

2.10 Glare

The presence of a luminance much above the average for the visual field will produce discomfort and is called glare. There are five forms of glare associated with lighting installations.

2.10.1 Saturation Glare

This occurs when a large part of the visual field is at a very high luminance for a long time, e.g. sunlight on snow. Saturation glare is painful and the behavioural response is to shield the eyes in some way, e.g. by wearing low transmittance glasses.

2.10.2 Adaptation Glare

This occurs when the visual system is exposed to a sudden, large increase in luminance of the whole visual field, e.g. on exiting a long road tunnel into bright sunlight. The perception of glare is due to the

visual system being oversensitive. Adaptation glare is temporary in that visual adaptation will soon adjust the visual sensitivity to the new conditions. It can be avoided by providing a transition zone of intermediate luminance, the transition zone being large enough to allow the visual system time to adapt to the new conditions.

2.10.3 Disability Glare (mainly outdoor)

This occurs when high luminance is present in a low luminance scene. Light from the source is scattered in the eye thereby forming a luminous veil over the retinal image of parts of the scene adjacent to the source. This luminous veil reduces the luminance contrast and desaturates any colours in the retinal image of the adjacent parts of the scene. The magnitude of disability glare is quantified by the equivalent veiling luminance. See Figure 24.



Figure 24
Disability glare makes the area darker as it is.