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(54) **Luminaire**

(57) Luminaire which incorporates as source or light sources LEDs or other lights whose heat is dissipated towards their rear part and is structurally designed to favour the dissipation of the said heat avoiding any negative effect on the various elements that comprise the lighting fixture. The housing comprises two areas, one lower area (4a) and one upper area (4b) separated by, at least one point of juncture (4c, 4d), that determines the existence of at least one intermediate space (5) between the upper area (4b) comprising a housing (7) for several components and the lower area (4a) comprising the lamps (2) and the lamp-holding support (3).

FIG. 1

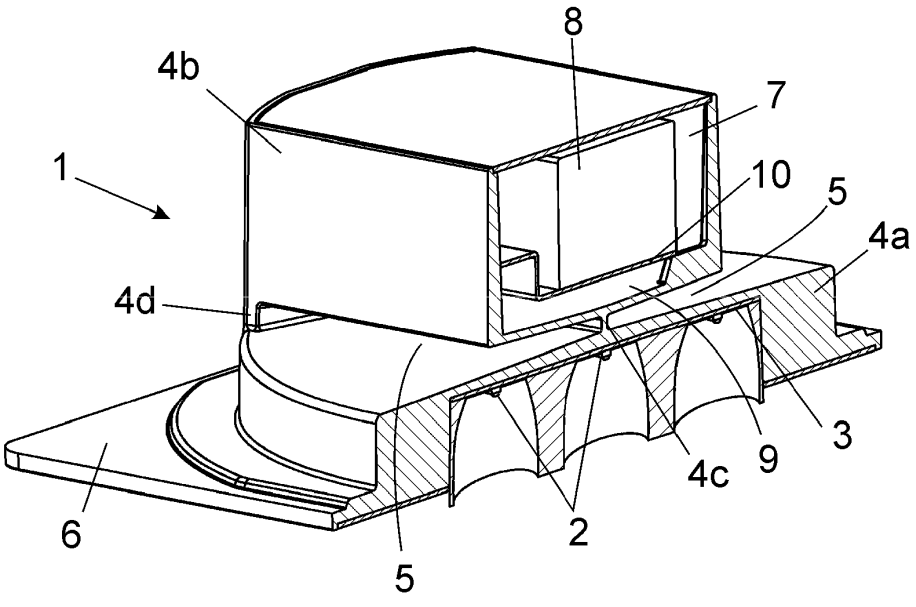

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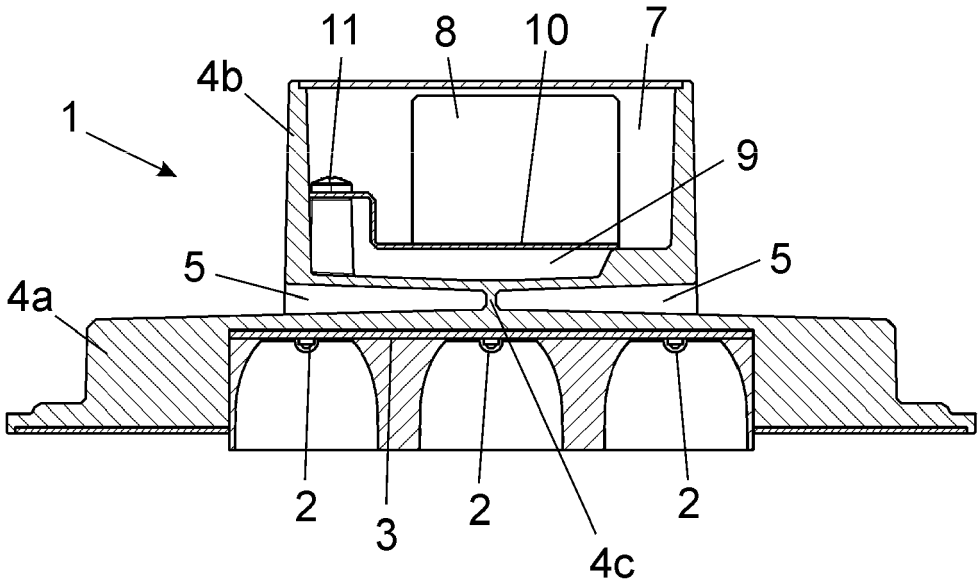
FIG. 2



Description

OBJECT OF THE INVENTION

[0001] The invention, as expressed in the title of the present description, refers to a luminaire, which presents several advantages and novel features inherent to its improved configuration to be described in detail below and which suppose a noteworthy novelty in the current state of the art.

[0002] The object of the present invention is specifically centred on a luminaire which incorporates as source or light sources LEDs or other lights whose heat is dissipated towards their rear part and is structurally designed to advantageously favour the dissipation of the said heat avoiding any negative effect on the various elements that comprise the lighting fixture.

