A rectangular light pipe.
The light pipe is made of Lucite with an index of refraction of $n = 1.5$
Light enters the end of the very long pipe. The outside medium is air.
a) Show that for any angle of incidence the light will undergo total internal
reflection on the walls of the pipe.
(except for the very special case of zero incident angle).

b) This result holds as long as the index of refraction is above some value.
what is that value?