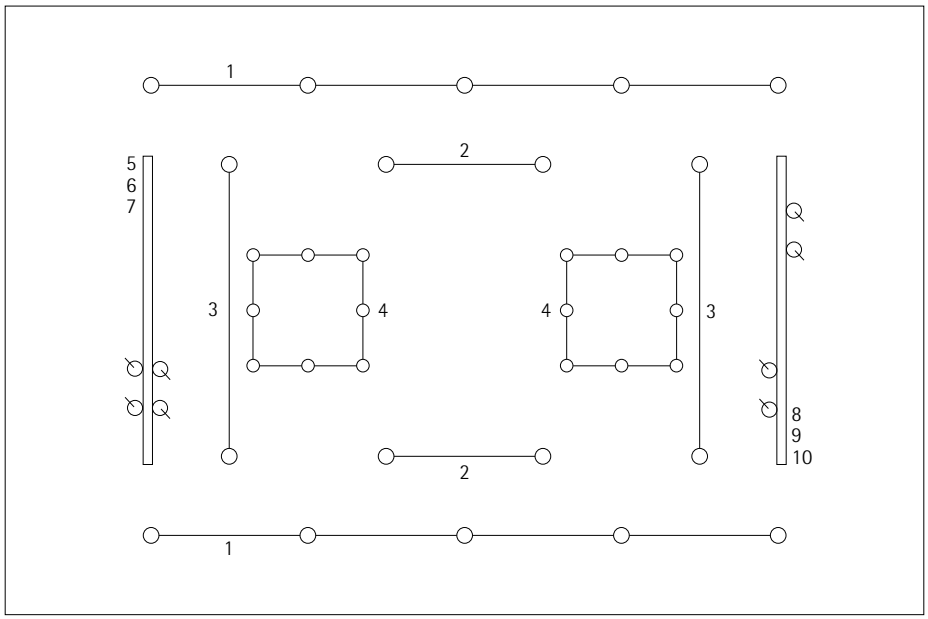
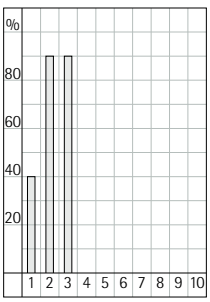
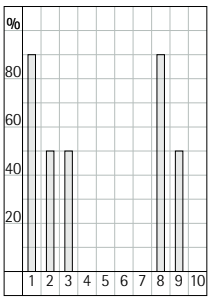
Diagram of the lighting layout in a multifunctional space with the luminaires allocated to different circuits.
Circuits: 1 wall lighting; 2, 3 general lighting; 4 decorative components; 5–10 track.



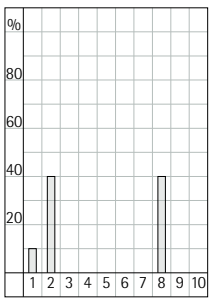
Switching and dimming status of circuits 1–10 for different light scenes:



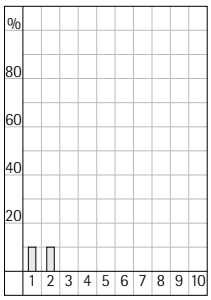
Conference:
high level of horizontal general lighting, average level on walls.



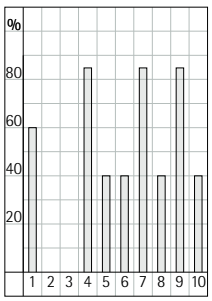
Lecture:
reduced general lighting, emphasis of wall surfaces, accent light on speaker.



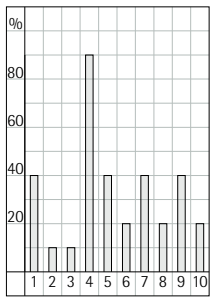
Slide presention:
general lighting reduced for people to take notes by, minimum wall lighting, accent light on speaker.



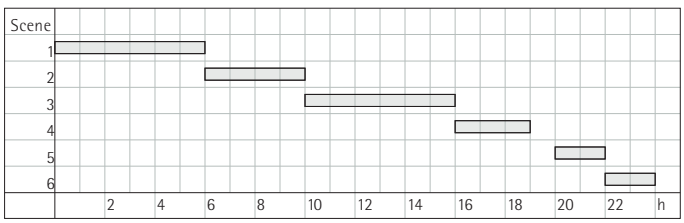
Film or video projections: minimum general lighting.



Dining:
low wall lighting, festive atmosphere produced by decorative components 4, accentuation of points of interest on tables and buffet using track-mounted spotlights.



