

Escola Superior de Música e das Artes do Espectáculo

Lighting for Dance

Monografia-projecto para obtenção do grau de Mestre em Teatro -
Design de Luz

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Table of Contents

Acknowledgements
Figure contents

Introduction	1
1 - Lighting the Stage	2
The Method	2
Objectives of Light	3
Properties of Light	6
2 - Lighting for Dance	10
Working a Concept	10
Making it Work	14
3 - Observing the Dance	18
Who will be observed	20
<i>Licht</i>	20
<i>Shazam!</i>	24
<i>In the Upper Room</i>	25
The Observation Summarized	27
4 - The Project	29
The Beginning	29
The Concept	32
Renders	33
Pictures	42
What to Take From the Experience	47
Conclusion	49
Bibliography	52

Annexes

- Annex A Observation grid of *Licht* a dance by Conny Janssen with lighting by Reinier Tweebeke.
- Annex B Observation grid of *Shazam!* a dance by Philippe Decouflé with lighting by Patrice Besombes.
- Annex C Observation grid of *In the Upper Room* a dance by Twyla Tharp with lighting by Jennifer Tipton.
- Annex D Lighting plots and paperwork

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Keywords:

Lighting, dance, methods for lighting dance, lighting concepts.

Abstract

The purpose of this project is to discover a method or methods to design lights for a dance choreography. It is divided in four parts. The first part is an general look at Stanley McCandless's method for stage lighting along with an overview of the basic objectives of lighting for the stage and a brief analysis of the properties of light.

This is followed by a look at how three light designers approach the work: Jean Rosenthal, Richard Pilbrow, and Francis Reid. Looking first at how they collaborate with choreographers in order to come up with concepts and how they then put them into practice.

In part three an observation grid is created and applied in the analysis of three modern dance performances: *Licht* a dance by Conny Janssen with lighting by Reinier Tweebeeke; *Shazam!* a dance by Philippe Decouflé with lighting by Patrice Besombes; *In the Upper Room* a dance by Twyla Tharp with lighting by Jennifer Tipton.

In part four, what was read and observed is put into practice with the creation of a light design for two dances, choreographed by Isabel Ariel, a choreographer and dance instructor at the Ginasio dance school in Vila Nova de Gaia. Here the process is displayed from the first encounter, through the discussion of concepts and finally with the execution of the dances, complete with an analysis of what was successful and what was less so. The performance took place between the 2nd and 4th of March in the year 2011 at the school's own facilities.

Palavras-Chave:

Luz, dança, métodos para iluminar dança, conceitos de iluminação.

Resumo

O propósito deste projecto é a descoberta de um método, ou métodos, para desenhar luz para uma coreografia de dança. É dividido em quatro partes. A primeira, é uma breve revisão do método de Stanley McCandless para iluminar espectáculos de palco. Segue uma revisão dos objectivos de iluminação para espectáculos e uma análise das propriedades de luz.

A seguir na segunda parte, a visão de três designers de luz e a sua abordagem do trabalho no ramo da dança: Jean Rosenthal, Richard Pilbrow, e Francis Reid. Passando primeiro para como eles colaboram com coreógrafos, a fim de chegar a conceitos, e em seguida, colocá-los em prática.

Na terceira parte, uma grelha de observação é criado e aplicado na análise de três espectáculos de dança moderna: *Licht* uma dança de Conny Janssen com iluminação por Reinier Tweebeeke; *Shazam!* uma dança de Philippe Decouflé com iluminação por Patrice Besombes; *In the Upper Room*, uma dança de Twyla Tharp com iluminação por Jennifer Tipton.

Na quarta parte, o que foi lido e observado é posta em prática com a criação de um design de luz para duas danças, coreografia de Isabel Ariel, uma coreógrafa e professora de dança na escola Ginásio, em Vila Nova de Gaia. Aqui o processo é exposto desde o primeiro encontro, através da discussão de conceitos e, finalmente, com a execução das danças, completo com uma análise do que foi bem sucedida e que foi menos bem sucedida. O espectáculo ocorreu entre os dias 2 e 4 de Março no ano de 2011 nas instalações da própria escola.

Figure Contents

Figure 1 - Analysis Grid	18
Figure 2 - Analysis Grid Part 1: <i>Licht</i>	22
Figure 3 - Render <i>Focus Fragmentado</i>	34
Figure 4 - Render <i>Focus Fragmentado</i>	35
Figure 5 - Render <i>Focus Fragmentado</i>	35
Figure 6 - Render <i>Focus Fragmentado</i>	36
Figure 7 - Render <i>Focus Fragmentado</i>	36
Figure 8 - Render <i>Focus Fragmentado</i>	37
Figure 9 - Render <i>Memória Siamesa</i>	38
Figure 10 - Render <i>Memória Siamesa</i>	39
Figure 11 - Render <i>Memória Siamesa</i>	39
Figure 12 - Render <i>Memória Siamesa</i>	40
Figure 13 - Render <i>Memória Siamesa</i>	40
Figure 14 - Render <i>Memória Siamesa</i>	41
Figure 15 - Render <i>Memória Siamesa</i>	41
Figure 16 - Picture <i>Focus Fragmentado</i>	42
Figure 17 - Picture <i>Focus Fragmentado</i>	42
Figure 18 - Picture <i>Focus Fragmentado</i>	43
Figure 19 - Picture <i>Focus Fragmentado</i>	43
Figure 20 - Picture <i>Focus Fragmentado</i>	44
Figure 21 - Picture <i>Memória Siamesa</i>	45
Figure 22 - Picture <i>Memória Siamesa</i>	45
Figure 23 - Picture <i>Memória Siamesa</i>	46
Figure 24 - Picture <i>Memória Siamesa</i>	46

Introduction

Jean Rosenthal wrote in her book, “Dancers live in light as fish live in water.” *The Magic of Light* (p. 117, 1972) And I ask myself, how is it done? How does one create the environment where beings as graceful as dancers can flourish? Are the objectives of lighting in theatre the same as the objectives of lighting in dance? This is the first question that comes to mind when thinking about this problem. When looking for how to design lighting for dance a good start is a familiar place where information is plentiful. This start would be in the realm of lighting theatre, considering that for many years many lighting professionals have shared their own thoughts and methods on this particular subject. The same cannot be said about the specifics of lighting dance. This is where the journey must begin. We will first take a brief look at Stanley McCandless’s method for lighting the stage. This is an essential stop considering he is one of the pioneers in stage lighting, establishing a method for designing light that even today is relevant and used by countless light designers. We will then cover the basics in the objectives and properties of light which will give direction in the search for a way to design lighting for dance.

Few have written about lighting dance: Jean Rosenthal¹, Francis Reid and Richard Pilbrow each include a chapter about the subject in their books. How do they develop concepts and work ideas in designing light for dance? How do they then make their ideas work in reality on the stage? This look at what these three professionals is the second stop of the journey.

The third stop involves seeing dancers living in light. In observing and analyzing lighting for dance in three shows on DVD, I looked for consistencies and differences among the three authors’ theories. Is what Pilbrow, Rosenthal and Reid write about evident in the work of the other three lighting professionals? How is it possible, if at all, to analyze the lighting for dance pieces objectively?

¹ She was Stanley McCandless’s student at Yale University

One very pertinent question remains. Will the sum of what is discovered assist in the last part of the journey? This final part, putting into practice what was read and observed, dips into the essence of any true artists. How does one truly collaborate with a choreographer? After all concepts are established, how does a light designer put it all together in order to make it work?

1 - Lighting the Stage

The Method

It is fairly difficult to try and develop an idea about a method in designing light for the stage without referring to or mentioning Stanley McCandless, author of *A Method Of Lighting a Stage*. One of the first documents published with the intention of offering a method for the systemization of creating light for theatre, it tackles questions and problems in a systematic way in order to address a greater problem or issue.

Summarizing briefly, McCandless's method begins with defining acting areas according to what is happening on stage. In theatre or in dance, for example, an acting area can be defined by the location of the actor or dancer onstage. The question is: what do we want the audience to see? Should there be different and distinct areas? Is there a principal area and a secondary area? While the actual scenery and blocking created by the scene designer and director are instrumental in defining the acting areas, the light designer creates and elaborates a lighting plan based on these identified acting areas. This can be done with the use of drawings, a three-dimensional model and of course with old-fashioned dialogue with the other members of the production team.

The second question that the method requires answering is the question of color. Which color or colors are necessary for the scenes or acting areas? Developing the color

palate entails reviewing the text and numerous conversations with the director, costume and scene designers and other members of the production team.

The third question is whether or not there is any scenery which requires lighting, or are we working in an empty space? In modern dance, more often than not, there is no scenery. This question leads us directly into the fourth and fifth question. Here we must ask about motivating light and motivated light. McCandless suggests identifying whether or not the source of light is visible. Motivating light being the light coming from a visible light source which would be part of the scenery. Is there a lamp? Is there a window letting in daylight, or moonlight, or even a streetlight? These questions are asking about motivating light. Motivated light is the light necessary to complete the look and sell the scene. Often a room in a house is lit by a simple living room lamp, which suffices as light for the actors, but more light is required onstage for the audience to see the action clearly. However, since we do not want to destroy the illusion, motivated light is necessary here so that the audience believes that the light in the scene actually comes from the lamp. The sixth question refers to the use of specials. Are there any areas in which we need to isolate or emphasize in a specific way? The final and seventh question is, are there any special effects which require smoke or a video projection? While this method was created for lighting theatre, it can be applied as a basis in designing light for dance.

Objectives of Light

In beginning an analysis of light, it is important to understand exactly what is possible to see and analyze objectively. Let us take a look at the functions of light for a show. In his book *Stage Lighting Design*, Richard Pilbrow identifies five basic functions of light: visibility, revelation of form, composition, mood and information.

Visibility

The first, visibility, is the primordial reason that light exists in theatre at all for it reveals the scene to the audience. Pilbrow goes a step further and introduces the concept of selective visibility: the use of light to reveal what the director and light designer want to be seen by the audience. This principle is fundamental in theatre and in dance, for without visibility, there is no show. However, in dance, what is considered important to see is different than in theatre; while in theatre it is important to see the actor's face, in dance there is greater importance in seeing the body. Because of this, front light is not as important as it is in the theatre. The issue of selectivity, however, is critical. When an area of the stage is more brightly lit than another it has a tendency of drawing the viewers' attention to that area. This concept is a very important weapon in the light designer's arsenal when it comes to dance, especially when the stage is full of dancers and he wants to draw attention to a specific one.

Revelation of Form

The second function of light that Pilbrow specifies is the revelation of form, a function almost as old as visibility. Adolphe Appia, in his time had already written of the necessity of this specific function of light. He called it "living light." He was quoted in Christopher Baugh's book, "On stage this task must therefore be divided, so that part of the lighting equipment will be used for general illumination, while the rest will cast shadows by means of exactly focused beams. We shall call them 'diffused light' and 'living light'." (p. 106) This living light produces a three-dimensional image, which is essential considering that dance is an artistic expression where real, three-dimensional people are in motion.

Composition

Pilbrow's third function of light is composition, which he describes as painting the stage with light. Composition allows a light designer to use the properties of light to create an image, balancing color, intensity and distribution of light to create the desired effect. While this is one of the more enjoyable tasks for a light designer, some restraint is necessary to

ensure that he is not opting to create a beautiful image at the expense of clear visibility of the action on stage. Exploring composition in lighting for dance may be easier than in lighting for theatre since visibility of the face is not as important. Therefore, the lighting designer for dance can cut down on, or cut out all together, any front light which is frequently the culprit in destroying interesting images onstage.

Mood

The fourth objective of light that Pilbrow mentions is mood, where the designer creates lighting to provoke a feeling in the audience that matches the dramatic conflict in the scene. Pilbrow says that:

[m]ood should, in fact, be the result of having successfully achieved the first three objectives. Light has an undeniably powerful effect upon our state of mind. Almost nothing has such a direct impact upon our emotions. For millennia human life has been shaped by the light of nature and the cycle of the seasons. For modern man, clear warm brightness still makes most people feel good and vice versa. (p. 9)

This touches on something which I have always found extremely fascinating. How can a light designer provoke the feeling intended both by him, the director and the playwright of a large audience composed of individuals of different backgrounds and experiences with totally different perspectives. Even when it is fully understood, as Pilbrow also mentions, that clear warm brightness makes people feel good. Even though there are infinite possibilities when dealing with such an audience, we have only this assumption of a universal truth to rely on when trying to reach this specific objective. Our world is the only one we truly know and nature has been our reference in many different arts since we started creating as a species. We rely on nature as an example. Nature is our world's original light designer.

