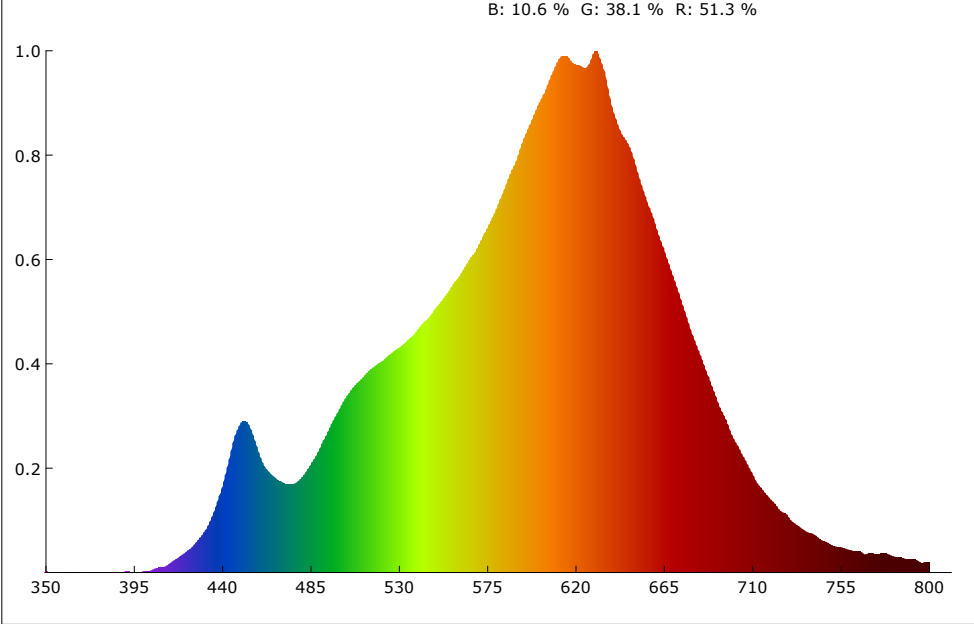
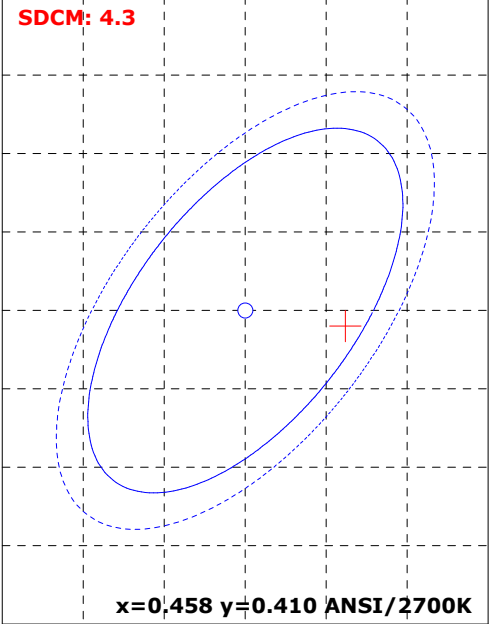


Spectrogram



SDCM



Color Parameter:

x: 0.4640	y: 0.4091	u: 0.2659	v: 0.3516	u': 0.2659	v': 0.5274		
R_ratio: 51.3 %	G_ratio: 38.1 %	B_ratio: 10.6 %	RedRatio: 26.4 %	GreenRatio: 72.1 %	BlueRatio: 1.5 %		
Ra: 92.6		AvgR: 90.7					
R1: 93.3	R2: 97.8	R3: 97.6	R4: 94.2	R5: 94.7	R6: 97.0	R7: 88.9	R8: 77.4
R9: 53.0	R10: 95.2	R11: 96.9	R12: 93.3	R13: 94.7	R14: 99.5	R15: 87.3	
CCT: 2630 K		Flux: 669.685 lm	PeakWave: 630.5 nm	SDCM: 4.3			
S/P: 1.3		CentralWave: 611.6 nm	DominantWave: 584.8 nm	CentroidWave: 598.0 nm			
HalfWidth: 126.8 nm		duv: -0.00088	purity: 62.1 %	CQS: 87.5			
LER(TM-30): 288.4		Ep: 2322.0 mw	Rg: 99.4	Rf: 92.0			
Red Ep: 1126.4 mw		Near red Ep: 119.2 mw	Near infrared Ep: 8.4 mw				

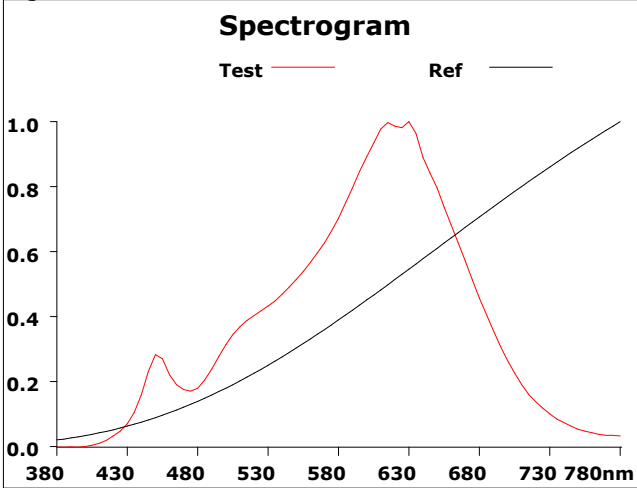
Electrical parameters:

Effic: 33.4 Lm/W	Energy: 36.4	Effi: G	
U: 221.4 V	I: 0.093 A	P: 20.040 W	Pf: 0.964

