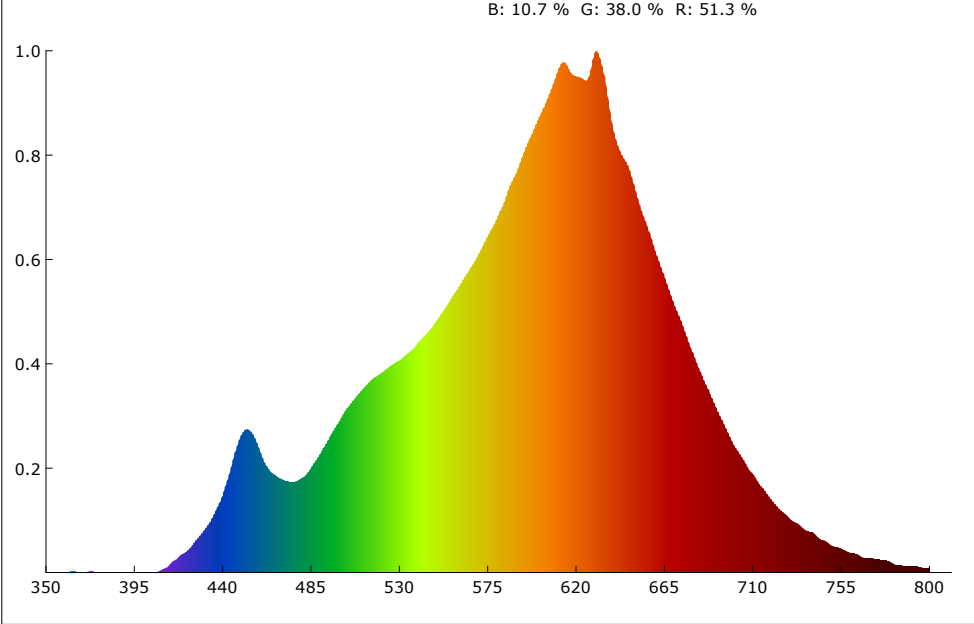
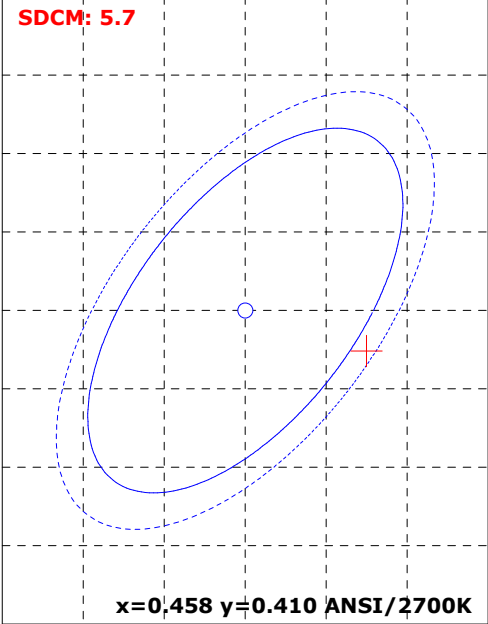


Spectrogram



SDCM



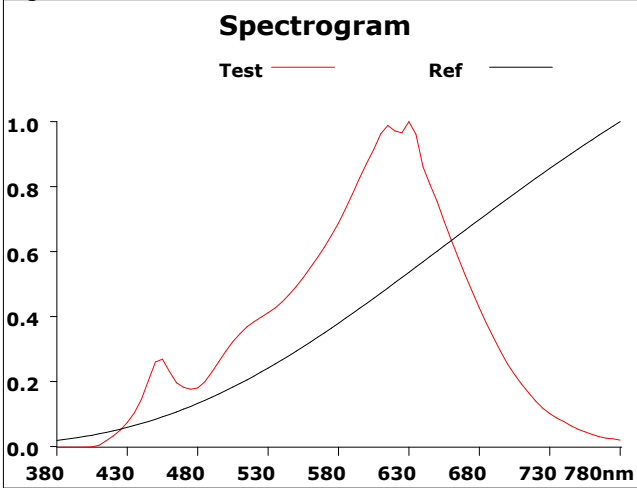
Color Parameter:

x: 0.4653	y: 0.4075	u: 0.2674	v: 0.3513	u': 0.2674	v': 0.5270
R_ratio: 51.3 %	G_ratio: 38.0 %	B_ratio: 10.7 %	RedRatio: 26.7 %	GreenRatio: 71.8 %	BlueRatio: 1.5 %
Ra: 92.1	AvgR: 90.3				
R1: 93.4	R2: 98.3	R3: 96.2	R4: 92.8	R5: 94.0	R6: 97.2
R7: 88.5	R8: 76.5	R9: 51.1	R10: 96.2	R11: 95.4	R12: 93.6
R13: 95.0	R14: 98.8	R15: 87.4			
CCT: 2602 K	Flux: 714.579 lm	PeakWave: 630.5 nm	SDCM: 5.7		
S/P: 1.2	CentralWave: 612.2 nm	DominantWave: 585.2 nm	CentroidWave: 597.6 nm		
HalfWidth: 118.4 nm	duv: -0.00156	purity: 62.0 %	CQS: 86.3		
LER(TM-30): 291.2	Ep: 2454.0 mw	Rg: 99.3	Rf: 91.4		
Red Ep: 1190.9 mw	Near red Ep: 127.9 mw	Near infrared Ep: 4.7 mw			

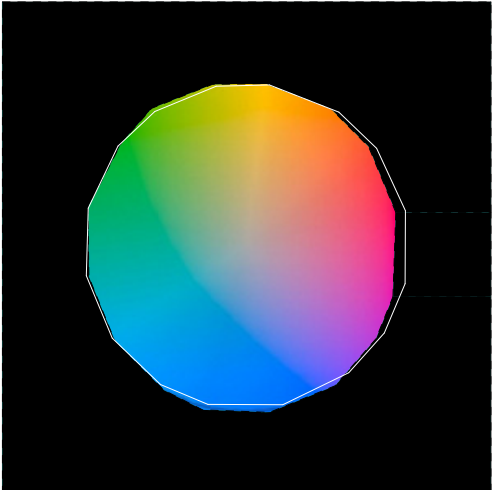
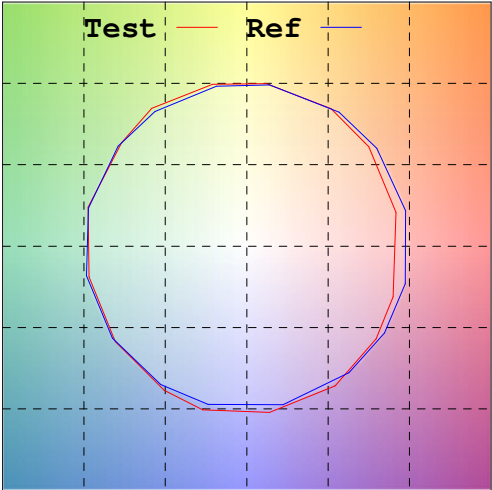
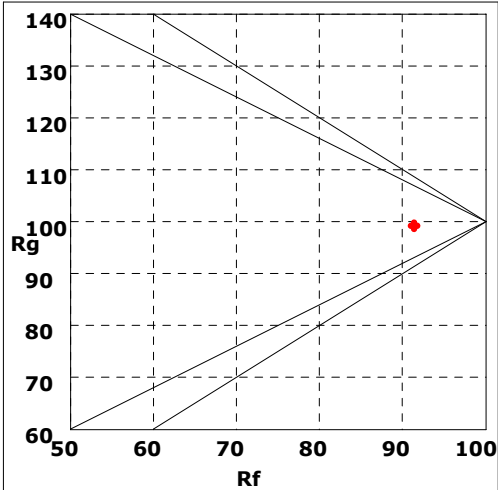
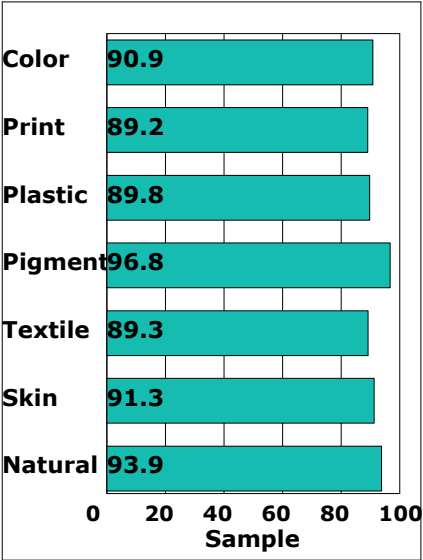
Electrical parameters:

