



In this chapter you can check which values for rated illuminance, light colour, colour rendering and the level of glare limitation are recommended for the most diverse lighting situations and visual tasks. [A-J] [K-R] [S-U] [V-Z]

Please, look on the left in the content for a fitting or similar word description.

#### Standard Values for Agriculture



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em [lx]	F	R	G
Loading and operating machines and conveyors Stables and sheds	200	ww, nw	2,3	2
Poultry and small animals	50	ww, nw	2,3	2
Cows, horses	100	ww, nw	2,3	2
Sick animals and calving stalls	200	ww, nw	2,3	3
Feed preparation, milk parlours, wash points	100	ww, nw	2	2

#### Standard Values for Automotive Engineering



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em [lx]	F	R	G
Bodyshop-assembly	500	ww, nw, tw	3	2
Bodyshop-surface treatment	500	ww, nw, tw	3	2
Paintshop-spray booth	1000	ww, nw, tw	3	-
Paintshop-rubbing down	750	ww, nw, tw	3	1
Paintshop-touching up	1000	ww, nw, tw	3	1
Upholstery shop	500	ww, nw, tw	3	2
Final assembly	500	ww, nw, tw	3	2
Final inspection	750	ww, nw, tw	3	1

#### Standard Values for the Cement, Ceramics and Glass Industries



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em [lx]	F	R	G
Workstations and areas at furnaces, mixers, or grinders in brickworks	200	ww, nw	3	3
Enamelling, rolling, pressing, moulding simple parts, glazing, glass-blowing	300	ww, nw	3	2
Glass grinding, etching, polishing, moulding precision parts, glass instrument manufacture	500	ww, nw	3	1
Art work	500	ww, nw	2A	1
Cutting lenses, cut glass	750	ww, nw	2A	1
Hand cutting and engraving, medium accuracy work, precision working	1000	ww, nw, tw	2A	1

#### Standard Values for Warehouses and Stores



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em [lx]	F	R	G
Store room aisles and passages	50	ww, nw	3	3
Warehouses with uniform or bulky items	50	ww, nw	3	3
Warehouses with various items and search requirements	100	ww, nw	3	3
Warehouses with reading requirements	200	ww, nw	3	2

#### Standard Values for Dairies



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em [lx]	F	R	G
Heating area, refrigeration plant	200	ww, nw	2	2
Pasteurisation, bottle sorting, weighing room	300	ww, nw	2	2
Inspection zone, washer, filling inspection point, laboratory	750	ww, nw	1	1

#### Standard Values for Electrical Engineering



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em [lx]	F	R	G
Cable and wire manufacture, coil coating and impregnation, plant assembly, simple assembly work, winding armatures and coils with thick wire	300	ww, nw	3	1
Assembling telephones and small machines, winding armatures and coils with medium wire	500 <sup>1</sup>	ww, nw, tw	3	1
Assembling precision equipment, radios and TV sets, winding fine wire coils, fuse manufacture, adjustment, checking and calibration	1000	ww, nw, tw	3	1
Precision assembly work, electronic components	1500	ww, nw, tw	2A	1

Standard Values for Exhibitions, Museums, Libraries



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em[lx]	F	R	G
General exhibition areas	300	ww, nw	1	1
Collections	300	ww, nw	1	1
Book department	300	ww, nw	1	1
Reading room	300	ww, nw	1	1
Reading desks	500	ww, nw	1	1

Standard Values for the Food and Tobacco Industry



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em[lx]	F	R	G
Workstations and areas in breweries, at the oast, for washing, barelling, cleaning, sifting, pealing, processing in canneries and chocolate plants, sugar refineries, for drying and fermenting raw tobacco, in fermenting cellars	200	ww, nw	2A	3
Sorting and washing, grinding, mixing, packing	300	nw	2A	2
Workstations and areas in abattoirs, butchers, dairies, mills, at flour bottoms	300	nw	2A	2
Cutting and sorting fruit and vegetables	300	nw	2A	1
Production plants for delicatessen, kitchens, cigar and cigarette manufacture	500	nw	2A	2
Checking jars and quality controls, garnishing, decorating, sorting	500	nw	2A	1
Color controls, laboratories	1000	ww, nw, tw	1A	1

