



Lighting Guide for Accessible Bathrooms

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Poor lighting increases the likelihood of falls

The importance of good lighting cannot be underestimated and bathrooms in particular are prone to shadows due to many using only one main ceiling light source. Being able to see a space clearly benefits movement, balance, gait and stability and ultimately improves a person's overall safety. Although anyone can experience a fall, certain people are more at risk, including those over the age of 75, people with balance problems and muscle weakness, poor vision, or a long-term health condition such as heart disease, dementia or low blood pressure (hypotension) (NHS, 2018).

Thirty percent of people aged 65+ will fall at least once a year and for those aged 80+ this rises to fifty percent (NICE, 2013). With the number of people aged 65+ projected to rise by over 40 per cent in the next 17 years to more than 16 million (Office for National Statistics,) the number of older people needing emergency care due to falls is set to rise significantly if preventative measures are not increased.

Those in care homes are particularly vulnerable, with statistics showing residents are three times more likely to fall than their community dwelling peers and ten times more likely to sustain a significant injury as a result (Department of Health, 2009)¹. Another intrinsic risk factor for falling has been identified by the Royal College of Occupational Therapists as impaired vision (RCOT, 2015).

Fall risk potential is high in the social rented sector as well, due to the percentage of older tenants. In England alone, there are over 1.6 million people over 55 years of age; representing almost 45% of all socially rented households. This number will continue to rise – with the total aged over 55 living in social housing projected to increase from 1.6 million to over 2.2 million by 2035 (if social housing maintains its current share of the housing market). (English Housing Survey, 2017).

Although a multi-faceted approach is needed to achieve fall prevention, such as sight tests, home hazard assessments and medication reviews, the role of good lighting cannot be underestimated, particularly in high fall risk areas such as the bathroom. This guide highlights what constitutes good bathroom lighting and where to place lights in the space for maximum benefit.



Kate Sheehan, Occupational Therapist:

“Tasks carried out in a bathroom often require close working e.g. shaving and make up application, or intimate personal hygiene e.g. wiping after going to the toilet or washing between the toes. All of these actions require the Occupational Therapists to maximise the client's ability to perform the task and lighting is a critical part of the assessment and specification.

There should ideally be a high and even level of ambient light throughout the home to allow people to move around safely, and sufficient light for specific tasks. Even levels of lighting mean that people's eyes do not need to readjust significantly to different light levels when they stop an activity or move away from it.”

Lighting and health conditions

Good lighting can mean different things to different people, depending on a person's specific health condition. For example bright lighting can help those with low vision, yet cause discomfort, or disturbance for those with albinism. The best results to support independence will be achieved when the lighting being specified is client centred, meaning that their specific bathroom lighting needs are determined.

The seven characteristics of good lighting

According to the Thomas Pocklington Trust², a charity dedicated to delivering positive change to those with sight loss, big lighting improvements can be achieved by:

- Tailoring the lighting to specific needs – creating a visual environment that supports a person's chosen ambience and activities
- Ensuring the lighting is for specific tasks, orientation and movement – create a safe minimum level of ambient light and task focused lighting to illuminate specific areas of importance
- Maintaining even light levels, with minimum glare – deep shadows or sharp changes in light levels should be avoided. To minimise glare, the bright areas of light sources should not be directly visible from normal directions of view
- Incorporating adjustment for flexibility – incorporating switching, dimming or different lighting elements for specific needs
- Making sure the lighting is energy efficient – appropriate lighting should be selected to meet user needs without wasting energy. This can be achieved using LED lighting
- Prioritising ease of installation where possible to minimise disruption – use existing wiring and fittings, or alter switches to more user friendly versions before implementing any major changes
- Planning the adaptation to suit the future – choose adaptations that respond to changing needs, new occupants and lighting innovations.



¹Source: Department of Health. Best Practise Guidance. Falls and Fractures – Effective interventions in health and social care July 2009 http://www.laterlifetraining.co.uk/wp-content/uploads/2011/12/FF_Effective-Interventions-in-health-and-social-care.pdf

²Source: Lighting in and around the home: 'A guide to better lighting for people with sight loss', Thomas Pocklington Trust (for people with sight loss) in association with the Institution of Lighting Professionals (April 2018)



Good bathroom lighting

A bathroom or shower room has specific lighting requirements and challenges that are not found in other areas of the home. The combination of moisture and electric fittings means that this is an area where adaptation needs to be done by a qualified electrician and to a standard that meets IET Wiring Regulations (BS 7271), with fittings that meet all the relevant safety standards, using lights that are IP65 rated.

