

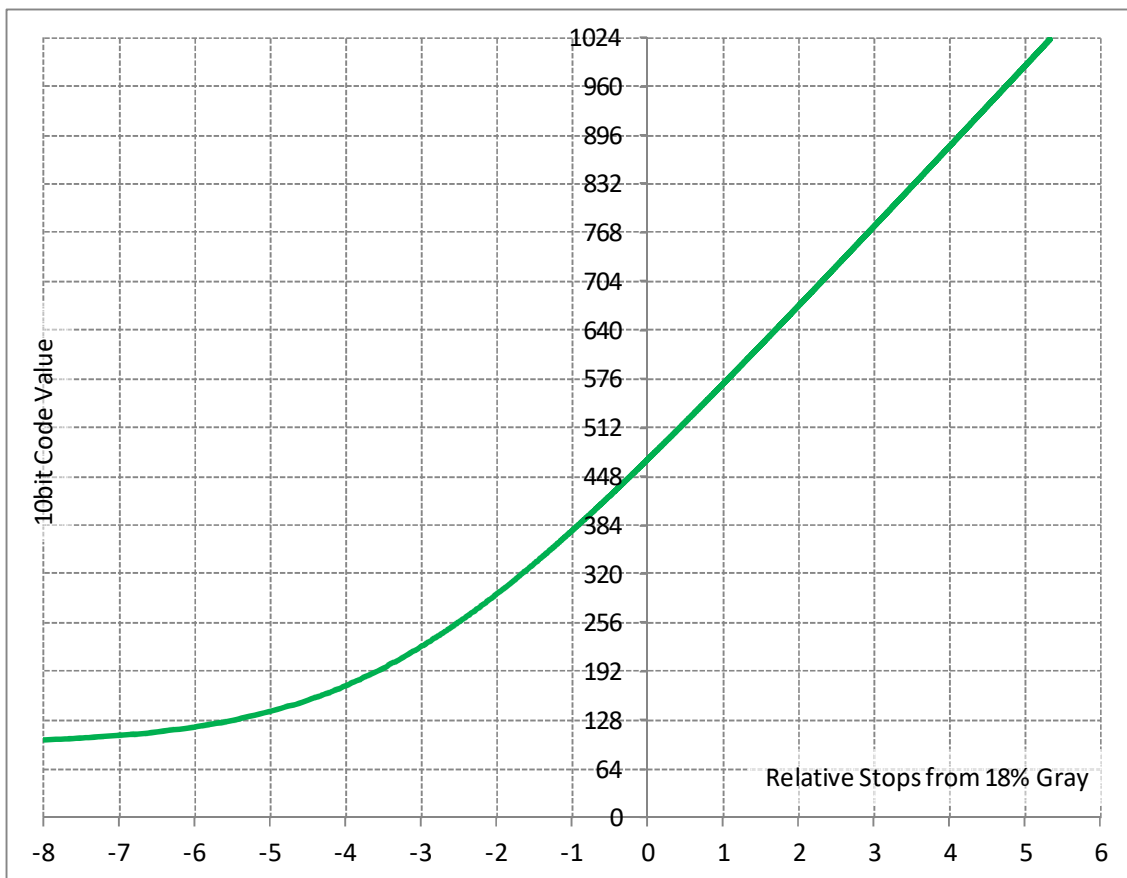
# F-Log Data Sheet Ver.1.1

## 1. Introduction

This document describes how the gamma curve and the gamut of F-Log are loaded onto the FUJIFILM digital cameras. The gamma curve of F-Log follows the density of negative films, which has a high compatibility with post production technique fostered in the field of cinema film. It also configures 0% CV(Code value) as 95/10 bits and 18% gray CV as 470/10 bits. The gamut of F-Log complies with ITU-R BT.2020 and realizes ease of cinema-like exposure and easy grading on the DCI.P3 color space.

