TV Power Measurement Report

Model: Demo Model

Funded By:

Prepared By:

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1. Test Specifics

Test Start Date	2020-04-30
Test Start Time	17:25:47
Test End Time	20:46:00
Test Duration	0 days 03:20:13
Tester Name	ryan
Lab Name	demo
Lab Address	111 s st
Make	lg
Model	un55fda
Model Year	2020
Serial Number	555ddd
Software Version	1.1.1
Manufacture Year	2020
Manufacture Month	1
Screen Diagonal (inches)	55.000000
Pixel Rows	1080
Pixel Columns	1920
Screen Area (sq in)	1700.000000
TV Technology Type	LED
Humidity (%)	10.000000
Temperature (Celcius)	10.000000

2. Persistence Summary

2.1 SDR Persistence

2.2 HDR10 Persistence

3. DOE Test Results Summary

4. Compliance with Additional Tests

4.1 On Mode Tests

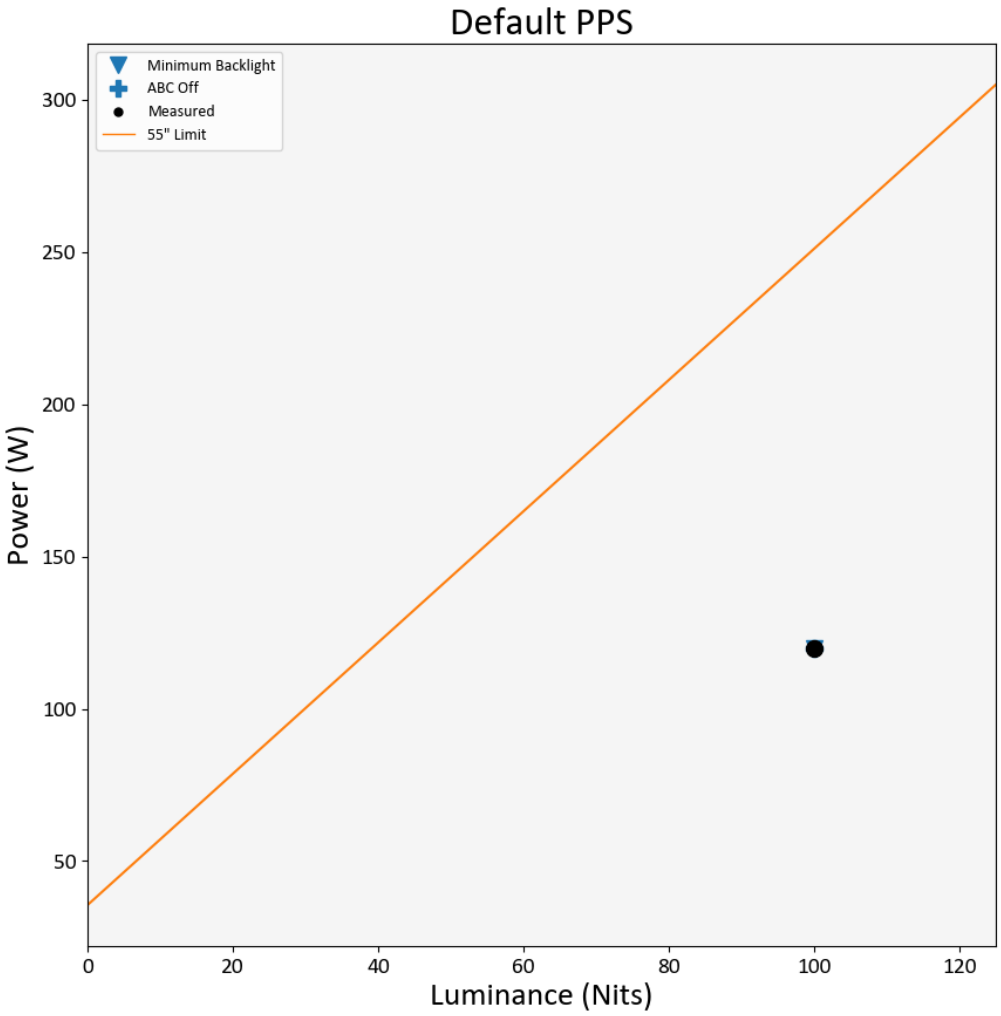
Test Name	Preset Picture	MDD	Avg Luminance (Nits)	Power Limit (W)	Avg Power (W)	Power/Power Limit
default	standard	off	100.0		120.0	
default_measured			100.0	251.1	120.0	0.5
brightest	dynamic	off	100.0		120.0	
brightest_measured			100.0	235.1	120.0	0.5
hdr	standard	off	100.0		120.0	
hdr_measured			100.0	464.2	120.0	0.3
average_measured						0.4

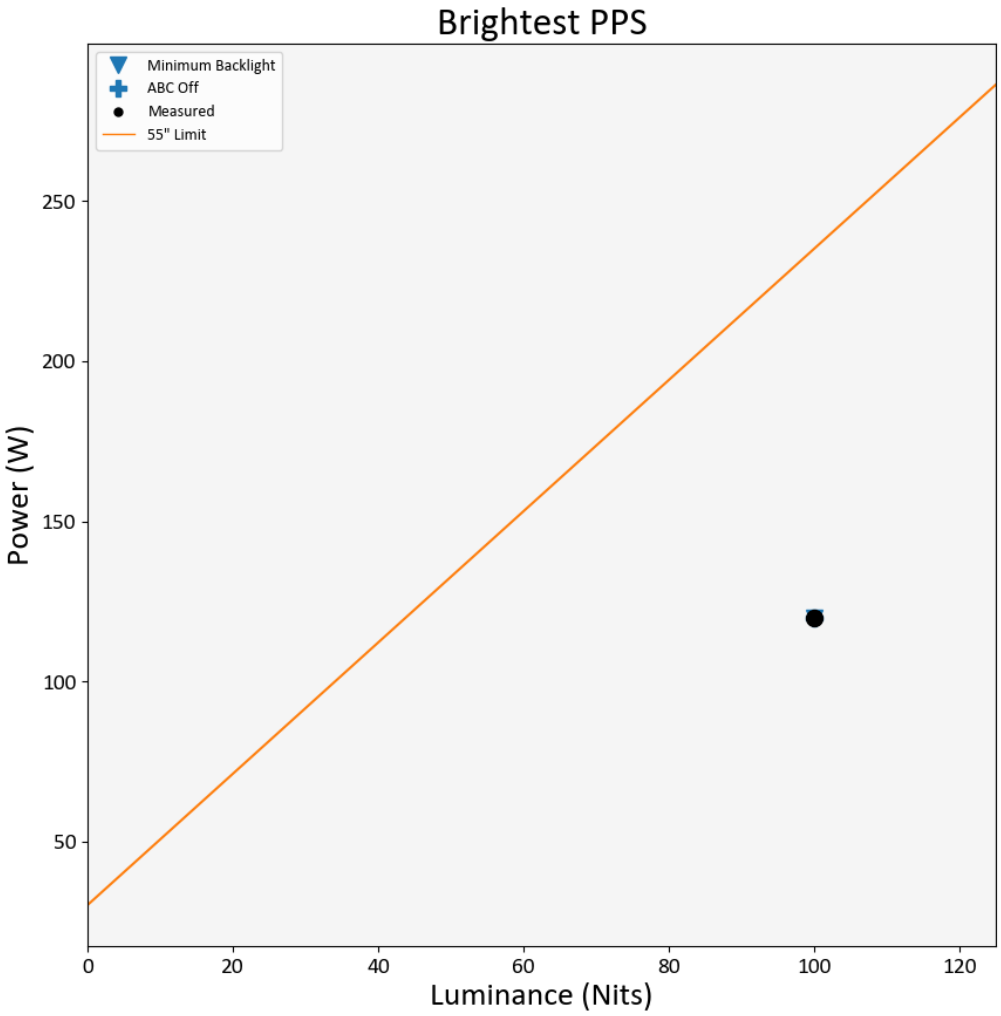
Average Measured / Limit must be less than 1.0 to comply

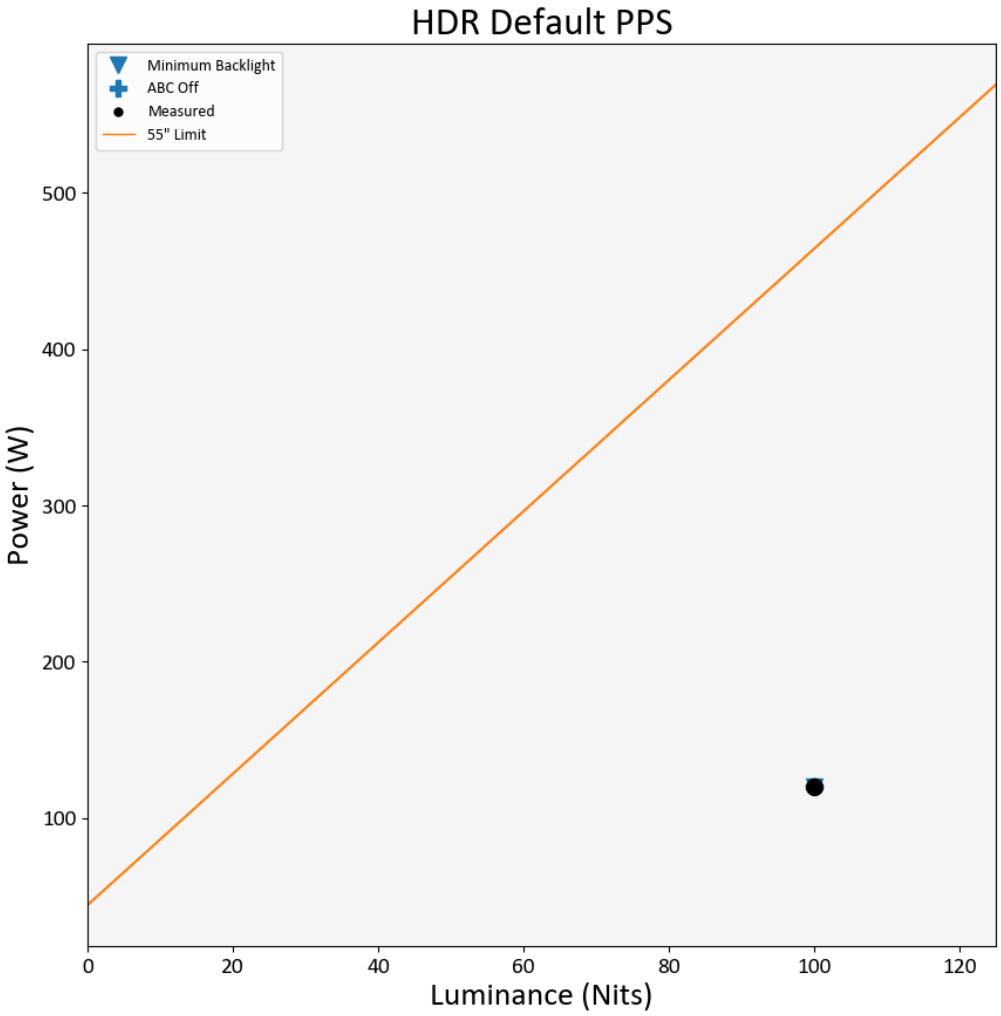
Default PPS Power Limit Function
1.05*((0.001*area+0.38)*(1.00*luminance+0.00) + 0.01*area+18.12)

