Minutes of the Sixteenth Meeting of the Canadian National Committee of the CIE

(Held in the Physics Building, National Research Council, Ottawa, 5 November, 1971)

Members present:

Prof. M.G. Bassett (M.G. Currie)
Mr. W. Budde (President)
Mr. J.M. Chorlton
Mr. G.F. Dean
Mr. W.F. Elliott
Mr. D.W. Frick
Mr. A. Ketvirtis
Dr. A.R. Robertson (Secretary)
Dr. C.L. Sanders

Non-Members present:

Mr. F.R. Dorward (Subcommittees 1.4.2 and 3.1.2)
Dr. P.K. Kaiser (Barcelona delegate)
Dr. J.D. Moreland (Barcelona delegate)
Mr. S. Munro (representing Mr. H.J.T. Young, delegate to CIE Committee 3.3.5)
Mr. C.W. Shearer (Canadian Broadcasting Corporation)

Members absent:

Mr. G.E. Davidson
Mr. M. Galbreath
Mr. G.E. Mulvey
Mr. A.T. Orr
Mr. A. Whitehead
Mr. J.C. Wilson
Dr. G. Wyszecki

1. Call to Order

The President declared the meeting open at 10:05 am.

2. Minutes of the Last Meeting

The secretary read the minutes of the fifteenth annual meeting. A motion that the minutes be approved was made by Mr. Frick, seconded by Dr. Sanders, and carried unanimously.

3. Secretary's Report

The secretary read his report which was as follows:

(a) The annual fee of $1,100 (U.S.) for Canadian membership in the CIE was paid by the National Research Council in March, 1971.

(b) Considerable effort was made to form as large a Canadian delegation as possible for the Barcelona Session of the CIE in September. A number of people outside the CNC were invited by the President to be delegates to the Session, with the result that the delegation consisted of five non-members (Dr. P.K. Kaiser, Dr. P. Manning, Dr. J.D. Moreland, Mr. R.G. Scott and Mr. J. Thomas) together with five members (Prof. Bassett, Mr. Dean, Mr. Ketvirtis, Dr. Sanders and Dr. Wyszecki).

(c) After consultation with members of the CNC the President prepared a "Draft Proposal for a Memorandum on Research in Lighting in Canada" urging a concentrated effort in Canada in this field. This draft was presented to the NRC Advisory Committee on Applied Research and Engineering in January, 1971.

(d) The President received two documents from committee E-3.3.1, entitled "Recommendations for Motorway Lighting" and "International Recommendations for Tunnel Lighting". After discussion with Mr. Ketvirtis the President informed the Central Bureau that the CNC approved of both documents, but also put on record comments by Mr. Ketvirtis that two of the recommended luminance levels were unlikely to be accepted at present by Canadian authorities.

(e) The President received a draft of the 2nd Edition of Publication No. 13 from committee E-1.3.2, entitled "Method of Measuring and Specifying Colour Rendering Properties of Light Sources". After discussion with Dr. Robertson and other members of the CNC, the President voted in favour of its publication as a CIE Document, provided that a few editorial changes were made.

(f) The president received a report from committee E-2.3 entitled "Recommendations for Photometry of Indoor Type Luminaires with Tubular Fluorescent Lamps". After discussion with Mr. Davidson and other CNC members, the Secretary, in the absence of the President, voted in favour of the publication of the report as a CIE Document.

(g) Further efforts were made by the Officers of the CNC and by Dr. Wyszecki to arrange for the sale of CIE Publications in Canada. As a result the NRC Publications Office has agreed to handle sales of the Document on Colorimetry (Publication No. 15).

(h) The President was asked by the Central Bureau for suggestions for improvements to the operation of the CIE. He replied suggesting the abandonment of the distinction between Expert and Secretariat Committees, the abandonment of the distinction between Experts and Corresponding Members, and some re-organization of committees E-1.3.2, E-3.1.1.2 and E-3.1.9.2.

