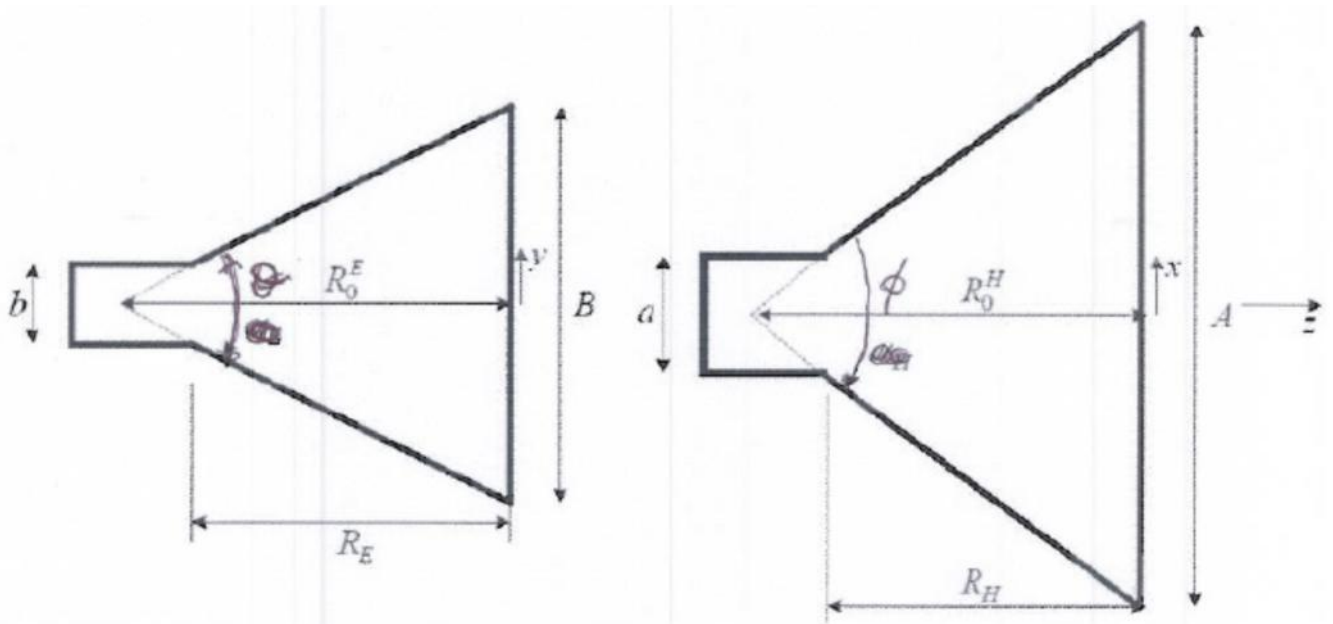
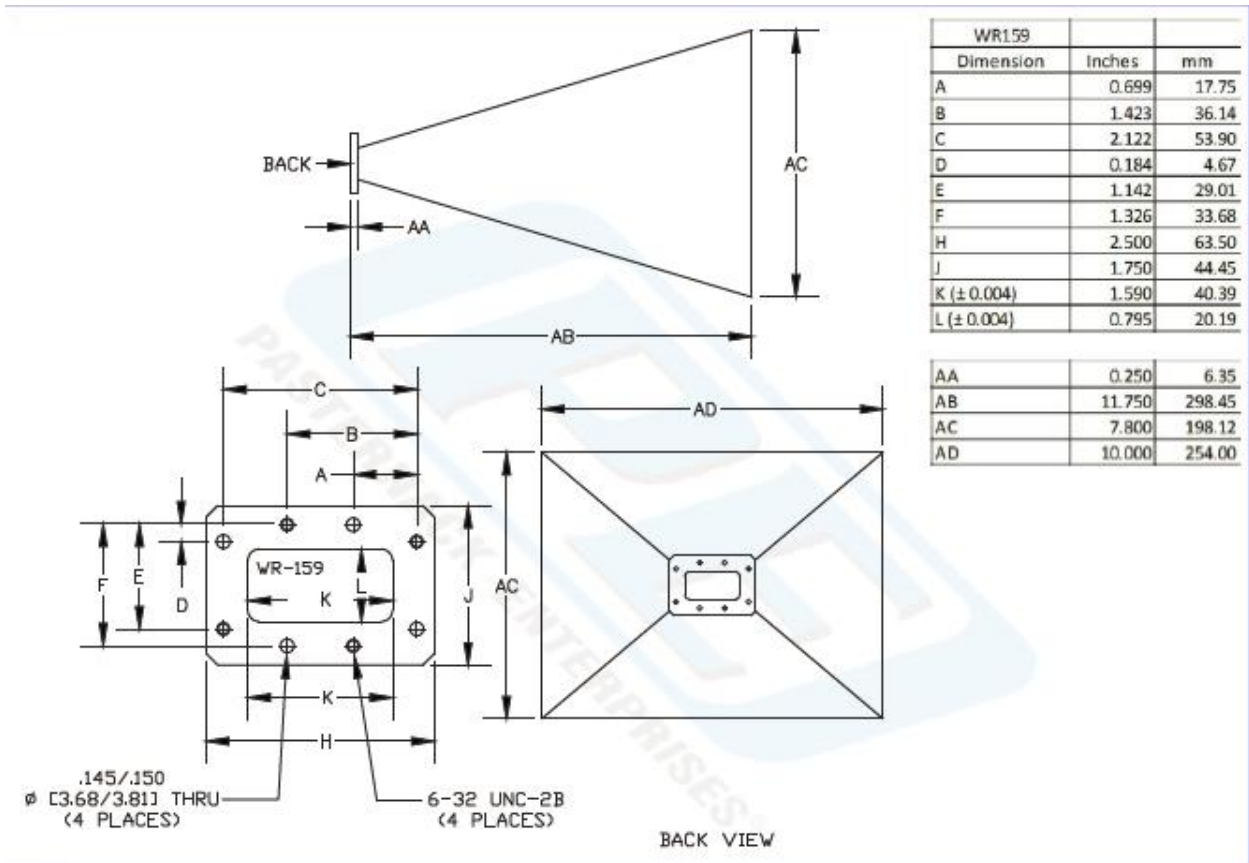


