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# TV Power Measurement Report

Model: LG UN55FD

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**Funded By:**



**Prepared By:**



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## 1. Test Specifics

Test Start Date	2020-10-21
Test Start Time	09:38:24
Test End Time	13:05:28
Test Duration	0 days 03:27:04
Tester Name	ryan
Lab Name	demo
Lab Address	111 s st
Make	lg
Model	un55fd
Model Year	2020
Serial Number	555ddd
Software Version	1.1.1
Manufacture Year	2020
Manufacture Month	1
Screen Diagonal (inches)	55
Pixel Rows	1080
Pixel Columns	1920
Screen Area (sq in)	1700
TV Technology Type	LED
Humidity (%)	10
Temperature (Celcius)	10

## 2. Compliance with Additional Tests

### 2.1 On Mode Tests

Test Name	Preset Picture	ABC	MDD	Avg Luminance (Nits)	Power Limit (W)	Avg Power (W)	Power/Power Limit
default	aps	off	off	1.5	3.0		
default_measured				1.5	38.8	3.0	0.1
brightest	vivid	off	off	1.8	3.6		
brightest_measured				1.8	33.9	3.6	0.1
passing_pps							2/2

#### Default PPS Power Limit Function

Minimum of:

1.  $1.05 * ((0.001 * \text{area} + 0.38) * (1.00 * \text{luminance} + 0.00) + 0.01 * \text{area} + 18.12)$
2.  $1.10 * ((0.072 * \text{area}) + 17.140)$

#### Brightest PPS Power Limit Function

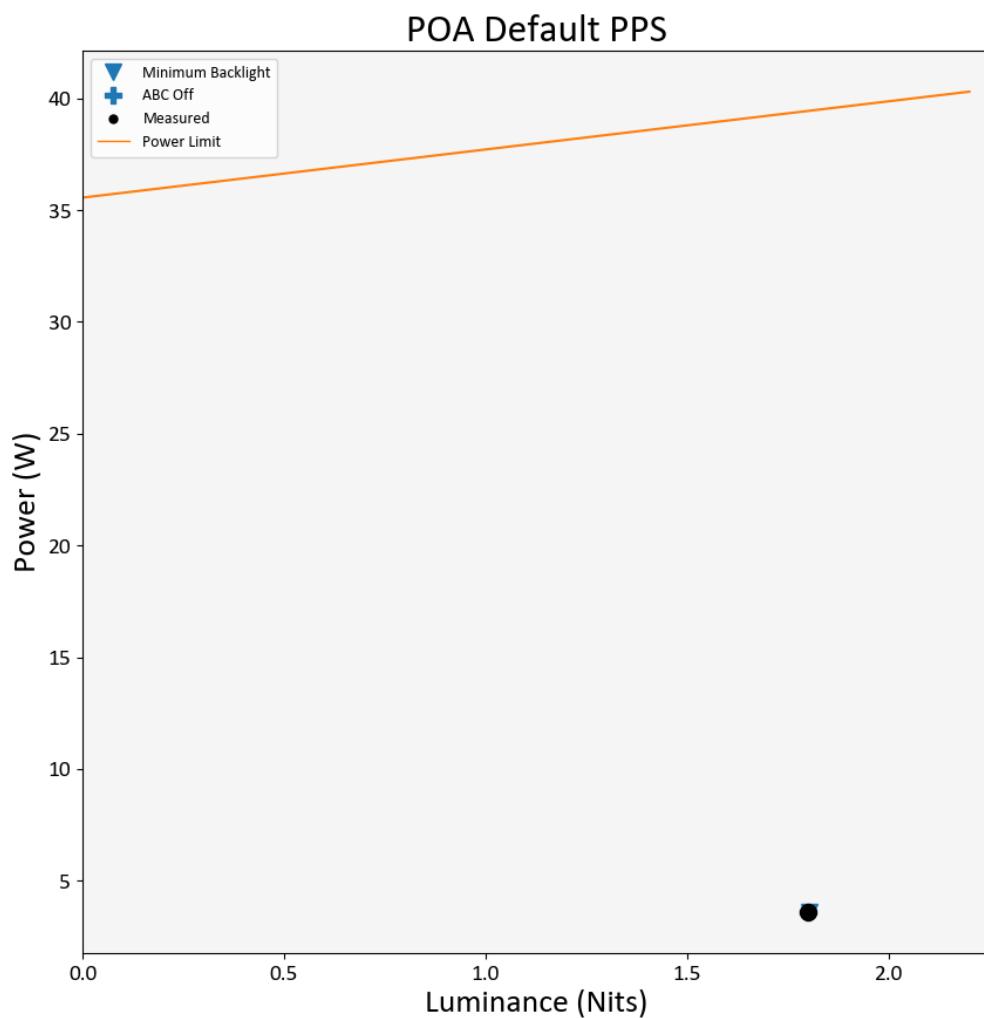
Minimum of:

1.  $1.05 * ((0.001 * \text{area} + 0.28) * (1.00 * \text{luminance} + 0.00) + 0.01 * \text{area} + 17.11)$
2.  $1.10 * ((0.089 * \text{area}) + 13.650)$

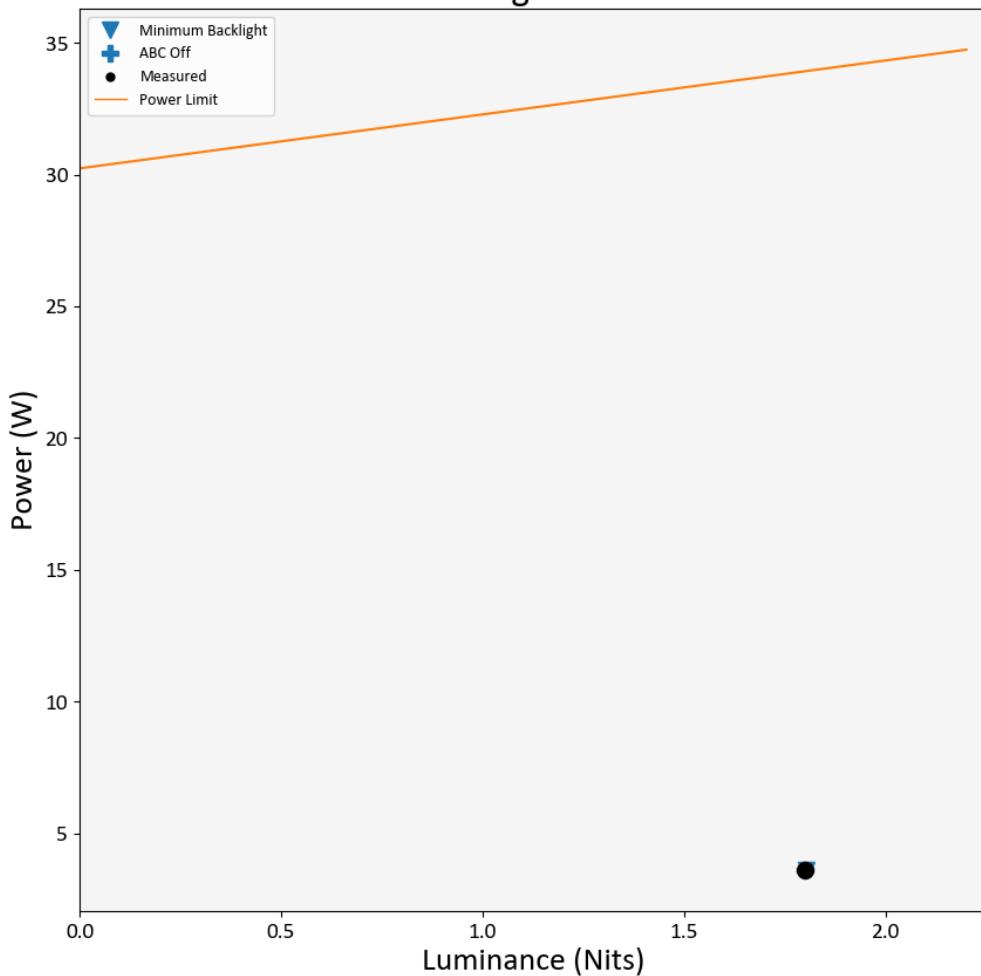
#### HDR Default PPS Power Limit Function

Minimum of:

