Position Group Tables for NFL Player Performance Models

2025-03-23

Table 1: Offense Grades Model Results - Position Groups

Variable	Starter Models			On-Field Models			Attempt Models		
	Starter LPM	Starter Probit	Starter Logit	On-Field LPM	On-Field Probit	On-Field Logit	Attempt LPM	Attempt Probit	Attempt Logit
Quarterbacks	0.93 [4,4015]	1.19 [4,4015]	1.27 [4,4015]	2.55* [3,4016]	3.20** [3,4016]	3.27** [3,4016]	2.74** [3,25605]	1.92 [3,25605]	2.09* [3,25605]
Running Backs	1.10 [6,4013]	1.28 [6,4013]	1.22 [6,4013]	0.42 [6,4013]	0.40 [6,4013]	0.39 [6,4013]	0.61 [5,25603]	0.78 [5,25603]	0.75 [5,25603]
Wide Receivers	0.77 [15,4004]	0.86 [15,4004]	0.89 [15,4004]	0.28 [15,4004]	0.38 [15,4004]	0.35 [15,4004]	1.22 [12,25596]	1.09 [12,25596]	1.09 [12,25596]
Tight Ends	1.81 [5,4014]	1.90* [5,4014]	1.98* [5,4014]	1.93* [5,4014]	2.43** [5,4014]	2.41** [5,4014]	0.41 [5,25603]	0.41 [5,25603]	0.38 [5,25603]
Offensive Line	2.15** [10,4009]	2.38*** [10,4009]	2.40*** [10,4009]	0.87 [10,4009]	0.97 [10,4009]	1.03 [10,4009]	0.50 [10,25598]	0.72 [10,25598]	0.69 [10,25598]
Control Variables									
Game Situation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Coach Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Team Stats	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Season/Team FE	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Coach FE	No	No	No	No	No	No	Yes	Yes	Yes
GIMR	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Player Presence	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Control Def. Players	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Off. Players	No	No	No	No	No	No	No	No	No

Note:

F-statistics reported with degrees of freedom [df1,df2] and significance levels. Stars indicate significance of joint test for all variables in position group.

* * p < 0.10, ** p < 0.05, *** p < 0.01

Table 2: Offense Yards Model Results - Position Groups

Variable	Starter Models			On-Field Models			Attempt Models		
	Starter LPM	Starter Probit	Starter Logit	On-Field LPM	On-Field Probit	On-Field Logit	Attempt LPM	Attempt Probit	Attempt Logit
Quarterbacks	3.63*** [4,4015]	4.54*** [4,4015]	4.47*** [4,4015]	1.45 [3,4016]	1.58 [3,4016]	1.49 [3,4016]	2.20* [3,25605]	1.48 [3,25605]	1.36 [3,25605]
Running Backs	1.31 [6,4013]	1.49 [6,4013]	1.49 [6,4013]	1.54 [6,4013]	1.60 [6,4013]	1.54 [6,4013]	2.09* [5,25603]	2.97** [5,25603]	2.63** [5,25603]
Wide Receivers	1.45 [15,4004]	1.64* [15,4004]	1.67*** [15,4004]	0.57 [15,4004]	0.58 [15,4004]	0.60 [15,4004]	0.59 [12,25596]	0.63 [12,25596]	0.66 [12,25596]
Tight Ends	1.83 [5,4014]	2.21* [5,4014]	2.19* [5,4014]	1.36 [5,4014]	1.80 [5,4014]	1.76 [5,4014]	0.27 [5,25603]	0.52 [5,25603]	0.28 [5,25603]
Offensive Line	1.56 [10,4009]	1.71* [10,4009]	1.76* [10,4009]	0.86 [10,4009]	0.91 [10,4009]	0.97 [10,4009]	0.50 [10,25598]	0.73 [10,25598]	0.71 [10,25598]
Control Variables									
Game Situation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Coach Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Team Stats	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Season/Team FE	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Coach FE	No	No	No	No	No	No	Yes	Yes	Yes
GIMR	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Player Presence	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Control Def. Players	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Off. Players	No	No	No	No	No	No	No	No	No

Note:

F-statistics reported with degrees of freedom [df1,df2] and significance levels. Stars indicate significance of joint test for all variables in position group.

