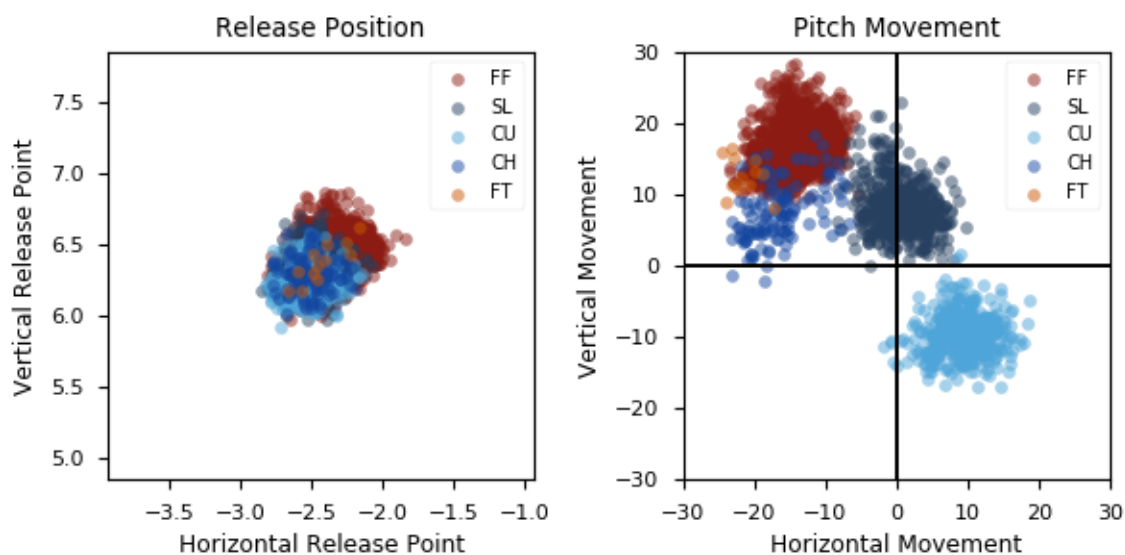


Arsenal Report for Justin Verlander

2017-4-2 to 2017-7-31



Arsenal

Pitch Type	% Thrown	Velocity (mph)	Spin Rate (rpm)	Horizontal Break (in)	Vertical Break (in)	xwOBA	wOBA	SwStr%
FF	56.7	95.3	2538.0	-14.1	17.1	0.414	0.313	7.8
SL	20.4	89.0	2498.0	0.5	8.3	0.345	0.338	14.8
CU	17.4	80.5	2797.0	9.3	-9.7	0.399	0.324	6.3
CH	5.1	87.7	1833.0	-16.6	7.6	0.472	0.373	9.2

- Pitch Type - FF: Four-Seam Fastball, FT: Two-Seam Fastball, SL: Sinkball, FC: Cutter, FS: Splitter, SL: Slider, CU: Curveball, KC: Knuckle-curve, CH: Changeup, FO: Forkball, SC: Screwball, KN: Knuckleball, EP: Eephus
- Velocity - recorded in miles per hour at release.
- Spin Rate - recorded in revolutions per minute at release.
- Horizontal Break - horizontal movement, in inches, of the pitch between the release point and home plate, as compared to a theoretical pitch thrown at the same speed with no spin-induced movement.
- Vertical Break - vertical movement, in inches, of the pitch between the release point and home plate, as compared to a theoretical pitch thrown at the same speed with no spin-induced movement.
- xwOBA - formulated using exit velocity, launch angle and, on certain types of batted balls, Sprint Speed.
- wOBA - a statistic, based on linear weights, designed to measure a player's overall offensive contributions per plate appearance.
- SwStr% - measures swing and miss rate based on pitch type. EX: (FF Swings and Misses)/(Total # of FF Thrown) * 100.