

Visec International LPR / ANPR Guidelines



WISEC License Plate Recognition

The Following guide is only if you have a request for an LPR system

This means that you need to feed images to an object character recognition engine and wish to file these alphanumeric characters into a database.

What is most important is to understand that the license plate is the focus and not the entire vehicle.

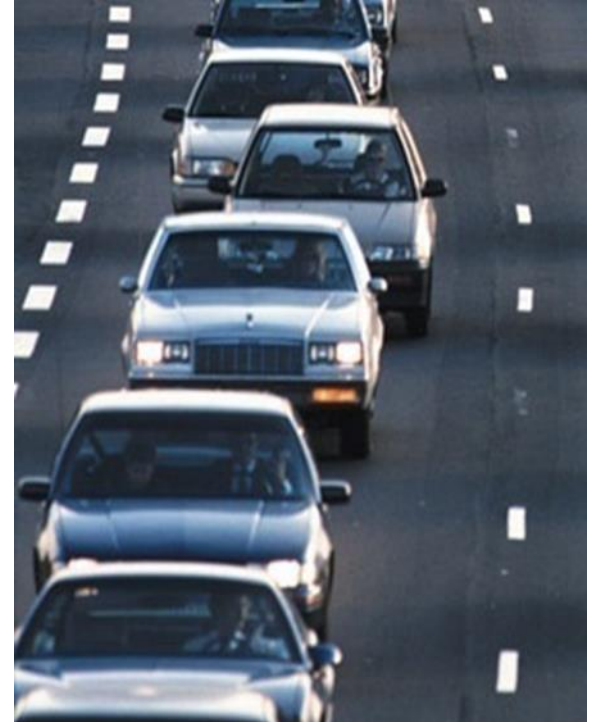
The following would be a guide to run LPR for a full 24/7 application



LPR 24/7

To successfully run an LPR system 24/7 you will need FOUR very important components

1. Visec License Plate Recognition Software
2. The Right Camera
3. The Right Lens
4. The Right Infra red Illuminator



The Right Camera 720P and 1080P

- > **Axis P1354 and P1355**
- > Superb video quality including HDTV (720P and 1080P)
- > Lightfinder technology
- > Multiple H.264 video streams
- > Digital PTZ and multi-view streaming
- > Edge storage
- > Serial port
 - Easy installation (PoE, focus assistant, remote back focus)
- > Outdoor-ready models



The Right Lens

- > Lens choice should suite the application
- > To calculate the correct focal length, please go to http://www.axis.com/techsup/cam_servers/lens_calculators/index.htm
- > The lens requirement must be: Varifocal, Mega pixel, IR corrective (Day Night), DC Iris or P-Iris (the existing lens that ships with the P1354 and P1355 meets these requirements)
- > If you require a longer focal length the below lenses would meet the requirements



LENS CS VARIF 9-40MM DC-IRIS D/N	1	10 Description changed	5503-171	5503-171	Varifocal IR-corrected lens for cameras up to 5 mega pixel resolution. Compatible with e.g. AXIS M1114/-E, P1354/-E, P1355/-E, P1357/-E, Q1602/-E, Q1604/-E.
LENS COMPUTAR CS 12.5-50MM DC-IRIS	1	20 To be launched	5800-791	5800-791	Varifocal IR-corrected lens with DC-Iris. Compatible with e.g. AXIS P1353/-E, P1354/-E. Axis Q1602/-E, Q1604/-E.
LENS COMPUTAR CS 12.5-50MM P-IRIS	1	20 To be launched	5800-801	5800-801	Varifocal IR-corrected lens with P-Iris. Compatible with e.g. AXIS P1355/-E, P1357/-E.