Effic: 24.4 Lm/W	Energy: 26.6	Effi: G	
U: 221.6 V	I: 0.134 A	P: 29.270 W	Pf: 0.981

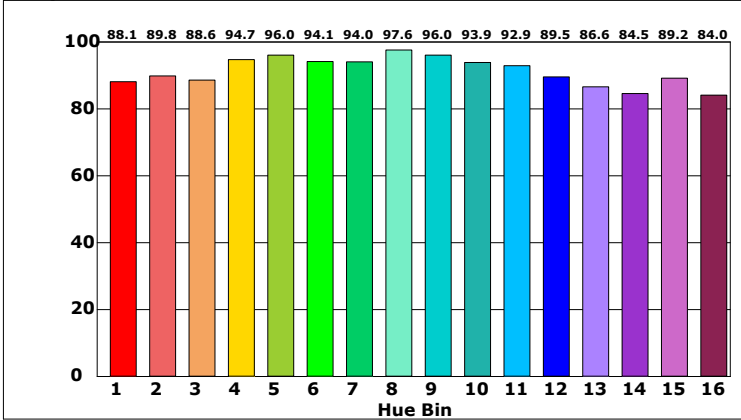
Rf: 91.4 CCT: 2602K u': 0.2674
Rg: 99.3 LER: 291.2 Duv: -0.00156 v': 0.5270



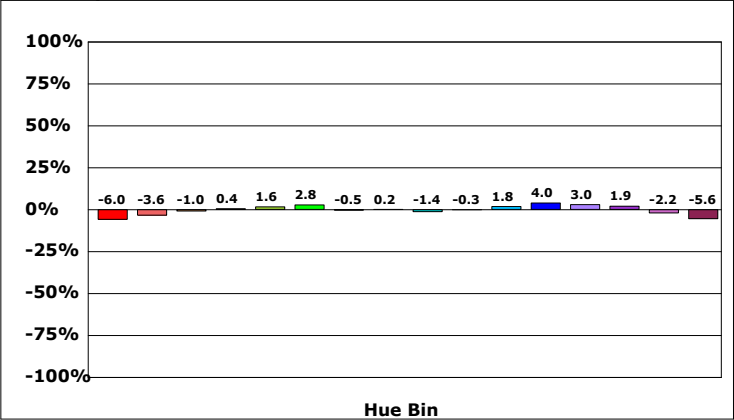
500			
Hue Bin	Rf	Chroma	Hue
1	88.1	-6.0%	0.3%
2	89.8	-3.6%	3.7%
3	88.6	-1.0%	5.3%
4	94.7	0.4%	2.1%
5	96.0	1.6%	2.0%
6	94.1	2.8%	0.6%
7	94.0	-0.5%	-3.0%
8	97.6	0.2%	-0.6%
9	96.0	-1.4%	1.0%
10	93.9	-0.3%	2.9%
11	92.9	1.8%	3.8%
12	89.5	4.0%	-2.6%
13	86.6	3.0%	-9.0%
14	84.5	1.9%	-11.5%
15	89.2	-2.2%	-5.6%
16	84.0	-5.6%	-9.4%



