

KellyCom Slot Mathematics - Summary of Features

Slot game mathematics suitable for developers and games providers.

See also KellyCom Game Library and KellyCom Game Specifications Files.

Data date: November 17, 2001

NDLA04	Overall Return to Player Percentage	92.4%
	Operator Percentage	7.6%
	Pay Patterns	Left-to-Right only
	Base Game Return to Player	0.92435
	Feature Game Return to Player	n/a
	Feature Trigger Hit Rate	n/a
	Re-Trigger during Feature ?	n/a
	Prize Uplift during Feature	n/a
	Base Game Hit Rate	6.12
	Overall Game Hit Rate	6.12
	Standard Deviation	6.89
	Number of Reels	5
	Number of Symbols per Reel	32-14-32-32-32
	Wild or Substitute Symbol ?	5 x Wild Symbols on Reel 2
	Total Number of Symbols Used	10
	Denomination Play Target	All
Play Mode	Multi-Line	

This is a bread-and-Butter 5 reel game with a notable 2nd Reel

On the 2nd Reel there are 5 "Wild" cards out of a total of 14 Symbol Positions.

This means that the Player will ALWAYS see the "Wild" card every time the reels stop spinning - an important player-visual because the "Wild" card is the most valuable to the Player.

ADLA03	Overall Return to Player Percentage	92.5%
	Operator Percentage	7.5%
	Pay Patterns	Left-to-Right only
	Base Game Return to Player	92.5%
	Feature Game Return to Player	n/a
	Feature Trigger Hit Rate	n/a
	Re-Trigger during Feature ?	n/a
	Prize Uplift during Feature	n/a
	Base Game Hit Rate	6.59
	Overall Game Hit Rate	6.59
	Standard Deviation	7.55
	Number of Reels	5
	Number of Symbols per Reel	22-23-23-23-22
	Wild or Substitute Symbol ?	Yes, on Reels 1, 3, and 5
	Total Number of Symbols Used	10
	Denomination Play Target	All
Play Mode	Multi-Line	

A Standard 5 Reel Game with no secondary features

The "Wild" symbol appears on reels 1, 3 and 5 only and substitutes for all other symbols INCLUDING the Scatter.

BNLA03	Overall Return to Player Percentage	92.4%
	Operator Percentage	7.6%
	Pay Patterns	Left-to-Right only
	Base Game Return to Player	92.4%
	Feature Game Return to Player	n/a
	Feature Trigger Hit Rate	n/a
	Re-Trigger during Feature ?	n/a
	Prize Uplift during Feature	n/a
	Base Game Hit Rate	5.27
	Overall Game Hit Rate	5.27
	Standard Deviation	6.82
	Number of Reels	5
	Number of Symbols per Reel	25-30-20-25-31
	Wild or Substitute Symbol ?	Yes, on all Reels
	Total Number of Symbols Used	10
Denomination Play Target	All	
Play Mode	Multi-Line	

A Standard 5 Reel Game with no subsidiary games

The top paying Symbol is "Wild" and substitutes for all other symbols, except Scattered.

KC3LA01	Overall Return to Player Percentage	92.5%
	Operator Percentage	7.5%
	Pay Patterns	Left-to-Right only
	Base Game Return to Player	92.5%
	Feature Game Return to Player	n/a
	Feature Trigger Hit Rate	n/a
	Re-Trigger during Feature ?	n/a
	Prize Uplift during Feature	n/a
	Base Game Hit Rate	7.7
	Overall Game Hit Rate	7.7
	Standard Deviation	9.3
	Number of Reels	5
	Number of Symbols per Reel	22-23-23-23-22
	Wild or Substitute Symbol ?	Yes, on 4th & 5th Reels
	Total Number of Symbols Used	8
Denomination Play Target	All	
Play Mode	Multi-Line	

A Standard 5 Reel Game with no subsidiary Games.

The "Wild" card on the 4th & 5th reels substitutes for all other symbols on those reels INCLUDING the Scatter Symbol

The Game has a 1 kind pay.

