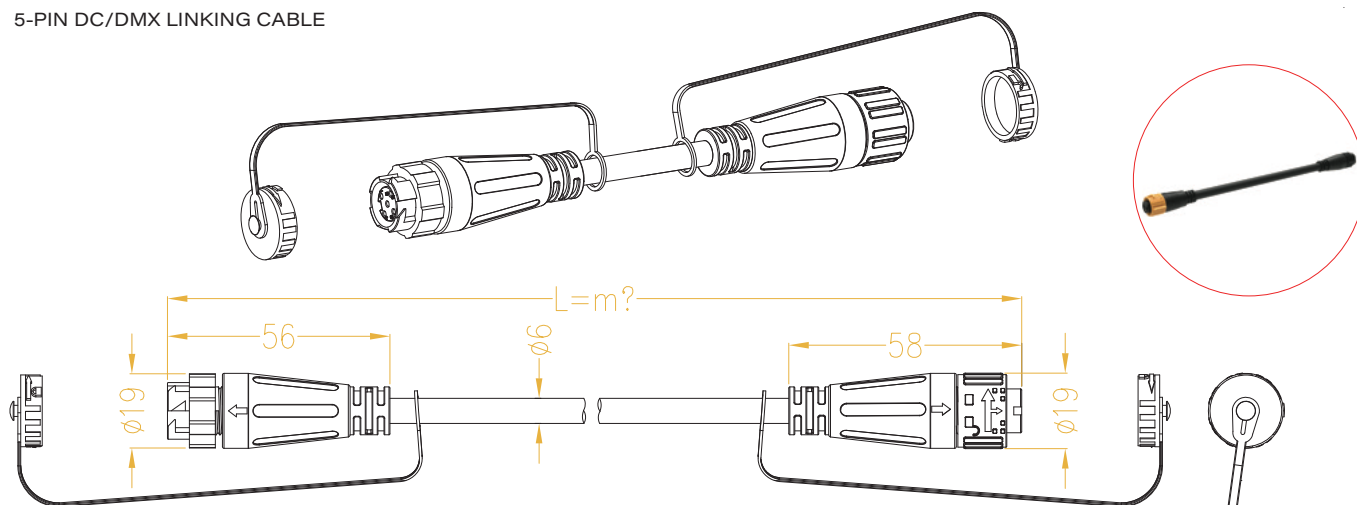
XAD 3 CLIP MOUNT DIMENSIONS



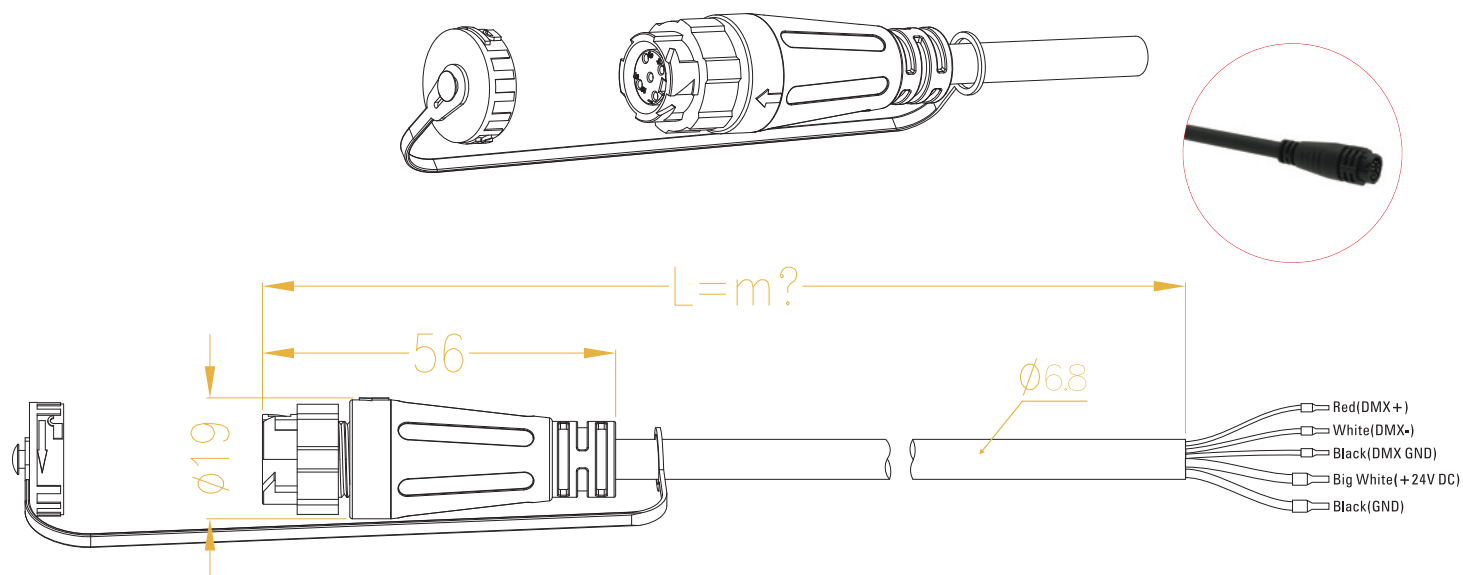
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CABLES AND CONNECTORS

