

# CPC COOPERATIVE PATENT CLASSIFICATION

## F MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING (NOTE omitted)

### LIGHTING; HEATING

#### F21 LIGHTING (electric aspects or elements, [see section H](#), e.g. electric light sources [H01J](#), [H01K](#), [H05B](#)) (NOTE omitted)

#### F21S NON-PORTABLE LIGHTING DEVICES; SYSTEMS THEREOF

##### NOTES

1. This subclass covers devices or systems intended for fixed installation, e.g. vehicle lighting, or for use at a permanent location, e.g. free-standing floor- or table-lamps.
2. This subclass does not cover devices or systems specially adapted for transportation, which are covered by subclass [F21L](#).
3. Non-electric lighting devices or systems are classified in groups [F21S 11/00](#) - [F21S 15/00](#) only if a special adaptation related to the use of a non-electric light source is of interest.

##### Electric lighting

**2/00** Systems of lighting devices, not provided for in main groups [F21S 4/00](#) - [F21S 10/00](#) or [F21S 19/00](#), e.g. of modular construction

##### WARNING

Group [F21S 2/00](#) is impacted by reclassification into groups [F21K 9/00](#), [F21K 9/20](#), [F21K 9/23](#), [F21K 9/232](#), [F21K 9/233](#), [F21K 9/235](#), [F21K 9/237](#), [F21K 9/238](#), [F21K 9/27](#), [F21K 9/272](#), [F21K 9/275](#), [F21K 9/278](#), [F21K 9/60](#), [F21K 9/61](#), [F21K 9/62](#), [F21K 9/64](#), [F21K 9/65](#), [F21K 9/66](#), [F21K 9/68](#), [F21K 9/69](#) and [F21K 9/90](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2/005 . {of modular construction}

**4/00** Lighting devices or systems using a string or strip of light sources

4/10 . with light sources attached to loose electric cables, e.g. Christmas tree lights

4/15 . . the cables forming a grid, net or web structure

4/20 . with light sources held by or within elongate supports

4/22 . . flexible or deformable, e.g. into a curved shape

4/24 . . . of ribbon or tape form, e.g. LED tapes

4/26 . . . of rope form, e.g. LED lighting ropes, or of tubular form

4/28 . . rigid, e.g. LED bars

**6/00** Lighting devices intended to be free-standing ([F21S 9/00](#), [F21S 10/00](#), {[F21S 13/12](#)} take precedence {lighting devices specially adapted to be transported from place to place, e.g. lighting devices carried on wheeled supports [F21L](#); details of supports for lighting devices [F21V 21/00](#)})

6/001 . {being candle-shaped (with varying lighting effect of simulating flames [F21S 10/04](#); string of light sources [F21S 4/00](#))}

6/002 . {Table lamps, e.g. for ambient lighting}

6/003 . . {for task lighting, e.g. for reading or desk work, e.g. angle poise lamps}

6/004 . {with a lamp housing in direct contact with the floor or ground}

6/005 . {with a lamp housing maintained at a distance from the floor or ground via a support, e.g. standing lamp for ambient lighting}

6/006 . . {for direct lighting only, e.g. task lighting}

6/007 . . {for indirect lighting only, e.g. torchiere with reflector bowl directed towards ceiling}

6/008 . . {with a combination of direct and indirect lighting}

**8/00** Lighting devices intended for fixed installation ([F21S 9/00](#), [F21S 10/00](#) take precedence; using a string or strip of light sources [F21S 4/00](#))

8/003 . {Searchlights, i.e. outdoor lighting device producing powerful beam of parallel rays, e.g. for military or attraction purposes (searchlights mounted on a vehicle [B60Q 1/24](#))}

8/006 . {Solar simulators, e.g. for testing photovoltaic panels}

8/02 . of recess-mounted type, e.g. downlighters ([F21S 8/10](#) takes precedence; details of recessed bases [F21V 21/04](#))

