However, some of the new types of lamp are set up to run in an ambient temperature of 35 °C. In some lamp types the mercury dose is mixed with other metals such as bismuth or indium. These metals form an amalgam with the mercury and this reduces the vapour pressure of the mercury at any given temperature. This enables the lamp to operate at higher temperatures but has the drawback that the lamp takes a long time to reach full output.

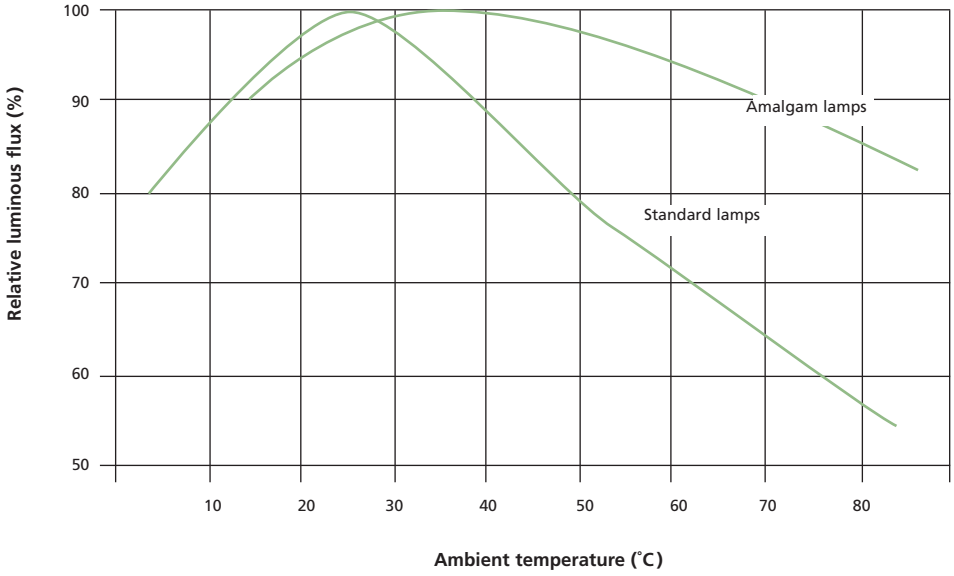

Figure 3.17 Luminous flux as a function of temperature for standard and amalgam fluorescent lamps. 100 percent corresponds to the maximum luminous flux.

There are two main types of fluorescent lamps; the traditional linear lamps and the compact fluorescent lamps.

Linear lamps come in variety of diameters and lengths. The main diameters of lamp are the T12 lamps which are 38 mm in diameter, T8 lamps which are 25 mm and the T5 types which are 16 mm. All of these families of lamps come in a variety of lengths and wattages. Linear fluorescent lamps are generally efficient light sources with some of the lamps approaching 100 lumens per watt. They also come in a wide variety of colours with a range of colour rendering properties. Table 3.3 gives a summary of the main lamp colours.