



The Society of
Light and Lighting

A. Knowledge and understanding

A Member shall use a combination of general and specialist engineering knowledge and understanding to optimise the application of existing and emerging technologies. This competence is about the ability to understand the underpinning technical principles relevant to the applicant's area of expertise and practice and apply them to develop appropriate technical solutions. This could involve developing solutions for novel problems or dealing with significant technical complexity by the integration of a range of technologies and consideration of other factors. This competence requires that an applicant is maintaining and developing their knowledge in their field of practice and not just that required for specific tasks.

Objective	Evidence Examples	Specific lighting design examples
A1. Maintain and extend a sound theoretical approach to enable you to develop your particular role.	<ul style="list-style-type: none">• Formal training related to your role.• Learning and developing new engineering knowledge in a different industry or role.• Understanding the current and emerging technology and technical best practice in your area of expertise.• Developing a broader and deeper knowledge base through research and experimentation.• Learning and developing new engineering theories and techniques in the workplace.	<ul style="list-style-type: none">• Training in the use of lighting design software• A demonstrated understanding of the requirements for a space and occupant needs, illustrated by lighting design and application. This may include demonstrating an understanding of lighting design/simulation software and methods of sense checking digital calculations.• Could include experience of product design, architecture, CAD technician, researcher, lighting manufacturer• Could include an understanding of the use of artificial light in support of human circadian rhythms / understanding potential for improved efficiency from LED light sources / knowledge of standards and lighting requirements• Surveying responses from occupants – could include post occupancy evaluation• Learning about new lighting technology – could include lighting controls and connectivity, tuneable LEDs, daylight harvesting.



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<p>A2. Develop technological solutions to unusual or challenging problems, using your knowledge and understanding and/or dealing with complex technical issues or situations with significant levels of risk.</p>	<ul style="list-style-type: none">• Carrying out technical research and development.• Developing new designs, processes or systems based on new or evolving technology.• Carrying out complex and/or non-standard technical analyses.• Developing solutions involving complex or multidisciplinary technology.• Developing and evaluating continuous improvement systems.• Developing solutions in safety-critical industries or applications.	<ul style="list-style-type: none">• Research and development• Knowledge of emerging lighting technologies and controls systems• Non-standard technical analysis could include specific projects – extreme conditions, heritage, re-use of historic light fittings, healthcare, lighting for people with visual impairments, care homes etc.• Continuous improvements systems – could relate to efficiency, supporting occupant wellbeing, colour rendering, emergency lighting, retrofit projects• Safety critical – could include lighting case studies for industrial environments, food preparation, healthcare, emergency lighting, illuminated exit signage, schools, daylight harvesting etc.
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B. Design, development and solving engineering problems

A Member shall apply appropriate theoretical and practical methods to the analysis and solution of engineering problems. This competence is about the ability to apply engineering knowledge effectively and efficiently in a safe and sustainable way to the individual tasks which need to be undertaken in the applicant's role in association with both new and existing clients and other team members.

Objective	Evidence Examples	Specific lighting design examples
<p>B1. Take an active role in the identification and definition of project requirements, problems and opportunities.</p>	<ul style="list-style-type: none"> • Identifying projects or technical improvements to products, processes or systems. • Preparing specifications, taking account of functional and other requirements. • Establishing user requirements. • Reviewing specifications and tenders to identify technical issues and potential improvements. • Carrying out technical risk analysis and identifying mitigation measures. • Considering and implementing new and emerging technologies. 	<ul style="list-style-type: none"> • Luminaire specification based on user requirements and the type of space • Challenges presented by value engineering • Considering integrating natural and artificial light, daylight harvesting • Liaising with manufacturers – developing bespoke fittings for specific applications / to address user requirements • Developing lighting controls strategy • Preparing lighting concept documents • Investigating battery and self-contained emergency lighting luminaires • Risk analysis, environmental assessments and site surveys, re-use of heritage luminaires.



