(a) r/R=33%

(b) r/R=48%
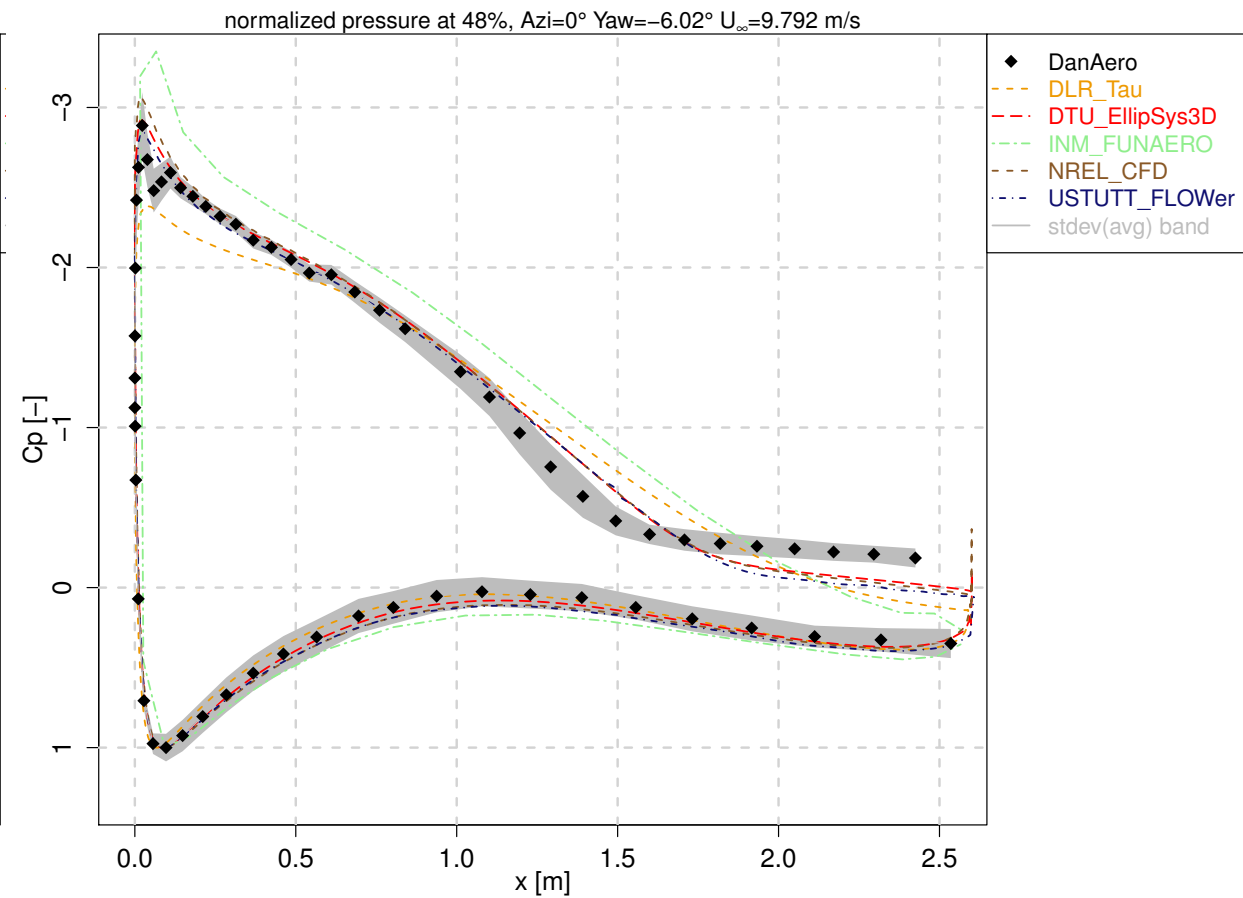