Standard Values for Foundries



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em[lx]	F	R	G
Accessible underground conduits, conveyors, cellars, etc.	50	ww, nw	3	3
Platforms	100	ww, nw	3	2
Sand moulding	200	ww, nw	3	3
Dressing room	300	ww, nw	3	2
Furnace and mixer workstations	200	ww, nw	3	2
Casting bays	300	ww, nw	3	2
Knocking out	200	ww, nw	3	2
Machine moulding	200	ww, nw	3	2
Hand moulding	300	ww, nw	3	2
Core moulding	300	ww, nw	3	2
Model workshop	500	ww, nw	3	1
Diecasting plants	300	ww, nw	3	2

Standard Values for Hairdressing and Cosmetics



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em[lx]	F	R	G
Hairdressing	500	ww, nw, tw	1A	1
Cosmetics	750	ww, nw, tw	1A	1

Standard Values for High-Bay Warehouses



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em[lx]	F	R	G
Aisles	20	ww, nw	3	3
Operator's stand	200	ww, nw	2A	1
Shipping	200	ww, nw	3	2

Standard Values for Hospitals



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Ward				
Interiors / Activities	Em[lx]	F	R	G
Ambient lighting	100	ww	1	1
Reading light	200	ww	1	1
Examination lighting	300	ww	1	1
Night light, night observation lighting	approx. 5	ww	1	1

**Ward for neonates**

<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Ambient lighting	200	ww	1	1
Night observation lighting	20	ww	1	1
General examination and Treatment rooms	500	ww, nw	1	1

**Special examination and treatment rooms, endoscopic examination**

<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Preparation	500	-	1	1
Urology	50	ww, nw	1	1
Rectoscopy	50	ww, nw	1	1
Gynaecology	50	ww, nw	1	1

**Ophthalmic examination**

<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Ambient lighting	500	-	1	1
Refractometry, skiascopy	50	ww, nw	1	1
Ophthalmoscopy, ophthalmometry	50	ww, nw	1	1
Perimetry and adaptometry	5	ww, nw	1	1

**Radiography**

<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Ambient lighting	500	ww, nw	1	1
Workstation with display terminal	20	ww, nw	1	1

**Dental examination**

<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Ambient lighting	500	ww, nw	1	1
Illumination of the oral cavity	>8000	ww, nw	1	1
Illumination of the patient zone	1000	ww, nw	1	1

**Dermatological examination**

<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Ambient lighting	500	ww, nw	1	1

**Intensive care units**

<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Ambient lighting in the room	100	ww, nw	1	1
Ambient lighting at the bed	300	ww, nw	1	1
Examination lighting at the bed	1000	ww, nw	1	1
Night observation lighting	20	ww, nw	1	1

**Operating theaters**

<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Ambient lighting	1000	ww, nw	1	1
Operating field illumination	20.000 bis 100.000	ww, nw	1	1
Operating zone illumination	2000 (min. 1000 lx)	ww, nw	1	1

**Operating tractancillary rooms**

<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Ambient lighting for changing rooms	500	nw	1	1
Washrooms, rooms for operation preparations	500	nw	1	1
Rooms for operation termination	500	nw	1	1
Instrument store, sterile store	500	nw	1	1
Sterilisation room, recovery room	500	nw	1	1
Recovery illumination	100	ww, nw	1	-

**Therapy rooms, medicinal baths, physiotherapy, massage**

<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Ambient lighting	300	ww, nw	1	1

**Dialysis rooms**

<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Ambient lighting in the room	100	ww	1	1
Ambient lighting at the bed	500	ww	1	1

**Laboratories and pharmacies**

<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Ambient lighting	500	ww, nw	1	1
Color checks	1000	tw	1	1

**Stairs and corridors**

<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Wards by day	200	ww	2	1
Wards by night	50	ww	2	1
Operating tract by day	300	nw	2	1
Operating tract by night	100	nw	2	1

**Toilets and disposal rooms**

<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Washbasin, on the ward	100	ww	1	-
Toilets	200	ww	2	-
Work rooms	300	ww, nw	2	-

