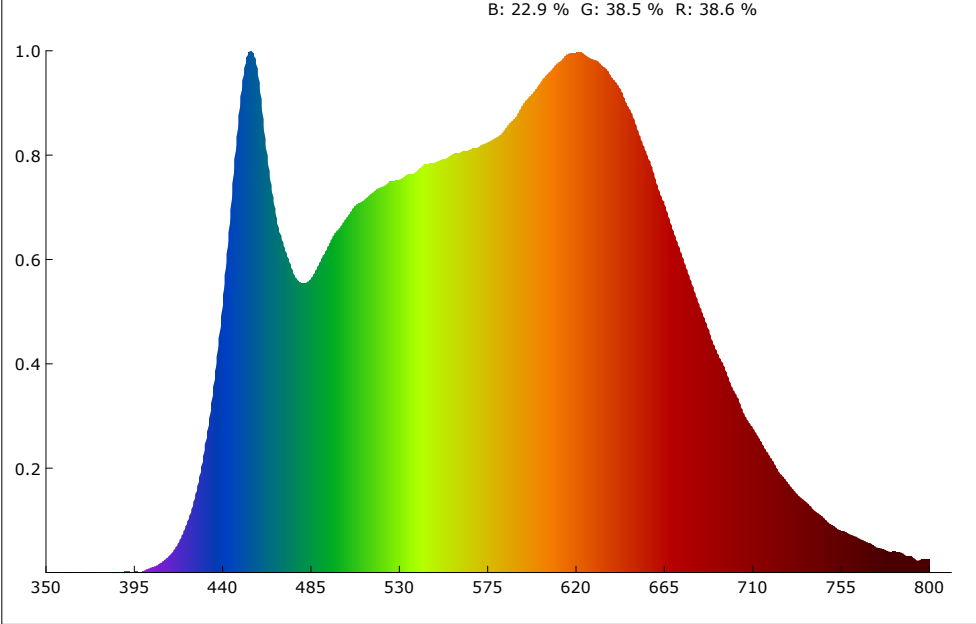
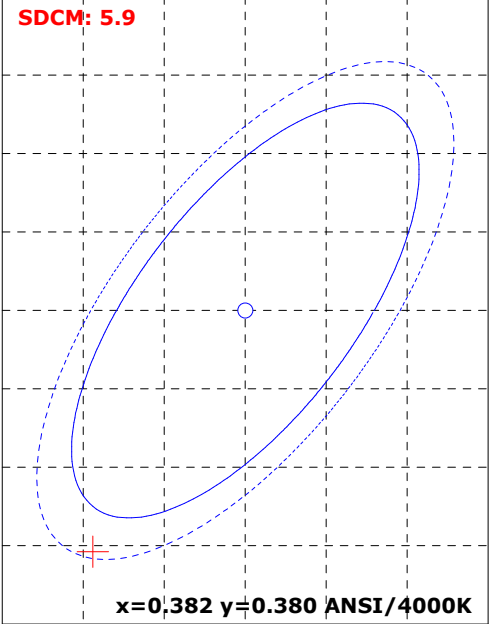


Spectrogram



SDCM



Color Parameter:

x: 0.3724	y: 0.3643	u: 0.2248	v: 0.3298	u': 0.2248	v': 0.4947
R_ratio: 38.6 %	G_ratio: 38.5 %	B_ratio: 22.9 %	RedRatio: 20.0 %	GreenRatio: 76.6 %	BlueRatio: 3.5 %
Ra: 96.5	AvgR: 95.5				
R1: 95.9	R2: 96.0	R3: 98.0	R4: 97.7	R5: 96.3	R6: 94.4
R7: 96.8	R8: 97.5	R9: 96.9	R10: 93.6	R11: 97.7	R12: 81.8
R13: 95.2	R14: 99.2	R15: 95.9			
CCT: 4139 K	Flux: 4960.376 lm	PeakWave: 454.5 nm	SDCM: 5.9		
S/P: 1.9	CentralWave: 561.0 nm	DominantWave: 581.0 nm	CentroidWave: 576.0 nm		
HalfWidth: 243.8 nm	duv: -0.00357	purity: 21.1 %	CQS: 91.2		
LER(TM-30): 276.5	Ep: 17941.4 mw	Rg: 99.9	Rf: 92.6		
Red Ep: 6522.7 mw	Near red Ep: 979.8 mw	Near infrared Ep: 56.2 mw			

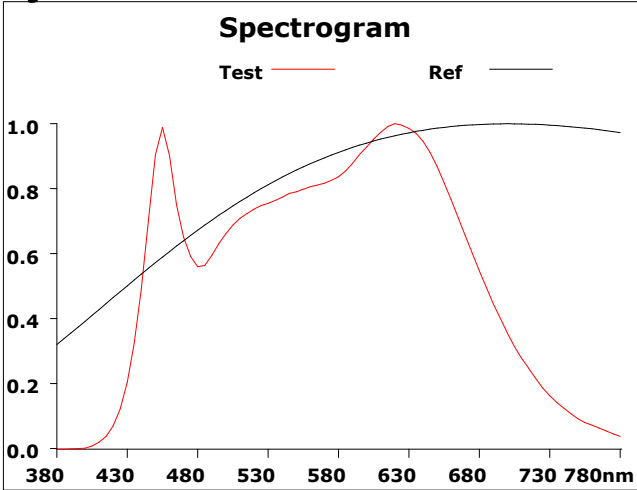
Electrical parameters:

Effic: 47.1 Lm/W	Energy: 51.3	Effi: G	
U: 220.0 V	I: 0.737 A	P: 105.400 W	Pf: 0.649