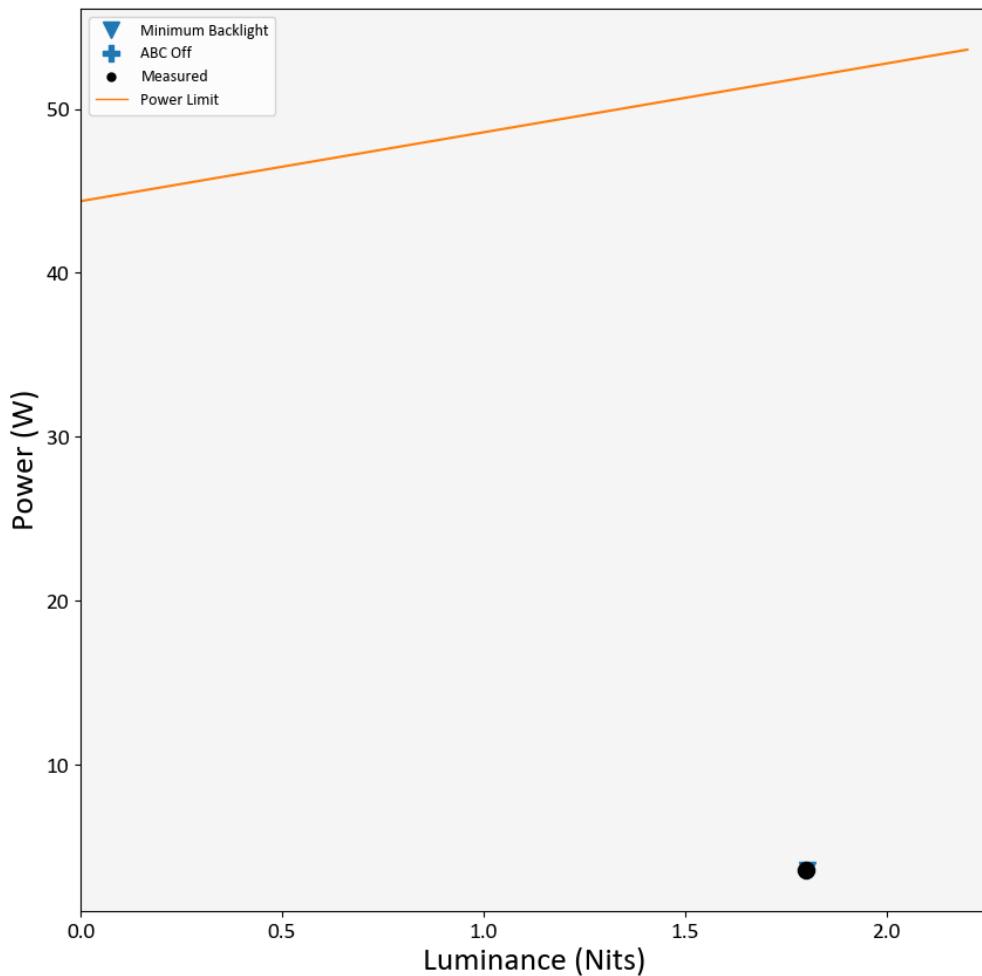
1.  $1.05 * ((0.002 * \text{area} + 0.38) * (1.00 * \text{luminance} + 0.00) + 0.01 * \text{area} + 17.67)$
2.  $1.10 * ((0.089 * \text{area}) + 10.120)$



### POA Brightest PPS



### POA HDR Default PPS



## 2.2 Standby

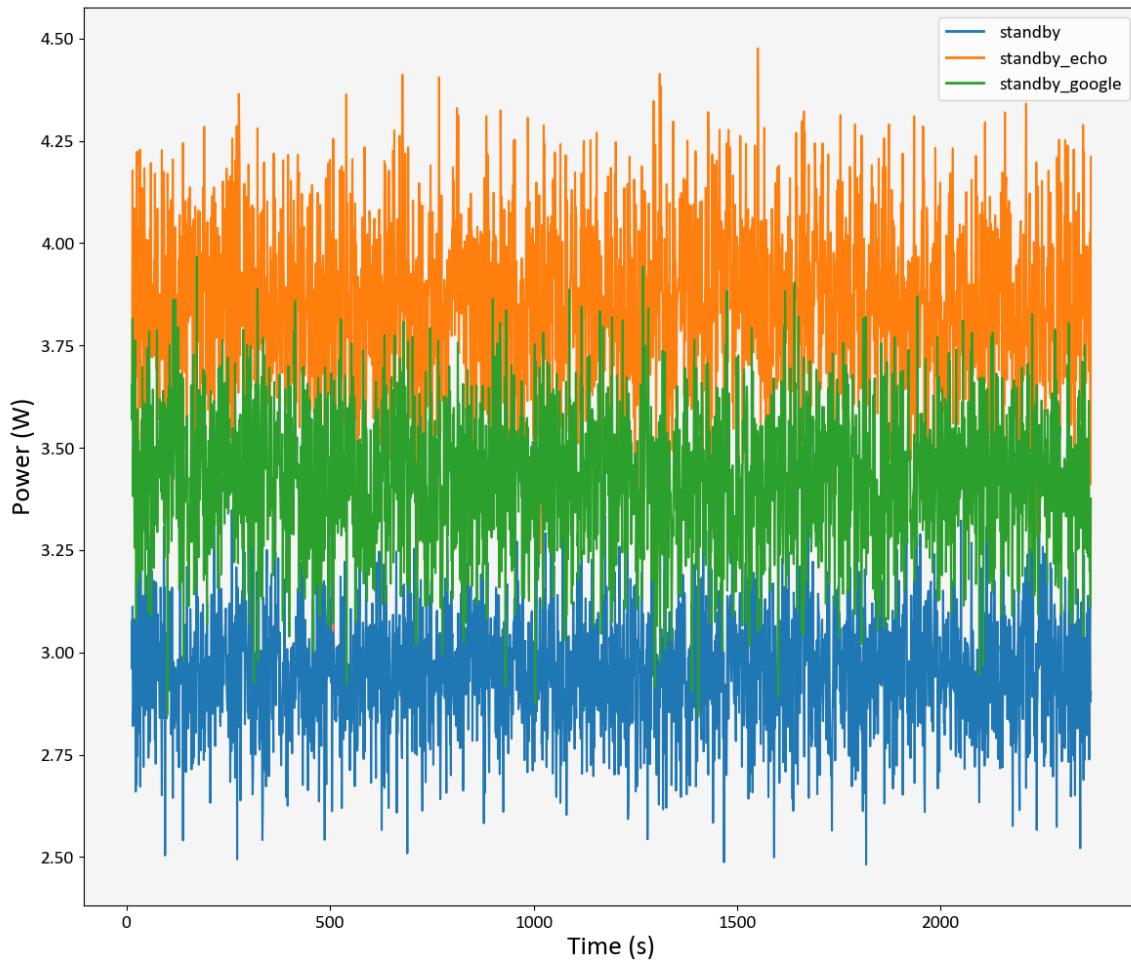
Test Name	QS	Wake Time (s)	Power Limit (W)	Avg Power (W)
standby	off	9.0	2	3.0
standby_echo	oob	9.0	2	3.9
standby_google	oob	9.0	2	3.4

