

Minutes of the Division 3 meeting held, at the Elgin Hotel, Ottawa, September 9, 2006

G. Cook, T. Wigmore, D. Dumortier

1. OPENING OF THE MEETING

The DD thanked the Canadian National Committee of CIE and the NRC team for their hospitality in hosting the Division 3 meeting. The DD then opened the meeting and welcomed all the attendees.

The DD then asked those in attendance to introduce themselves and the DD then gave a summary overview of the content of the meeting.

2. APPROVAL OF THE AGENDA

The DD presented the agenda of the meeting which was approved by the attendees.

3. ATTENDANCE

The following were in attendance:

Marc Fontoynt	Division Director, ENTPE (France)
Dominique Dumortier	Associate Director Natural Lighting, ENTPE (France)
Yoshiki Nakamura	Associate Director Artificial Lighting, Tokyo Institute of Technology (Japan)
Geoff Cook	Division Secretary (UK)
Julian Aizenberg	Division 3 representative (Russia)
Myriam Aries	Observer
Lou Bedocs	Thorn Lighting Holdings Ltd (UK)
Monique Canuel	Observer
Jens Christoffersen	Observer (Denmark)
Peter Dehoff	Division 3 representative (Austria)
Arnaud Deneyer	Observer (Belgium)
Jan Ejhed	President Elected ELDA
Marjukka Eloholma	Observer
Dilek Enarun	Division 3 representative (Turkey)
Tommy Goven	Division 3 representative (Sweden)
Liisa Halonen	Division 3 representative (Finland)
Shigekazu Higuchi	Observer
Roy Hughes	Observer
Hans Jorgen Jacobsen	Division 3 representative (Denmark)
Paul Kenny	Observer (Ireland)
Martine Knupp	Observer

Dieter Lang	Observer (Germany)
Valerio Lo Verso	Observer
Rebecca Manning	Observer
Betinatschiedel Martau	Observer
Terry McGowan	Division 3 representative (USA)
Mojtaba Navvab	Division 3 TC chairman
Eliyahu Ne'eman	Division 3 representative (Israel)
Guy Newsham	Observer
Hiroki Noguchi	Observer
Fred Oberkircher	Observer
Anna Pellegrino	Division 3 representative (Italy)
John Selander	Observer
Peter Thorns	Observer
Jennifer Veitch	Division 3 representative (Canada)

4. APOLOGIES FOR ABSENCE

Apologies for absence were received from:

Derrick Kendrick, Chair TC 3.37.

Hyman Kaplan, Chair TC3-42.

Yasuko Koga, Division 3 representative for Japan.

Grega Bizjak - Division 3 representative for Slovenia.

Bénédicte Collard – Division 3 representative for Belgium.

5. APPROVAL OF BERLIN MINUTES

The minutes of the previous meeting in Berlin were approved. D. Dumortier indicated he had modified the minutes to take into account the apologies for absence received from D. Kendrick.

6. DIVISION MEMBERSHIP CHANGES - WELCOME NEW MEMBERS

The following new members were mentioned:

(a) Division 3 representative from China:

Ms. Sijin Yin
 School of Architects
 Tsinghua University
 Tsinghua Yuan
 100084 Beijing, China
 Tel: +86 10 62784519
 Fax: +86 10 62770314
 E-mail: yinsijin@sina.com

(b) Division 3 representative from Brazil:

Mr. Plinio Godoy
 Godoy Luminotecnia
 Rua Aurea 227

Vila Mariana
04015-070 Sao Paolo, Brazil
Tel: +55 11 5575 45 40
E-mail: plinio@godoyassociados.com.br

with an alternate:

Mr. Paulo Candura
E-mail: paulocandura@yahoo.com.br

(c) Division 3 representative for Sweden:

Tommy Goven
Fagerhults Belysning
Asögatan 113-115
S 116 24 Stockholm
Tel: +46 (0)84421152
E-mail: tommy.goven@fagerhult.se

The Divisional website will be updated to take these changes into account.

7. DIVISION DIRECTOR AND ASSOCIATE DIRECTORS REPORTS

7.1 The Division Director Report

The DD gave an oral report which was an overview of the work of the division. The three recent publications produced by the division were summarized. These are the outputs of TC 3.33 (Test cases for assessment of accuracy of lighting computer programs), 3.38 (Tubular Daylight Guidance Systems) and 3.40 (Maintenance of indoor lighting systems, update).

The Divisional links to the IEA was described. IEA Task 36 is funding some of the research involving TC3-36. EU funding has also been secured for this work. A programme on quality of life for the elderly in the Netherlands was cited as a funding opportunity. The Divisional link with China was an important one which would be strengthened in 2007. The links to the other Divisions including Division 6 were mentioned in particular since they relate to lighting and health.

