DIN EN 13201-5:2016-06 (E)

Road lighting - Part 5: Energy performance indicators

Contents

Page

European foreword 4

Introduction 5

1 Scope 6

2 Normative references 6

3 Terms, definitions, symbols and abbreviations 6
3.1 Terms and definitions 6
3.2 Symbols and abbreviations 7

4 Power Density Indicator (PDI) 9
4.1 Calculation of the power density indicator 9
4.2 Average horizontal illuminance to be used for calculation of the power density indicator 9
4.3 System power (P) to be used for calculation of the power density indicator 10
4.4 Area (A) to be used for calculation of the power density indicator 11

5 Annual Energy Consumption Indicator (AECI) 11

Annex A (informative) Examples of calculation and typical values of energy performance indicators 13

A.1 Examples of operational profiles 13
A.1.1 General 13
A.1.2 Full power operation 13
A.1.3 Multi-power operation 14
A.1.4 Operation with vehicle and presence detectors 14
A.2 Example of calculation 15
A.3 Typical values of energy performance indicators 16
A.3.1 General 16
A.3.2 Two-lane road for motorized traffic (road profile A) 17
A.3.3 Road with mixed motorized and pedestrian traffic without sidewalks (road profile B) 18
A.3.4 Road and sidewalk on the side of lighting arrangement (road profile C) 19
A.3.5 Road and sidewalk on the opposite side to the lighting arrangement (road profile D) 20
A.3.6 Road and two sidewalks on both sides (road profile E) 21
A.3.7 Road and two sidewalks on both sides separated from carriageway by grass strips (road profile F) 22
A.3.8 Typical values of AECI for different operational profiles 22

Annex B (informative) Installation luminous efficacy 24

B.1 General 24

DINEN13201-5:2016-06 EN 13201-5:2015 (E) B.2 Calculation of the correction factor 24
B.3 Calculation of the utilance 25
B.4 Calculation of the efficiency of luminaires 25

Annex C (informative) Lighting factor of an installation 26

C.1 Installation lighting factor qinst 26
C.2 Role of qinst in road lighting design aimed at energy saving 26

C.3 Typical values of qinst 26

Annex D (informative) Presentation of energy performance indicators 27

Bibliography 28