Brightest PPS Power Limit Function
1.05*((0.001*area+0.28)*(1.00*luminance+0.00) + 0.01*area+17.11)

HDR Default PPS Power Limit Function
1.05*((0.002*area+0.38)*(1.00*luminance+0.00) + 0.01*area+17.67)


Default PPS
Minimum Backlight
ABC Off
Measured
55" Limit
Power (W)
300
250
200
150
100
50
0
20
40
60
80
100
120
Luminance (Nits)

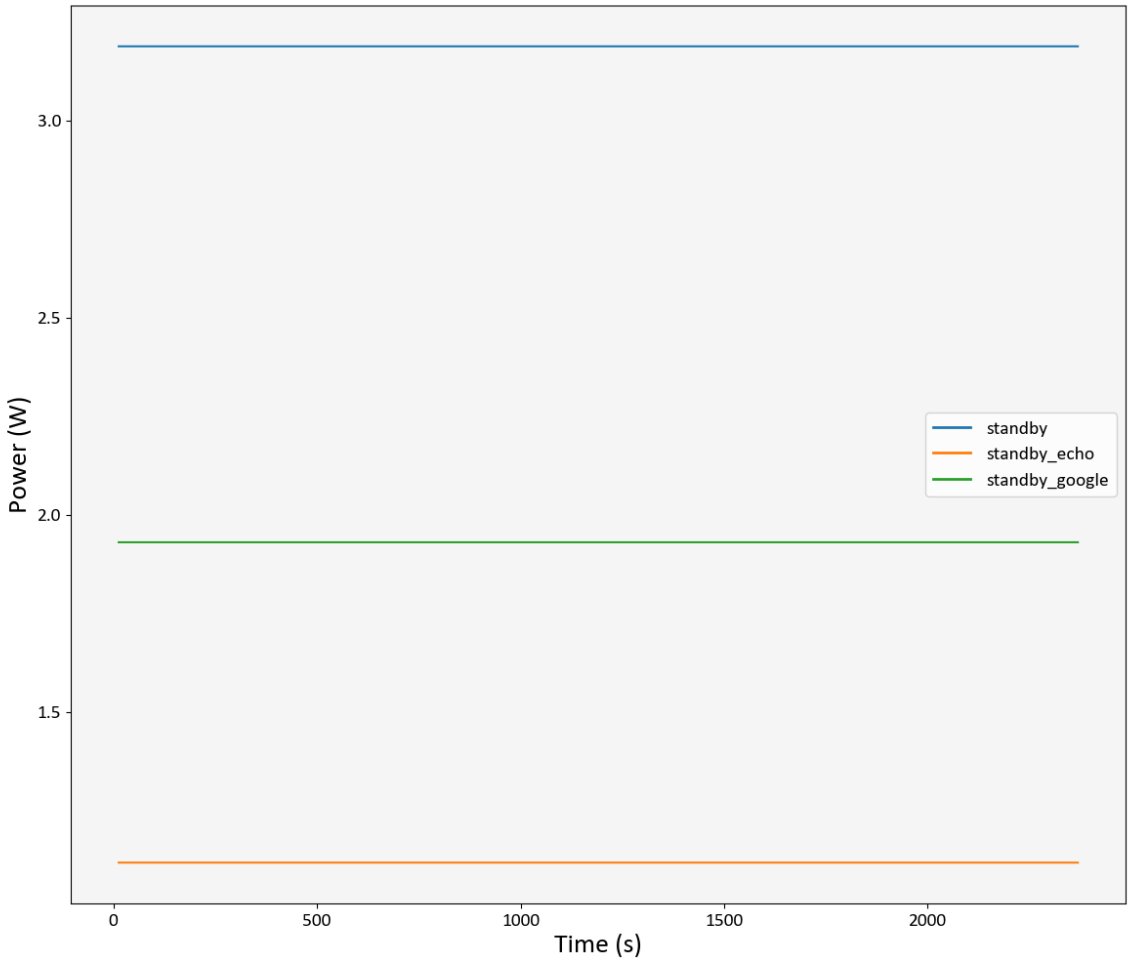

Brightest PPS
Minimum Backlight
ABC Off
Measured
55" Limit
Power (W)
250
200
150
100
50
0
20
40
60
80
100
120
Luminance (Nits)


HDR Default PPS
Minimum Backlight
ABC Off
Measured
55" Limit
Power (W)
500
400
300
200
100
0
20
40
60
80
100
120
Luminance (Nits)

4.2 Standby

Test Name	QS	Wake Time (s)	Power Limit (W)	Avg Power (W)
standby	off	6.0	2	3.2
standby_echo	oob	6.0	2	1.1
standby_google	oob	18.0	2	1.9

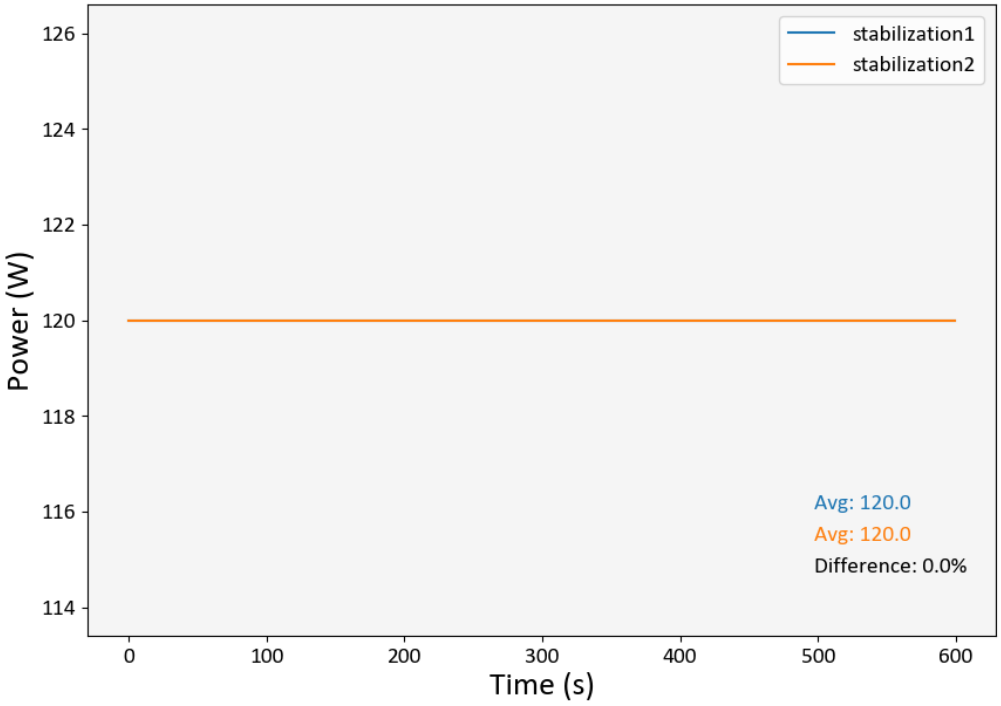
Time to Wake from Standby
standby: 6 seconds
standby_echo: 6 seconds
standby_google: 18 seconds



5. Supplemental Test Results

5.1 Stabilization

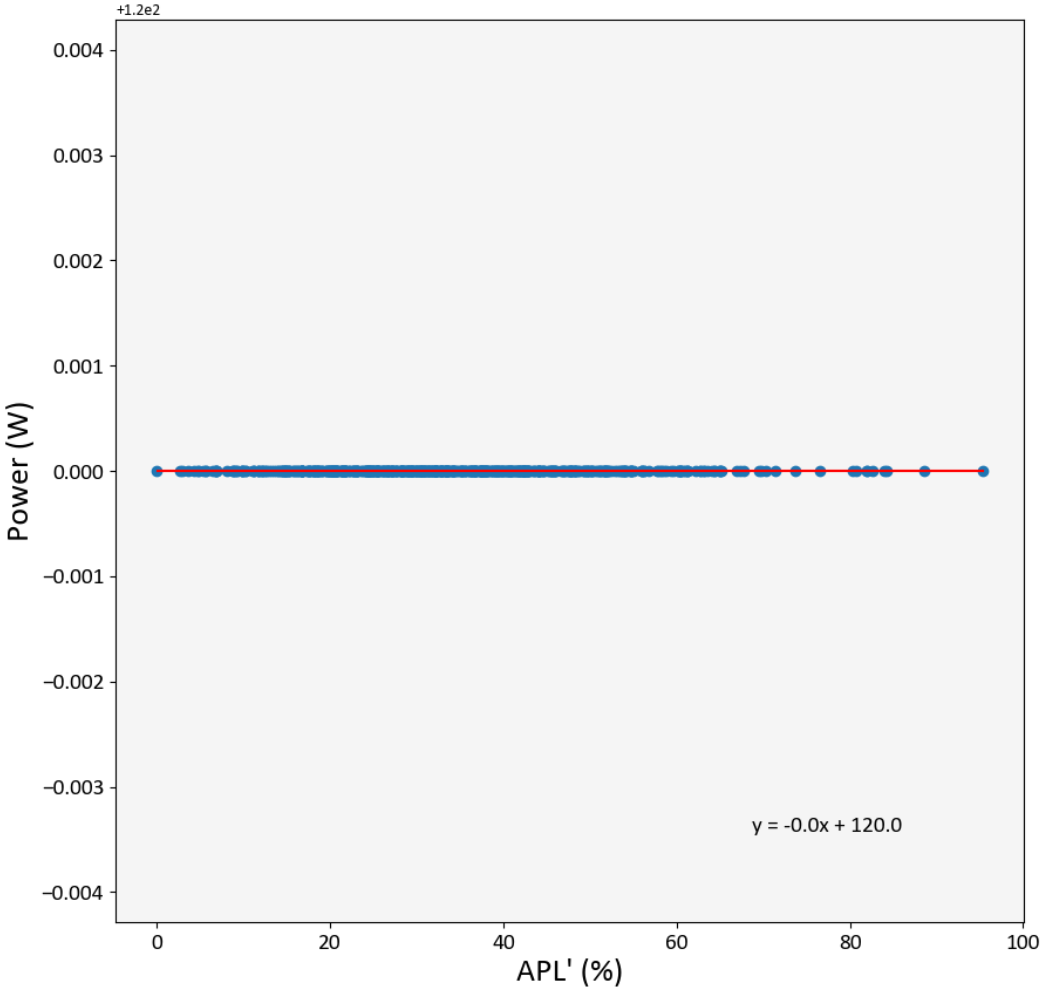
Test Name	Test Time (s)	Video	Avg APL' (%)	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
stabilization1	600	IEC SDR	34.5	standard	off	100.0	120.0
stabilization2	600	IEC SDR	34.5	standard	off	100.0	120.0