7.2 The Associate Director Artificial Lighting Report

The ADAL gave a brief oral report, which emphasized the need for new lighting design methods and procedures to accommodate the influence of lighting and health.

7.3 The Associate Director Natural Lighting Report

The ADNL gave an oral report that described the ongoing work. The influence of daylight has been identified as a key factor for the field of lighting and health. This should give a new impetus to the work of the Division 3 related to natural light.

8. TC CHAIRPERSON REPORTS

The need for the material produced by TC3-11 and TC3-19 to be placed in the CIE archive after review by the Division was restated. The Chairperson agreed to send to the Board copies of all material within a month.

8.1 TC3-25 Co-ordination of the IDMP and its data – Chairman: D. Dumortier.

The chairman reported that the update of the web server is in the work; this will be the occasion to include new stations. He has received updated information from the IDMP station in Athens. A new inter-comparison will start in the fall; the sensor has been calibrated by ENTPE, the University of Geneva will provide a leveled stand. The long term funding of the stations continues to be a problem. It was noted that the IDMP work actually started in 1981: 10 years before what was first called the International Daylight Measurement Year and then became the International Daylight Measurement Programme.

8.2 TC3-34 Protocols for describing lighting - Chairperson: J. Veitch

After a long pause, activities have resumed on TC 3-34. The TC met in Ottawa prior to the meeting to discuss parts of the draft report with other members commenting electronically. A draft report is due for completion by the end of 2006, it will be out for divisional and BA ballot prior to the quadrennial meeting in Beijing.

8.3 TC3-36 Use of satellite images to derive daylight data – Chairman: D. Dumortier

The work of the TC is closely related to the activities of the IEA task 36 which has now started. Since money was still lacking from the IEA backup, European partners have made a proposal for a European project called MESOR (Management and Exploitation of SOLar Resource). The proposal has been accepted by the European Commission, the project will start in February 2007. The TC will provide a comparison of the different methods that can be used to produce daylight information from the images of the GOES (US) and Meteosat (Europe) satellites. It will also present the improvements brought by the new generation of satellites such as Meteosat 8 for Europe. The IEA 36 will end in 2010, but the TC will be working on an intermediate output.

8.4 TC3-37 Guide for the application of the CIE general sky -Chairman: D. Kendrick.

Little progress has been made since the TC meeting held in Berlin in September 2005. The writing of Chapter 4 is problematic. This is concerned with several illustrative examples of applications. However a comprehensive bibliography has already been prepared. In order not to delay the Guide by waiting for Chapter 4 to be completed, the TC is considering including this bibliography. The editors are standing by to undertake their work so that we might still try to get it "completed" prior to the CIE Session in Beijing in 2007. The decision on this will be taken shortly.

8.5 TC3-38 Tubular daylight guidance systems – Chairman: D. Carter

The report of CIE TC 3-38 has been published as CIE 173:2006 "Tubular Daylight Guidance Systems" earlier this year.

8.6 TC3-39 Discomfort glare from daylight in buildings - Chairman: W. Osterhaus

No report has been received from the chairman. The DS will contact the Chairperson to get an update. The meeting briefly considered the option of a Reportership for this work. This will be reviewed following any report coming from the chairman.

8.7 TC3-40 Maintenance of indoor lighting systems update - Chairman: L. Bedocs

The chairman indicates that the TC can now be closed. The output of the TC has become publication CIE 97/2005 which replaces CIE 97/1992. The chairman has received congratulations from W. Van Bommel for the speed at which this revision of Publication 97 was produced. The document provides data on new luminaires and lamps. It introduces sections covering the impact of lighting controls, sustainable design, end of life disposal and recycling. The DD congratulates the chairman and his members and the TC is officially closed.

8.8 TC3-41 Visual quality of displays in museums – Chairman: E. Ne'eman

The committee has not made progress. The SLL in Britain and the IESNA in the USA, have been working on new editions of their national museum lighting guides which will address visual quality. The Chairperson asked the Division to declare that TC 3-41 should be discontinued.

In the discussion which followed, it was noted that the changes which will be made to the museum guide in the UK and the US could be a starting point for the TC. Therefore, the possibility of convening a new TC to use the US and UK information was acknowledged. Following the thanks of the DD to the TC Chairman for his work, the TC was closed.

8.9 TC3-42 Lighting design applications – Chairman: H. Kaplan

The establishment of TC3-42 was confirmed. It will carry forward the work of R3-22: a review of CIE publication 29.2 with regards to the Application of Indoor work place technology. The task of the Committee will be to provide “An application guideline for various lighting space functions within the building interior” incorporating the technology established in S-008. The title could be “*Indoor Work Space Application Guideline*”.

