



Daylight and views - daylight

EQc8.1 | Possible 1 point

Intent

To provide building occupants with a connection between indoor spaces and the outdoors through the introduction of daylight and views into the regularly occupied areas of the building.

Requirements

Through 1 of the 4 options, achieve daylighting in at least the following spaces:

Regularly Occupied Spaces	Points
75%	1

OPTION 1. Simulation

Demonstrate through computer simulation that the applicable spaces achieve daylight illuminance levels of a minimum of 25 footcandles (fc) (270 lux) and a maximum of 500 fc (5,400 lux) in a clear sky condition on September 21 at 9 a.m. and 3 p.m. Areas with illuminance levels below or above the range do not comply. However, designs that incorporate view-preserving automated shades for glare control may demonstrate compliance for only the minimum 25 fc (270 lux) illuminance level.

OR

OPTION 2. Prescriptive

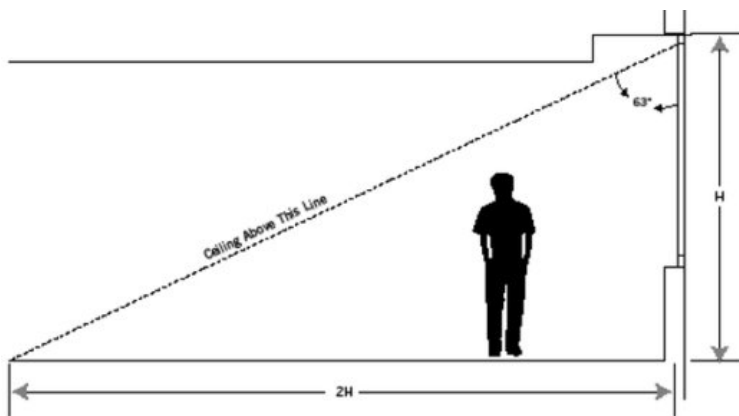
Use a combination of side-lighting and/or top-lighting to achieve a total daylighting zone (the floor area meeting the following requirements) that is at least 75% of all the regularly occupied spaces.

For the Side-lighting Daylight Zone (see diagram on the next page):

- Achieve a value, calculated as the product of the visible light transmittance (VLT) and window-to-floor area ratio (WFR) of daylight zone between 0.150 and 0.180. The window area included in the calculation must be at least 30 inches (.8 meters) above the floor.

0.150	<	VLT	x	WFR	<	0.180
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- The ceiling must not obstruct a line in section that joins the window-head to a line on the floor that is parallel to the plane of the window; is twice the height of the window-head above the floor in, distance from the plane of the glass as measured perpendicular to the plane of the glass.
- Provide sunlight redirection and/or glare control devices to ensure daylight effectiveness.



For Top-lighting Daylight Zone (see the diagram below):

- The daylight zone under a skylight is the outline of the opening beneath the skylight, plus in each direction the lesser of:
 - 70% of the ceiling height

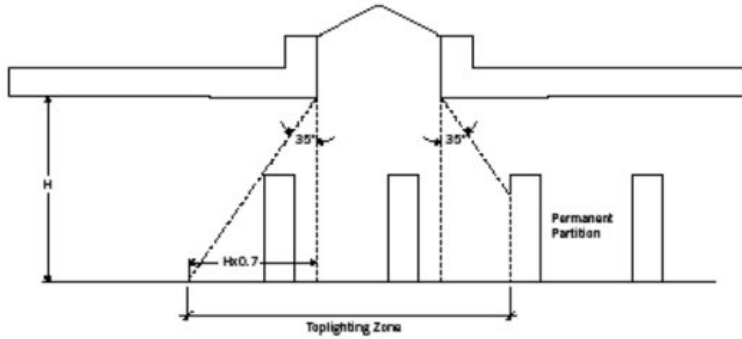
OR

- 1/2 the distance to the edge of the nearest skylight

OR

- The distance to any permanent opaque partition (if transparent show VLT) farther than 70% of the distance between the top of the partition and the ceiling.

- Achieve skylight roof coverage between 3% and 6% of the roof area with a minimum 0.5 VLT.
- The distance between the skylights must not be more than 1.4 times the ceiling height.
- A skylight diffuser, if used, must have a measured haze value of greater than 90% when tested according to ASTM D1003. Avoid direct line of sight to the skylight diffuser.
- Exceptions for areas where tasks would be hindered by the use of daylight will be considered on their merits.



OR

OPTION 3. Measurement

Demonstrate through records of indoor light measurements that a minimum daylight illumination level of 25 fc (270 lux) has been achieved in the applicable spaces. Measurements must be taken on a 10-foot (3-meter) grid for all occupied spaces and recorded on building floor plans. Only the floor area associated with the portions of rooms or spaces meeting the minimum illumination requirements may be counted in the calculations.

For all projects pursuing this option, provide daylight redirection and/or glare control devices to avoid high-contrast situations that could impede visual tasks. Exceptions for areas where tasks would be hindered by daylight will be considered on their merits.

OR

OPTION 4. Combination

Any of the above calculation methods may be combined to document the minimum daylight illumination in the applicable spaces. The different methods used in each space must be clearly recorded on all building plans.

In all cases, only the floor area associated with the portions of rooms or spaces meeting the requirements may be applied toward the 75% of total area calculation required to qualify for this credit.

In all cases, provide glare control devices to avoid high-contrast situations that could impede visual tasks. Exceptions for areas where tasks would be hindered by the use of daylight will be considered on their merits.