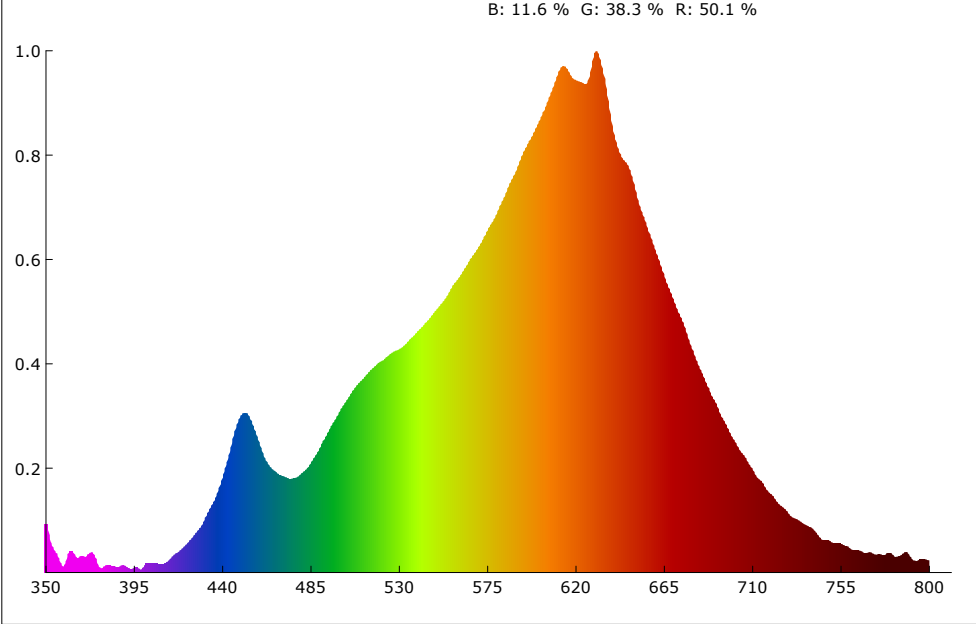
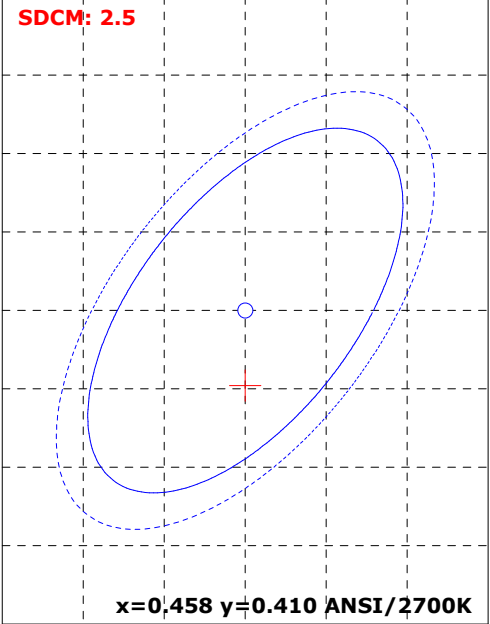


Spectrogram



SDCM



Color Parameter:

x: 0.4578 y: 0.4053 u: 0.2636 v: 0.3500 u': 0.2636 v': 0.5250
R_ratio: 50.1 % G_ratio: 38.3 % B_ratio: 11.6 % RedRatio: 26.0 % GreenRatio: 72.5 % BlueRatio: 1.6 %

Ra: 92.5 AvgR: 90.6
R1: 93.1 R2: 97.5 R3: 97.8 R4: 94.0 R5: 94.9 R6: 96.8 R7: 88.6 R8: 77.4
R9: 53.5 R10: 94.6 R11: 96.2 R12: 93.6 R13: 94.3 R14: 99.5 R15: 87.5

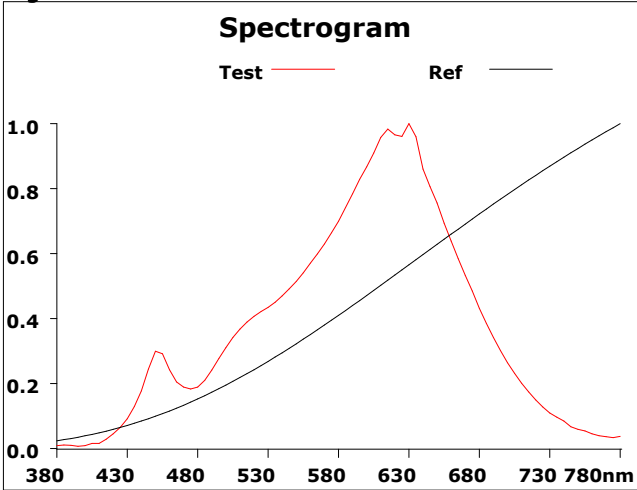
CCT: 2686 K Flux: 152.159 lm PeakWave: 630.5 nm SDCM: 2.5
S/P: 1.3 CentralWave: 610.4 nm DominantWave: 584.9 nm CentroidWave: 594.5 nm
HalfWidth: 122.6 nm duv: -0.00181 purity: 59.1 % CQS: 87.3
LER(TM-30): 285.4 Ep: 533.1 mw Rg: 100.0 Rf: 91.5
Red Ep: 249.1 mw Near red Ep: 29.1 mw Near infrared Ep: 2.3 mw

Electrical parameters:

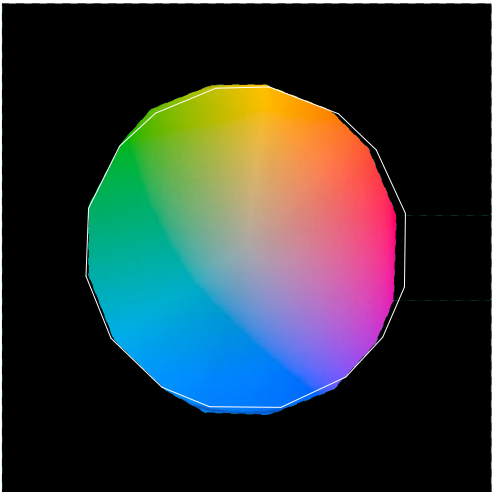
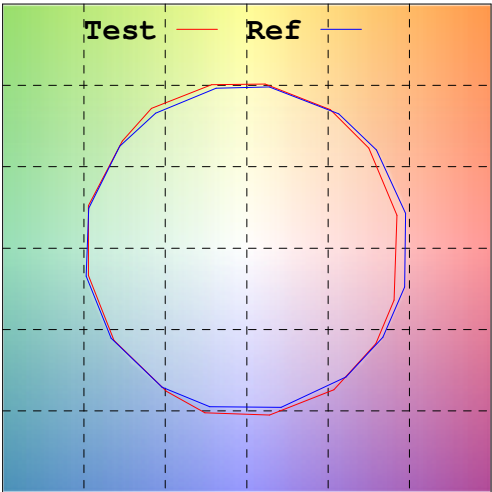
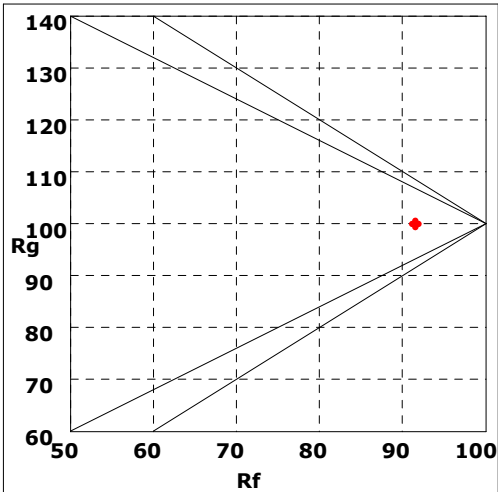
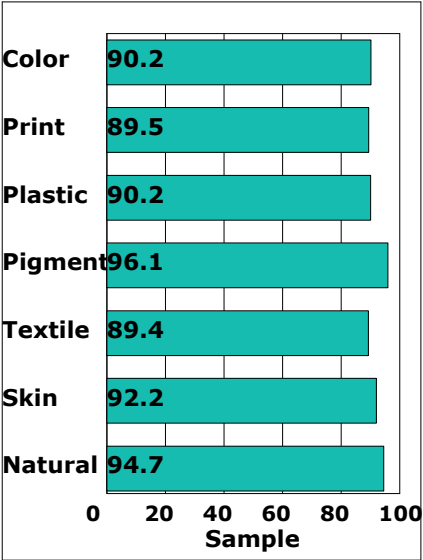
Effic: 15.1 lm/W Energy: 16.4 Effi: G
U: 222.3 V I: 0.049 A P: 10.080 W Pf: 0.920

