Disc Golf Throw Lengths Based on Actual Scores

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Based on a two-parameter model and 1.8 million scores from over 100,000 rounds, I solved for how far disc golfers can throw, by player rating.

The model assumes that - for a given PDGA rating - each player can throw a certain maximum distance, and can always complete the hole in two more throws from Close Range. When they do that, their score will be:

Modeled Score = 2 + (Hole Length - Close Range) / Maximum Distance; rounded up.

Because player ratings - by formula - are linear as a function of scores (or throws), throw lengths and close ranges must be expressed as throws per foot, rather than feet per throw.

The linear function chosen was the one that reproduced the most actual scores. This function matched 51% of actual scores, and generated a higher score than actual in 25% of cases, and a lower score than actual in 24% of the cases.

The following chart shows the inverse of the linear throws per foot, so it shows feet per throw and Close Range in feet.