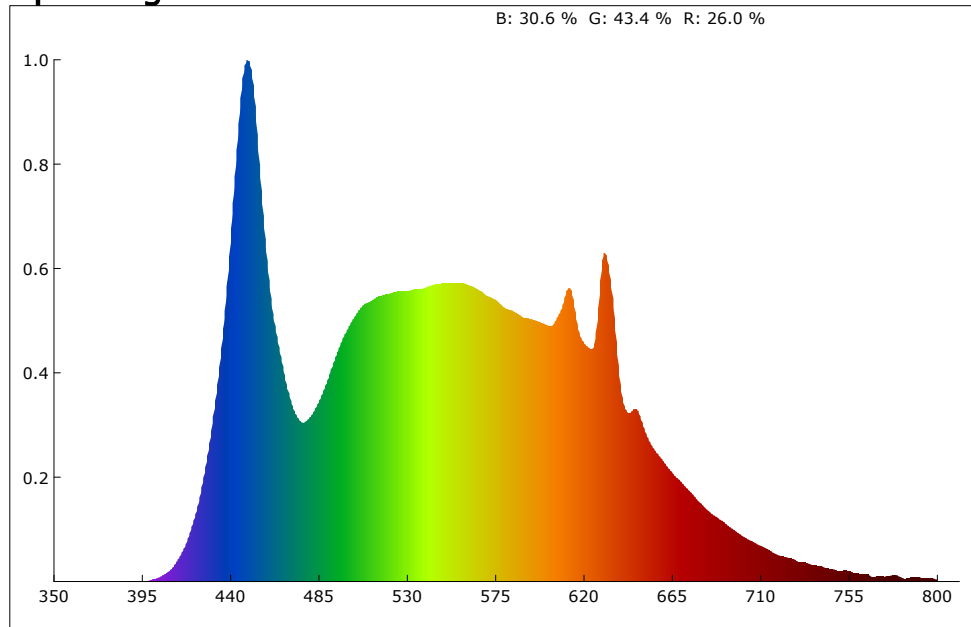
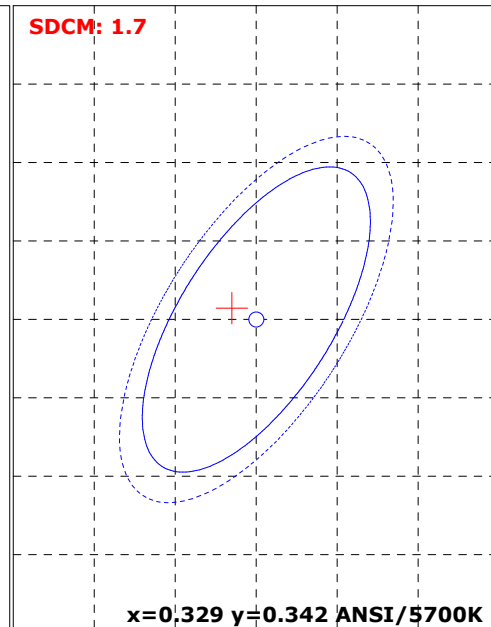


Spectrogram



SDCM



Color Parameter:

x: 0.3272 y: 0.3424 u: 0.2028 v: 0.3183 u': 0.2028 v': 0.4775
R_ratio: 26.0 % G_ratio: 43.4 % B_ratio: 30.6 % RedRatio: 15.2 % GreenRatio: 81.2 % BlueRatio: 3.7 %

Ra: 90.6 AvgR: 86.9
R1: 91.0 R2: 91.9 R3: 91.9 R4: 92.1 R5: 91.3 R6: 88.8 R7: 92.7 R8: 85.6
R9: 56.7 R10: 80.5 R11: 92.3 R12: 74.3 R13: 90.9 R14: 95.4 R15: 88.8

CCT: 5732 K Flux: 1254.689 lm PeakWave: 448.6 nm SDCM: 1.7
S/P: 2.2 CentralWave: 450.0 nm DominantWave: 512.9 nm CentroidWave: 548.3 nm
HalfWidth: 25.1 nm duv: 0.00303 purity: 2.0 % CQS: 90.0
LER(TM-30): 300.9 Ep: 4170.3 mw Rg: 99.9 Rf: 89.1
Red Ep: 1059.6 mw Near red Ep: 92.0 mw Near infrared Ep: 5.1 mw

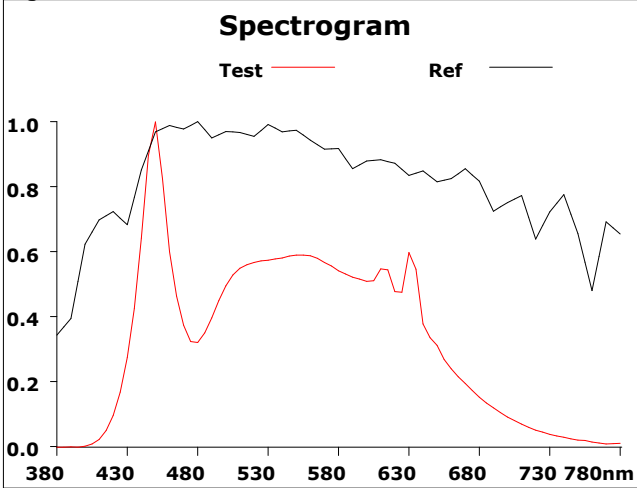
Electrical parameters:

Effic: 62.4 lm/W Energy: 67.9 Effi: G
U: 221.4 V I: 0.094 A P: 20.120 W Pf: 0.959

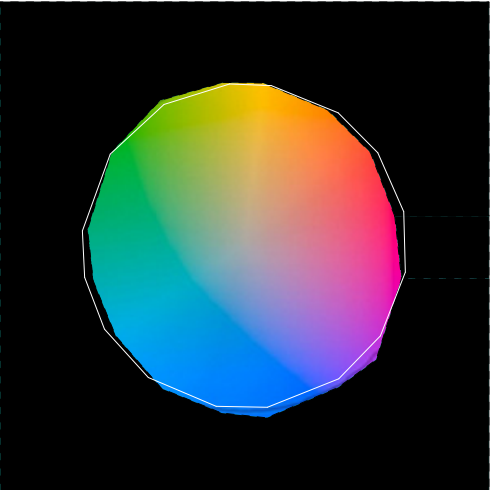
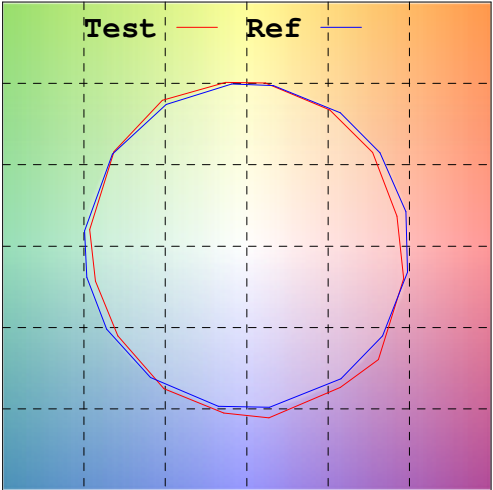
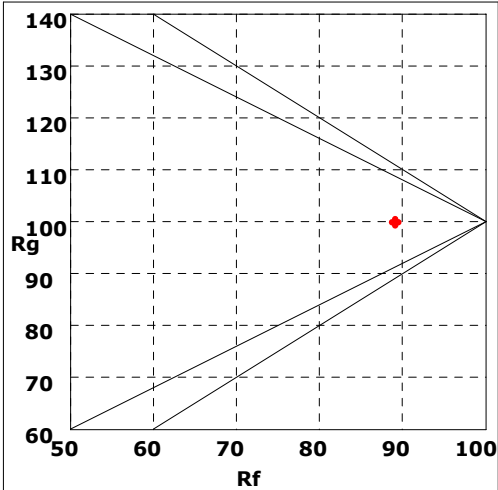
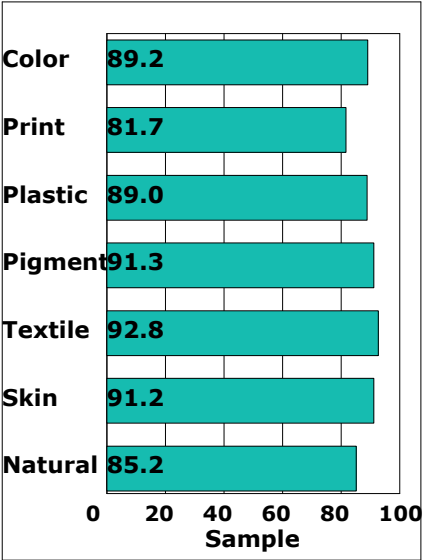
Product model:
Product number:
Tester:
Remarks:

