

A short introduction to relight tool

[by Jacek Gózdź]

NOTE 1: *I am not a part of Lightcrafts. All information here are only my personal opinions and findings, not supported or certified by this company. I created this paper for my own purposes and made public for other Lightzone users without intention to violate any copyrights. Please do not use this material against me or Lightcrafts. Keep in mind that information here may turn out to be incomplete or false.*

NOTE 2: *I do not own a windows/mac version of Lightzone, and my trial period is out, therefore all images are checked. This is not a problem with your monitor or software limitation.*

NOTE 3: *I created this paper only because there is a big demand for information about this tool, and a big lack of official tutorial. Keep in mind that quality of information here may be low (still I did what I could).*

NOTE 4: *Please forgive my English, I could write all of this in Polish without any mistakes, but tried to make it more usefull for others. You can always find me at Lightzone forum and tell about all errors. You can even write your own tutorial, much better than this one.*

A general introduction:

Relight is an extremely useful tool that helps getting the contrast and general tonality of the image right. It is capable to brighten the shadows without significant noise enhancement, and darken highlights to get all the details there back, therefore it is the weapon of choice if user deals with very high contrast scenes. It preserves pure white and pure black what results in increased contrast and higher amount of details. Seems that relight works on luminosity channel, using some kind of blurring to get everything right, therefore, on some settings, there are halos around big shadow areas or strong edges. To be absolutely honest this effect is visible only with some extreme settings and can not be considered as any drawback. Quality of this algorithm is really high.

There is a lot to learn but my basic findings are that first two sliders („shadows“ and „highlights“) should be used together or accompanied by „details“ to keep contrast right. „details“ give extra contrast that is lost when „shadows“ or „highlights“ are used. The last two sliders („depth“ and „fuzz“) give control over details and their influence is subtle.

Enough talking, time to show how things work. I attach a set of images that shows how things look if maximum and minimum values are used. When I write about slider X and change its value, it means that the rest of the sliders is at its default settings all the time.

[Shadows] slider brightens all of the image. It may be a bit scary to see that highlights getting overexposed, but this does not happen. It is true that histogram is shifted but I saw that all values are getting to second or third brightest zone, not the pure white. It means that some data that is nearly white got a bit darker. This algorithm destroys contrast and I suggest using it only in combination with „highlights“ (a good starting point for beginners is to move both of the sliders the same direction, this will keep image more or less balanced). Below there are three images. First one shows default settings, left minimum shadows, right maximum shadows (so minimum, and maximum possible values of the slider).



default



shadows min



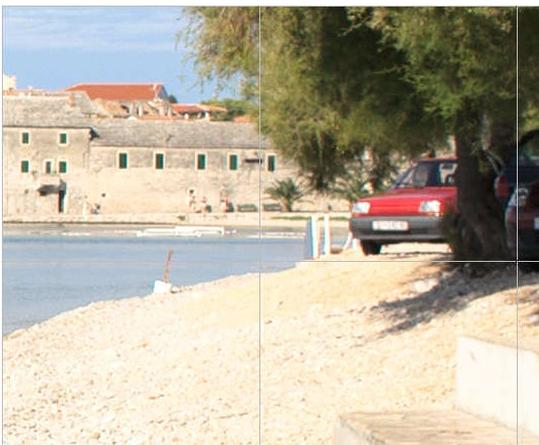
shadows max

[Highlights] should be a total opposite to „shadows“ but I can not resist the feeling that they are not. They seems to leave dark and unsaturated shadows alone and do their job in highlights and midtones, while „shadows“ are affecting whole image. Watch shadow under the tree to see what I mean.

„Highlights“ do not affect pure white, so if something is heavily overexposed it does not change into grey. That's a big advantage. Just remember that slider works opposite to „shadows“ (so moving right darkens, not brightens). Generally if you want to brighten shadows and darken highlights (decrease contrast and get some details back) move both sliders to the right.



default



highlights min



highlights max

[Detail] is helpfull to fix errors made by two previous sliders. If you encounter bad looking edges, lack of contrast and details, halos around some areas (usually shadows), or if you generally want to increase contrast – use „detail“. Combine it with „shadows“ and „highlights“ to make the image look good. Those three sliders are the basis of relight tool.

I found that this kind of contrast is usefull if you like some „hard-looking“ black and white images. According to some information from forum it is some kind of local contrast algorith. To find out more about errors created by relight see „fighting errors“ below.



default



detail min

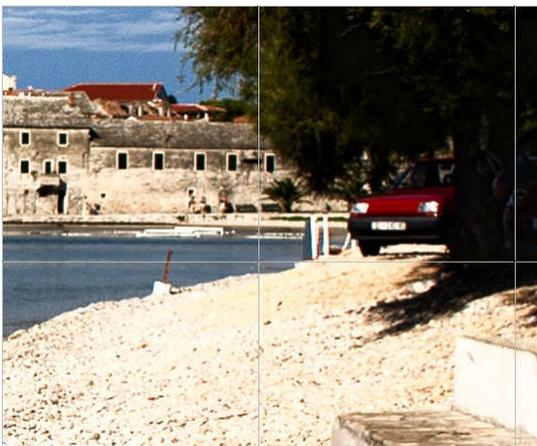


detail max

[Depth] controls details in the shadows. Well I think it works not only on very dark shadows but if that is true I can not see the difference. Actually it is very hard to see any difference in very dark shadows too, so I attach images that have maximum of „detail” applied. Watch the tree and cars in the shadow (next to the ugly white line, I know). Minimum settings brought some details from there. This slider is for very subtle retouch, and as well as another one („fuzz”) gives effect that suggests it blurs the image and overlay the result in a very special way. Watch all edges in dark shadows and see how they are rendered (do it on your own images, I can not attach high quality samples here). The effect is quite similar to old classic ToneMapper.



default



max detail and min depth



max detail and max depth

[Fuzz] is in my opinion second version of „depth“. It gives effect similar to unsharp mask set to multiply mode and radius about 9, but it is much, much weaker and does not sharpen. It may sound a bit funny, but I am serious. Watch how edges are rendered. Watch how small details are getting darker (here you can see the green windows are darken with „fuzz“ set to maximum, more examples in „fighting errors“). Use it for general detail changing (not only in shadows) but watch for possible halos. It can create a very strong ones since it influence the image much stronger than „depth“.



default



fuzz min



fuzz max

Fighting errors

I would like to present how image may be spoiled and how to fight the problem. Watch for unnatural contrast and halos around edges or shadow areas. In my opinion it is created because relight tool works like high radius unsharp mask.

If maximum of „detail” and „fuzz” is used you can see dark shadows and bad looking halo around edges. The halo is created by „fuzz” that works very effectively on dark parts of image (and things here are dark thanks to „detail”). Decrease „detail” to 2.56 or set „fuzz” to minimum to fix the problem.



halos



halos fixed

Another issue is not smooth transition between midtones and shadows when maximum amount of „highlights” is used. Set „detail” to 0.64 and „fuzz” to 0.27 to get rid of it (image still does not look good but what do you expect using extreme settings).



bad halo around shadows



still bad but no halos

And here is combined effect of maximum of „shadows” and maximum of „highlights” and how „detail” set to 1.4 deals with it. Watch the halos and unnatural contrast. It is quite similar to „inverted contrast” that occurs when some zones are brightened to be lighter than originally higher zones.



really bad one



nice