# BOWENS

## Guide to Lighting Techniques

# Table Top Studio

# Introduction

Digital technology has caused a revolution in photography. Today, modern digital cameras are capable of producing superb results, shot after shot and more people than ever are starting to take make their own pictures. But have you ever looked at your results and wished they looked just a bit more professional. It's not a problem with your camera, it's a problem with your lighting.

The secret of good photography has always been in the lighting and the Bowens Table Top Studio will help you to improve your lighting and take better pictures. Whether you're pictures are for a simple product catalogue, to show friends or customers what a something looks like or to advertise on the web, you want the image to be perfect.



All the pictures in this guide were taken with the items in the Table Top Studio. The only things we have added were a table, a couple of high backed chairs (to support the Cocoon when we were lighting it from beneath), some black paper and sticky tape. For the photographs we used a simple Nikon digital camera (Coolpix 950), probably similar to the one you use at the moment, and a sturdy tripod - nothing else.

# Introduction

In this guide we will show you how to get the most from your camera and the Bowens Table Top Studio to help you start taking pictures that a professional would be pleased with.

# Cocoon

Assembling the Cocoon will only take a couple of minutes.  Lay out the four panels and look for the coloured locating markers.



Position dots of the same colour together and start to zip the sides in place.  The dots are positioned on the inside corners at the front of the Cocoon.



As long as the coloured dots are all grouped together the Cocoon will zip together easily.



Once the zips have been fastened the hook and loop strips can be joined together and the Cocoon will be completed.



When it's fully assembled, the Cocoon will look like this.

# Tri-Lite

The Tri-Lite needs little assembly. First locate the reflector assembly onto the lampbase and tighten the three thumb screws to hold it in position.

Next unpack the lamps and, holding the ceramic base and not the glass envelope, screw them into the lamp holders.

Screw the white centre column rod into the centre of the lampbase and the positioning handle onto the back of the unit.

Finally attach the diffuser disk onto the centre column and secure with the thumbscrew provided.

When it's fully assembled, the Trilite will look like this

# Positioning the Camera and Lights

The Cocoon has been designed to allow you to shoot many different types of subject.  In order to give you as much flexibility as possible there are three shooting apertures.

The lower allows the subject to be photographed from the side.

The second, extended aperture allows a number of ¾ positions to be selected and the upper aperture is suitable for shooting subjects from the top.

The choice of camera position will depend largely on the subject being photographed.   In this guide we will show examples taken through all three.

In order to compose your pictures we do recommend the use of a sturdy tripod.
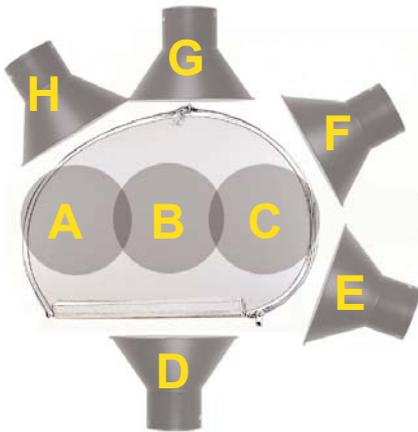
**Camera Position 3**

**Camera Position 2**

**Camera Position 1**

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# Positioning the Camera and Lights

The Cocoon is translucent and can be lit from all sides.  To help you understand precisely where the Trilites have been placed throughout this guide, each position has been identified with a code letter.

As you can see from the diagram we will use 8 general lighting positions (A to H) and 3 camera positions (1 to 3).  Each picture has a letter code to guide you.



This is a side view of the Cocoon with the various Tri-Lite positions shown superimposed

For example, placing a light on the left-hand side of the Cocoon in the centre position, and shooting through the lowest camera aperture would be identified as 'LB1' (a light on the Left side, in position B with the camera shooting through aperture 1).

These pictures illustrate the LB1 set-up.



=



LB1

# Positioning the Camera and Lights

If we use two lights this might be shown as LB/RC1, where the first light is in the 'LB' position and the second light on the right hand side in the 'C' position (RC) with the camera still shooting through aperture 1.

The Tri-Lite uses a flicker free fluorescent light source.  These give a high level of illumination but do not get very hot.  Consequently the Tri-Lite can be safely placed against the surface of the Cocoon (this should only be attempted using the Tri-Lite as normal tungsten filament lamps could cause severe damage to the Cocoon).