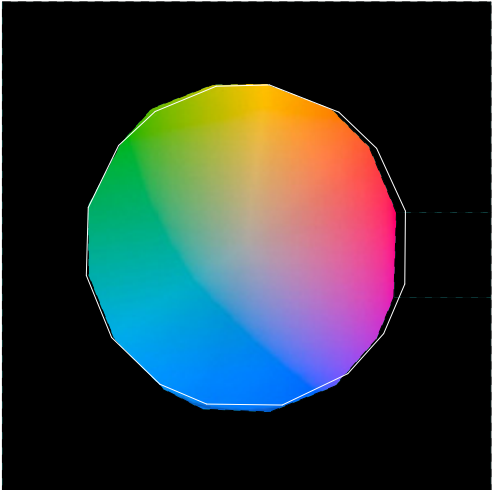
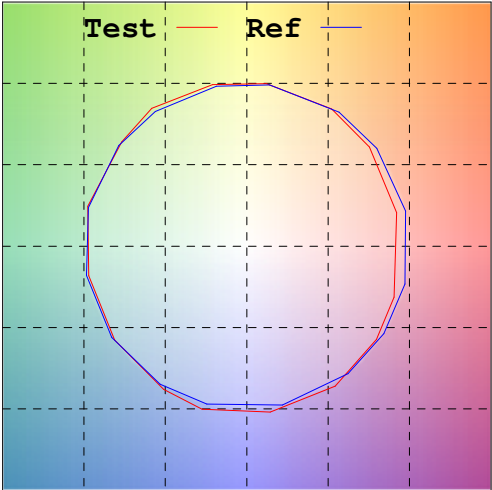
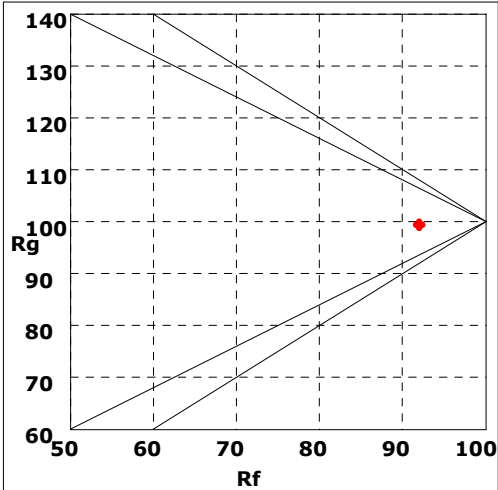
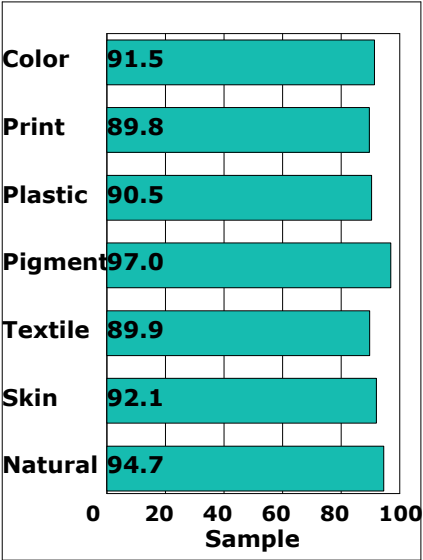
Product model:
Product number:
Tester:
Remarks:

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

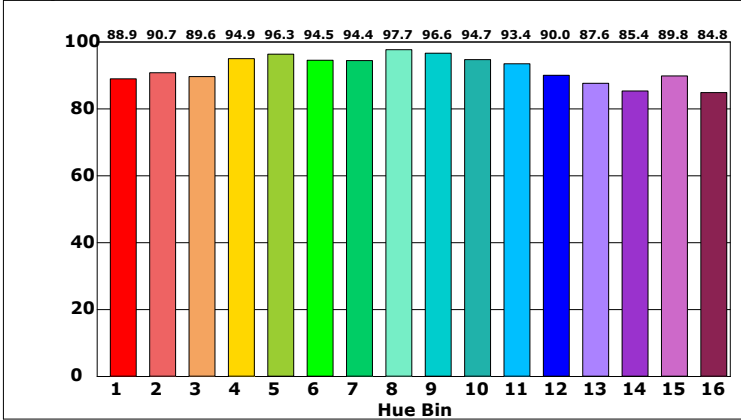
Rf: 92.0 CCT: 2630K u': 0.2659
Rg: 99.4 LER: 288.4 Duv: -0.00088 v': 0.5274



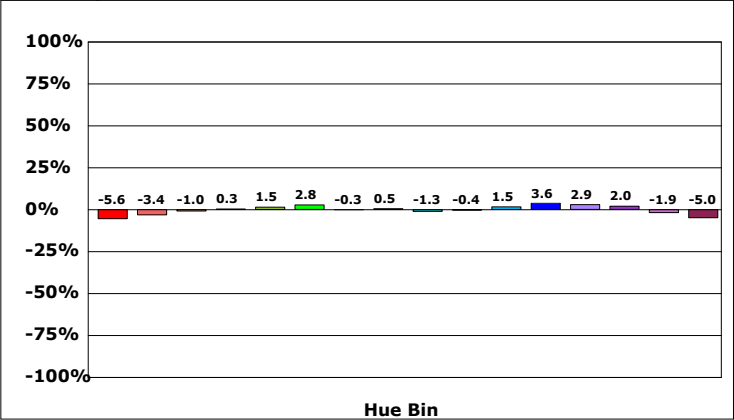
500			
Hue Bin	Rf	Chroma	Hue
1	88.9	-5.6%	0.0%
2	90.7	-3.4%	3.2%
3	89.6	-1.0%	4.8%
4	94.9	0.3%	1.9%
5	96.3	1.5%	2.0%
6	94.5	2.8%	0.8%
7	94.4	-0.3%	-2.8%
8	97.7	0.5%	-0.7%
9	96.6	-1.3%	0.5%
10	94.7	-0.4%	2.3%
11	93.4	1.5%	3.5%
12	90.0	3.6%	-2.3%
13	87.6	2.9%	-8.3%
14	85.4	2.0%	-10.8%
15	89.8	-1.9%	-5.4%
16	84.8	-5.0%	-9.2%



