

Racetrack Location Analysis

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Contents

1	Introduction	2
2	Loot Distribution	3
3	Data	4
3.1	Weapon Probability Table	4
3.2	Weapon Cumulative Probability Table	5
3.3	Shield Probability Table	5
3.4	Shield Cumulative Probability Table	6
4	Pathing	7
5	Top Materials	8
5.1	Tyres	8
5.2	Desert Trees	9
5.3	Cacti	10
5.4	Brick Walls	11
5.5	Shadow Rocks	12
6	First Circle Rotation	13
7	Strategy	16

Chapter 1

Introduction

Racetracks as a starting location in Fortnite appears to be one of the more undervalued drop locations amongst the professional community. This location provides some of the best material sources in the game, but in the past, the great material gain came at the cost of poor map positioning for the first circle, as Racetracks is located on the very edge of the map, making it one of the least centric locations. However, with the recent changes to glider mechanics, and shadow stones, this disadvantage was made much less significant.

In Chapter 2, we look into the loot distribution around the area, and the expected number of loot in a typical game.

In Chapter 3, we use information on the loot to calculate probabilities for weapon/shield quantity, for a given number of opened chests.

In Chapter 4, we discover how to rotate around Racetrack extremely quickly via the new glider mechanics.

In Chapter 5, we analyse the best materials in the nearby area, looking at various details such as their "materials per click" ratio, spawn quantities etc.

In Chapter 6, we look at methods to rotate out of Racetracks for the first circle.

Finally, in Chapter 7, we form a strategy using all the prior information.

Chapter 2

Loot Distribution



- 11 chests
- 44 floor loot spawns

Given the approximate 60% chance of a chest spawning[1], and a 78.3% chance of floor loot spawning[2], the expected values for a regular game would be 7 chests and 34 instances of floor loot.

Chapter 3

Data

Since up to 11 chests can spawn in this location, I have created various probability tables, showing the likelihood of getting a certain number of weapons or shield items, at individual amounts of chests spawning in a game.

3.1 Weapon Probability Table

Chests	Weapons											
	0	1	2	3	4	5	6	7	8	9	10	11
1	0.2400	0.7600	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.0576	0.3648	0.5776	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.0138	0.1313	0.4159	0.4390	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4	0.0033	0.0420	0.1996	0.4214	0.3336	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0008	0.0126	0.0799	0.2529	0.4004	0.2536	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.0002	0.0036	0.0288	0.1214	0.2883	0.3651	0.1927	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.0001	0.0010	0.0097	0.0510	0.1614	0.3067	0.3237	0.1465	0.0000	0.0000	0.0000	0.0000
8	0.0000	0.0003	0.0031	0.0196	0.0775	0.1963	0.3108	0.2812	0.1113	0.0000	0.0000	0.0000
9	0.0000	0.0001	0.0010	0.0071	0.0335	0.1060	0.2238	0.3037	0.2404	0.0846	0.0000	0.0000
10	0.0000	0.0000	0.0003	0.0024	0.0134	0.0509	0.1343	0.2430	0.2885	0.2030	0.0643	0.0000
11	0.0000	0.0000	0.0001	0.0008	0.0051	0.0224	0.0709	0.1603	0.2539	0.2680	0.1697	0.0489

This table shows the chance of receiving exactly x assault rifles (Full auto or burst), SMG's or shotguns when searching y chests. Note that the probability accounts for any combination of assault rifles, SMG's or shotguns, including duplicates.