Manufacturer:
Test unit:
Date of observation: 09/26/23

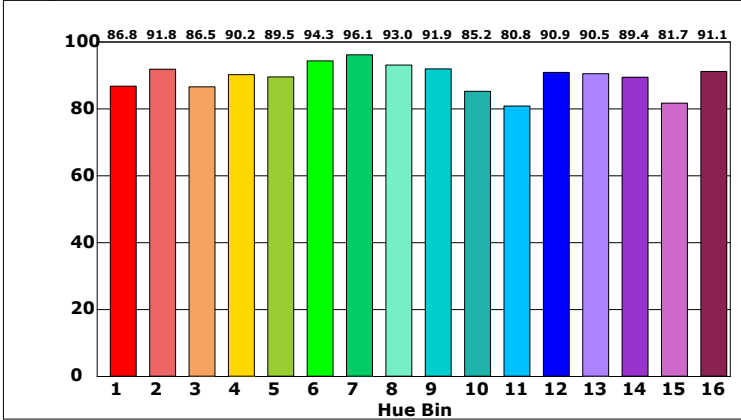
Rf: 89.1 CCT: 5732K u': 0.2028
Rg: 99.9 LER: 300.9 Duv: 0.00303 v': 0.4775



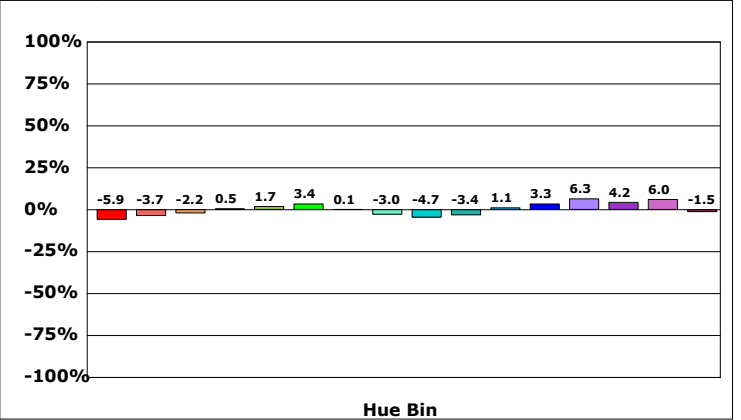
500			
Hue Bin	Rf	Chroma	Hue
1	86.8	-5.9%	-1.5%
2	91.8	-3.7%	2.6%
3	86.5	-2.2%	6.5%
4	90.2	0.5%	5.2%
5	89.5	1.7%	3.5%
6	94.3	3.4%	0.6%
7	96.1	0.1%	-1.9%
8	93.0	-3.0%	-1.4%
9	91.9	-4.7%	3.4%
10	85.2	-3.4%	7.3%
11	80.8	1.1%	10.6%
12	90.9	3.3%	4.1%
13	90.5	6.3%	-1.6%
14	89.4	4.2%	-3.3%
15	81.7	6.0%	-13.5%
16	91.1	-1.5%	-4.4%



