

**CPC****COOPERATIVE PATENT CLASSIFICATION****F21S****NON-PORTABLE LIGHTING DEVICES OR SYSTEMS THEREOF**([burners F23D](#))**NOTE**

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](#) to [F21S 15/00](#) only if a special adaptation related to the use of a non-electric light source is of interest.

**Guidance heading:** Electric lighting

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

F21S 2/005 . {of modular construction}

**F21S 4/00** **Lighting devices or systems using a string or strip of light sources**

F21S 4/001 . {using a string of light sources, i.e. lighting devices or systems where the light sources are supported by loose electric cables, e.g. Christmas tree lights}

F21S 4/002 .. {the strings forming a grid, net or web structure}

F21S 4/003 . {using a strip of light sources, i.e. lighting devices or systems where the light sources are supported on a linear support}

F21S 4/005 .. {the lighting device being flexible or deformable, e.g. into a curved shape}

F21S 4/006 ... {the lighting device being a LED tape}

F21S 4/007 ... {the lighting device being a LED rope light}

F21S 4/008 .. {the lighting device being rigid or comprising an elongated rigid housing, e.g. LED bars}

**F21S 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](#)}

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

F21S 6/002 . {Table lamps, e.g. for ambient lighting}

- F21S 6/003 .. {for task lighting, e.g. for reading or desk work, e.g. angle poise lamps}
- F21S 6/004 . {with a lamp housing in direct contact with the floor or ground}
- F21S 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}
- F21S 6/006 .. {for direct lighting only, e.g. task lighting}
- F21S 6/007 .. {for indirect lighting only, e.g. torchiere with reflector bowl directed towards ceiling}
- F21S 6/008 .. {with a combination of direct and indirect lighting}

**F21S 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](#))

- F21S 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](#))}
- F21S 8/006 . {Solar simulators, e.g. for testing photovoltaic panels}
- F21S 8/02 . of recess-mounted type, e.g. downlighters([F21S 8/10](#) takes precedence; { details of recessed bases [F21V 21/04](#)})
- F21S 8/022 .. {intended to be recessed in a floor or like ground surface, e.g. pavement or false floor}
- F21S 8/024 .. {intended to be recessed in a wall or like vertical structure, e.g. building facade}
- F21S 8/026 .. {intended to be recessed in a ceiling or like overhead structure, e.g. suspended ceiling}
- F21S 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}
- F21S 8/03 . {of surface-mounted type([F21S 8/02](#) , [F21S 8/04](#) take precedence; details of wall or floor bases [F21V 21/02](#))}

**WARNING**

Group [F21S 8/03](#) does not correspond to former or future IPC groups.  
Correspondence CPC : IPC for this group is as following: - [F21S 8/03](#) :  
[F21S 8/00](#)

- F21S 8/031 .. {the device consisting essentially only of a light source holder with an exposed light source, e.g. a fluorescent tube}
- F21S 8/032 .. {the surface being a floor or like ground surface, e.g. pavement}
- F21S 8/033 .. {the surface being a wall or like vertical structure, e.g. building facade}
- F21S 8/035 ... {by means of plugging into a wall outlet, e.g. night light}
- F21S 8/036 ... {by means of a rigid support, e.g. bracket or arm}
- F21S 8/037 ... {for mounting in a corner, i.e. between adjacent walls or wall and ceiling}
- F21S 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](#))}

- F21S 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](#)})
- F21S 8/043 . . . {mounted by means of a rigid support, e.g. bracket or arm}
- F21S 8/046 . . . {having multiple lighting devices, e.g. connected to a common ceiling base}
- F21S 8/06 . . . by suspension
- F21S 8/061 . . . {with a non-rigid pendant, i.e. a cable, wire or chain}
- F21S 8/063 . . . {with a rigid pendant, i.e. a pipe or rod}
- F21S 8/065 . . . {multi-branched, e.g. a chandelier}
- F21S 8/066 . . . {from a light track( details of supporting elements displaceable along a guiding element [F21V 21/34](#))}
- F21S 8/068 . . . {from a stretched wire}
- F21S 8/08 . . . with a standard{( [F21S 6/00](#) takes precedence )}
- F21S 8/081 . . . {of low-built type, e.g. landscape light}
- F21S 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}
- F21S 8/085 . . . {of high-built type, e.g. street light}
- F21S 8/086 . . . {with lighting device attached sideways of the standard, e.g. for roads and highways}
- F21S 8/088 . . . {with lighting device mounted on top of the standard, e.g. for pedestrian zones}
- F21S 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

