FUJIFILM

F-Log Data Sheet Ver.1.2

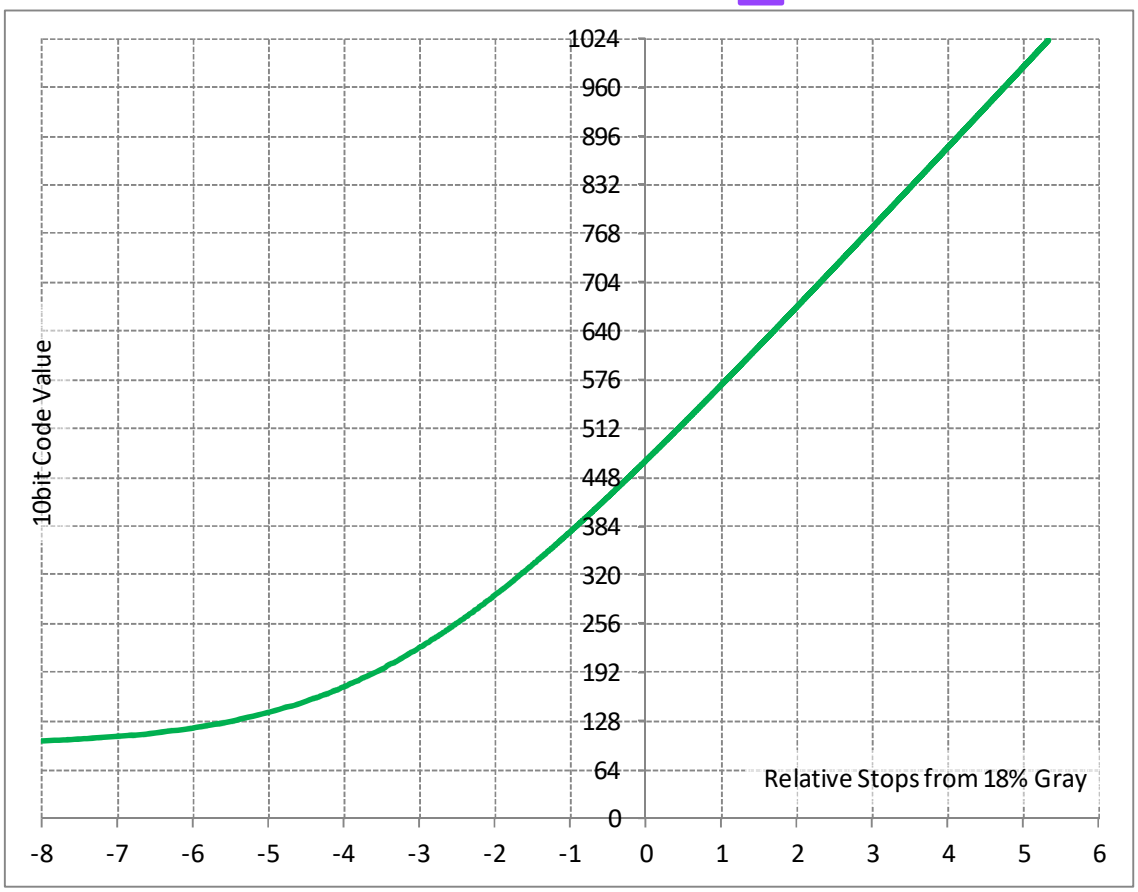
1. Introduction

This document describes the gamma curve and the gamut of F-Log in the FUJIFILM digital cameras.

F-Log tone is a digital equivalent of the density characteristics of negative film, and is generally highly compatible with the various post-production methods that have been developed in movie taking fields. In addition, the color gamut is designed with ease of color grading.

2-1. F-Log curve characteristics

The input/output characteristics of the F-log gamma curve is shown in the figure below. 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 * Log10(a * in + b) + d (in >= cut1)

out = e * in + f (in < cut1)

in = reflection

0.0 <= out <= 1.0

F-Log to Scene Linear Reflection

out = (10^((in - d) / c)) / a - b / a (in >= cut2)

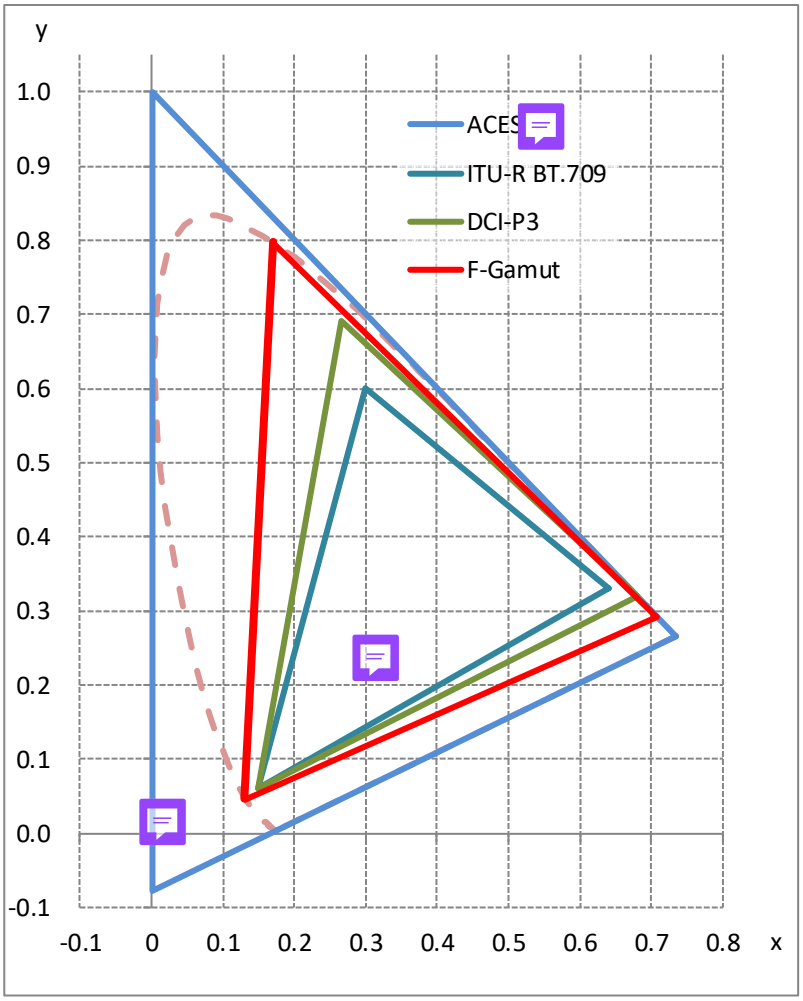
out = (in - f) / e (in < cut2)

0.0 <= in <= 1.0

out = reflection

3. F-Log Color Primaries

The color gamut of F-Log is F-Gamut.



		x	y
F-Gamut	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