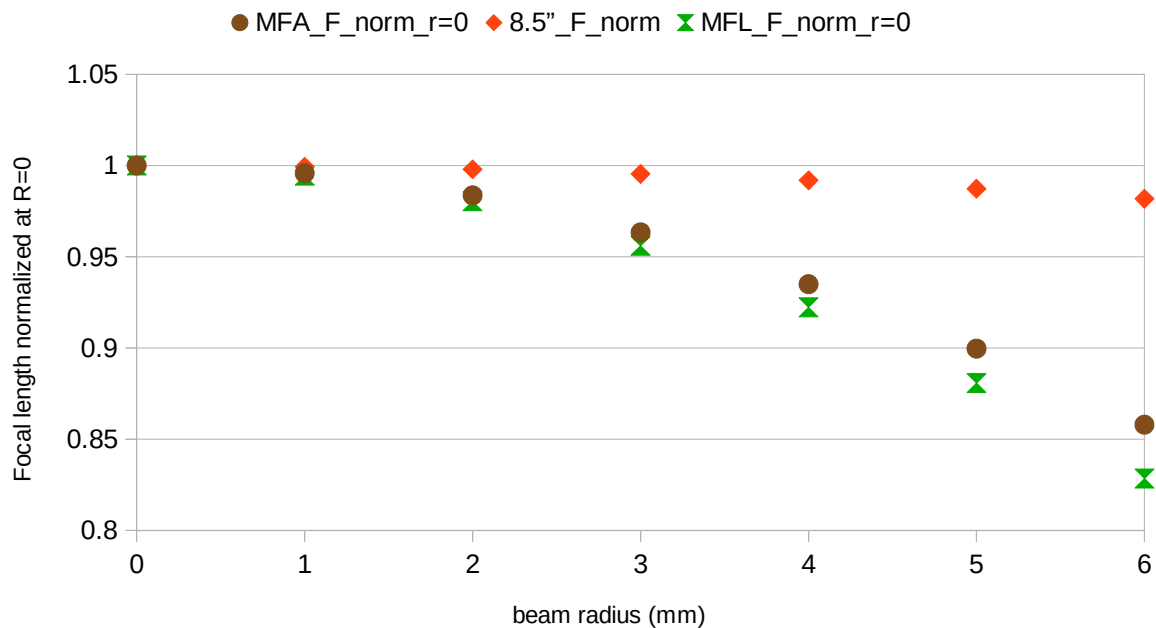


Chopper solenoid (MFD) and proposed replacements focal length variation vs beam location.



Other injector solenoids and proposed replacement variation vs beam location, beam nominally centered. Apertures are 6 mm diameter, beam+halo is larger at each upstream solenoid used to focus through an aperture.

It is proposed that we use the 8.5" OD (red) design everywhere instead of six different types now used. If the difference in uniformity between 8.5" and 9" units in the upper plot in the range  $r=[12,18]$  is shown in simulation to make a significant difference to beam quality, then two 9" units should be procured for use there and two variations on the 8.5" unit used everywhere else before 0L05.