APPLICABILITY

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

IMPLEMENTATION

Occupant Lighting Control

Lighting controls that allow adjustments as per the occupant's needs and preferences should be provided in all spaces. Lighting controls should also turn off the lights when a space is unoccupied.

In cases where automatic lighting controls are not provided, local switches must be installed in easily accessible locations within each working area. Alternatively, they should be installed at boundaries between working areas and general circulation routes that can be manually operated by the occupants. Switches can include dimming devices.

Individual offices are those that have a single working area which would have separate lighting switch for control. In large spaces, such as open plan offices, local switches should be situated nearby to the lighting fixtures for easy access and effective control of light fittings based on user's needs.

Conferences or class rooms and other multi-occupant spaces and those spaces which are normally unoccupied, should have lighting controls that allow the lighting in those areas to be switched off or reduced when unoccupied.

For the effective use of lights and to conserve energy, all the occupants must be educated on the lights and functionality of lighting controls.

Automatic Lighting Control

For common areas in a building such as corridors and lobbies that are not regularly occupied, the lighting levels should be reduced to a maximum level of 25% of normal condition when unoccupied. This can be achieved either by having 75% of area under a separate lighting circuit, that can be switched off when unoccupied by the use of occupancy sensors or by dimming the lighting levels to 25% for the entire space.

For office spaces, all lighting zones must be fitted with occupant sensor controls capable of switching the electrical lights on and off based on the occupancy. Alternatively, the design must ensure that average design lighting power density value is less than 6 W/m^2 of gross floor area.

For educational facilities, all lighting zones must be fitted with occupant sensor control to switch on and off the electrical lights based on occupancy level.

Perimeter Lighting Control

It is recommended for office buildings that lighting control systems combined with daylight sensors and dimming lights be used in the zones within 6m from exterior windows. Lighting controls should maintain the illumination levels between 400 lux and 500 lux at working plane (WP). Consideration should be given to adjusting the level of dimming of lights, so that those lights closer to the window are dimmed to a greater extent than those further into the building where there is less daylight. The controls are not required where perimeter walls have few or no windows.

For daylit area, one multifunctional sensor can be included which will control the lighting based on both presence detection and ambient light level detection.