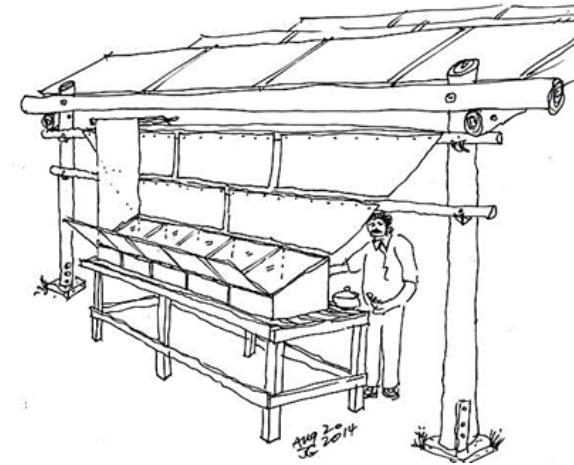


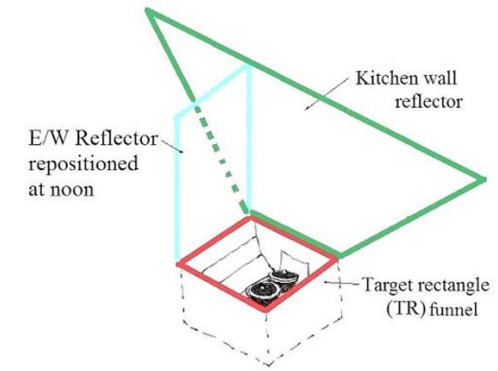


Metal reflector (e.g., anodized aluminum) bent-over perimeter edges adds stiffness to the facets and avoids sharp metal edges and has 3-ply metal layers at the bolt connections.



## Thru-Reflector-Wall (TRW) Nonimaging concentrator open-air solar kitchen studies

Joel H. Goodman      Oct. 19, 2022

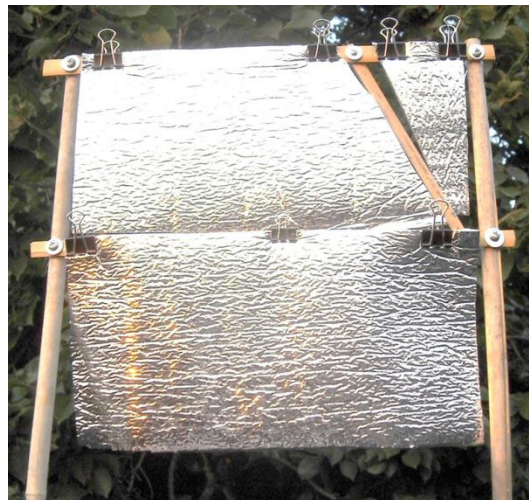
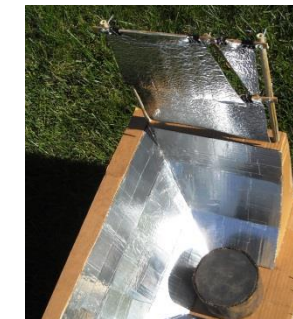
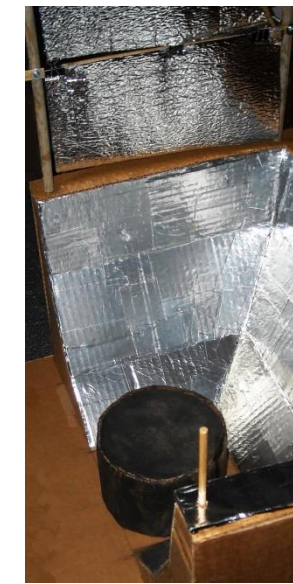
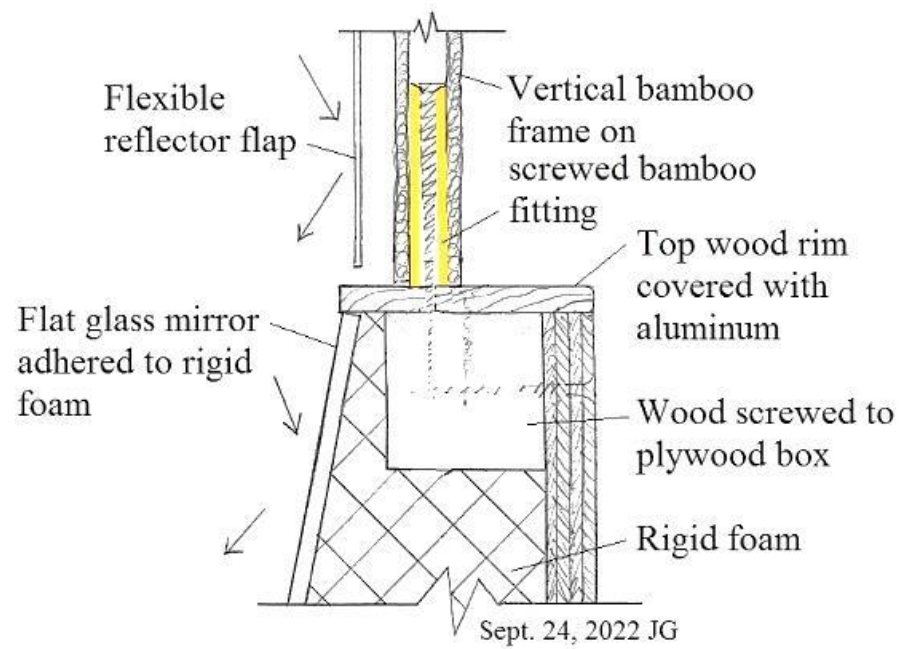


