



Best Scanning Practices for Commercial Real Estate

OVERVIEW

When scanning a Commercial Real Estate (CRE) Space you want to consider what the scan will be used for when planning out your scan process.

Customers will market a space with our scans for potential tenants to evaluate the space and determine if it is right for their business and use case. Potential tenants will use the scan to evaluate the dimensions of the space, and how they can build it out to suit their needs and evaluate the common areas and their functionality for their needs.

For these reasons it is important to collect accurate data through the scanning process for a correct representation and evaluation of the space

Types of Commercial Spaces

It is important to understand the different types of spaces you will encounter while working with CRE. Spaces can be broken down into 2 basic categories.

1. Office Space
2. Retail Space

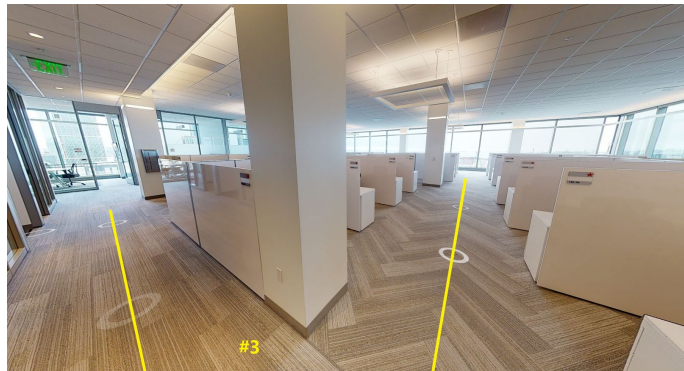
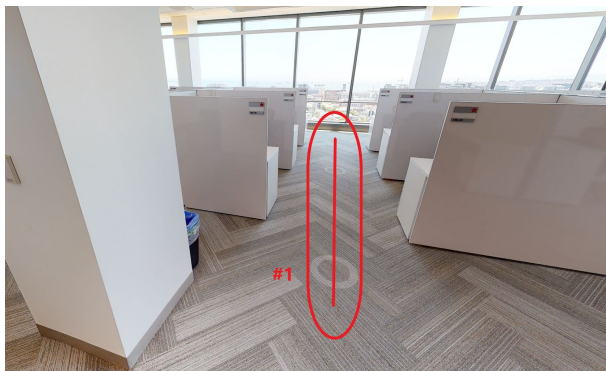
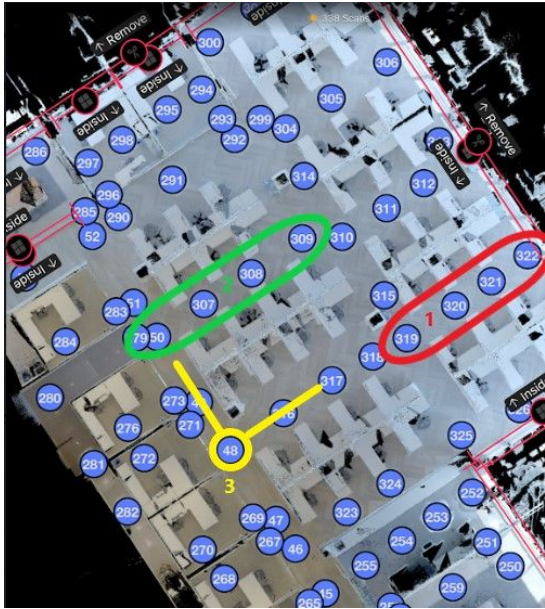
Office Space Scan Positions

Office spaces can vary in size (anywhere from 1,000 - 50,000 sqft spaces), shape, and density. We want to make sure to include as much detail as possible in the scan so that the customer can use each model to extract as much data from the space as possible. The more detailed coverage we have of each space, the easier it is to get accurate results from our tools such as the Measurement tool, that will be used to plan the layout of the space. There are usually a number of different types of spaces inside of a commercial office space.

We will go over the best practices for each type of space here.

