

candidate handbook



NCQLP

National Council on Qualifications
for the Lighting Professions

Dear Candidate for Lighting Certification:

The NCQLP prepares the LC Candidate Handbook to assist you as a prospective candidate in deciding if you are ready to take the Lighting Certification Examination and to help you to prepare for it. It has been specifically developed by NCQLP and its testing agency, Applied Measurement Professionals, Inc., (AMP), to direct you to the information you will need to study for and to take the LC Examination. If you review this manual carefully, we believe the material it contains and the advice it offers will be extremely valuable to you.

The Lighting Certification Program was established by the lighting industry in 1991. Both lighting organizations as well as several governmental agencies whose mission encompasses lighting have been involved since the beginning. Lighting Certification sets a baseline standard that covers the entire scope of the vast lighting field. Utilizing the NCQLP's testing mechanism, qualified individuals can earn their Lighting Certification designation. AMP, as NCQLP's professional testing agency, provides the expertise of an independent testing company to construct a valid and reliable examination that encompasses our entire field. The LC Examination is continuously reviewed by the NCQLP Test Subcommittee to ensure that the questions asked are current, comprehensive, fair and reflective of lighting applications as they are being practiced across our industry today.

The scope of the material covered within the Examination is quite comprehensive. Therefore, we encourage each candidate to thoroughly prepare to take this test. No matter what our level of experience, all of us have areas within lighting that are less familiar to us than others. The Lighting Certification Examination is broadly based. However, anyone who has the required background can be successful. Students as interns, do equally well as practitioners. But, it is important to remember to pay particular attention to those areas in your study in which your involvement in lighting education or practice has been less extensive so you are thoroughly familiar with all aspects of lighting.

To prepare to take the Examination, read the material in this Handbook very carefully. It answers most of the commonly asked questions about the Examination. The 2011 LC Examination is a 4 hour, two section examination. There are 180 multiple-choice questions. Eighty (80) of these are a series of job-related case studies. Most of us have taken multiple-choice tests before so we are familiar with these types of questions. However, being tested on case studies may be a testing mechanism with which you have had less experience. These questions, utilizing case studies, are included to test your ability to gather information and make decisions. To successfully answer them, you will need to focus on your application-oriented knowledge and skill.

Of course, there are a number of ways to enhance your preparation. Some find it useful to become a part of a Study Group. (NCQLP does not become involved in any test study activities beyond the LC candidate handbook.) For others, it is more effective to study on their own. Or, you might do both to support your efforts to organize the reference texts in a meaningful way and identify topic areas within the Content Outline for which you feel you need to study in greater depth.

On behalf of all the NCQLP volunteers involved in this Program, we are pleased that you are interested in becoming Lighting Certified. We hope the information in this Handbook will contribute to your success in achieving this objective. It is very encouraging to see the growing commitment to excellence that lighting professionals are exhibiting and we look forward to your joining those within our field who have chosen to become Lighting Certified.



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Lighting is the single most important element in the visual environment. Effective lighting improves productivity and strengthens security. Lighting consumes up to 40 percent of the energy used in our buildings. A well-designed lighting system reduces energy, maintenance, and potential liability costs. Both public and private interests are served by more effective lighting and reduced operating costs. Rapid improvements in lighting systems and equipment offer potential solutions, yet they have also made lighting practice more complex.

As the lighting industry has grown, a number of efforts have been undertaken to differentiate knowledgeable and qualified lighting practitioners. As a result, a need was recognized for an independent, industry-wide credentialing effort. Such a program addresses multiple issues that include: safety, health, productivity, energy conservation and effectiveness, environmental concerns, governmental policy, lighting technology, and competent, knowledgeable lighting practice.

1. About NCQLP

The National Council on Qualifications for the Lighting Professions (NCQLP) is an independent certifying body. NCQLP, a non-profit credentialing body composed of membership organizations, sponsors a baseline certification program for individuals in lighting and lighting related professions.

NCQLP is governed by a Board of Directors that represents its member organizations. Member organizations include the:

- Illuminating Engineering Society of North America (IESNA)
- International Association of Lighting Designers (IALD)
- interNational Association of Lighting Management Companies (NALMCO)
- Lighting Research Center (LRC)
- National Association of Independent Lighting Distributors (NAILD)
- National Electrical Manufacturers Association (NEMA)
- New York State Energy Research & Development Authority (NYSERDA)
- Northeast Energy Efficiency Partnership (NEEP)
- U.S. Department of Energy – (USDOE)

2. Testing Agency

Applied Measurement Professionals, Inc. (AMP) is the professional testing agency under contract with NCQLP to assist in the development, site management, scoring and analysis of the Lighting Certification Examination. AMP services also include reporting of scores to candidates who take the Examination. AMP is a research and development firm that conducts professional competency based assessment research and provides examination services for a number of credentialing programs.

3. Statement of Nondiscrimination Policy

NCQLP and AMP do not discriminate among applicants on the basis of age, gender, race, religion, national origin, disability, sexual orientation or marital status.

4. NCQLP Certification

NCQLP Certification is a voluntary, industry-led effort. It is a recognition of those professionals who have met specified minimum standards, as measured by a systematic evaluation of the likelihood of success in executing a set of skills. Those who successfully complete the LC Examination and maintain their certification are entitled to use the appellation LC, Lighting Certified, after their name.

5. NCQLP Lighting Certification Examination

NCQLP offers the Lighting Certification Examination for lighting professionals in design, installation, operations and maintenance of lighting equipment and systems. The Examination tests base-line knowledge of techniques and technologies required for efficient and effective lighting practice.

The Lighting Certification Examination is a **4 hour**, two section Examination. There are 180 multiple-choice questions. Eighty of these questions are a series of job-related case studies.

Multiple-Choice Questions

The multiple-choice section includes questions on the following six major content areas:

- Survey/Audit – Existing
- Lighting Design
- Financial Analysis
- Installation and Commissioning
- Operations and Maintenance
- Regulatory and Voluntary Compliance

The Multiple-Choice Question Summary below contains information about the cognitive complexity levels of examination questions. Complexity levels describe the cognitive nature of questions asked as defined below.

Complexity Levels

Recall is the ability to recall or recognize specific information.

Application is the ability to comprehend, relate or apply knowledge to new or changing situations.

Analysis is the ability to analyze information, to put information together to arrive at solutions, and/or to evaluate the usefulness of the solutions.

Multiple-Choice Section Summary

Content Area	Number of Questions by Type			
	Recall	Application	Analysis	Total
1. Survey/Audit – Existing	4	8	3	15
2. Lighting Design	4	24	12	40
3. Financial Analysis	3	6	3	12
4. Installation and Commissioning	2	7	2	11
5. Operations and Maintenance	4	5	1	10
6. Regulatory and Voluntary Compliance	5	6	1	12
Total	22	56	22	100

Case Study Test Specifications

Problem Type 1 (8)

- 1A Commercial (such as offices, houses of worship, or mixed used development) (4)
- 1B Exterior/site/roadway (includes parking areas) (2)
- 1C Institutional (such as government, educational, or healthcare) (2)

Problem Type 2 (4)

- 2A Retail, hospitality, museums, or sports lighting (2)
- 2B Residential (single and multi-family) (2)

Problem Type 3 – Industrial (manufacturing plants, warehouses) (4)

Note: Your total score will be based on the entire 180 items – 100 from the general multiple-choice section and 80 from the case study section.

NCQLP, with the advice and assistance of AMP, prepares the Examination. The questions are obtained from those with content expertise in lighting and are reviewed for relevancy, consistency, accuracy and appropriateness by NCQLP volunteers.

6. Examination Date and Application Deadlines

2011 Examination Schedule

Examination Date	Early Application Postmark Deadline	Final Application* Postmark Deadline
November 5, 2011	August 10, 2011	September 15, 2011

A Lighting Certification Examination Application is included in this handbook. You may also submit an application online through www.ncqlp.org. (Click on 'About the Certification Examination' then click on 'Online Application' under 'Downloads and Dates'.) All forms must be completed **together** with the required recommendations and the appropriate fee to NCQLP by September 15, 2011. (See application for checklist.)

*September 15, 2011 is the final application mailed or online through www.ncqlp.org submission deadline. THERE ARE NO EXCEPTIONS TO THIS DEADLINE!

7. Eligibility Requirements

To be eligible for the NCQLP Lighting Certification Examination, candidates must meet **one** of the following requirements:

1. Have a bachelor's degree from an accredited college or university and a minimum of three years of lighting-related work experience.
- OR
2. Have a minimum of six years of lighting-related work experience.

Intern LC candidates: Visit the NCQLP website, www.ncqlp.org for information about the Intern LC Program. Qualified students or graduates within one year following graduation may take the Examination as an Intern.

Letters of Recommendation: All candidates, including Intern LC candidates, are required to submit two Recommendations

with their application. These can be from peers, colleagues or supervisors who are non-family members. The Recommendation Form is included in this handbook and may be duplicated. These Recommendation Forms are to substantiate your level of experience. Online Recommendations are directly linked back to your application. They DO NOT come directly to NCQLP.

