


Lighting: How it matters

Common perception has it that a brighter office is a more effective office. The truth of the matter is not necessarily so simple – and affects everything from productivity to sustainability to the well-being of staff


An increasing number of companies today are recognising the link between productivity and the quality of the working environment. But while regular investments in state-of-the-art office furnishings and equipment have become almost a routine occurrence, upgrades to lighting in the workplace are still relatively rare.

This is ironic, as research has confirmed that lighting environments have a profound impact on the physiological and psychological health of the people working in them. Poor or inappropriate lighting can induce not only eyestrain and its attendant long-term health problems, but also contribute to a general atmosphere of malaise. These problems will be particularly acute in the modern 'knowledge workplace' in which the majority of tasks are performed via computer screens.

 From a [management perspective](#), no workspace can be considered effective without appropriate lighting. No matter how sophisticated the furnishings, layout or architecture, poor lighting conditions can amplify everything from the frequency of errors made by staff to their rate of absenteeism. In short, improper lighting on its own can largely negate any gains expected from improving other elements of the working environment.

Lighting is therefore an investment that pays off in ways that extend beyond straightforward matters of productivity. As much as any other element of design, lighting contributes to the quality of your workplace and the work being done. Only with a properly planned lighting scheme can the full benefits of modern illumination – including improved productivity, staff well-being, and sustainability/energy efficiency – be realised.

The ideal way to achieve this is to integrate your lighting requirements as closely and early as possible into the 'big picture' of your workspace. If circumstances permit, effective lighting should be developed in step with the rest of your office design, in close collaboration with a workplace design professional.

 From an [end-user perspective](#), a good illumination scheme is one which delivers both a quantity and a quality of light appropriate to a space's purpose. In this context, 'quantity' refers to the level of light that is required to carry out work effectively; and 'quality' to the characteristics of light.

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Natural illumination – sunlight – scores high in both respects. Natural light is generally stronger than artificial, and is inherently flicker-free. Its gradual change of intensity and angle over the course of the day complements the biological rhythm of the human body. Natural light is also completely cost-free, with no maintenance needed. The more it is used in a workplace, the less energy-hungry artificial lighting is required, resulting in a 'greener' office.


However, natural light can also create distracting glare off computer screens and glossy surfaces, and cause uncomfortable heat penetration into the office. Therefore, any illumination plan that incorporates natural light must also include a means of control. These can range from things as simple as curtains or blinds, to advanced systems like automatic internal or external shades.

It is in any case virtually impossible to rely completely on sunlight for workspace illumination, even if the necessarily extensive glazing and open interior layout are in place. The fact is that no climate can guarantee uninterrupted, consistent sunlight through the working day – and few offices are completely vacated before sunset. Natural light may not even be sufficient for certain work functions or individual staff members (for example, those whose eyesight has deteriorated with age).

Therefore, in the interests of efficiency and individual need, a minimum provision of artificial lighting is necessary in every design scenario. This is the case even in those areas with ample natural illumination, where the addition of artificial lighting can help ‘balance out’ the quirks of sunlight whilst offering a useful margin of flexibility in terms of light quality and quantity.

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As touched upon earlier, lighting is also a key element of a sustainable office. However, lighting effectiveness should not – and need not – be compromised for the sake of reducing energy consumption. It must also be noted that simply installing energy efficient fixtures is not equivalent to a quality lighting plan.

 From a [technical perspective](#), an effective illumination scheme will exploit more than one type of lighting to achieve the best result. Though the precise blend varies according to the individual project, certain basic lighting qualities will always be in consideration.

One of these is ‘ambient’ light, which comprises the ‘general’ illumination in the office. ‘Task’ lighting is brighter, and both supplements ambient light and supports certain focused tasks. Lastly, there is ‘accent’ lighting, which is another form of supplementary lighting. It can be used tactically to visually improve a volume’s spatial characteristics and aesthetic tone, and provide a balancing ‘fill’ between ambient and task lighting. Each of these lighting qualities, then, has its unique attributes, but they do not necessarily complement each other unless they are deployed thoughtfully and appropriately.

To strike the right balance between natural and artificial illumination, effectiveness and efficiency, it is also vital that lighting is paired with the best possible control hardware and software. As well

Basic lighting technologies

Incandescent

- PROS:** Cheaply and easily available in wide range of types, simple installation
CONS: Relatively short lifespan, inefficient, high heat output

LED (light-emitting diode)

- PROS:** Readily available in an increasing range of types, simple installation, relatively low heat output, low energy usage, relatively compact, long lifespan
CONS: Relatively high initial cost

Fluorescent

- PROS:** Readily available in a wide range of types, simple installation, low energy usage
CONS: Medium lifespan, medium heat output, fragile construction, poor light quality

as enabling light in specific areas to be ‘personalised’, some advanced control systems will include a degree of automation that switches off lighting in uninhabited spaces. These systems can bring substantial electricity savings as well as being extremely convenient for the user.

No matter how sophisticated its furnishings, layout or architecture, no workspace can be considered successful unless its lighting is commensurate to its task. It is an investment that pays off in ways that extend beyond straightforward matters of productivity and staff well-being. As much as any other element of design, lighting contributes to the quality of your workplace and the work being done.

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