- F21S 8/12 . . . providing single shaped beams or asymmetric beams, e.g. for penetrating fog or for preventing glare

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## **F21S 9/00      Lighting devices with a built-in power supply; Systems employing lighting devices with a built-in power supply**

- F21S 9/02 . . . the power supply being a battery or accumulator
- F21S 9/022 . . . {Emergency lighting devices}
- F21S 9/024 . . . {using a supplementary light source for emergency lighting}
- F21S 9/026 . . . {rechargeable by using wind power, e.g. using wind turbines}

- F21S 9/028 . . {rechargeable by using hydropower, e.g. using water powered turbines}
- F21S 9/03 . . rechargeable by exposure to light
- F21S 9/032 . . . {the solar unit being separate from the lighting unit}
- F21S 9/035 . . . {the solar unit being integrated within the support for the lighting unit, e.g. within or on a pole}
- F21S 9/037 . . . {the solar unit and the lighting unit being located within or on the same housing}
- F21S 9/04 . the power supply being a generator
- F21S 9/043 . . {driven by wind power, e.g. by wind turbines}
- F21S 9/046 . . {driven by hydropower, e.g. by water powered turbines}

## **F21S 10/00 Lighting devices or systems producing a varying lighting effect**

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

## **Guidance heading: Non-electric lighting**

- F21S 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](#))}
- F21S 11/002 . {characterised by the means for collecting or concentrating the sunlight, e.g. parabolic reflectors or Fresnel lenses}
- F21S 11/005 . . {with tracking means for following the position of the sun}
- F21S 11/007 . {characterised by the means for transmitting light into the interior of a building}

**F21S 13/00**      **Non-electric lighting devices or systems employing a point-like light source( [candle holders F21V 35/00](#)); Non-electric lighting devices or systems employing a light source of unspecified shape**

- F21S 13/02      .    Devices intended to be fixed, e.g. ceiling lamp, wall lamp
- F21S 13/04      . .     with a pendant
- F21S 13/06      . . .     multi-branched, e.g. chandelier
- F21S 13/08      . .     with suspension from a stretched wire
- F21S 13/10      . .     with a standard, e.g. street lamp
  
- F21S 13/12      .    Devices intended to be free-standing, e.g. table lamp, floor lamp
  
- F21S 13/14      .    Lighting systems

**F21S 15/00**      **Non-electric lighting devices or systems employing light sources not covered by main groups [F21S 11/00](#) , [F21S 13/00](#) or [F21S 19/00](#)**

**F21S 2017/00**      **Details solely applicable to the devices covered by groups [F21S 13/00](#) and [F21S 15/00](#)**

- F21S 2017/02      .    Fastening and lifting of the lamp-glass

**F21S 19/00**      **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**

- F21S 19/005      .    {Combining sunlight and electric light sources for indoor illumination}

**F21S 48/00**      {Lighting devices or systems specially adapted for vehicles( [arrangements or adaptations for ships or waterborne vessels B63B 45/00](#))}

### **WARNING**

Groups [F21S 48/00](#) to [F21S 48/34](#) do not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows: -  
[F21S 48/00](#) - [F21S 48/34](#) : [F21S 8/10](#)

- F21S 48/10      .    {Headlamps}
- F21S 48/11      . .     {characterised by the light source}
- F21S 48/1104      . . .     {Attachment of light sources; Lamp holders; Terminals or connectors therefor([F21S 48/1742](#) takes precedence )}
- F21S 48/1109      . . . .     {Details of lamp holders, terminals or connectors(mounting of a ballast for a high intensity discharge lamp on the housing wall of a headlamp [B60Q](#))}
- F21S 48/1113      . . . .     {Bayonet attachments}

