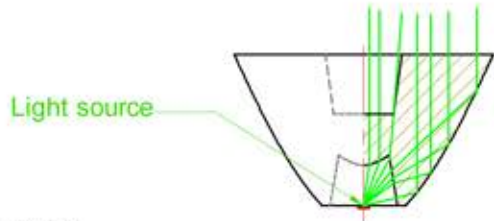
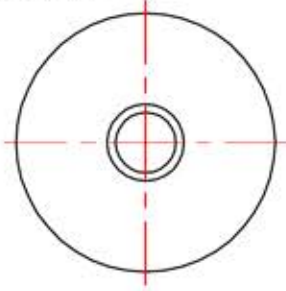
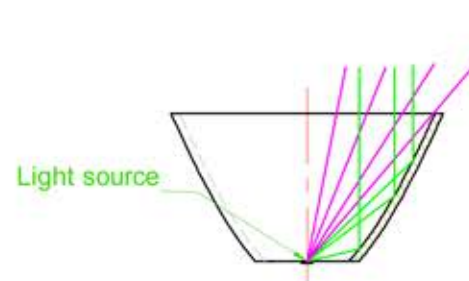
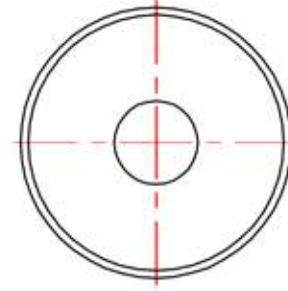


TIR LENS (Total Internal Reflection)



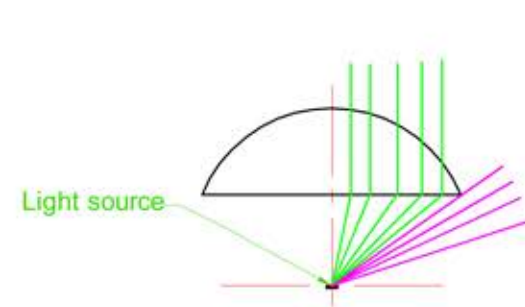
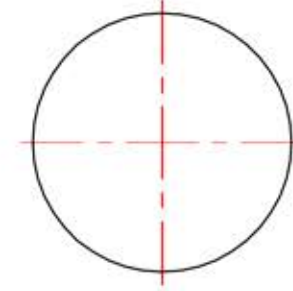
TIR optic
Also called a "collimating lens", a TIR optic takes advantage of "total internal reflection" where light that strikes a surface at a shallow angle will bounce off the surface and continue through the material instead of scattering. The optic collimates the light and sends a concentrated beam of light out in the same direction, giving a tight hotspot with greater throw. With a TIR optic in place, a reflector is not needed. A typical TIR lens looks like a cone with a hole where the point should be extending about halfway through the lens. This hole fits over the LED and any rays that strike the flat bottom of the hole will go straight out the front, giving a small hotspot.

Reflector



— Beams that are reflected by the reflector surface
— Beams that don't touch the reflector surface

Planoconvex Lens



— Beams that are reflected by the reflector surface
— Beams that don't touch the reflector surface

