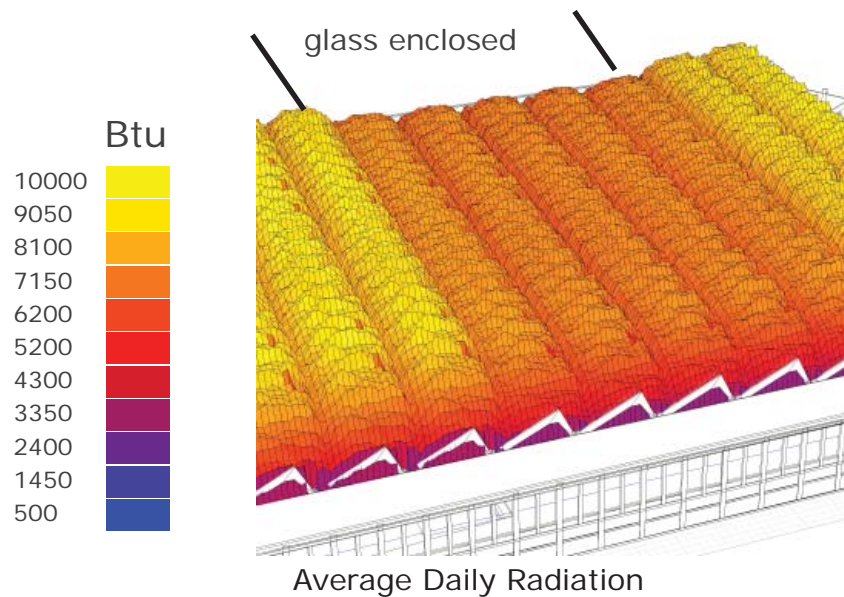


## Solar Studies

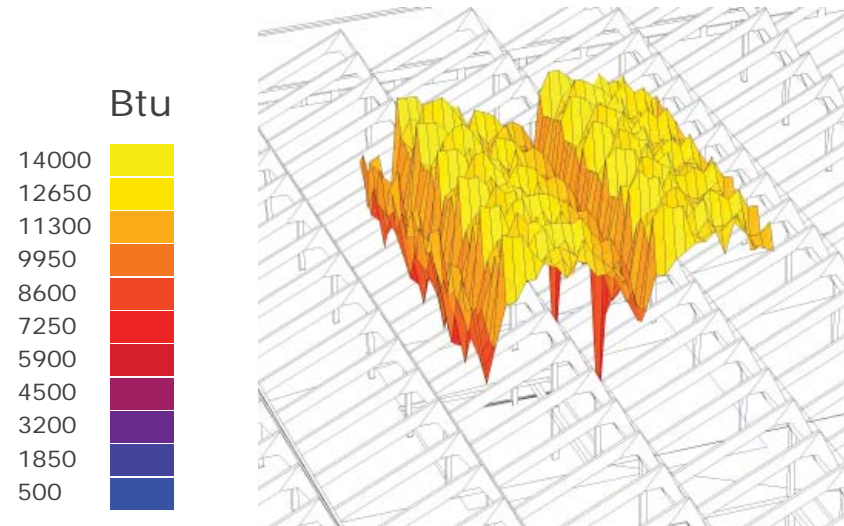
When proposing a conversion of the second floor space from a machine room to a production greenhouse, the question of adequate light levels arose. In order to justify the conversion of the roof from precast concrete to a glazed curtain system, the author performed an in depth energy analysis of the incident solar radiation that enters the proposed growing space.

The following diagrams were produced using Ecotech software.

The results of the analysis show that the single pane glass enclosure lowers average daily radiation only by twenty percent as compared to direct gains.



Dec 21 Daily Radiation



Jun 21 Daily Radiation

## Agricultural Studies

This chart shows what vegetables grow at various radiation levels and their corresponding harvest seasons for the local climate. By heating the greenhouse, the harvest seasons can be extended as shown in orange dots.