The Right IR illumination

- > Most LPR systems use 850nm IR Illumination
- > Please Choose the right IR illumination according to distance of target and spread of light required
- > License plates are retro reflective so please mount the IR close to the lens for maximum exposure
- > The below IR illuminators from our price list meet the requirements



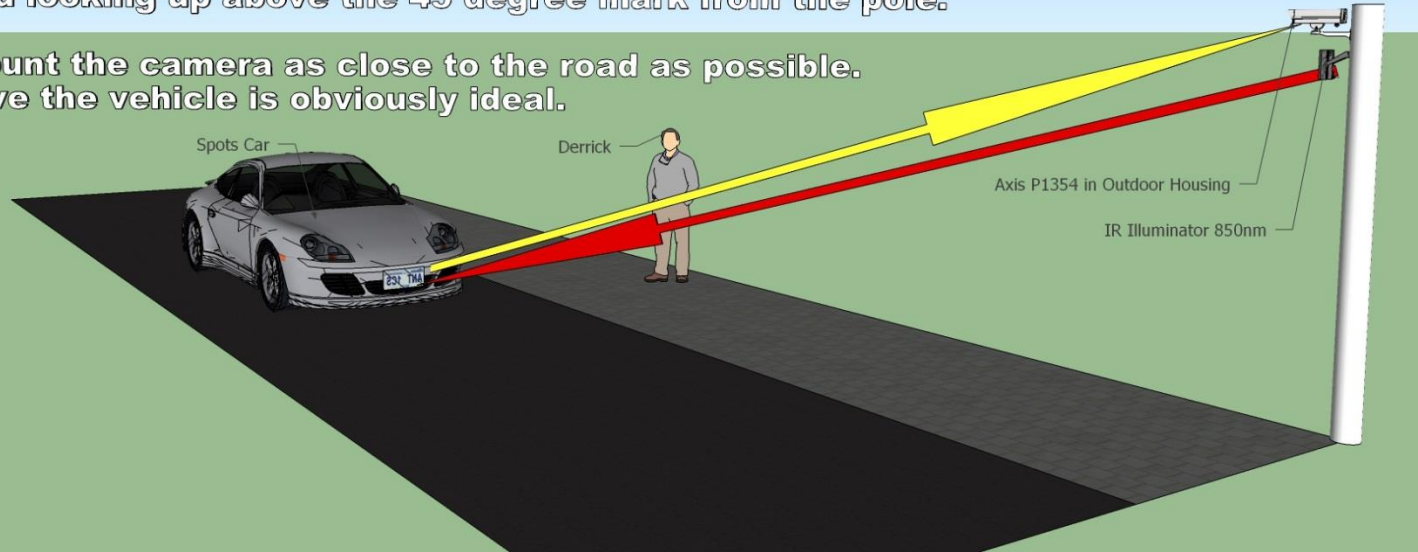
AXIS T90A20 IR-LED 120-180 DEG	1	10	5013-201	5013-201	IR LED Illuminator for use with the Axis Day/Night network cameras. 850 nm semi-covert. Adjustable angle between 120 to 180 degrees. Range 16 meters in 120 degrees and 11 meters in 180 degrees. Includes power supply with photocell and wall / ceiling bracket. Input 100-240 VAC. Consumption 20 W. Cable length 2.5m. Outdoor
AXIS T90A21 IR-LED 50-100 DEG	1	20	5013-211	5013-211	IR LED Illuminator for use with the Axis Day/Night network cameras. 850 nm semi-covert. Adjustable angle between 50 to 100 degrees. Range 28 meters in 50 degrees and 18 meters in 100 degrees. Includes power supply with photocell and wall / ceiling bracket. Input 100-240 VAC. Consumption 20 W. Cable length 2.5m. Outdoor
AXIS T90A32 IR-LED 30-60 DEG	1	20	5013-321	5013-321	IR LED Illuminator for use with the Axis Day/Night network cameras. 850 nm semi-covert. Adjustable angle between 30 to 60 degrees. Range 53 meters in 60 degrees and 80 meters in 30 degrees. Includes power supply with photocell and wall / ceiling bracket. Input 100-240 VAC. Consumption 50 W. Cable length 2.5m. Outdoor
AXIS T90A33 IR-LED 10-20 DEG	1	10	5013-331	5013-331	IR LED Illuminator for use with the Axis Day/Night network cameras. 850 nm semi-covert. Adjustable angle between 10 to 20 degrees. Range 150 meters in 10 degrees and 100 meters in 20 degrees. Includes power supply with photocell and wall / ceiling bracket. Input 100-240 VAC. Consumption 50 W. Cable length 2.5m. Outdoor
AXIS T90A40 IR-LED 120-180 DEG	1	10	5013-401	5013-401	IR LED Illuminator for use with the Axis Day/Night network cameras. 850 nm semi-covert . Adjustable angle between 120 to 180 degrees. Range 64 meters in 120 degrees and 42 meters in 180 degrees. Includes power supply with photocell and wall / ceiling bracket. Input 100-240 VAC. Consumption 80W. Cable length 2.5m. Outdoor
AXIS T90A42 IR-LED 30-60 DEG	1	10	5013-421	5013-421	IR LED Illuminator for use with the Axis Day/Night network cameras. 850 nm semi-covert . Adjustable angle between 30 to 60 degrees. Range 160 meters in 30 degrees and 106 meters in 60 degrees. Includes power supply with photocell and wall / ceiling bracket. Input 100-240 VAC. Consumption 80W. Cable length 2.5m. Outdoor