The Terms of Reference are:

- To determine areas of application to be included and review the existing CIE 29.2 text.

- To cross reference the Standards established in CIE S-008

The following persons are members of the Technical Committee:

- Hyman Kaplan, IALD, USA, Chair

- Stanislav Darula, Slovakia

- Peter Dehoff, Austria

- Jean-Jacques Ezrati, France

- Candace Kling, USA

- Yasuko Koga, Japan

- Piotr Pracki, Poland

- Peter Thorn, United Kingdom

- Jan Petter Skar, Norway

Tommy Govan expressed an interest in this work and was encouraged to contact Hyman Kaplan to join the TC. It is anticipated that the document will be produced in 4 years.

9. DIVISION REPORTERS REPORTS

9.1 Existing Reports

Three reports produced four years ago as the output of R3-18, 19 & 20 were discussed. It was agreed that the DS write to all the authors and apologize for the delay in the review. It was also agreed that the DS circulate all reports within the division for comments. Comments will have to be sent to the DS before November 15. They will then be sent to the CIE HQ.

9.2 R3-13 Lighting vocabulary – Y. Koga

Two recent documents regarding R3-13 "Lighting Vocabulary" have been received by the DS. These documents are to be circulated to all Division members. These relate to the first draft of the total revision of the CIE vocabulary.

9.3 R3-21 Determination of discomfort glare - L. Bedocs

The reporter summarized his work. It was proposed that an addendum to the standard for indoor workplace lighting to cover the glare issues be adopted. The Division confirmed that the work should be carried since this is an important addition to the standard.

9.4 R3-23 Lighting control and energy efficiency - P. Dehoff

At the Berlin meeting, it had been decided to reduce the scope of this report to the potential actions of the Division rather than to give an exhaustive overview of existing technology and applications.

The reporter provided further comments during the meeting. Progress on the development of lighting controls is fast. Energy efficiency of indoor lighting in combination with daylighting is a big issue in European standardisation (see prEN 15193 "Lighting Energy Estimation"). Controls are involved by using daylight, presence detection and constant illuminance over time. Also there is a strong relationship with the IEA Task 45 "Future energy efficient electric lighting".

Light and Health is another big issue where lighting controls are involved. The CIE symposia on Light and Health (Vienna 2004, Ottawa 2006) have shown that the findings will influence the future work of CIE Division 3 as well as potential actions regarding lighting controls.

The following statements could be made by CIE:

Control of electric lighting and blinds positively influence:

- the reduction of energy consumption for lighting
- the well being, the productivity and the health of people

Lighting quality criteria must be in balance with energy efficiency for lighting

The following potential actions, i.e. the production of technical reports, could be taken by CIE:

1. Energy aspects
 - The influence of lighting controls on the energy consumption for electric lighting
 - The strategies to control electric light according to the availability of daylight
2. Glare and heat control
 - The aspects of blinds and other daylight control systems to effectively control glare and heat penetration in buildings
3. Emotion and health aspects
 - The strategies to control electric light to improve wellbeing, productivity and health of people
 - Aspects of individual control of lighting at the workplace

In general, there could be a combined technical report to cover all aspects of lighting controls on energy and human aspects. These issues were discussed by the Division and it was agreed that the Reporter formulate suitable statements and action plans.

9.5 R3-24 Overhead glare - T. Mc Gowan

As noted in the Minutes of the Berlin Division 3 Meeting, the subject of direct glare and how to include the new idea of overhead glare into glare considerations continues to be a challenge. This Reporter appreciates the information and suggestions provided by Lou Bedocs (R 3-21). However, as Mr. Bedocs reports, it appears that our efforts continue to be stalled by the lack of active research in the glare area.

The formation of a TC would help move the tasks along. However, after looking at what new glare research has appeared during the past year: very little, and enquiring about those now actively involved in glare research: virtually none in the lighting community, there seems little that a TC could do until there is new information.

However, it was agreed to try a new approach using an ad hoc on-line forum where Division 3 members might invite colleagues and researchers in other, but related, areas such as psychology or neural science to brainstorm some new ideas about the nature of glare possibly leading to new ways of glare measurement and modeling.

The Division discussed this approach and was in support of this idea. Those interested in contributing to the discussion group should contact the Reporter.

9.6 R3-25 Lighting and health - M. Fontoynt

The reportership consisted in the organization of the 2nd symposium on Light and Health, held just before the division meeting. The round-table discussion on the possible actions of division 3 in this field is reported in the future work section of the minutes.

