

Pline sync

- **Goal**

- Sync exposure setting as Target phone
- Sync AE brightness as Target phone

- **Side effect**

- Non

- **Scene**

- Gray wall with High or Mid color temperature light source
- 24 color checker put in the center
- 1 lux to 1000 lux
1, 3, 5, 7, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800, 900, 1000

- **How to fine tune**

- Brief of all
 - Take images under each luminance and then make a list of exposure setting and Y mean.
 - Tuning AE target at normal light & Low light (NS) to sync brightness
 - Tuning NS sBVRatio to decide which BV start to NS mode
 - Plan exposure setting of each luminance to sync Pline
 - Discuss with customer and verify
 - Pline might be not all the same as target phone due to different sensitivity, Fn, ISO... .



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Pline sync

- How to fine tune in detail
- Sync AE brightness
 - List target exposure /Y mean
 - Analysis Y mean
 - Classify into normal light brightness and low light brightness region
 - Fine tune **AE target** to fit normal brightness
 - Fine tune **NS target** to fit NS brightness
 - Decide which BV start entering to NS
 - Modify NS **sBVRatio**
- Ex. Check DP info of 100&150 lux JPGs took by tuning phone to get BV info.

AE_TAG_LV	50
AE_TAG_EV	0
AE_TAG_REALBV	18
AE_TAG_COMPBV	18
AE_TAG_AE_SCENE	1
AE_TAG_EV_COM	0
AE_TAG_FLICKER	2
AE_TAG_FLICKER_AUTO	1
AE_TAG_AEMETER	0

Target phoe	A7		
Fn	2		
Lux	Shutter	ISO	Y mean
1	1/15	800	5.62
3	1/15	800	15.3
5	1/15	800	31.16
7	1/15	800	45.09
10	1/15	800	60.35
15	1/15	800	78.57
20	1/15	800	97.69
30	1/15	800	121.66
40	1/15	640	125.94
50	1/15	500	125.27
60	1/15	400	124.37
70	1/15	400	127.29
80	1/15	320	127.74
90	1/15	320	128.74
100	1/15	250	129.46
150	1/15	200	135.46
200	1/15	160	136.97
250	1/20	160	137.52
300	1/24	160	138.66
350	1/24	160	139.06
400	1/30	160	139.16
450	1/30	125	137.7
500	1/30	125	138.15
600	1/30	100	138.3
700	1/40	125	138.8
800	1/40	100	139.71
900	1/40	100	137.51
1000	1/40	80	137.99

Max BV range

NS brightness

NS BV

Normal brightness

Pline sync

- How to fine tune in detail
- Sync exposure setting
 - List exposure
 - Analysis shutter/ISO
 - Classify into exposure/ISO segments
 - Plan Pline segments to fit target phone exposure/ISO segments
- Discuss with customer and verify
 - It might not fit 100% as target phone please make a discuss and then make a decision
 - Re-take images of tuning phone to verify

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Fn	2		
Lux	Shutter	ISO	Y mean
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5	1/15	800	31.16
7	1/15	800	45.09
10	1/15	800	60.35
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700	1/40	125	138.8
800	1/40	100	139.71
900	1/40	100	137.51
1000	1/40	80	137.99

Max BV range

Turning point 3

Turning point 2

Turning point 1

Normal light & Low light Face AE brightness

- **Goal**

- Face AE brightness is close to target phone both on normal and low light condition

- **Side effect**

- Non

- **Scene**

- Gray wall with human face (half portrait)
- FD is detected
- 20-150 lux
20, 30, 40, 50, 60, 70, 80, 90, 100, 150, 500



- **How to fine tune**

- **Brief of all**

- If face detection region is usually not reliable, increase **uLandmarkWeight** to use landmark weighted Face brightness.
- Take face images on each lux and list Y mean of full image.
- Fine tune Face target
 - Brighter ambient → **uFaceYHighBound**
 - Darker ambient → **uFaceYLowBound**
 - Night scene → **u4FaceNSLowBound**

- **Verify**

For details, please reference Face AE tuning.

If FD region is bad or can not detected, please contact with FD feature owner to improved.

Normal light & Low light Face AE brightness

- How to fine tune in detail

- List Y mean of full image
- Classify into Normal brightness and Low brightness
- Fine tune Face target to let Y mean of full image close to target

- Normal brightness → **uFaceYHighBound**
- Low brightness → **uFaceYLowBound**
- With NS → **u4FaceNSLowBound**

For details, please reference Face AE tuning.

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Lux	Y mean
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30	121.66
40	125.94
50	125.27
60	124.37
70	127.29
80	127.74
90	128.74
100	129.46
150	135
500	135

→ Low
brightness

→ Normal
brightness