Setup Camera IR Correctly

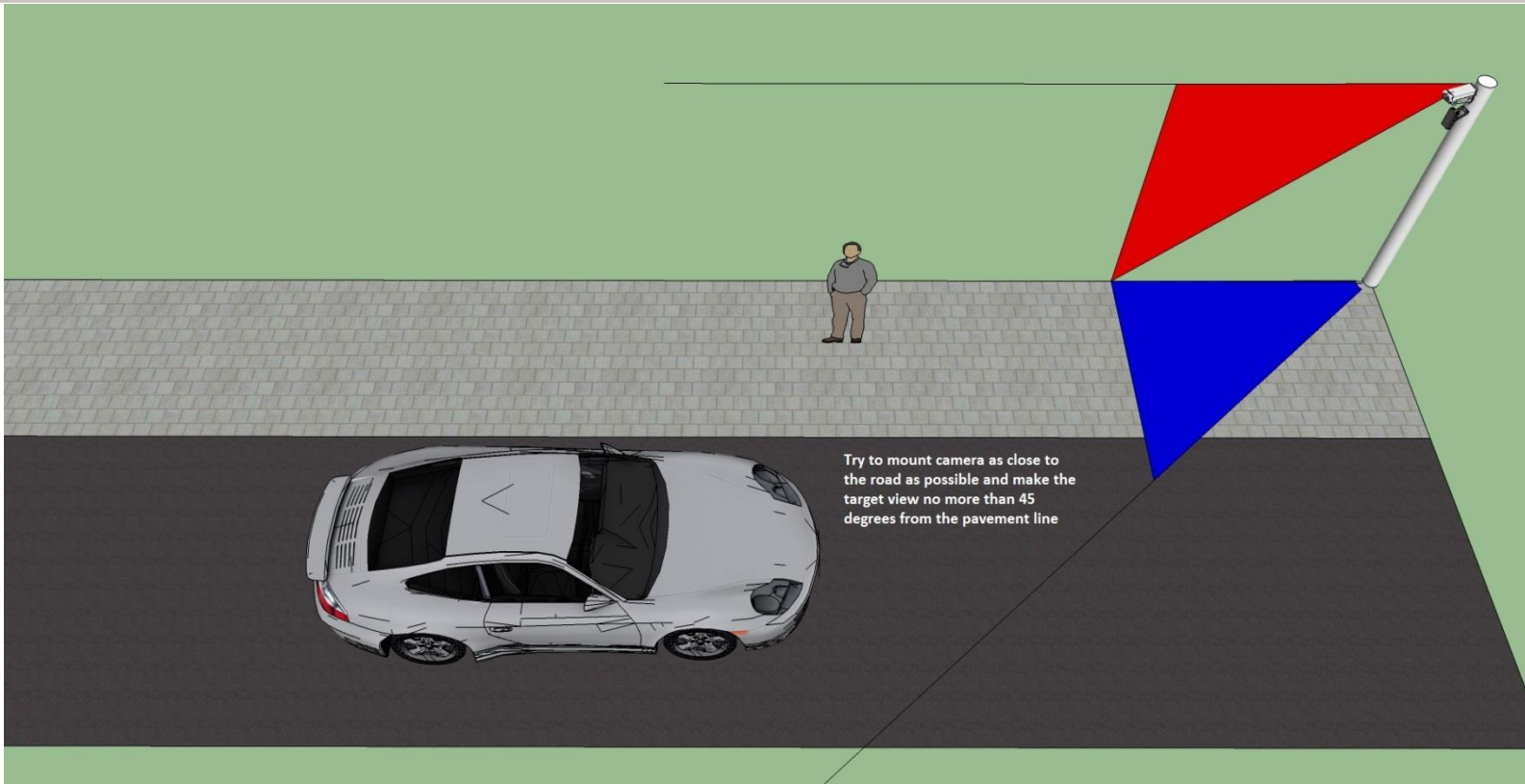
When Setting up the camera make sure that the illuminator is aligned for best exposure for the camera.

