

Luminaires

There are various types of luminaires available. One main group comprises decorative luminaires, where outward appearance is more important than the light they produce. We will not be dealing with this type of luminaire in depth. This book is more concerned with luminaires with clearly defined photometric qualities that can be applied in the field of architectural lighting. This sector also comprises a wide range of luminaire types, which can be classified according to different criteria. For our purposes we have divided these into three main groups: stationary luminaires, movable luminaires and light structures.

2.7.1 Stationary luminaires

Stationary luminaires are an integral part of the architecture. Occasionally it is possible to vary light direction, but rigid mounting usually means that the light direction is also fixed. Stationary luminaires can be further subdivided according to luminaire characteristics and design.

2.7 Luminaires

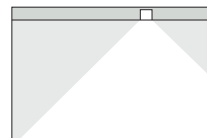
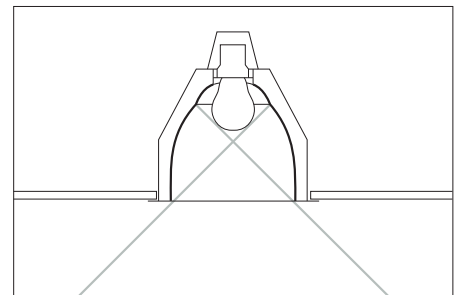
2.7.1 Stationary luminaires

2.7.1.1 Downlights

As the name implies, downlights direct light predominantly downwards. Downlights are usually mounted on the ceiling. They may be recessed, which means that they are hardly visible as luminaires and only effective through the light they emit. Downlights are, however, also available as surface or pendant luminaires. A special version, which is found more in hallways or exterior spaces, is the wall-mounted downlight.

In their basic form **downlights** therefore radiate light vertically downwards. They are usually mounted on the ceiling and illuminate the floor or other horizontal surfaces. On vertical surfaces – e.g. walls – the light patterns they produce have a typical hyperbolic shape (scallops).

Downlights are available with different light distributions. Narrow-beam downlights only light a small area, but give rise to fewer glare problems due to their steep cut-off angle. Some downlight forms have supplementary louvre attachments in the reflector aperture as an extra protection against glare. In the case of downlights with darklight reflectors the cut-off angle of the lamp is identical to the cut-off angle of the luminaire, thereby producing a luminaire with optimal wide-angle light distribution and light output ratio.



Recessed downlight for incandescent lamps. Darklight technology, where the cut-off angle of the lamp is identical to the cut-off angle of the luminaire.