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*Indian Standard*

CODE OF PRACTICE FOR  
LIGHTING OF PUBLIC THOROUGHFARES

**PART VII LIGHTING FOR ROADS WITH  
SPECIAL REQUIREMENTS**

**( GROUP F )**

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**BUREAU OF INDIAN STANDARDS**  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

*Indian Standard*

**CODE OF PRACTICE FOR  
LIGHTING OF PUBLIC THOROUGHFARES**

**PART VII LIGHTING FOR ROADS WITH  
SPECIAL REQUIREMENTS**

**( GROUP F )**

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( *Continued on page 2* )

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# *Indian Standard*

## CODE OF PRACTICE FOR LIGHTING OF PUBLIC THOROUGHFARES

### PART VII LIGHTING FOR ROADS WITH SPECIAL REQUIREMENTS

#### ( GROUP F )

## 0. FOREWORD

**0.1** This Indian Standard ( Part VII ) was adopted by the Indian Standards Institution on 23 February 1981, after the draft finalized by the Illuminating Engineering Sectional Committee had been approved by the Electrotechnical Division Council.

**0.2** This part ( Part VII ) of the code is brought out so as to provide guide lines to the public lighting authorities for preparations of lighting installation scheme for Group 'F' roads.

**0.3** This standard ( Part VII ) has been prepared in pursuance of 0.4 of IS:1944 ( Parts I and II )-1970\*. Revision of IS:1944 ( Parts I and II )-1970\* is also under the consideration of the Committee and it is intended that Part I of the revised IS:1944 should cover general principles and subsequent parts should deal with the requirements for various groups of roads as per the standard classification. This standard will, therefore, after the revision of IS:1944 ( Parts I and II )-1970\* is completed, have the following parts:

- Part I General principles
- Part II Lighting for main roads ( Group A )
- Part III Lighting for secondary roads which do not require lighting up to Group A standard ( Group B )
- Part IV Lighting for residential and unclassified roads ( Group C )
- Part V Lighting for grade separated junctions, bridges and elevated roads ( Group D )
- Part VI Lighting for town and city centres and areas of civic importance ( Group E )

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\*Code of practice for lighting of public thoroughfares ( *first revision* ).

**Part VII Lighting for roads with special requirements ( Group F )**

**Part VIII Lighting in tunnels ( Group G )**

**0.4** In the preparation of this standard, assistance has been derived from the following documents:

- a) CIE 32 ( TC 4·6 )-1976 Lighting in situations requiring special treatment. International Commission on Illumination.
  - b) BS:CP-1004-Part 8-1967 Lighting for roads with special requirements. British Standards Institution.
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## **1. SCOPE**

**1.1** This part of the code deals with functions, appearance and design requirements of Group F road lighting.

**1.2** It includes special requirements for road lighting for roads in vicinity of aerodromes, railways, docks and navigable waterways, additional to the general requirements of other parts of the code.

## **2. TERMINOLOGY**

**2.1** For the purpose of this code, terms provided in IS:1944 ( Parts I and II )-1970\* and those provided in IS:1885 ( Part XVI/Sec 2 )-1968† shall apply.

## **3. ROAD LIGHTING IN THE VICINITY OF AERODROME**

### **3.1 General Requirements**

**3.1.1** Where a proposed road lighting scheme is within 5 km of the boundary of an aerodrome it is essential that appropriate aviation authority is consulted regarding any restrictions and precautions to be observed that may be necessary.

**3.1.2** The aviation authority may have a specific interest in the pattern of the layout, the mounting height, the colour and intensity, distribution of light emitted above the horizontal so that lighting installation does not present the danger to the air navigation. The following points should, therefore, be kept in view while designing lighting scheme in the vicinity of the aerodromes:

- a) The light provided in the vicinity of an aerodrome shall be properly screened so as to avoid any glare which may otherwise endanger safety of an aircraft arriving and departing from an aerodrome.

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\*Code of practice for lighting of public thoroughfares ( *first revision* ).

†Electrotechnical vocabulary: Part XVI Lighting, Section 2 General illumination lighting fittings and lighting for traffic and signalling.



- b) Lights mounted on the electric poles/pylons shall not cause an obstruction to the arriving and departing aircraft from an aerodrome in terms of obstacle limitation specified by the airport authorities.
- c) It is particularly important to ensure that lighting of road cannot ever be confused with the ground lighting of the flight paths by the pilots.

#### **4. ROAD LIGHTING IN VICINITY OF RAILWAYS, DOCKS AND NAVIGABLE WATERWAYS**

**4.1 Introduction** — The lighting for roads in the vicinity of railways, docks and navigable waterways because of the colour of the light source may interfere with the proper recognition of signal system. It is essential that this is avoided, but local conditions vary so widely that it is not possible to lay down any rigid code applicable to all circumstances.

The following requirements are likely to apply in all places where roads are so located that their lighting installation may affect the operation of railways, docks and navigable waterways.

#### **4.2 Requirements**

**4.2.1 Consultations** — It is essential that prior consultation is made with the appropriate authorities regarding any special provision that may be necessary. These provisions should be met in a way that is mutually acceptable so that they may be incorporated at the design stage.

