

Alternative climate-based metrics, such as useful daylight illuminance, are being developed (Madaljevic, 2006). Such metrics would make the adoption of daylight as the primary light source in buildings easier to achieve.

Lighting the space

Current lighting practice is divided into two parts. Where the appearance of the space is important to the impression given, e.g. for hotel foyers, the lighting designer is allowed free reign to use the lighting of the space to deliver the required 'message'. In applications where function is the main consideration, attention is focused on visual performance of tasks with the result that the appearance of the space is often ignored. This dichotomy has triggered two different streams of research. One is the search for the cues that people use in generating their impression of a space (Loe et al, 1994, 2000). By identifying the parts of the space that are important for perception and the aspects of light distribution and colour appearance that influence perception, it is hoped to improve the quality of lighting design. The other is an attempt to demonstrate the value of lighting the space by measuring individual task performance under different types of interior lighting. This has been largely unsuccessful (Boyce et al 2006b). While it has been shown that people can identify better quality lighting and prefer it, there is no effect of lighting quality on task performance other than where there are differences in task visibility. This failure to find an effect of lighting quality beyond visibility is most likely to be because the simulated work studies used measure what we can do, not what we might choose to do. To measure what people choose to do, studies have to be conducted in the field where real people do real work. Until such studies are done and the possibility that lighting the space may have an effect at an organisational level is investigated, the importance of lighting the space on task performance is a matter of belief and exhortation rather than proof.

22.2.4 External influences

Lighting practice is under pressure from a number of external interests. The fact that lighting is a major consumer of electricity together with the relatively short time scales within which lighting practice can be changed has attracted the attention of those concerned with energy conservation, global warming and sustainability. The aim of these interests is to reduce the amount of electricity used for lighting. One way to achieve this is to make daylight the primary light source in buildings with electric lighting being used as a supplement when necessary. Another is to ban the sale of inefficient light sources and luminaires. Legislative, regulatory and promotional activities in these areas are to be expected.

Another interest group influencing lighting practice is one concerned with light pollution for its effects on the night sky and the surrounding flora and fauna. Light pollution can be considered at two levels, the local, where it tends to be related to light trespass, and the regional, where attention is given to sky glow. This group wishes to change lighting practice to reduce the amount and distribution of light used at night. There are a number of approaches being developed to reduce light pollution, varying from the simple advice to use full cutoff luminaires to the more sophisticated design tool that seeks to limit the amount of light leaving the boundary of the site (Brons et al, 2008). It is likely that concerns about light pollution will carry greater weight in the design of exterior lighting in the future.

22.3 The evolution of lighting practice

Given that lighting practice faces a number of changes and challenges and is likely to be influenced by the interests of a number of groups whose concerns are more with the consequences of lighting than with lighting itself, what can be done to guide how lighting practice evolves?