



ISBN 3 900 734 36 4

COMMISSION INTERNATIONALE DE L'ÉCLAIRAGE
INTERNATIONAL COMMISSION ON ILLUMINATION
INTERNATIONALE BELEUCHTUNGSKOMMISSION

TECHNICAL REPORT

LIGHTING EDUCATION (1983 - 1989)

Pub. N° CIE 99

1st Edition 1992

UDC: 628.9(07)

Descriptor: Lighting, illumination engineering
(Education)

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FOREWORD

The following members of TC 7-05, Lighting Education, took part in the preparation of this Technical Report. The Committee comes under CIE Division 7, General Aspects of Lighting.

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LIGHTING EDUCATION (1983 - 1989)

SUMMARY

The CIE has dealt several times with the subject of lighting education. The results of the work between 1983 and 1989 are summarized in this report.

It is based on the information obtained from 18 CIE-member countries and makes an attempt to picture the situation on lighting education.

It can be concluded that the present education of architects and electrical engineers provides insufficient knowledge, even for traditional designing requirements (the design according to the various standards by means of calculation) but even less for compliance with the modern requirements of lighting design (the design based on both the traditional requirements and aesthetics together with ergonomics).

Next to the promotion of education, an important role can be played by the CIE in the provision of adequate information.

Four proposals are made to improve the situation.

RÉSUMÉ

La Commission Internationale de l'Eclairage (CIE) a déjà plusieurs fois abordé les questions de l'éducation en éclairage.

Dans cette étude, on récapitule les résultats de ce travail effectué entre 1983 et 1989. Ces informations ont été recueillies des 18 pays membres de la CIE et sur la base de ces informations on essaie de résumer la situation de l'éducation en éclairage.

En conclusion, on constate que l'éducation, - c'est-à-dire l'offre des informations - a un rôle important et CIE devrait faire beaucoup plus aussi dans ce domaine.

Cette étude aborde quatre propositions de "quoi faire?".

ZUSAMMENFASSUNG

Die CIE hat sich mehrmals mit den Fragen der lichttechnischen Ausbildung befaßt. Die Ergebnisse der Arbeit von 1983 bis 1989 sind in diesem Bericht zusammengefaßt.

Er beruht auf den Informationen aus 18 CIE-Mitgliedsländern und versucht, den Stand der lichttechnischen Ausbildung darzustellen.

Es mußte festgestellt werden, daß die derzeitige Ausbildung von Architekten und Elektroingenieuren nur unzureichendes Wissen vermittelt, sowohl hinsichtlich der Anforderungen für eine herkömmliche Planung (rein lichttechnische Berechnung auf der Basis der vorliegenden Normen) als auch insbesondere im Hinblick auf eine Berücksichtigung der zeitgemäßen Anforderungen (Lichtplanung, die herkömmliche Planung mit ästhetischen und ergonomischen Aspekten verbindet).

Neben einer allgemeinen Förderung der lichttechnischen Ausbildung kann die CIE hier eine wichtige Rolle spielen, indem sie geeignetes Informationsmaterial zur Verfügung stellt.

Insgesamt werden vier Vorschläge zur Verbesserung der Situation unterbreitet.

1. INTRODUCTION

The CIE has dealt with the question of lighting education on several occasions.

The study of the working groups led by Prof. Spieser and W. Matthias was presented at the CIE Session 1967 in Washington DC [1]. At the CIE Session 1979 in Kyoto the TC-3.6 Lighting and Architecture, with chairman Mr. K.E. Gow, gave a report on education [2]. At the CIE Session 1983 in Amsterdam, the "Lighting Education and Information" Study Group SG 1, presented its report on a study of the lighting education of architects by supplying data from 18 countries and a summary, including proposals, of the position of lighting education and areas for possible improvement.

The CIE Division 7 and the CIE Council considered it necessary to continue this work in the 1983-1987 quadrennium. The previous Study Group became Division 7 Technical Committee 7-05 "Lighting Education" with the following Terms of Reference and Working Programme.