Rf by Bue

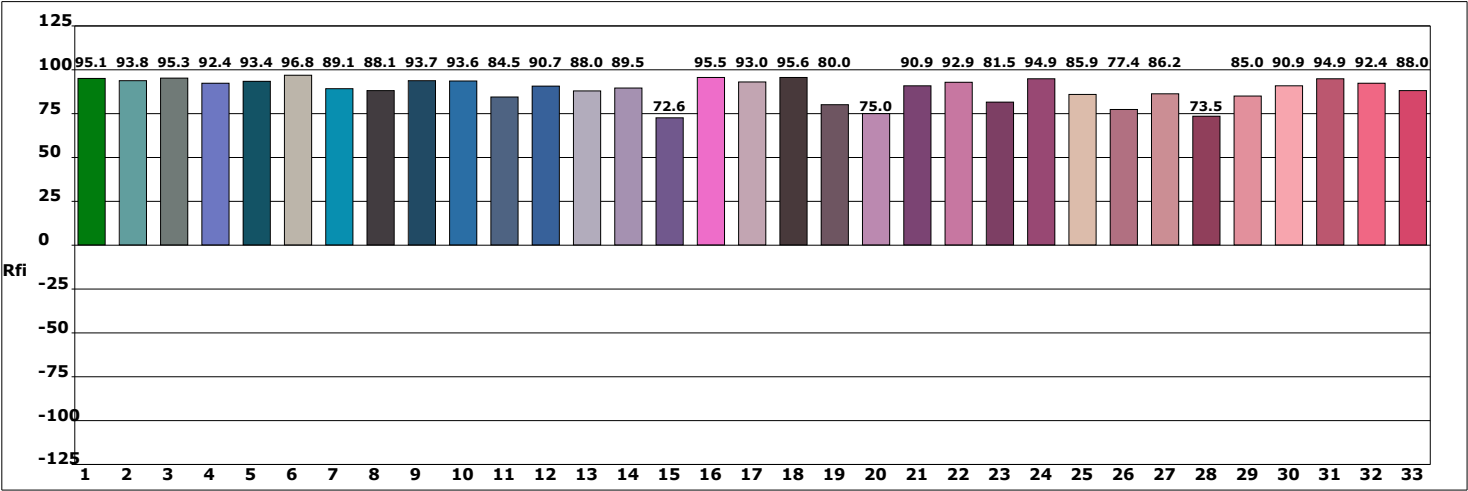
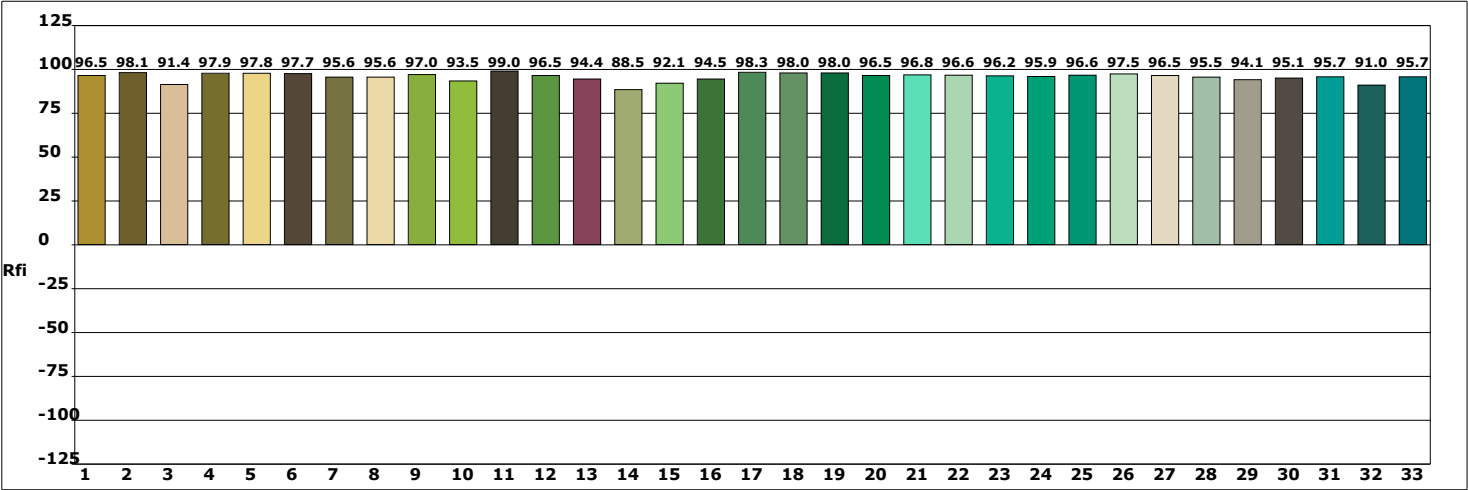
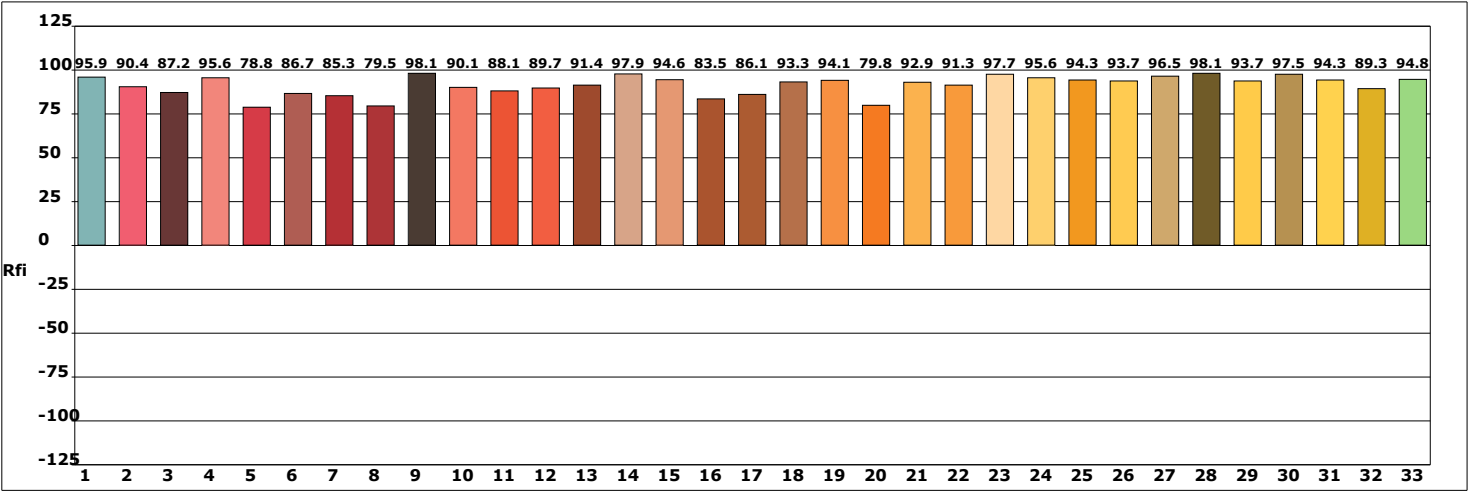


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

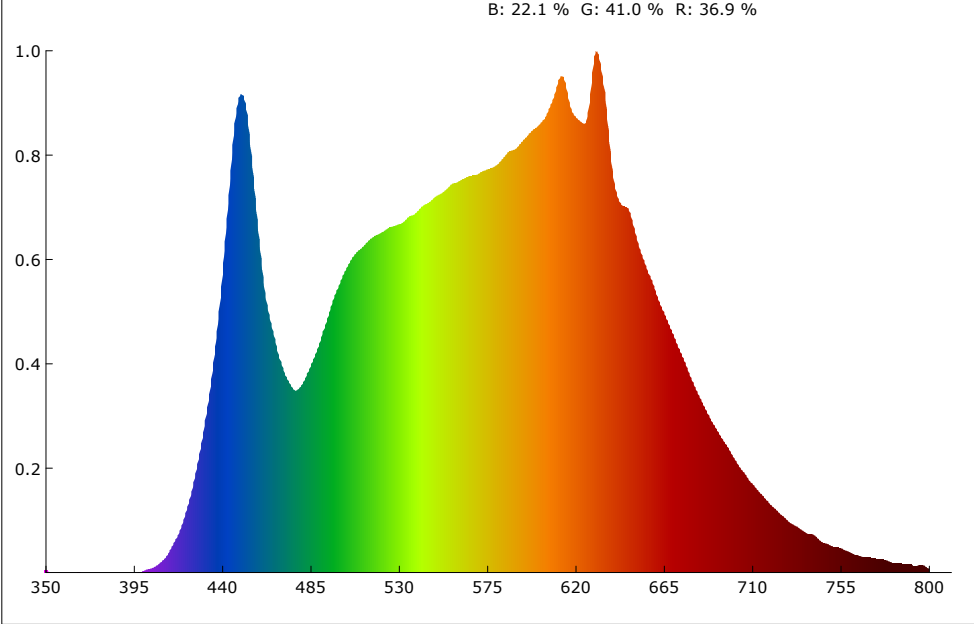
Manufacturer:
Test unit:
Date of observation: 10/31/23