How to Apply: Submit or transmit through the online process under www.ncqlp.org the: completed application (Parts A and B); application Consent Form, two completed Recommendations and appropriate fee to NCQLP by August 10 (early application postmark deadline) or September 15 (final application postmark deadline). **If you have less than six years of lighting-related experience, you MUST include an official, college transcript with your application or, if submitting online, a PDF copy. The transcript CANNOT be sent separately.**

Please wait at least 30 business days following the application deadline before calling NCQLP about your application. An email confirmation of receipt will be sent to all eligible candidates within 30 business days of receipt of the application. **Incomplete applications will be returned without processing.** All application materials must be submitted by September 15, 2011.

8. Examination Fees

Examination	Early Application Postmark Deadline Fee (by August 10)	Final Application Postmark Deadline Fee (by September 15)
Lighting Certification	\$575	\$675

Application fees may be paid by credit card (American Express, MasterCard, and VISA only), check or money order payable to NCQLP in U.S. dollars only. DO NOT SEND CASH.

9. Test Center Information

The following cities will serve as test centers for the 2011 Examination. You must indicate your choice of test center code on your application in the space provided.

- CA – Oakland CA0054 – Walnut Creek Marriott - (Walnut Creek, CA)
- CA – Los Angeles CA0053 – University of California Los Angeles
- CO – Denver CO0061 – Denver University
- DC – Washington DC0091 – University of Maryland – (College Park, MD)
- FL – Orlando FL0102 – University of Central Florida
- GA – Atlanta GA0111 – Georgia State University
- IL – Chicago IL0141 – Loyola University
- MA – Boston MA0221 – University of Massachusetts Boston
- MO – Kansas City MO0261 – University of Missouri Kansas City
- MN – Minneapolis MN0241 – University of Minnesota
- NC – Raleigh NC0343 – Wake Tech Community College
- NY – New York NY0331 – Pace University
- OH – Cleveland OH0361 – Cleveland State University
- PA – Philadelphia PA0391 – University of Pennsylvania
- TX – Dallas TX0441 – University of Texas Arlington (Arlington, TX)
- UT – Salt Lake City UT0451 – University of Utah
- VT – Burlington VT0461 – University of Vermont
- WA – Seattle WA0481 – Renton Technical College (Renton, WA)

International

- Canada – Toronto, Ontario CAN0725 – York University
- Vancouver, BC CAN0722 – University of British Columbia

All sites are subject to change because of candidate volume and availability. Exact reporting information will be provided 2 weeks prior to the examination date. **These are not final locations.**

NOTE: Requests for a change of test center location must be made in writing to NCQLP and must be received by NCQLP no later than September 15, 2011.

10. Requests for Special Test Centers (National and International - Manual Application Only)

Requests to establish a special test center in a location in the USA other than the test centers listed on page 2 **must be submitted by the early deadline of August 10, 2011, and must include the \$1,250 special test center fee for U.S. locations.** A candidate requesting a special test center should submit a written request with the application and the additional \$1,250 special test center fee. If there is more than one candidate registered at a location, the fee can be divided among them; however the complete \$1,250 fee payment must accompany the request. Requests received prior to the August 10, 2011 deadline will be reviewed for consideration in establishing an additional test site, and the liaison applicant notified.

The above practices are the same for Special International Test Center requests with the difference being in fees. Each Special International Test Center request will be reviewed individually for costs and the liaison candidate notified.

11. Non-Saturday Examinations (Manual Application Only)

Examinations will be administered on a day other than Saturday for those candidates whose religious beliefs prohibit them from being tested on Saturday. Applicants requesting to be tested on a day other than Saturday should choose one of the designated Saturday test centers listed, indicating that they request a non-Saturday Examination on the manual application form, and they must complete the Request for Non-Saturday Examination form in this handbook. The form must be signed by a religious official, sealed by a Notary Public and submitted to NCQLP with the completed application materials by the August 10, 2011, Early Application postmark deadline. This request cannot be sent online via the NCQLP website.

12. Requests for Special Accommodations (Manual Application Only)

NCQLP and AMP comply with the Americans with Disabilities Act (ADA) and want to ensure that individuals with disabilities are not deprived of the opportunity to take the Examination solely by reason of a disability, as required and defined by the relevant provisions of the law. Special Examination arrangements may be made for these individuals, provided that an appropriate request for accommodation is submitted with the application materials to NCQLP by the application deadline and the request is approved. A form to request accommodation is in this handbook. This form must be signed by an appropriate medical/healthcare professional and submitted with the Examination application and must include all required documentation materials to

substantiate the specific needs of each individual. This request cannot be sent online via the NCQLP website.

13. Refunds

REFUNDS WILL NOT BE GIVEN TO INDIVIDUALS REQUESTING TO WITHDRAW FROM THE EXAMINATION AFTER THE APPLICATION IS SUBMITTED. Medical requests signed by the candidate's physician, or conditions beyond the control of the individual, received in writing at least 10 days prior to the Examination date, will qualify the candidate's application to be rolled over to the following year. A rollover is permitted one time only. A \$100 administrative fee is charged, if approved. However, these individuals must submit another set of completed application materials to apply to sit for the Examination the next year. **OTHERWISE, ANY CANDIDATE WHO FAILS TO APPEAR FOR THE EXAMINATION ON THE SCHEDULED DATE WILL FORFEIT THE FULL AMOUNT OF THE EXAMINATION FEE.** Examination fees are not transferable to another testing date unless a rollover has been granted. They can never be transferred to another individual.

14. Admission to the Test Center

Approximately 10 business days before the Examination date, AMP will mail an admission letter to all scheduled candidates indicating the exact reporting address for the Examination. To gain admission to the test center two forms of identification are required.

- One form must be a current, permanent identification card issued by a governmental agency that includes both your signature and photograph. Only a driver's license (not temporary), state or federally issued I.D., military I.D. or U.S. passport will be accepted.
- The second form of identification must include your name and signature to allow verification of the signature on the first form. If your name is different from what appears on either form of identification, you must bring proof of your name change such as a marriage license, divorce decree or court order. All candidates will also be required to sign the registration roster prior to admission. **PROPER IDENTIFICATION IS REQUIRED TO GAIN ADMISSION TO THE TEST CENTER.**

A candidate not receiving an admission letter at least five business days before the Examination date should contact the AMP Candidate Support Center by telephone at 888/519-9901 to obtain the exact reporting address for the Examination. AMP will not be responsible for candidates not receiving admission letters unless such candidates notify the AMP Candidate Support Center by telephone prior to the Examination date.

Candidates will be assigned to one of the 20 test centers listed. **Changes in test center assignments CANNOT be made after September 15, 2011.**

15. Schedule for the Examination

Report to the test center **no later than 12:30 p.m.**; seating of candidates, distribution of examination materials and examination instructions will begin shortly thereafter. **ANYONE WHO ARRIVES AFTER THE SEALS ON THE EXAMINATION BOOKLETS HAVE BEEN BROKEN WILL NOT BE ADMITTED.** You will have 4 hours to complete the Examination. Additional time is not allowed. No breaks are scheduled during the Examination.

16. Inclement Weather

In the event of inclement weather, natural disasters or unforeseen emergencies on the day of a scheduled Examination, NCQLP and AMP will determine whether circumstances warrant the cancellation of the Examination at a specific site, and subsequent rescheduling of an Examination at a particular test center(s). The Examination will usually **not** be rescheduled if the supervisor is able to open the test center. Candidates may visit AMP's website at www.goAMP.com prior to the Examination to determine if AMP has been advised that any test centers are closed. Every attempt will be made to administer all Examinations as scheduled. However, should an Examination be canceled at a test center(s), all scheduled candidates will receive notification following the Examination regarding a rescheduled Examination date.

17. At the Test Center

1. Candidates will be provided sharpened pencils with erasers at the testing center. **ONLY THESE PENCILS CAN BE USED TO COMPLETE THE MULTIPLE-CHOICE ANSWER SHEET.**
2. The Examination will be composed of two sections. Candidates are allowed 4 hours to complete the entire Examination.
3. A basic hand-held, battery-operated or a solar-operated calculator without paper tape printing or alphabetic memory capabilities and scientific calculators without memory **are permitted.**
4. Bring a sweater or a jacket should a room be too cool for you.
5. Bring a watch. Candidates are responsible for allocating their time. **You will not be permitted to continue the Examination beyond the established time limit.** Timers/alarms are not allowed. **The use of such devices will result in disqualification.**
6. No other electronic devices are permitted in the Examination room or site, including telephones, PDAs and signaling devices such as pagers.
7. No books, reference materials, food or drink may be taken into the Examination room.
8. No Examination materials, documents or memoranda of any kind may be taken from the Examination room.
9. You must have the supervisor's permission to leave the room during the Examination. You will not be allowed additional time to make up for time lost during breaks.
10. The Examination will be held only on the day and time scheduled.

