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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	08:14:17
Test End Time	13:06:15
Test Duration	0 days 04:51:58
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	Lux	MDD	Avg Luminance (Nits)	Power Limit (W)	Avg Power (W)	Power/Power Limit
default	aps	off		off	1.5		3.0	
default_100	aps	on	100.0	off	1.5		3.0	
default_35	aps	on	35.0	off	1.5		3.0	
default_12	aps	on	12.0	off	1.5		3.0	
default_3	aps	on	3.0	off	1.5		3.0	
default_measured					1.5	38.8	3.0	0.1
brightest	vivid	off		off	1.8		3.6	
brightest_100	vivid	on	100.0	off	1.8		3.6	
brightest_35	vivid	on	35.0	off	1.8		3.6	
brightest_12	vivid	on	12.0	off	1.8		3.6	
brightest_3	vivid	on	3.0	off	1.8		3.6	
brightest_measured					1.8	33.9	3.6	0.1
average_measured								0.1

Average Measured / Limit must be less than 1.0 to comply

#### Default PPS Power Limit Function

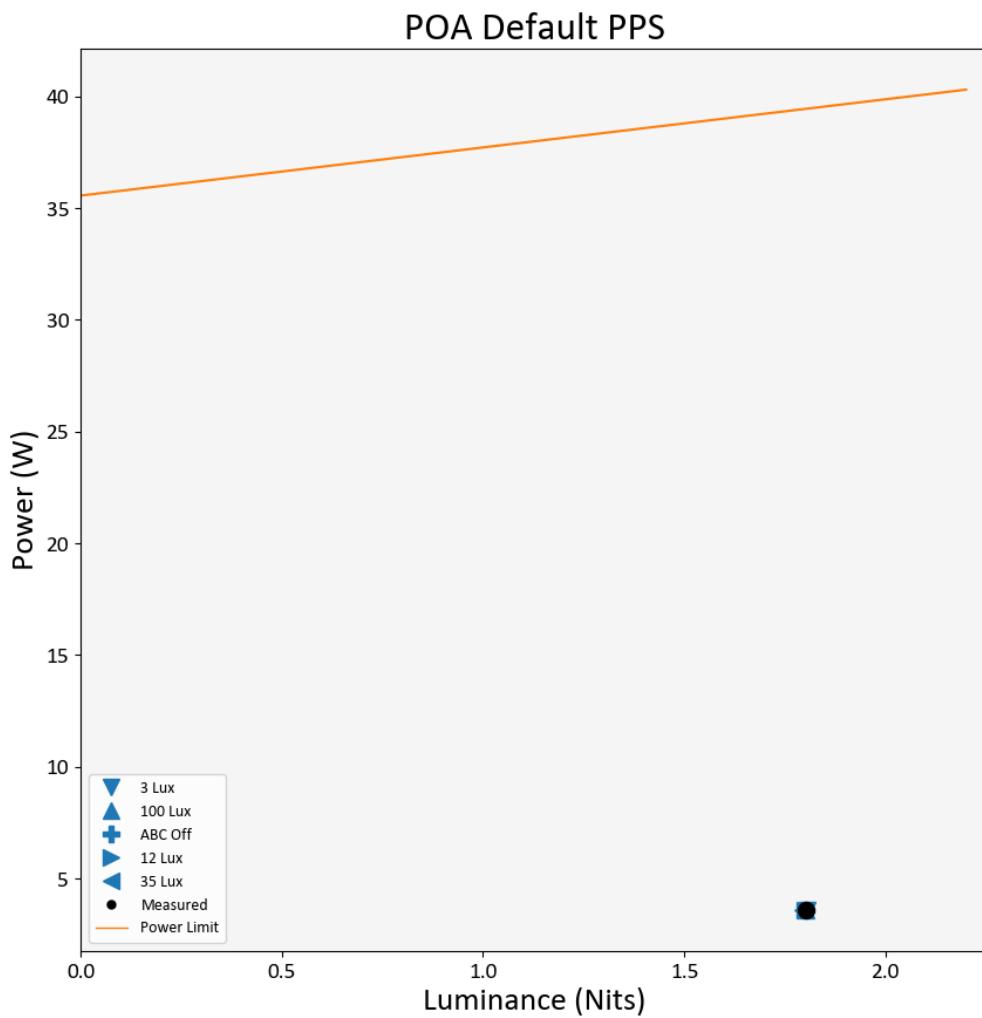
$$1.05 * ((0.001 * \text{area} + 0.38) * (1.00 * \text{luminance} + 0.00) + 0.01 * \text{area} + 18.12)$$

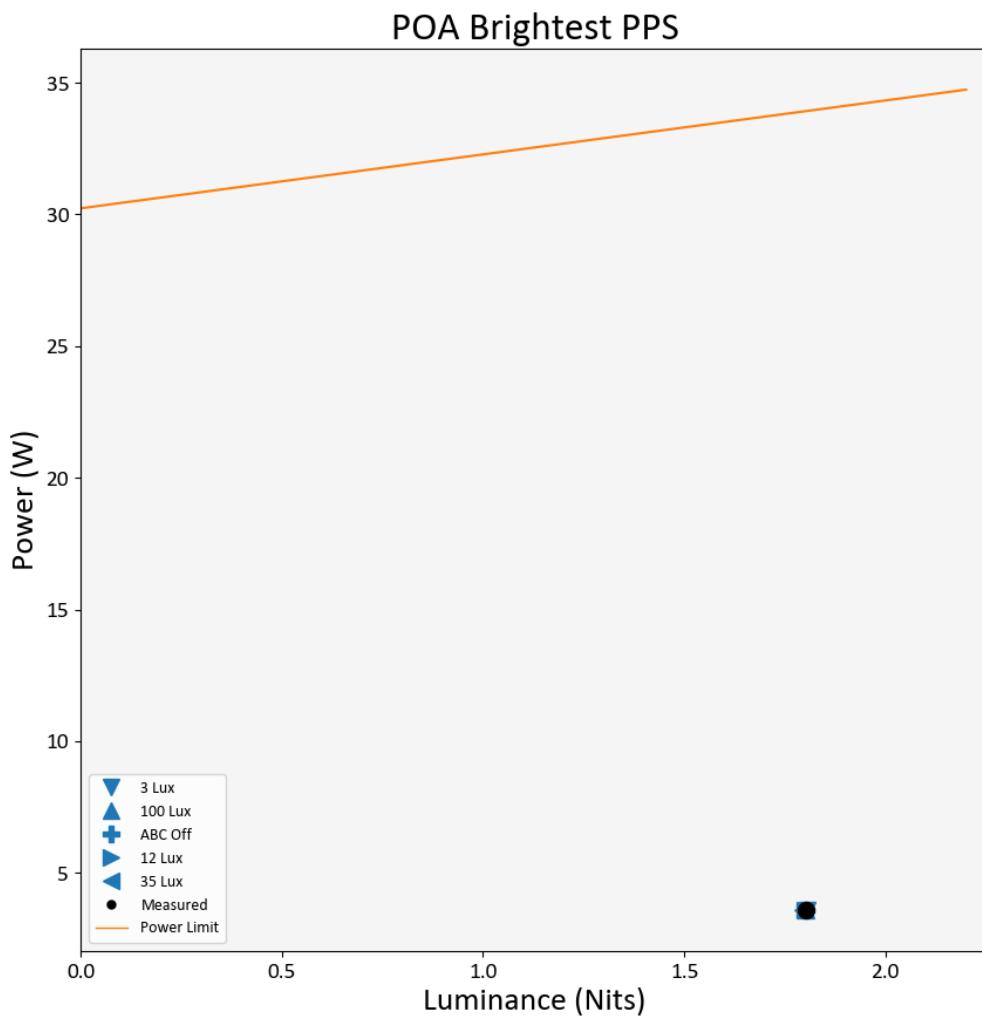
#### Brightest PPS Power Limit Function

$$1.05 * ((0.001 * \text{area} + 0.28) * (1.00 * \text{luminance} + 0.00) + 0.01 * \text{area} + 17.11)$$

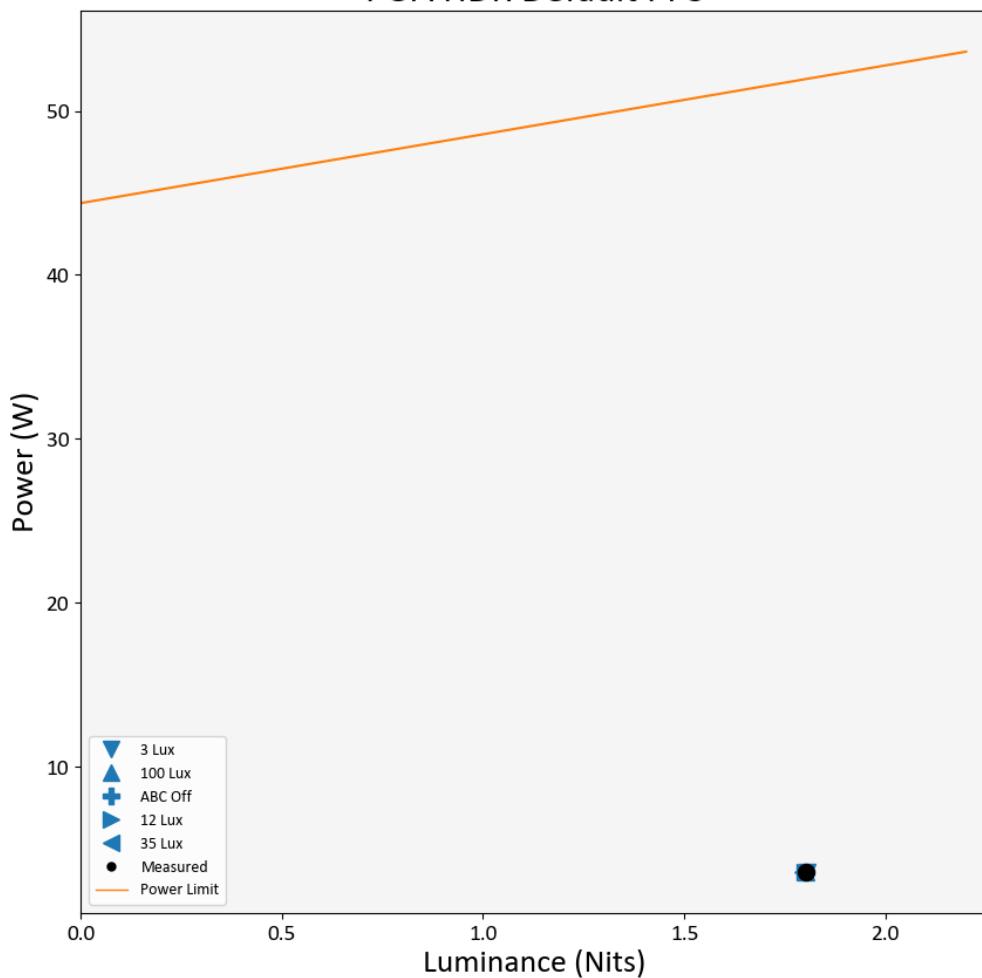
#### HDR Default PPS Power Limit Function

$$1.05 * ((0.002 * \text{area} + 0.38) * (1.00 * \text{luminance} + 0.00) + 0.01 * \text{area} + 17.67)$$





### POA HDR Default PPS



## 2.2 Standby

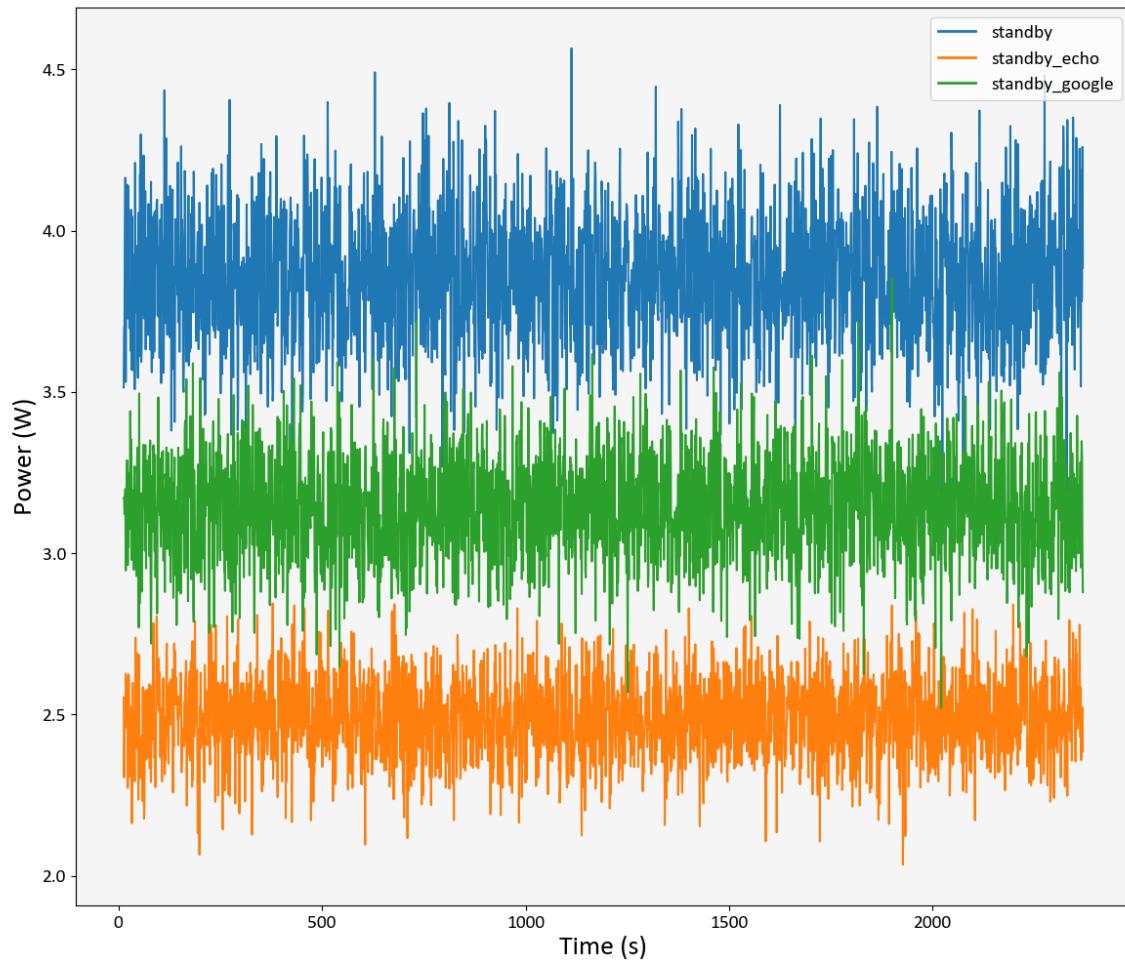
Test Name	QS	Wake Time (s)	Power Limit (W)	Avg Power (W)
standby	off	9.0	2	3.9
standby_echo	oob	9.0	2	2.5
standby_google	oob	9.0	2	3.1

