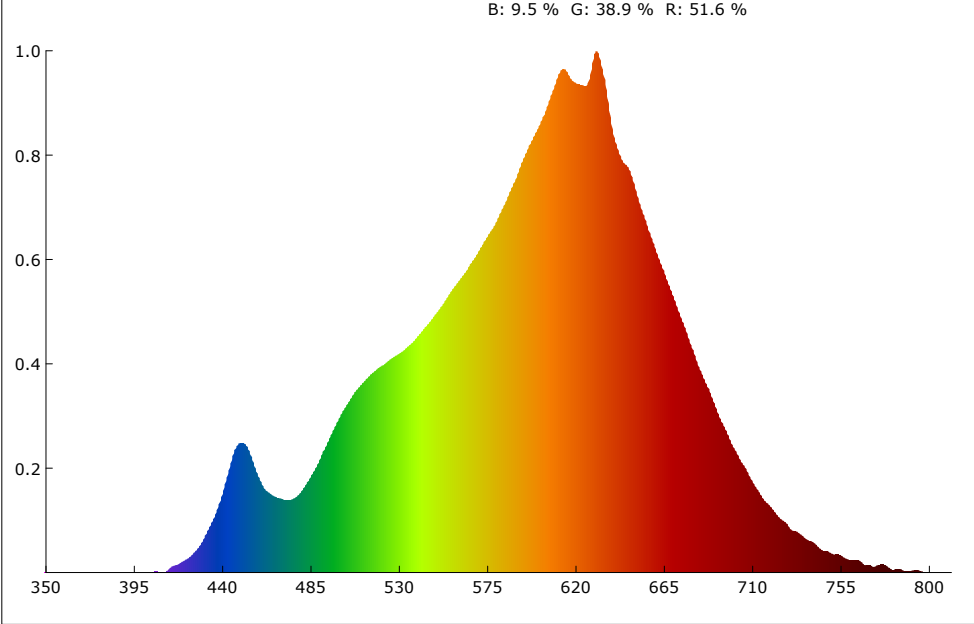
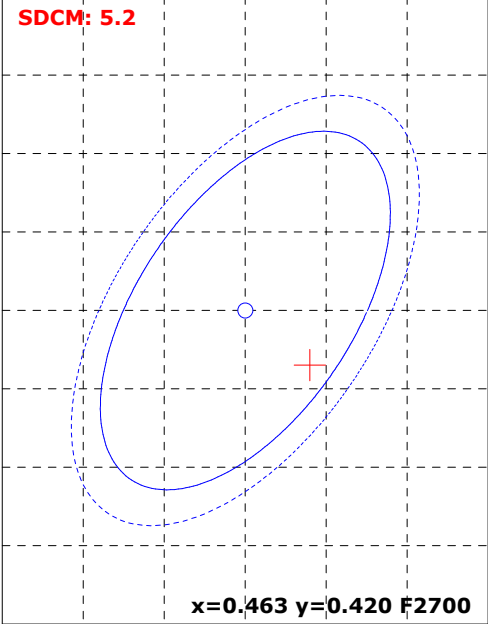


Spectrogram



SDCM



Color Parameter:

x: 0.4690 y: 0.4165 u: 0.2657 v: 0.3540 u': 0.2657 v': 0.5310
R_ratio: 51.6 % G_ratio: 38.9 % B_ratio: 9.5 % RedRatio: 26.3 % GreenRatio: 72.4 % BlueRatio: 1.3 %

Ra: 92.4 AvgR: 89.8
R1: 92.3 R2: 96.3 R3: 99.4 R4: 93.8 R5: 92.9 R6: 97.7 R7: 90.1 R8: 77.3
R9: 50.7 R10: 91.7 R11: 96.3 R12: 89.9 R13: 93.3 R14: 99.2 R15: 86.1

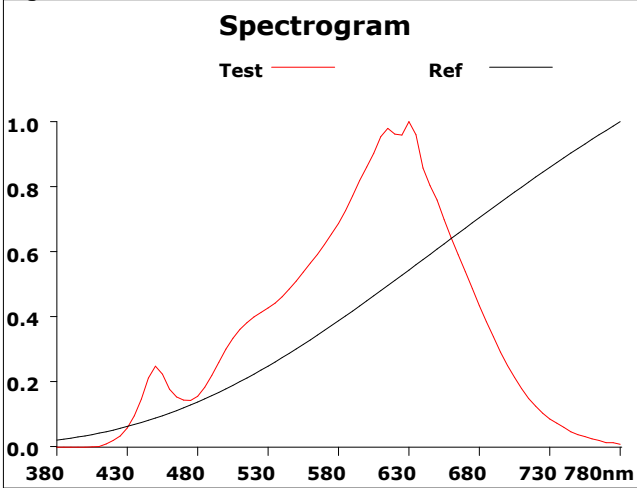
CCT: 2622 K Flux: 387.493 lm PeakWave: 630.5 nm SDCM: 5.2
S/P: 1.2 CentralWave: 611.2 nm DominantWave: 584.2 nm CentroidWave: 597.6 nm
HalfWidth: 121.6 nm duv: 0.00149 purity: 65.8 % CQS: 88.3
LER(TM-30): 296.8 Ep: 1305.4 mw Rg: 98.1 Rf: 92.1
Red Ep: 643.0 mw Near red Ep: 58.5 mw Near infrared Ep: 0.9 mw

