



# On The Job Gear®

*Making the job easier with great gear!*

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## On The Job Gear® Long Term Test Review: AE Light® PL-24™ / PL-24S™ Personal Searchlights™



“It’s Like Having The Searchlight From A Helicopter In The Palm Of Your Hand” This is what one of my fellow officers said when he saw this light. “Sick, man, totally sick.” It is. This light is everything you could ever dream of in a handheld light that offers the whiteness of the stars with the brilliance of the sun!

We contacted AE Light in early 2007 after reading about their line of Personal Searchlights™, lights that offered the power of a high power spot lamp in a size that can be carried in your hand. The first question we asked, “So how bright are these lights?”

Our question was answered upon delivery of our first order of lights... damn bright. In fact, the PL series lights offer two different output levels, 1300 Lumens and 800 Lumens. The new Xenide series offers output levels in 950, 1200, and 1500 Lumens from the X15, X20, and X25, respectively.

Confused by Lumens? Lumens is a measure of light in luminous flux based on perceived light emission. Lumens is different than candela, or candlepower, which is a light measurement based on radiant flux, or the total amount of light output. What does that mean to us? Honestly, not a damn thing. So we looked for a comparison between our PL-24™ and a real world equivalent.

The closest thing that we could find is an automotive halogen headlamp on its high-beam (65 watts) setting. The headlamp output is equivalent to 1200 Lumens. However, the halogen light output is very yellow when compared to the ultra-white color of the PL-24™ light. In the case of our PL-24™, the '24 bested the halogen hi-beam by 100 Lumens. That is a hell of a lot of light to carry around! In addition, the PL-24™ focuses a beam of ultra-concentrated light into a center “spot” shape while surrounded by a gentle focused flood pattern which offers a perfect balance between area and target illumination.

We would be remiss, however, if we didn't mention that the PL-24™ isn't a "flashlight" in the classic cop sense. It won't fit in a ring on your duty belt and is probably too bright for motor vehicle stops... well, unless you really want to use it (smile). The PL-24™ exudes two things; authority and technology. Crafted of high-grade aircraft aluminum and packed with the thoughtful inner-workings of the AE® engineers, the PL-24™ is the perfect companion for a patrol bag or police car.



We sent out three of these lights, two PL-24™'s and one PL-24S™ for field testing.

The testers were a patrol officer, a K-9 officer (equipped with the PL-24S™) and a military Special Forces soldier. The bottom line up front, all fell in love with the lights! *On a side note, we are still negotiating surrender of our PL-24™ from the Special Forces soldier. He keeps laughing at our threats.*

#### **What our testers said:**

"This light is so bright... it is simply sick. I love it for field or woods searches where some [suspect] takes-off into the night. I crank this baby on and it is go time! Nothing can get away from this light! The intimidation factor is awesome! You can't even look at this thing when it is on. It's like visual pepper spray from 100 yards!" – Patrol Officer

"I can paint a target from [asked not to disclose distance] away with this light using the IR filter and [the target] has no idea that through my [IR] scope he looks like he is standing in broad day light. This is an enormous advantage." – Special Forces Soldier

"This is exactly what I need for tracking! It is small enough that I can carry it, or hand it over to my spotter. The advantage for me is keeping my dog from walking into an obstacle that could hurt him while completely blinding the [suspect] when we encounter him. This light is brighter than the spotlight on the patrol car. We need these things for every one of our K-9 cars!" – K9 Officer with PL-24S™

In fact the PL-24™ series lights are a great asset for anyone engaged in military or law enforcement operations. A perfect companion for a SWAT team, or for the patrol officer who needs to pursue a "bail-out" from a car stop into the woods at night.

So let's talk a little about quality. These lights are packed with it! One of the first questions that I asked the guys at AE® light when I was purchasing our first order of these lights was about

the lenses. The reason for this is the graveyard of rechargeable lights that litter my department's patrol briefing room. They are burdened by batteries that won't hold a charge, lenses that have warped and melted into a semi-transparent mess, and broken bulbs and switches.