Workstations/Desks/Cubes

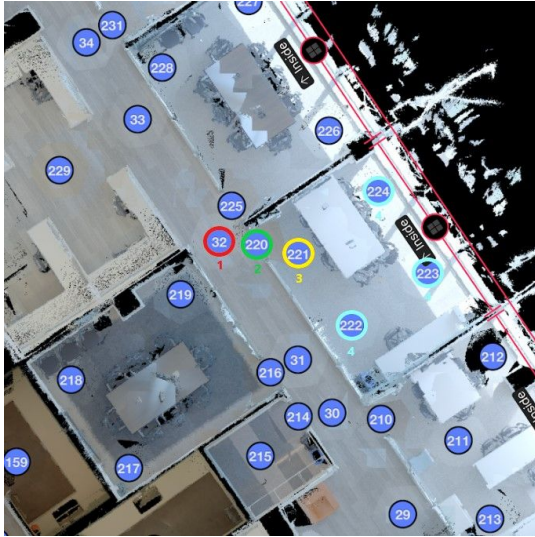
1. Keep scan patterns linear and as straight as possible when navigating through rows of desks.
2. Keep scans equidistant from one another, as well as desks and workstations when moving through these areas. This will give a clean path of travel through the space for viewers.
3. Where 2 walkways intersect, make sure there is a scan at that point, this will allow a smooth transition between aisles when **navigating** the space.



Conference rooms/offices

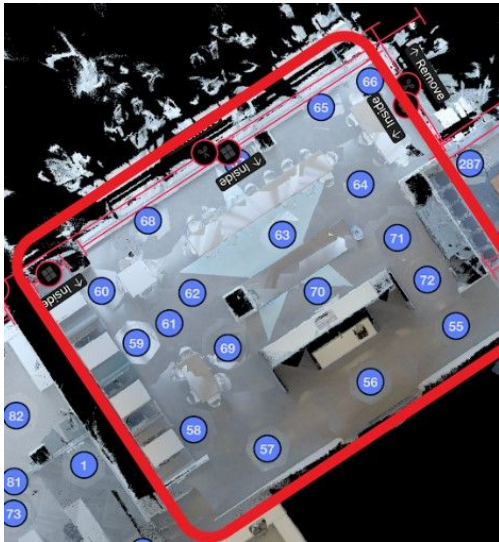
When scanning any small to medium size rooms, it is best practice to include scans in positions that provide a view with as much of the space as possible. Make sure you navigate around furniture and obstacles with the camera to capture all of the space and **leave little to no black empty spaces** in the capture. This will eliminate black spots in the dollhouse view of the space.

1. To enter any room you need to make sure that there is a reference point scan outside of the door to each office/conference room. This will allow for transition in and out of each room.
2. First **scan should be in the doorway of the room. The camera should be placed directly in the middle of the doorway equidistant to each side of the door frame.**
3. The next scan should be inside the room in a direct line of sight to the scan that was done in the door jam.
4. Work your way around the room and its features with the camera to capture as much detail as possible.



Common Areas: kitchen/cafeteria/breakrooms/coffee rooms

This is usually a high point of interest for potential tenants, as they are the most high traffic areas in the space. Highlight all features of the common areas and make it easy for the customer to see all of the amenities.



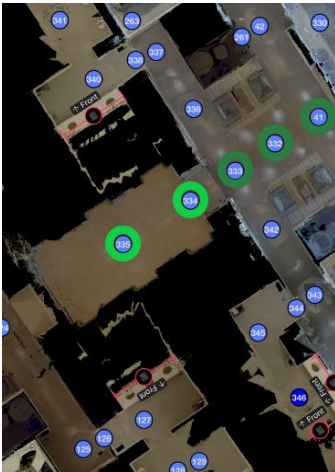
Windows & Views

1. Place the camera in front of a clean unobstructed window. Make sure the view is not obstructed by a window frame or furniture in the office
2. Scan notable views from the suite that may be presentable for the customer
3. Take window shots from all available points in the office. If there is access. It is important to capture as many window shots as possible, make sure to capture window shots from all offices, conference rooms, workstation areas, cafeterias, and break rooms.