F21S 48/1118	....	{Wire spring attachments}
F21S 48/1122	....	{Snap-fit attachments}
F21S 48/1127	...	{Type of emitted light}
F21S 48/1131	....	{Colored light}
F21S 48/1136	....	{Ultraviolet (UV) or infrared (IR) light}
F21S 48/114	....	{Polarized light}
F21S 48/1145	...	{Type of light source}
F21S 48/115	....	{Light emitting diodes (LEDs)}
F21S 48/1154	.....	{the main emission direction of the LED being parallel to the optical axis of the headlamp}
F21S 48/1159	.....	{the main emission direction of the LED being angled to the optical axis of the headlamp}
F21S 48/1163	.....	{Surface emitters, e.g. OLEDs}
F21S 48/1168	....	{Incandescent light sources, e.g. filament or halogen lamps}
F21S 48/1172	.....	{having two or more filaments}
F21S 48/1177	.....	{characterised by the shape of the filament}
F21S 48/1181	.....	{having a filament being arranged transversally to the optical axis of the headlamp}
F21S 48/1186	....	{High intensity discharge (HID) light source}
F21S 48/119	....	{Fluorescent, elongated light source}
F21S 48/1195	....	{Combination of light sources of different types or shapes}
F21S 48/12	..	{characterised by refractors, transparent cover plates or filters}
F21S 48/1208	...	{Attachment of refractors, transparent cover plates or filters( <a href="#">F21S 48/1721</a> takes precedence )}
F21S 48/1216	....	{specially adapted to projection lenses}
F21S 48/1225	...	{Type of refractor, transparent cover plates or filters}
F21S 48/1233	....	{Cover glass}
F21S 48/1241	....	{Light guides( <a href="#">light guides per se G02B 6/0001</a> )}
F21S 48/125	....	{Projection lenses}
F21S 48/1258	.....	{Lenses with a circular or truncated circular outline, when seen from the front}
F21S 48/1266	.....	{Elongated lenses}
F21S 48/1275	.....	{Composite lenses; Lenses with a patch like shape}
F21S 48/1283	.....	{Lens surfaces, e.g. coatings, surface structures}
F21S 48/1291	.....	{Thick lenses for providing the final automotive light distribution}
F21S 48/13	..	{characterised by reflectors}
F21S 48/1305	...	{Attachment of reflectors( <a href="#">F21S 48/1757</a> takes precedence )}
F21S 48/1311	....	{specially adapted to extension reflectors}
F21S 48/1317	...	{Optical design}
F21S 48/1323	....	{the reflector being a surface of revolution or a planar surface, e.g. truncated}
F21S 48/1329	....	{the reflector using total internal reflection}

F21S 48/1335	....	{the reflector having two perpendicular cross sections having regular geometrical curves of a distinct nature}
F21S 48/1341	....	{the reflector consisting of complete annular areas}
F21S 48/1347	.....	{with continuity at the junction between adjacent areas}
F21S 48/1352	.....	{with discontinuity at the junction between adjacent areas}
F21S 48/1358	....	{the reflector consisting of patch like sectors}
F21S 48/1364	.....	{with continuity at the junction between adjacent areas}
F21S 48/137	.....	{with discontinuity at the junction between adjacent areas}
F21S 48/1376	....	{the reflector having a structured surface, e.g. with facets or corrugations}
F21S 48/1382	....	{the reflector having surface portions added to its general concavity}
F21S 48/1388	....	{Combination of two or more reflectors}
F21S 48/1394	...	{Material, surface treatment or coating of the reflector}
F21S 48/14	..	{characterised by screens, non-reflecting members, light-shielding members or fixed shades}
F21S 48/142	...	{Attachment thereof( <a href="#">F21S 48/1768 takes precedence</a> )}
F21S 48/145	...	{Details of the shape of screens, non-reflecting members, light-shielding members or fixed shades}
F21S 48/147	....	{Hoods or cap-shaped}
F21S 48/15	..	{characterised by aesthetical components or components other than light sources, reflectors, refractors or screens, e.g. partition walls, covers, decorative trims}
F21S 48/155	...	{Attachment thereof}
F21S 48/17	..	{characterised by a variable light distribution}
F21S 48/1705	...	{Light distributions being switched}
F21S 48/171	....	{between right and left traffic side}
F21S 48/1715	...	{by acting on refractors, filters or transparent cover plates}
F21S 48/1721	....	{by moving refractors, filters or transparent cover plates}
F21S 48/1726	....	{by changing the light transmissivity of the refractors, filters or transparent cover plates}
F21S 48/1731	.....	{by electro-optic means, e.g. liquid crystal or electrochromic devices}
F21S 48/1736	...	{by acting on light sources}
F21S 48/1742	....	{by moving light sources}
F21S 48/1747	....	{by switching light sources( <a href="#">F21S 48/1168 takes precedence</a> )}
F21S 48/1752	...	{by acting on reflectors}
F21S 48/1757	....	{by moving reflectors}
F21S 48/1763	...	{by acting on screens}
F21S 48/1768	....	{by moving screens}
F21S 48/1773	.....	{Blades, i.e. screens moving in a vertical plane}
F21S 48/1778	.....	{Flaps, i.e. screens pivoting around one of its edges}
F21S 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}
F21S 48/1789	.....	{Rotating screens, i.e. screens rotating around a vertical axis}

