A smart vehicle detection system that leverages radar technology to trigger high-intensity flashing lights, increasing driver awareness of potential roadway hazards:

- Flashing light options include LED enhanced signs in various sizes or circular beacons
- Highest LED intensity output in the industry
- Configurable radar settings for detection speed, sensitivity and vehicle direction
- System mounts to standard poles
- Scalable design: multiple signs can be added with synchronized flashing
- Powered by solar or AC
- Solar Power Report™ (SPR) prepared for every location to ensure battery longevity

**Superior Detection Technology**
The system monitors roadways 24 hours a day for vehicles, without interfering with other traffic detection systems. When the radar unit detects a vehicle, the system activates the LEDs to warn the driver and make them aware of the oncoming hazard or warning sign.

**Easy Solar Installation**
With its highly efficient and compact solar design, installation is quick and uncomplicated, dramatically reducing installation costs. Existing signs can be retrofitted in minutes, and new installations can be completed without the cost of larger poles, new bases and trenching.

**Advanced User Interface**
The system comes with an on-board user interface for LED configuration and system status monitoring. It allows for simple, in-the-field adjustment of flash pattern, duration, intensity, ambient auto adjust, night dimming, and more. The radar is easily programmed using the included PC software, allowing for quick setting configuration for detection speed, sensitivity and more.

**Reliable**
Carmanah backs every system with a three-year limited warranty. Every solar-powered model is solar-sized by location to ensure year-after-year operation. Carmanah includes a Solar Power Report to prove sustainability over a 12-month period.
Vehicle Detection Systems
Data Sheet

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SOLAR ENGINES

<table>
<thead>
<tr>
<th>2.0&quot; - 2.5&quot; Perforated Square Pole Mount</th>
<th>2.38&quot; - 2.88&quot; Diameter Round Pole Mount</th>
<th>3.5&quot; - 4.5&quot; Diameter Round Pole Mount</th>
<th>Side Pole Mount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compact, 15w integrated solar engine</td>
<td>Large, 30w integrated solar engine</td>
<td>Cabinet-based, 20w, 50w, and 80w solar and AC systems</td>
<td></td>
</tr>
</tbody>
</table>

SOLAR ENGINE MOUNTING

Energy Collection
- Solar or AC-powered
- Integrated, vandal-proof antenna
- 45-degree solar panel tilt for optimal energy collection
- Maximum Power Point Tracking with Temperature Compensation (MPPT-TC) battery charger for optimal energy collection in all solar and battery conditions

Energy Storage
- Replaceable, recyclable, sealed, maintenance-free, best-in-class AGM batteries offer the widest temperature range and longest life
- Battery design life: +5 yrs.
- Tool-less battery change with quick connect terminals and strapping for easy installation

Solar Engine Construction
- Weatherproof, gasketed enclosure with vents for ambient air transfer (NEMA 3R)
- Lockable, hinged enclosure for access to on-board user interface and batteries
- Corrosion-resistant aluminum with stainless steel hardware
- Raw aluminum finish or powder coated in yellow or black
- Fireproof to minimize installation time

Environmental
- High-efficiency optics and EMS = the most compact, lightweight system
- -60 to 165°F (-40 to 74°C) system operating temperature

Warranty
- 3-year limited warranty (1-year battery warranty)

APPLICATION OPTIONS

<table>
<thead>
<tr>
<th>Curve Ahead Warning</th>
<th>Intersection Conflict</th>
<th>Hazard Ahead Warning</th>
</tr>
</thead>
</table>

FLASHING LIGHT OPTIONS

<table>
<thead>
<tr>
<th>LED Enhanced Sign</th>
<th>Circular Beacon</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Many sign shapes, colors and sizes are available. Contact Carmanah for more options.</td>
<td></td>
</tr>
</tbody>
</table>

SYSTEM SPECIFICATIONS

On-Board User Interface
- Adjustable system settings with auto-scrolling LED display
- System test, status, and fault detection: battery, solar, beacon, day/night
- Intensity setting: 20 to 1400 mA for LED enhanced signs or circular beacons
- Radio settings: enable/disable, selectable channel from 1 to 14
- Nighttime dimming: 10 to 100% of daytime intensity
- Ambient Auto Adjust: increases intensity during bright daytime
- Automatic Light Control: reduces intensity if the battery is extremely low
- User-selectable multiple channels to group different signs and ensure a robust wireless signal
- Communicates with all nearby wireless beacon systems
- Instantaneous wireless activation: <150 ms
- Wireless range: 1000 ft (305 m)

Connectivity
- Encrypted, wireless radio with 2.4 GHz mesh technology
- User-selectable multiple channels to group different signs and ensure a robust wireless signal
- Communicates with all nearby wireless beacon systems

Detector Specifications
- 24 GHz radar unit detects vehicles
- Radar technology for accurate detection at night and in adverse weather conditions
- Adjustable radar parameters, such as detection speed, sensitivity, trigger event settings and duration, and others
- 3rd-party tested radar detection range to 1000 ft
- Universal bracket mounts to pole with standard banding, through bolts, U-bolts, band clamps, and more

Warning Light Specifications
- LED Enhanced Sign
  - MUTCD compliant: 2009 MUTCD, Chapter 2B Signs
  - High-power LEDs in waterproof housings
  - Aluminum channels protect wiring; includes junction box
- Circular Beacon
  - MUTCD compliant: 2009 MUTCD, Chapter 4L, Flashing Beacons, Manual on Uniform Traffic Control Devices (MUTCD)
  - ITE VTCSSH-LED Circular Signal Supplement compliant: meets ITE or 1.7x ITE intensity when used as recommended
  - 12" (305 mm) or 8" (203 mm) diameter LED modules, yellow or red
  - High-power LED: +90% lumen maintenance (L90) based on IES LM-80
  - Yellow, black, or green signal heads in UV-resistant polycarbonate or aluminum

Specifications subject to local environmental conditions, and may be subject to change.

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