Information

The last and final objective and function of the light is information. What possible information can lighting convey? It can, for example, help identify location of the scene—are we in a dungeon or well-lit parlor? Even if the scene takes place outdoors, a light designer must convey whether the scene takes place in the woods or on the top of a freezing mountain. The possibilities are as endless as the imagination of the playwright and the director. Lighting can reveal the time of day if the scene takes place in a location with access to windows, and it can even reveal the time of year and the weather. Basically the lighting has this potential because of the endless examples which surround us in our daily lives. These examples are the inspiration, and of course are common to almost any possible audience member. They remain in our subconscious even though we only notice them when we really think about them. These visual memories can put the audience closer to the characters and the action of the scene they are watching without them even realizing it.

Properties of Light

After understanding these basic objectives of light, it is now necessary to explore how to reach these objectives using the qualities or properties of light. How can we use these light-producing instruments to create the environment called for by the text and the director's vision? Pilbrow introduces four specific properties of light: intensity, color, distribution and movement. In addition to these, it is also worth considering texture.

Intensity

Intensity has a direct impact on selective visibility, the first objective of stage lighting. It is understood that if the light directed towards an object is of a high intensity, that object will most likely be easier to see. But intensity is not limited only to this objective; it can influence many objectives of stage lighting. A lighting designer can create mood with intensity. For

example, designers commonly use a high intensity of light in a comedy so that the audience is able to easily see everything on the stage. Since the audience does not need to strain to see, they can relax and are more inclined to laugh and enjoy themselves. On the contrary, lower intensities are often used in tragedies. Since the audience cannot see everything on stage, they must struggle a bit more to see. This builds tension, creating an environment of anxiety, fright, and other emotions that can produce an adrenaline rush. While these are not concrete rules, many designers and directors choose to use high intensities for comedies and lower ones for tragedies. However, there is no reason a designer cannot brightly light a tragedy. As we progress into the future, the possibilities continue to grow with the invention of more efficient and more powerful lamps. What was considered bright light in the time of Adolphe Appia is probably now considered very dim. All in all, the property of intensity can be used to reach the objectives not only of selective visibility and in creating mood, but can also help in the composition of lighting. This being simply when the designer decides to vary the intensity of the lights used for creating an image. A designer can also use intensity when decoding certain information. For example, when he wants to show the time of day or the location of a scene.

Color

Color, the second property of light, can be used in a number of ways and for a number of reasons in order to achieve more than one objective. While it can be used simply to accentuate the costumes and scenery, color can also be used to create moods, or in composition. It was used in the days before electricity, for the same reasons that it is used today, although due to the advance of technology we can use it more effectively. But where they used wine and colored water in those days, today there is almost an infinite choice in color with the use of filters. Color affects the audience member directly in the emotional part of the brain. It can recall memories and helps inspire the imagination.

Color must be used with a purpose. A designer cannot simply choose a color because he likes it or finds it beautiful. Color must, like every other aspect of a light design, serve the purpose of the show and the vision of the director. The significance of colors often has a

cultural tie; in one culture, green can convey emotions with negative connotations like envy and greed, and in another green can invoke positive associations of hope and nature. This is what makes the job of a designer more difficult. Since everything is subjective, the designer must consider all of these factors when choosing colors.

Distribution

The next property, distribution, involves placement and focus of instruments. Consider creating lighting for a scene that takes place outside on a cloudy spring day. The main light source is the sun, the rays of which are distributed through the atmosphere and clouds to hit the earth. Creating such lighting on a stage would require evenly distributed instruments focused very evenly to ensure that all the light in the intended area would be even and uniform without much variation. On the other hand, a scene in a room at night with a lamp and one window would require a much different type of distribution: a larger concentration of light around the lamp with much less toward the outskirts of the acting area. The designer would also have to account for other sources of light coming through the window, perhaps from a street lamp or the moon. That light has its own influence on the scene.

Movement

The next property, movement, might make one think of the newer technology of automated lights, where the actual instrument itself moves, with the use of gears and motors, and thus creating moving shafts of light on the stage. This is one of many possibilities. Movement can come from many directions; It can simply be the dimming of one area and the revelation of another. It can also be the change of the color and direction of the light to indicate a change in time, like a sun setting on the horizon.

Texture

Finally, It can be strange to think of texture as a property of light. In fact light itself has no real texture. However, when the designer shines light through objects or focuses the light in a specific way, he can create textures that ultimately satisfy one or more of the objectives for stage lighting. Texture often produces patterns that become a part of the lighting composition and inform the audience of where the scene takes place. By throwing light down on the stage floor with the help of gobos, a designer can create the illusion that the light is passing through trees that are not seen by the audience. Texture allows the audience to envision the existence of these trees even if they cannot physically see them. Typically made of metal or glass with a pattern or image cut into them, gobos are placed into instruments whose light then projects the image or pattern onto a desired surface.

2 - Lighting for Dance

Working with a concept

When a designer comes into a new project he must rely on a series of tools to which will in the end help him do his job successfully. To work with a concept he must take what he can from the text and from the director which will ultimately take him along his own journey. This, a journey which should run parallel to the journey of the actual show he is working on. This concept is his idea of how he needs to light the show. The main function in designing light for theatre is to utilize all means of lighting available to collaborate and contribute to the ultimate vision of the director; it is never to make beautiful light and images just for the sake of doing so. Rather, the images created must fit hand in hand with the whole of the show. In theatre, a light designer typically has a text to use as a tool for inspiration. In dance, for the most part, a designer must derive a concept without texts.

Jean Rosenthal is considered one of the first light designers to practice the trade and the first female light designer in the United States and perhaps the world. She worked with many great artists including Martha Graham and Orson Welles. Working in both fields successfully she seemed to have a soft spot for dance, mentioning in her book, "If I leave anything to posterity, it will be, I think, most importantly in the field of dance lighting." (Rosenthal, p. 117) How does she design light for dance? That is the first question that comes to mind, immediately followed by the question - Is her process in lighting dance similar to her process in lighting theatre?

In writing about aesthetics and classical ballet, Rosenthal emphasizes that each company has its own style and that it is necessary for the designer to study several of each company's ballets to understand the unique aesthetic so that he can design light consistent with the aesthetic of the company. It is also important to understand how each company uses the stage, as that differs among companies.

Rosenthal explains that each company has a key for the creation of its lights. The way scenery is used to tell the story, the use of patterns in the space or the impulse of movement are examples of this. After studying many choreographies of a company, Rosenthal began to see repeated concepts that allowed her to create these basic lighting plots, almost like repertory, using the company's limitations to her favor. These limitations can be anything from a lack of equipment and performance spaces with very few hanging positions.

Martha Graham would start with a very literal idea, a story, and work toward a powerful and abstract dance, as if poetry in motion. Rosenthal said that “[d]ance is to theatre, I think, what poetry is to literature.” (Rosenthal, p. 129), and explained that she would create light from the impulse of Graham's movement. Considering this, each light designer has to create using what he feels and, if possible, get inspiration from the impulse of the dancer's movement. Rosenthal wrote that there was always a key light coming from a very high point in Graham's choreographies that would “create a large pool of downlight and a high diagonal that would run all the way upstage.” (Rosenthal, p. 131) Her color palette was “mysterious, often cold, cerebral light” (Rosenthal, p. 131). These were the attributes Rosenthal saw as the aesthetic of Martha Graham.

This system of concepts Rosenthal used to create light when working with Martha Graham is only one example of how she worked. Technically speaking, Rosenthal has a method, but it changes with each company to give her work a very practical tone. This adaptable method is very applicable to the reality in Portugal and perhaps in the rest of Europe. With very little equipment, Rosenthal's system can be very flexible. How would she work with the more recent technological advances such as automated lights and even something as simple as scrollers? Do light designers working professionally today take advantage of this technology? How can this technology take designers further into the creation of light for dance in the twenty-first century?

A more recent light designer, Richard Pilbrow, describes lighting for dance as a collaboration between two partners, the choreographer and the light designer. He talks directly about the task of the light designer in a dance show. In his book, *Stage Lighting*

Design, he writes, “Lighting dance gives the designer almost total freedom. His role is to manipulate light in space.” (p.122). This idea is reminiscent of another great man of the theatre, Adolphe Appia, whose ideas were ahead of his time and the technological advances we take for granted today were only a distant dream. Appia wrote:

La scène est un espace vide, plus ou moins éclairé, et de dimensions arbitraires. L'une des parois qui bornent cet espace est partiellement ouverte sur la salle destinée aux spectateurs, et forme, ainsi, un cadre rigide, au delà duquel l'ordonnance de sièges est définitivement fixée. Seul, l'espace de la scène attend toujours une nouvelle ordonnance, et, par conséquent, doit être aménagé, pour de continuels changements. Il est plus ou moins éclairé, les objets que l'on y placera attendront une lumière qui les rende visibles. Cet espace n'est donc, en quelque sorte, qu'en puissance (latente), tant pour l'espace que pour la lumière. - Voici deux éléments primordiaux de notre synthèse, l'espace et la lumière, que la scène contient en puissance et par définition.(p.19)²

Both Appia and Pilbrow mention that objects in space wait for a light to make them visible. In dance, these objects are people for the most part who use their bodies as instruments to turn themselves into moving sculptures. The task of the light designer in dance, according to Pilbrow, is to visually reveal these bodies to the audience in a dramatic yet appropriate way.

In order to help him develop his concept for lighting dance, Pilbrow arrives at the studio twenty minutes prior to the run-through of the choreography to experience the work environment of the group. He takes note of everything that he feels is relevant and then talks with the choreographer to understand exactly what is needed. While light can be difficult to discuss, a majority of directors and choreographers really do not know what to say or simply only know what they want after they see that something works. Therefore, Pilbrow talks about everything except for light, trying to touch upon the subject without the choreographer

² This roughly translates: The scene is an empty space, more or less lit and of arbitrary dimensions. One of the walls that limit this space is partially open to the room set aside for spectators, a rigid framework, beyond which the ordering of seats is rigidly fixed. Only the space in the scene always awaits a new order and, therefore, must be equipped for constant changes. It is more or less lit, the objects placed there wait for a light that makes them visible. This space [the scene] is therefore not just in any way, but in power (latent) for both the space and the light. Here are two essential elements of our synthesis, space and light, which contains a scene in power and by definition

even realizing it. This allows him to pick up some clues in order to decide which way he should go.

Pilbrow prefers to see the choreography when it is “almost ready” rather than at the very beginning because he wants to feel what the impact of the movement would have on an audience member. During this time he creates a map of movement in a way that appears almost scientific as he simultaneously times the rhythms and changes. However, he remains connected to the emotions that the dance provokes:

The light designer has the greatest scope in the field of modern dance. He can allow his imagination virtually total freedom when the dance, no longer restricted to storytelling, concentrates upon the evocation of mood and emotion through sheer movement. The lighting itself can dance with the performer, weaving its pattern around him, revealing every moment and conveying every mood. (Pilbrow, p. 126)

It is this connection to his emotions that fuel Pilbrow’s inspiration to create lighting for dance. Like Rosenthal, Pilbrow believes that it is important to get to know the body of work of each company because each has its own style and aesthetic. Many companies have a rig that is used in touring, and this can be viewed in two ways: It can be considered a limitation, for if a company has to perform several choreographies in an evening, the same equipment needs to be shared and used in all of them. However, using the same rig can also provide well-defined parameters that may or may not facilitate the conceptual work. Both Rosenthal and Pilbrow emphasize the importance of working with your limitations and treating each choreography individually.

Lighting dance, for Pilbrow, is all about the movement. Since the light comes from the movement and not from itself, the use of tricks to distract the audience from dancers is, as in the theatre, undesired. This is something that the theatre shares with dance. Movement being one of the main components of dance it seems natural that the light would come from this. In theatre, dramatic action and the scene is what takes the lead and therefore the lighting for theatre must come from that.

Making it work

After understanding how a light designer might work with a concept we are forced to ask the next obvious question: How do we make it work? Each light designer may have different preferences and ideas, but the tools of the trade are basically the same. While the light designer may have a choice of instruments, he uses a system to make decisions to achieve his concept based on his interpretation of what works best in certain circumstances.

Rosenthal's system to achieve her concept consists of fixed booms at every entrance using lateral light. According to her, this creates "a basis for flexibility and for lighting the whole stage." (Rosenthal, p. 117) and facilitates the creation of mood and depth onstage that can be useful not only in classic repertory but in modern dance as well.

With this system and a full understanding of the style and aesthetic of a company, a lighting designer can draft a basic lighting plot, almost as a standard, to be used as a launching point along with a handful of specials.

As for color, Rosenthal only refers to blue and pink specifically, but articulates that each company has its own blue and pink depending on the specific aesthetic of the company. However, the majority of the palettes are pale ones. Why? Does it not seem a little limiting? Rosenthal argues that, while each ballet company has its own specific style and aesthetic, there is a common factor: a sense of beauty and ease. Everything has to be beautiful according to Rosenthal, even the evil and "ugly" characters.