11. No questions concerning the content of the Examination may be asked during the testing period. The candidate should listen carefully to the instructions given by the proctor/supervisor and should carefully read the directions in the Examination booklets.
12. The supervisor may dismiss a candidate from the Examination for any of the following reasons:
 - if the candidate's admission to the Examination is unauthorized;
 - if a candidate creates a disturbance, is abusive or otherwise uncooperative;
 - if a candidate gives or receives help, is suspected of doing so or shows any other evidence of cheating;
 - if a candidate attempts to remove Examination materials or notes from the testing room;
 - if a candidate attempts to take the Examination for someone else;
 - if the candidate displays and/or uses a cellular telephone, PDA or other prohibited electronic device during the Examination;
 - if the candidate attempts to use unauthorized aids; and/or
 - if the candidate fails to follow Examination regulations or the instructions given by the test center supervisor.

18. Scores Canceled by NCQLP and/or AMP

NCQLP and AMP are concerned with reporting only valid scores. On rare occasions, circumstances may make Examination scores invalid. NCQLP and/or AMP reserve the right to cancel or withhold any Examination scores if, in their sole discretion, there is cause to question the validity of the scores. Scores declared invalid and canceled by NCQLP and/or AMP may be grouped into two categories:

1. Doubts may be raised about the validity of candidates' scores because of suspected misconduct; in such circumstances, candidates are to cooperate in the investigation of their scores. If scores are canceled because of suspected candidate misconduct, NCQLP will investigate such matters to determine if the candidate will be eligible for retesting.
2. Some scores may be rendered invalid because of circumstances beyond the candidates' control, such as faulty Examination materials or mistiming. NCQLP and/or AMP will investigate such situations. When such occurrences result in canceling candidates' scores, NCQLP is notified that there are no reportable scores for reasons beyond the candidates' control. In this event, NCQLP and AMP will determine the appropriate action to take for these candidates.

In addition to the reasons listed above, NCQLP may cancel or invalidate Examination results if, upon investigation, violation of the policies outlined in this publication are found to have occurred.

19. Questions About the Examination

Candidates may comment on any Examination question at the time of the Examination if a question is believed to be misleading or deficient in accuracy or content. A **form** for this purpose will be provided during the Examination. Each comment will be individually reviewed before Examination scoring. Individual responses to comments on questions will not be provided. **No comments on questions will be considered after Examination results are released to candidates.** Following the Examination, candidates may not have access to the Examinations or to specific questions.

Any complaints about the conduct of the Examination or the test center should be submitted in writing to the Operations Department, AMP, 18000 W. 105th Street, Olathe, KS 66061-7543 within **10 days** following the Examination, with a copy to NCQLP.

20. Report of Results

Candidates will be notified by the end of December following the Examination date whether they have passed or failed the Examination. **No results will be provided by telephone.** Examination scores are reported as raw scores and a total scaled score is given. A raw score is the number of correctly answered questions. The scaled score is statistically derived from the raw score. Your total raw score determines whether you pass or fail, and is converted to a scaled score ranging between 0 and 99. A scaled score of 70 is required to pass.

The reason for reporting scaled scores is that different forms or versions of the Examination may vary in difficulty. As new forms of the Examination are introduced, many questions in each content area are replaced. These changes may cause one form of the Examination to be slightly easier or harder than another form. To adjust for these differences in difficulty, a procedure called “equating” is used. The goal of equating is to ensure fairness to all candidates.

In the equating process, the minimum raw score which is the number of correctly answered questions required to equal the scaled passing score, is statistically adjusted, or equated. For instance, if the Examination is determined to be more difficult than the base form of the Examination, then the minimum raw passing score required will be slightly lower than the original raw passing score. If the Examination is easier than the base form of the Examination, then the minimum raw score will be higher. Equating helps to assure that the scaled passing score represents the same level of difficulty no matter which form of the Examination a candidate takes.

In addition to the candidate’s total raw and scaled scores, raw scores are reported for all the major content categories of the Multiple-Choice Examination. The number of questions answered correctly in each content category is compared to the total number of questions that is possible in that category on the Examination such as 15/20. However, passing the Examination is based only on the candidate’s total scaled score.

Successful candidates receive from NCQLP a letter, certificate and lapel pin sent in late February.

21. Confidentiality

Individual Examination scores are released ONLY to the individual candidate. Results will not be given via telephone, fax or e-mail. **NEITHER NCQLP OR AMP CAN DISCUSS ANYTHING RELATED TO AN INDIVIDUAL WITH ANYONE OTHER THAN THAT INDIVIDUAL.** Successful candidate names may be listed in NCQLP member organizations’ publications.

22. Disclaimer

The report of Examination results by AMP is for the sole use of the individual candidate. Any use of Examination results by other entities is inappropriate and NCQLP can assume no responsibility or liability for such use.

23. Duplicate Score Reports

Requests for duplicate score reports must be made in writing to AMP within one year of the Examination date. Your request must include your name, Social Security number, mailing address, Examination date, test site and signature. The fee for a duplicate score report is \$25; include a check or money order made payable to AMP for this amount with your request and mail to: AMP, 18000 W. 105th Street, Olathe, KS 66061-7543.

24. Requests for Handscoring

Candidates who do not pass the Examination may request a manual verification of the computer scoring. Requests for manual rescoring must be submitted to AMP, 18000 W. 105th Street, Olathe, KS 66061-7543 in writing within 100 days of the Examination with a copy to NCQLP. The fee to hand score the Examination is \$15. The request should include: your name, Social Security number, mailing address, Examination date, test site, signature and a copy of your score report. Upon receipt of the request and appropriate fee, the candidate’s answer sheet will be inspected and handscored. This process takes approximately 30 days. Candidates near a passing score should be aware that to ensure correct reporting of results, the testing agency selects a random sampling of Examinations of candidates who score within one unit of passing. These Examinations are automatically handscored before results are mailed as a quality control measure. Thus, it is extremely doubtful that any Examination results will change from “fail” to “pass” through handscoring.

25. Re-Examination

There is no limit to the number of times unsuccessful candidates may take the Examination, provided that all eligibility requirements in effect at the time of application for Re-Examination have been met. To apply for Re-Examination, candidates must request, complete and submit all required application forms and pay the appropriate Examination fees.

26. Certification Renewal

LCs are required to renew their certification every three years. Retaking and passing the LC Examination satisfies this requirement for one three-year cycle. For complete information on Certification Renewal refer to the *Certification Renewal Guidelines* at www.ncqlp.org.

27. Lighting Certification Syllabus

Content Outline

To begin your preparation in an informed and organized manner, you need to know what to expect from the actual Examination in terms of content. Information regarding the content of the Examination is presented in this handbook. The content outline provides a general overview of the Examination and, with closer inspection, can give you specific study direction because the percentages indicate the relative importance of each category on the Examination.

The content of the Examination is based on a job analysis and is described in the detailed content outline that follows.

Lighting Certification Examination Content Outline

This Examination tests both knowledge of basic concepts and ability to solve design problems.

I. SURVEY/AUDIT-EXISTING (15)

A. Assess (or Identify) Lighting System(s)

1. Luminaire types
2. Luminaire placement
3. Luminaire mounting
4. Lamp – types, CCT, CRI, spectral distribution, etc.
5. Ballast – types, voltage, ballast factor, etc.
6. Illuminance levels
7. Daylighting conditions and characteristics
8. Potential problems
 - a. light quality – under/overlighting, glare, light pollution, light trespass, etc.
 - b. equipment – failure, flicker, cycling, etc.
9. Lighting controls – occupancy sensors, timer switches, photocells, dimmers, energy management systems, etc.
10. Emergency lighting and exit signs

B. Review Lighting Maintenance Procedures

1. Ease of maintenance issues
2. Recoverable light loss factors – LLD, LDD, etc.

C. Verify Electrical Conditions

1. Voltages
2. Switching and controls

D. Determine Building Conditions

1. Ceiling types
2. Plenum depth, including HVAC diffusers, ducts, etc.
3. Building or space characteristics
 - a. height, width, length, orientation, latitude
 - b. surface reflectances
 - c. available daylighting
 - d. luminance ratios
 - e. aesthetic conditions
4. Hazardous materials
5. Code compliance

E. Verify Factors Affecting Energy Usage

1. Hours of operations
2. Utility rates and cost (demand charges, load shedding, time of use, etc.)
3. Control schedules and technologies (bi-level, sensors, etc.)