Terms of Reference

To provide information to improve the lighting education for professions which are responsible for lighting design.

Working Programme

1. To improve the lighting education of architects (through liaison with the International Commission on Building, CIB, and the International Union of Architects, UIA).
2. To determine those professions which are responsible for lighting design in each country, and to establish the current pattern of education for each of these professions.
3. To prepare a report on the results of the above activities.

2. FRAMEWORK

In connection with the first working item, the Technical Committee recommends the continuation of the joint work of CIE-CIB-UIA and that the material "Lighting Education for Architecture" prepared by SG-1 for the Amsterdam Session be accepted by the CIE-CIB-UIA.

To fulfil the second working item:

- we sent out questionnaires to the member countries concerning the general situation of lighting education,
- we elaborated the studies dealing with lighting education in each country,
- we attempted to supplement the information on the lighting design situation in the various countries from articles and personal discussions.

Our report is based on these. The report deals with the situation of lighting design: who designs lighting, the kind of educational training they have, the status of lighting design in the given countries, the position of lighting education and how people in each country go about the lighting of buildings. Regarding the last point, this report deals also with the matter of lighting information (i.e. publications, standards, technical journals, etc.) since it is closely connected with lighting design.

To determine the extent of education in vision and lighting at basic and intermediate levels and in other professional fields all countries were asked to comment.

We compiled proposals on those activities which would lead to greater recognition of the importance of lighting design, lighting education and - consequently - of good lighting.

The enclosed material attempts to summarize the situation of lighting design and education in each country.

3. SITUATION OF LIGHTING EDUCATION. RESULTS FROM THE QUESTIONNAIRES

SUMMARY OF THE ANSWERS

With the intention of getting an overall picture of the general lighting situation in the member countries we drew up a questionnaire after consultations with members. We sent it out either to the members of the working committee or to the secretaries of the National Committee in the countries where no TC member could be found. We circulated it with the request to send back the replies.

We have received answers from 14 countries. On the basis of the replies we have compiled a general situation report and prepared summaries about each country. We supplemented the summaries of some countries with data collected from literature and personal information. In preparing the report and making the

Recommendations part we made use of the replies and the material relating to them.

Hereunder is a summary of the replies:

- 1-3 Who designs lighting in your country? What kind of qualification is a condition for lighting design?
Design - entitlement to design.
Lighting is designed in most countries by architects and electrical engineers. Lighting engineers - because of their relatively small number - get fewer tasks. Qualification is required for lighting design in only a few places.
- 4 What hinders the development of good lighting?
Good lighting is mainly hindered by economic factors. This is followed, as a reason, by unsuitable qualification - lack of education - and, in some places, lack of means. Lack of demand (no demand for modern lighting, mainly because the possibilities and benefits of modern lighting are not known) also occurs frequently, which can be attributed to educational insufficiency.
- 5 What measures do you consider necessary for development of lighting design?
 - Publication of good lighting solutions.
 - General lighting education introduction for electrical engineers.
 - Awarding prizes for good lighting design.
 - Interest of communication media - newspapers, television, etc. - in lighting questions.
 - Better education of architects.
 - Organising lighting courses. Education of good lighting teachers.
 - Informing manufacturers and managers of the necessity of lighting.
 - Illustration and criticism of bad lighting solutions.
 - Extension of education - information about all users, public, primary and secondary education, education of skilled workers.
- 6 Do you have a specialised lighting education?
According to the replies, the distribution is 50-50 per cent.
Specialised education varies in standard.
- 7 In what professional field do students obtain lighting knowledge?
In most countries architects and electrical engineers receive lighting education in a more or less equal number of hours.
In some places, environmental experts, labour safety engineers, ergonomists, physicists and managers can acquire lighting knowledge and there are series of lectures for the public on vision and lighting.