A quick analogy.
Suppose we were working in grayscale and I was rendering  a small
selection of a 2D grayscale image as a 3D surface. I would only want
the 3D surface to contain black troughs & white peaks if the image
selection contained black & white pixels. What I want is for the peak
to be of the same intensity as the brightest pixel in the image and the
trough the same intensity as the lowest.