Rf by Bue

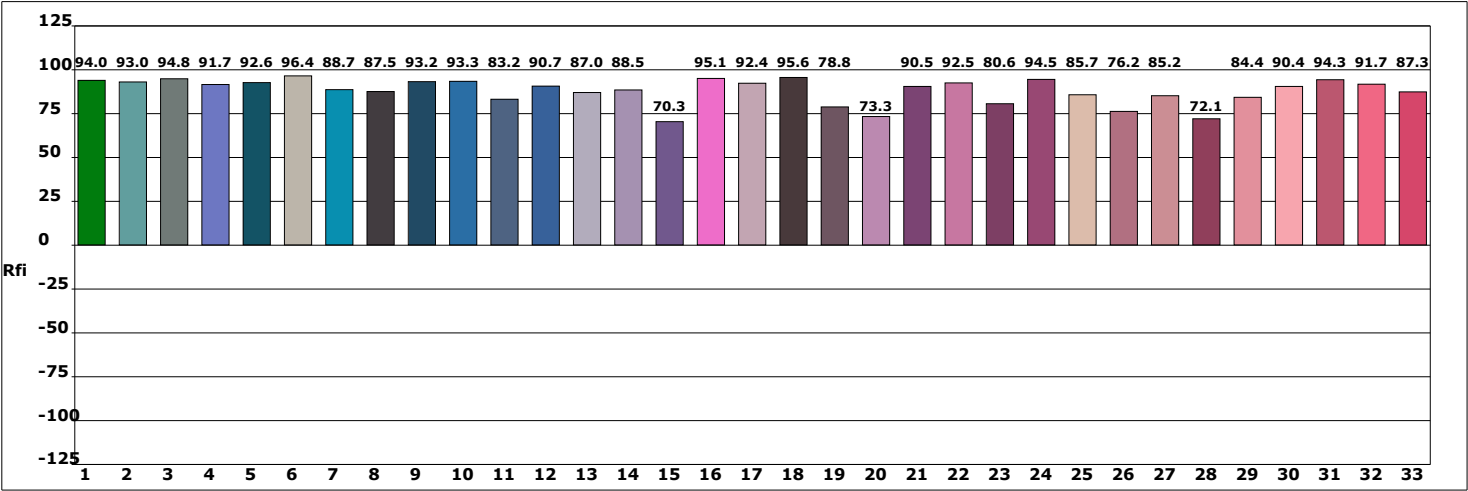
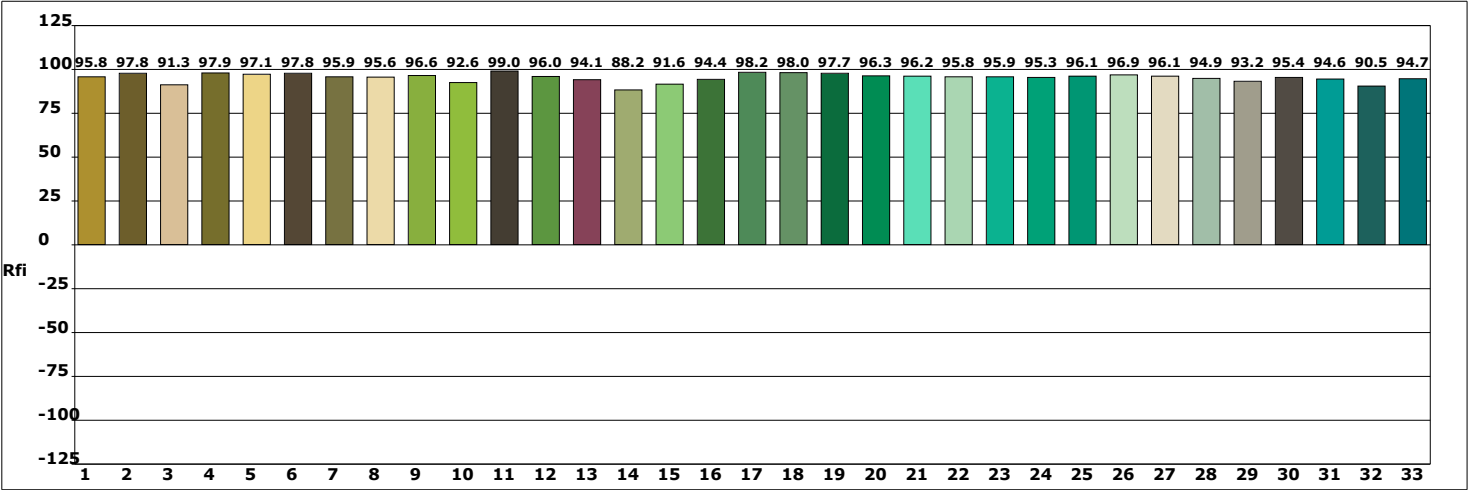
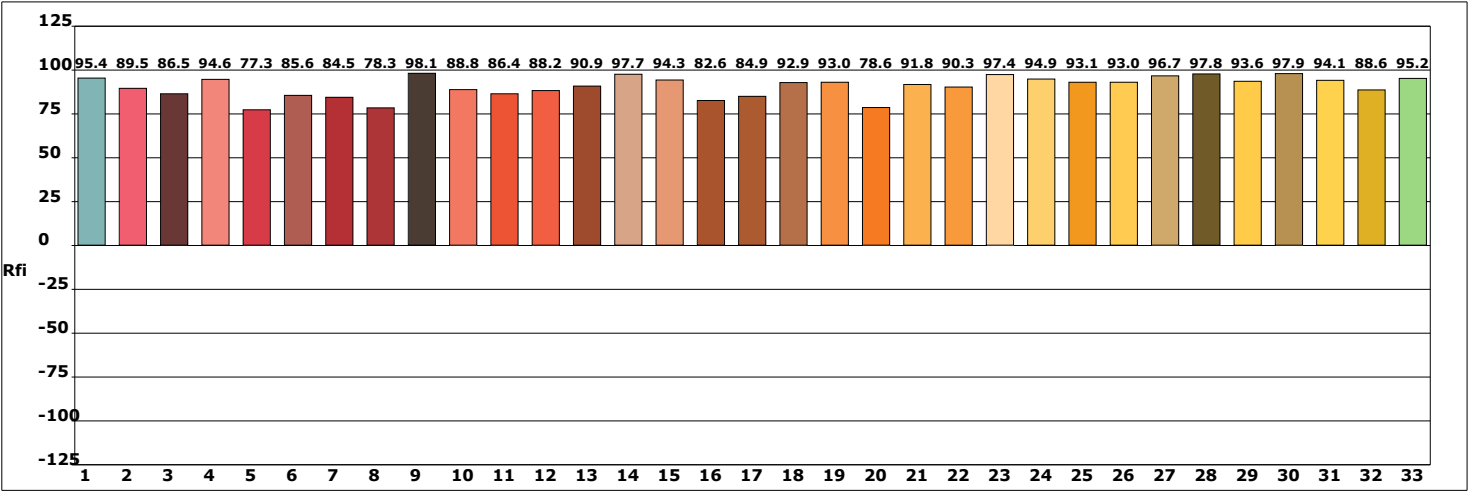


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

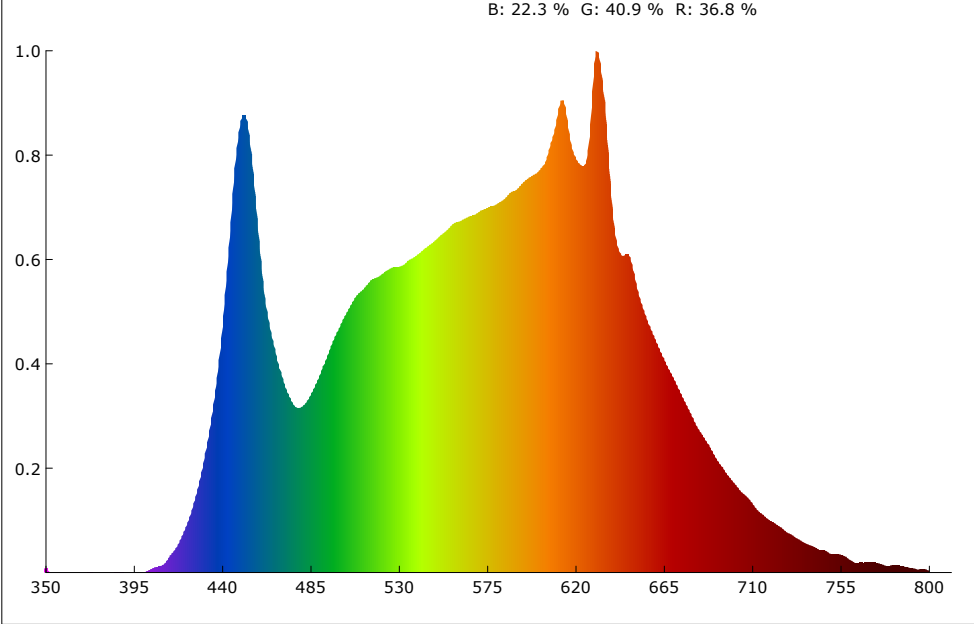
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 02/12/13



