

# Lesson Plan

**Course Title:** Media Technology I

**Session Title:** Lighting Equipment

**Lesson Duration:** Weeks/Days/Hours/Minutes  
[Lesson length is subjective and will vary from instructor to instructor]

**Performance Objective:**  
Upon completion of this assignment, the student will be able to identify the various lighting instruments used television.

- Specific Objectives:**
- Identify the various lighting instruments.
  - Select lighting equipment
  - Use lighting equipment

## Preparation

**TEKS Correlations:**  
**125.96(c)(4)(A)**  
safely use tools, materials, and equipment commonly employed in the field of media technology;  
**125.96(c)(5)(C)**  
identify and apply the basic principles of lighting;

**Interdisciplinary Correlations:**  
**English:**  
**110.xx(6) - Reading/vocabulary development**

- **110.xx(6)(A)**  
...expand vocabulary through wide reading, listening, and discussing...
- **110.xx(6)(B)**  
...rely on context to determine meanings of words and phrases such as figurative language, idioms, multiple meaning of words, and technical vocabulary...

## Instructor/Trainer

References:  
Zettl Video Lab. Zettl, Herbert. Wadsworth Thompson Learning, Belmont, CA 2003.  
Video Communication and Production. Stinson, Jim. Goodheart-Willcox Company, Inc., Tinley Park, IL, 2004.  
Television Production Handbook. Zettl, Herbert. Wadsworth Thompson Learning, Belmont, CA 2003.  
Cybercollege.com, Television Production, section VI lighting, module 29, module 30

- Instructional Aids:
1. Lighting Equipment PowerPoint Presentation
  2. Lighting Equipment PowerPoint Presentation – Slides
  3. Lighting Equipment PowerPoint Presentation – Handout
  4. Lighting Equipment PowerPoint Presentation – Notes Pages

5. Lighting Equipment Review
6. Lighting Equipment Quiz
7. Lighting Equipment Key
8. Lighting Equipment Answer Sheet

Materials Needed:

1. Gels

Equipment Needed:

1. Spotlights
2. Floodlights
3. Barn doors
4. Dimmer

**Learner**

Cybercollege.com, Television Production, section VI lighting, module 29 and module 30.

**Introduction**

**Introduction (LSI Quadrant I):**

**ASK:** What is the result when you videotape in an area with inadequate lighting?

**SAY:** Cameras need light to operate  
 Each camera has an operating light level  
 Numerous lights are available, each with a specific function  
 Lighting also used to set a mood or establish a location

**Outline**

**Outline (LSI Quadrant II):**

1. Spotlights
  - Directional light
  - Has a lens
  - Focusable beam of light
  - Fresnel - The most common spotlight in television studios
    - named after the inventor of its lens
    - easily identified by the series of rings in lens
    - versatile
    - focusing device to adjust for flood to spot
    - several sizes and wattages
  - Ellipsoidal
    - Produces a sharp, defined beam of light
    - Can shape the light beam with shutters
    - Accommodates Cookie
    - Pattern inserted in light to throw a pattern of light
2. Floodlights
  - Diffused light
  - Produces a great amount of light
  - Minimal shadows

**Instructor Notes:  
 PPT Slides 2-5**

**PPT Slides 6-10**

<ul style="list-style-type: none"> <li>• Scoop <ul style="list-style-type: none"> <li>Floodlight</li> <li>named for its round shape</li> <li>fixed or adjustable focus</li> <li>no lens</li> <li>can use a scrim for additional diffusion</li> </ul> </li> <li>• Broad light <ul style="list-style-type: none"> <li>Minimal beam control</li> <li>Diffused light, soft shadows</li> </ul> </li> <li>• Soft light <ul style="list-style-type: none"> <li>Extremely diffused light</li> <li>Diffusing material over the front opening</li> <li>Very few, very soft shadows</li> <li>Various sizes</li> </ul> </li> <li>• Strip lights <ul style="list-style-type: none"> <li>Even illumination</li> <li>For cycloramas (cycs) and set areas</li> <li>Also called cyc light</li> </ul> </li> </ul> <p>3. Grid Heavy pipe structure mounted 12+ feet above studio floor Most studio lights attach with C-clamp</p> <p>4. Floor Stands Good for location lighting Can get in the way of moving cameras and talent Used with follow spot</p> <p>5. Location lighting Smaller versions for easy portability Rugged Use lightweight floor stand External reflector spotlight Also handheld models Small battery operated lights that mount on the camera</p> <p>6. Barn doors Metal flaps in front of the lighting instruments Control the spread of the light beam.</p> <p>7. Dimmer Controls the intensity (brightness) of the light Adjusts the electronic current flowing to the lamp</p> <p>8. Gel Color filter put in front of spotlights or floodlights Gives the light beam a specific hue</p>	<p><b>Refer to actual equipment or locate supporting visuals when discussing lighting systems/terms 3-8 in the outline.</b></p>
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## Application

### Guided Practice (LSI Quadrant III):

1. Students work with various lights
2. Student practice hanging lights
3. Students practice adjusting and focusing lights

### Independent Practice (LSI Quadrant III):

Students complete review of lighting terms

## Summary

### Review (LSI Quadrants I and IV):

Students identify/define the following key terms during questioning in a game/quiz show format.