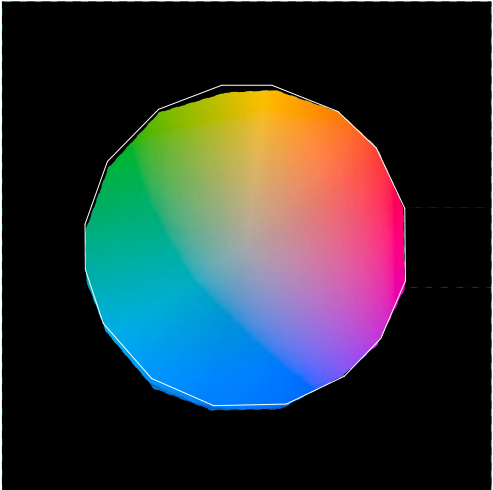
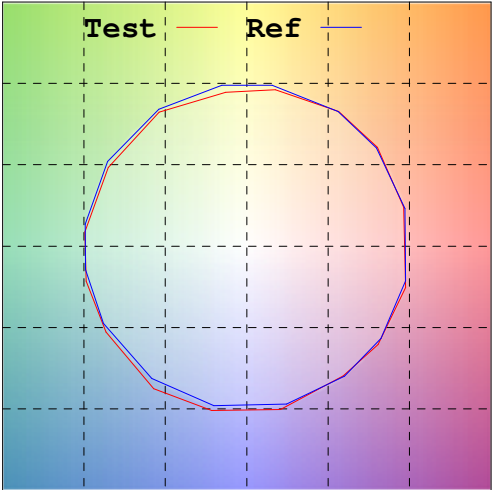
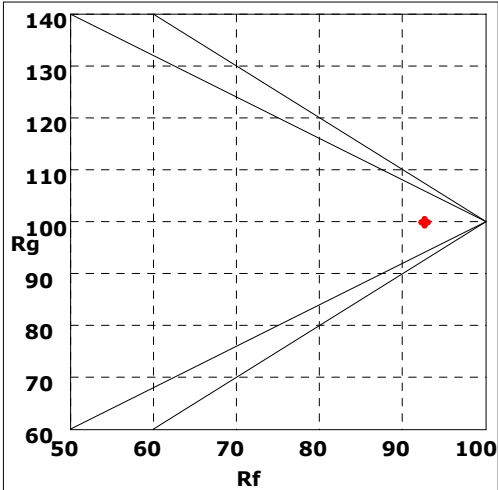
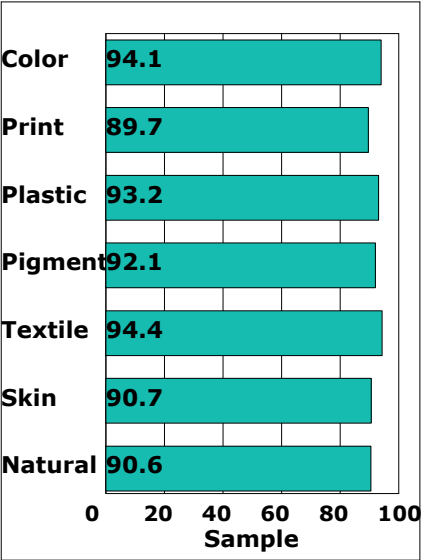
Product model:
Product number:
Tester:
Remarks:

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

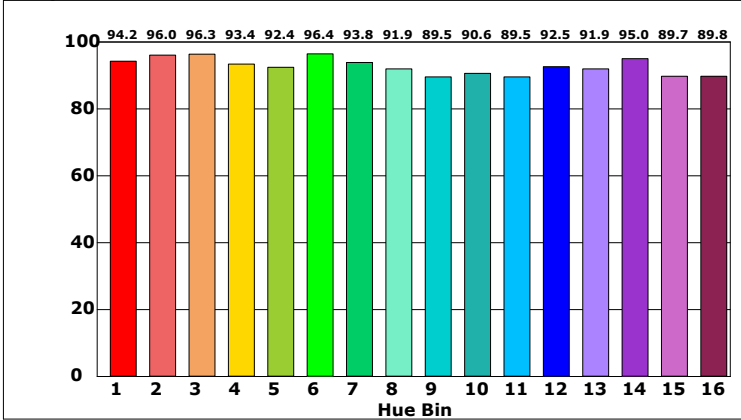
Rf: 92.6 CCT: 4139K u': 0.2248
Rg: 99.9 LER: 276.5 Duv: -0.00357 v': 0.4947



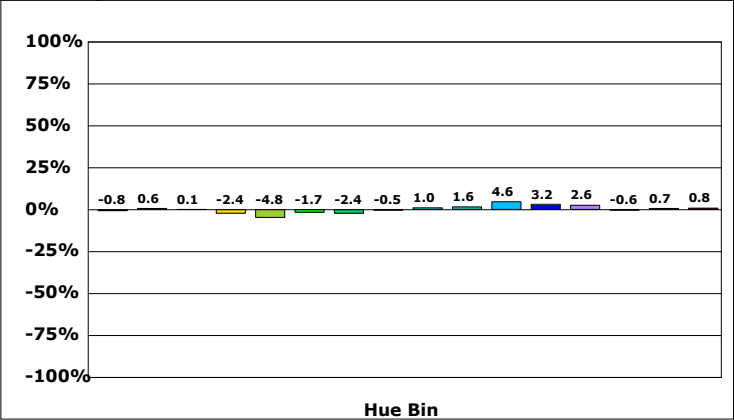
500			
Hue Bin	Rf	Chroma	Hue
1	94.2	-0.8%	0.9%
2	96.0	0.6%	0.1%
3	96.3	0.1%	-0.4%
4	93.4	-2.4%	-2.5%
5	92.4	-4.8%	-1.3%
6	96.4	-1.7%	0.9%
7	93.8	-2.4%	2.9%
8	91.9	-0.5%	4.6%
9	89.5	1.0%	7.0%
10	90.6	1.6%	5.2%
11	89.5	4.6%	4.5%
12	92.5	3.2%	-0.9%
13	91.9	2.6%	-4.3%
14	95.0	-0.6%	-0.5%
15	89.7	0.7%	-3.9%
16	89.8	0.8%	-4.0%