"These lenses will never distort, melt, or lose any of their transparency" was the answer that I got. Really? It sounded too good to be true. Though it was explained that the lenses were crafted of a special polycarbonate compound whose melting point (in excess of 1,200 degrees Fahrenheit) far exceeded the temperature of the lamp ballast, the first test that I performed was a back-to-back constant burn time using four fully charged batteries. The result after five hours... absolutely no change in the lens. Nothing. So I decided to complicate the process and added a color lens (red) and conducted the same test. The result, exactly the same. The lamp lens and the colored lens, sandwiched on top of one another, made it through without any distortion whatsoever. I was impressed. I can name several lights that cost in excess of \$150.00 that would have simply cooked the lenses in the same test.

Next was the brightness testing. Now, I already knew the Lumen-rated output of these lights but I wanted more of a real world test. I summoned a buddy of mine and we went to a large park where I stood about 200 feet away from him and shined the light at his face. I then asked him to tell me how many fingers I was holding up (for the record, it was only one). He could see nothing. He told me that he couldn't even look at the light. "It's too [adjective] bright!"

So I moved away from him. Left without a good way to measure the distance, I hopped in my car and drove 1/10<sup>th</sup> of a mile away from him, approximately 520 feet. I did the same test again and his reaction was the same. "All I can see it a white blinding light... it's like a laser beam. I can see around you but can't see you or any fingers... and I know which one you are probably holding up."

At 2/10<sup>th</sup> of a mile (1040ft) I ran out of open space but my buddy still could only see a very bright white light pointing at him. I drove back to him, gave him the light, and drove back to the point over 1000 feet away. He was right. The light was blinding. It illuminated my car clearly. I could read the license plate, the inspection sticker, even the small printing on the sticker that includes the VIN. It really did look like a helicopter's searchlight as had been described by several others.

At approximately 660ft from the light, below is how it looked to me. I snapped a photo without any correction for darkness to try to capture how it really looks to see this light at night. The photo isn't the most clear, it was taken from a standing position without a tripod, but you get the idea.



So why is this light so bright? Well first of all, it is based on a 24 watt power source (wattage varies by model) that provides the current for the High Intensity Discharge (HID) arc to fire. When you first turn the light on, the manufacturer states that it takes approximately thirty seconds to reach full brightness. In our testing, we never had to wait more than 12-15 seconds. If the light had been on within the past minute or so, “restrike” or reignition of the ballast took only about 8 seconds to reach full brightness.

Make no mistake, it is very bright the instant it is turned on, far brighter than most lights we have seen. At full brightness, it is unparalleled by any light we have ever tested. Bar none. With a run time of more than an hour on a single charge, this light spends far more time riding around “shotgun” than sitting attached to a charger.

The battery, constructed of Lithium Ion, holds a charge with very little loss of charge over long periods of time. These lights are not designed to spend their idle time sitting perched on chargers. The battery will hold a charge for up to a year with only a 10-15% loss of power. This is a fantastic accomplishment. During use of the light for testing purposes, it was so infrequent that we needed to recharge the light that we were left trying to find where we put the charger. Good for over 500 charges, these batteries pack one hell of a punch and are made to last!

So where did these lights originate? They are actually based on a prototype ordered by the German Military. The original light emitted over 3,500 Lumens and was based on a 50 watt battery. Sound bright? We are sure they were. The only downside was the cost, somewhere near \$3,000.00 per light.

AE® Engineering redesigned the lights for slightly lower output, in a smaller size, at a much more affordable price. And price is the ultimate factor that separates us from the tools (or toys) that we need.

No, these lights aren’t cheap. They will set you back a bit but, when compared to the lights most commonly used in law enforcement, their performance is generally tenfold with a price that is twofold. You are getting what you pay for.

You won't be disappointed with these lights! They will last a very long time and provide all of the illumination that you need. Of all the lighting products we sell, the PL-24/S™ lights have been our favorite. Well, that is, until the new Xenide X25 (pictured right) arrived earlier this week. We will be providing more information on the Xenide series in the future. In short, the Xenide series are slightly smaller and slightly brighter and come with a rugged plastic and metal carrying case to make storage in the trunk of a patrol car or rear cargo area of a Humvee effortless.

"It's what you *don't* see at night that will kill you."

– Special Forces tester.

