GRIDMATE LUMINAIRE END PANEL AND SUPPORT BRACKET

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ABSTRACT OF THE DISCLOSURE

A lighting fixture mounting bracket for use in a vaulted module luminaire system. The mounting bracket is a metal end panel which serves the dual purpose of supporting the light fixture and providing a decorative trapezoidal-shaped end panel on which the sloping sides of the acoustical boards would be supported. The end panel is clamped to the runners of the ceiling suspension system. A recess is formed in the upper portion of the end panel to provide a mounting point for the ends of the light fixture and a support and/or end cover for the lens which covers the light fixture.

BACKGROUND OF THE INVENTION

Field of the invention

The invention relates to a lighting fixture support and, more particularly, to a decorative lighting fixture support in a vaulted module acoustical ceiling system.

Description of the prior art

The Karth Patent No. 3,081,398 discloses the conventional method of mounting the lighting fixture above a suspended ceiling. A bracket is used to support the lighting fixture, one end of the bracket being fastened to the runners of the suspended ceiling, and the other end of the bracket being fastened to the lighting fixture to position the lighting fixture above the suspended ceiling.

The Alexieff Patent No. 3,521,877 discloses a vaulted module ceiling system wherein a framework is used to hold the lighting fixture in position. The framework to support the light fixture is fastened to the support structure for the suspended ceiling and must be concealed from view by the use of separate end pans or acoustical panels cut in a general trapezoidal shape. The lens for the lighting fixture must then be cut to abut against a flat surface of the end pans or the acoustical material.

It is always extremely difficult to get a good light-tight joint at the ends of the lens for the light fixture when the end of the lens is placed up against a flat surface. Normally, a tight joint is not secured and light coming around the end of the lens tends to accentuate the end of the lens. The use of a recessed area on the end panels of the vaulted module provides a resting place for the lens and/or an effective light trap which helps the lens blend in with the end panel and avoid a distorting accentuation of the end of the lens due to light escaping around the end of the lenses. Also, the end panel now performs a dual function of being the support for the luminaire and being the decorative end panel of the vaulted system.

SUMMARY OF THE INVENTION

The invention is directed to a light fixture mounting bracket which serves the dual purpose of supporting the light fixture and providing a decorative trapezoidal-shaped end panel to close in the area between the sloping sides of acoustical board forming the vaulted modular luminaire. For example, in a 4' x 4' opening of a suspended ceiling system, the light fixture and acoustical panels are mounted to form the vaulted module. The acoustical panels rest on the runners of the suspended ceiling system defining the 4' x 4' opening. The edge of the panels rests upon one set of 4' long sections of the runners. The panels are inclined relative to each other forming a vaulted appearance. The lighting fixture is mounted above the plane of the ceiling system in the region where the inclined panels are closest together. Normally the light fixture and the runners support the panels in position. A trapezoidal-shaped end panel is placed on each of the adjacent set of 4' long sections of runners to form the support for holding the light fixture in position. In addition, the outer decorative face of the end panel forms a decorative closure for the ends of the inclined acoustical panels.

It may be possible to provide a recess in the upper portion of the end panel to provide a point for fastening the light fixture to the end panel. In addition, the recess may serve as a shelf for the support of the lens which normally covers the light fixture and/or the recess will function as a light trap to close off the end of the lens to prevent stray light from escapeing around the ends of the lens. Normally, a lens is formed with a diffused surface to soften the light coming from the light fixture.

A primary object of the invention is to provide a support for the light fixture, which support serves both as a support and as a decorative closure for the otherwise open ends of a vaulted acoustical ceiling system. A further object is the provision of a recess in the end panel to function as both a lens support and a light trap for the end of the lens.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is an end view of a vaulted module ceiling system;
FIG. 2 is a sectional view along line A—A of FIG. 1 showing one embodiment of the novel mounting bracket; and
FIG. 3 is a second embodiment of the novel mounting bracket.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIG. 1, the acoustical panels 2 define the plane of the suspended ceiling system. The ceiling system is supported by runners 4 which in turn are suspended from the main ceiling. Acoustical panels 6 rest on the runners 4 in an inclined relationship to form the sides of the vaulted module. A light fixture 8 is positioned between the two inclined panels 6 in the region adjacent the point where the two panels 6 are nearest to each other. The lighting fixture is covered by a lens 10 which spans the distance from one inclined panel 6 to the adjacent inclined panel so that the lens 10 provides complete diffusing of the light coming from the light fixture and conceals the light fixture from view. The light fixture and the runners 4 constitute the support for the inclined panels 6.