5.2 APL' vs Power Charts

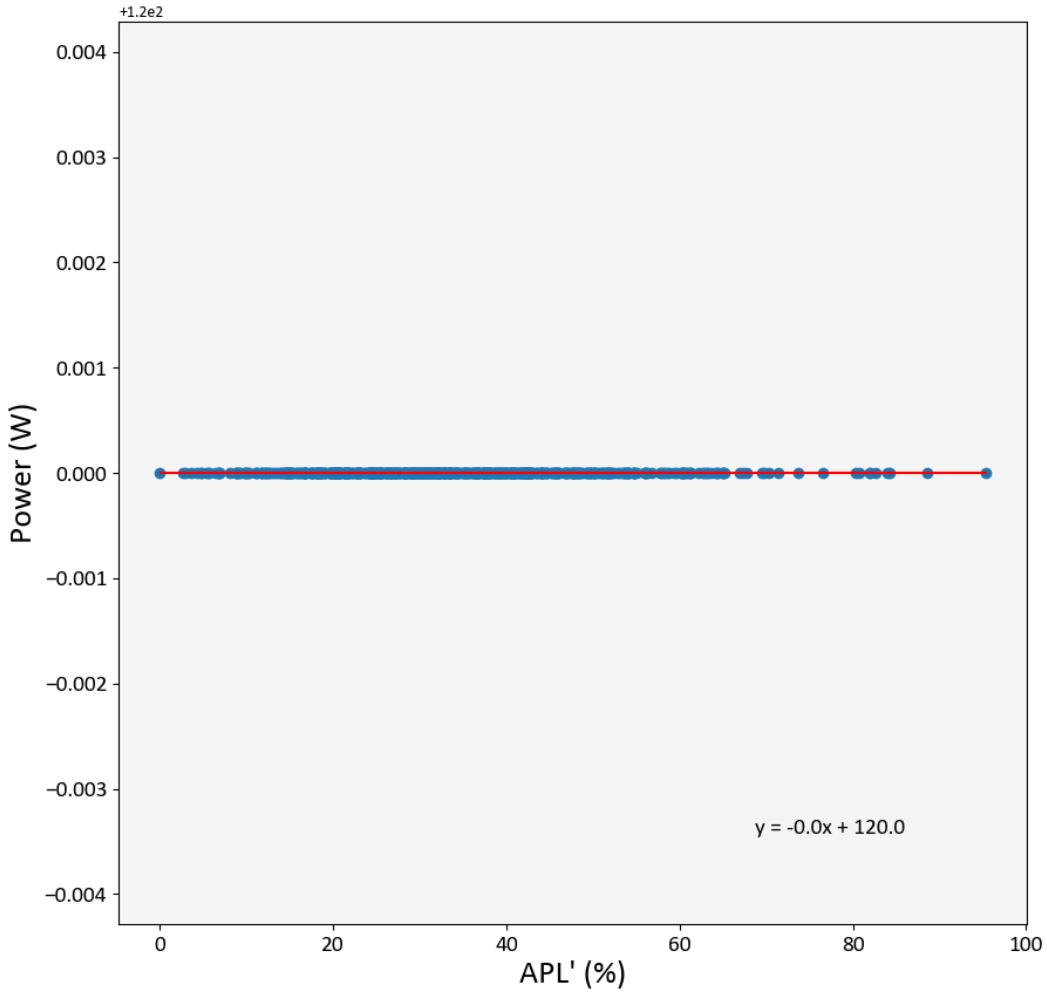
5.2.1 Default PPS: SDR

Test Name	Test Time (s)	Video	Avg APL' (%)	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
default	600	IEC SDR	34.5	standard	off	100.0	120.0



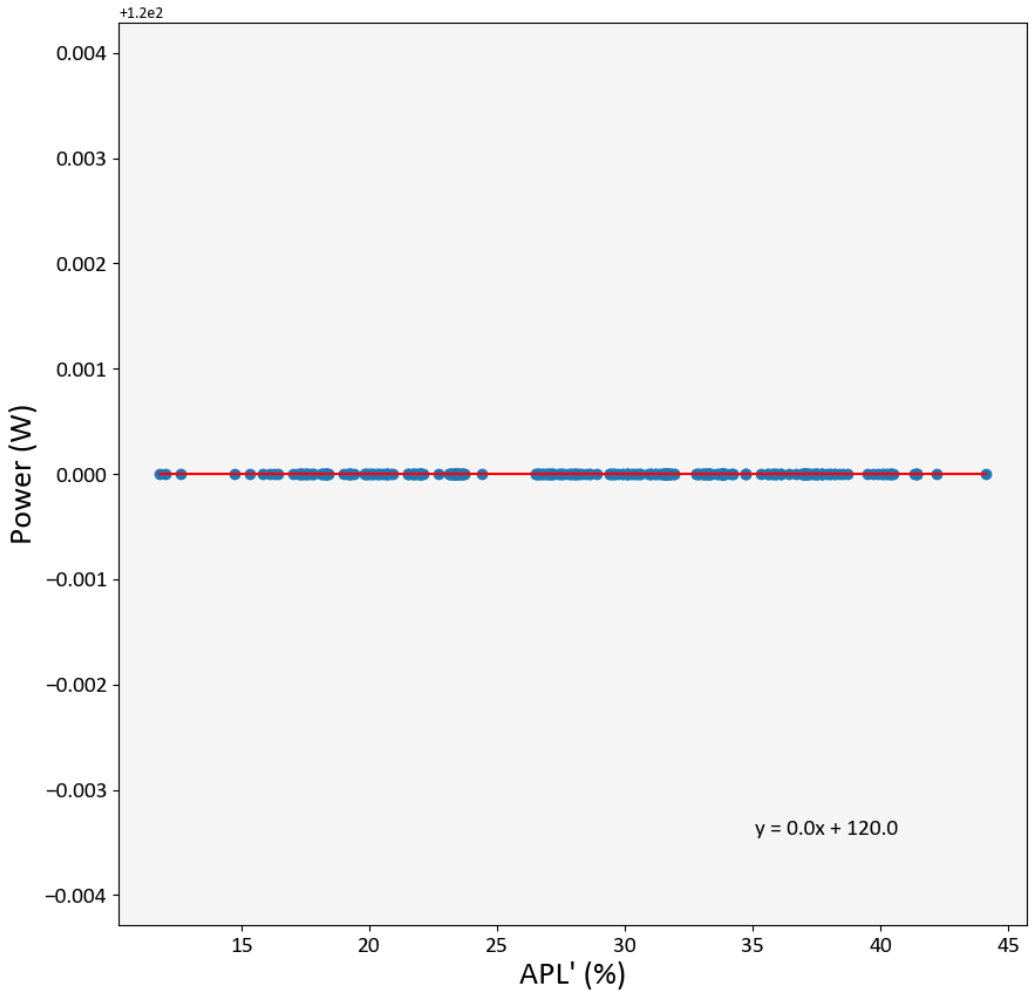
5.2.2 Brightest PPS: SDR

Test Name	Test Time (s)	Video	Avg APL' (%)	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
brightest	600	IEC SDR	34.5	dynamic	off	100.0	120.0



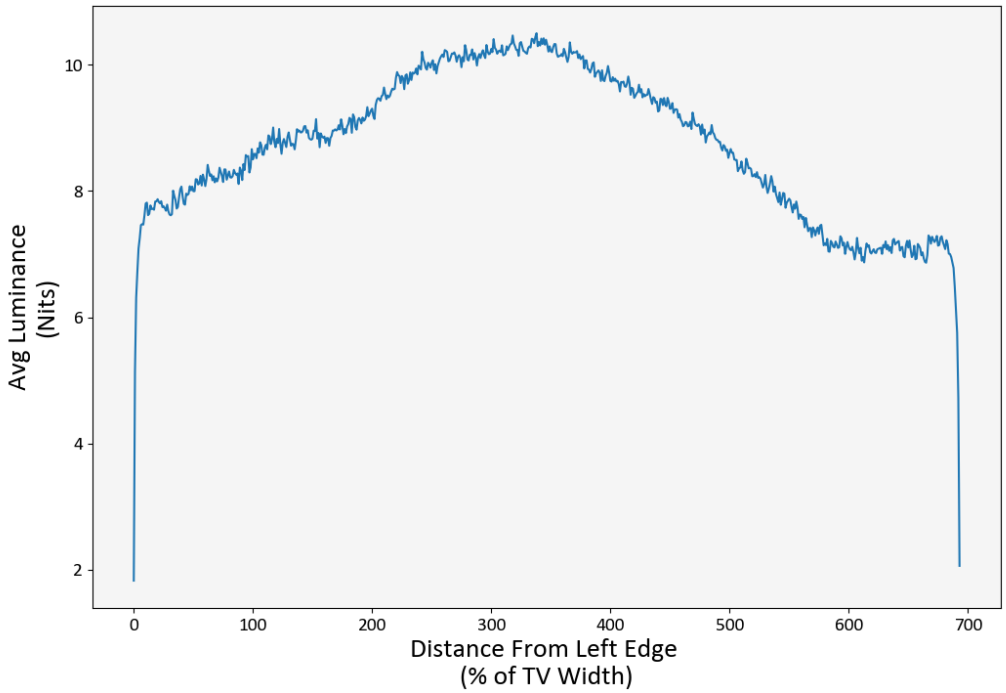
5.2.3 Default PPS: HDR

Test Name	Test Time (s)	Video	Avg APL' (%)	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
hdr	300	CLASP HDR10	28.7	standard	off	100.0	120.0