### Time to Wake from Standby

standby: 9.0 seconds

standby\_echo: 9.0 seconds

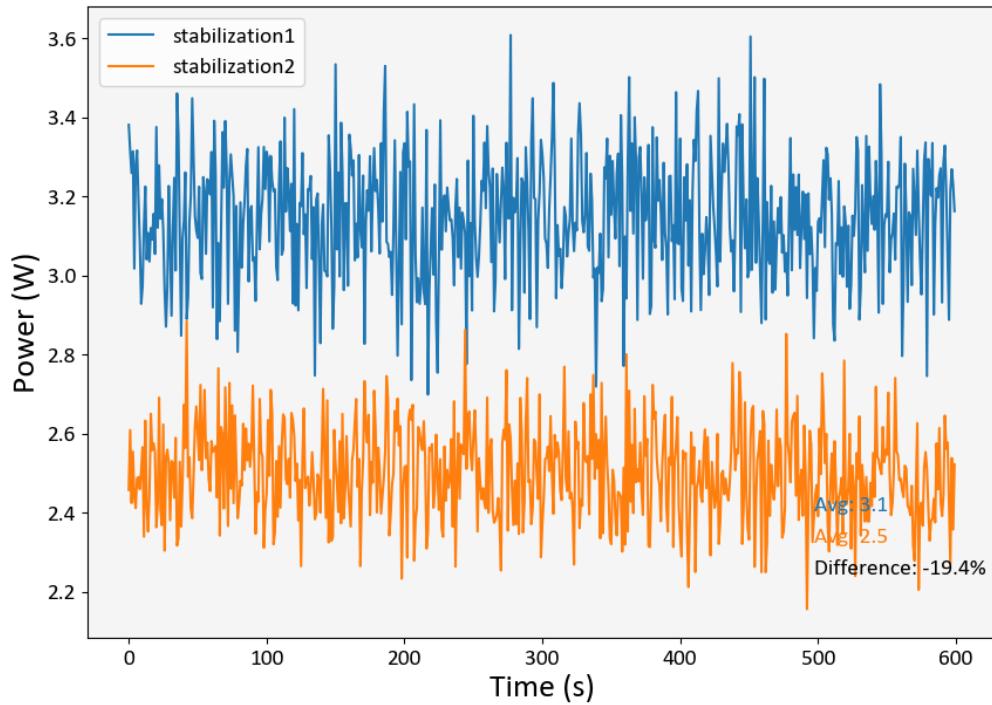
standby\_google: 9.0 seconds



### 3. Supplemental Test Results

#### 3.1 Stabilization

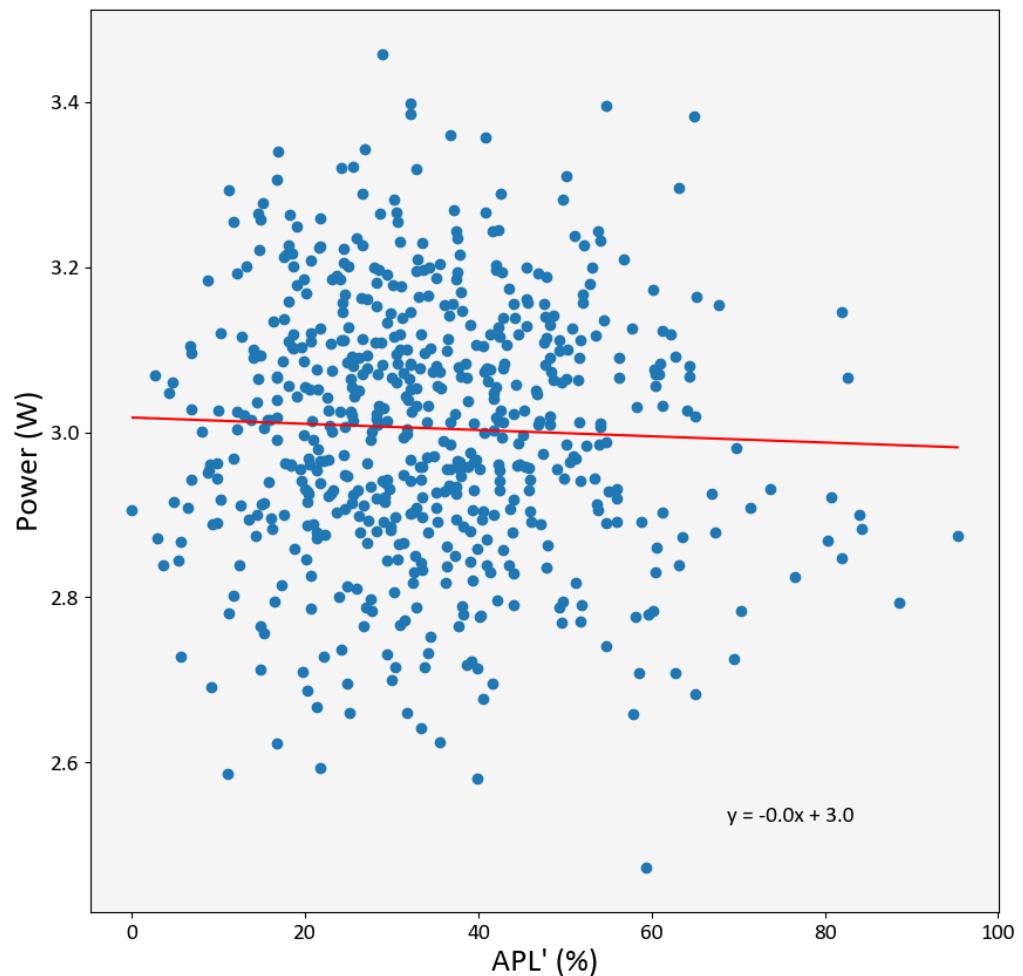
Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
stabilization1	600	IEC SDR	34.5	off	aps	off	1.6	3.1
stabilization2	600	IEC SDR	34.5	off	aps	off	1.3	2.5



### 3.2 APL' vs Power Charts

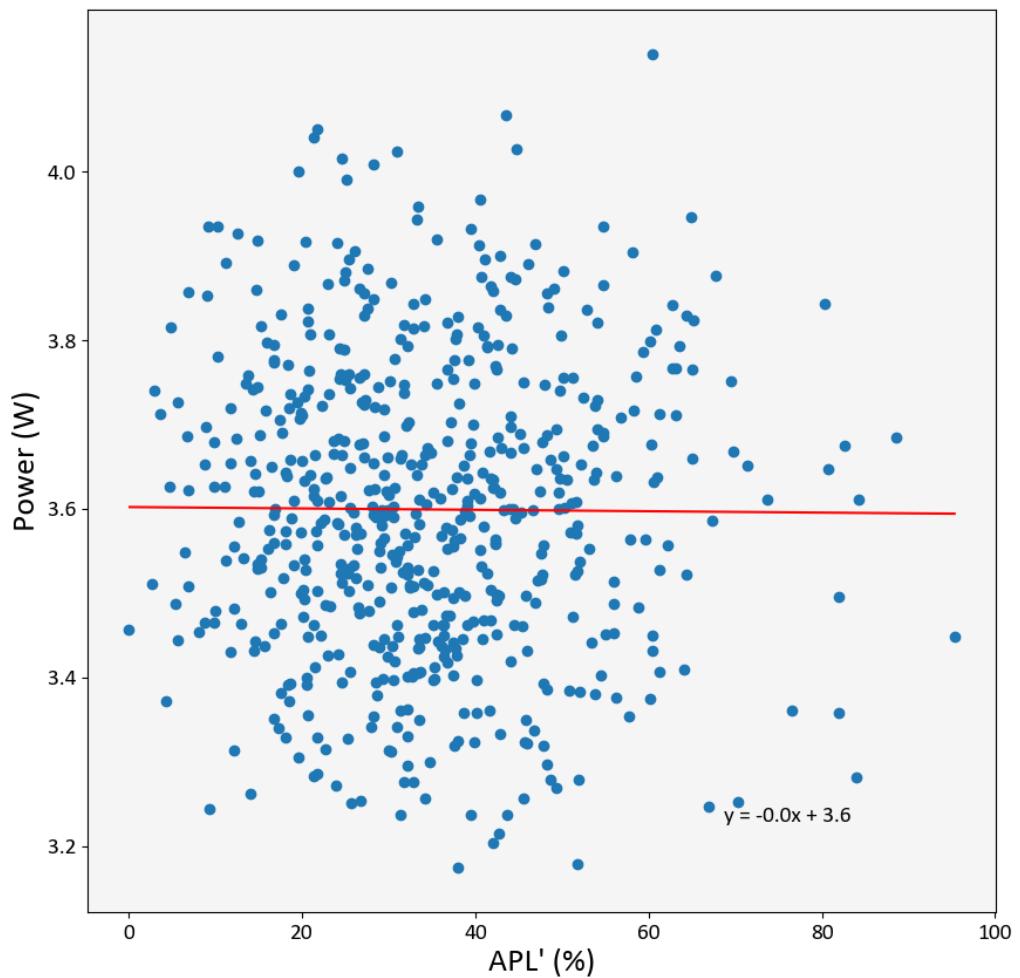
#### 3.2.1 Default PPS: SDR

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
default	600	IEC SDR	34.5	off	aps	off	1.5	3.0



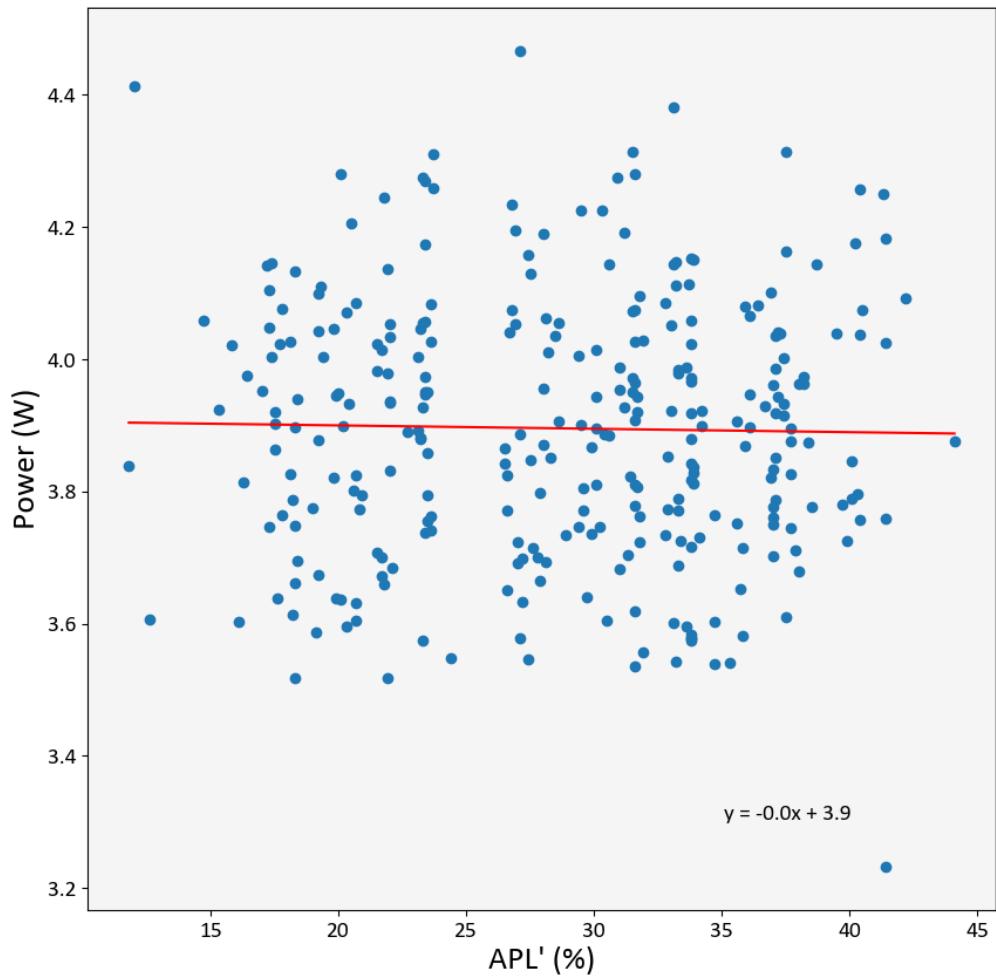
### 3.2.2 Brightest PPS: SDR

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
brightest	600	IEC SDR	34.5	off	vivid	off	1.8	3.6