3.2 Weapon Cumulative Probability Table

Chests	At Least x Weapons (AR, SMG, Shotgun)											
	0	1	2	3	4	5	6	7	8	9	10	11
1	1.000	0.760	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	1.000	0.942	0.578	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	1.000	0.986	0.855	0.439	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	1.000	0.997	0.955	0.755	0.334	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	1.000	0.999	0.987	0.907	0.654	0.254	0.000	0.000	0.000	0.000	0.000	0.000
6	1.000	1.000	0.996	0.967	0.846	0.558	0.193	0.000	0.000	0.000	0.000	0.000
7	1.000	1.000	0.999	0.989	0.938	0.777	0.470	0.146	0.000	0.000	0.000	0.000
8	1.000	1.000	1.000	0.997	0.977	0.900	0.703	0.392	0.111	0.000	0.000	0.000
9	1.000	1.000	1.000	0.999	0.992	0.958	0.852	0.629	0.325	0.085	0.000	0.000
10	1.000	1.000	1.000	1.000	0.997	0.984	0.933	0.799	0.556	0.267	0.064	0.000
11	1.000	1.000	1.000	1.000	0.999	0.994	0.972	0.901	0.740	0.487	0.219	0.049

This table uses "at least x weapons" rather than strictly a specific number.

3.3 Shield Probability Table

Chests	Shields											
	0	1	2	3	4	5	6	7	8	9	10	11
1	0.6290	0.3710	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.3956	0.4667	0.1376	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.2489	0.4404	0.2597	0.0511	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4	0.1565	0.3693	0.3267	0.1285	0.0190	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0985	0.2904	0.3425	0.2020	0.0596	0.0070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.0619	0.2192	0.3232	0.2542	0.1124	0.0265	0.0026	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.0390	0.1608	0.2846	0.2798	0.1650	0.0584	0.0115	0.0010	0.0000	0.0000	0.0000	0.0000
8	0.0245	0.1156	0.2387	0.2816	0.2076	0.0980	0.0289	0.0049	0.0004	0.0000	0.0000	0.0000
9	0.0154	0.0818	0.1930	0.2657	0.2350	0.1386	0.0545	0.0138	0.0020	0.0001	0.0000	0.0000
10	0.0097	0.0572	0.1518	0.2387	0.2464	0.1744	0.0857	0.0289	0.0064	0.0008	0.0001	0.0000
11	0.0061	0.0396	0.1167	0.2065	0.2435	0.2011	0.1186	0.0500	0.0147	0.0029	0.0003	0.0000

The third table shows the chance of receiving x shield items from y chests. The probabilities account for minis, half pots, slurps & chug jugs.

3.4 Shield Cumulative Probability Table

Chest .. ☰	At Least x Shields											
	0	1	2	3	4	5	6	7	8	9	10	11
1	1.000	0.371	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	1.000	0.604	0.138	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	1.000	0.751	0.311	0.051	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	1.000	0.843	0.474	0.147	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	1.000	0.902	0.611	0.269	0.067	0.007	0.000	0.000	0.000	0.000	0.000	0.000
6	1.000	0.938	0.719	0.396	0.142	0.029	0.003	0.000	0.000	0.000	0.000	0.000
7	1.000	0.961	0.800	0.516	0.236	0.071	0.012	0.001	0.000	0.000	0.000	0.000
8	1.000	0.976	0.860	0.621	0.340	0.132	0.034	0.005	0.000	0.000	0.000	0.000
9	1.000	0.985	0.903	0.710	0.444	0.209	0.070	0.016	0.002	0.000	0.000	0.000
10	1.000	0.990	0.933	0.781	0.543	0.296	0.122	0.036	0.007	0.001	0.000	0.000
11	1.000	0.994	0.954	0.838	0.631	0.388	0.187	0.068	0.018	0.003	0.000	0.000

This table uses "at least x shields" rather than strictly a specific number.