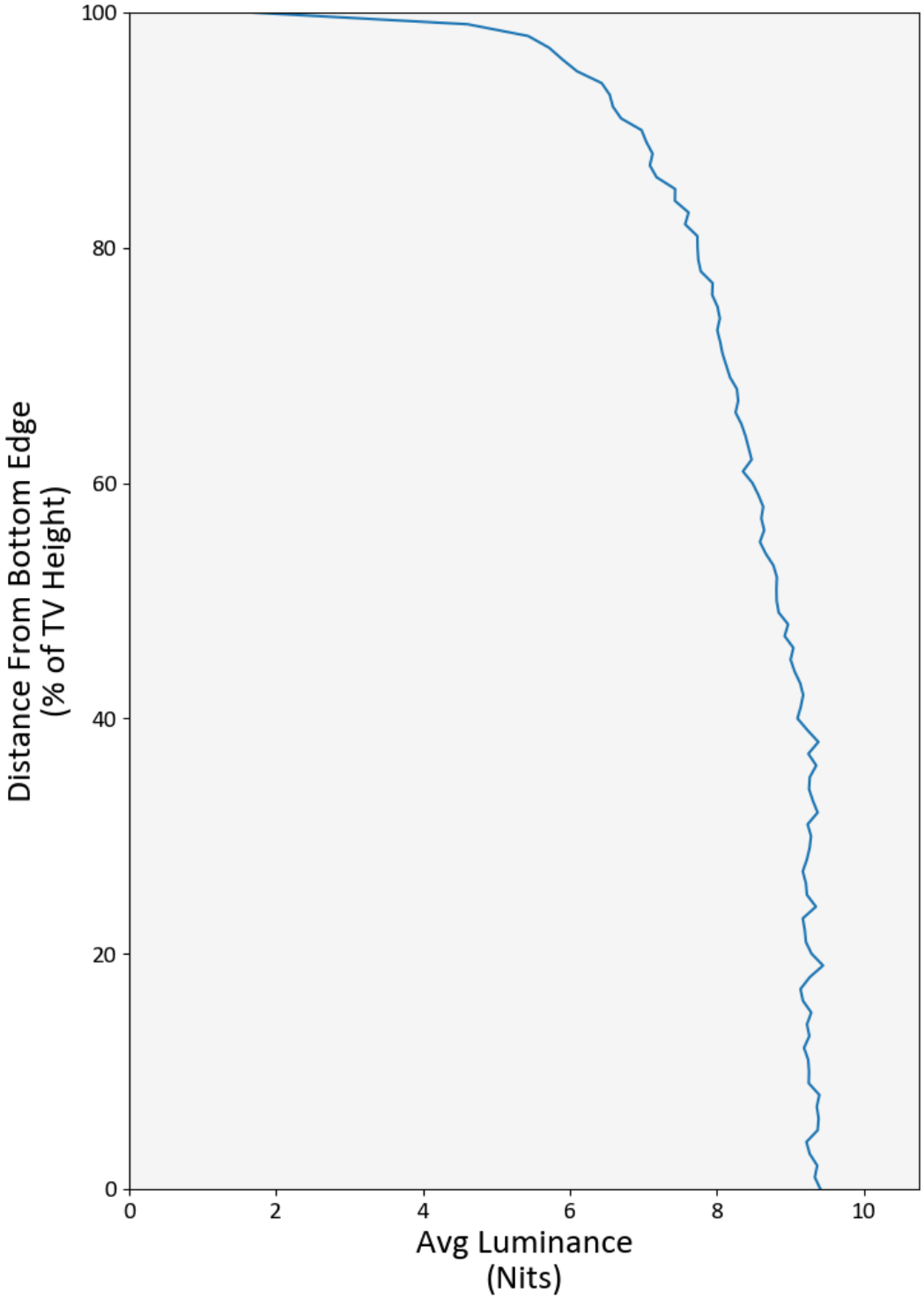


5.3 Light Directionality

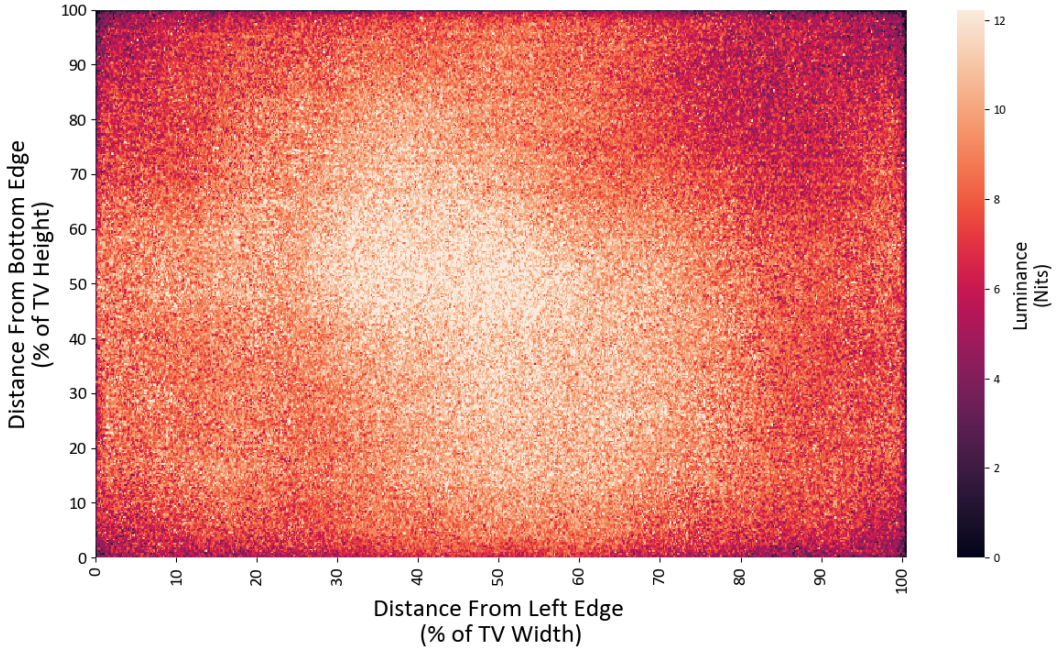
Average Luminance Along TV's Horizontal Axis



Average Luminance Along TV's Vertical Axis



Luminance Heatmap



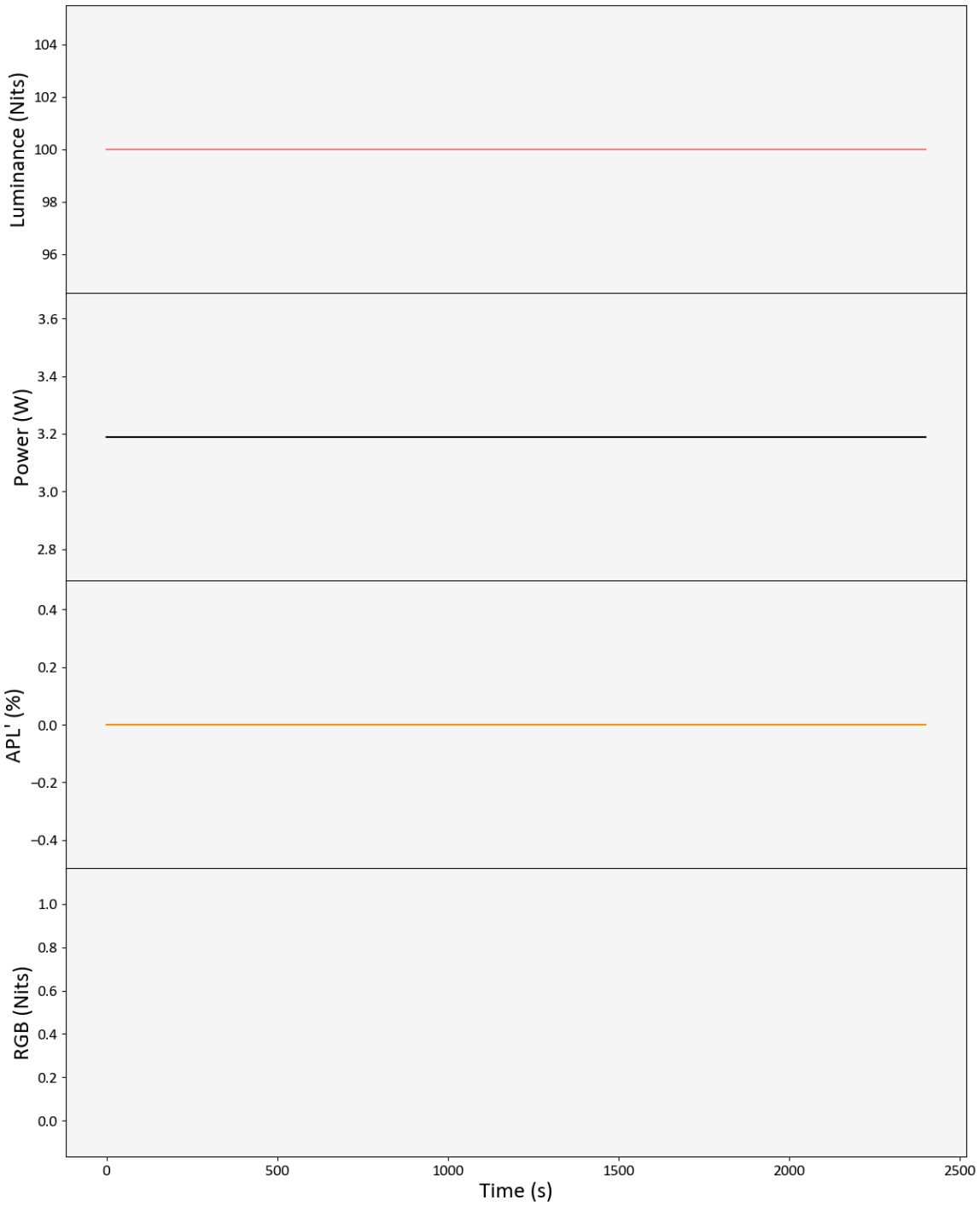
6. Test Results Table

Test Name	Test Time (s)	Video	Avg APL' (%)	Preset Picture	MDD	QS	Wake Time (s)	Avg Luminance (Nits)	Avg Power (W)
standby	2400		0.0			off	6.0	100.0	3.2
standby_echo	2400		0.0			oob	6.0	100.0	1.1
standby_google	2400		0.0			oob	18.0	100.0	1.9
stabilization1	600	IEC SDR	34.5	standard	off			100.0	120.0
stabilization2	600	IEC SDR	34.5	standard	off			100.0	120.0
default	600	IEC SDR	34.5	standard	off			100.0	120.0
default_low_backlight	600	IEC SDR	34.5	standard	off			100.0	120.0
brightest	600	IEC SDR	34.5	dynamic	off			100.0	120.0
brightest_low_backlight	600	IEC SDR	34.5	dynamic	off			100.0	120.0
hdr	300	CLASP HDR10	28.7	standard	off			100.0	120.0
hdr_low_backlight	300	CLASP HDR10	28.7	standard	off			100.0	120.0

