

# Open Data 360 Frames Specification

## v1.0.0

[StatsBomb API - last updated 17 November 2021]

This document describes the JSON format for StatsBomb's open 360 data.

### Summary of Changes for v1.0.0

- Created 360 Frames API

### Format

The response will be in JSON format. The response is an array of 360 Frame objects, which have the following structure:

Variable	Variable Type	Variable Description
event_uuid	UUID	The unique identifier for the event matching this freeze frame.
visible_area	Array	An array of coordinates describing the polygon visible to the camera, from which the 360 freeze frame was collected. This shape makes it explicit which areas were visible. Player locations may be outside the visible area where these were manually placed. The format of the array is: $[X_1 Y_1 X_2 Y_2 \dots X_n Y_n X_1 Y_1]$ , describing a closed loop around the visible area of the pitch. The visible area can also be empty where the camera was not on the pitch at the time the frame was collected.
freeze_frame	Array	Like shots, this is an array of freeze frame objects, similar to those described in the Events API spec. However these freeze frames will not contain player identification, beyond their team (except for the player performing the current event who will be marked as the actor).

Freeze frame objects have the following structure:

Variable	Type	Notes
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location	array [x,y]	The position of the player on the field, with coordinates oriented in the same direction as the linked event (i.e. the actor's team attacking 0 to 120 on the X axis.
teammate	boolean	Indicates the player plays on the same team as the 'actor' in this event.
actor	boolean	Indicates the current player is the same as the one performing the associated event.
keeper	boolean	Indicates this player is a keeper.

This is a trivial sample of 360 data showing an event with two visible players:

```
[ {
  "event_uuid": "97a8f158-6d73-42c8-a49c-6cd186b3a106",
  "visible_area": [37, 80, 25, 0, 60, 0, 42, 80, 37, 80],
  "freeze_frame": [
    {
      "location": [ 104.2, 54.0 ],
      "teammate": true,
      "actor": true,
      "keeper": false
    },
    {
      "location": [ 104.2, 54.0 ],
      "teammate": false,
      "actor": false,
      "keeper": true
    }
  ]
}]
```

## Notes

StatsBomb 360 data is currently collected, for the most part, from broadcast video. This means there are some caveats to working with the data:

- Not all 22 players will be visible in the frame.
- The visible\_area attribute will not be available for every frame.
- Not all events in the match will receive a 360 frame.
- Some events will lack a player marked with the 'actor' attribute.

- The 'keeper' attribute will, in some rare cases, refer to the keeper on the same team as the 'actor', without being marked as a 'teammate'.

*[End of Document]*