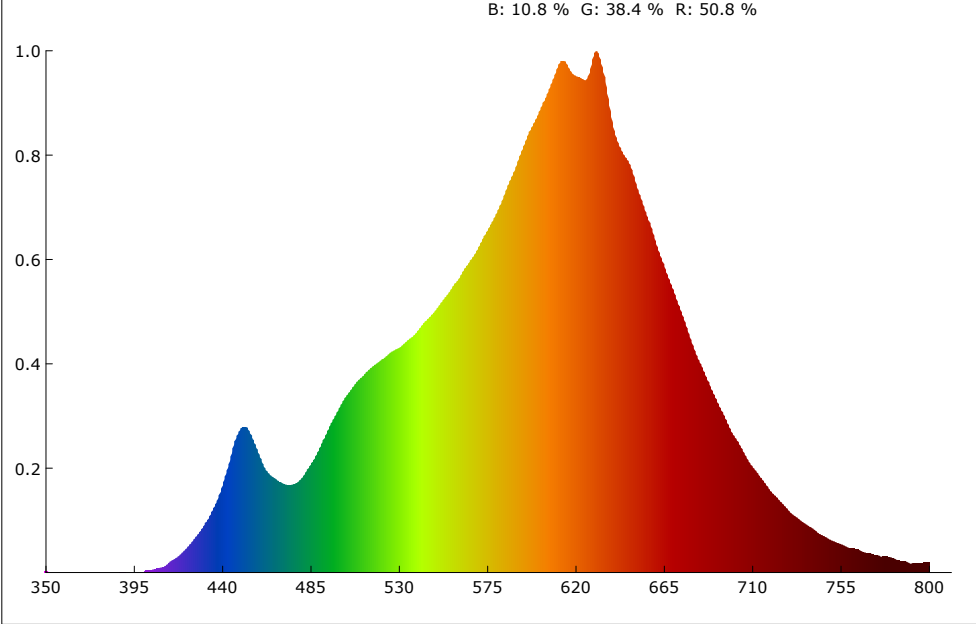
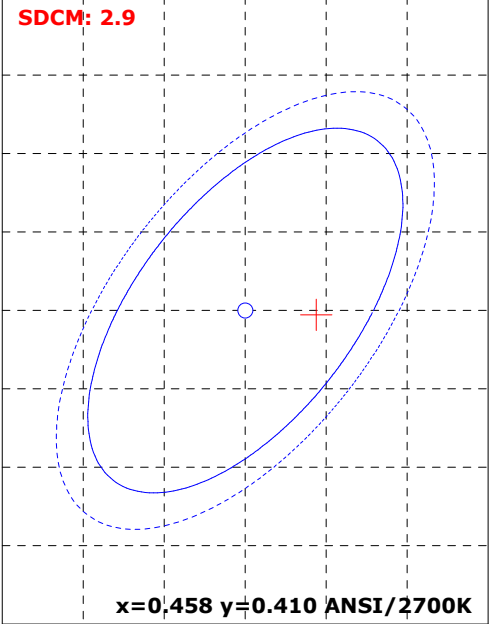


Spectrogram



SDCM



Color Parameter:

x: 0.4622	y: 0.4098	u: 0.2644	v: 0.3516	u': 0.2644	v': 0.5274		
R_ratio: 50.8 %	G_ratio: 38.4 %	B_ratio: 10.8 %	RedRatio: 26.1 %	GreenRatio: 72.4 %	BlueRatio: 1.5 %		
Ra: 92.7		AvgR: 90.7					
R1: 93.3	R2: 97.7	R3: 97.8	R4: 94.2	R5: 94.5	R6: 97.4	R7: 89.3	R8: 77.5
R9: 52.5	R10: 94.8	R11: 96.9	R12: 93.6	R13: 94.6	R14: 99.5	R15: 87.3	
CCT: 2660 K		Flux: 1224.921 lm	PeakWave: 630.5 nm	SDCM: 2.9			
S/P: 1.3		CentralWave: 611.0 nm	DominantWave: 584.6 nm	CentroidWave: 597.9 nm			
HalfWidth: 124.8 nm		duv: -0.00049	purity: 61.8 %	CQS: 88.0			
LER(TM-30): 288.7		Ep: 4243.0 mw	Rg: 99.1	Rf: 92.2			
Red Ep: 2026.4 mw		Near red Ep: 240.0 mw	Near infrared Ep: 13.2 mw				

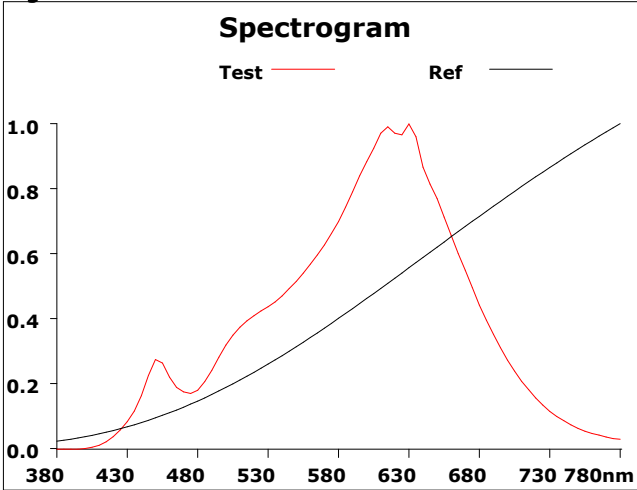
Electrical parameters:

Effic: 42.0 Lm/W	Energy: 45.8	Effi: G	
U: 221.6 V	I: 0.134 A	P: 29.140 W	Pf: 0.981

