

## Diffusion vs. Softness

This article belongs completely to Ed Shapiro, a professional photographer, who contributed a lot to the art. It is based on the content of a topic of forum. I have to thank Ed for covering this topic. I could not find any place where Ed gathered and published his knowledge, so I decided to extend the audience of the forum where he posted this topic. So here it goes...

### Diffusion vs. Softness

The function of a diffuser on a parabolic studio flash or a portable strobe is to spread the light or in some cases scramble the light thereby creating a little more coverage and a small degree of softening. Although a diffusing device on portable flash units can take a bit of the "edge" off of an image when the unit is placed close to the subject, the softening effect becomes very diminished as soon as you step back for full length poses or views. That is because the distance of the light from the subject and the relative size of the flash unit's reflector to the size of the subject play the most important role in the softness or harshness of the resulting image.

A 16 inch parabolic reflector, with no diffuser brought in very close to the subject and very feathered will appear softer than an umbrella unit with a 36" spread placed at 10 or 15 feet from the subject. When a small diffuser is attached to an on the camera flash there will be some difference in softness, but not enough to write home about. Some of these balloon devices are said to have the light to bouncing all over the place and thereby softening the image - well that is kind of a half truth. Say - your unit, with the balloon thing attached will give you an exposure of f11. If you bounced the same light off the ceiling in an average room, you would need 2 more stops for correct exposure and you would end up at f5.6. That means with the unit directed at the subject and the camera is set at f/11 the film would never see the f/5.6 light that is bouncing all over the place.

When you bounce light off of large flats, umbrellas or within a soft box you are enlarging the light sources in relation to the subject and that is where the softness comes from. In a soft box, the light is reflected off the interior of the soft box and is further diffused by the cloth at the front of the device. As soon as you move any of these units far from the subject and the light source becomes smaller than the subject - all the softness goes away - you might just get a little more spread or coverage from a medium sized soft-box or umbrella.

Just open up any magazine with a car ad and look at the beautiful soft continuous highlight, outlining the shape of the car. If cars are shot in studio the entire ceiling is one giant soft-box with indirect lighting and yards of cloth - oftentimes sail cloth is used. As long as the ceiling is much larger than the car, it will provide continuous soft highlights. Even if one were to use 50 umbrellas coming from the same place, they each (the umbrellas) would become visible as little hot spots on the paint job. Fashion photographers often use very large soft boxes because they want softness over the entire picture area when shooting full length images of models.

Softness in lighting (in portraiture or wedding photography) is best achieved by the use of multiple lights which are properly placed.

None of this should be confused with the use of soft focus prime lenses or accessory diffusion filters placed on the camera lens. Surprisingly enough, soft focus photography is best carried out with slightly harder lighting - that's for another post.

In all cases - the best thing to do is test out any add on device and see for yourself if there is a significant difference. As it turned out for me, my favorite on camera light diffuser/ spreader/ softener/ is a bounce device I made out of a metal wall paper paste spreader - go figure!

Best regards guys.

*Ed Shapiro*