(i) A copy of the CNC/CIE booklet was sent to Dr. Vermeulen, the President of the CIE. He replied, asking for more copies.

(j) I now have copies of Publication No. 17 (International Lighting Vocabulary) and Publication No. 18 (Principles of Light Measurements). These can be borrowed by members.

Mr. Chorlton proposed that the Secretary's report be approved. This was seconded by Prof. Bassett and carried unanimously.

4. Business Arising from the Minutes and the Secretary's Report

The President explained that his draft memorandum on lighting research had created a "platform" to which applicants could refer when seeking research funds from NRC, and that the CNC/CIE might be called on to advise NRC if there were such an application. He noted that the CNC/CIE is an NRC Associate Committee. Dr. Moreland commented that the University of Waterloo was studying the document with a view to applying for funds. After a discussion in which members expressed their enthusiasm for the encouragement of lighting research in Canada, the President agreed to circulate the draft memorandum to members of the CNC and to other advisors for further comments. He would then prepare a final version of the memorandum as soon as possible.

In discussing CIE publications, concern was again expressed that these documents be available as widely as possible throughout Canada. The Secretary said that he proposed to send a notice about the Colorimetry document to about 200 individuals and 170 libraries.

The President said that he had had correspondence and discussions with Mr. Lilley, Managing Director of the CSA, concerning CSA Standard C92.2-1965 on Roadway Lighting, referring particularly to differences between CSA and CIE recommendations, as discussed at the last meeting of the CNC/CIE. He had also suggested that Mr. Ketvirtis be made a member of the appropriate CSA committee. Several members of the CNC/CIE again expressed their concern that CSA recommendations were not so comprehensive as CIE recommendations and hoped that something could be done about the discrepancies.

The President said that he had written to Dr. Stevens, the Chairman of the Action Committee, concerning the E-2.1.2 document on "Recommendations for the Spectral Distribution and Integrated Irradiance of Simulated Solar Radiation". Both Dr.

Stevens and Mr. Steck, the coordinator for Committee E-2.1.2, had assured him that his suggestions would be acted on.

5. Discussion of Reports from Members of CIE Technical Committees

CNC delegates to the CIE technical committees presented their reports of activities during the past year. Each report was discussed briefly.

Dr. Sanders said that Mme. Kartachevskaia had resigned as Chairman of E-1.2 and that Great Britain had asked to be assigned the secretariat. Mr. Dean made a motion that the President ask the Action Committee that the secretariat for E-1.2 be assigned to Canada with Dr. Sanders as Chairman. Mr. Ketvirtis seconded and the motion was passed unanimously.

Mr. Elliott said that he would be retiring from the Ministry of Transport in March, 1972, and asked the CNC to find someone to replace him as delegate to E-1.3.3. Mr. Ketvirtis offered to make some enquiries to see if a suitable person could be found.

Dr. Robertson suggested that Dr. Kaiser take over from him as the delegate to E-1.4.1. Dr. Kaiser was willing and the committee agreed to the suggestion.

The President announced that a new delegate was required for S-2.1.1, following the resignation of Mr. Boivin. After a discussion of several candidates, Mr. Dorward was asked to become the Canadian delegate. Mr. Dorward said that he was pleased to accept the appointment.

The President said that he had been asked by both Dr. Wyszecki (E-1.3.1) and Dr. Sanders (E-1.2) to review the proposed E-2.2 document on "International Recommendations for Characteristics of Lighting Materials and their Measurement". He had been very critical, mainly because the document seemed to pay almost no attention to commercially available instruments. Mr. Orr, the Canadian delegate to E-2.2 had been unable to participate much in the committee's work because of his lack of knowledge of German and had written suggesting that a new Canadian delegate, able to read German, be appointed in his place. The CNC asked Mr. Budde to become the Canadian delegate; Mr. Budde agreed and said that he would ask Mr. Orr to be a member of his sub-committee.