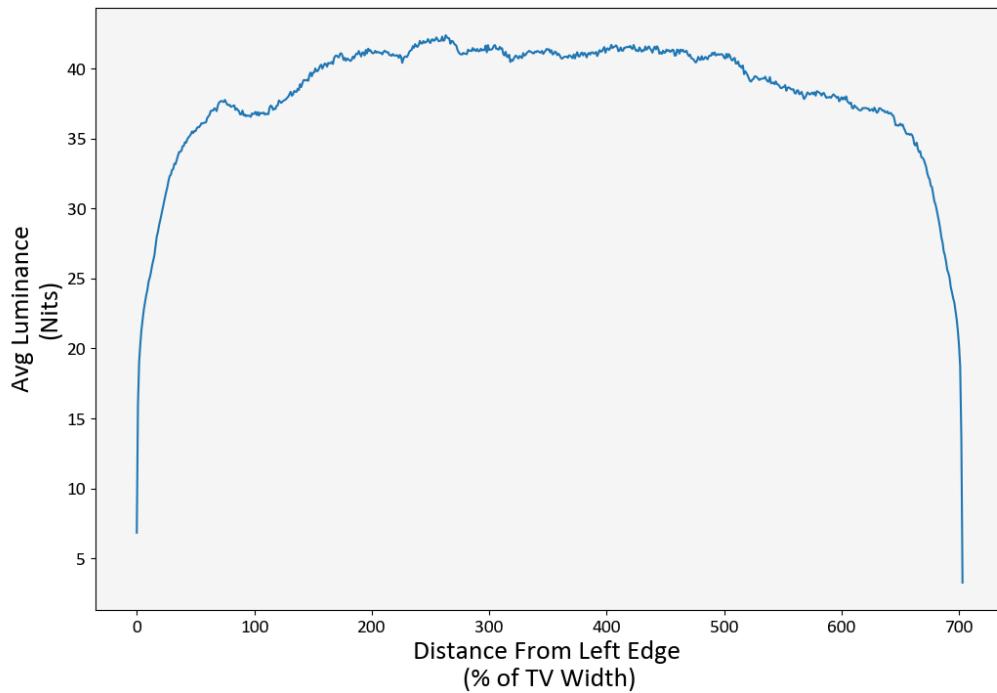
### 3.2.3 Default PPS: HDR

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
hdr10	300	CLASP HDR10	28.7	off	standard	off	1.9	3.9

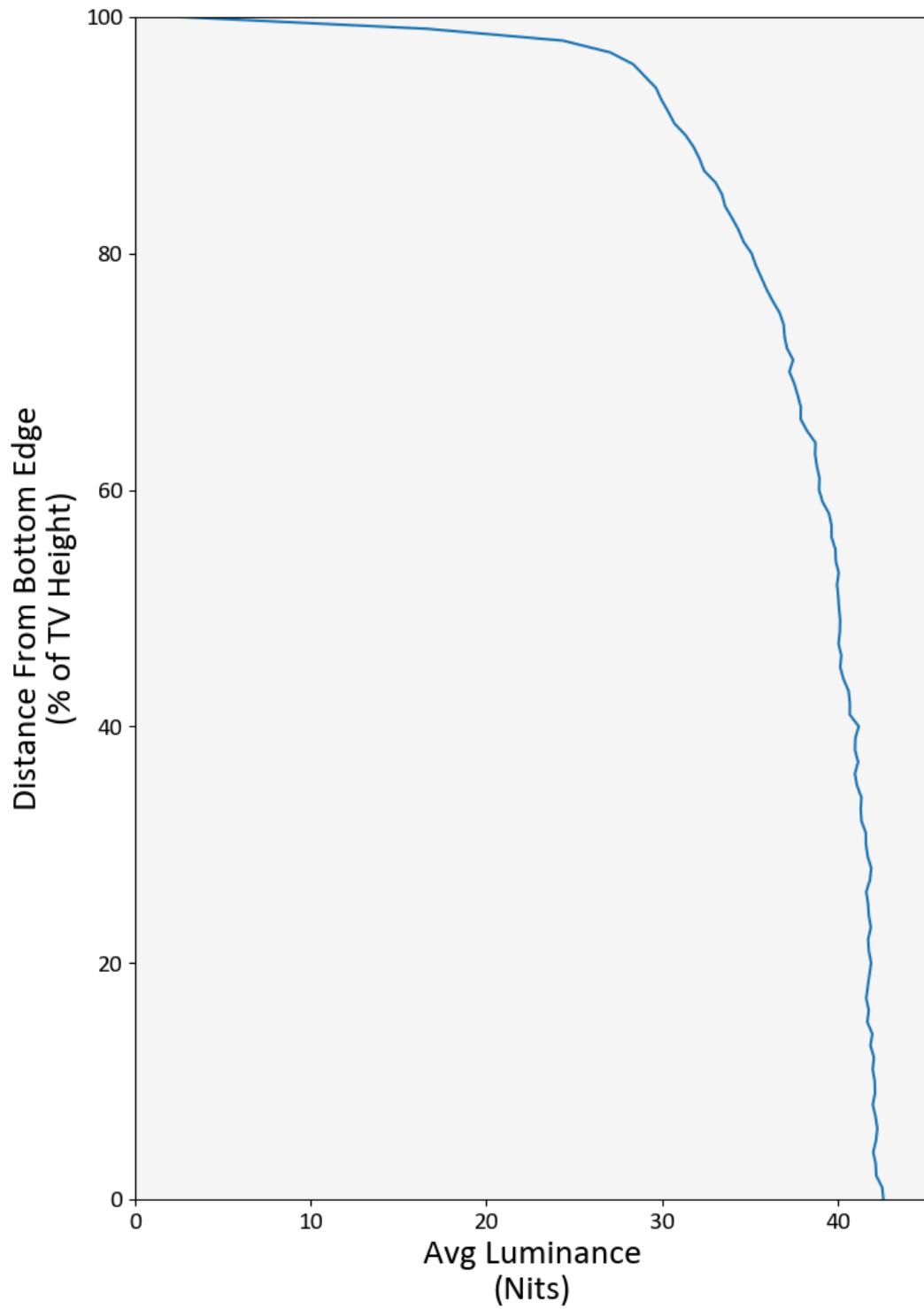


### 3.3 Light Directionality

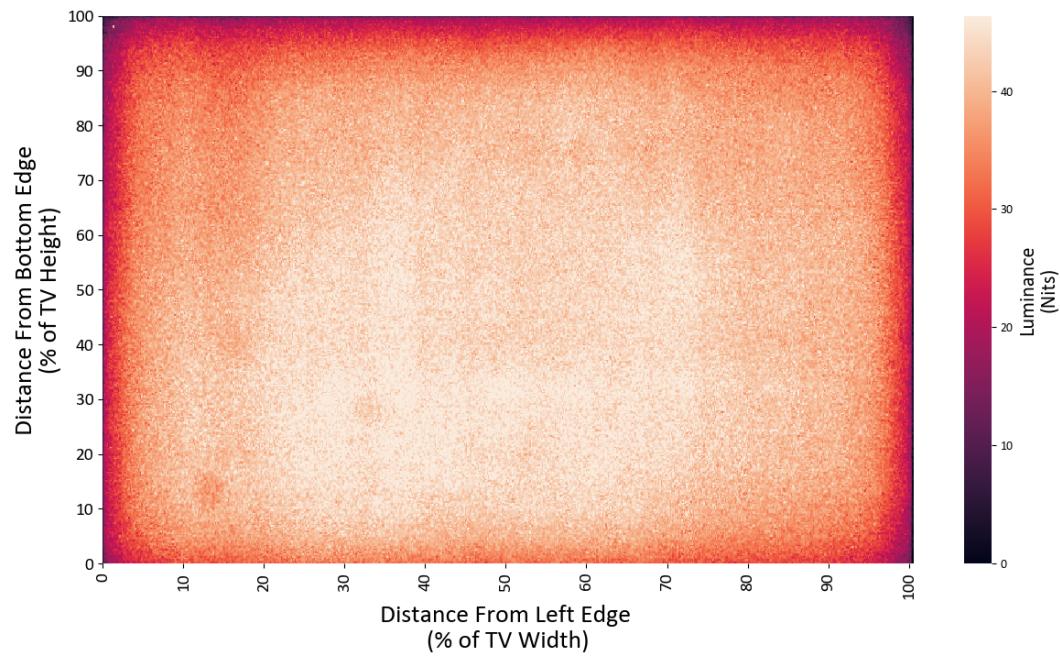
#### Average Luminance Along TV's Horizontal Axis