The colour of the light from the Tri-Lite is a little different to either daylight or the tungsten lamps you have in your home.  Before you start, we strongly suggest that you set your camera's white balance so that it recognises the Tri-Lites as white light and produces neutral colours on the items you are photographing.  Your camera's instructions will show you how to do this.  If you are unable to carry out white balancing in the camera, most image manipulating software will allow you to correct the colour at a later stage.

We do not recommend using Tri-Lites in conjunction with tungsten light sources as the relative colour differences between the two different types of light sources may produce results that are difficult to print and reproduce.

# Basic Lighting Set-Ups

Before using the Cocoon and Tri-lite we have taken a shot using just the built-in flash on our digital camera. The on-camera flash will certainly illuminate your subject but as you will see it gives very harsh shadows and a rather flat looking result.

The harsh shadows are caused by the small size of the flash unit on the camera. The reason that the subject looks so flat is because all the light is coming from the same direction as the camera. By using the Tri-Lite and Cocoon we will be lighting using a much larger light source to create softer more professional looking results.



In the first picture the Cocoon has been placed on a table and the subject set in the middle. A single Tri-Lite has been placed at one side, level with the subject (position B). Compare to the on camera flash picture and the results are already much better.



LB1

Instead of a hard shadow and a rather flat looking appearance, our can is now very three dimensional and much more attractive. By placing the main light level with the subject we get a good overall illumination.

Bringing the Trilite closer to the front of the Cocoon (position A) the light slightly flattens the subject and the highlight has moved around the surface.



LA1

# Basic Lighting Set-ups

If the light is placed further back a slight silhouette effect can be seen.  Notice too how a shadow is formed at the front of the subject.  Consider how different light positions change the appearance from the subject.

Experiment to discover which particular position works best for your subject.  You might find that one light will give you an effect that you like but there may not be enough illumination on the front of the subject to photograph effectively.  In that case you will need to add a second Tr-Llite.



LC1

In this example we have chosen to light the can from the rear but need to raise the overall illumination level by adding a second light source.



LA/RC1

We have placed the second Trilite on the opposite side of the Cocoon and slightly forward of the can.  This will give us the nice highlight effect from the right hand light in position C on the Cocoon while the light on the left in position A helps to balance the overall lighting effect and bring light to the surface of the can.

# Basic Lighting Set-Ups

We can change the effect of the light by moving the Tri-Lite closer and further away from the Cocoon. When the Tri-Lite is close to the Cocoon we can position it in relation to the subject with some degree of accuracy.



LB2



L2

Placed further away and the whole side wall of the Cocoon becomes a light source and light passes both sides of the subject. The highlight created when the light is placed further from the Cocoon is larger and the overall effect is a little softer.

The Cocoon is completely translucent so as well as placing light to the side we can also place it on top or underneath for a whole range of interesting lighting effects. In this picture the light is placed over the Cocoon (tip: it may be difficult to position the lighting stand to light from above but, as the Tri-lite does not run very hot, carefully place it face down on the top of the Cocoon).

A highlight appears on top of the can but the surface has lost some of its three dimensional appearance. This would be suitable for certain decorative ceramics and Jewellry.



G2

# Basic Lighting Set-ups

Lighting from the front (above the camera) will produce a slightly flat look. though it has increased the illumination on the front of the can though the highlights on the top are a little subdued.



H2



E1

By lighting the Cocoon from the back you can achieve some very professional looking results such as graduated backgrounds (where the light graduates from dark to light).

Place the light in the E position and the graduation starts bright at the bottom and fades higher up.  Light coming from behind will also give shadows at the front of the subject

To create the opposite effect, place the light at the D position, underneath the Cocoon.  If you are thinking of using a graduated background consider the tones of your subject.  Something that has detail at the top might benefit from a background that is bright at the top and darker at the bottom.

Whatever graduation you choose make sure that you also add a second light to the front of your subject otherwise it will always appear in silhouette.



D/L1

# Translucent Subjects

When Photographic translucent objects, it is important to show their translucency and the best way to do that is with light. A bot-



LA1

tle of white wine is a perfect example of a translucent subject. The general approach to lighting this subject is very similar to that of the solid can. The glass of the bottle and the wine inside it will transmit the light.

To begin with we are just going to place a single light to the side. The label is well lit and the subject has a degree of translucency.

Adding a second light, on the same side but placed a little further away from the Cocoon adds extra illumination that travels through the subject.