Mr. Davidson had written asking to be replaced as the Canadian delegate to E-2.3 because of his new responsibilities with Ontario Hydro. After some discussion, Prof. Bassett was appointed as the new delegate.

The meeting was adjourned for lunch from 12:45 pm to 1:30 pm.

Mr. Chorlton asked to be replaced as the delegate to E-3.1.1.3, and it was agreed that Dr. P. Manning of Nova Scotia Technical College should be asked to become the new delegate.

Mr. Frick asked to be replaced as delegate to E-3.1.9.2 and proposed Mr. Shearer in his place. The committee and Mr. Shearer agreed to this.

Mr. Ketvirtis said that he had invited committee E-3.3.1 to hold a meeting in Canada. The CNC thought that this was a good idea but sponsors would have to be found. Mr. Dean, Mr. Ketvirtis, Mr. Munro, Dr. Kaiser, Mr. Budde and Mr. Dorward all agreed to make enquiries about this.

6. Discussion of the Barcelona Session of the CIE

The President said that he had written individually to 15 non-members of the CNC inviting them to be delegates to Barcelona. Of these, 5 had been able to accept. The Canadian delegation consisted of 10 persons in all; this compared with 10 in 1967 (Washington), 6 in 1963 (Vienna), 4 in 1959 (Brussels), and 2 in 1955 (Zurich). The President hoped that the size of the delegation would continue to increase.

Each of the 7 Barcelona delegates who were present were asked to give their views on the way the Session had been organized. The concensus was that the division into two parts, one giving a general view of CIE work and the other a more detailed view was a good idea but that less time should have been devoted to the first part and more to the second. Delegates also found that the pre-session meetings of the various Committees were very badly publicized and thought that details of these should have been included in the program. Dr. Manning, in a written comment sent to the President, agreed that too much time was devoted to the first part of the Session and also suggested that translators should always translate into their first language.

7. Reappointment and Appointment of Members

The committee voted unanimously, in four separate ballots, to recommend to NRC the re-appointment of Prof. Bassett, Mr. Frick, Mr. Orr and Mr. Whitehead for further four-year terms.

The committee then voted unanimously to recommend to NRC the appointment of the following six new members: Mr. F.R. Dorward, Dr. P.K. Kaiser, Dr. P. Manning, Dr. J.D. Moreland, Mr. C.W. Shearer and Mr. H.J.T. Young.

Mr. W. Budde was re-elected as President and Dr. A.R. Robertson as Secretary by acclamation.

For membership of the CIE Executive Committee, Mr. Frick, seconded by Mr. Chorlton, proposed Dr. Wyszecki, and Prof. Bassett, seconded by Mr. Elliott, proposed Mr. Budde. There being no other proposals, Dr. Wyszecki and Mr. Budde were declared reappointed.

8. Other Business

The President asked whether it would be worthwhile to bring out another edition of the CNC/CIE booklet. The committee thought that it would be valuable.

The President mentioned that an ad hoc committee had been meeting to discuss the formation of a "Canadian Society for Color". It was hoped to inaugurate this Society at an NRC seminar on color next spring.

Mr. Ketvirtis expressed the hope that there would be more Canadian papers at the next Session of the CIE in 1975.

9. Meeting Adjourns

There being no further business, the meeting was adjourned at 3:30 pm.

A.R. Robertson

November, 1971.

Annual Report

CIE Committee E-1.1 on Vocabulary

Work is complete on the Third Edition of the International Lighting Vocabulary and it is being issued as part of the International Electrotechnical Vocabulary.

CIE Committee E-1.1 met during the CIE Sessions at Barcelona to consider work for the next Edition of the International Lighting Vocabulary.

G.E. Davidson P. Eng.
CIE Committee E-1.1

1971 Annual Report for CNC/CIE on Photometry E-1.2

by C.L. Sanders

The document prepared by E-1.2 entitled "Principles of Light Measurements" has been published as Publication CIE No. 18 (E-1.2) 1970. The NRC has distributed copies to all those attending the third seminar on Colorimetry and Photometry at NRC in October 1970. The technical document "Procedures for the measurement of luminous flux of discharge lamps and for their calibration as working standards" was approved.