FIELD OF APPLICATION OF THE INVENTION

[0003] The field of application of the present invention is in the sector of industry engaged in the manufacture of luminaires.

BACKGROUND OF THE INVENTION

[0004] As it is known, some light sources, such as LED lamps, have the advantage that, apart from consuming less, they do not generate heat in the direction of the light radiation, but in the opposite direction.

[0005] This circumstance, in the case of luminaires which, on their rear side, dispose of components such as the power source itself, can end up having problems of reliability and a shortening of the useful lifetime of the luminaire, as said components have to be designed to withstand the high temperatures brought about by the lamps, or else introduce other elements to dissipate effectively said heat.

[0006] Currently, the heat from the lamps is dissipated through a series of radiators which complicate and add to the expense of the products, therefore a new type of luminaire which avoids said inconvenience would be desirable, and the development of such a luminaire with a perfected housing is the essential object of the present invention.

[0007] As a reference to the current state of the art, it can be pointed out that, although many types and models of luminaires of the type we are concerned with here exist on the market, the applicant, at least, has no knowledge of any with technical, structural or constituent features similar to those presented and claimed herein.

EXPLANATION OF THE INVENTION

[0008] The luminaire that the invention proposes satisfactorily fulfils the aforementioned objective as the ideal solution and is configured as a novelty within its field of application, its distinguishing features being summed up in the claims at the end of this document.

[0009] Specifically, the luminaire of the invention, which as has been explained in previous sections, is a luminaire whose housing is designed so that the source or light sources incorporated are LED lamps or similar that generate heat toward their rear side, with the peculiarity of an improved design of housing structure which incorporates spaces that favour the dissipation of said heat.

[0010] Thus, according to a first characteristic of the invention, the luminaire in question is provided with a housing that comprises two areas, one below the fixture appropriate for the insertion of the lamp holder with its light sources, and another on top of it to hold several components such as the power source.

[0011] These two areas may or may not be on the same part and they are separated by at least one point of junction, such as separating walls or spacers that determine the existence of at least one intermediate space between the upper and lower areas.

[0012] The heat generated by the lamps in the lower area is emitted towards the upper area, where several components that could be damaged by the high temperatures are housed.

[0013] The heat passes through the open intermediate space before arriving at the upper area towards at least one side of the housing, so that part of the heat is extracted to the open side(s) of the luminaire and not to the upper area of the luminaire.

[0014] It is also important to highlight that said intermediate space comprises an open space whose height increases in the direction of the sides of the housing where it is open, so that it forms an approximately wedge shaped configuration, which favours the circulation of the heat coming from the lower area of the housing, where the lamps are housed towards said side so that part of it leaves the housing and does not affect the upper area.

[0015] Similarly, according to another additional characteristic of the invention, the luminaire has a an air chamber in the upper area, where several components are housed, that separates said components from the lower base of said upper area of the housing, in such a way that said power source is moved even further away and better isolated from the heat generated by the lamps housed in the lower area of the housing.

[0016] In one preferred embodiment of the invention, said air chamber is determined by the existence of a support plate on which several components are incorporated.

DESCRIPTION OF THE DRAWINGS

[0017] To complement the description described herein, and with the objective of helping to understand better the features of the invention, a plan accompanying the present description, and forming part of the same, in an illustrative and non-limiting way, shows the following:

Figure 1.- Shows a perspective and sectional view of an example of an embodiment of the luminaire, object of the invention, where the main parts and its comprising elements, as well as its configuration and disposition can be appreciated; and

Figure 2.- Shows a front and sectional view, of the same example of embodiment of the luminaire, according to the invention, shown in the figure 1.

PREFERRED EMBODIMENT OF THE INVENTION

[0018] In the light of the aforementioned figures, and according to the adopted numbering, a non-limiting example of a preferred embodiment of the luminaire of the invention may be appreciated in them, which comprises the parts and elements indicated and described in detail below.

[0019] Thus, as observed in said figures, the luminaire (1) in question which has LED or similar type lamps (2) that generate heat in the opposite direction to the light radiation, that is, in the direction of the lamp-holding support (3) to which they are attached, comprises a housing made up of two areas, one lower area (4a) and another upper area (4b) separated by two intermediate spaces (5) open on the sides and determined by a central joining partition wall (4c) and corresponding lateral joining partition walls (4d) for the improvement of stability in the upper area (4b).

[0020] The lower area (4a) of the housing incorporates the lamp-holding support (3) and the lamps (2), being configured by a perimeter wing (6), while the upper area (4b) is configured in such a way that it acts as a housing (7) for the incorporation of the power source (8) of the lamps (2) and, optionally, other components.

