

<b>6</b>	<b>IEQ</b>	<b>6.6 LIGHTING QUALITY</b>
		<b>IEQ 17 INTERIOR LIGHTING IN AREAS NOT NORMALLY OCCUPIED</b>
	<b>EXCLUSIONS</b>	None.
	<b>OBJECTIVE</b>	Ensure the adequacy of artificial lighting provisions in common areas and service areas such as plant rooms.
	<b>CREDITS ATTAINABLE</b>	1
	<b>PREREQUISITES</b>	Compliance with the Building Regulations for those common areas covered by regulations, e.g. Building (Planning) Regulation (B(P)R) 40 in respect of lighting of staircases.
	<b>CREDIT REQUIREMENT</b>	1 credit where the prescribed lighting performance in each type of common or service space in respect of light output and lighting quality is achieved.
	<b>ASSESSMENT</b>	<p>The Assessment focus is on lighting for safety, security and work activities required for operation and maintenance. The design criteria is at the discretion of the Client but shall embrace both 'quantity' and 'quality' of the lighting system performance including: maintained horizontal, and where appropriate vertical, illuminance, illuminance variation, limiting glare index, colour rendering, and modulation of light output appropriate to the type and use of the premises/indoor spaces. The criteria adopted shall be based on authoritative guidance, such as that provided in CIE [1,2], CIBSE [3] and/or IESNA [4] publications, or equivalent.</p> <p>The Client shall submit a report prepared by a suitably qualified person detailing the 'as installed' lighting systems or, for spaces yet to be fitted-out, the technical details of the proposed lighting systems for each type of common or service space within the development. The report shall detail the design criteria and the results of measurements or other means demonstrating compliance.</p> <p>Compliance with the assessment criteria shall be demonstrated either by measurements using a standardised measurement protocol appropriate to the parameter being assessed, and/or by modelling (calculation), providing the calculation method or software used is based on a standardised method, and uses data/assumptions appropriate to the circumstances. Notwithstanding, demonstration of compliance with a) requires that the maintained illuminance take into account the influence on light output appropriate to the circumstances, such as the recommendations given by CIE [5].</p>
	<b>BACKGROUND</b>	<p>Energy efficiency aspects of electric lighting are dealt with in the assessment of energy use. This section deals with the lighting quality and maintenance aspects of lighting systems provided in both common areas and service areas of a building.</p> <p>Reference should be made to Section IEQ 16 for further information on measurements and modelling on interior lighting systems.</p>

- 1 Commission Internationale de l'Eclairage (CIE). Lighting of Indoor Work Places. CIE Standard S 008/E.
- 2 Commission Internationale de l'Eclairage (CIE). Discomfort Glare in Interior Lighting. CIE 117-1995.
- 3 The Chartered Institution of Building Services Engineers. Code for interior lighting. London. CIBSE.
- 4 Illuminating Engineering Society of North America. Lighting Handbook, Reference & Applications. New York.
- 5 Commission Internationale de l'Eclairage (CIE). Maintenance of indoor electric lighting systems. CIE Technical Report - Publication No. 97. Vienna.

EU 9 Energy Efficient Appliances

EU 10 Testing and Commissioning

EU 12 Metering and Monitoring

## Water Use

WU P1 Water Quality Survey

WU P2 Minimum Water Saving Performance

WU 1 Annual Water Use

WU 5 Water Efficient Appliances

## Indoor Environmental Quality

IEQ P1 Minimum Ventilation Performance

IEQ 1 Security

IEQ 2 Plumbing and Drainage

IEQ 4 Waste Disposal Facilities

IEQ 5 Construction IAQ Management

IEQ 6 Outdoor Sources of Air Pollution

IEQ 7 Indoor Sources of Air Pollution

IEQ 9 Increased Ventilation

IEQ 10 Background Ventilation

IEQ 11 Localised Ventilation

IEQ 12 Ventilation in Common Areas

IEQ 14 Thermal Comfort in Naturally Ventilated Premises

IEQ 15 Natural Lighting

IEQ 16 Interior Lighting in Normally Occupied Areas

IEQ 17 Interior Lighting in Areas Not Normally Occupied

**#105. IEQ 16&17, For BEAM Plus New Buildings Version 1.1 and 1.2, how should the representative sampling points be selected and what is the percentage of compliance of the sampling points in order to achieve the credit?**

The sampling point should represent each type of premises with a typical lighting layout. To achieve the credit, 100% compliance of all the representative sampling points is required.

(Released on 29 November 2019)

**#106. IEQ 16&17, For BEAM Plus New Buildings Version 1.1 and 1.2, should decorative lighting be assessed?**

No. Decorative lighting as defined under Schedule 2 of Buildings Energy Efficiency Ordinance (BEEO) should be excluded from the assessment of IEQ 16 & 17. However, the Applicant should provide clear delineation such as layout drawings and lighting fitting schedule highlighting the portion where decorative lightings are installed in the development.

(Released on 29 November 2019)

IEQ 18 Room Acoustics

IEQ 19 Noise Isolation

IEQ 20 Background Noise

IEQ 21 Indoor Vibration

IEQ 22 Access for Persons with Disability

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EU 1 Reduction of CO2 Emissions

EU 1 - Option 2 Alternative Route: Passive Design

EU 2 Peak electricity demand reduction

EU 3 Embodied energy in building structural elements

EU 6 Renewable Energy System

EU 7 Air-conditioning units

EU 9 Energy efficient appliances

EU 10 Testing and Commissioning

EU 11 Operation and Maintenance

EU 12 Metering and monitoring

### Water Use

WU P1 Water Quality Survey

WU P2 Minimum water saving performance

WU 1 Annual water use

WU 3 Water Efficient Irrigation

WU 5 Water efficient appliances

### Indoor Environmental Quality

IEQ P1 Minimum ventilation performance

IEQ 1 Security

IEQ 2 Plumbing and Drainage

IEQ 4 Waste Disposal Facilities

IEQ 5 Construction IAQ Management

IEQ 6 Outdoor Sources of Air Pollution

IEQ 7 Indoor Sources of Air Pollution

IEQ 9 Increased ventilation

IEQ 10 Background Ventilation

IEQ 11 Localised Ventilation

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(Released on 29 November 2019)

**#151. IEQ 15, IEQ16 and IEQ 17, For BEAM Plus New Buildings Version 1.1 and 1.2, what documentation is required to substantiate the values of reflectance used in the computations/ modelling?**

The Applicants can opt to adopt the following typical reflectance values in the computer modelling, or propose the reflectance values that are specific to their projects.

Surfaces	Typical Reflectance
Ceiling	0.8
Walls	0.5
Floor	0.2

In case the adopted reflectance values exceed the typical reflectance values, the Applicant shall provide the corresponding international standards or supporting documents such as finishing schedule, catalogue, on-site photos, etc. to support the assumption of reflectance.

(Released on 28 January 2022)

**IEQ 18 Room Acoustics**

**IEQ 19 Noise Isolation**

**IEQ 20 Background Noise**

**IEQ 21 Indoor Vibration**

**IEQ 22 Access for Persons with Disability**

**IEQ 23 Amenity Features**