Electrical parameters:

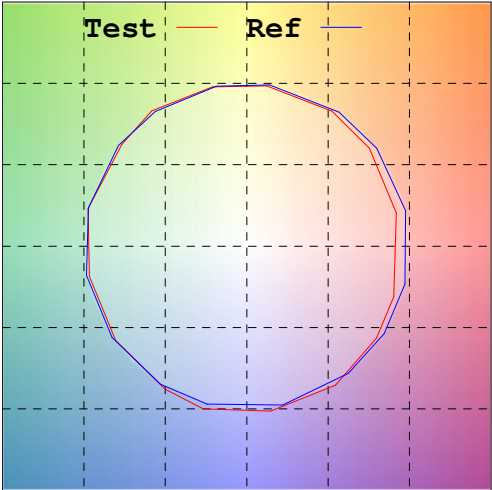
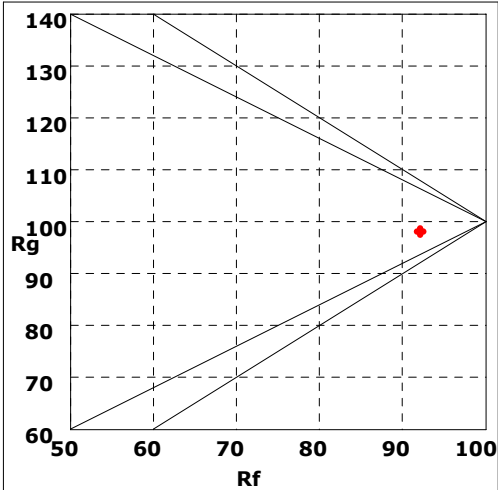
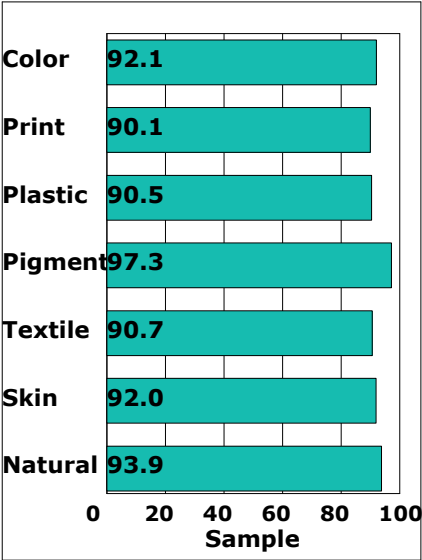
Effic: 39.7 lm/W Energy: 43.3 Effi: G
U: 222.0 V I: 0.087 A P: 9.750 W Pf: 0.502

Product model: Manufacturer: Guangzhou Hotion Technology Co.,
Product number: Test unit:
Tester: Date of observation: 03/04/13
Remarks:

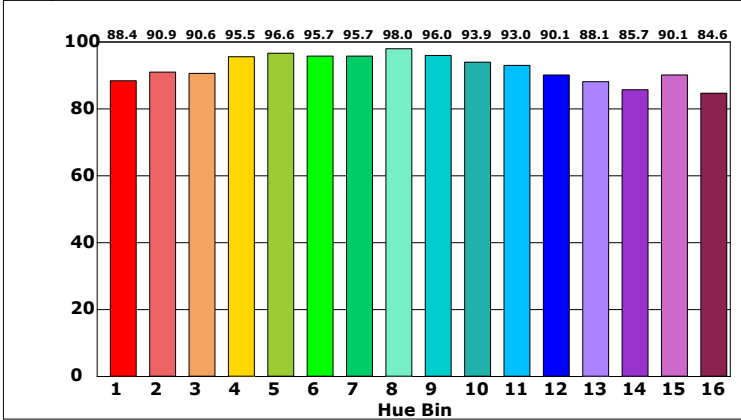
Rf: 92.1 CCT: 2622K u': 0.2657
Rg: 98.1 LER: 296.8 Duv: 0.00149 v': 0.5310