Best practice is to mount the camera approximately 3m - 4m from the ground and looking up above the 45 degree mark from the pole.

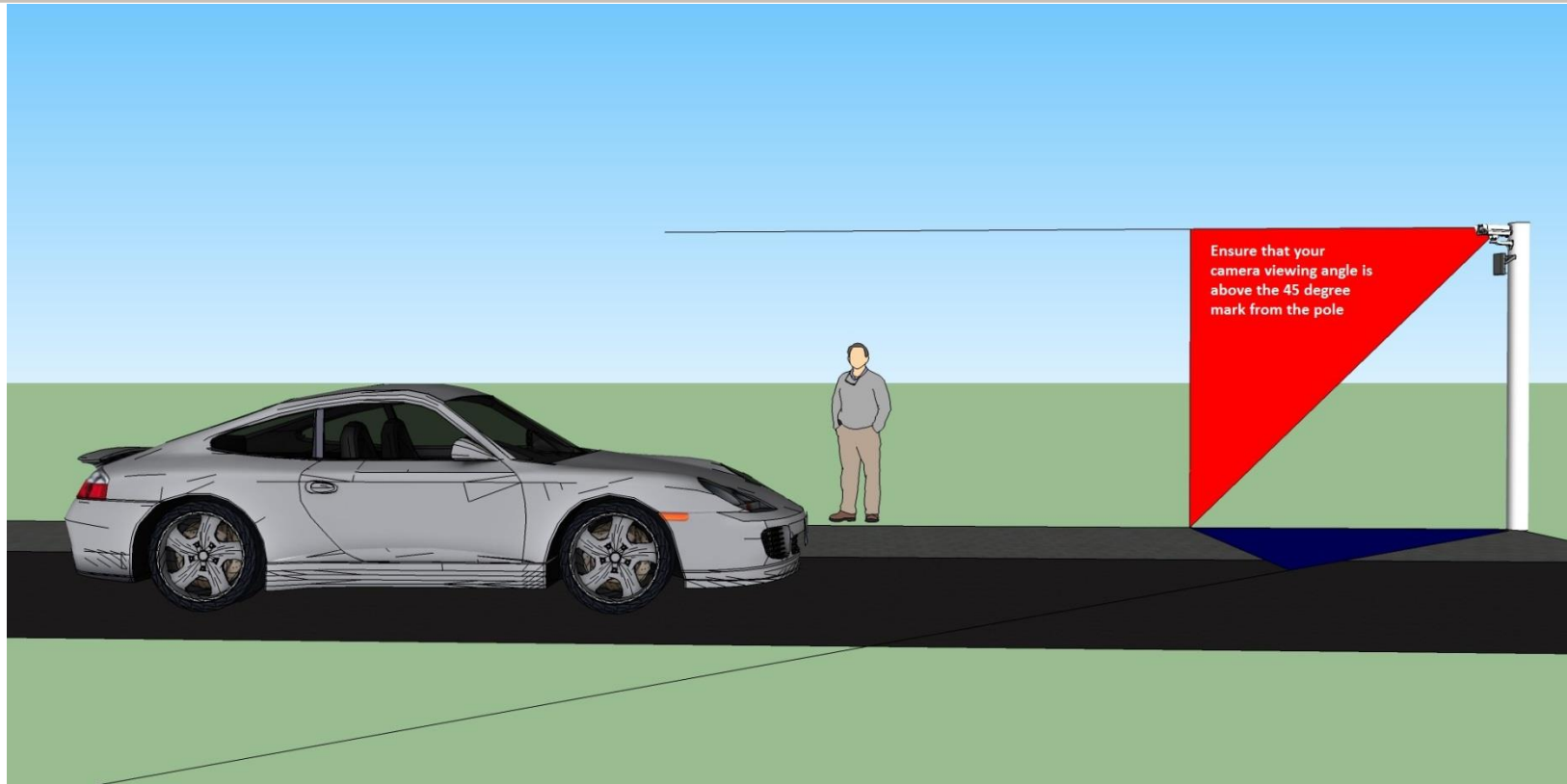
Please mount the camera as close to the road as possible. Right above the vehicle is obviously ideal.