If the refurbishment is Disabled Facilities Grants (DFG) funded, then it will have to conform to the general conditions for internal lighting found in Part L, section 12 of the building regulations. This means that at least 75% of all the light fittings in the main dwelling space are low energy. The low energy fittings have a luminous efficacy greater than 45lm/W and have a total output that exceeds 400 lumens.

Good bathroom lighting delivers adequate light levels for the user to perform a variety of tasks around the space, including showering, shaving and other personal care activities.

Key factors include:

- **LED lighting** – LED lights are highly energy efficient and reduce shadows when installed. Ideal for those with visual impairment issues or those with dementia, for whom shadows can cause confusion and the potential for falls
- **Well targeted LED downlights** – these are lights that are recessed into the ceiling, so that a narrow beam of light is directed downward onto a specific area, in order for the user to carry out activities more effectively
- **Sufficient general LED ceiling lights** – to deliver a good level of ambient lighting to the whole space, two LED ceiling lights should be evenly spaced. Different angles of light reduce shadows
- **Easy to use light switch or pull cord** – either a rocker switch or easy to hold pull cord. For those with visual impairment issues, a cord in a high-contrast colour is ideal
- **Higher lux light levels** – lux is the unit of illuminance and for people with sight loss or dementia, higher lux levels will be needed within the space (see 'Bathroom lighting for maximum benefit' for more details on this)
- **Mirror lighting** – lights over mirrors, or embedded within the frame as a decorative feature, are ideal for those looking for task-specific lighting for shaving or make-up application.



Bathroom lighting for maximum benefit

For those with low vision or mobility issues, the avoidance of shadows, dark areas and glare are key to safe movement around the space. In addition, ensuring sufficient light levels in the areas where specific tasks are undertaken promotes a person's long-term independence. This means that a mix of task-specific lighting and increased overall ambient lighting is needed to ensure the bathroom is sufficiently lit.

A certain level of luminance is required in each area of the bathroom, based on the tasks that are being carried out. This luminance is measured in lux levels. According to a lighting guide prepared by occupational therapists from The OT Service, people with both sight loss and dementia would benefit from the following lumen levels in their bathroom:

Bathroom lighting for those with sight loss and dementia:

- 600-700 lumens per square metre for general lighting
- 700-800 lumens per square metre for task lighting.



Reducing risk of harm

Most housing in the UK has not been designed for those with mobility or visual impairment issues in mind. In addition, most building standards include only a few specific references to lighting and these tend to be based on users without any physical limitations.

According to the Thomas Pocklington Trust, there are a number of common problems in the existing housing stock for those with visual impairment issues. These can also be applied to those with other physical challenges and include:

- Low levels of lighting
- Uneven lighting, shadows and dark areas
- Light fittings that allow a direct view of the lamp, causing glare
- Differences between light levels in different spaces, causing adaptation problems when moving from room to room
- Poor control with inadequate switching and/or dimming
- Lack of information on potential improvements.

Lighting improvements don't have to be costly. In fact, for social or private housing providers, care home managers or occupational therapists, lighting should be included in their maintenance, refurbishment or home adaptation review schedules, as small lighting improvements can significantly reduce the risk of harm for occupants.

Counting the cost

Upgrades to existing bathroom lighting are likely to need the involvement of a qualified electrician or lighting technician. Although in social housing, the cost is traditionally met by the provider, in privately owned or rented homes it is either paid for by the occupant or through repairs grants or DFGs – which will be means tested. For those with low vision or mobility issues, getting occupational therapist or Low Vision Service advice when looking to review the lighting is recommended.