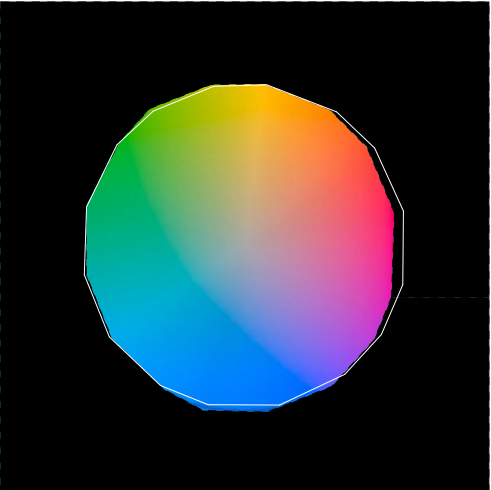
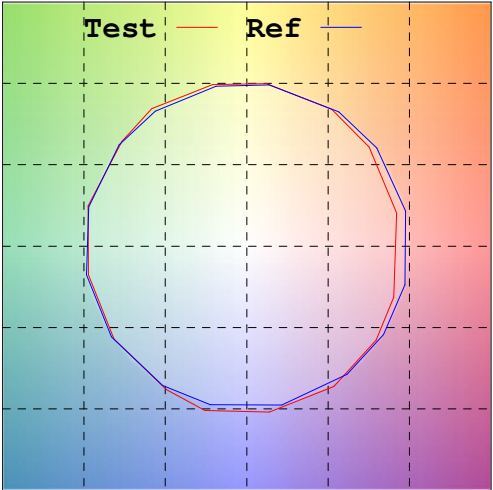
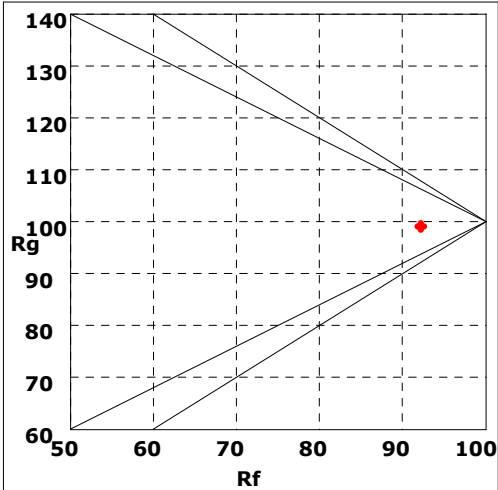
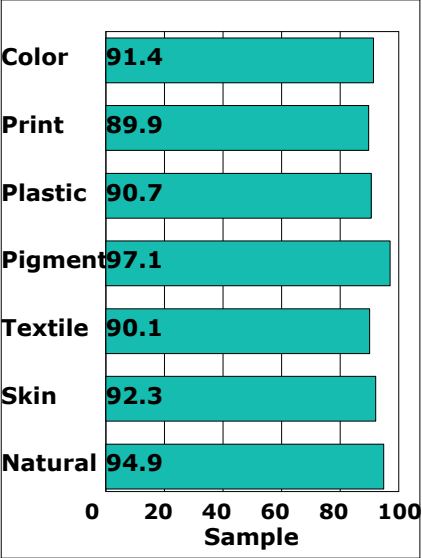
Product model:
Product number:
Tester:
Remarks:

Manufacturer:
Test unit:
Date of observation: 10/31/23

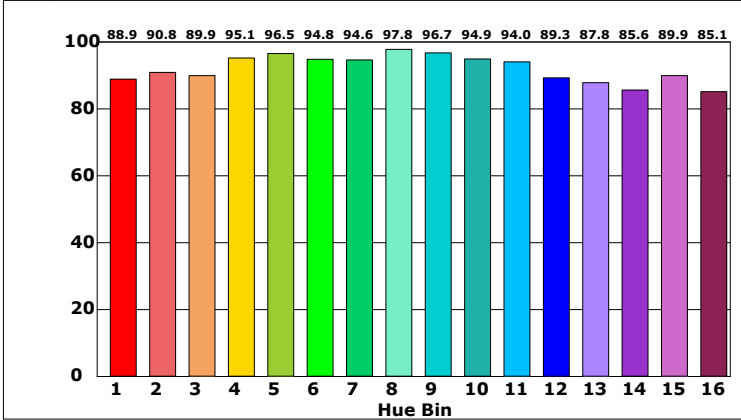
Rf: 92.2 CCT: 2660K u': 0.2644
Rg: 99.1 LER: 288.7 Duv: -0.00049 v': 0.5274



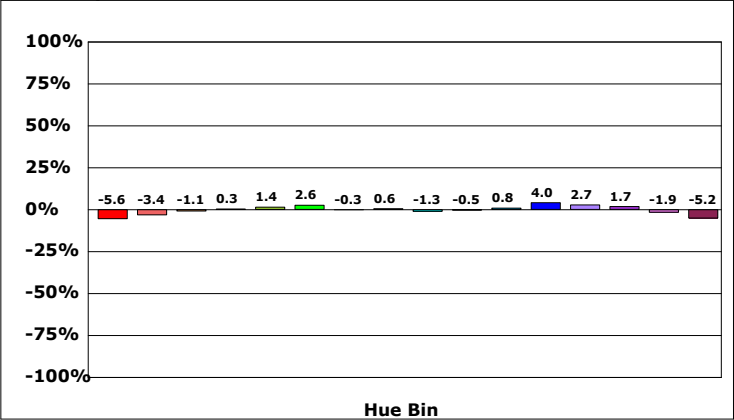
500			
Hue Bin	Rf	Chroma	Hue
1	88.9	-5.6%	-0.1%
2	90.8	-3.4%	3.1%
3	89.9	-1.1%	4.6%
4	95.1	0.3%	1.9%
5	96.5	1.4%	2.1%
6	94.8	2.6%	0.9%
7	94.6	-0.3%	-2.7%
8	97.8	0.6%	-0.6%
9	96.7	-1.3%	0.4%
10	94.9	-0.5%	2.1%
11	94.0	0.8%	3.2%
12	89.3	4.0%	-2.7%
13	87.8	2.7%	-8.2%
14	85.6	1.7%	-10.7%
15	89.9	-1.9%	-5.3%
16	85.1	-5.2%	-8.9%



