

Umbrella Lighting

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...

UMBRELLA LIGHTING - The most misunderstood lighting concept in portraiture.

PART 1.

There is a parallel thread pertaining to the use of photographic lighting-umbrellas. I wanted to post there but the thread was ending- lots of replies and a few minor quips - so I decided to start this new thread - NO disrespect to the other articles and posts was or is intended. I had written an article on umbrella usage some time back but I can't find it so I thought some of the following stuff would be somewhat useful to folks who are interested in these seemingly simple yet actually very complex light modifiers that have been associated with commercial and portrait photography for a long time.

First a little history. Some years ago I discovered an antique book on studio photography. There was a photograph of a "well equipped modern portrait studio - circa 1918" equipped with fairly large parabolic lighting units greatly resembling our modern photo-umbrellas. Because these lighting units were probably "fired" by gas, lime light, or possibly very hot "Mazda" lamps, they seemed to be fashioned of metal rather than cloth in the name of fire prevention. Whatever the technical matters were - the umbrella size and shape was there. The caption on the picture mentioned "very natural lighting for the advanced portrait photographer". I guess that even way back then, photographers were "softening" their lights with umbrella styled apparatus.

In the 1950s, when I started out, most portraitists were using parabolic reflectors (flood lighting) with either tungsten lamps and some with electronic flash. Some of the older studios were still using lighting equipment from 20 to 30 years prior to that time. There were neon (linear tubes) lights called Cooper-Hewitts which provided a soft blue light- very good with the type "B" black and white portrait films of the day. Of course there were the good old parabolics- diffused and undiffused, with and without barn doors and snoots, all shapes sizes in every imaginable configuration and the accompanying spot lights for dramatic highlights and theatrical effects. The old masters of photography preferred "wrap-around" lighting where all of these lights would be used in harmony, carefully aimed, adjusted and feathered to form a seamless natural effect.

Meanwhile, back in Hollywood, the Directors of Photography, were theretofore lighting movie scenes almost in the same manner but in on a larger scale- look at some of those beautiful old movies, especially the medium and close-up shots - perfect "portrait lighting" - beautiful rim lights - sparkling hair lights and precisely directed "key lights" sculpting the faces and bringing gorgeous catchlights to the eyes. As lighting techniques progressed and more "shooting" was done on location. A more natural effect was needed as was a more practical way of bringing lights to more cramped locations. Although large flat reflectors were always part of motion picture photography, they were oftentimes too cumbersome. All kinds of umbrellas began to show up on movie sets - some were actually flats, but were built on collapsible umbrella type frames. The advantage of umbrellas was the obvious spreading effect of indirect or bounced light and always having a clean, neutral and portable bounce surface with you.

In the very early sixties, before I went into the service, I met a man named Jerry Johnson who ran a company in New York called PLR - short for Photo-Lectronic-Research. He was building big power supplies for studio flash and was marketing a range of umbrellas to commercial photographers. There were some highly reflective fabrics that were being developed for NASA - for eventual use as space suits - these materials were durable and could reflect back 85% of the light that shined on them. Jerry's clients included photographers like Avadon, Penn and some of the top fashion studios in New York. Some of them called it soft-sharp lighting in that the shiner umbrella fabrics

yielded a crisp lighting yet they had more spread enabling a wider set and tended to look more natural - like hazy sunlight.

The fashion folks were the first group of photographers that totally embraced umbrellas- big umbrellas. They could render texture on full length subjects and groups of subjects without having to critically readjust for the models' every move. The trend was towards more action shots where high fashion dresses no longer had to be literally tacked to the floor for precise lighting.

As more portrait studios moved into color photography and electronic flash, the umbrella was part of the natural progression towards softer and more natural lighting. Studio flash units were pretty powerful, and still are, so even with a 2 or 3 f/stop loss in reflection off an umbrella- there is still plenty of light to accommodate working at comfortable apertures.

When umbrellas became very popular in portrait work - they, at times and not surprisingly, became the center of some controversy among traditional portrait photographers. The old timers clung to their parabolic lights, spots and related paraphernalia and good old wraparound lighting. They claimed there was no real art in using a giant umbrella to flood the entire subject with light with out the precise control needed with the smaller parabolics and spots. "It's all in the careful feathering", they would insist - "umbrellas have no control - those umbrella guys are wimps" - sound familiar?

In spite of all the arguments, I still wanted to be the first candid man on the block with umbrellas. I purchased some (slightly damaged) umbrellas from my good friend at PLR and a good price and also lined some rain umbrellas with foils and painted some with latex paint. Before taking these things out on a job - I did a lot of experimentation. Frankly, I was disappointed at first - I preferred the snap I got with my old flash units.

And then came Felix: Mr. Felix Occochutto, an absolute SAGE of photography who worked out of a modest studio in Queens, New York. He also manufactured a line of excellent exhibition mounts. I remember him as a modest, somewhat eccentric perhaps reclusive man who had a way with photographic lighting that I had never seen before and I have NEVER seen since. He made his own painted backgrounds, used a simple Mamiya TLR with the 135mm lens and a couple of umbrellas. There were big time masters that could not figure out how he did it and were probably too ashamed or egotistical to ask him. I asked him if he would teach a small group and he did. Some of the following information is based on his teachings - nothing too complex once you absorb the theory - just a few small adjustments and elimination of a few "bad habits" and you will see an amazing change in your umbrella lighting.