BSLA01	Overall Return to Player Percentage	90.5%
	Operator Percentage	9.5%
	Pay Patterns	Left-to-Right & Right-to-Left
	Base Game Return to Player	0.905
	Feature Game Return to Player	n/a
	Feature Trigger Hit Rate	n/a
	Re-Trigger during Feature ?	n/a
	Prize Uplift during Feature	n/a
	Base Game Hit Rate	5.6
	Overall Game Hit Rate	5.6
	Standard Deviation	9.01
	Number of Reels	5
	Number of Symbols per Reel	22-22-37-25-23
	Wild or Substitute Symbol ?	No
	Total Number of Symbols Used	8
Denomination Play Target	All	
Play Mode	Multi-Line	

Standard 5 reel game with no subsidiary games

JIFL01	Overall Return to Player Percentage	89.9%
	Operator Percentage	10.1%
	Pay Patterns	Left-to-Right only
	Base Game Return to Player	0.71331
	Feature Game Return to Player	0.18608
	Feature Trigger Hit Rate	115
	Re-Trigger during Feature ?	Yes
	Prize Uplift during Feature	x 3
	Base Game Hit Rate	7.79
	Overall Game Hit Rate	7.17
	Standard Deviation	9.71
	Number of Reels	5
	Number of Symbols per Reel	25-25-25-25-25
	Wild or Substitute Symbol ?	No
	Total Number of Symbols Used	9
Denomination Play Target	All	
Play Mode	Multi-Line	

10 Free Game Feature

Whenever certain wins occur on the 1st pay-line, a series of 10 free games begins.

During the free games, prizes are triple the standard value

The trigger events occur on average once every 115 games

Free games are played using the same number of active play-lines and total bet on the game which triggered the series.

PRLA07	Overall Return to Player Percentage	90.8%
	Operator Percentage	9.2%
	Pay Patterns	Left-to-Right only
	Base Game Return to Player	0.90785
	Feature Game Return to Player	n/a
	Feature Trigger Hit Rate	n/a
	Re-Trigger during Feature ?	n/a
	Prize Uplift during Feature	n/a
	Base Game Hit Rate	6.68
	Overall Game Hit Rate	6.68
	Standard Deviation	8.24
	Number of Reels	5
	Number of Symbols per Reel	22-22-22-22-22
	Wild or Substitute Symbol ?	Yes, on all reels
	Total Number of Symbols Used	9
Denomination Play Target	All	
Play Mode	Multi-Line	

Standard 5 Reel Multi-Line game

Heavy weighting of 'hits' in the 200 & 100 prize ranges

BBLA08	Overall Return to Player Percentage	90.3%
	Operator Percentage	9.7%
	Pay Patterns	Any's for all Symbols
	Base Game Return to Player	0.90343
	Feature Game Return to Player	n/a
	Feature Trigger Hit Rate	n/a
	Re-Trigger during Feature ?	n/a
	Prize Uplift during Feature	n/a
	Base Game Hit Rate	6.55
	Overall Game Hit Rate	6.55
	Standard Deviation	5.81
	Number of Reels	5
	Number of Symbols per Reel	27-27-27-27-27
	Wild or Substitute Symbol ?	No
	Total Number of Symbols Used	12
Denomination Play Target	All	
Play Mode	Multi-Line	

Standard low-volatility 5 reel game

All pay patterns = Any's

PDLL09	Overall Return to Player Percentage	89.9%
	Operator Percentage	10.1%
	Pay Patterns	Left-to-Right except Scatters are Any's
	Base Game Return to Player	0.65483
	Feature Game Return to Player	0.24425
	Feature Trigger Hit Rate	128.7
	Re-Trigger during Feature ?	Yes
	Prize Uplift during Feature	x 4
	Base Game Hit Rate	9
	Overall Game Hit Rate	8.24
	Standard Deviation	12.76
	Number of Reels	5
	Number of Symbols per Reel	32-27-32-27-48
	Wild or Substitute Symbol ?	Yes, for all except Scatters
	Total Number of Symbols Used	12
Denomination Play Target	All	
Play Mode	Multi-Line	

Free Game Feature

Whenever 5 or 4 or 3 Scatters wins occur
12 free games are triggered.

