

INFORMATION SHEET : 1

Lighting and accessibility: Making buildings accessible

This brief guidance explains some of the current issues with recent lighting technologies in order to help organisations make their buildings more accessible, both for employees and for those visiting the premises.

What's the problem?

Lighting has changed fundamentally in recent years. Incandescent and halogen light sources have been banned and replaced by new technologies – first new forms of fluorescent lighting (including curly CFLs ‘Compact Fluorescent Lights’) and now mostly ‘LED’ (‘Light Emitting Diodes, also known as ‘solid state lighting’).

Some people experience pain and ill health when exposed to these newer forms of lighting. Some of these people have existing health conditions and find their symptoms are made worse. These conditions include: migraine and headache, light-sensitive skin conditions, autistic spectrum disorders, lupus and eye damage. Others without any previous health condition find they are unable to tolerate newer lighting technologies.

More research is urgently needed to understand what is causing these problems. It is complicated because light is multi-faceted and people are diverse and affected by different aspects of light. Some may be sensitive to flicker, UV, or the ‘colour’ (also known as ‘light temperature’. Others are affected by the glare, intensity and the direction of the light. And some simply cannot tolerate particular types of lighting such as LEDs at all, regardless of adjustments in colour or intensity.

There is also growing concern about the impact of new forms of artificial light on the wider population, especially on circadian rhythm (body clock), sleep disruption, eyesight and mental health.

How are people affected?

Symptoms reported include eye pain, migraine, headaches, skin burning and rashes, dizziness, fits, fainting and vomiting, as well as difficulties in focusing and thinking clearly, anxiety and sensations of unease and discomfort.

Severe symptoms can leave people disabled by artificial lighting. Light-disabled people may be unable to work, travel, access healthcare or places of recreation and worship, and even the streets after dark. Some have had to leave their jobs, their studies and even their homes to avoid lighting which makes them unwell. The resulting isolation and extreme social exclusion impacts on mental health.

Symptoms which last for an extended period and have a severe adverse impact on everyday life can mean that the person concerned meets the definition of “disabled” set out in the Equality Act 2010, which means that employers and service providers may have specific duties to make reasonable adjustments for them.

Please spread the word and keep in touch. We would welcome your feedback and any comments and observations about your experiences in making more buildings accessible.



What can you do to make buildings accessible?

The needs of people who are sensitive to, or disabled by, artificial lighting should be taken seriously, in the same way as access needs are assessed for people with other forms of disability, with awareness and understanding of the impacts on an individual's life and health. We are asking organisations to be 'LightAware'. This means:

- » knowing what lighting is installed in each area, including vestibules and toilets
- » listening to an individual's specific needs
- » working together to create a plan for access.

The current regulations banning incandescent and halogen bulbs recognise the problems people have with LEDs and contain an exemption to enable alternative bulbs to continue to be made available.

What building designers and facilities managers can do to help

At present, we are unable to provide guidance on the specific types of lighting to install when designing or improving buildings. But we would suggest that you adopt the following principles:

- » **Be alert to the health impacts of lighting**
 - lighting is far more than aesthetics and lighting choices can have a serious impact on everyone's health as well as the accessibility of your premises.
- » **Use natural light as much as possible**
 - for example, include systems to transmit daylight within a building.
- » **Install lamps where bulbs can be easily changed**
 - this enables alternative bulbs to be used where necessary.
- » **Ensure all lighting can be simply switched off**
 - the ability to switch lights off can make all the difference to enable someone to work, shop or use a toilet. Therefore: ensure automated lighting systems have a manual override that is understood and accessible by all staff – being unable to switch off lighting in individual areas makes access particularly difficult.
- » **Reduce harshness and glare**
 - by covering exposed lamps with opaque diffusers.

Scientific research is ongoing and we still have much to learn about the effect of LED lighting on health. Current research suggests that in any lighting **lower intensities** and **warmer colours** (lower colour temperatures) are better tolerated and that **flicker** is to be avoided at all costs.

What can staff do to help

With any accessibility issue, attitude and understanding make a big difference – this means listening to an individual's requirements with attention and respect. Further assistance could include:

- » **staff training** on lighting as part of regular disability awareness training
- » **ensuring staff have the authority** to make changes to lighting where needed
- » **be ready and willing to provide visitors with information** on the types of lighting installed within all parts of a building
- » **be willing to change bulb types** to accommodate an individual's needs
- » **be willing to open blinds and curtains** to maximise daylight and be willing and able to **switch off** lights where required
- » **consider setting certain hours** of 'daylight only' time to enable access.