Entrance/Lobby

1. When possible capture path from elevator to office/lobby
2. Scan the walking path through the lobby, making sure that the scans capture the walls and shape of the room. If needed take a scan closer to the wall so that a defined shape is visible in the model.



Scanning Specifics

1. Corners of Rooms

Scans in corners of rooms provide good vantage points from which you can see the entire room in a single snapshot. This also allows photos to be generated that feature dramatic angles in the final composition.

Corners of rooms provide the best possible vantage points from which to scan for both 3D tours and 2D snapshots. For the best possible lighting, It is best practice to **scan corners which are on the opposite side to the windows.**



2. Edges of Rooms

Scans positioned at the edge of the room also provide good vantage points to view the entire space. Resulting photos from this viewpoint will have symmetrical composition.

When scanning at the edge of the room to assist in producing 2D snapshots from the 3D model, It is best practice to place the camera in the middle of the wall. This is a good position to capture a symmetrical snapshot.

Distance From Walls

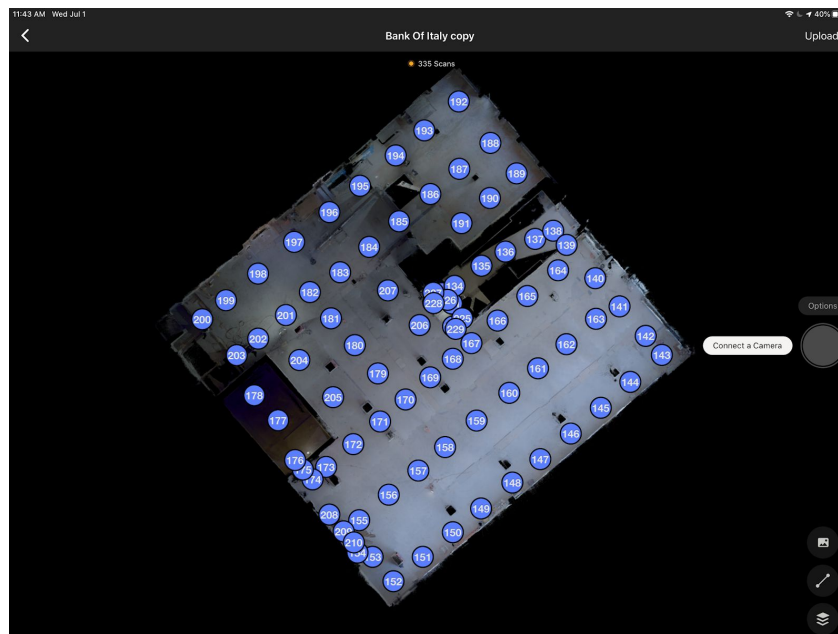
1. 60 cm (24 in) From Walls

When scanning in the corners or at the edges of a room, It is best practice that your camera remains 60 cm (24 in) from any wall. This is so the scan looks good in the 3D model (is not directly next to a wall), and it also provides a lot of depth for your 2D snapshot.

Doorways to rooms often provide the best vantage points for the 2D snapshot generated through the 3D model. When scanning near a doorway you can often move the camera nearer to the perimeter of the room while remaining more than 60 cm (24 in) from any wall.

Scan Positions in Open / Empty / Shell Spaces

When scanning open / empty / shell spaces (where the office has no furniture or is in construction phase), it is best practice to position scans in linear and keep the scan positions equidistant from each other. Keeping the scans organized and detailed will help you make the model easy to navigate, as well as provide the most detail possible for the space.



Shooting a Complete Scan and Filling in the “Dark Empty” Space

When arriving on site for a large commercial space, it can be overwhelming at times. Things will look very repetitive, and all of the furniture can look the same. You will naturally want to try and move through the space as quickly as you can, but you must make sure that you do not sacrifice the integrity of the scan for the sake of moving quickly.

The biggest problem areas in commercial spaces are in offices, conference rooms, and repetitive desking or cubes. You need to make sure that you are creating a complete scan that can be seen as complete not just in the first person view in the scan, but in the dollhouse view of the space.