Finally, Rosenthal's system includes an analysis of how to execute lighting changes. She argues that the changes should be finished by the time the dancers arrive and begin a little before the musical transitions. This anticipation of the music helps with the fluidity of the show in general.

Pilbrow's system refers specifically to positions, angles and the focusing of lighting instruments. For modern dance he uses toplight from a light hung on a pipe pointing directly to the ground with zero angle. He also uses lateral light coming from a high angle and lateral

booms with lights at three different heights: the top light at eye level, the bottom light right at the floor and the third one in between. He uses a choice of three colors, with lots of backlight and very little front light. In the space, Pilbrow indicates that it is also possible to hang about twenty specials. He does not always divide the space into areas, like McCandless, but when he does, he will hang a toplight for each area. Ultimately, Pilbrow may use close to two hundred lights on eight pipes.

For classical dance, Pilbrow does things quite differently. Like McCandless, he divides the space in nine or twenty even areas and uses the more traditional 45° angle and very little toplight. When dividing the space in twenty areas, Pilbrow prefers to use two center positions, one in the actual center and another one downstage, and also likes to divide the stage in four corridors parallel to the audience. He uses backlight to cover two of these corridors at a time and lateral booms with four lights on each: one at three meters, the second a little lower, one at eye level and one at floor level. He also uses specials crossing diagonally upstage, one on each side crossing in the center to make an “X” on the stage.

Pilbrow maintains that color is essential in lighting for dance to create mood and drama. He states in modern dance that the use of color is very free, but that in classical dance much care is necessary in using color to conserve the image of the dancer.

Francis Reid argues that, in general, classical ballet has a tendency to demand more front light, given the existence of a strong narrative plot. He mentions that, since choreographies tend to cover the whole stage, specials used in selectivity are not a common practice as in modern dance. According to Reid, “[s]culptural enhancement of the human figure is the primary requirement of lighting for dance.” (p. 135) For this reason, Reid states that the angles most used are toplights and crosslights but that this is only a generalization and that great consideration must be given to style.

Reid asserts that the majority of the scenic spaces in dance consist of an empty space masked with borders and legs. The legs are usually hung to create openings large enough for the dancers to move on and off the stage comfortably. This standardization of space in dance often yields a standardization of the hanging and focusing of lights that helps manage the light design when there is more than one choreography in a show. Regarding

the angles used in modern dance, Reid maintains that what is hung, in general, is focused as a backlight and crosslight with some exceptions of diagonal lights. Toplights are important and have three basic functions. Toplight is very effective in contributing to modeling the dancers body, giving the dancer that three-dimensional look by making the body pop out to the audience. Modeling is one of the most exciting parts of lighting dance for Reid:

Dance is potentially one of the most exciting areas for lighting. The possibility of concentrating on modeling and atmosphere rather than detailed visibility for the eyes and teeth allows light to make a particularly integrated contribution. (Reid, p. 137)

The other two functions of toplights are to color the floor and wash out the dancer's shadow. Lateral lights hung up on the ends of the pipes also contribute to modeling with light coming from a high lateral angle. Front light, though rarely used, generally comes from positions on the side of the audience.

According to Reid, lateral light is hung on booms three to four meters tall and is placed close to the legs to allow room for entrances and exits. Shinbusters, the lowest lights on these booms, are focused to catch the floor all the way across the stage, while the light immediately above does not touch the floor. Above are more lights along the boom focused parallel to the floor in order to catch the bodies of the dancers with their light. The instruments used for these lights need to have wide angles and soft edges for when the dancers get very close to the wings of the stage. Reid suggests that fresnels are the appropriate instruments for the task, and that the use of directional diffusers can help with the vertical spread of the beam. Profiles with break-up gobos can also contribute with chiaroscuro to the lighting palette, the colors of which can be changed not only at the interval but also during the show. This is because the lights are focused across the stage and the end of the beam hits offstage, making the light visible only when the dancers cross through it. Follow spots are sometimes used, mostly in ballet, and a designer should always use at least

two to maintain the sculptural modeling of the dancer's bodies. He goes on further to specify the basic groups of a lighting rig.³

Reid discusses the set-up of the masking and writes that they should be set parallel to the proscenium arch and not at an angle. After focusing, he suggests that the director pull the onstage end of the leg towards the audience, at a slight tilt that the audience will not notice, to take away any shadows on the masking.

What is seen after reading about the three light designers is that they have some of the same ideas. Especially when it comes to making their concepts work. They all seem to agree on the use of fixed lateral booms with several instruments hung on each. They also seem to agree on the importance of the use of toplights. They all agree that front lights, for the most part, are unnecessary. As for working with a concept it is agreed between Pilbrow and Rosenthal that a great understanding of the aesthetic of a company is necessary before undertaking any design work. They also seem to agree, and it is not at all a surprise, that dance is all about the movement. If you start with this as your inspiration, it does not seem as if you will go wrong.

³ -Fixed focus and color.
-Fixed focus but with remote color-changers with fixed range of colors.
-Fixed focus but allowed an interval color change.
-Refocusable during intervals.
-Specials unalterably set for works in the current repertoire.
(Reid, p. 136)

3 - Observing the Dance

Creating an observation grid required concrete objective parameters in which the observer can quantify the information observed. This can be problematic in analyzing art since it is a purely subjective medium. Simply applying the objectives and properties of light does not suffice; rather, it is necessary to fuse the properties and objectives, understand the optimal lighting for dance and analyze how to use the instruments to achieve the vision of the choreographer. However, even a careful consideration of the factors involves subjectivity. Prior to seeing the three pieces I began thinking about what elements were essential for the observation grid in order to properly analyze the work. What follows is an example of an observation grid:

Since Rosenthal, Pilbrow and Reid all emphasize the need to focus on the body and not the face of the dancer, determining the best angle of light is one of the main concerns. To effectively focus on the dancer's body, designers use side and backlighting. Considering that dance lacks a verbal and textual foundation, the use of front angles were not expected. Since the audience must clearly see the dancers, I expected to see more high intensity than low intensity. Many forms of dance are abstract, I expected to see a wide use of color since there are fewer restrictions on its use. In modern

Angle	Lat.	Toplight
	Backlight	Diag. Fr.
	Front	Diag. Backlight.
Color		
Intensity		
Contrast		
Texture		
Movement		
Area of stage Used		
Relationship of light and music/sound		
Relationship of light and movement of dancers		
Specials		
Rhythm of the show		

Fig. 1
Analysis Grid

dance, there are typically only dancers on the stage and little else to light. Since the emphasis of the light design is on the body of the dancer, I expected to see a relatively high amount of contrast that would create highlight and shadow beneficial to the visual effect. For example, more light from the left and a less from the right may create an interesting effect on a specific movement.

In theatre, the use of texture can be limited since the audience must be able to see the faces of the actors. Therefore, front lighting would diminish certain desired effects. Since the focus in dance is more on the body than the face, there are many more possibilities for the use of texture. Because dance is an art of movement, it was expected that the dancers will use the whole stage but not necessarily at the same time. This would in turn influence the movement of the light design. It was expected to be seen in three forms, with the use of automated lights as well as in changing dancing area as well as changes in color. Since the oldest choreography analyzed was from the 1980's, proper use of all the newest technology was expected.

I expected that the relation between the light and the sound or music of the pieces would most likely be in sync. In dance, music and rhythm are often tied with the movement of the dancers. It is almost universally considered that the lateral lighting is thought of as general lighting for dance, Therefore, I expected the designers and choreographers of modern dance to isolate the main action and movement with the use of specially focused instruments.

I expected that the designers would balance the rhythm of the show with the lighting. This is a very abstract balance and can be achieved in several different ways. The designers could synchronize the actual changes in the lights with the rhythm of the choreography, increase or decrease the intensity of the lights, or change the saturation of a color used. Last but not least is the observation of whether or not the rhythm of the show is in balance with the lighting.

Who will be observed

The three observed dance shows were *Licht*, choreographed by Conny Janssen, with light design by Reinier Tweebeeke; *Shazam!*, choreographed by Philippe Decouflé, with light design by Patrice Besombes; and *In the Upper Room*, choreographed by Twyla Tharpe, with light design by Jennifer Tipton. They were chosen based on the differences in their origins and style.

Licht

What makes this dance show truly unique is the fact that the movement was created from the lights, when usually it is the other way around. In an interview with both the choreographer, Conny Janssen, and the light designer, Reinier Tweebeeke, Tweebeeke emphasizes that, in dance, he can create strong images that allow the imagination to take off on a spectacular journey. He can generate more interesting images since there is little to no dialogue and less of a need to light the performer's face.⁴

As for the observation of *Licht*, I observed seven parts of the choreography.⁵ Low lateral angles were used in five of the seven parts and a high lateral angle was used in one. A toplight was used in six of the seven parts, and backlight was used in five of the seven. There was one part in which a front diagonal angle was observed and one in which a back diagonal angle was used. Consistent with Rosenthal, Pilbrow and Reid's opinions that front lights are very rare in modern dance, there was no evidence of front lights used in the whole of the seven parts.

Color was evident in all seven parts, but there were three parts where it was uncertain if the filters used were color correctors or color filters. The dominant palette for all seven

⁴ Tweebeeke characterizes *Licht* not as a light show, but as a dance performance where light plays a crucial role. He and Janssen collaborated on the positioning of the lights, creating both a square and circular component, as well as a floor plan of nine mirrors.

⁵ The first 23:35 minutes of the show, the shortest of which is only 56 seconds and the longest 6 minutes and 5 seconds

sections was in the blue range, with one of the parts having a higher color temperature for a moment before cooling off with another shade of blue.

Intensity varied throughout the piece. In the first part, from minutes 1:50 to 3:24, light at a low level of intensity coming in and out is seen. Later in the piece, medium to high intensity levels emerge that synchronize with the music.

There was also a variety of contrast levels throughout the piece. High contrast, for example prevailed between minutes 3:27 and 5:22, where the majority of the light came from toplight and created a powerful contrast of light and shadow. Later in the piece, there was a fairly even ratio of light coming off of lateral angles between minutes 12:28 to 14:54 that did not create great areas of shadow on the bodies.

A gobo was most likely used in the first part between 1:50 to 3:24 to create texture. In the second part two rectangular shapes of light appeared to be projected onto the floor. For the remainder of the sections of the piece, there was no apparent substantial texturing observed.

There were both subtle and radical movements in the seven parts of the piece. The movements were more subtle in the earlier parts, from pulsating effects of a gobo coming in and going out to the changing of color and angles.⁶ We also see subtle movement in the changing of angles and color.⁷ We also see Radical movements created later in the piece with the use of automated lighting instruments. In minutes 14:55 to 17:23, two dancers were isolated in the middle of the stage lit in an intense blue color with several instruments. As their movement opened up, the light from the instruments opened to cover the stage in an intense blue downlight. Simultaneously, the par cans at the lateral positions open up to bathe the dancers in a cool light. There was a lot of movement in the final section created in part by moving lights and color changes. There were times that the lights moved to follow the dancers and times when the movement of the light appeared contrary to the movement of the dancers. At one point, the automated lights interfere with the perception of movement and time by creating slow motion effect using flashes of light.

⁶ As in minute 1:50 to 3:24

⁷ Seen in minutes 3:37 to 5:22 and in 12:28 to 14:54

All areas of the stage were used. In minutes 1:50 to 3:24 and minutes 3:37 to 5:22 the dancer is fairly isolated and does not leave a determined area. In minutes 11:30 to 12:26 an upper level appears above the lights upstage. The remainder of the piece involves a general use of the whole stage.

The relation between the music and the lights is quite evident throughout the majority of the observed parts. In the first two parts a specific sound is tied to a specific set of backlights, and in the final section there is an intensified collaboration between the lights and sound where the lights move and turn on and off with the music.

There is a direct correlation between the lights and the dancer's movement in all parts. Throughout the piece, there are times when the light is static and the dancers move in and out of it and times when the light is in movement, to follow the dancers. In the first three sections, the dancers are engulfed in an intense backlight from a low angle making the dancers disappear, facilitating their exit from the stage. In the last part, there are times when the dancers also move alongside the moving light. This could be accidental, where the dancers simply missed their mark, or it could be intentional.

LICHT	Part 1 1:50 - 3:24	
Angle	Lat.	ToplightX
	Backlight X	Diag. Fr.
	Front	Diag. Backlight.
Color	Cold Correction?	
Intensity	Low - Comes in and out	
Contrast	Not much	
Texture	Use of gobo in a toplight	
Movement	The gobo comes in and out - Almost pulsating	
Area of stage Used	Area always the same - dancer doesn't move	
Relationship of light and music/sound	The backlight comes up with a specific sound	
Relationship of light and movement of dancers	Backlight swallows dancer	
Specials	Dancer is isolated	
Rhythm of the show	Starts small	

Fig. 2
Analysis Grid
Part 1 *Licht*

Generally the specials were used in the beginning and end of each of the seven parts. However, there were also several moments where specials were used to isolate a dancer or dancers who did not move from their initial position and a moment when the strobe effect was used. Automated lights and profiles were used as specials to isolate the dancers at the beginning and end of the third part.

