

**3M** Science.  
Applied to Life.™

# Readability you can rely on.

Let the 3M License Plate Design Services Team  
optimize your plates for human and infrared  
camera readability.



# License Plate Design Services

Today's license plates don't just have to look great—they have to perform great too.

As machine vision evolves, the readability of plates to scanners and infrared (IR) camera systems has become just as critical as the how the plate looks to the human eye. Our design team can help you get the best of both worlds—colors that have been optimized for machine vision and a beautiful design.

Wherever you are in the development of your plates, the 3M License Plate Design Team's full-time, professional designers can help ensure your new plates will perform at their best. They can even help you incorporate authenticity features to strengthen your plate's security.

With expertise that spans multiple printing technologies, including rotogravure, screen printing/spot color, thermal transfer/digital and Inkjet digital, we will work with you every step of the way to produce a great plate.

**We're with you from consultation to production.**

- ▶ Complete design services to help you create great looking, one-of-a-kind license plates
- ▶ Electronic proofs of design concepts
- ▶ Physical samples for approval
- ▶ Onsite design training for new printer installation and testing
- ▶ Production artwork for 3M produced graphics—long run graphic and multiple short run graphic types—and customer owned digital printers

Optimize your plates today. [3M.com/VehicleRegistration](http://3M.com/VehicleRegistration)

Embedded design for security and aesthetics





## Why IR readability matters.

Most law enforcement agencies and many tolling agencies use Automated License Plate Reading (ALPR) or Automated Number Plate Reading (ANPR) systems to read license plates using an infrared light source. A critical factor in IR readability is the contrast between the background of the plate and the plate numbers. You can't assume that a plate that looks good to the human eye will be readable to an ALPR/ANPR system that uses an IR light source. IR readable plates are crucial for accuracy with these systems.

3M has developed a method to calculate the IR contrast of a plate design based on the printer technology used to make the plate and the most common IR wavelengths. If the contrast calculation method determines the IR contrast to be low, the 3M designer can slightly adjust the inks used to make the plate or change the printing method, to achieve an acceptable contrast ratio. This helps ensure your plates will be both great looking and highly readable. Our design team can provide samples for camera readability studies.



**Visible Spectrum Proof**



**Before Optimization**

Image of infrared spectrum plate at ~850nm



**After Optimization**

Image of plate designed for maximum IR readability ~850nm



## Specialty plates are our specialty.

Specialty plates are the hottest thing on the road today with over 2,000 different styles available in the U.S.—and more being added every day. Specialty plates help organizations raise money for a variety of causes—from helping the environment to disease research, there's probably a plate you can purchase to support it. They're a great source of additional funding for these organizations and they also increase revenue for the issuer—while raising awareness for both.



# License Plate Design Infrared Assessments

Our design team can create samples to test your plate's IR readability. Depending on the plate's performance, we will recommend options to increase the contrast ratio of the plate.

## RATING:

**POOR** ▶ Design adjustments recommended.

**GOOD** ▶ No changes recommended.

Let our team help you create a great IR-readable plate. Contact the 3M License Plate Design Team at [3M.com/VehicleRegistration](http://3M.com/VehicleRegistration)

Reflected Visible Light Spectrum	Contrast Ratio	Rating
Visible light 	1.00	<b>GOOD</b> No changes recommended.
Infrared Spectrum	Contrast Ratio	Rating
750nm 	0.52	<b>POOR</b> We recommend moving the design elements down 0.15".
Infrared Spectrum	Contrast Ratio	Rating
850nm 	0.64	<b>GOOD</b> No changes recommended.
Infrared Spectrum	Contrast Ratio	Rating
940nm 	0.64	<b>GOOD</b> No changes recommended.

750, 850 and 940 nanometer camera wavelengths can be assessed with this process. A contrast ratio below 0.65 is less than optimal for IR readability.



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