



Internally Illuminated Traffic Sign

EDGE-LIT LED TRAFFIC SIGN

Typical Applications

- Regulatory signs
- Guide signs
- Lane control signs

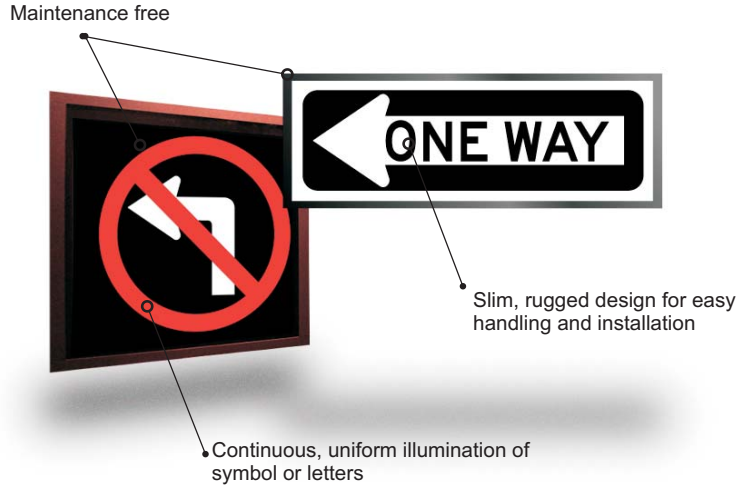
Features

- Maintenance free operation for 50,000 hrs +
- MUTCD standard sign layout
- MUTCD Compliant illumination of letters and symbols
- Crisp, uniform illumination of entire symbol or letter (no pixals)
- Thin profile (1.38" thick single sided, 1.77" double sided)
- Durable construction
- Cold temperature (-40° F) performance
- Strapping bracket mounting or underhang mounting

Benefits

- No bulbs or ballast to replace
- Consumes 1/10th the energy of a fluorescent sign and ½ the energy of LED retrofit kits
- Avoid EPA regulations for fluorescent bulb disposal
- Addresses visibility needs of older drivers
- Low-power requirements facilitates use of battery back-up systems
- High legend-background contrast ratio optimizes sign visibility and legibility

For more information, visit [www.roadlights.com](http://www.roadlights.com)



**Carmanah's LED Edge-lit technology provides exceptional illumination and visibility of traffic signs.**

LED Edge-lit technology consists of LEDs mounted on the edges of the sign that illuminate the sign surface, as opposed to the light source being behind the sign. Carmanah's Edge-lit manufacturing process was originally developed for the commercial sign industry and is in use by corporations worldwide. Through Carmanah's proprietary legend enhancement processes, light output of the sign legend is optimized, providing highly visible, crisp character definition that is far more effective than back-lit illumination.

**SAVINGS**

Agencies already using traditional fluorescent illuminated signs will realize tremendous savings in energy and maintenance costs by replacing the signs. Signs require an average of just 10% of the energy required by traditional signs, and there are no bulbs or ballasts to replace, ever.

**SAFETY**

Internal Illumination provides enhanced visibility of regulatory and other types of traffic signs. Sign illumination is particularly important for signs mounted over the roadway. Overhead signs receive only 10%

of headlamp illumination compared to roadside signs, making retro-reflective signs far less effective in this application. Additionally, changes in headlamp specifications will reduce overhead sign illumination by 33%. The 2003 MUTCD recommends illuminating overhead signs.



