CIBSE LG3 requirements

Computer-based equipment using VDTs (Visual Display Terminals) has transformed the office workplace in recent years. In anticipation of this a European Directive was issued to ensure that employees working with such equipment are protected from any adverse effects caused by doing so through the provision of appropriate lighting. The CIBSE Lighting Application Guide 3 (LG3) has become the accepted standard in the UK for providing lighting to meet the European Directive.

There are a number of social and economic benefits of complying with the European Directive/LG3 which offer excellent incentives to install correct lighting in the workplace:

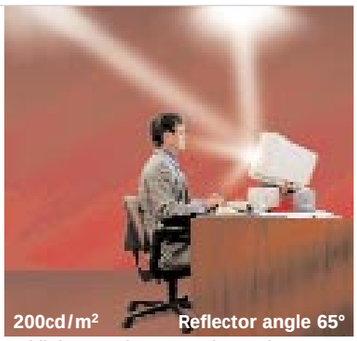
- Improved quality of work with a reduction in costly mistakes
- Improved environment reducing absenteeism through sickness
- Better productivity through a reduction in stress and improvement in staff morale
- Energy savings through the installation of modern, efficient luminaires and suitable control systems where required

The contribution that good, effective lighting makes to the morale and productivity of an office should not be underestimated. Research has indicated that payback of capital invested in good lighting may be achieved in weeks rather than years.

Three categories of fluorescent downlighter are defined by the LG3 recommendations, varying by the intensity of VDT usage and numbers within an interior space. The three categories provide luminaire design guidelines which restrict the amount of glare and high luminance reflections to which a VDT user is subjected.

CATEGORY ONE

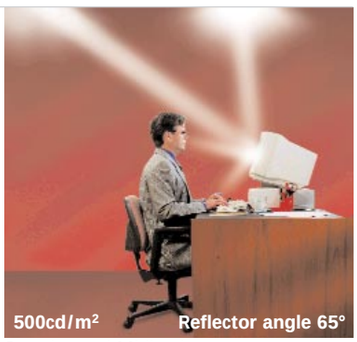
For an interior with a high density of screens, with sustained or intensive usage over long periods. The calculated luminance of a luminaire above 55° elevation should not exceed 200 cd/m² at all angles of azimuth.



Softlighter optic or Broadspread Superlux and Clearlux louvre system When little is known about the hardware/software employed this luminance limit should be applied.

CATEGORY TWO

For a fairly widespread, general usage of VDTs. The limiting angle is 65° elevation at all angles of azimuth, above which the calculated luminance should not exceed 200 cd/m².



Broadspread Midlux louvre system If the VDT has an anti-reflective treatment or the software used is predominantly positive contrast (dark characters on a light background), this relaxed luminance limit can be specified.

CATEGORY THREE

Where low and intermittent usage of VDTs occurs, the permitted angle of elevation is 75°, above which the calculated luminance should not exceed 200 cd/m2 at all angles of azimuth.

For each of these categories a patch luminance not exceeding 500 cd/m2, above the cut off angle of elevation shall apply at all angles of azimuth.

Broadspread Hilux louvre system Where both VDT screen anti-reflective treatment and positive contrast software are employed, the luminance limit can be relaxed even further.

LG3 describes in detail the problems to be overcome and proposes specific requirements for the performance of VDT compatible luminaires and installations. However, whilst the original Lighting Guide published in 1989 has been used widely as a reference by lighting designers, a revision document, published in 1996 recognises the improvements in both computer screen technology and software interface presentation.

The main reason for this change in the guidance notes is that in the past designers have achieved perfectly acceptable 'VDT' installations, which are less than acceptable to the people working in that installation. The low glare luminaire (200cd/m²), because of its poor vertical illuminance performance, can produce a gloomy ambiance within an interior. Relaxing the luminance limit at high angles is an effective way of avoiding this problem.

This criteria now allows the knowledgeable designer to specify lighting that has a quite different appearance to the conventional louvred luminaire if desired. Examples of this can be found with the products Softcell on page 52 and Vespère on page 54.

Whitecroft Lighting Limited are a founder member of the LIF/VDT approval scheme. Many LG3 luminaires in the Commercial and Architectural fluorescent section carry this registration mark.