CLAIMS

1. A target used for calibration, comprising:

a panel having a first plurality of fiducial markers arranged on the panel in a first pattern and a second plurality of fiducial markers arranged on the panel in a second pattern,

wherein the first pattern is a scaled version of the second pattern, such that a calibration image captured of the target simulates multiple images of a single pattern captured at multiple calibration perspectives, and

wherein fiducial markers of the first plurality of fiducial markers have a different shape than fiducial markers of the second plurality of fiducial markers.

2. The target of claim 1, wherein the first pattern is a first rectangular pattern,

wherein the second pattern is a second rectangular pattern, and

wherein the first rectangular pattern is scaled such that the first rectangular pattern has larger horizontal and vertical dimensions than the second rectangular pattern.

3. The target of claim 1, wherein each fiducial marker of at least a portion of the first and second pluralities of fiducial markers comprises a plurality of distinct regions, and

wherein the plurality of distinct regions comprises two or more of: a first region having a crosshair that indicates a center of the fiducial marker, a second region having an angular barcode that uniquely identifies the fiducial marker within a calibration image taken of the fiducial marker, a third region that identifies a boundary of the fiducial marker, and a fourth region having a human-readable label that uniquely identifies the fiducial marker within the calibration image taken of the fiducial marker.

4. The target of claim 1, wherein each fiducial marker of at least a portion of the first and second pluralities of fiducial markers is circular in shape and comprises a plurality of distinct regions,

wherein the plurality of distinct regions comprises a first region having a crosshair that indicates a center of the fiducial marker, a second region having an angular barcode that uniquely identifies the fiducial marker within a calibration image taken of the fiducial marker, and a third region that identifies a boundary of the fiducial marker,

wherein the first region is circular in shape and approximately centered at a center of the fiducial marker,

wherein the second region is annular in shape and is positioned adjacent to a perimeter of the first region, and

wherein the third region is annular in shape and is positioned adjacent to a perimeter of the second region.

5. The target of claim 1, wherein the panel is the only panel the target comprises.

6. The target of claim 1, wherein the panel further comprises a panel-identification fiducial marker that uniquely identifies the target.

7. The target of claim 1, wherein the panel-identification fiducial marker is disposed in a corner of the panel.

8. A method, comprising:

recording a calibration image of a target using a camera, wherein the target comprises a single panel having a first plurality of fiducial markers arranged on the single panel in a first pattern and a second plurality of fiducial markers arranged on the single panel in a second pattern; wherein each of the fiducial markers in the first and second pluralities of fiducial markers is uniquely identifiable among the first and second pluralities of fiducial markers; and wherein fiducial markers of the first plurality of fiducial markers have a different shape than fiducial markers of the second plurality of fiducial markers;

determining locations and identifications of the first and second pluralities of fiducial markers in the calibration image; and

based on the determined locations and identifications, calibrating the camera.

9. The method of claim 8, further comprising:

rotating the camera relative to the target and recording an additional calibration image; and

determining locations and identifications of one or more of the first and second pluralities of fiducial markers in the additional calibration image.

10. The method of claim 9, wherein rotating the camera relative to the target comprises rotating the camera about a roll axis of the camera.

11. The method of claim 8, further comprising:

moving the camera and recording an additional calibration image; and

determining locations and identifications of one or more of the first and second pluralities of fiducial markers in the additional calibration image.

12. The method of claim 8, wherein the first pattern is a first rectangular pattern,

wherein the second pattern is a second rectangular pattern, and

wherein the first rectangular pattern is scaled such that the first rectangular pattern has larger horizontal and vertical dimensions than the second rectangular pattern.

13. The method of claim 8, wherein each fiducial marker of at least a portion of the first and second pluralities of fiducial markers comprises a plurality of distinct regions, and

wherein the plurality of distinct regions comprises two or more of: a first region having a crosshair that indicates a center of the fiducial marker, a second region having an angular barcode that uniquely identifies the fiducial marker within a calibration image taken of the fiducial marker, a third region that identifies a boundary of the fiducial marker, and a fourth region having a human-readable label that uniquely identifies the fiducial marker within the calibration image taken of the fiducial marker.

14. The method of claim 8, wherein each fiducial marker of at least a portion of the first and second pluralities of fiducial markers is circular in shape and comprises a plurality of distinct regions,

wherein the plurality of distinct regions comprises a first region having a crosshair that indicates a center of the fiducial marker, a second region having an angular barcode that uniquely identifies the fiducial marker within a calibration image taken of the fiducial marker, and a third region that identifies a boundary of the fiducial marker,

wherein the first region is circular in shape and approximately centered at a center of the fiducial marker,

wherein the second region is annular in shape and is positioned adjacent to a perimeter of the first region, and

wherein the third region is annular in shape and is positioned adjacent to a perimeter of the second region.

15. A system used for calibrating a camera, comprising:

a target comprising a panel having a first plurality of fiducial markers arranged on the panel in a first pattern and a second plurality of fiducial markers arranged on the panel in a second pattern, wherein the first pattern is a scaled version of the second pattern, such that a calibration image captured of the target simulates multiple images of a single pattern captured at multiple calibration perspectives, and wherein fiducial markers of the first plurality of fiducial markers have a different shape than fiducial markers of the second plurality of fiducial markers; and

a stage configured to translate or rotate the camera with respect to the target.

16. The system of claim 15, wherein the first pattern is a first rectangular pattern,

wherein the second pattern is a second rectangular pattern, and

wherein the first rectangular pattern is scaled such that the first rectangular pattern has larger horizontal and vertical dimensions than the second rectangular pattern.

17. The system of claim 15, wherein each fiducial marker of at least a portion of the first and second pluralities of fiducial markers comprises a plurality of distinct regions, and

wherein the plurality of distinct regions comprises two or more of: a first region having a crosshair that indicates a center of the fiducial marker, a second region having an angular barcode that uniquely identifies the fiducial marker within a calibration image taken of the fiducial marker, a third region that identifies a boundary of the fiducial marker, and a fourth region having a human-readable label that uniquely identifies the fiducial marker within the calibration image taken of the fiducial marker.

18. The system of claim 15, wherein each fiducial marker of at least a portion of the first and second pluralities of fiducial markers is circular in shape and comprises a plurality of distinct regions,

wherein the plurality of distinct regions comprises a first region having a crosshair that indicates a center of the fiducial marker, a second region having an angular barcode that uniquely identifies the fiducial marker within a calibration image taken of the fiducial marker, and a third region that identifies a boundary of the fiducial marker,

wherein the first region is circular in shape and approximately centered at a center of the fiducial marker,

wherein the second region is annular in shape and is positioned adjacent to a perimeter of the first region, and

wherein the third region is annular in shape and is positioned adjacent to a perimeter of the second region.

19. The system of claim 15, wherein the panel is the only panel the target comprises.

20. The system of claim 15, wherein the panel further comprises a panel-identification fiducial marker that uniquely identifies the target.