### Time to Wake from Standby

standby: 9.0 seconds

standby\_echo: 9.0 seconds

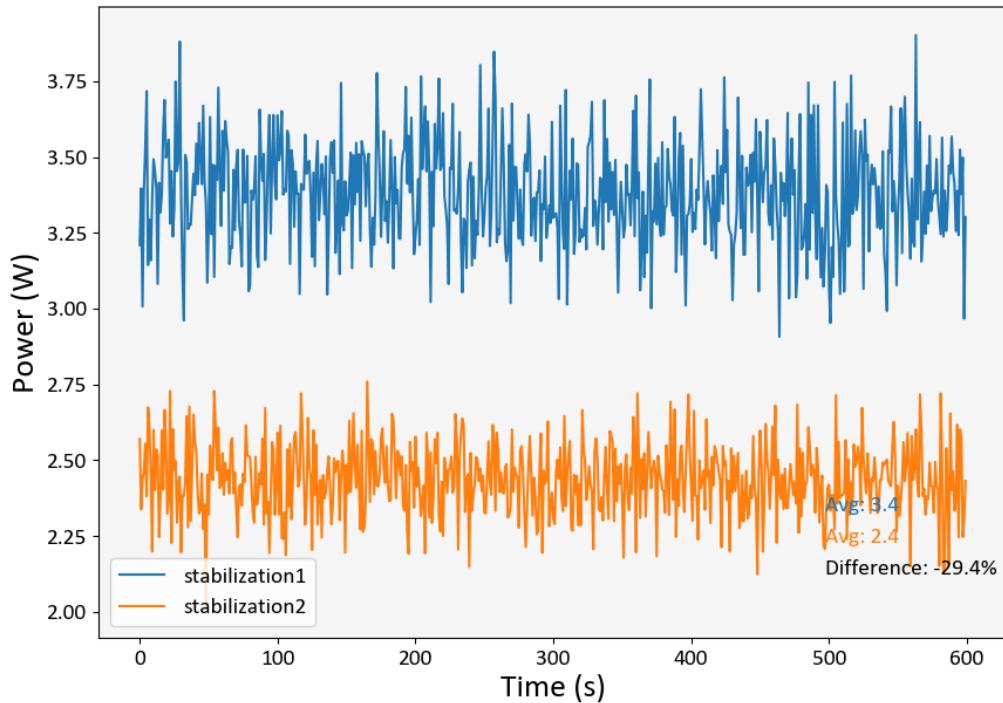
standby\_google: 9.0 seconds



### 3. Supplemental Test Results

#### 3.1 Stabilization

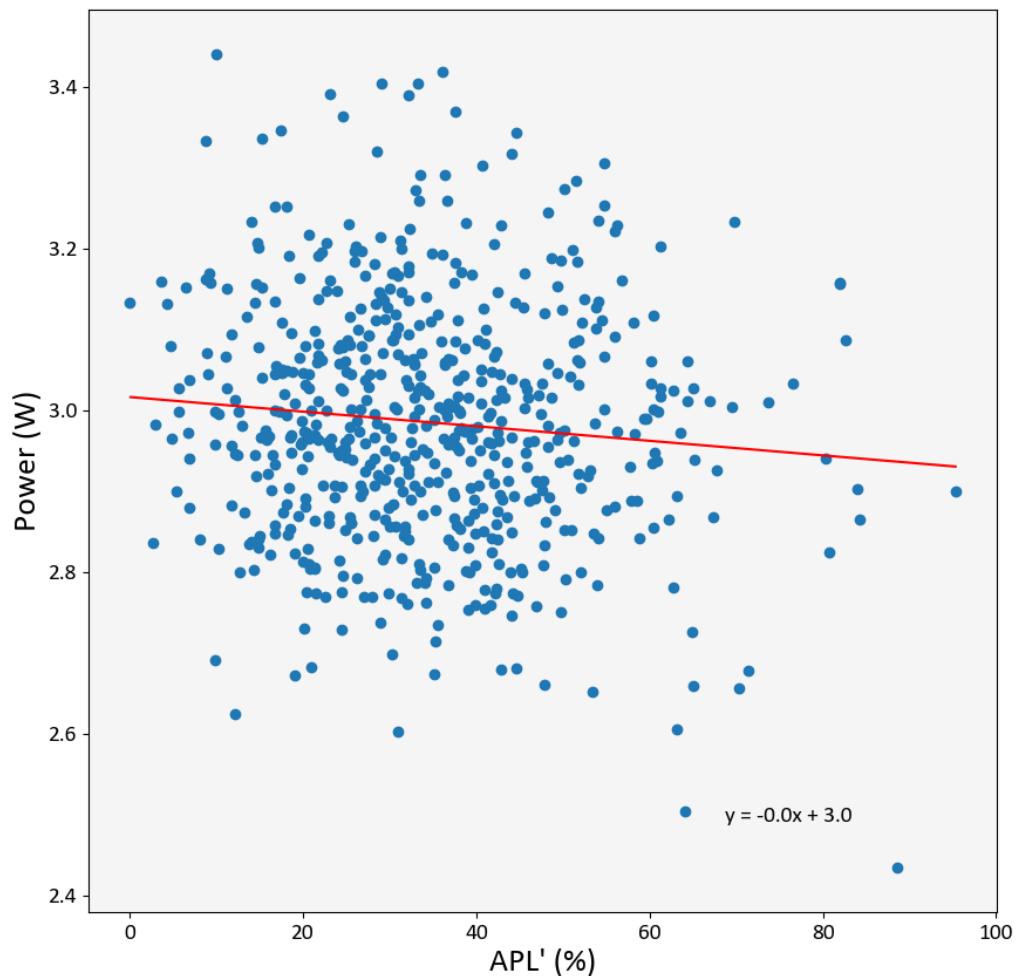
Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
stabilization1	600	IEC SDR	34.5	off	aps	off	1.7	3.4
stabilization2	600	IEC SDR	34.5	off	aps	off	1.2	2.4