Throughout the seven parts there is a progression of intensity of the movement, sound and light. Beginning smoothly and with great subtlety, the action all around intensifies and opens up. As we reach the seventh part there is a plethora of movement, opening up and closing down isolating specific sections of the stage. There is a clear correlation between the rhythm of the show and the rhythm of the light design. A small excerpt of the observation grid appears in Figure 2; the remainder can be found in the annex.

Shazam!

Choreographed by Phillipe Decouflé, *Shazam!* differs tremendously from *Licht*, with comedy, work with cameras, illusions and simple movement. Decouflé and his light designer, Patrice Besombes, work together regularly. Six parts were chosen for observation based mainly on whether or not dance was the main component.⁸ Lateral angles were used in four of the six parts at both high and low positions, while backlight was used in three of the six parts. Downlight and a front diagonal angle was used in one of the six parts and a back diagonal angle was used in two of the six. There appeared to be a lack of color in at least four parts. The third part seemed to have a warm color, perhaps a type of amber filter and part six appeared to use at least two colors, a warm and a cool one, on either side of the stage.

The intensity level of the light in all sections, with exception of the last part seemed to be fairly high. The first part began with a low intensity and then grew in the second part with light highlighting the stage left side of the dancers' bodies. There was quite a bit more contrast in the third part with the use of different colors on each side of the stage. There was high contrast in parts five six resulting from the use of different colors hitting each side of the dancers' bodies. The last part started off with a low intensity and increased as it went along.

With the exception of a corridor of light that gave some texture to part five, there was almost no texture used in the lighting. Moving lights were not used in any parts and the movement of fixed lamps was not apparent. There were, however, two follow spots used in part four giving the light some movement. The stage was used in its entirety but not all at once; while the center of the stage was used in parts one and two, the full stage was used in parts three and six. The downstage area was used in part four and part five uses an area stretching diagonally from upstage left to downstage right.

⁸ The sections which used cameras or mirror based illusions were not considered for observation. The shortest one consisting of one minute and twenty-five seconds and the longest consisting of seven minutes and thirty seconds.

Unlike *Licht*, there was no obvious correlation between the music and the light in all six parts. There was, however, a more direct relationship between the movement of the dancers and the light achieved by the light constantly hitting the dancers. In the first three parts the light simply occupied the same space as the dancers, but in part four the light followed the movement of the two dancers. The light came down in a hard back diagonal angle in part five and, consistent with the first three parts, once it was installed there was little or no change. In part six the light opened up with the movement of the dancers increased as they started dancing all over the stage.

With the exception of parts four, five and six, the use of specials was not very evident. However, in part four two follow spots were used and, in parts five and six, there was one hard backlight focused with a hard diagonal angle from upstage left to downstage right. There was no apparent correlation between the lighting and the rhythm of the show itself.

In the Upper Room

In the Upper Room, the oldest show observed, was choreographed by Twyla Tharp, an American born dancer and choreographer who still lives and works in New York City. The light designer, Jennifer Tipton, is the current head of the lighting department at Yale University. It was a stunning achievement at the time because Tipton received a lot of attention for the lighting, which really isn't very common. Michael Beirut wrote in an article:

This piece turned out to be *In the Upper Room*. Unlike *The Fugue*, this dance would have costumes (by Norma Kamali) and music (by Philip Glass) and lights (by her longtime collaborator Jennifer Tipton), but the goal would be a new kind of simplicity. She explained to Tipton and her set designer, Santo Loquasto, how the piece would begin. The lights would come up on with two women standing on a bare stage, each striking the stage with one foot and withdrawing back into the space. And then, something amazing would happen: three men would suddenly

materialize at the center of the stage. As Tharp puts it in her 1992 memoir, *Push Comes to Shove*, “All I said to Jenny and Santo was, ‘I don't care how you do it, they must just appear out of nowhere.’” (Beirut M., para. 2)

Watching the video we can see this exact thing happening. The dancers really do look like they appear out of nowhere.⁹

Lateral angles were used in all seven parts. Toplights were used in three of the seven parts and backlights were used in six of the seven parts. While a diagonal backlight was used in four of the seven parts, there were no apparent front or front diagonal angles used. In some sections there seemed to be more backlight than lateral light. No color was used in three of the seven parts, but lavender and blue were used in two of the seven parts and red or magenta was used in one of the parts. Since intensity remained in the medium to high level, there were no moments in which visibility was difficult and the presence of contrast gave the light a modeling quality. There is an obvious, frequent use of texture in the lighting. For example, toplight created balls of light on the floor in the first part and color was used to “paint” the floor in the second part. The “painted” space downstage was divided from upstage, which remained open white. This division created a texturing on the floor with two different tones marking the stage. In part four, the light passing through a haze created a texture in the air due to narrow cones of backlight coming down. Gobos were used in part five coming down from a back diagonal angle and in part seven as an effect passing through the haze.

There were frequent changes in movement as the light opened up and closed down when the dancers moved on the stage. For example, there were two isolated dancers in the center of the stage in parts one, five and seven, and, as more dancers came onstage, the light opened up. In part seven, there was an opening of the light and closing of the light toward the end when two isolated dancers remained onstage. The whole stage was generally

⁹ There were seven parts observed, the shortest being one minute and ten seconds and the longest being seven minutes and forty-three seconds.

used, including when the stage divided between the open white upstage and the color downstage.

In all parts except for part two there was an apparent relationship between the light and the sound. In part one the dancers were isolated in the center and the music was relatively soft but got louder and more intense as the lit area opened up. Toward the end the light made an immediate change in synchronization with a pause or stoppage in the music to isolate the dancers in the center. In parts two, four and six there was a radical change in lighting with a pause or stoppage in the music. In part five, the dancers were first isolated in silence and, when the music began, the light opened up with a texture. In part seven the dancer was isolated in the center of the stage and, when the music began, the other dancers came in along with an opening of the lit stage area. Finally, part seven concluded with two dancers isolated in silence. There was a direct relationship to the movement of the dancers and the light; there was light wherever the dancers were dancing. The light coordinated with the changing rhythm of the parts, increasing in intensity and number of largely lit areas when the rhythm increased in intensity. Texture and specials also enhanced the relationship between rhythm and light. Specials were used in the isolation of dancers in specific moments of the choreography, especially in parts one, five and seven.

The observation summarized

What can be taken from this exercise? Art is subjective. Since light design is art, it is also subjective. The most useful of the analysis grid may be the observation of the angles used. Color was used in all three shows to some extent. Intensity was always kept in a medium to high range for the most part. This attribute, along with color, can be very misleading in my experience when observing a live performance on video. It is definitely something to keep in mind. The fact is that the camera is not nearly as efficient nor as effective in capturing images because our eyes are just that much better. Therefore what is seen in the DVD as being a medium intensity can actually be very high. There is also a chance that the levels of intensity were altered for the filming of the shows. This is just

something that is very difficult to see. Also the color can be altered or at least can appear to be different on camera. The use of texture across the board was also a surprise. There was much less use of texture than expected.

Movement in *Licht* was taken literally with the use of automated lights, something not seen in the others. As for the other two shows we saw some movement in *In the Upper Room* in the form of color changes and the opening and closing of illuminated stage space. *Shazam!* didn't show much movement at all with the exception of follow spots.

In conclusion the two attributes that really jump out is the use of lateral angles, backlighting and toplight. The lack of use of front lighting was expected and confirmed. This will most definitely help in the conception of the project. The other was the use of contrast. Whether with the use of contrasting temperatures as in *Shazam!* and *Licht* or with the use of different intensities it is clear that the use of contrast can help in creating the three-dimensional look that dance requires. These two attributes together are certainly a light designer's greatest tools when designing lights for a dance show.

4 - The Project

The project will be to design lighting for two choreographies. These choreographies were integrated in a showing of work done by the Ginasio, a dance school in Vila Nova de Gaia in Portugal. The showing took place between the 2nd and 4th of March in the year 2011. The two choreographies are studies of movement by Isabel Ariel, a Portuguese choreographer and dance instructor. One is a duet, called *Memória Siamesa*, and the other, *Focus Fragmentado*, was performed as a quintet, a quartet and a sextet. The music for *Memória Siamesa* is "Bloodstone" by Amón Tóbin e Kronos Quartet, and the music for *Focus Fragmentado* is "Workuta" by Blixa Bargeld.

The Beginning

The first meeting with Isabel was very casual. I went to the dance school with the sole purpose of seeing the dances for the first time. I did not want to take any notes. I did not want to associate what I was about to see with anything. I simply wanted to watch. We also did not speak very much. I sat down on the floor of one of the studios and the four dancers came in and walked to the far left corner. Isabel said that the movement started in silence, and gave them the signal to begin. I watched in silence as the dancers began the choreography. Then the music began. The simple sounds of piano chords being played in a steady rhythm. It was so easy to just let go and watch the movement of the four dancers telling me a story, even with the horrible and utterly uninspired studio light. I was immediately immersed in a world unknown to me in all its intensity. Then, just as it began, it ended with movement in silence. The air in the studio seemed full of energy as I emerged from my trance.

Isabel thanked her students and two other dancers came in to do the duet. Same scenery: just a studio with lighting fit for working in a class. There was nothing magical about it. Then Isabel pressed the play button on the CD player and the music started. Unlike the previous piece, this music did not ease in, but rather started abruptly along with the

movements of the two graceful dancers. Again, I was wide-eyed and amazed, and even caught myself with my mouth open. The intensity increased as the choreography developed and finally ended with the two dancers side-by-side shuffling out. Isabel said that the choreography was not quite finished. And that was it. I thanked her, got in my car and headed back to Coimbra with my head buzzing with excitement. This was going to be quite an experience.

During my next visit, I watched the dances once more, this time taking notes. I tried not to create a story so much as feel how I thought the light should be. What worlds were these? How could I help in creating with these artists?

When I saw *Focus Fragmentado* I was intrigued by the fact that all four dancers were tucked away in the corner, moving in silence. The movements were crisp and almost jerky. I saw darkness. I imagined the darkness of the end of a night, maybe at four or five o'clock in the morning. I envisioned an image with cold light and lots of contrast. I thought of creating, perhaps with only a toplight, shadows along the curves of their bodies. As the music started I pictured light coming up like a sunrise with some warmth. I started to imagine soft, warm amber rays coming off a sharp diagonal angle filling in the shadows left by the cool toplight.

As the dancers moved downstage in a diagonal direction to the right, I thought, *Should I lay a path of warm light for them to follow?* And as they reached the downstage left corner, they started to split in different directions. Two dancers remain together, while the other two seem to start doing their own thing. I immediately envisioned putting the two dancing together on an island by marking the floor with a toplight while allowing the other two dancers to linger in a sidelight, keeping the light off the ground to make them appear as though they are floating.

I imagined using cyc-lights in the back to light up a cyclorama or even the white wall to get a bright hot light bouncing off and create a high contrast. Then, when the four came together and moved in a diagonal direction from the down left position to the up right part of the stage, they got off their feet and moved to the floor. At this moment, I imagined that they had reached the end of the day and thought of using a sunset color and then returning to the

cool toplight to contrast the warmth and light of the music to the coolness and darkness of the silence.

The duet was much more of a mystery to me. My notes were very different from those I took while watching the quartet. Right away, I felt that the light needed to be cold. I wrote the word shadow in big capital letters and also dark, scary, and macabre. There was a lot of manipulation between the two dancers and little movements that required some sort of special lighting. I also wrote down close up, isolation, and pools of light.

There are infinite possibilities when collaborating on the creation of a show, but the true challenge is actually figuring out how to do it within limitations. The actual space would be my greatest challenge here. I had two choices as to where these two choreographies would be shown. One studio, a large space about twenty meters deep and twelve meters wide, was a little over four meters from the floor to the ceiling. However, there were several problems with this space: a twenty meter long mirror that ran along one of the walls; windows opposite the mirror; and four round columns three meters in from the left.

The other studio also had problems. The stage was about nine meters deep and a little over fourteen meters wide, and was about thirty centimeters higher from floor to ceiling. While there were no mirrors, there was a giant window about 2.5 meters wide and 3.25 meters tall on the stage right side. Also problematic were six square columns, three up against the upstage wall and three at the end of the linoleum downstage, and unfinished walls that were light in color. Since neither space had pipes or trusses from which to hang lights, I would have to use booms and ground positions. Despite all of these problems and limitations, I would still have to try to make it work. But first, I had to come up with a concept to present to Isabel.