- Identify the frequencies that can propagate in the waveguide
- How many modes, and which ones, can propagate?
  
- Verify if the side lengths of the aperture are optimal
  
  
- Using the directivity curves of the sectorial horns (page 3), estimate the directivity of the pyramidal horn
  
  
- Compute the flare angles of the pyramidal horn, and using the help of the directivity charts attached (page 4 and 5), estimate the radiation pattern of the pyramidal horn.  
What considerations can be made about the choice of the flare angles and the length of the horn?



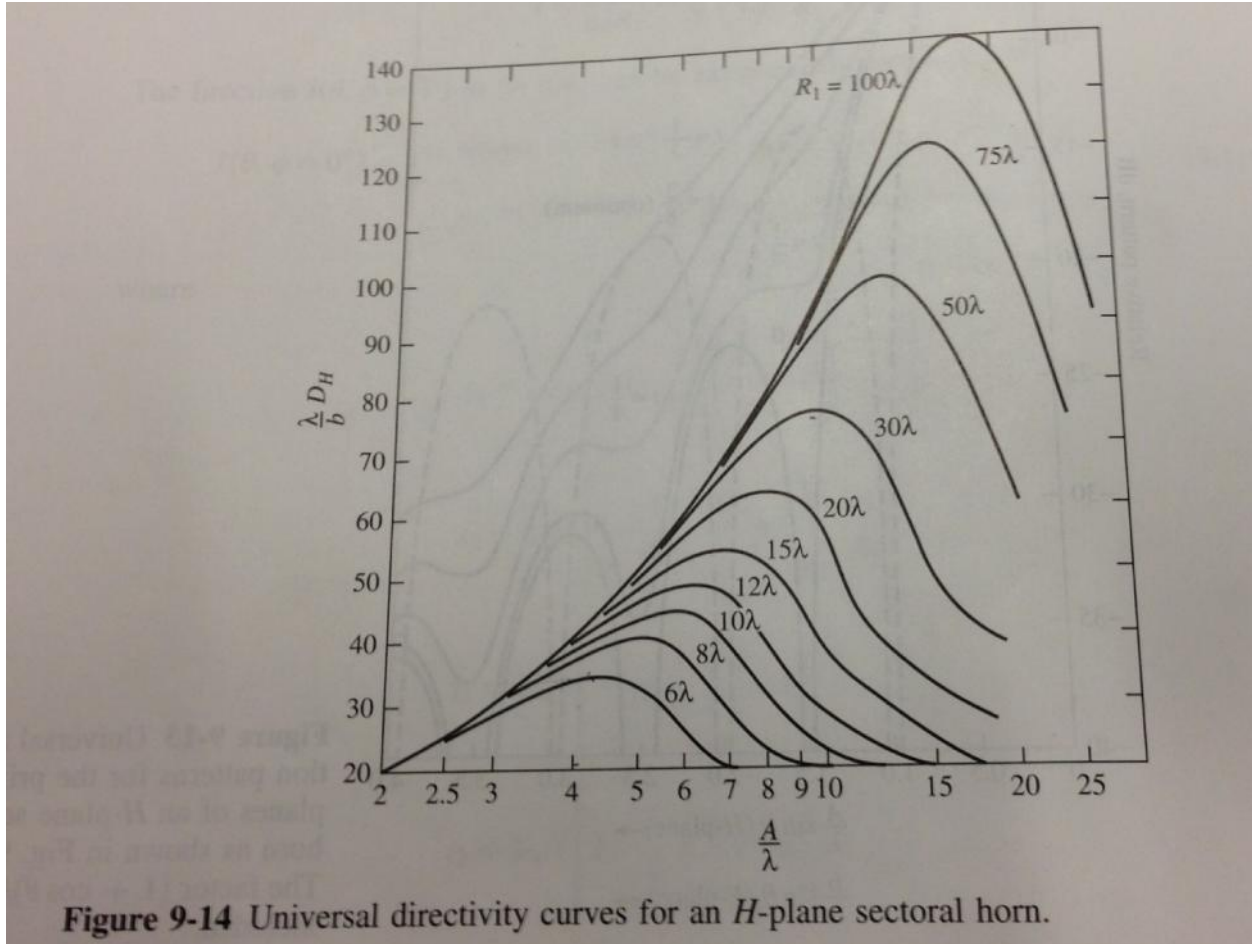


Figure 9-14 Universal directivity curves for an H-plane sectoral horn.