7. Test Result Plots

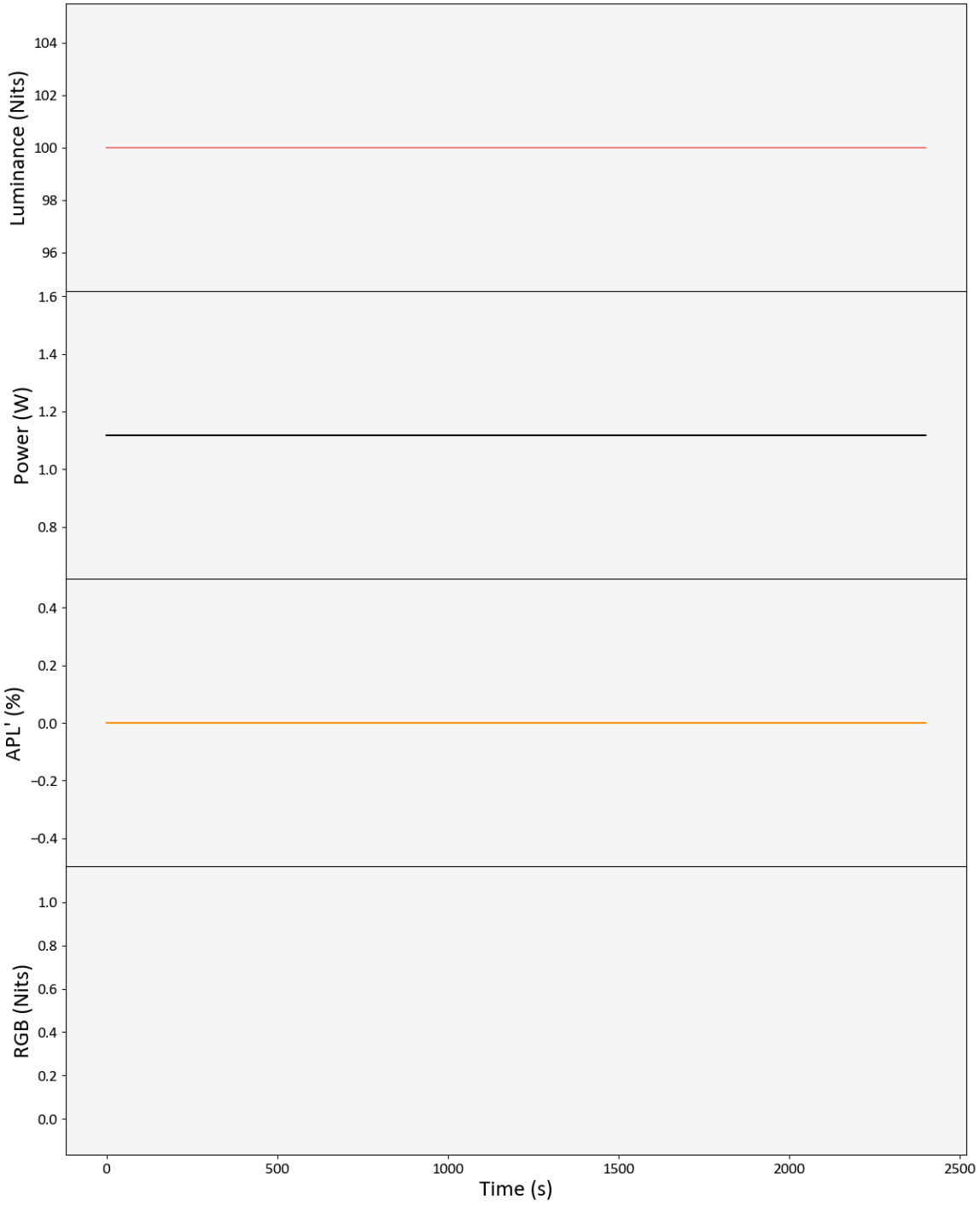
Test 1 - standby

Test Name	Test Time (s)	Avg APL' (%)	QS	Wake Time (s)	Avg Luminance (Nits)	Avg Power (W)
standby	2400	0.0	off	6.0	100.0	3.2



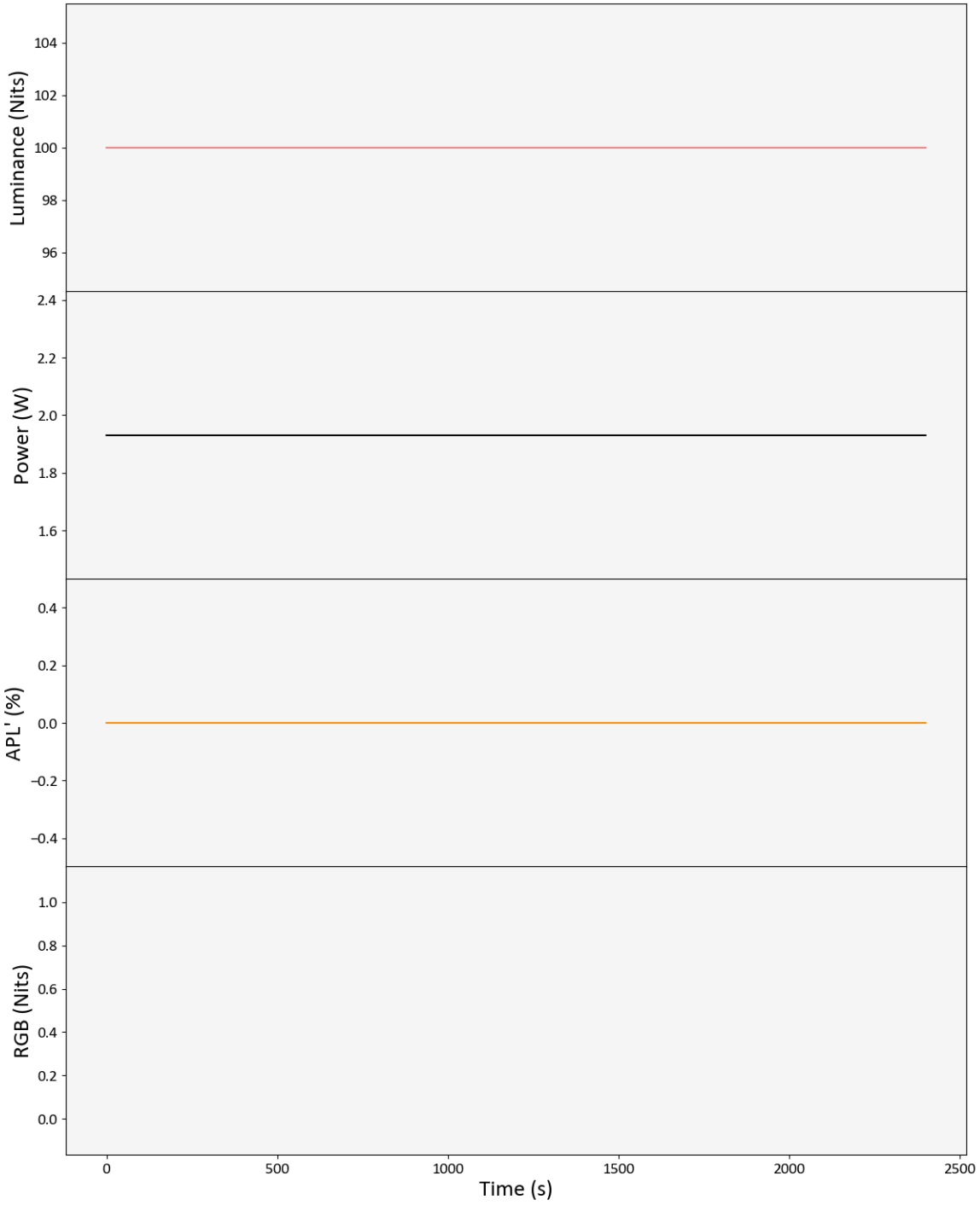
Test 3 - standby_echo

Test Name	Test Time (s)	Avg APL' (%)	QS	Wake Time (s)	Avg Luminance (Nits)	Avg Power (W)
standby_echo	2400	0.0	oob	6.0	100.0	1.1