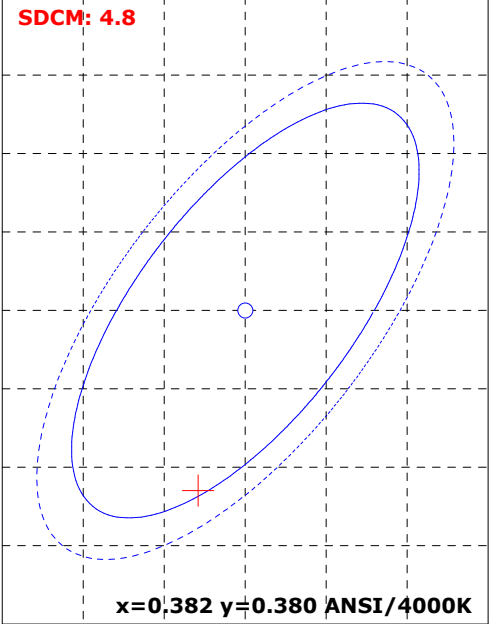
Product model:
Product number:
Tester:
Remarks:

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

Spectrogram



SDCM



Color Parameter:

x: 0.3789 y: 0.3682 u: 0.2275 v: 0.3317 u': 0.2275 v': 0.4976
R_ratio: 36.9 % G_ratio: 41.0 % B_ratio: 22.1 % RedRatio: 19.9 % GreenRatio: 77.3 % BlueRatio: 2.8 %

Ra: 95.2 AvgR: 93.2
R1: 96.8 R2: 97.4 R3: 96.5 R4: 95.9 R5: 96.7 R6: 95.2 R7: 94.5 R8: 89.3
R9: 73.1 R10: 93.1 R11: 95.8 R12: 83.6 R13: 97.3 R14: 97.6 R15: 95.0

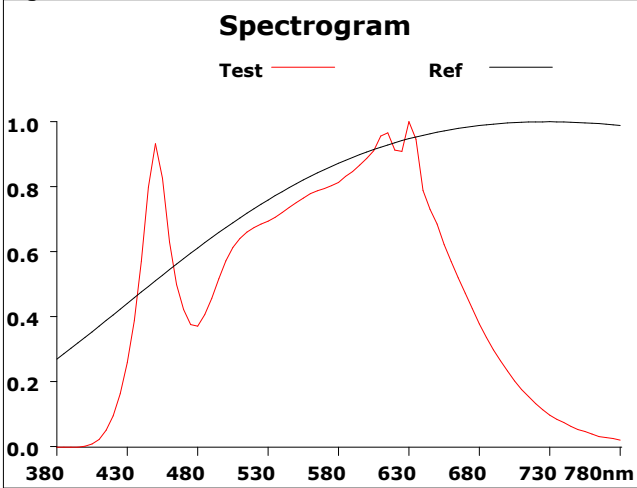
CCT: 3979 K Flux: 783.602 lm PeakWave: 630.5 nm SDCM: 4.8
S/P: 1.8 CentralWave: 579.6 nm DominantWave: 581.4 nm CentroidWave: 570.6 nm
HalfWidth: 169.2 nm duv: -0.00358 purity: 24.2 % CQS: 87.4
LER(TM-30): 292.7 Ep: 2676.8 mw Rg: 101.2 Rf: 92.1
Red Ep: 947.2 mw Near red Ep: 102.6 mw Near infrared Ep: 4.9 mw

Electrical parameters:

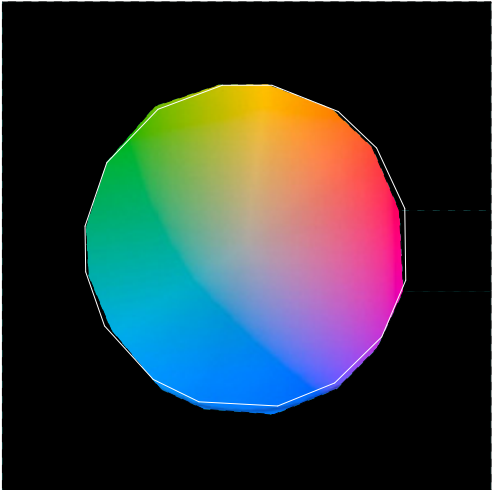
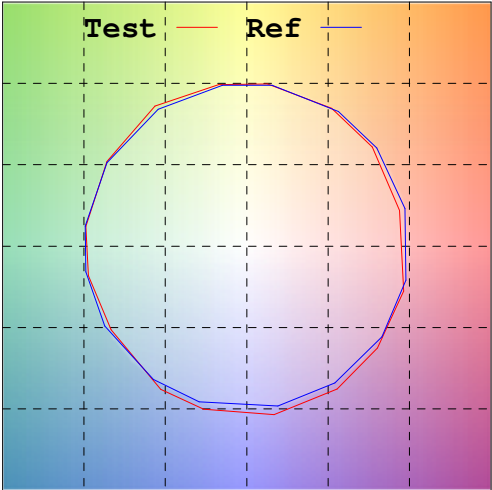
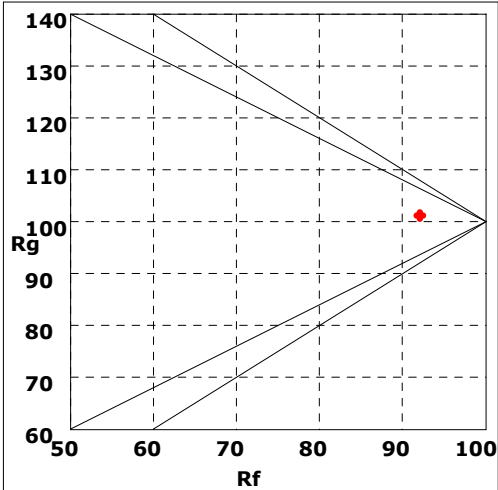
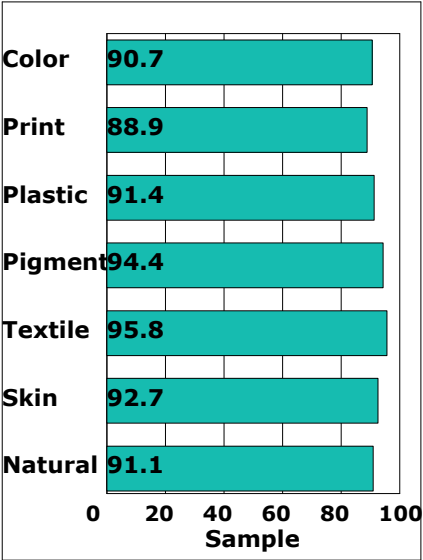
Effic: 39.1 lm/W Energy: 42.6 Effi: G
U: 221.4 V I: 0.093 A P: 20.040 W Pf: 0.964

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

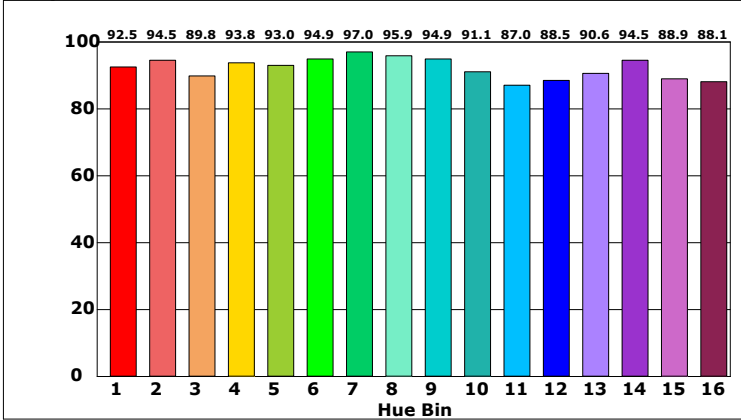
Rf: 92.1 CCT: 3979K u': 0.2275
Rg: 101.2 LER: 292.7 Duv: -0.00358 v': 0.4976