Chapter 4

Pathing

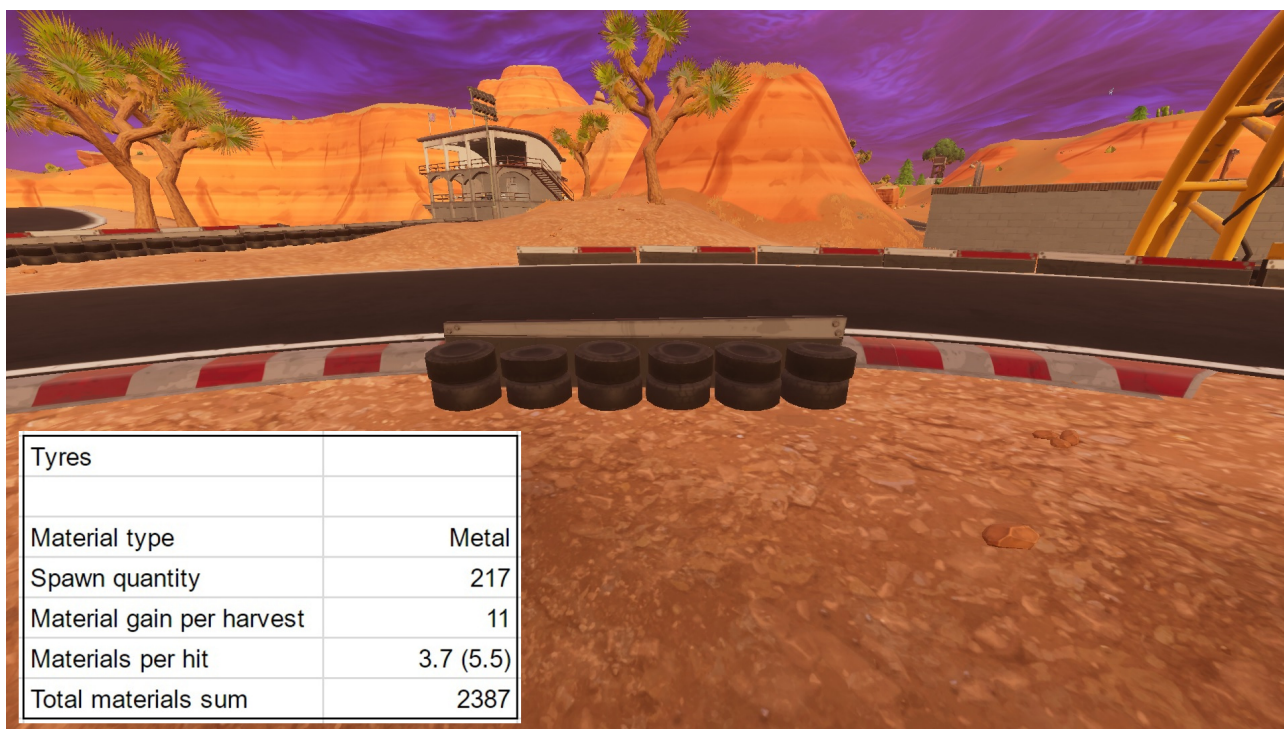
<https://streamable.com/5xosh>

The new glider deploy mechanic can be utilized at Racetracks to make looting a much faster process. As shown in the video above, the glider redeploy can be used when bouncing off tires if done correctly, allowing one to travel from building to building much faster than running. Using this trick is roughly 3-4x faster.