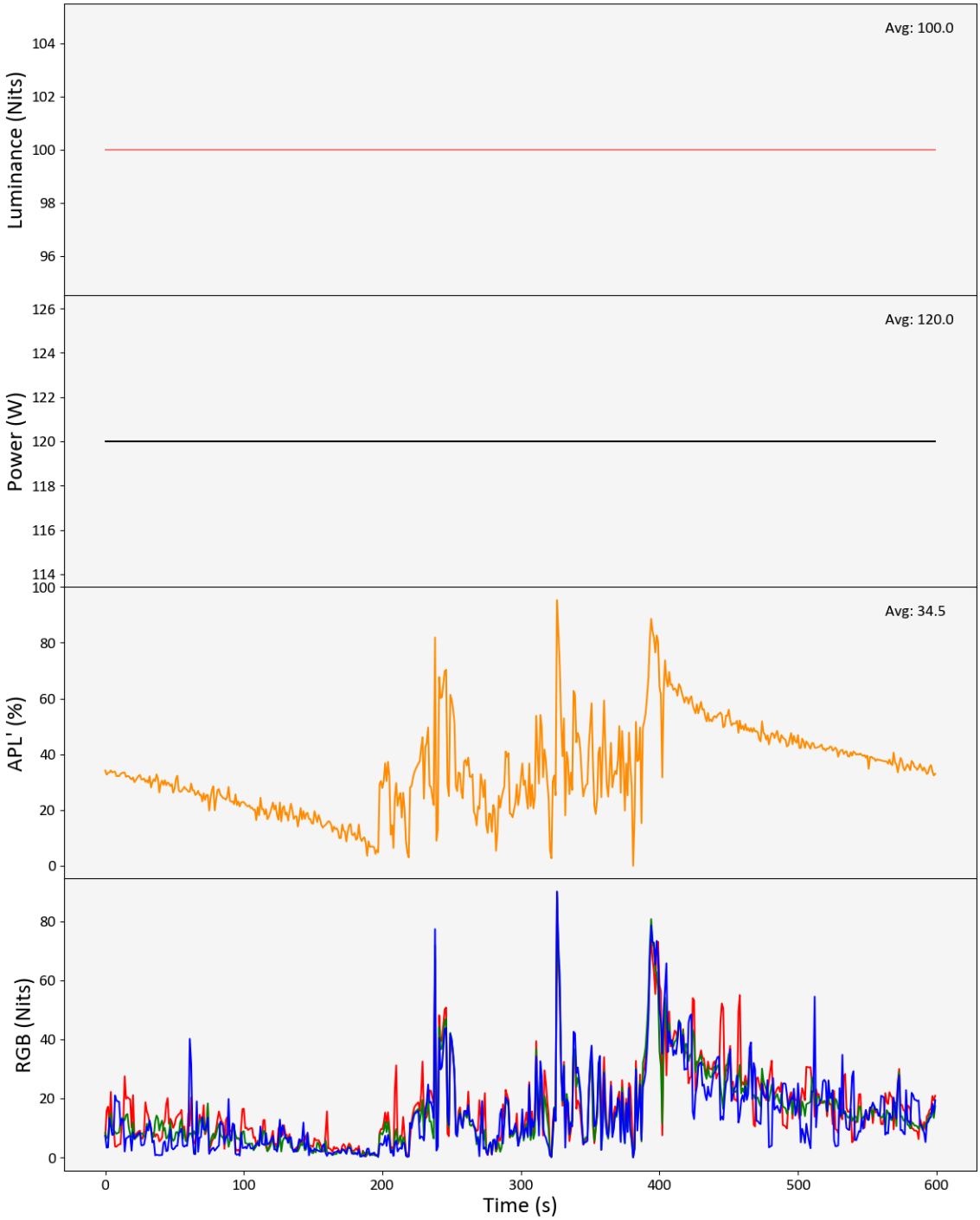
Test 5 - standby_google

Test Name	Test Time (s)	Avg APL' (%)	QS	Wake Time (s)	Avg Luminance (Nits)	Avg Power (W)
standby_google	2400	0.0	oob	18.0	100.0	1.9



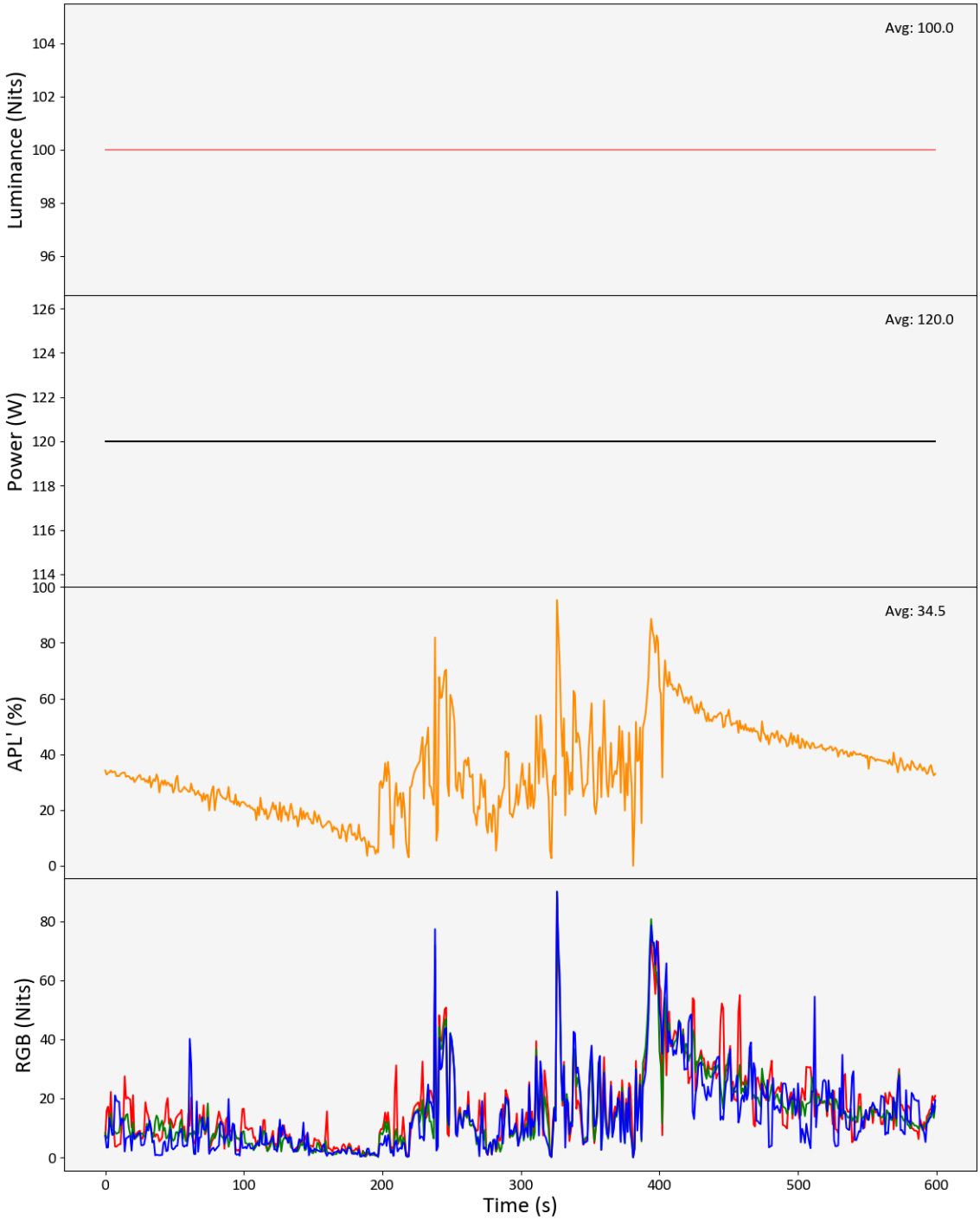
Test 9.1 - stabilization1

Test Name	Test Time (s)	Video	Avg APL' (%)	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
stabilization1	600	IEC SDR	34.5	standard	off	100.0	120.0



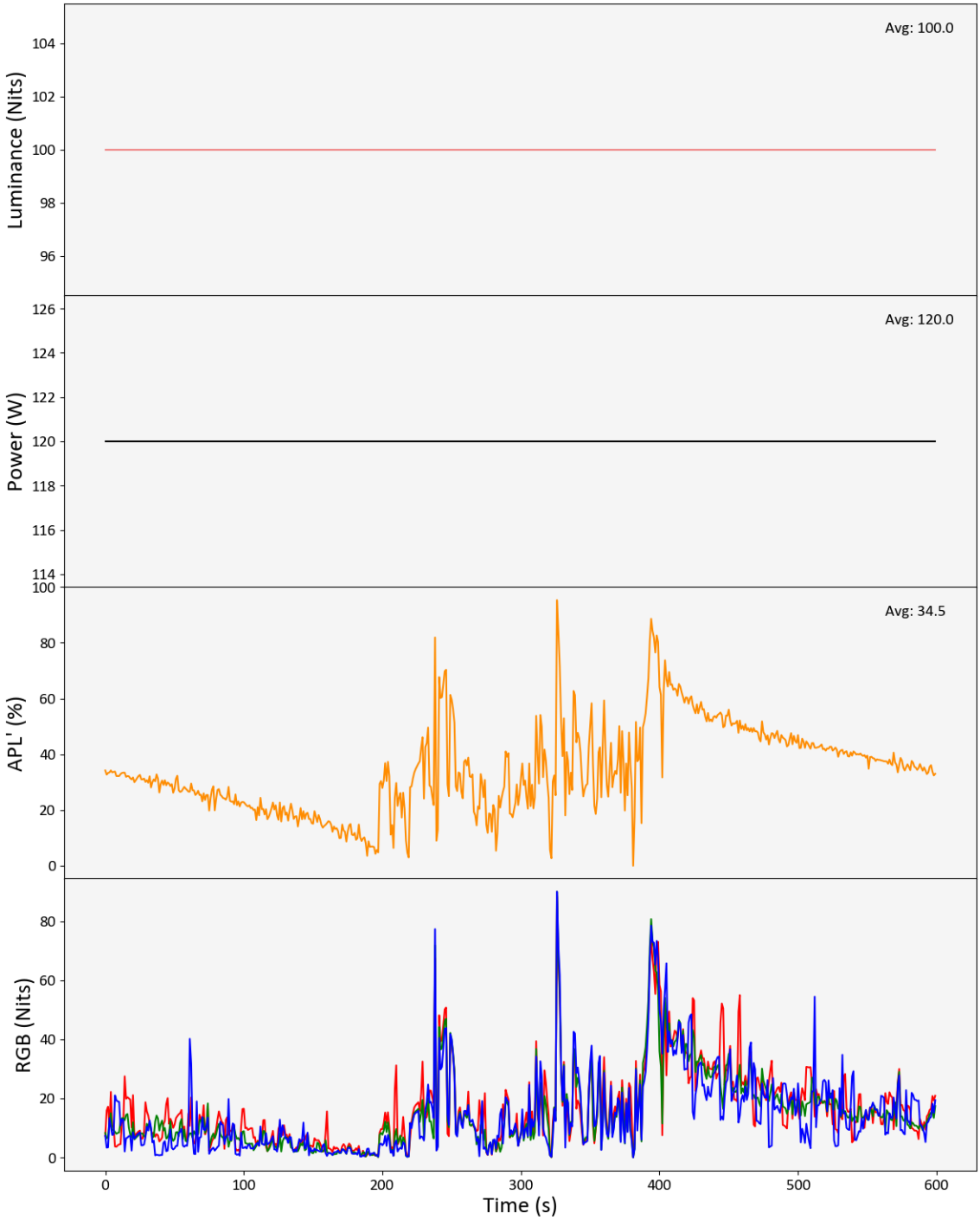
Test 9.2 - stabilization2

Test Name	Test Time (s)	Video	Avg APL' (%)	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
stabilization2	600	IEC SDR	34.5	standard	off	100.0	120.0



