The invention claimed is:

1. A computer-implemented method for generating spectra for characterizing re-sampling operations that have been performed on a scene within a video sequence and having a given display resolution, the method comprising:

performing a transform operation on a color component associated with a first frame included in the scene to generate a first frame spectrum;

normalizing a plurality of magnitudes associated with the first frame spectrum to generate a normalized first frame spectrum;

performing at least one operation on the normalized first frame spectrum to generate a first log-magnitude frame spectrum;

computing a native resolution associated with the scene based on the first log-magnitude frame spectrum, wherein the native resolution corresponds to at least one sampling operation performed on the scene.

2. The method of claim 1, wherein the transform operation comprises a Discrete Fourier Transform.

3. The method of claim 1, further comprising detecting and removing one or more black bars included in the video sequence to generate the scene.

4. The method of claim 1, wherein the color component comprises one of a Y component, a Cb component, and a Cr component.

5. The method of claim 1, further comprising: generating a second log-magnitude frame spectrum associated with a second frame including in the scene; and averaging the first log-magnitude frame spectrum and the second log-magnitude frame spectrum to generate a first log-magnitude scene spectrum.

6. The method of claim 1, further comprising performing one or more pattern recognition operations on the first log-magnitude frame spectrum to determine a lowest resolution at which the first frame has been previously stored.

7. The method of claim 5, further comprising performing one or more pattern recognition operations on the first log-magnitude scene spectrum to characterize an up-sampling technique implemented when generating the first frame.

8. The method of claim 1, further comprising mapping each of the values included in the first log-magnitude frame spectrum to a range of gray-scale values to generate a first gray-scale log-magnitude frame spectrum.

9. A non-transitory computer-readable storage medium including instructions that, when executed by a processor, cause the processor to perform the steps of:

performing a transform operation on a color component associated with a first frame included in a scene to generate a first frame spectrum;

performing at least one operation on a plurality of magnitudes associated with the first frame spectrum to generate a first log-magnitude frame spectrum;

generating a second log-magnitude frame spectrum associated with a second frame including in the scene;

averaging the first log-magnitude frame spectrum and the second log-magnitude frame spectrum to generate a log-magnitude scene spectrum;

computing a native resolution associated with the scene based on the log-magnitude scene spectrum, wherein the native resolution corresponds to at least one sampling operation performed on the scene.

10. The computer-readable storage medium of claim 9, wherein the transform operation comprises a Fast Fourier Transform.

11. The computer-readable storage medium of claim 9, further comprising partitioning the video sequence into one or more scenes that include the scene.

12. The computer-readable storage medium of claim 9, wherein the color component comprises one of an R component, a G component, and a B component.

13. The computer-readable storage medium of claim 9, wherein performing the at least one operation on the plurality of magnitudes comprises:

normalizing the plurality of magnitudes to generate a normalized first frame spectrum; and logarithmically scaling the normalized first frame spectrum.

14. The computer-readable storage medium of claim 9, further comprising performing one or more pattern recognition operations on the log-magnitude scene spectrum to determine a lowest resolution at which the scene has been previously stored.

15. The computer-readable storage medium of claim 9, further comprising mapping each of

the values included in the log-magnitude scene spectrum to a range of gray-scale values to generate a gray-scale log-magnitude scene spectrum.

16. The computer-readable storage medium of claim 15, wherein the range of gray-scale values comprises the values zero through 255 inclusive, and further comprising displaying the gray-scale log-magnitude scene spectrum to facilitate identifying a pattern that is characteristic of an up-sampling technique implemented when generating the first scene.

17. A system configured to generate spectra for characterizing up-sampling operations that have been performed on a scene within a video sequence, the system comprising:

a memory storing a native resolution analyzer; and a processor coupled to the memory, wherein, when executed by the processor, the native resolution analyzer configures the processor to:

perform a transform operation on a color component associated with a first frame included in the scene to generate a first frame spectrum, discard a plurality of phases associated with the first frame spectrum and retain a plurality of magnitudes associated with the first frame spectrum, normalize the plurality of magnitudes to generate a normalized first frame spectrum, and logarithmically scale the normalized first frame spectrum to generate a first log-magnitude frame spectrum.

18. The system of claim 17, wherein the transform operation comprises one of a Discrete Fourier Transform and a Fast Fourier Transform.

19. The system of claim 17, wherein the color component comprises one of a Y component, a Cb component, a Cr component, an R component, a G component, and a B component.

20. The system of claim 17, wherein the native resolution analyzer further configures the processor to:

generate a second log-magnitude frame spectrum associated with a second frame including in the scene, and average the first log-magnitude frame spectrum and the second log-magnitude frame spectrum to generate a first log-magnitude scene spectrum.