$$p = 0{,}2 \times 5^{\log_{10}(d)} \quad (1)$$

where

$p \leq 10$ m

d is the longer dimension of the calculation area (m), however if the ratio of the longer to the shorter side is 2 or more then d becomes the shorter dimension of the area, and

p is the maximum grid cell size (m).

The number of points in the relevant dimension is given by the nearest whole number of d/p.

The resulting spacing between the grid points is used to calculate the nearest whole number of grid points in the other dimension. This will give a ratio of length to width of a grid cell close to 1.

A border of 0,5 m from the walls is excluded from the calculation area except when a task area is in or extends into this border area.

An appropriate grid size shall be applied to walls and ceiling and a border of 0,5 m may be applied also.

NOTE 1 The grid point spacing should not coincide with the luminaire spacing.

NOTE 2 Formula (1) (coming from CIE x005-1992) has been derived under the assumption that p is proportional to log (d), where:

p = 0,2 m for d = 1 m;

p = 1 m for d = 10 m;

p = 5 m for d = 100 m.

NOTE 3 Typical values of grid point spacing are given in Table A.1.

4.5 Glare

4.5.1 General

Glare is the sensation produced by bright areas within the visual field, such as lit surfaces, parts of the luminaires, windows and/or roof lights. Glare shall be limited to avoid errors, fatigue and accidents. Glare can be experienced either as discomfort glare or as disability glare. In interior work places disability glare is not usually a major problem if discomfort glare limits are met.

Glare caused by reflections in specular surfaces is usually known as veiling reflections or reflected glare.

NOTE Special care is needed to avoid glare when the direction of view is above horizontal.

4.5.2 Discomfort glare

For the rating of discomfort glare from windows there is currently no standardized method.

The rating of discomfort glare caused directly from the luminaires of an indoor lighting installation shall be determined using the CIE Unified Glare Rating (UGR) tabular method, based on the formula:

$$UGR = 8 \log_{10}\left(\frac{0{,}25}{L_b} \sum \frac{L^2 \omega}{p^2}\right) \quad (2)$$