



The Brighter Choice

THE BRIGHTER WAY TO **LIGHT DATA** **CENTRES**

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THE GROWING IMPORTANCE OF DATA CENTRES

Data centres are the backbone of our digital world, powering everything from cloud computing and artificial intelligence to cybersecurity and online services.

As the demand for data storage and processing capabilities continues to surge, so too does the need for infrastructure that is reliable, efficient, and sustainable.

To meet these challenges, every element of data centre design must be optimised—including lighting. Proper lighting solutions ensure smooth operations, reduce energy consumption, and align with environmental sustainability goals, making them an essential part of the modern data centre ecosystem.

LIGHTING SOLUTIONS FOR DATA CENTRES

Supporting reliable, efficient, and sustainable operations.

RELIABILITY

Data centres are built on a promise of 24/7/365 availability, with zero downtime as the ultimate goal. This level of reliability attracts businesses that rely on constant access to their data and digital infrastructure.

Lighting is an integral part of maintaining this reliability. If the lighting system fails or provides insufficient illumination, essential maintenance on servers can't be performed efficiently, potentially jeopardising uptime. High-quality, dependable lighting ensures seamless operations around the clock.

EFFICIENCY

Data centres are significant energy consumers, accounting for approximately 2.5% of total UK electricity usage (Source: National Grid 2022), with this figure projected to rise to 6% by 2030. Energy efficiency is a top priority, often measured by Power Usage Effectiveness (PUE), the ratio of total data centre energy consumption to the energy used by servers. A perfect PUE would be 1.0, though values between 1.25 and 1.75 are more common.

Lighting can help reduce PUE by offering high efficiency (measured in lumens per watt) and through smart distribution—ensuring light is delivered only where and when it's needed, further optimising energy use.

SUSTAINABILITY

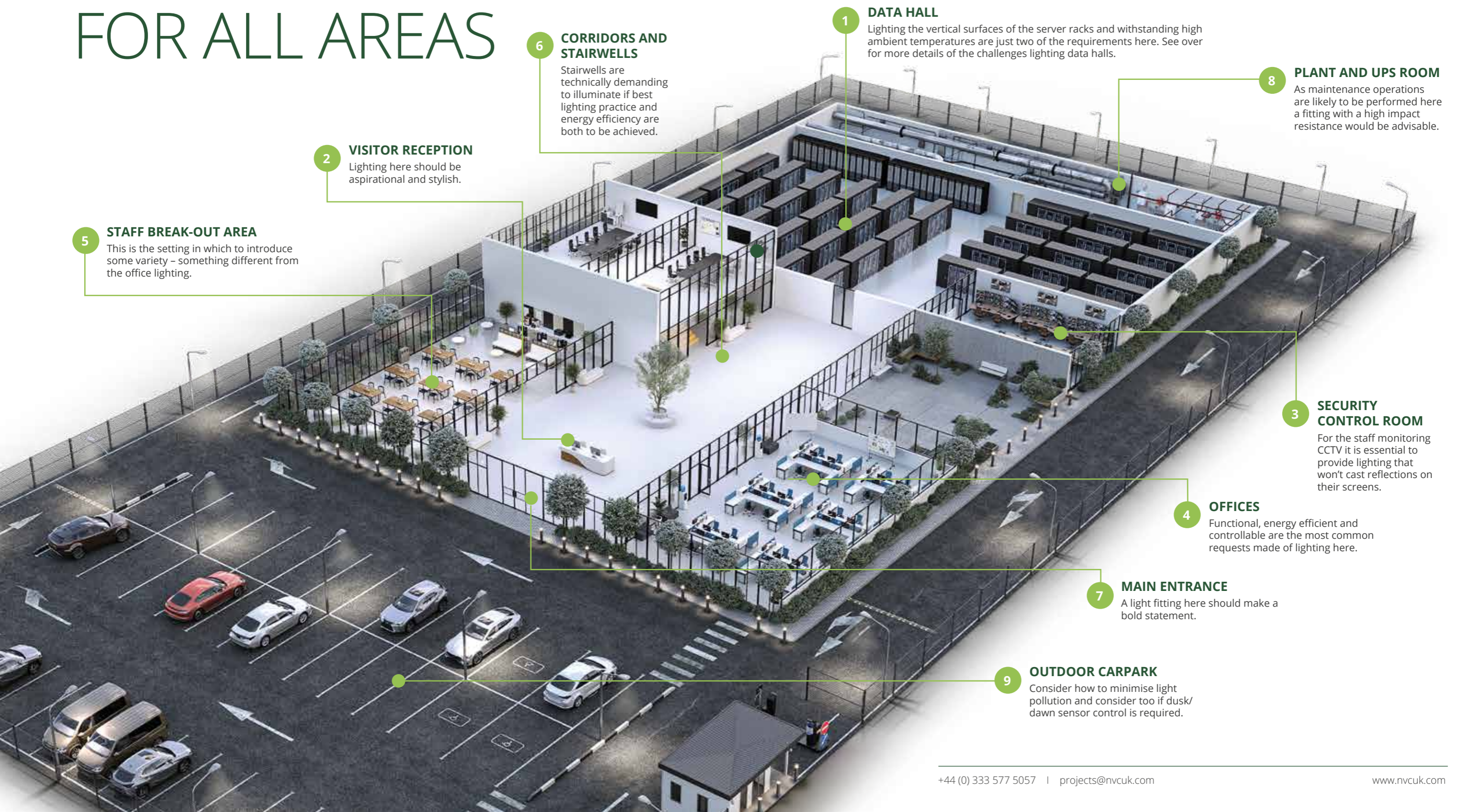
With data centres facing scrutiny for their CO₂ emissions, sustainability is a major focus. To align with green values, lighting systems in data centres should be designed with the circular economy in mind. This means using durable designs, replaceable components and recyclable materials, ensuring that lighting solutions not only meet energy efficiency standards but also contribute to a more sustainable future.