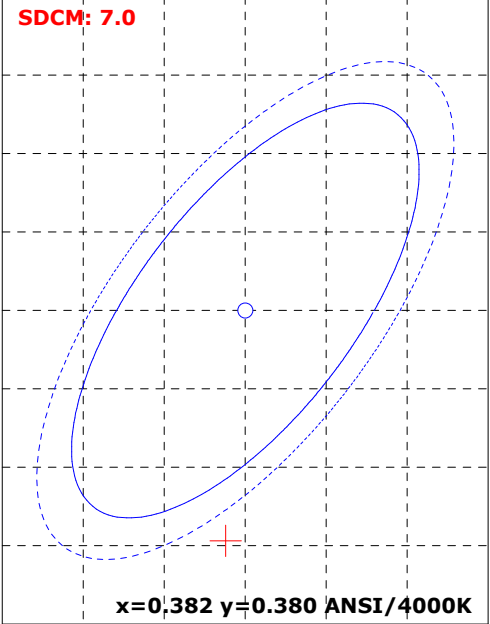
Product model:
Product number:
Tester:
Remarks:

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

Spectrogram



SDCM



Color Parameter:

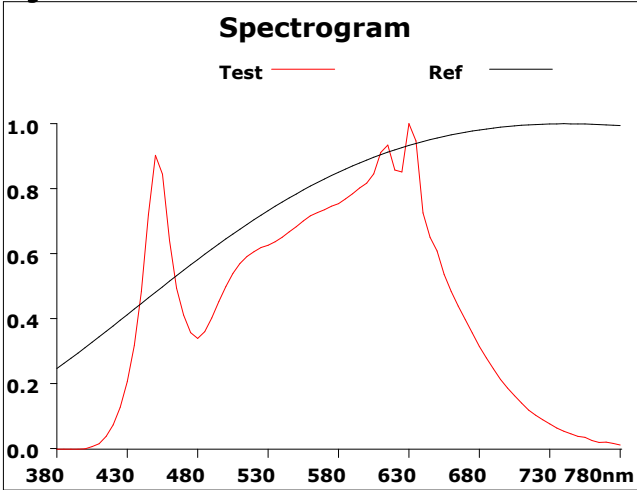
x: 0.3806	y: 0.3650	u: 0.2300	v: 0.3309	u': 0.2300	v': 0.4964		
R_ratio: 36.8 %	G_ratio: 40.9 %	B_ratio: 22.3 %	RedRatio: 20.4 %	GreenRatio: 76.8 %	BlueRatio: 2.9 %		
Ra: 95.3 AvgR: 93.5							
R1: 97.3	R2: 97.8	R3: 96.7	R4: 95.9	R5: 97.4	R6: 94.9	R7: 93.8	R8: 89.2
R9: 74.3	R10: 94.5	R11: 95.6	R12: 82.6	R13: 97.9	R14: 97.7	R15: 96.2	

CCT: 3904 K	Flux: 835.082 lm	PeakWave: 631.5 nm	SDCM: 7.0
S/P: 1.8	CentralWave: 579.2 nm	DominantWave: 583.1 nm	CentroidWave: 569.1 nm
HalfWidth: 150.0 nm	duv: -0.00564	purity: 23.8 %	CQS: 85.3
LER(TM-30): 296.3	Ep: 2818.3 mw	Rg: 101.5	Rf: 91.3
Red Ep: 1002.3 mw	Near red Ep: 91.4 mw	Near infrared Ep: 3.7 mw	

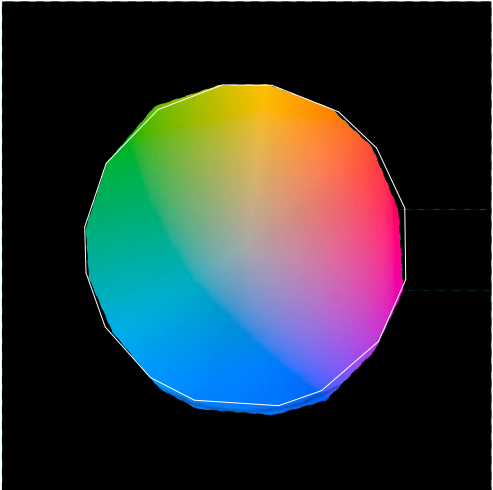
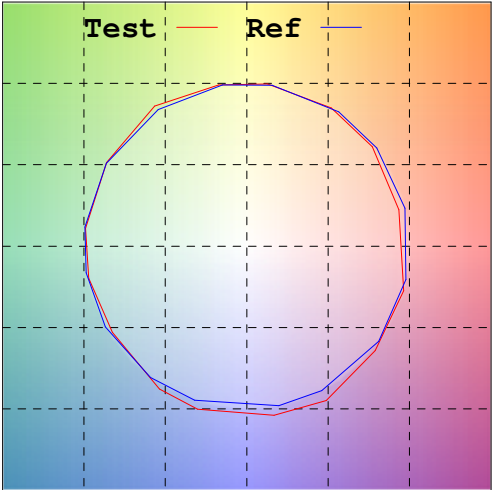
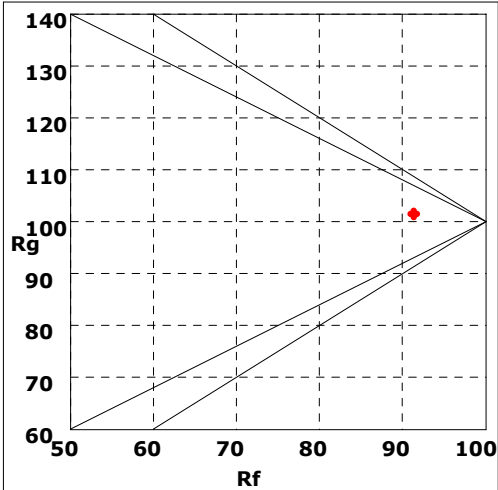
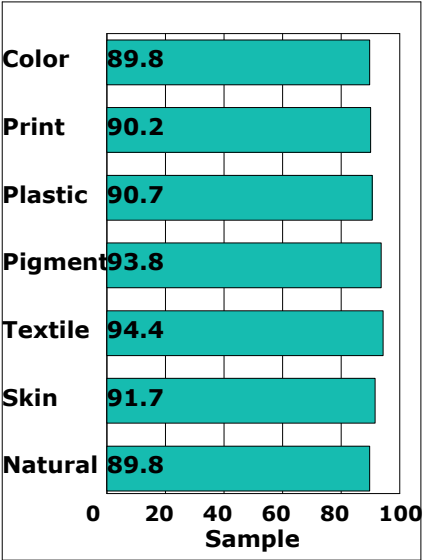
Electrical parameters:

Effic: 28.3 Lm/W	Energy: 30.9	Effi: G	
U: 221.5 V	I: 0.135 A	P: 29.460 W	Pf: 0.982

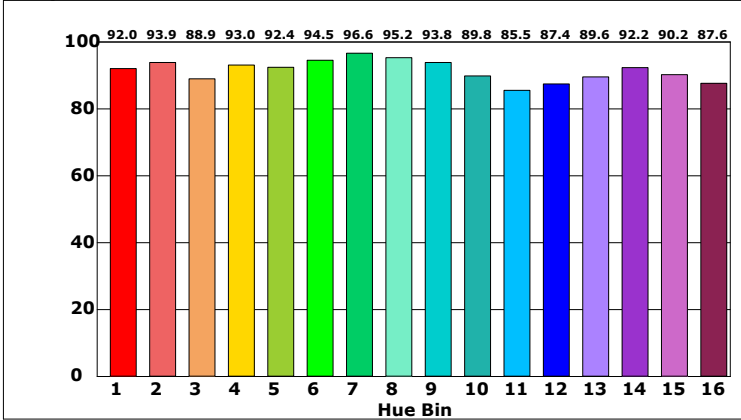
Rf: 91.3 CCT: 3904K u': 0.2300
Rg: 101.5 LER: 296.3 Duv: -0.00564 v': 0.4964



