ISO/CIE TR 3092:2023-09 (E)

Light and lighting - Energy performance of lighting in buildings - Explanation and justification of ISO/CIE 20086

Contents

Page

Foreword ..... **v**

Introduction ..... **vi**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **1**

4 Symbols and abbreviations **1**
4.1 General 1
4.2 Symbols and abbreviations 1

5 Description of the methods **3**
5.1 General 3
5.2 Method 1 – Comprehensive method 4
5.3 Optional methods 5
5.3.1 Method 2 – Quick calculation method 5
5.3.2 Method 3 – Direct metering method 5

6 Method 1 — Calculation of the energy required for lighting **5**
6.1 Output data 5
6.2 Calculation time steps 5
6.3 Input data 6
6.3.1 Lighting system data 6
6.3.2 Product data 9
6.3.3 System design data 10
6.3.4 Operating conditions 10
6.3.5 Constants and physical data 11
6.4 Calculation procedure 11
6.4.1 Applicable time step 11
6.4.2 Operating conditions calculation 11
6.4.3 Energy calculation 11

7 Method 2 – Quick calculation of the energy required for lighting **28**
7.1 General 28
7.2 Output data 28
7.3 Calculation time steps 29
7.4 Input data 29
7.5 Calculation procedure 29
7.5.1 Applicable time step 29
7.5.2 Operating conditions calculation 29
7.5.3 Energy calculation 30
7.6 Expenditure factors for lighting systems 47

8 Method 3 — Metered energy used for lighting **47**
8.1 General 47
8.2 Output data 47
8.3 Calculation time steps 48
8.4 Input data 48
8.5 Calculation procedure of annual energy 48
8.5.1 General 48
8.5.2 Calculation information 48

8.5.3 Calculation procedure of annual energy 50
9 Quality control **50**
9.1 Method 1 50
9.2 Method 2 51
9.3 Method 3 51
10 Compliance check **51**
Annex A (informative) **Calculation example for a new design retail store** **52**
Bibliography **82**