

CLAIMS

What is claimed is:

1. A luminaire, comprising:

a heat spreader and a heat sink thermally coupled to and disposed diametrically outboard of the heat spreader;

an outer optic securely retained relative to at least one of the heat spreader and the heat sink; and

a light source disposed in thermal communication with the heat spreader, the light source comprising a plurality of light emitting diodes (LEDs);

wherein the heat spreader, the heat sink and the outer optic, in combination, have an overall height H and an overall outside dimension D such that the ratio of H/D is equal to or less than 0.25;

wherein the combination defined by the heat spreader, the heat sink and the outer optic, is so dimensioned as to: cover an opening defined by a nominally sized four-inch can light fixture; and, cover an opening defined by a nominally sized four-inch electrical junction box.

2. The luminaire of Claim 1, wherein:

the heat spreader and the heat sink are integrally formed such that a heat flow path from the light source through the heat spreader to the heat sink is continuous and uninterrupted.

3. The luminaire of Claim 1, further comprising:

a power conditioner mechanically supported by the heat spreader, the power conditioner being configured and disposed to receive AC voltage from an electrical supply line and to deliver DC voltage to the plurality of LEDs.

4. The luminaire of Claim 3, further comprising:

a reflector disposed on the heat spreader, the reflector having an aperture in which the plurality of LEDs are disposed.

5. The luminaire of Claim 1, wherein:

the heat spreader comprises mounting holes suitably spaced apart to receive mounting fasteners to secure the heat spreader to an electrical junction box.

6. The luminaire of Claim 4, wherein:

the heat spreader comprises mounting holes and the reflector comprises mounting holes suitably spaced apart to receive mounting fasteners to secure the heat spreader to an electrical junction box.

7. The luminaire of Claim 1, further comprising:

a mounting bracket; and

a power conditioner, the power conditioner being configured and disposed to receive AC voltage from an electrical supply line and to deliver DC voltage to the plurality of LEDs;

wherein the power conditioner is supported by the mounting bracket on one side thereof, and the heat spreader and heat sink are supported by the mounting bracket on another opposing side thereof; and

wherein the mounting bracket comprises mounting holes disposed to secure the luminaire to an electrical junction box.

8. The luminaire of Claim 7, further comprising:

at least one torsion spring configured and disposed so as to secure the luminaire to a can light fixture.

9. The luminaire of Claim 3, wherein:

the power conditioner is disposed on a same side of the heat spreader as the plurality of LEDs.

10. The luminaire of Claim 3, wherein:

the power conditioner is disposed on an opposite side of the heat spreader as the plurality of LEDs, the power conditioner being so dimensioned as to fit within: a nominally sized four-inch can light fixture; and, a nominally sized four-inch electrical junction box..

11. The luminaire of Claim 1, further comprising:
an inner optic disposed over the plurality of LEDs.
12. The luminaire of Claim 11, wherein:
the inner optic is integrally formed with the reflector.
13. The luminaire of Claim 11, wherein:
the inner optic comprises a color mixing diffuser.
14. The luminaire of Claim 1, further comprising:
a phosphor disposed over the plurality of LEDs comprising material to produce a color temperature output of 2700 deg-Kelvin.
15. The luminaire of Claim 1, further comprising:
a trim ring;
wherein the outer optic is securely retained relative to at least one of the heat spreader and the heat sink via fasteners; and
wherein the trim ring snap-fits onto the outer optic in such a manner as to cover the fasteners securely retaining the outer optic.
16. The luminaire of Claim 2, wherein the heat spreader and the heat sink are integrally formed to define a base, wherein a back side of the base comprises a plurality of heat sink fins and air flow channels configured and disposed to transport heat generated by the light source away from the light source.

17. A luminaire, comprising:

a heat spreader and a heat sink thermally coupled to and disposed diametrically outboard of the heat spreader;

an outer optic securely retained relative to at least one of the heat spreader and the heat sink;

a light source disposed in thermal communication with the heat spreader, the light source comprising a plurality of light emitting diodes (LEDs); and

a power conditioner disposed in electrical communication with the light source, the power conditioner being configured to receive AC voltage from an electrical supply line and to deliver DC voltage to the plurality of LEDs, the power conditioner being so dimensioned as to fit within at least one of: a nominally sized four-inch can light fixture; and, a nominally sized four-inch electrical junction box.

18. The luminaire of Claim 17, wherein:

the power conditioner is so dimensioned as to fit completely within at least one of: a nominally sized four-inch can light fixture; and, a nominally sized four-inch electrical junction box.

19. The luminaire of Claim 18, wherein:

the heat spreader, the heat sink and the outer optic define a combination having an overall height H and an overall outside dimension D such that the ratio of H/D is equal to or less than 0.25; and

the defined combination is so dimensioned as to cover an opening defined by at least one of: a nominally sized four-inch can light fixture; and, a nominally sized four-inch electrical junction box.

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