9.7 R3-26 Climate based daylight analysis - John Mardaljevic.

Work to date within this Reportership has identified the following questions:

- Is the daylight factor basis of current/forthcoming regulations sufficient to encourage the design of sustainable buildings?
- Do designers need assessment tools that can provide an 'holistic' evaluation of daylight provision combined with solar control?
- Can the standard assessment methods (e.g. daylight factor) be enhanced incrementally, or are more radical changes needed?
- How can software developers best respond to practitioner's needs for better daylighting/solar assessment tools?

The September issue of the Building Services Journal (UK) will include a feature article by Mardaljevic. This will reach a far larger readership than any academic journal publication and, it is hoped, it will encourage more practitioners to engage with the debate regarding daylight metrics. A further report is expected at the next Division meeting.

10. LIAISON OFFICERS REPORTS

10.1 CEN/TC169 Lighting Applications - L. Bedocs

The next plenary meeting will be held in Bern on October 17, 2006. The future of this TC is unclear as the financing of the TC secretariat has not yet been resolved. However, most of the technical work is progressing via the active Working Groups.

- WG2, is trying to resolve the future of EN ISO 8995-2 also known as prEN 12464-2 and CIE S 015. The voting in ISO was negative so the numbering and editorial matters will have to be reinvestigated by the WG. Also some corrections to EN 13032-2 will have to be produced and published.
- WG3, prEN 13032-3 is out for vote with due date: end of October 2006.
- WG4, (Sports lighting) the revision of EN 12193 has been completed and wait processing to formal vote.
- WG7, (Standards) the drafting of the standard for the illuminance and luminance meter has commenced.
- WG8 (Non-visual light sources), three of the four parts of EN 14255ve been published.
- WG9, (Energy requirement for lighting as the EU directive) the prEN 15193 draft is out for TC vote and will be released for CEN Members vote end of August 2006. The reporter emphasized that CIE should take a key interest in this document.

10.2 International Association of Lighting Designers - H. Kaplan

A report was made by Terry McGowan that included that the IALD was examining lighting quality and sustainability and that this would be reported to Div 3 in due course.

10.3 International Energy Agency - M. Fontoynt

The IEA task 45 will meet in Belgium in November. Canada has joined the consortium to make a total of 20 countries being involved in this work. The IEA Task 36 is examining Satellite data processing and the use of ground data sets for validating the estimation of solar radiation from satellite images.

10.4 ISO/TC159 – L. Bedocs

ISO/TC159/SC4- Ergonomics of human - System Interaction

Work is progressing on the revision and additions of the multi part standard ISO 9241. The committee is also very active in the development of parts to the standard covering the ergonomic requirements for flat display screens.

ISO/TC159/SC5 - Ergonomics of the Physical Environment

Work is on going on the development of human related thermal and acoustic standards. The fast track route of voting on the Lighting of outdoor workplaces yielded disapproval as it only received 71.43% support instead of the minimum 75%.

10.5 World Meteorological Organisation (WMO)

There is no liaison for the time being.

10.6 IESNA - I. Pasini

The DS has contacted Rita Harrold to establish if Jennifer Veitch, Terry McGowan or Hyman Kaplan could be the IESNA liaison officer. Response awaited.

10.7 Dark Sky Association - T. McGowan

Terry McGowan gave a summary report of the areas that concentrated on the need to control stray light.

10.8 Society of Light and Lighting - G. Cook

The liaison officer reported that the Technical Committees of the SLL are working on a new document called "Code for Lighting Application". It is anticipated that it will be available in 2007. Other lighting guides are in the work on Museum Lighting, Lighting for Transport and Lighting for Healthcare Facilities. A Draft factfile on the needs of lighting for older people is also being prepared and due for publication this year.

10.9 New Liaisons

A new liaison with the Japanese Lighting Society (IEIJ) was proposed by the ADAL. Following discussion concerning the nature of such liaison, the new liaison was approved. The first report will be at the next Division meeting.

In recognition of the growing interest by the Division in lighting and health, it was proposed that a liaison be established with the World Health Organization (WHO). Members of the

Division are urged to identify a suitable liaison and the DS to write to the WHO requesting a nomination.

11. FUTURE WORK

12.1 New TCs

12.1.1 Lighting for the Elderly

The DS proposed a TC to examine the lighting needs of older people. The need for an examination of this topic is confirmed by the impending publication by the SLL of the Factfile addressing the lighting needs of older people. In addition, the IESNA is due to publish Document RP 28 - Lighting for Seniors in the near future. This new IESNA publication is an update of the first edition published in 1998. In addition a guidance document has been produced in the Netherlands. There is enough robust research concerning the lighting needs for the elderly and a CIE document could review this work in order to provide information and guidance to an international audience. This in turn could be used to influence the development of national energy and lighting codes. This would also be an opportunity to include current findings with regard to lighting and health related to older people.

