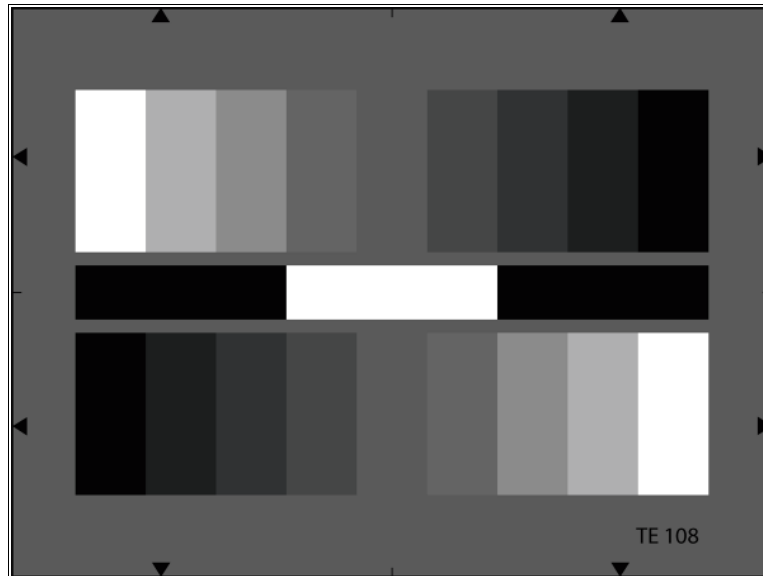




LOGARITHMIC GRAY SCALE TEST CHART

REFLECTANCE

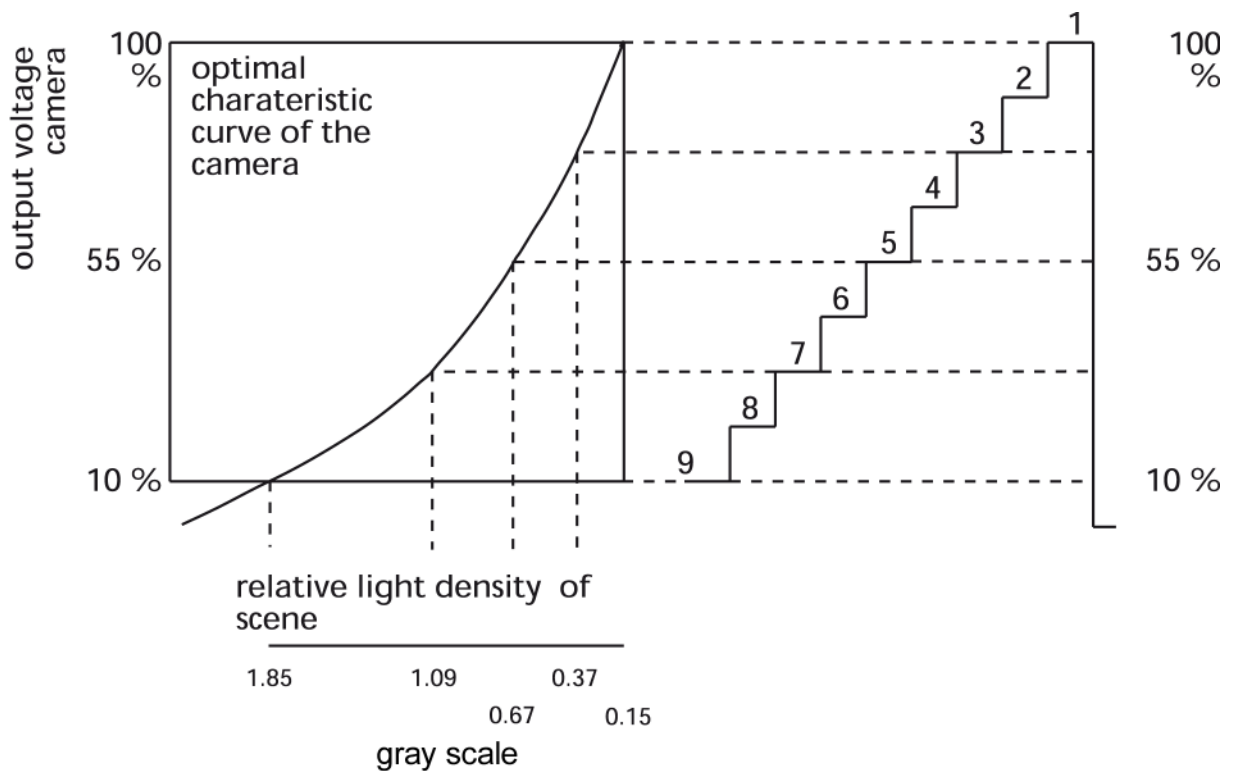


Two 9-graduated counter current gray scales are arranged on a gray background ($D = 0.75$), the gray scales being graduated logarithmically ($\gamma = 0.45$). The output signal of an optimal gamma-corrected camera yields two 11-graduates counter current linear step signals. The contrast range of the gray scales is 50 : 1.

The values of the 11-graduated gray scale are as follows:

Step	Density	Reflectance in %	Output voltage in %
1	0.15	71	100
2	0.26	55	88.75
3	0.37	42	77.5
4	0.51	31	66.25
5	0.67	22	55
6	0.85	14	43.75
7	1.09	8	32.5
8	1.40	4	21.25
9	1.85	1	10

The density value are based on a density of $\text{BaSO}_4 = 0$. Two fields of black velvet and white are located between the gray scales. The density of the black field is $D > 2.4$ (reflectance $> 0.5\%$). The density of the white field is 0.09 (reflectance = 79%).



When the second brightest gray step ($D=0.26$) is adjusted to a 100% signal level, the gray scale has the High Dynamic Range of 1:40 which is recommended for TV productions. The brightest step then shows the effect of the knee function. In order to see a finer graduation of the knee function and to observe its effects in the 3 channels we recommend an overexposure of 2 steps. The white area in the center can also be used for adjusting the white level limiter. No generally valid statements can, however, be made on the height of the level limit (e.g. 105%), since this varies according to the respective use (Betacam e.g. 101%).