Running at a 90° angle from the runners 4 are runners 12. The runners 4 and the runners 12 define a rectangular area which is approximately 4' x 4'. The runners 12 carry the support bracket which holds the light fixture in position above the plane of the suspended ceiling so that the light fixture can in turn support one of the two points of support for the inclined panels 6.

FIG. 2 discloses one preferred embodiment wherein the runner 12 supports the mounting bracket assembly 14. At the lower end of the mounting bracket assembly 14 there is a yoke-type structure 16 which extends over the vertical web of the runner 12 to hold the bracket in position relative to the runner 12. A recess 18 is formed in the upper portion of the bracket assembly 14. The main frame 20 of the luminaire has a bent-down portion 22 which fastens to the inside of the recess 18.
ing of the element 22 to the bottom wall of the recess 18 thus permits the mounting bracket assembly 14 to function as the support for the lighting fixture. The lighting fixture carries the conventional tubes 24 and tube end supports 26. The lens 10 is placed over the lighting fixture and may rest on the sidewall 28 of the recess 18. The sidewall 28 may serve as both the light trap and support for the lens or the lens could be fastened directly to the lighting fixture and the sidewalls 28 function merely as the light trap to prevent light from going around or past the edge of the lens 10.

In FIG. 3 another embodiment is shown with like structure indicated by the same numerals as used in FIG. 2. The mounting bracket assembly 14 is composed of a flat element 30 which has at its lower end yoke-type structure 16 to mount the flat plate 30 relative to the runner 12. A second plate 32 is mounted to the forward face of plate 30 and is fastened to plate 30 by tabs 34. The portion 36 of flat plate 32 which bridges the gap between plate 30 and 32 forms the sidewalls of a recess 18. These sidewalls 36 are comparable to the sidewalls 28 of the embodiment of FIG. 2.

The difference between the embodiment of FIG. 3 and that of FIG. 2 is that the embodiment of FIG. 2 has the recess formed by a deep draw process wherein the assembly 14 is made of one integral structure which is formed with the recess therein. In the embodiment of FIG. 3, two separate structural elements are fastened together to form a composite assembly 14′ with a recess 38. This eliminates the need for the deep drawing during the forming process. The lighting fixture and lens is mounted in FIG. 3 in a similar manner to that in which it was mounted in the embodiment of FIG. 2. The front face 38 of assembly 14 and the front face 38′ of assembly 14′ are provided with a decorative coating since this front face 38 (38′) serves as the decorative end panel structure for the vaulted module. The vaulted module has its sides defined by the outer surface of the acoustical panels 6, the surface 38 of the end panel assemblies 14 and the outer surface of the lens 10. The recess structure 18 has the sidewalls of the recess function as light traps for the end of the lens 10 and/or supports for the lens to hold the lens in position.

What is claimed is:

1. An acoustical ceiling panel system wherein certain of the acoustical panels are mounted in an inclined relationship relative to the plane of the ceiling system to form a vaulted module, a lighting fixture is mounted above the plane of the ceiling system in the region where the inclined panels are closest together, the improvement comprising a support bracket means supporting the lighting fixture in position, said bracket means having an outer decorative means forming a closure for the ends of the inclined panels whereby the ceiling module has its sides formed by the decorative surface of the brackets and the inclined panels, said bracket means are trapezoidal in shape with a recess in the upper portion of the trapezoidal shape providing a mounting area for the lighting fixture and a receiving recess for a lens provided with the lighting fixture.

2. The apparatus of claim 1 wherein said recess is formed as a depression away from the outer decorative means on the bracket means, said lens rest on the side wall of the recess while the lighting fixture is fastened to the bottom wall of the recess whereby the recess side wall functions as a light trap for the end of the lens.

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