



"My Flash Diffuser Is BIGGER Than Yours" *Six "Secrets" that Expose the Myth of Size*

LET'S FACE IT: "The bigger, the better" mentality extends beyond yachts, mansions and so on. Yes, light modifiers are typically thought of in the same way — the bigger the light source, the softer the shadows. This *is true* in obvious ways. At the same time, it is *false* in ways that are not so obvious.

Based on the idea of "BIG," many commercial flash diffusers and hand-built DIY versions are built big, with the idea that a larger surface will actually produce the most wanted soft lighting. The truth is that even doubling the diffuser size is still, relatively speaking, insufficient for purposes of delivering the desired soft lighting to the subject being photographed. For an on-camera diffuser to NOT produce such harsh shadow, it would need to be large to the point of being unwieldy and impractical.



Examine the illustrations produced by an independent reviewer:

<http://photo-tips-online.com/test/lumiquest-quik-bounce-flash-reflector/>

Notice the correlation between the level of shadow harshness and the varying diffuser (LumiQuest® Quik Bounce) adjustments to throw 100, 60 and 20 percent of the light forward. This clearly demonstrates that even with only 20 percent of the light projected forward and the rest towards the ceiling.

Now observe the three photos taken without a flash diffuser: bounced off the left wall, bounced off the ceiling and bounced off the left corner where the wall and ceiling meet. Each one of these "bounce-only" shots produced studio-like quality without the unpleasant, harsh shadow.



direct flash



bounced from the ceiling



bounced from the left wall



bounced from the left at 45 degrees

Test 1

Camera: HORIZONTAL
Flash Head: STRAIGHT UP



Test 2

Camera: VERTICAL
Flash Head: STRAIGHT UP ON THE LEFT SIDE





Secret #1: The on-camera diffuser alone, regardless of size and design, cannot produce the desired soft lighting. It is the bounced light that does this!

Contrary to common belief, **smaller is better, when it comes to on-camera flash diffusers**. Evidence of this is found in the evolution of the Peter Gregg, A-Better-Bounce-Card (ABBC):

<http://www.abetterbouncecard.com/>

The ABBC's original design was a large white foam sheet. Then a smaller version was introduced at only half the size of the original version. Finally, a version made of a black foam sheet, replacing the original white foam sheet, using only one or two narrow white strips to project the light forward — the majority of the light is projected outward to bounce off walls, ceilings or other nearby objects. This evolutionary design-shift confirms that the majority of the light from the flash needs to be bounced off much larger objects, with only a small amount of forward light needed to lift shadows under the subject's eyes and to provide some catch light.

Original ABBC Regular Size
White Foam Cut To Size



Baby ABBC - inspired by Michael Leslie
White Foam Cut To Size



NEW VERSION!!! - ABBC Feather-Light Landscape Mode
Black Foam Cut To Size - White Reflector Tape Applied



NEW VERSION!!! ABBC Feather-Light Portrait Mode
Black Foam Cut To Size - White Reflector Tape Applied



ABBC PRO using direct front bounce
Black Foam Cut To Size - White Reflector Tape Applied



ABBC PRO bouncing around the room
Black Foam Cut To Size - White Reflector Tape Applied





Secret #2: You need a lot of bounced light and a little fill light to create a well lit, shadow-free image.

Camera manufacturers designed their flash heads to swivel and tilt, so that they can bounce light off ceilings, walls or nearby objects. If you want to bounce light off both a wall and ceiling, at the same instance, you will need some way to split the light output into multiple paths without diffusing or diluting intensity. The best method is the use of mirrors to manipulate the light path, as is done with the PRESSlite VerteX™.

Other popular diffusers on the market today cannot effectively bounce light off ceilings and walls, because there is too much energy loss involved. This is because the moment the light strikes a diffuser, whether it's reflected (like the Joe Demb Flip-it) or transmitted through (like the Gary Fong Lightsphere® or the StoFen Omni-Bounce®), much of its intensity is diminished due to diffusion and dilution. The actual light striking the wall or ceiling needs to be at full strength, concentrated, so that the bounced light will have enough intensity returning to the subject being photographed.



In physics, the inverse-square law explains the relationship between intensity and distance of light. But we won't get into the math or the topic of electromagnetism here. We just want to convey the importance of projecting maximum intensity onto a bounce surface to achieve noticeable benefits.

Secret #3: Bouncing light effectively requires the full energy and intensity of the original light source.

