

Large-scale Digital Imaging

Calculating “normal” viewing distance

NormalViewingDistance = diagonal of image * 1.5

NormalViewingDistance = (square root of (width*width) + (height*height)) * 1.5

Example: 8"x10" image:

NormalViewingDistance = (square root of (8*8) + (10*10)) * 1.5

NormalViewingDistance = (square root of 164) * 1.5

NormalViewingDistance = (12.8) * 1.5

NormalViewingDistance = 19.2"

Calculating maximum resolvable PPI based on viewing distance

MaxResolvablePPI = 3437 / ViewingDistanceInInches

Example: 8"x10" image:

MaxResolvablePPI = 3437 / ViewingDistanceInInches

MaxResolvablePPI = 3437 / 19.2

MaxResolvablePPI = 179 PPI

That is, at a viewing distance of 19.2", any PPI > 179, we just can't see.

Example: 30"x40" image:

First, do calculations to get normal viewing distance as described above.

ViewingDistanceInInches = 50"

Then...

MaxResolvablePPI = 3437 / ViewingDistanceInInches

MaxResolvablePPI = 3437 / 50

MaxResolvablePPI = 69 PPI