# LumiRank Methodology

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# **Tournament Tiering System**

## **Tournament Scoring**

The Tournament Tiering System (TTS) is a system utilized to determine the weight of each event and break them down into a letter tiered system. This point value is determined by 3 factors:

- The amount of entrants
- The regional entrant multiplier
- The number of players with specific point values, earned through prior ranking seasons or strong tournament placings

This section will break down tournament tiering in its entirety.

## **Tournament Tier Definitions**

The TTS defines events into lettered tiers to categorize the importance of events. These tiers create thresholds for the following.

- Placements which grant players qualification for the ranking
- Placements which grant players TTS values for tournaments they enter

Below are the defined tiers, with the top of the list being the most important tier.

Tier	Event Type	Point Threshold
Р	Premier	9000
S+	Supermajor+	6500
S	Supermajor	5000
A+	Major+	4000
Α	Major	3000
B+	National / Submajor	2000

Tier	Event Type	Point Threshold
В	Superregional	1000
С	Regional	500
D	Notable	Qualification (see below)

## **Tournament Qualifications**

# THE FOLLOWING REGION CHANGES BELOW WILL BE IN EFFECT FOR THE 2024.2 SEASON

The entire world is split into various regions, usually grouped by interlocking activity and geographical divisions. Regions are split into groups that designate a score multiplier on the total number of entrants at an event and the thresholds needed for qualification; these groups are usually designated by their entrant multiplier. The purpose of multipliers is to help smaller regions qualify for D tier events and for their larger events to potentially hit C tier/B tier.

## **Entrant Multipliers**

## x2 Multiplier

x2 multipliers are assigned to regions that have not hosted an event in the past two years that exceeds 3000 points (A tier) with a x1 multiplier, excluding out of superregion talent. Superregions are defined below.

Superregion		
North America	United States, Canada, Mexico	
Central America	See Regional Divisions Below	
Caribbean	See Regional Divisions Below	
South America	Bolivarian North, Brazil, Southern Cone	
Europe	See Regional Divisions Below	
Japan	See Regional Divisions Below	
Asia	East Asia, Southeast Asia, South Asia	
Oceania	See Regional Divisions Below	
Middle East	See Regional Divisions Below	
Africa	North Africa, Sub-Saharan Africa	

x2 C Tier Clause:

If a region is able to hold an A tier event but is shown to otherwise continuously fail to hold anything above C tier without a x2 multiplier, the region will keep the x2 multiplier.

Regions currently under the x2 C Tier Clause:

- Austria
- Northwest Mexico

Region	Latest x2 Gatekeeping Event	MM/YY	Seasons
Austria*	VCA Vienna Challengers Arena 2022	11/22	4
British Columbia	Battle of BC 6	03/24	1
Central Mexico	S Factor 11	07/24	1
Chūbu (中部)	UltCore Third	06/24	1
Florida	Cirque du CFL 3	03/24	1
France	King Con 2023	02/24	1
Great Basin	Crown the Third	06/23	3
Great Lakes West	The Big House 10	10/22	4
Kansai (関西)	Sumabato SP 48	06/24	1
Kantō (関東)	KAGARIBI#12	05/24	1
Kyūshū (九州)	KOWLOON 5	04/23	3
MDVA	Super Smash Con 2023	08/23	2
NorCal	GENESIS X	02/24	1
Northwest Mexico*	Delfino Maza 2023	08/23	2
Ontario	Get On My Level X	05/24	1
Pacific Northwest	Port Priority 8	11/23	2
SoCal	Mainstage 2022	12/22	4
Texas	Rise N Grind 2022	10/23	2
Tristate	Collision 2024	03/24	1

#### x3 Multiplier

x3 multipliers are assigned to regions that have not hosted an event in the past two years that exceeds 1000 points (B tier) with a x2 multiplier, excluding out of superregion talent.

#### x3 C Tier Clause:

If a region is able to hold an B tier event but is shown to otherwise continuously fail to hold anything above C tier without a x3 multiplier, the region will keep the x3 multiplier.

