Larson Electronics LLC
9419 E US HWY 175, Kemp, TX 75143
Phone: 800.369.6671

www.LarsonElectronics.com
Email: sales@LarsonElectronics.com
Fax: 903.498.3364

LLP-CAT-AD45

LED Light Package for Caterpillar AD45 Dump Truck - LED Retrofit/Fitout – (7) LEDP10W-50E (4) LEDP10

Product ID: 71355



Larson Electronics LLC manufactures a wide variety of products, including custom built to spec designs. The pictures displayed for this unit are a general representation of form factor for the product line and may not accurately represent this exact configuration in every detail due to custom builds and changes between similar products in our standard catalog. The specifics for this configuration are listed in the specification table and supporting documentation (CAD files, Dimensional Drawing, Name Plate Diagram, Wiring Diagram, etc.). This means that specific details (receptacles, plugs, wires, connections, mounting brackets, external finishes, etc.) may not be accurately represented in images vs specifications. Please review specifications and do not order based solely on images.

LLP-CAT-AD45 & LEDP10W-50E-F LED Light Bars
Lamp Type: CREE XLamp MC-E® LED
Dimensions: 4.68"-L4.30"-H 3.5"-D
Watts: 50
Weight: 5.11 Lbs each
Voltage: 9-46 VDC
Lighting Configuration: 20° Spot or40° Flood
Mounting: Flat Surface or Tube - Adjustable
Wiring: Deutsch IPD / LADD DT04-2P connector
Amps:4.17 (on 12 volts)2.9 amps (on 24 volts)
Lumens: 4,300
LED Light Color: 6000K
LED Life Expectancy: 50,000 hours
Optics Efficiency: 90%
Materials: Aluminum Housing, Polycarbonate Lens
Housing Colors: Black or White
Flood Beam: Lux @1 meter= 8,950 @3 meters= 1,225
Spot Beam:Lux @1 meter= 13,750 @3 meters= 1,850

LEDP10W-1R-F LED Light
Lamp Type: CREE XLamp MC-E® LED
Dimensions: 2"-OD2"-H 2.5"-Depth
Watts: 10
Led Drive %: 90%
Voltage: 9-46 VDC
Spot Beam: 280`L x 70`W
Flood Beam: 70`L x 65`W
Lighting Configuration: 20° Spot or40° Flood

Internal LED Driver Features
Fast average current control
Programmable off-time switching
Linear dimming input
PWM dimming input
Short protection w/ Skip mode
Ambient Op Temp -40C to +125C
Pin-compatible with the HV9910B
View Avg-Mode Driver Control PDF
CE Certified

Mounting: Flat Surface or Tube - Adjustable
Wiring: Deutsch IPD / LADD DT04-2P connector
Amps: 1/4 (on 12 volts)
Lumens: 860
LED Light Color: 6000K
LED Life Expectancy: 50,000 hours
Optics Efficiency: 90%
Materials: Aluminum Housing, Polycarbonate Lens
Housing Colors: Black or White

3 year warranty replacement on this LED light. After 30 days, the customer ships the failed LED light and/or LED bulb to Larson Electronics at their expense. If the failure is a manufacturer defect, we will ship a new replacement to the customer. If failure occurs within 30 days of receipt, Larson Electronics will provide a return label via email to the customer. When the failed light is returned, Larson Electronics will ship a new replacement.

Special Orders - Special Requirements
Contact us for special requirements
Toll Free: 1-800-369-6671
Intl: 1-214-616-6180
Fax: 1-903-498-3364
E-mail: sales@larsonelectronics.com

Buy American Compliant

The LLP-CAT-16H LED Light Package comes with 2 LEDP10W-50E-S 4" Square Spot LED Work Lights, 5 LEDP10W-50E-F 4" Square Flood LED Work Lights, and 4 LEDP10W-1R-F 2" Round Flood LED Pod. The LLP-CAT-AD45 LED Light Package is ideal for a wide variety of uses including equipment, vehicle, military, law enforcement and industrial manufacturing applications. 4,300 lumens of light output with low voltage and amp draw, a 50,000 hour rated service life, and 9 to 46 volt compatibility provides operators with a versatile and powerful LED lighting solution.

