| v3 - LEED 2009

Daylight and views - daylight

EQc8.1 | Possible 1 point

Glossary

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[1]:

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 10 footcandles (fc) (108 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.

Provide glare control devices to avoid high-contrast situations that could impede visual tasks. However, designs that incorporate view-preserving automated shades for glare control may demonstrate compliance for only the minimum 10 fc (108 lux) illuminance level.

OPTION 2. Prescriptive

Use a combination of sidelighting and/or toplighting 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 sidelighting zones:

- 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.

0.150	<	VLT	x	WFR	<	0.180

- The window area included in the calculation must be at least 30 inches (0.8 meters) above the floor.
- In section, the ceiling must not obstruct a line that extends from the window-head to a point on the floor that is located twice the height of the window-head from the exterior wall as measured perpendicular to the glass (see diagram on the next page).

- Provide glare control devices to avoid high-contrast situations that could impede visual tasks. However, designs that incorporate view-preserving automated shades for glare control may demonstrate compliance for only the minimum 0.150 value.

For toplighting zones:

- The toplighting zone under a skylight is the outline of the opening beneath the skylight, plus in each direction
  the lesser of (see diagram below):
  - 70% of the ceiling height,
  - 1/2 the distance to the edge of the nearest skylight
  - The distance to any permanent partition that is closer than 70% of the distance between the top of the partition and the ceiling.

- Achieve skylight coverage for the applicable space (containing the toplighting zone) between 3% and 6% of the total floor area.
- The skylight must have a minimum 0.5 VLT.
- A skylight diffuser, if used, must have a measured haze value of greater than 90% when tested according to ASTM D1003.

Option 3. Measurement

Demonstrate through records of indoor light measurements that a minimum daylight illumination level of 10 fc (108 lux) and a maximum of 500 fc (5,400 lux) has been achieved in the applicable spaces. Measurements must be taken on a 10-foot (3-meter) grid and shall be recorded on building floor plans.

Provide glare control devices to avoid high-contrast situations that could impede visual tasks. However, designs that incorporate view-preserving automated shades for glare control may demonstrate compliance for only the minimum 10 fc (108 lux) illuminance level.

Option 4. Combination

Any of the above calculation methods may be combined to document the minimum daylight illumination in the applicable spaces.