8/022 . . {intended to be recessed in a floor or like ground surface, e.g. pavement or false floor}

8/024 . . {intended to be recessed in a wall or like vertical structure, e.g. building facade}

8/026 . . {intended to be recessed in a ceiling or like overhead structure, e.g. suspended ceiling}

8/028 . . {being retractable, i.e. having two fixed positions, one recessed, e.g. in a wall, floor or ceiling, and one extended when in use}

8/03 . {of surface-mounted type ([F21S 8/02](#), [F21S 8/04](#) take precedence; details of wall or floor bases [F21V 21/02](#))}

8/031 . . {the device consisting essentially only of a light source holder with an exposed light source, e.g. a fluorescent tube}

- 8/032 . . {the surface being a floor or like ground surface, e.g. pavement}
- 8/033 . . {the surface being a wall or like vertical structure, e.g. building facade}
- 8/035 . . . {by means of plugging into a wall outlet, e.g. night light}
- 8/036 . . . {by means of a rigid support, e.g. bracket or arm}
- 8/037 . . . {for mounting in a corner, i.e. between adjacent walls or wall and ceiling}
- 8/038 . . {intended to be mounted on a light track (suspended from a light track [F21S 8/066](#); details of supporting elements displaceable along a guiding element [F21V 21/34](#))}
- 8/04 . . intended only for mounting on a ceiling or the like overhead structures ([F21S 8/02](#) takes precedence; {details of ceiling bases [F21V 21/03](#)})
- 8/043 . . {mounted by means of a rigid support, e.g. bracket or arm}
- 8/046 . . {having multiple lighting devices, e.g. connected to a common ceiling base}
- 8/06 . . by suspension
- 8/061 . . . {with a non-rigid pendant, i.e. a cable, wire or chain}
- 8/063 . . . {with a rigid pendant, i.e. a pipe or rod}
- 8/065 . . . {multi-branched, e.g. a chandelier}
- 8/066 . . . {from a light track (details of supporting elements displaceable along a guiding element [F21V 21/34](#))}
- 8/068 . . . {from a stretched wire}
- 8/08 . . with a standard ([F21S 6/00](#) takes precedence)}
- 8/081 . . {of low-built type, e.g. landscape light}
- 8/083 . . . {of bollard type, i.e. with lighting fixture integrated into the standard or mounted on top of it and having substantially the same diameter}
- 8/085 . . {of high-built type, e.g. street light}
- 8/086 . . . {with lighting device attached sideways of the standard, e.g. for roads and highways}
- 8/088 . . . {with lighting device mounted on top of the standard, e.g. for pedestrian zones}
- 8/10 . . specially adapted for vehicles

**WARNING**

This group is no longer used for the classification of new documents as from January 1st, 2012. The backlog of this group is being continuously reclassified to [F21S 48/00](#) and subgroups

- 8/12 . . providing single shaped beams or asymmetric beams, e.g. for penetrating fog or for preventing glare

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**9/00 Lighting devices with a built-in power supply; Systems employing lighting devices with a built-in power supply**

- 9/02 . . the power supply being a battery or accumulator
- 9/022 . . {Emergency lighting devices}

- 9/024 . . . {using a supplementary light source for emergency lighting}
- 9/026 . . {rechargeable by using wind power, e.g. using wind turbines}
- 9/028 . . {rechargeable by using hydropower, e.g. using water powered turbines}
- 9/03 . . rechargeable by exposure to light
- 9/032 . . . {the solar unit being separate from the lighting unit}
- 9/035 . . . {the solar unit being integrated within the support for the lighting unit, e.g. within or on a pole}
- 9/037 . . . {the solar unit and the lighting unit being located within or on the same housing}
- 9/04 . . the power supply being a generator
- 9/043 . . {driven by wind power, e.g. by wind turbines}
- 9/046 . . {driven by hydropower, e.g. by water powered turbines}

