

# GFA Lighting and Electric Practice Test (Sample)

## Study Guide



**Everything you need from our exam experts!**

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# Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

**Remember:** successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

# How to Use This Guide

**This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:**

## **1. Start with a Diagnostic Review**

**Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.**

## **2. Study in Short, Focused Sessions**

**Break your study time into manageable blocks (e.g. 30 - 45 minutes). Review a handful of questions, reflect on the explanations.**

## **3. Learn from the Explanations**

**After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.**

## **4. Track Your Progress**

**Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.**

## **5. Simulate the Real Exam**

**Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.**

## **6. Repeat and Review**

**Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.**

**There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!**

## Questions

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- 1. Which factors influence the sharpness of a shadow?**
  - A. Distance Between Light and Subject**
  - B. Size of the Light Source**
  - C. Presence of Diffusion**
  - D. All of the Above**
  
- 2. Which pairing represents the two sizes of pins/stands?**
  - A. Baby And Junior**
  - B. Senior And Junior**
  - C. Large And Small**
  - D. Light And Heavy**
  
- 3. Which pair of factors directly influences shadow hardness?**
  - A. The size of the source relative to the subject and the distance from the source to the subject**
  - B. The color temperature and the distance from the subject to the background**
  - C. The shape of the subject and ambient light level**
  - D. The lens focal length**
  
- 4. In an electrical layout, which orientation do the male pins have?**
  - A. Toward the power source**
  - B. Toward the load**
  - C. Toward the ground**
  - D. Away from the power source**
  
- 5. DMX 512 systems MUST utilize what type of connector**
  - A. Edison**
  - B. 5-pin XLR**
  - C. RJ45**
  - D. USB-C**

- 6. Which aperture setting results in less depth of field?**
- A. F4.0**
  - B. F8.0**
  - C. F2.8**
  - D. F5.6**
- 7. Must motivated light appear to come from a practical fixture?**
- A. Yes**
  - B. No**
  - C. It depends on the scene**
  - D. Only outdoors**
- 8. The electrical interface on a DMX system is:**
- A. RS-485**
  - B. RS-232**
  - C. USB**
  - D. CAN bus**
- 9. What does PAR stand for?**
- A. Parabolic Aluminized Reflector**
  - B. Parabolic Aluminum Reflector**
  - C. Parabolic Aluminum Reflector Lens**
  - D. Parabolic Aluminized Reflector Lens**
- 10. What is the 3-digit code that identifies an instrument and/or its functions in a DMX 512 system?**
- A. The address**
  - B. The serial number**
  - C. The firmware version**
  - D. The model number**

## Answers

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1. D
2. A
3. A
4. A
5. A
6. C
7. B
8. A
9. A
10. A

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## **Explanations**

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## 1. Which factors influence the sharpness of a shadow?

- A. Distance Between Light and Subject
- B. Size of the Light Source
- C. Presence of Diffusion
- D. All of the Above**

Shadow sharpness depends on how large the light source appears to the subject and whether the light is diffused. A small, compact source (or one viewed as a tiny point) creates crisp, well-defined edges. If the source is large or diffused, the boundary softens into a gradual transition called a penumbra, giving a softer shadow. Distance matters because moving the light farther away makes it look smaller from the subject, which tends to sharpen the edge; bringing it closer makes it look larger, which softens the edge. Diffusion spreads light in many directions, effectively increasing the apparent size and increasing softness. Since distance, size, and diffusion all change how the light rays illuminate the subject, all three influence shadow sharpness.

## 2. Which pairing represents the two sizes of pins/stands?

- A. Baby And Junior**
- B. Senior And Junior
- C. Large And Small
- D. Light And Heavy

Two common names are used for the two sizes of pins that fit stands in lighting gear: baby pins and junior pins. These terms indicate a small size versus a larger size, so the pair that represents the two sizes is Baby and Junior. This naming is standard in stage and studio lighting and helps crews quickly pair fixtures with the appropriate stands and accessories. Other options don't use the recognized terminology for pin sizes, so they don't fit as well.

## 3. Which pair of factors directly influences shadow hardness?

- A. The size of the source relative to the subject and the distance from the source to the subject**
- B. The color temperature and the distance from the subject to the background
- C. The shape of the subject and ambient light level
- D. The lens focal length

Shadow hardness is governed by how large the light source appears to the subject and how close the light is. A light source that looks big to the subject (or is very close) sends light from many angles, so the transition from light to shadow is gradual, producing a soft shadow with a feathered edge. If the light is small or far away, the rays are more directional, resulting in a sharp, well-defined shadow edge. The two factors that directly control this are the size of the source relative to the subject and the distance from the source to the subject. Other factors like color temperature, background distance, subject shape, ambient light, or lens effects don't determine edge sharpness in the same direct way.

