

Public Health England

**cie** International Commission on Illumination  
Commission Internationale de l'Éclairage  
Internationale Beleuchtungskommission

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## Light and Public Health

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Chairman, BSI EPL/76; Member EL/001  
Convener, International Electrotechnical Commission, TC76 Working Group 8  
SLL Masterclass, Library of Birmingham, 23 October 2014

## Public Health England

We protect and improve the nation's health and wellbeing, and reduce health inequalities.

PHE is an executive agency, sponsored by the Department of Health.



PHE Centre for Radiation, Chemical and Environmental Hazards

Public Health England

## About us

Created 1970

1 April 2005

1 April 2013



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## Why PHE?

Health and Social Care Act 2012



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## Laser and Optical Radiation Dosimetry Group (LORD)

Research	Commercial Services
Advice	Standards

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## LORD

Advice

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**LORD**

International Commission on Illumination  
Commission Internationale de l'Éclairage  
Internationaler Beleuchtungs-Kommission

International Organization for Standardization

European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung

American National Standards Institute

INTERNATIONAL COMMISSION ON NON-IONIZING RADIATION PROTECTION

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**LORD**

Scheduled Training

Customised Training

Commercial Services

Industry

Commercial Advice

Entertainment

Medical

Product Assessments

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**LORD**

Laser displays, laser pointers

Research

Measurement of optical hazards

Solar Radiation

Benefits of Light

UV Index Graphs

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**Introduction to LORD group at PHE**

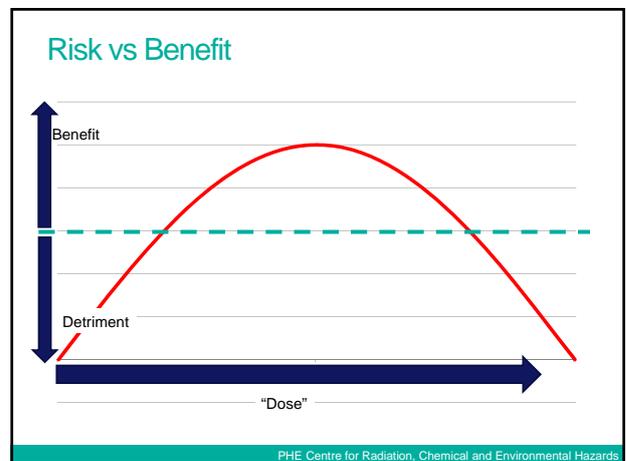
Solar Radiation

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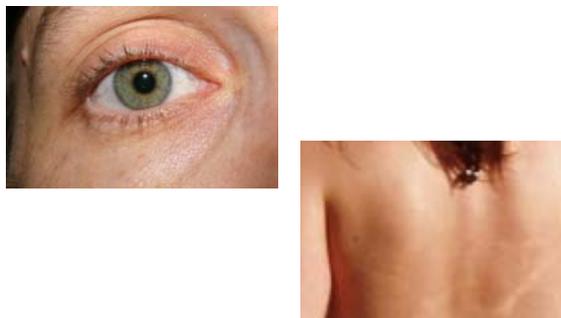
**Introduction to LORD group at PHE**

Benefits of Light

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### Optical Radiation Interactions - People



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### Laser Pointers



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### Trader's Web Site



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### Home Use Devices



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### Toys



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### Fluorescent Lights



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### Legislation – use of ICNIRP Guidelines

INTERNATIONAL COMMISSION ON NON-IONIZING RADIATION PROTECTION

**ICNIRP GUIDELINES**  
ON LIMITS OF EXPOSURE TO LASER RADIATION OF WAVELENGTHS BETWEEN 180 nm AND 1,000 µm

NON-IONIZING RADIATION PROTECTION

**ICNIRP GUIDELINES**  
ON LIMITS OF EXPOSURE TO INCOHERENT VISIBLE AND INFRARED RADIATION

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### Legislation – use of ICNIRP Guidelines

Adverse health effect likely

ELV x ? 

“Dose” 

Probably OK under “most” circumstances of exposure

ELV 

Adverse health effect (very) unlikely

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### Legislation - Europe

L 114/38    EN    Official Journal of the European Union    27.4.2006

**DIRECTIVE 2006/25/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**  
of 5 April 2006

on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artificial optical radiation) (19th individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC)

STATUTORY INSTRUMENTS

**2010 No. 1140**

**HEALTH AND SAFETY**

The Control of Artificial Optical Radiation at Work Regulations 2010

Made . . . . . 20th March 2010  
Laid before Parliament . . . . . 4th April 2010  
Coming into force . . . . . 27th April 2010

*Non-binding guide to good practice for implementing Directive 2006/25/EC Artificial Optical Radiation*