**4.2.2 Colour** — Where any form of road lighting is employed there is a risk of confusion with signal light. This may necessitate careful selection of light source, siting of luminaires or the use of appropriate screened luminaire at certain points and heights.

**4.2.3 Glare and Masking** — The position of individual light source on the road may fall in line with signal lights and even when fairly remote may mask them or make them difficult to recognize or hamper the vision because of glare. If these cannot be avoided by re-siting, it may be necessary to employ screening to obviate the interference even though the colour of the light source is not objectionable.

**4.2.4 Screening** — In all cases where screening of a light source is required this should preferably be achieved by means of properly designed luminaires and not by addition of unsightly screens to normal luminaire.

**4.2.5 Siting** — If the road is bordered by water (lake river or canal) and if the lighting is single sided, it is recommended that the columns be sited if possible, on the waterside.

**INDIAN STANDARDS**  
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**IS:**

- 1777-1978 Industrial lighting fittings with metal reflectors ( *first revision* )
- 1885 ( Part XVI/Sec 1 )-1968 Electrotechnical vocabulary: Part XVI Lighting, Section 1  
General aspects
- 1885 ( Part XVI/Sec 2 )-1968 Electrotechnical vocabulary: Part XVI Lighting, Section 2  
General illumination lighting fittings and lighting for traffic and signalling
- 1913 ( Part I )-1978 General and safety requirements for luminaires: Part I Tubular  
fluorescent lamps ( *second revision* )
- 1944 ( Parts I and II )-1970 Code of practice for lighting of public thoroughfares ( *first  
revision* )
- 1947-1960 Flood lights ( *first revision* )
- 2149-1970 Luminaires for street lighting ( *first revision* )
- 2206 ( Part I )-1962 Flameproof electric lighting fittings: Part I Well-glass and  
bulkhead types
- 2206 (Part II)-1976 Flameproof electric lighting fittings: Part II Fittings using glass tubes
- 2493-1963 Well-glass lighting fittings for use underground in mines ( non-flameproof  
type )
- 2672-1966 Code of practice for library lighting
- 3287-1965 Industrial lighting fittings with plastic reflectors
- 3528-1966 Waterproof electric lighting fittings
- 3553-1966 Watertight electric lighting fittings
- 3646 ( Part I )-1966 Code of practice for interior illumination: Part I Principles of  
good lighting and aspects of design
- 3646 ( Part II )-1966 Code of practice for interior illumination: Part II Schedule for  
values of illumination and glare index
- 3646 ( Part III )-1968 Code of practice for interior illumination: Part III Calculation  
of coefficients of utilization by the BZ method
- 4012-1967 Dust-proof electric lighting fittings
- 4013-1967 Dust-tight electric lighting fittings
- 4347-1967 Code of practice for hospital lighting
- 5077-1969 Decorative lighting outfits
- 6585-1972 Screwless terminal and electrical connections for lighting fittings
- 6665-1972 Code of practice for industrial lighting
- 7537-1974 Road traffic signals
- 7569-1975 Cast acrylic sheets for use in luminaires
- 7678-1975 Method of photometric testing of incandescent type luminaires for general  
lighting service
- 7785 ( Part I )-1975 Elevated type aerodrome lighting fittings: Part I General  
requirements
- 7785 ( Part II )-1976 Elevated type aerodrome lighting fittings: Part II Fixed focus  
high intensity bi-directional runway edge lighting fittings
- 7785 ( Part III )-1976 Elevated type aerodrome lighting fittings: Part III Low intensity  
runway edge lighting fittings
- 8030-1976 Luminaires for hospitals
- 8224-1976 Electric lighting fittings for division 2 areas
- 9583-1981 Emergency lighting units

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Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002

Telephones : 3 31 01 31, 3 31 13 75

Telegrams : Manaksanstha  
( Common to all Offices )

## Regional Offices :

Telephone

\*Western ; Manakalaya, E9 MIDC, Marol, Andheri ( East ) BOMBAY 400093 6 32 92 95

†Eastern : 1/14 C. I. T. Scheme VII M, V. I. P. Road, Maniktola, CALCUTTA 700054 36 24 99

Northern : SCO 445-446, Sector 35-C CHANDIGARH 160036 { 2 18 43  
3 16 41

Southern : C. I. T. Campus, MADRAS 600113 { 41 24 42  
41 25 19  
41 29 16

## Branch Offices :

Pushpak, Nurmohamed Shaikh Marg, Khanpur, AHMADABAD 380001 { 2 63 48  
2 63 49

'F' Block, Unity Bldg, Narasimharaja Square, BANGALORE 560002 22 48 05

Gangotri Complex, 5th Floor, Bhadbhada Road, T. T. Nagar, BHOPAL 462003 6 27 16

Plot No. 82/83, Lewis Road, BHUBANESHWAR 751002 5 36 27

53/5 Ward No. 29, R. G. Barua Road, 5th Byelane, GUWAHATI 781003 —

5-8-56C L. N. Gupta Marg, (Nampally Station Road), HYDERABAD 500001 22 10 83

R14 Yudhister Marg, C Scheme, JAIPUR 302005 { 6 34 71  
6 98 32

117/418B Sarvodaya Nagar, KANPUR 208005 { 21 68 76  
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## Inspection Office ( With Sale Point ):

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