LA1/LC1

As the wine bottle is slightly taller than our previous subject take care not to use a wide angle lens on the camera. This causes the part of the subject nearer the camera to bulge. Although these two images look the same the wide angle shot does show a small degree of distortion. The tele image has a slightly compressed perspective which creates a less distorted appearance.



wide



tele

It is better to move the camera further from the subject and zoom in slightly. This will help restore normal proportions to the subject.

# Translucent Subjects

In this picture we have used a graduated background to emphasise the colour of the wine in the bottle. We have chosen a background that is darker at the bottom and lighter at the top.

This will not conflict with the label as the background in that area is darker but it will emphasise the colour of the wine in the upper section and helps to give a much more interesting result.



RA/F1



Dramatic results can be achieved by lighting the subject from beneath. We have used two high backed chairs and positioned the Cocoon so that the edges are supported by the backs of the chairs. Take care to place just the edges of the Cocoon on the support so that it doesn't create unwanted shadows on the base.

By raising the Cocoon it is possible for a light to be placed directly underneath. This gives a graduated effect but leaves the bottle label slightly in shadow. In the second picture we have added a light at the front to illuminate the label and balance the picture.



D1



D/RB1

# Translucent Subjects

Lighting directly through, but not as a graduated background can enhance translucent subjects. For this next sequence of images we have created a bottle shaped light source that we will place directly behind the subject.

To do this take a piece of black paper roughly the same size as the rear of the Cocoon (the easiest way is to take the Cocoon apart and draw round the bottom panel). Place the bottle on the paper in the approximate position where it will be photographed. Then tip the bottle over and draw round it.





Cut it out and tape this mask onto the back of the Cocoon in a position so that the light passing through the bottle shaped opening is directly behind the subject. (c).





Place a Tri-Lite in position E at the back of the Cocoon. This creates a bottle shaped light source which will illuminate what is inside the bottle and accentuate its colour.
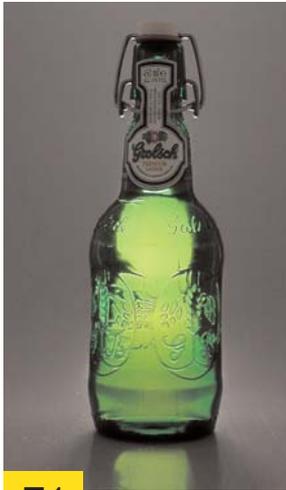
Using this technique we will be lighting two aspects of our subject at the same time.

# Translucent Subjects

In the first picture of this sequence you can see that the bottle is illuminated just from the front. The label is clear but the contents seem rather dull.



L1



E1

The second picture shows just the effect of the light shining through the bottle. Notice the enhanced colour and the highlights on the top.

Finally combining the light from two sources we have the label and the texture of the glass bottle clearly seen with the contents looking particularly mouthwatering!



L/E1

# Reflections

The red wine bottle is much more opaque and it is difficult to get the light to shine inside the way we were able to with the beer bottle, but that does not mean you cannot be creative in your photography.

Light is used to show the shape of the subject and by adding light and shade you can emphasise shape.  In the first picture we have simply placed a light a little way from one side of the Cocoon.   This gives a good overall level of illumination.



L2



L2

The highlight on the left shoulder of the bottle gives an idea as to its shape.    We can reinforce this by using some simple masking strips.  These are strips of black paper about 4cm wide that are taped on to the outside of the Cocoon.  See how



this divides the highlight into stripes which, when they are reflected in the bottle, emphasise the shape of the bottle to maximum effect.



L2

Since the bottle is reflecting the light we can also create other effects.  By making our strips into a cross, the reflection now looks like a window.

# Reflections



This venetian blind effect is achieved by sticking a number of strips of black paper onto the side of the Cocoon.



**L1**

Placing the strips in a diamond formation and a lattice window effect can be created.





**L1**

# Product Shots

So far we have used a single subject but what happens when we are shooting more than one item, for a catalogue perhaps. We have selected a shooting position that puts the widest possible background behind the subject.



When placing the subjects to be photographed make sure they are all facing the side that you intend to light. If you don't you will have uneven illumination across the subject. This first picture shows what can happen if the subjects are not positioned correctly and one item is in the shadow of another.

LB2

By repositioning the subject so they are all facing the light, the problem is solved.



LB2



The product has a degree of translucency and by placing an additional Tri-Lite on the opposite side to the front light the product becomes visually more interesting. Notice the effect of the shadows that can be seen at the front of the subject.