During free games standard prizes are quadrupled (x 4)

AKLA05	Overall Return to Player Percentage	92.4%
	Operator Percentage	7.6%
	Pay Patterns	Left-to-Right only
	Base Game Return to Player	0.92419
	Feature Game Return to Player	n/a
	Feature Trigger Hit Rate	n/a
	Re-Trigger during Feature ?	n/a
	Prize Uplift during Feature	n/a
	Base Game Hit Rate	7.6
	Overall Game Hit Rate	7.6
	Standard Deviation	10.68
	Number of Reels	5
	Number of Symbols per Reel	26-23-21-26-23
	Wild or Substitute Symbol ?	No
	Total Number of Symbols Used	8
Denomination Play Target	All	
Play Mode	Multi-Line	

US style 5 reel game

There are no 'Ghost' symbols

Mixed Bars pays as per the US method

PDLL10	Overall Return to Player Percentage	92.5%
	Operator Percentage	7.5%
	Pay Patterns	Left-to-Right & Right-to-Left
	Base Game Return to Player	0.92525
	Feature Game Return to Player	n/a
	Feature Trigger Hit Rate	n/a
	Re-Trigger during Feature ?	n/a
	Prize Uplift during Feature	n/a
	Base Game Hit Rate	7.94
	Overall Game Hit Rate	7.94
	Standard Deviation	16.23
	Number of Reels	5
	Number of Symbols per Reel	22-22-30-22-22
	Wild or Substitute Symbol ?	No
	Total Number of Symbols Used	10
Denomination Play Target	All	
Play Mode	Multi-Line	

Standard 5 reel game

High Volatility game

WRAA01	Overall Return to Player Percentage	90.2%
	Operator Percentage	9.8%
	Pay Patterns	Left-to-Right & Right-to-Left
	Base Game Return to Player	0.9015
	Feature Game Return to Player	n/a
	Feature Trigger Hit Rate	n/a
	Re-Trigger during Feature ?	n/a
	Prize Uplift during Feature	n/a
	Base Game Hit Rate	7.1
	Overall Game Hit Rate	7.1
	Standard Deviation	8.75
	Number of Reels	5
	Number of Symbols per Reel	22-22-38-22-22
	Wild or Substitute Symbol ?	Yes for all except Scatters
	Total Number of Symbols Used	12
Denomination Play Target	All	
Play Mode	Multi-Line	

A rare type of 5 reel game in that it pays more than one pay pattern AND has a "Wild" card that substitutes on all reels for all other symbols except Scatters.

K2SLA01	Overall Return to Player Percentage	91.6%
	Operator Percentage	8.4%
	Pay Patterns	Left-to-Right & Right-to-Left
	Base Game Return to Player	0.65778
	Feature Game Return to Player	0.25803
	Feature Trigger Hit Rate	133.7
	Re-Trigger during Feature ?	No
	Prize Uplift during Feature	n/a
	Base Game Hit Rate	9.36
	Overall Game Hit Rate	9.36
	Standard Deviation	7.65
	Number of Reels	5
	Number of Symbols per Reel	27-27-38-28-28
	Wild or Substitute Symbol ?	Yes for all except Scatters
	Total Number of Symbols Used	12
Denomination Play Target	All	
Play Mode	Multi-Line	

Rare type of 5 reel game with multiple pay patterns and a Substituting Symbol on all reels

Second Screen Feature

A secondary game is triggered whenever 5, or 4 or 3 Scatter wins occur

The Player chooses one of three racing cars. A prize is paid for 1st or 2nd or 3rd in decreasing values.

No matter what car the player chooses, one of the three prizes on offer will be won.

The game theme can be anything based on a player choosing one out of three icons.

K2FLA01	Overall Return to Player Percentage	91.7%
	Operator Percentage	8.3%
	Pay Patterns	Left-to-Right & Right-to-Left
	Base Game Return to Player	0.658
	Feature Game Return to Player	0.34
	Feature Trigger Hit Rate	121.7
	Re-Trigger during Feature ?	Yes
	Prize Uplift during Feature	x 4
	Base Game Hit Rate	10.07
	Overall Game Hit Rate	9.16
	Standard Deviation	10.65
	Number of Reels	5
	Number of Symbols per Reel	27-27-38-28-28
	Wild or Substitute Symbol ?	Yes on all reels for all except Scatter
	Total Number of Symbols Used	12
Denomination Play Target	All	
Play Mode	Multi-Line	

