The Light Source
HL Series, White Light

APPLICATIONS
The Light Source HL Series 6” Fresnel LED pendant is perfect for applications requiring up to 10,674 lumens with excellent dimming, tight beam control, and a high quality of light. The luminaire provides the look and feel of a natural, single source incandescent light, as well as excellent LED performance and longevity. It is a great choice for atriums, auditoriums, churches, museums, schools, studios, theatres, and similar locations.

ELECTRICAL
The Light Source, Inc. HL Series fixture’s LED driver has a universal input range of 100VAC to 277VAC 50/60HZ with no adjustments required, and a mean time between failures of 330,000 hours. The 150 Watt LED driver may be factory preset to 80, 100, 120, or 150 Watts output. The LED driver has active power factor correction with 99% PF at 120VAC, ATHD of 7%, and draws only .84 Amps. Inrush current is limited, allowing up to 12 of the 100 Watt LED fixtures to run on a single pole 20 Amp 120VAC circuit breaker. The LED fixture responds quickly, producing full light output in 2-3 seconds after power is applied. Relays are not required to turn The Light Source, Inc. HL series fixtures off between uses. The fixtures are fully rated for 24/7/365 operation. This enables the fixtures to instantly respond to DMX control signals without waiting for relays to sequence and fixture boot time. Standby wattage is less than 1 Watt with power on and DMX at level zero. The annual quiescent power draw is less than 9 KWH.

CONNECTIONS
Power connections may be hardwired internally with a rigid conduit connection and the provided flip lever Wago connectors, or externally with a 72” 18/3 SJOWire whip, or connected to an optional external flush Neutrik PowerCon connector. The optional DivCon System separates power and data in the junction box and delivers the power and DMX data through a divided compartment 1/2” conduit to the fixture. DMX data connections may be hardwired with the provided IDC or screw terminal plug connectors; or the optional exterital flush mounted Neutrik 5 pin XLR; 3 pin XLR; or RJ-45 Ethercon connectors. Optional LumenRadio wireless DMX is also available to provide control data to the fixture.

CONTROL
The Light Source, Inc. HL Series fixtures are fully DMX dimmable with extremely smooth 24 bit dimming utilizing only single channel DMX dimming control. The dimmer microprocessor is able to use over 16 million steps from full intensity to off for incredibly smooth dimming. There is no flicker on video with either line scan or global camera shutters interacting with the 30khz output frequency. The DMX line is fully isolated to 2,500 Volts per microsecond. The Light Source proprietary Thermal Mass Equivalence may be enabled during installation by turning dip switch 1 to off. This setting allows the DMX control channel 512 to change the dimming performance to emulate a large or small incandescent lamp, or to change the dimming performance to an instant response. The fixture is also available in a non-dimming version.

STANDARD LED MODULE
Based on Cree’s product testing, The Light Source, Inc.’s HL Series fixture’s standard LED module offers over 100,000 hours of life operating from 80 to 150 input Watts. The individual LEDs operate close to half of their maximum drive current even when the HL series fixture is driven at 150 Watts. The low drive current increases the LED brightness and life. Cree LEDs have a pleasing full spectrum light with all the visible colors represented in the fixture’s spectral output. The 60 individual LEDs are carefully factory selected to maintain minimal color variance between LED modules. The white LEDs are available in color temperatures of: 2700K, 3000K, 3500K, 4000K, and 5000K. The standard LED module has a typical CRI of 82. The LED module is factory built on a copper PCB for maximum thermal and optical performance. Every LED module is tested by thermal imaging to verify all electrical and thermal bonding connections. LED
color bins used in each LED module are recorded with the fixture serial number. No appreciable IR or UV is produced by the LED module. Extreme heat and cold ambient temperatures do not adversely affect the LED output. The LED module is replaceable utilizing normal hand tools.

OPTICAL
Optical systems are available in 78, 65, 52, 44, 36, 30, 25, and 20 degree beam angles. Sixty tightly clustered Cree LEDs and a 6” tempered borosilicate Fresnel lens combine to provide a single source look that completely emulates an incandescent source. Efficient use of the lumens generated by the LED cluster is accomplished by directing the LED output to the task area. An additional condenser lens is utilized to maximize the lumen output on the 52 degree and tighter beam spreads.

THERMAL
The maximum ambient operating temperature is 122 degrees Fahrenheit, (50 degrees C). With no fans or other devices to generate noise, the fixture is completely silent in operation. A huge, passive, convection-cooled, aluminum composite heat sink has plenty of space between fins to maximize the heat exchange and air flow. The short direct thermal path to the large convective surface area of the heat fins keeps the 60 Cree LEDs to a delta of 25 degrees C above the ambient temperature. The solid copper PCB is thermally bonded to the massive aluminum core with an 85 W/mK thermal interface material. This thermal junction actually improves over time and has 10 times the efficiency of the most commonly used thermal interface materials. The entire thermal system works together to keep the LED’s operating temperature very low, producing significantly higher LED brightness and longer life.

MOUNTING
The fixture can be mounted several ways—The Light Source, Inc.’s proprietary DivCon divided power and data system, ½” rigid conduit, 3/8” or ½” fastener or threaded rod, a Mega-Clamp, a Purlin Clamp, or an 1/8” aircraft cable.

FINISH
The extruded aluminum LED fixture comes in a standard black anodized finish. Optional anodized colors are also available. The accessory cylinders and square housings are available in standard black or white, and may be custom finished in any RAL powder coated color.

AGENCY RATING
ETL listed in the USA and Canada

WARRANTY
10 year parts replacement on complete LED fixture and electronics. Simply ship the LED fixture to the factory prepaid. The LED fixture will be repaired or replaced at the factory’s discretion and returned freight prepaid. Fixture repair parts may also be sent for qualified repairs onsite. Damage from improper wiring, installation, and lightning are excluded from warranty repair.

Dimensions
9.25” diameter heatsink by 16” overall fixture height

Weight
14 pounds

Case Quantities
1