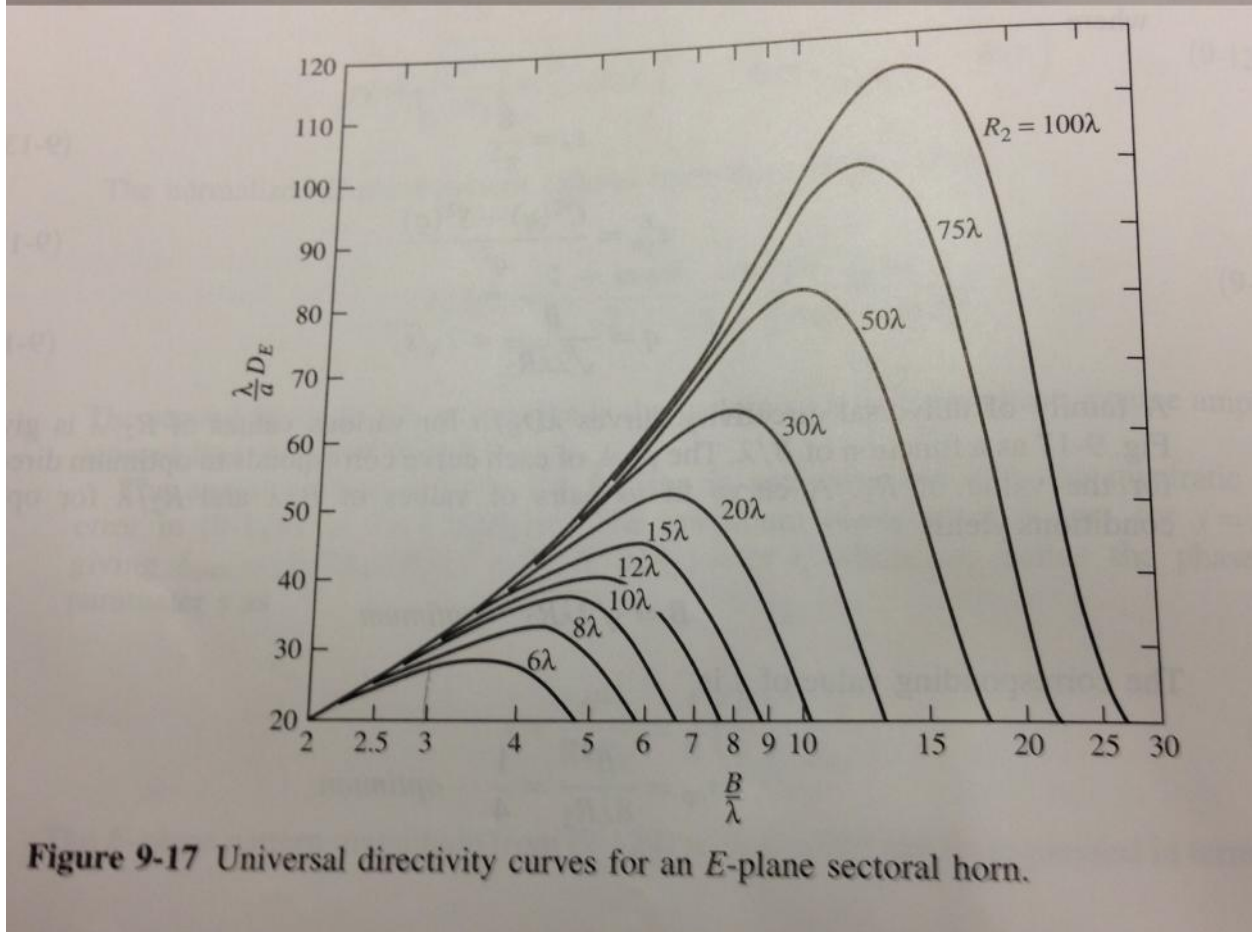


Figure 9-17 Universal directivity curves for an E-plane sectoral horn.