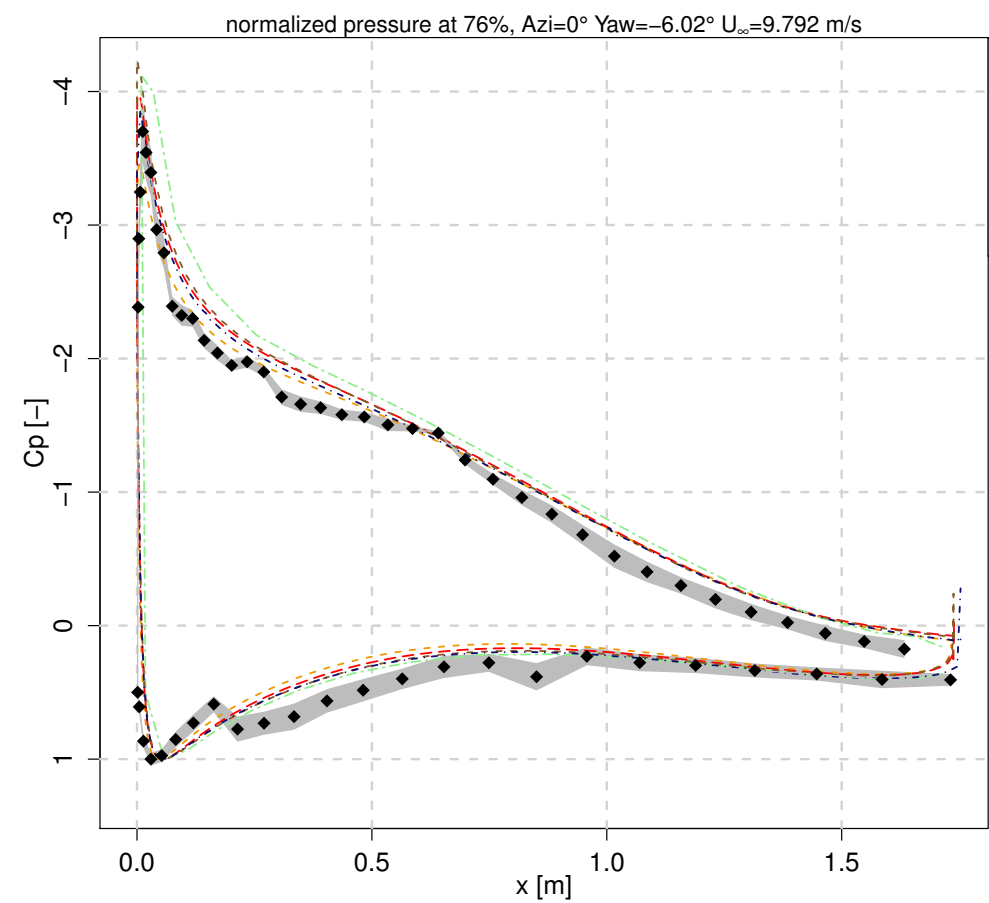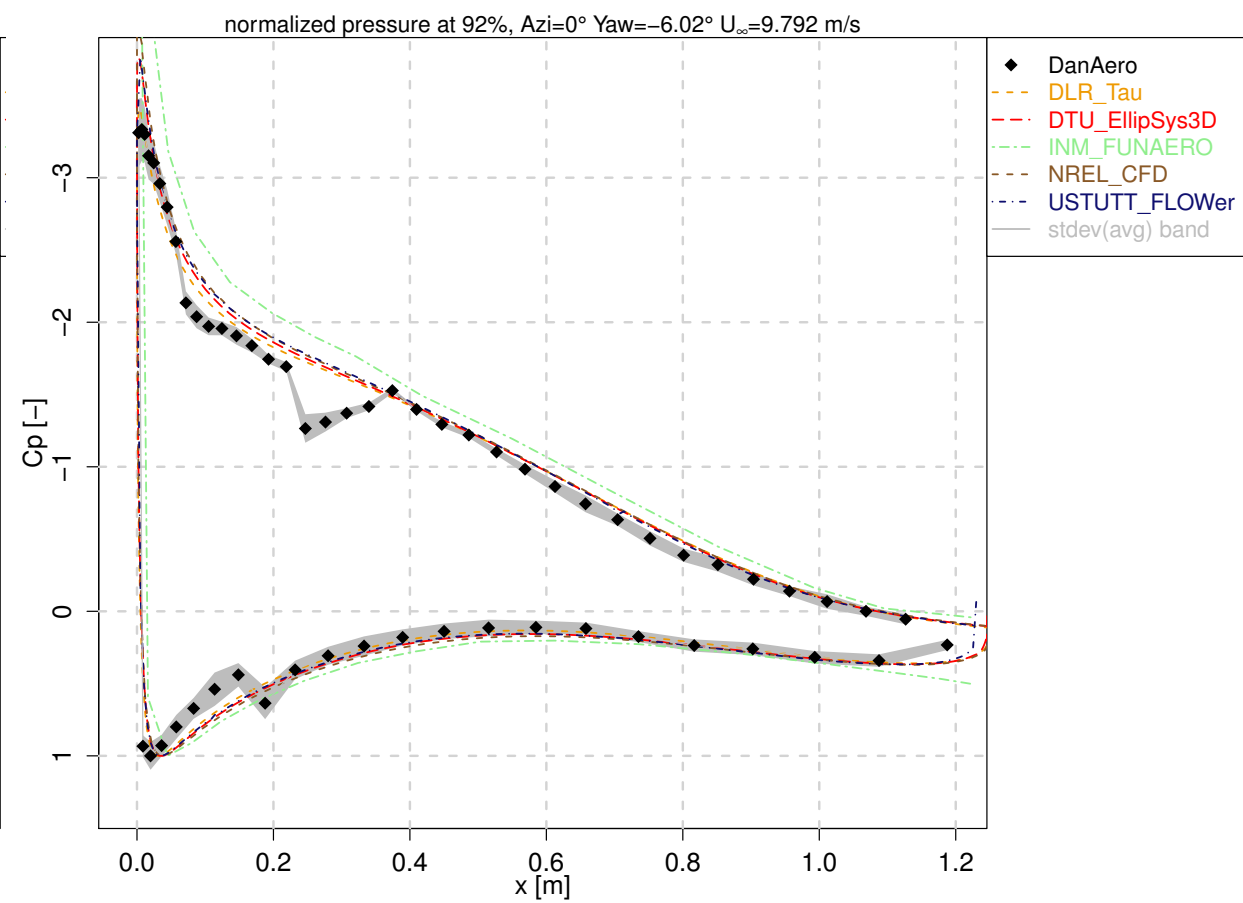
(c) r/R=76%

(d) r/R=92%