Regions currently under the x3 C Tier Clause:

- Chile
- Denmark
- India
- Italy
- Norway
- Tōhoku (東北)

Region	Latest x3 Gatekeeping Event	MM/YY	Seasons
Baja California	PSKSHOWDOWN #07	04/24	1
Carolinas	Patchwork 2024	07/24	1
Chile*	Zenkoku Taikai 2	08/23	2
Chūgoku (中国)	ITSUKUSHIMA#3	03/24	1
Denmark*	Valhalla IV	02/24	1
Dominican Republic	Claro Gaming 2023	11/23	2
Germany	NRW Cup - Rise of Germany	04/24	1
Great Lakes East	COST 2024	06/24	1
Heartland South	Gateway Legends 2023	05/23	3
Hokkaidō (北海道)	Kyokkan#5	04/24	1
I/G Southeast	Santa Paws	12/23	2
India*	The Versus Festival	05/24	1
Italy*	ICARUS 2023	06/23	3
Netherlands	Olympus	03/24	1
New England	CT Gamercon 7	04/24	1
New South Wales	Floating Point	08/23	2
Northeast Mexico	ULL - Laguna Championship 2024	04/24	1
Norway*	Smashborg Winter Seasonal 2024	01/24	1

Puerto Rico	First Attack 2022	10/23	4
Quebec	Battle of Z x UMAD	07/23	3
South Australia	Big Cheese 3	10/22	4
Spain	Tech Republic VII	11/23	2
Tōhoku (東北)*	LEADD+2	03/24	1
United Kingdom	Invasion 2024	04/24	1
Victoria	Battle Arena Melbourne 13	06/23	3
West Mexico	Ultimajac Strikers	06/24	1

#### Minimum Entrant Requirements

For a tournament to qualify, it must meet either the minimum entrant count <u>or</u> the minimum point threshold as listed in the table below. In addition, in order to qualify via the point minimum, at least two point-valued players must be in attendance.

Entrant Multiplier	Entrant Minimum	Point Minimum
x1	64	250
x2	48	200
x3	32	200

DQs are generally *not* counted towards entrant counts, but LumiRank reserves the right to take DQs into account if doing so would have a significant impact on the tournament's value.

#### **Excluded Tournaments**

The following tournaments are excluded from LumiRank consideration. This list is not comprehensive.

- Tournaments that occur on a weekly or biweekly basis
- Arcadians
  - An arcadian is defined as a tournament where a group of players is barred from participating based on either their presence on an existing ranking or success at other recent events.
- Premajor locals
  - A premajor local is defined as a tournament that takes place earlier in the same week as a larger tournament in the same metro area, where over 80% of the players in attendance are also attending the larger tournament.

- If the smaller tournament is tiered at a major level (3000 points or more), and it is tiered at most one tier below the larger tournament, it is exempt from the prelocal clause and will be counted.
- If the smaller tournament is part of a tournament series wherein previous entries in the series have largely not fallen under any of the Excluded Tournaments clauses (including the prelocal clause), then the smaller tournament is exempt from the prelocal clause and will be counted.
- Tournaments with uncompetitive rulesets
- Tournaments whose TOs have reached out to LumiRank before the start of the tournament to request that the tournament be excluded

LumiRank reserves the right to include or exclude tournaments according to their own judgement, separate from stated guidelines.

## **Regional Divisions & Multipliers**

Below are the regional divisions defined by LumiRank. Note: New USA map will go in effect immediately in the beginning of the 2024.2 season (July 16th).

**United States** 



Multiplier	Regions
x1	Florida, Great Basin, Great Lakes West, MD/VA, NorCal, Pacific Northwest,

	SoCal, Texas, Tristate
x2	Carolinas, Georgia, Great Lakes East, Heartland South, I/G Southeast, New England
x3	Alaska, Hawaii, Louisiana, Heartlands North, Mid-South, Rocky Mountains, Southwest, Upstate NY

Canada



Multiplier	Regions
x1	British Columbia, Southern Ontario
x2	Quebec
x3	Alberta, Atlantic Canada, Manitoba, North Canada, Northern Ontario, Sasketchewan

## Mexico



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Multiplier	Regions
x1	Central Mexico
x2	Baja California, Northeast Mexico, Northwest Mexico, West Mexico
x3	East Mexico, North Central Mexico, South Mexico, Yucatan Peninsula

## Europe

Note that Northern Ireland is considered a part of the Ireland region instead of the United Kingdom region, and is inaccurately represented here due to MapChart limitations.