[0021] As can be clearly appreciated in figure 2, each intermediate space (5) is a hollow area with a wedge-shaped section whose dimension increases in the direction of the two sides of the housing where it is open to the exterior, with the objective of favouring the circulation of heat coming from the lamps (2) arranged inside the lower area (4a) towards the exterior through the open sides of the two intermediate spaces (5) of the luminaire (1).

[0022] Additionally, in the upper area (4b), in the lower area of the housing (7) where the power source (8) is located, the existence of an air chamber (9) is envisaged that separates said power source (8) from the lower base of said upper area (4b) and, therefore, isolates the heat generated by the lamps (2) even more.

[0023] Preferably, said air chamber (9) is determined by a support plate (10) which is laterally supported for this purpose, with the help of a corresponding means of attachment (11) which support the power source (8) in a raised position, always at a certain distance over the lower base of the mentioned upper area (4b).

[0024] It is thus evident that the main function of the invention is produced when, after connecting the power source (8) and the lamps (2) are subsequently turned on, generating heat in the opposite direction to the light radiation, part of the same heat is dissipated through the open sides of the intermediate spaces (5) while another part is mitigated in the air chamber (9) this improving the conditions of the components housed in the housing (7) of the upper area (4b).

[0025] Now that the nature of the present invention, as well as its implementation have been sufficiently described, it is not deemed necessary to extend the explanation for an expert in the field to understand the scope and the benefits derived therefrom, and it is affirmed that, in its essence, it can be put into practice in other embodiments that differ in detail from the example, and which will also be covered by the protection conferred as long as its fundamental principles are not changed or modified

Claims

1. LUMINAIRE of the type that has lamps (2) of the type that generate heat in the opposite direction to the light radiation, **characterized by** that the housing comprises two areas, one lower area (4a) and one upper area (4b) separated by, at least one point of juncture (4c, 4d), that determines the existence of at least one intermediate space (5) between the upper area (4b) comprising a housing (7) for several components and the lower area (4a) comprising the lamps (2) and the lamp-holding support (3).

2. LUMINAIRE, according to claim 1, **characterized by** that at least one intermediate space (5) is a hollow area of wedge-shaped section whose dimension increases in the direction of the lateral extremes of the housing where it is open to the exterior.

3. LUMINAIRE, according to claim 1 or 2, **characterized by** that there exists an air chamber (9) in the upper area (4b), where several components are located, which separates said components from the lower base of said upper area (4b).

4. LUMINAIRE, according to claim 3, **characterized by** that the air chamber (9) is determined by a support plate (10) which maintains the various components in a raised position at a certain distance over the lower base of the upper area (4b).

5. LUMINAIRE, according to claim 4, **characterized by** that the support plate (10) is attached to the upper area (4b) through a means of attachment (11).

FIG. 1

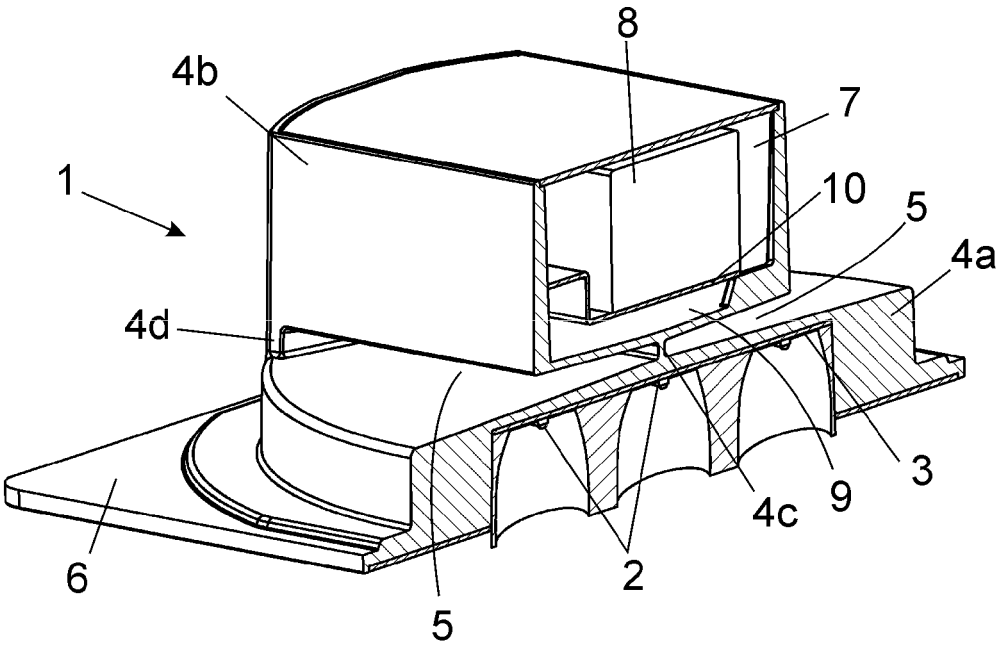


FIG. 2