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<p>B2. Can identify the appropriate investigations and research needed to undertake the design, development and analysis required to complete an engineering task and conduct these activities effectively.</p>	<ul style="list-style-type: none"> • Identifying and agreeing appropriate research methodologies. • Investigating a technical issue, identifying potential solutions and determining the factors needed to compare them. • Identifying and carrying out physical tests or trials and analysing and evaluating the results • Carrying out technical simulations or analysis. • Preparing, presenting and agreeing design recommendations, with appropriate analysis of risk, and taking account of cost, quality, safety, reliability, accessibility, appearance, fitness for purpose, security (including cyber security), intellectual property constraints and opportunities, and environmental impact. 	<ul style="list-style-type: none"> • Developing lighting simulations to test design concept and investigate potential technical issues, determining the best solution • Developing physical mock-ups to demonstrate the lighting effect. • Consultations and workshops with client / project manager – agreeing on design recommendations, budget, fitness for purpose etc. • Investigating the use of various lighting design technologies (potentially in collaboration with the software developers) – working across multiple platforms • Risk analysis, environmental assessments, and site surveys
<p>B3. Implement engineering tasks and evaluate the effectiveness of engineering solutions.</p>	<ul style="list-style-type: none"> • Ensuring that the application of the design results in the appropriate practical outcome. • Implementing design solutions, taking account of critical constraints, including due concern for safety, sustainability and disposal or decommissioning. • Identifying and implementing lessons learned. • Evaluating existing designs or processes and identifying faults or potential improvements including risk, safety and life cycle considerations. • Actively learning from feedback on results to improve future design solutions and build best practice. 	<ul style="list-style-type: none"> • Working with lighting manufacturer to ensure that specified products will meet the users needs • Demonstrating products to clients / stakeholders where possible • Demonstrate regular communication with architect / interior designers, facilities managers, end-user (where possible), project manager, building services engineer etc. • Achieving compliance with relevant BS and guidance



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		<ul style="list-style-type: none"> • Demonstration comparison with previous / similar projects – highlighting lessons learned, challenges • Considering efficiency and lifetime of lighting installation – what measures have been taken to reduce waste, ensure regular maintenance, recycle existing luminaires etc. • Demonstrate a considered commissioning process for lighting installations – could include evaluation of end-user feedback, ensuring they are receiving the desired result.
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C. Responsibility, management and leadership

A Member shall demonstrate technical and commercial leadership.

This competence is about the ability to plan the applicant’s own work and manage or specify the work of others effectively, efficiently, and in a way which provides leadership at an appropriate level, whether technical or commercial. Leadership is not necessarily about having a formal line management role. In matrix management and other types of organisational structure, where the applicant is working within complex and varied working relationships, they will provide leadership to achieve objectives. This competence is also about the ability to consider and identify improvements to quality.

Objective	Evidence Examples
<p>C1. Plan the work and resources needed to enable effective implementation of a significant engineering task or project.</p>	<ul style="list-style-type: none"> • Preparing budgets and associated work programmes for projects or tasks. • Systematically reviewing the factors affecting the project implementation including safety, sustainability and disposal or decommissioning considerations. • Carrying out a task or project risk assessment and identifying mitigation measures. • Leading on preparing and agreeing implementation plans and method statements.



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	<ul style="list-style-type: none">• Negotiating and agreeing arrangements with customers, colleagues, contractors and other stakeholders, including regulatory bodies.• Ensuring that information flow is appropriate and effective.
C2. Manage (organise, direct and control), programme or schedule, budget and resource elements of a significant engineering task or project	<ul style="list-style-type: none">• Operating or defining appropriate management systems including risk registers and contingency systems.• Managing the balance between quality, cost and time.• Monitoring progress and associated costs and cost forecasts, taking appropriate actions when required.• Establishing and maintaining appropriate quality standards within legal and statutory requirements.• Interfacing effectively with customers, contractors and other stakeholders.
C3. Lead teams or technical specialisms and assist others to meet changing technical and managerial needs	<ul style="list-style-type: none">• Agreeing objectives and work plans with teams and individuals.• Reinforcing team commitment to professional standards.• Leading and supporting team and individual development.• Assessing team and individual performance, and providing feedback.• Seeking input from other teams or specialists where needed and managing the relationship.• Providing specialist knowledge, guidance and input in your specialism to engineering teams, engineers, customers, management and relevant stakeholders.• Developing and delivering a teaching module at Masters' level, or leading a University research programme.
C4. Bring about continuous quality improvement and promote best practice.	<ul style="list-style-type: none">• Promoting quality throughout the organisation as well as its customer and supplier networks.• Developing and maintaining operations to meet quality standards eg ISO 9000, EQFM.• Supporting or directing project evaluation and proposing recommendations for improvement.• Implementing and sharing the results of lessons learned.