Multiplier	Region	
x1	France	
x2	Austria, Germany, Netherlands, Spain, United Kingdom (excl. Northern Ireland)	
x3	Belgium, Cyprus, Denmark, Finland, Greece, Iceland, Italy*, Ireland (incl. Northern Ireland), Luxembourg, Norway, Poland, Portugal, Russia, Southeast Europe, Sweden, Switzerland, Turkey, Ukraine	

Japan



MultiplierRegionx1Chūbu (中部), Kansai (関西), Kantō (関東), Kyūshū (九州)x2Chūgoku (中国), Hokkaidō (北海道)x3Hokuriku (北陸), Okinawa (沖縄), Shikoku (四国), Tōhoku (東北)

## Oceania



Multiplier	Region	
x2	New South Wales, South Australia, Victoria	
x3	A.C.T., New Zealand, Northern Territories, Queensland, Tasmania, West Australia	



**Central America** 

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Multiplier	Regions
x3	Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama

**Bolivarian North** 



Multiplier	Region
x3	Bolivia, Colombia, Ecuador, Peru, Venezuela, Other

Southern Cone



Multiplier	Region
x3	Argentina, Chile, Paraguay, Uruguay





Multiplier	Region
x3	Central-West Brazil, North Brazil, Northeast Brazil, South Brazil, Southeast Brazil

## Middle East



Multiplier	Region	
x3	Bahrain, Israel, Lebanon, Saudi Arabia, Kuwait, Qatar, United Arab Emirates	

## East Asia

![](_page_16_Figure_1.jpeg)

Constant with respect to an	
Multiplier	Region
x3	China, Hong Kong, South Korea, Taiwan, Other

Southeast Asia

![](_page_16_Picture_4.jpeg)

Multiplier	Region	
x3	Indonesia, Malaysia, Philippines, Singapore, Thailand, Vietnam	

## South Asia

![](_page_17_Figure_1.jpeg)

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Multiplier	Region	
x3	India, Other	

North Africa

![](_page_17_Picture_4.jpeg)

#### Sub-Saharan Africa

![](_page_18_Figure_1.jpeg)

Multiplier	Region
x3	Madagascar, Reunion, South Africa

## **Player Point Values**

The other component of a tournament's total score is player values, which usually make up the bulk of a tournament's value. Players are assigned values through different means. If a player has been assigned multiple values, the highest value is used.

If a player that is worth points DQs from an event, their points are not counted. Partial DQs and DQs late into bracket are treated on a case-by-case basis.

#### **Ranking Value**

A player can obtain a value by making top 150 on the previous iteration of the rankings, with these values changing every season. The top 20 have the highest point value, so these players' attendance are important for a tournament if it wants to achieve major status. The values for each rank are shown on the table below:

Rank	Value
1–5	350

6–10	300
11–15	250
16–20	200
21–25	150
26–30	140
31–35	130
35–40	120
41–50	110
51–60	100
61–70	90
71–80	80
81–90	70
91–100	60
101–150	50

## Hidden Boss 1

Historically, Hidden Boss 1 values were for players who were notable but not necessarily active, and players who would have been ranked in the previous season but did not make the attendance threshold. Going forward in the second half of 2023 and beyond, historically relevant players will no longer be included. Hidden Boss 1 values will be assigned to players who would have made the top 150 in the prior season but did not meet the attendance requirements. They will be assigned a value based on where they would have been ranked.

## Hidden Boss 2 & High Major Placement

Hidden Boss 2 values are awarded to players who have achieved notable placements in the current season and the former season. These values are determined by placings at C tier tournaments and above. The table below indicates the points designated for achieving a given placing at a specific tier of tournament.

Hidden Boss 2 values apply for all tournaments in the half-year season they are acquired in, including past tournaments in the season, as well as in the subsequent season, after which they expire.