Rf by Bue

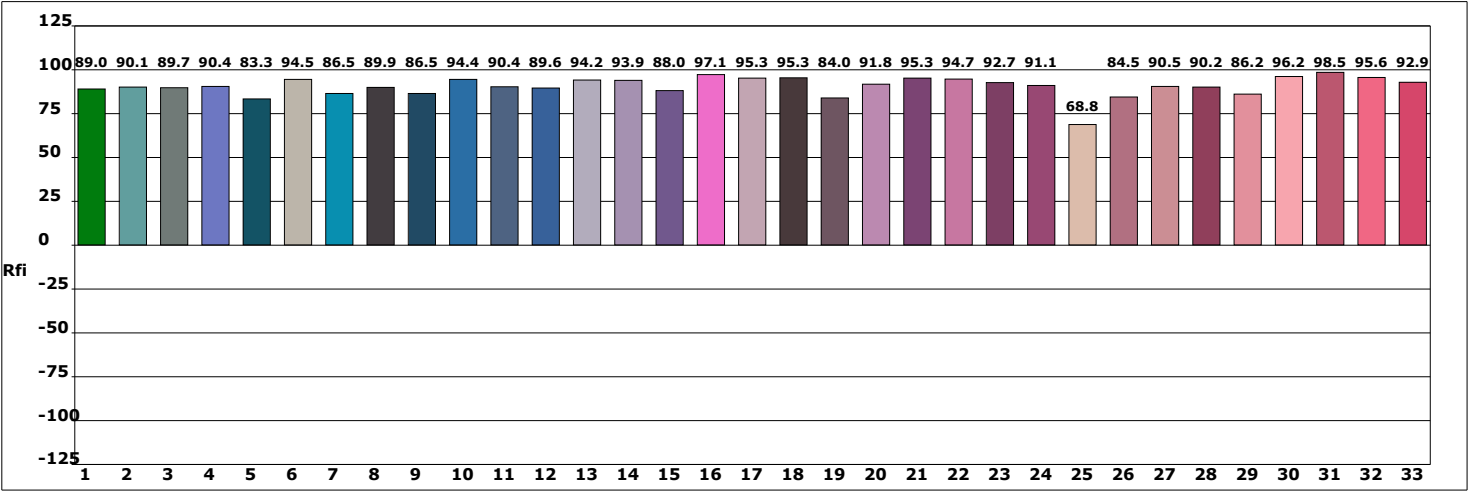
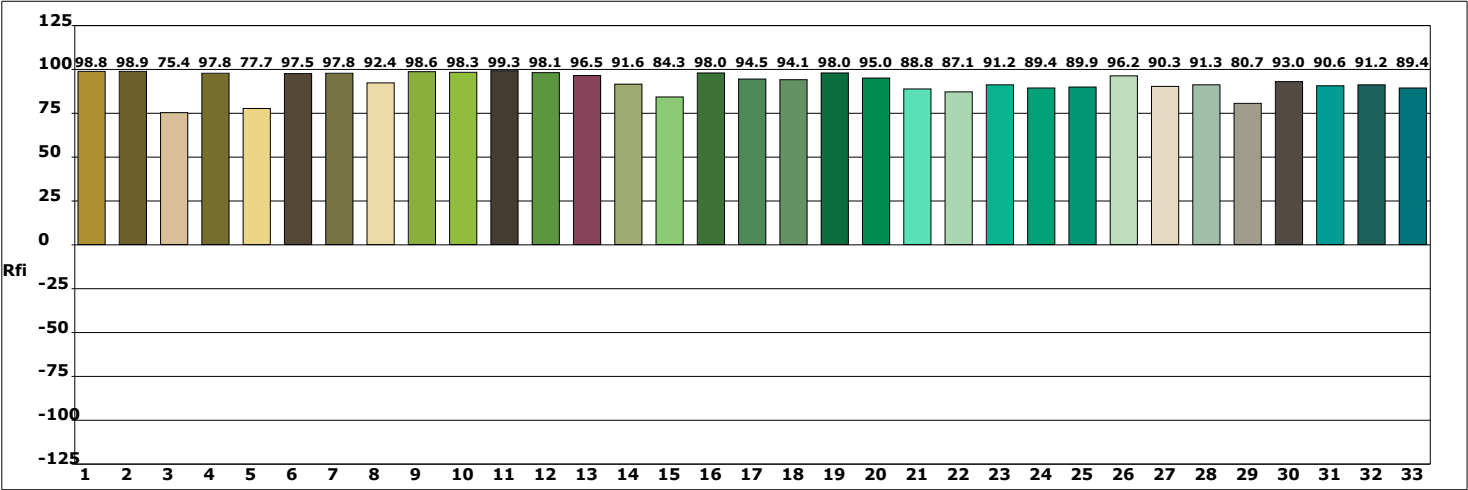
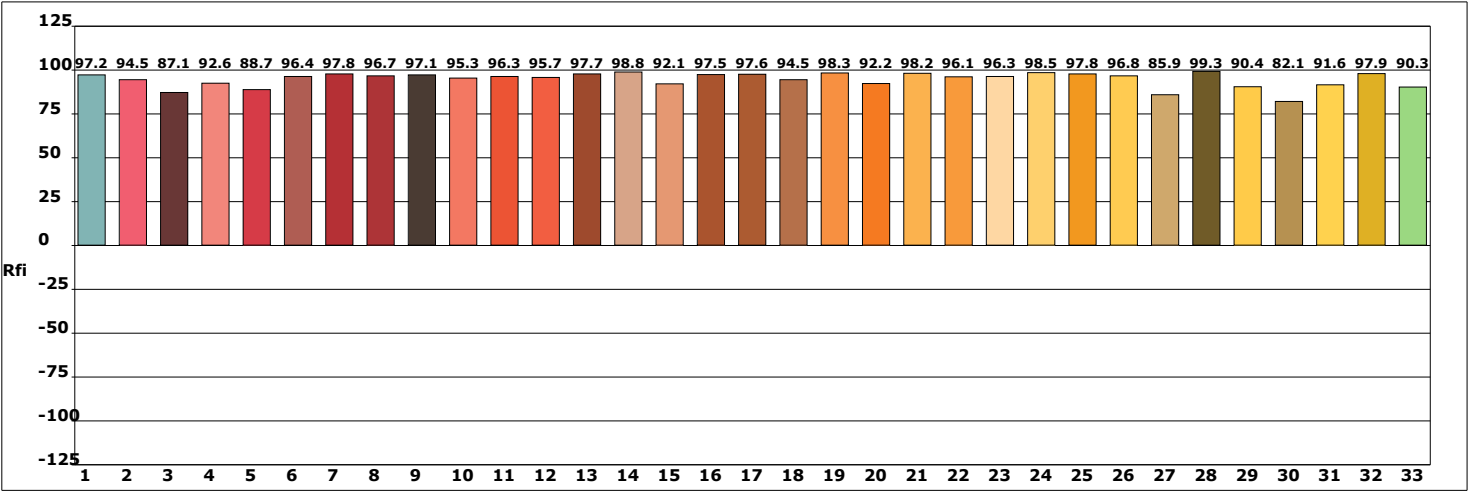


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

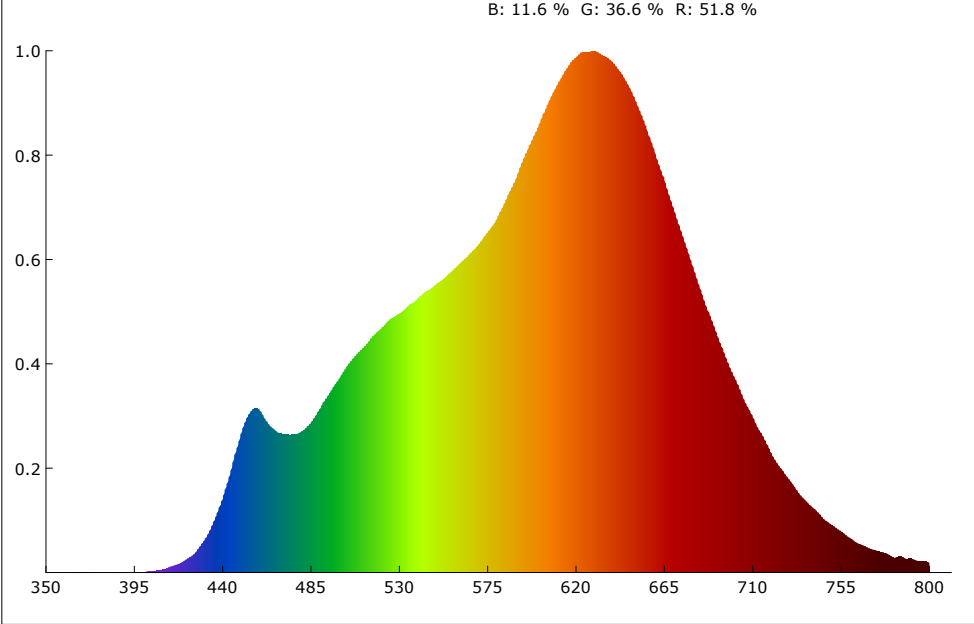
Manufacturer:
Test unit:
Date of observation: 10/23/23