The LEDP10W-50E-S and the LEDP10W-50E-F LED lights from Larson Electronics produce 4,300 lumens of bright light while drawing only 50 watts @4.2 amps from a 12 volt electrical system. Five CREE XLamp MC-E® ten watt LEDs producing 860 lumens each are paired with high purity optics to produce a 20 degree spread spot beam approximately 525’ long by 75’ in width. Ten floodlights with a 40 degree beam spread to provide more light over a larger area nearer the fixture, making these flood versions ideal for use as work lights. These LED light bars are waterproof to 3 meters, sealed against intrusion by dust and dirt, and very ruggedly constructed to withstand the most demanding environments, conditions and applications.
The LEDP10W-1R-F LED light emitter from Larson Electronics produces 860 lumens of bright light while drawing only 10 watts @1/4 amp from a 12 volt electrical system. A single CREE XLamp MC-E® 10 watt LED producing 860 lumens is combined with high purity optics to produce a 20 degree spread spot beam approximately 280’ long by 60’ in width. We also offer floodlight versions with a 40 degree beam spread to provide more light over a larger area nearer the fixture, making flood versions ideal for use as work lights. This particular unit is ultra compact at only 2 inches in OD (outer diameter) by 2 inches tall, by 2.5 inches deep, which makes it ideal for applications where electrical power and mounting space is at a premium.
An integral Pulse Width Modulation controller, small profile, low power requirements, high durability and versatile mounting system makes these LED light emitters a superior lighting solution for a wide array of applications including but not limited to: military, industrial manufacturing, machine visioning, security and law enforcement, boating, vehicles and commercial structure illumination.



LEDP10W-50E-S	LEDP10W-50E-F	LEDP10W-1R-F
Click Photo to Enlarge	Click Photo to Enlarge	Click Photo to Enlarge

Heat Management: Heat is the single largest factor in premature LED failure and color shifting. These LED units contain advanced drivers which use pulse width modulation to control heat buildup rather than simple voltage regulators which are typically harsh on sensitive electronics and can contribute to early LED failure. These units automatically sense the temperature of each LED and adjust the energy frequency or "duty cycle" accordingly to maintain heat levels within acceptable ranges. This system in essence flashes current at an extremely fast on and off rate to each LED based upon the LED's core temperature.

This flash rate is too fast to detect with the human eye, but provides precise control of the current flowing to each LED and thus the heat it generates. This allows the LEDs to be driven at up to 100% capacity without overheating or visible loss of light output. The LEDs are always driven at the same voltage but the duty cycle, however, is changed to alter how long the LEDs are actually on or off. The end result is more light with less heat and longer LED life with an average 70% lumen maintenance after 50,000 hours.

PWM Control: The pulse width modulation drivers in this unit also provide secondary benefits through the ability to tap into a provided input wire with an external pulse generator and adjust the duty cycle of the current being applied to the LEDs. Thus you can connect an external dimmer, switch, or pulse control and adjust the perceived output of the light, effectively causing the light to flash, dim or brighten to the desired levels.

Additionally, this method of controlling light output results in a corresponding drop in amperage draw, so if the duty cycle is cut back to 50% there will be a matching 50% reduction in amperage draw. These units are also able to monitor and adjust input current to maintain the correct LED voltage levels regardless of input levels across a specific range. These LEDP10W series lights can operate on current ranging from 9 to 46VDC without any modifications necessary as a result.

This ability to sense and adjust input current also provides protection against voltage spikes and drops that can occur in vehicle electrical systems which would otherwise result in burning up or premature LED failure without it.

Durability: As well as unparalleled heat control, the LEDP10W series of LED lights from Larson Electronics also offer IP68 rated construction that is designed to withstand extremes of environmental and operating conditions. These units can withstand rapid temperature changes of -40 degrees Celsius to 85 degrees Celsius, are waterproof to three meters, and resist ingress of dust, dirt and humidity. The housings are formed from extruded aluminum and the lenses are unbreakable polycarbonate. The CREE XLamp MC-E® LEDs offer resistance to shocks and vibrations and are rated at 70% lumen maintenance after 50,000 hours of use.