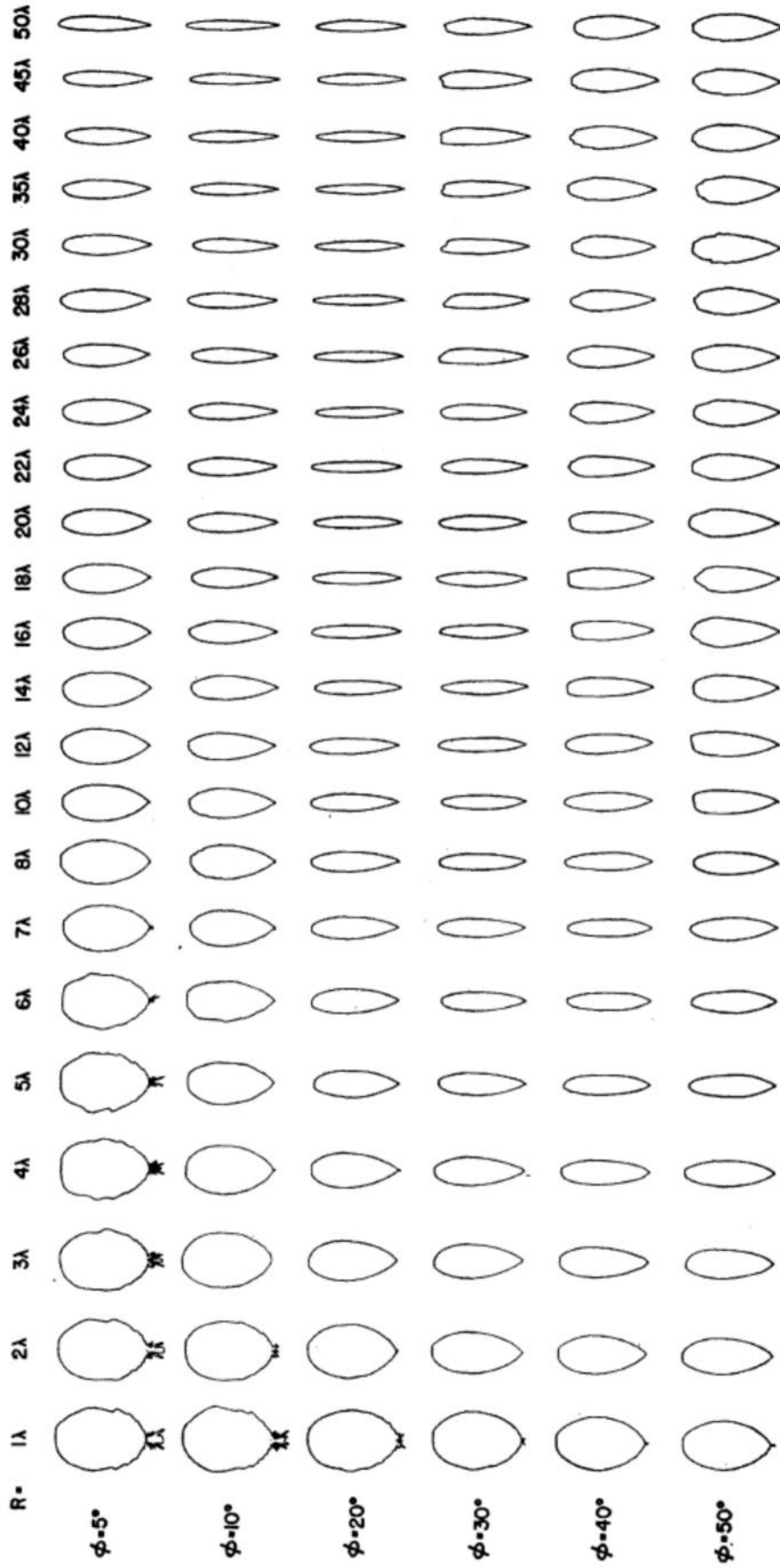


Fig. 5—*H*-plane patterns of a rectangular horn antenna as a function of radial horn length *R* and *H*-plane flare angle  $\phi$ .

