

Sales Bulletin – Source Four Heat Information January 2013

ATTENTION: The following 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 are the sole responsibility of the customer.

We are happy to provide the following heat information on Source Four luminaires to be used by persons familiar with the luminaire location and qualified to speak to the safety of surrounding materials.

Please note:

- The following factors may be used, but are not the sole factors, for determining the suitability of a location for a high-temperature luminaire:
 - Composition, color and texture of the surrounding materials
 - Ambient air temperature
 - Air flow
- Temperature measurements taken in ambient air at any distance from a luminaire in a lab situation are not useful as safety guidelines for luminaire mounting in that they cannot accurately factor in the above or any other variables.

It is the SOLE and EXCLUSIVE responsibility of the customer to determine the suitability of any location for luminaire mounting.

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

For each watt of energy consumed, the fixture will emit 3.414 BTUs 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: 575W HPL * 3.414 = 1963 BTU/hr
750W HPL * 3.414 = 2560 BTU/hr

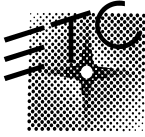
Additionally we periodically get asked about the amount of heat in the beam compared to the amount of heat absorbed by the fixture. Following is a table showing some representative figures.

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/hr)

Fixture	Projected Light Beam	Fixture Housing Dissipated	Total
Source Four 750W	230	2330	2560
Source Four 575W	180	1780	1960
S4 PAR EA 750W	1150	1410	2560
S4 PAR EA 575W	880	1080	1960
S4 PAR MCM 575W	145	1815	1960
S4 HID 150W	(not available)	(not available)	513
PAR 64 1000W	~1100	~2314	3414
Fresnel 2000W	(not available)	(not available)	6828



What is the Gate Temperature of a Source Four ERS?

In a test condition 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/300hr = **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 45C (113F) 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) 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 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)

* Source Four junior HID fixtures 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 junior HID data represents worst case.