

# CCTV Camera Lens Calculator

This chart is an algorithm used to calculate a 1/3" CCD imaging device or CCTV Cameras Lens pickup capabilities over a given distance assuming negotiable loss and other variables.

How to use:

1. Select the distance to the target from the top line in the yellow section, then follow down until you find the desired width and height of the target area.
2. Move to the Green column to see the specific lens focal length you will need. This is the type of the Lens that will need to be ordered.
3. Check the First 3 Blue columns show you how far off of perpendicular you can be with the target and still see the desired size and aspect ratio.

Note: the longer the zoom distance, the more critical a fixed mounting and fixed target are. Think of a straight line getting exponentially off sight over distance (i.e. satellite dish)

degrees you can be off center and still see the image(degrees)			Lens identifier, or adjustment point in MM	Distance between camera and subject area or Target in feet														
				5 feet		10 feet		15 feet		25 feet		50 feet		100 feet		200 feet		
Horizontal off axis	Vertical off axis	Diagonal off axis	Lens Focal Length (MM)	H area	V area	H area	V area	H area	V area	H area	V area	H area	V area	H area	V area	H area	V area	
(Wide angle)	136	102	170	1.78	24.8'	18.6'	49.6'	37.2'	74.4'	55.8'	124'	93'	248'	186'	496'	372'	992'	744'
	128	96	160	2.10	20.5'	15.4'	41'	38'	61.5'	46.2'	102.5'	77'	205'	154'	410'	308'	820'	616'
	120	90	150	2.45	17.3'	13'	34.6'	26'	51.9'	39'	86.5'	65'	173'	130'	346'	260'	692'	520'
	109	82	136	2.80	14'	10.5'	28'	21'	42.0'	31.5'	70'	52.5'	140'	105'	280'	210'	560'	420'
	104	78	130	2.97	12.3'	9.6'	24.6'	19.2'	36.9'	28.8'	61.5'	48'	123'	96'	246'	192'	492'	384'
	74	56	92	3.60	7.5'	5.7'	15.0'	11.4'	22.5'	17.1'	37.5'	28.5'	75'	57'	150'	114'	300'	228'
	72	54	90	3.70	6.6'	5.0'	14.6'	11'	21.9'	16.5'	36.5'	27.5'	73'	55'	146'	110'	292'	220'
	67	50	83	4.00	6.1'	4.6'	13.2'	10'	19.8'	15'	33'	25'	66'	50'	142'	110'	284'	220'
	63	47	78	4.30	4.7'	3.5'	12.2'	9.2'	18.3'	13.8'	30.5'	23'	61'	46'	122'	92'	244'	184'
	50	38	64	5.00	3.8'	2.9'	9.4'	7'	14.1'	10.5'	23.5'	17.5'	47'	35'	94'	70'	188'	140'
	42	32	53	6.00	3.8'	2.9'	7.6'	5.8'	11.4'	8.7'	19'	14.5'	38'	29'	76'	58'	152'	116'
	32	24	40	8.00	2.9'	2.2'	5.8'	4.4'	8.7'	6.6'	14.5'	11'	29'	22'	58'	44'	116'	88'
	22	16	28	12.00	1.9'	1.5'	3.8'	2.8'	5.7'	4.5'	9.5'	7.5'	19'	15'	38'	28'	72'	56'
	16	12	21	16.00	1.1'	1.1'	2.8'	2.2'	4.2'	3.3'	7'	5.5'	14'	11'	28'	22'	56'	44'
	11	8.4	14	25.00	1.0'	.7'	2.0'	1.4'	3'	2.1'	5'	3.5'	10'	7'	20'	14'	40'	28'
	5.5	4.2	7	50.00	.4'	.3'	.8'	.6'	1.2'	0.9	2'	1.5'	4'	3'	8'	6'	16'	12'
(Telephoto)	2.75	2.1	3.5	100.00	.2'	.15'	.4'	.3'	0.6	0.45	1'	0.75	2'	1.5'	4'	3'	8'	6'