Product model: Manufacturer: Guangzhou Hotion Technology Co.,
Product number: Test unit:
Tester: Date of observation: 02/12/13
Remarks:

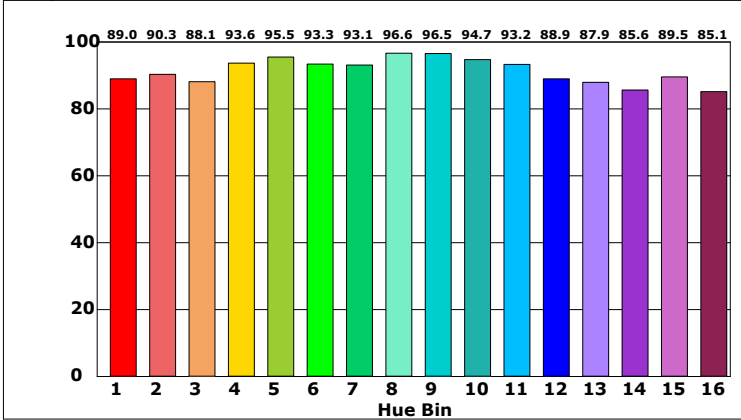
Rf: 91.5 CCT: 2686K u': 0.2636
Rg: 100.0 LER: 285.4 Duv: -0.00181 v': 0.5250



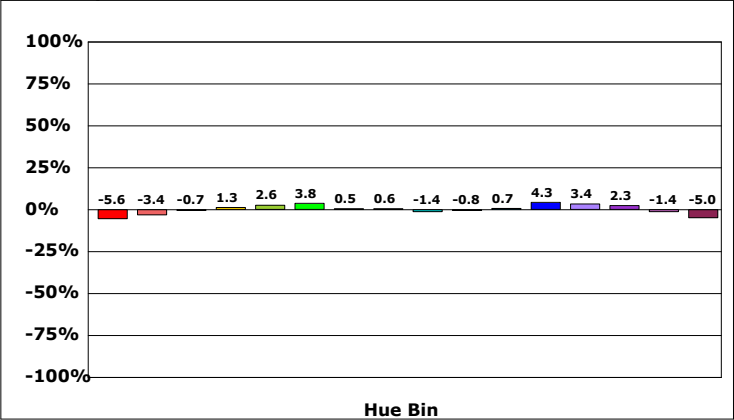
500			
Hue Bin	Rf	Chroma	Hue
1	89.0	-5.6%	-0.2%
2	90.3	-3.4%	3.6%
3	88.1	-0.7%	5.6%
4	93.6	1.3%	2.8%
5	95.5	2.6%	2.4%
6	93.3	3.8%	0.4%
7	93.1	0.5%	-3.6%
8	96.6	0.6%	-1.6%
9	96.5	-1.4%	-0.1%
10	94.7	-0.8%	2.1%
11	93.2	0.7%	3.7%
12	88.9	4.3%	-2.0%
13	87.9	3.4%	-7.8%
14	85.6	2.3%	-10.5%
15	89.5	-1.4%	-5.8%
16	85.1	-5.0%	-9.1%