Tier	Р	S+	S	A+	Α	B+	В	С	D
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Hidden Boss Values									
1st	250	200	200	150	150	100	50	30	N/A
2nd	200	150	150	100	100	50	30		
3rd	200	150	150	100	100	50	30		
4th	200	150	150	100	100	50	30		
5th	150	100	100	50	50	30			
7th	150	100	100	50	50	30			
9th	100	50	50						
13th	100	50	50						
17th	50								
25th	50								

High Major Placement is the term for Hidden Boss 2 values of 150 and above; other than being a special distinction, they are identical in function to Hidden Boss 2 values.

LumiRank discretion will be made for tournaments with irregular placing numbers that fall within point value bounds, e.g. Ludwig Smash Invitational.

## **Regional Rankings**

Regionally ranked players receive point values based on their place on the local power ranking. These values are to help smaller regions' tournaments gain point value in accordance with the tournaments' local importance. The top 5 players from a region's power ranking qualify for point values and are replaced upon release of a subsequent power ranking. Other methods may be used if a particular region does not have a power ranking or the ranking is extremely outdated.

Particularly strong or active regions within a superregion are assigned the status of "Region Seat". Regionally ranked players from Region Seats are worth more than regionally ranked players in non-Region Seat areas. Region seats are based on regional rankings. These will be updated when new region rankings are published.

- USA and Japan regions will have their top 5 players averaged by rank in the top 200. If the average is above 100, they gain a region seat.
- European regions will have their top 5 players averaged by rank in the top 100. If the average is above 50, they gain a region seat.
- Canada / Mexico / Caribbean / Central America will be based on if their regions have multiple players in the Top 200 NA
- Other regions will be based on their players in the top spots in their unpublished regional rankings.

Note that due to how power rankings are laid out geographically, ranking regions may not align exactly with LumiRank's regional distribution.

Superregion	Region Seat(s)
United States	Florida Georgia Great Lakes East Great Lakes West Heartland South New England SoCal Texas Tristate
Canada	British Columbia Quebec Southern Ontario
Mexico	CDMX Monterrey Tijuana
Europe	France Germany Netherlands Spain United Kingdom
Japan	Chūbu (中部) Chūgoku (中国) Kansai (関西) Kantō (関東)
Oceania	Victoria
Caribbean	Dominican Republic
Central America	El Salvador Guatemala Honduras
South America (Bolivian North)	Peru Venezuela
South America (Southern Cone)	Brazil Chile
Middle East	Saudi Arabia United Arab Emirates
East Asia	Guangzhou

	South Korea
Southeast Asia	Philippines

Region Seats		Other Regions		
Rank	Value	Rank	Value	
1	50	1	50	
2	50	2	40	
3	50	3	30	
4	50	4	20	
5	50	5	10	

In addition, Brazil has their top 10 qualify for points due to the size of their country and a lack of subnational rankings like in countries such as Canada and China. Points are spread so that 1st and 2nd are worth the points of 1st on the 5-player distribution, 3rd and 4th are worth the points of 2nd, etc.

## Invitational Bonuses

The top 30 receive point bonuses at invitationals, as high-profile invitationals have tended to be undervalued in the past due to the inherent lack of attendance and depth. These values are in addition to whatever point value a player may already have.

Rank	Value
1–5	200
6–10	150
11–15	100
16–20	50
21–30	25

## Steve-Banned Events

For the time being, Steve-banned events are included on the TTS and will be included in any LumiRank calculations. The following caveats apply:

• Steve players do not contribute points to Steve-banned events.

• Steve players will not have their score affected by participating in Steve-banned events.

Otherwise, Steve-banned events are treated as any other event.

LumiRank reserves the right to nullify these caveats on a case-by-case basis in response to a Steve player's strong performance at Steve-banned events, and also reserves the right to instate alternative policies for the 2024 season and beyond.

Tournaments with bans on characters that are not Steve will not be counted for LumiRank.

