

### Contents

	Foreword
	Introduction
1	Scope
2	Normative references
3	Terms and definitions
4	Symbols and abbreviations
4.1	Symbols
4.2	Subscripts
5	Description of the methods
5.1	General
5.2	Output of the method 1— Comprehensive method
5.3	Optional methods
5.3.1	Method 2 — Quick calculation method
5.3.2	Method 3 — Direct metering method
6	Method 1 — Calculation of the energy required for lighting
6.1	Output data
6.2	Calculation time steps
6.3	Input data
6.3.1	Lighting system data
6.3.1.1	New or refurbished building lighting system
6.3.1.2	Existing building lighting system
6.3.2	Product data
6.3.2.1	General
6.3.2.2	Luminaire description data (qualitative)
6.3.2.3	Luminaire technical data
6.3.3	System design data
6.3.4	Operating conditions
6.3.5	Constants and physical data
6.4	Calculation procedure
6.4.1	Applicable time step
6.4.2	Operating conditions calculation
6.4.3	Energy calculation
6.4.3.1	General
6.4.3.2	Installed power calculation
6.4.3.2.1	Assessment of installed power in existing buildings
6.4.3.3	Standby system power requirements
6.4.3.4	Occupancy dependency factor $F_o$
6.4.3.4.1	General
6.4.3.4.2	Case $F_o = 1$
6.4.3.4.3	Case $F_o < 1$
6.4.3.5	Daylight dependency factor $F_D$
6.4.3.6	Constant illuminance dependency factor $F_c$
6.4.3.7	Calculation of energy for lighting
6.5	Expenditure factors for lighting systems
7	Method 2 — Quick calculation of the energy required for lighting
7.1	Output data

7.2	Calculation time steps
7.3	Input data
7.3.1	Lighting system data
7.3.2	Luminaire data
7.3.2.1	General
7.3.2.2	Product description data (qualitative)
7.3.2.3	Product technical data
7.3.3	System design data
7.3.4	Operating conditions
7.3.5	Constants and physical data
7.4	Calculation procedure
7.4.1	Applicable time step
7.4.2	Operating conditions calculation
7.4.3	Energy calculation
7.4.3.1	General
7.4.3.2	Installed power calculation
7.4.3.3	Standby system power requirements
7.4.3.4	Occupancy dependency factor Fo
7.4.3.5	Daylight supply dependency factor FD
7.4.3.6	Constant illuminance dependency factor Fc
7.4.3.7	Energy calculation
7.5	Expenditure factors for lighting systems
8	Method 3 — Metered energy used for lighting
8.1	Output data
8.2	Calculation time steps
8.3	Input data
8.4	Calculation procedure of annual energy
9	Quality control
9.1	Method 1
9.2	Method 2
9.3	Method 3
10	Compliance check
10.1	General
10.2	Method 1
10.3	Method 2
10.4	Method 3
Annex A	(informative) Input data sheet with default values and choices
A.1	Introduction
A.2	Method 2
A.2.1	System design data
A.2.1.1	General
A.2.1.2	Standby energy density
A.2.1.3	Annual operating hours
A.2.1.4	Daylight supply factor for vertical façades
A.2.1.5	Daylight supply factor for roof lights
A.2.1.6	Absence factor FA for rooms and zones in building types
A.2.1.7	Occupancy dependency factor Fo
A.2.1.8	Example constant illuminance dependency factor Fc
A.3	Method 3
Annex B	(normative) Simplified method for installed power estimation
Annex C	(normative) Assessment of the installed power for lighting systems in existing buildings
Annex D	(normative) Occupancy estimation
Annex E	(informative) Expenditure factors for lighting systems
E.1	General
E.2	Energy need and energy use for lighting
E.3	Expenditure factor for lighting

- E.3.1 General
- E.3.2 Partial expenditure factor for constant illuminance control eL,C
- E.3.3 Partial expenditure factor for occupancy dependent lighting control eL,O
- E.3.4 Partial expenditure factor for daylight dependent lighting control eL,D
- E.3.5 Partial expenditure factor for the electric lighting system eL,ES
- E.4 Application of expenditure factors
  - E.4.1 General
  - E.4.2 Example calculation of expenditure factors for lighting systems
  - E.4.3 Space types under consideration
  - E.4.4 Partial expenditure factors for the electric lighting system
  - E.4.5 Sample expenditure factors for lighting systems
- E.5 Approach to expenditure factors for lighting systems
- E.6 Expenditure factors for lighting systems calculation

**Annex F (normative) Constant illuminance**

- F.1 General
- F.2 Constant illuminance factor (Fc)
- F.3 Constant light output (CLO) system

Page count: 58