Rf by Bue

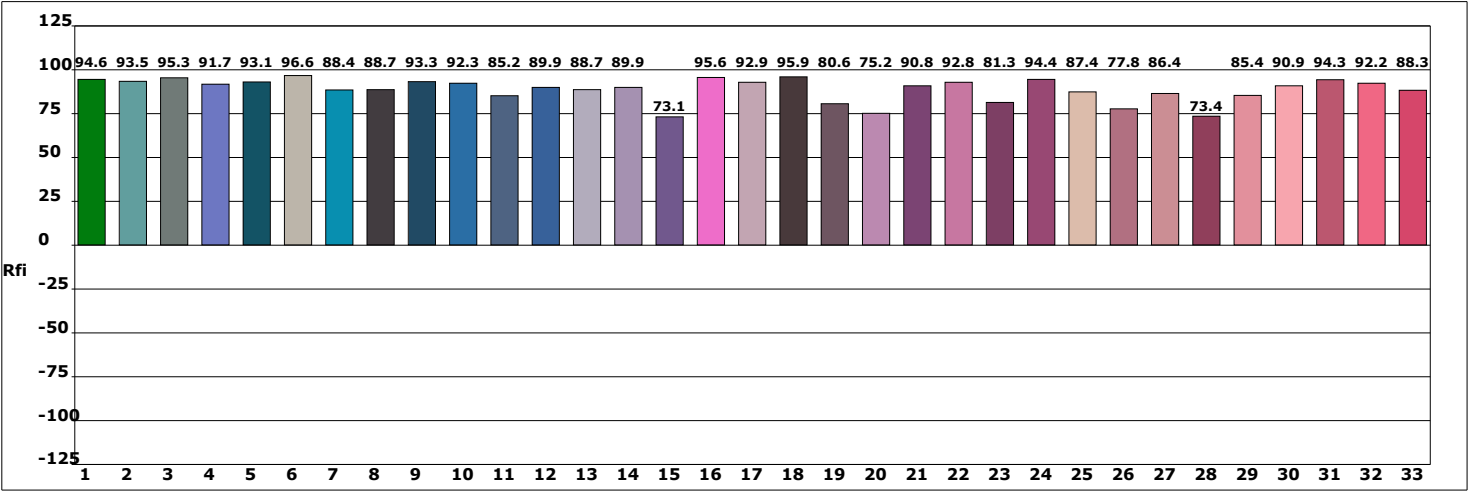
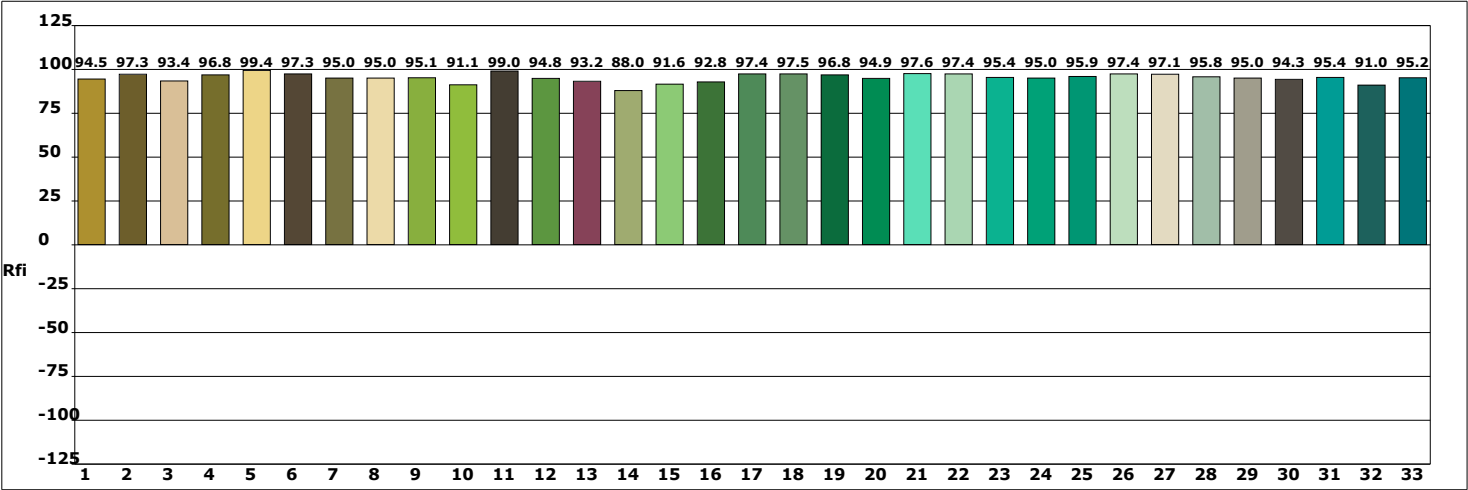
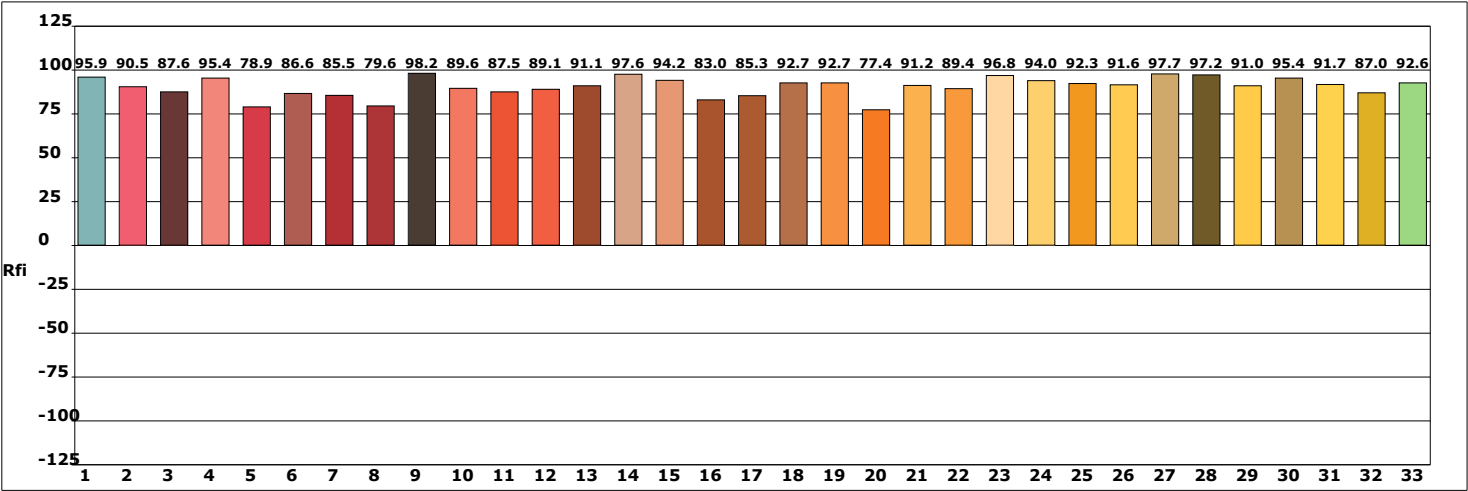


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

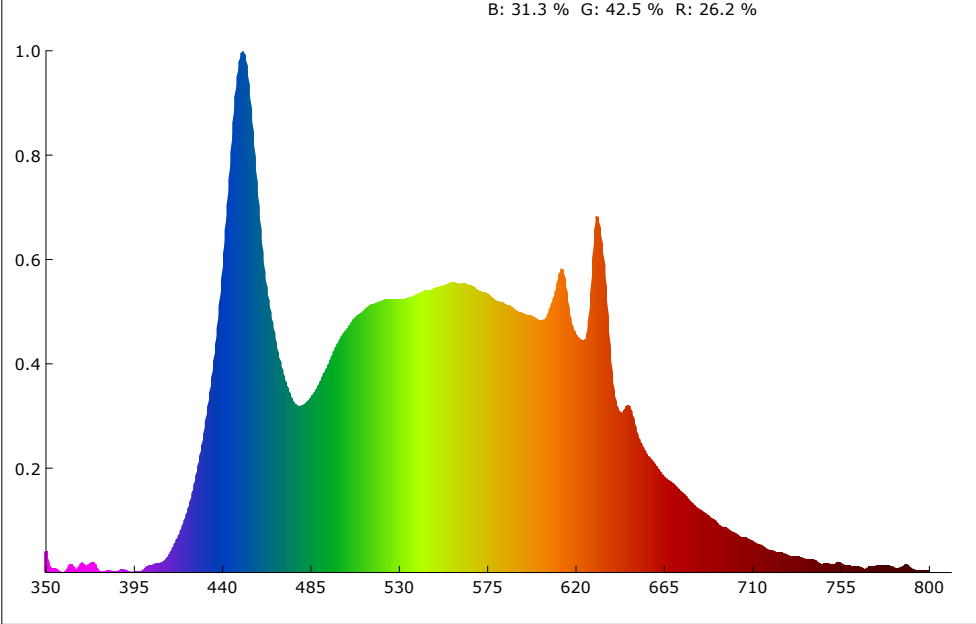
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 02/12/13