In addition to the energy robbing nature of translucent diffusers, due to the milky-white material, there is another inefficiency about them. They are designed to spew light all around, in the hope of striking a suitable surface (or surfaces) to bounce the light. If the room is small enough, there is little risk of underexposure. Once more distance comes between the camera and the subject or a group of subjects, however, underexposure will become more apparent, as the flash struggles to produce enough power to overcome the loss of intensity caused by the filtering (restricting light passage) effect of the milky-white material.



Secret #4: The flash unit has to work extra hard to push more light through a translucent diffuser to achieve correct exposure.

What if there's absolutely nowhere to bounce the light: no ceiling, no nearby walls, pillars or people standing around wearing white clothes (really)? In this situation, we recommend just going with direct flash, as soft lighting cannot be achieved without the "bounce."

This posting on a photography forum unmistakably demonstrates this phenomenon:

<http://www.talkphotography.co.uk/forums/showpost.php?p=1382030&postcount=17>



"Move & Modify™"

View Single Post

Thread: Flash diffusers - ?

17-03-2009, 14:42

#17

photon

Forum Regular



Join Date: Feb 2008
 Location: $\alpha\lambda\epsilon\sigma\ \iota\epsilon\varrho\ \alpha\upsilon\tau\ \iota$
 Posts: 1,353
 Camera: Koni-Omegaflex
 (well, it's the heaviest)
 iTrader: (1)
[Gallery](#)
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COMPARING THE EFFECTS OF STROBE ACCESSORIES: A TEST

Because the harshest light comes from a camera-mounted strobe, photographers use different accessories to soften the light and reduce dark shadows behind the subject.

The tests to the right compare some of these accessories in controlled settings. The off-camera strobe was located nine feet from the subject.

In a light-colored room, some light bounces off the ceiling, walls, and floor. This extra, scattered light helps soften the shadows when strobe accessories are used indoors.

The outdoors series was shot at night to emulate the effect of a large ballroom or gymnasium with few secondary bounce surfaces. These show strictly the effect of the strobe and the effectiveness of the accessory.

Outdoors at night, of course, there are no walls or ceilings, so all the accessories work less well at softening shadows. The scattered light rays coming from the accessories have few surfaces from which they can bounce. Notice, in the outdoor series, that the shadow behind the model is darker in almost each situation.

Bouncing a strobe off a ceiling creates a wide spot on the ceiling that is a much larger effective light source than the strobe face. The bounced light fills in shadow areas.

Because a large light source produces the softest light, light from a 3'x4' soft box is softer than the light direct from a tiny 2"x3" strobe face.

Photographic umbrellas, whether you are reflecting off them or shooting through them, provide a relatively large light source, depending on their size.

Although smaller devices such as the Onmidome, Lumiquest Bouncers, and Fong Diffusers are not as effective as the larger light sources, many of the smaller items work well indoors—but are they any more effective than a ceiling bounce?

Outdoors at night, with no secondary bounce surfaces, only the larger accessories (like the umbrella and softbox) and the larger effective light sources they create can do much to soften the shadows.

	Indoors	Indoors	Outdoors at Night no reflective surfaces
DIRECT			
CEILING BOUNCE			NO CEILING OUTDOORS
FONG DIFFUSER			
LUMIQUEST			
OMNIDOME			
THROUGH A SOFT BOX			
OFF AN UMBRELLA			
THROUGH AN UMBRELLA			

Photos by Paula Venezia



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Secret #5: If there's no ceiling or wall to bounce light, then use direct flash. There's little to gain from using a diffuser.

Every lighting situation is unique, with its own unique opportunities and pitfalls. One fixed solution for all occasions is not effective.

That's why our motto is "Move & Modify." As the famous psychologist Abraham Maslow once observed, "I suppose it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail."

Secret #6: "Move & Modify" is actually no secret at all. You need to adjust and adapt to the opportunities at hand.



“Move & Modify™”

All these fundamental concepts have been incorporated into the design of the PRESSlite VerteX™. Consider all the options offered by this light modifier, which is truly radically different from all others. The next time you see a flash diffuser that is bigger than yours, you might want to reflect upon this verse:

Think big but go small.

The bigger the diffuser, the harder the shadows fall.



Summary of Secrets:

Secret #1: The on-camera diffuser alone, regardless of size and design, cannot produce the desired soft lighting. It is the bounced light that does this!

Secret #2: You need a lot of bounced light and a little fill light to create a well lit, shadow-free image.

Secret #3: Bouncing light effectively requires the full energy and intensity of the original light source.

Secret #4: The flash unit has to work extra hard to push more light through a translucent diffuser to achieve correct exposure.

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