**10/00 Lighting devices or systems producing a varying lighting effect**

- 10/002 . . {using liquids, e.g. water ([F21W 2121/02](#) takes precedence)}
- 10/005 . . {using light guides (light guides specially adapted for lighting devices [G02B 6/0001](#))}
- 10/007 . . {using rotating transparent or colored disks, e.g. gobo wheels}
- 10/02 . . changing colors ([F21S 10/002](#) - [F21S 10/007](#), [F21S 10/04](#) take precedence)}
- 10/023 . . {by selectively switching fixed light sources}
- 10/026 . . {by movement of parts, e.g. by movement of reflectors or light sources ([F21S 10/007](#) takes precedence)}
- 10/04 . . simulating flames
- 10/043 . . {by selectively switching fixed light sources}
- 10/046 . . {by movement of parts, e.g. by movement of reflectors or light sources}
- 10/06 . . flashing, e.g. with rotating reflector or light source ({[signalling lighting devices mounted on vehicles B60Q 1/26](#)})
- 10/063 . . {for providing a rotating light effect}
- 10/066 . . . {by selectively switching fixed light sources}

**Non-electric lighting**

- 11/00 Non-electric lighting devices or systems using daylight** ({[roofs with sky-light opening E04D 13/03](#); [sun blinds for windows with means for redirecting light onto ceiling of a room E06B 9/00](#); hybrid lighting devices combining artificial and natural light [F21S 19/00](#); solar heat collectors [F24J 2/00](#); solar cells or solar cell modules [H01L 31/00](#)})

- 11/002 . . {characterised by the means for collecting or concentrating the sunlight, e.g. parabolic reflectors or Fresnel lenses}
- 11/005 . . {with tracking means for following the position of the sun}
- 11/007 . . {characterised by the means for transmitting light into the interior of a building}

**13/00 Non-electric lighting devices or systems employing a point-like light source; Non-electric lighting devices or systems employing a light source of unspecified shape**

