The Brighter Choice

Lighting for **offices**

Lighting for all areas in and around the modern office

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Pedestrian approach.
RENO is a great lighting solution for paths approaching an entrance

Main entrance.
DENALI is an impressive fitting announcing, "you have arrived"

Reception areas and boardrooms.
DALLAS surface or suspended fittings are ideal, especially for higher ceilings.

Offices & meeting rooms.
STERLING Tp(a) rated panels provide low glare lighting and can be part of a circadian installation.

Corridors.
YALE is a robust linear solution for corridors and back-of-house areas.

Toilets.
PRESTON is an IP65 rated solution and can be fitted with a sensor.

Car Park.
FREMONT complements RENO and is suitable for outdoor car parks

Office.
LINCOLN is an attractive alternative to conventional 600 x 600 panels

Notional corridors.
WESTMINSTER is a low-glare fitting, ideal for use alongside STERLING & LINCOLN

Office lighting **needs to change**

For employees. Post COVID and working from home people expect more of office lighting than dull rows of 600 x 600 panels. Human centric, sustainable and controllable lighting is a minimum requirement for an office that seeks to attract and retain motivated staff.

For employers and landlords. Electricity costs are the latest headache. When electricity was £0.12 per kWh we could (sadly) afford to leave the lights on all day. Now, with electricity prices several times that, and very volatile, we need to look again at lighting controls to bring running costs down. Energy saving is back in fashion.

All the products shown here carry a 7-year warranty, which starts from the date of installation.

7 SEVEN YEAR WARRANTY

Lighting controls now deserve renewed attention

We have 4 levels of lighting control solutions, from the simplest to the most sophisticated.

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
ONE SENSOR PER FITTING	MASTER / SERVANT	SIMPLE WIRELESS CONTROLS	WIRED DALI

Lighting controls to save energy

Rising energy costs mean that switching the lights off when they aren't needed, or dimming them down when there is plenty of natural light, has never been so important. Our simplest lighting control solutions can do this.

Human-centric lighting – to help entice us back to the office

More sophisticated controls don't just save energy - we can use them to create a human-centric environment – an office that is more attractive to work in, that supports our well-being and combats stress and fatigue.

Introducing different scenes in a meeting room, dimming the lights zone by zone in an open-plan area, providing manual dimming control in break-out areas – all these measures help create a more personalised environment.

Circadian lighting can be part of a human-centric approach.

Circadian lighting has a colour temperature (CCT) that varies through the day, just as natural light varies. Correctly implemented, this CCT variation has a positive effect on our hormonal system that can include improved concentration and alertness, reduced stress and healthier sleep patterns.

See opposite for an example of a circadian lighting system we have implemented.

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Case study

A call-centre operating 24/7 and handling 999 calls wanted a lighting solution that would combat drowsiness, especially for the night shift. Management was keen not to compromise the health of the staff, so bleaching the office with bright light at a high CCT was just not an option.

They consulted NVC and we proposed a circadian solution:

- **Lighting controls – LightBox**. A DALI based control system that can be programmed with the CCT required in each lighting zone throughout a 24-hour period.
- **Luminaires – STERLING 600 x 600 panels**, each with 2 sets of LEDs, one cool white and the other warm white. Each luminaire can deliver any CCT from 2700K (simulating dawn or dusk) to 6500K (similar to sunlight at midday).
- **LED drivers**. DALI DT8 drivers with twin outputs to deliver the CCT required.

This is now implemented and working well. "We have a lot of experience managing staff on shifts, but it's hard to balance the short term need to keep people alert with the longer term risk that can impose on their mental health" - call centre manager.

It's a balancing act:

- **Short-term productivity and responsiveness**. High light levels at a high CCT (6500K) can keep people alert for a full shift, but they go home "buzzing" and don't sleep well.
- **In the medium term**, poor sleep patterns lead to absenteeism. Overall productivity drops.
- **In the long term**, poor sleep patterns evolve into chronic stress and staff move to other jobs. More bright light to encourage the remaining staff to work faster only exacerbates the problem.

Lighting that follows the natural daytime rhythm in both CCT and intensity helps maintain alertness, reinforces our body clock and contributes to wellness, good attendance and productivity.