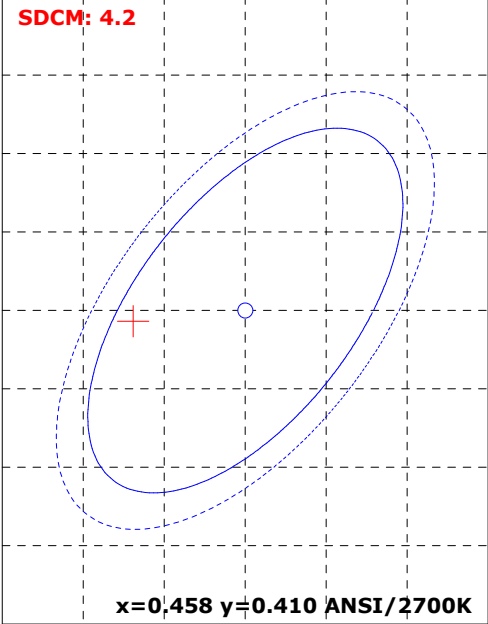
Product model:
Product number:
Tester:
Remarks:

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

Spectrogram



SDCM



Color Parameter:

x: 0.4509 y: 0.4094 u: 0.2573 v: 0.3504 u': 0.2573 v': 0.5256
R_ratio: 51.8 % G_ratio: 36.6 % B_ratio: 11.6 % RedRatio: 25.6 % GreenRatio: 72.5 % BlueRatio: 1.9 %

Ra: 96.4 AvgR: 95.4
R1: 99.1 R2: 98.5 R3: 98.7 R4: 97.9 R5: 97.8 R6: 94.3 R7: 94.3 R8: 91.3
R9: 82.8 R10: 97.4 R11: 95.5 R12: 89.6 R13: 98.7 R14: 99.0 R15: 96.2

CCT: 2819 K Flux: 3296.069 lm PeakWave: 628.5 nm SDCM: 4.2
S/P: 1.4 CentralWave: 609.5 nm DominantWave: 583.5 nm CentroidWave: 601.6 nm
HalfWidth: 154.4 nm duv: 0.00041 purity: 58.2 % CQS: 90.4
LER(TM-30): 269.4 Ep: 12234.0 mw Rg: 98.0 Rf: 92.6
Red Ep: 5860.3 mw Near red Ep: 888.8 mw Near infrared Ep: 40.5 mw

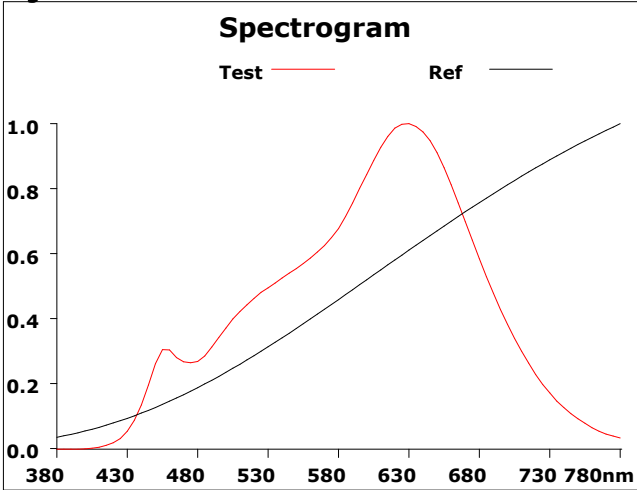
Electrical parameters:

Effic: 33.1 lm/W Energy: 36.1 Effi: G
U: 220.0 V I: 0.698 A P: 99.530 W Pf: 0.647

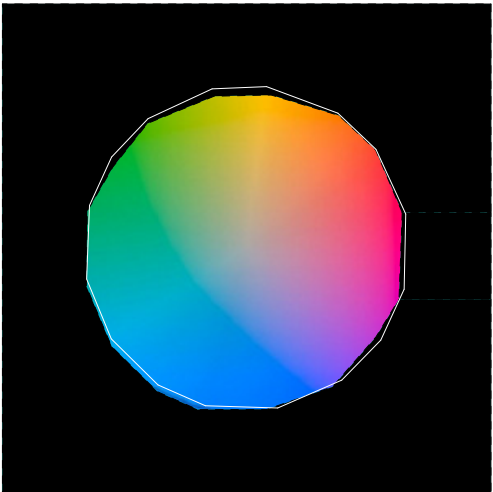
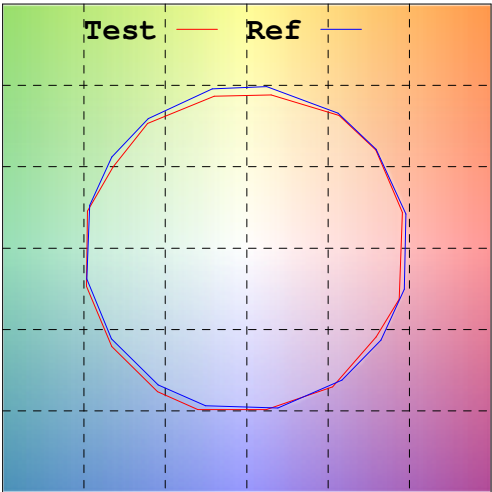
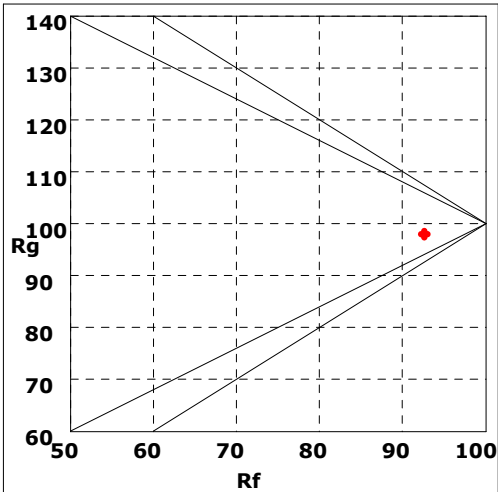
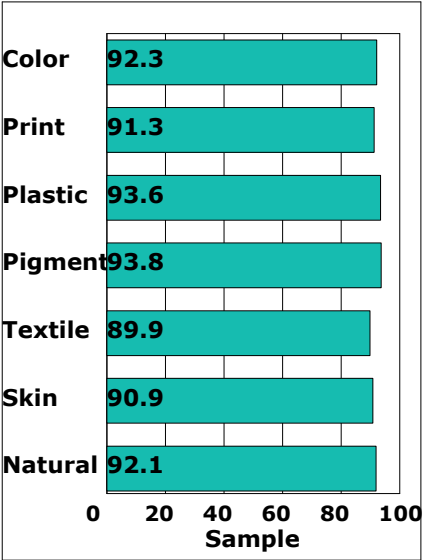
Product model:
Product number:
Tester:
Remarks:

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

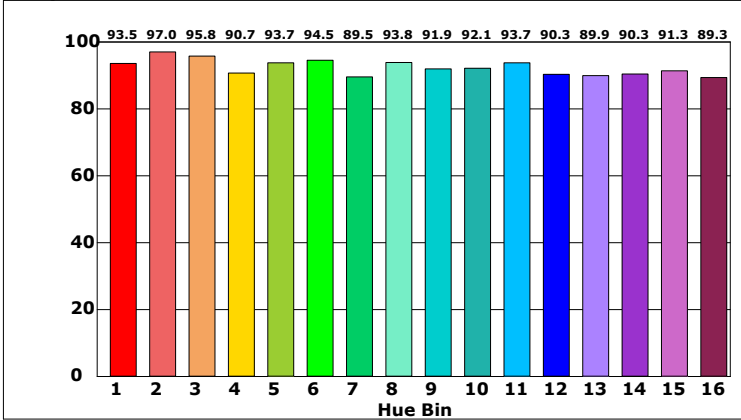
Rf: 92.6 CCT: 2819K u': 0.2573
Rg: 98.0 LER: 269.4 Duv: 0.00041 v': 0.5256