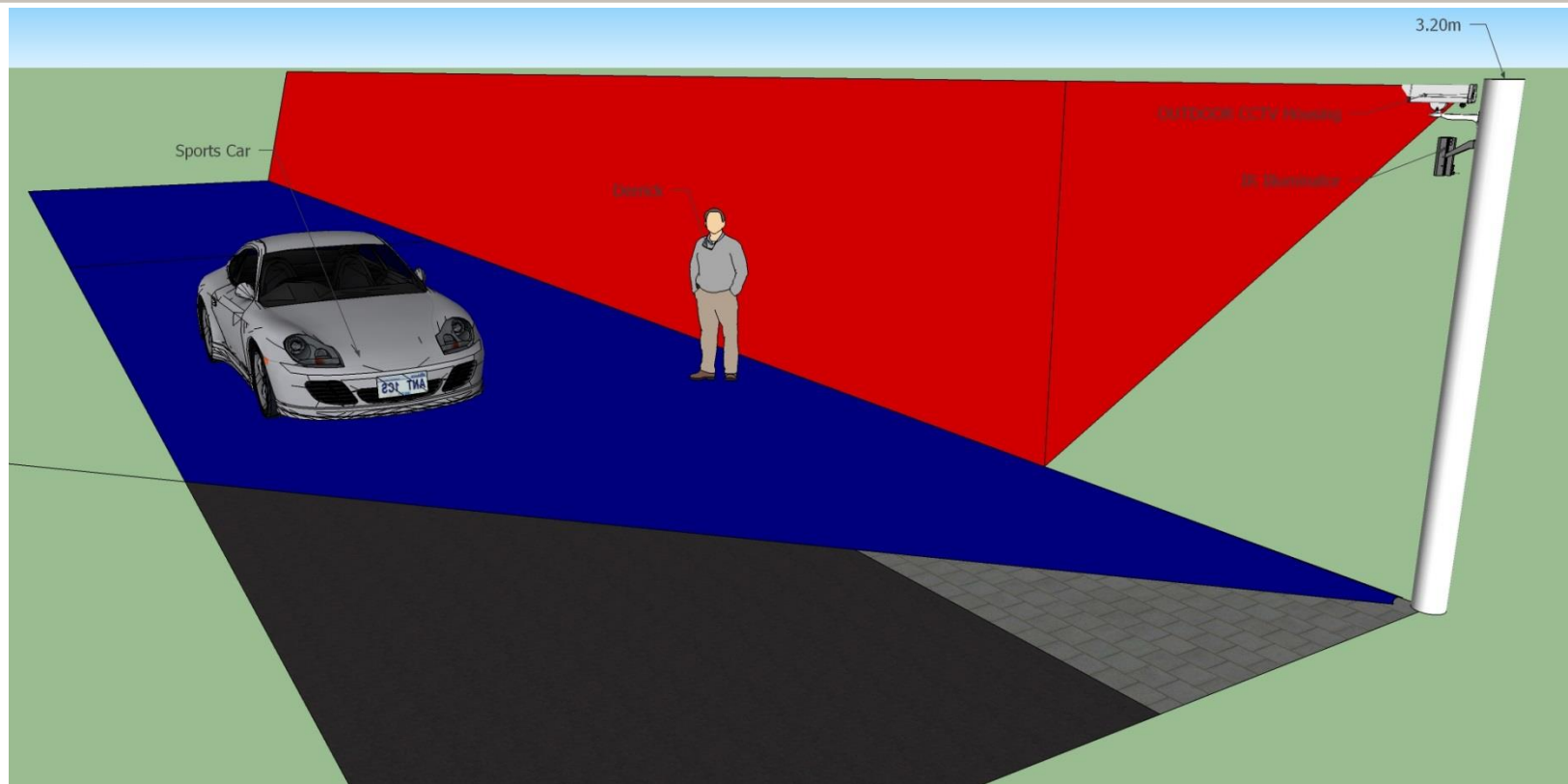
Correct mounting - Top View



Correct Mounting - Side View



Front View – this will allow for maximum time for the plate in the image



Camera setup for LPR Camera

The screenshot displays the 'Camera Settings' page for an AXIS P1354 Network Camera. The interface includes a navigation menu on the left with categories like Basic Setup, Video & Audio, Live View Config, Detectors, Applications, Events, Recordings, System Options, and About. The main content area is titled 'Camera Settings' and contains several sections: 'View Area' (with an 'Enable View Area' checkbox), 'Image Appearance' (with sliders for Color level, Brightness, Sharpness, and Contrast), 'White Balance' (with dropdowns for White balance and White balance window), 'Wide Dynamic Range' (with an 'Enable Dynamic Contrast' checkbox), 'Exposure Settings' (with sliders for Exposure value and Exposure control, and a checked 'Enable Backlight compensation' checkbox), 'Shutter & Gain' (with dropdowns for Shutter and Gain), 'Iris configuration' (with a dropdown for Iris type), 'Day/Night' (with a checked 'Enable automatic iris adjustment' checkbox and a dropdown for IR cut filter), and 'View Image Settings' (with a slider for Day/Night shift level). At the bottom are 'Save', 'Reset', and 'View...' buttons.



Note the change in the image appearance settings



Shutter changed to fixed and shutter speed changed to 1/1000