Rf by Bue

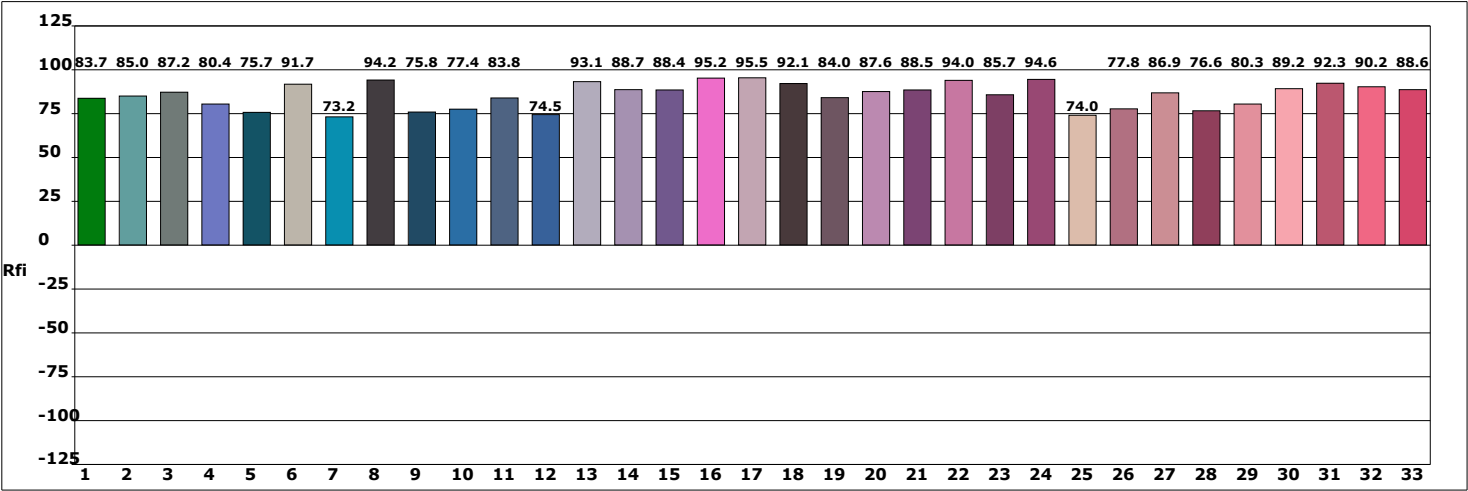
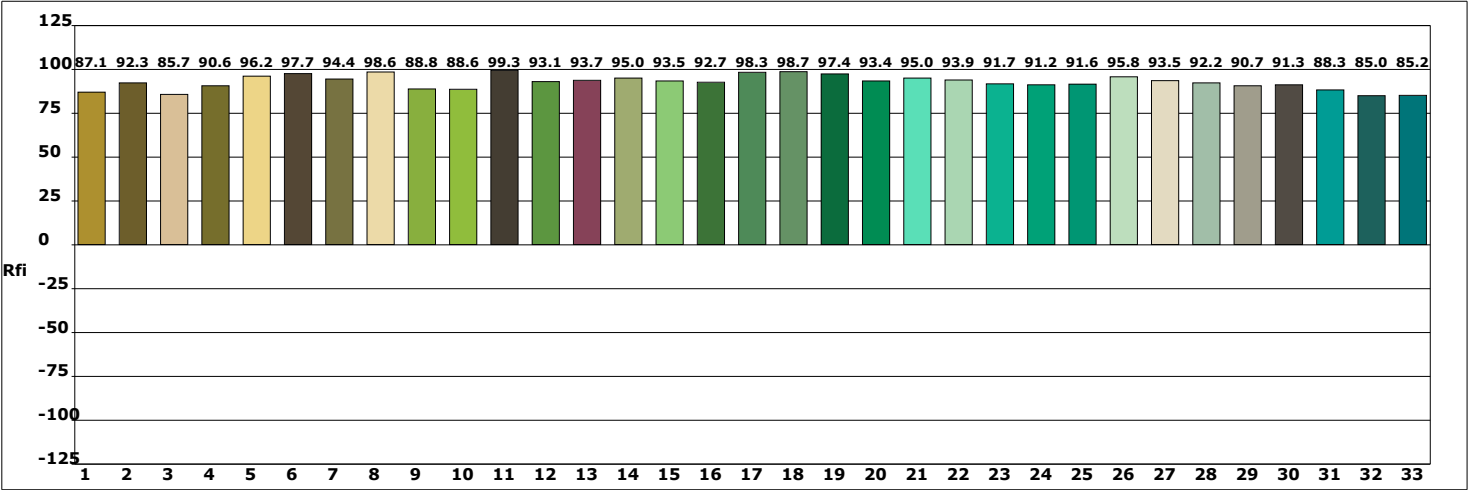
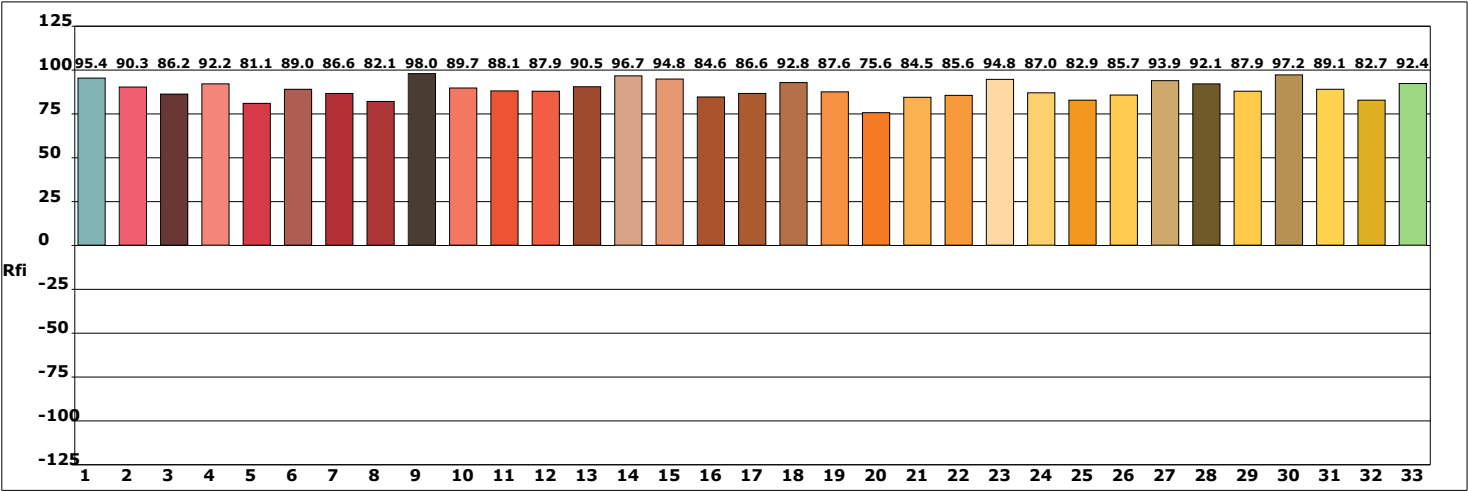


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

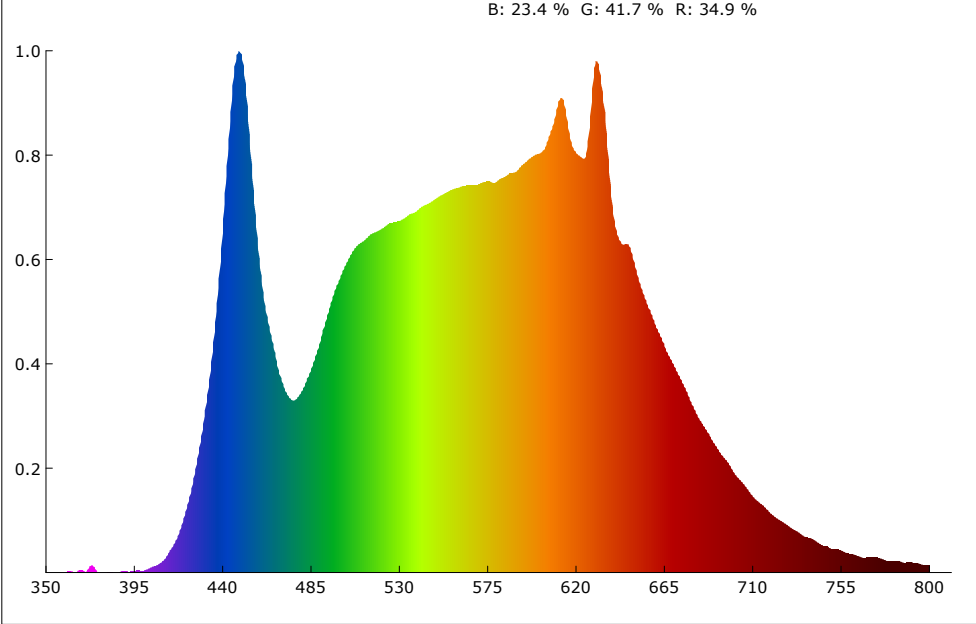
Manufacturer:
Test unit:
Date of observation: 09/26/23