### 3.2 APL' vs Power Charts

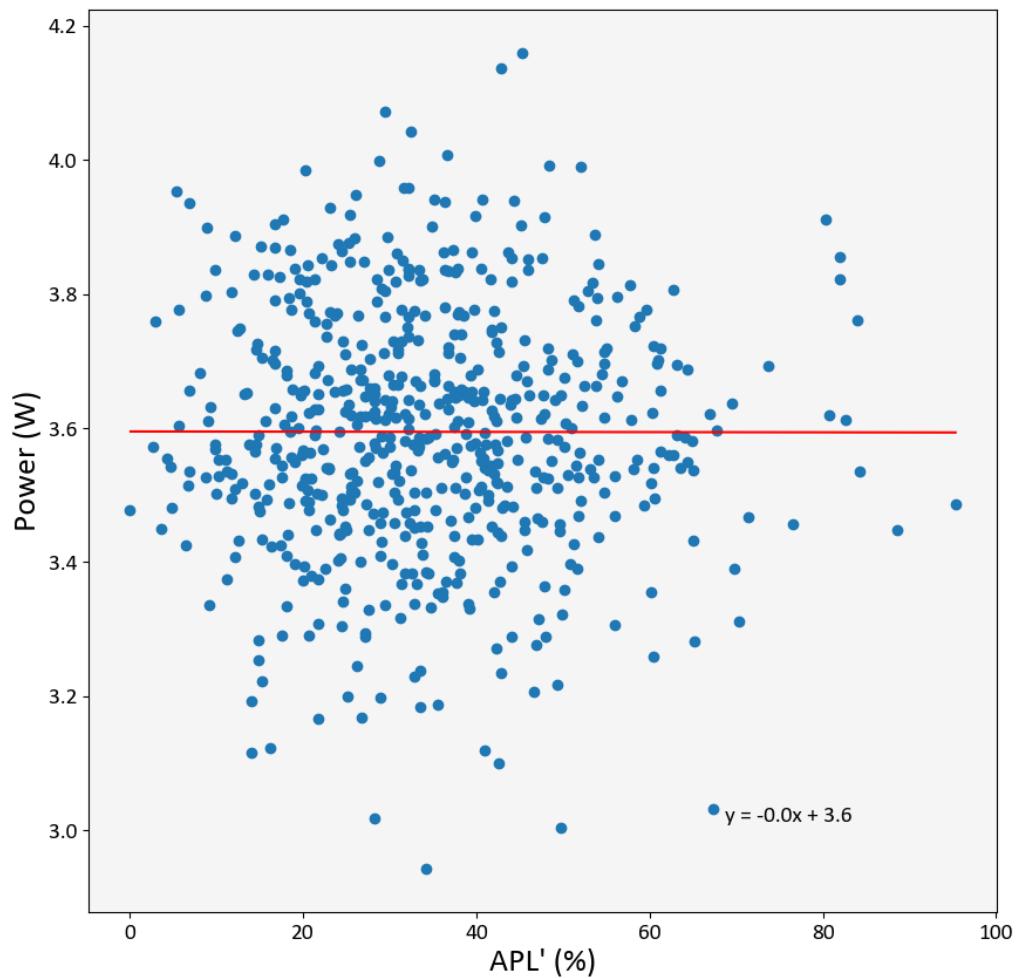
#### 3.2.1 Default PPS: SDR

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



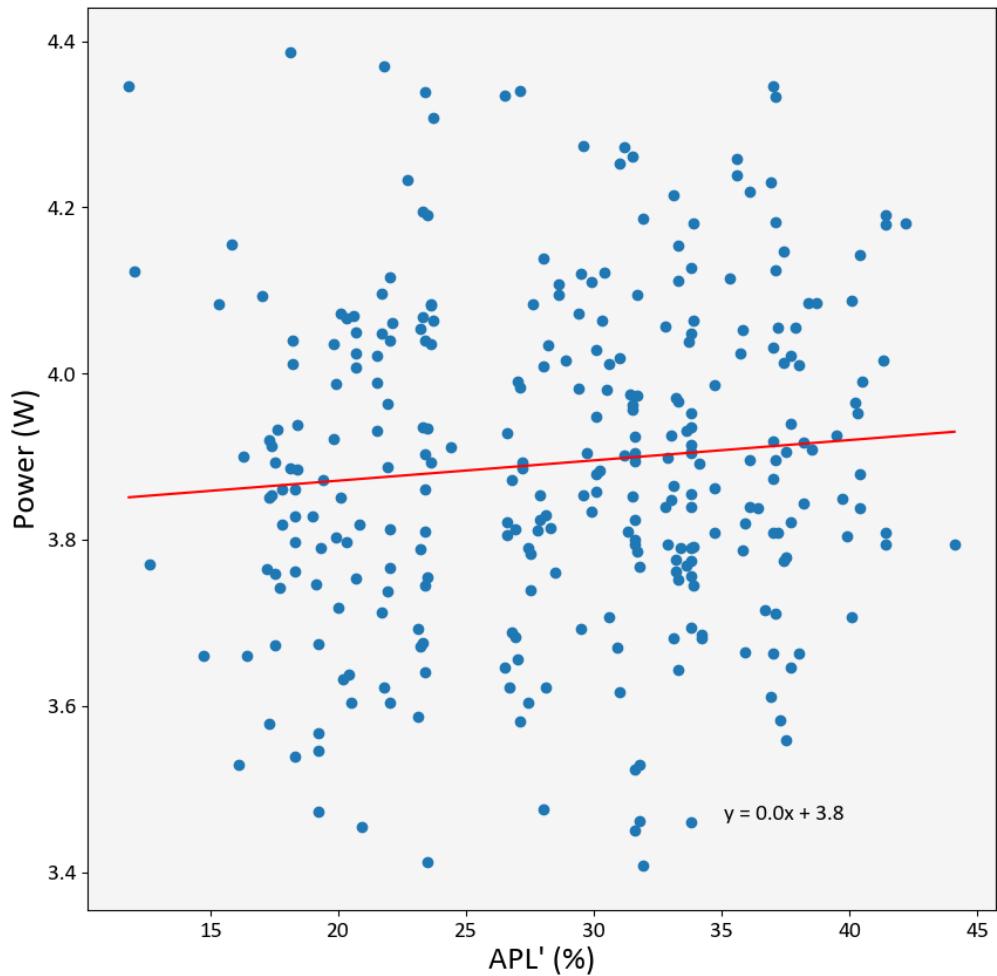
### 3.2.2 Brightest PPS: SDR

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



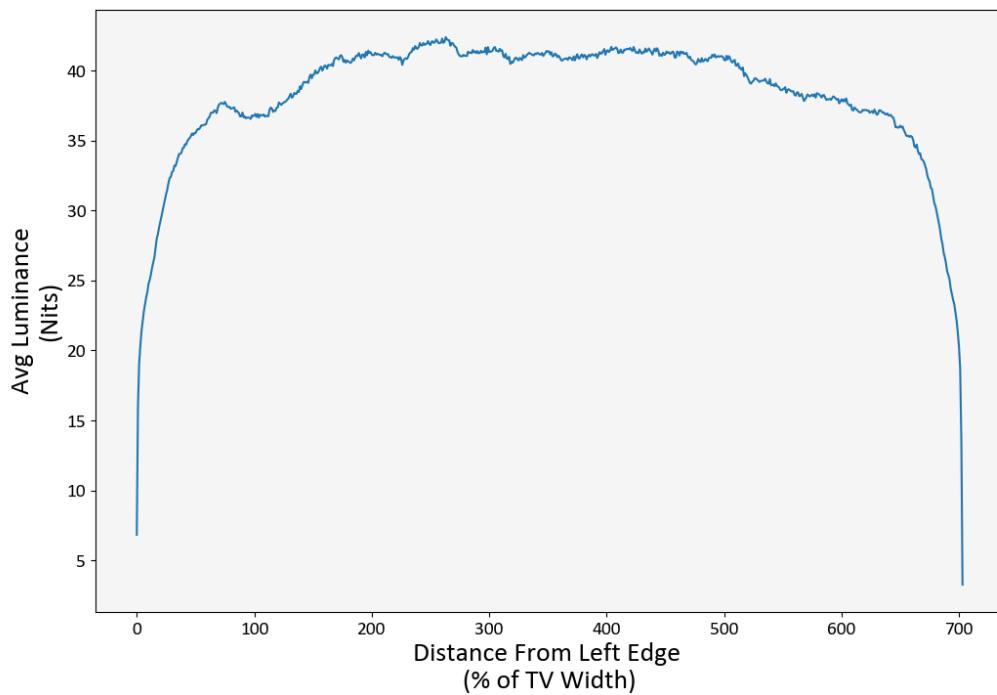
### 3.2.3 Default PPS: HDR

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	2.0	3.9

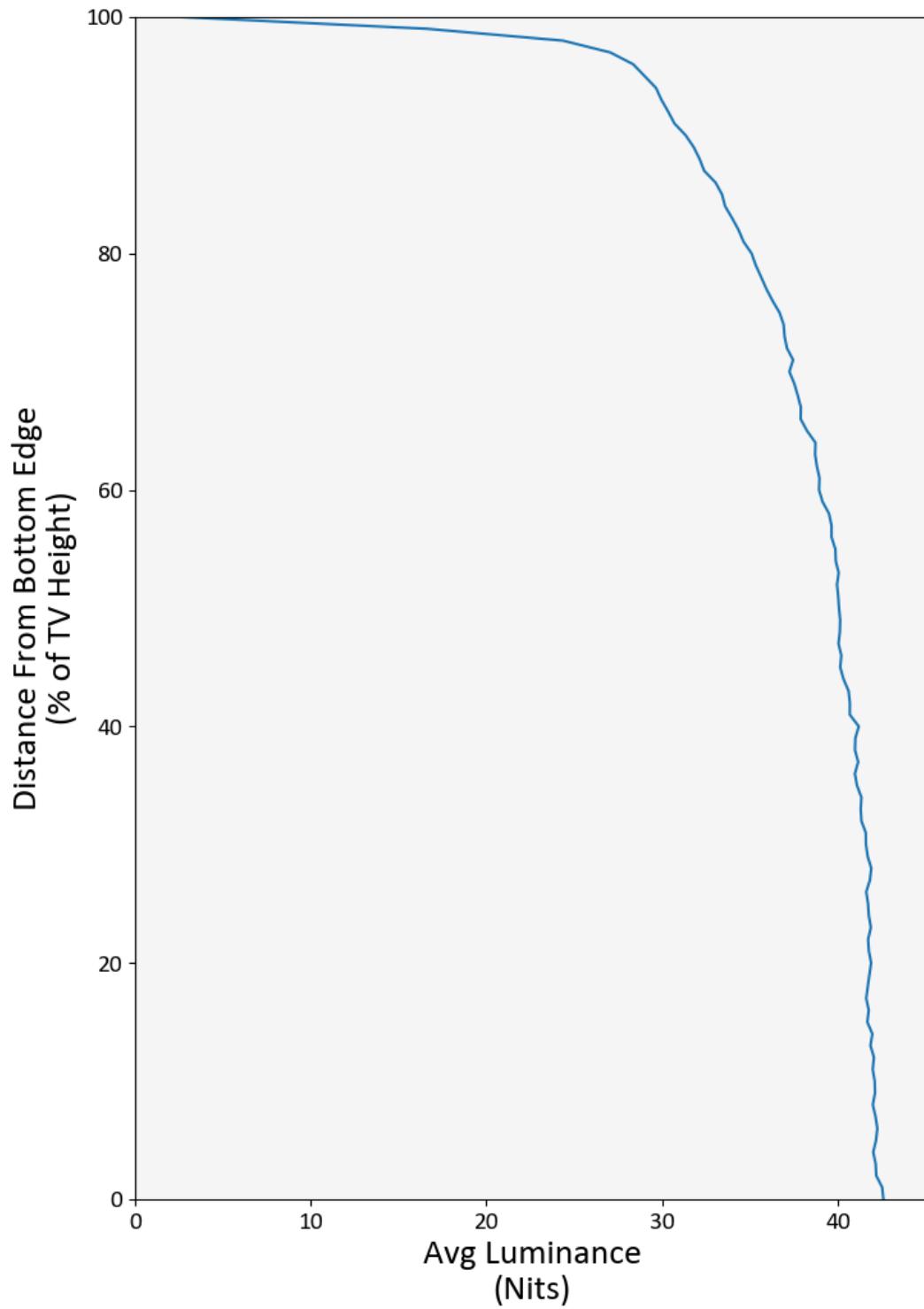


### 3.3 Light Directionality

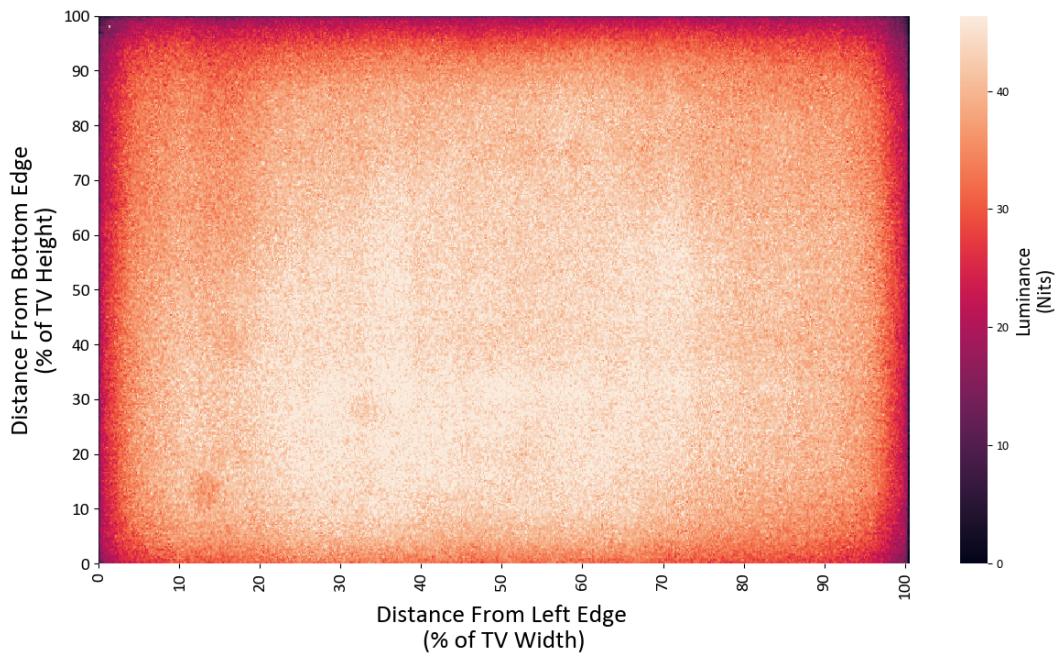
#### Average Luminance Along TV's Horizontal Axis



### Average Luminance Along TV's Vertical Axis



## Luminance Heatmap



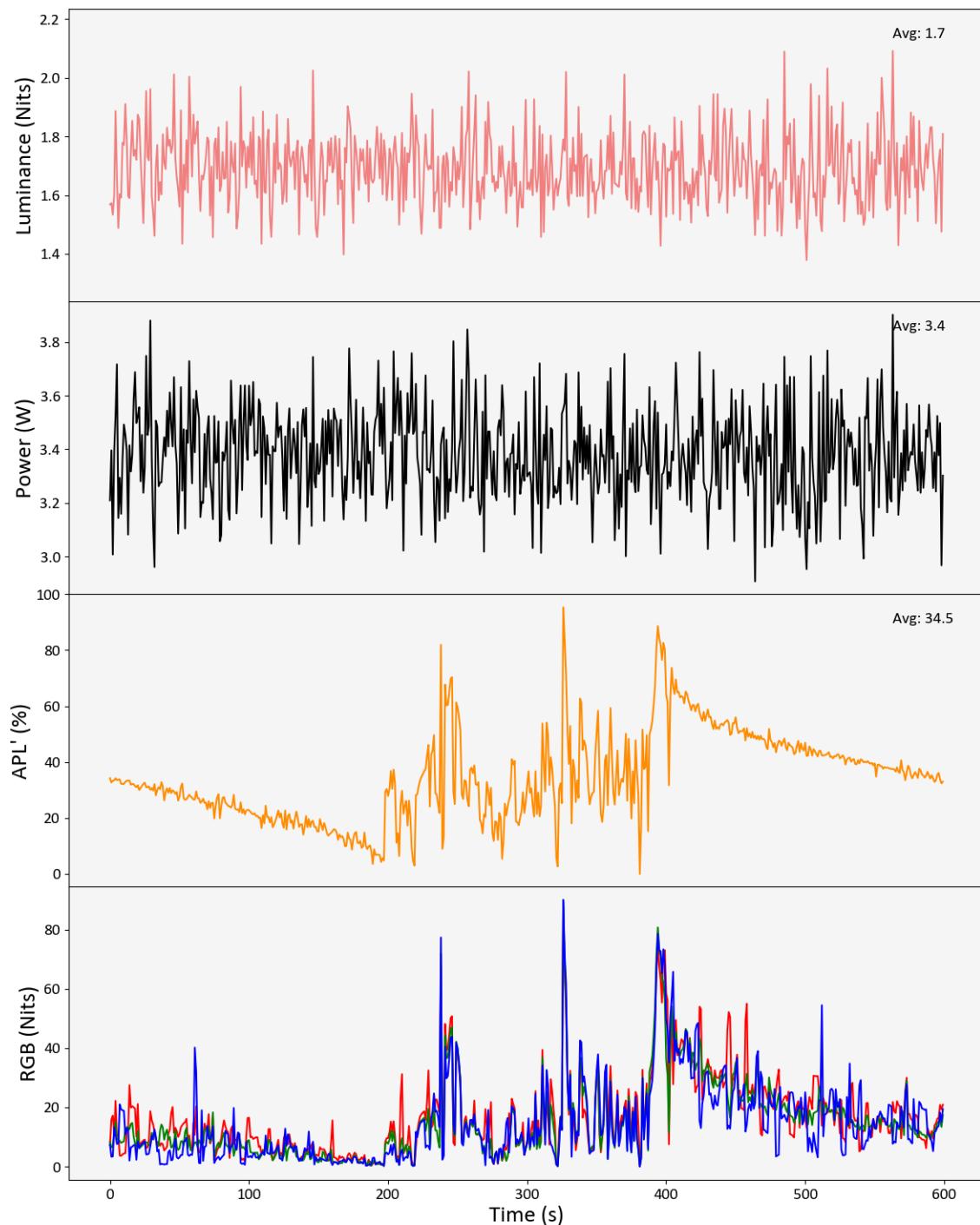
#### 4. Test Results Table

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Lux	Preset Picture	MDD	QS	Wake Time (s)	Avg Luminance (Nits)	Avg Power (W)
stabilization1	600	IEC SDR	34.5	off		aps	off			1.7	3.4
stabilization2	600	IEC SDR	34.5	off		aps	off			1.2	2.4
default	600	IEC SDR	34.5	off		aps	off			1.5	3.0
default_100	600	IEC SDR	34.5	on	100.0	aps	off			1.5	3.0
default_35	600	IEC SDR	34.5	on	35.0	aps	off			1.5	3.0
default_12	600	IEC SDR	34.5	on	12.0	aps	off			1.5	3.0
default_3	600	IEC SDR	34.5	on	3.0	aps	off			1.5	3.0
brightest	600	IEC SDR	34.5	off		vivid	off			1.8	3.6
brightest_100	600	IEC SDR	34.5	on	100.0	vivid	off			1.8	3.6
brightest_35	600	IEC SDR	34.5	on	35.0	vivid	off			1.8	3.6
brightest_12	600	IEC SDR	34.5	on	12.0	vivid	off			1.8	3.6
brightest_3	600	IEC SDR	34.5	on	3.0	vivid	off			1.8	3.6
hdr10	300	CLASP HDR10	28.7	off		standard	off			2.0	3.9
hdr10_100	300	CLASP HDR10	28.7	on	100.0	standard	off			1.9	3.9
hdr10_35	300	CLASP HDR10	28.7	on	35.0	standard	off			2.0	3.9
hdr10_12	300	CLASP HDR10	28.7	on	12.0	standard	off			1.9	3.9
hdr10_3	300	CLASP HDR10	28.7	on	3.0	standard	off			2.0	3.9
standby	2400		0.0					off	9.0	1.9	3.9
standby_echo	2400		0.0					oob	9.0	1.2	2.5
standby_google	2400		0.0					oob	9.0	1.6	3.1