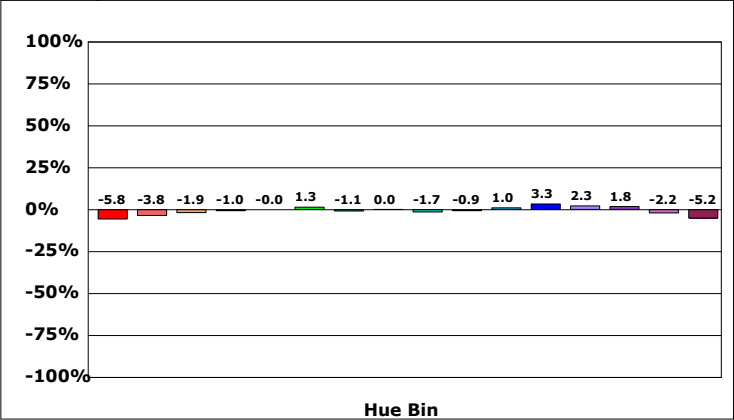
500			
Hue Bin	Rf	Chroma	Hue
1	88.4	-5.8%	-0.2%
2	90.9	-3.8%	2.6%
3	90.6	-1.9%	4.0%
4	95.5	-1.0%	1.5%
5	96.6	-0.0%	2.2%
6	95.7	1.3%	1.6%
7	95.7	-1.1%	-1.9%
8	98.0	0.0%	0.5%
9	96.0	-1.7%	0.8%
10	93.9	-0.9%	2.8%
11	93.0	1.0%	3.9%
12	90.1	3.3%	-1.9%
13	88.1	2.3%	-8.0%
14	85.7	1.8%	-10.6%
15	90.1	-2.2%	-5.0%
16	84.6	-5.2%	-9.2%