## **Retroactive Retiering**

About once a month, all prior events of the current season will be retiered in accordance with any newly acquired HB2 values. The purpose of retroactive retiering is to prevent early season events from being outpaced by later season events due to the accumulation over time of new HB2 values. If an event crosses a tier threshold, then player qualification and HB2 values will be recalculated to match the new tier.

Other values, such as power ranking-based values, are calculated in accordance with the released power ranking at the time of the tournament. Thus, a new power ranking release will not affect the value of a previously held tournament.

Events will not be retiered based on the results and point values of following seasons. An event's value at the end of its season is fixed from that point onward.

## **Tournament Tiering Examples**

Example 1

A 64-person tournament is held in Alaska.

Total entrant points: 64 \* 3 = 192Total player points: 0 Total points: 192 + 0 = 192

Example 2

A 200-person tournament is held in New South Wales, and all of their PR players attend.

Total entrant points: 200 \* 2 = 400Total player points: 50 + 40 + 30 + 20 + 10 = 150Total points: 400 + 150 = 550 Example 3

A 8-person invitational is held in France, and the top 8 players on the previous global ranking are invited.

Total entrant points: 8 \* 1 = 8Total player points: 350 + 350 + 350 + 350 + 350 + 300 + 300 = 2650Total invitational bonus points: 200 + 200 + 200 + 200 + 200 + 150 + 150 = 1450Total points: 8 + 2650 + 1450 = 4108

Example 4

A 24-person event is held in Tohoku. All of Tohoku's PR players attend, as well as a player ranked in the 41-50 range on the last global ranking.

Total entrant points: 24 \* 3 = 72Total player points: 50 + 40 + 30 + 20 + 10 + 110 = 260Total points: 72 + 260 = 332

Note that even though this event did not meet the entrant requirement for qualification, it passed the point minimum requirement and has more than 2 point-valued players. Therefore, it qualifies for LumiRank.

## **Player Placement Qualification**

For a player to qualify to be ranked, they must meet the following placement thresholds at their respective tiered tournaments.

Tier	Placement
Р	Тор 128
S+	Тор 96
S	Top 64
A+	Тор 48
Α	Тор 32
B+	Тор 16
В	Тор 8
С	Top 4
D	Top 2

# Algorithm

For each tournament a qualified player attends, a tournament score is generated based on a weighted average of their win score, loss score, and positive and negative outplacement scores. A weighted average of all tournaments is then done to generate an overall score for the player, which is then scaled such that the #1 player has a score of 100 and the #50 player has a score of 50. This score is then iterated and the calculations re-ran until a finalized score for each player is obtained.

## Wins

Wins are the foundational part of the algorithm; in addition to being used directly to determine the win score for each tournament, they're also used as a component in determining the other scores. How much a win on some is worth is based on their score, with higher scores being worth increasingly more than smaller scores; for example, a win on a player with a score of 50 is worth significantly more than twice that of a player with a score of 25, and a win with a score of 100 (ie the #1 player) is worth far more than a win on a player with a score of 50. How much a win is worth is further adjusted for volatility (described below) and repeat matchups, with an individual win on someone you've played a lot worth less than a win on someone you've only played once. New to the full year 2023 version of the algorithm, wins are now adjusted based on your overall win-rate against a player, meaning a win on someone you're, for example, 1-3 against adds less to your win score than a win on someone you're 3-1 against. Also new in the full year version of the algorithm, players with consistent losses to players well below them now have reduced gains from wins. Lastly, wins now receive additional weight at a player's best events and reduced weight at their worst events.

#### Losses

Losses function fairly similarly to wins but are somewhat more complicated. For starters, loss scores are capped based on the loser's score; it's not any more informative for a sub top 100 player to lose to a low top 20 player than it is for them to lose to a top 5 player, for example. Losing to a player one has many losses to lowers the overall weight of loss scores at that event. Loss scores are tilted towards the worst loss a player has at an event, meaning that if you lose to a top 20 player and a player ranked around 80th, the loss to the second player will form a larger component of the score. If a player wins a tournament, a set value is added to their loss score based on how stacked the event was, with a larger value added if they won without dropping a set. The loss score will be lowered somewhat for players with dramatically better losses than they have wins. Losses receive a lower weight for players with a lower score, and a higher weight for players with a higher score. Compared to the mid-year version of the algorithm, losses have lower direct weight in the full year version of the algorithm, but now have a more direct role in determining the overall weight an event gets for a player, detailed in the "Weighting" section.