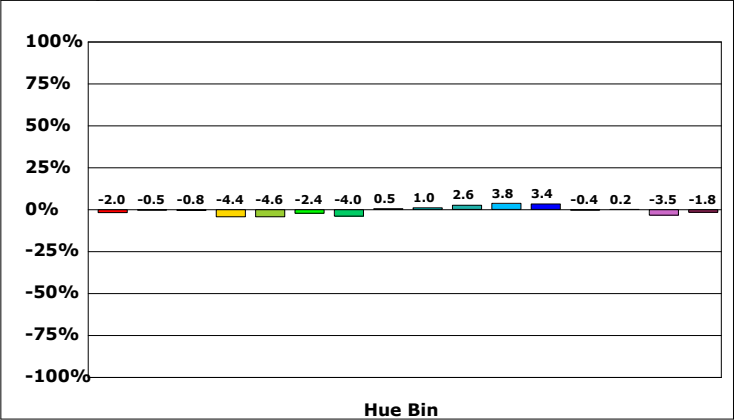
500			
Hue Bin	Rf	Chroma	Hue
1	93.5	-2.0%	1.3%
2	97.0	-0.5%	-0.1%
3	95.8	-0.8%	-1.2%
4	90.7	-4.4%	-3.8%
5	93.7	-4.6%	-0.3%
6	94.5	-2.4%	2.0%
7	89.5	-4.0%	4.5%
8	93.8	0.5%	3.7%
9	91.9	1.0%	4.5%
10	92.1	2.6%	4.0%
11	93.7	3.8%	2.0%
12	90.3	3.4%	-4.3%
13	89.9	-0.4%	-7.1%
14	90.3	0.2%	-6.9%
15	91.3	-3.5%	0.1%
16	89.3	-1.8%	-6.6%



Rf by Bue

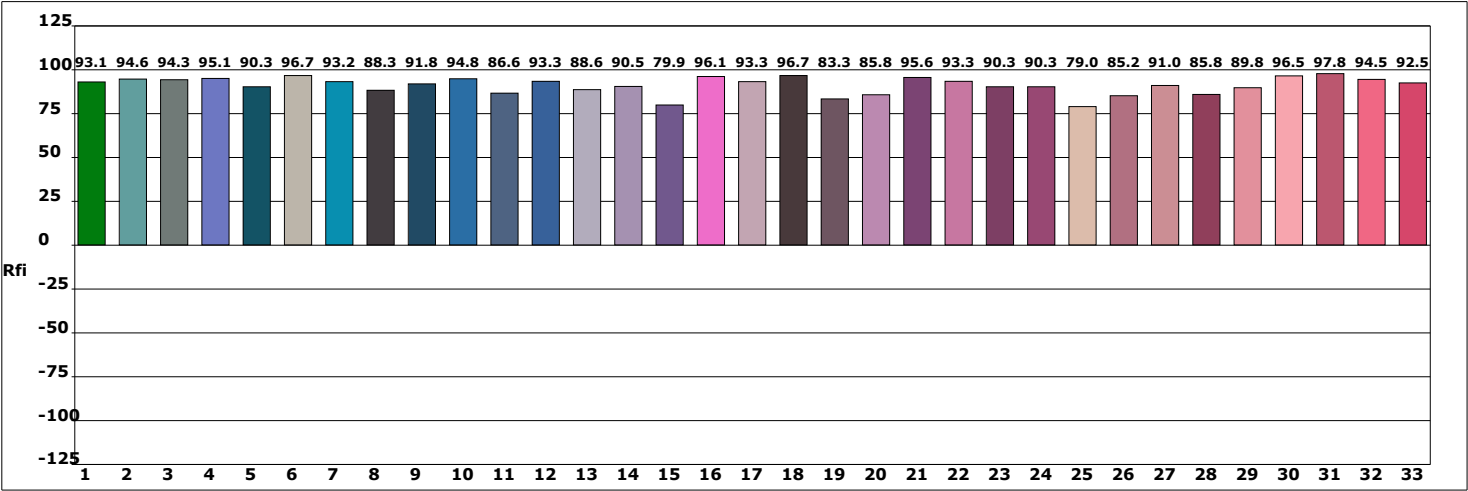
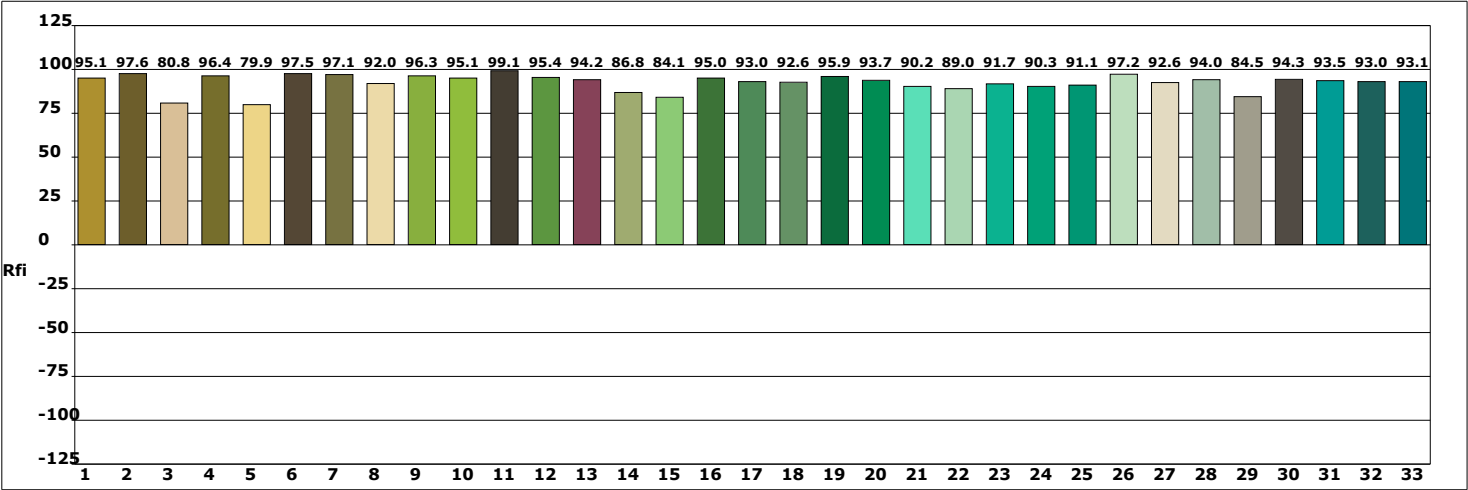
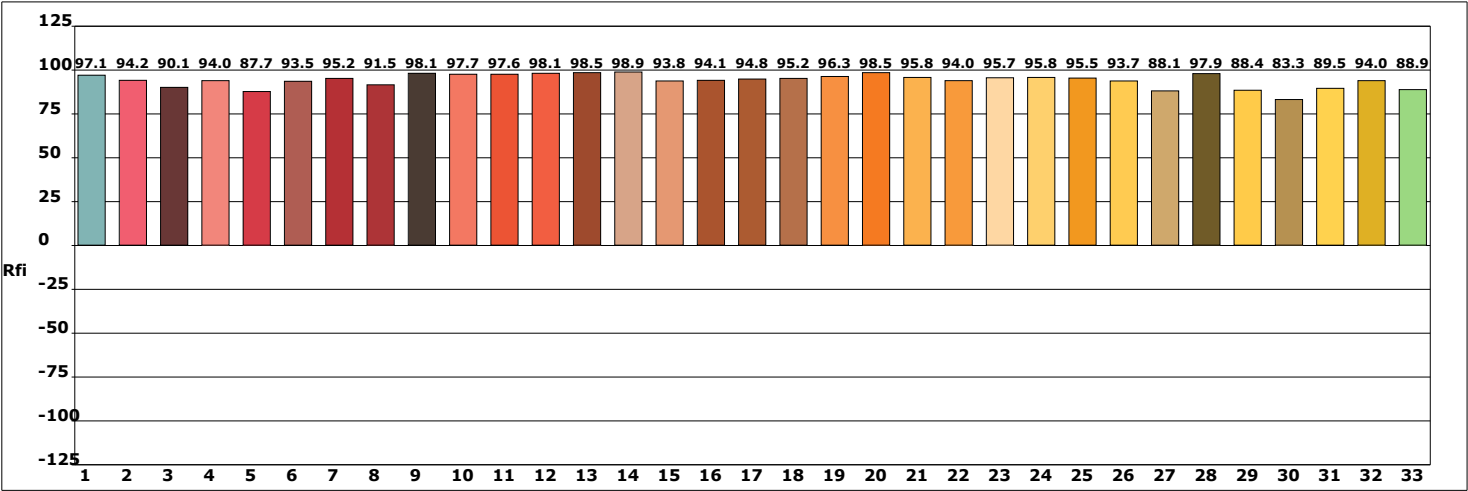