Almost all the measurements are completed in the comparison of spectroradiometric measurements of fluorescent lamps organized by the Subcommittee on Spectroradiometry. The analysis shows that the measurement accuracy is much improved since the comparison organized by NPL in 1958-1961. The spread of national laboratories is now about one-fifth what it was in 1958-1961 for comparable national laboratories. The spread of all laboratories is about one-half that of the national laboratories in 1958-1961. It also seems possible to explain most of the larger remaining differences. Some of the causes for these are: (a) different parts of the lamp radiation were measured; (b) the monochromator had a different spectral transmittance for the fluorescent lamp than for the standard lamp; (c) the line power was measured using an inaccurate method; (d) the monochromator was out of calibration in the red; (e) the operating temperature was incorrect.

On the basis of these tests we hope to be able to specify tolerances in the measuring system which if met will permit a laboratory to measure with the required accuracy. A document will be prepared by one group of the subcommittee.

Part of the apparent improvement in accuracy in the last 10 years may be due to all the laboratories using the same spectral irradiance scale in the latest comparison. To check the differences between national scales of spectral irradiance a plan for a comparison was established. The Electrotechnical Laboratory in Tokyo, Japan, will coordinate the comparison which will start in September, 1972. The ETL has selected suitable lamps of two types. The national laboratories will purchase these from Japan and will then calibrate them against their own scale. The ETL will receive the lamps in September, 1972, for the comparison of scales. The comparison should be completed in September, 1973.

In line with this emphasis on spectroradiometry and the use of spectroradiometry as a basic method of determining photometric quantities, the members of E-1.2 voted to recommend to the Action Committee that the name of E-1.2 be changed to Photometry and Radiometry.

The NRC will send photocells to two more laboratories and include the results in the summary of the intercomparison of spectral sensitivity measurements which is scheduled to be completed next summer.

Dr. Kartachevia will prepare a report to be published on the comparison of absolute reflectance measurements.

The problems of photometry of flashing sources, high pressure sodium lamps, and metal hallide lamps were discussed but no measurement programs were initiated. Most people felt that the national laboratories would be best advised to complete the current spectroradiometric programs before commencing other projects. I feel that this indicates the predominance of representatives of national laboratories on E-1.2 and that the procedure followed by the colorimetry E1.3.1 committee of having consultants and several sub-committees would involve more people and permit a wider range of problems to be attacked concurrently.

It was agreed by the committee that the $\bar{y}(\lambda)$ function of the CIE 1931 standard colorimetric observer as defined in Table 2.1 of CIE Publication No. 15 (E1.3.1) 1971 should be the precise definition of the CIE Standard Photometric Observer and that the spectral values of $V(\lambda)$ between the 1 nm intervals specified in that table should be found by linear interpolation. The Action Committee will be asked to take the necessary steps to make this a CIE recommendation.

Dr. Kartachevskia has resigned as chairman of E1.2 and Great Britain has indicated its willingness to accept the committee.

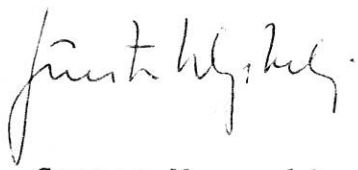
Annual Report on the Activities of
Committee E-1.3.1 (Colorimetry)

During the period of October, 1970 to October, 1971, the CIE Committee E-1.3.1 (Colorimetry) conducted its work by correspondence and a series of meetings just prior to and during the CIE Congress at Barcelona. The main items were:

(a) Completion of the CIE Document on Colorimetry which contains the official CIE recommendations on colorimetry. This document is now published as CIE Publication No. 15 and can be purchased through NRC on behalf of our National Committee.

(b) A recommendation on the degree of metamerism has been passed by the committee and will now be processed by the CIE for official approval.