## 5. Test Result Plots

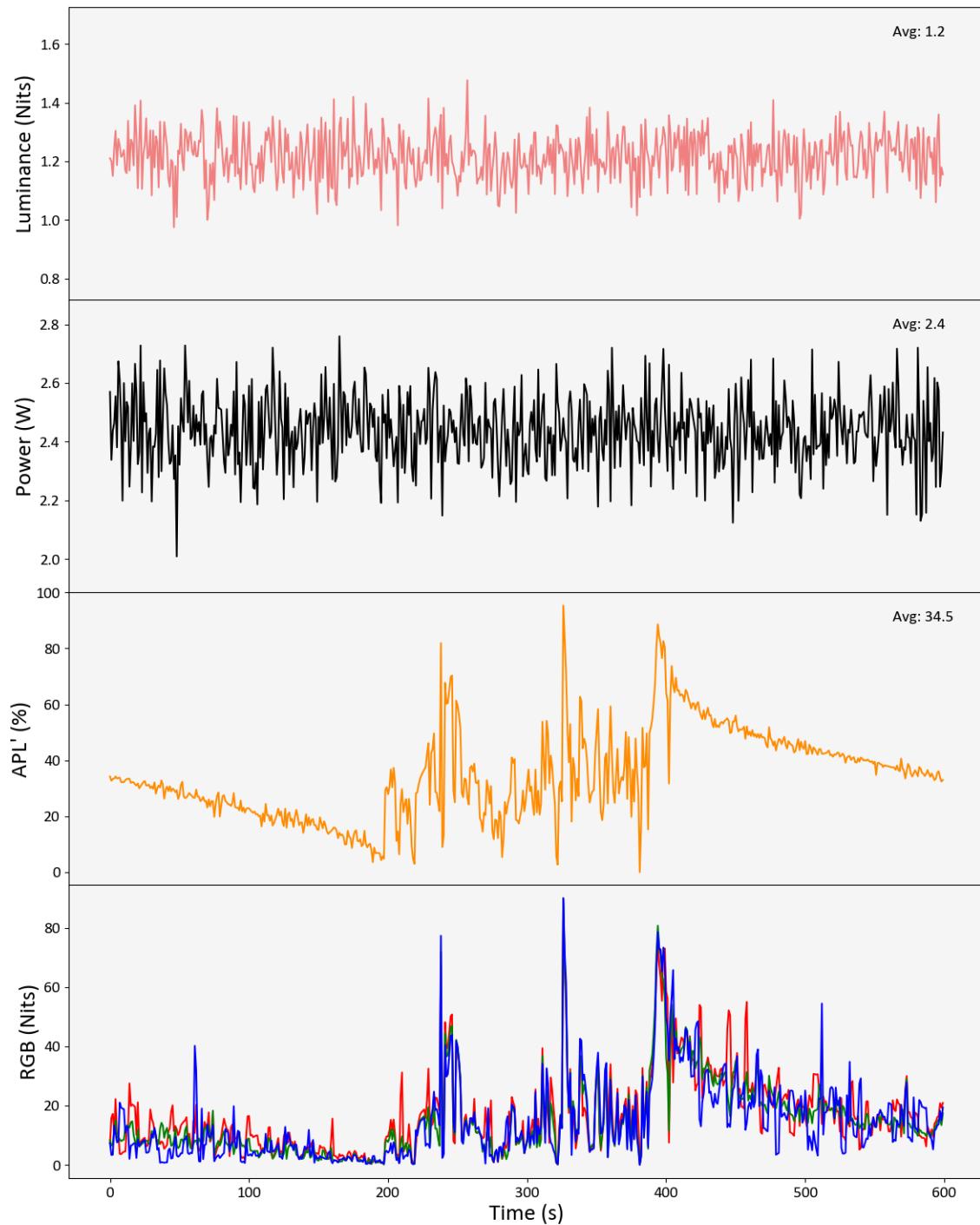
### Test 2.1 - stabilization1

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	1.7	3.4



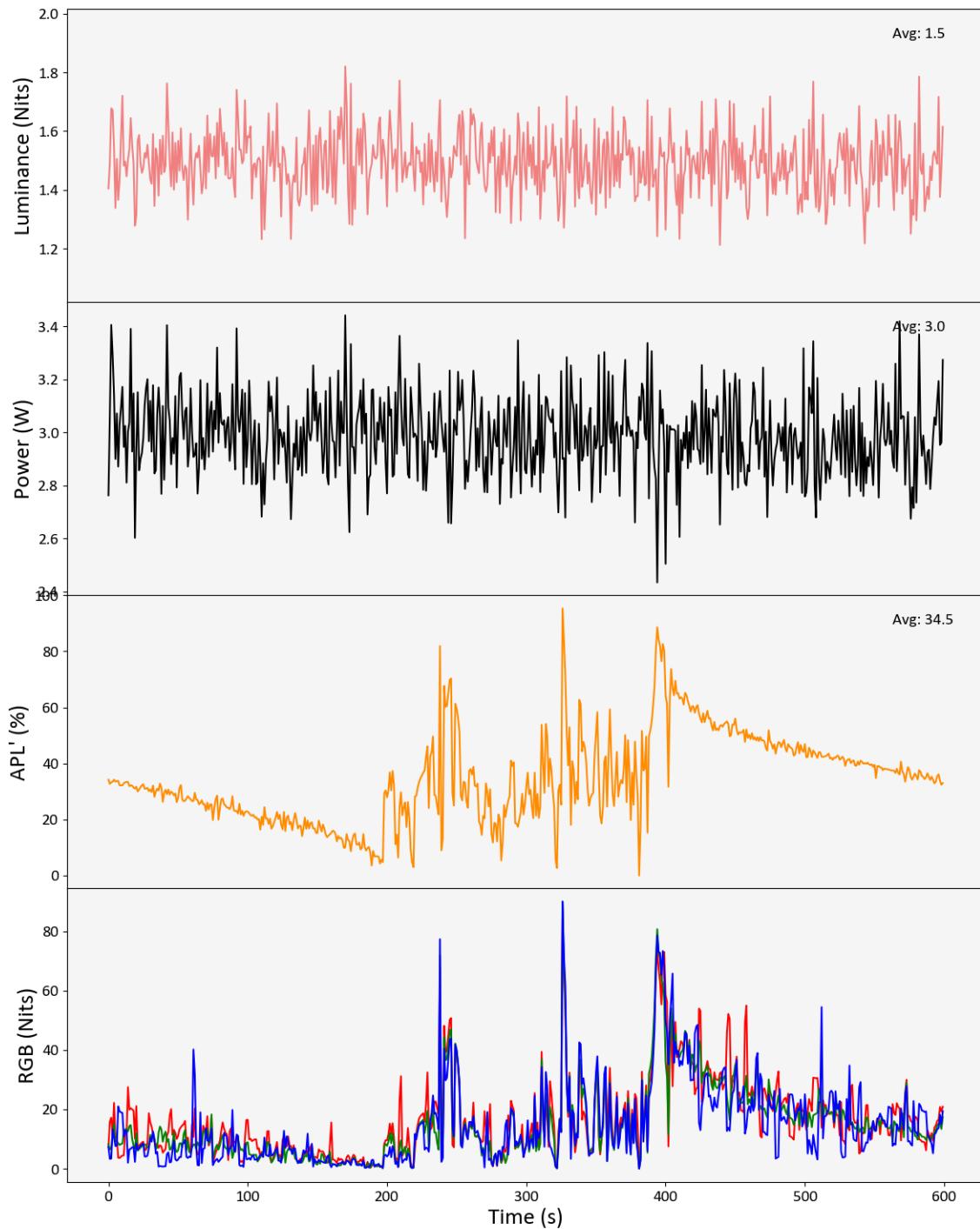
## Test 2.2 - stabilization2

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	1.2	2.4



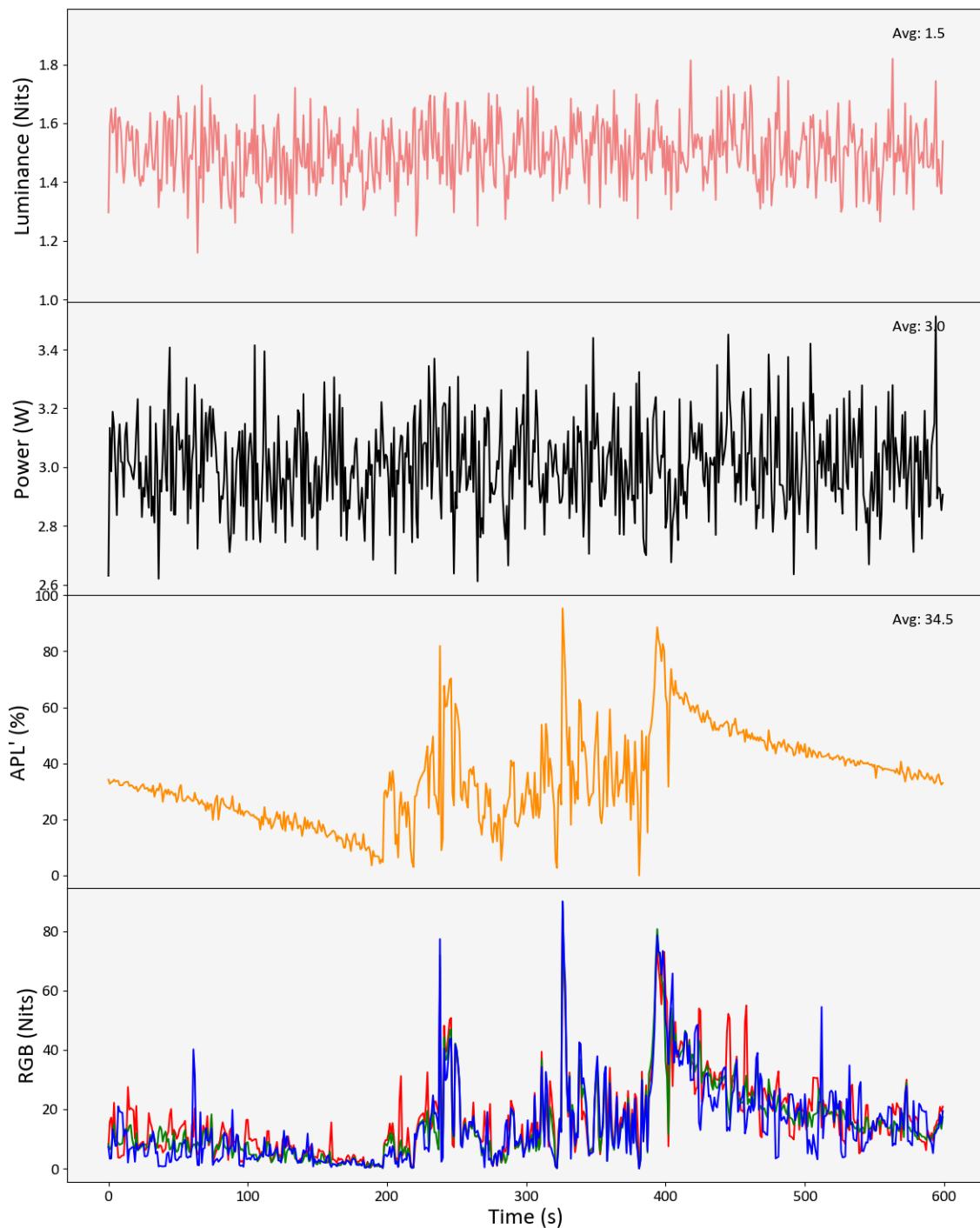
## Test 7 - default

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



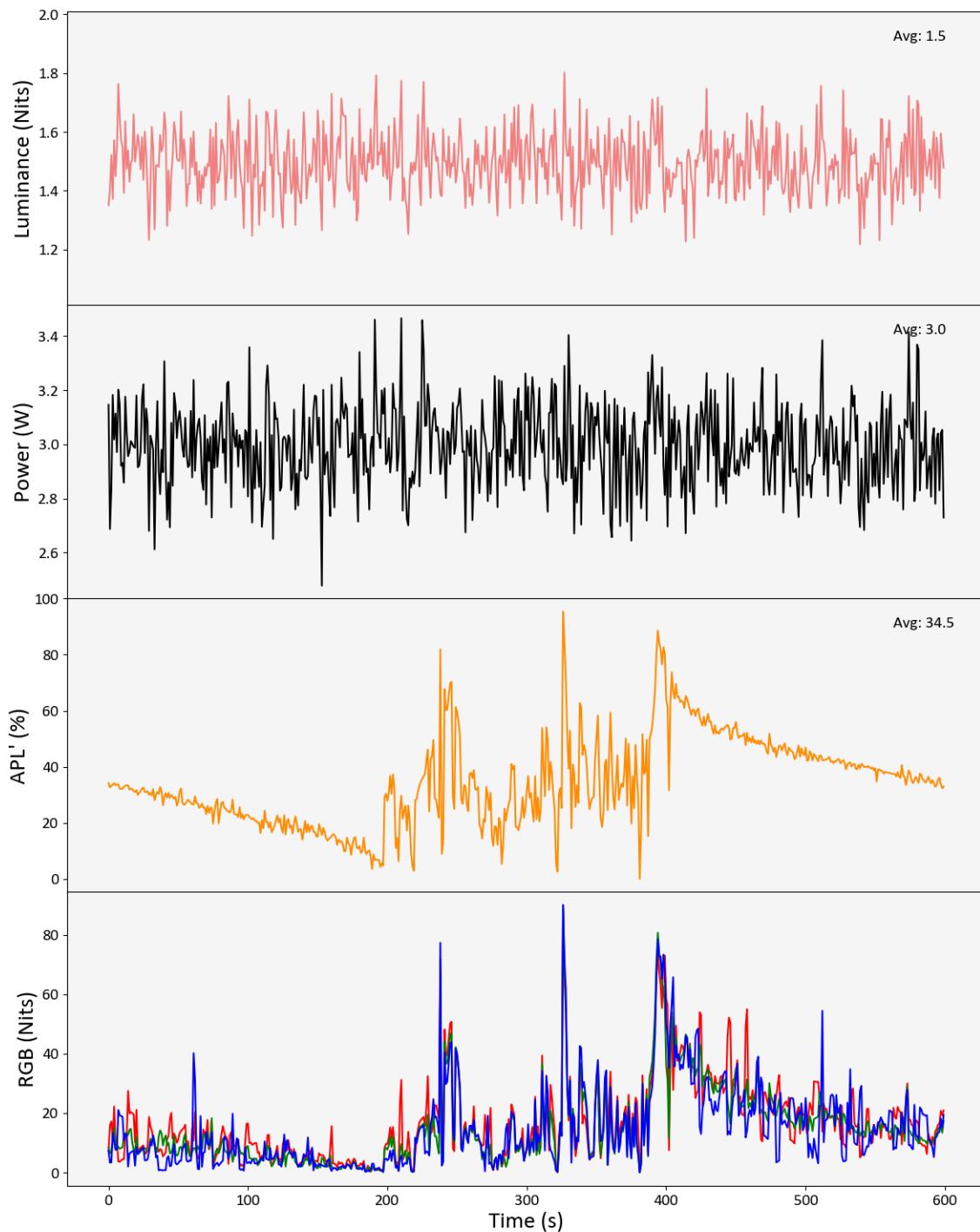
## Test 8 - default\_100

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Lux	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
default_100	600	IEC SDR	34.5	on	100.0	aps	off	1.5	3.0