The photos below illustrate this issue. You can see in the first photo that the photographer just took a scan of each office/conference room from the doorway, and never completed scanning the entire office/conference room. The view from the first person view in the model will be the same, but the dollhouse and floor plan views will be incomplete and will not give an accurate depiction of the space. You must make sure to complete scans in each room and make sure that you can see the shape of the room and all furniture in the capture app. Take as many scans as needed to get rid of all of the dark empty spaces.

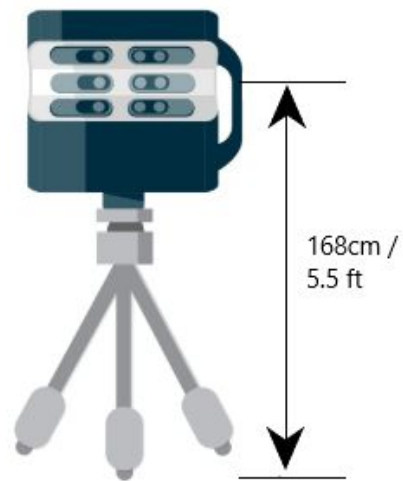




Camera Height For Scans

Standard Height for All Scans

If you would like to scan the entire property at a standard height, we recommend setting the tripod so the height of the camera is 5 ft 6 in or 168 cm (from lens to ground). This height often provides views above furniture and equipment to give good vantage points of the entire office while offering details visuals of the space around each scan



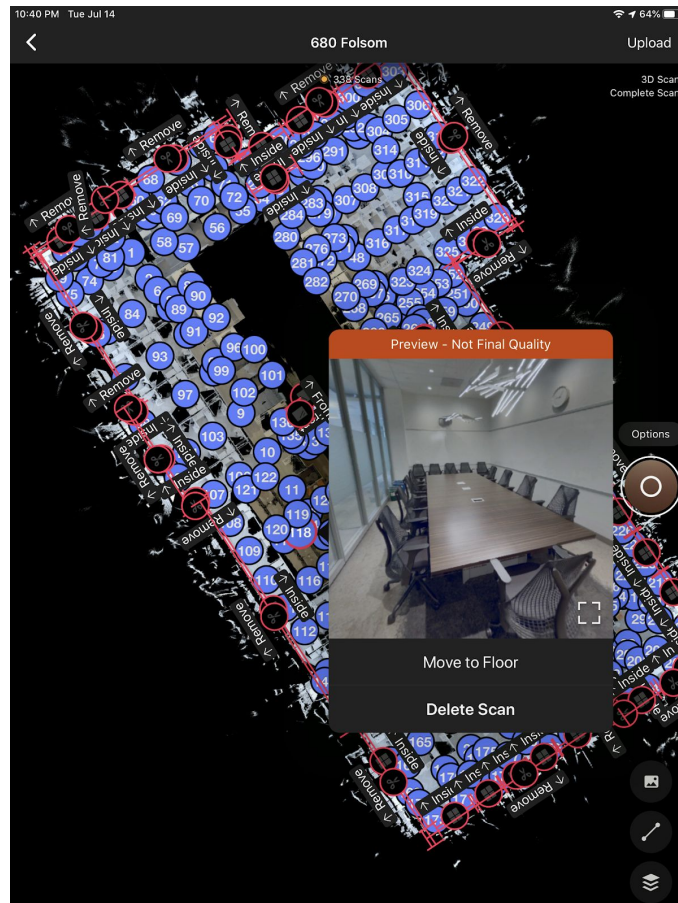
Preview Scans

Why Preview Scans and How To Do It

When scanning for the purpose of creating snapshots, you can use the **Preview Scan** feature in the Matterport Capture App to check whether the height and position of the camera will produce a good snapshot.

If you preview a scan that does not appear to provide a good vantage point from which to capture a snapshot, you can adjust the height and position of the camera and create a new scan.