Chapter 5

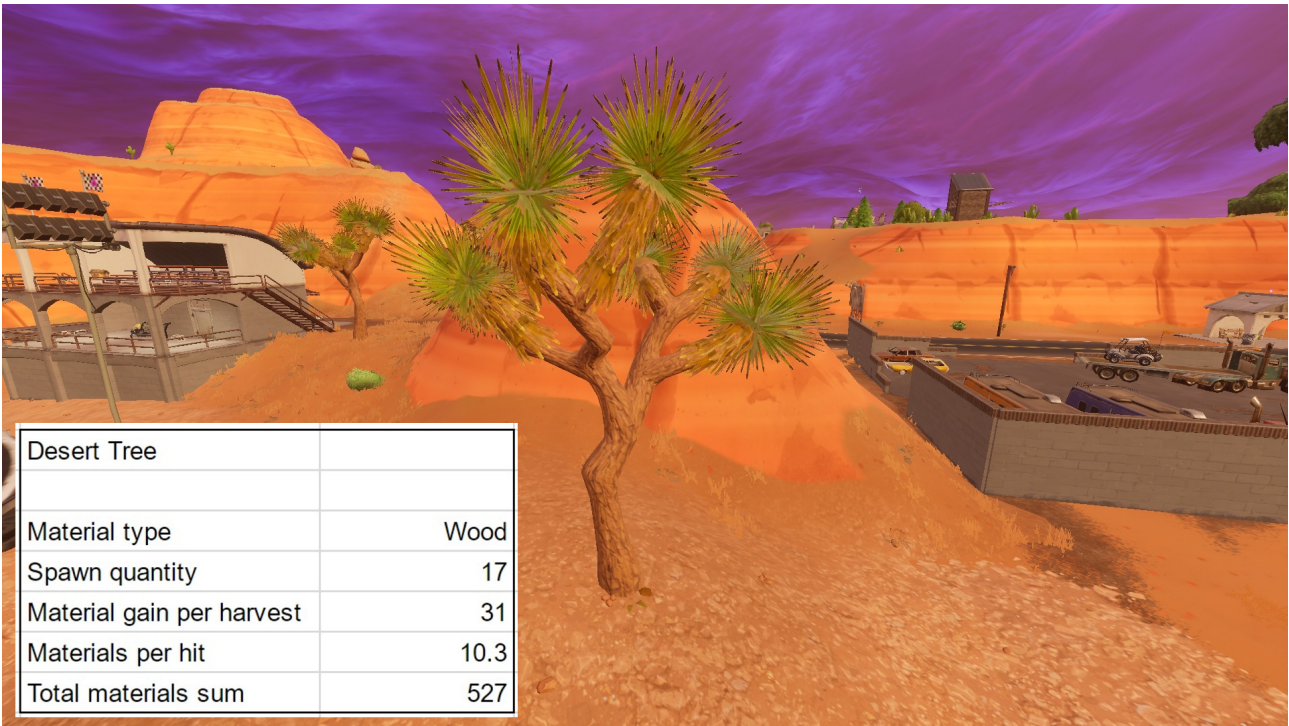
Top Materials

5.1 Tyres



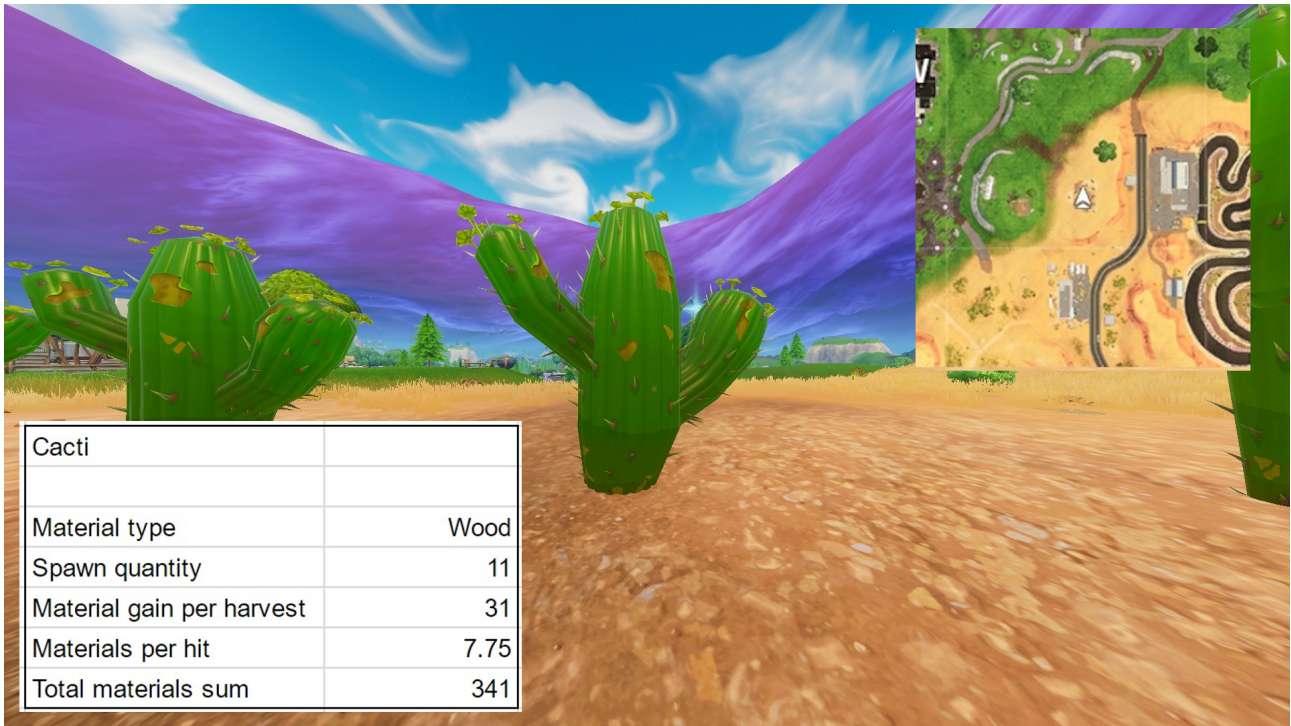
One of the biggest appeals of Racetracks as a drop location are the blocks of tyres which are in abundance around the track. Each spawn will provide approximately 11 metal, and whilst they can be destroyed in two hits with a critical strike, I would recommend ignoring the crit, allowing you to continuously move along the track as you harvest, without having to stop swinging your pickaxe.