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

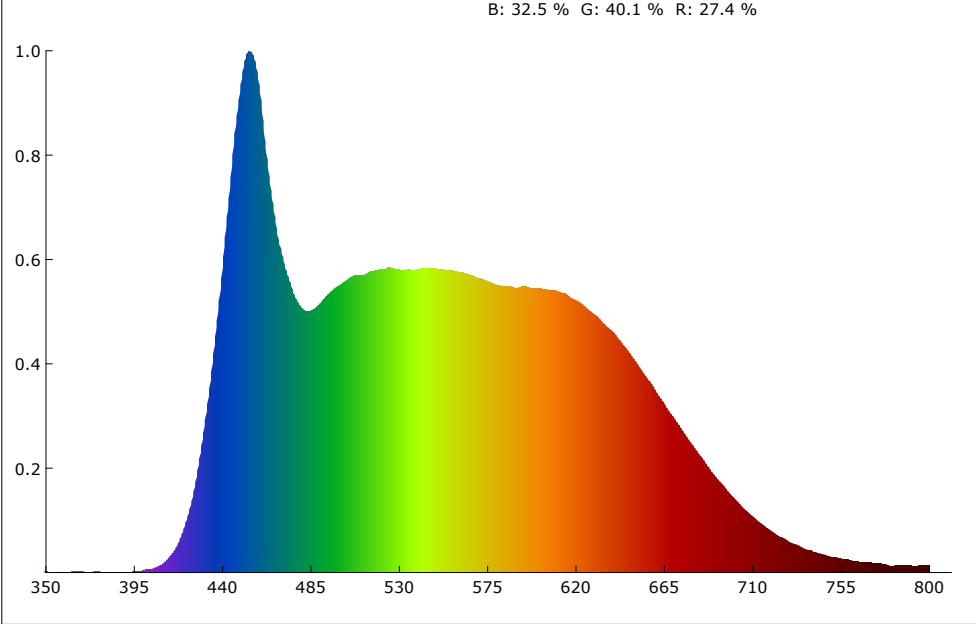
Manufacturer:
Test unit:
Date of observation: 10/23/23



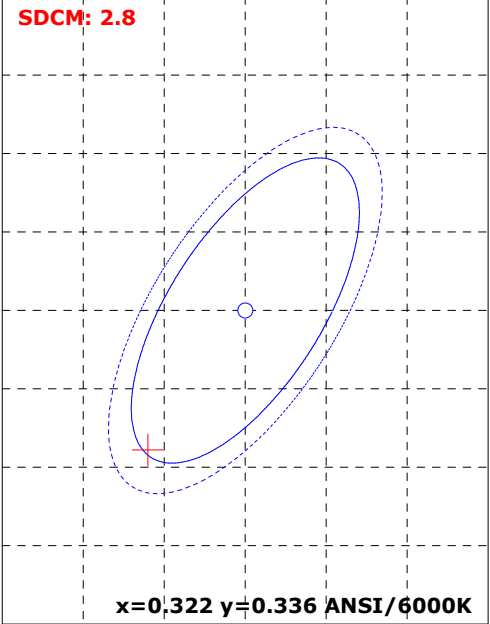
Product model:
Product number:
Tester:
Remarks:

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

Spectrogram



SDCM



Color Parameter:

x: 0.3190	y: 0.3311	u: 0.2014	v: 0.3136	u': 0.2014	v': 0.4704
R_ratio: 27.4 %	G_ratio: 40.1 %	B_ratio: 32.5 %	RedRatio: 15.3 %	GreenRatio: 79.9 %	BlueRatio: 4.8 %
Ra: 95.8	AvgR: 94.3				
R1: 96.7	R2: 99.0	R3: 98.2	R4: 95.1	R5: 95.6	R6: 95.2
R7: 95.0	R8: 91.8				
R9: 80.4	R10: 97.7	R11: 96.7	R12: 78.9	R13: 98.9	R14: 99.7
R15: 95.9					
CCT: 6159 K	Flux: 4778.861 lm	PeakWave: 454.5 nm	SDCM: 2.8		
S/P: 2.4	CentralWave: 459.9 nm	DominantWave: 489.7 nm	CentroidWave: 551.5 nm		
HalfWidth: 42.8 nm	duv: 0.00116	purity: 5.0 %	CQS: 92.4		
LER(TM-30): 277.8	Ep: 17203.6 mw	Rg: 98.4	Rf: 91.4		
Red Ep: 4565.1 mw	Near red Ep: 511.2 mw	Near infrared Ep: 34.4 mw			