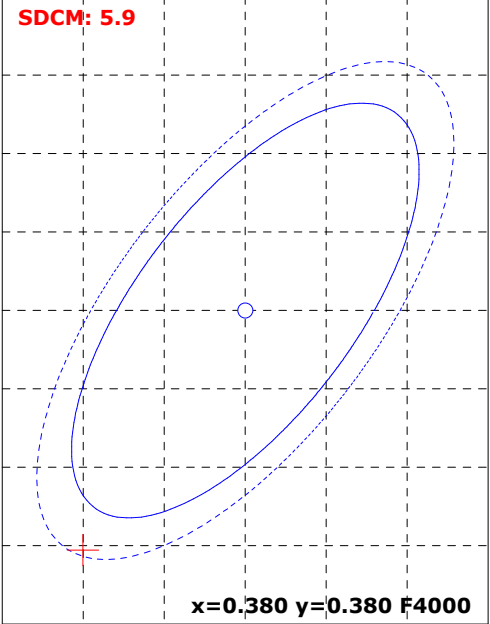
Product model:
Product number:
Tester:
Remarks:

Manufacturer:
Test unit:
Date of observation: 09/26/23

Spectrogram



SDCM



Color Parameter:

x: 0.3700	y: 0.3647	u: 0.2230	v: 0.3297	u': 0.2230	v': 0.4945
R_ratio: 34.9 %	G_ratio: 41.7 %	B_ratio: 23.4 %	RedRatio: 19.0 %	GreenRatio: 78.1 %	BlueRatio: 2.8 %
Ra: 94.5	AvgR: 92.1				
R1: 96.0	R2: 96.1	R3: 94.8	R4: 95.1	R5: 95.8	R6: 94.3
R7: 94.9	R8: 89.4	R9: 71.6	R10: 90.0	R11: 94.9	R12: 81.4
R13: 96.1	R14: 96.6	R15: 94.2			
CCT: 4216 K	Flux: 1140.589 lm	PeakWave: 448.6 nm	SDCM: 5.9		
S/P: 1.8	CentralWave: 450.0 nm	DominantWave: 580.0 nm	CentroidWave: 566.8 nm		
HalfWidth: 25.1 nm	duv: -0.00258	purity: 20.5 %	CQS: 87.7		
LER(TM-30): 295.3	Ep: 3862.8 mw	Rg: 101.4	Rf: 91.5		
Red Ep: 1297.0 mw	Near red Ep: 136.9 mw	Near infrared Ep: 8.9 mw			

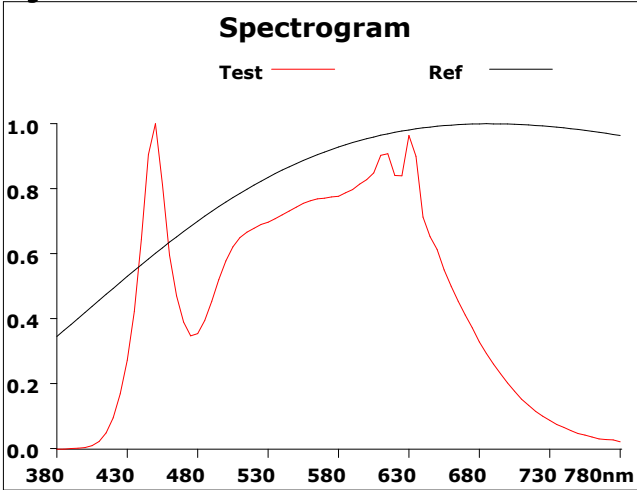
Electrical parameters:

Effic: 56.5 Lm/W	Energy: 61.6	Effi: G	
U: 221.4 V	I: 0.094 A	P: 20.170 W	Pf: 0.959

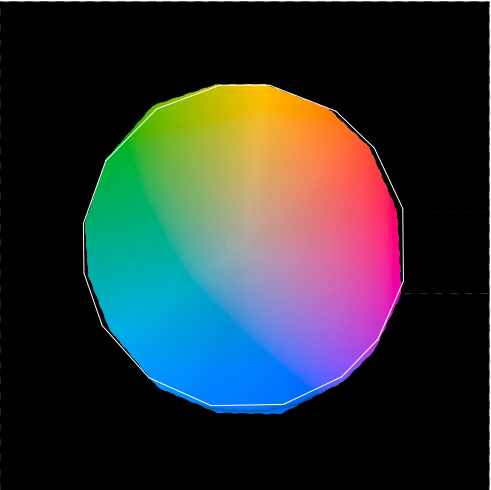
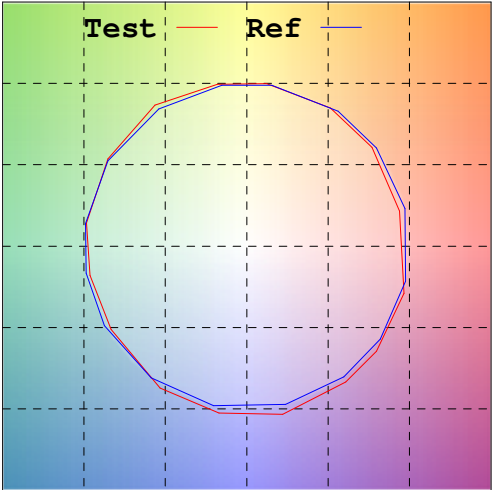
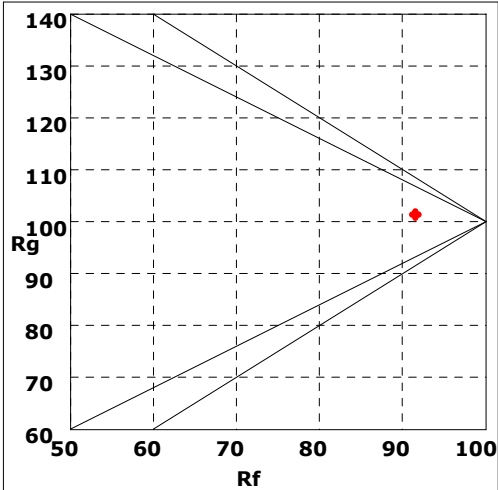
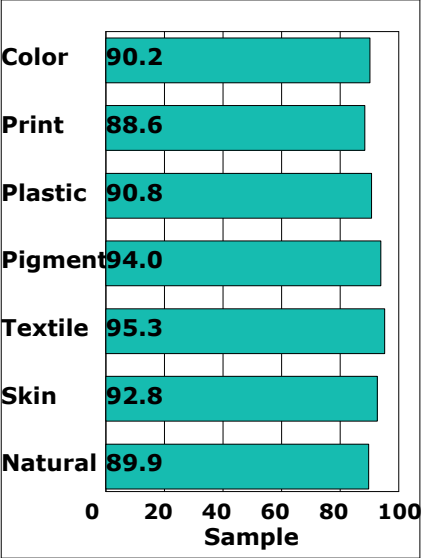
Product model:
Product number:
Tester:
Remarks:

Manufacturer:
Test unit:
Date of observation: 09/26/23

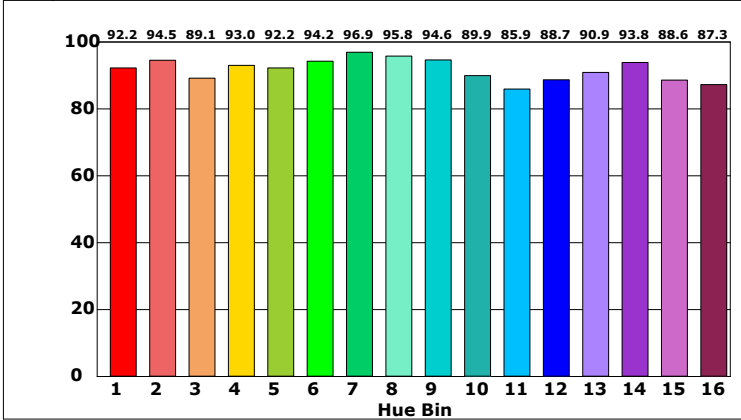
Rf: 91.5 CCT: 4216K u': 0.2230
Rg: 101.4 LER: 295.3 Duv: -0.00258 v': 0.4945