(c) A statement on the present status of evaluating color differences has been prepared by the committee, together with an outline of a working program for further work in this field.



Gunter Wyszecki,
Chairman, E-1.3.1,
(Colorimetry).

Report on the Activities of CIE Committee E-1.3.2 (Colour Rendering)

(Prepared for the 1971 annual meeting of the CNC/CIE)

Preparation of the 2nd Edition of CIE Publication 13 (Method of Measuring and Specifying Colour Rendering Properties of Light Sources) has been completed and the document should soon be published. The main changes are that the correction for chromatic adaptation is now in the form of a von Kries type of transformation, and that some explanatory comments have been added.

I was unable to attend the meetings of the Committee in Barcelona but I understand that the main items discussed were final editorial changes to Publication 13, the specification of interchangeability in relation to colour rendering, the possibility of further improvements to the CIE test-colour method (such as the addition of fluorescent test-colours), the assessment of colour flattery properties of lamps, and the assessment of colour-matching properties of lamps. The investigation of proposals for the assessment of the colour-rendering properties of light sources used in colour photography, colour television and colour printing was assigned to a subcommittee of which I will be a member.

A.R. Robertson,
Canadian Member of E-1.3.2.

Report on the Activities of CIE Committee E-1.4.1

(Photopic, Mesopic and Scotopic Vision)

(Prepared for the 1971 annual meeting of the CNC/CIE)

With its new chairman (Dr. J.A.S. Kinney, USA) this committee is likely to be much more active than in recent years. Meetings were held in Barcelona, but I was unable to attend.

In view of his active involvement in this field, I would like to suggest that Dr. P.K. Kaiser of York University be appointed in my place as the Canadian Member of Committee 1.4.1.

A.R. Robertson,
Canadian Member of E-1.4.1.

University of Toronto
TORONTO 181, CANADA

DEPARTMENT OF ELECTRICAL ENGINEERING

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CIE COMMITTEE E1.5 FUNDAMENTALS OF LIGHTING CALCULATION

A pre-session meeting of this Committee was held on Sept. 6th in Barcelona and was well attended. Considerable time was devoted to a discussion of the introduction of vector notations for solid angle, density of radiation etc. into the vocabulary of Illumination. It was hoped that general "radiation" definitions could be developed which would be used by other persons dealing with radiation problems (thermal specialists, acousticians, etc.)

Some refinements in the calculation methods for artificial light in an interior were also discussed but no conclusion was reached at the pre-session meeting. I was not able to attend the Session meeting of this Committee as it conflicted with the E-4.1.1 Committee meeting. I asked one of the expert members of E-1.5 if any important decisions were made at the meeting but apparently little useful progress was made.

MARION G. CURRIE
Corresponding Member

November 5, 1971

ANNUAL REPORT

Meeting, November 5th, 1971

E-2.2 COMMITTEE

CHARACTERISTICS OF LIGHTING MATERIALS

In April 1971, the Chairman of our Committee, Dr. Ing H. J. Helwig died. The Chairmanship was taken over by our former Secretary, Dr. Ing. Jurgen Krochman.

Two committee meetings were held; one in London and one at the Barcelona conference. The writer did not attend these meetings.

The work of the committee, which was commenced in 1967 by Dr. Helwig, was presented in Barcelona by Dr. Krochman. The writer has on file, available upon request, 24 pages of suggested standard definitions, and the full 63 page report "Lichttechnische Stoffkennzahlen" (International recommendations for characteristics of lighting materials and measurements.)

The work of the International Committee remains aimed at reflectance characteristics of road surfaces and of window glass. Once the recommendations of the Barcelona report are circulated and approved, the uniform international standards of a white reference standard, description of the properties of lighting scattering materials, and gloss, will be finalized.

Related Activities

Work has been done on both the new Ontario Fire Marshal's regulations and the forthcoming amended form of the new National Building Code, as they relate to specific lighting shielding and diffusing media.

Development work continues on an inexpensive and practical method to refine a device to control both direct glare and reflected glare with one medium.