Terms of Reference

- To develop a report on lighting for the elderly.
- To examine and review the:
 - Nature of the visual performance of the aging eye and common problems with the aging eye.
 - Research concerned with lighting for older people
 - Design approach to meet the lighting needs of older people.

Output

- Technical Report for 2009

Members:

- G. Cook, UK
- Eunice Noell Waggoner, USA

A call for members will be circulated to all Division members by the DS. In addition, it was proposed that the DS contact all National Committees to establish what documents and approach are in use in their country. This would also help identifying potential members. The new TC3-44 Lighting for the elderly, was approved

12.1.2 Luminance based design approach

The ADAL gave an outline proposal for a new TC on “Luminance-based Design Approach”. The TC would examine the research concerning the influence of the luminance distribution on indoor light quality and would extract the main issues to be taken for consideration. The establishment of TC3-45 was approved in principal, but the TC will have to refine its objectives and of course recruit members. The ADAL agreed to produce a detailed proposal before the next division meeting.

12.2 Other work

Energy

The overall issues concerning energy are included in the work of the IEA. The IEA task 45 concerned with lighting and energy, met in Ottawa prior to the meeting. The group has a significant representation within Division 3. A wide ranging discussion concerning the impact of energy conservation on lighting took place. It was agreed that the DD work with IEA representatives to produce a joint executive guidance document from CIE and IEA that confirms the importance of lighting for people. Such a document would assist those involved in drafting national energy codes and those involved in international energy policy.

Lighting and Health

A discussion around the topics covered during the Lighting and Health Symposium that preceded the Division meeting identified areas of action for the Division. This included:

- **Vocabulary.** There is a need to agree on the meaning and scientific basis of a wide range of terms associated with lighting and health. The importance of an agreed vocabulary by the CIE in this area emphasizes the need for co-operation with Division 6, 1 and 2.
- **Night-shift working.** Speakers at the Lighting and Health Symposium confirmed the robust research concerning the changes to the melatonin production/suppression cycle caused by shift-work. The existence of good working practice documents for those involved in managing shift work was also confirmed. The role of the Division was considered to be an exploration of the lighting techniques that are suitable for night-shift workers. This could then consider the possibility of providing information for the lighting professional and those involved in producing lighting guidance. However in order for this to be achieved, the action spectrum for Melatonin suppression must be confirmed, the influence of blue light and red light on Circadian Rhythm shift must be confirmed, and the influence of the light dose, light source size and source brightness must also be confirmed.

In order to move the lighting and health issues forward, it was agreed that the Division would propose a Workshop for the CIE Session in 2007. This would address the issues as described above. It was further agreed that the DD would contact Division 6 to co-sponsor the workshop and agree on the objectives of the workshop. The Division was aware of the need to examine the material produced during the Lighting and Health Symposium in order to ensure the quality of the workshop.

Lighting quality

The impending results of the work of TC3-34 were discussed and were considered to form the basis of a workshop at the CIE Session in 2007. The workshop could be used to present the output of TC3-34 and introduce some of the wider issues concerning lighting quality. The output programme for TC3-34 is such that the final report should be available to CIE National committees prior to the CIE Session. The chairperson of TC3-34 will produce a summary paper describing the content and objectives of the workshop and will circulate it to the Division Board.

Education

The importance of lighting education, especially for the growing number of new programmes designed to educate specialist lighting designers, was stated by Jan Ejhed. This importance was confirmed by the Division and Jan Ejhed was encouraged to pursue this action with the senior members of CIE who have a special interest in lighting education.

13 NEW DIVISION 3 BOARD

The DD will retire next year and he called, as a matter of urgency, on the Division, for proposals for his successor. The ADAL, ADNL and DS are eligible to continue to serve the division.

14. NEXT MEETING

The next Division meeting will take place in Beijing (China) after the CIE conference on Tuesday July 10, 2007. TC meetings will happen on Monday, July 9.

15. OTHER BUSINESS

The DS brought to the attention of the Division the Centenary years 2008/9 of the IES (UK). He further proposed that the CIE meet in the UK as part of the centenary event.

The DD thanked all of those who attended the meeting for their contribution and thanked the National Committee of CIE Canada and the NRC for hosting the meeting in Ottawa.

It was agreed that the DS would send the thanks of the Division to the CNC-CIE for hosting the Division meeting.