- 13/02 . . Devices intended to be fixed, e.g. ceiling lamp, wall lamp

13/04	. . with a pendant	48/1195	. . . . {Combination of light sources of different types or shapes}
13/06	. . . multi-branched, e.g. chandelier	48/12	. . {characterised by refractors, transparent cover plates or filters}
13/08	. . with suspension from a stretched wire	48/1208	. . . {Attachment of refractors, transparent cover plates or filters ( <a href="#">F21S 48/1721</a> takes precedence)}
13/10	. . with a standard, e.g. street lamp	48/1216	. . . . {specially adapted to projection lenses}
13/12	. Devices intended to be free-standing, e.g. table lamp, floor lamp	48/1225	. . . {Type of refractor, transparent cover plates or filters}
13/14	. Lighting systems	48/1233	. . . . {Cover glass}
<b>15/00</b>	<b>Non-electric lighting devices or systems employing light sources not covered by main groups <a href="#">F21S 11/00</a>, <a href="#">F21S 13/00</a> or <a href="#">F21S 19/00</a></b>	48/1241	. . . . {Light guides ( <a href="#">light guides per se G02B 6/0001</a> )}
<b>2017/00</b>	<b>Details solely applicable to the devices covered by groups <a href="#">F21S 13/00</a> and <a href="#">F21S 15/00</a></b>	48/125	. . . . {Projection lenses}
2017/02	. Fastening and lifting of the lamp-glass	48/1258	. . . . . {Lenses with a circular or truncated circular outline, when seen from the front}
<b>19/00</b>	<b>Lighting devices or systems employing combinations of electric and non-electric light sources; Replacing or exchanging electric light sources with non-electric light sources or vice versa</b>	48/1266	. . . . . {Elongated lenses}
19/005	. {Combining sunlight and electric light sources for indoor illumination}	48/1275	. . . . . {Composite lenses; Lenses with a patch like shape}
<b>48/00</b>	<b>{Lighting devices or systems specially adapted for vehicles (arrangements or adaptations for ships or waterborne vessels <a href="#">B63B 45/00</a>)}</b>	48/1283	. . . . . {Lens surfaces, e.g. coatings, surface structures}
48/10	. {Headlamps}	48/1291	. . . . . {Thick lenses for providing the final automotive light distribution}
48/11	. . {characterised by the light source}	48/13	. . {characterised by reflectors}
48/1104	. . . {Attachment of light sources; Lamp holders; Terminals or connectors therefor ( <a href="#">F21S 48/1742</a> takes precedence)}	48/1305	. . . {Attachment of reflectors ( <a href="#">F21S 48/1757</a> takes precedence)}
48/1109	. . . . {Details of lamp holders, terminals or connectors ( <a href="#">mounting of a ballast for a high intensity discharge lamp on the housing wall of a headlamp B60Q</a> )}	48/1311	. . . . {specially adapted to extension reflectors}
48/1113	. . . . {Bayonet attachments}	48/1317	. . . {Optical design}
48/1118	. . . . {Wire spring attachments}	48/1323	. . . . {the reflector being a surface of revolution or a planar surface, e.g. truncated}
48/1122	. . . . {Snap-fit attachments}	48/1329	. . . . {the reflector using total internal reflection}
48/1127	. . . {Type of emitted light}	48/1335	. . . . {the reflector having two perpendicular cross sections having regular geometrical curves of a distinct nature}
48/1131	. . . . {Colored light}	48/1341	. . . . {the reflector consisting of complete annular areas}
48/1136	. . . . {Ultraviolet [UV] or infrared [IR] light}	48/1347	. . . . . {with continuity at the junction between adjacent areas}
48/114	. . . . {Polarized light}	48/1352	. . . . . {with discontinuity at the junction between adjacent areas}
48/1145	. . . {Type of light source}	48/1358	. . . . {the reflector consisting of patch like sectors}
48/115	. . . . {Light emitting diodes (LEDs)}	48/1364	. . . . . {with continuity at the junction between adjacent areas}
48/1154	. . . . . {the main emission direction of the LED being parallel to the optical axis of the headlamp}	48/137	. . . . . {with discontinuity at the junction between adjacent areas}
48/1159	. . . . . {the main emission direction of the LED being angled to the optical axis of the headlamp}	48/1376	. . . . {the reflector having a structured surface, e.g. with facets or corrugations}
48/1163	. . . . . {Surface emitters, e.g. OLEDs}	48/1382	. . . . {the reflector having surface portions added to its general concavity}
48/1168	. . . . {Incandescent light sources, e.g. filament or halogen lamps}	48/1388	. . . . {Combination of two or more reflectors}
48/1172	. . . . . {having two or more filaments}	48/1394	. . . {Material, surface treatment or coating of the reflector}
48/1177	. . . . . {characterised by the shape of the filament}	48/14	. . {characterised by screens, non-reflecting members, light-shielding members or fixed shades}
48/1181	. . . . . {having a filament being arranged transversally to the optical axis of the headlamp}	48/142	. . . {Attachment thereof ( <a href="#">F21S 48/1768</a> takes precedence)}
48/1186	. . . . {High intensity discharge [HID] light source}	48/145	. . . {Details of the shape of screens, non-reflecting members, light-shielding members or fixed shades}
48/119	. . . . {Fluorescent, elongated light source}	48/147	. . . . {Hoods or cap-shaped}

