



Heat Information for Source Four Fixtures

ATTENTION: The following Source Four fixture information is for reference only. Resolution of any site-specific issues, i.e. HVAC needs, fire safety, or any other heat-related installation questions is the sole responsibility of the customer.

Maximum Ambient Temperature

Source Four fixtures are rated for a maximum ambient operating temperature of 45° C (113° F). Operation of the fixture in conditions above 45° will shorten lamp life and can lead to damage to paint, reflector, and socket. Operation of Source Four fixtures in ambient conditions above 45° voids the fixture warranty.

How much "Heat" in BTUs does a Source 4 fixture emit?

For each watt of energy consumed, the fixture will emit 3.4144 BTU's per hour. Keep in mind that S4 and S4 Jr fixtures absorb more of the infrared light spectrum than most typical fixtures, and therefore transmit less heat to the stage.

Therefore: 575 HPL * 3.4144 = 1963.28 BTU's per hour
750 HPL * 3.4144 = 2560.8 BTU's per hour

Additionally we periodically get asked about the amount of heat in the beam compared to the amount of heat absorbed by the fixture. Following is a table showing some representative figures.

Note: Regardless of how much heat is projected by the beam or dissipated by the fixture housing, the total BTU per hour measurement is the same as computed by the above equation.

Note also the dramatically lower amount of heat in the beam of fixtures with the cold mirror reflector: Source Four and Source Four PAR MCM, when compared to fixtures with typical reflectors.

Typical Heat Dissipation of ETC Fixtures (All measurements are BTU's per Hour)

Table with 4 columns: Fixture, Projected Light Beam, Fixture Housing Dissipated, Total. Rows include Source Four 750w, Source Four 575w, S4 PAR EA 750w, S4 PAR EA 575w, S4 PAR MCM 575w, S4 HID 150W, PAR 64 1000w, and Fresnel 2000w.



What is the gate temperature of a Source Four ERS?

In a test conditionⁿ created by placing one shutter blade into gate covering 1/2 of field, and placing the thermal probe on the backside (shaded) of the shutter. The maximum S4 gate temps (A-size) were recorded as follows:

HPL 575w/115v/300hr = **622°F**

HPL 750w/115v/300h r= **786°F**

Note: We have not tested the 150w HID lamp, but would roughly estimate the S4 gate temp between 300°F ~ 450°F.

Surface Temperatures

The following temperatures are normalized for the maximum of 45°C (113°F) ambient room temp, with free air convection.

S4 / S4 Zoom / 750w

Lamp Focus Knob: 210°C (410°F) max.
Exterior Rear Housing Skin: 217°C (423°F) max.
Exterior Front Barrel Skin: 91°C (196°F)

Projected Heat: Lighted objects will not exceed a temperature of 90°C (at 45°C ambient) from projected light at a horizontal distance of 0.8m (~2.7 feet) or greater.

S4jr / S4jr Zoom / 575w

Lamp Focus Knob: 210°C (410°F) max.
Exterior Rear Housing Skin: 235°C (455°F) max.
Exterior Front Barrel Skin: 110°C (230°F)

Projected Heat: Lighted objects will not exceed a temperature of 90°C (at 45°C ambient) from projected light at a horizontal distance of 0.6m (2.0 feet) or greater.

S4 / S4 Zoom / 575w

Lamp Focus Knob: 180°C (356°F) max.
Exterior Rear Housing Skin: 200°C (392°F) max.
Exterior Front Barrel Skin: 85°C (185°F)

Projected Heat: Lighted objects will not exceed a temperature of 90°C (at 45°C ambient) from projected light at a horizontal distance of 0.7m (2.3 feet) or greater.

S4PAR-MCM / 575w

Lamp Cap Handle: 185°C (365°F) max.
Reflector Fins: 270°C (518°F) max.
Exterior Front Barrel Skin: 175°C (347°F) max.

Projected Heat: Lighted objects will not exceed a temperature of 90°C (at 45°C ambient) from projected light at a horizontal distance of 0.9m (2.9 feet) or greater.

S4PAR-EA / 575w

Lamp Cap Handle: 145°C (293°F) max.
Reflector Fins: 175°C (347°F) max.
Exterior Front Barrel Skin: 165°C (328°F)

Projected Heat: Lighted objects will not exceed a temperature of 90°C (at 45°C ambient) from projected light at a horizontal distance of 2.0m (6.6 feet) or greater.

S4jr HID / 150w CDM lamp *

Note: Temperatures are normalized for 40°C (104°F) ambient room temperature, with free air convection.

Exterior Rear Housing Skin: 103°C (218°F)
Exterior Rear Burner Assembly: 100°C (212°F)

* Jr's tend to run hotter than full-sized fixtures with the same wattage lamp – less metal to dissipate the same amount of heat from the lamp – so the jr data represents worst case.