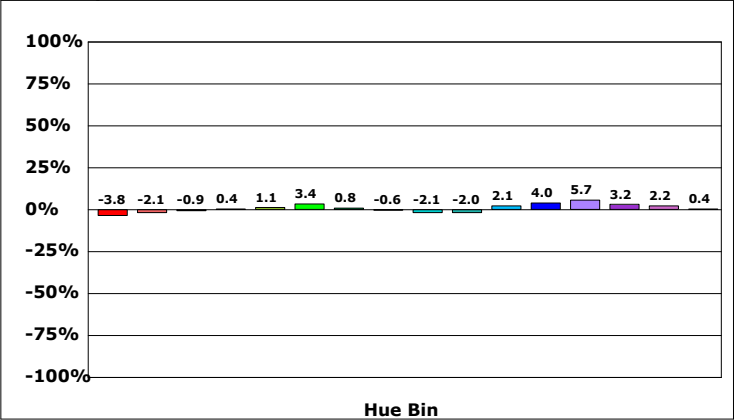
500			
Hue Bin	Rf	Chroma	Hue
1	92.2	-3.8%	-0.9%
2	94.5	-2.1%	1.9%
3	89.1	-0.9%	5.0%
4	93.0	0.4%	3.4%
5	92.2	1.1%	2.7%
6	94.2	3.4%	0.6%
7	96.9	0.8%	-1.0%
8	95.8	-0.6%	-0.4%
9	94.6	-2.1%	1.9%
10	89.9	-2.0%	4.2%
11	85.9	2.1%	8.1%
12	88.7	4.0%	4.1%
13	90.9	5.7%	-2.9%
14	93.8	3.2%	-0.7%
15	88.6	2.2%	-7.5%
16	87.3	0.4%	-7.4%



Rf by Bue

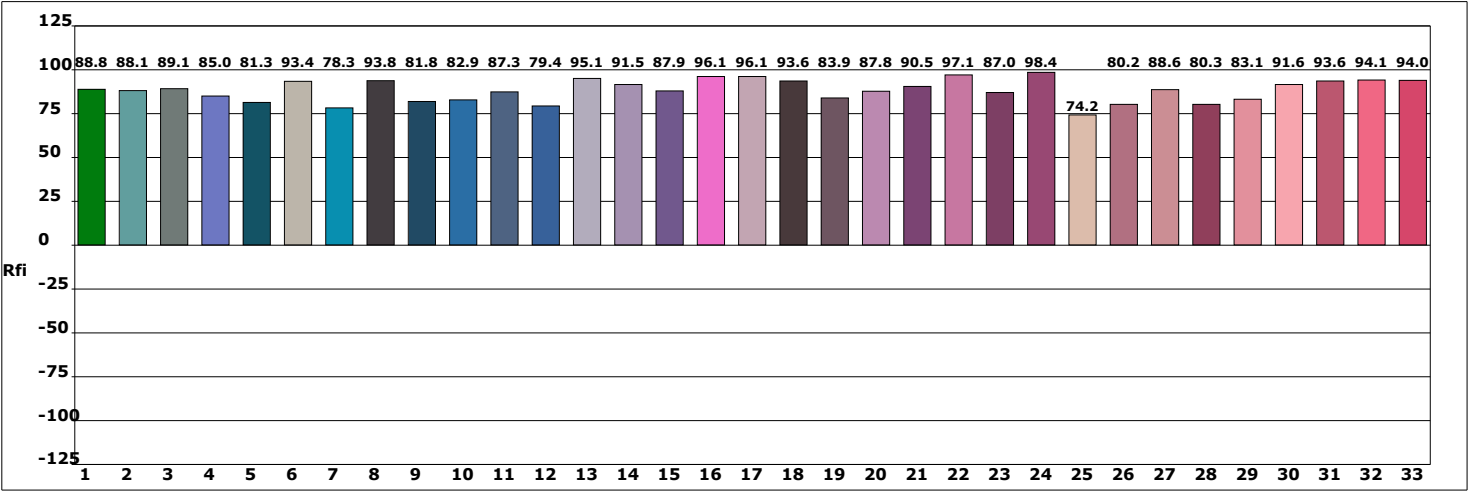
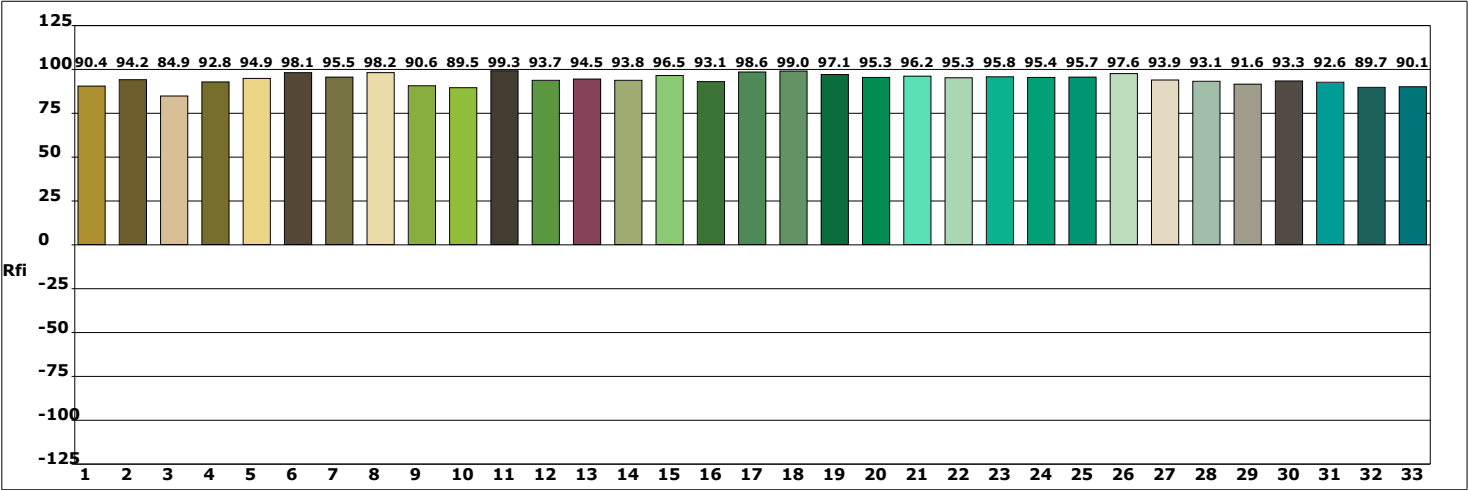
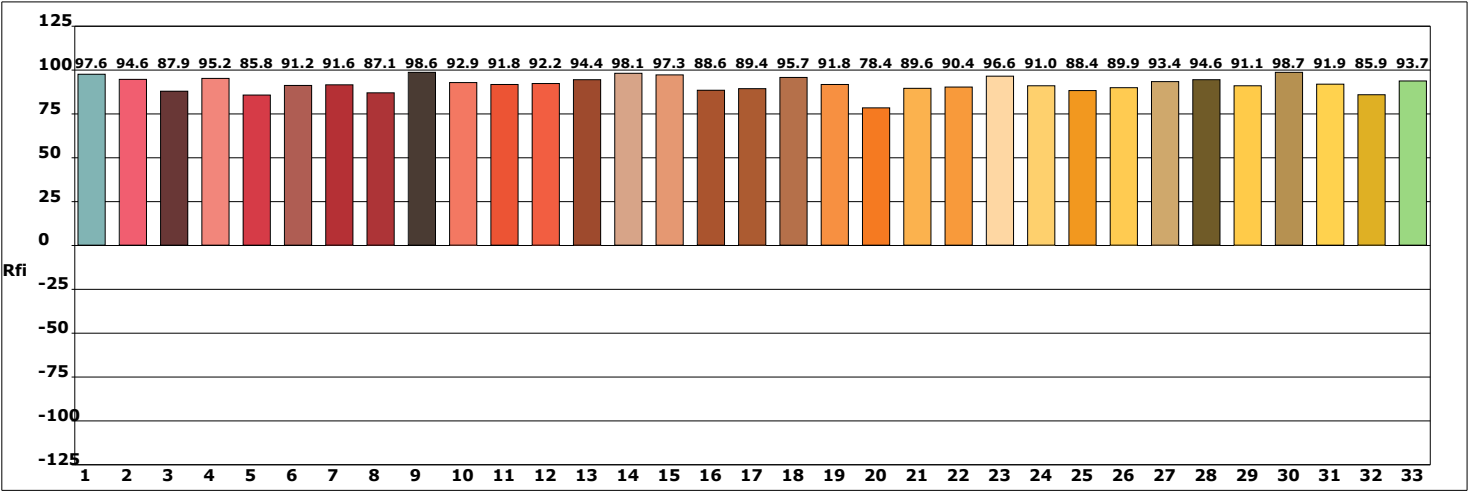