- Spotlights
- Directional lights
- Fresnel
- Ellipsoidal
- Cookie
- Floodlights
- Diffused light
- Scoop
- Broad light
- Soft light
- Strip lights
- Grid
- Floor Stand
- Location lighting
- Barn doors
- Dimmer
- Gel

## Evaluation

### Informal Assessment (LSI Quadrant III):

Monitor student progress

### Formal Assessment (LSI Quadrant III, IV):

Use the Lighting Equipment Quiz, Answer Sheet, and Quiz Key to assess student mastery of terms.

## Extension

### Extension/Enrichment (LSI Quadrant IV):

Apply learning in future assignments when students assume role of lighting director.

# Media Technology

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Unit Subtitle: TV Lighting -  
Equipment

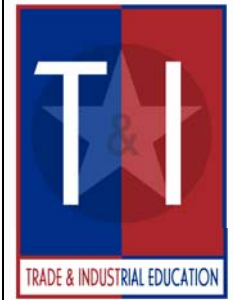


# Spotlights

- Directional light
- Lens
- Focusable beam of light



# Spotlights



## Fresnel

- Most common spotlight in TV studios
- Named after the inventor of its lens
- Easily identified by the series of rings

# Spotlights

## Fresnel

- Versatile
- Focusing device for flood to spot
- Several sizes and wattages



# Spotlights

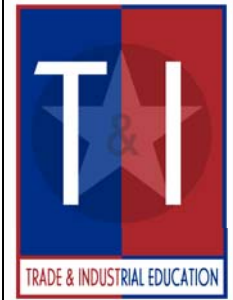


## Ellipsoidal

- Produces a sharp, defined beam of light
- Can shape light beam with shutters
- Cookie

# Floodlights

- Diffused light



# Floodlights



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Lighting, Inc.

## Scoop

- Named for its round shape
- Fixed or adjustable focus
- No lens

# Floodlights



*Mole-Richardson Co.*

## Broad light

- Minimal beam control
- Diffused light, soft shadows

# Floodlights

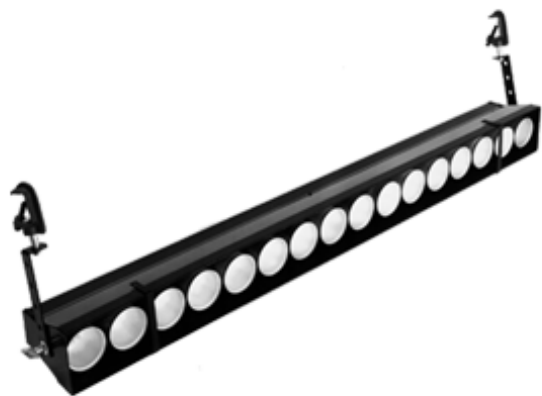


*Mole-Richardson Co.*

## Soft light

- Extremely diffused light
- Diffusing material over the front opening
- Very few, soft shadows
- Various sizes

# Floodlights



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## Strip lights

- Even illumination
- For cycloramas and set areas

# Media Technology

Unit Subtitle: TV Lighting -  
Equipment



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1

# Spotlights

- Directional light
- Lens
- Focusable beam of light



- Safety rules protect you and those around you from injury.

Whose responsibility is safety and health in the classroom laboratory?  
(Students', teachers', everyone's)

# Spotlights



## Fresnel

- Most common spotlight in TV studios
- Named after the inventor of its lens
- Easily identified by the series of rings

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3

- Safety rules protect you and those around you from injury.

Whose responsibility is safety and health in the classroom laboratory?  
(Students', teachers', everyone's)

# Spotlights



## Fresnel

- Versatile
- Focusing device for flood to spot
- Several sizes and wattages



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- Safety rules protect you and those around you from injury.

Whose responsibility is safety and health in the classroom laboratory?  
(Students', teachers', everyone's)

# Spotlights



## Ellipsoidal

- Produces a sharp, defined beam of light
- Can shape light beam with shutters
- Cookie

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5

- Safety rules protect you and those around you from injury.

Whose responsibility is safety and health in the classroom laboratory?  
(Students', teachers', everyone's)

# Floodlights

- Diffused light



- Safety rules protect you and those around you from injury.

Whose responsibility is safety and health in the classroom laboratory?  
(Students', teachers', everyone's)

# Floodlights



## Scoop

- Named for its round shape
- Fixed or adjustable focus
- No lens

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7

- Safety rules protect you and those around you from injury.

Whose responsibility is safety and health in the classroom laboratory?  
(Students', teachers', everyone's)

# Floodlights



## Broad light

- Minimal beam control
- Diffused light, soft shadows

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8

- Safety rules protect you and those around you from injury.

Whose responsibility is safety and health in the classroom laboratory?  
(Students', teachers', everyone's)

# Floodlights



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## Soft light

- Extremely diffused light
- Diffusing material over the front opening
- Very few, soft shadows
- Various sizes

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- Safety rules protect you and those around you from injury.

