

# User:Sjr/Sandbox

## Joint lighting

- Joint lighting is the simultaneous lighting of an area with both artificial lighting and daylighting.
- 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.

### 3 types

- **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<sup>-2</sup>.

- **Transitory dazzle:**

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

- **Dazzle by contrast:**

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

## Bibliography

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