### Average Luminance Along TV's Vertical Axis



## Luminance Heatmap



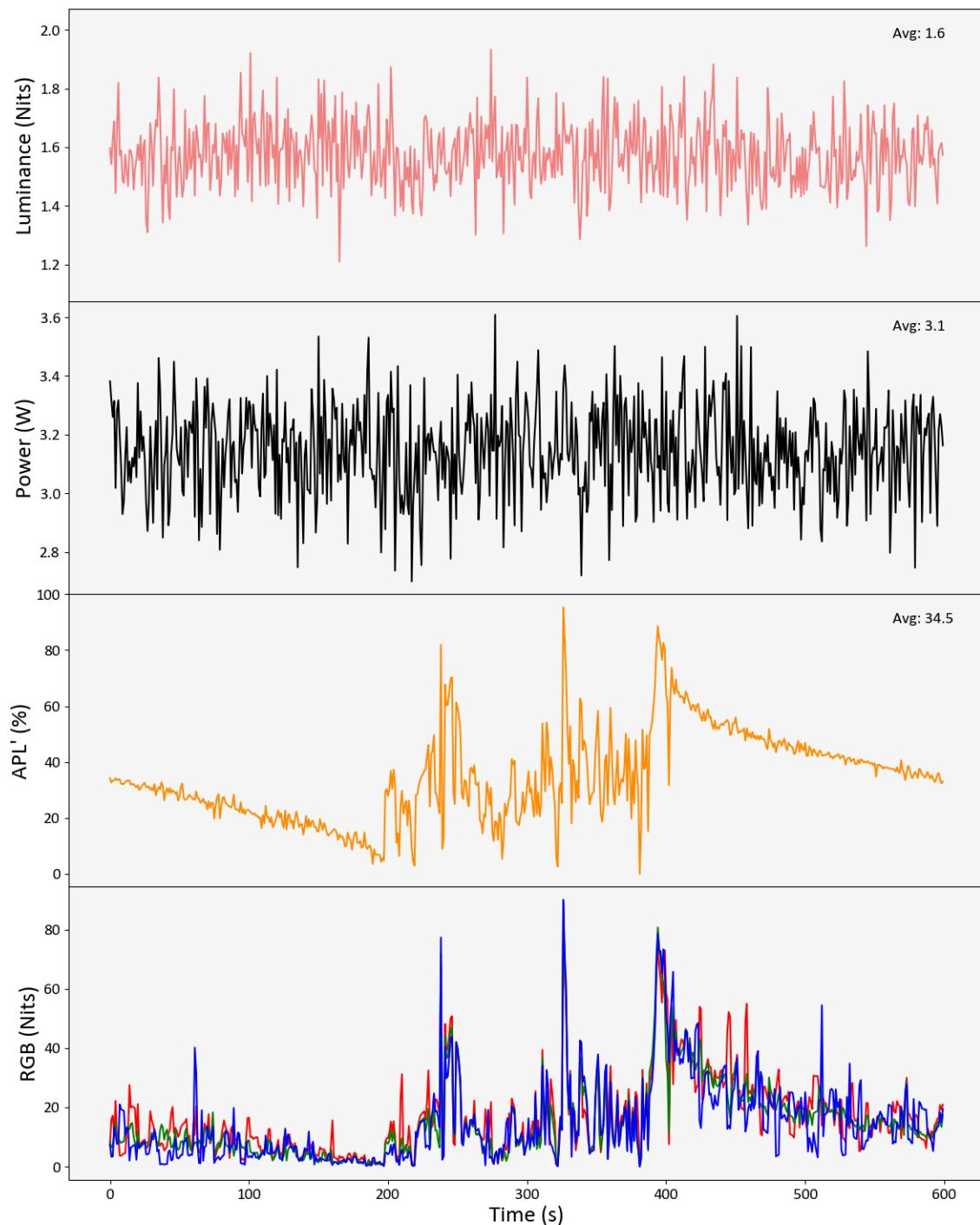
#### 4. Test Results Table

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Preset Picture	MDD	QS	Wake Time (s)	Avg Luminance (Nits)	Avg Power (W)
stabilization1	600	IEC SDR	34.5	off	aps	off			1.6	3.1
stabilization2	600	IEC SDR	34.5	off	aps	off			1.3	2.5
default	600	IEC SDR	34.5	off	aps	off			1.5	3.0
default_low_backlight	600	IEC SDR	34.5	off	aps	off			1.5	3.0
brightest	600	IEC SDR	34.5	off	vivid	off			1.8	3.6
brightest_low_backlight	600	IEC SDR	34.5	off	vivid	off			1.8	3.6
hdr10	300	CLASP HDR10	28.7	off	standard	off			1.9	3.9
hdr10_low_backlight	300	CLASP HDR10	28.7	off	standard	off			1.9	3.9
standby	2400		0.0				off	9.0	1.5	3.0
standby_echo	2400		0.0				oob	9.0	1.9	3.9
standby_google	2400		0.0				oob	9.0	1.7	3.4

## 5. Test Result Plots

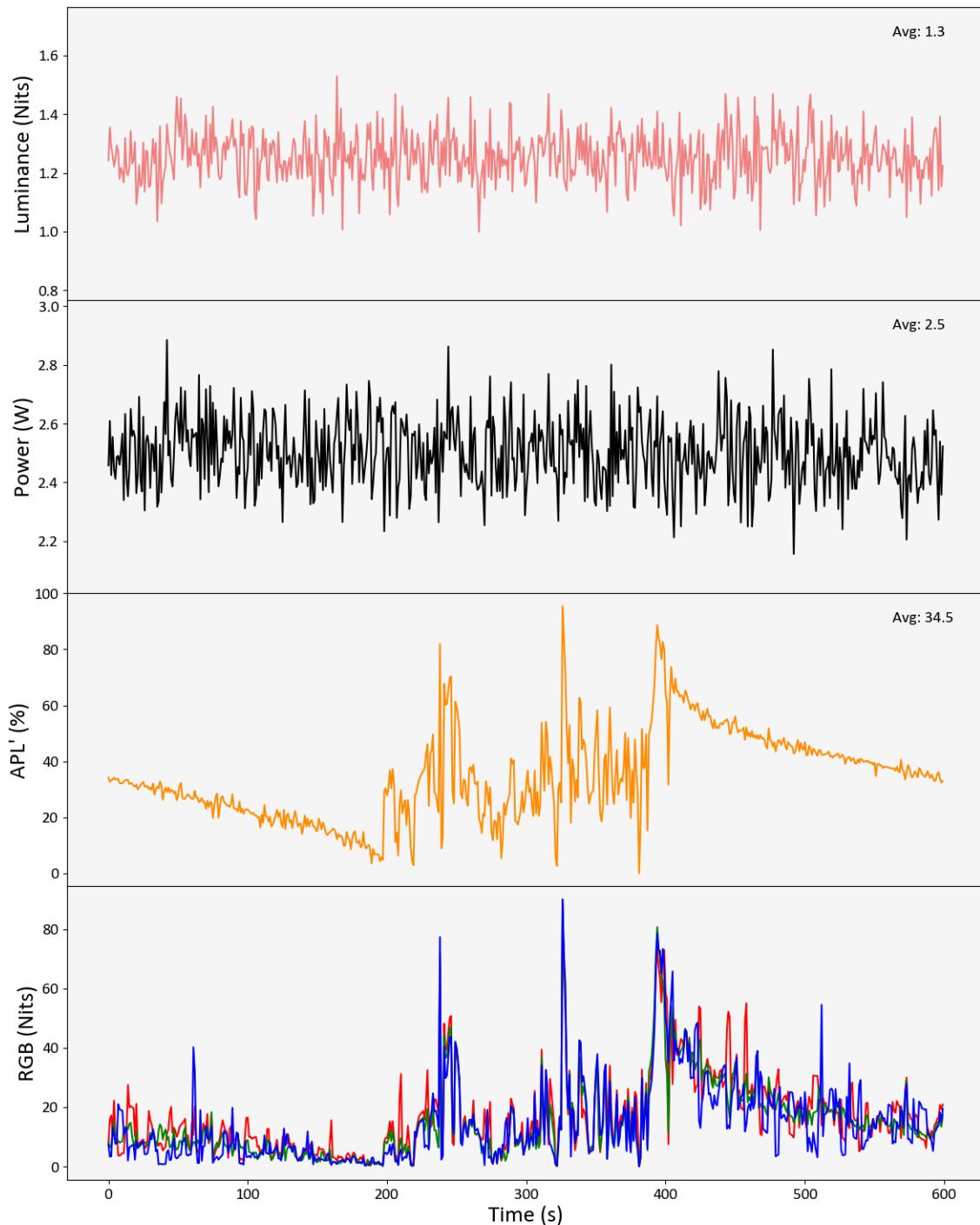
### Test 2.1 - stabilization1

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
stabilization1	600	IEC SDR	34.5	off	aps	off	1.6	3.1



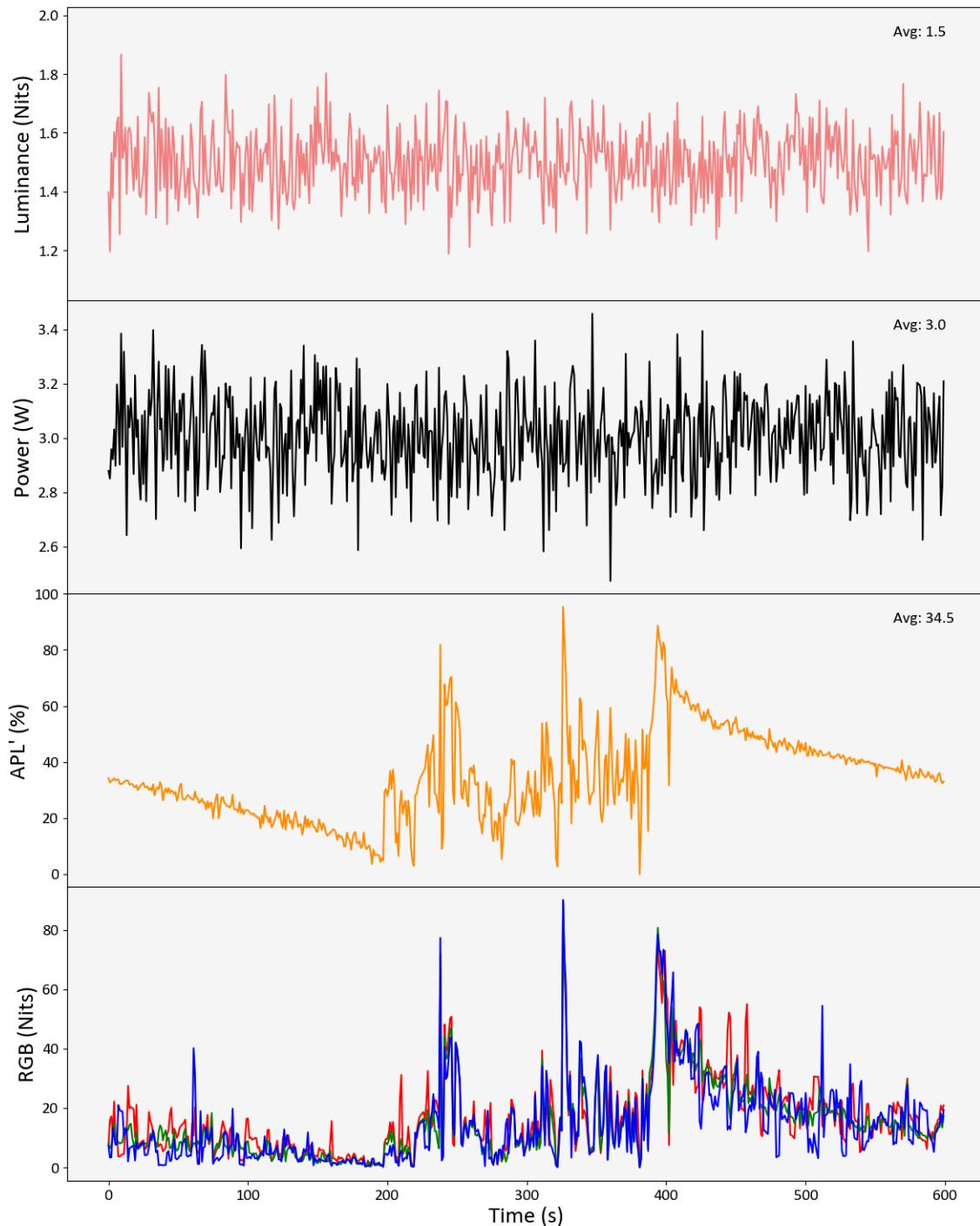
## Test 2.2 - stabilization2

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
stabilization2	600	IEC SDR	34.5	off	aps	off	1.3	2.5