By combining reliability, efficiency, and sustainability, lighting solutions can enhance the performance of data centres while supporting their operational and environmental goals.



TAILORED LIGHTING SOLUTIONS FOR ALL AREAS

NVC Lighting understands the growing demands of data centres and the need for reliable, energy-efficient, and sustainable infrastructure. Our lighting solutions enhance operational efficiency, reduce energy use, and support sustainability, ensuring smooth data centre operations.



1 DATA HALL

Lighting the vertical surfaces of the server racks and withstanding high ambient temperatures are just two of the requirements here. See over for more details of the challenges lighting data halls.

6 CORRIDORS AND STAIRWELLS

Stairwells are technically demanding to illuminate if best lighting practice and energy efficiency are both to be achieved.

2 VISITOR RECEPTION

Lighting here should be aspirational and stylish.

5 STAFF BREAK-OUT AREA

This is the setting in which to introduce some variety – something different from the office lighting.

8 PLANT AND UPS ROOM

As maintenance operations are likely to be performed here a fitting with a high impact resistance would be advisable.

3 SECURITY CONTROL ROOM

For the staff monitoring CCTV it is essential to provide lighting that won't cast reflections on their screens.

4 OFFICES

Functional, energy efficient and controllable are the most common requests made of lighting here.

7 MAIN ENTRANCE

A light fitting here should make a bold statement.

9 OUTDOOR CARPARK

Consider how to minimise light pollution and consider too if dusk/dawn sensor control is required.

DATA HALLS

A COMPLEX LIGHTING CHALLENGE

Data halls are at the heart of any data centre, where the bulk of operations take place and energy consumption is at its peak.

These spaces have specific requirements that standard lighting solutions cannot meet. From energy efficiency to precise illumination, the lighting in data halls plays a pivotal role in ensuring smooth, continuous operation. Here's what makes lighting in data halls uniquely challenging:

QUICK INSTALLATION

Fast deployment is crucial as facilities with early Ready For Service (RFS) dates command a premium. Lighting fixtures must be designed for rapid installation to meet these tight schedules.

POWER USAGE EFFECTIVENESS (PUE)

PUE measures a data centre's energy efficiency, and lighting plays a role in keeping this figure as close to 1.0 as possible. High-efficiency lighting helps reduce overall energy consumption in the server hall.

HIGH AMBIENT TEMPERATURES

Servers generate significant heat, and temperatures in data halls can reach over 40°C. Lighting fixtures must be designed to perform reliably under these conditions without compromising warranties.

24/7/365 RELIABILITY

Data centres operate continuously, and so must the lighting. Reliable, low-maintenance lighting that is easy to service ensures uninterrupted operations, even during emergency maintenance.