PART 2

In fine traditional portraiture, conventional wisdom had it that precise lighting had to be separately applied to various parts of the face and body in order to maximize lighting control. One of my early teachers at Winona, master photographer John Howell, made absolutely elegant high key bridal portraits with dozens of small spotlights, each light aimed specifically - the veil, the face, the front panel of the gown, the skirt, the flowers and accent lights all over the place. Even with all these lights, there was a complete unity of lighting and the resulting prints had a wonderful translucent glow. When I took that course, the very next week there was another photographer/teacher who managed to turn out a wide range of magnificent bridal and general portraiture with only 2 umbrella units. The effects were different but the quality was equal in terms of effective dramatic and impacting portrait lighting.

Many of the "old school" photographers did not like the umbrellas because they felt there was a lack of control and simply "flooding" the studio with a blast of light amounted to "illumination" as opposed to "fine lighting". Yes, there were real problems in harnessing umbrella lighting if you just thought you can replace your harder to use metal parabolic reflectors and simply substitute umbrella equipped studio lights. The usual problems that would occur are flatter lighting, lack of specular highlights thereby diminishing dimensionality in the photographs, and lack of natural fall of light that used to facilitate feathering and natural vignetting .

Some of these problems were the result of using larger than necessary umbrellas and NOT fully understanding exactly how umbrellas work in terms of the physics of light. Going through ALL the physical properties of light is not

necessary for the purposes of this article so I will confine myself to some meaningful generalities and quick cures that will allow you to control your umbrellas rather than having the umbrellas control you. Even if you think that you are fully satisfied with your umbrella lighting results, try a couple of these variations and see for yourself what happens.

Umbrellas that are in excess of 36 inches are not the best choice for portrait and wedding photography - 24" - 36" is ample and sufficient and will afford you more control. Simple durable umbrellas with white fabric are fine.

The first thing to consider is that umbrellas are parabolic reflectors much like their standard flood light counterparts. They distribute light in a similar pattern. The main differences are, firstly, since the raw light source is aimed in at the umbrella (for bounce lighting), no direct rays from the lamp or flash tube fall directly on the subject, therefore the usual hot spot is diminished but not totally eliminated. For general use as a main light the primary light source, the lamp head or mono light, should be at a distance where it fills the umbrella to the edges. For best results the lamp head or mono light should allow for perfectly coaxial mounting, that is, the umbrella rod should go through the center of the unit whereby the flash tube and the modeling lamp are totally concentric to the umbrella rod. In that configuration, the distance from the flash tube to the periphery of the umbrella will be equidistant to the various radii of the umbrella at all points yet closer to the center of the umbrella, ergo - a milder and wider hot spot than a flash tube in a regular parabolic metal reflector.

This positioning creates a natural fall of light that is needed for feathering effects and to create a little controllable vignetting to help isolate the subject and better define the motif of your portrait.

Here comes the big one. Other than for photographing large groups - DO NOT simply raise the light above the subject(s) and tilt the umbrella unit DOWN - KEEP THE UMBRELLA PARALLEL TO THE LIGHT STAND AND MOVE THE UNIT VERTICALLY AND Laterally TO ACHIEVE THE LIGHTING THAT YOU LIKE - YOU CAN ALSO FEATHER A BIT. In other words, draw an imaginary vertical line from the top to the bottom of the edge of the umbrella and keep that line parallel to the walls- like a plumb line.

When using this method you will notice that you can create and control the intensity of your specular highlight with simple lateral movements. Feathering your unit will also influence the specular highlights and bring out subtle textures in your subject's skin. Although umbrella lighting is more forgiving than direct lighting, you will also notice that, with this method, your lighting patterns and forms will be better defined and controlled. OH - you will find a vast improvement in formal bridal portraits, especially $\frac{3}{4}$ seated poses. The flowers and the "lap area" of the dress will not tend to become overexposed with the accompanying lack of detail and blown out whites. Those problems have to be remedied by turning the bride away from the light source and shooting from the shadow side - but this umbrella method helps retain lots of highlight detail - especially in bridal gowns and flowers.

With this basic system under control, some experimentation is in order. When you move the umbrella closer to the primary light source, the rate of fall off changes. By changing the angle of incidence of the lighting you will be able to create effects that simulate spot lighting and conventional flood lighting. Using umbrellas with metallic surfaces of various reflectivity - dull silver - bright silver - super silver - non-textured silver - will offer a myriad of effects. There are umbrellas of various designs and shapes- some are shallower, while others are deeper - still others have a flat area in the middle which again modifies the extent of the hot spot.

Most of this method is based on the angle of incidence rule; the angle of incidence = the angle of reflection. If I were to draw diagrams here to illustrate all of the variations here - it would take forever. As I mention earlier in the article; I have broken things down to some working methods that you might care to try.

Lastly, I would like to tell you about my current umbrella project. This is not new and is not my own invention. When you examine the painterly works of the old masters, you will notice that flesh-tones were not necessarily of one uniform color - even on the same subject. So acute was these artists' perception of light that they would recreate the colors of light reflecting off nearby objects and surfaces. With most modern color films and digital imaging systems we all seem to want to establish the unrealistic "skin tone" almost a monochromatic glow. What I am doing now is painting the inside surfaces of old umbrellas in a circular concentric pattern - like a target. I am

using various colors (latex paint) and using the angle of incidence theory - trying to determine what colors end up where on the face and background in a portrait. I'll post some stuff if I ever perfect the method.

OH - Unseen secondary light is a common problem of studio photography whereby all kinds of "stray" light bouncing off studio walls, ceilings and floors cause over fill in spite of the lights being properly set up as to ratio by meter readings. Adjustments to the fill light or the tone of the studio walls will oftentimes fix the problem. In high key photography and in situations where photographers are restricted to a very simple 2 light set up - this unseen light can become an advantage.

Ed Shapiro