## IMPLEMENTATION

As per this regulation, the maximum allowable lighting power density for interior light fittings is restricted. This is to promote variety of efficient light fixtures to be used in various areas.

The counting of the number of interior lighting fixtures and their electricity consumption would give the lighting load in a building. While calculating the lighting load the electrical energy used by the controls and ballasts must also be included. The total energy load is then applied to the gross floor area of the building to give the average lighting power density.

Emergency lighting that is switched off during normal building operation, the lighting that is required by a health or safety regulation and lighting specifically required for specialised equipment or in a medical facility are the exceptions for this regulation.

The maximum lighting power density can be easily achieved by optimising the lux level requirement for each of the spaces based on their activities and by incorporating energy efficient lighting that produces high lumens per watt.

The possible strategies to reduce lighting energy consumption in a building include: minimum possible power density, use of light sources with high luminous efficacy, use of lighting control systems and utilisation of daylight. Also, it is important to remember that the quality of light must be maintained when installed power for lighting is reduced. Selection of lamps has a major impact on the energy usage and hence adequate care must be taken in their selection.

The requirements stated in *Regulation 502.06: Lighting Controls*, must be taken into consideration while designing the interior lightings for the buildings.

### Case Study

Consider an office building having open office, meeting room and manager cabin (fig. 502.04(1)). The lighting plan indicates the number of light fittings for each space and its type. Calculated design LPD values are shown in Table 502.04 (2).

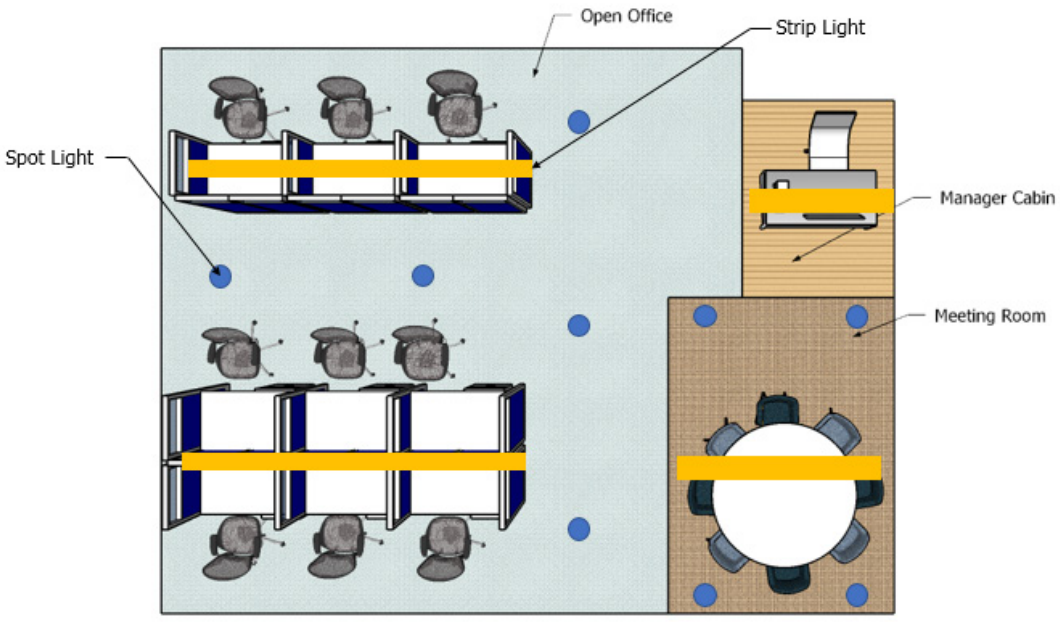


Fig. 502.04(1): Interior Lighting Layout