Rf by Bue

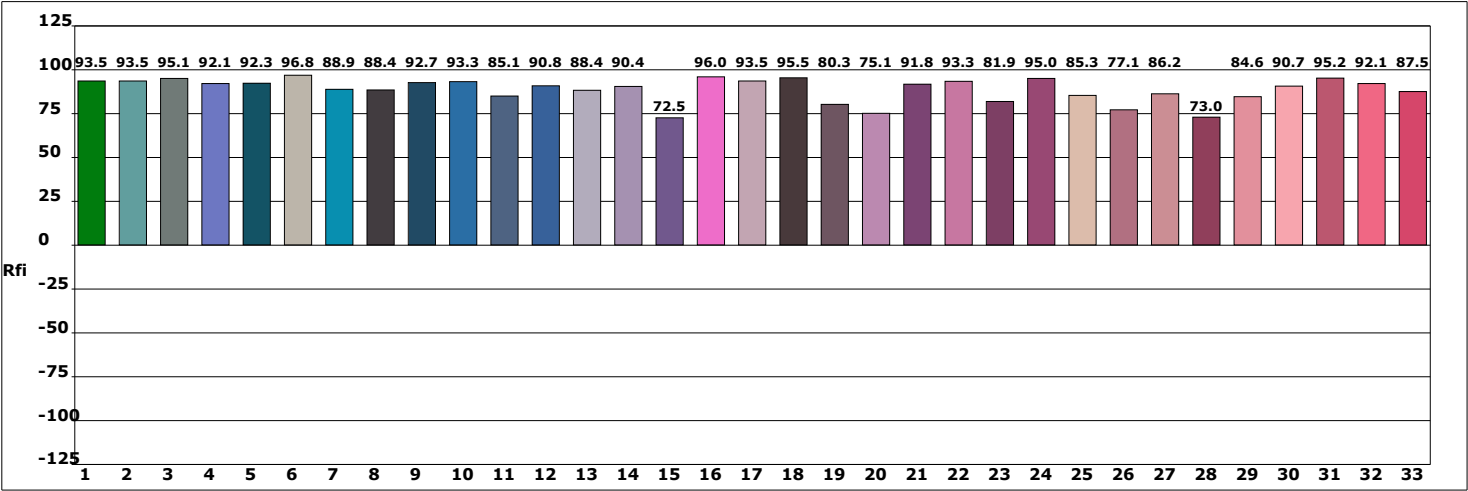
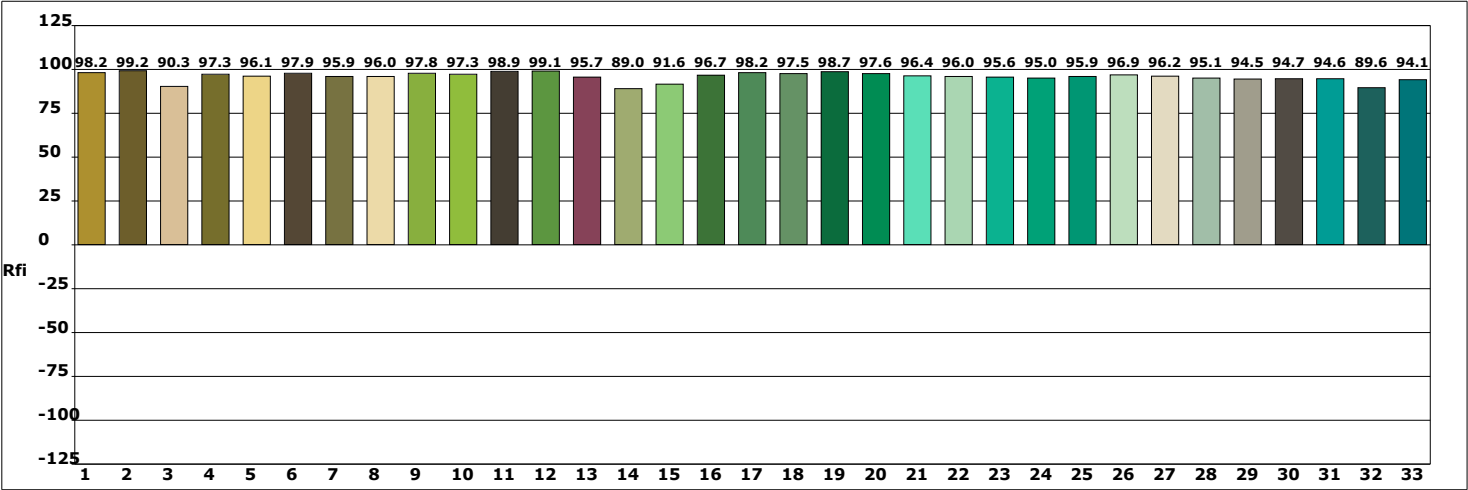
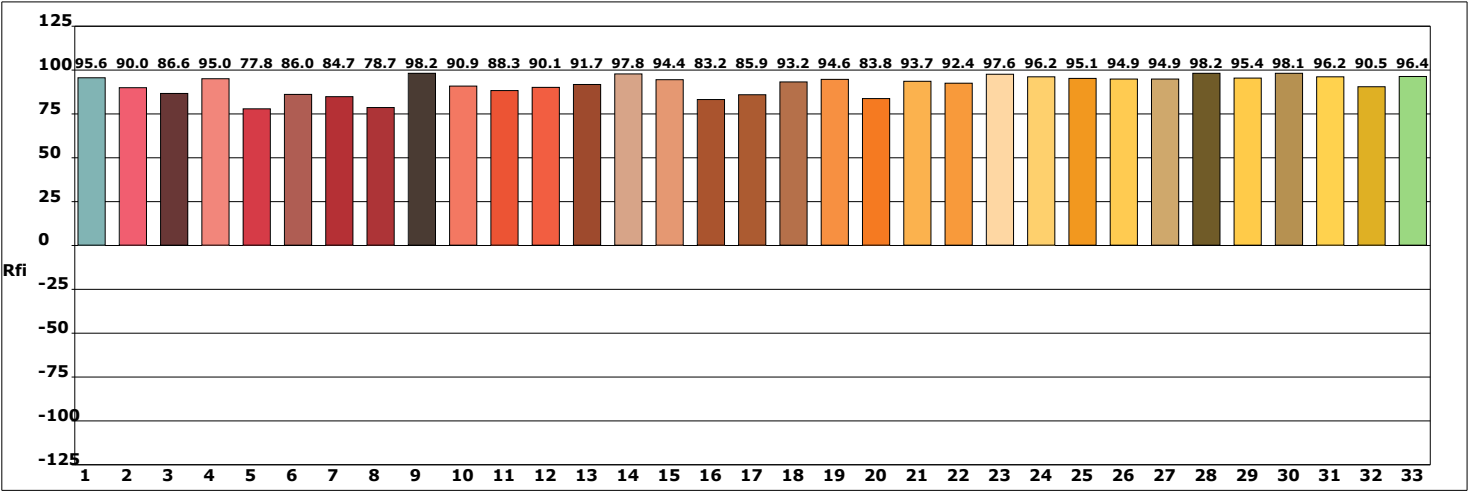


