To avoid direct exposure to sunlight, photosensor placement shall be on the south face of the light well (facing north) mounted toward the bottom of the light well. If placement cannot be isolated from electric light, then the contribution from electric light can be minimized with a PC Lens Half-Stop.

Open Loop Definition: “The photosensor views daylight directly and does not respond to or ‘see’ the electric light that it controls.”

*Note: Open loop photocell placement is an art that aims to measure the brightness of the light reaching the room. This concept is senior when implementing.

Photosensor placement should be as close as possible to vertical glazing. Window treatments, such as blinds, should be inside the photosensor viewing angle. Placement is usually in the window well or the ceiling mounted near the window. Placement from 6” - 36” is acceptable as long as the light seen from the window is the major contributor. This may require the use of an PC Lens Half-Stop.
Closed Loop Definition: “The photosensor is exposed to an area that represents the brightness of the room, including contribution from daylight.”

*Note: Closed loop photosensor placement is an art that aims to measure light that represents the brightness of the room. This concept is senior when implementing.

Closed Loop Top-Lit Applications

Where the contribution from daylight is considerably different in each area controlled, additional closed loop sensors may be required.

Photosensor placement does not need to be above every aisle, as long as they are placed strategically above a space representing the different daylight and electric light contributions.

Closed Loop Side-Lit Applications

Mounting to be greater than 48” from glazing. Mounting must be inside any window treatments to allow photosensor to respond to adjustments made to blinds.

Multiple Daylight Zones

Photosensors must be placed near each separate daylight exposure (or less desirably, sunlight). Photosensors in this example are placed separately for vertical and horizontal glazing.

A simple rule of thumb is skylights have an order of magnitude greater impact on the daylight levels of a room than does side-lighting.

Photosensors must be placed near each separate daylight exposure. Photosensors in this example are placed separately for north and south facing exposure. The same would be true for any vertical glazing (east & west, north & east, etc).

Electric Lighting

Best practice is dimming, multi-level or a minimum bi-level switching for each zone (6 switch legs or 3 dim zones):

daylight zone 1
daylight zone 2
general lighting zone

Multi-level switching or dimming

Controlled in Parallel

California Title 24 Lighting Calculator

The architect in cooperation with the electrical engineer or lighting designer should draw the daylight area on the lighting plans so that it is easy to see which luminaires must be on separate daylight area circuits.


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