Rf by Bue

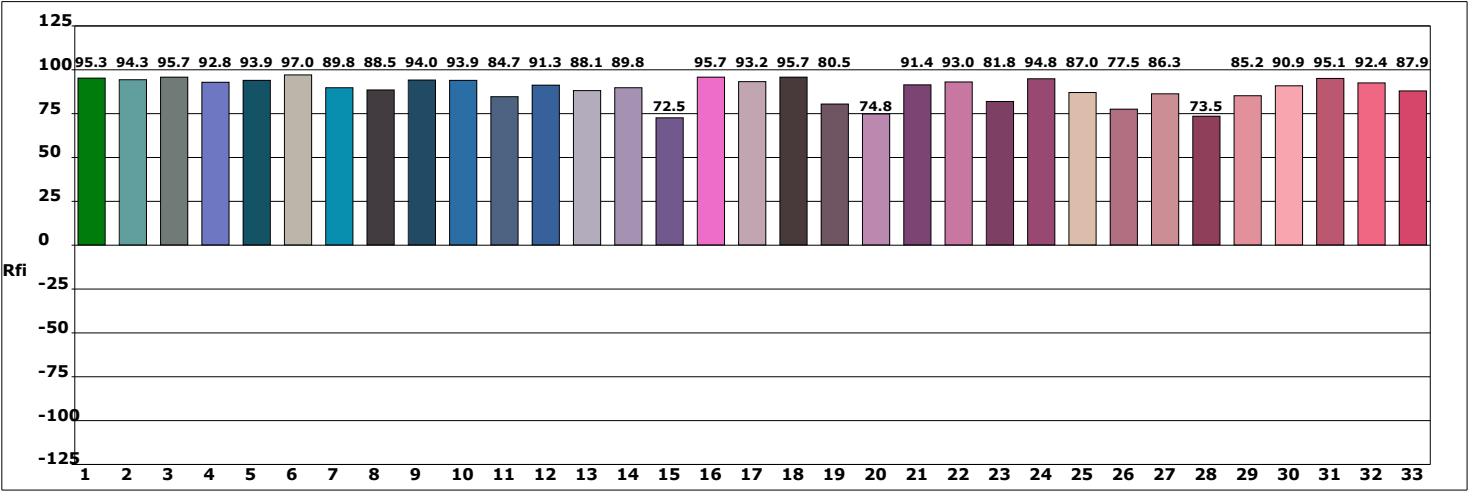
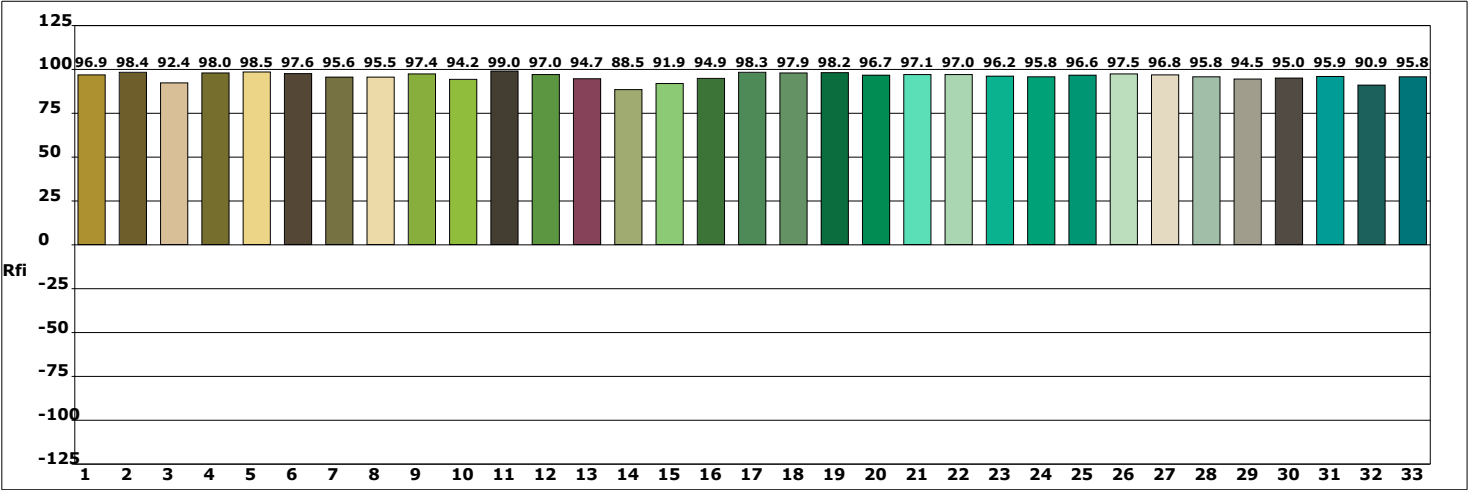
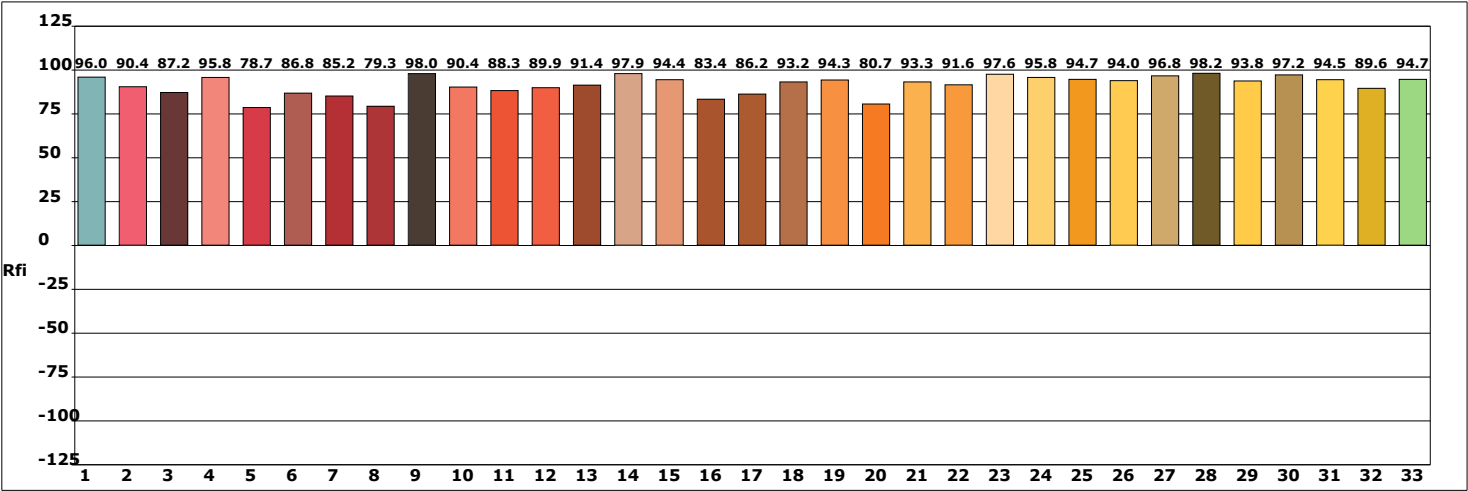


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

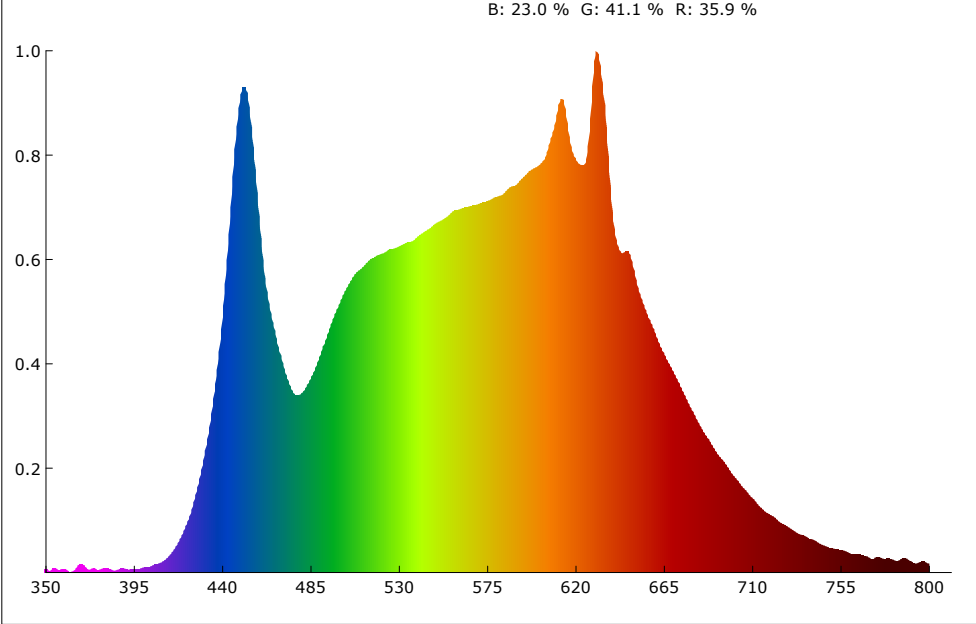
Manufacturer:
Test unit:
Date of observation: 10/31/23



