While designing the building, adequate daylight should be provided for all regularly occupied areas. Regularly occupied areas in a building exclude meeting rooms, copy/printing rooms, storage areas, mechanical spaces, restrooms, auditorium, closets, pantries, bath or toilet rooms, hallways, laundries, storage spaces, utility rooms and other intermittently or infrequently occupied spaces or spaces where daylight would interfere with the use of the space.

The Average Daylight Factor (ADF) is the average value of the daylight factor within a room and can be used as an indicator of the overall daylight levels in a room. The ADF within a space is a function of the size of each window, the type of glazing, the amount of sky visible from each window and the overall reflectance of the internal surfaces. Typically, rooms with ADF of 2%, are considered daylit.

ADF is calculated based on the following formula:

$$DF_{avg} = \sum \frac{T \times W \times \theta}{A \times (1 - R^2)} \%$$

Where:

T = Transmission of glazing (0-1), includes corrections for dirt on glass and any blinds/curtains

W = Net glazed area of the window (m^2)

θ = Angle of vertical view from the centre of the window (°)

A = Total area of the room surfaces: wall, floors ceilings and glazing (m^2)

R = Average reflectance of surfaces (0-1)

The angle of vertical view from the centre of the window is measured as shown in the Fig 405.01(1). θ is the angle subtended, in the vertical plane normal to the window, by sky visible from the centre of the window.

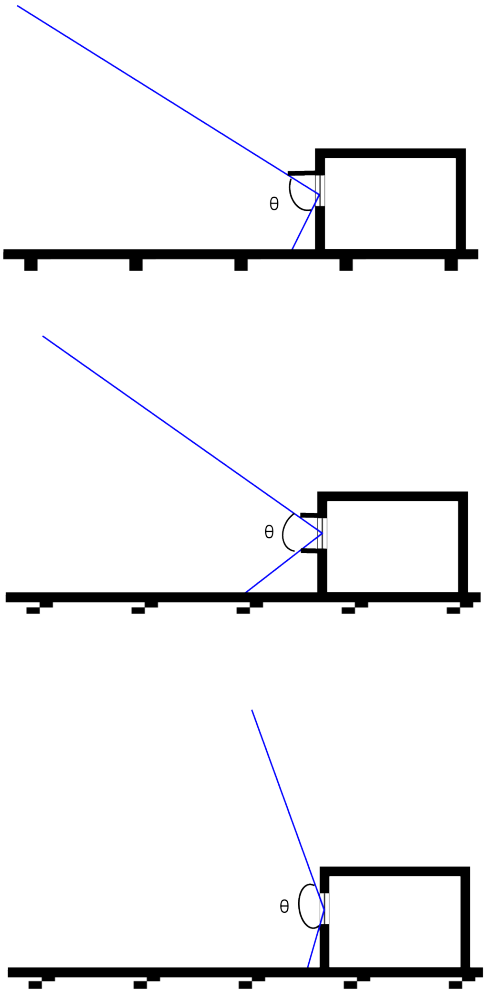

Fig 405.01(1): Measurement for Angle of Vertical View from the Centre of the Window (θ)