**Duty rooms**

<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>

Ambient lighting	300	ww	1	1
Demanding visual tasks	500	ww	1	1

#### Standard Values for the Hotel and Catering Trades



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em [lx]	F	R	G
Reception	200	ww, nw	2A	1
Kitchen	500	ww, nw	2A	2
Restaurants	200	nw	1B	-
Conference rooms	300	ww, nw	2A	1
Self-service facilities	300	ww, nw	1B	1

#### Standard Values for In-house Services



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em [lx]	F	R	G
Machine rooms	100	ww, nw	3	3
Energy supplies and distribution	100	ww, nw	3	3
Telex office, mail office	500	ww, nw	2A	1
Telephone exchange	300	ww, nw	2A	1

#### Standard Values for Interior Circulation Areas



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em [lx]	F	R	G
For personnel	50	ww, nw	3	3
For personnel and vehicles	100	ww, nw	3	3
Stairs, ramps, escalators	100	ww, nw	3	2
Loading bays	100	ww, nw	3	3
Automatic conveyors and belts in circulation areas	100	ww, nw	3	3

Plant vehicle entrances				
Räume / Tätigkeiten	Em [lx]	F	R	G
by day	2 x Em <sup>1</sup> (min. 400)	ww, nw	3	-
by night	0,5 x Em <sup>1</sup>	ww, nw	3	-

<sup>1</sup> pursuant to ASA 713, DIN 5035 and ÖNORM 1040

#### Standard Values for the Jewellery Industry, and Clock and Watch-making



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em [lx]	F	R	G
Jewellery manufacture	1000	ww	2A	1
Gemstone work	1500	ww, nw	1B	1
Optician's and watchmaker's workshops	1500	ww, nw	2A	1

#### Standard Values for Laundries and Dry-cleaners



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em [lx]	F	R	G
Washing	300	ww, nw	2A	2
Machine ironing	300	ww, nw	2A	1
Hand ironing	300	ww, nw	2A	1
Sorting	300	ww, nw	2A	1
Stain removal, inspection	1000	ww, nw	2A	1

#### Standard Values for the Leather Industry



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em [lx]	F	R	G
Workstations at vats and pits	200	ww, nw	3	3
Shaving, skiving, smoothing, drumming	300	ww, nw	2A	1
Saddlery, stitching, sewing, polishing, sorting, pressing, cutting, shoe production	500	ww, nw	2A	1
Dyeing	750	ww, nw	2A	1
Quality controls - medium standard	750	nw	1B	1
Quality controls - high standard	1000	nw, tw	1B	1
Quality controls - very high standard	1500	nw, tw	1B	1

## Standard Values for the Metalworking Industries



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em [lx]	F	R	G
Hammer-forging small part	200	ww, nw	3	2
Welding	300	ww, nw	3	2
Machining centers, automatic and semiautomatic machine plant	300	ww, nw	3	3
Rough and medium-accuracy machining, max. tolerance > 0.1 mm	300	ww, nw	3	1
Precision machining ,max. tolerance < 0.1 mm	500	ww, nw	3	1
Robot workstations	300	ww, nw	3	1
Marking, checking, measuring	750	ww, nw	3	1
Toolmaking, construction of jigs and fixtures, templates, precision engineering, precision assembly work	1000	ww, nw, tw	3	3
Cold rolling mills	200	ww, nw	3	2
Wire and tube drawing mills, cold strip production	300	ww, nw	3	2
Sheet metal working	300	ww, nw	3	2
Production of small tools and cutlery	500	ww, nw	3	1
Assembly - rough	200	ww, nw	3	2
Assembly - medium	300	ww, nw	3	1
Assembly - fine	500	ww, nw	3	1
Drop-forging	200	ww, nw	3	2

## Standard Values for Mills



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em [lx]	F	R	G
Cleaning	200	ww, nw	2	-
Sifting, grinding, bagging	300	ww, nw	2	3
Inspection	750	ww, nw	1	1