General Service Signs: ie D9-2 Hospital



Regulatory Signs: ie R5-1a Wrong Way

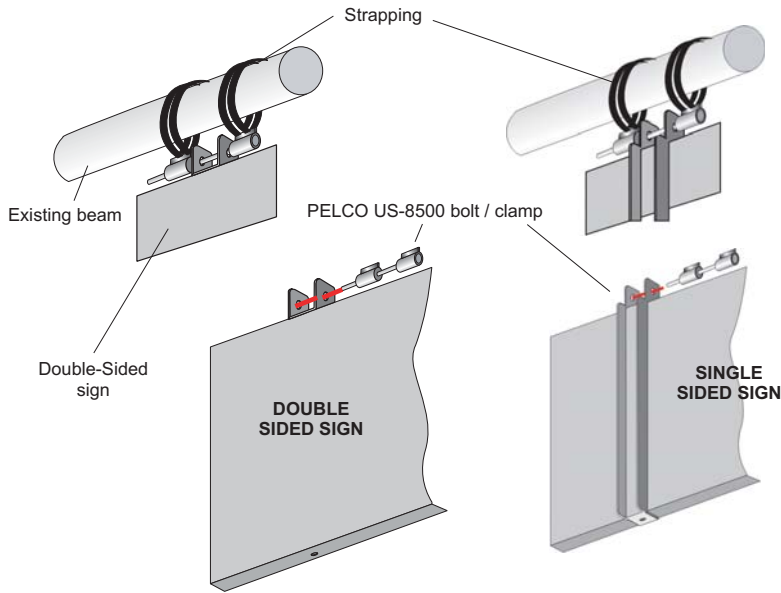
Model R450



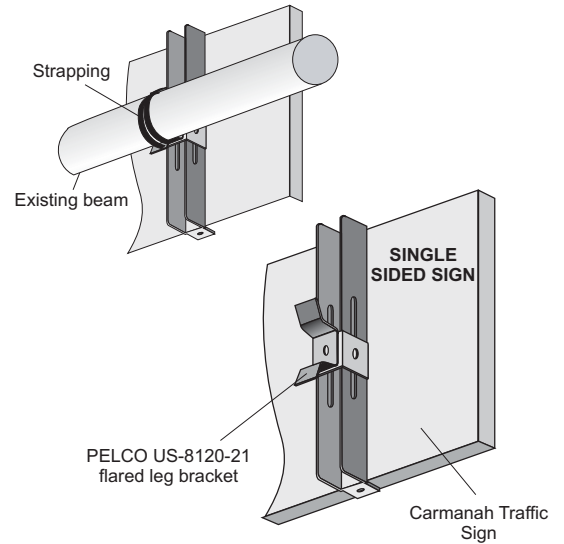


Internally Illuminated Traffic Sign

**Underhang Mounting**



**Strapping Bracket Mounting**



**SPECIFICATIONS**

**MECHANICAL**

Dimensions MUTCD standard sizes. Maximum height: 36", maximum length 96" (dependent on sign)

**MATERIAL**

Frame 6063-T5 Aluminum housing with durable non-glare powder coat finish  
 Lens High impact strength / UV and abrasion resistant Polycarbonate

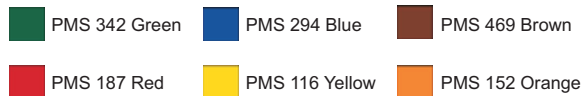
**MOUNTING OPTIONS**

Under-hang mount (accepts Pelco Part US-8500 or equivalent)  
 Strap mount (accepts Pelco Part US-8120-21 or equivalent)

**LIGHT OUTPUT**

Characters and / or symbols 250 Nits minimum (candela per sq. meter)  
 Energy requirements Maximum: Two Watts per square foot (single-sided),  
Four Watts per square foot (double-sided)  
 Power Supply 120 VAC in, UL Class 2 and UL Outdoor damp location rated  
 Operating Temperature -40 deg. F to +140 deg. F

**STANDARD MUTCD COLORS**



All specifications are subject to change without notice.



**Carmanah**

Contact:  
Roadways Division

**Carmanah Technologies Inc.**  
 Building 4, 203 Harbour Road  
 Victoria, British Columbia  
 Canada V9A 3S2

Toll-Free: 1-877-722-8877  
 General: (250) 380-0052  
 Fax: (250) 380-0062  
 E-mail: info@roadlights.com  
 URL: www.roadlights.com

Carmanah is a public corporation - TSX VE: CMH

© 2004 Carmanah Technologies Inc.  
 "Carmanah" and Carmanah logo are trademarks of Carmanah Technologies Inc.  
 Document: Rd-R829-v1r01

**Model R450**

THE LEADER IN LED LIGHTING SOLUTIONS