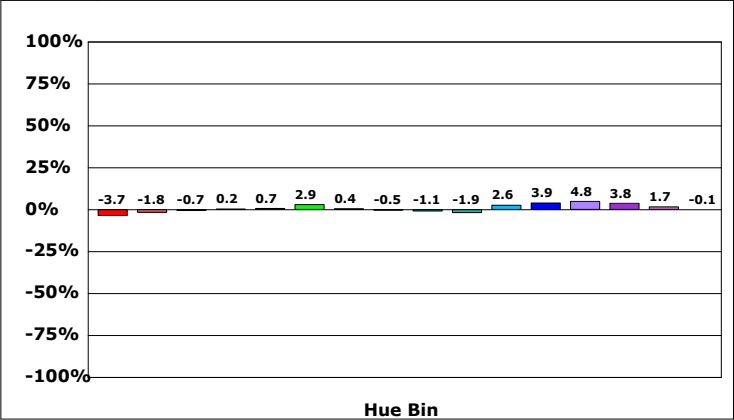
500			
Hue Bin	Rf	Chroma	Hue
1	92.5	-3.7%	-0.5%
2	94.5	-1.8%	2.0%
3	89.8	-0.7%	4.6%
4	93.8	0.2%	2.8%
5	93.0	0.7%	2.2%
6	94.9	2.9%	0.5%
7	97.0	0.4%	-0.7%
8	95.9	-0.5%	0.2%
9	94.9	-1.1%	2.5%
10	91.1	-1.9%	4.3%
11	87.0	2.6%	7.2%
12	88.5	3.9%	3.5%
13	90.6	4.8%	-3.4%
14	94.5	3.8%	-1.1%
15	88.9	1.7%	-7.3%
16	88.1	-0.1%	-6.8%



Rf by Bue

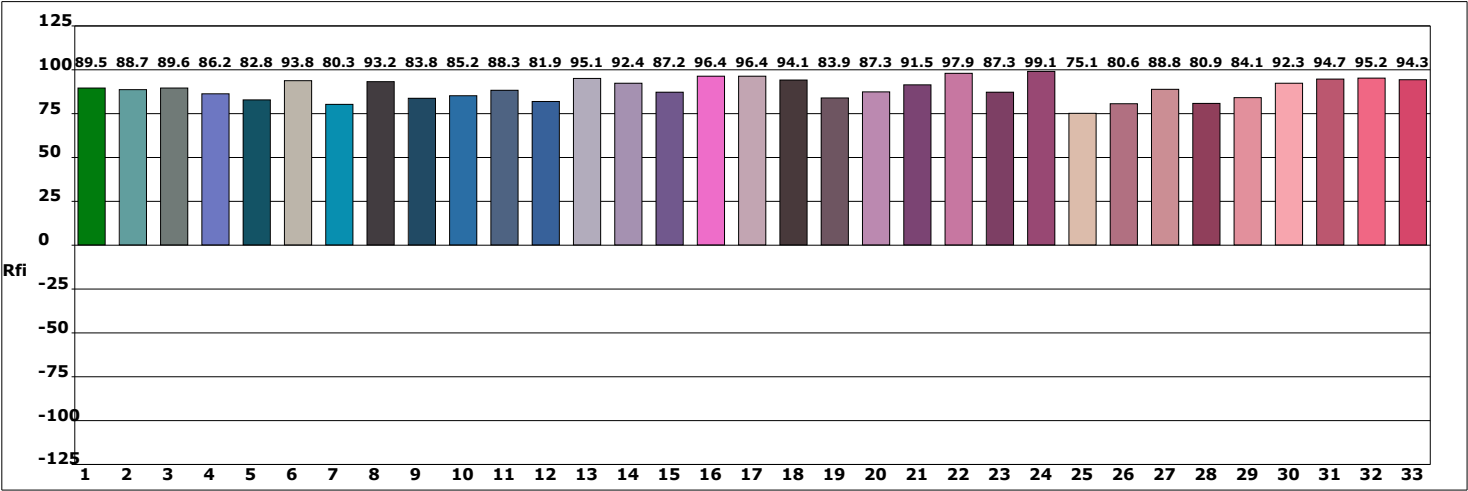
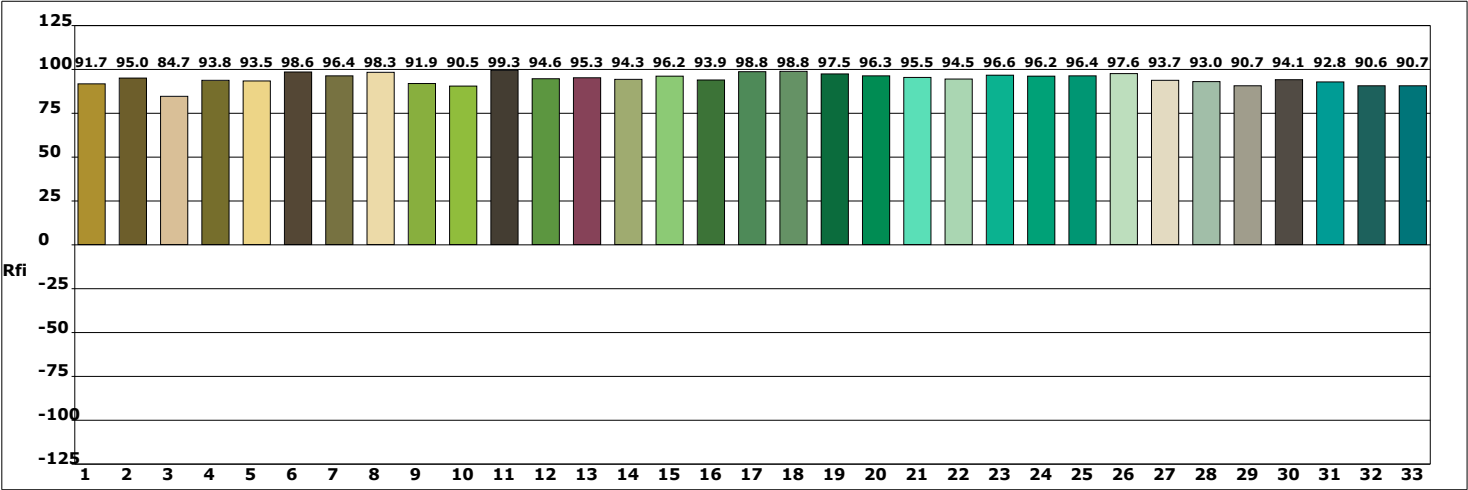
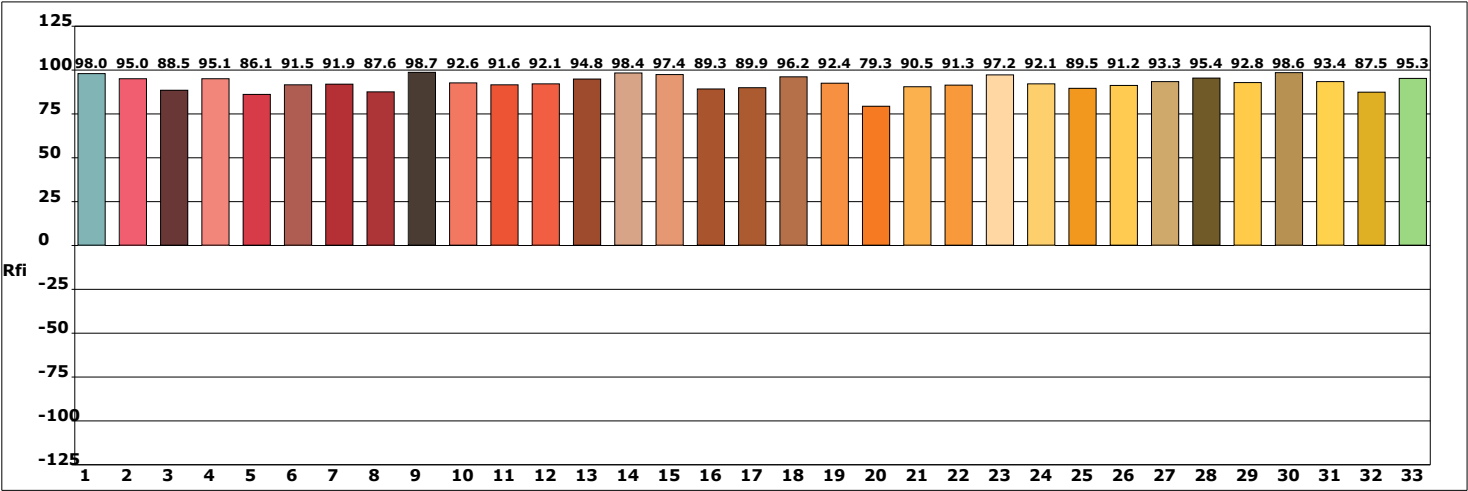