## Standard Values for Office Interiors



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em [lx]	F	R	G
Supplementary lighting for workstations near windows	300	ww, nw	2A	1
Offices	500	ww, nw	2A	1
Open-plan office - with high reflectance	750	ww, nw	2A	1
Open-plan offices - with medium reflectance	1000	ww, nw	2A	1
Technical drawing	750	ww, nw	2A	1
Meeting and conference rooms	300	ww, nw	2A	1
Reception areas	100	ww, nw	2A	1
Customer areas	200	ww, nw	2A	1
Data processing	500	ww, nw	2A	1

## Standard Values for Paper Manufacturing and the Graphic Trades



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em [lx]	F	R	G
Workstations at beaters, breaker vats, pulp mills	200	ww, nw	3	3
Paper-making, corrugating and cardboard machines	300	ww, nw	3	2
Bookbinding, wallpaper printing	300	ww, nw	2A	1
Cutting, gilding, embossing, machine printing	500	ww, nw, tw	2A	1
Hand printing, paper sorting	750	ww, nw, tw	2A	1
Retouching, lithography, hand and machine setting, overlaying	1000	ww, nw, tw	2A	1
Color controls for multi-color printing	1500	ww, nw, tw	1A	1
Task lighting for steel and copper engraving	2000	ww, nw, tw	2A	1

## Standard Values for the Plastics Processing Industry



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em [lx]	F	R	G
Injection moulding	500	ww, nw	3	2
Blowing	300	ww, nw	3	2
Moulding	300	ww, nw	3	2

## Standard Values for Power Plants



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Standard Values for Restrooms, Sanitary Areas and First-aid Points



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em[lx]	F	R	G
Canteens	200	ww, nw	2A	1
Staffrooms and restrooms	100	ww, nw	2A	1
Keep-fit rooms	300	ww, nw	2A	1
	100	ww, nw	2A	2
Washrooms	100	ww, nw	2A	2
Toilets	100	ww, nw	2A	2
Medical rooms, first-aid points	500	ww, nw	1A	1

Standard Values for Schools



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em[lx]	F	R	G
Classrooms - day classes	300	ww, nw	1	1
Classrooms - evening classes	500	ww, nw	1	1
Lecture halls, laboratories, drawing rooms	500	ww, nw	1	1
Interiors / Activities	Em[lx]	F	R	G
Workshops - Staff rooms	300	ww, nw	2	2
Circulation areas, corridors, stairs	100	ww, nw	2	1
Changing rooms, washrooms, showers	100	ww, nw	2	1
Gymnasia	200	ww, nw	2	1
Indoor swimming pools	200	ww, nw	2	1

Standard Values for Smelting Plants, Steel Works, Rolling Mills and Foundries



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Interiors / Activities	Em[lx]	F	R	G
Production plants - with automatic operation	50	ww, nw	3	3
Production plants - requiring some manual control	100	ww, nw	3	3
Production plant with permanently manned workstations	200	ww, nw	3	2
Control, metering and monitoring points	300	ww, nw	2A	1
Quality controls and testing	500	ww, nw, tw	2A	1

Standard Values for Sports Premises



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

Basketball, handball, volleyball, football, gymnastics, ice hockey, ice skating, roller skating, cycling				
Interiors / Activities	Em[lx]	F	R	G
Training, recreational sport	200	ww, nw	2	2
Competitions, competitive sport	500	ww, nw	2	2

Billiards				
Interiors / Activities	Em[lx]	F	R	G
Recreational games	200	ww, nw	2	1
Competition games	500	ww, nw	2	1
Ambient lighting	100	ww, nw	2	1

Bowling, skittles				
Interiors / Activities	Em[lx]	F	R	G
Run-up	200	ww, nw	2	1
Alley	100	ww, nw	2	1
Skittle board vertical	300	ww, nw	2	1

Fencing				
Interiors / Activities	Em[lx]	F	R	G
Recreational sport	300	ww, nw	2	2
Competitive sport	500	ww, nw	2	2

Wrestling, judo				

<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Training and amateurs	200	ww, nw	2	2
Professional matches	500	ww, nw, tw	2	2
International meetings	1000	ww, nw, tw	2	2