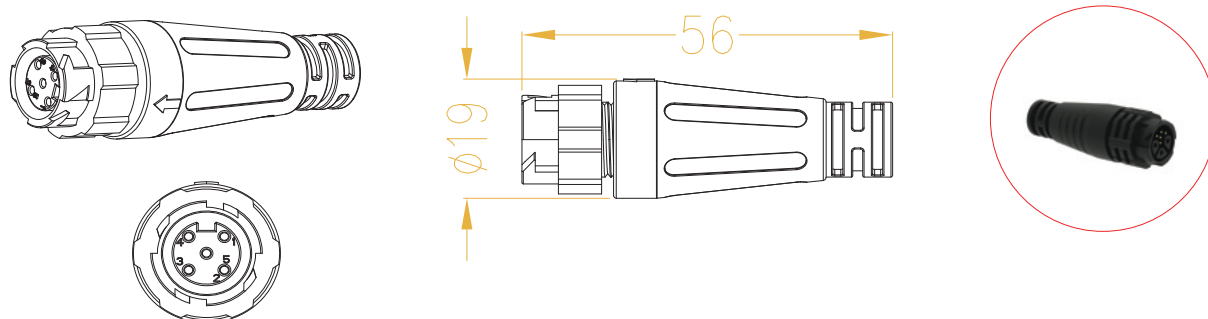
5-PIN DC/DMX LINKING CABLE



5-PIN DC/DMX LEADER STARTER CABLES



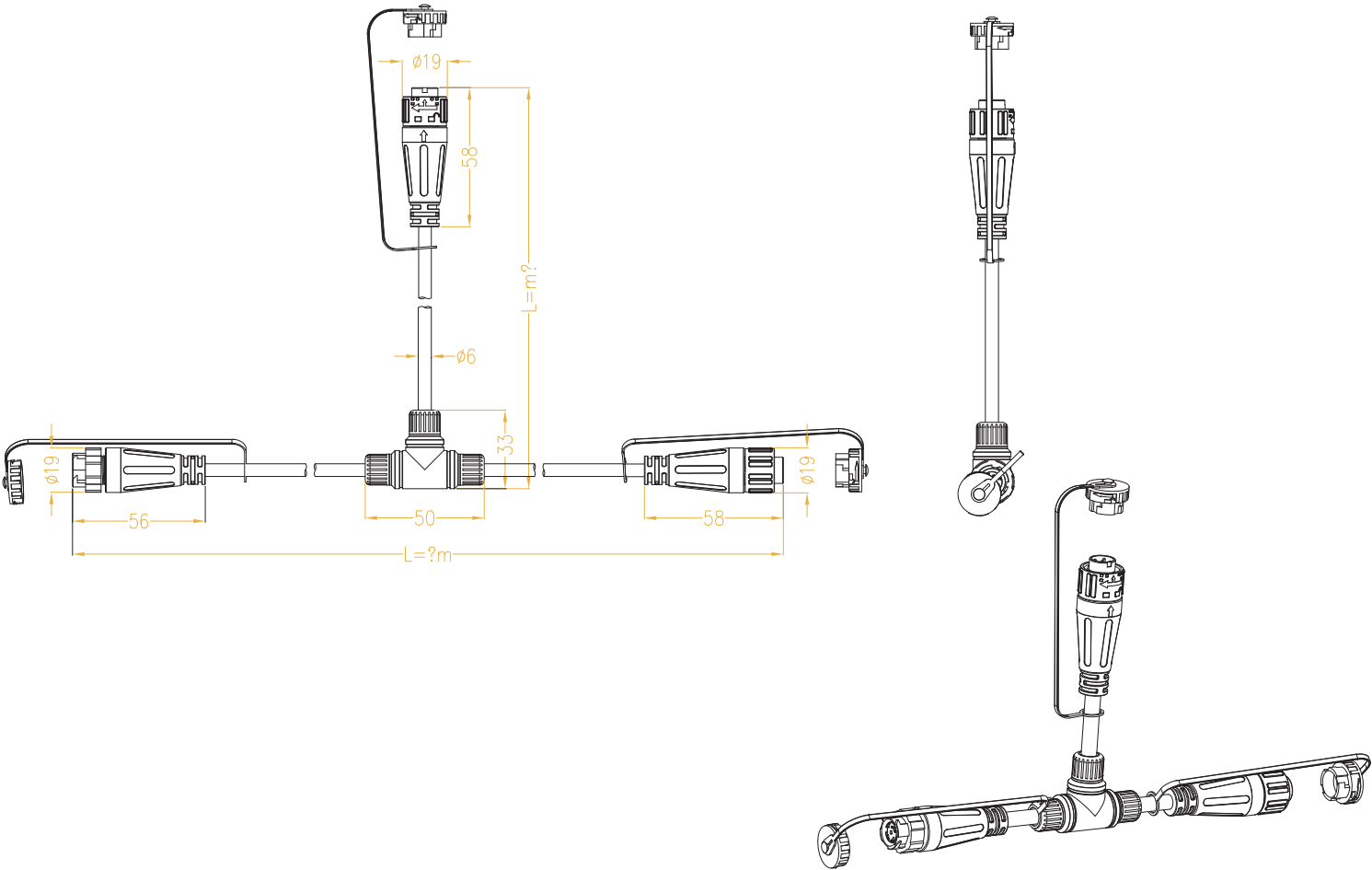
5-PIN DC/DMX IP DMX TERMINATOR



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CABLES AND CONNECTORS

5-PIN DC/DMX T-CABLE

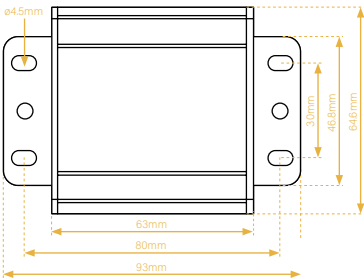


PXT/R BOOSTERS

The PXT and PXR work together as a transmitter/receiver pair to allow you to extend SPI signals up to 100 metres. The units convert the standard API signal to/from a differential pair to allow the signal to travel this distance while minimising interference.

Wide input voltage range allows support for many LED products, and the compact size makes it easy to accommodate in installations.

D1 and B1 inputs support standard data (D1) and backup data (B1) for pixel protocols supporting data redundancy.



