

## Research on the evaluation of daylighting performance based on visual comfort

In order to achieve effective use and control of daylight including direct sunlight, visual comfort should be identified. This research presents evaluation methods of window system performance on the basis of human response to daylight environments. The assessment of discomfort glare in daylight rooms is a particular problem in offices and other work environments. A glare index for large glare sources (PGSV) is proposed in which the larger the glare source, the smaller the effect of the background luminance. Recently the PGSV has been practically used for blind control. The effect of eye adaptation levels on perceived brightness and the effect of the change in the exposed light on circadian rhythms were also studied. A hypothetical model structured in terms of physical quantities representing stimuli, sensory response and an overall evaluation was developed. Based on the results of these studies related to subjective evaluation, methods for controlling a daylight-linked dimming light. Moreover, the optical properties of shading devices, e.g, venetian blinds and roll screens and methods of controlling these devices, to achieve visually comfortable environment, are decided by numerical simulations using weather data.