* * p < 0.10, ** p < 0.05, *** p < 0.01

Table 3: Offense Completions Model Results - Position Groups

Variable	Starter Models			On-Field Models			Attempt Models		
	Starter LPM	Starter Probit	Starter Logit	On-Field LPM	On-Field Probit	On-Field Logit	Attempt LPM	Attempt Probit	Attempt Logit
Quarterbacks	3.09** [4,4015]	3.76*** [4,4015]	3.65** [4,4015]	3.07** [3,4016]	3.31** [3,4016]	3.08** [3,4016]	1.91 [3,25605]	1.18 [3,25605]	0.97 [3,25605]
Running Backs	0.93 [6,4013]	1.03 [6,4013]	1.04 [6,4013]	1.61 [6,4013]	1.67 [6,4013]	1.62 [6,4013]	1.21 [5,25603]	1.84 [5,25603]	1.70 [5,25603]
Wide Receivers	1.15 [15,4004]	1.31 [15,4004]	1.33 [15,4004]	0.49 [15,4004]	0.52 [15,4004]	0.54 [15,4004]	0.47 [12,25596]	0.45 [12,25596]	0.44 [12,25596]
Tight Ends	2.14* [5,4014]	2.52** [5,4014]	2.53** [5,4014]	1.73 [5,4014]	2.19* [5,4014]	2.17* [5,4014]	0.66 [5,25603]	0.80 [5,25603]	0.55 [5,25603]
Offensive Line	1.67* [10,4009]	1.84** [10,4009]	1.90** [10,4009]	0.84 [10,4009]	0.89 [10,4009]	0.95 [10,4009]	0.50 [10,25598]	0.72 [10,25598]	0.70 [10,25598]
Control Variables									
Game Situation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Coach Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Team Stats	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Season/Team FE	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Coach FE	No	No	No	No	No	No	Yes	Yes	Yes
GIMR	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Player Presence	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Control Def. Players	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Off. Players	No	No	No	No	No	No	No	No	No

Note:

F-statistics reported with degrees of freedom [df1,df2] and significance levels. Stars indicate significance of joint test for all variables in position group.

* * p < 0.10, ** p < 0.05, *** p < 0.01

Table 4: Defense Stops Model Results - Position Groups

Variable	Starter Models			On-Field Models			Attempt Models		
	Starter LPM	Starter Probit	Starter Logit	On-Field LPM	On-Field Probit	On-Field Logit	Attempt LPM	Attempt Probit	Attempt Logit
Defensive Line	1.35 [8,4011]	1.40 [8,4011]	1.46 [8,4011]	1.50 [8,4011]	1.61 [8,4011]	1.59 [8,4011]	1.05 [8,25600]	0.86 [8,25600]	0.80 [8,25600]
Linebackers	0.87 [16,4003]	0.91 [16,4003]	0.94 [16,4003]	0.55 [16,4003]	0.58 [16,4003]	0.62 [16,4003]	0.53 [12,25596]	0.49 [12,25596]	0.55 [12,25596]
Cornerbacks	2.38*** [12,4007]	2.68*** [12,4007]	2.74*** [12,4007]	1.47 [12,4007]	1.69* [12,4007]	1.77** [12,4007]	1.25 [9,25599]	1.15 [9,25599]	1.18 [9,25599]
Safeties	0.68 [11,4008]	0.69 [11,4008]	0.70 [11,4008]	0.65 [11,4008]	0.72 [11,4008]	0.76 [11,4008]	1.17 [9,25599]	1.05 [9,25599]	1.11 [9,25599]
Control Variables									
Game Situation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Coach Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Team Stats	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Season/Team FE	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Coach FE	No	No	No	No	No	No	Yes	Yes	Yes
GIMR	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Player Presence	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Control Off. Players	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Def. Players	No	No	No	No	No	No	No	No	No

Note:
F-statistics reported with degrees of freedom [df1,df2] and significance levels. Stars indicate significance of joint test for all variables in position group.
* * p < 0.10, ** p < 0.05, *** p < 0.01

Table 5: Defense Grades Model Results - Position Groups

Variable	Starter Models			On-Field Models			Attempt Models		
	Starter LPM	Starter Probit	Starter Logit	On-Field LPM	On-Field Probit	On-Field Logit	Attempt LPM	Attempt Probit	Attempt Logit
Defensive Line	1.52 [8,4011]	1.70* [8,4011]	1.70* [8,4011]	0.45 [8,4011]	0.55 [8,4011]	0.52 [8,4011]	0.36 [8,25600]	0.43 [8,25600]	0.42 [8,25600]
Linebackers	0.93 [16,4003]	1.07 [16,4003]	1.06 [16,4003]	0.70 [16,4003]	0.85 [16,4003]	0.80 [16,4003]	1.77** [12,25596]	1.97** [12,25596]	2.01** [12,25596]
Cornerbacks	3.40*** [12,4007]	3.66*** [12,4007]	3.70*** [12,4007]	1.76** [12,4007]	2.68*** [12,4007]	2.88*** [12,4007]	0.59 [9,25599]	0.60 [9,25599]	0.53 [9,25599]
Safeties	1.28 [11,4008]	1.41 [11,4008]	1.35 [11,4008]	0.23 [11,4008]	0.29 [11,4008]	0.26 [11,4008]	0.60 [9,25599]	0.69 [9,25599]	0.80 [9,25599]
Control Variables									
Game Situation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Coach Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Team Stats	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Season/Team FE	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Coach FE	No	No	No	No	No	No	Yes	Yes	Yes
GIMR	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Player Presence	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Control Off. Players	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Def. Players	No	No	No	No	No	No	No	No	No