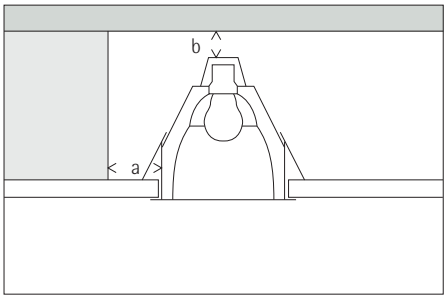
Reception:
room proportions are emphasised by the wall lighting, festive atmosphere due to decorative components 4, accentuation of points of interest in the space using track-mounted spotlights.



Time-related light scenes in a hotel foyer. Transition between light scenes with fading times of up to 15 mins.

Scene 1
Reduced night-time lighting
Scene 2
Morning lighting
Scene 3
Daylight-related lighting to supplement daylight

Scene 4
Warm early evening lighting
Scene 5
Festive lighting for the evening
Scene 6
Reduced festive lighting



Installation of recessed luminaires according to the European standard (EN 60598): the minimum distance a between the sides of the luminaires and building surfaces must be 50–75 mm. Between the upper surface of the luminaire and building surfaces b there must be at least 25 mm. In the case of luminaires with an ▽ mark no gap is required between the upper surface and the building surface.

3.3.5 Installation

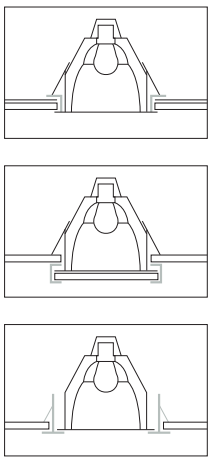
A wide range of luminaire types – e.g. spotlights, combined uplights-downlights and light structures – are exclusively designed to be installed as additive elements. They may be mounted on track or carrier systems, suspended from the ceiling (pendant luminaires) or surface mounted onto the wall or ceiling. The range of downlights and louvred luminaires available is so vast and their designs differ substantially, which means that numerous modes of installation are required. In the case of wall or floormounting the luminaires may be surface-mounted or recessed into the fabric of the building. Ceiling mounting allows a variety of possiblities: pendant mounting, surface mounting, semi-recessed or recessed mounting. Light structures can be handled in a similar way, i.e. depending on their design, they can either be surface-mounted or recessed.

3.3.5.1 Ceiling mounting

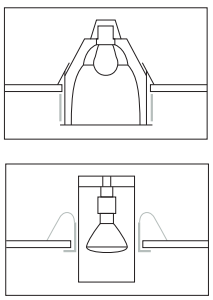
Luminaires can be recessed into concrete ceilings or suspended ceilings; the mode of recessing depends essentially on the specific ceiling type.

For recessed mounting into concrete ceilings the luminaire apertures are created when the ceiling is cast. One method for providing the apertures is to fix polystyrene blocks in the form of the required space onto the concrete shuttering; when the ceiling has been cast the blocks are removed, providing apertures of the required size. Another possibility is to install prefabricated housings, which are also attached onto the concrete shuttering and remain in the ceiling. It is essential to check that the planned lighting layout is compatible with the structure of the ceiling, whether specific installation locations must be avoided, for example, due to concealed joists or whether the reinforcement of the ceiling should be coordinated with the lighting layout.

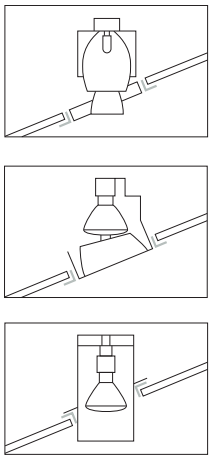
Shaped concrete ceilings, e.g. moulded coffer ceilings, can be used as effective lighting elements. This may be to produce indirect lighting components and glare-free lighting, and will inevitably accentuate the ceiling structure. The luminaires can be installed in the coffers to illluminate the sides of the coffers; the more conventional method is to install the luminaire in the coffer as a pendant fitting, providing direct lighting in the space and indirect lighting through the illumination of the ceiling coffer.



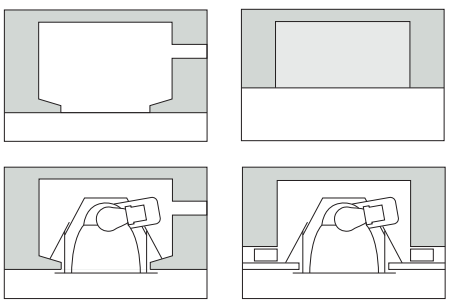
Methods of mounting recessed luminaires (from the top downwards): mounting into plaster ceilings using a plaster ring, mounting into dry ceilings with luminaire attachment, mounting from above with mounting ring.



Semi-recessed mounting using a spacer ring (above), or surface-mounted luminaires using a mounting ring (below).



Mounting recessed luminaires in inclined ceilings: tiltable double-focus downlight (above), recessed directional spotlight (centre) and downlight with special accessories (below).



Mounting recessed luminaires using a concrete housing (left), with a polystyrene block and a substruction (right).