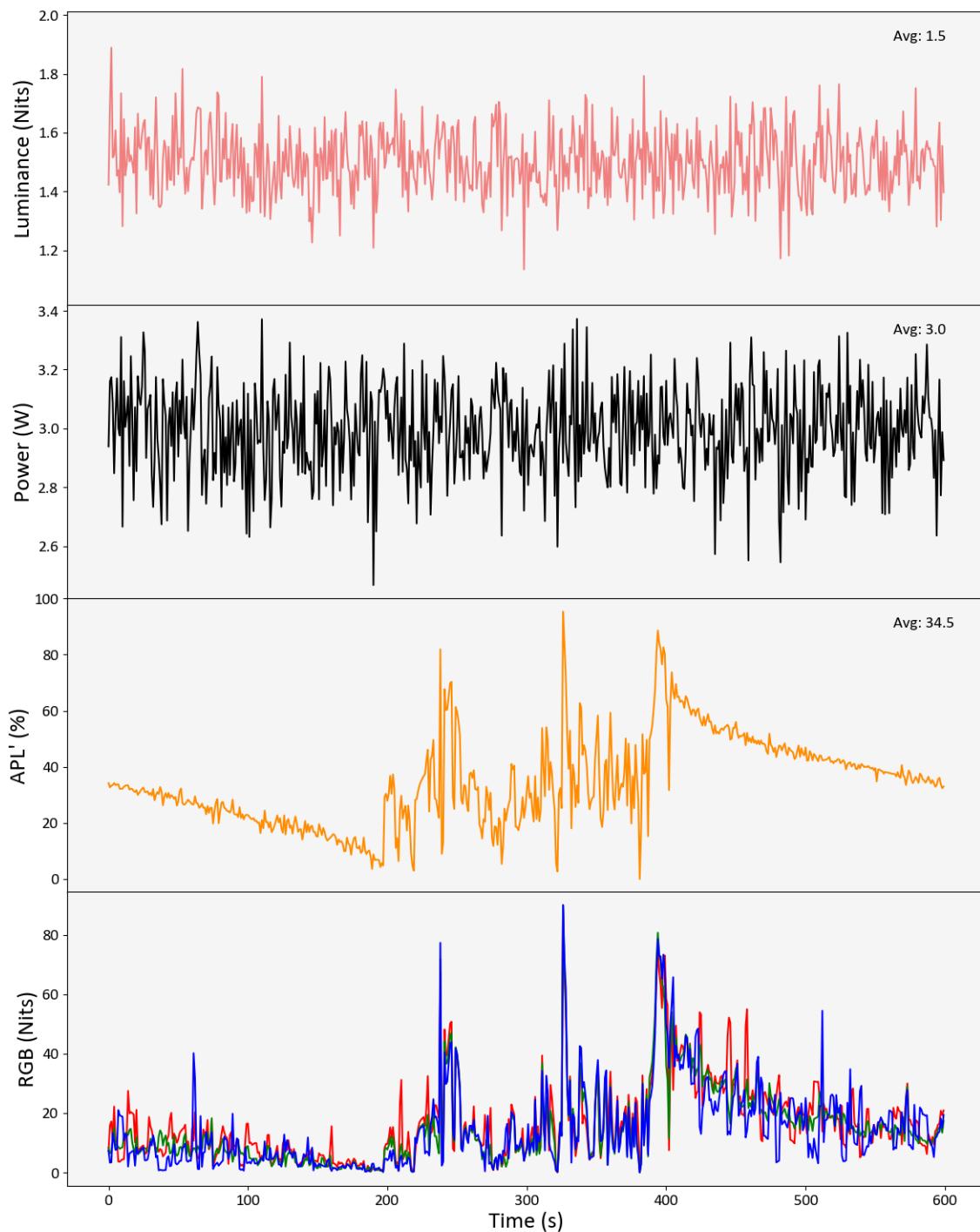
## Test 7 - default

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
default	600	IEC SDR	34.5	off	aps	off	1.5	3.0



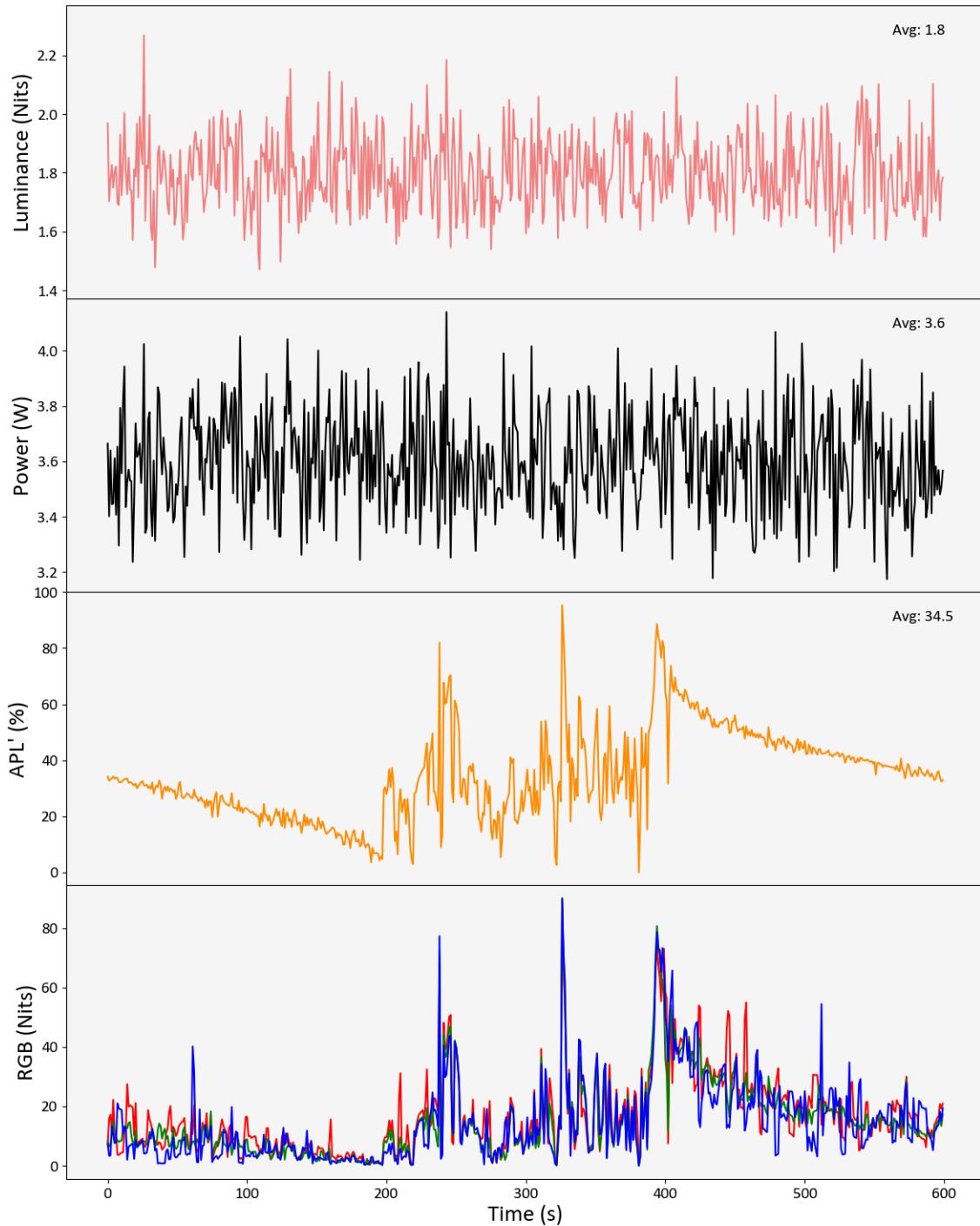
## Test 8 - default\_low\_backlight

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
default_low_backlight	600	IEC SDR	34.5	off	aps	off	1.5	3.0