4. In an electrical layout, which orientation do the male pins have?

- A. Toward the power source**
- B. Toward the load**
- C. Toward the ground**
- D. Away from the power source**

In this context, connectors are drawn with gendered parts—the male pins are the projecting conductors that mate into a female receptacle. The side that contains those pins is the side that connects to the power source, so the pins point toward the source in diagrams and real-world use. This convention aligns with how a plug (the male part) carries live conductors from the wall outlet (the power source) into the device, and it helps clearly distinguish which side is supplying power versus which side is the load. That's why the orientation toward the power source is the standard.

5. DMX 512 systems MUST utilize what type of connector

- A. Edison**
- B. 5-pin XLR**
- C. RJ45**
- D. USB-C**

DMX512 data in lighting systems is carried over a five-pin XLR connector. This connector is the standard physical interface for DMX512, providing a robust, locking connection suitable for stage environments and ensuring a consistent pinout for data and ground. The typical DMX wiring uses pin 1 for ground, pin 2 for data-, pin 3 for data+, with pins 4 and 5 available for a second data pair or future use in some implementations. Edison plugs are for power distribution, not data signaling, so they don't serve DMX512 data connections. RJ45 is used in some alternative or modern setups for DMX over Ethernet or in proprietary schemes, but it isn't the standard DMX512 connector. USB-C is a general-purpose data/power connector and is not the DMX512 physical interface either.

6. Which aperture setting results in less depth of field?

- A. F4.0**
- B. F8.0**
- C. F2.8**
- D. F5.6**

Opening up the aperture (using a lower f-number) makes depth of field shallower. Among the options, the smallest f-number is f/2.8, which is the widest opening here, so it produces the least depth of field. That means more background blur and a narrower plane of sharp focus. The other settings use higher f-numbers (f/4.0, f/5.6, f/8.0), which correspond to smaller openings and increase the depth of field, keeping more of the scene in focus. In practice, choose f/2.8 when you want a blurred background for subjects like portraits, and f/8 or higher when you want more of the scene in sharp focus, as in landscapes.

**7. Must motivated light appear to come from a practical fixture?**

- A. Yes**
- B. No**
- C. It depends on the scene**
- D. Only outdoors**

Motivated lighting means the light in a scene behaves as if it comes from a believable source within the scene—the direction, color, and quality line up with where you imagine a lamp, a window, or another source to be. It does not require that the actual light source shown in the frame is a visible practical fixture. You can have lights off-screen, or light that seems to come from a window or from bounce off a surface, so the viewer perceives a real source without the fixture itself being in view. The goal is convincing light logic and consistency with the scene’s assumed source, not always displaying a visible practical. So, it’s not mandatory for the motivated light to appear to come from a practical fixture.

**8. The electrical interface on a DMX system is:**

- A. RS-485**
- B. RS-232**
- C. USB**
- D. CAN bus**

DMX uses RS-485 as its electrical interface because the protocol needs a robust, long-distance bus that can connect many devices on a single line. RS-485 uses differential signaling over a balanced twisted pair, which makes it resistant to noise and allows multiple devices to share the same network (a multi-drop setup). This fits DMX well, since a controller can drive a long cable with many fixtures, and proper termination at the ends helps prevent reflections. RS-232 is single-ended and point-to-point, USB is designed for computer interfaces, and CAN bus serves automotive networks with different framing and topology. So the DMX electrical interface is RS-485.

**9. What does PAR stand for?**

- A. Parabolic Aluminized Reflector**
- B. Parabolic Aluminum Reflector**
- C. Parabolic Aluminum Reflector Lens**
- D. Parabolic Aluminized Reflector Lens**

PAR stands for parabolic aluminized reflector. The name describes a lighting lamp with a parabolic-shaped reflector whose inner surface is aluminized to maximize reflectivity. That aluminized coating makes the reflected light bright and efficient, while the parabolic shape focuses the beam into a directional, compact output. The presence of a lens isn’t part of the acronym—the lens can be an optional accessory on some variants, but the core term refers to the reflector itself.

**10. What is the 3-digit code that identifies an instrument and/or its functions in a DMX 512 system?**

- A. The address**
- B. The serial number**
- C. The firmware version**
- D. The model number**

The starting channel used by a fixture inside the DMX512 data stream is the key idea. In DMX, each instrument listens to a specific starting channel in a 512-channel universe, and then uses a set of consecutive channels to control its various functions (like dimming, color, movement, etc.). This starting channel is the address, and it is commonly shown as a 3-digit number (001 to 512) on controllers and fixtures. By assigning a unique address to each fixture, you map the incoming DMX data to the right device and its controls; two fixtures with the same address would respond to the same data, which is usually not desired. The other options don't set or identify which channels control a fixture's functions. A serial number is hardware identification, a firmware version is software, and a model number is product identity. They don't determine how the DMX data maps to the fixture's functions.

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## Next Steps

**Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.**

**As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.**

**If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at [hello@examzify.com](mailto:hello@examzify.com).**

**Or visit your dedicated course page for more study tools and resources:**

**<https://gfalightingelec.examzify.com>**

**We wish you the very best on your exam journey. You've got this!**

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