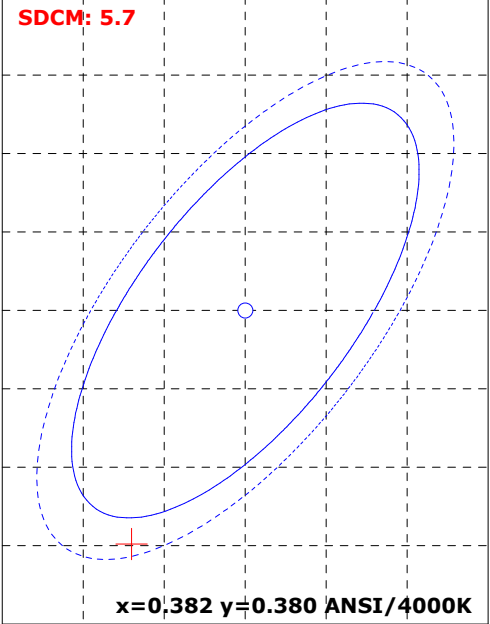
Product model:
Product number:
Tester:
Remarks:

Manufacturer:
Test unit:
Date of observation: 10/31/23

Spectrogram



SDCM



Color Parameter:

x: 0.3748 y: 0.3648 u: 0.2262 v: 0.3302 u': 0.2262 v': 0.4953
R_ratio: 35.9 % G_ratio: 41.1 % B_ratio: 23.0 % RedRatio: 19.8 % GreenRatio: 77.3 % BlueRatio: 3.0 %

Ra: 95.7 AvgR: 93.7
R1: 97.4 R2: 98.0 R3: 96.8 R4: 96.6 R5: 97.3 R6: 95.3 R7: 94.7 R8: 90.1
R9: 75.5 R10: 94.6 R11: 96.1 R12: 81.4 R13: 98.1 R14: 97.7 R15: 96.2

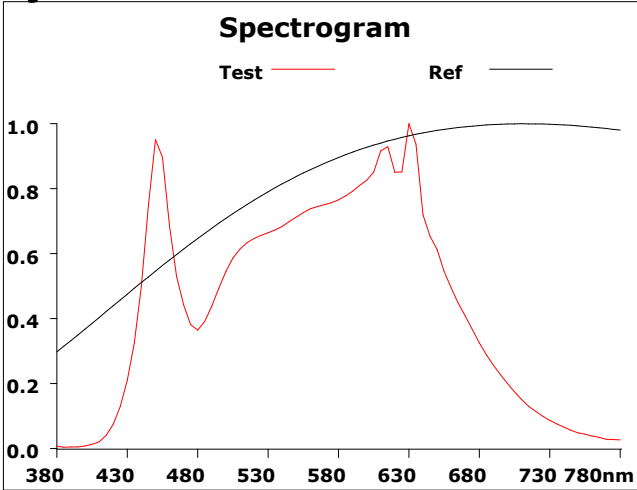
CCT: 4071 K Flux: 1432.151 lm PeakWave: 631.5 nm SDCM: 5.7
S/P: 1.8 CentralWave: 576.8 nm DominantWave: 581.5 nm CentroidWave: 568.4 nm
HalfWidth: 157.4 nm duv: -0.00407 purity: 22.0 % CQS: 87.4
LER(TM-30): 293.4 Ep: 4880.7 mw Rg: 100.8 Rf: 91.8
Red Ep: 1680.5 mw Near red Ep: 177.7 mw Near infrared Ep: 13.8 mw

Electrical parameters:

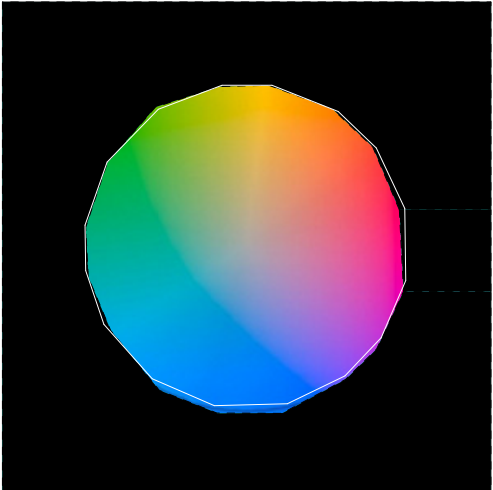
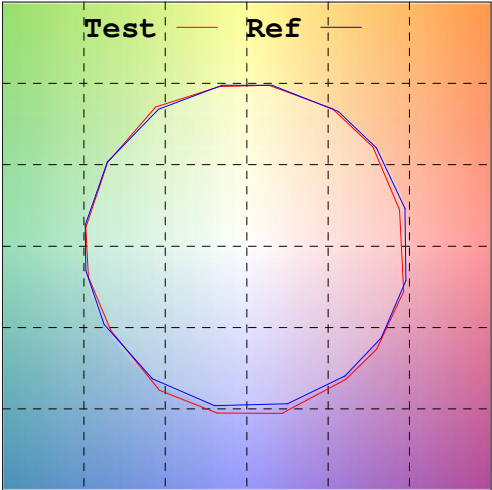
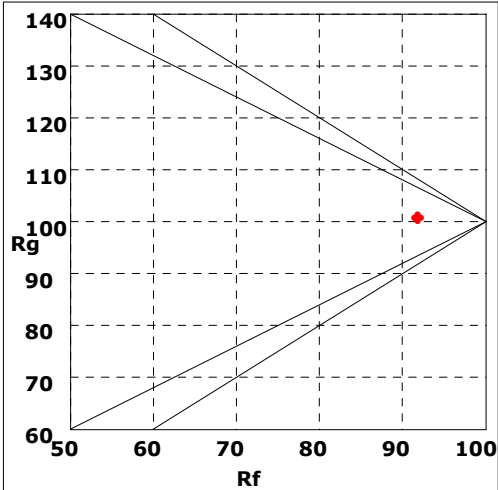
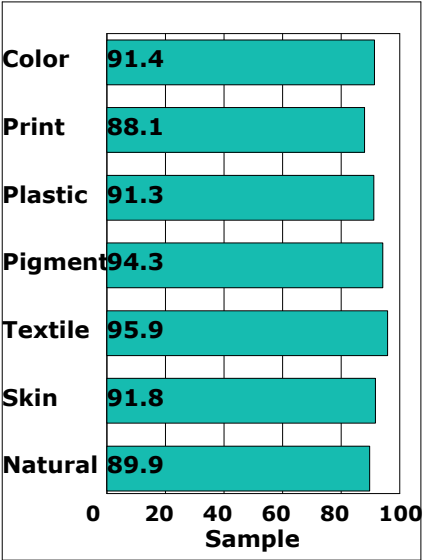
Effic: 48.9 Lm/W Energy: 53.2 Effi: G
U: 221.7 V I: 0.134 A P: 29.300 W Pf: 0.981

Product model: Manufacturer:
Product number: Test unit:
Tester: Date of observation: 10/31/23
Remarks:

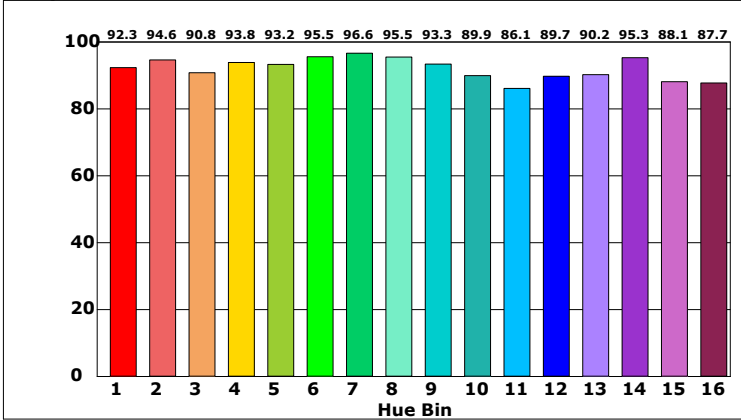
Rf: 91.8 CCT: 4071K u': 0.2262
Rg: 100.8 LER: 293.4 Duv: -0.00407 v': 0.4953