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

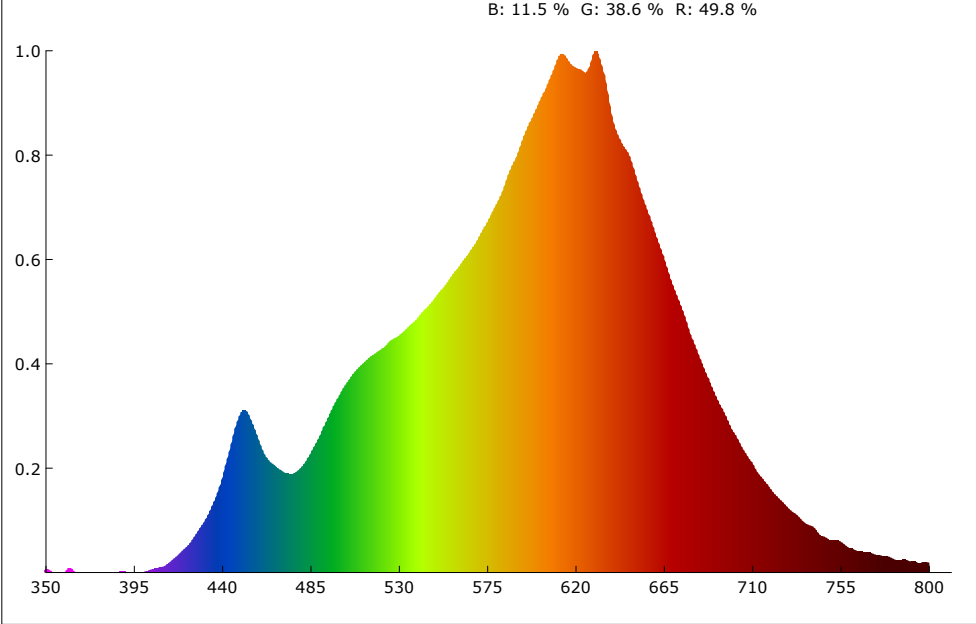
Manufacturer:
Test unit:
Date of observation: 09/26/23



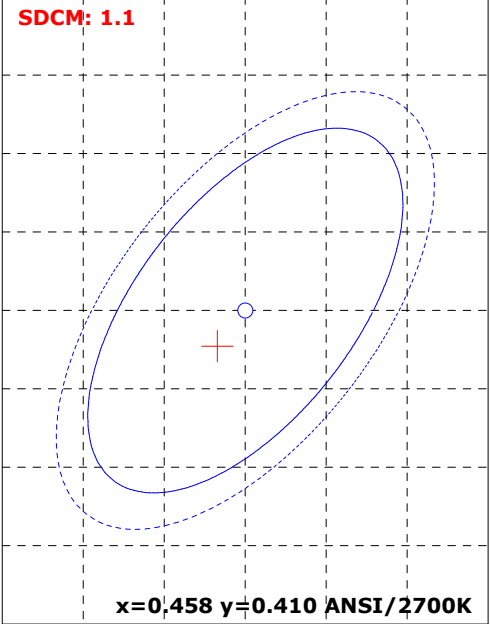
Product model:
Product number:
Tester:
Remarks:

Manufacturer:
Test unit:
Date of observation: 09/26/23

Spectrogram



SDCM



Color Parameter:

x: 0.4561 y: 0.4078 u: 0.2613 v: 0.3505 u': 0.2613 v': 0.5257
R_ratio: 49.8 % G_ratio: 38.6 % B_ratio: 11.5 % RedRatio: 25.6 % GreenRatio: 72.8 % BlueRatio: 1.6 %

Ra: 93.1 AvgR: 91.3
R1: 94.0 R2: 98.1 R3: 97.8 R4: 94.7 R5: 95.1 R6: 97.1 R7: 89.7 R8: 78.6
R9: 54.7 R10: 95.7 R11: 97.3 R12: 93.2 R13: 95.3 R14: 99.5 R15: 88.2

CCT: 2731 K Flux: 940.360 lm PeakWave: 630.5 nm SDCM: 1.1
S/P: 1.3 CentralWave: 608.9 nm DominantWave: 584.3 nm CentroidWave: 596.2 nm
HalfWidth: 131.1 nm duv: -0.00069 purity: 59.3 % CQS: 88.6
LER(TM-30): 288.6 Ep: 3258.1 mw Rg: 99.1 Rf: 92.5
Red Ep: 1527.8 mw Near red Ep: 182.0 mw Near infrared Ep: 10.2 mw