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D. Communication and interpersonal skills

A Member shall demonstrate effective communication and interpersonal skills. This is the ability to work with others constructively, to explain ideas and proposals clearly and to discuss issues objectively and productively.

Objective	Evidence Examples
D1. Communicate effectively with others, at all levels, in English.	<ul style="list-style-type: none">• Preparing reports, drawings, specifications and other documentation on complex matters.• Leading, chairing, contributing to and recording meetings and discussions.• Exchanging information and providing advice to technical and non-technical colleagues.• Engaging or interacting with professional networks.
D2. Clearly present and discuss proposals, justifications and conclusions	<ul style="list-style-type: none">• Contributing to scientific papers or articles as an author.• Preparing and delivering presentations on strategic matters.• Preparing bids, proposals or studies.• Identifying, agreeing and leading work towards collective goals.
D3. Demonstrate personal and social skills and awareness of diversity and inclusion issues.	<ul style="list-style-type: none">• Knowing and managing own emotions, strengths and weaknesses.• Being confident and flexible in dealing with new and changing interpersonal situations.• Identifying, agreeing and working towards collective goals.• Creating, maintaining and enhancing productive working relationships, and resolving conflicts• Being supportive of the needs and concerns of others, especially where this relates to diversity and inclusion.



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E. Personal and professional commitment

A Member shall demonstrate a personal commitment to professional standards in a safe and environmentally acceptable way, recognising obligations to society and the profession as a whole.

This competence is about ensuring that the applicant is acting in a professional and ethical manner as defined in CIBSE's Code of Conduct and in their dealings with others. A Member should set a standard and example to others ensuring they undertake and record appropriate continual professional development.

Objective	Evidence Examples
E1. Understand and comply with relevant codes of conduct	<ul style="list-style-type: none">• Demonstrating compliance with CIBSE's Code of Professional Conduct.• Identifying aspects of the Code which are particularly relevant to your role.• Being aware of the legislative and regulatory frameworks relevant to your role and how they conform to them.• Leading work within relevant legislation and regulatory frameworks, including social and employment legislation.
E2. Understand the safety implications of their role and manage, apply and improve safe systems of work	<ul style="list-style-type: none">• Identifying and taking responsibility for your own obligations and ensuring that others assume similar responsibility for health, safety and welfare issues.• Ensuring that systems satisfy health, safety and welfare requirements.• Developing and implementing appropriate hazard identification and risk management systems and culture• Managing, evaluating and improving these systems.• Applying a sound knowledge of health and safety legislation, for example: HASAW 1974, CDM regulations, ISO 45001 and company safety policies.



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E3. Understand the principles of sustainable development and apply them in their work	<ul style="list-style-type: none">• Operating and acting responsibly, taking account of the need to progress environmental, social and economic outcomes simultaneously.• Providing products and services which maintain and enhance the quality of the environment and community, and meet financial objectives.• Recognising how sustainability principles, as described in the Engineering Council's Guidance on Sustainability, can be applied in your day-to-day work.• Understanding and securing stakeholder involvement in sustainable development.• Using resources efficiently and effectively in all activities.• Taking action to minimise environmental impact in your area of responsibility.
E4. Carry out and record the Continuing Professional Development (CPD) necessary to maintain and enhance competence in their own area of practice	<ul style="list-style-type: none">• Undertaking reviews of your own development needs.• Planning how to meet personal and organisational objectives.• Carrying out and recording planned and unplanned CPD activities.• Maintaining evidence of competence development.• Evaluating CPD outcomes against any plans made.• Assisting others with their own CPD.
E5. Understand the ethical issues that may arise in their role and carry out their responsibilities in an ethical manner	<ul style="list-style-type: none">• Understanding the ethical issues that you may encounter in your role.• Giving an example of where you have applied ethical principles as described in the Engineering Council's Statement of Ethical Principles.• Giving an example of where you have applied or upheld ethical principles as defined by your organisation or company.