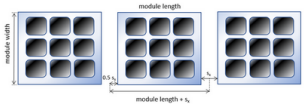
Transmission Fraction

The ratio of array area that prevents light from reaching the surface behind the array to the area that lets light through as a fraction between 0 and 1. For modules made of glass or other transparent material that allows light to pass through the module between cells, the ratio would be the total cell area divided by the total array area. For modules with an opaque back, the ratio would be the total module area divided by the total array area.

For example, given the diagram below of a rectangular array of modules that allow light to pass both in the space between cells and the space between modules, the transmission factor would be:

Transmission Factor = Total Cell Area (m2) / [(Module Length (m) + Sx (m)) × Module Width (m)]



Note. The module dimensions you use for this calculation should be consistent with any dimensions you use elsewhere in SAM, such as for shading calculations.

This is a screenshot from SAM help.

Given: The ratio of array area that prevents light from reaching the surface behind the array to the area that lets light through as a fraction between 0 and 1.

Should be: The ratio of the array area that lets light to pass through to the array area that prevents light from reaching the surface behind the array expressed as a fraction between 0 and 1.

Given: For modules made of glass or other transparent material that allows light to pass through the module between cells, the ratio would be the total cell area divided by the total array area.

Should be: For modules made of glass or other transparent material that allows light to pass through the module between cells, the ratio would be the total (transparent area between the cell of the module + gaps between modules) divided by the total array area.

Given: For modules with an opaque back, the ratio would be the total module area divided by the total array area.

Should be: For modules with an opaque back, the ratio would be the total free-space area (horizontal and vertical gaps between modules) divided by the total array area.

For example, given the diagram below of a rectangular array of modules that allow light to pass both in the space between cells and the space between modules, the transmission factor would be:

Given: Transmission Factor = Total Cell Area (m2) / [(Module Length (m) + Sx (m)) × Module Width (m)]
Note that this formula does not cater for number of modules in the array.

Should be:
Transmission Fraction = [Array Area (m2) - Total (Cell + Frame) Area (m2)] / Array Area (m2)