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

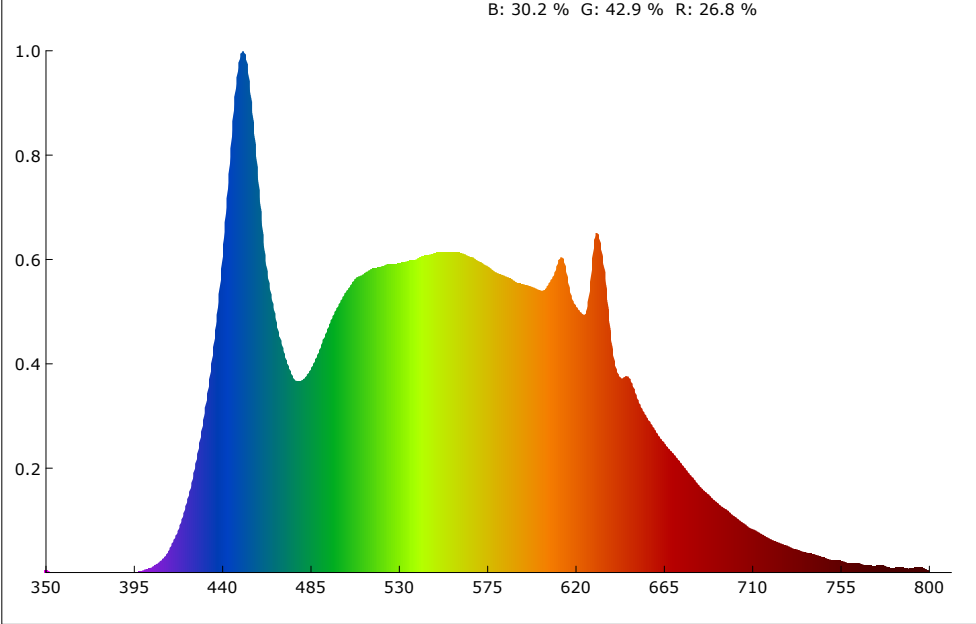
Manufacturer:
Test unit:
Date of observation: 10/31/23



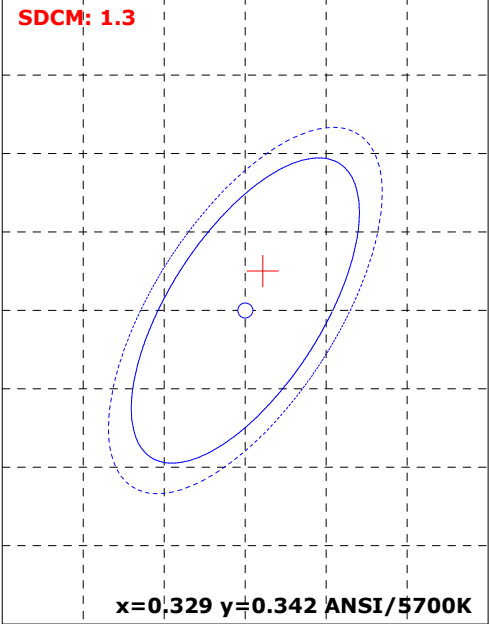
Product model:
Product number:
Tester:
Remarks:

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

Spectrogram



SDCM



Color Parameter:

x: 0.3298	y: 0.3442	u: 0.2039	v: 0.3192	u': 0.2039	v': 0.4788		
R_ratio: 26.8 %	G_ratio: 42.9 %	B_ratio: 30.2 %	RedRatio: 15.4 %	GreenRatio: 80.8 %	BlueRatio: 3.8 %		
Ra: 91.7	AvgR: 88.2						
R1: 91.5	R2: 93.3	R3: 93.8	R4: 92.9	R5: 92.1	R6: 90.9	R7: 93.9	R8: 85.8
R9: 58.7	R10: 83.8	R11: 93.0	R12: 75.8	R13: 91.9	R14: 96.5	R15: 89.5	
CCT: 5611 K	Flux: 840.655 lm		PeakWave: 450.6 nm		SDCM: 1.3		
S/P: 2.2	CentralWave: 452.1 nm		DominantWave: 534.4 nm		CentroidWave: 550.6 nm		
HalfWidth: 28.6 nm	duv: 0.00278		purity: 2.4 %		CQS: 90.8		
LER(TM-30): 296.6	Ep: 2834.3 mw		Rg: 99.1		Rf: 90.0		
Red Ep: 740.8 mw	Near red Ep: 70.5 mw		Near infrared Ep: 3.9 mw				

