

Figure 11.7 Drawing of Intersol second-generation module [14]. Reproduced with permission by Sandia National Laboratories

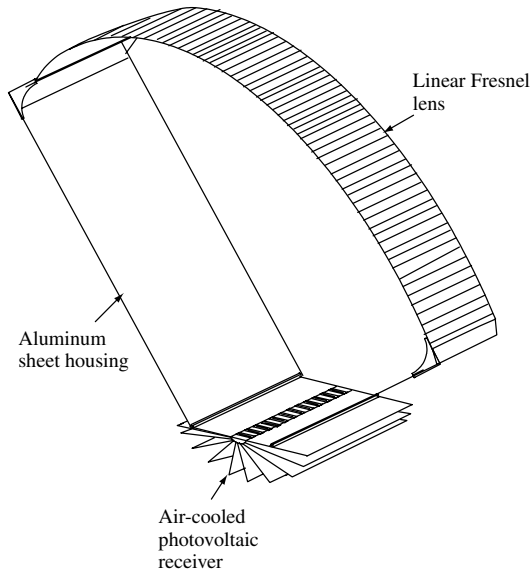


Figure 11.8 Cutaway view of the Entech domed Fresnel module [17]. Reproduced with permission by Sandia National Laboratories

four beneficial effects. First, it minimizes chromatic aberration caused by the index of refraction variation throughout the solar spectrum. Second, the angle of deflection of the ray is independent to the first order of the orientation of the prism. This minimizes the required tolerances in lens shape and minimizes the impact of lens deformation. Third, it minimizes the overall loss in transmission due to reflection. Finally, the nonplanar domed shape makes for a more rigid, self-supporting lens structure. 3M developed a roll forming process for the manufacture of Fresnel lenses that provided for a high speed, low-cost