A. T. Orr,
Corresponding Member.

Annual Report

CIE Committee E-2.3 on Photometric Requirements for Luminaires

During the year, the report of the Committee on "Recommendations for Photometry of Indoor Type Luminaires with Tubular Fluorescent Lamps" was completed and in due course was circulated to the National Committees. As a member of CIE Committee E-2.3, I recommend to our CNC/CIE that Canada vote in favour of accepting this Report as a CIE Document.

Work is progressing on a report covering "Recommendations on the Photometry of Street Lighting Luminaires".

A meeting of the Committee was held prior to the Sessions in Barcelona, for which there was a very full Agenda.

Since the first of March, I have taken the liberty of forwarding copies of all correspondence to Mr. Z.S. Subotich of the Canadian Standards Association. This was in keeping with the transfer of the photometric facilities from Ontario Hydro's Research Division to the laboratories of the Canadian Standards Association in Rexdale.

In my new appointment with Ontario Hydro, my activities in the field of illumination and photometry no longer warrant my continued participation in the work of CIE Committee E-2.3. I would recommend to the CNC/CIE that it consider the appointment of Mr. Z.S. Subotich to be the Canadian delegate to E-2.3 as a Corresponding Member.

G.E. Davidson, P. Eng.
CIE Committee E-2.3

CANADIAN NATIONAL COMMITTEE of CIE

REPORT of COMMITTEE E-3.1.2, INTERIOR LIGHTING PRACTICE

Since the last annual meeting the minutes of two meetings of the Expert Committee have been received. One meeting was at Paris on September 22/23, 1970, the other meeting was at Eindhoven on January 19/20, 1971. Copies of the minutes of the latter meeting were sent to the members of the Canadian sub-committee.

These two meetings were held primarily for the purpose of completing a draft of a proposed International Lighting Guide for presentation at the Barcelona Sessions in September, 1971. It was also necessary to prepare a questionnaire to ascertain the progress in interior lighting from the member countries during the current quadrennium.

Replies to the questionnaire were received from Australia, Austria, Belgium, Canada, Czechoslovakia, Denmark, Germany, Great Britain, Holland, Japan, Poland and United States. The replies from the United States and Canada were almost identical.

At Barcelona, two meetings of the committee were held. A pre-session meeting to review and incorporate proposed changes to the final draft of the International Lighting Guide and a post-session meeting to discuss the comments received when the draft was presented at a meeting of the membership of all technical committees.

During the first three days of the program, six co-ordinators acting as chairmen gave reports on the activities of all technical committees. The chairman of each committee was on the platform to answer questions from the floor. The report on E-3.1.2 included slides on interior lighting from various countries. Canada was well represented with four slides showing a draughting room, the control room of a nuclear generating plant, a university library and a "Systems" classroom.

At the post-session meeting, the comments made from the floor during the open meeting were considered and some were accepted for incorporating in the Guide. It is the intention of the Comittee to add to the present eight sections three new sections that will cover "Performance Data on Luminaires","Recommended Methods for Calculating Luminance and Illuminance Values" and "Energy Control".

Announcements of interest were:- The next quadrennial session will be in London, England. The President of C.I.E. for the next four years will be Mr. W. R. Stevens, Great Britain. The Chairman of the Action Committee will be Dr. S. K. Guth, Nela Park, Cleveland, Ohio. Dr. G. Wyszecki, National Research Council, Ottawa will serve on the Action Committee. The term "Corresponding Member" will be discontinued.

G. F. Dean

October 25, 1971 for
Annual Meeting of November 5, 1971

G. F. Dean, Chairman
CNC Sub-committee E-3.1.2

Report to Canadian National Committee of the C.I.E.

E-3.1.9.2 Stage and Studio Lighting

A summary of recent Theatre and Television lighting installations in Canada would include:-

1. Theatre Lighting Installations with electronic storage of lighting cue information.
   Dalhousie University Theatre Art Complex
   3 memory systems
   Quebec Opera House

   Hamilton Civic Centre

   Manitoba Theatre Centre

   St. Lawrence Centre for Performing Arts.