F. Evaluate Human Factors

- tasks being performed
- age
- speed
- physiological issues
- accuracy
- user opinions

II. LIGHTING DESIGN (40)

A. Establish Design Constraints

1. Regulatory
 - building code
 - electrical code
 - occupational/safety codes
 - energy codes
 - barrier-free and life safety codes (ADAAG, etc.)
 - other applicable ordinances, regulations, laws
2. Project constraints (e.g., budget, maintenance, flexibility, schedule, regional materials – LEED)
3. Physical constraints (e.g., mechanical, structural, electrical)

B. Establish Criteria

1. Assess daylight
 - daylight availability
 - impact on electric lighting
 - fenestration/shell integration (e.g., skylights, clerestories, roof monitors, etc.)
 - energy analysis – including thermal comfort
 - controls strategy
 - shading techniques
 - illuminance/luminance assessment / daylight factors
2. Evaluate proposed electric lighting
 - a. Load and distribution capacity
 - b. Brightness hierarchies
 - horizontal and vertical illuminances of key surfaces
 - surface colors/reflectances
 - luminance/exittance ratios
 - glare
3. Evaluate sustainability

C. Evaluate Proposed Conditions

1. Spatial forms
2. Furnishings
3. Other light sensitive subjects/objects
4. Construction (e.g., plenum, plaster/drywall, sprinklers, speakers, diffusers)
5. Colors
6. Finishes (specularity)

D. Identify and Evaluate Human Factors (Psychological/Physiological)

1. Determine users' needs (e.g., visual performance, visual comfort)
2. Assess users' expectations

E. Develop Schematic Design

1. Develop preliminary design concept
 - a. evaluate ideas of owner, architect, interior designer
 - b. determine design objectives

- c. determine lighting system
 - 1) lighting qualities/design issues (color, surface color enhancement, texture, etc.)
 - 2) luminous composition
 - 3) illuminances/light levels
- 2. Prepare preliminary cost projection
- 3. Refine design concept (design iterations, etc.)
- 4. Identify/evaluate/select lighting technologies
 - a. electric light sources (luminaires, lamps, etc.)
 - b. daylighting technologies
 - c. control techniques
 - d. cost and energy evaluation
 - e. reliability
 - f. ease and cost of installations, operation, maintenance
 - g. integration (systems, materials, finishes)
 - h. photometrics
- 5. Specify critical product criteria
 - dimensions
 - matching of components
 - lighting performance
 - custom fixtures
- 6. Perform preliminary calculations and estimates
 - a. lighting calculations
 - b. energy and code compliance analysis
 - c. budget
- 7. Prepare design report and presentation

F. Develop Design

- 1. Compare and confirm design concepts with detailed technical analyses
 - a. review manufacturer's data
 - b. evaluate photometric performance
 - c. perform lighting calculations
 - d. mock up
 - e. determine maintenance requirements
 - f. finalize lighting techniques (direct, indirect, etc.) and select equipment (lamp, ballast, luminaire, etc.)
 - g. review sustainability of materials and design
- 2. Develop plans and specifications (including cross section details, etc.)
 - a. layout/drawings
 - b. specifications and details
 - c. daylighting
 - d. custom fixtures
- 3. Develop controls concept
 - a. validate maintainability
 - b. select technologies and equipment (review samples, manufacturers' data, etc.)
 - c. define control zones
- 4. Review with project team
- 5. Prepare presentation for owner/client

G. Develop Construction Documents

- 1. Prepare lighting drawings and specifications
- 2. Prepare control drawings and specifications

III. FINANCIAL ANALYSIS (12)

A. Assess Energy Factors

B. Determine Initial Costs

- 1. Installation costs (e.g., equipment, labor, disposal, recycling)
- 2. Utility incentives/rebates
- 3. Value engineering

C. Determine Operating and Maintenance Costs

D. Identify and Evaluate System Costs and Alternatives

- simple payback
- Life Cycle Cost (sustainability, etc.)
- Return on Investment
- Net Savings Calculation (potential savings comparison in dollars)
- Internal Rate of Return

IV. INSTALLATION AND COMMISSIONING (11)

A. Construction Administration

- 1. Review submittals (e.g., specification integrity)
- 2. Review shop drawings
- 3. Respond to Requests for Information (RFI)
- 4. Review installation
- 5. Develop Punch List
- 6. Issue supplemental instructions
- 7. Initiate change orders
- 8. Perform final walk-through
- 9. Prepare/review record drawings and specifications

B. Implement Commissioning Procedures

- 1. Evaluate lighting performance vs. design criteria
- 2. Focus and adjust luminaires
- 3. Commission control functions and program

V. OPERATIONS AND MAINTENANCE (10)

A. Develop Maintenance Documentation

- 1. Luminaire, lamp, and control schedules
- 2. Control settings
- 3. Educate client

B. Perform Operations and Maintenance Procedures

- 1. Identify safety issues
- 2. Troubleshoot
 - premature component failure
 - control systems operating improperly
 - flicker
 - low lumen output
 - color shift
 - lamp cycling on and off

VI. REGULATORY AND VOLUNTARY COMPLIANCE (12)

A. Apply Relevant Codes, Regulations, and Guidelines

- 1. ADA Accessibility Guidelines
- 2. ASHRAE/IESNA 90.1
- 3. EPA Act
- 4. IESNA Recommended Practices
- 5. Life Safety Code (NFPA 101)
- 6. National Electrical Code (NFPA 70)
- 7. Independent testing labs (e.g., UL, CSA, ETL, etc.)

Suggested Reference List

The suggested reading lists are intended to assist Lighting Certification Examination candidates in preparing for the Examination. The primary reference list includes basic texts in lighting and related disciplines; chapters and specific information within the texts are directly related to the content outline. The reference list is divided into two sections: Primary References and Secondary References. The Primary References provide broad, reasonably complete coverage of the topic areas in the content outline. The Secondary References offer additional detail and are more specific.

It is not the intention of NCQLP and its volunteers that a candidate purchase all the books listed on the reference list. Most of the information on the Examination is based on the general knowledge required for competent practice at the three to six year of experience level. Candidates may have other references that cover the same content areas within the Examination. If the references are current and reflect common practice, they will provide general background for the Examination.

Candidates are expected to be familiar with regulations that directly impact lighting and are broadly applied across the U.S. in Regional/Local codes; standards and regulations will not be included on the Examination.

Successful candidates will have an understanding and working knowledge of the guidelines, standards and regulations that apply to lighting such as the Americans with Disabilities Act (ADA), OSHA Safety and Health Standards, and UL.

Examination questions will generally be referenced to the Primary Reference List. A thorough understanding of the topics covered by the references correlate with success on the LC Examination.

Many books are available and can be obtained in bookstores or by contacting individual publishers. IESNA specifically carries the references in its publications catalogue and candidates may purchase them there.

Primary Reference List 2011

1. Rea, Mark, Editor. *Illuminating Engineering Society of North America Lighting Handbook: Reference and Application 9th Edition, and Current Recommended Practices*. Illuminating Engineering Society of North America, New York, 2000. Available in CD format from IES at www.ies.org Please note that the 2011 exam will be based on the 9th Edition, even if the 10th Edition is published before the LC Exam in November.
2. *Advanced Lighting Guidelines*. New Buildings Institute. Available on-line at www.algonline.org.
3. *ASHRAE/IESNA Standard 90.1-2007*. American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE), Atlanta, GA, 2007. Available from IES at www.ies.org.
4. DiLouie, Craig. *Lighting Control Handbook*. The Fairmont Press, Inc., Lilburn, GA 2007. Available from IES at www.ies.org.
5. Steffy, Gary R. *Architectural Lighting Design. Third Edition (2008)*, John Wiley & Sons, NY. Available from IES at www.ies.org
6. *NFPA 70 National Electrical Code, 2011 Edition*. National Fire Protection Association (NFPA), Quincy, MA.
7. *NFPA 101, Life Safety Code, 2009 Edition*. National Fire Protection Association (NFPA), Quincy, MA.
8. Recommended Practices, Design Guides, and Technical Memorandums, Illuminating Engineering Society of North America, New York. All available from IES at www.ies.org.
 - RP1-04 Office Lighting
 - RP3-00 Lighting for Educational Facilities
 - RP6-01 Sports and Recreational Area Lighting
 - RP7-01 Lighting Industrial Facilities
 - RP8-00 Roadway Lighting
 - RP16-10 Nomenclature and Definitions for Illuminating Engineering
 - RP28-07 Lighting and the Visual Environment for Senior Living
 - RP29-06 Lighting for Hospitals and Health Care Facilities
 - RP31-96 Recommended Practice for the Economic Analysis of Lighting
 - RP36-03 Planned Indoor Lighting Maintenance
 - TM 15-07 Luminaire Classification for Outdoor Luminaires
 - G-2-10 Guideline for the Application of General Illumination ("White") Light Emitting Diode (LED) Technologies

Secondary Reference List

Murdoch, Joseph. *Illumination Engineering: From Edison's Lamp to the LED*, 2003. Available at www.ies.org

LEED for New Construction:

[HTTP://WWW.USGBC.ORG/SHOWFILE.ASPX?DOCUMENTID=1095](http://www.usgbc.org/showfile.aspx?documentid=1095)

LM79-08 Electrical and Photometric Measurements of Solid State Products. Available from IES at www.ies.org

LM80-08 Measuring Lumen Maintenance of LED Light Sources. Available from IES at www.ies.org

NLPIP Volume 7 Issue 3, 2003, LED Lighting Systems. Available on-line at: <http://www.lightresearch.org/programs/NLPIP/lightingAnswers.led/lightingSystem.asp>

Study Advice

The advice offered here may be helpful as you prepare for the Examination. Try to be objective about yourself and your individual learning needs when you are deciding how to proceed with your study.