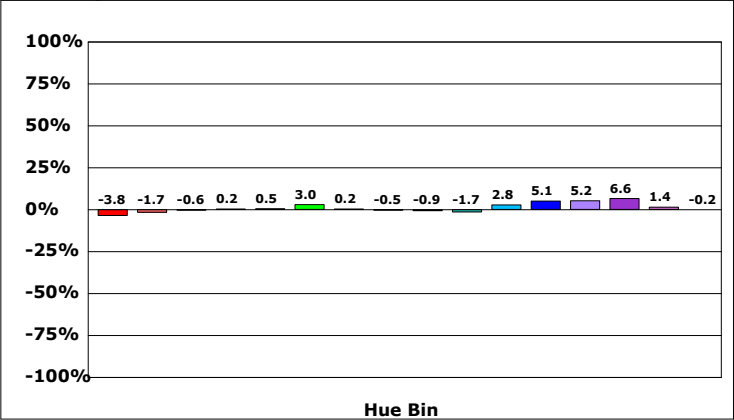
500			
Hue Bin	Rf	Chroma	Hue
1	92.0	-3.8%	-0.1%
2	93.9	-1.7%	2.3%
3	88.9	-0.6%	5.1%
4	93.0	0.2%	2.9%
5	92.4	0.5%	2.2%
6	94.5	3.0%	0.6%
7	96.6	0.2%	-0.5%
8	95.2	-0.5%	0.7%
9	93.8	-0.9%	3.5%
10	89.8	-1.7%	5.1%
11	85.5	2.8%	8.3%
12	87.4	5.1%	2.8%
13	89.6	5.2%	-4.0%
14	92.2	6.6%	-1.1%
15	90.2	1.4%	-6.0%
16	87.6	-0.2%	-6.9%



Rf by Bue

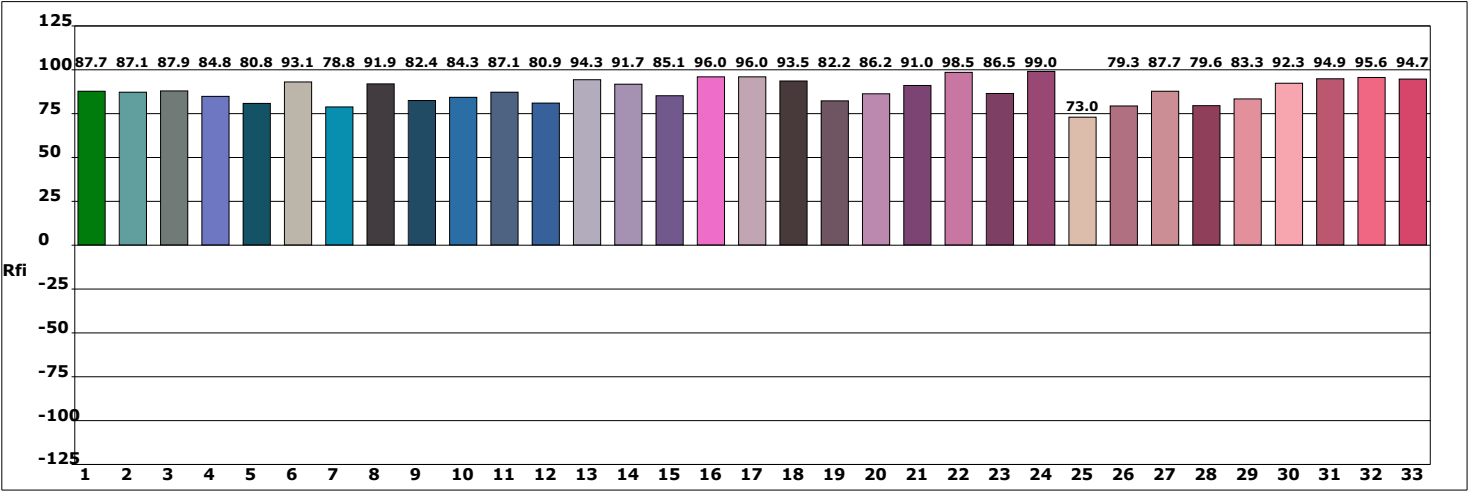
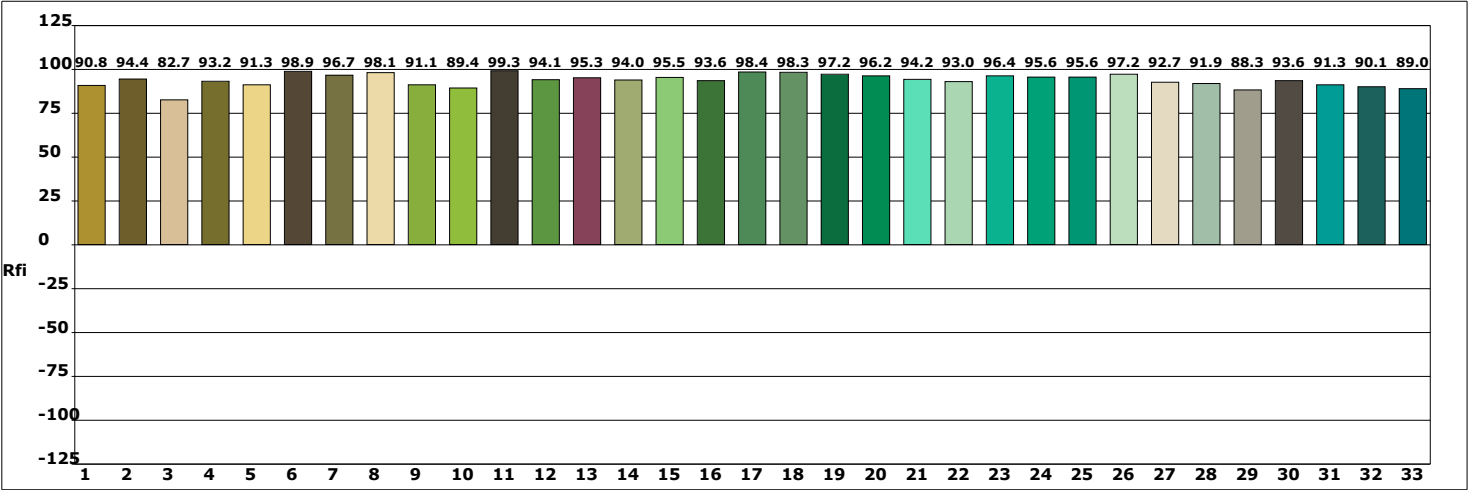
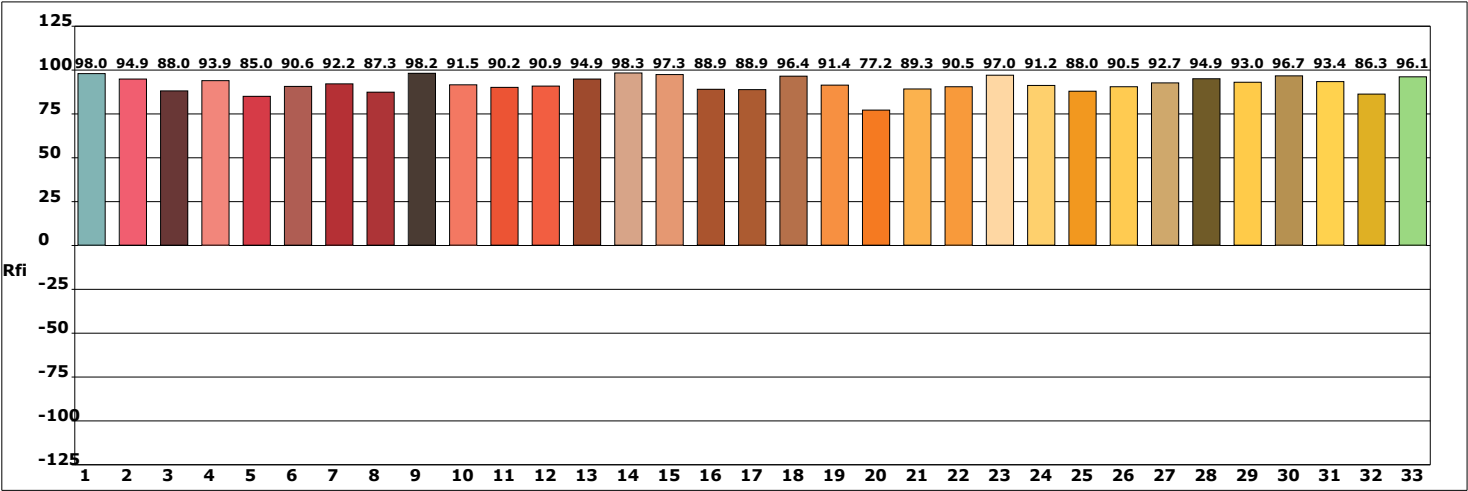