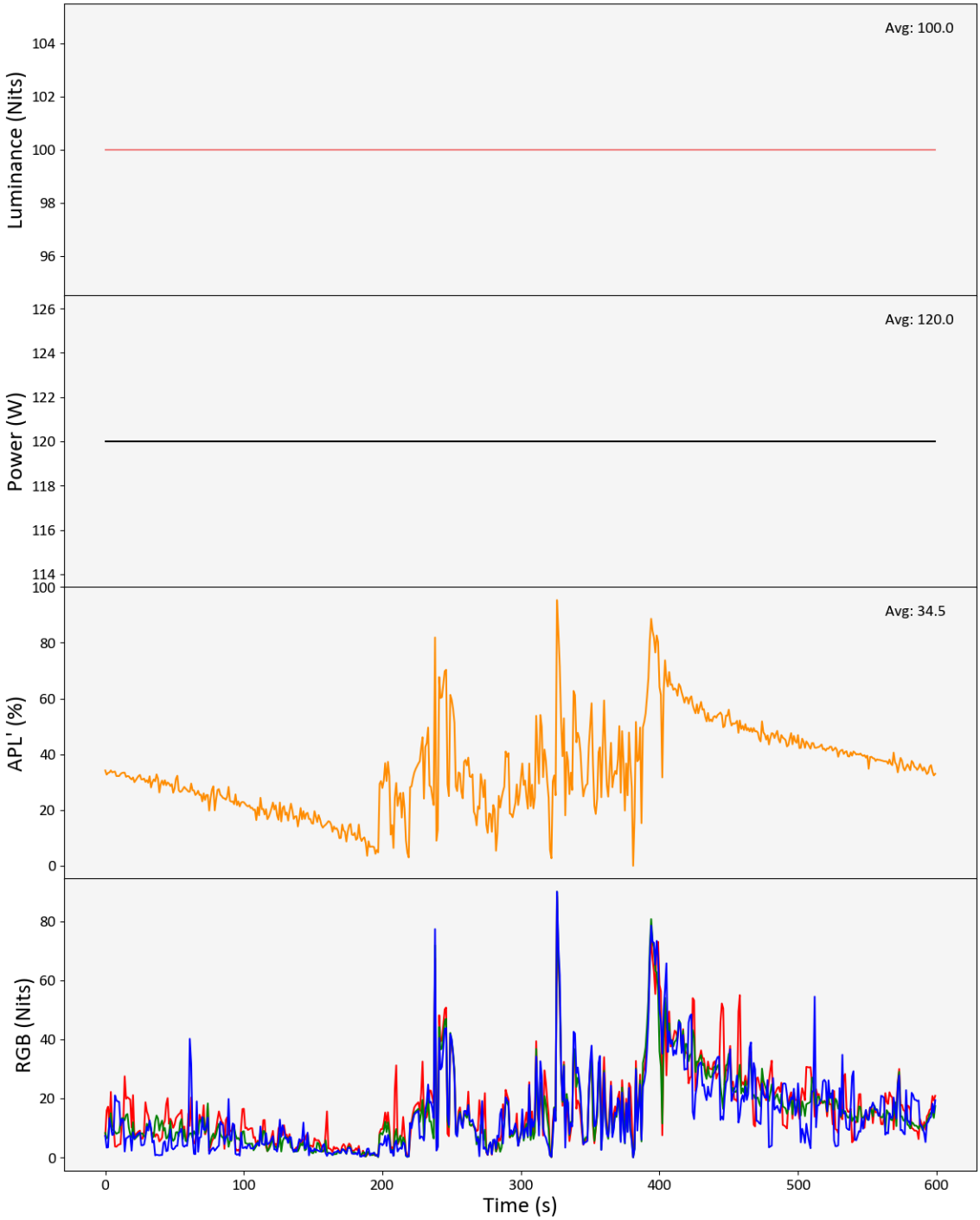
Test 10 - default

Test Name	Test Time (s)	Video	Avg APL' (%)	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
default	600	IEC SDR	34.5	standard	off	100.0	120.0



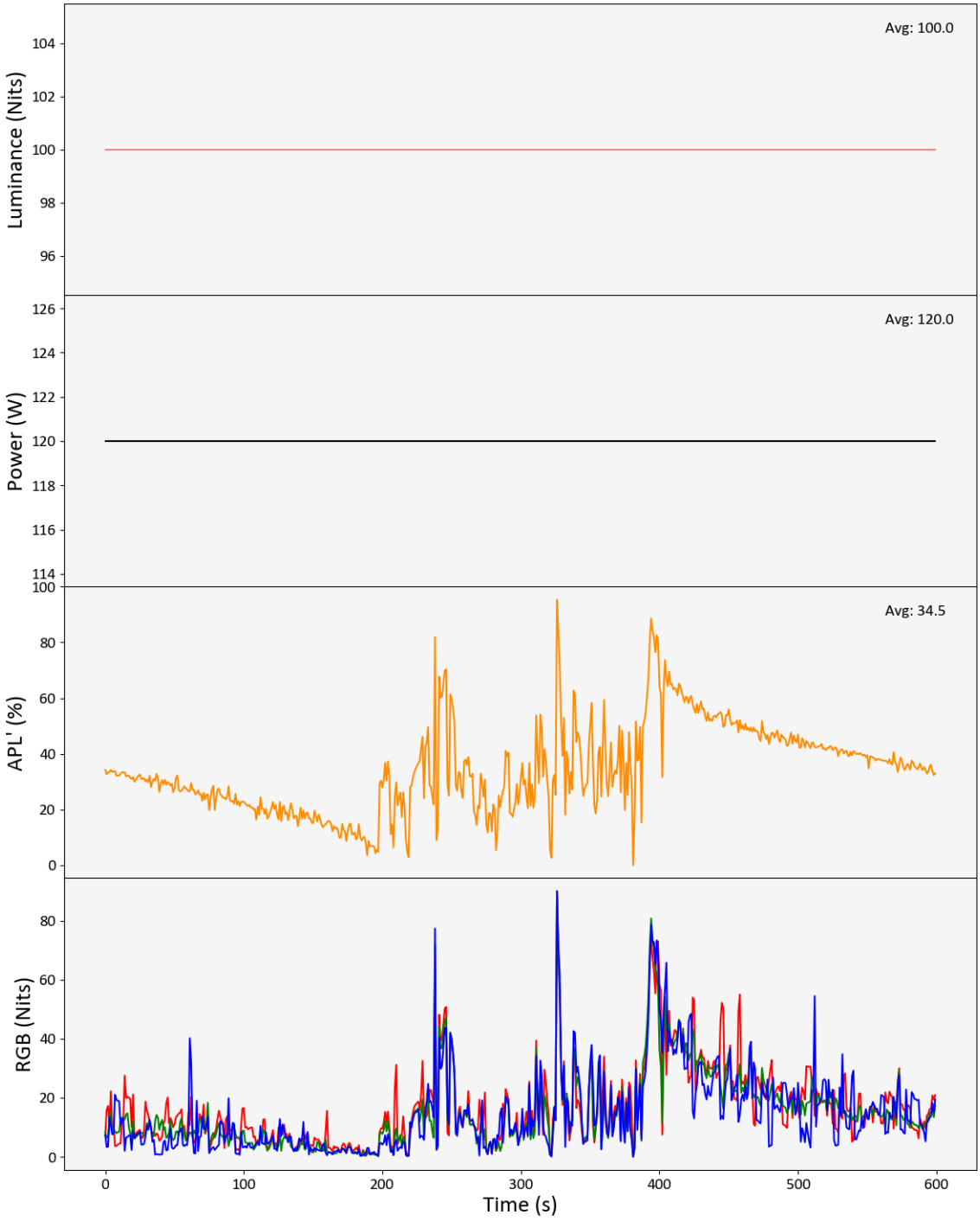
Test 11 - default_low_backlight

Test Name	Test Time (s)	Video	Avg APL' (%)	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
default_low_backlight	600	IEC SDR	34.5	standard	off	100.0	120.0