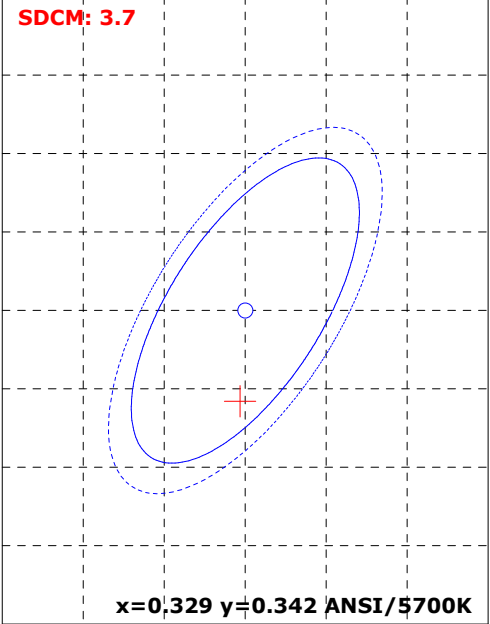
Product model:
Product number:
Tester:
Remarks:

Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 02/12/13

Spectrogram



SDCM



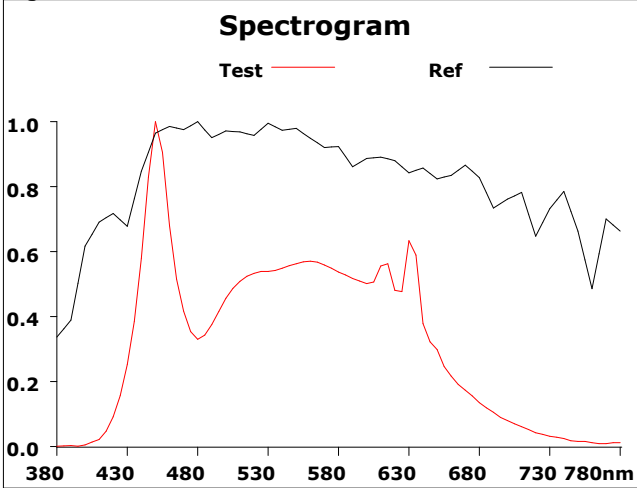
Color Parameter:

x: 0.3284	y: 0.3359	u: 0.2061	v: 0.3162	u': 0.2061	v': 0.4743
R_ratio: 26.2 %	G_ratio: 42.5 %	B_ratio: 31.3 %	RedRatio: 15.8 %	GreenRatio: 80.4 %	BlueRatio: 3.9 %
Ra: 92.5	AvgR: 89.5				
R1: 93.7	R2: 94.1	R3: 92.6	R4: 93.6	R5: 93.5	R6: 90.6
R7: 93.9	R8: 88.5	R9: 65.8	R10: 84.9	R11: 93.8	R12: 75.5
R13: 93.9	R14: 95.6	R15: 93.0			
CCT: 5684 K	Flux: 189.259 lm	PeakWave: 450.6 nm	SDCM: 3.7		
S/P: 2.2	CentralWave: 451.6 nm	DominantWave: 498.6 nm	CentroidWave: 546.9 nm		
HalfWidth: 25.9 nm	duv: -0.00085	purity: 1.5 %	CQS: 87.7		
LER(TM-30): 296.2	Ep: 638.9 mw	Rg: 100.3	Rf: 89.2		
Red Ep: 163.0 mw	Near red Ep: 12.6 mw	Near infrared Ep: 1.0 mw			

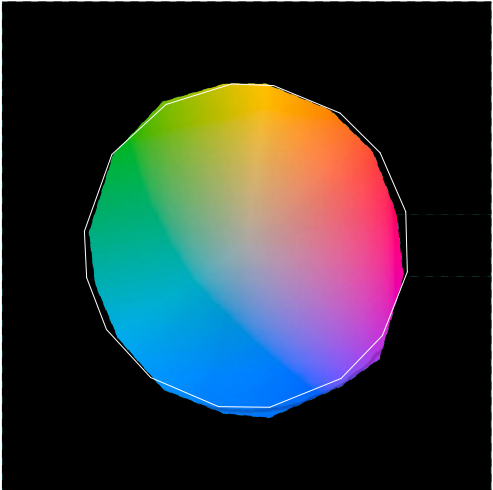
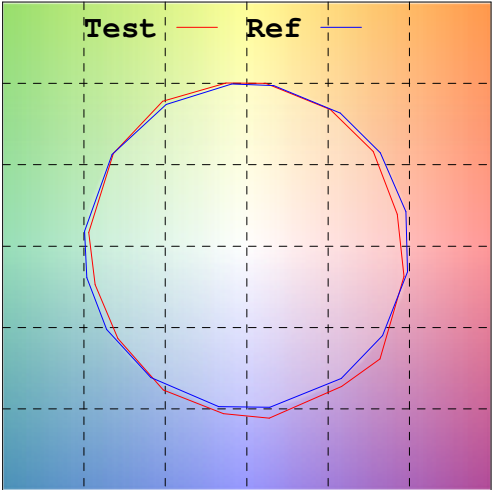
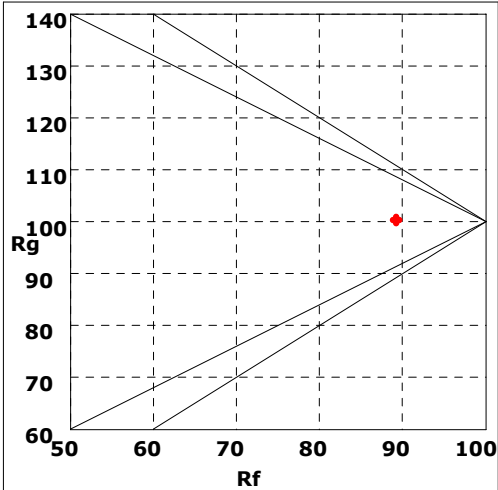
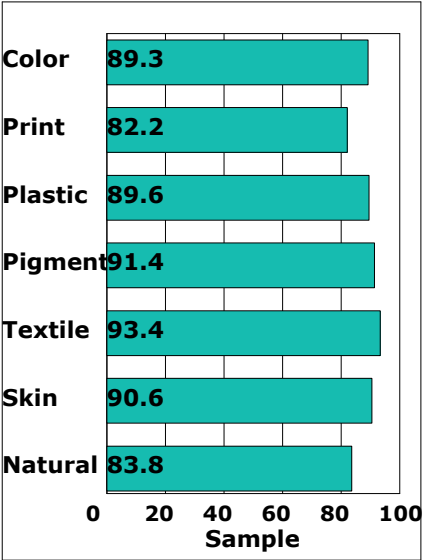
Electrical parameters:

Effic: 18.8 Lm/W	Energy: 20.5	Effi: G	
U: 222.4 V	I: 0.049 A	P: 10.070 W	Pf: 0.920

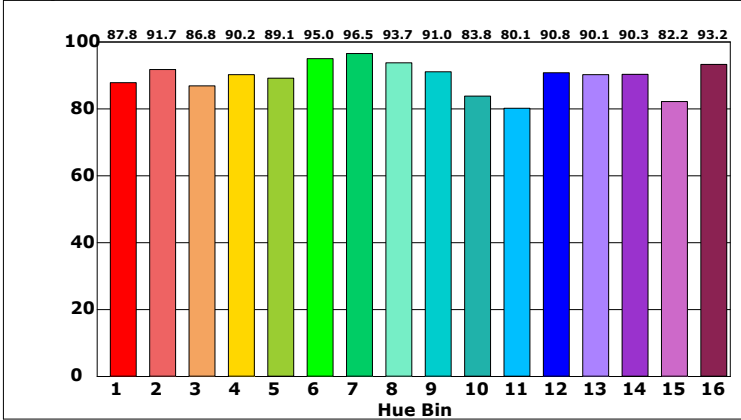
Rf: 89.2 CCT: 5684K u': 0.2061
Rg: 100.3 LER: 296.2 Duv: -0.00085 v': 0.4743