   Stratford Festival Theatre to operate end of 1971

   University of British Columbia Theatre March 1972

2. Theatre Lighting Installations with direct control systems.

   Regina Art Centre

   Ontario Place Theatre

An increasingly common practice is to provide semi-conductor (controlled rectifier) dimmers to control lighting of theatre house lights, meeting rooms and banquet halls in hotels and convention centres because of flexibility and simplicity of control systems which cna be provided with these dimmers. The capital and operating costs of these installations are becoming very competitive when compared to the earlier motorized auto-transformer systems.

CFTO Channel 9 Toronto placed an 8500 square foot color television studio in operation in July 1972. Staging and lighting battens are electrically operated. Power supply capacity is 750 kilowatts and dimmer capacity is 1728 kilowatts with a patch panel to connect to 555 studio outlets. There is a 3 scene manual preset control system which can be used directly to control the 144 dimmers. Control functions can also be set up through a 1000 cue tape cartridge storage facility with two operating solid state memory banks to provide sequential or random access to cue.

Maison de Radio Canada the C.B.C. Montreal radio and television complex is complete as to building construction. Six of the studios will have direct control lighting systems and the seventh will have an electronic data storage lighting control system. This latter studio has an operating area in excess of 5000 sq. feet plus permanent audience seating. 37 multi speed staging and 142 single speed lighting electrically operated battens will be installed. The 531 studio outlets will each be connected to a six kilowatt dimmer.

C.I.E. COMMITTEE E-3.3.1

PUBLIC LIGHTING

ANNUAL REPORT 1971

The Committee of Experts held two meetings in 1971 - May 11-12 in Moscow, U.S.S.R. and September 7 in Barcelona, Spain. The latter meeting was extended to two subsequent discussions which took place during the quadrennial conference. The writer attended the Barcelona meeting.

Since this is the end of the quadriennium it is perhaps appropriate to review the results of work carried out by this Committee during the period of the last four years.

The Committee had a total of nine expert-member meetings, with several discussions held by smaller task groups to solve specific problems. The Committee Chairman, Professor J.D. de Boer, reported at the Barcelona meeting that the Recommendations for Motorway Lighting and Tunnel Lighting are now being submitted for CIE Council approval. In subsequent meetings it was announced that these two documents have been approved and will be published shortly.

In addition to the motorway and tunnel illumination the Committee dealt with the following topics:

a. Lighting installation appraisal method suggested by Dr. Schreuder and Dr. Adrian.

b. Establishment of regulations to standardize luminaire glare rating (G. Mark).

c. Method for evaluation of road reflectance comparative qualities.

d. Survey of illumination status in various member countries.

Many reports and short papers were presented by the Committee members and invited speakers on specific topics during the various meetings. However, these are too numerous to describe in this report.

At the meeting held in Barcelona on September 7 a programme was outlined by the Committee Chairman for the period 1971-75. The following is a summary of the proposed programme:

DRAFT WORKING PROGRAMME COMMITTEE E-3.3.1 FOR THE QUADRIENNIUM

1971 - 1975

1. Revision and Extension of Document No. 12.

   1.1 Revision of recommendations for glare limitation

   1.2 Revision of recommendations for limitation of non-uniformity of road surface luminance

   1.3 Consideration of influence of surroundings of road on visual performance

   1.4 Addition of a section on lighting of elevated roads and bridges

   1.5 Addition of a section on lighting of junctions and interchanges

   1.6 Addition of a section on lighting of special features such as humps, curves, pedestrian crossings.

2. Road Surface Luminance

   2.1 Reflection properties of dry and wet road surfaces and their classification

   2.2 Change in reflection properties due to traffic wear, aging of the surface, salt deposits and seasonal variations

   2.3 Calculation procedures

3. Revision of Document No. 8 on Influence of Lighting on Road Accidents with particular reference to Motorways

4. Streetlighting on Vehicle Lights

5. Photometric Characteristics of Luminaires in connection with Lighting Design Procedures

   5.1 Presentation

   5.2 Classification

6. Lighting of Road Traffic Signs

This Committee expects an active quadriennium for 1971-75 and already has planned two meetings - January 1972 in Eindhoven, Netherlands and May 1972 in Malmö, Sweden