5.2 Desert Trees



Ironically, wood is more of a scarce resource than metal in the Racetrack location. There are a dozen or so tree's (similar to the image above) around the track, which have a slightly better "materials per click" ratio than other trees in the game. However, there aren't enough trees to harvest maximum wood, so one must rotate north for more trees, or west to the cacti.

5.3 Cacti



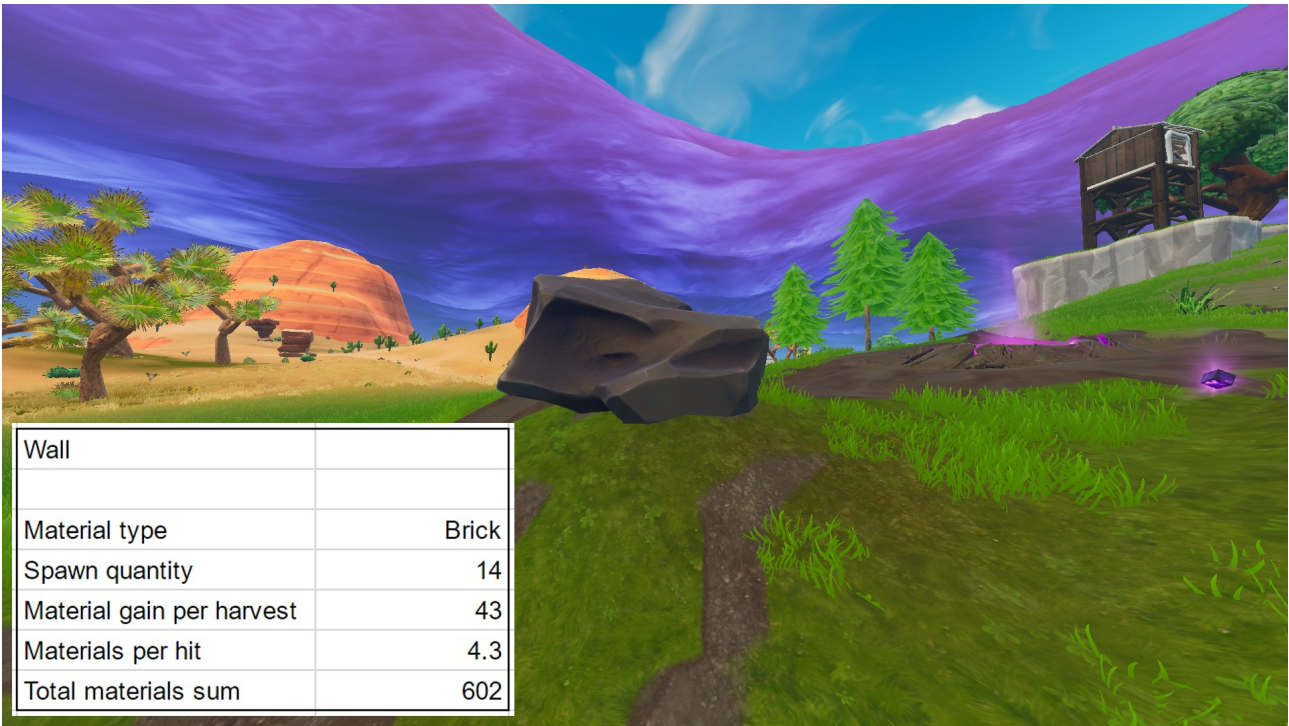
Since there are few desert trees, a team would be required to find some other sources of wood. Some cacti can be located just west of the Racetrack, and they can be harvested whilst rotating for the first circle. The materials per hit is slightly lower compared to the desert trees, but these cacti are located very close to some rifts & shadow stones, which are very important for a fast rotation.