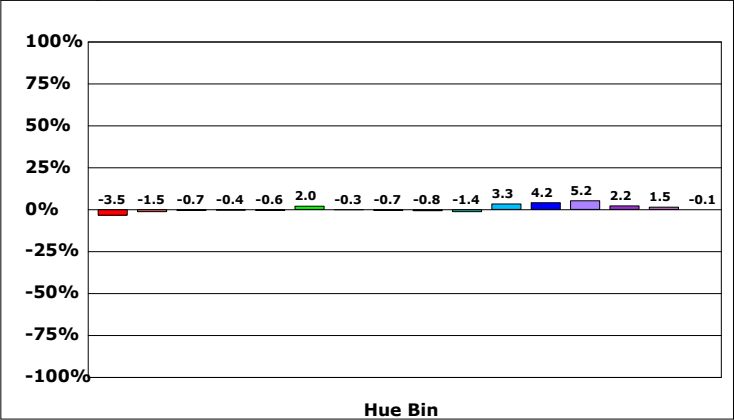
500			
Hue Bin	Rf	Chroma	Hue
1	92.3	-3.5%	-0.1%
2	94.6	-1.5%	1.8%
3	90.8	-0.7%	4.1%
4	93.8	-0.4%	1.9%
5	93.2	-0.6%	1.6%
6	95.5	2.0%	0.7%
7	96.6	-0.3%	0.1%
8	95.5	-0.7%	1.3%
9	93.3	-0.8%	4.1%
10	89.9	-1.4%	5.3%
11	86.1	3.3%	7.5%
12	89.7	4.2%	2.5%
13	90.2	5.2%	-4.5%
14	95.3	2.2%	-0.9%
15	88.1	1.5%	-7.4%
16	87.7	-0.1%	-6.8%



Rf by Bue

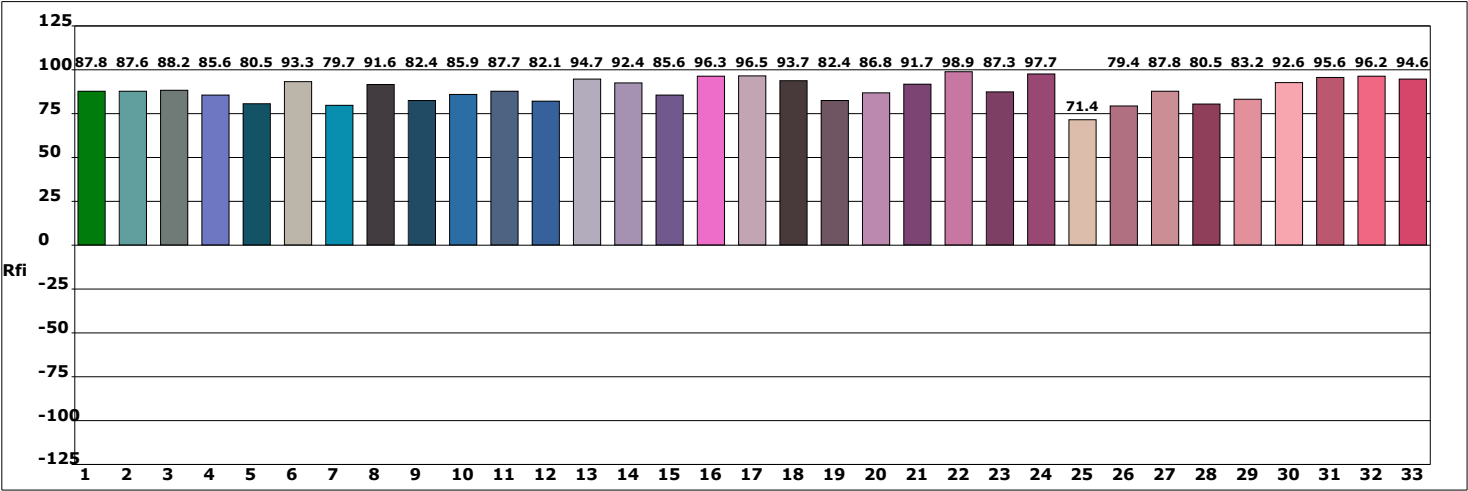
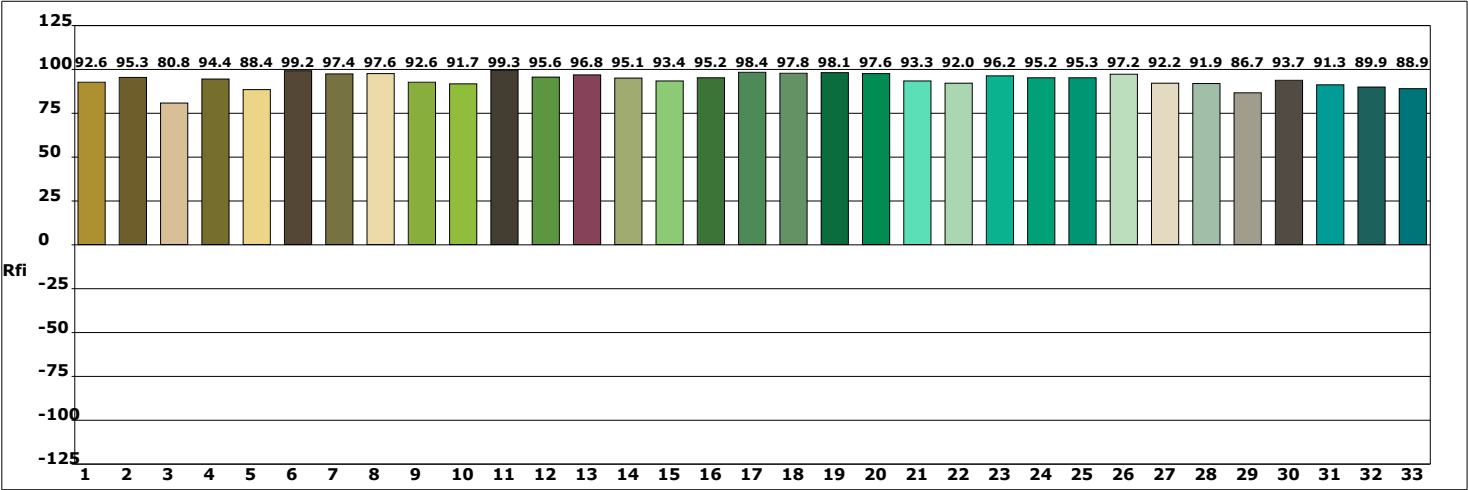
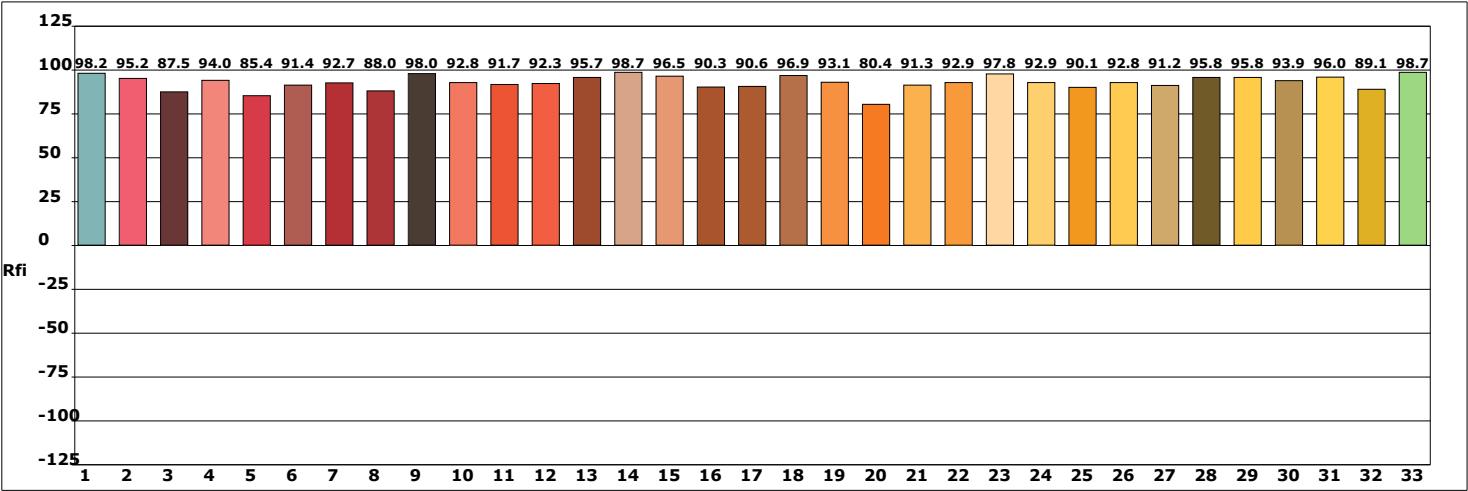