The Concept

After observing the dances several times, I focused on listening to the music and reviewing my notes. Knowing nothing of what Isabel intended or wanted, I proceeded on raw feeling and instinct based on what I had seen and heard. After beginning to develop some ideas, I planned to meet Isabel in a café to discuss them. During my meeting with Isabel, I began with the story I envisioned in my mind as I observed the quartet: the passing of a day. Starting in the very last moments of the cool night, these four beings start to awaken. The first sign of warm light appears with the commencement of the music and, as the day progresses, the light accompanies the evolution of the dance. Once the dancers split up, the low level lateral lights open up and bathe the dancers in the warm light of the instruments. Towards the end of the day, the color temperature heats up with the reds of a sunset. We end in silence with the hot and cold contrast fading and giving way to the cool toplight on the other side of the stage. Finally as the movement slows up to a halt, we get a slow fade to black.

As I presented these ideas to Isabel, I did not know the piece was called *Focus Fragmentado*. Isabel's reaction to my ideas was very positive. When I suggested we use the window to our advantage, she did not show any resistance and seemed quite pleased with my general idea.

I then presented to Isabel that, when I observed the duet, I envisioned I a macabre, twisted world: a peek into a scary place with cold light and lots of shadow. When I told her that I imagined using a blue tint, Isabel looked a little worried. She also did not look very convinced when I proposed using a heavier tint on one side and a lighter one on the other she. However, Isabel liked the idea of portraying a scary world. While I could not decide if the dancers were two little girls, one manipulating the other to some degree, or if the dance was some kind of macabre doll story, either way it appeared frightening. It is important to note that, like the quartet, I did not know the name of the duet was *Memória Siamesa*.

As our meeting ended, I told Isabel I would draft the plots and use a rendering engine to produce some images that might give her better idea of what I was thinking. I worried that

the space itself was not prepared with the ideal infrastructure to support my concept. I had no place I could hang anything and many of my ideas involved toplights. Since I could not change the fact that the walls were not black, I stopped thinking about it. I resolved that I would have to use the large window to my advantage since I could not cover it up. While I could use the window for *Focus Fragmentado*, I was not sure it would work in *Memória Siamesa*.

After seeing the show *Licht*, I really wanted to use moving lights. But since moving lights are heavy, I needed to create some kind of structure to hang them. I decided to proceed with my color scheme despite Isabel's hesitant reaction to it because I was extremely confident that it would work. In the quartet, I was determined to use the window to my advantage, at least in the quartet and wanted to use a color temperature contrast that would take me from the cool of night, to daylight, to a hot sunset, and back to the cool of night. I also wanted some moments of isolation. For the duet, I wanted to create a shadowy, scary world. I intended to work contrast within a cool night, perhaps by using a tint of blue on one side and a heavier tint on the other side, and use moving lights to help me isolate certain moments.

A significant problem here was equipment. Since there was no structure to hang lights, I would have to use many of the instruments for both dances. I decided that moving lights would give me a great advantage and provide versatility in color and focus so long as I create an ideal place to put them. For the sidelights, I chose to use an old trick: since I want a different color for each dance and did not have scrollers available for my intended profiles, I would have to change out the color frames between dances.

Renders

While renders are useful when discussing ideas and concepts with directors and choreographers, they can only convey rough images that do not always translate to what we will see in reality. Despite that limitation, I wanted to create some renders to help Isabel understand my concepts and intentions with the lighting. I was able to create renders of the

quartet with more precision since I observed the dance in the space in which it would ultimately be performed. However, this was not the case in the duet. Therefore, creating the renders for the duet required a great deal of speculation since I was not one hundred percent certain about the specific positions the dancers would take up during the key moments of the dance. Fortunately, I would have enough time for programming in the actual space after setting up the lights.

Focus Fragmentado

For creating the renders of this choreography, certain moments considered to be important were chosen and several scenarios were explored in terms of light for them. For example, with the dancers in place, I wanted to show how I thought the first moment might work at the very beginning of the show. Below are the renders which were sent to the choreographer.



Fig. 3

We can see the cool toplight hitting the dancers in the corner. Cool light coming from the window hits the wall upstage.



Fig. 4

Here we can see the moment where a little bit of a warmer light is introduced from a high lateral angle.



Fig. 5

Here is the moment in the dance where the dancers move diagonally downstage. We can't see the light on the floor in the render but a careful look at the dancers and we can see the highlight on the back left side of their bodies. There is also a touch of light on the wall, as an experiment.

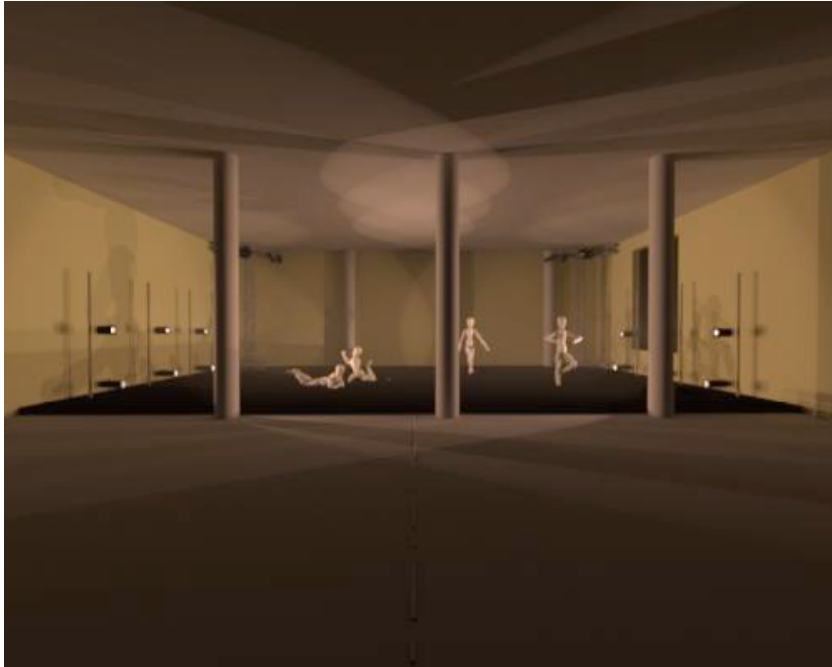


Fig. 6

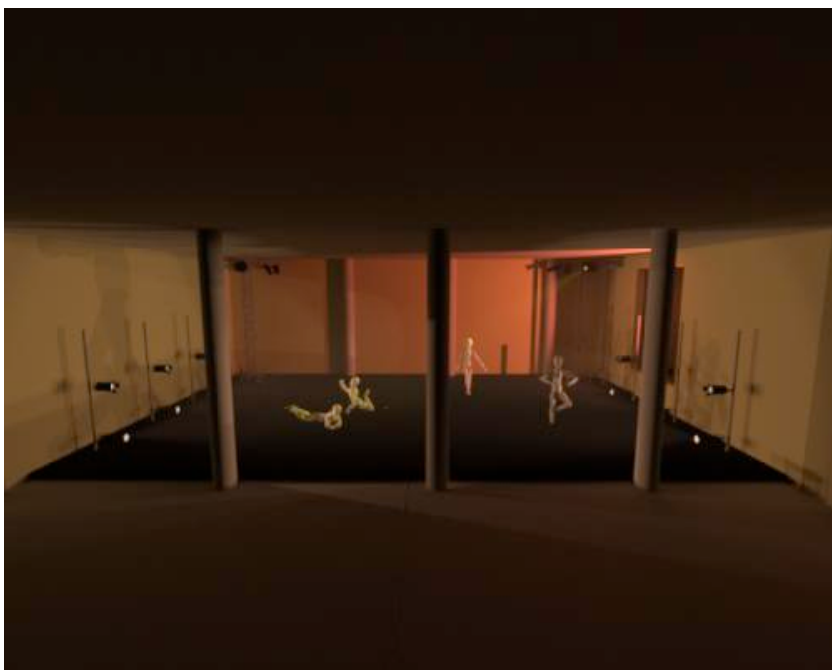


Fig. 7

In figures 6 and 7 we can see two renders of the moment when the dancers start to split off. The first one has no light directly on the wall, while the other would be a moment closer to sunset when the dancers are about to come back together.



Fig. 8

Here we have the very end of the dance, when the dancers are already lying on the floor with the sunset in full effect.

Memória Siamesa

For the renders of this choreography, I kept the two dancers in the center and tried several things that I thought may work in developing my ideas. But the main point I wanted to convey was the different looks the two light designs would generally have. I wanted to show Isabel the intense contrast between these two very distinct worlds.



Fig. 9
Diagonal Backlight



Fig. 10
Diagonal Backlights with
stage left shinbuster.



Fig. 11
Shinbusters and top lateral
lights.

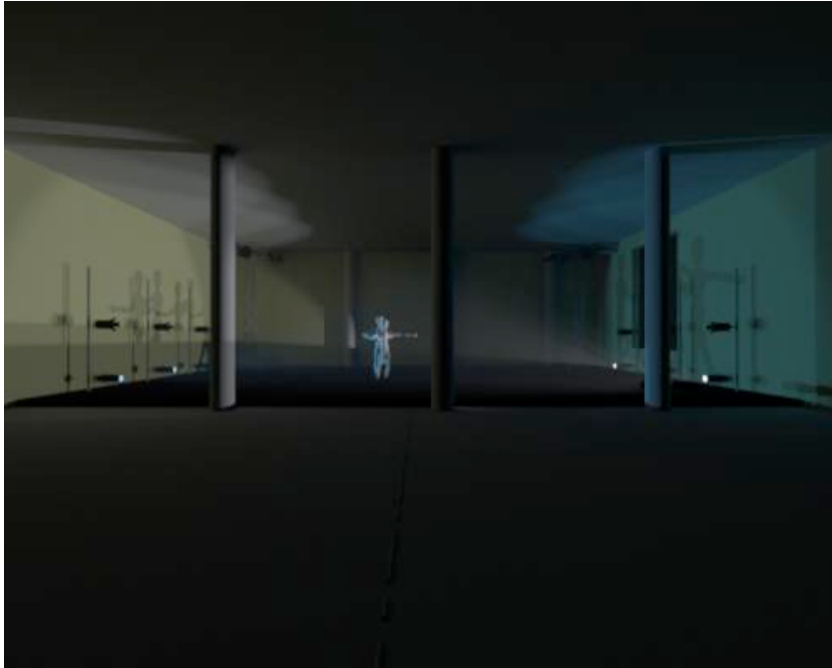


Fig. 12
Shinbusters.

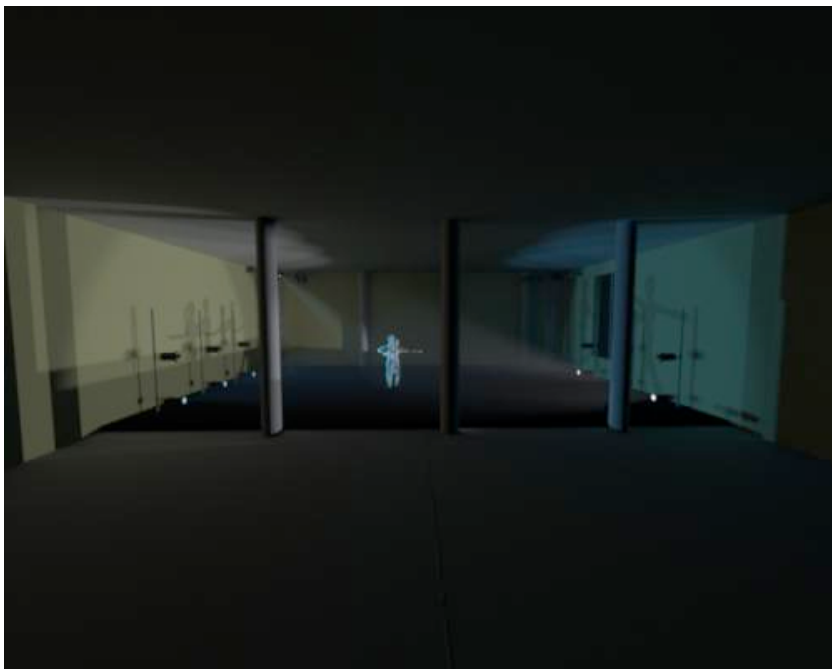


Fig. 13
Shinbusters with blue
diagonal backlight.



Fig. 14
Shinbusters with white
diagonal backlight.



Fig. 15
Shinbusters with white
diagonal backlight.

Pictures - Focus Fragmentado



Fig. 16

The very beginning of the choreography. Cool toplight hitting the dancer's bodies creating high contrasts of light and shadow.

Comparable with the moment in the render in figure 1.



Fig. 17

The moment the "sun's rays" perhaps pierce the night and the window. Here we see a little warmth coming from the right side of the dancers. Comparable with the moment in figure 2.