You can find a guide on how to preview a scan. [Learn more.](#)



Mirrors, Windows & Trim Marks

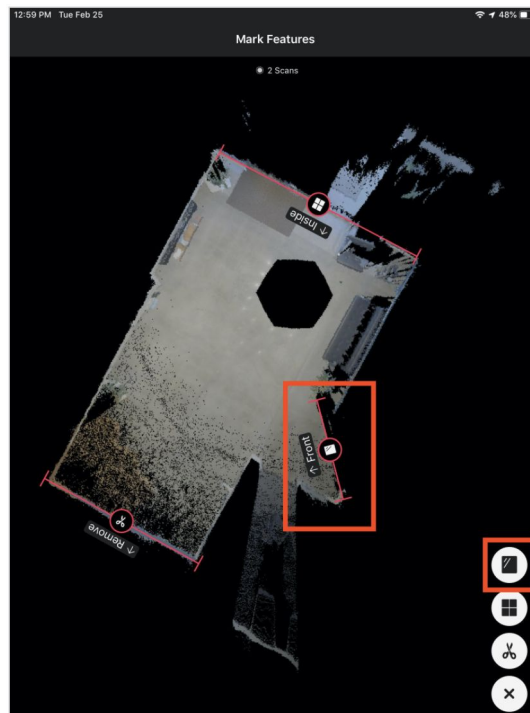
Marking windows, mirrors and trim in a model are a critical part of creating an immersive user experience. Marking features after every scan taken in Capture can reduce alignment issues and vastly improve the quality of the finished Matterport model. Taking these actions will result in a clean and well-defined 3D model in Dollhouse view.

Marking Mirrors

The Matterport camera cannot see or define a mirror (or any reflective surface) the way humans can. Because of this, when the camera processes a reflection, it believes there is a room on the other side of the mirror. This can lead to major alignment issues when scanning.

When a mirror is marked in the Capture app, the app is told to ignore what it sees in the mirror. It is best to immediately mark mirrors as soon as the camera can see them.

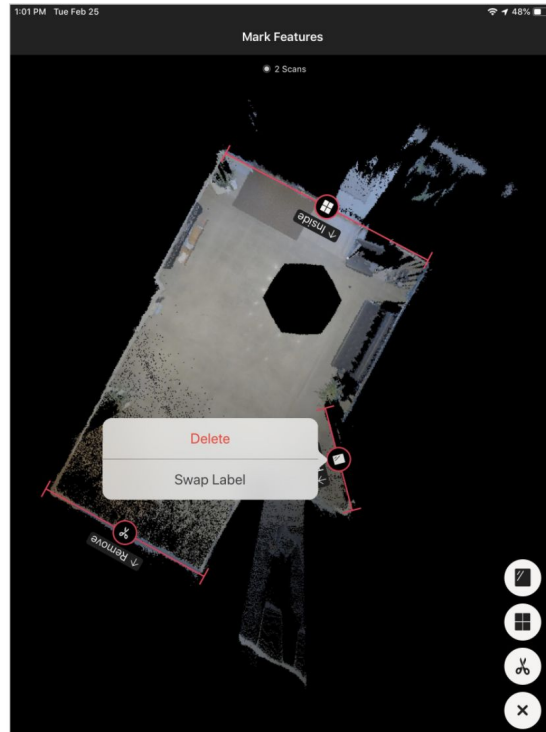
1. Tap the “Mark Features” icon (bottom-right) in Matterport Capture app.
2. Tap the “Mirror” icon.



3. In the preview pane, tap one end of the mirror and drag the line to the other end of the mirror.
4. Release your finger from the screen to stop the marking.
5. Aim the “Front” label toward the inside of the room.
 - a. To change the orientation, tap the “mirror” icon in the middle of the marking and select “Swap Label.”

App Controls for Marking Mirrors

- Delete A Mirror Marking
 - Tap the “Mirror” icon in the middle of the marking line and select “Delete” in the pop-up window.



