

Joint Lighting

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- Joint lighting is the simultaneous lighting of an area with both artificial light and daylight.
- This type of lighting is much more favorable than complete artificial lighting as it includes a number of the natural spectra of daylight.
- Even good artificial light is inadequate as a substitute for daylight.
- Joint lighting has the advantages of both day light (spectral composition, variability) and artificial light (adequate intensity).
- Obviously a higher concentration of daylighting than artificial lighting is preferable.
- Mixing ratio of daylight and artificial lighting should be at least 1:1. At a ratio of 1:5 and less, the test results differ very little from results obtained in artificial lighting only.
- Measurement and evaluation of the joint lighting is not easy. It consists of a constant component and a large amount of variability and spectral composition.

Glares (dazzles)

- Difficulty seeing in the presence of bright light such as direct or reflected sunlight or artificial light such as car headlamps at night.
- Can be caused directly by a light source, or by its reflections on surfaces with a higher reflection factor.
- Glare is caused by a significant ratio of luminance between the task (that which is being looked at) and the glare source.

Types of Dazzles

1. Dazzle by Critical Brightness

Direct sunshine – the eyes cannot adapt and the person cannot see well.
Critical value of brightness ranges from 200 000 to 1 000 cd.m^{-2} .



Roy Thomson Hall glare

2. Transitory Dazzle

Due to sudden change of brightness, going from inside to bright outside. The eyes take some time to adapt.
There is a sudden change in brightness of the visual field at a rate greater than 1:100.

3. Dazzle by Contrast

When there are surfaces of various brightness. The eye cannot adapt to both and a dazzle occurs e.g. bulb fiber on wall.

Glare Reduction

Glare can be reduced using a number of methods:

- Sunglasses – polarized sunglasses are designed to reduce glare caused by light reflected from surfaces such as water – used mostly by fly-fishers.
- Some cars include mirrors with automatic anti-glare functions.
- Anti-reflective treatment on eyeglasses reduces the glare at night



Guillermo Quiroz sun glasses

Links

Related articles

- Issues of Day Lighting, combined illumination. Visual Stress
- Issues of Artificial Illumination

Bibliography

- BENCKO, Vladimir, et al. *Hygiene and epidemiology : selected chapters*. 2. edition. Prague. 2008. ISBN 80-246-0793-X.

External links

- Glare at Wikipedia ([http://en.wikipedia.org/wiki/Glare_\(vision\)](http://en.wikipedia.org/wiki/Glare_(vision)))
- Sdružené osvětlení, oslnění (http://www.wikiskripta.eu/index.php/Sdru%C5%BEen%C3%A9_osv%C4%9Btlen%C3%AD,_osln%C4%Bn%C3%AD)