



The Maryland Solar Decathlon house provides dynamic natural lighting that is designed to balance both light quality and climatic concerns. The design uses grouped fenestration to provide natural light in all living spaces while maintaining the house's environmental response and design language.

The north façade is glazed at the entry to provide soft, indirect light into the living room as well as expand that space onto the front deck through the continuity of light. Soft indirect northern light is also provided through punched openings in both the study and dining areas.

The most dramatic effect is the horizontal ribbon of square windows placed high on the north wall. This clerestory floods the primary spaces of the house with natural light by reflecting off of the curved white ceiling. The clearstory also turns the corner on both the east and west end walls adding dimension to the space with a hints of direct light depending on the season and time of day.

The natural lighting scheme continues on the south façade with large glazed sliding doors that open into the bedroom. This sliding door unit also features glazed sidelights for a panoramic affect. The kitchen offers an accommodating counterpart to this design language in the form of two glider windows which run the length of the counter top on the south wall of the kitchen. The design addresses the potential for solar gain on these expanses of south facing glass in the bedroom and kitchen by calling for adjustable exterior louvered shutters. These adjustable shutters will allow the light flooding into the house from the south facing glazing to be tempered with the positioning of the louvers. The user then has the ability to gain the desired balance of light and solar gain depending on the need of a particular day.

The design addresses both the benefits and drawbacks of natural light allowing the user to adjust and balance based upon specific needs. The glazing is judiciously composed to flood the house with natural light. This is accomplished even while minimizing the glazing on the north, east, and west exposures to reduce thermal in cold weather, and providing devices reducing solar gain on the southern exposure in warm weather.