A TRW TEST STAND with a rectangular E or W reflector re-positioned at noon may have a bamboo frame with lightweight flexible reflector facet flaps that bend by the wind and still reflect into the target rectangle (TR). Banner material with self-adhesive reflector facets were purchased from a local sign shop and clipped to a horizontal split-bamboo. A stiffer banner material would flap less in the wind and perhaps be a better collector. Banner material 14 oz / sq yard is commonly available, and 20 oz is also sold, however there may be a better stiffer material but still flexible enough to avoid damaging wind loads.

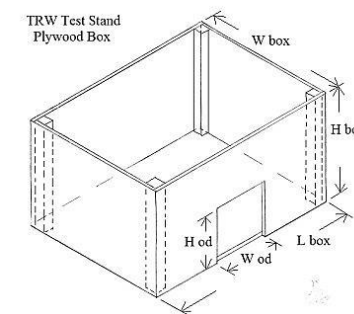
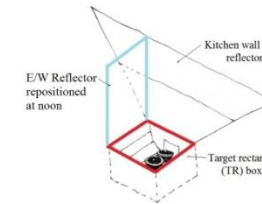
## Thru-Reflector-Wall (TRW) Nonimaging concentrator open-air solar kitchen studies

Joel H. Goodman      Oct. 19, 2022





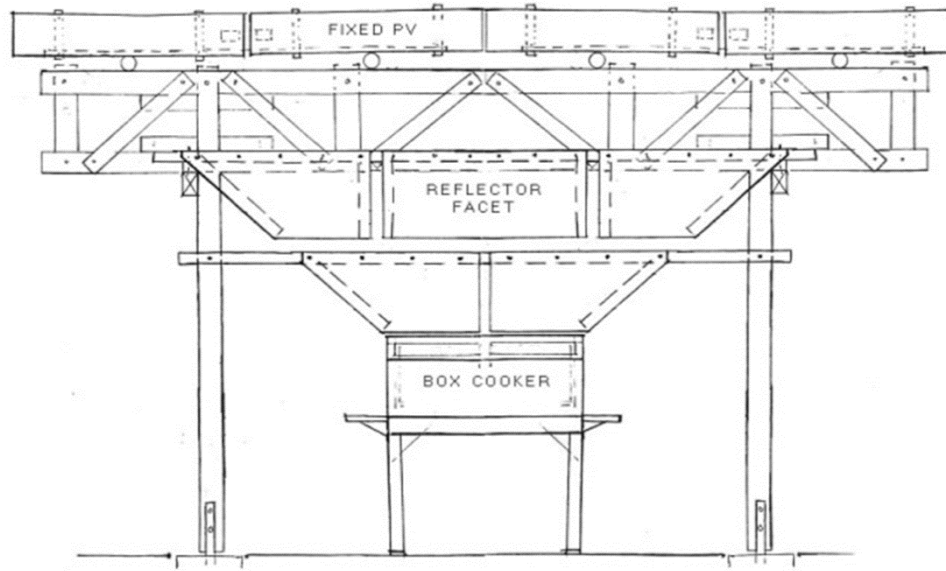
TRW Test Stand  
studies with  
plywood box and  
bamboo frame  
EW reflector



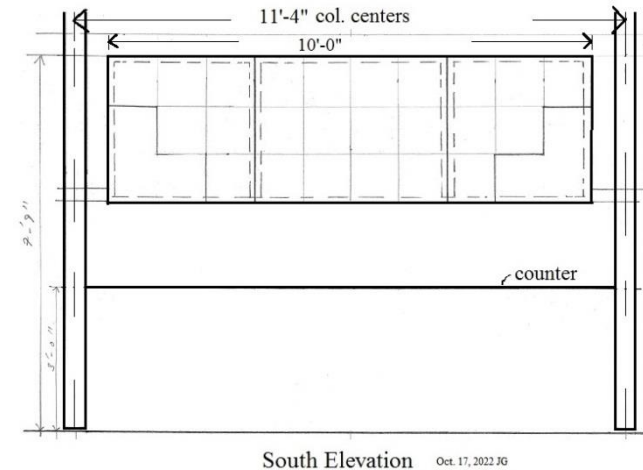
## Thru-Reflector-Wall (TRW) Nonimaging concentrator solar kitchen studies

Joel H. Goodman

Sept. 25, 2022



a)



b)

Based on the c2002 design dimensions of the four column pergola built at the MREA HQ in Custer, Wisconsin configurations considered for a TRW vertical open-air kitchen wall include: a) metal reflector (e.g., anodized aluminum )facets on horizontal poles ~14 ft long (bamboo, etc.) ; and b) flat glass mirrors 12" x 12" each glued and mechanically fastened to plywood-frame panels. The metal reflector poles would be stowed before storm winds and the glass mirror panels would be structured to stay in place for the summer.

**Thru-Reflector-Wall (TRW) Nonimaging concentrator open-air solar kitchen studies**

Joel H. Goodman Oct. 18, 2022