Determine how you study best. Some students seem to learn faster by hearing the information, while others need to see it written or illustrated, and still others prefer to discuss material with colleagues. A combination of these alternatives can often produce the best results. If you had success in lecture courses, you may need to hear information for best retention. If you find that you prefer to read material, then you might consider writing important facts on 3x5 cards. You can refresh your memory by periodically reviewing these cards. This technique is especially useful if you write the material thoughtfully and concisely, which allows you to digest the material through both reading and writing. You may wish to organize a study group or find a study partner. **(NCQLP IS NOT INVOLVED IN FORMING STUDY GROUPS.)** Once you decide on the most effective and comfortable method for you, focus on that preference and use the other techniques to complement it.

Plan your study schedule well in advance. Use learning techniques such as reading or audiovisual aids. Be sure you find a quiet place to study where you will not be interrupted. We suggest you concentrate your study efforts on a few carefully chosen references from the resource list provided.

Test-taking Advice

This advice is presented primarily to familiarize you with the Examination directions.

1. Read all instructions carefully.
2. The actual Examination is timed. Bring a watch to the test center and set it to correspond to the official time used by the supervisor. Placing your watch in full view can help your concentration since a quick time check will not require major changes in body and eye focus.
3. For best results, pace yourself by periodically checking your progress. This will allow you to make any necessary adjustments. Remember, the more questions you answer, the greater the probability of achieving a passing score.
4. Be sure to record an answer on the answer sheet for each question on the multiple-choice portion of the Examination, even the ones about which you are uncertain. You can mark the questions you wish to reconsider in the Examination booklet and return to them later. Avoid leaving any questions unanswered; this will maximize the probability of passing and prevent mismarking your answer sheet. It is better to guess than to leave a question unanswered.

Sample Questions

1. Incandescent lamp light output is **LEAST** affected by
 - A. over voltage operation.
 - B. shock and vibration conditions.
 - C. improper sockets.
 - D. improper burning position.
2. The ratio of mean lumens to rated lumens indicates which of the following?
 - A. ballast factor
 - B. voltage drop
 - C. lamp lumen depreciation
 - D. luminaire dirt depreciation
3. The NFPA requirement for emergency lighting in the path of egress is
 - A. a minimum of 1 footcandle. (key)
 - B. an average of 1 footcandle.
 - C. a maximum of 5 footcandles.
 - D. a uniformity ratio of 5 to 1.
4. In barrier-free public buildings, where emergency lighting codes prevail, illuminated exit signs must provide an extra warning for visually impaired visitors by
 - A. flashing.
 - B. beeping loudly.
 - C. using high luminance lamps.
 - D. incorporating braille letters.
5. In life cycle costing, the measure of results is expressed in
 - A. deferred expenses.
 - B. kWh saved.
 - C. net present value. (key)
 - D. risk factors.
6. The lamp designations ES, SS, EW, and WM are for fluorescent lamps that
 - A. have low acquisition costs.
 - B. require electronic ballasts.
 - C. use energy efficient ballasts.
 - D. are reduced wattage alternatives.
7. Group relamping of fluorescent luminaires is generally recommended
 - A. upon change of occupancy.
 - B. at 60 to 70% of rated life.
 - C. at a 20% failure rate.
 - D. every 5 years.

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8. Which of the following is a CIE/IESNA luminaire distribution classification category?
- A. semi-indirect
 - B. concentrating
 - C. forward throw
 - D. wall-wash
9. A ray of incident light being reflected in one distinct direction is representative of what type of reflection?
- A. spread
 - B. diffuse
 - C. specular
 - D. semi-specular
10. The term "luminaire" refers to a
- A. lighting unit exclusively for roadway illumination.
 - B. lighting unit exclusively for interior illumination.
 - C. complete lighting unit without lamps and ballasts.
 - D. complete lighting unit including lamps and ballasts.
11. Ballast efficacy factor (BEF) is defined as
- A. ballast factor/ballast watts.
 - B. lamp efficacy/ballast watts.
 - C. ballast factor/ballast volts.
 - D. lamp efficacy/ballast volts.
12. Which of the following is the best definition of illuminance?
- A. time rate of flow of light energy
 - B. luminous flux incident on an object per unit area
 - C. flux density emitted from an object without regard for direction
 - D. flux density emitted from an object in a given direction
13. Before construction is completed, the electrical contractor should notify the lighting designer of the anticipated completion date so that
- A. the designer can walk through with the electrical inspector.
 - B. ballasts can be calibrated by the electrical engineer.
 - C. a representative of the design office helps to schedule installation.
 - D. a schedule can be set for aiming and adjusting fixtures.
14. Before the lighting system can be commissioned, the punch list
- A. must be completed and corrected.
 - B. must be certified by the inspector.
 - C. must be approved by the owner.
 - D. cannot be modified by the designer.
15. To ensure that the lighting design's projected energy savings are realized after the installation, the lighting designer must
- A. adjust occupancy sensors and dimmers.
 - B. focus the adjustable accent lights.
 - C. finalize the punch list.
 - D. inspect the branch circuit wiring.

Answer Key

- | | |
|------|-------|
| 1. D | 9. C |
| 2. C | 10. D |
| 3. B | 11. A |
| 4. A | 12. B |
| 5. C | 13. D |
| 6. D | 14. A |
| 7. B | 15. A |
| 8. A | |

Case Study Sample Problem

Scenario: You have been asked to redesign the lighting in the common areas, such as the lobby, corridors, circulation areas, of a retirement facility built in 1968. The facility is privately-owned and located in a rural area of the United States. Reflectance values are 70% ceiling, 50% walls, and 20% floor. The existing overall appearance of the facility is dark and gloomy. Additionally, the owner wishes to decrease energy costs.

Question 1 – Information Gathering, (IG):

During your first visit to the site, what information should you collect?

1. Current lighting equipment, lamps, and controls (incandescent downlights with black, multigroove baffles and manual switching control)
2. Occupant age and gender distribution (85% women, all occupants over age 55)
3. Impact of daylighting in existing spaces (significant sunlight penetration controllable with adjustable blinds)
4. Resident preferences (colorful walls with floral designs)

A. 1 and 3 only (key)

- B. 1 and 4 only
- C. 2 and 3 only
- D. 2 and 4 only

Question 2 – Decision-Making, (DM):

After collecting initial project information, what would you do next?

A. Establish preliminary design criteria. (Key)

- B. Create a budget for the entire design.
- C. Prepare plans and specifications for lighting the areas.
- D. Replace all existing lamps with same wattage and type.

Question 3 – Information Gathering:

What information would you collect next?

A. Consult current recommendations for this type of facility. (Key)

- B. Survey similar facilities in the area.
- C. Investigate the need for occupancy sensors in spaces being considered for redesign.
- D. Measure current illumination levels in all areas.

Question 4 – Decision-Making:

Given a 10" plenum depth, a ceiling height of 9' AFF and art work in the lobby, which of the following combinations is the MOST appropriate lighting system?

1. Recessed, vertical 32 watt compact fluorescent luminaires with clear Alzak reflector.
2. Recessed, horizontal 32 watt compact fluorescent luminaires with clear Alzak reflector.
3. Monopoint mounted compact fluorescent track heads
4. Monopoint mounted incandescent PAR track heads

- A. 1 and 3
- B. 1 and 4
- C. 2 and 3
- D. 2 and 4 (Key)**

Question 5 – Decision-Making:

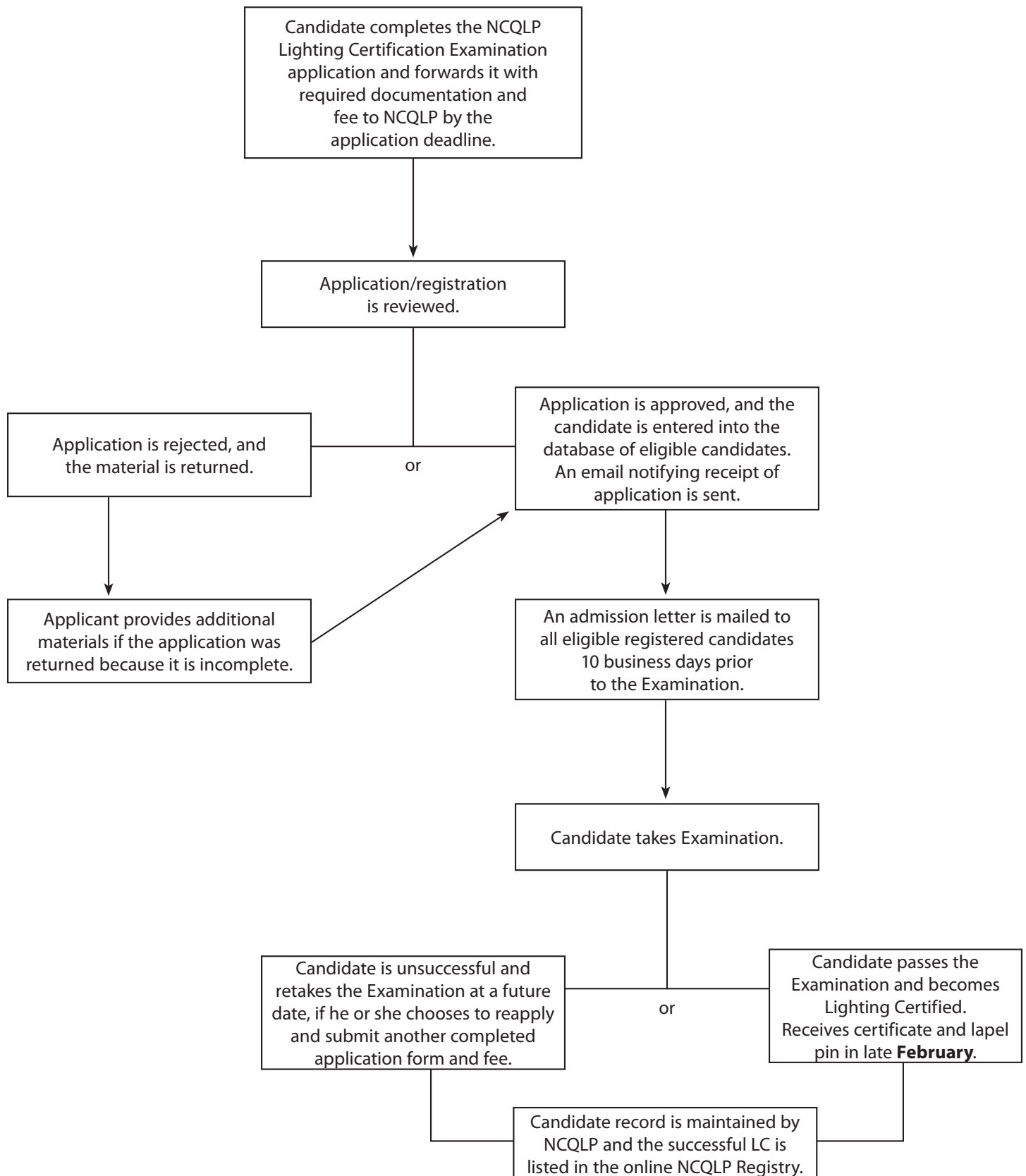
To best integrate daylighting into your design solution, what would you do at this time?

- A. Call for a redesign of all south-facing windows to increase light penetration.
- B. Install a pre-set control system that would control daylighting levels through the control of existing adjustable blinds.
- C. Install a control system with photosensors that would coordinate freestanding floor and table lamp lighting levels with daylighting levels.
- D. Install a photosensor activated control system for both ambient lighting and blinds. (Key)**

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28. NCQLP Lighting Certification Examination Process

The following flow chart helps explain the entire Lighting Certification application and examination process.



2011 LIGHTING CERTIFICATION EXAMINATION APPLICATION

PART A

INSTRUCTIONS FOR COMPLETING THE LIGHTING CERTIFICATION EXAMINATION APPLICATION

The following instructions are offered to help you complete your application correctly when applying for the NCQLP Lighting Certification Examination. Read the information provided in the Candidate Handbook before completing the application. **Incomplete or illegible applications and applications submitted without proper payment will be returned unprocessed.**

You must complete your application manually if you are requesting: Section 20 – Special ADA Accommodation or Section 21 – Non-Saturday Testing.

If completing the online application through www.ncqlp.org, please follow the format and prompts provided.

PART A

SIGNATURE. You must read, sign and date this section for your application for it to be processed.

Sections 1, 2 – NAME AND FORMER NAME. Print your first name, middle initial, last name and former name (if applicable) in the boxes provided. Print only one letter in each box. Do not use hyphens or any punctuation marks in these spaces. If your name has a generational suffix, please indicate Jr., Sr., II, III, etc.

Section 3 – DATE OF BIRTH. Write the two digit month of your birth. Next, print the two digits for the day and year of your birth in the boxes supplied. Please use two digits for the month, day (e.g., 03) and year (e.g., 60 for 1960).

Section 4 – GENDER. Blacken the circle which corresponds to your gender.

Sections 5, 6 – DAYTIME TELEPHONE AND FAX NUMBERS. Please provide the area code and number of the telephone and fax numbers where you can be reached on weekdays between 9:00 AM and 5:00 PM Central Time (daytime telephone).

Section 7 – EXAMINATION DATE. Indicate the month and day you are applying to take the Examination.

Section 8 – TEST CENTER CODE. Using the test center list on page 2 of this handbook, you **MUST** enter the test center code for the site where you wish to take the Examination.

Section 9 – STREET ADDRESS. Print only one number or character per box. Leave a blank box between the numbers and the street name where you would normally leave a space. If your address is too long, please abbreviate the street name. Enter your apartment number, P.O. Box number or any address addendum in the spaces provided to the right of the street address. Please abbreviate where possible.

Important: The mailing address you provide on your application will be used to mail your admission letter and examination results unless you indicate a change of address no later than 30 days before the Examination. If you move after this time, leave a for-

warding address with your post office so the pertinent information can be forwarded to your new address.

Section 10 – CITY/STATE. Print the name of the city in the boxes provided. Use the standard two-character abbreviation, such as, KS for Kansas, to indicate the state.

Section 11 – ZIP CODE/POSTAL CODE. Enter your nine-digit zip code in the boxes. Applicants with alpha and numeric postal codes must enter their postal codes in the boxes provided.

Sections 12, 13 – FOREIGN PROVINCE AND COUNTRY. Enter the Province in which you reside and blacken the circle which corresponds to the Country in which you reside. If you reside in a country other than the United States, please provide the additional information requested.

Section 14 – E-MAIL ADDRESS. Enter your e-mail address in the boxes provided.

Sections 15, 16, 17. Complete each section by entirely blackening the appropriate circles for each question. Where additional information is required, please type or print CLEARLY.

Section 18 – TRANSCRIPTS. *Complete this section ONLY if you are applying as an individual with a bachelor's degree with less than six years of professional lighting-related work experience.* The transcript **MUST** be included with the application.

Section 19 – SPECIAL TEST CENTER REQUEST. Blacken this section if you are requesting a test center other than the established centers listed on page 2. Special instructions for requesting a special center are provided in the REQUEST FOR SPECIAL TEST CENTERS section on page 3 of the Candidate Handbook.

Section 20 – SPECIAL ADA ACCOMMODATION REQUEST. Complete this section if you have a disability and require special testing accommodations. The Request for Accommodations form on page 23 must be completed and submitted with your application.

Section 21 – NON-SATURDAY TESTING REQUEST. If you have a religious belief that prohibits you from being examined on Saturday, please blacken this circle. Ensure that you have also selected a test center location in Section 8. The Request for Non-Saturday Examination form must be completed and submitted with your application.

PART B

Complete the information as requested on Part B of the application.

When completed, follow the online application process located at www.ncqlp.com or mail the application (Parts A and B) with the appropriate fee and all required documentation to:

NCQLP, P.O. Box 142729, Austin, TX 78714-2729

If utilizing private carriers, please use the physical address of 1016 La Posada Drive, #155, Austin, TX 78752.

2011 Lighting Certification Examination Application

**Read the Candidate Handbook in its entirety before completing this application.
ALL SECTIONS OF THIS APPLICATION FORM MUST BE COMPLETED, IF REQUIRED. This form
will be returned, if it is incomplete, illegible, or received after the application deadline.**

TO APPLY online, you have to go to www.ncqlp.org and click on "About the Certification Examination" then in "Downloads and Dates," click on "Online LC Examination Application."

TO APPLY using this form:

1. Complete **all** portions of this application.
2. Checklist:

ALL ITEMS MUST BE ENCLOSED OR YOUR APPLICATION WILL BE RETURNED WITHOUT PROCESSING

- Part A
- Part B
- Consent Form
- Recommendation 1
- Recommendation 2
- Appropriate Fee
- Transcript (if less than 6 years of experience)
- Letter of Eligibility from Accredited Institution (if Intern LC)

Every applicant, including Intern LCs, must submit all required materials in their application packet.

3. Mail the application to:

**NCQLP
P.O. Box 142729
Austin, TX 78714-2729**

If utilizing private carriers, please use the physical address of 1016 La Posada Drive, #155, Austin, TX 78752.