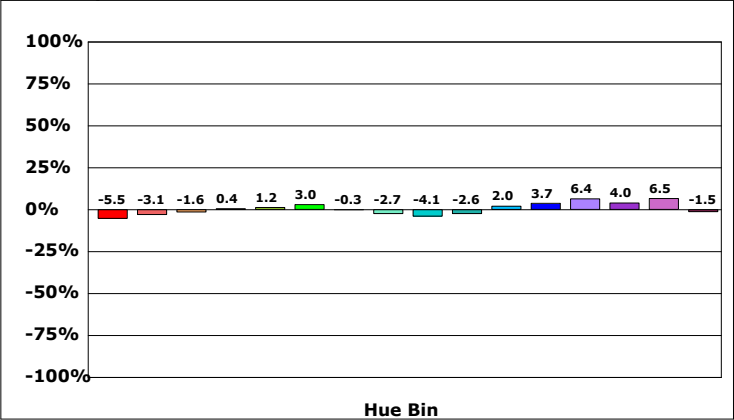
500			
Hue Bin	Rf	Chroma	Hue
1	87.8	-5.5%	-0.6%
2	91.7	-3.1%	3.1%
3	86.8	-1.6%	6.3%
4	90.2	0.4%	4.9%
5	89.1	1.2%	3.4%
6	95.0	3.0%	0.7%
7	96.5	-0.3%	-1.0%
8	93.7	-2.7%	0.3%
9	91.0	-4.1%	5.3%
10	83.8	-2.6%	8.5%
11	80.1	2.0%	10.8%
12	90.8	3.7%	3.8%
13	90.1	6.4%	-1.7%
14	90.3	4.0%	-2.6%
15	82.2	6.5%	-12.9%
16	93.2	-1.5%	-3.2%



Rf by Bue

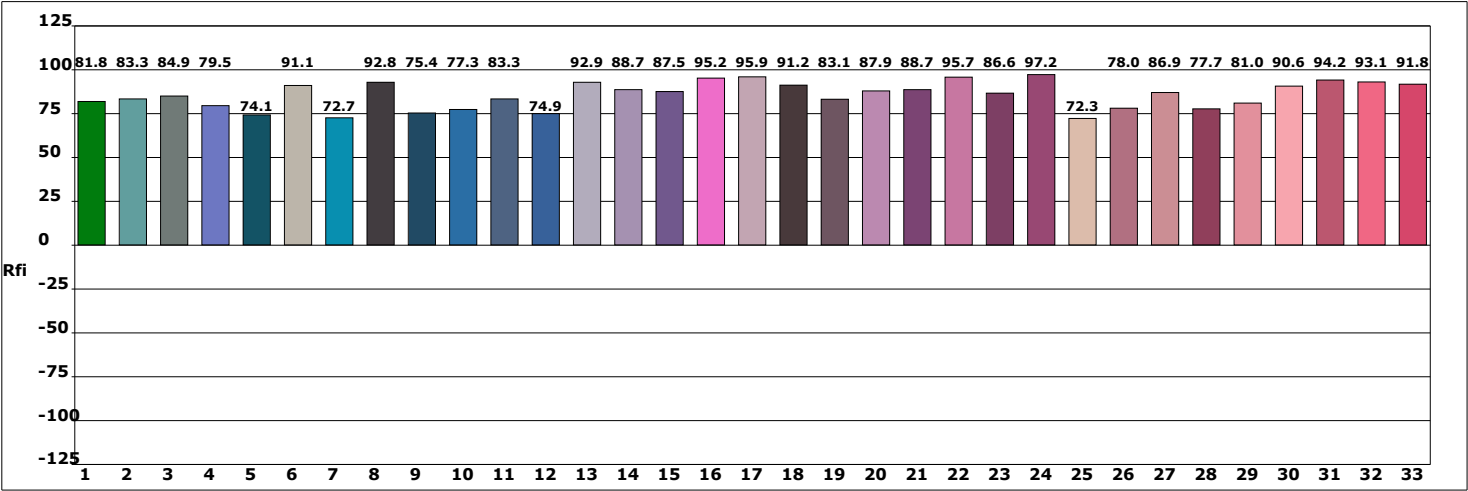
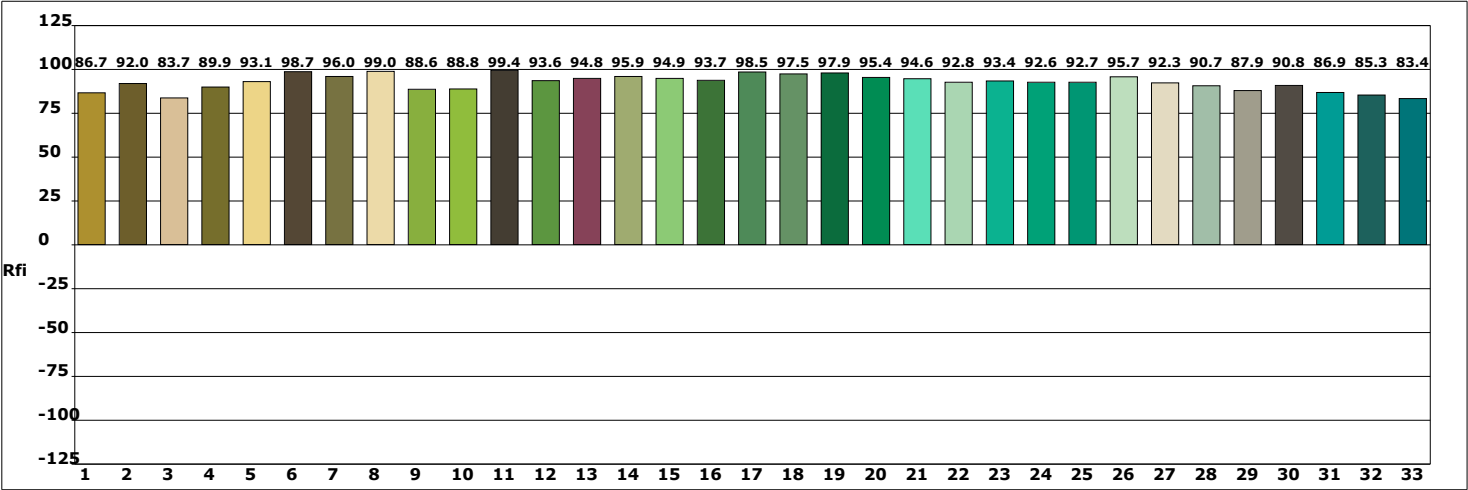
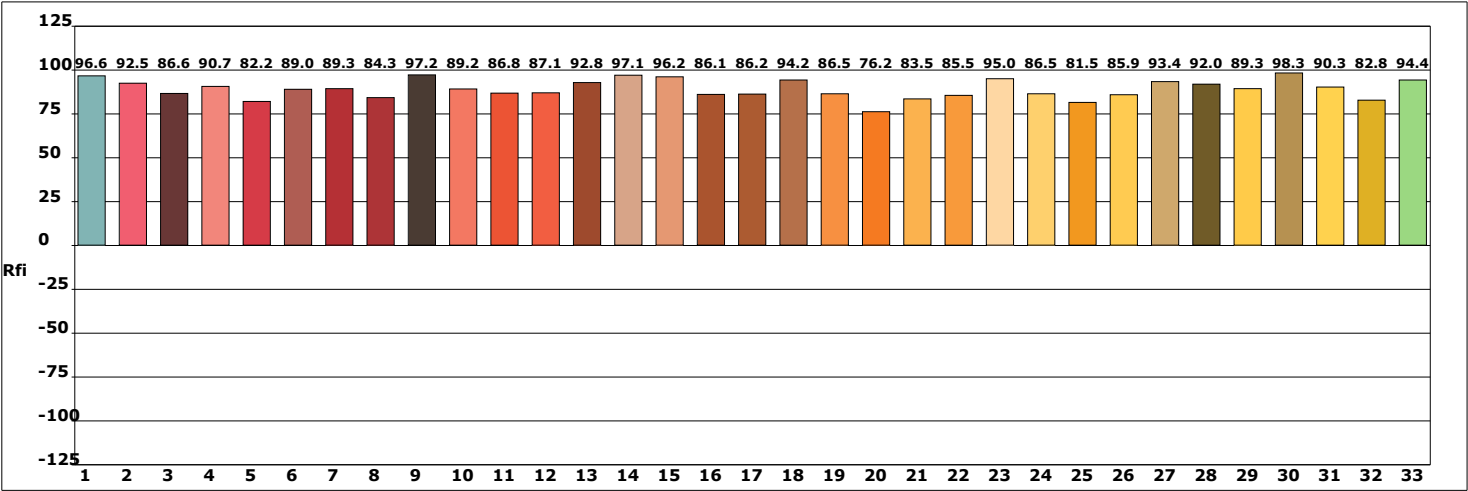