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

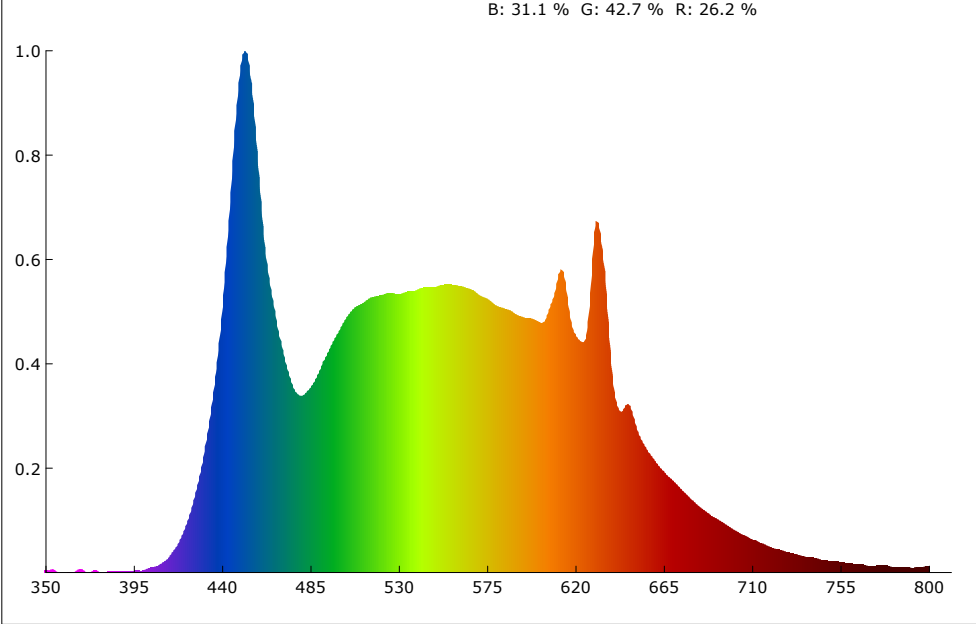
Manufacturer:
Test unit:
Date of observation: 10/31/23



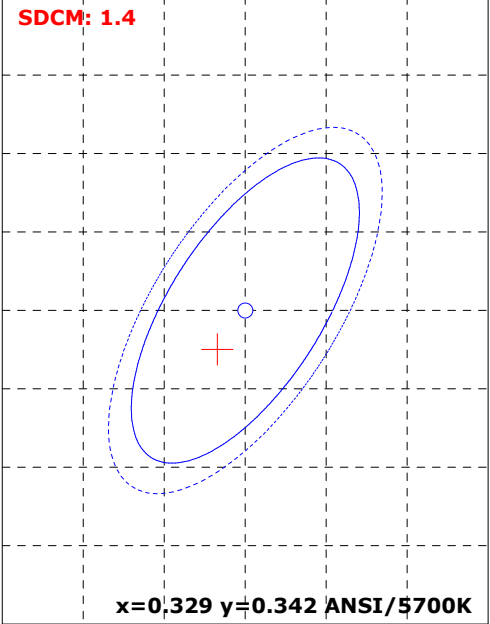
Product model:
Product number:
Tester:
Remarks:

Manufacturer:
Test unit:
Date of observation: 10/31/23

Spectrogram



SDCM



Color Parameter:

x: 0.3270 y: 0.3392 u: 0.2039 v: 0.3172 u': 0.2039 v': 0.4758
R_ratio: 26.2 % G_ratio: 42.7 % B_ratio: 31.1 % RedRatio: 15.6 % GreenRatio: 80.4 % BlueRatio: 4.0 %

Ra: 93.2 AvgR: 90.1
R1: 93.7 R2: 95.0 R3: 94.3 R4: 94.4 R5: 93.7 R6: 92.1 R7: 94.7 R8: 88.2
R9: 66.2 R10: 87.1 R11: 94.4 R12: 74.4 R13: 94.3 R14: 96.7 R15: 92.4

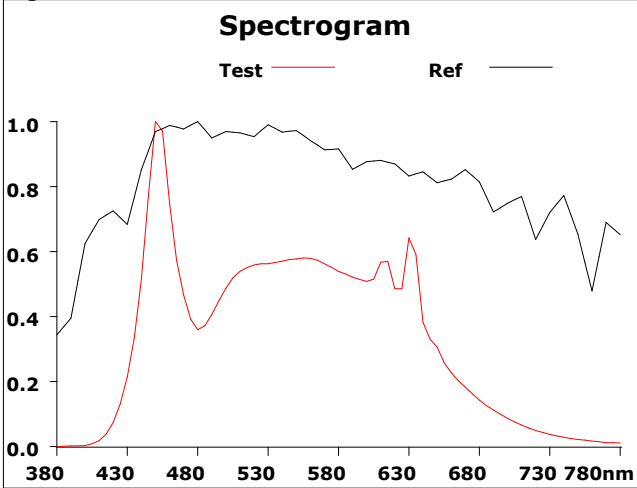
CCT: 5743 K Flux: 1545.314 lm PeakWave: 452.1 nm SDCM: 1.4
S/P: 2.2 CentralWave: 453.7 nm DominantWave: 504.4 nm CentroidWave: 548.4 nm
HalfWidth: 26.9 nm duv: 0.00148 purity: 1.9 % CQS: 90.4
LER(TM-30): 296.9 Ep: 5204.4 mw Rg: 99.2 Rf: 90.0
Red Ep: 1328.3 mw Near red Ep: 115.4 mw Near infrared Ep: 9.7 mw