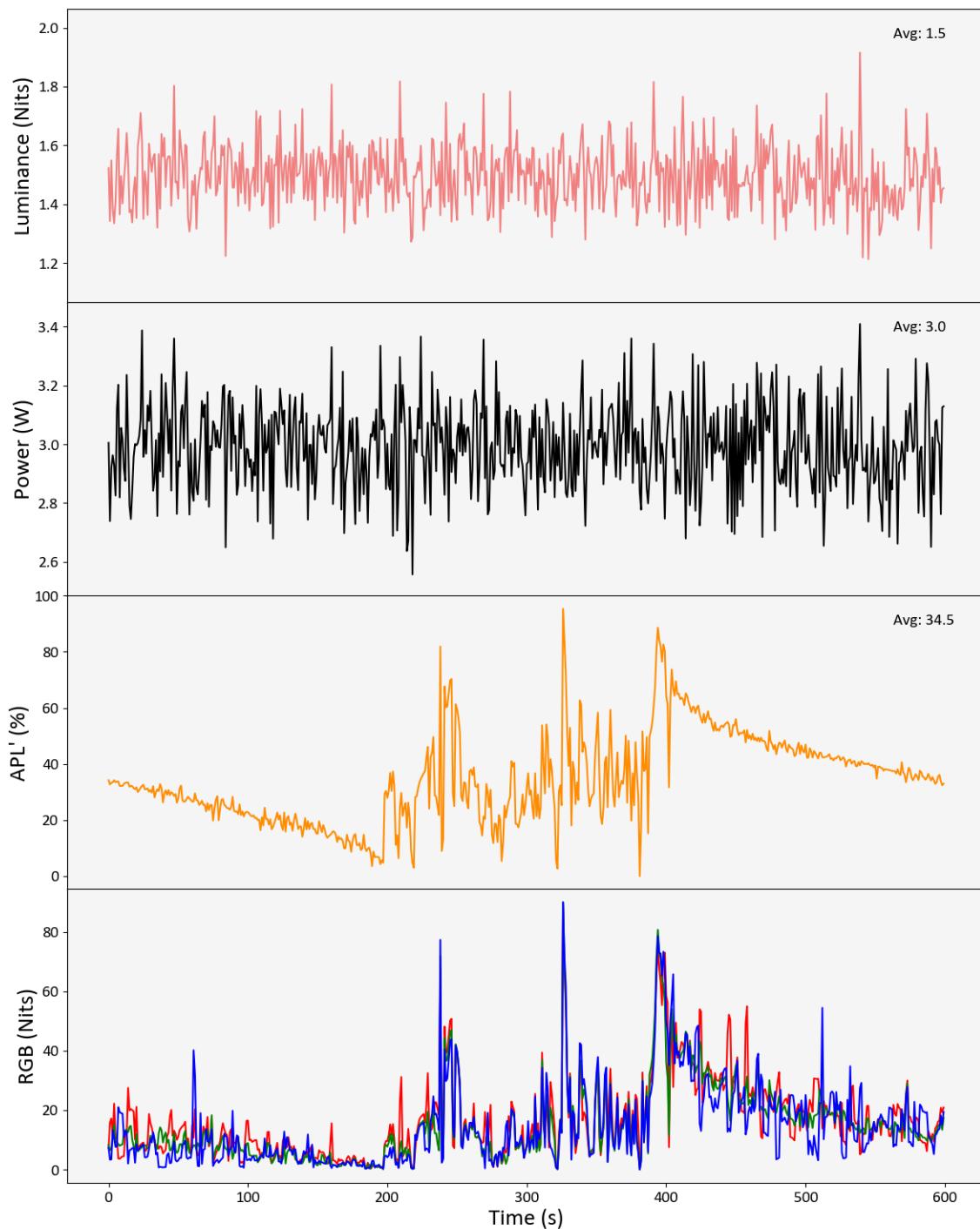
### Test 9 - default\_35

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Lux	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
default_35	600	IEC SDR	34.5	on	35.0	aps	off	1.5	3.0



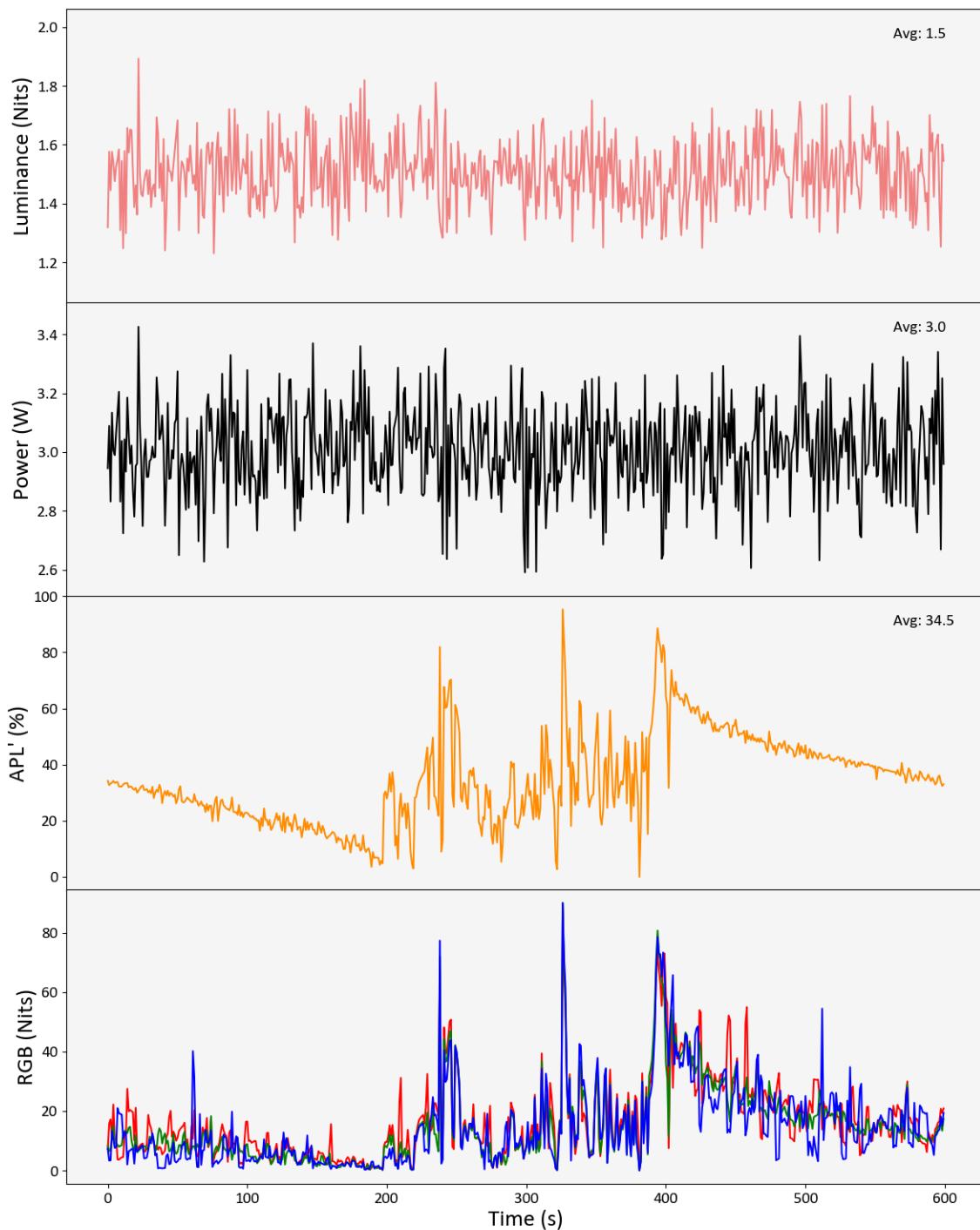
## Test 10 - default\_12

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Lux	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
default_12	600	IEC SDR	34.5	on	12.0	aps	off	1.5	3.0



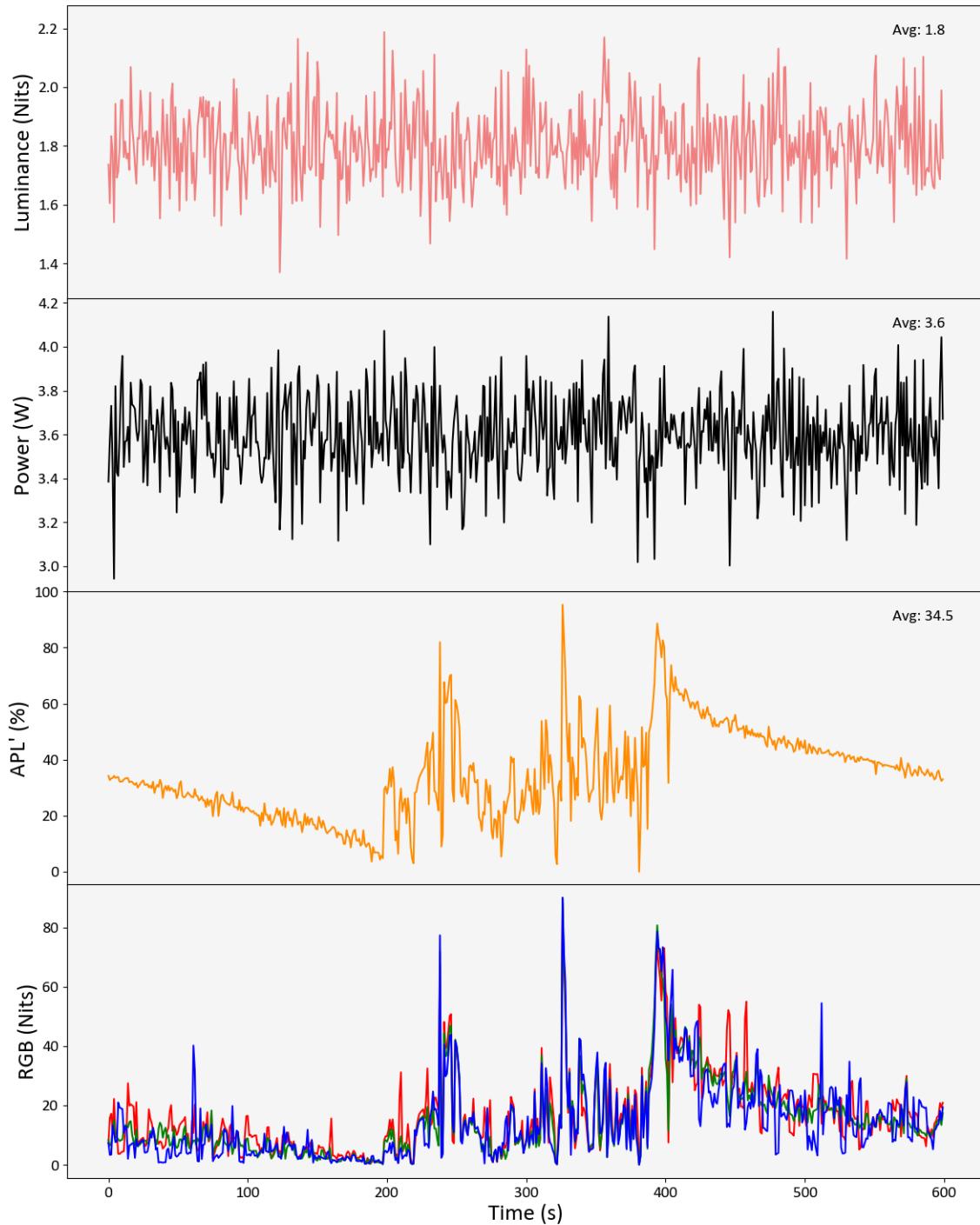
### Test 11 - default\_3

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Lux	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
default_3	600	IEC SDR	34.5	on	3.0	aps	off	1.5	3.0