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

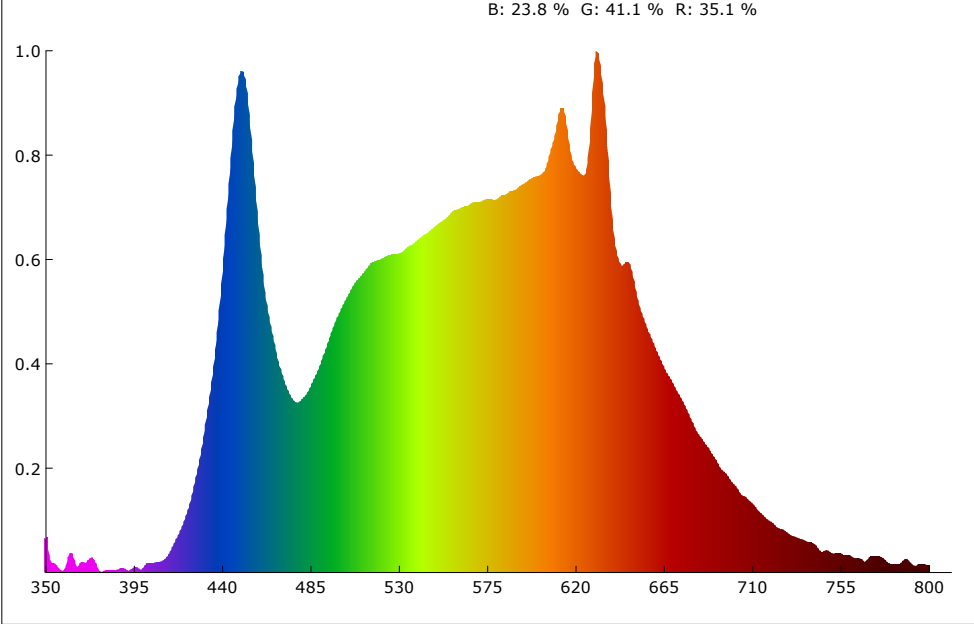
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 02/12/13



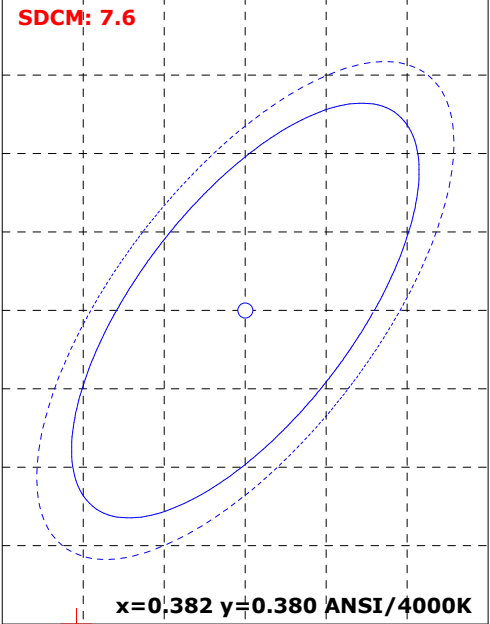
Product model:
Product number:
Tester:
Remarks:

Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 02/12/13

Spectrogram



SDCM



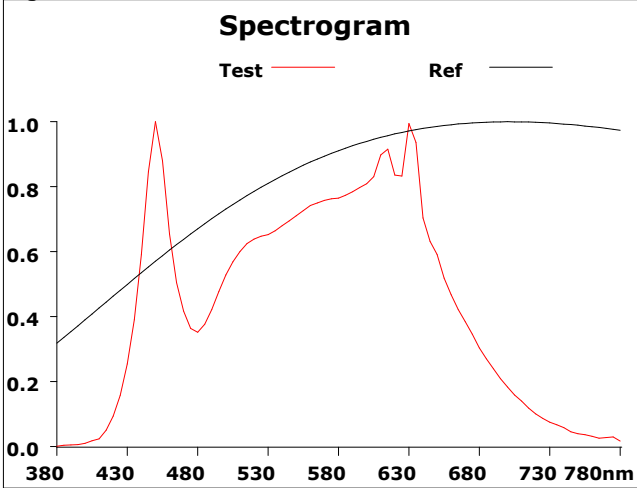
Color Parameter:

x: 0.3714	y: 0.3596	u: 0.2260	v: 0.3283	u': 0.2260	v': 0.4924
R_ratio: 35.1 %	G_ratio: 41.1 %	B_ratio: 23.8 %	RedRatio: 19.6 %	GreenRatio: 77.5 %	BlueRatio: 2.9 %
Ra: 94.9	AvgR: 92.9				
R1: 96.9	R2: 97.1	R3: 95.5	R4: 95.3	R5: 96.7	R6: 94.3
R7: 94.2	R8: 89.9	R9: 74.5	R10: 92.2	R11: 95.0	R12: 81.6
R13: 97.2	R14: 96.9	R15: 96.0			
CCT: 4134 K	Flux: 178.924 lm	PeakWave: 631.5 nm	SDCM: 7.6		
S/P: 1.8	CentralWave: 576.6 nm	DominantWave: 582.7 nm	CentroidWave: 565.3 nm		
HalfWidth: 152.7 nm	duv: -0.00549	purity: 19.4 %	CQS: 85.0		
LER(TM-30): 293.4	Ep: 609.7 mw	Rg: 101.6	Rf: 90.9		
Red Ep: 205.5 mw	Near red Ep: 19.9 mw	Near infrared Ep: 1.4 mw			