Light colour and contrast

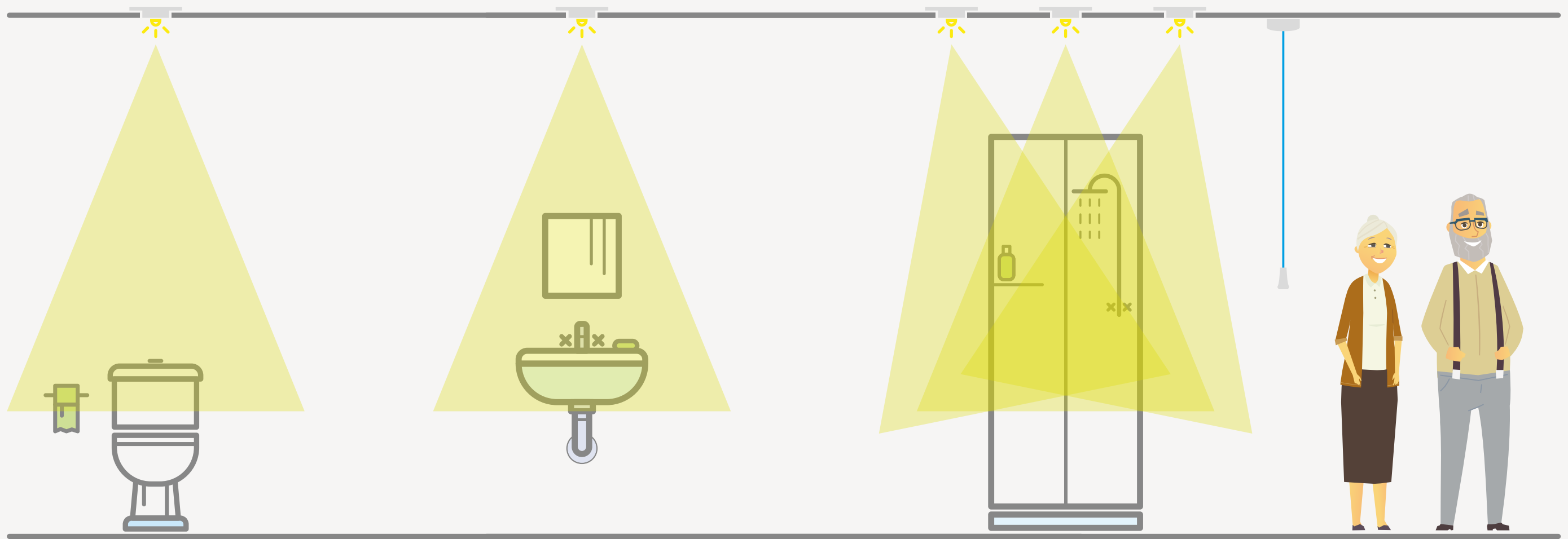
Individuals respond differently to lighting colours, for example after cataract surgery a bright white light may be uncomfortable for some. Therefore a warmer white light is preferable for most users, as it allows colour contrast within the environment, yet at the same time reduces glare for those susceptible to strong light.

Colour contrast is critical in supporting people with visual impairment. However, lighting should be used to accentuate the colour contrast and not be used as a replacement. For example, tiling should contrast wall colour, which is then highlighted with task lighting and the wall colour should contrast the floor, which is highlighted with well-placed general illumination.



Glare

Glare arises from sensitivity to light. 'Disability' glare arises from light sources pointing towards the eye, reducing contrast and impairing vision. To minimise this, it is recommended that for areas prone to glare – such as the sink space where there is a mirror – the task light should be positioned in such a way as to target the sink space, without shining directly onto the mirror. It is also important that the light bulb in the downlighter is not directly visible from the users line of sight, which could also cause glare.



Bathroom light placement

The number of lights that are required for the bathroom will depend on its size and layout. However, the key areas that will need illumination for specific tasks include the toilet, sink, shower and/or bath.

Task focused lighting is best achieved through the use of fittings installed in the ceiling that contain LED lamps that throw narrow beams of light onto specific spaces, such as the shower area, or sink. To maintain ambient light levels in the bathroom as a whole however, more general LED lighting is required to ensure that there are no shadows within the space. The quantity of lights that are needed will depend on the size of the bathroom being lit.

