

# Hi Flux Beam Concentrator for Solar Simulators

- Increases energy density by 7X for accelerated testing
- $\pm 5\%$  intensity uniformity



The [81030](#) High Flux Beam Concentrator focuses the 2 x 2 inch (51 x 51 mm) output beam from our 1000 and 1600 W Solar Simulators down to a 0.6 inch (15 mm) diameter spot, increasing the energy density by 7X with a  $\pm 5\%$  intensity uniformity.

The output of the [81030](#) is equivalent to the intensity of 30 -50 "suns" (with a 1 kW source). It is very useful for high flux applications such as accelerated photodegradation studies and materials testing. All air mass filters are usable with the 81030.

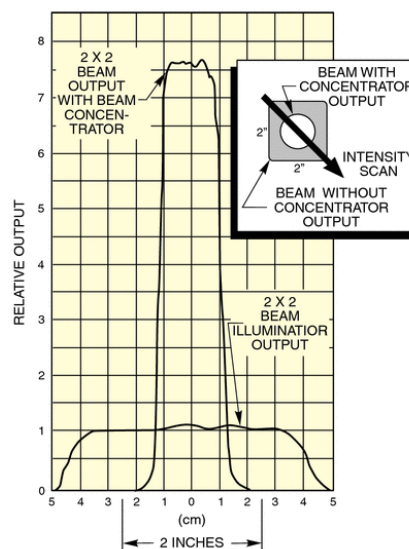


Fig. 1 The relative output of a Solar Simulator with a 2 x 2 inch (51x51 mm) beam, with the [81030](#) Beam Concentrator, and without.

## Construction

The Beam Concentrator consists of a multi-element fused silica lens mounted in a tube that attaches to the output assembly of the simulator. It extends 1 inch (25.4 mm) below the base of the Solar Simulator. The [81030](#) comes with a stand, which elevates the Solar Simulator 9 inches (229 mm). This allows 8 inches (203 mm) below the end of the Beam Concentrator for fixturing and sample orientation (See Fig. 2).

## Safety Considerations

When you use the [81030](#) with our broadband simulators, you will produce a spot with intense UV, visible and infrared radiation. In addition to the UV hazards, you should be conscious of possible combustion hazards should you use flammable absorbing targets. When coupled with a Solar UV Simulator, the [81030](#) produces extremely high UV irradiance with greatly reduced VIS and IR content. Note: the [81030](#) causes severe burns even with extremely short exposures. A [protective face shield, and protective clothing](#) must be worn when working with high intensity ultraviolet radiation.