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

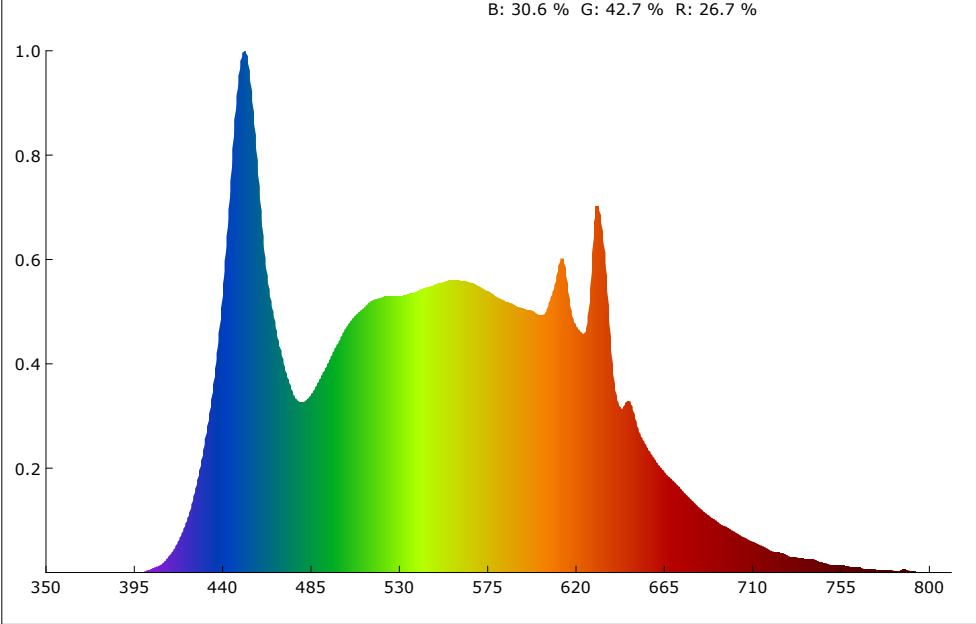
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 02/12/13



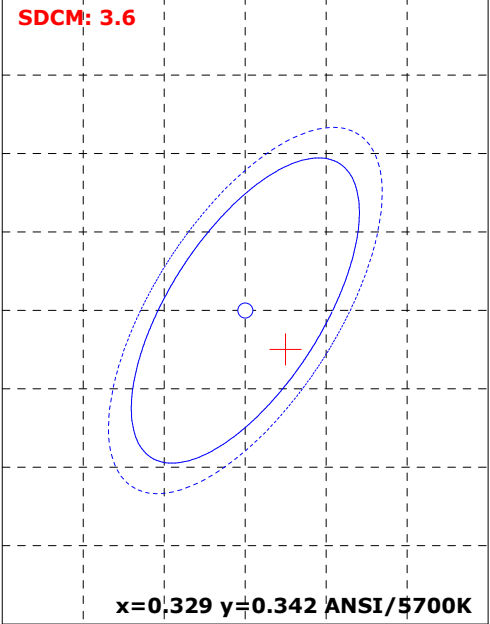
Product model:
Product number:
Tester:
Remarks:

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

Spectrogram



SDCM



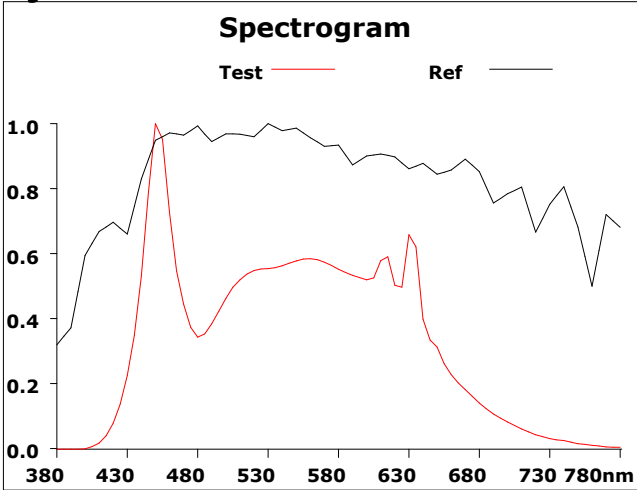
Color Parameter:

x: 0.3312	y: 0.3392	u: 0.2067	v: 0.3176	u': 0.2067	v': 0.4764
R_ratio: 26.7 %	G_ratio: 42.7 %	B_ratio: 30.6 %	RedRatio: 16.0 %	GreenRatio: 80.1 %	BlueRatio: 3.9 %
Ra: 93.0	AvgR: 90.0				
R1: 94.1	R2: 94.9	R3: 93.6	R4: 93.9	R5: 93.6	R6: 91.4
R7: 94.5	R8: 88.6				
R9: 66.7	R10: 86.5	R11: 93.9	R12: 74.9	R13: 94.5	R14: 96.2
R15: 93.3					
CCT: 5558 K	Flux: 908.201 lm	PeakWave: 451.6 nm	SDCM: 3.6		
S/P: 2.2	CentralWave: 452.7 nm	DominantWave: 531.7 nm	CentroidWave: 548.5 nm		
HalfWidth: 25.9 nm	duv: -0.00038	purity: 1.3 %	CQS: 88.4		
LER(TM-30): 300.0	Ep: 3027.8 mw	Rg: 99.9	Rf: 89.5		
Red Ep: 793.3 mw	Near red Ep: 56.0 mw	Near infrared Ep: 1.7 mw			