5.4 Brick Walls



Brick is the most scarce resource at Racetracks. There are many sources of brick in this area, however, they all have a very low material per hit ratio, making it very time consuming to acquire a lot of brick. The walls shown above offer the highest materials per hit at approximately 3.3. They are located around the south and west buildings, and can provide 550 materials if all are harvested.

5.5 Shadow Rocks



If more brick is required, another option is to harvest the shadow rocks south of retail. These have an improved MPH ratio when compared to the walls, but they are located in a fairly dangerous area and one may be contested whilst harvesting.

Chapter 6

First Circle Rotation



Due to Racetracks being located in a non-centric location, in some games, the first circle will punish players by spawning very far away. Fortunately, this problem was made less significant with the recent glider re-deploy mechanic, which generally allows for faster rotations. Alongside this, there are a few rifts & shadow stones located nearby.

The image above shows the distance which can be covered by said rifts & shadow stones, and also, a "worst case scenario" first circle has been plotted as a black ring. The image clearly shows that the shadow stones are more effective, and it's possible to enter any first circle if the stones by Retail are utilized efficiently. However, using these shadow stones is a more dangerous play, as they are located to a fairly populated drop, Retail.

Chapter 7

Strategy



Now that various information has been covered regarding this location, a strategy may be formed. The image above is the approach I would take to farming this area.

1. We begin in the eastern building for a few reasons. One of these reasons is that this is the least centric position on the map, so starting here allows one to naturally rotate a small amount as they clear the area. This building will also provide some chests & floor loot to get some early weapons, and provides cover if opposing teams drop here.
2. After the eastern building has been cleared, head slightly south-west to a collection of trees and tyres, to farm some early materials. Here you can farm up to 200 wood and 300 metal depending on how long is spent gathering.

3. The stand at point 3 can be looted very quickly, and should help fill some of the item gaps from point 1.
4. Following this, head north-east to the chest spawn on the race tracks. Here, you can farm up to max metal if desired, as well as the remaining 100-200 wood in this area. the rotation from point 3 to 4 does involve backtracking which is slightly inefficient, however, using the mechanic mentioned in chapter 4, this inefficiency will be of little significance due to the fast rotations.
5. Once sufficient metal is harvested, check the western building for more shields and weapons. This building has the highest number of floor/chest spawns in this area, and can provide a few extra materials through destroying random objects.
6. Finally head west and harvest all the cacti in the surrounding area. When completed, you should have 600 wood, a few hundred brick as well as max metal. The next step depends on the location of the first circle. If the circle spawns away from Racetrack, one can use rifts or shadow stones. If the circle covers Racetrack, one may head slightly north to collect max wood.

Bibliography

- [1] Fortnite Patch 6.22 Notes
<https://www.epicgames.com/fortnite/en-US/patch-notes/v6-22>
- [2] Fortnite database
<https://db.fortnitetracker.com/loot/floor>