An email will be sent within 30 business days confirming receipt of your application.

NCQLP WILL RETURN INCOMPLETE APPLICATIONS.

1	NAME: FIRST	MI	

NAME: LAST	GENERATION	2 FORMER NAME

3 DATE OF BIRTH		
MONTH	DAY	YEAR
		1 9

4 DAYTIME TELEPHONE NUMBER	
AREA CODE	
	-

5 SEX
<input type="radio"/> MALE
<input type="radio"/> FEMALE

6 FAX NUMBER	
AREA CODE	
	-

7 EXAMINATION DATE		
MONTH	DAY	YEAR
		2 0 1 1

8 TEST CENTER CODE

9 STREET ADDRESS (Abbreviate if necessary.)	APT, PO, ETC. (Abbreviate if necessary.)

10 CITY	STATE

11 ZIP CODE/POSTAL CODE
-

12 PROVINCE

13 COUNTRY
<input type="radio"/> UNITED STATES
<input type="radio"/> CANADA
<input type="radio"/> OTHER: _____

14 E-MAIL ADDRESS

15 ELIGIBILITY STATUS

Please choose one.

- I have a bachelor's degree from an accredited college or university and a minimum of three years experience. (Complete section 18.)
- I have a minimum of six years of experience.
- I am applying as an Intern to take the examination.
- I am currently Certified and wish to retake the examination to fulfill my current certification requirement.
- I am a reapplicant for the LC Examination. The last time I attempted this examination was:

Write the month and year you last took the examination.

MONTH		YEAR	

16 EDUCATION

Indicate the highest degree you have obtained.

- High School Diploma or equivalent
- Trade Certification: _____
- Associate's Degree
- Bachelor's Degree
- Master's Degree – Field: _____
- Doctoral Degree – Field: _____
- Other: _____

17 FEES

Indicate the appropriate fee(s). Examination fees may be paid by check or money order (payable to NCQLP) or by credit card (**VISA, American Express and MasterCard only**) in U.S. dollars only.

Early Application Postmark Deadline Fee (Aug. 10) \$ 575

Final Application Postmark Deadline Fee (Sept. 15) \$ 675

Intern Application Fee..... \$ 100

Additional Fee

Special Test Center Fee within USA \$1,250

TOTAL ENCLOSED \$ _____

If payment is made by credit card, please provide the following information. (**VISA, American Express and MasterCard only**)

Credit Card No. _____

Corporate Card: Yes No By signing this form you are agreeing to abide by the policies regarding payment.

Expiration Date _____

Signature _____

Cardholder Name (print) _____

18 TRANSCRIPTS

Individuals applying with a bachelor's or higher degree should complete this section. The transcripts must be included with the application materials for all candidates with less than six years of professional lighting-related work experience.

School Name: _____

School Address: _____

Dates Attended: From _____ Through _____

Degree(s) Earned: _____

19 SPECIAL TEST CENTER REQUEST

- YES (Please include appropriate documentation and fee.)

20 SPECIAL ADA ACCOMMODATION REQUEST

- YES (Complete the form included in the handbook.)

21 NON-SATURDAY TESTING REQUEST

- YES (Complete the form included in the handbook.)

SIGNATURE

Please read, sign and date the statement below.

Applications without this section completed will be returned unprocessed.

I hereby apply to sit for the NCQLP Lighting Certification Examination on November 5, 2011. I certify that I have read all portions of the Candidate Handbook and application and that all information that has been or will be submitted to NCQLP from me or on my behalf is true and accurate to the best of my knowledge. I understand that if the information I have submitted is determined by NCQLP to be incomplete or inaccurate, my application may be rejected or my examination results may be delayed or invalidated. I hold NCQLP and its officers, directors, volunteers and employees harmless for any action taken pursuant to the rules and standards of the NCQLP Lighting Certification Examination process as outlined in the Candidate Handbook and application with regard to my Certification. I hereby waive any claim or cause of action against the NCQLP including any claims or causes based on negligence arising out of any actions or failures to act by the NCQLP in granting, denying, or revoking any Certifications except claims based on gross negligence or lack of good faith by the NCQLP. By signing this statement, I acknowledge that I have read and understand this information, and agree to abide by these NCQLP policies. I certify that all items on the checklist are enclosed. If they are not, I understand that all materials will be returned without processing.

Candidate Name (Please print)

Signature Date

FOR OFFICE USE ONLY



NCQLP Application Consent Form

I _____ hereby make application to NCQLP for eligibility for NCQLP Lighting Certification, in accordance with its rules and regulations. I certify that all information contained in my application for NCQLP Lighting Certification is true and accurate to the best of my knowledge. I understand that if any statement made on this application or hereafter supplied to NCQLP is false, incomplete or inaccurate or if I violate any of the rules or regulations of NCQLP, I may be denied eligibility for Certification, or my Certification may be revoked or otherwise limited. I understand that if I receive NCQLP certification, it will be my responsibility to remain in compliance with all NCQLP requirements for Certification as they presently exist and as they may be revised, to keep my Lighting Certification current.

In addition, I hereby authorize NCQLP, its officers, directors, committee members, employees, and agents (the "above-designated parties"), to review my application for eligibility for NCQLP Lighting Certification, and, if I receive NCQLP Lighting Certification, to initiate review of my continued eligibility for NCQLP Lighting Certification. I agree to cooperate promptly and fully in any such review, including submitting such documents and information deemed necessary to confirm the information in this application. I hereby authorize NCQLP, now and in the future, to request and procure any information necessary for such review from any individual or institution, each of which shall be absolutely immune from civil liability arising from any act, communication, report, recommendation or disclosure of any such information even where the information involved would otherwise be deemed privileged so long as any such conduct is performed or made in good faith and without malice or gross negligence. I authorize the above-designated parties to communicate any and all information relating to any NCQLP application and review thereof including but not limited to pendency or outcome of disciplinary proceedings to state and federal authorities, employers and others.

I understand that NCQLP may use any score in psychometric analyses to confirm observations and reports of suspected irregularities in the conduct of an Examination or review, and respond to any inquiry about my status in its Examination or review system in accordance with its then-current policy.

I certify that I am the candidate whose signature appears below. Because of the confidential nature of the NCQLP Lighting Certification Examination, I will not take any Examination materials from the test site, reproduce the Examination materials, or transmit the Examination questions or answers IN ANY FORM, written or verbal, to any other person. I understand that I may only seek admission to sit for the NCQLP Lighting Certification Examination for the purpose of seeking NCQLP Lighting Certification or Certification renewal, and for no other purpose. I understand that NCQLP reserves the right to refuse admission to any NCQLP Lighting Certification Examination to me if I do not have the proper identification, or if administration has begun. If I do anything which is not authorized or which is prohibited by NCQLP in connection with any NCQLP Examination, I understand that my examination performance may be voided, and such activity may be the subject of legal action. If I am refused admission for any of these reasons, fail to appear at the test site, or if my examination performance is voided, I will receive no refund of the application or examination fees and there will be no credit for future examinations.

I understand that review of the adequacy of examination materials will be limited to computing any scoring correction. I waive all further claims of examination review and agree to indemnify and hold harmless the above-designated parties for any action taken pursuant to the rules and standards of NCQLP with regard to this application, my Lighting Certification and/or Certification renewal.

By signing, I hereby certify that I have read and understand this information, and that I am in compliance and will remain in compliance with all rules and regulations of NCQLP, as now constituted and as they may be amended.

Signature

Date



2011 NCQLP Examination Application – Part B

The following information is confidential. Data will be used to develop a profile of those within the NCQLP’s Certification Program. It will be aggregated for statistical purposes. The information will not be used or considered in connection with any decision regarding Certification.

Please provide the following information as it will allow NCQLP to better serve you, the lighting industry and the public. Detach this page from the handbook and submit it with your completed application.