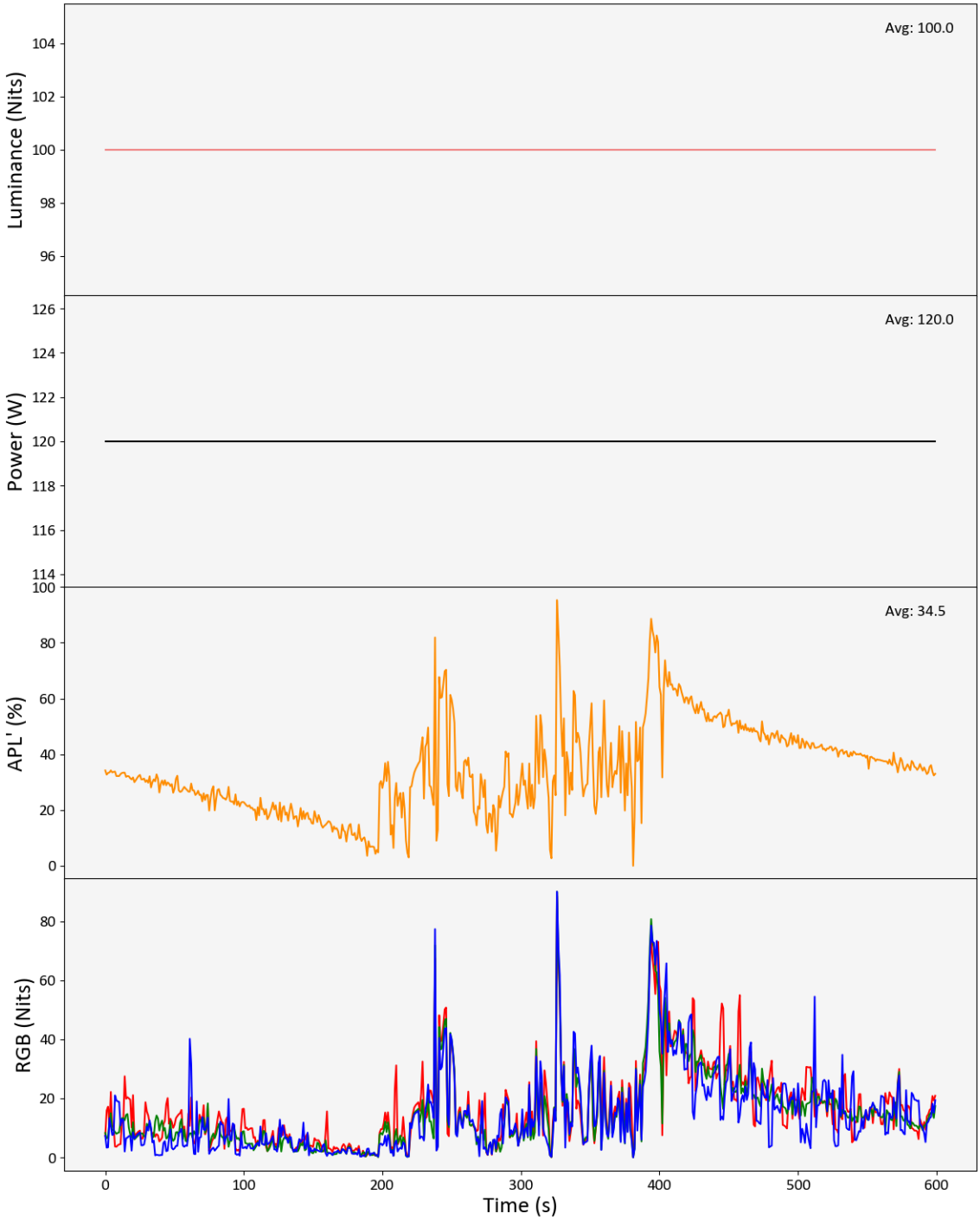
Test 12 - brightest

Test Name	Test Time (s)	Video	Avg APL' (%)	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
brightest	600	IEC SDR	34.5	dynamic	off	100.0	120.0



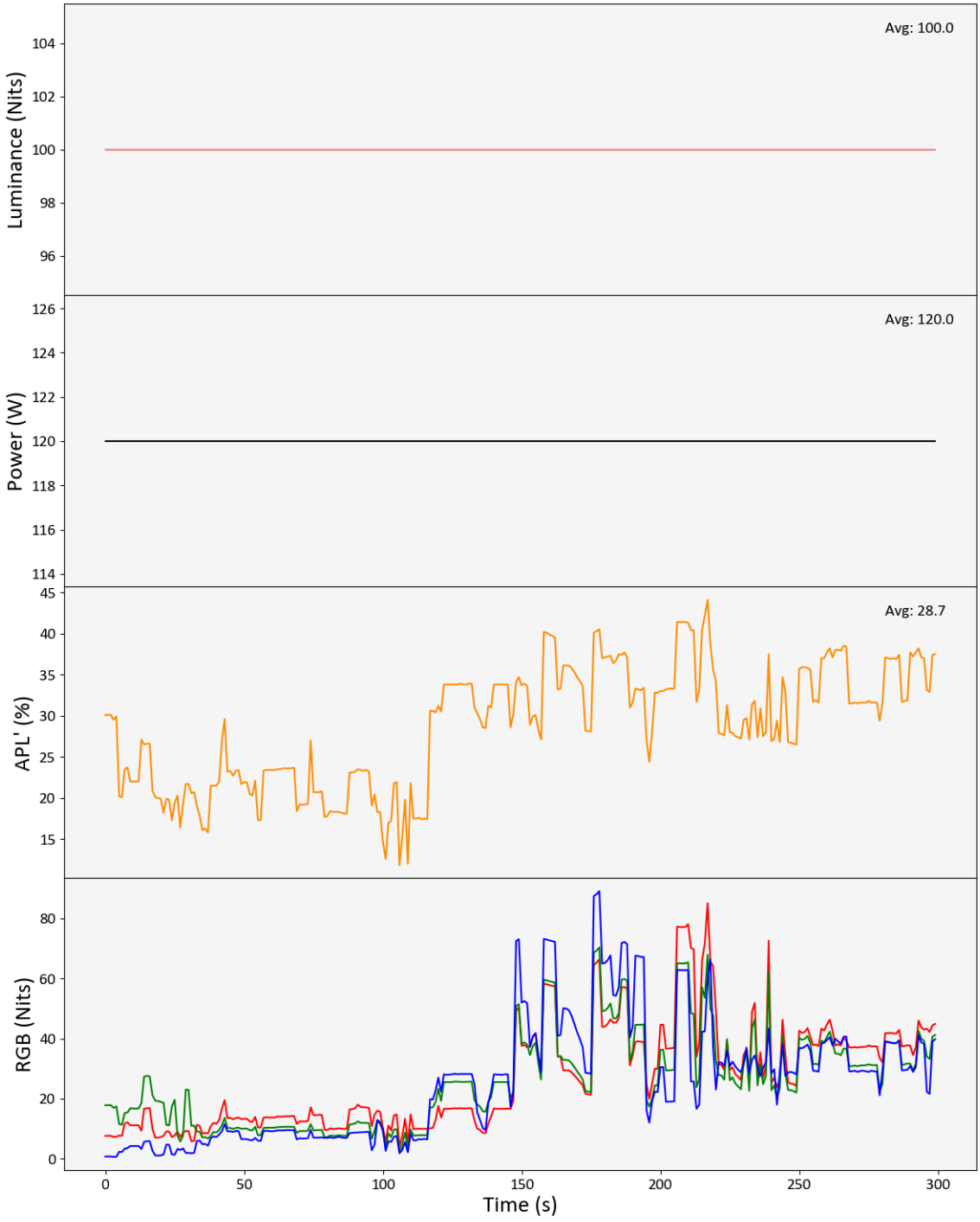
Test 13 - brightest_low_backlight

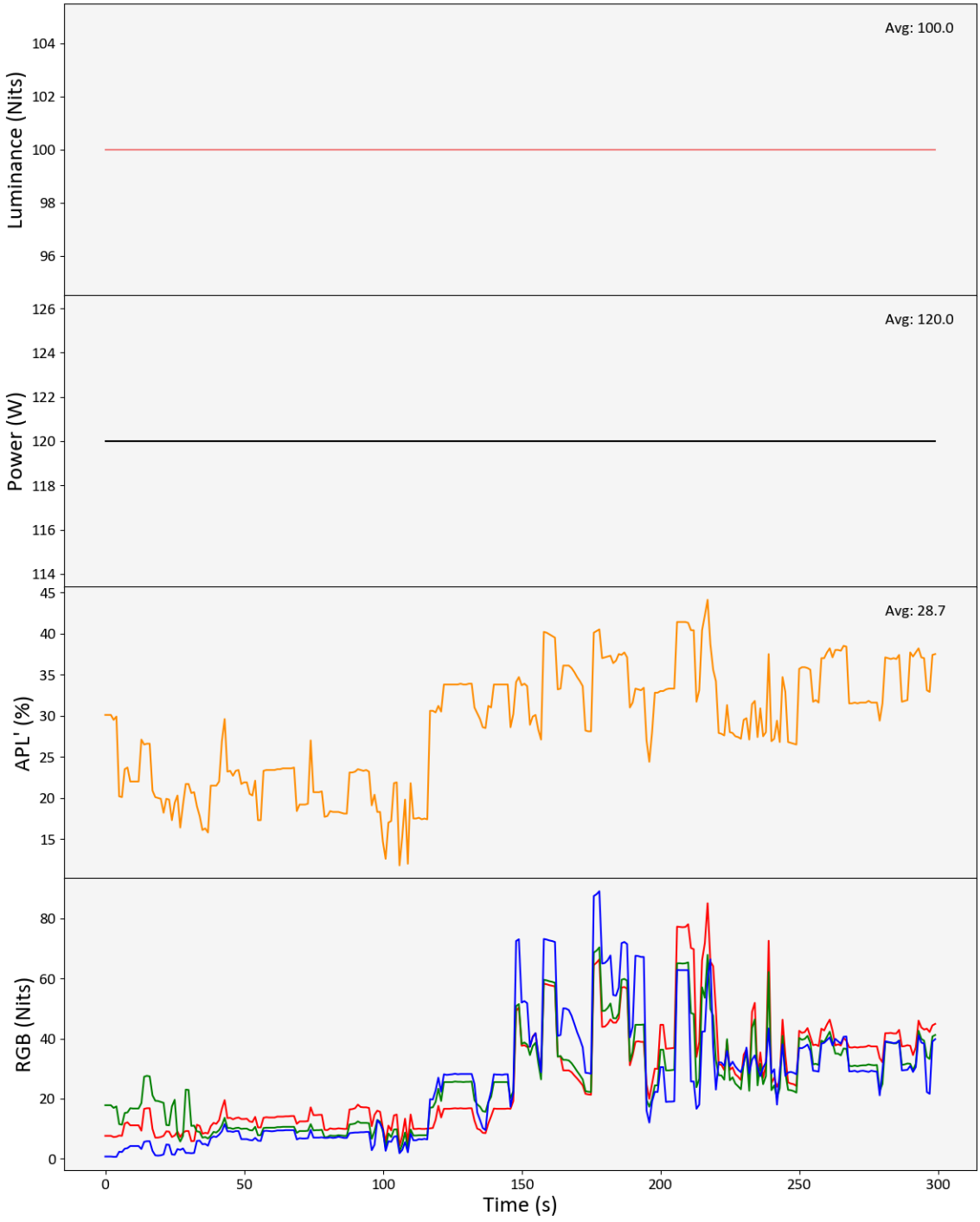
Test Name	Test Time (s)	Video	Avg APL' (%)	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
brightest_low_backlight	600	IEC SDR	34.5	dynamic	off	100.0	120.0



Test 14 - hdr

Test Name	Test Time (s)	Video	Avg APL' (%)	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
hdr	300	CLASP HDR10	28.7	standard	off	100.0	120.0



Test 15 - hdr_low_backlight

Test Name	Test Time (s)	Video	Avg APL' (%)	Preset Picture	MDD	Avg Luminance (Nits)	Avg Power (W)
hdr_low_backlight	300	CLASP HDR10	28.7	standard	off	100.0	120.0