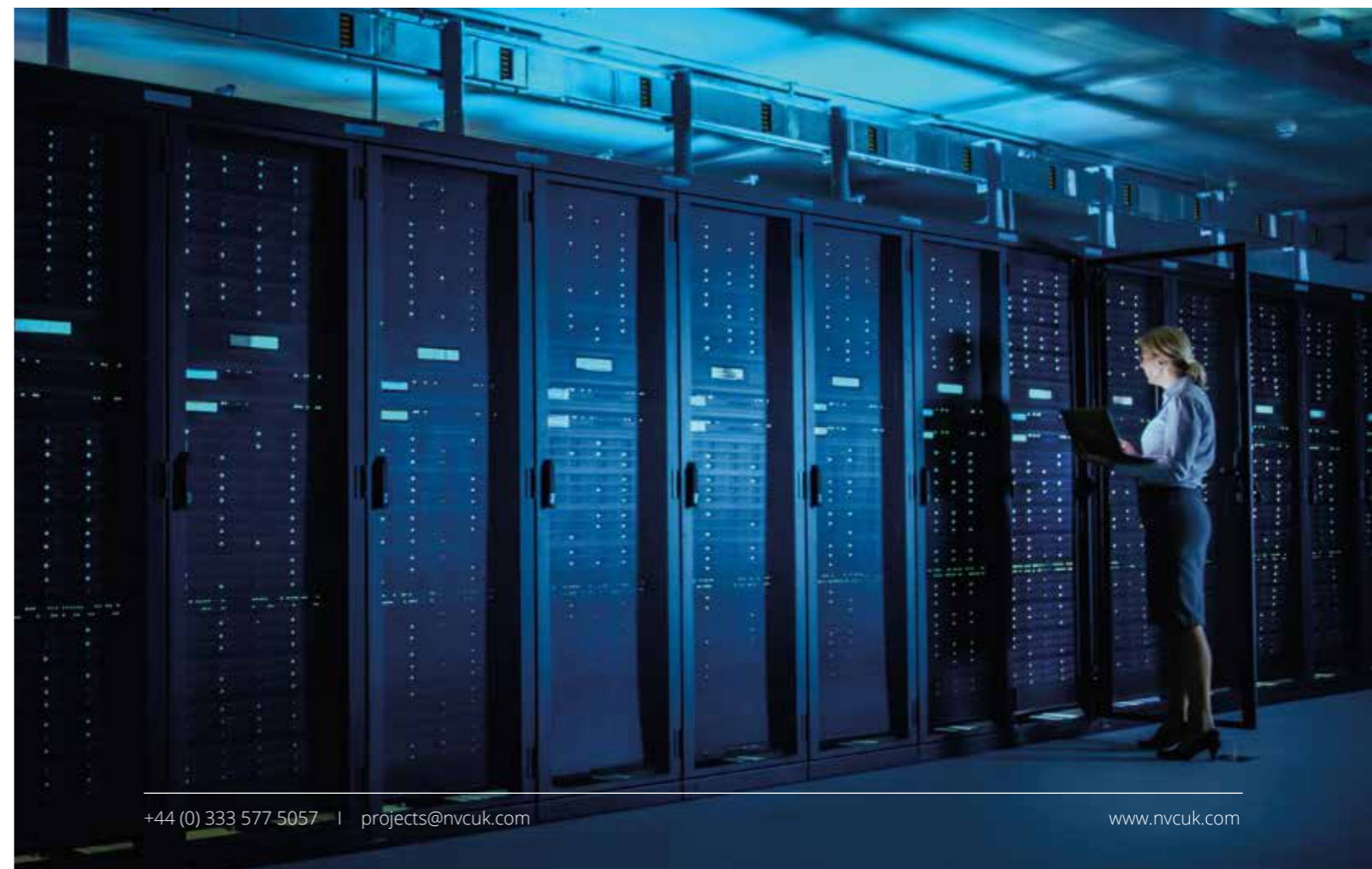
PRECISE ILLUMINATION

TIA942 recommends that vertical faces of server racks should be lit to 200 lux. Achieving this without wasting light on the floor or ceiling requires careful lighting design and specialised optics for accurate distribution.

SECURITY ACCESS RESTRICTIONS

Restricted access to server halls makes it necessary for emergency lighting to be remotely monitored and tested. Automated reporting ensures compliance with minimal disruption.

Data halls present a unique combination of lighting challenges that cannot be met with standard solutions, requiring fixtures tailored to this environment.





INTRODUCING BROADWAY: A LUMINAIRE BUILT FOR DATA HALLS

NVC Lighting has developed a unique luminaire specifically for data halls.

SIMPLE AND SPEEDY INSTALLATION

BROADWAY is quick and easy to install because it uses standard 3-circuit lighting track. It can also be recessed, installed in a structured grid or suspended. Our technical team can give detailed guidance.

HIGH EFFICIENCY – LOW PUE

BROADWAY delivers 177 luminaire lumens per circuit watt – but that's not all. Its specially designed lenses put the light only WHERE it is needed, and with an optional sensor, it only delivers light WHEN it is needed.