We are proud to have played our part in making part of the UK emergency response system more resilient.

Glare

CIBSE guidelines recommend that in offices the Unified Glare Rating (UGR) should be less than 19.

Keeping glare low requires 2 things:

- Good lighting fixture design
- Good lighting design – choosing the correct light fittings and positioning them correctly

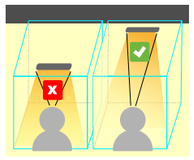
Do you need help with this? We have lighting designers who can help you to achieve a low-glare solution for your ptoject.

This is how UGR is calculated –
and this is how you can control glare though good selection and siting of light fittings:

Luminance of each luminaire

For the same output, a fitting with a larger surface area will have a lower luminance than a smaller fitting. A lower value of L_2 lowers the UGR, so larger fittings will generally contribute to lowering the glare.

$$UGR = 8 \log_{10}\left[\frac{0.25}{L_b}\sum\frac{L^2\,\omega}{p^2}\right]$$



Angle of the luminaire as seen by the viewer

ω is the angle subtended by the luminaire at the viewer's eye. Moving the fittings further away or higher up will reduce ω, and this reduces the UGR.

Luminance – background

A suspended fitting such as the DALLAS that throws some light on the ceiling increases the background luminance (L_b). This decreases glare.

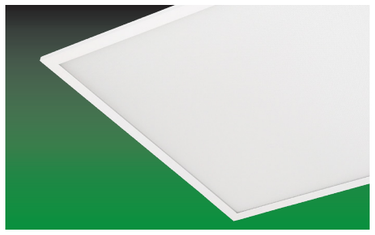
How far the fitting is away from the viewers direct line of sight

p is the **Guth index** - a measure of the angular distance of the fitting from the viewer's line of sight. Moving fittings out of the line of sight increases p and that decrease the UGR.

Here are some fittings that can contribute to lowering the UGR in an installation:

DALLAS
Puts light up onto the ceiling, increasing the background luminance.

WESTMINSTER
The recessed diffuser means that in normal use the light emitting surface is not in the user's field of view.



STERLING
The micro-prismatic diffuser concentrates the light downwards so that L_2 (luminous intensity) is decreased when viewed from the side.

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Emergency lighting **testing** for offices

We have three emergency lighting test solutions for offices.

- **Manual test** is mostly confined to very small office projects.
- **Self-test** will be ideal in many offices, but if testing would be disruptive if it was not carefully scheduled, then addressable self-test would be more suitable.
- **Addressable self-test** is best for large projects and those requiring control and scheduling of when testing takes place.

	Manual test	*Self-test*	*Addressable self-test*
Initial purchase cost	**Lowest**	**Medium** Self-test fittings cost c37% more than manual test fittings	**Highest cost**
£ Pay-back	**Worst value**	**Excellent.** <2 years Over the warranted 7 year life the return is >3 times the outlay	**Project dependant**
Installation cost	**Medium cost** Key-switches are required	**Lowest cost** No key-switches are required and no DALI bus	**Highest cost** DALI bus required
Running cost	**Highest cost** Monthly and annual tests required	**Lowest cost** All testing is automated. Zero labour costs.	**Lowest cost** All testing is automated. Zero labour costs.
Testing reliability	**Low** Testing is easily overlooked. Individual fittings can be missed	**High** No human involvement. Fully automatic	**High** No human involvement. Fully automatic
Fault reporting reliability	**Low** Totally dependent on the tester. No scope for end-users to spot and report failures	**High** Visual and audible warnings are obvious to end-users.	**High** Visual and audible warnings, plus central reporting
System integrity	**At risk**	**Assured**	**Assured**

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Carbon Neutral Britain
CARBON NEUTRAL BUSINESS 2022

LIGHTING INDUSTRY ASSOCIATION MEMBER
GOLD 2021 ecovadis Sustainability Rating
RELUX official member
LUMICOM MEMBER
ECA COMMERCIAL ASSOCIATE
EDA
DATA
bsi ISO 9001 Quality Management Systems CERTIFIED FS 690066 | ISO 14001 Environmental Management CERTIFIED EMS 716023 | ISO 45001 Occupational Health and Safety Management CERTIFIED OHS 716024
ICEL ENDORSED