

# Safety Article of the Month

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## Motorcycle Auxiliary Lights

Riding a motorcycle with stock lights often does not meet the needs to adequately see at night, and/or to be seen in both night and day. Auxiliary lights can be useful if riding at night, and to complement existing lights. They can also work as daytime running lights, to increase visibility to traffic.

### Beam Patterns

Auxiliary lights are classified into multiple classes. The different types are Hyperspots, Spots, Floods, and hybrids. These classifications are based on the light pattern they produce.

### Hyperspots

Hyperspots cast a narrow 5-6° beam. The narrow beam projects light over huge distances. A 3,000-3,500 lumen beam will usually carry a 1 lux distance of 2,000 ft or greater. The more powerful ones can reach 3,000 ft. These beams are excellent for highway travel, to receive early warnings of what's ahead. Focusing a hyperspot is critical, from the illumination perspective as well as in terms of the risk of blinding oncoming traffic.

### Spots

Spots project a 10-15° beam that shoots out over a good distance and isn't too narrow like the hyperspots. A 3,000-lumen spot beam can reach 1,200 ft. The wider circle of light, once again, means focusing the spot beam is important to its utility and to not blind oncoming traffic.

### Floods

A flood beam projects an extremely large circle of light ahead of the light unit. This is good for filling in the gaps that the low beam of the motorcycle might have. Floods can be extremely bright and they project wide light beams of 80-120°. Focusing a flood beam is about reducing blinding oncoming traffic because the wide nature of the beam means exact light unit focus isn't crucial to the operation.

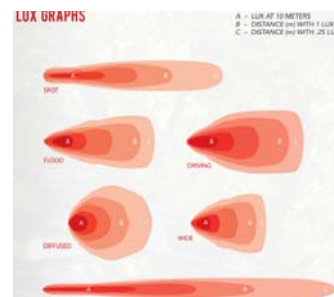
### Hybrids

A hybrid uses multiple LEDs set up with a combination of spot and flood lenses to produce a beam that balances the distance of the beam and the width of the beam. These are perhaps the most useful of the lights to add to a motorcycle with weak headlights because their job is to produce a reasonably wide beam with a significant distance. Some of the smarter lights will give you the option to change the lenses so that you can choose how many forward pointing LED units are working as floods or spots depending on how you'd like to help the motorcycle headlight.

### Brands

There are multiple brands in the market that provide auxiliary lighting alternatives:

- **Clearwater Lights:** These are top-of-the-line CNC-machined lights. Ericas produce 6,000+ lumens via 6 high power LED's in durable aluminum housings with a very modest power consumption level of only 60 Watts. The price is ~\$1,000 USD.
- **Denali Electronics:** Denali Light Kits are brighter, more robust, and a lot more versatile. The DR1 produces 2,000+ lumens while only drawing 1.6 amps. The price is ~\$375 USD.
- **PIAA:** PIAA manufactures world-class driving lights with the latest technology to make night, inclement weather, and off-road driving as safe as possible. The LP270 provides halogen light capability with the low power consumption and durability of an LED. The LP270 Lights aim the LEDs at the reflector. The price is ~\$350 USD.
- **Baja Designs:** Baja Designs has been at the forefront of performance lighting solutions for 25+ years. The Squadron Pro produces 4,900 Lumens at 40 watts, in an aluminum housing. The price is ~\$400 USD.



Beam patterns.



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Denali Electronics DR1.



PIAA LP270.



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