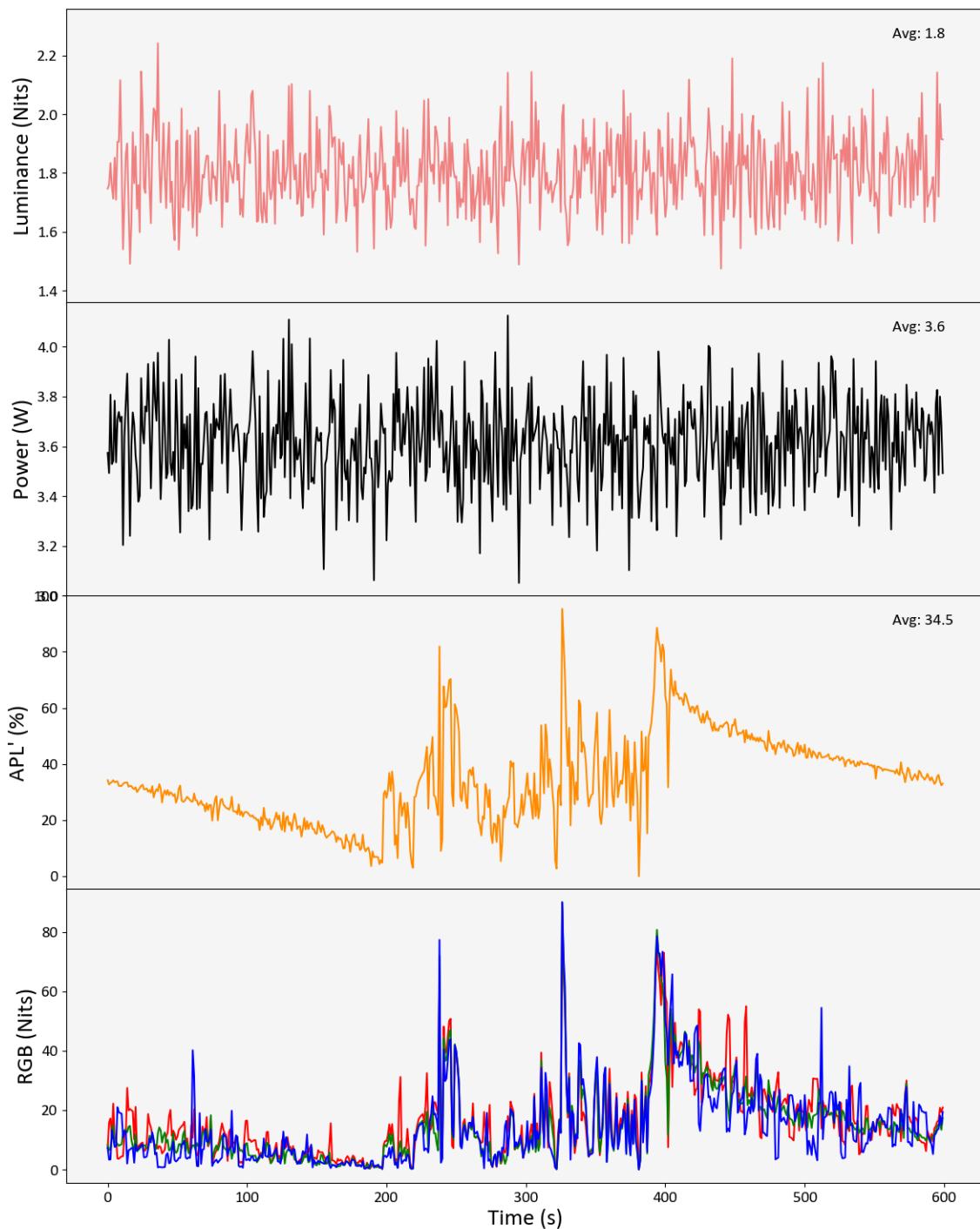
## Test 12 - brightest

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



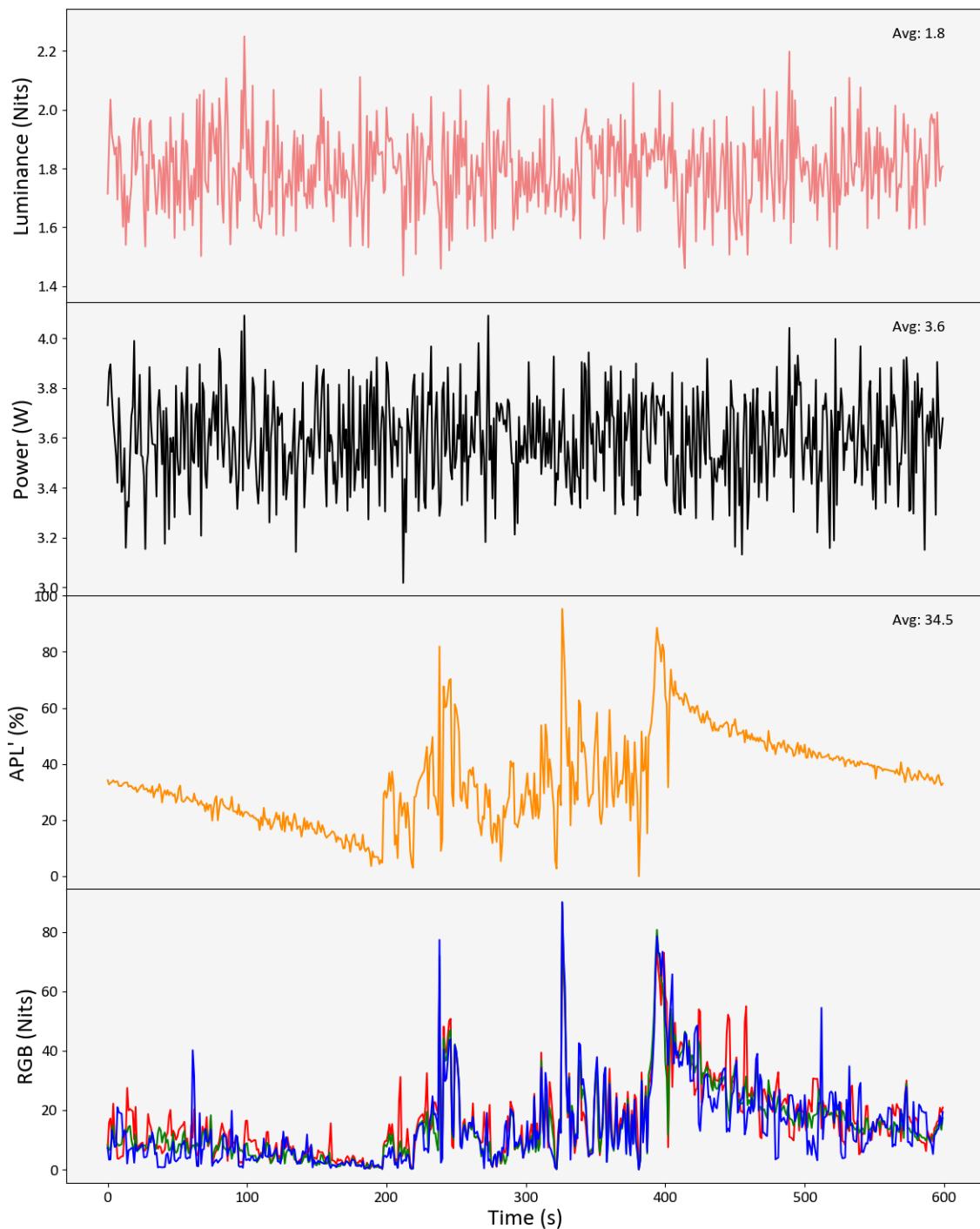
### Test 13 - brightest\_100

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Lux	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
brightest_100	600	IEC SDR	34.5	on	100.0	vivid	off	1.8	3.6



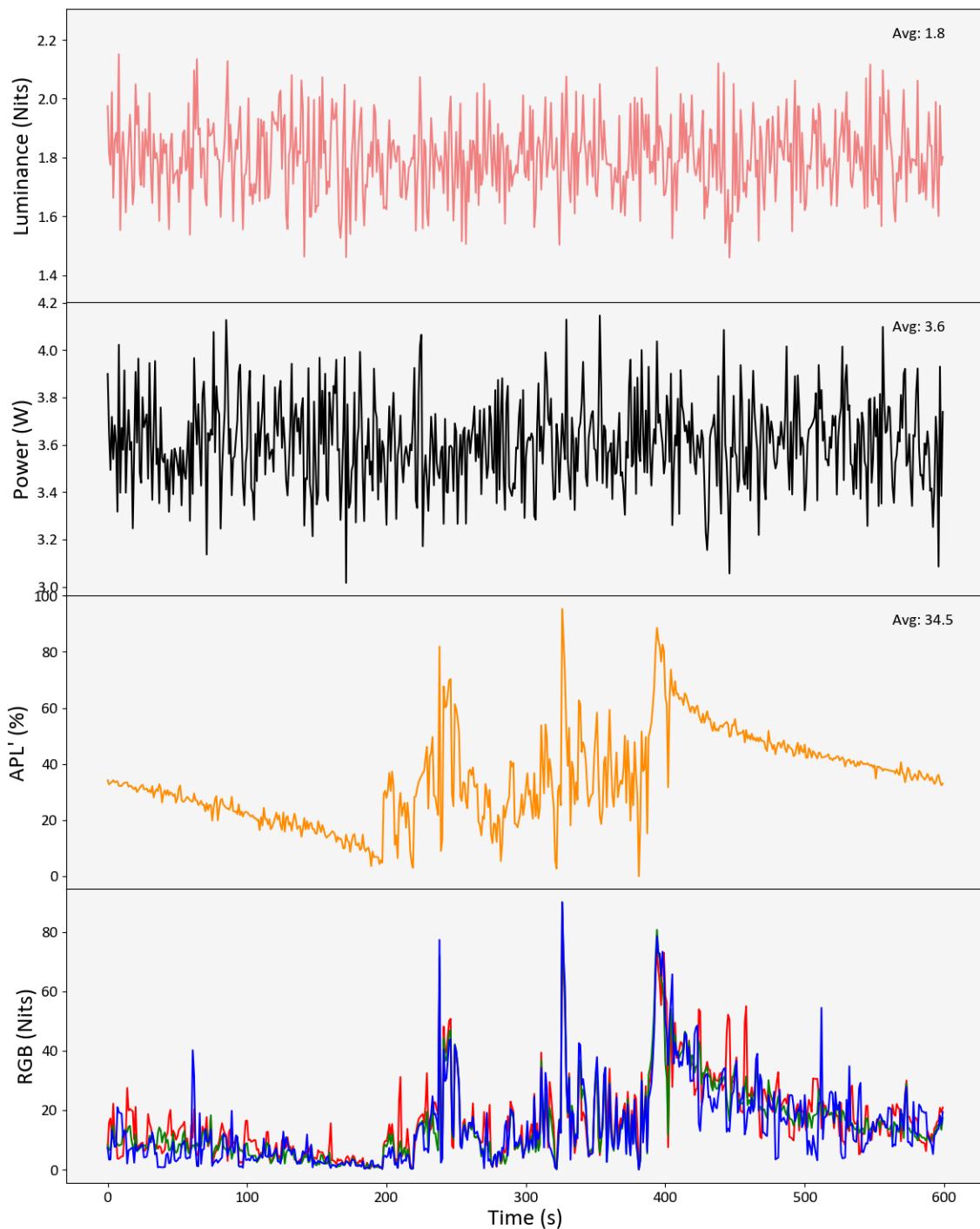
### Test 14 - brightest\_35

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Lux	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
brightest_35	600	IEC SDR	34.5	on	35.0	vivid	off	1.8	3.6



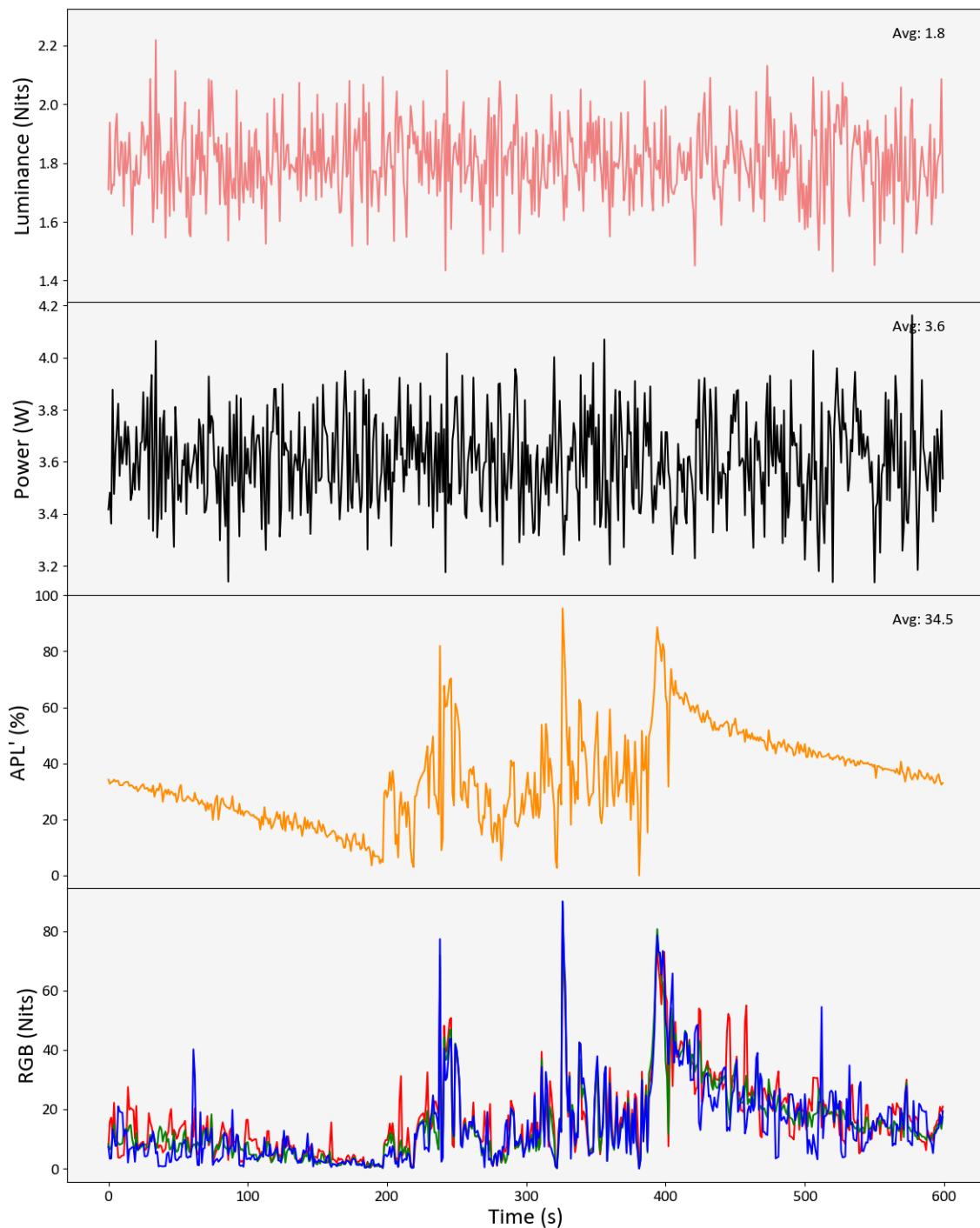
### **Test 15 - brightest\_12**

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Lux	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
brightest_12	600	IEC SDR	34.5	on	12.0	vivid	off	1.8	3.6