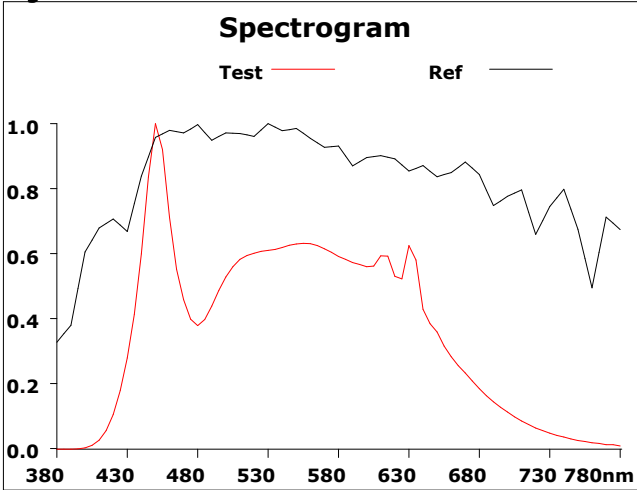
Electrical parameters:

Effic: 42.4 Lm/W	Energy: 46.1	Effi: G	
U: 221.4 V	I: 0.092 A	P: 19.850 W	Pf: 0.964

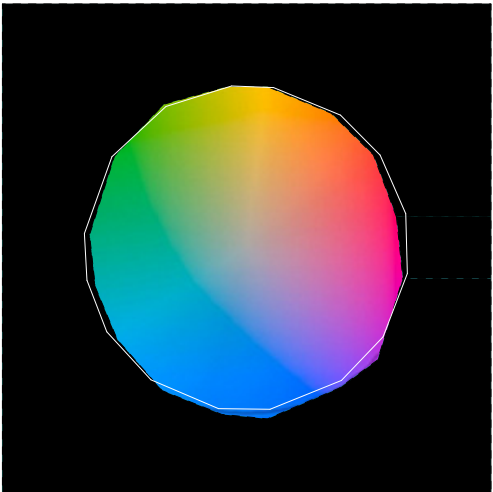
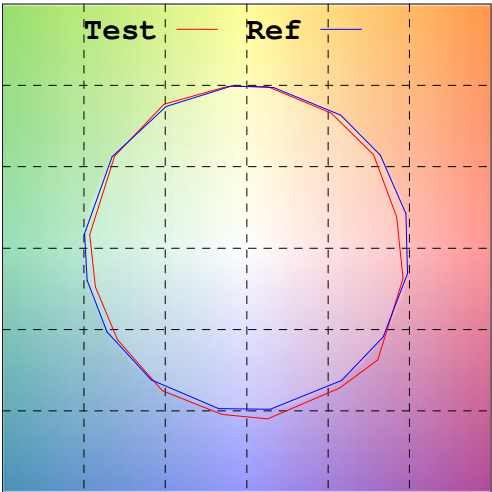
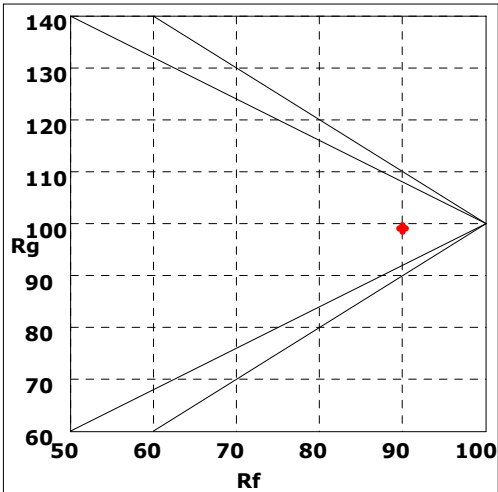
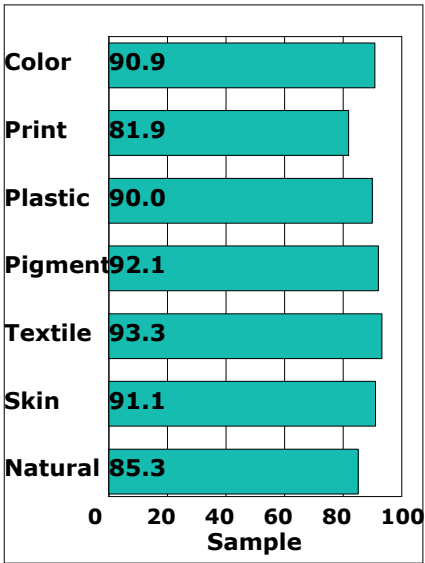
Product model:
Product number:
Tester:
Remarks:

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

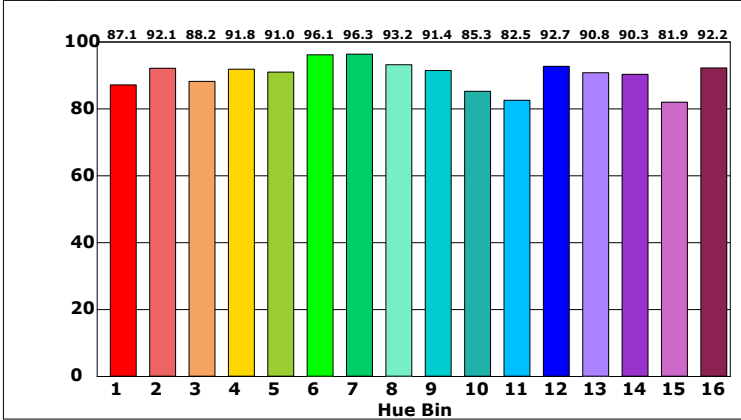
Rf: 90.0 CCT: 5611K u': 0.2039
Rg: 99.1 LER: 296.6 Duv: 0.00278 v': 0.4788



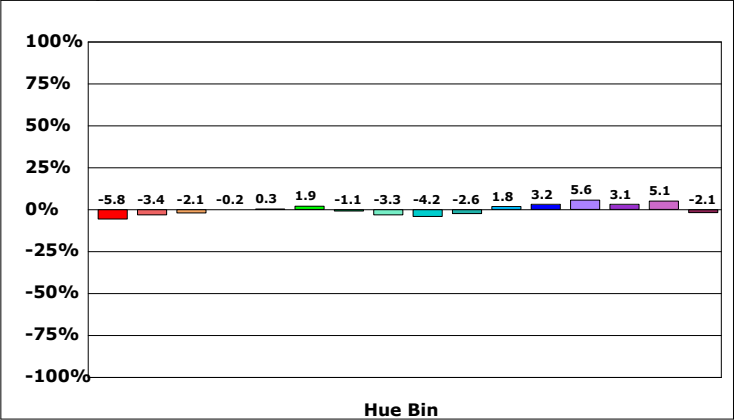
500			
Hue Bin	Rf	Chroma	Hue
1	87.1	-5.8%	-0.9%
2	92.1	-3.4%	2.6%
3	88.2	-2.1%	5.4%
4	91.8	-0.2%	3.8%
5	91.0	0.3%	2.5%
6	96.1	1.9%	0.3%
7	96.3	-1.1%	-1.2%
8	93.2	-3.3%	0.0%
9	91.4	-4.2%	4.9%
10	85.3	-2.6%	7.7%
11	82.5	1.8%	9.5%
12	92.7	3.2%	2.6%
13	90.8	5.6%	-2.8%
14	90.3	3.1%	-3.9%
15	81.9	5.1%	-13.5%
16	92.2	-2.1%	-3.5%