F21S 48/1794	.....	{Shafts, i.e. screens being a rotating shaft}
F21S 48/20	.	{Signal lamps, e.g. brake lamps or turn signal lamps}
F21S 48/21	..	{characterised by the light source}
F21S 48/211	...	{Attachment of light sources; Lamp holders, terminals or connectors therefor}
F21S 48/212	....	{Details of lamp holders, terminals or connectors}
F21S 48/214	...	{Type of the light source}
F21S 48/215	....	{Light emitting diodes (LEDs)}
F21S 48/217	.....	{Surface emitters, e.g. OLEDs}
F21S 48/218	....	{Strips of light sources}
F21S 48/22	..	{characterised by refractors, filters or transparent cover plates}
F21S 48/2206	...	{Attachment thereof}
F21S 48/2212	...	{Type of refractors, filters or transparent cover plates}
F21S 48/2218	....	{Filters}
F21S 48/2225	....	{Light guides( <a href="#">light guides per se G02B 6/0001</a> )}
F21S 48/2231	.....	{characterised by the shape of the light guide}
F21S 48/2237	.....	{Bar or rod-like light guides}
F21S 48/2243	.....	{Plate-like light guides}
F21S 48/225	.....	{Light guides of complex shape or comprising a portion having a complex shape}
<b><u>NOTE</u></b>		
additional classification should be given in the groups characterising the shape of the light guides		
F21S 48/2256	.....	{characterised by the emission area}
F21S 48/2262	.....	{the light guide emitting on its extremity}
F21S 48/2268	.....	{the light guide emitting on its surface}
F21S 48/2275	.....	{characterised by the number of light sources coupled into the light guide}
F21S 48/2281	.....	{Multiple light sources}
F21S 48/2287	.....	{Single light source}
F21S 48/2293	.....	{the light guide being used to transport light from a remote light source, e.g. from light generators}
F21S 48/23	..	{characterised by reflectors}
F21S 48/232	...	{Attachment thereof}
F21S 48/234	...	{Optical design thereof}
F21S 48/236	....	{using total internal reflection}
F21S 48/238	...	{Materials thereof, e.g. coatings}
F21S 48/24	..	{characterised by the combination of reflectors and refractors}
F21S 48/25	..	{characterised by aesthetical components or components other than light sources, reflectors, refractors, e.g. partition walls, covers or decorative trims}
F21S 48/255	...	{Attachment thereof}



F21S 48/30	. {Arrangements dedicated to purposes other than light emission or distribution}
F21S 48/31	.. {Protection of the lighting devices}
F21S 48/32	.. {Cooling of the lighting devices}
F21S 48/321	... {Attachment of the means for cooling; Cooling arrangements}
F21S 48/323	... {Forced cooling}
F21S 48/325	.... {using air or other gas}
F21S 48/326	.... {using liquid}
F21S 48/328	... {Passive cooling}
F21S 48/33	.. {Waterproofing}
F21S 48/332	... {Provisions for ventilation or drainage}
F21S 48/335	.... {specifically adapted for headlamps}
F21S 48/337	.... {specifically adapted for signal lamps}
F21S 48/34	.. {Heating of the lighting devices, e.g. for de-fogging}