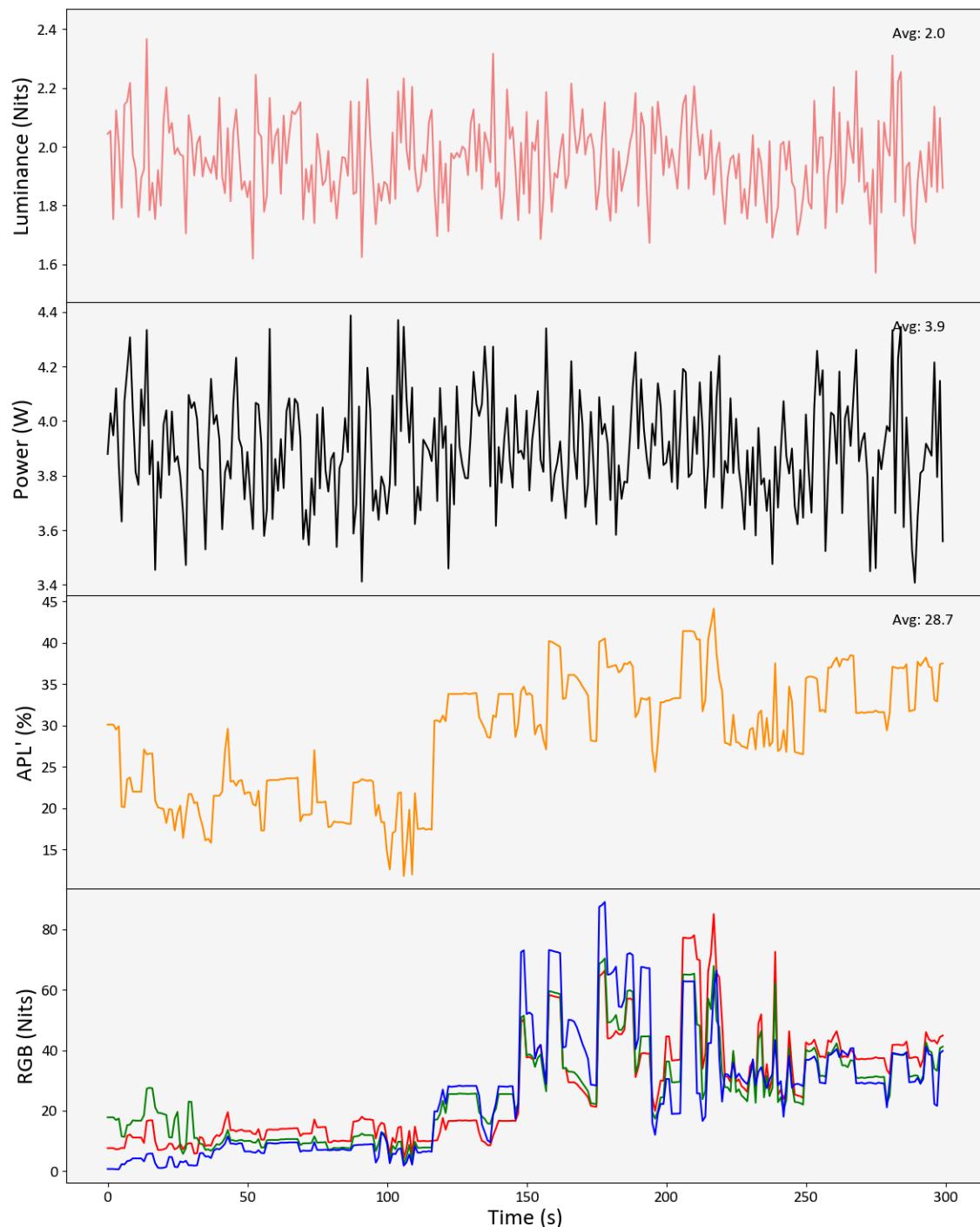
### Test 16 - brightest\_3

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Lux	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
brightest_3	600	IEC SDR	34.5	on	3.0	vivid	off	1.8	3.6



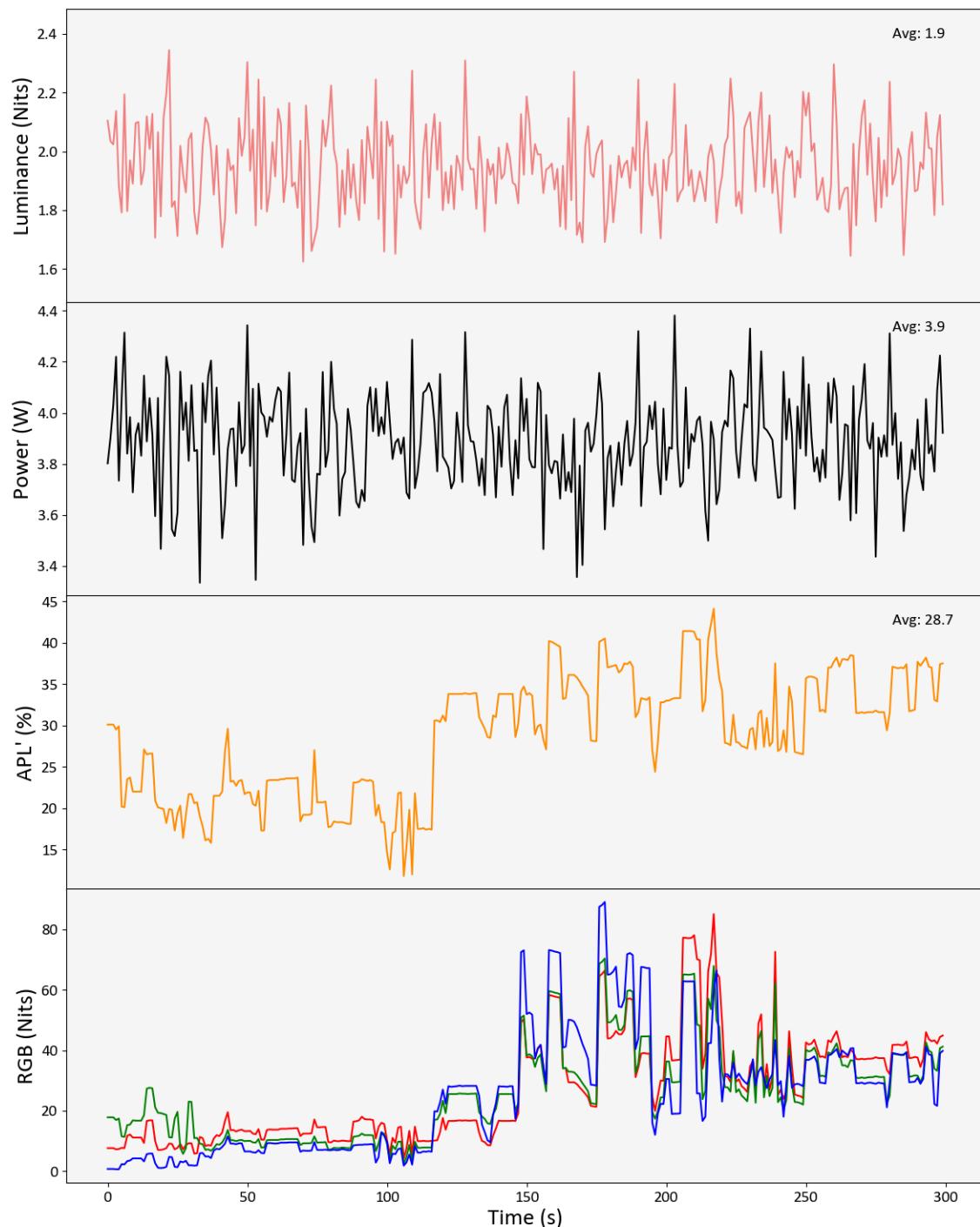
## Test 17 - hdr10

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	2.0	3.9



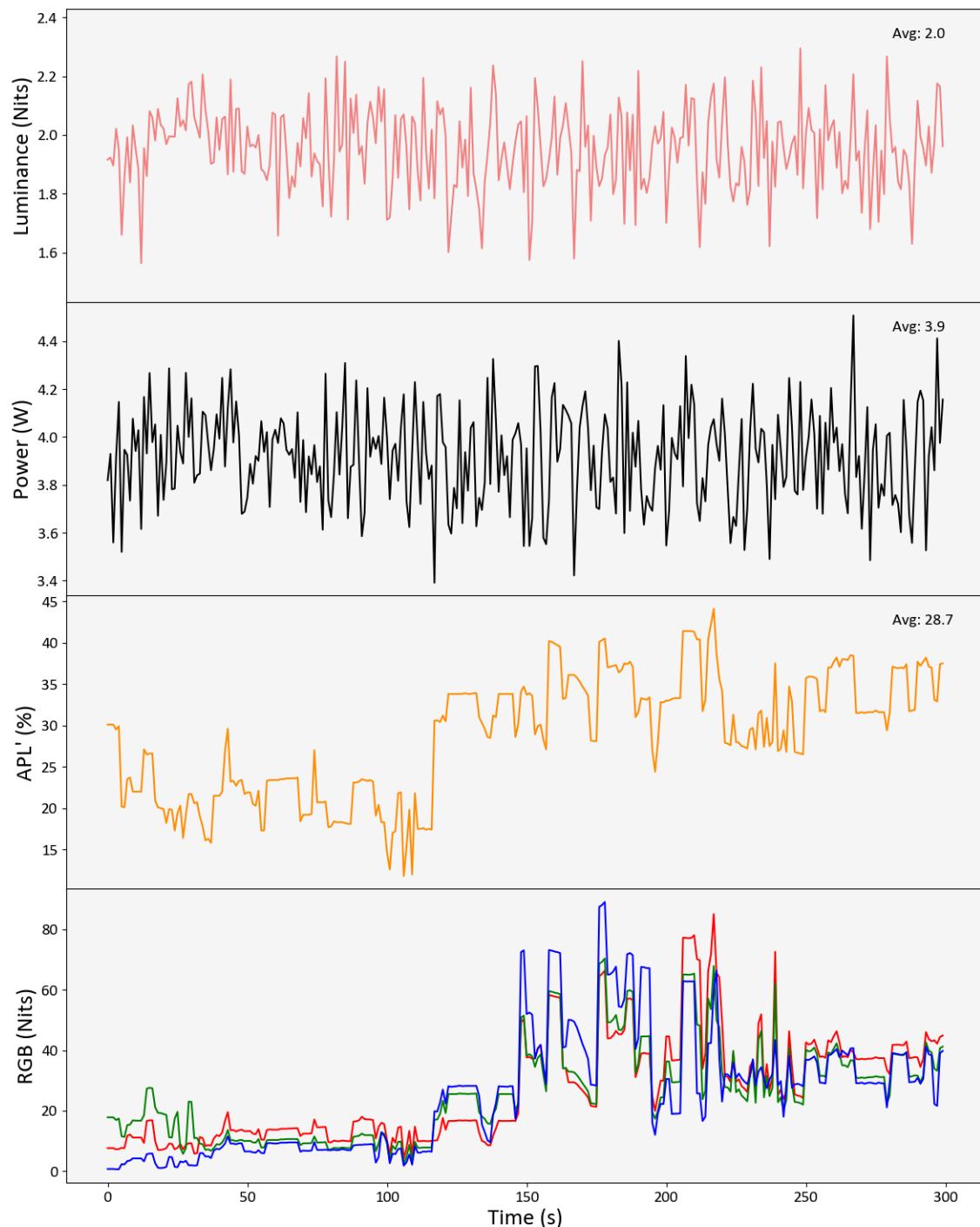
### Test 18 - hdr10\_100

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Lux	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
hdr10_100	300	CLASP HDR10	28.7	on	100.0	standard	off	1.9	3.9