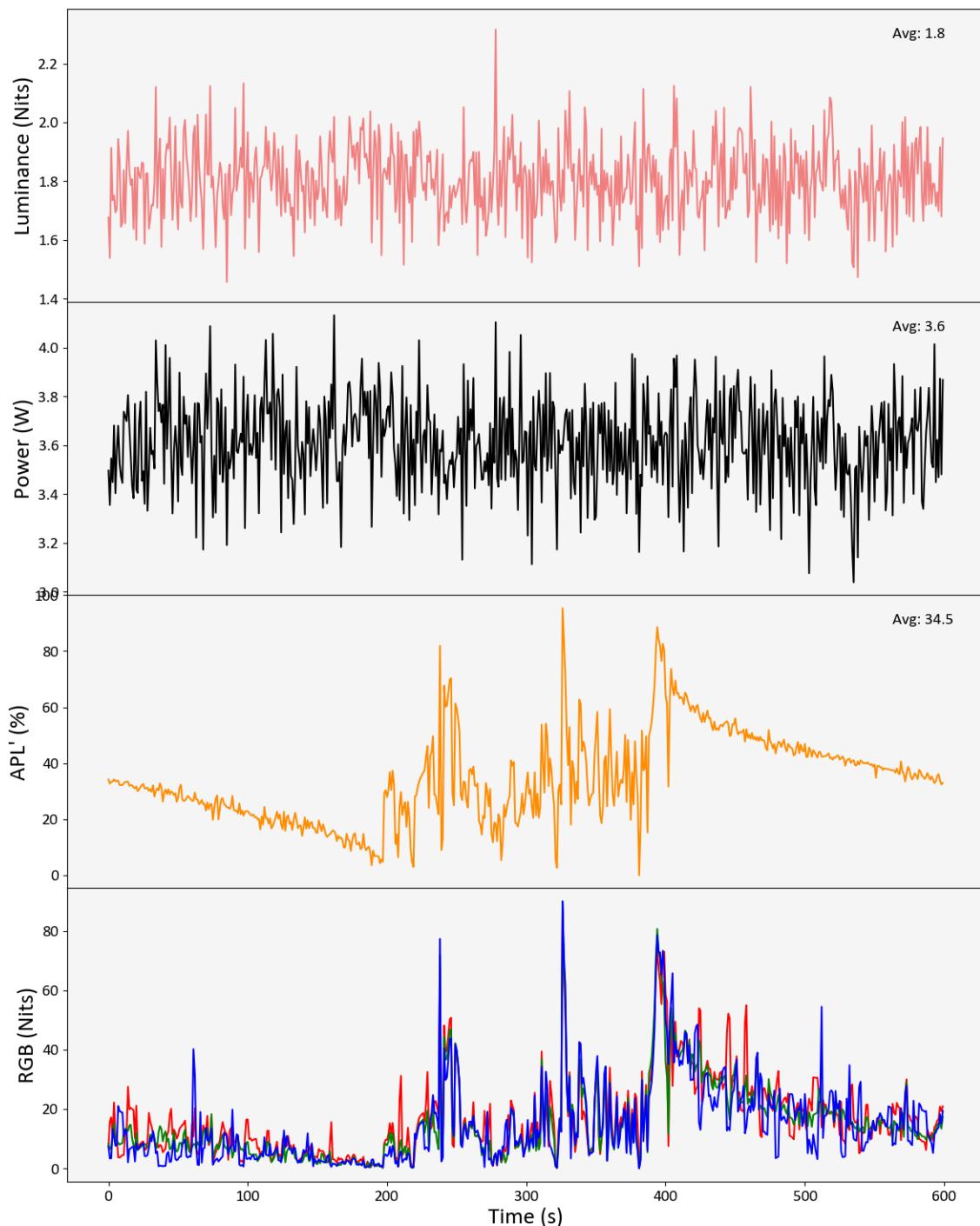
## Test 9 - brightest

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
brightest	600	IEC SDR	34.5	off	vivid	off	1.8	3.6



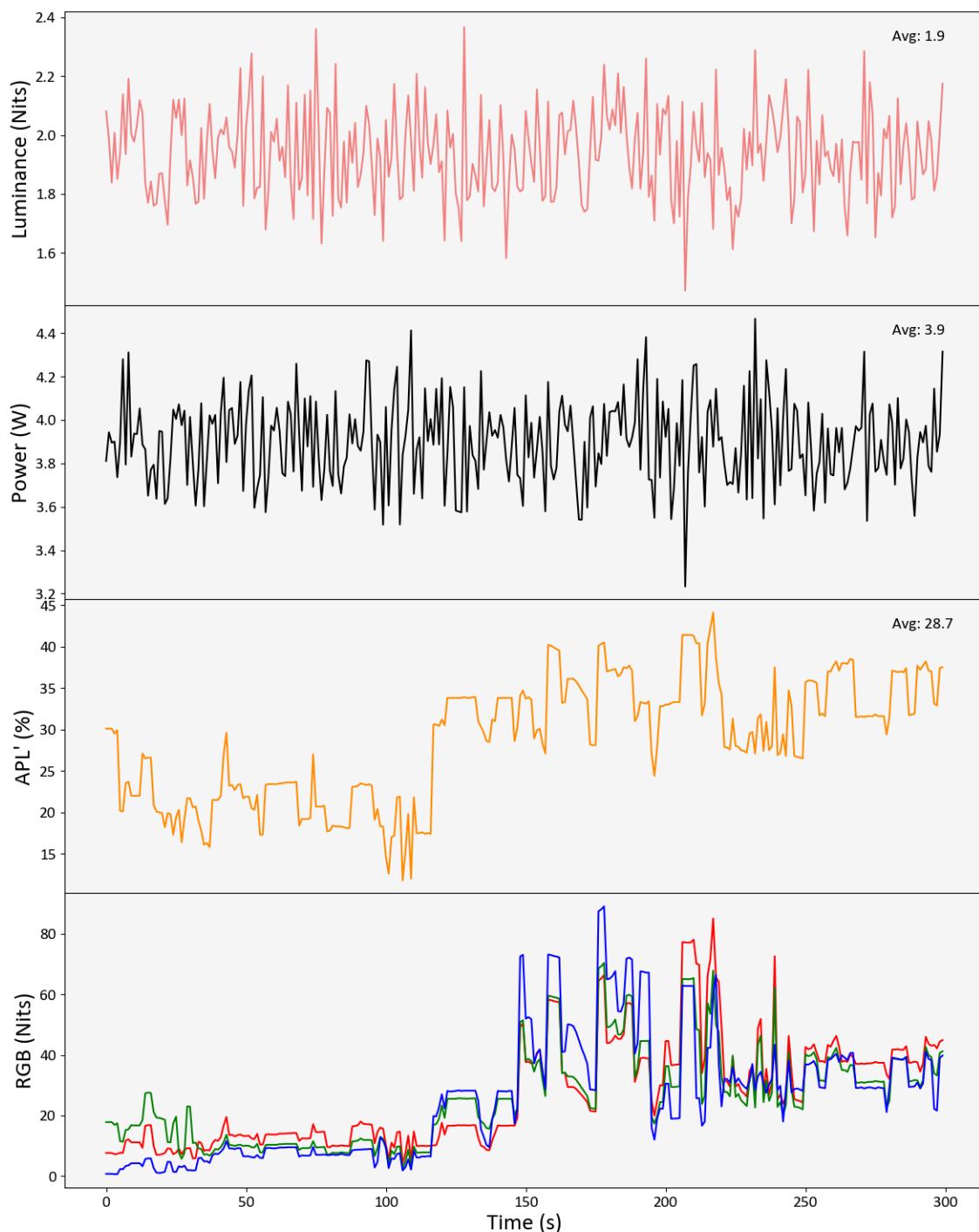
### Test 10 - brightest\_low\_backlight

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
brightest_low_backlight	600	IEC SDR	34.5	off	vivid	off	1.8	3.6



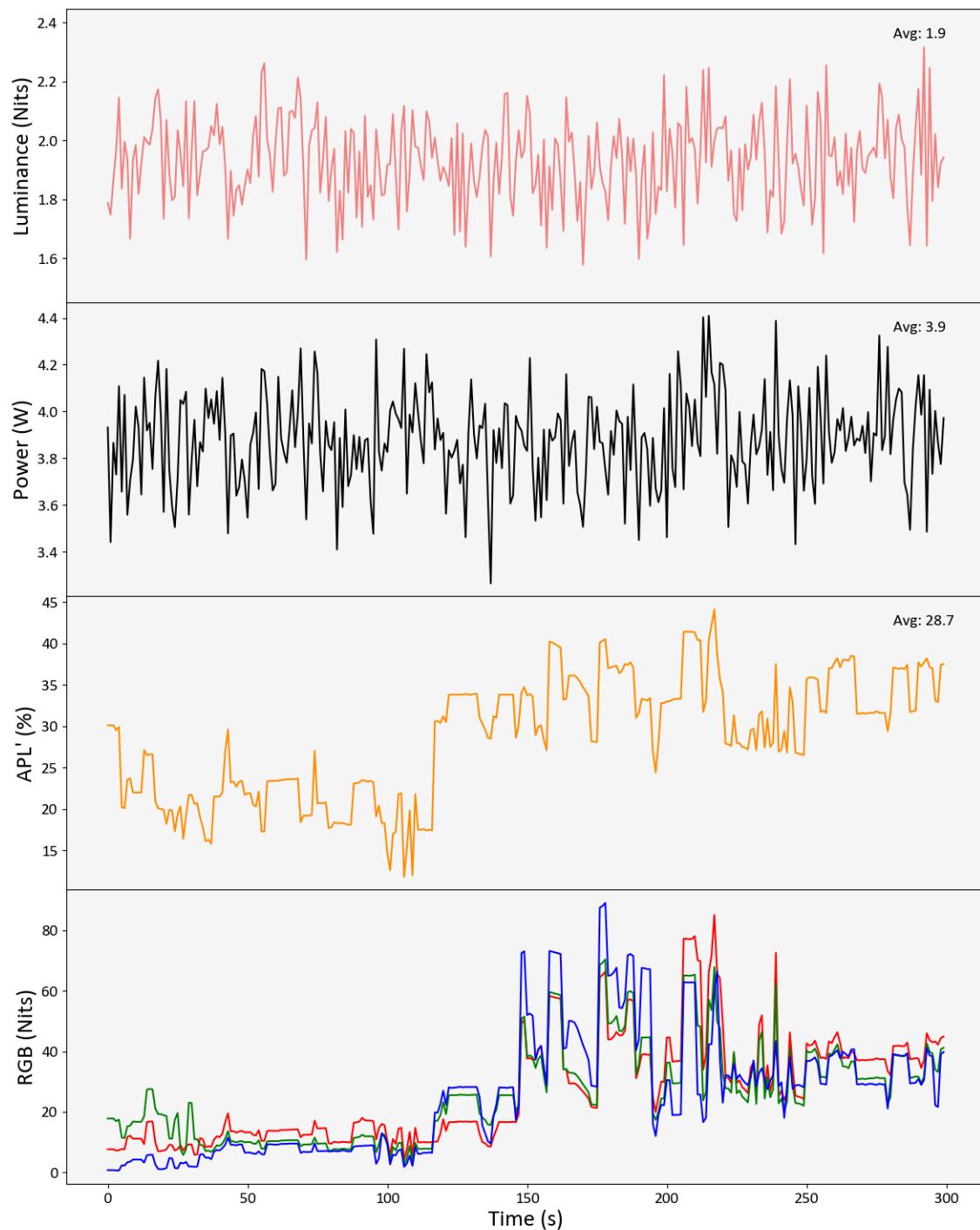
## Test 11 - hdr10

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
hdr10	300	CLASP HDR10	28.7	off	standard	off	1.9	3.9