Chroma by Bue

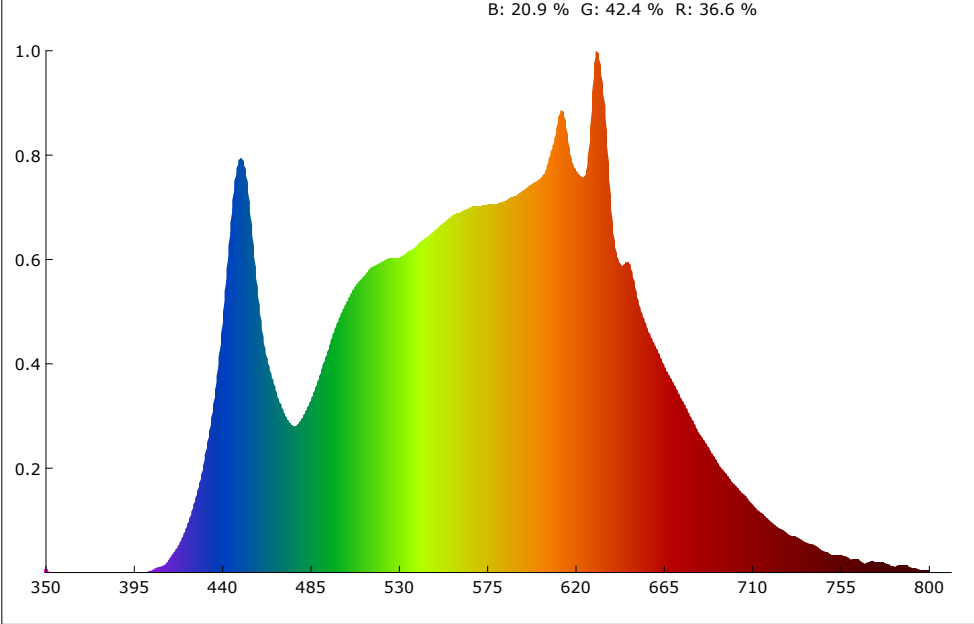


Product model:
Product number:
Tester:
Remarks:

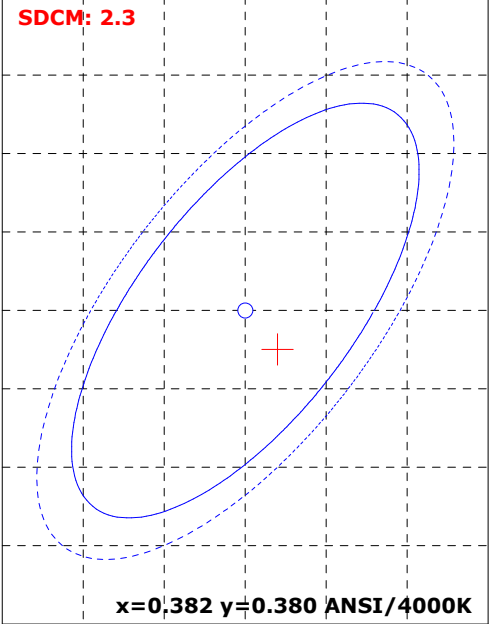
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 03/04/13



Spectrogram



SDCM



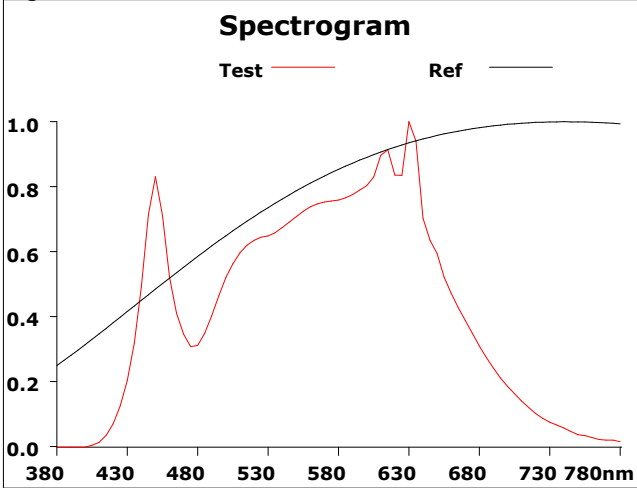
Color Parameter:

x: 0.3838	y: 0.3772	u: 0.2271	v: 0.3349	u': 0.2271	v': 0.5023
R_ratio: 36.6 %	G_ratio: 42.4 %	B_ratio: 20.9 %	RedRatio: 19.8 %	GreenRatio: 77.7 %	BlueRatio: 2.6 %
Ra: 93.9	AvgR: 91.1				
R1: 94.9	R2: 95.9	R3: 95.7	R4: 94.9	R5: 94.2	R6: 93.7
R7: 94.5	R8: 87.4				
R9: 66.8	R10: 89.3	R11: 95.2	R12: 79.9	R13: 95.2	R14: 97.1
R15: 92.3					
CCT: 3913 K	Flux: 456.457 lm	PeakWave: 631.5 nm	SDCM: 2.3		
S/P: 1.7	CentralWave: 577.2 nm	DominantWave: 579.8 nm	CentroidWave: 570.1 nm		
HalfWidth: 151.7 nm	duv: -0.00070	purity: 28.4 %	CQS: 88.9		
LER(TM-30): 303.7	Ep: 1503.1 mw	Rg: 100.5	Rf: 91.4		
Red Ep: 531.4 mw	Near red Ep: 50.0 mw	Near infrared Ep: 2.0 mw			