LA/RC2

# Product Shots

Graduated backgrounds add a feeling of class to the image.  Here both dark to light and light to dark graduations can be compared.



F/LA1

In both instances one Tri-lite illuminates the front of the subject while the other lights through from the background in either position E or F.

E position makes the lower half of the background lighter and F makes the upper part brighter.



E/LA1

Finally, why not put your product in the spotlight? To create this effect we cut out a large circle in a piece of white paper which was stuck to the bottom of the Cocoon.  A light was placed in position G and a second light in position A.



D/RB2

# Crystal



This subject is made from crystal and presents a number of lighting challenges. First look how it might appear when shot simply using the camera's built-in flash. As you can see the camera flash has difficulty in lighting something that is virtually invisible, and since light is reflected and refracted the results are more than a little unpredictable.

In the Cocoon we can start to solve these problems. Firstly by placing the light to one side we are able to pick up more successfully the design, as light is reflected off the etched surface which appears lighter than the rest of the subject.



RB1



F1

By placing the light behind the globe the effect is almost like a negative, the etched surface now appears darker than the surrounding crystal.

# Crystal



We can take this a stage further by lighting the globe from within.  To do this a mask was prepared for the base of the Cocoon.  Draw round the base of the globe and fix the mask in place.  This creates a light source that is exactly the same size and shape as the subject

When the globe is placed over the square it becomes lit from within using just a single Tri-Lite.  Additional masks of black paper were stuck onto the outside of the Cocoon to make sure that the only light was coming from beneath our subject.



D1



D2

Finally to take this effect further we repositioned the camera so that it was looking down through the globe into the light source.  The light simply touches the edges of the subject creating a very dramatic picture.

# Silver Items



A silver object is like a mirror.  It reflects everything around it and these subjects are often the most difficult and challenging to photograph effectively.  A straight forward shot using the on-camera flash illustrates the problem.

Inside the Cocoon although the lighting is better we still need to do a little work to get the best possible result.  Firstly we have positioned one Tri-Lite on each side.  This gives a much more flattering lighting but the highlights are a little harsh.

This can be improved by taking the Tri-lites a little way from the Cocoon.  This will make the highlights larger as the subject is reflecting the whole wall of the Cocoon and not just the light itself.   More light bounces around inside the Cocoon and that helps reduce the overall contrast and gives us a good overall illumination on our subject.

# Silver Items

Next we have to remove the ugly black circles that are reflected in the middle.  This is a reflection of the shooting apertures.

To disguise them simply tape white paper over the holes.  They won't disappear completely but they certainly become less obtrusive and distracting.

Finally we will add some masking strips to help emphasise the shape of the subject. These have been placed in different positions either side of the subject.

To create the first picture a large triangular mask has been taped over the left habd side of the Cocoon.



L/R2

For the second picture we have added an additional masking strip onto the right hand side of the Cocoon.  This strip is approximately 4cm wide.  The effect of these two masks is to define the shape of the cocktail shaker. You might want to experiment with different shape masks and different positions depending on the subject you are photographing.



L/R2

# Ceramics



R2

Ceramics can be difficult to photograph because they have a highly reflective surface. It is important that you light these subjects in a way that shows both light and shade. We can understand the three dimensionality of a subject by seeing how light plays across it. Consequently take care not to light the subject too much from the front.

We also want to isolate the subject from the background so it is important to be sure that the general tone of the background is different from the tone of the subject. This can be achieved either through light levels or by adding a colour to the background with a gel.

The use of a graduated background will help to emphasise the finer detail at the top of the ceramic. A second light is positioned a short distance from the Cocoon on the right hand side to bring detail to the vase.



F/R2

The light level of the background can be altered by angling the Tri-Lite in different positions. When it is pointed towards the front of the Cocoon the background is darker, turning the Tri-Lite towards the back and the background gets lighter. Just a single light has been used to retain light and shade on the subject.



RB1

# Flat Artwork

Copying flat artwork or any other flat object is easy using the Table Top Studio. The item to be photographed should be placed in the centre of the Cocoon directly below the upper most shooting aperture.

The Tri-Lites should be positioned on opposite sides of the Cocoon at precisely the same angle and distance from the sides. This ensures equal and even illumination.



L/R3

Then it is simply a matter of shooting the subject. This mounted print covered almost all of the base of the Cocoon yet still looks evenly illuminated. Take care not to use a wide angle setting on the camera as this will distort the final image.