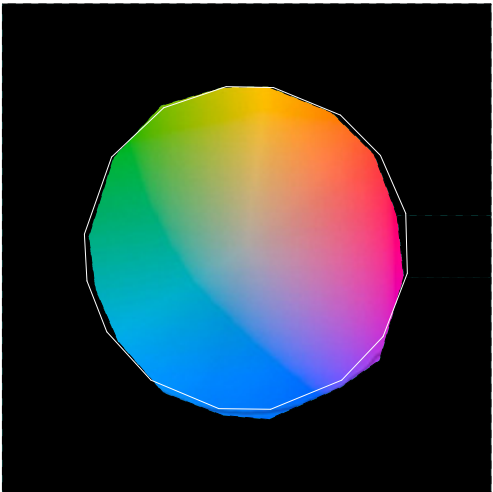
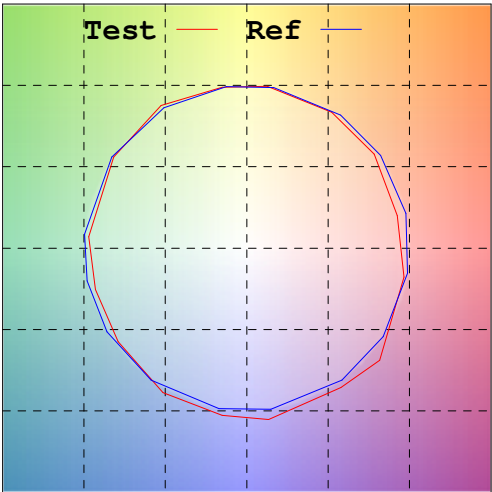
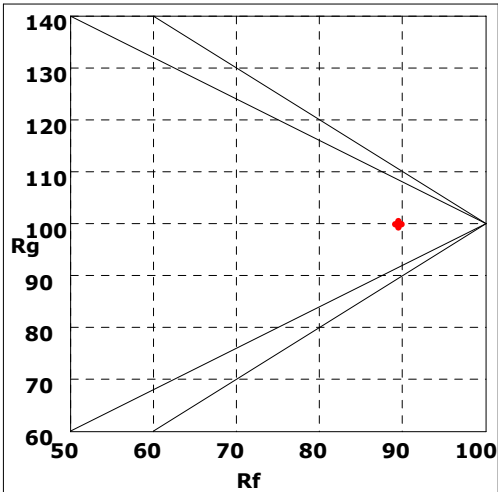
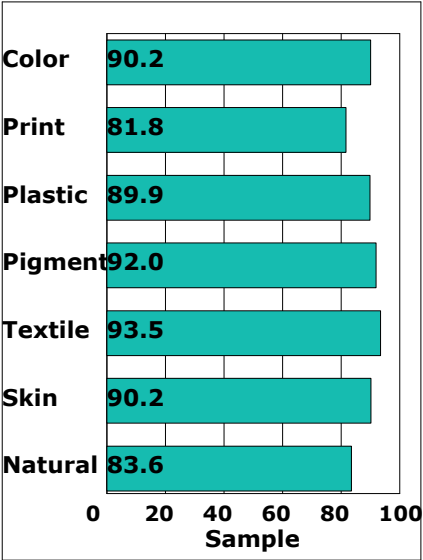
Electrical parameters:

Effic: 30.9 Lm/W	Energy: 33.7	Effi: G	
U: 221.7 V	I: 0.135 A	P: 29.390 W	Pf: 0.981

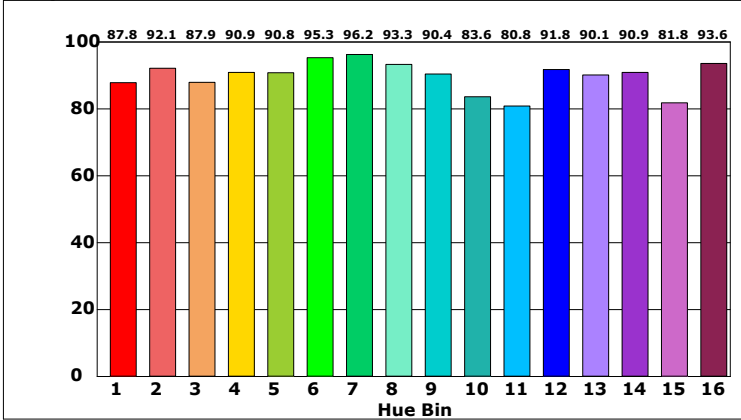
Rf: 89.5 CCT: 5558K u': 0.2067
Rg: 99.9 LER: 300.0 Duv: -0.00038 v': 0.4764



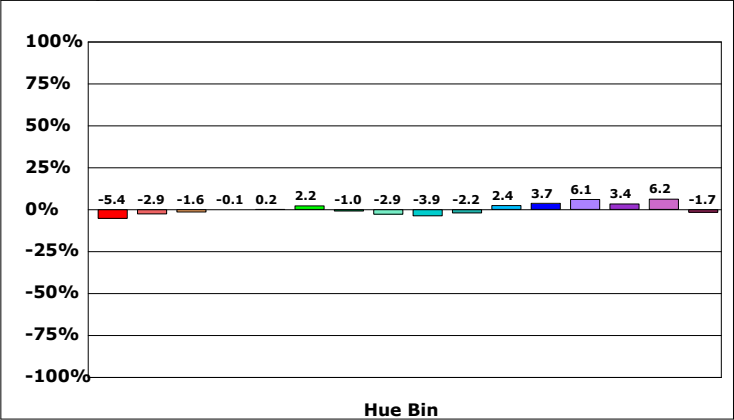
500			
Hue Bin	Rf	Chroma	Hue
1	87.8	-5.4%	-0.3%
2	92.1	-2.9%	2.9%
3	87.9	-1.6%	5.6%
4	90.9	-0.1%	4.0%
5	90.8	0.2%	2.7%
6	95.3	2.2%	0.6%
7	96.2	-1.0%	-0.6%
8	93.3	-2.9%	1.1%
9	90.4	-3.9%	6.2%
10	83.6	-2.2%	8.8%
11	80.8	2.4%	10.3%
12	91.8	3.7%	2.8%
13	90.1	6.1%	-2.6%
14	90.9	3.4%	-3.0%
15	81.8	6.2%	-13.2%
16	93.6	-1.7%	-2.7%