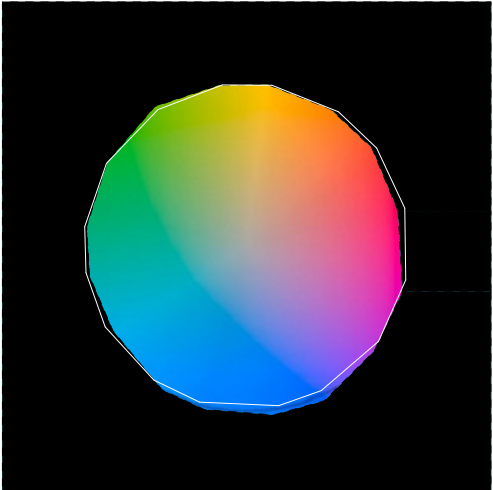
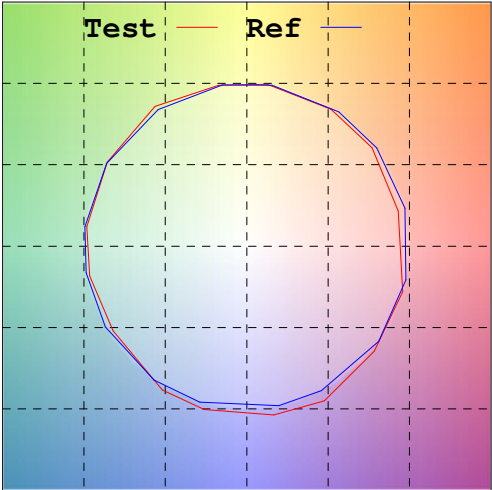
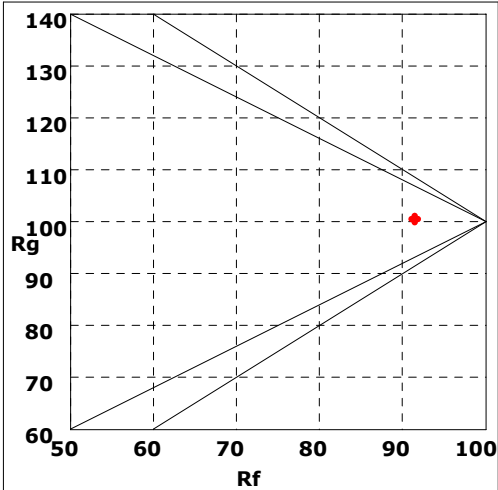
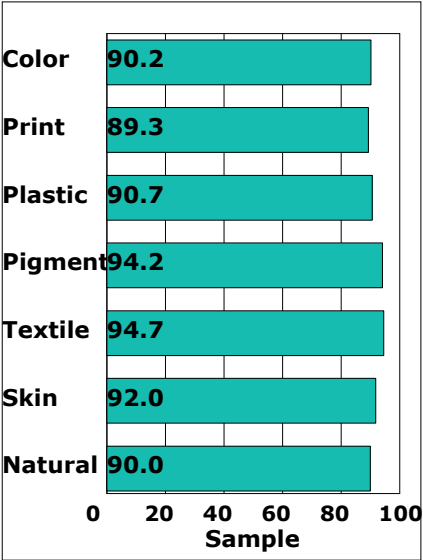
Electrical parameters:

Effic: 46.7 lm/W	Energy: 50.9	Effi: G	
U: 222.0 V	I: 0.087 A	P: 9.770 W	Pf: 0.502

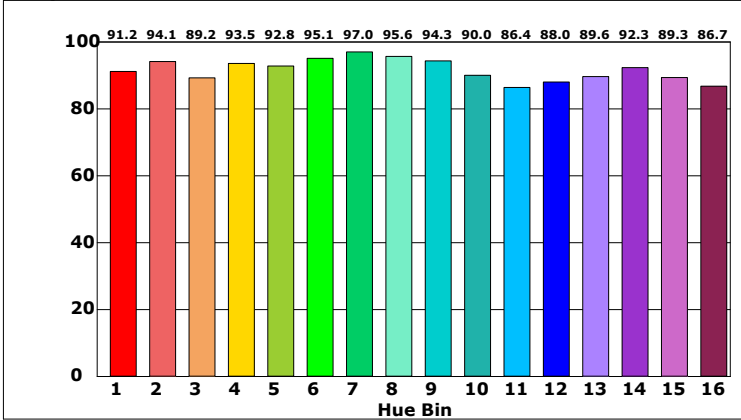
Rf: 91.4 CCT: 3913K u': 0.2271
Rg: 100.5 LER: 303.7 Duv: -0.00070 v': 0.5023