12 FREE Games feature during which prizes are 4 times the standard value.

HSLA03	Overall Return to Player Percentage	91.4%
	Operator Percentage	8.6%
	Pay Patterns	Left-to-Right & Right-to-Left
	Base Game Percentage to Player	0.64689
	Feature Game Percentage to Player	0.26723
	Feature Trigger Hit Rate	115.65
	Re-Trigger during Feature ?	Yes
	Prize Uplift during Feature ?	No
	Base Game Hit Rate	8.65
	Overall Game Hit Rate	7.387
	Standard Deviation	15.71
	Number of Reels	5
	Number of Symbols per Reel	22-23-25-23-22
	Wild or Substitute Symbol	Symbol "A" is 'wild' during feature
	Total Number of Symbols used	10
	Denomination Play Target	All
Play Mode	Multi-Line	
WLSLA02	Overall Return to Player Percentage	92.0%
	Operator Percentage	8.0%
	Pay Patterns	Left-to-Right & Right-to-Left
	Base Game Percentage to Player	58.0%
	Feature Game Percentage to Player	34.0%
	Feature Trigger Hit Rate	132.9
	Re-Trigger during Feature ?	Yes
	Prize Uplift during Feature ?	Phase 1 by 3 :: Phase 2 by 2
	Base Game Hit Rate	16.36
	Overall Game Hit Rate	13.96
	Standard Deviation	11.15
	Number of Reels	5
	Number of Symbols per Reel	25-22-40-22-25
	Wild or Substitute Symbol	Wandering 'Wild' symbol only
	Total Number of Symbols used	11
	Denomination Play Target	All
Play Mode	Multi-Line	

Free Play Feature

Following 5 or 4 or 3 Scatters wins

the first reel symbols are transformed into a 'wild' symbol and the first reel is held while the other 4 are respun 5 times.

This games is ideal for 3 line, high denomination play

FREE Double Phase Feature Game

Following a 'scatter' prize trigger four free games are played during which prizes are triple the standard value.

Following the fourth free game, a 'wild' symbol travels, one symbol at a time, to all the symbols appearing in the play window. Prize combinations that are formed with this travelling 'wild' card are double the standard value.

Ideal for low denomination play with 9 or more playlines

PSSLA04	Overall Return to Player Percentage	92.0%	Second Screen feature game with three free spins of a Money Wheel Player collects the accumulated wins of the three games.
	Operator Percentage	8.0%	
	Pay Patterns	Left-to-Right & Right-to-Left	
	Base Game Percentage to Player	66.2%	
	Feature Game Percentage to Player	25.8%	
	Feature Trigger Hit Rate	133.7	
	Re-Trigger during Feature ?	No	
	Prize Uplift during Feature ?	n/a	
	Base Game Hit Rate	9.33	
	Overall Game Hit Rate	9.33	
	Standard Deviation	7.3	
	Number of Reels	5	
	Number of Symbols per Reel	27-27-38-28-28	
	Wild or Substitute Symbol	Yes - on all reels for all except Scatter	
	Total Number of Symbols used	12	
Denomination Play Target	All		
Play Mode	Multi-Line		
KDLU01	Overall Return to Player Percentage	90.02%	3 Reel US style game with mixed Bars prizes 3rd line bonus pay.
	Operator Percentage	9.98%	
	Pay Patterns	3 Kind + Any's	
	Base Game Return to Player	90.02%	
	Feature Game Return to Player	n/a	
	Feature Trigger Hit Rate	n/a	
	Re-Trigger during Feature ?	n/a	
	Prize Uplift during Feature	n/a	
	Base Game Hit Rate	5.91	
	Overall Game Hit Rate	5.91	
	Standard Deviation	7.68	
	Number of Reels	3	
	Number of Symbols per Reel	38-40-38 (Alternate Ghosts)	
	Wild or Substitute Symbol ?	No	
	Total Number of Symbols Used	6	
Denomination Play Target	All		
Play Mode	Multi-Line		