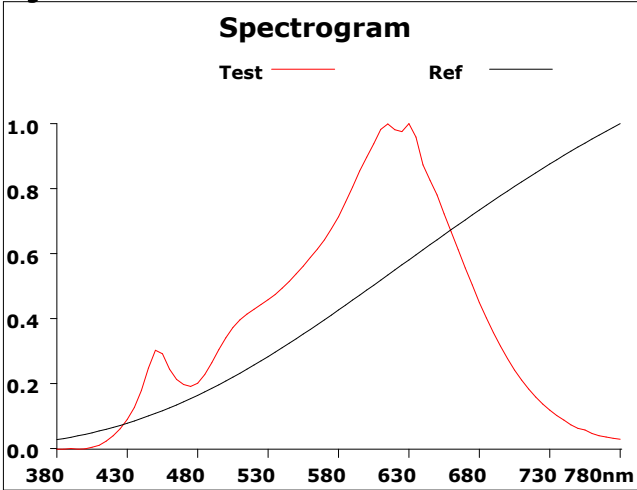
Electrical parameters:

Effic: 47.1 lm/W Energy: 51.3 Effi: G
U: 221.4 V I: 0.094 A P: 19.950 W Pf: 0.958

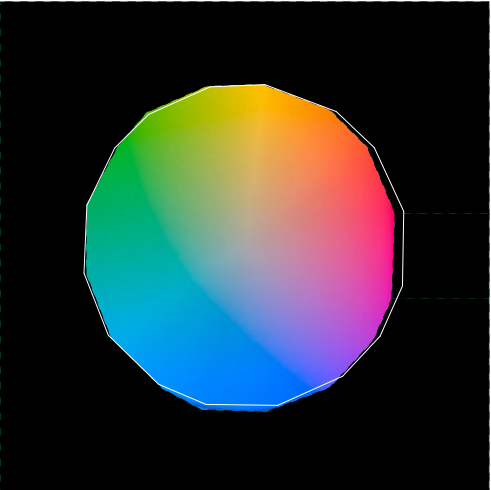
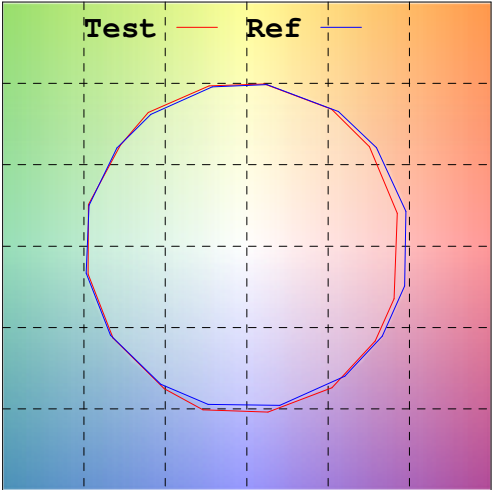
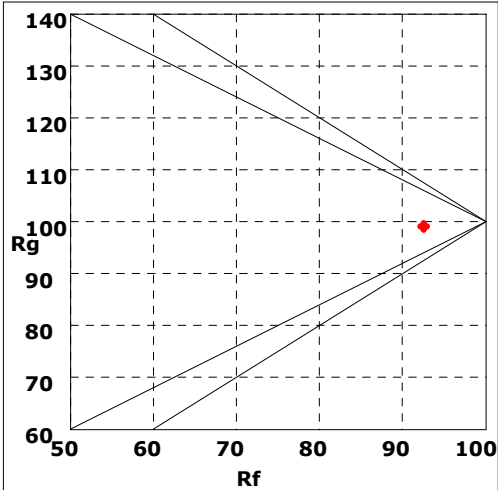
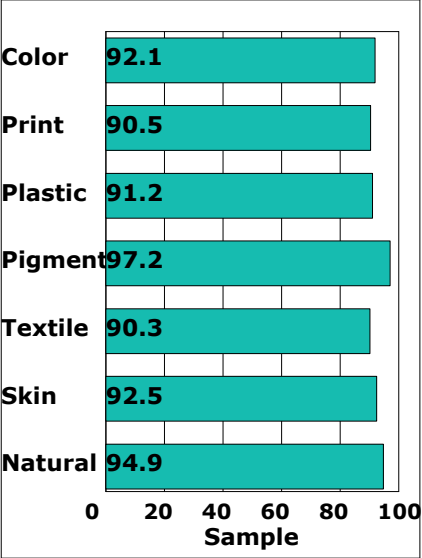
Product model:
Product number:
Tester:
Remarks:

Manufacturer:
Test unit:
Date of observation: 09/26/23

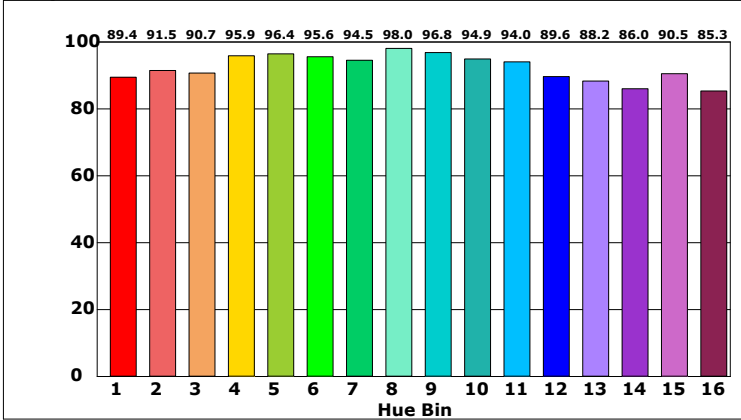
Rf: 92.5 CCT: 2731K u': 0.2613
Rg: 99.1 LER: 288.6 Duv: -0.00069 v': 0.5257



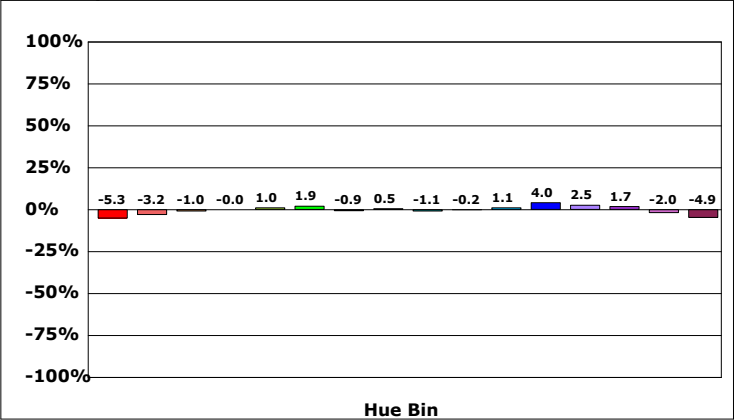
500			
Hue Bin	Rf	Chroma	Hue
1	89.4	-5.3%	0.0%
2	91.5	-3.2%	2.9%
3	90.7	-1.0%	4.3%
4	95.9	-0.0%	1.5%
5	96.4	1.0%	1.9%
6	95.6	1.9%	0.5%
7	94.5	-0.9%	-2.7%
8	98.0	0.5%	-0.3%
9	96.8	-1.1%	0.7%
10	94.9	-0.2%	2.3%
11	94.0	1.1%	3.3%
12	89.6	4.0%	-2.6%
13	88.2	2.5%	-7.9%
14	86.0	1.7%	-10.4%
15	90.5	-2.0%	-4.9%
16	85.3	-4.9%	-9.0%