<b>Table-tennis</b>				
<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Recreational sport	200	ww, nw	2	2
Competitive sport	500	ww, nw	2	2
International meetings	1000	ww, nw	2	2

<b>Tennis</b>				
<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Recreational sport	200	ww, nw, tw	2	2
Competitive sport	500	ww, nw, tw	2	2
International meetings	750	ww, nw, tw	2	2

<b>Swimming</b>				
<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Recreational sport	200	ww, nw	2	2
Competitive sport, water-polo	300	ww, nw	2	2
Diving	500	ww, nw	2	2
Underwater illumination [lm/m <sup>2</sup> ]	1000	ww, nw	2	-

<b>Indoor riding</b>				
<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Riding	100	ww, nw	2	2
Jumping, dressage	200 - 500	ww, nw	2	2

<b>Boxing</b>				
<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Training	300	ww, nw, tw	2	2
Amateur bouts	500	ww, nw, tw	2	2
Professional meetings	1500	ww, nw, tw	2	2

<b>International meetings</b>				
<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Small arenas	2000	ww, nw, tw	2	2
Big arenas	5000	ww, nw, tw	2	2
Seating areas during the fight	20	ww, nw	2	2
Seating areas before/after the fight	50	ww, nw	2	2

Standard Values for Surface Treatment



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Galvanising	300	ww, nw, tw	3	2
Priming, painting, varnishing	500	ww, nw, tw	3	1
Quality controls	750	ww, nw, tw	2A	1

Standard Values for the Textile Industry



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Workstations and areas at baths baths and bale openers	200	ww, nw	3	3
Carding, washing, ironing, willowing, drawing, combing, sizing, card cutting, slubbing, jute and hemp spinning	300	ww, nw	3	2
Dyeing	300	ww, nw, tw	2A	2
Warping, dressing, spinning, spooling, winding, twisting, braiding, knitting, weaving	500	ww, nw, tw	2A	1
Trace combing, mending, sewing, printing	750	ww, nw, tw	2A	1
Millinery	750	ww, nw, tw	2A	1
Trimming, burling	1000	nw, tw	2A	1
Quality controls, color controls	1000	ww, nw, tw	1A	1
Invisible mending	1500	nw, tw	2A	1

Standard Values for Theaters, Concert Halls and Cinemas



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Lobby, foyer, cloakroom	200	ww	1	2
Ticket office	300	ww	1	2
Rehearsal room, changing room	200	ww	2	2
Auditorium during breaks	100	ww	1	2
Music stands	500	ww	1	2

Standard Values for the Timber and Woodworking Industries



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Steaming pit	100	ww, nw	3	3
Saw gate	200	ww, nw	3	2
Planing, gluing, assembly	300	ww, nw	2A	2
Selection and inspection of veneers, marquetry	500	ww, nw	1A	1
Pattern making, polishing, varnishing	500	ww, nw	2A	1
Woodworking machines: turning, shaping, surfacing, rebating, mortising, cutting, sawing, milling	500	ww, nw	2A	1
Wood processing	500	ww, nw	2A	1
Quality controls	750	nw, tw	1A	1

Standard Values for the Trades



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Derusting and painting steel metals	200	ww, nw	3	2
Preassembly of heating and airconditioning systems	200	ww, nw	3	2
Locksmithing, plumbing	300	ww, nw	3	2
Automobile repairs and servicing	300	ww, nw	3	2
Carpentry	500	ww, nw	3	2
Repair shops for machinery	500	ww, nw	3	1
Radio and TV repair shops	500	ww, nw	2A	1

Standard Values for Wholesale and Retail



The standard values for service [illuminance](#) (Em [Lux]), [color appearance](#) (F), [color rendering group](#) (R), and [direct glare restriction class](#) (G) are listed in the table for the various types of interior or activity. The ratings for service illuminance, color rendering group, and direct glare restriction class represent minimum values to be met by the lighting system.

<b>Interiors / Activities</b>	<b>Em[lx]</b>	<b>F</b>	<b>R</b>	<b>G</b>
Sales areas	300	ww, nw	2A	1
POS workstations	500	ww, nw	2A	1