## 2-1. F-Log curve characteristics

As the figure below shows, the code value by 10 bits are 95 for 0% of reflection, 470 for 18% and 705 for 90%



## 2-2. F-Log Code Value

Input reflection	F-Log	
	IRE	10bit Code Value
0	3.5	95
18	46	470
90	73	705

## 2-3. F-Log conversion formula

$a = 0.555556$ ,  $b = 0.009468$ ,  $c = 0.344676$ ,  $d = 0.790453$

$e = 8.735631$ ,  $f = 0.092864$

$cut1 = 0.00089$

$cut2 = 0.100537775223865$

Scene Linear Reflection to F-Log

$$out = c * \text{Log}_{10}(a * in + b) + d \quad ( in \geq cut1 )$$

$$out = e * in + f \quad ( in < cut1 )$$

$in = \text{reflection}$

$$0.0 \leq out \leq 1.0$$

F-Log to Scene Linear Reflection

$$out = (10^{((in - d) / c)} / a - b / a) \quad ( in \geq cut2 )$$

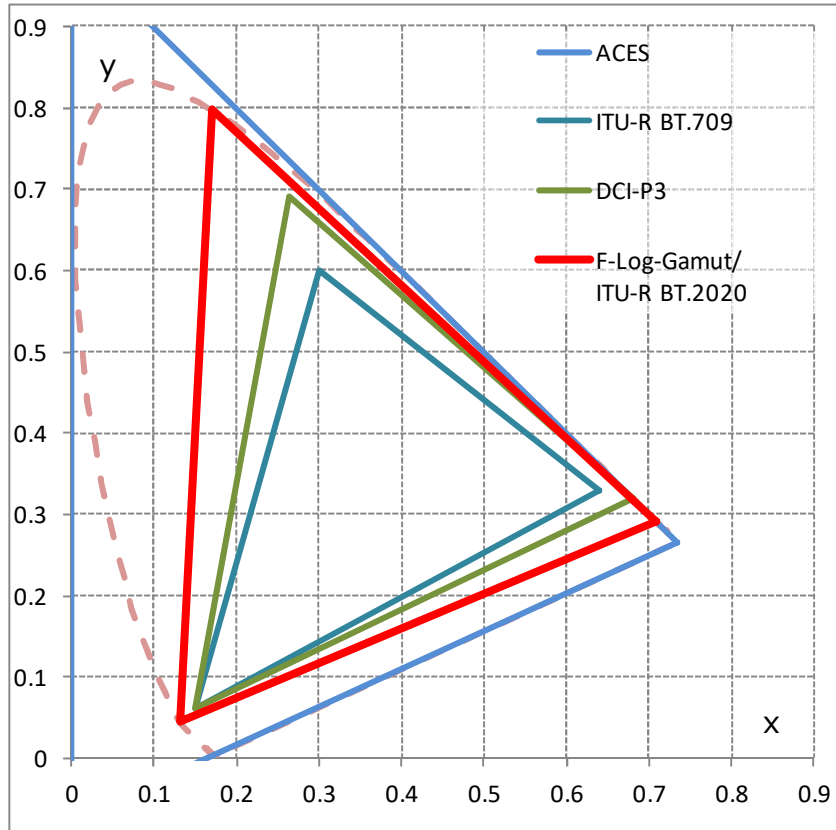
$$out = (in - f) / e \quad ( in < cut2 )$$

$$0.0 \leq in \leq 1.0$$

$out = \text{reflection}$

## 3. F-Log Color Primaries

The gamut of F-log complies with ITU-R BT.2020, which is larger than ITU-R BT.709 or DCI.P3.



		x	y
F-Log Gamut	R	0.70800	0.29200
	G	0.17000	0.79700
	B	0.13100	0.04600
	White	0.31270	0.32900
ITU-R BT.2020	R	0.70800	0.29200
	G	0.17000	0.79700
	B	0.13100	0.04600
	White	0.31270	0.32900
DCI-P3	R	0.68000	0.32000
	G	0.26500	0.69000
	B	0.15000	0.06000
	White	0.31400	0.35100
ITU-R BT.709	R	0.64000	0.33000
	G	0.30000	0.60000
	B	0.15000	0.06000
	White	0.31270	0.32900
ACES	R	0.73470	0.26530
	G	0.00000	1.00000
	B	0.00000	-0.07700
	White	0.32168	0.33767