L/R3

# Jewellery

Jewellry needs to sparkle, and to get the best results we need a combination of good overall illumination and strong highlights.  We also have to consider the size of the item we are going to shoot. In all these pictures we used props to raise the level of the subjects bringing them closer to the camera position.  We also used velvet and other materials to act as a background for our subjects.  Velvet is virtually non reflective and is particularly effective behind bright objects.  Take care when shooting not to rely too much on your cameras automatic exposure.  Having very bright subjects against a very dark background can cause the camera to over compensate for the darkness making the subject to appear too bright (over-exposed)



L/F3

This broach is highly reflective and in the first picture the shooting apertures can be clearly seen.  We placed one light to the left and one in the F position.  This leaves the right hand side of the subject slightly less well lit which helps define the shape of the broach better than having lights on either side of the Cocoon.

In the next picture we have covered up all the shooting apertures, this has given the subject a much smoother appearance.
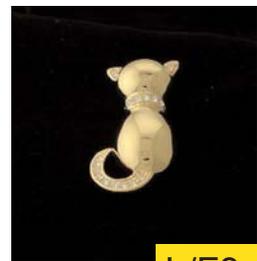


L/F3

# Jewellery



LR3

This bracelet wanted to be lit evenly so that the detail could be easily seen. The lights were placed either side a little distance from the Cocoon. Although this type of lighting may be considered less 'creative' it is recommended when taking pictures for insurance or other applications as it represents a good record of the item being photographed. Once again a black velvet background was used to give the item definition. When photographing for record purposes you might want to consider including a ruler to give the subject a sense of scale.

This broach was photographed on a red cloth which complements the subject well. If you want to use a background that is larger than the base of the Cocoon, undo the side strips. This will allow much larger bacgrounds to be slid into position without dismantling the whole Cocoon.



LR3

# Cocoon

Not only do the elements of the Table Top Studio work well together, they can also be used separately to great effect.

The Cocoon is simply a translucent light tent and can be used anywhere that there is light.  Take the Cocoon outdoors on a bright day and soft lighting is always available. The Cocoon can be used in either bright sunlight or overcast conditions.

As it softens any light the Cocoon can be used indoors just as effectively.



sun



cloud

In bright sunlight a more defined light and shade can be identified, in overcast conditions the light is a little softer and tends to give a greater overall illumination.

Take care when using the Cocoon in direct sunlight to position it so that the sun does not enter through the camera shooting apertures at the front.  Care should also be taken to watch for other unwanted highlights.

These two pictures show the subtle differences between using the Cocoon in direct sunlight and in overcast conditions.

# Tri-Lite

Although the Tri-Lite is a fine partner for the Cocoon it is also an excellent photographic light in its own right.  When the subject to be photographed is too large for the Cocoon, the Tri-Lite can still be used to provide a soft and controllable light and as it is a cold light source it's perfect for photographing anything that might be sensitive to heat (such as plants and food).



In this first example two TriLlites have been placed either side of the camera at 45° from the subject.  Although the subject is well illuminated the overall picture is rather flat.

The picture can be improved by first placing one Tri-Lite close to the subject. This creates more light and shade and brings the subject to life.   A second TriLlite is placed closer to the camera position but much further from the subject.  The main light has been placed 20cm from the subject to the right.  The other about 150cm away and about 45° from the subject.





This picture shows the flowers isolated against the black background.  To get the best possible black, move the subject away from the background towards the camera.  For overall illumination one Tri-Lite is placed close to the camera and pointed towards the subject.  Then a second  Tri-lite is placed to one side of the and angled slightly forwards to prevent it from spilling onto background.

# Tri-Lite



In this second picture the light is angled towards the background which becomes lighter and contrasts with the light falling on the subject.

In the final picture we combine these effects. The right hand side of the subject is close to a light source so the left hand side appears darker. The illumination on the background is the opposite, with the Tri-Lite on the left highlighting the background.



This contrasts with the light on the subject and creates a balanced and attractive picture. Compare it with the first image on this section to see how much better the overall effect has become.

These pictures show more clearly how the lights were arranged to achieve this effect. The Tri-Lite on the left provides all the illumination for the subject.





The Tri-Lite on the right is pointing only at the background, balancing the picture and putting the cherub's wing in sillhouette.

For further information about these or any other Bowens photographic lighting products contact:

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