48/15	. . {characterised by aesthetical components or components other than light sources, reflectors, refractors or screens, e.g. partition walls, covers, decorative trims}	48/225	. . . . . {Light guides of complex shape or comprising a portion having a complex shape}
48/155	. . . {Attachment thereof}	<b>NOTE</b>	
48/17	. . {characterised by a variable light distribution}	additional classification should be given in the groups characterising the shape of the light guides	
48/1705	. . . {Light distributions being switched}	48/2256	. . . . . {characterised by the emission area}
48/171	. . . . {between right and left traffic side}	48/2262	. . . . . {the light guide emitting on its extremity}
48/1715	. . . {by acting on refractors, filters or transparent cover plates}	48/2268	. . . . . {the light guide emitting on its surface}
48/1721	. . . . {by moving refractors, filters or transparent cover plates}	48/2275	. . . . . {characterised by the number of light sources coupled into the light guide}
48/1726	. . . . {by changing the light transmissivity of the refractors, filters or transparent cover plates}	48/2281	. . . . . {Multiple light sources}
48/1731	. . . . . {by electro-optic means, e.g. liquid crystal or electrochromic devices}	48/2287	. . . . . {Single light source}
48/1736	. . . {by acting on light sources}	48/2293	. . . . . {the light guide being used to transport light from a remote light source, e.g. from light generators}
48/1742	. . . . {by moving light sources}	48/23	. . {characterised by reflectors}
48/1747	. . . . {by switching light sources ( <a href="#">F21S 48/1168</a> takes precedence)}	48/232	. . . {Attachment thereof}
48/1752	. . . {by acting on reflectors}	48/234	. . . {Optical design thereof}
48/1757	. . . . {by moving reflectors}	48/236	. . . . {using total internal reflection}
48/1763	. . . {by acting on screens}	48/238	. . . {Materials thereof, e.g. coatings}
48/1768	. . . . {by moving screens}	48/24	. . {characterised by the combination of reflectors and refractors}
48/1773	. . . . . {Blades, i.e. screens moving in a vertical plane}	48/25	. . {characterised by aesthetical components or components other than light sources, reflectors, refractors, e.g. partition walls, covers or decorative trims}
48/1778	. . . . . {Flaps, i.e. screens pivoting around one of its edges}	48/255	. . . {Attachment thereof}
48/1784	. . . . . {Shields, i.e. screens not creating an image meant to be projected, e.g. shielding a part of the light source or a part of an additional optical element}	48/30	. {Arrangements dedicated to purposes other than light emission or distribution}
48/1789	. . . . . {Rotating screens, i.e. screens rotating around a vertical axis}	48/31	. . {Protection of the lighting devices}
48/1794	. . . . . {Shafts, i.e. screens being a rotating shaft}	48/32	. . {Cooling of the lighting devices}
48/20	. {Signal lamps, e.g. brake lamps or turn signal lamps}	48/321	. . . {Attachment of the means for cooling; Cooling arrangements}
48/21	. . {characterised by the light source}	48/323	. . . {Forced cooling}
48/211	. . . {Attachment of light sources; Lamp holders, terminals or connectors therefor}	48/325	. . . . {using air or other gas}
48/212	. . . . {Details of lamp holders, terminals or connectors}	48/326	. . . . {using liquid}
48/214	. . . {Type of the light source}	48/328	. . . {Passive cooling}
48/215	. . . . {Light emitting diodes (LEDs)}	48/33	. . {Waterproofing}
48/217	. . . . . {Surface emitters, e.g. OLEDs}	48/332	. . . {Provisions for ventilation or drainage}
48/218	. . . . {Strips of light sources}	48/335	. . . . {specifically adapted for headlamps}
48/22	. . {characterised by refractors, filters or transparent cover plates}	48/337	. . . . {specifically adapted for signal lamps}
48/2206	. . . {Attachment thereof}	48/34	. . {Heating of the lighting devices, e.g. for de-fogging}
48/2212	. . . {Type of refractors, filters or transparent cover plates}		
48/2218	. . . . {Filters}		
48/2225	. . . . {Light guides ( <a href="#">light guides per se G02B 6/0001</a> )}		
48/2231	. . . . . {characterised by the shape of the light guide}		
48/2237	. . . . . {Bar or rod-like light guides}		
48/2243	. . . . . {Plate-like light guides}		