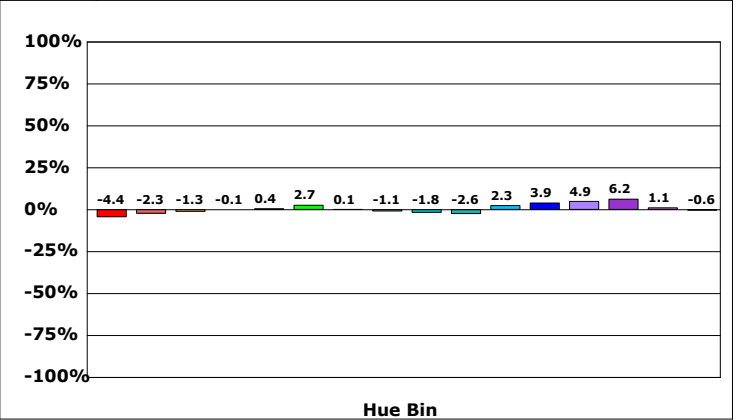
500			
Hue Bin	Rf	Chroma	Hue
1	91.2	-4.4%	-0.8%
2	94.1	-2.3%	1.8%
3	89.2	-1.3%	4.8%
4	93.5	-0.1%	3.0%
5	92.8	0.4%	2.4%
6	95.1	2.7%	0.5%
7	97.0	0.1%	-0.9%
8	95.6	-1.1%	-0.2%
9	94.3	-1.8%	2.4%
10	90.0	-2.6%	4.7%
11	86.4	2.3%	7.6%
12	88.0	3.9%	3.6%
13	89.6	4.9%	-4.1%
14	92.3	6.2%	-2.1%
15	89.3	1.1%	-6.7%
16	86.7	-0.6%	-7.6%