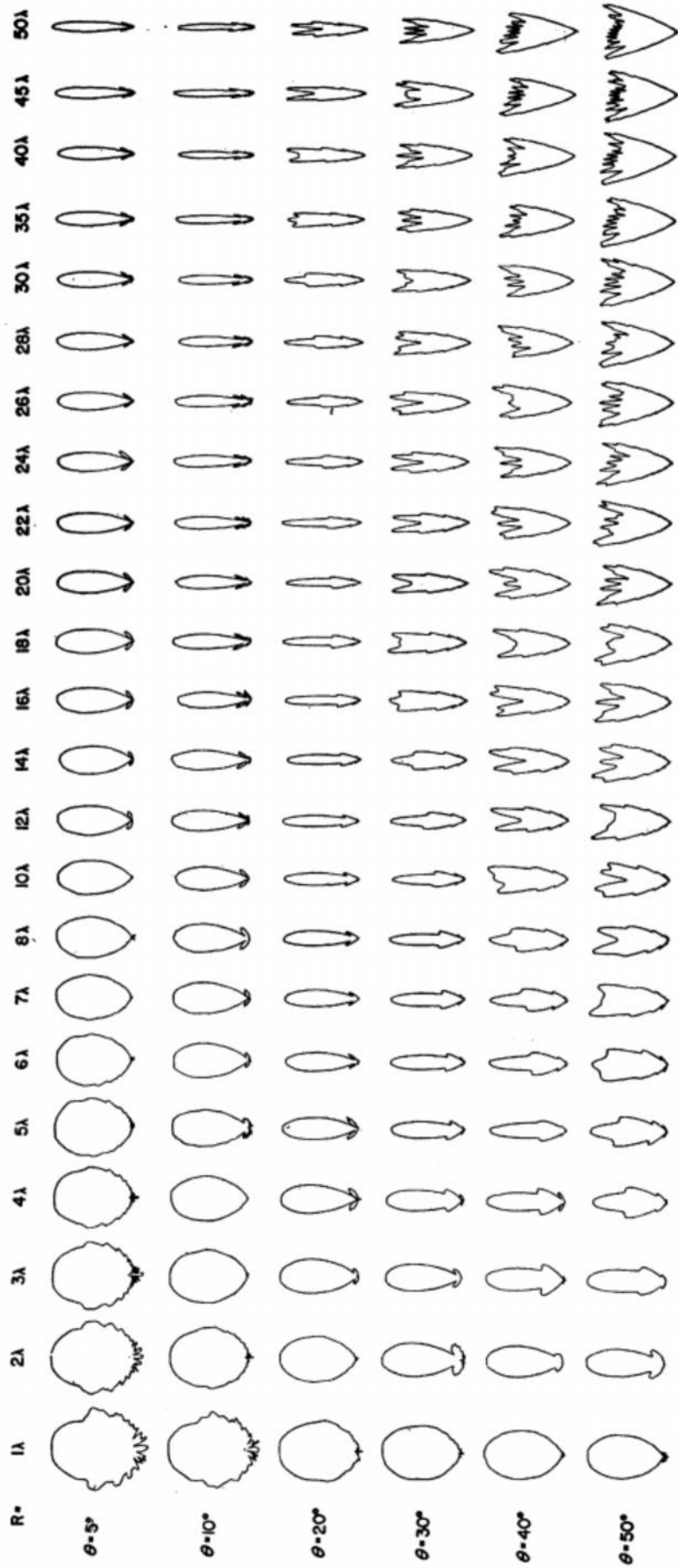


Fig. 4—*E*-plane patterns of a rectangular horn antenna as a function of radial horn length *R* and *E*-plane flare angle  $\theta$ .