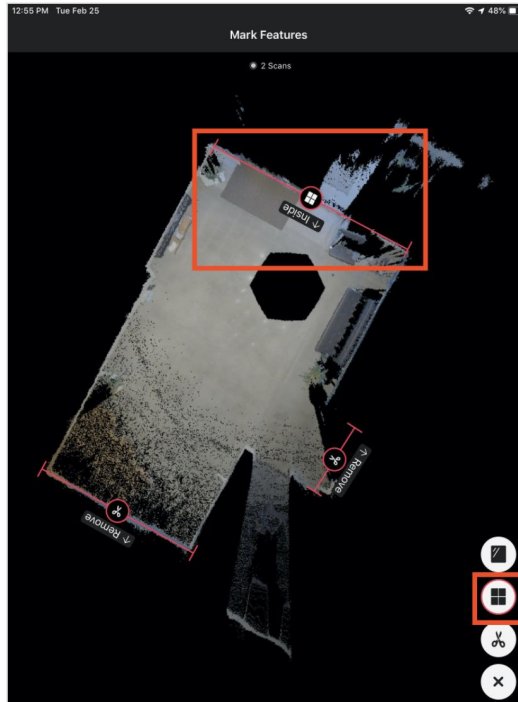
- **Extend Or Rotate A Marking**
 - Tap and drag on the endpoint of the marking line. Move outwards to extend and up or down to rotate
- **Move The Entire Marking**
 - Tap and drag on the “Mirror” icon in the middle of the marking.

Marking Windows

The Matterport camera cannot interpret windows the same way as humans can and will attempt to collect 3D data from the other side of the window.

When a window is marked, the Matterport Capture app is told to ignore what it sees outside (grass, trees, neighboring properties, parked cars, etc.).

1. Tap the “Mark Features” icon (bottom-right) in Matterport Capture app.
2. Tap the “Windows” icon.



3. Tap on one end of the window and drag to the other end of the window.
4. Release your finger from the screen to stop marking.
5. Aim the “Inside” label toward the inside of the room.
 - a. To change the orientation, tap the “Mirror” icon in the middle of the marking and select “Swap Label.”

App Controls for Marking Windows

- Delete A Window Marking
 - Tap the “Window” icon in the middle of the marking line and select “Delete” in the pop-up window.
- Extend Or Rotate A Marking
 - Tap and drag on the endpoint of the marking line. Move outwards to extend and up or down to rotate
- Move The Entire Marking
 - Tap and drag on the “Window” icon in the middle of the marking.

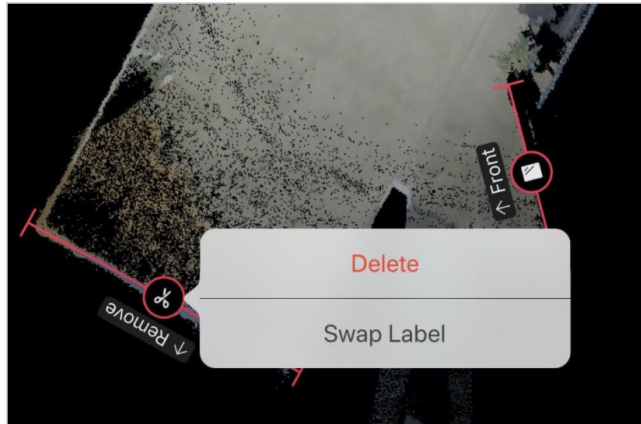
Marking Trim

The trim tool can eliminate unwanted 3D depth data, similar to the way cropping eliminates unwanted areas in 2D images. The trim tool can remove unwanted objects, artifacting lines and jagged edges.

Any 3D data that exists outside of trim markings will not appear in the Dollhouse or Floor Plan views.

1. Tap the “Mark Features” icon (bottom-right) in Matterport Capture.
2. Tap the “Trim” icon.

3. Create a trim mark along the wall with the capture data that needs removal.
 - a. The “Remove” label should be pointed toward the *3D data that needs removal*. To change the orientation of the label, tap the “Trim” icon in the middle of the trim marking and select “Swap Label.”