Fig. 18
The moment when the dancers start to split off.



Fig. 19
A dancer after splitting off.



Fig. 20
The moment of sunset
at the end of the
choreography.
Comparable with figure
6.

Memória Siamesa



Fig. 21

The two dancers at the beginning with stage left shinbusters and backlight



Fig. 22

The two dancers at the beginning with stage left shinbusters and backlight.



Fig. 23

Here we see the two dancers with only lateral lights. We can see on the limbs of one of them how the use of two tints can work.



Fig. 24

At the very end the two dancers are bathed by an intense diagonal backlight with just a touch from a lateral angle.

What to Take From the Experience

There were many positive lessons that I can take from the overall experience. I took from what I had read as well as some ideas from what I had seen in the DVD's and achieved some interesting results. The majority of changes I would make have to do with the circumstances and limitations that I was dealing with. One major lesson I learned is that filming and running the lighting console at the same time is not a good idea.

Playing with the hot and cold contracts for the choreography of *Focus Fragmentado* worked quite well, especially in the moments where I had a super cold toplight and a warmer light crossing at a steeper angle. While the diagonal angle I used sweeping from upstage left to downstage right worked, I believed the light itself was too low and would have preferred it to come from higher up.

I disliked the large window on the right of the stage from the beginning. However, since I could not alter it, I used it successfully to my advantage. There was a conflict with one of the teachers at the school who wanted to have his art installation in front of the window and this forced me to use a less favorable angle. While I am unsure as to whether it made that much of a difference, this is one of the things that I would have changed. Instead of using three colors coming through the window, I would concentrate the full power of the instruments together on one bold color.

One surprise came from a later viewing of the videos. While video is not the best way to study light for live performances since the camera sees much less than the human eye, I noticed while watching the video that in certain moments the dancers farthest away had the most light and the closest dancers had almost none. This looked interesting to me maybe because it is exactly what I would not expect to see; usually the closer things are, the easier they are to see. In this case they were not.

Three major flaws had to do with the space itself. The walls were light-colored, unfinished drywall, and were disruptively prominent. Working with the same choreographies,

I would use black masking all around with legs and borders and a black backdrop. I think that it would make the work that much better. The lack of black masking destroyed the universe I was trying to create. At the moment when I wanted to show a little more brightness, the walls bounced the light everywhere and took away a little of the magic.

I would also do the dances in a space with better infrastructure, with pipes evenly spaced from downstage to upstage to allow for more play with toplights and other steep angles to enrich the work. The fact that I was working with six fixed booms and two corner towers was very limiting. Finally, the columns at the very edge of the stage not only created visual obstacles for the audience but also got in the way of the camera I was using to record the dances.

As for the choreography of *Memória Siamesa*, even though I had a much less specific plan of attack, I was able to be more creative and inventive when trying things out for it than I did for *Focus Fragmentado*. Inspired by what I saw in *Shazam!*, I wanted to use different tints on each side of the stage: a very light tint on the two lights on the right side of the stage and a heavier tint on the shinbusters of the left side. This resulted in creating a highlight and shadow contrast without the shadow. I simply painted the bodies of the dancers with that heavier tint. However, by using the same lighter tint on the eye-level light on the stage left booms, I ended up washing out the power of this effect. Therefore, in doing this again, I would use the heavier tint on both lights of the stage left booms. Inspired by what I saw in *Licht*, I tried, however lightly, to employ the use of light in motion. I would have liked to do it a little more boldly and, if given more hanging positions, I believe that it would work nicely.

Conclusion

Few have touched upon the subject of light for dance. To take a scientific approach to art is not easy, but there are lighting designers that have established methods to light dance. They have formulas and instruments that help them along a journey where sometimes the destination is not the most important part.

The objectives of lighting dance do not differ drastically from lighting theatre. A designer wants to create mood and composition, however, visibility is the one thing that cannot be compromised. As in lighting theatre, selectivity and modeling are essential; in lighting dance, however, the designer can generally neglect the dancer's face whereas lighting theatre requires attention to the actor's face. This simply calls for a small shift in lighting priorities: the front angles becomes less important giving way to others such as diagonal and lateral angles.

Some light designers try to quantify their work, but with a good degree of difficulty. While art by nature is very subjective, the designer puts this subjectivity aside to grasp concrete and quantifiable attributes of this art in order to analyze it. I observed in the three dances (*Licht*, *Shazam!*, and *In the Upper Room*) many of the methods and techniques I learned from reading Rosenthal, Pilbrow and Reid. Some questions that were raised after reading were answered in the observation of the shows. Other questions remain for discovery in the future. A discovery which can only be realized with practicing the art and taking risks.

Despite my limited experience in lighting dance, working a concept in dance is not that different from working a concept in theatre. Jean Rosenthal gives us a specific example of how she works with Martha Graham, while Richard Pilbrow does not go so far. Either way each light designer has to find his way through the world that is in the head of the choreographer. This is something that must be understood and felt through seeing the dances, hearing the music and collaborating with the choreographer. A myriad of factors must be taken in consideration, quantifiable things such as what equipment can be counted on, and what kind of space will the dance be performed. And subjective things like what kind

of universe the choreographer is working in, and how the music feels like along-side the movement of the dancers. Some ideas are worth elaborating and pursuing, while others need to be let go and dismissed. One thing is certain: the most difficult part of this journey is not generating the ideas, it is making them work with the instruments available. The hard part is making the intangible tangible.

This was very evident in the project. As expected, some things worked really well and other things did not. I thought of several different things to try next time around. The lack of front lighting allowed for a greater exploration of other objectives of lighting like composition and mood. Just taking one key light from a hard diagonal angle downstage then hitting the dancers with a hint of lateral light from a low angle was very useful in creating a very dramatic atmosphere. This high degree of contrast allowed for a more interesting image that complemented the specific movements of the dancers at that point in the dance. In future experiences, a designer should look for these opportunities and take advantage of them. This is what makes designing lights for an art based on movement unique. It is a very effective way to accompany the poetry of dance. Being poetry in motion, a fairly abstract idea, the light then needs to be as poetic and as abstract in order not to destroy the magic of dance.

Looking back to the beginning, I ask, Why is there so little literature about designing lights for dance? Why is it that almost all the light designers who have written valuable things about lighting the stage touch only upon dance in one small chapter? One obvious response is that dance in its most modern form is relatively new. Theatre has been done for centuries and the issue of lighting it has been an issue men have had to address for as long as theatre has been around or at least since it has been done indoors. While classical ballet is a fairly old art, it is quite different from modern dance. The issue of movement remains pertinent; however, the telling of a linear story is almost always present in ballet and therefore the lighting is much less abstract. Perhaps it is the poetic quality of dance that makes it so difficult, not so much to light, but to be able to write about lighting it.

Ultimately, how does one go about lighting dance? True artists ask this question constantly with each new project. Formulas and methods are forever developing. Designers fall back on certain things that they know will likely work, but each show requires

adjustments. One thing that has worked in the past may not be right for a specific circumstance. There is no destination, only a journey. Deciphering and exploring each individual circumstance is the journey. Therefore there is no definite answer to how to light dance, only a continuous journey to find one. This infinite search for answers is what creates. It is responsible for lighting dance and theatre and even rock concerts. For me, the search, the journey continues.

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Licht. Performer: Conny Jansen, Reinier Tweebeeke. Cobra Records, 2004. DVD

Shazam! Performer: DCA Compagnie with Philippe Decouflé, 2001. Recorded at L'Opera National de Paris. DVD

In the Upper Room. Performer: Twyla Tharp Dance, 1986. AVI file.

Annex

A

Analysis Grid

LICHT	Part 1 1:50 - 3:24		Part 2 3:37 - 5:22		Part 3 6:00 - 11:23		Part 4 11:30 - 12:26		Part 5 12:28 - 14:54		Part 6 14:55 - 17:23		Part 7 17:30 - 23:35	
Angle	Lat.	Toplight X	Lat. X	Toplight X	Lat. X	Toplight X	Lat. X - Alto	Toplight	Lat. X	Toplight X	Lat. X	Toplight X	Lat. X	Toplight X
	Backlight X	Diag. Fr.	Backlight X	Diag. Fr.	Backlight X	Diag. Fr.	Backlight	Diag. Fr.	Backlight	Diag. Fr.	Backlight X	Diag. Fr. X	Backlight X	Diag. Fr.
	Front	Diag. B.	Front	Diag. B.	Front	Diag. B.	Front	Diag. B.	Front	Diag. B.	Front	Diag. B.	Front	Diag. B. X
Color	Cool Correction?		OW or Cool Correction		Temp. is higher at the beginning - Cold Blues - Blue with higher saturation - temp. higher		OW or Cool Correction		Evolution from OW or correction to higher temp. - Later a cooler color with less blue - at the end the higher temp. returns		Higher saturated blues with a touch of hot coming from above (same type of light as the previous choreography) Blue - Cold (correction?)		Blue Cold Blue OW	
Intensity	Low going in and out		High		Medium intensity - more intensity comes with music		Medium		Medium High		Medium High		From low to high	
Contrast	Not much		Lots - Much more toplight creating pockets of Highlight and shadow!		Some - starts becoming more intense by the end		Some contrast - light appears to be coming from one place		not much		not much		From high to low	
Texture	Use of a gobo in a toplight		Two squares on the floor		none visible		none visible		none visible		none visible		none visible	
Movement	Gobo comes in and out - Pulsating		Changes in angles- First lateral and then toplight and then back to the lateral followed by a backlight		3 automated lights fly in Light moves (not necessarily following the dancers)		None		Changes in color - a change in angle at the end		Starts with a blue light focused in the direction of the dancers - opens up with movement of the dancers		Lots of movement following the dancers - or the dancers following the light	
Area of stage Used	area is static		area is static		The area opens up with movement and light		Upper level - Center		Almost the whole stage		Almost the whole stage		Total	
Relationship of light and music/sound	Low angle backlights come up with specific sound		Low angle backlights come up with specific sound		Light and sound intensify		No direct correlation apparent		Suave changes in music - suave changes in Temp.		Suave changes in music - suave changes in Temp.		Light comes in and out with the sound	
Relationship of light and movement of dancers	Backlight swallows dancer		Backlight swallows dancer		3 Dancers start in a toplight- 3 automated lights fly in and the dancers move to their light - Backlight swallows dancers		Light is where the dancers are		Light is where the dancers are Starts to isolate 2, Opens up at the end and closes on dancer		the automated lights open up with the movement of the dancers		Lots of movement following the dancers - or the dancers following the light	
Specials	Isolates the dancer		Isolates the dancer		The automated lights isolate the couples		under the position of the dancer a line of pars are focused towards the audience		Toplight at the end on the dancer		Blue on the dancers		Light isolated the dancers many times	
Rhythm of the show	Starts small		continues small		Intensifies		Very suave		Very suave with slight climb of intensity which accompanies the movement		Sound is suave but movement of dancers is a little faster		Intense	

B

Analysis Grid

SHAZAM	Part 1 5:35 - 7:40		Part 2 12:00 - 17:40		Part 3 31:20 - 38:20		Part 4 39:00 - 42:40		Part 5 49:46 - 51:50		Part 6 51:50 - 59:20			
	Lat. X	Toplight	Lat. X	Toplight X	Lat. X	Toplight	Lat.	Toplight	Lat.	Toplight	Lat. X	Toplight	Lat.	Toplight
	Backlight	Diag. Fr.	Backlight X	Diag. Fr.	Backlight X	Diag. Fr.	Backlight	Diag. Fr. X	Backlight	Diag. Fr.	Backlight X	Diag. Fr.	Backlight	Diag. Fr.
	Front	Diag. B.	Front	Diag. B.	Front	Diag. B.	Front	Diag. B.	Front	Diag. B. X	Front X	Diag. B. X	Front	Diag. B.
Color	OW		OW		OW + Amber		OW		Cold - OW?		OW - Hot and Cold Contrast			
Intensity	Medium - High		High		Medium - High		Medium		Medium High - High		Starts low and increases			
Contrast	not much		Some, Highlight on Left.		plenty - Hot and Cold - Hot on Left Cold on right		some		High		Plenty - Use of different tints on each side			
Texture	No		No		No		No		There is a corridor on the floor		No			
Movement	No		No		No		2 Follow Spots		No		No			
Area of stage Used	Central		Upstage Center		Almost total use of stage		Downstage Center		Diagonal strip from upstage left to downstage right		Total use of area			
Relationship of light and music/sound	No music		No Obvious connection		No Obvious connection		No Obvious connection		No Obvious connection		No Obvious connection			
Relationship of light and movement of dancers	No Obvious connection		No Obvious connection		No Obvious connection		The light follows the dancer's movement with a hard diagonal angle from the front		No Obvious connection		The light opens up where the dancers go			
Specials	No		No		No		Follow spots		The light creating the corridor		The light creating the corridor			
Rhythm of the show	The show seems to have very different pieces. It moves fluidly however the light seems to be treated separately.													

