

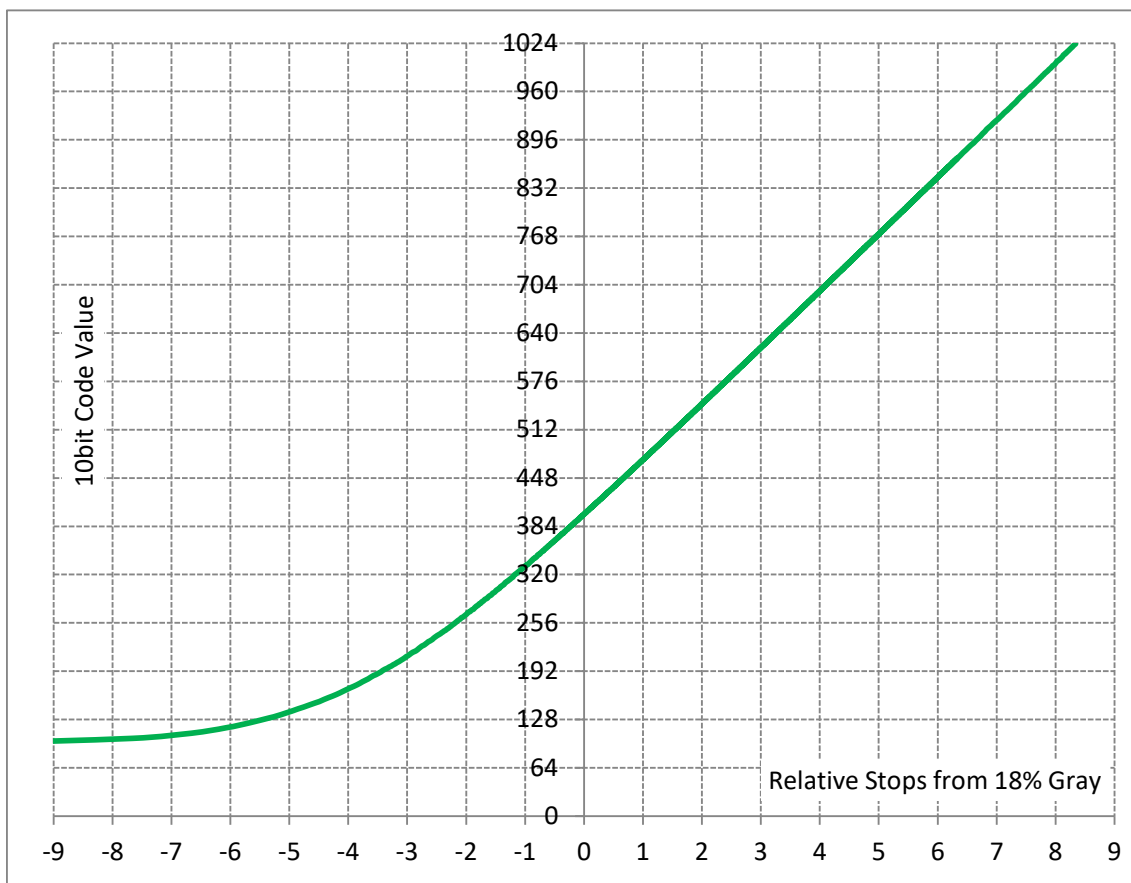
F-Log2 Data Sheet Ver.1.0

1. Introduction

This document describes how the gamma curve and the gamut of F-Log2 are loaded onto the FUJIFILM digital cameras. The gamma curve of F-Log2 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 400/10 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-Log2 curve characteristics

As the figure below shows, the code value by 10 bits are 95 for 0% of reflection, 400 for 18% and 570 for 90%



2-2. F-Log2 Code Value

Input reflection	F-Log2	
	IRE	10bit Code Value
0	3.5	95
18	38	400
90	58	570

2-3. F-Log2 conversion formula

$a = 5.555556, b = 0.064829, c = 0.245281, d = 0.384316$

$e = 8.799461, f = 0.092864$

$cut1 = 0.000889$

$cut2 = 0.100686685370811$

Scene Linear Reflection to F-Log2

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

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

$in = \text{reflection}$

$0.0 \leq out \leq 1.0$

F-Log2 to Scene Linear Reflection

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

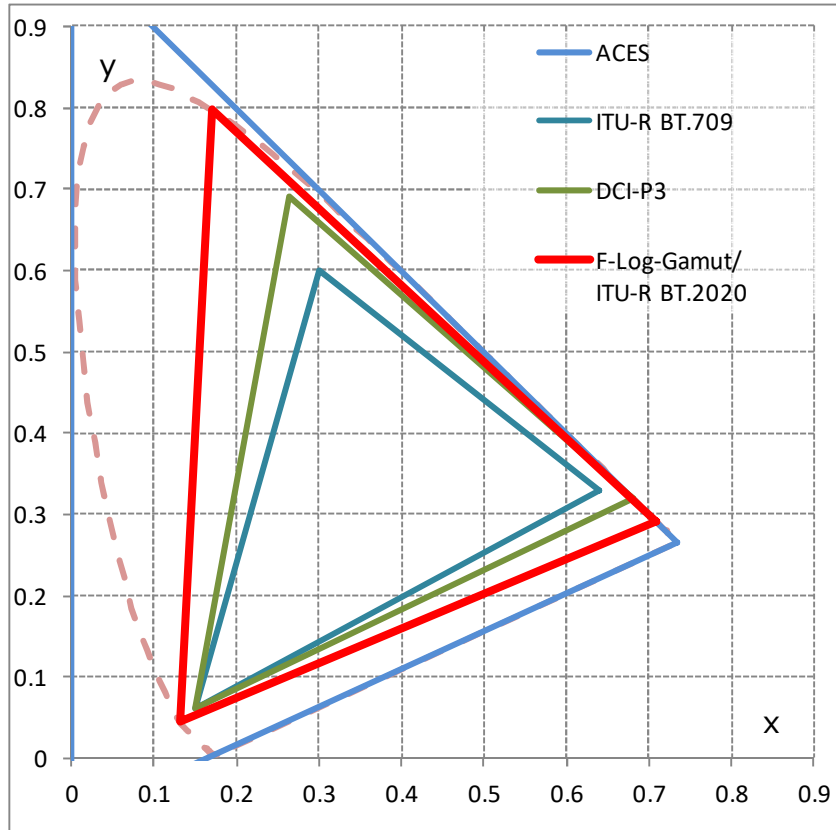
$out = (in - f) / e$ ($in < cut2$)

$0.0 \leq in \leq 1.0$

$out = \text{reflection}$

3. F-Log2 Color Primaries

The gamut of F-Log2 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