Gain Changed to Fixed and changed to 9dB



IR Cut filter turned off

LPR camera setting continued

Please Note:

The settings on the previous page are guidelines for setting up your LPR camera

Every LPR environment may have its own unique settings for optimised images for LPR (less gain, higher shutter speed, more contrast etc.)

The faster your cars travel in that environment the higher / faster your shutter speed requirement

IR lamp must be left on 24/7

Please don't buy cheap IR lamps as they do not last long and their IR LED's begin to fade

If you stick to the basics – you should have the following desired effects

Best practice would then be to use the following for overview cameras



AXIS P13/-E Series – Indoor and outdoor-ready models

AXIS P1353/-E

SVGA
Lightfinder
DC-iris

Outdoor-ready
IP66-rated

Indoor
model



AXIS P1354/-E

1 MP, HDTV 720p
Lightfinder
DC-iris

Outdoor-ready
IP66-rated

Indoor
model



HDTV
NETWORK VIDEO

AXIS P1355/-E

HDTV 1080p
P-Iris

Outdoor-ready
IP66-rated

Indoor
model



HDTV
NETWORK VIDEO

AXIS P1357/-E

3 MP/5 MP, HDTV 1080p
P-Iris

Outdoor-ready
IP66-rated

Indoor
model



HDTV
NETWORK VIDEO

Get the Axis picture. Stay one step ahead.

partner network
Axis
open
megapixel
camera
HDTV
competence
worldwide
network video
leader
easy installation
convergence
intelligent
Thank you!
safe
innovation
environment
protect
leader
thermal
global
outdoor
ease of use
H.264
integration
image usability
focus
video encoder