## Volatility

Competitive Ultimate players exist on a continuum between two extremes: players who can beat anyone and lose to anyone, and gatekeepers who get gatekept themselves, rarely losing to players ranked well below them but rarely upsetting players above them. We consider upsetting someone who never gets upset to be more impressive than upsetting someone who gets upset frequently, and simultaneously an upset to be less surprising if it's by a player who has a history of them; as such, given a similar score between two players, a win on a less volatile player is slightly more valuable, while it's slightly better to lose to a highly volatile player than to a less volatile one. Volatility is calculated based on the difference between the average score of a player's 90th percentile and above qualified wins, and the average score of their 10th percentile and below losses.

#### Outplacements

Outplacements come in two flavors: positive outplacements (who you outplace at an event) and negative outplacements (who you're outplaced by). Positive outplacements receive a substantially greater weight. Both types are based on the number of losers bracket rounds at an event, meaning if you outplaced someone and you placed 9th, you'll get more for outplacing them if they placed 25th than if they placed 13th. Positive outplacements are scaled based on the best wins a player receives at an event, such that a high placement with few good wins will generate a lower outplacement score than a lower placement with very strong wins. Placement scores may be lowered further if an event has dramatically worse wins than their score would indicate. Placement scores are weighted higher for players lower on the ranking and lower for players higher on it.

## Weighting

After the score of a particular bracket run has been determined based on the above components, the next step is determining the weight it receives in the overall score for the player. This is the most complex part of the algorithm, with many different factors in play:

- Base weight. This is determined by a simple average of the event's value on the tournament tier system and a live-calculated value that accounts for the algorithm's calculated scores for all qualified players in attendance (meaning that players like Eik, who were not worth any points on the TTS for 2023 despite the algorithm giving them a relatively high score, still added to the weight for any events they attended.
- A combination of a player's overall weighted attendance and where the event ranks among the player's best and worst bracket runs of the season. Higher weighted attendance places higher weight on their peaks, while lower weighted attendance places higher weight on their weaker performances.
- Whether or not a player had anything to gain from the event. If a player wins an event with no sets dropped and yet it still falls below their average score, then its weight is reduced and the score is set to the average score excluding the event\* (and others in the same category). If they did not do this, but the event still would have fallen below

their average score if they had done so, then the weight of the event is significantly reduced. This is to avoid punishing top players for attending small regionals.

- \*This is mathematically different from removing the event from the average as the event still adds to their attendance, increasing the weight of their best events.
   This is new for the 2024.1 version of the algorithm; previous versions simply removed such events from the average.
- If the event is an outlier event for the player in either direction, being either several times better for them than their next best event or several times worse than their next worst event. These events have their weight reduced, unless the event is an outlier peak and the player attended no other events of a similar size (to avoid punishing players whose ability to travel was limited).
- New in the full year 2023 version of the algorithm, events now have their weight heavily
  reduced if a player's losses were dramatically better than their wins. This has the effect
  of deweighting both events where a player coasted to a high placement due to DQs and
  upsets and promptly lost to highly ranked players, as well as events where a bad bracket
  meant a player went out very early in losers to highly ranked players with little
  opportunity to beat anyone.

## Low attendance penalties

In order to avoid over-rewarding players with very low attendance (particularly at majors), low attendance players' ranking scores are lowered, with the required attendance to avoid penalties increasing with score. This penalty only affects the score used for ranking players, and does not affect the value of head to heads against them. Honorable mentions are players who, at the end of a season, fall below the required threshold of attendance; they may or may not also have low attendance penalties. End of the year regional rankings have a substantially lower attendance requirement, and players who failed to meet attendance for the main ranking have an average of their ranking score and algorithm score used to determine their placement on the regional ranking. Players who only attended one tournament during a season are ineligible for honorable mention status or inclusion on regional rankings.