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### Product Safety Standard

BS EN 62471:2008

**BSI British Standards**

**Photobiological safety of lamps and lamp systems**

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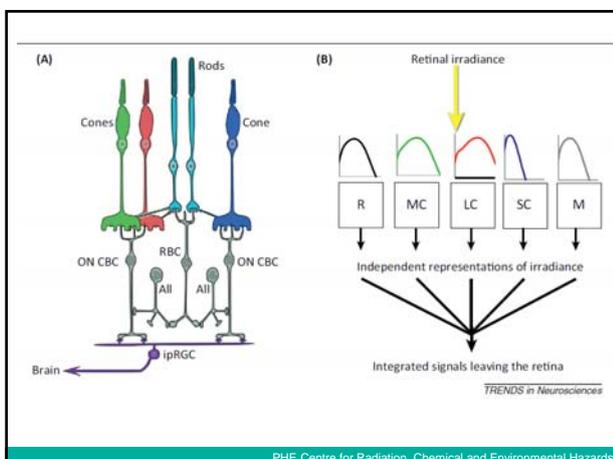
### Measuring and using light in the melanopsin age

**Robert J. Lucas<sup>1\*</sup>, Stuart N. Peirson<sup>2\*</sup>, David M. Berson<sup>3</sup>, Timothy M. Brown<sup>1</sup>, Howard M. Cooper<sup>4</sup>, Charles A. Czeisler<sup>5</sup>, Mariana G. Figueiro<sup>6</sup>, Paul D. Gamlin<sup>7</sup>, Steven W. Lockley<sup>8</sup>, John B. O'Hagan<sup>9</sup>, Luke L.A. Price<sup>9</sup>, Ignacio Provencio<sup>9</sup>, Debra J. Skene<sup>10</sup>, and George C. Brainard<sup>11</sup>**

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<sup>11</sup> Department of Neurology, Thomas Jefferson University, Philadelphia, PA, USA

*Trends in Neurosciences* January 2014, Vol. 37, No. 1

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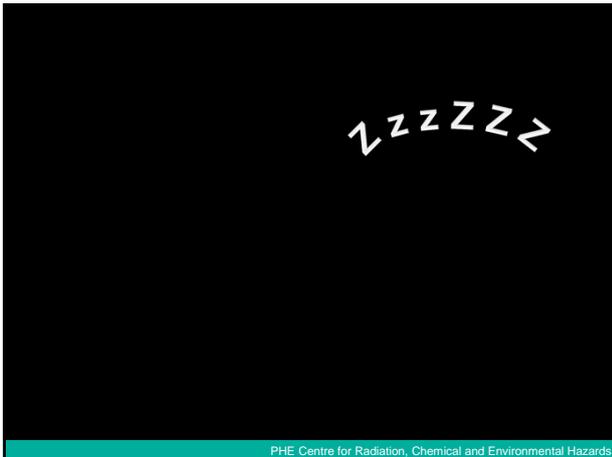
### So what?

**We don't yet know!**

**Still working out:**

- the right light (spectrum/spectral irradiance)
- at the right time
- for the specific person
- doing that activity
- with their past light exposure history
- for the right duration

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### CIE – Founded in 1913

Advancing knowledge and providing standardization to improve the lit environment

The International Commission on Illumination is devoted to worldwide cooperation and the exchange of information on all matters relating to the science and art of light and lighting, colour and vision, photobiology and image technology.

With strong technical, scientific and cultural foundations, the CIE is an independent, non-profit organization that serves member countries on a voluntary basis.

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### President - CIE



Professor Ann Webb  
University of Manchester

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### CIE Divisions

- Division 1: Vision and Colour
- Division 2: Measurement of Light and Radiation
- Division 3: Interior Environment and Lighting Design
- Division 4: Lighting and Signalling for Transport
- Division 5: Exterior Lighting and Other Applications
- Division 6: Photobiology and Photochemistry
- Division 8: Image Technology

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### Work in CIE

- Each Division
  - Technical Committees
  - Volunteers commit to work
- Publish documents
- Organise meetings/seminars/workshops
- Quadrennial Sessions

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### CIE Publications

- Conference and Symposia Proceedings
- Standards
- Technical Reports and Guides
- Technical Notes

[www.cie.co.at](http://www.cie.co.at)

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

The National Illumination Committee of Great Britain (CIE-UK) is the member body for UK of the CIE.

Founded in December 2013

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### CIE-UK Structure

#### Trustees

Chairman – Nigel Pollard

#### Council

Sponsoring Organisations (SLL & ILP)

Cooperating Organisations

Universities

Individuals

Discounted CIE publications – 66% discount to members!

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2015 INTERNATIONAL YEAR OF LIGHT  
AND LIGHT-BASED TECHNOLOGIES



[www.light2015.org](http://www.light2015.org)

INTERNATIONAL  
YEAR OF LIGHT  
2015

CIE is a Gold Associate

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### First time since 1975

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Thank you for listening

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