Rf by Bue

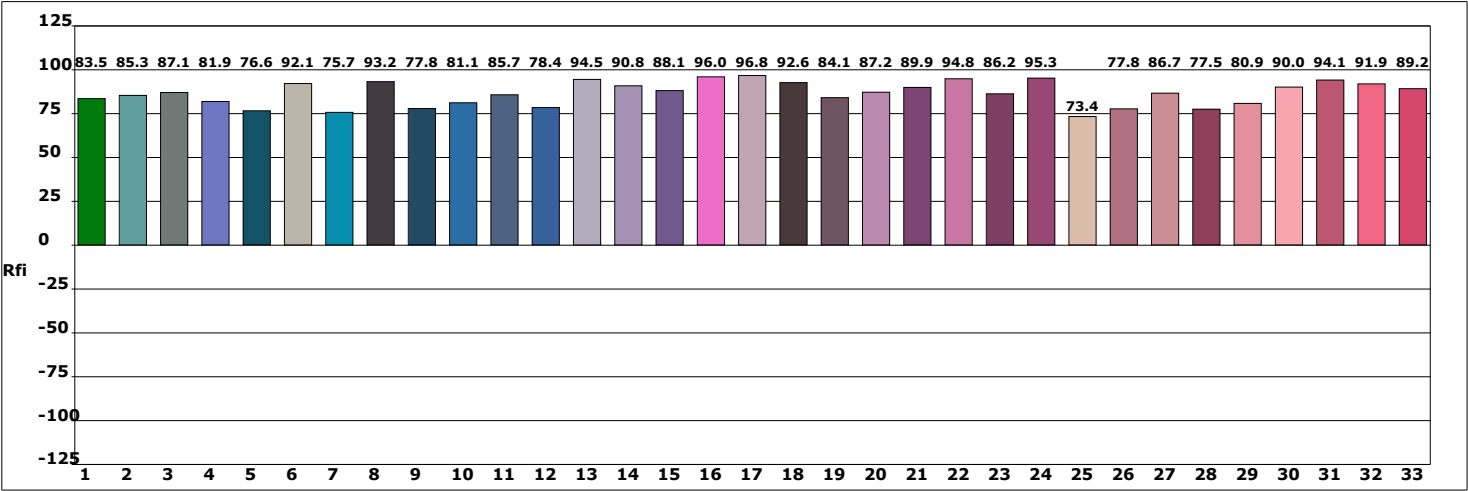
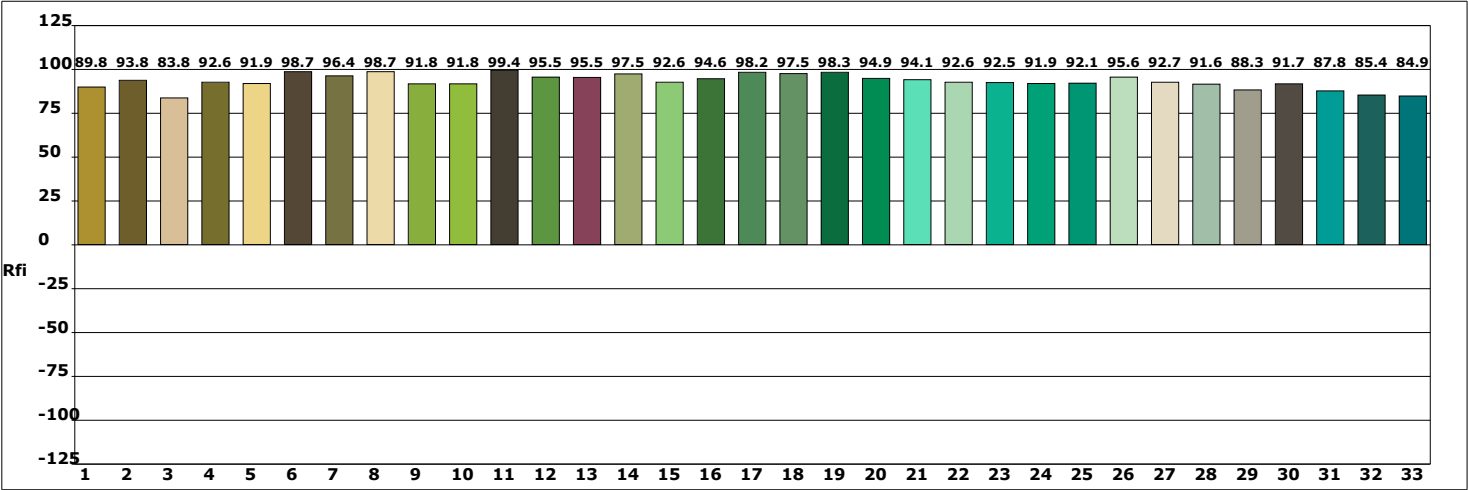
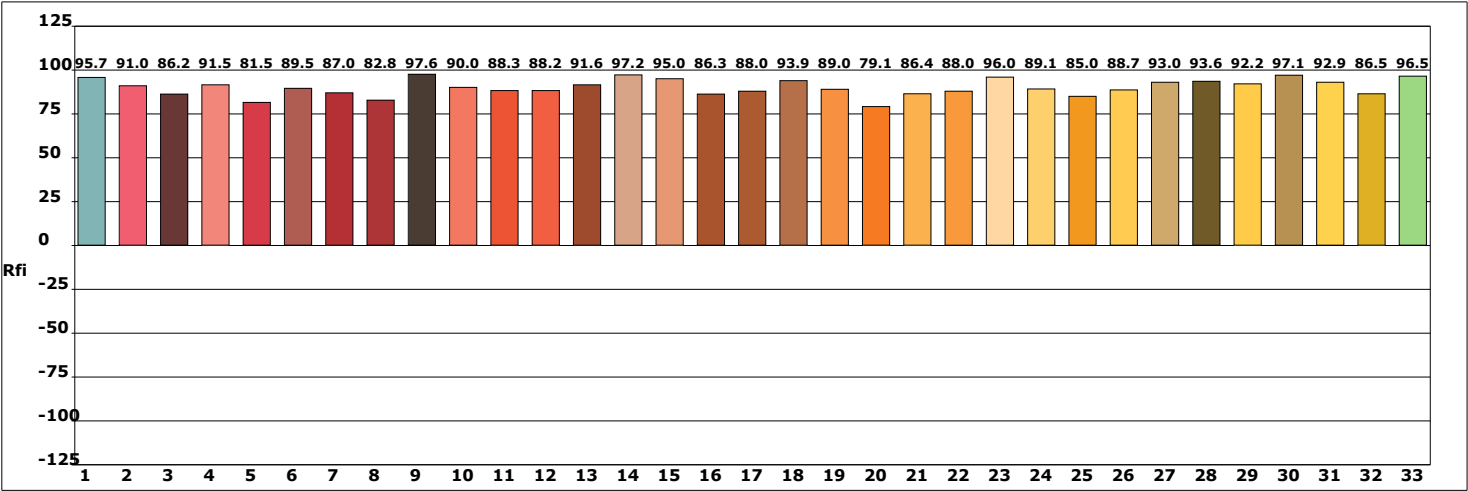


Chroma by Bue



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