Note:
F-statistics reported with degrees of freedom [df1,df2] and significance levels. Stars indicate significance of joint test for all variables in position group.
* * p < 0.10, ** p < 0.05, *** p < 0.01

Table 6: Defense Tackles Model Results - Position Groups

Variable	Starter Models			On-Field Models			Attempt Models		
	Starter LPM	Starter Probit	Starter Logit	On-Field LPM	On-Field Probit	On-Field Logit	Attempt LPM	Attempt Probit	Attempt Logit
Defensive Line	1.41 [8,4011]	1.47 [8,4011]	1.47 [8,4011]	1.34 [8,4011]	1.40 [8,4011]	1.37 [8,4011]	2.16** [8,25600]	1.71* [8,25600]	1.83* [8,25600]
Linebackers	0.39 [16,4003]	0.36 [16,4003]	0.39 [16,4003]	0.83 [16,4003]	0.97 [16,4003]	0.93 [16,4003]	0.39 [12,25596]	0.38 [12,25596]	0.44 [12,25596]
Cornerbacks	1.46 [12,4007]	1.67* [12,4007]	1.71* [12,4007]	1.77** [12,4007]	2.15** [12,4007]	2.20*** [12,4007]	0.58 [9,25599]	0.58 [9,25599]	0.62 [9,25599]
Safeties	0.28 [11,4008]	0.33 [11,4008]	0.33 [11,4008]	0.35 [11,4008]	0.41 [11,4008]	0.43 [11,4008]	0.86 [9,25599]	0.78 [9,25599]	0.69 [9,25599]
Control Variables									
Game Situation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Coach Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Team Stats	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Season/Team FE	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Coach FE	No	No	No	No	No	No	Yes	Yes	Yes
GIMR	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Player Presence	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Control Off. Players	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Def. Players	No	No	No	No	No	No	No	No	No

Note:
F-statistics reported with degrees of freedom [df1,df2] and significance levels. Stars indicate significance of joint test for all variables in position group.
* * p < 0.10, ** p < 0.05, *** p < 0.01

Table 7: Offense Grades Model Comparisons - Starter vs On-Field

Position	LPM		Probit		Logit	
Quarterbacks	0.32 [0.746]	(On-Field > Starter)	0.37 [0.710]	(On-Field > Starter)	0.49 [0.622]	(On-Field > Starter)
Running Backs	0.59 [0.552]	(On-Field > Starter)	0.60 [0.545]	(On-Field > Starter)	0.57 [0.571]	(On-Field > Starter)
Wide Receivers	1.09 [0.276]	(On-Field > Starter)	1.27 [0.203]	(On-Field > Starter)	1.28 [0.200]	(On-Field > Starter)
Tight Ends	0.59 [0.553]	(On-Field > Starter)	0.66 [0.511]	(On-Field > Starter)	0.67 [0.501]	(On-Field > Starter)
Offensive Line	0.61 [0.540]	(Starter > On-Field)	0.60 [0.551]	(Starter > On-Field)	0.60 [0.550]	(Starter > On-Field)

Note:
Z-statistics reported with p-values in brackets. Stars indicate significance level of difference between Starter and On-Field coefficients. Direction indicates which model has larger coefficient values.
* * p < 0.10, ** p < 0.05, *** p < 0.01

Table 8: Offense Yards Model Comparisons - Starter vs On-Field

Position	LPM		Probit		Logit	
Quarterbacks	0.64 [0.524]	(On-Field > Starter)	0.81 [0.418]	(On-Field > Starter)	0.92 [0.356]	(On-Field > Starter)
Running Backs	0.79 [0.428]	(On-Field > Starter)	0.80 [0.426]	(On-Field > Starter)	0.81 [0.416]	(On-Field > Starter)
Wide Receivers	0.77 [0.440]	(On-Field > Starter)	0.86 [0.388]	(On-Field > Starter)	0.89 [0.372]	(On-Field > Starter)
Tight Ends	0.82 [0.414]	(On-Field > Starter)	0.92 [0.359]	(On-Field > Starter)	0.93 [0.353]	(On-Field > Starter)
Offensive Line	0.65 [0.513]	(Starter > On-Field)	0.61 [0.540]	(Starter > On-Field)	0.62 [0.534]	(Starter > On-Field)

