502.05 Lighting Power Density - Exterior

For all new buildings, the average Lighting Power Density for the exterior connected lighting load must be no more than the values given in Table 502.05 (1).

Building Area	Maximum Watts per square metre or linear metre
Uncovered parking lots and drives	1.6 W/m^2
Walkways less than 3 metres wide	3.3 W/linear metre
Walkways 3 metres wide or greater	2.2 W/m^2
Outdoor Stairways	10.8 W/m^2
Main entries	98 W/linear metre of door width
Other doors	66 W/linear meter of door width
Open sales areas (including vehicle sales lots)	5.4 W/m^2
Building Facades	2.2 W/m^2 for each illuminated wall or surface or 16.4 W/linear metre for each illuminated wall or surface length
Entrances and gatehouse inspection stations at guarded facilities	13.5 W/m^2
Drive-up windows at fast food restaurants	400 W per drive-through

Lighting Power Densities for exterior areas not listed in Table 502.05 (1) should be no greater than those values given in ASHRAE 90.1-2007 Table 9.4.5or equivalent as approved by DEWA.

502.06 Lighting Controls

For all new buildings other than villas and industrial buildings:

A. Occupant Lighting Controls must be provided so as to allow lighting to be switched off when daylight levels are adequate or when spaces are unoccupied and to allow occupants control over lighting levels.

B. Common areas which are not regularly occupied, such as corridors and lobbies, should reduce lighting levels to no more than twenty five percent (25%) of normal when unoccupied.

C. In offices and education facilities all lighting zones must be fitted with occupant sensor controls capable of switching the electrical lights on and off, according to occupancy unless lighting is required for safety purposes.

D. In offices, if the average design lighting power density is less than six (6) Watts per square meter of gross floor area (GFA), the control requirements of parts C and D of this regulation need not apply.

E. It is recommended (optional) that, in offices, the artificial lighting in spaces within six (6) meters in depth from exterior windows must be fitted with lighting controls incorporating photocell sensors capable of adjusting the level of electric lighting to supplement natural daylight only when required. The combined artificial and daylight must provide an illumination level at the working plane between four hundred (400) and five hundred (500) lux. When there is a hundred percent (100%) daylight, the lux levels may exceed five hundred (500) lux.