Electrical parameters:

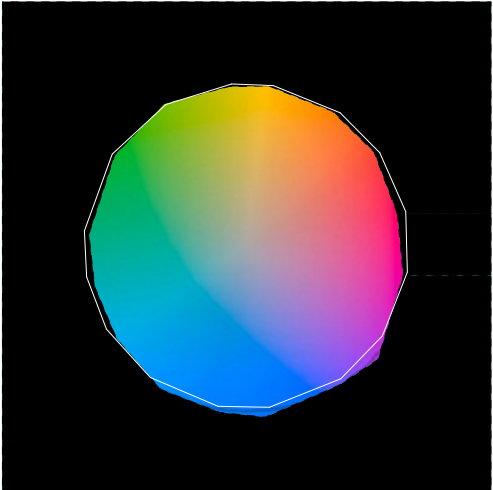
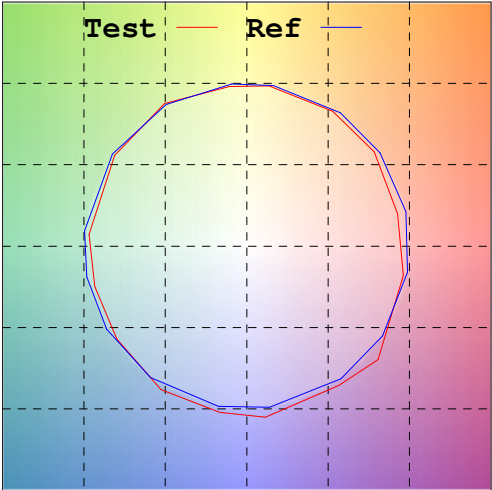
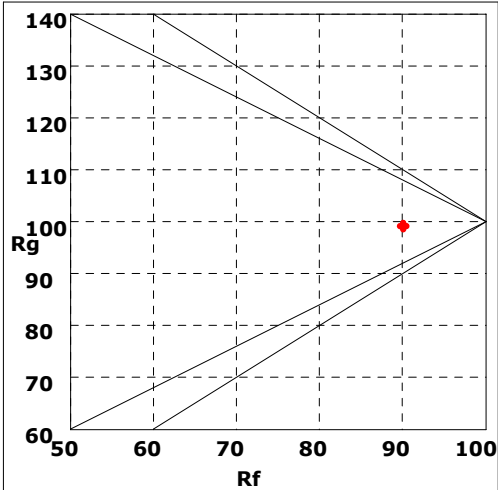
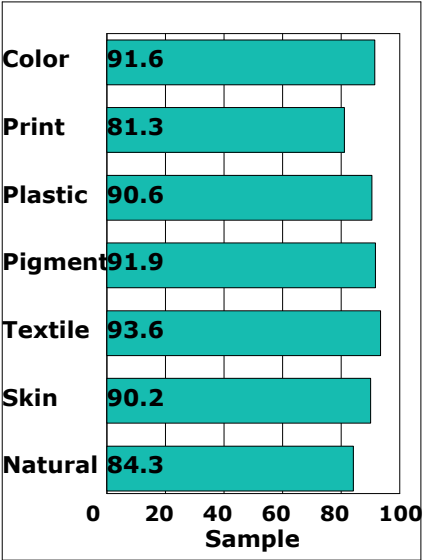
Effic: 52.9 Lm/W Energy: 57.6 Effi: G
U: 221.7 V I: 0.134 A P: 29.210 W Pf: 0.981

Product model: Manufacturer:
Product number: Test unit:
Tester: Date of observation: 10/31/23
Remarks:

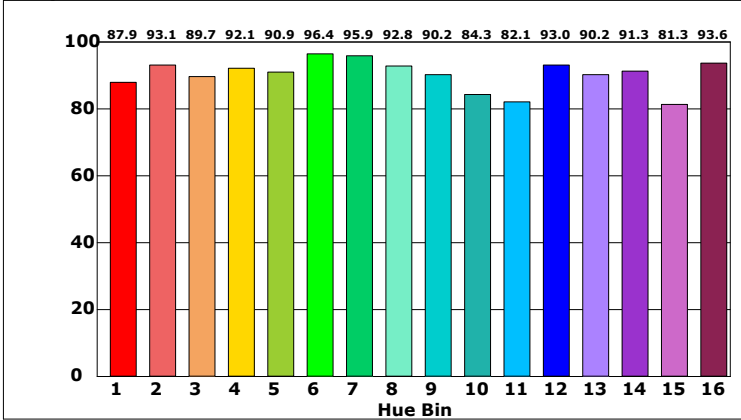
Rf: 90.0 CCT: 5743K u': 0.2039
Rg: 99.2 LER: 296.9 Duv: 0.00148 v': 0.4758



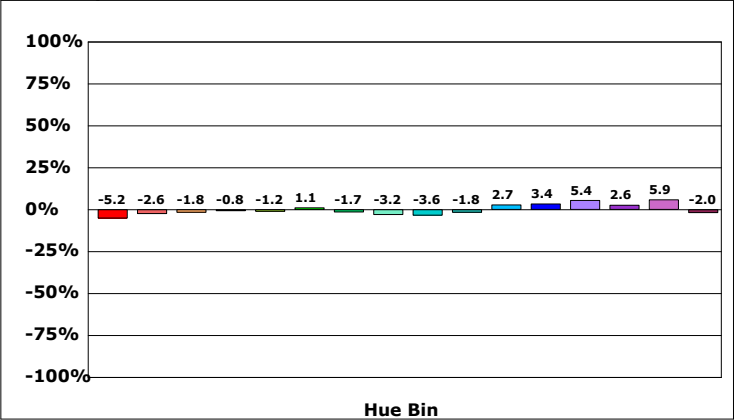
500			
Hue Bin	Rf	Chroma	Hue
1	87.9	-5.2%	-0.2%
2	93.1	-2.6%	2.4%
3	89.7	-1.8%	4.4%
4	92.1	-0.8%	2.7%
5	90.9	-1.2%	1.8%
6	96.4	1.1%	0.5%
7	95.9	-1.7%	-0.2%
8	92.8	-3.2%	1.6%
9	90.2	-3.6%	6.7%
10	84.3	-1.8%	8.6%
11	82.1	2.7%	9.5%
12	93.0	3.4%	1.7%
13	90.2	5.4%	-3.5%
14	91.3	2.6%	-3.5%
15	81.3	5.9%	-13.6%
16	93.6	-2.0%	-2.5%