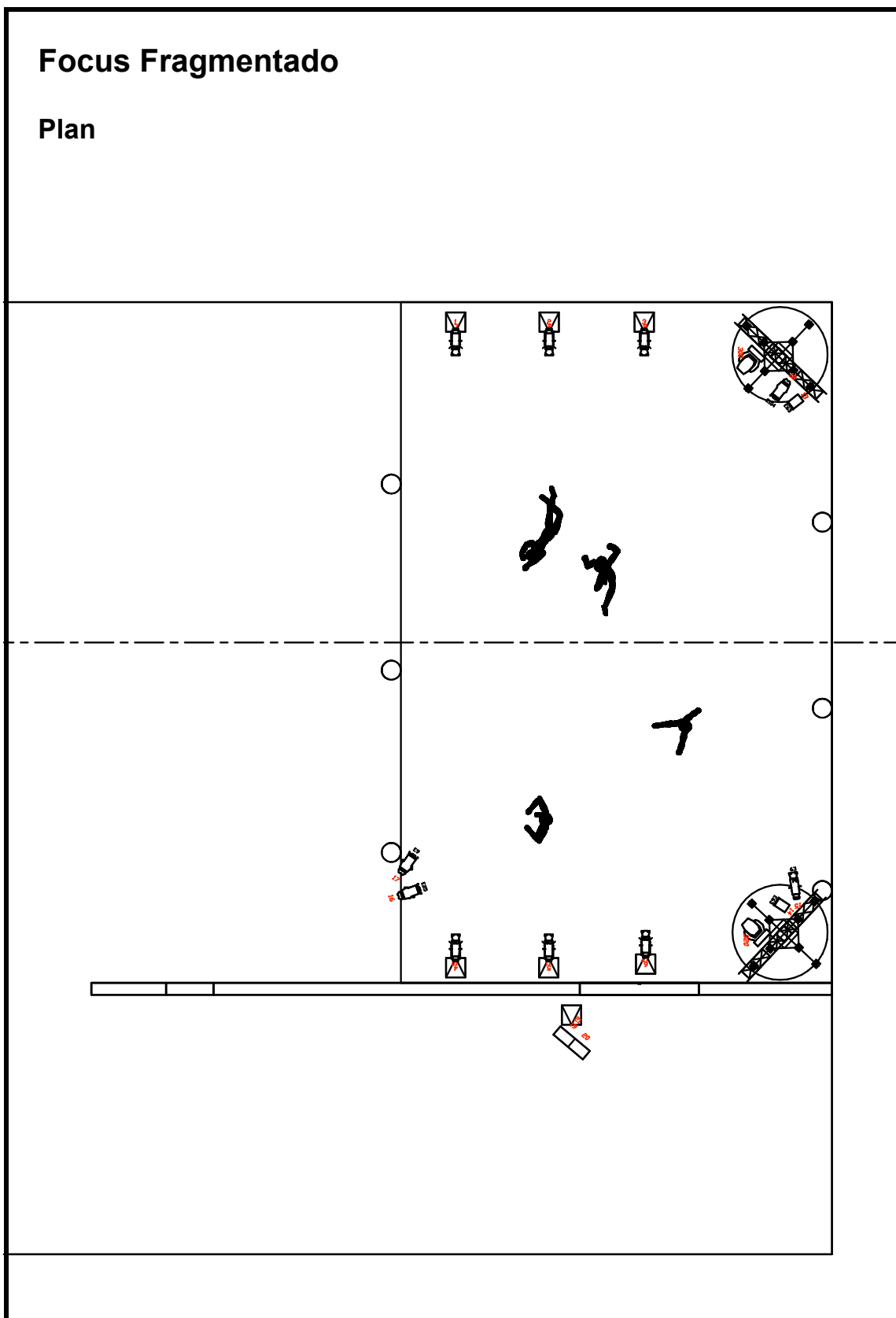
C

Analysis Grid

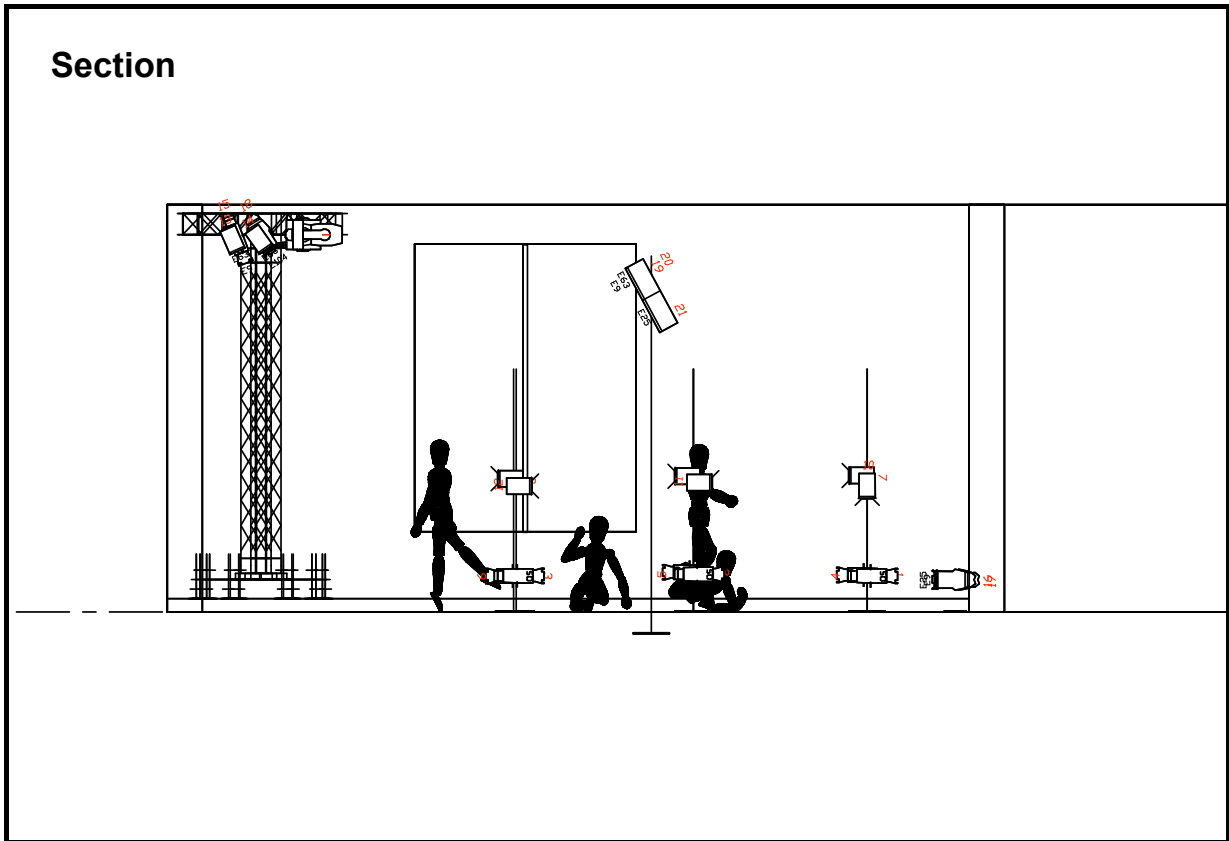
In the Upper Room	Part 1 00:12 - 1:22		Part 2 1:23 - 4:24		Part 3 4:25 - 7:04		Part 4 7:05 - 9:26		Part 5 9:27 - 17:10		Part 6 17:11 - 20:35		Part 7 20:36 - 22:48	
Angle	Lat. X	Toplight X	Lat. X	Toplight	Lat. X	Toplight X	Lat. X	Toplight	Lat. X	Toplight X	Lat. X	Toplight	Lat. X	Toplight
	Backlight X	Diag. Fr.	Backlight X	Diag. Fr.	Backlight	Diag. Fr.	Backlight X	Diag. Fr.	Backlight X	Diag. Fr.	Backlight X	Diag. Fr.	Backlight X	Diag. Fr.
	Front	Diag. B.	Front	Diag. B. X	Front	Diag. B.	Front	Diag. B.	Front	Diag. B. X	Front	Diag. B. X	Front	Diag. B. X
Color	OW		OW - Blue - Lavender		OW - Blue		OW		OW - Tones of red or magenta		OW		OW - Lavender	
Intensity	Medium		Medium		Medium		High		Medium		High		High	
Contrast	Some		Some - More backlight that lateral?		Some - More backlight that lateral?		Lots of Backlight		Less contrast		More contrast		Medium Contrast	
Texture	Floor is marked with toplight and backlight - many balls of light on the floor		Floor is painted with color - smooth up front - upstage OW		A moment of texture on the floor - Floor is painted with color - smooth up front - upstage OW		Texture in the air with the use of haze - Narrow cones of backlight		Gobos used to create texture on the floor coming from a diagonal backlight angle.		No		Gobos used as before- Haze also used as before - now all together	
Movement	Starts isolated and opens upon the entry of other dancers and their movement		Color comes in		No Obvious movement		No Obvious movement		Starts with 2 dancers with only lateral lighting and toplight in silence - Opens up with texture and color when the music begins		No Obvious movement		Begins with isolated dancer- opens with music and more dancers enter - Ends in toplight isolating four dancers with toplight	
Area of stage Used	Center stage and upstage		Whole stage divided in two areas - OW upstage, Lavender downstage		Total		total		total		Total		total	
Relationship of light and music/sound	Light starts small like the music - The area opens up with the music - At the end the light isolates with an abrupt movement in sync with the pause in the music		No Direct relationship apparent		Another sudden pause in the music and another radical change in light		Another sudden pause in the music and another radical change in light		Starts with 2 dancers with only lateral lighting and toplight in silence - Opens up with texture and color when the music begins		Another sudden pause in the music and another radical change in light		Begins with isolated dancer- opens with music and more dancers enter - Ends in toplight isolating four dancers with toplight	
Relationship of light and movement of dancers	Light opens up with movement and closes down with movement		Color opens up with the arrival of four dancers		There is color with four dancers - When they exit the color does the same		No apparent relationship		No apparent relationship		Only at the end when the dancer runs upstage to the right.		Begins with isolated dancer- opens with music and more dancers enter - Ends in toplight isolating four dancers with toplight	
Specials	special toplights		No		No		No		Special toplights?		No		Special Toplights	
Rhythm of the show	Show seems to start out simple and then as it goes along the changes get more complicated...													

D

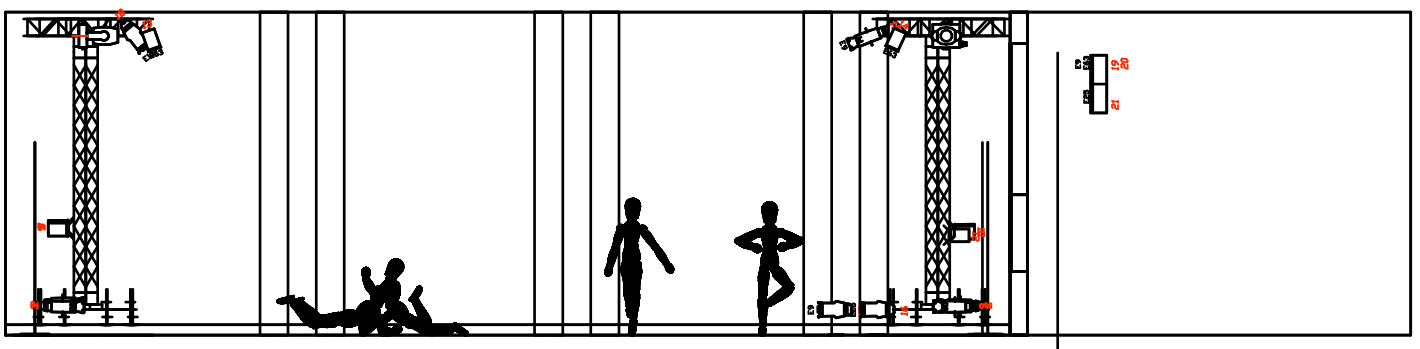
Lighting Plots and paperwork



Section



Elevation



Channel Schedule (All Layers)

8/25/2011 18:57

Venue: Espaço Sacramento - Gaia

Show: Exercício Dissertacao - Focus Fragmentado

Designer: Jonathan Azevedo

Assistant:

