Lighting measurements

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Lighting

- Is there enough light so I can see what I'm doing?
- Is there too much light and / or glare?

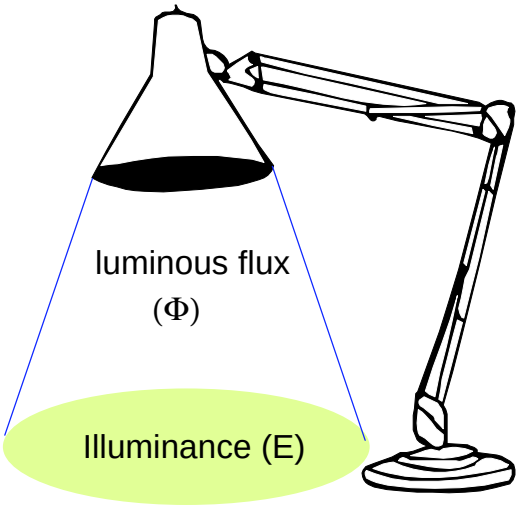
Lighting Definitions

Illuminance (E)

- **Density** of the luminous flux **received** at a surface
- unit - lux

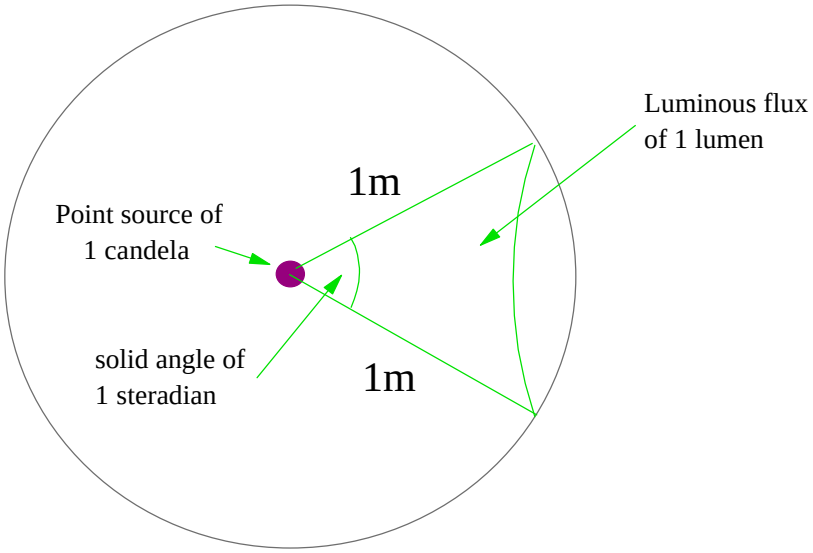
Luminance (L)

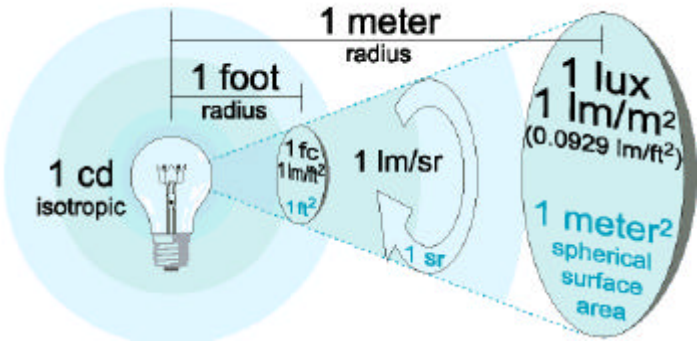
- **Intensity** of light emitted in a given direction
- unit - candelas per m^2 (cd/m^2)



$$E = \frac{\Phi}{A}$$

Lighting Units

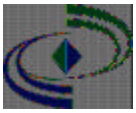




Lighting Surveys

Visual Assessment

- subjective assessment of adequacy
- suitability of lighting type
- shadows
- reflections
- glare
- cleanliness of windows & luminaires
- flicker
- colour rendering



Lighting Surveys

- Illuminance measurements
  - at workstations
  - other locations
  - work surface height or 0.8 metres high
- Luminance measurements
  - sources of glare
  - to check luminance contrast
  - to ensure screens etc. are bright enough

Lighting Surveys

Illuminance meters

- spectral response
- cosine response
- linearity of response
- sensitivity to temperature & other environmental factors