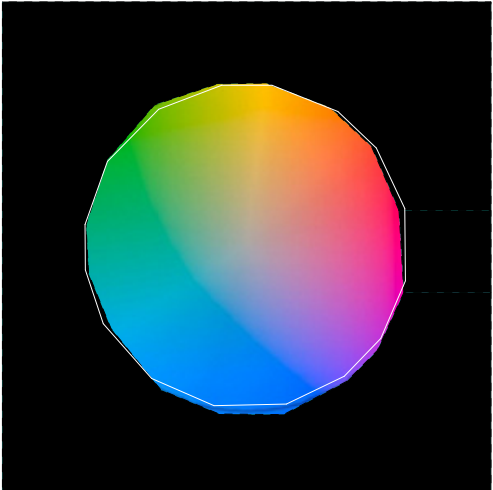
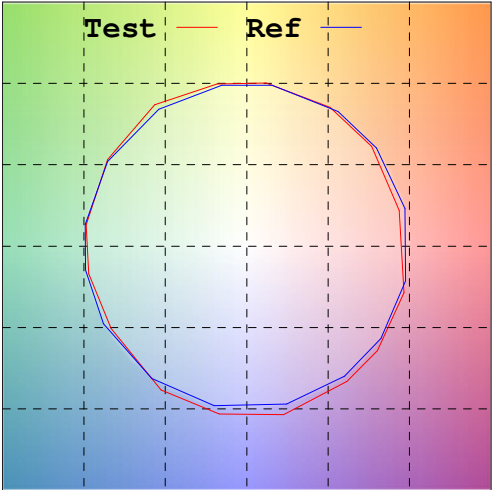
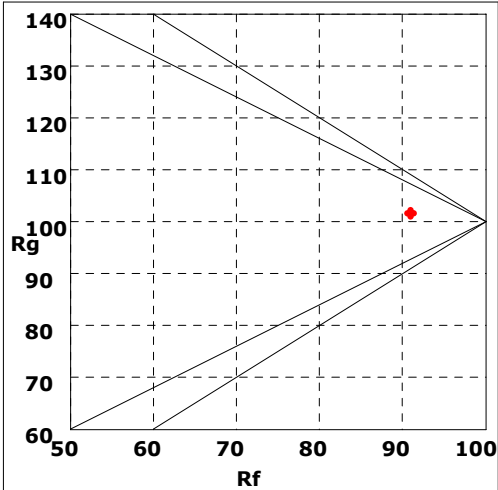
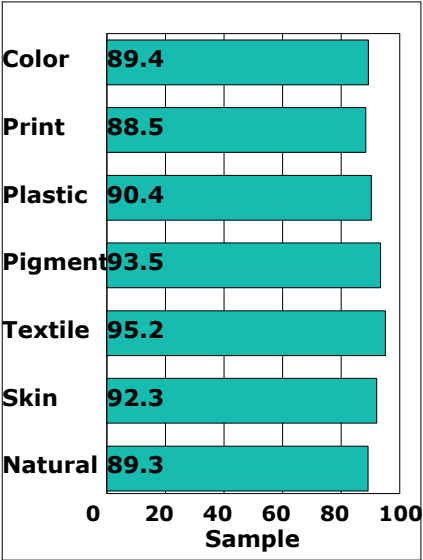
Electrical parameters:

Effic: 17.7 lm/W	Energy: 19.3	Effi: G	
U: 222.3 V	I: 0.049 A	P: 10.120 W	Pf: 0.920

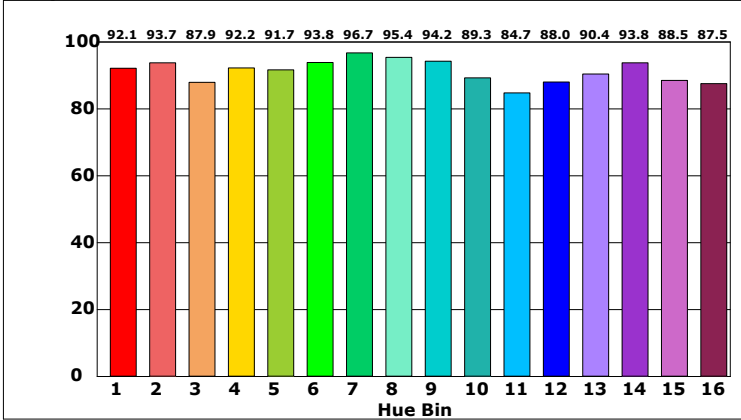
Rf: 90.9 CCT: 4134K u': 0.2260
Rg: 101.6 LER: 293.4 Duv: -0.00549 v': 0.4924



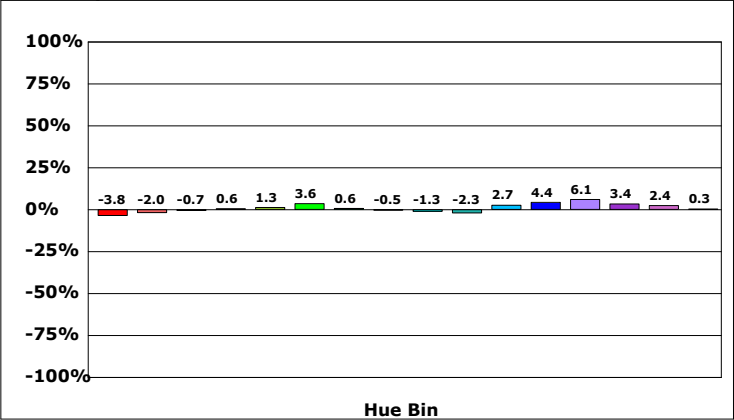
500			
Hue Bin	Rf	Chroma	Hue
1	92.1	-3.8%	-0.5%
2	93.7	-2.0%	2.4%
3	87.9	-0.7%	5.6%
4	92.2	0.6%	3.7%
5	91.7	1.3%	2.8%
6	93.8	3.6%	0.6%
7	96.7	0.6%	-0.9%
8	95.4	-0.5%	0.1%
9	94.2	-1.3%	2.8%
10	89.3	-2.3%	5.1%
11	84.7	2.7%	8.7%
12	88.0	4.4%	4.2%
13	90.4	6.1%	-3.0%
14	93.8	3.4%	-0.3%
15	88.5	2.4%	-7.4%
16	87.5	0.3%	-7.2%



