Best Known Method: Line/Space Roughness Measurement Data Collection

Averaging	Averaging is your friend when measuring roughness. You want many features per image, and many images to average together. Counting all the features in all the images that will be averaged together, it is best to have a minimum of 100 features, but greater than 400 is preferred.
Image Size	At least 512 x 512 pixels, but 1024 X 1024 (or similar) is preferred; 2048 X 2048 is great.
Feature Length	Line length in each image of about 1.5 - 2.5 microns, though minimum line length depends on the correlation length. For correlation lengths less than 10 nm, a 1 micron line length can be sufficient.
X pixel size	X pixel size of 2-3% of the feature size (for example, for 40 nm lines/space pattern, use about 1 nm x-pixel size)
X pixel size trade-offs	Larger x-pixel size allows more features per image; smaller pixel size gives better edge measurement resolution.
Y pixel size	Y pixel size of 2 - 4 nm (if rectangular pixels is an option); use 4 nm y-pixel for 512X512 images, 2nm y-pixel for 1024x1024 images. Rectangular pixels tend to produce more image field distortion, so if enough pixels are available a square pixel could be better.
Y pixel size trade-offs	Larger y-pixel size allows longer lines, making $PSD(0)$ determination better; smaller pixel size allows better measurement of image noise.
Number of image repeats	At least 10 and ideally 50 images or more (512 x 512 equivalent)
Image file type	Uncompressed images such as TIFF
Important note	For 512X512 images, careful consideration of pixel size and number of images to average is required. For 1024X1024 images or larger, a wider range of settings can give good results.
Example ideal settings	For an EUV process and 18nm line/space patterns, use a 1024x1024 image with 0.8 nm square pixels, or a 2048x2048 image with 0.5 nm square pixels.