Note:
Z-statistics reported with p-values in brackets. Stars indicate significance level of difference between Starter and On-Field coefficients. Direction indicates which model has larger coefficient values.
* * p < 0.10, ** p < 0.05, *** p < 0.01

Table 9: Offense Completions Model Comparisons - Starter vs On-Field

Position	LPM		Probit		Logit	
Quarterbacks	0.59 [0.552]	(On-Field > Starter)	0.75 [0.454]	(On-Field > Starter)	0.87 [0.384]	(On-Field > Starter)
Running Backs	0.64 [0.525]	(On-Field > Starter)	0.64 [0.522]	(On-Field > Starter)	0.68 [0.497]	(On-Field > Starter)
Wide Receivers	0.85 [0.398]	(On-Field > Starter)	0.94 [0.347]	(On-Field > Starter)	0.98 [0.327]	(On-Field > Starter)
Tight Ends	0.80 [0.422]	(On-Field > Starter)	0.89 [0.371]	(On-Field > Starter)	0.91 [0.364]	(On-Field > Starter)
Offensive Line	0.66 [0.512]	(Starter > On-Field)	0.61 [0.543]	(Starter > On-Field)	0.62 [0.535]	(Starter > On-Field)

Note:
Z-statistics reported with p-values in brackets. Stars indicate significance level of difference between Starter and On-Field coefficients. Direction indicates which model has larger coefficient values.
* * p < 0.10, ** p < 0.05, *** p < 0.01

Table 10: Defense Stops Model Comparisons - Starter vs On-Field

Position	LPM		Probit		Logit	
Defensive Line	0.41 [0.683]	(On-Field > Starter)	0.45 [0.651]	(On-Field > Starter)	0.41 [0.685]	(On-Field > Starter)
Linebackers	0.25 [0.806]	(On-Field > Starter)	0.27 [0.784]	(On-Field > Starter)	0.28 [0.780]	(On-Field > Starter)
Cornerbacks	0.27 [0.791]	(On-Field > Starter)	0.28 [0.780]	(On-Field > Starter)	0.34 [0.737]	(On-Field > Starter)
Safeties	0.51 [0.609]	(On-Field > Starter)	0.57 [0.570]	(On-Field > Starter)	0.55 [0.580]	(On-Field > Starter)

Note:
Z-statistics reported with p-values in brackets. Stars indicate significance level of difference between Starter and On-Field coefficients. Direction indicates which model has larger coefficient values.
* * p < 0.10, ** p < 0.05, *** p < 0.01

Table 11: Defense Grades Model Comparisons - Starter vs On-Field

Position	LPM		Probit		Logit	
Defensive Line	0.24 [0.812]	(Starter > On-Field)	0.23 [0.818]	(Starter > On-Field)	0.25 [0.805]	(Starter > On-Field)
Linebackers	0.37 [0.713]	(Starter > On-Field)	0.36 [0.720]	(Starter > On-Field)	0.39 [0.693]	(Starter > On-Field)
Cornerbacks	2.24** [0.025]	(Starter > On-Field)	2.49** [0.013]	(Starter > On-Field)	2.52** [0.012]	(Starter > On-Field)
Safeties	0.04 [0.967]	(Starter > On-Field)	0.06 [0.955]	(Starter > On-Field)	0.09 [0.930]	(Starter > On-Field)

Note:
Z-statistics reported with p-values in brackets. Stars indicate significance level of difference between Starter and On-Field coefficients. Direction indicates which model has larger coefficient values.
* * p < 0.10, ** p < 0.05, *** p < 0.01

Table 12: Defense Tackles Model Comparisons - Starter vs On-Field

Position	LPM		Probit		Logit	
Defensive Line	0.68 [0.496]	(On-Field > Starter)	0.72 [0.472]	(On-Field > Starter)	0.67 [0.506]	(On-Field > Starter)
Linebackers	0.04 [0.964]	(On-Field > Starter)	0.05 [0.962]	(On-Field > Starter)	0.04 [0.972]	(On-Field > Starter)
Cornerbacks	0.18 [0.860]	(On-Field > Starter)	0.18 [0.855]	(On-Field > Starter)	0.21 [0.834]	(On-Field > Starter)
Safeties	0.60 [0.547]	(On-Field > Starter)	0.65 [0.514]	(On-Field > Starter)	0.66 [0.508]	(On-Field > Starter)

Note:
Z-statistics reported with p-values in brackets. Stars indicate significance level of difference between Starter and On-Field coefficients. Direction indicates which model has larger coefficient values.
* * p < 0.10, ** p < 0.05, *** p < 0.01