Channel	Dimmer	Patch	Purpose	Focus	Type	Lens	Position	Unit	Color	Gobo
1		A.1	Lat. Shinbusters		CE Source 4	50 Degree	Torres		OW	
2		A.2	Lat. Shinbusters		CE Source 4	50 Degree	Torres		OW	
3		A.3	Lat. Shinbusters		CE Source 4	50 Degree	Torres		OW	
4		A.4	Lat. Shinbusters		CE Source 4	50 Degree	Torres		OW	
5		A.5	Lat. Shinbusters		CE Source 4	50 Degree	Torres		OW	
6		A.6	Lat. Shinbusters		CE Source 4	50 Degree	Torres		OW	
7		A.7	Lat. top		Acclaim PC		Torres		BD	
8		A.8	Lat. top		Acclaim PC		Torres		BD	
9		A.9	Lat. top		Acclaim PC		Torres		BD	
10		A.10	Lat. top		Acclaim PC		Torres		BD	
11		A.11	Lat. top		Acclaim PC		Torres		BD	
12		A.12	Lat. top		Acclaim PC		Torres		BD	
13		A.13	Night		Acclaim PC				E63	
14		A.14	Night		Acclaim PC				E63	
15		A.15	Sunrise		CE Source 4	19 Degree			E9	
16		A.16	Sunset		CE Source 4 Jr - 25/50 Zoom				E25	
17		A.17	Diag		CE Source 4 Jr - 25/50 Zoom				E9	
18		A.18	Diag		CE Source 4 Jr - 25/50 Zoom				E104	
19/20/21/	19/20/21/	A.19/A.20/A.21/	Window		Four Cell Cyc				E63/E9/E25/	
300		A.300	Robo		ColorW ash 250 AT				OW	
320		A.320	Robo		ColorW ash 250 AT				OW	

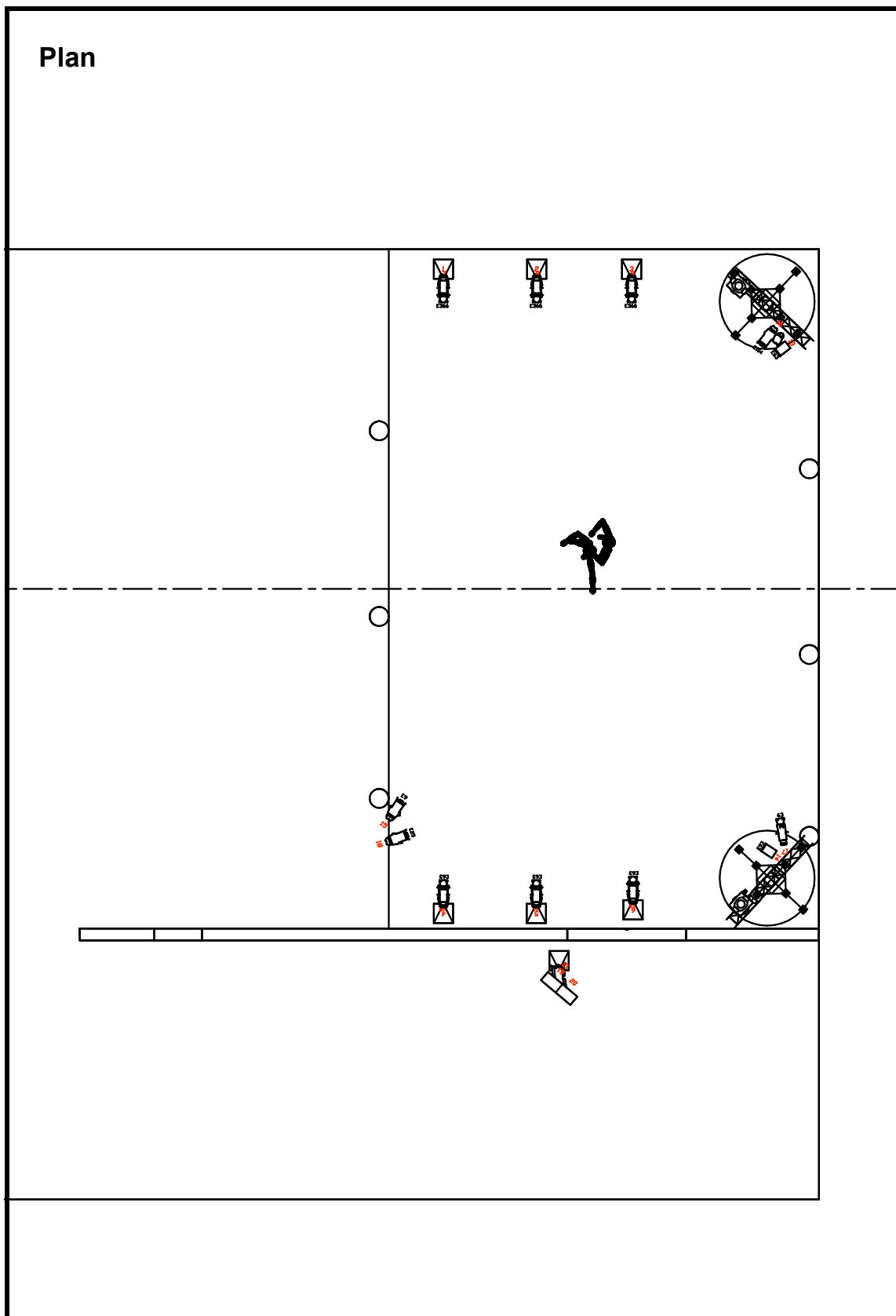
Instrument Count (All Layers)

Venue: Espaço Sacramento - Gaia
Designer: Jonathan Azevedo

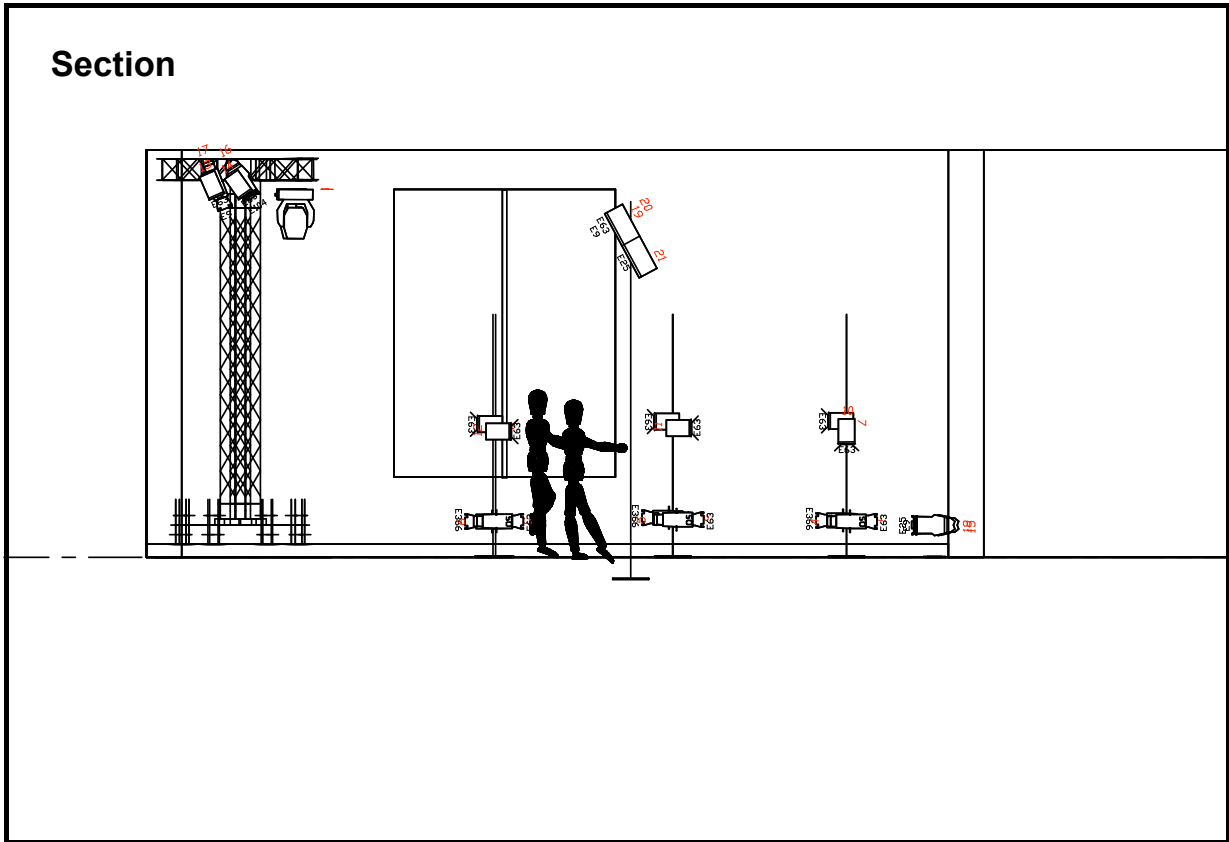
Show: 8/25/2011 18:57
 Exercício Dissertação - Focus Fragmentado
Assistant:

Type	Lens	Count	Status
Acclaim PC		8	HUNG
CE Source 4	19 Degree	1	HUNG
CE Source 4	50 Degree	6	HUNG
CE Source 4 Jr - 25/50 Zoom		3	HUNG
ColorWash 250 AT		2	HUNG
Four Cell Cyc		1	HUNG
		21	

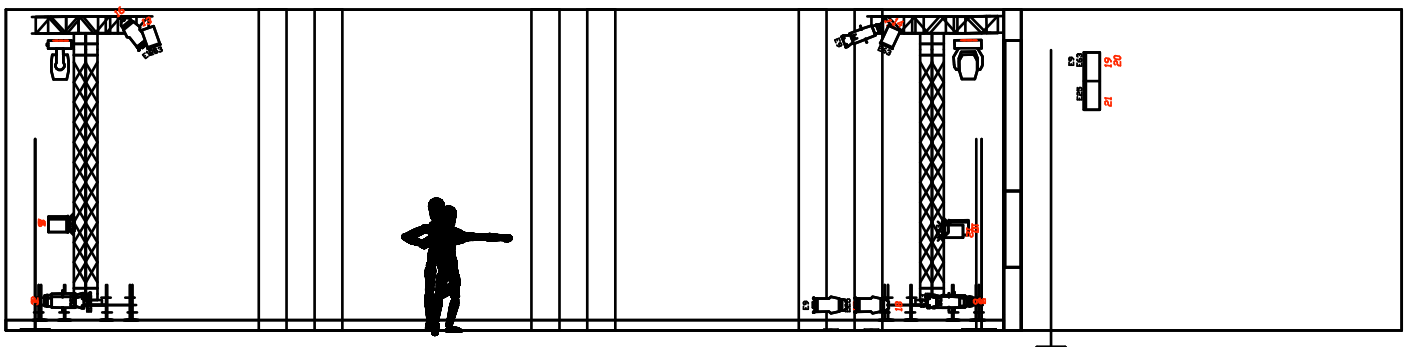
Memorias Siamesas



Section



Elevation



Channel Schedule (All Layers)

8/25/2011 19:05

Venue: Espaco Sacramento - Gaia

Show: Exercicio Dissertacao - Memoria Siamesa

Designer: Jonathan Azevedo

Assistant:

Channel	Dimmer	Patch	Purpose	Focus	Type	Lens	Position	Unit	Color	Gobo
1		A.1	Lat. Shinbusters		CE Source 4	50 Degree	Torres		E366	
2		A.2	Lat. Shinbusters		CE Source 4	50 Degree	Torres		E366	
3		A.3	Lat. Shinbusters		CE Source 4	50 Degree	Torres		E366	
4		A.4	Lat. Shinbusters		CE Source 4	50 Degree	Torres		E63	
5		A.5	Lat. Shinbusters		CE Source 4	50 Degree	Torres		E63	
6		A.6	Lat. Shinbusters		CE Source 4	50 Degree	Torres		E63	
7		A.7	Lat. top		Acclaim PC		Torres		E63 & BD	
8		A.8	Lat. top		Acclaim PC		Torres		E63 & BD	
9		A.9	Lat. top		Acclaim PC		Torres		E63 & BD	
10		A.10	Lat. top		Acclaim PC		Torres		E63 & BD	
11		A.11	Lat. top		Acclaim PC		Torres		E63 & BD	
12		A.12	Lat. top		Acclaim PC		Torres		E63 & BD	
13		A.13	Night		Acclaim PC				E63	
14		A.14	Night		Acclaim PC				E63	
15		A.15	Diag		CE Source 4 Jr - 25/50 Zoom				E9	
16		A.16	Diag		CE Source 4 Jr - 25/50 Zoom				E104	
17		A.17	Sunrise		CE Source 4	19 Degree			E9	
18		A.18	Sunset		CE Source 4 Jr - 25/50 Zoom				E25	
19/20/21/	19/20/21/	A.19/A.20/A.21/	Window		Four Cell Cyc				E63/E9/E25/	
300		A.300	Robo		ColorW ash 250 AT				O/W	
320		A.320	Robo		ColorW ash 250 AT				O/W	