It is recommended that task lights are distributed in the following way (with the user no closer than 300mm to any given task light and they are also positioned more than 300mm from each wall):

- **Toilet** - 1 task light
- **Hand basin** - 1 task or mirror light
- **Shower** - 3 task lights (for a space of 1500mm x 1500mm)
- **And/or Bath** - 3 task lights.

Also ensure that either a pull cord or wall mounted light switch is easy to access, see and use. For someone with low vision, the pull cord may need to be in a contrasting colour to the background and this is the preferred option for those in care home environments.



AKW's Task Focused Lighting Kit

To help care home managers, social and private housing providers and installers, AKW has created a bathroom lighting pack. It contains everything needed to light a standard UK bathroom (standard size 8ft by 6ft or 2,438mm x 1,829mm) and the products conform to all relevant industry standards for a bathroom installation.

Most LED downlights on the market are designed to provide a wide area of light and therefore usually have a beam angle of 60°. However, for task lighting for those with low vision or mobility issues in the bathroom, a specialist task light with a 30° beam angle is required. This narrower beam of light is up to 100% brighter than a standard 60° beam angled LED, meaning that if this is installed instead of a 30° LED task light, it will only be half as effective.

The pack contains five narrow beam (30°) ceiling task focused LED lights (600lm), three for the bath / shower zone and two for the toilet and sink areas. There are also two long lasting, bright (1764lm) bathroom LED lights for the ambient lighting of the space and a blue pull-cord switch.

Task Focused Lighting Kit – 30088 includes:



- IP65 Rating
- 30-degree narrow beam – focused beam of bright light on the task area
- 3000k warm white light – allowing colour contrast within the environment
- LED (8W) Long life – provides up to 30,000 hours of light
- Supplied with a driver.



- IP65 Rating
- LED (18W) last up to 20x longer than a normal halogen light
- 50,000 hour lifespan
- Bright light ensures visibility in all bathrooms and Doc M Suites.



- The AKW Task Focused Lighting Kit also contains a blue pull cord switch – delivering ultimate contrast for those with sight loss or dementia
- Blue has been chosen as the colour is often selected for colour contrast in bathroom adaptations and red is often associated with an alarm cord.

For those wanting to order the AKW Task Focused Lighting kit, or any of the AKW lighting range, please visit www.orders.akw-ltd.co.uk or call 01905 823299 and use the following product codes:

Product Codes:	
LED Light Basic – 18W	30080
LED Light – Dimming Sensor Function	30081
LED Light – Dimming & Emergency Function	30082
Task Focused LED Light	30086
Task Focused Lighting Kit	30088
Pull Cord Switch	30087
Pull Cord Fan & LED Bathroom Light	23211LED
Timer Fan & LED Bathroom Light	23212LED
Humidistat Fan & LED Bathroom Light	23213LED

The true benefit of a well-lit bathroom

Bathroom lighting modification is not just about highlighting risk areas and resolving issues, but it is about promoting independence. With a well-lit bathroom space, a person's wellbeing and confidence are boosted, enabling them to engage more readily in day-to-day activities in a high-risk space. With a little time and investment good bathroom lighting has the potential to promote independence and help reduce accidents, now that's good news whether the bathroom is in a social housing, private or care home environment.



Talk to the experts

Contact us today to book a consultation with a member of our 60-strong team of sales and surveying experts. They can tailor a solution to your specific resident, building and budget needs. You can request a visit at www.akw-ltd.co.uk/contact-us or alternatively contact us using the details below.

Tel: 0800 078 7051 **Email:** marketing@akw-ltd.co.uk **Fax:** 01905 823297

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About AKW

AKW are the leading designers and manufacturers of accessible bathroom and kitchen products having supplied this specialist market for over 25 years. We supply the majority of social landlords, local authorities and care and nursing home groups in the UK as well as customers internationally. We work closely with OTs and other healthcare professionals when designing our products to ensure they meet the specific needs of our end users. Our broad range of products include:

- specialist care showers (electric and mixer showers)
- wet room (level access showering) kits
- low level shower trays
- safety shower screens and curtains
- raised height sanitaryware with paddle flushes and seats designed for side transfer
- Geberit shower toilets
- lever taps
- grab rails
- Doc M packs
- accessible kitchens with optional ActivMotion® rise and fall units.