SOLAR ENERGY BEHAVIOR OF HEAT CAPACITY OF LIGHT

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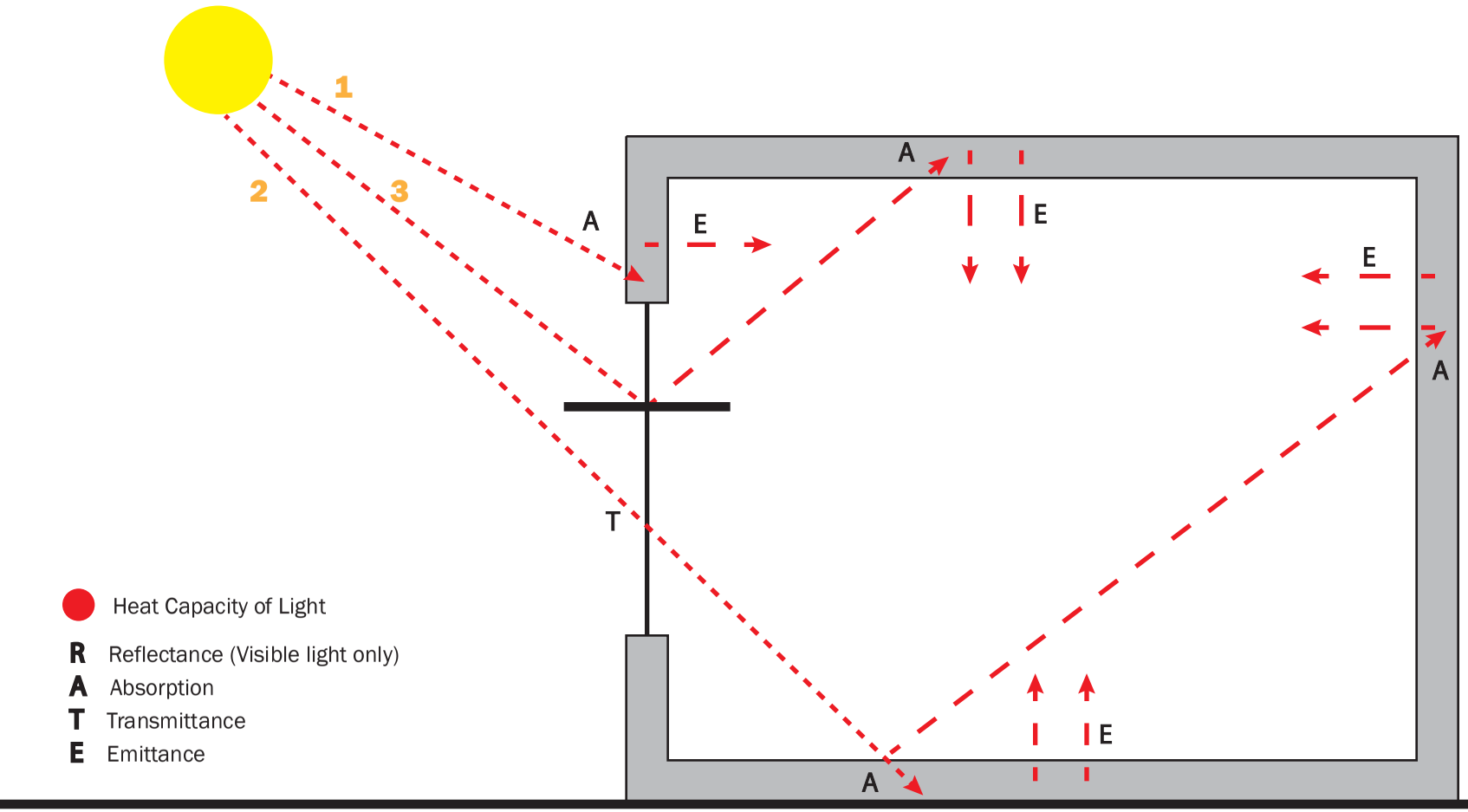

Similar to the visible light spectrum diagram:

1 shows how the heat spectrum of solar energy will behave when it hits an opaque surface.

2 shows how the heat spectrum of solar energy behaves when it hits a transparent surface and **3** shows how it behaves if there is a light shelf on the interior of the building.

The behavior here is very similar to the visible light spectrum, however, unlike light heat cannot technically be reflected. Heat moves three primary ways: convection, conduction and radiation. As we saw in the behavior of visible light diagram, solar energy hitting an opaque surface will reflect light, but absorb the heat it contains (varying colors and properties of the material will reflect/absorb varying levels of heat). The heat is absorbed by the wall at a rate determined by its density and mass via conduction then emitted into the space via radiation. Light that is reflected in the space will continue to “hold” a certain amount of heat energy which can be absorbed by the surfaces it is reflected to. Radiated heat waves will be of a longer wavelength, so again similar to visible light, the longer radiant heat wavelengths will not easily pass through the transparent opening