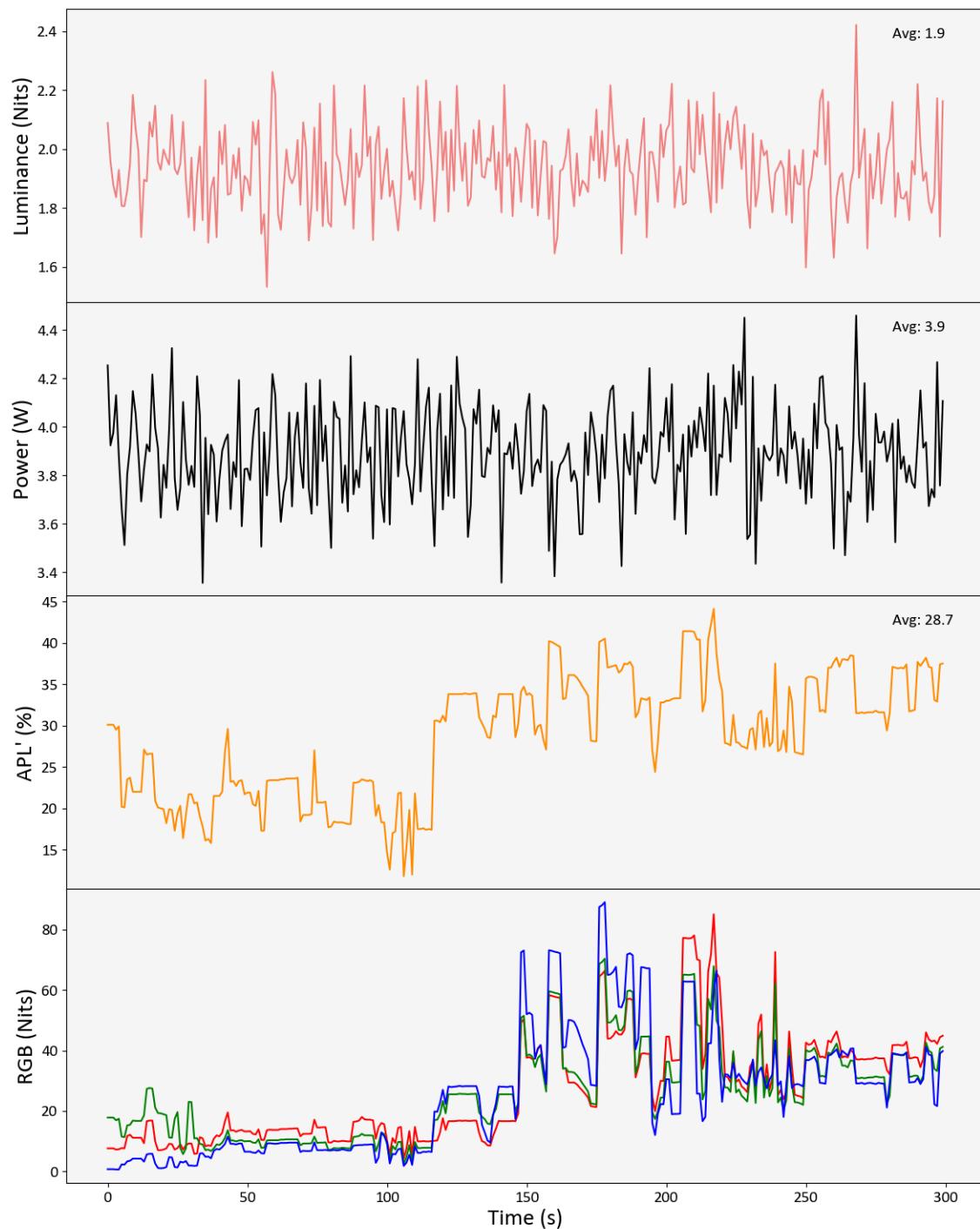
## Test 19 - hdr10\_35

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Lux	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
hdr10_35	300	CLASP HDR10	28.7	on	35.0	standard	off	2.0	3.9



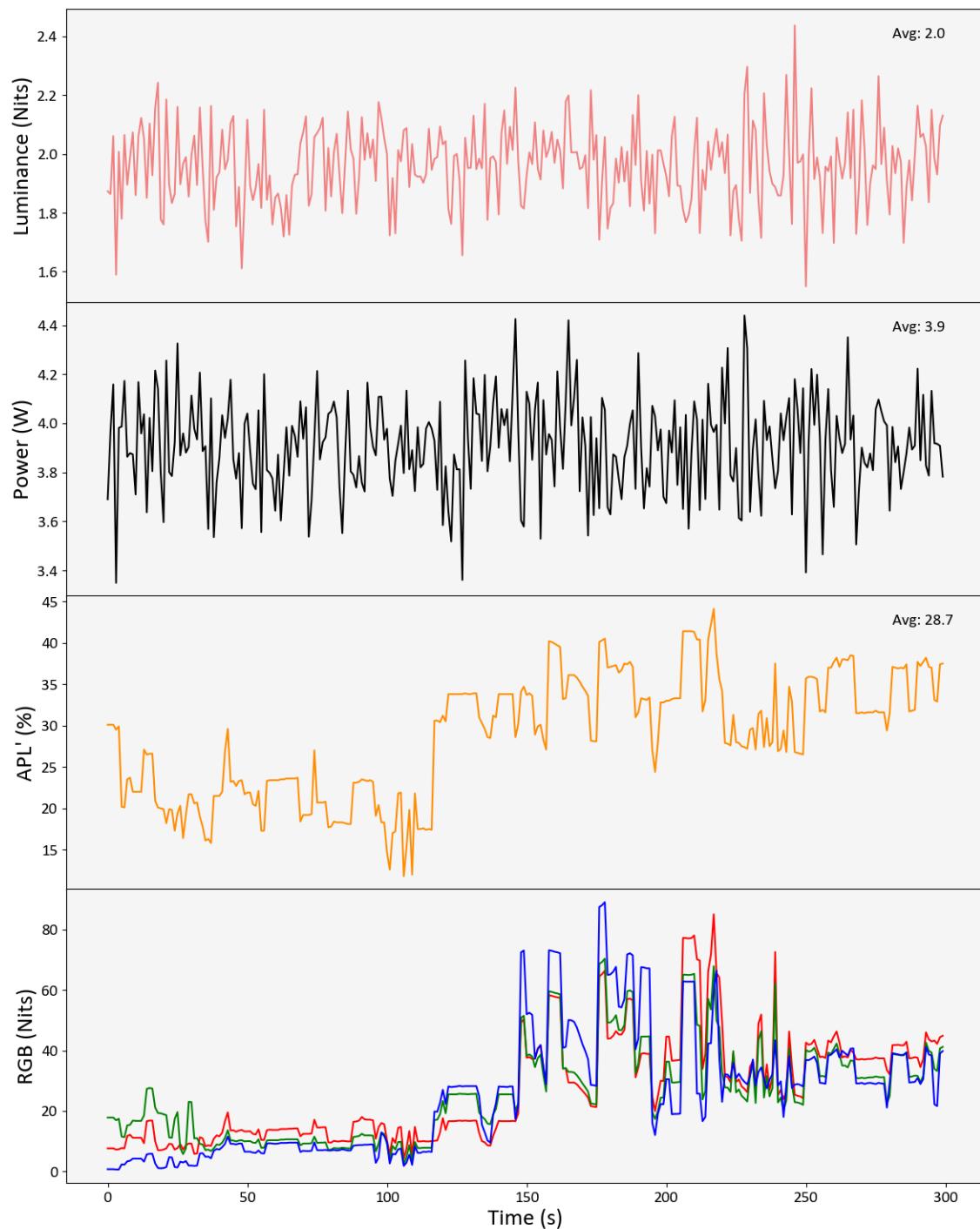
## Test 20 - hdr10\_12

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Lux	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
hdr10_12	300	CLASP HDR10	28.7	on	12.0	standard	off	1.9	3.9



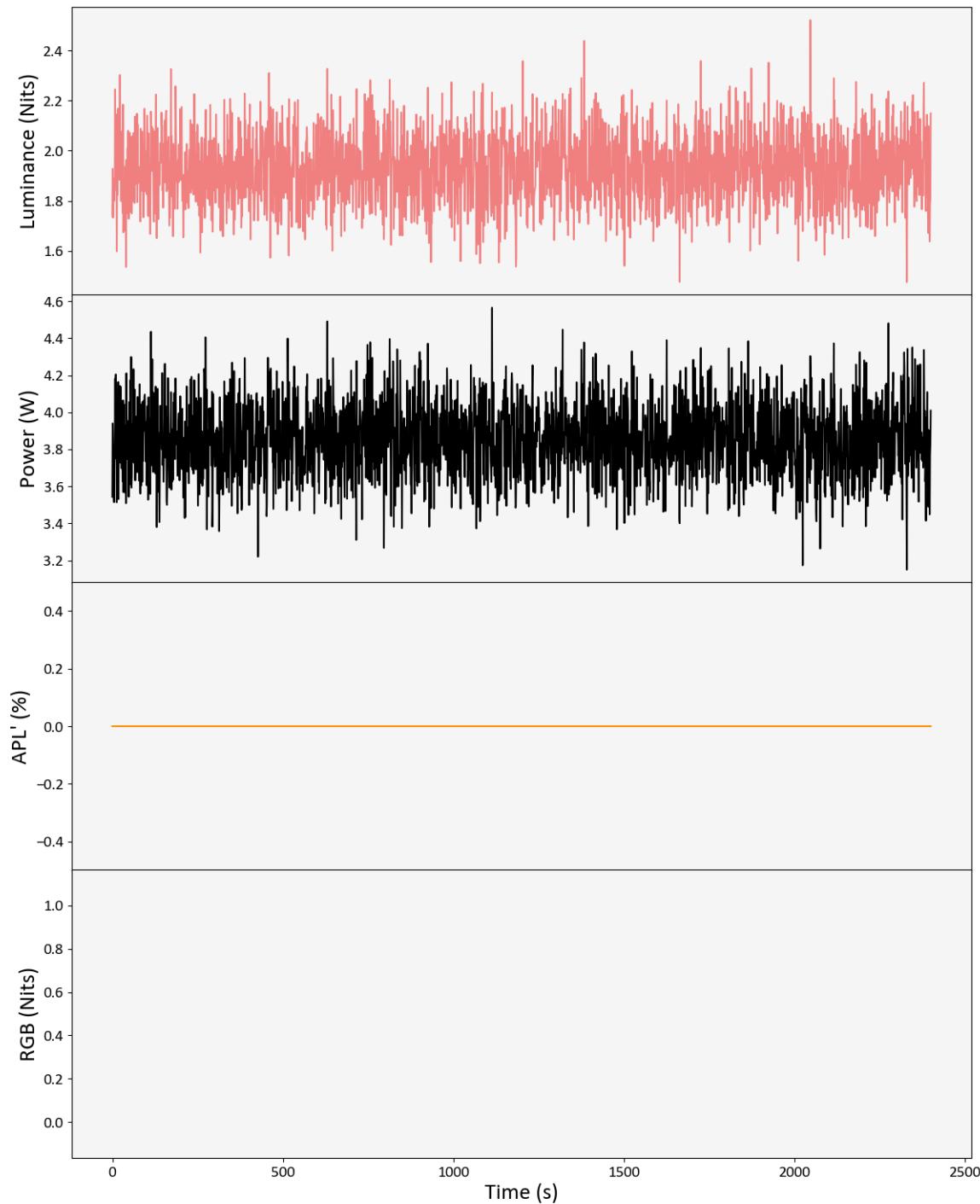
### Test 21 - hdr10\_3

Test Name	Test Time (s)	Video	Avg APL' (%)	ABC	Lux	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
hdr10_3	300	CLASP HDR10	28.7	on	3.0	standard	off	2.0	3.9



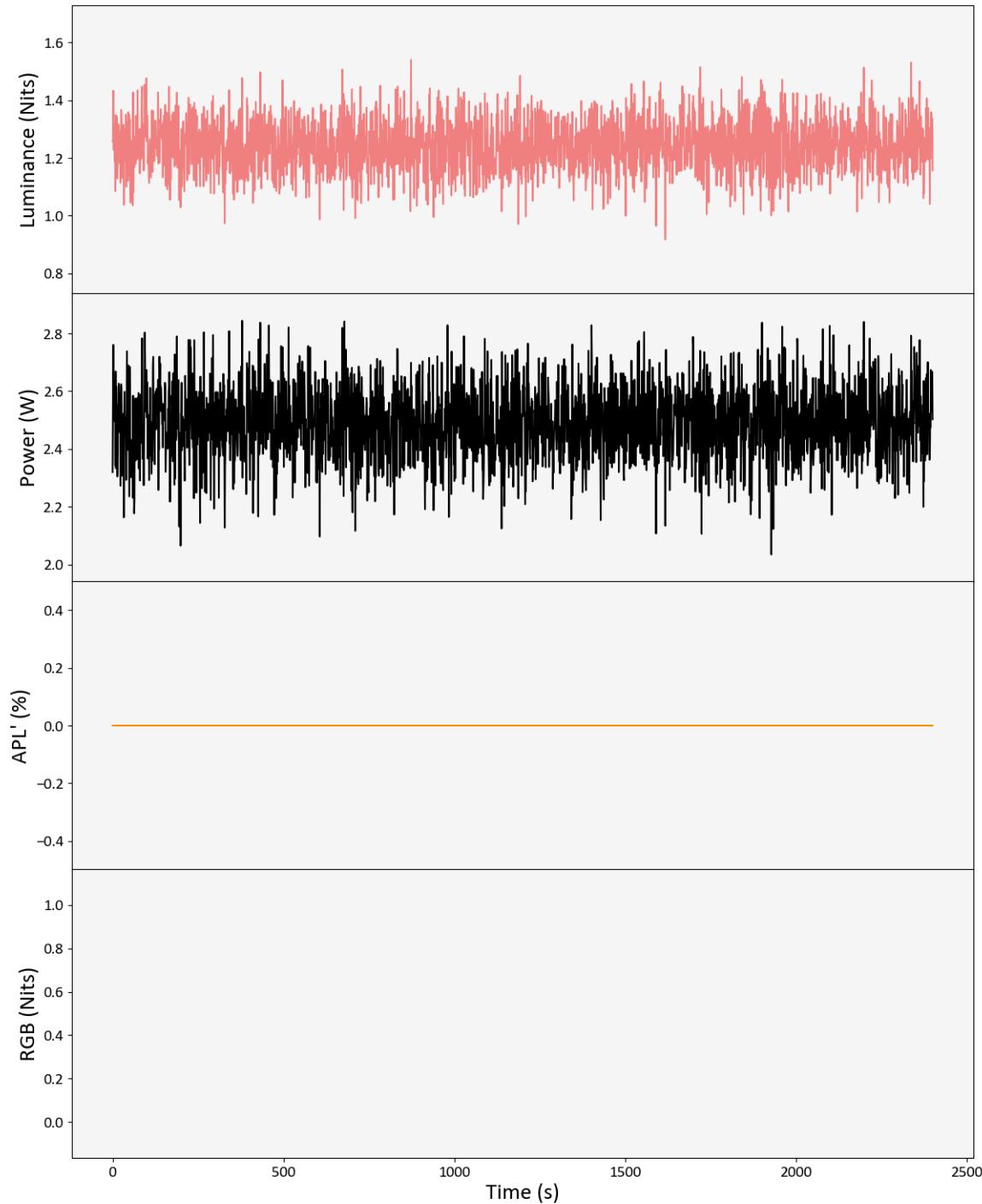
## Test 22 - standby

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



## Test 24 - 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	1.2	2.5



## Test 26 - 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	1.6	3.1