RELIABILITY

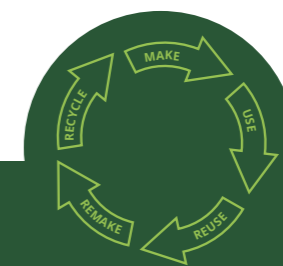
BROADWAY is rated for 100,000 hours at 45°C and backed by our 7-year, unlimited hours warranty. If maintenance is ever required (e.g. changing the batteries in an emergency module) this is easy, thanks to the front-opening gear compartment, so down-time and disruption are minimised.

OPTICS DESIGNED FOR SERVER RACKS

BROADWAY has lenses that can be tailored to your project. Our lighting designers will simulate your aisles and recommend the optics best suited to your mounting height and layout.

HIGH SECURITY AND LOW COST OF OWNERSHIP

Monthly emergency lighting tests can be a challenge in a security-restricted data hall. **BROADWAY** simplifies this with automated testing and fault reporting, so nobody has to be present for emergency testing and no labour costs are incurred. This enhances security and lowers running costs.



CIRCULAR ECONOMY DESIGN

Data centres are under pressure to conform to the highest environmental standards, so we designed **BROADWAY** along the same lines, following the principles defined in CIBSE TM66 "Creating a Circular Economy in the Lighting Industry".

A circular economy requires us to keep products at their highest value for as long as possible – not just recycle them as their performance becomes uncompetitive with age.

MADE IN THE UK

- Assembled in Birmingham from components sourced in Europe.
- Material miles are kept to a minimum.

USE, KEEP USING and REUSE

- 100,000 hours (>11 years) rated at 45° C. With high-grade components, at 45°C ambient the LEDs and the driver stay comfortably within the limits set by their manufacturers.
- All replaceable items, such as the driver, sensors and emergency batteries, are easily accessible and secured on simple clips or screws, so replacement is easy.

REMAKABLE

If the installation conditions change or the end-user wants to upgrade the LEDs or driver to the latest performance standards, **BROADWAY** can be remade, rather than discarded and replaced.

- The LEDs are on replaceable strips that snap-fit into position. As technology advances the strips can be replaced.
- The lens is polycarbonate and also snap-fits into position, so if a layout change in the data hall requires a different light distribution, **BROADWAY** can accommodate that.
- The driver is secured on two screws with push-fit terminals, so swapping it out is quick and practical.

RECYCLABLE

When end of life is eventually reached, **BROADWAY** is simple and cost-effective to dis-assemble for recycling

- Steel body and 5 steel screws – no adhesives and only one material (steel) makes disassembly and recycling easy
- Polycarbonate lens – snap-fitted in position with no fixings, so it's easy to remove at end of life
- Driver secured on steel screws – easy to remove without damage, ready for reuse if required.

LIGHTING CONTROLS AND EMERGENCY LIGHTING TESTING

Efficient lighting control and reliable emergency testing are essential for data centres to achieve a low PUE and the highest levels of security. HubSense provides the ideal 2 in 1 solution.

IDEAL LIGHTING SOLUTION FOR DATA CENTRES

Data centres need efficient lighting controls to lower their PUE and sophisticated emergency lighting systems to maintain safety and security. HubSense is a Bluetooth mesh system that does both.

- **Quick Installation:** No extra wiring needed
- **Simple Setup:** Commission with just an app, no specialist skills required
- **Combined Control:** Manage lighting and emergency testing in a single system

ENERGY-SAVING LIGHTING CONTROLS

Lighting controls in data centres must balance efficiency, ease of use, and seamless operation across different areas:

- **Offices:** Use daylight harvesting to adjust lighting based on natural light.
- **Corridors and Stairwells:** Dim lights to 10%, increasing to full brightness with occupancy.
- **Data Hall:** Most aisles can stay dark when unoccupied, with lights near the entrances at 10%. Aisles should brighten individually when people are detected.

HubSense provides all these controls, delivering significant energy savings and more.

AUTOMATED EMERGENCY LIGHTING TESTING

HubSense is the perfect solution for automated emergency lighting testing in data centres:

- **No Security Access Needed:** Testing and reporting are fully automated, so there's no need for access to the data hall.
- **Reliable and Hands-Free:** Monthly tests run automatically, with results sent directly to the responsible person's phone, ensuring nothing is missed.
- **Maximised Efficiency:** With no need for on-site personnel, lights stay off during testing, saving energy and lowering the PUE.