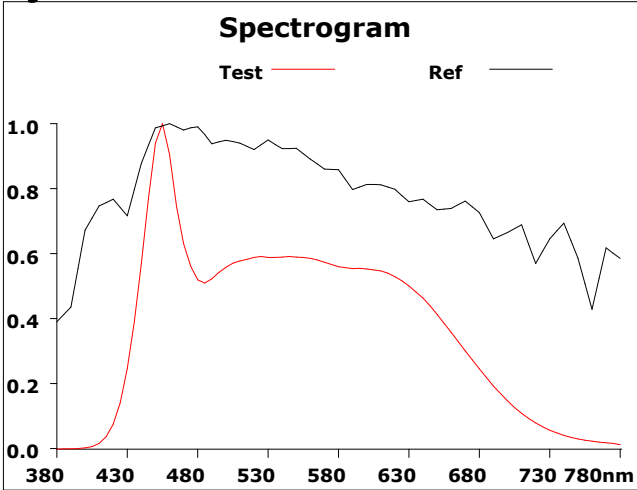
Electrical parameters:

Effic: 45.9 lm/W	Energy: 50.0	Effi: G	
U: 219.9 V	I: 0.725 A	P: 104.100 W	Pf: 0.653

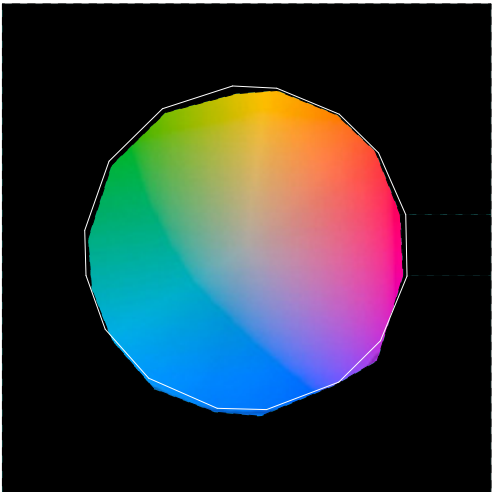
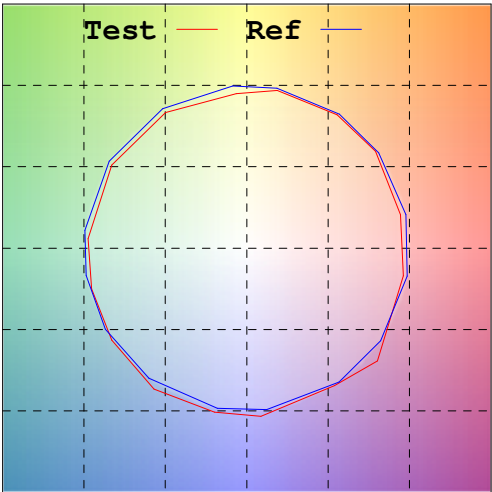
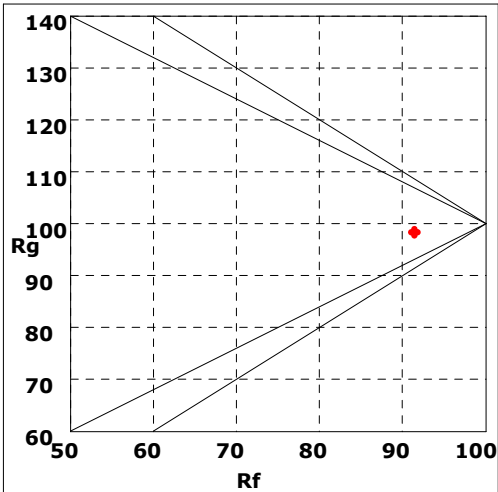
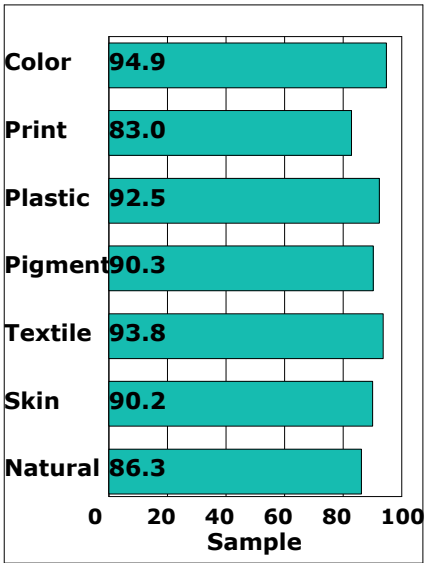
Product model:
Product number:
Tester:
Remarks:

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

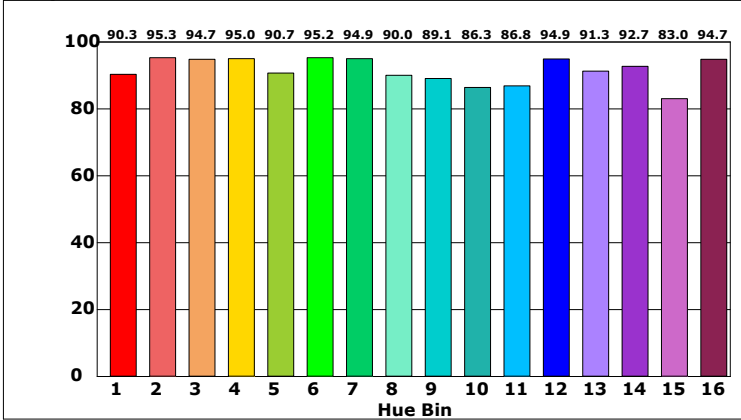
Rf: 91.4 CCT: 6159K u': 0.2014
Rg: 98.4 LER: 277.8 Duv: 0.00116 v': 0.4704



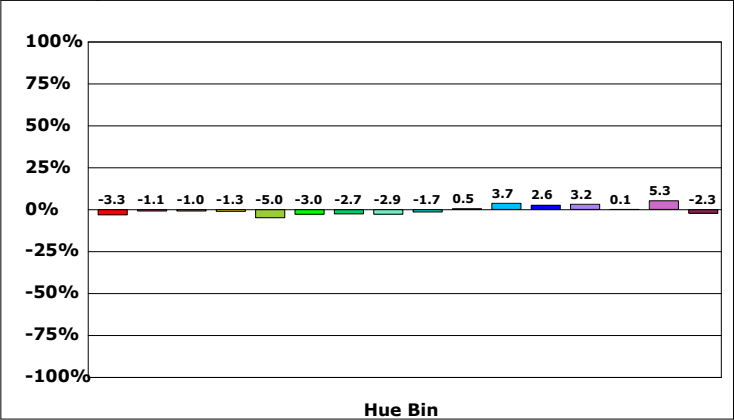
500			
Hue Bin	Rf	Chroma	Hue
1	90.3	-3.3%	0.7%
2	95.3	-1.1%	1.7%
3	94.7	-1.0%	0.9%
4	95.0	-1.3%	-0.4%
5	90.7	-5.0%	-1.2%
6	95.2	-3.0%	-0.1%
7	94.9	-2.7%	1.1%
8	90.0	-2.9%	4.5%
9	89.1	-1.7%	8.8%
10	86.3	0.5%	7.8%
11	86.8	3.7%	6.4%
12	94.9	2.6%	-1.2%
13	91.3	3.2%	-4.3%
14	92.7	0.1%	-3.6%
15	83.0	5.3%	-11.4%
16	94.7	-2.3%	-0.2%