Rf by Bue

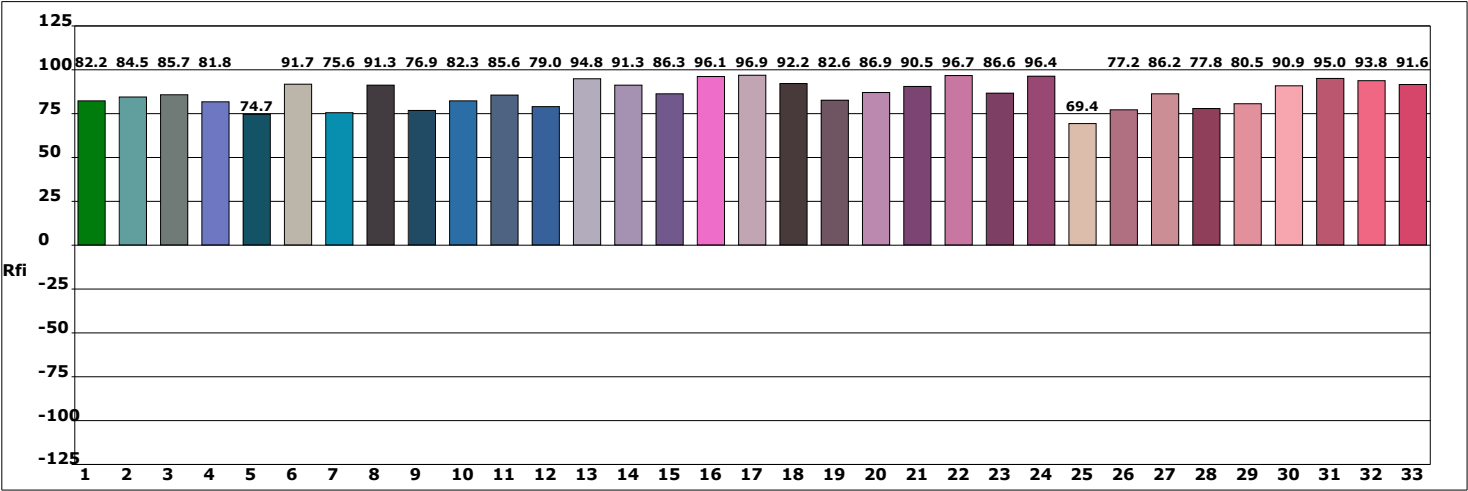
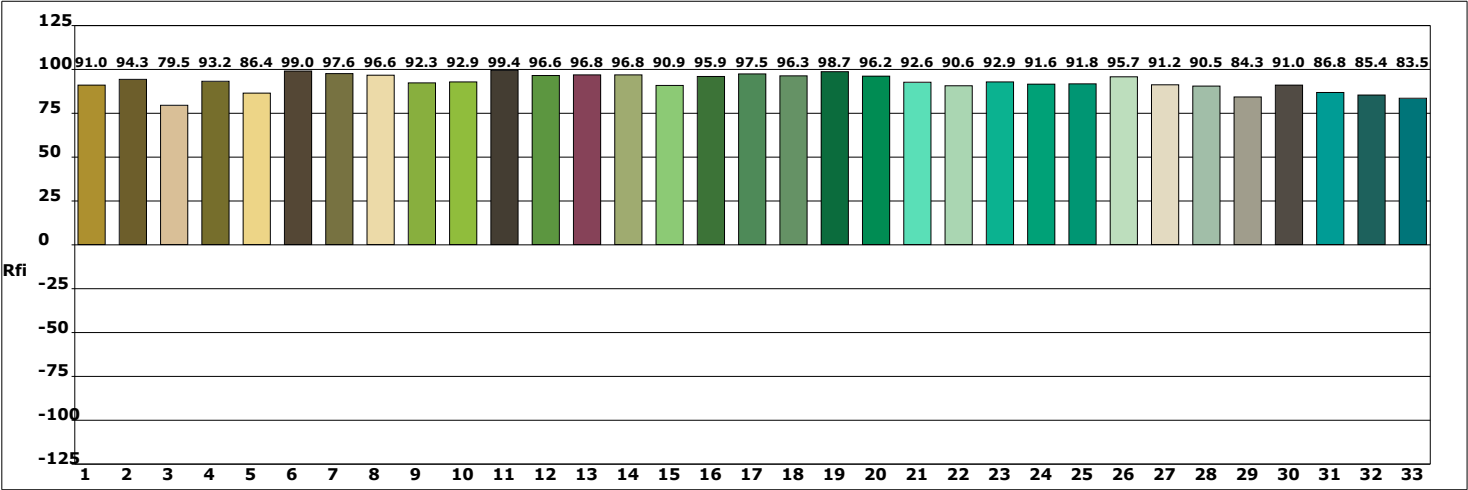
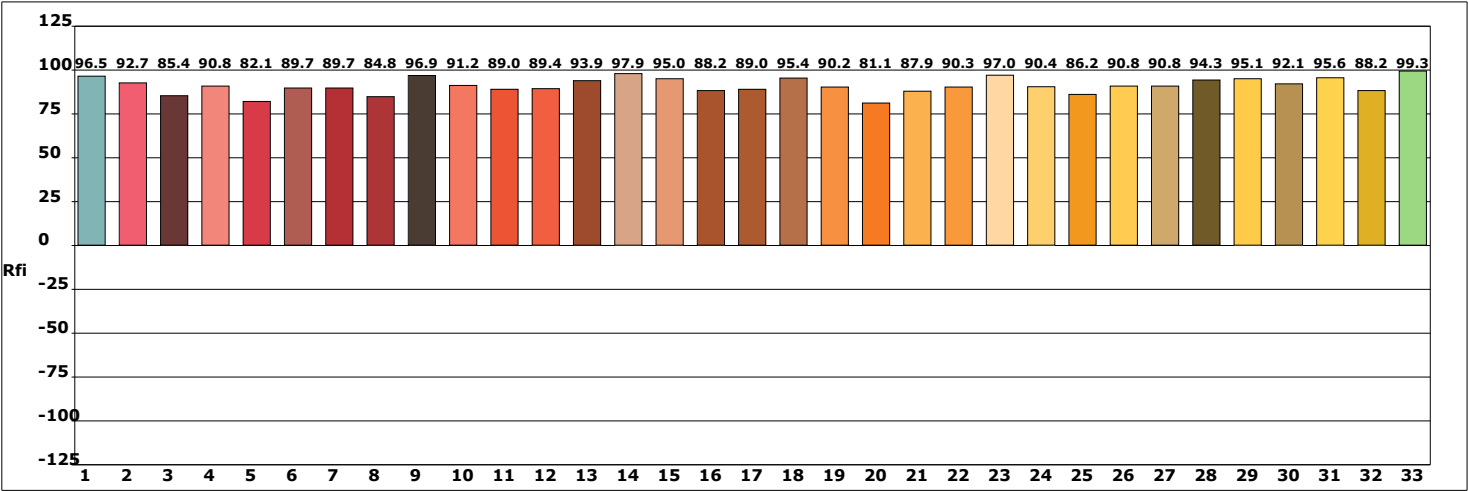


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

Manufacturer:
Test unit:
Date of observation: 10/31/23



Product model:

Product number:

Tester:

Remarks:

Manufacturer:

Test unit:

Date of observation: 10/31/23