Rf by Bue

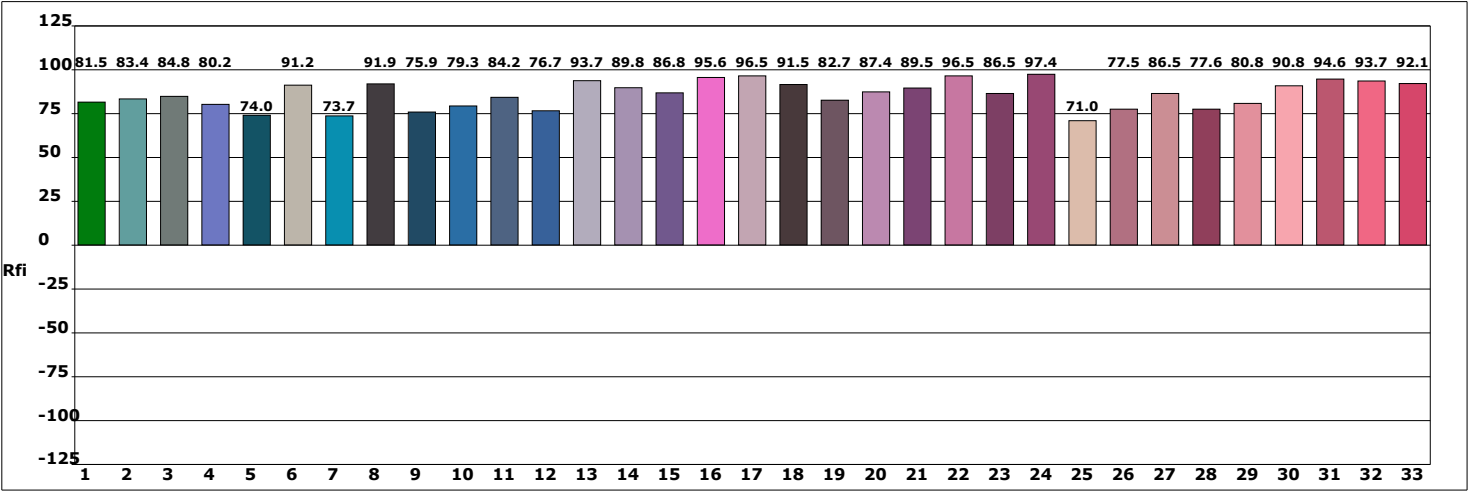
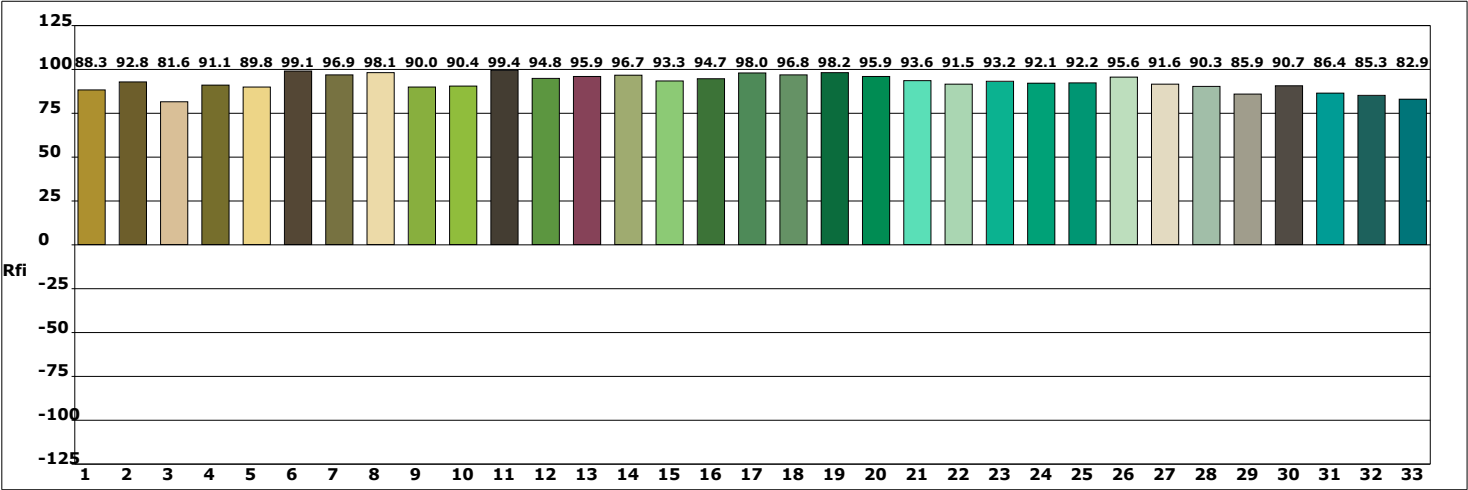
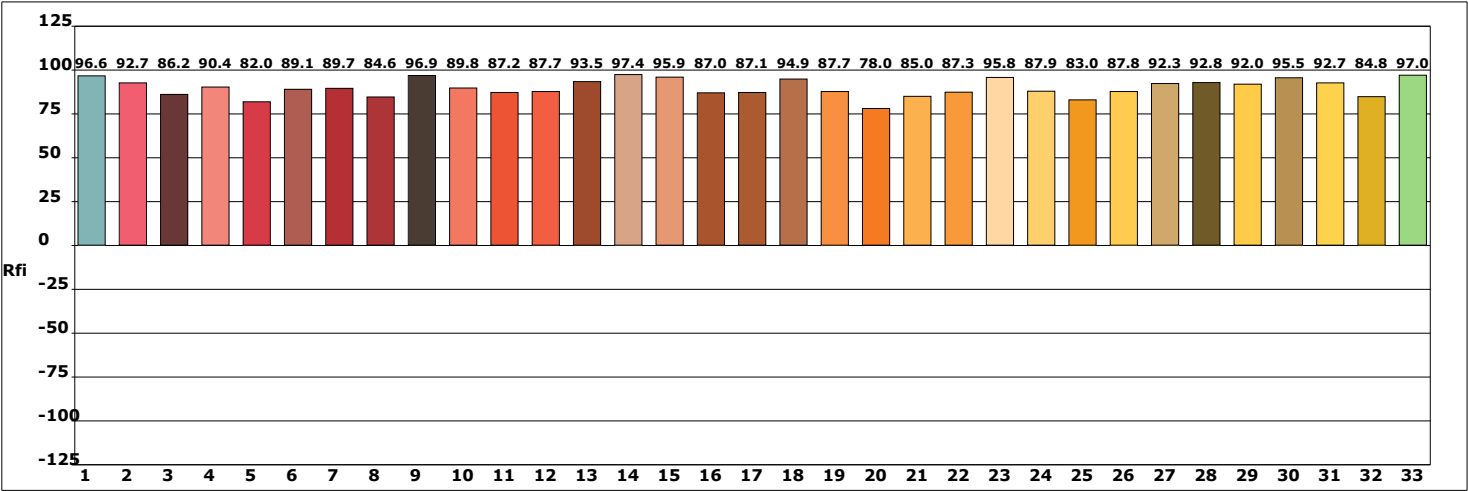


Chroma by Bue



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