Mounting: Each unit is equipped with aluminum mounting blocks which slide within the aluminum housing to allow users to adjust their positioning to match existing or user drilled mounting holes. Each aluminum mounting block has an integrated rubber bushing to absorb vibrations and shocks. To secure the lights in place users simply slide the mounting bolts through the aluminum mounting block and rubber isolator, through the mounting surface, then secure the bolt with a locking nut on the opposite side of the mounting surface. This mounting system enables mounting to flat or round surfaces and allows for minimal 7 degrees of flexibility of angle placement of the light. For increased adjustability please see our trunnion mounted versions which add a wider degree of vertical angle adjustment.

Note: Most Larson Electronics LEDLB, LEDP3W, LEDP10W, and LED10W series LED spotlights and floodlights are terminated with a Deutsch IPD / LADD DT04-2P connector. The mating connector plug is DT06-2S. Most LEDLB and LED10W series lights ship with the mating connector as part of a harness or pigtail depending on the model. Some larger LED lights like the LEDLB-160X2 or LEDLB-200X2 or multiple function LED lights (i.e. high/low beam, modulating, IR/Visible combos)

will have different Deutsch connectors.

LEDP10W-50E-F 40° Flood Beam



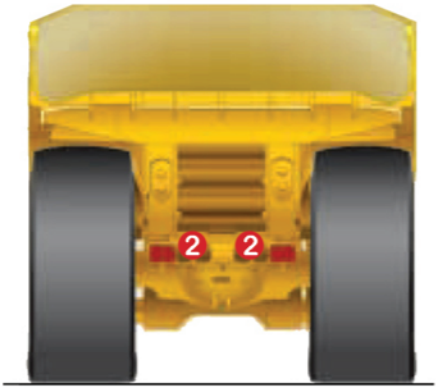
LEDP10W-50E-S 20° Wide Spot Beam



CONDITIONS

Vin min (V) = 9	**toff (us) = 2.9**
Vin nom (V) = 12	**R1 (kohm) = 50.2**
Vin max (V) = 50	**L1 (uH) = 3.0**
Vo min (V) = 6.5	**L-Pk (A) = 2.9**
Vo nom (V) = 6.8	**L-rms (A) = 2.9**
Vo max (V) = 7	**Ipk (A) = 2.5**
I-LED (A) = 2.2	**R2 (ohm) = 0.10**
Efficiency = .85	**I-FET (A) = 2.2**
fsw nom (kHz) = 150	**fs min (kHz) = 77**
Ts nom (us) = 6.666667	**fs max (kHz) = 301**
Base frequency-	= 36~37Khz @ 12V
Amplitude of pulse width-	= 27Ms
Outside: External dimmer-	= 500Hz
Inside : Current sensing from-	77KHz at 12V to 300KHz at 50V

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1 LEDP10W-50E-S
4" Square Spot LED Work Light

2x Front Facing (One on each side of radiator)



2 LEDP10W-50E-F
4" Square Flood LED Work Light

2x Front Facing (One on each side of radiator)
1x Side Facing (On side of operator's cabin)
2x Lower Rear Facing (Under rear of bucket)



3 LEDP10W-1R-F
2" Round Flood LED Pod

1x Rear of Operator's Cabin (Facing down stairway)
1x Rear Inner Corner of Operator's Cabin (Facing access area)
1x Outer Side of Operator's Cabin (Facing service hatches)
1x Engine Compartment Area (Inside service hatch)

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1 LEDP10W-50E-S
4" Square Spot LED Work Light

2x Front Facing (One on each side of radiator)



2 LEDP10W-50E-F
4" Square Flood LED Work Light

2x Front Facing (One on each side of radiator)
1x Side Facing (On side of operator's cabin)
2x Lower Rear Facing (Under rear of bucket)



3 LEDP10W-1R-F
2" Round Flood LED Pod

1x Rear of Operator's Cabin (Facing down stairway)
1x Rear Inner Corner of Operator's Cabin (Facing access area)
1x Outer Side of Operator's Cabin Facing service hatches)
1x Engine Compartment Area (Inside service hatch)

Frequently Asked Questions (FAQ)