A. Ketvirtis
Expert-Delegate Committee E-3.3.1
Public Lighting

Report of Committee E32 Daylight

There is little to report on the work of this committee. A meeting was held in Barcelona in September where a draft CIE Guide to Interior Lighting Practice prepared by Committee E312 was discussed. The Chairman, M. Dogniaux and some members are also preparing a Code of Practice on Daylighting of which it appears that drafts of the first two chapters have been completed.

M. Galbreath,
Corresponding Member.

University of Toronto
TORONTO 181, CANADA

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CIE COMMITTEE E-4.1.1 EDUCATION IN SCHOOLS

At the time of last year's Annual meeting the future of this Committee was very much in doubt. In spite of the very discouraging progress being made it was decided by the CIE Action Committee that the work of the Committee should continue. Since that decision was made the Swiss Committee have been trying to find out what type of work should be undertaken to achieve greater success. A meeting of Experts was held in Karlsruhe in May and a tentative programme suggested. Questionnaires, unfortunately in German, were sent out to the Committee Members. I wrote a long letter to the Secretary expressing my views since I could not understand the detailed questionnaires. It was my view that there is no shortage of educational information but that there is a lack of interest among people in the lighting business to educate themselves or their junior colleagues in the fundamental concepts of their discipline. Unless there is an expressed desire by the profession for an educational programme, efforts devoted to discussing what to teach and how to teach it seem futile.

At the pre-session meeting in Barcelona (attended by the Secretary and myself) it was confirmed that replies from other countries indicated similar problems. At the general meeting of E-4.1.1 held during the Session many people spoke of their individual successes or failures but the general feeling was that the Committee should not be disbanded. No definite decisions were made but it appeared that the Committee could play a useful role as a clearing house of information, i.e. it would survey the progress in each country and circulate this information to all the other countries. At the present time no formal work programme for the next four years has been received.

MARION G. CURRIE,
Expert Member.

November 5, 1971

REPORT TO CNC/CIE, NOVEMBER 5, 1971

on

S-4.2 (Lighting Codes, Regulations & Legislation)

Last year I reported answering a questionnaire from the Israel National Committee on S-4.2 on current Canadian practice. The results of this questionnaire as reported in Barcelona, was as follows:

Replies to the questionnaire were received from 12 countries as follows:

Australia	Canada	Germany	Japan
Austria	Czechoslovakia	Great Britain	Poland
Belgium	Denmark	Holland	U.S.

Item 1.1 Levels of Illuminance

Is a lighting code used in your country? If so, please enclose a copy with your reply. What was the date of issue?

The answer in all cases is yes, although the U.S. and Canada draw a distinction between the official recommendation of national codes (of which they have a limited number), and the recommendations of such cultural or professional bodies as the Illuminating Engineering Society.

In Poland and Czechoslovakia, minimum value of illuminance are laid down as a protection for the workers engaged in various industries. In Belgium too, there are regulations on the subject. Recommendations on illuminance values appear to be updated at frequent intervals as is indicated by the dates of issue for national codes in the following countries:-

Holland	1967	Denmark	1965	Czechoslovakia	1963
Japan	1969	Poland	1968	Australia	1965
Austria	1968	Germany	1963	Great Britain	1968

Item 1.2 Have there been any significant changes in the last four years in:

A. recommended levels of illuminance?

B. illuminance values used in practice?

" The general view is that whilst code recommendations have not changed, the values of illuminance used in practice have increased--some say substantially."

J.C. Wilson
Corresponding Member S-4.2