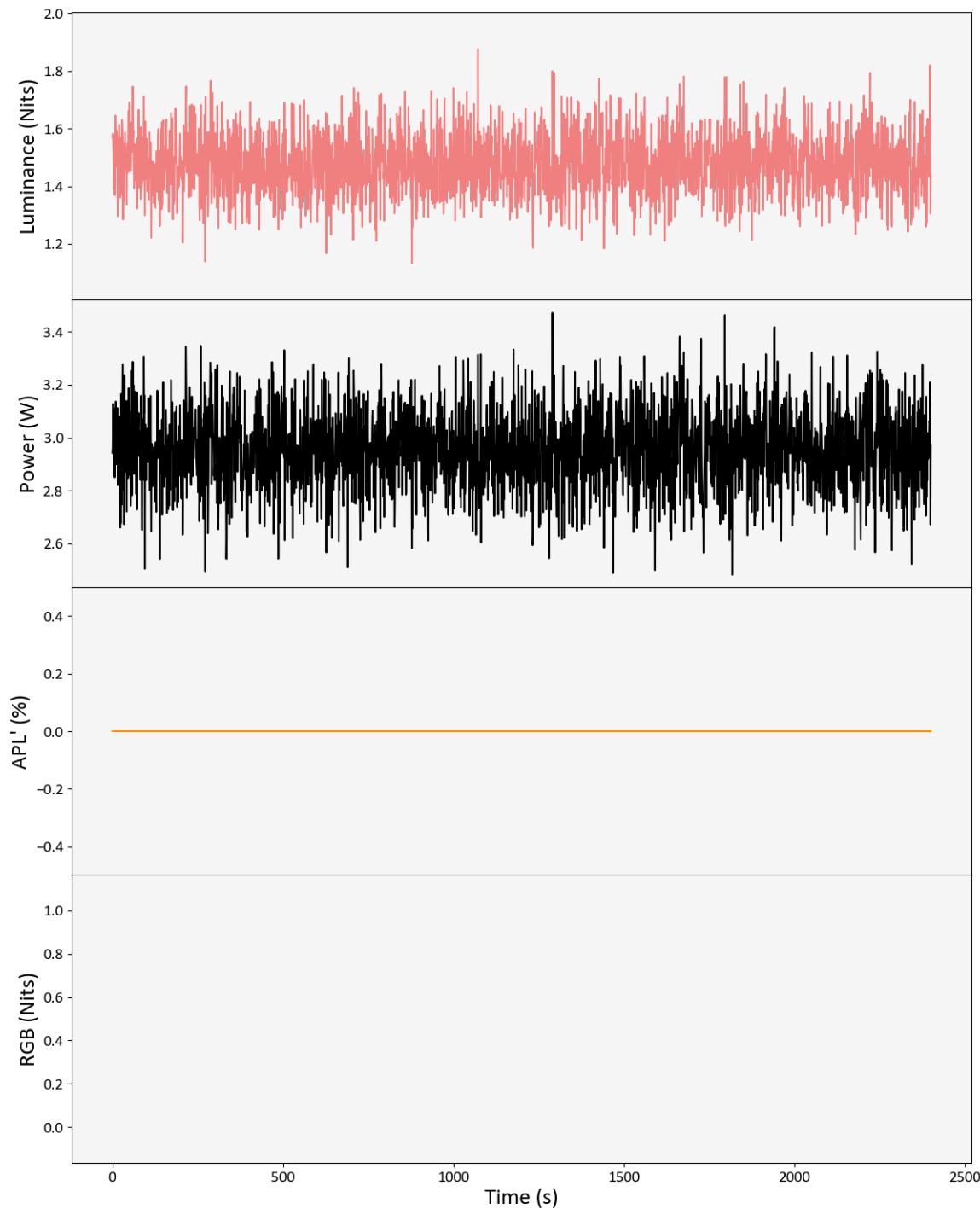
## Test 12 - hdr10\_low\_backlight

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
hdr10_low_backlight	300	CLASP HDR10	28.7	off	standard	off	1.9	3.9



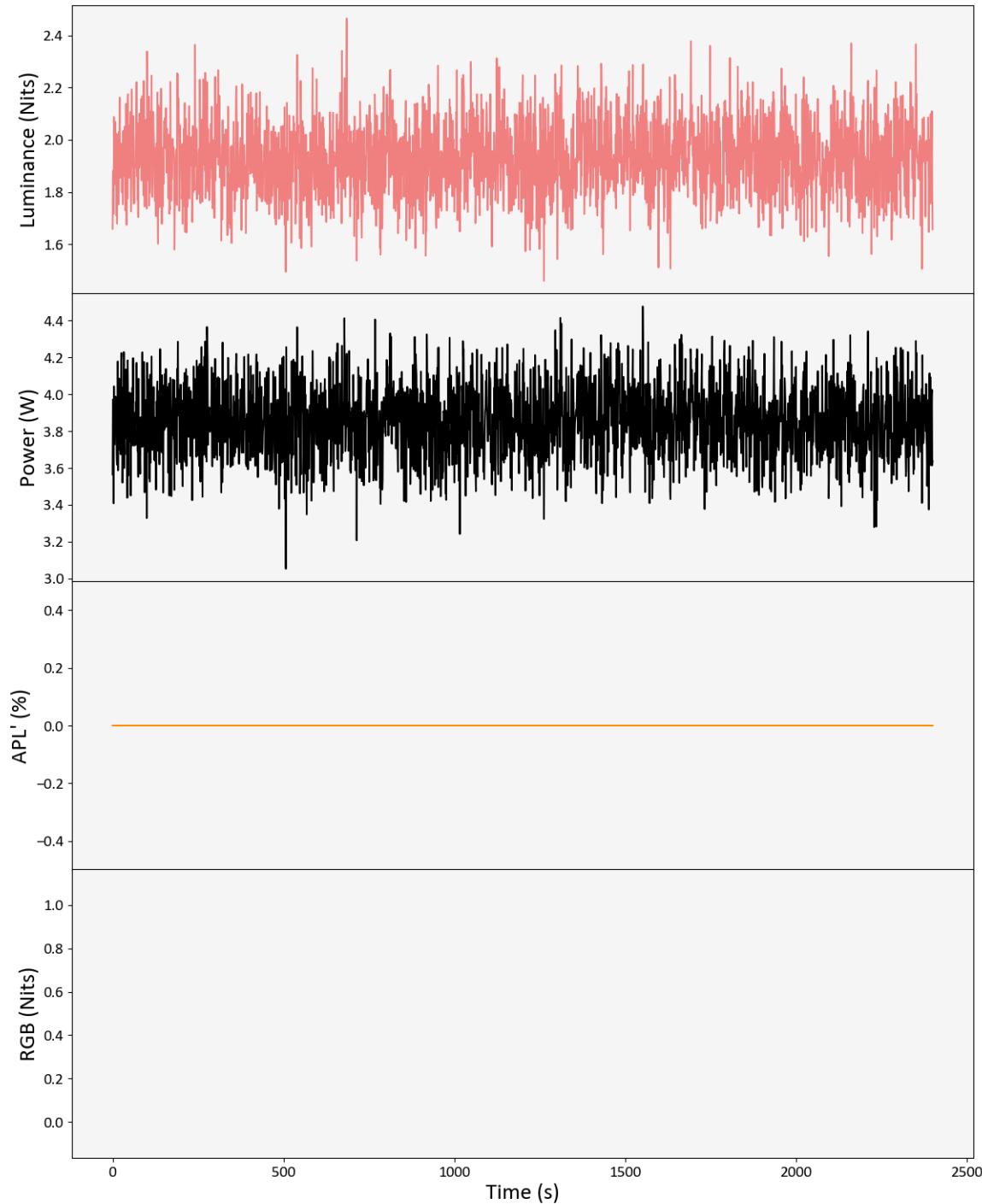
### Test 13 - standby

Test Name	Test Time (s)	Avg APL' (%)	QS	Wake Time (s)	Avg Luminance (Nits)	Avg Power (W)
standby	2400	0.0	off	9.0	1.5	3.0



### Test 15 - standby\_echo

Test Name	Test Time (s)	Avg APL' (%)	QS	Wake Time (s)	Avg Luminance (Nits)	Avg Power (W)
standby_echo	2400	0.0	oob	9.0	1.9	3.9



### Test 17 - standby\_google

Test Name	Test Time (s)	Avg APL' (%)	QS	Wake Time (s)	Avg Luminance (Nits)	Avg Power (W)
standby_google	2400	0.0	oob	9.0	1.7	3.4