Rf by Bue

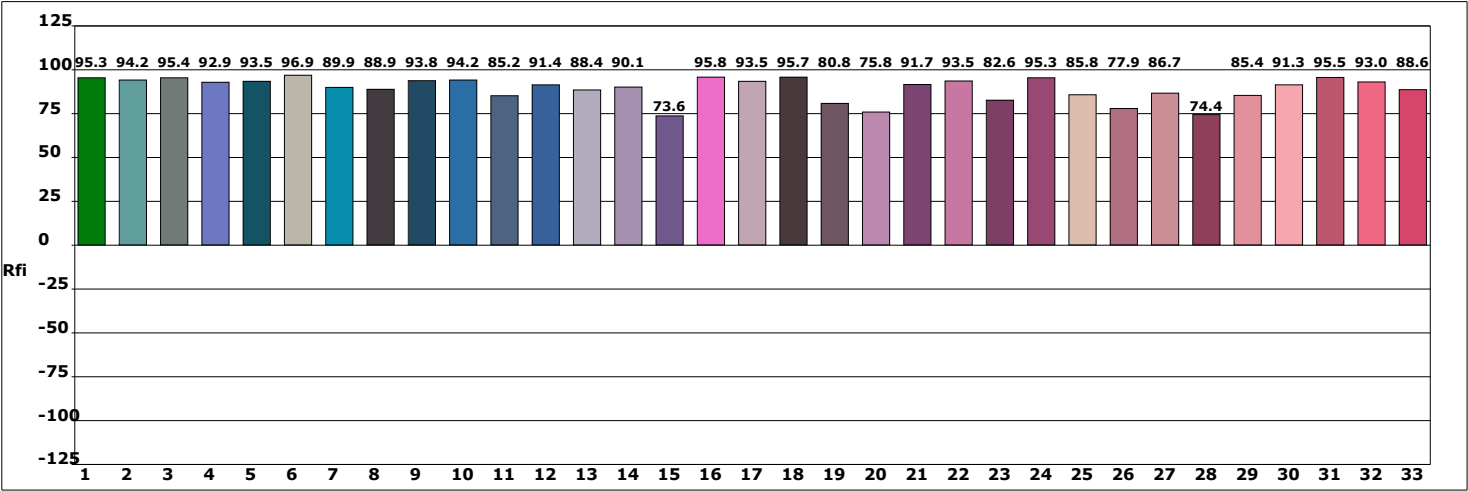
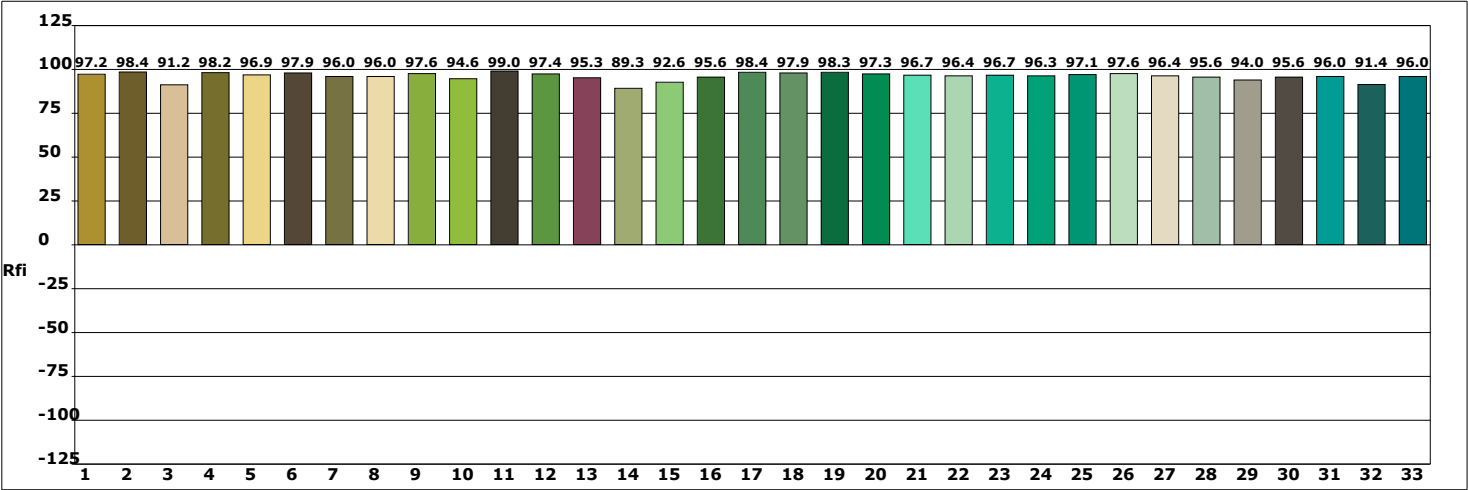
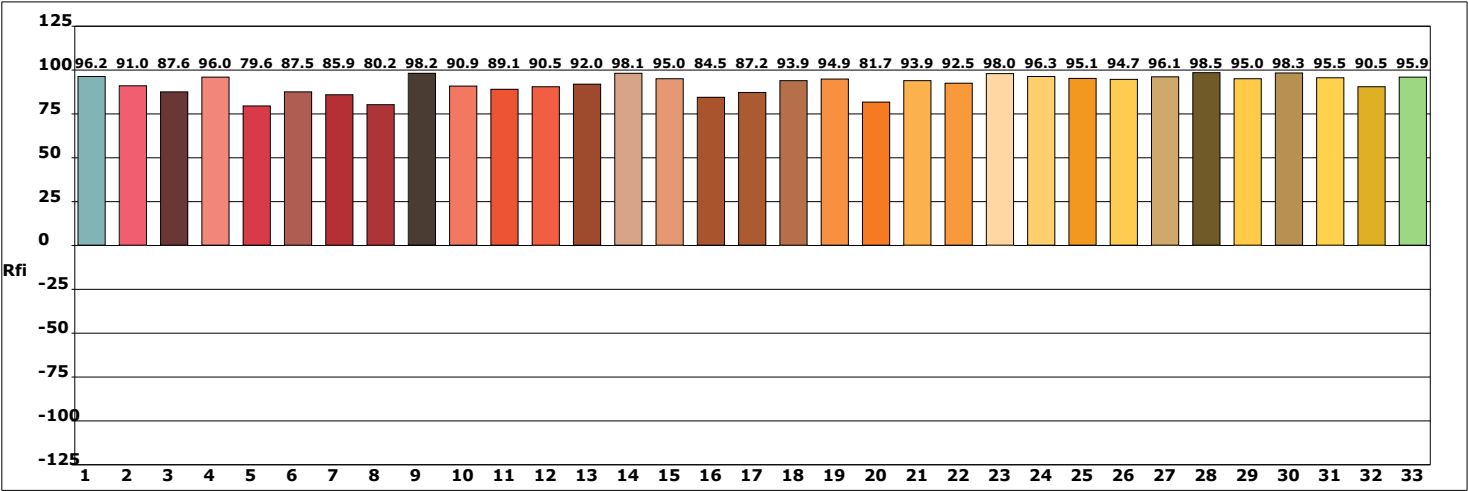


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

Manufacturer:
Test unit:
Date of observation: 09/26/23



Product model:
Product number:
Tester:
Remarks:

Manufacturer:
Test unit:
Date of observation: 09/26/23