CHAPTER 2 - CONSERVATION AND EFFICIENCY: BUILDING SYSTEMS

502.04 LIGHTING POWER DENSITY – INTERIOR

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INTENT

To save energy with the use of energy efficient light fittings for all interior spaces.

REQUIREMENT

For new buildings, the average Lighting Power Density for the interior connected lighting load must not exceed the values given in Table 502.04 (1).

Table 502.04(1): Interior Lighting Power Density

Building Type	Maximum average (W/m^2) across total building area
Commercial/Public: Offices, Hotels, Resorts, Restaurants	10
Educational Facilities	12
Manufacturing Facilities	13
Retail Outlets, Shopping Malls, Workshops	14
Warehouses	8

Lighting Power Density values for the building types not listed in Table 502.04 (1), shall not exceed the values indicated in the latest edition of ASHRAE Standards 90.1 and 90.2 or equivalent as approved by DEWA.

SIGNIFICANCE

Lighting is an important aspect of building design that enhances the aesthetic appeal and ambience of a living space. It is a vital factor that contributes to the total energy demand in a building. Building's cooling load is also affected by heat generation from interior light fittings. Energy wasted due to excessive lighting design has detrimental effect on the environment and also on energy cost.

By following the maximum average lighting power density values for various building types, electrical energy to provide adequate lighting is restricted, thereby encouraging the use of energy efficient lamps and luminaries resulting in significant energy savings and cooling load reduction.

APPLICABILITY

This regulation is applicable to all building types. Refer to Table 101.07(1) in Section One - Administration for detailed applicability levels.