1. Please list your e-mail address for communication purposes: _____

2. Which ONE phrase BEST describes your primary job responsibility?

- | | |
|--|--|
| <input type="radio"/> A. Architect | <input type="radio"/> L. Lighting Designer/Consultant |
| <input type="radio"/> B. Contractor | <input type="radio"/> M. Manufacturer |
| <input type="radio"/> C. Distributor | <input type="radio"/> N. Manufacturers’ Representative |
| <input type="radio"/> D. Educator | <input type="radio"/> O. Marketing |
| <input type="radio"/> E. Electrical Engineer | <input type="radio"/> P. Product/Industrial Designer |
| <input type="radio"/> F. Energy Services | <input type="radio"/> Q. Retrofitter |
| <input type="radio"/> G. Estimator | <input type="radio"/> R. Sales Representative |
| <input type="radio"/> H. Facilities Manager | <input type="radio"/> S. Utility Company Employee |
| <input type="radio"/> I. Government Employee | <input type="radio"/> T. Visual Merchandiser |
| <input type="radio"/> J. Interior Designer | <input type="radio"/> U. Other – please specify: _____ |
| <input type="radio"/> K. Landscape Architect | |

3. Check the lighting-related organizations of which you are a member:

- | | | |
|--------------------------------|--------------------------------|--|
| <input type="radio"/> A. AEE | <input type="radio"/> E. IALD | <input type="radio"/> I. IIDA |
| <input type="radio"/> B. AIA | <input type="radio"/> F. IEEE | <input type="radio"/> J. NALMCO |
| <input type="radio"/> C. ASID | <input type="radio"/> G. IESNA | <input type="radio"/> K. NAILD |
| <input type="radio"/> D. CIBSE | <input type="radio"/> H. IFMA | <input type="radio"/> L. Other – please specify: _____ |

4. How many years have you been a lighting practitioner?

- 3-5
 6-10
 11-20
 20+

5. Indicate your highest level of education:

- High School
 Associate Degree
 Bachelor’s Degree
 Advanced Degree

6. Indicate any professional credentials or licenses you have earned. Do not include college degrees.

Please check all that apply:

- | | |
|--|---|
| <input type="radio"/> Certificate of Technical Knowledge (TKE) | <input type="radio"/> LEED |
| <input type="radio"/> Certified Facility Manager (CFM) | <input type="radio"/> Licensed/Registered Architect |
| <input type="radio"/> CLEP | <input type="radio"/> Licensed/Registered Interior Designer |
| <input type="radio"/> EPA Greenlights, Surveyor Ally | <input type="radio"/> Lighting Certified (LC) |
| <input type="radio"/> IALD Professional Member | <input type="radio"/> Professional Engineer (PE) |
| <input type="radio"/> Other – please specify: _____ | |

7. Please Print Name: _____

8. Employer Name: _____

9. Comments: _____



National Council on Qualifications for the Lighting Professions

2011 Lighting Certification Examination

Recommendation Form

TWO completed recommendation forms are required for ALL individuals applying for the NCQLP Lighting Certification Examination. The completed forms must be submitted to NCQLP with your application.

Provide this form to your supervisor and/or professional colleagues and ask them to complete it. If you are an Intern LC candidate, please provide it to your employer or professor for completion. Additional copies of this form may be made. **Please type or print clearly.**

Applicant's Name _____

To properly identify the applicant's **lighting-related experience**, please identify the percentages of work time, to your knowledge, that they spend in each of the following areas. Percentages must total 100 percent.

- 1. SURVEY/AUDIT – EXISTING..... _____
 - 2. LIGHTING DESIGN..... _____
 - 3. FINANCIAL ANALYSIS..... _____
 - 4. INSTALLATION AND COMMISSIONING _____
 - 5. OPERATIONS AND MAINTENANCE _____
 - 6. REGULATORY COMPLIANCE _____
 - 7. OTHER (NONLIGHTING-RELATED)..... _____
- TOTAL 100%

To the best of your knowledge, how many years/months has the applicant been working in **lighting-related** activities? _____

What is your professional relationship to the applicant? _____

Additional Input (Provide additional comments on reverse side of form): _____

Supervisor/Colleague Name _____

Position _____

Company _____

Address _____

Business Telephone Number _____ Business FAX Number _____

E-mail Address _____

Signature _____ Date _____

Return TWO completed recommendation forms to NCQLP with your application.

(over)

Request for Special Accommodations Provider Form

Please submit this form and related materials to:

**National Council on Qualifications for the Lighting Professions (NCQLP)
P.O. Box 142729, Austin, TX 78714-2729**

If utilizing private carriers, please use the physical address of 1016 La Posada Drive, #155, Austin, TX 78752.

I, _____ (printed name of candidate), hereby authorize and request the provider identified below to release the information requested by NCQLP relating to my disability and the accommodation appropriate to my disability to sit for the NCQLP Examination.

Signature _____ Date _____

The candidate/patient identified above is requesting accommodation to sit for the National Council on Qualifications for the Lighting Professions ("NCQLP") Examination. NCQLP accommodation policy requires candidates requesting accommodation to submit current documentation of the disability from an individual qualified to assess the disability. The candidate is requesting that you provide such documentation; you should submit your evaluation on your professional letterhead.

Your evaluation should include your assessment of the candidate's disability as well as an accommodation plan. The documentation should explain the type and degree of the candidate's disability and how the proposed accommodation affects the disability.

The documentation should include the following information: (i) the month, day and year the candidate/patient first consulted you; (ii) the month, day and year the candidate/patient was last seen by you; (iii) the diagnosis of the candidate/patient's disability; (iv) the name of the examinations used; and (v) the duration of the condition.

You are also required to include recommended accommodations for testing in the documentation. Finally, please sign the statement below and include it in the transmittal of your evaluation.

HEALTHCARE PROFESSIONAL DECLARATION

Signature _____

Name (please print) _____ Date _____

Address _____

Telephone _____ State License #: _____

If you are not licensed, please note credentials that qualify you to diagnose the disability: _____



NCQLP™

Mission

The mission of NCQLP is to serve and protect the well being of the public through effective and efficient lighting practice.

Strategic Goals and Objectives

1. To implement and administer a justifiable and defensible certification for lighting practitioners.
 - Perform regular Job Analysis Studies as a basis for the LC credential.
 - Develop and administer an annual LC examination.
 - Provide oversight to maintain a valid, reliable and legally defensible LC credential.
2. To maintain continuity of NCQLP certification by establishing a credible, financially stable organization.
 - Establish administrative policies and guidelines.
 - Comply with applicable laws and regulations.
 - Develop sources of income and an ongoing fundraising effort.
 - Promote a positive public image.
3. To increase the demand for certified practitioners with end users.
 - Encourage end users to use LC certified practitioners.
 - Explore strategies to support the efforts of lighting practitioners.
 - Encourage jurisdictions to require LC certified practitioners.
4. To encourage lighting practitioners to seek certification.
 - Publicize the mission of NCQLP.
 - Assist lighting practitioners in the identification of educational opportunities to prepare for the examination.
 - Market to practitioners, organizations and governmental agencies.

National Council on Qualifications for the Lighting Professions

P.O. Box 142729
 Austin, TX 78714-2729
 Phone: 512/973-0042
 Fax: 512/973-0043
 E-mail: info@ncqlp.org
 Web: www.ncqlp.org

If utilizing private carriers, please use the physical address of
 1016 La Posada Drive, #155, Austin, TX 78752.

NCQLP™ Leadership Volunteers

Board of Directors

Officers

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Ruth Taylor, LC..... U. S. Department of Energy

Executive Director

Mary Jane Kolar, CAE
NCQLP

NCQLP Lighting Certification Examination Test Centers

CA – Oakland CA0054 – Walnut Creek Marriott (Walnut Creek, CA)
 CA – Los Angeles CA0053 – University of California Los Angeles
 CO – Denver CO0061 – Denver University
 DC – Washington DC0091 – University of Maryland – (College Park, MD)
 FL – Orlando FL0102 – University of Central Florida
 GA – Atlanta GA0111 – Georgia State University
 IL – Chicago IL0141 – Loyola University
 MA – Boston MA0221 – University of Massachusetts Boston
 MO – Kansas City MO0261 – University of Missouri Kansas City
 MN – Minneapolis MN0241 – University of Minnesota
 NC – Raleigh NC0343 – Wake Tech Community College
 NY – New York NY0331 – Pace University
 OH – Cleveland OH0361 – Cleveland State University
 PA – Philadelphia PA0391 – University of Pennsylvania
 TX – Dallas TX0441 – University of Texas Arlington (Arlington, TX)
 UT – Salt Lake City UT0451 – University of Utah
 VT – Burlington VT0461 – University of Vermont
 WA – Seattle WA0481 – Renton Technical College (Renton, WA)

International

Canada – Toronto, Ontario CAN0725 – York University
 – Vancouver, BC CAN0722 – University of British Columbia

All sites are subject to change due to candidate volume and availability. Exact reporting information will be provided 2 weeks prior to the examination date.

These may not be final locations.

NCQLP Member Organizations

Illuminating Engineering Society of North America
(IESNA)

Web: www.iesna.org

International Association of Lighting Designers Inc.
(IALD)

Web: www.iald.org

interNational Association of Lighting Management
Companies (NALMCO)

Web: www.nalmco.org

Lighting Research Center (LRC)

Web: www.lrc.rpi.edu

National Association of Independent Lighting
Distributors (NAILD)

Web: www.naild.org

National Electrical Manufacturers Association (NEMA)

Web: www.nema.org

New York State Energy Research & Development
Authority (NYSERDA)

Web: www.nyserda.org

Northeast Energy Efficiency Partnerships (NEEP)

Web: www.neep.org

U.S. Department of Energy (USDOE)

Web: www.us.doe.gov



NCQLP

**National Council on Qualifications
for the Lighting Professions**

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U.S. Mail • P.O. Box 142729 • Austin, Texas 78714-2729

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