The goal of our design is for the occupant to experience something unexpected. The overall form of the structure is determined by three cargo shipping containers. When viewed from the outside, it seems almost impossible for cargo containers to be comfortable living environments, yet upon entering they are transformed. The visual heaviness of the containers is offset by the light airiness of the front grated deck, as well as the open window wall. The entry opens into the living room, through which sunlight filters down from the translucent solar panels on the roof, invigorating the space. The two containers making up the left and right section of the structure create an enclosed, private area that creates a strong sense of refuge and protection. The third container is situated parallel to the back of the structure so that the container’s long side can be completely opened up to the living room. Throughout the structure and space, there is a duality of open and closed, contained and released. Another aspect to the concept of a “contained shelter” is that all of the materials needed for the construction of the house is literally contained and shipped to site in these cargo containers.
concept statement:

To provide general lighting by illuminating the pv structure from underneath to create the dappling effect that mimics a tree canopy.

To provide task lighting by placing lamps underneath cabinets and add interest by highlighting specific zones inside the containers.

To illuminate the interior by creating light diffusing structures that act to define the individual zones.

Flickering light
Shimmering above
From canopy dapping
Glow all around
UT Zero-Energy House: Proposals for the 2011 Solar Decathlon

Architecture 472 / Interior Design 472 joint studio

Professors Rose / Robinson

Spring 2009

CONTAINED SHELTER

Rebekke Johanns | Aaron McKenzie | Kayleigh Shoemaker | Ewa Szafruga
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**Fold-down Floor**
- 2 x 4 recycled plastic floor joist
- Closed cells 1.8 lb. soybean insulation
- Insulation board filling the gap in fold-down floor hinge
- 5/8" FSC OSB
- 3/4" PEX radiant heat
- 2 x 4 recycled plastic sleeper

**Cut-out of Kalwall**
- Closed cells 1.8 lb. soybean insulation
- Corrugated steel
- Dimensional lumber
- 1/2" Gypsum board
- Neoprene pad
- Steel tube
- Steel plate
- Aluminium extrusion
- Kalwall

**Kitchen Cabinet**
- Wood frame
- 1/2" laminated plywood /black/
- Fibre-board
- 1/4" laminated plywood /green/

**Cut-out of Kalwall lights**
Average of 19.5 fc multiplied by 4 to account for losses due to the Kalwall and the luminaire reflector equals an average of 7.75 fc.

**Cut-out of cabinet lights**
Under cabinet lights produce an average of 47.9 fc on the work plane.