Rf by Bue

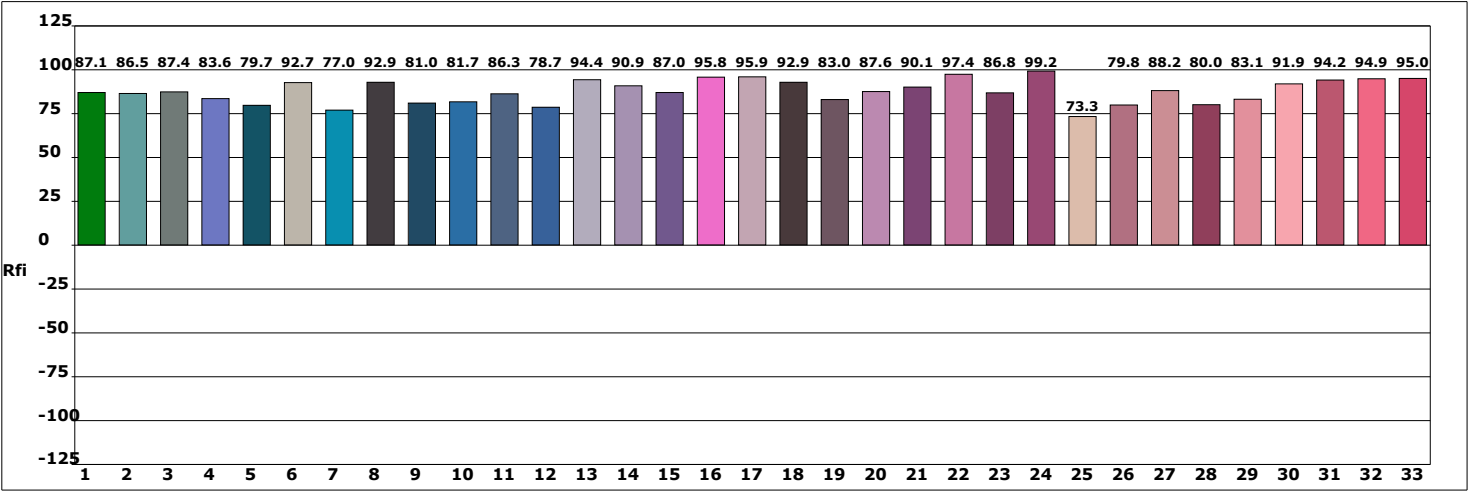
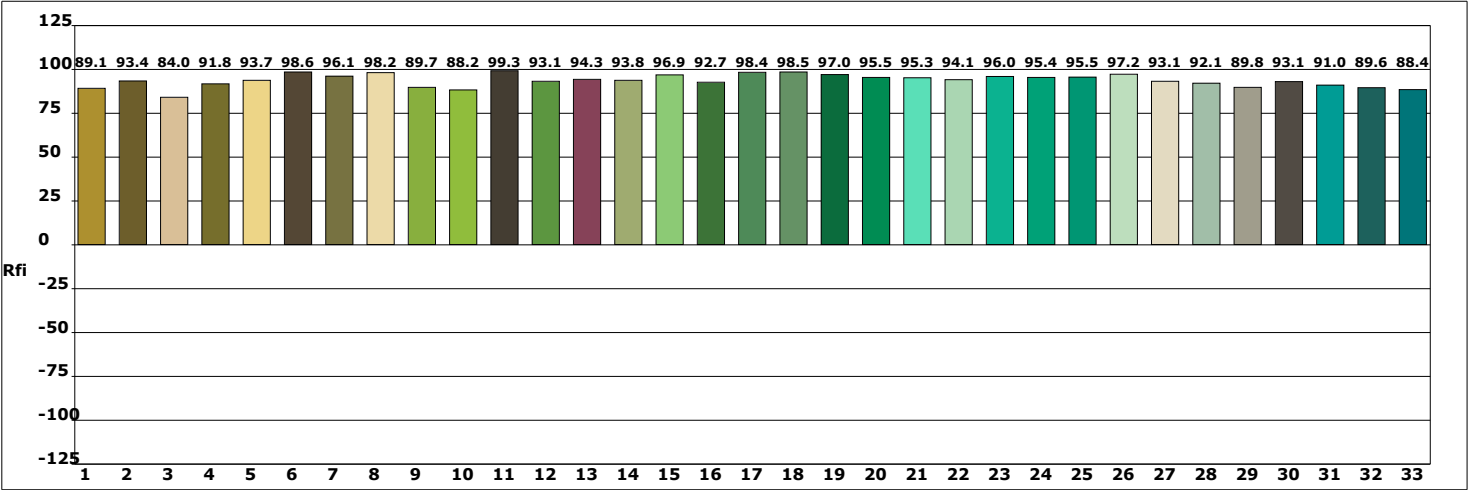
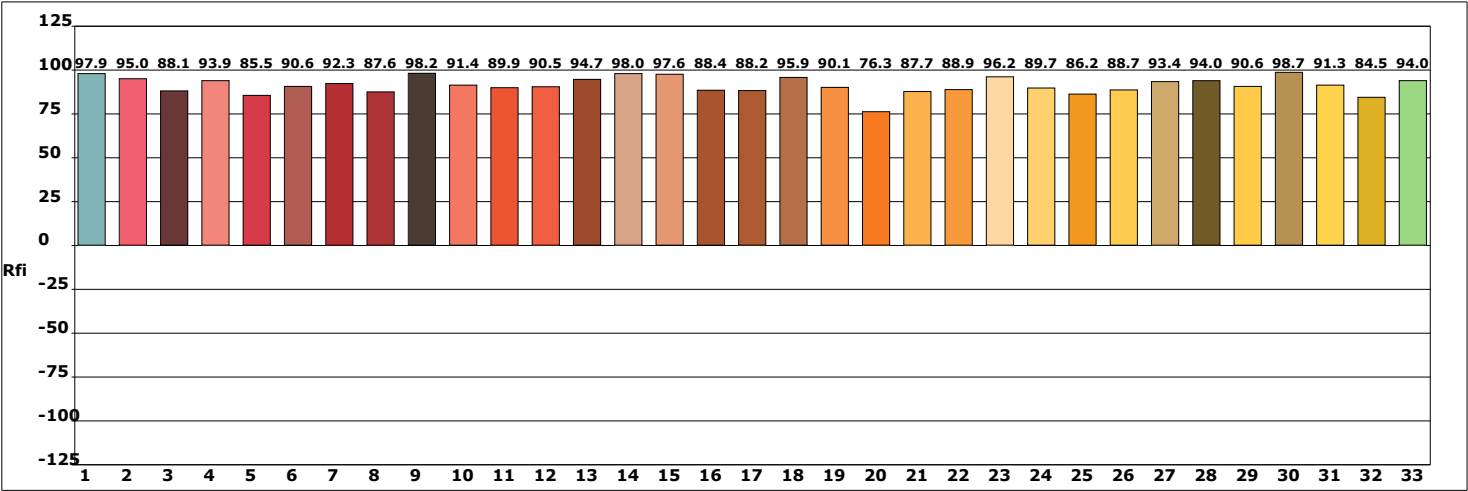


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 02/12/13



Product model:
Product number:
Tester:
Remarks:

Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 02/12/13