PXT TRANSMITTER

INPUT VOLTAGE	12V – 48V DC
AMP	6A MAX
INPUT	SPI OR X-STREAM FROM CONTROLLER OR LEDS
OUTPUT	X-STREAM DIFFERENTIAL SIGNAL
IP RATING	IP20

PXT RECEIVER

INPUT VOLTAGE	12V – 48V DC
AMP	6A MAX
INPUT	X-STREAM DIFFERENTIAL SIGNAL
OUTPUT	SPI OR X-STREAM TO LEDS
IP RATING	IP20

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X-STREAM® TECHNOLOGY

X-Stream® Technology is LEDCTRL's premium communication and power delivery platform, built on the advanced UCS7604 driver IC. It is designed to deliver high speed data transmission, exceptional reliability, and superior visual performance across large-scale and demanding lighting installations.

At its core, the system integrates intelligent signal processing, high-precision constant current control, and advanced error-detection mechanisms to ensure stable operation and consistent output, even in complex or long-distance configurations.

KEY FEATURES

Built-in Redundancy

X-Stream® incorporates dual-channel signal transmission with intelligent fault detection. In the event of a pixels or signal failure, the system automatically bypasses the faulty node and continues data transmission without interruption.

- Dual signal channels with real-time monitoring
- Automatic switching between channels in case of failure
- Fault identification accuracy greater than 99%
- No visible disruption during signal switching

This ensures continuous operation and eliminates single-point failures across the installation.

Auto-Addressing

Fixtures require no manual addressing or pre-configuration. Each unit automatically interprets incoming data, allowing for flexible installation and simplified maintenance.

- Plug-and-play installation
- No addressing sequence required
- Fixtures can be installed in any order

This significantly reduces installation time and minimises the risk of configuration errors.

High-Speed Communication

X-Stream® supports high-speed PWM data transmission, enabling smooth and dynamic lighting effects across long runs.

- Transmission speeds: 800 Kbps and 16 Mbps
- Supports high frame rates and fast data refresh
- Capable of filming environments up to 533 FPS without flicker
- Stable performance regardless of frame frequency

This ensures high-quality visual output suitable for media façades, dynamic content, and camera-facing applications.

Advanced Dimming Performance

The system supports multiple dimming resolutions, delivering precise brightness control and smooth transitions across the full output range.

- 8 / 12 / 14 / 16-bit dimming options
- Up to 65,536 levels of greyscale
- Built-in gamma correction (8-bit to 16-bit equivalent)
- Seamless dimming from 0% to 100%

High refresh rates (up to 16 kHz) further ensure stable, flicker-free performance and accurate colour rendering.

Signal Integrity & Reliability

X-Stream® integrates advanced anti-interference and signal enhancement technologies to maintain reliable communication in challenging environments

- S-AI anti-interference technology reduces radiation and conduction interference
- Enhanced signal receiving and transmission stability
- Consistent performance across varying environmental conditions
- Extended standard spacing between fixtures (>15 m)

These features ensure robust operation in large-scale and electrically complex installations.

Data Booster Technology

To support extended installation distances, X-Stream® incorporates data boosting capabilities both within fixtures and via external booster units.

- Extends communication distance up to 100 m between fixtures
- Maintains signal integrity over long data runs
- Supports large-scale linear and distributed installations

This allows for greater design flexibility without compromising system performance.

Long-Distance Power Distribution

X-Stream® systems are designed to support extended power runs through intelligent power management and integrated hardware.

- AC fixtures with built-in, replaceable power supplies
- High power factor for efficient energy distribution
- Managed startup and inrush current control
- Smart load regulation for stable operation
- Supports continuous runs of up to 96 m of linear product

This ensures reliable power delivery across extended fixture runs while maintaining system safety and efficiency.

System Overview

By combining high-speed communication, intelligent redundancy, and advanced signal processing, X-Stream® Technology enables the creation of large-scale, high-performance lighting systems with minimal installation complexity and maximum operational reliability.

Its integration of the UCS7604 chipset ensures that each fixture operates with precision, consistency, and resilience, making it suitable for demanding architectural, façade, and media lighting applications.