SOLUTIONS FOR OUTSIDE THE DATA HALL

Beyond the data hall, NVC Lighting can deliver solutions for an entire data centre.

Whether the requirement is for external lighting for car parks, entrances, security fencing or recreational spaces or for indoor areas like offices, meeting rooms or communal areas - our advanced lighting solutions will ensure every aspect of your requirements are covered.



1 DATA HALL

See pages 10 & 11.

2 VISITOR RECEPTION

DALLAS linear fittings offer a stylish and aspirational appearance.

3 CONTROL ROOM

WESTMINSTER provides glare-free lighting with its deep recessed diffuser, essential for monitoring CCTV screens.

4 OFFICES

STERLING will deliver UGR <19 in almost any installation, ensuring visual comfort throughout long working hours.

5 STAFF BREAK-OUT AREA

MERCURY creates a cozy contrast to office lighting, perfect for a relaxing break or informal chat.

6 CORRIDORS AND STAIRWELLS

PRESTON delivers high output and a pleasing halo effect on walls and ceilings, enhancing both safety and aesthetics.

7 MAIN ENTRANCE

DENALI makes a bold statement at the entrance, signalling with impact that you have arrived.

8 PLANT AND UPS ROOM

GREENLAND delivers robust performance with its IP66 and IK10 ratings, suitable for demanding environments.

9 OUTDOOR CAR PARK

EDMONTON minimises light pollution and is available with an optional dusk/dawn photo cell, combining style with energy efficiency.



SUSTAINABILITY AT OUR CORE

At the heart of our operations is a commitment to sustainability, not just as a goal but as a guiding principle that shapes everything we do.

From reducing our carbon footprint to designing products for a circular economy, we are dedicated to minimising environmental impact while fostering ethical business practices. Achieving carbon neutrality, improving energy efficiency and creating durable, repairable, reusable and remarkable products reflects our commitment to a sustainable future.

ENVIRONMENTAL PRODUCT DECLARATIONS (EPDs)

From 2025, EPDs will be available for many range products, detailing full life-cycle environmental impacts. Contact technical@nvcuk.com for more information.



CARBON NEUTRAL FROM 2022

Certified by Carbon Neutral Britain, we've reduced our emissions by 43% since 2021/22, from 462 tCO₂e to 264 tCO₂e in 2023/24, with the remaining offset through select projects.



ECOVADIS BRONZE 2024

Our EcoVadis Bronze rating highlights our commitment to sustainable, ethical practices across the business.

ENVIRONMENTAL RESPONSIBILITY



OVER 1000
TREES SAVED
ANNUALLY



NO WASTE GOES
TO LANDFILL



WE USE
RECYCLABLE
PACKAGING



**462 TONNES
DOWN TO
264 TONNES
IN 2023/2024**

Emissions reduced year on year since 2021/2022.
Improvements of c.100 tonnes per year.



LiFePO₄
LITHIUM BATTERY
TECHNOLOGY



WIRELESS
SMART
TECHNOLOGY



PACK AND
DESPATCH 'PLOT
BOXES'



**NET ZERO
BY 2050**

On track to meet our 50%
GHG reduction targets by 2025,
five years ahead of schedule.

5 REASONS WHY NVC LIGHTING IS THE BRIGHTER CHOICE

01

EXPERIENCE

NVC brings extensive lighting experience to the UK, Ireland, Norway, Sweden, Finland, and Denmark markets. Our deep understanding of the regulations, standards, and customer preferences in these regions ensures that we deliver high-quality, innovative lighting solutions that excel in performance, reliability, and sustainability.

03

ACCREDITATIONS

NVC Lighting is a leading supplier, supported by key accreditations:

- **ISO 9001** for quality management
- **ISO 14001** for environmental impact
- **ISO 45001** for occupational safety
- **ISO 22301** for business continuity
- **ISO 50001** for energy efficiency

05

PART OF THE NVC INTERNATIONAL GROUP

We are part of NVC International a global leader in lighting solutions and services. We deliver a comprehensive portfolio of products and services to customers worldwide, supported by the strength and innovation of the NVC International group.

02

TESTING AND CERTIFICATIONS

NVC Lighting products undergo stringent testing to ensure they meet the highest standards for compliance, safety, and performance. Our lighting solutions are designed to deliver as promised, meet all relevant regulations, and come with a guarantee of quality and safety.

04

7-YEAR WARRANTY

Our industry-leading 7-year warranty is crafted with customers in mind, providing clear and transparent coverage from the date of installation. This straightforward, comprehensive warranty distinguishes us from competitors, ensuring you receive the reliability and support you deserve.





The Brighter Choice

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