KDLU02	Overall Return to Player Percentage	90.1%	3 Reel US style game with mixed Bars prizes 3rd line bonus pay.
	Operator Percentage	10.0%	
	Pay Patterns	3 Kind + Any's	
	Base Game Return to Player	0.9005	
	Feature Game Return to Player	n/a	
	Feature Trigger Hit Rate	n/a	
	Re-Trigger during Feature ?	n/a	
	Prize Uplift during Feature	n/a	
	Base Game Hit Rate	5.7	
	Overall Game Hit Rate	5.7	
	Standard Deviation	9.3	
	Number of Reels	3	
	Number of Symbols per Reel	38-40-38 (Alternate Ghosts)	
	Wild or Substitute Symbol ?	No	
	Total Number of Symbols Used	6	
Denomination Play Target	All		
Play Mode	Multi-Line		
W5LU03	Overall Return to Player Percentage	91.5%	7 FREE Games feature during which all symbols on reel 1 are 'wild' substituting symbols Feature game prize values are double that of the standard game
	Operator Percentage	8.5%	
	Pay Patterns	3 Kind + Any's	
	Base Game Return to Player	66.8%	
	Feature Game Return to Player	24.7%	
	Feature Trigger Hit Rate	121.3	
	Re-Trigger during Feature ?	Yes	
	Prize Uplift during Feature	x 2	
	Base Game Hit Rate	8.57	
	Overall Game Hit Rate	6.83	
	Standard Deviation	7.41	
	Number of Reels	3	
	Number of Symbols per Reel	76-72-76 (Alternate Ghosts)	
	Wild or Substitute Symbol ?	Yes	
	Total Number of Symbols Used	5	
Denomination Play Target	All		
Play Mode	Multi-Line		

ZZLA05	Overall Return to Player Percentage	90.6%	3 Reel US style game with Mixed Bars prizes Two Phase Feature Game 3 FREE games ; and Travelling 'wild' card superimposing over all symbols in the play window at the end of the 3rd free game.
	Operator Percentage	9.4%	
	Pay Patterns	3 Kind + Any's	
	Base Game Return to Player	0.57586	
	Feature Game Return to Player	0.33018	
	Feature Trigger Hit Rate	137.3	
	Re-Trigger during Feature ?	Yes	
	Prize Uplift during Feature	x 2	
	Base Game Hit Rate	9.6	
	Overall Game Hit Rate	7.7	
	Standard Deviation	15.49	
	Number of Reels	3	
	Number of Symbols per Reel	50-50-50 (Alternate Ghosts)	
	Wild or Substitute Symbol ?	Yes, During Feature	
	Total Number of Symbols Used	10	
	Denomination Play Target	All	
Play Mode	Multi-Line		
BAPMH01	Overall Return to Player Percentage	89.7%	3 Reel Buy-a-Pay Game
	Operator Percentage	10.3%	
	Pay Patterns	3 Kind + Any's	
	Base Game Return to Player	0.89724	
	Feature Game Return to Player	n/a	
	Feature Trigger Hit Rate	n/a	
	Re-Trigger during Feature ?	n/a	
	Prize Uplift during Feature	n/a	
	Base Game Hit Rate	3.1	
	Overall Game Hit Rate	3.1	
	Standard Deviation	7.17	
	Number of Reels	3	
	Number of Symbols per Reel	26-26-26 (Alternate Ghosts)	
	Wild or Substitute Symbol ?	No	
	Total Number of Symbols Used	6	
	Denomination Play Target	High	
Play Mode	Single-Line Multiplier		

B4LU02	Overall Return to Player Percentage	92.4%	Standard 4 Reel Game with Any's pay patterns
	Operator Percentage	7.6%	
	Pay Patterns	Any's	
	Base Game Return to Player	0.924	
	Feature Game Return to Player	n/a	
	Feature Trigger Hit Rate	n/a	
	Re-Trigger during Feature ?	n/a	
	Prize Uplift during Feature	n/a	
	Base Game Hit Rate	7.13	
	Overall Game Hit Rate	7.13	
	Standard Deviation	5.2	
	Number of Reels	4	
	Number of Symbols per Reel	34-34-34-34 (Alternate Ghosts)	
	Wild or Substitute Symbol ?	Yes, for all symbols on all reels	
	Total Number of Symbols Used	8	
	Denomination Play Target	All	
Play Mode	Multi-Line		
FGLA01	Overall Return to Player Percentage	91.4%	Variable Free Games Feature
	Operator Percentage	8.6%	
	Pay Patterns	Left-to-Right Only	
	Base Game Return to Player	63.9%	
	Feature Game Return to Player	27.6%	
	Feature Trigger Hit Rate	106.1	
	Re-Trigger during Feature ?	Yes	
	Prize Uplift during Feature	x 4	
	Base Game Hit Rate	7.1	
	Overall Game Hit Rate	6.4	
	Standard Deviation	5.8	
	Number of Reels	4	
	Number of Symbols per Reel	46-46-46-27 [no ghosts]	
	Wild or Substitute Symbol ?	Yes, for all except Scatteredes	
	Total Number of Symbols Used	11	
	Denomination Play Target	All	
Play Mode	Multi-Line		