App Controls for Marking Trim

- Delete A Trim Marking
 - Tap the “Trim” icon in the middle of the marking line and select “Delete” in the pop-up window.
- Extend Or Rotate A Marking
 - Tap and drag on the endpoint of the marking line. Move outwards to extend and up or down to rotate
- Move The Entire Marking
 - Tap and drag on the “Trim” icon in the middle of the marking.

Tips for Marking Windows, Mirrors and Trim Tool

- Place the marking on the wall or slightly outside of the wall when marking windows or mirrors.
- Extend your marking line.
 - We recommend making your marking line slightly longer than the actual window or mirror on your minimap without covering any doors or hallways.
- Group multiple mirrors or windows into one.
 - If a single wall contains multiple windows or mirrors, make one long marking that covers them all in a single marking.
- Ensure that no trim markings intersect with any scan points. If removing 3D data beyond a certain wall, trim just outside and not directly on the wall.

Amenities / Exterior 360 Views - Best Practices Guide

Where to Position the Camera for Exterior Views?

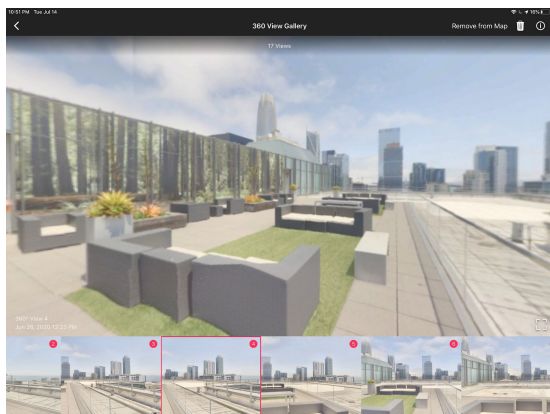
1. You want to set the space with one 3d scan. The camera and software will process 1 3D scan. You will not be able to upload a Matterport model with only 360° Views...they MUST be attached with at least one 3D Scan.
2. Once you have done 1 3D scan of the space, switch the camera to “360 View” and take 20+ 360 scans of the space. Be sure to take 360° Views of various vantage points and points of interest in the amenity space, to show a variety.
3. Once you are done capturing the 360 views, and BEFORE you upload your model, access the 360 views at the bottom right corner of the capture app and select each photo and click “pin to Map” in the upper right corner of the iPad screen.
4. Once you have “pin to Map” all 360 views you are ready to upload the space.

How to Avoid Sun Flares

Sun flares can be caused when the camera is facing towards the sun. Sun flares cause rings or circles to appear and will also affect the image's colour.

You can Avoid sun flares by checking the 360 views of the exterior using the Preview Scan feature described in the ‘Preview Scan’ section of this guide. Lens flares can be caused by the position of the camera or even its height. If a lens flare appears, you can adjust the position and height of the camera and create a new 360 view.

Example:



Matterport Capture App



Resulting Snapshot

Recommendations and Preparation

Remove For Sale Signs, Sensitive Information, and Unsightly Objects

Before you arrive on site, Matterport will ask the client to clean and straighten the property in the way they want it presented before the Capture Tech arrives on site. If something small is missed however it is best practice to remove or hide potentially private/sensitive or otherwise unsightly objects from view before beginning to scan.

Onsite Checklist - please print and bring this onsite during Commercial jobs

Best Practices Checklist

- Remove For Sale Signs (if required) and sensitive objects (if property is very unclean or has not been prepared, then the capture can take place without intervention)
- Have a “plan of attack” for your scan process to capture efficiently
- Set tripod height to 5ft 6in (168 cm)
- Preview a scan after you capture it if needed
- Place the camera in **corners, doorways, and edges** of all rooms
- Avoid direct sunlight on the camera’s lenses
- When in doubt, take an extra scan! You can always disable a scan but missing a scan may be costly
- Review the completed scan on the ipad and inspect to make sure that you have detailed all offices, conference rooms, common areas, and work areas. If you see any spaces that need to be addressed, go back and complete the scanning of those spaces
- Make sure that you have filled in all of the dark “empty” space
- Mark any windows or mirrors that were captured during the scan
- Trim the perimeter of the model before uploading