Rf by Bue

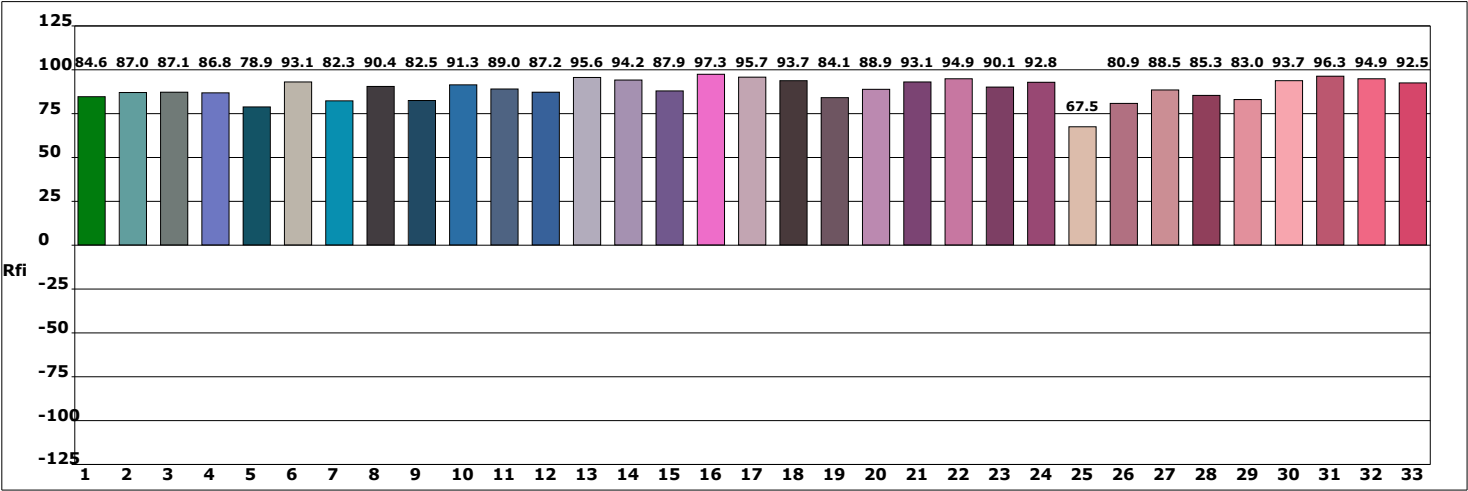
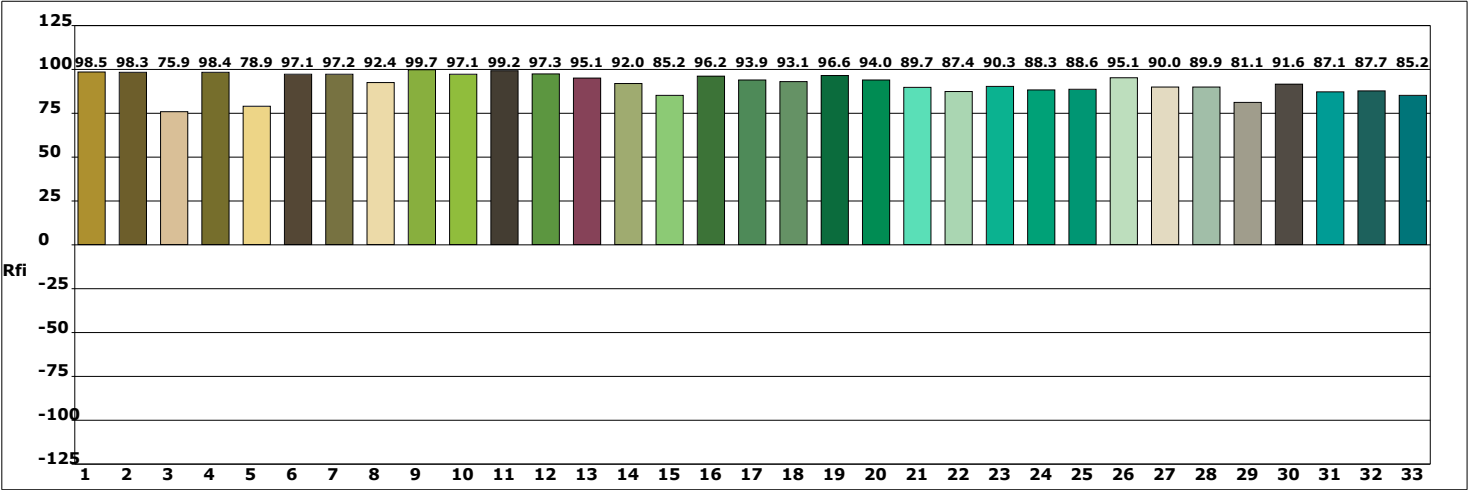
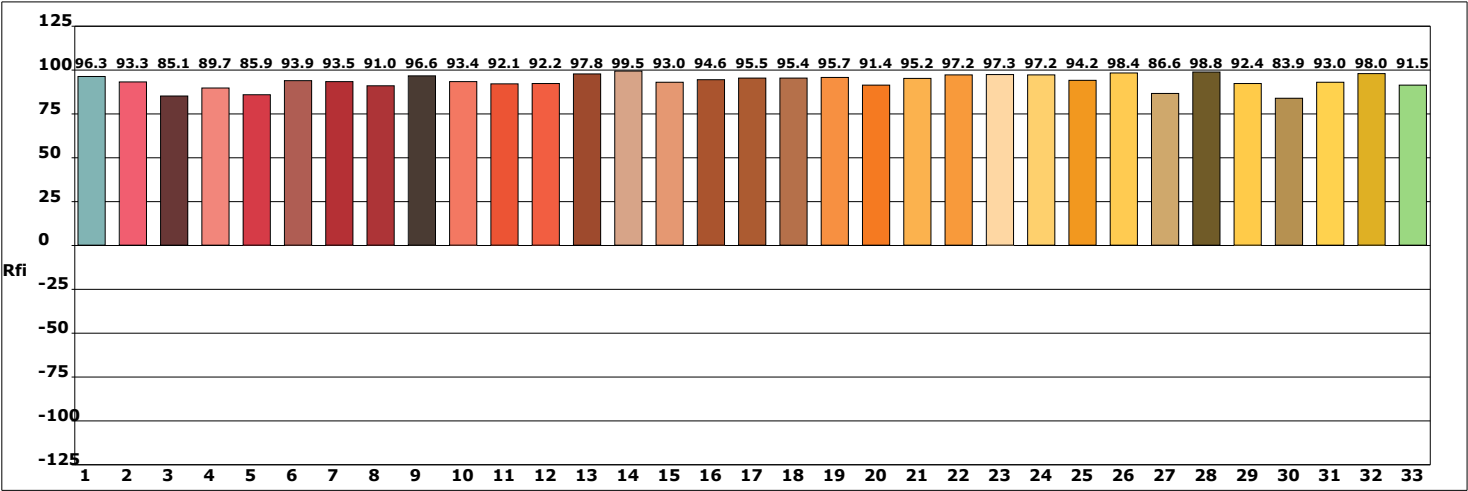


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

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



Product model:
Product number:
Tester:
Remarks:

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