Table 4.1 Typical reflectance values for materials used in reflectors

Reflector type	Material	Reflectance
Specular	Commercial grade aluminium	0.70
Specular	Aluminium with super purity coating	0.80
Specular	Aluminium with silver coating	0.90
Specular	Glass or plastic with aluminium coating	0.85–0.88
Spread	Peened aluminium	0.70–0.80
Spread	Etched aluminium	0.70–0.85
Spread	Brushed aluminium	0.55–0.58
Spread	Satin chromium	0.50–0.55
Spread	Aluminium painted steel	0.60–0.70
Diffuse	White paint on steel	Up to 0.84
Diffuse	Glossy white plastic	Up to 0.90

Diffusers

Diffusers are transparent materials that scatter light in all directions. They provide no control of light distribution but do serve to reduce the brightness of the luminaire. Diffusers are commonly made of materials that maximise light scatter and minimise absorption, such as opal glass or plastic.

Baffles

Baffles can have three functions; to hide the light source from common viewing angles, to reduce the amount of spill light, and to control the light distribution.

The extent to which the light source is hidden from view is quantified by two angles, the shielding angle and its complementary, the cut-off angle. The shielding angle is the angle between the horizontal and the direction at which the light source ceases to be visible. Figure 4.5 shows the shielding angle for a simple fluorescent luminaire.

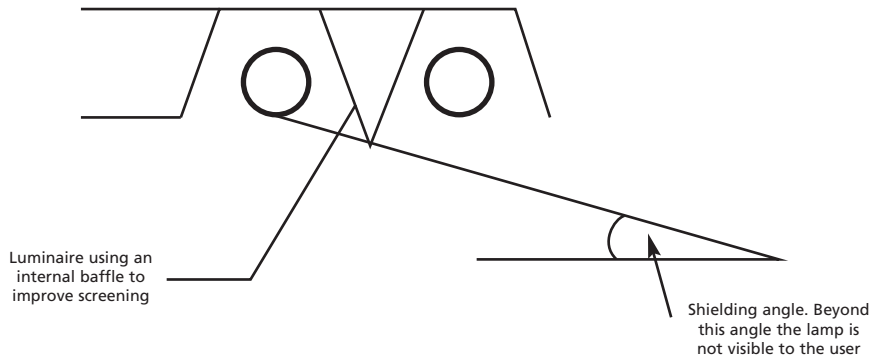

Figure 4.5 The shielding angle for a simple fluorescent luminaire