Whose responsibility is safety and health in the classroom laboratory?  
(Students', teachers', everyone's)

## Floodlights



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## Strip lights

- Even illumination
- For cycloramas and set areas

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10

- Safety rules protect you and those around you from injury.

Whose responsibility is safety and health in the classroom laboratory?  
(Students', teachers', everyone's)

# Media Technology

Unit Subtitle: TV Lighting - Equipment



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## Spotlights



- Directional light
- Lens
- Focusable beam of light

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## Spotlights




Fresnel

- Most common spotlight in TV studios
- Named after the inventor of its lens
- Easily identified by the series of rings

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## Spotlights



Fresnel



- Versatile
- Focusing device for flood to spot
- Several sizes and wattages

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## Spotlights





Ellipsoidal

- Produces a sharp, defined beam of light
- Can shape light beam with shutters
- Cookie

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## Floodlights



- Diffused light

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## Floodlights



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### Scoop

- Named for its round shape
- Fixed or adjustable focus
- No lens

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## Floodlights



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### Broad light

- Minimal beam control
- Diffused light, soft shadows

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8

## Floodlights



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### Soft light

- Extremely diffused light
- Diffusing material over the front opening
- Very few, soft shadows
- Various sizes

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## Floodlights



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### Strip lights

- Even illumination
- For cycloramas and set areas

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10

# REVIEW OF LIGHTING EQUIPMENT

QUIZ DATE \_\_\_\_\_

For the quiz, be able to identify each of the following terms:

1. Barn doors
2. Broad light
3. Cookie
4. Diffused light
5. Dimmer
6. Directional light
7. Ellipsoidal
8. Floodlights
9. Floor Stands
10. Fresnel
11. Gel
12. Grid
13. Location lighting
14. Scoop
15. Soft light
16. Spotlights
17. Strip lights

# LIGHTING EQUIPMENT QUIZ

## ANSWER SHEET

NAME: \_\_\_\_\_ PERIOD: \_\_\_\_\_ DATE: \_\_\_\_\_

### MATCHING

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_
11. \_\_\_\_\_
12. \_\_\_\_\_

### SHORT ANSWERS

13.

14.

15.

# LIGHTING EQUIPMENT QUIZ KEY

NAME: \_\_\_\_\_ PERIOD: \_\_\_\_\_ DATE: \_\_\_\_\_

## MATCHING

1. P
2. F
3. J
4. G
5. N
6. B
7. Q
8. E
9. K
10. C
11. L
12. A

## SHORT ANSWERS

13. Barn doors are metal flaps attached to the front of lighting instruments that controls the spread of the beam of light.
14. The Fresnel is one of the most common spotlights used in television studios. It is versatile and can be used as a spotlight or adjusted to a flood light.
15. A spotlight produces directional light with well defined shadows. A floodlight produces diffused light with a relatively undefined beam edge.

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

## LIGHTING EQUIPMENT QUIZ

**DIRECTIONS**--Write all answers on the answer sheet.

You may mark on this test paper, but any answers you write on here will not be graded.

**MATCHING**--One statement is closely related to or associated with an item in the list below. Place the letter of the associated term in the blank next to the number on the answer sheet.

- |                      |                      |
|----------------------|----------------------|
| A. Barn doors        | J. Fresnel           |
| B. Broad light       | K. Gel               |
| C. Cookie            | L. Grid              |
| D. Diffused light    | M. Location lighting |
| E. Dimmer            | N. Scoop             |
| F. Directional light | O. Soft light        |
| G. Ellipsoidal       | P. Spotlights        |
| H. Floodlights       | Q. Strip lights      |
| I. Floor Stands      |                      |

1. A group (type) of lighting instrument that produces directional light. They generally produce well defined shadows.
2. A group (type) of lighting instrument that produces diffused light with a relatively undefined beam edge.
3. One of the most common spotlights used in television studios, it is named after the inventor of its lens, which has step-like concentric rings.
4. A spotlight which produces an intense, sharply defined beam of light which can be shaped by metal shutters or used to throw patterns.
5. A television floodlight named for its round shape.
6. A rectangular shape floodlight with a pan-like reflector. It acts as a series of scoops.
7. A series of lights mounted in one long unit. They are often used to light a cyclorama.
8. A device that controls the intensity (brightness) of the light by adjusting the electric current flowing to the lamp.
9. The name for color filter that is placed in front of spotlights or floodlights to give the light beam a specific hue (color).
10. Any cutout pattern that, when placed in front of a spotlight, produces a shadow pattern. It is made from a thin, metal sheet.
11. A rather heavy pipe structure strung crosswise or parallel and mounted 12 to 18 feet above the studio floor.
12. Metal flaps attached to the front of lighting instruments that controls the spread of the beam of light.

**SHORT ANSWERS**--Answer the following questions IN COMPLETE SENTENCES.

13. What are barn doors, and what are their functions?
14. Why is the Fresnel considered the workhorse of the television studio production?
15. What are the differences between floodlights and spotlights?