Rf by Bue

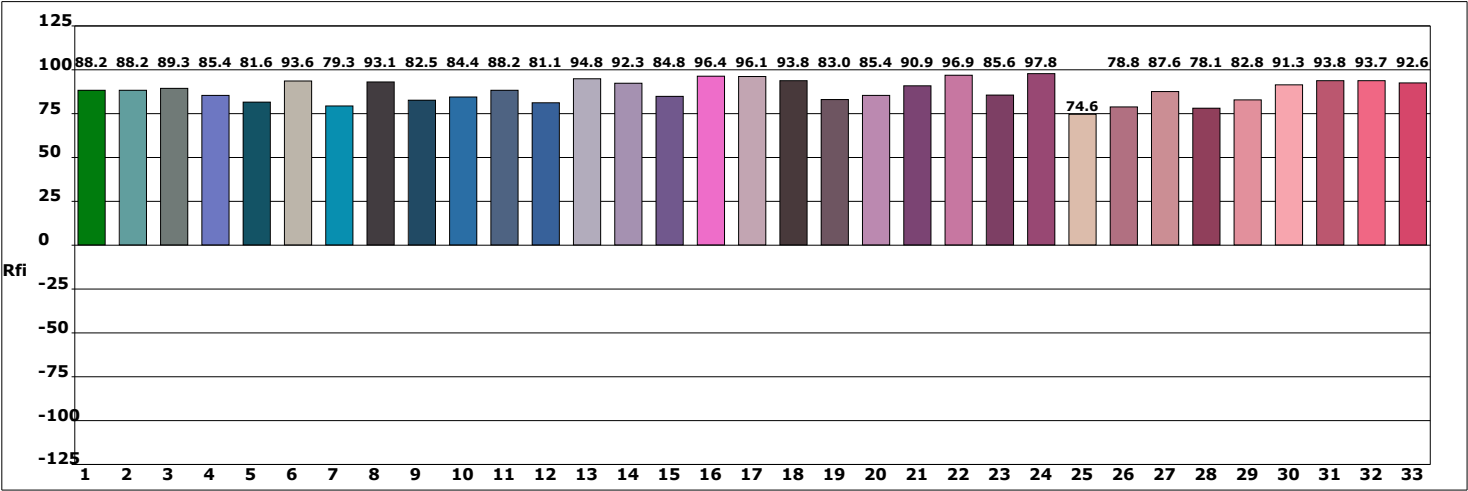
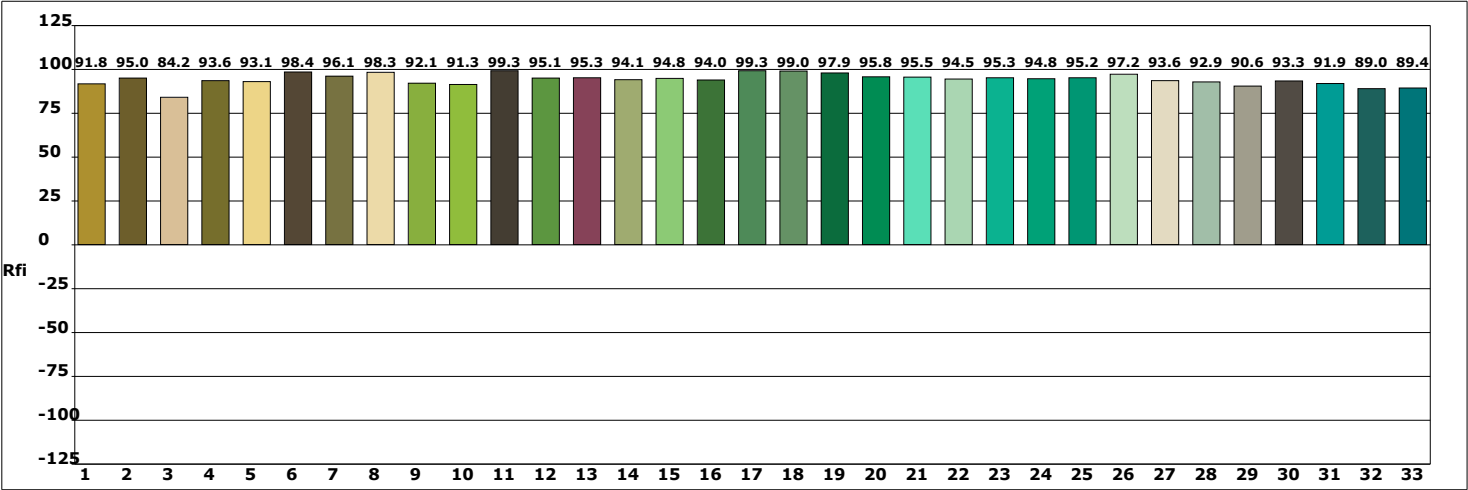
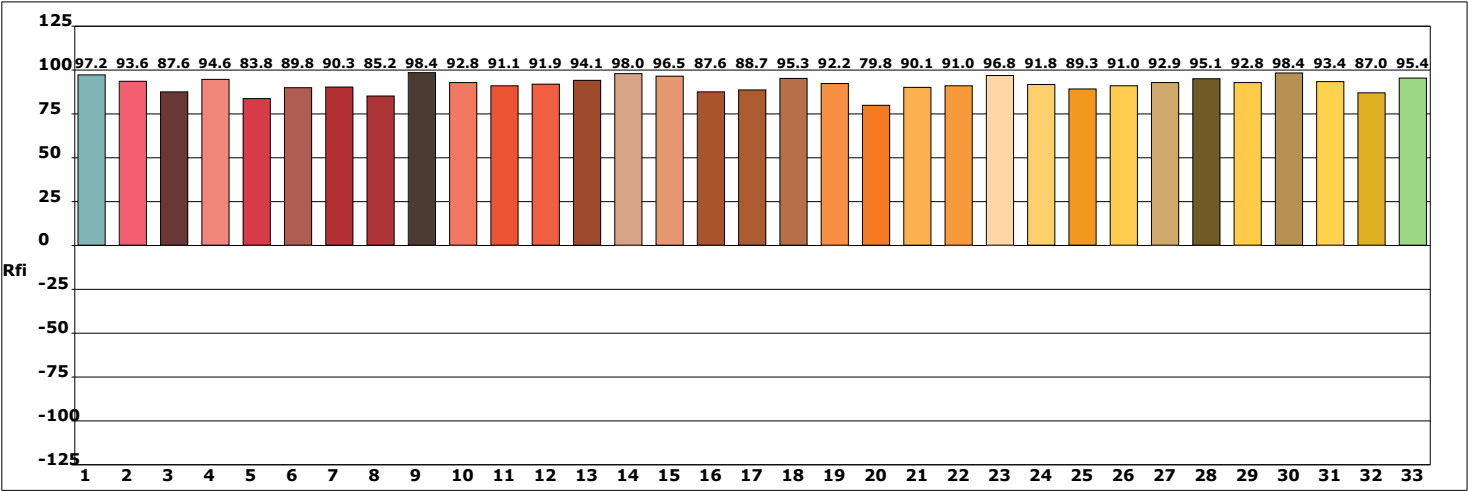


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

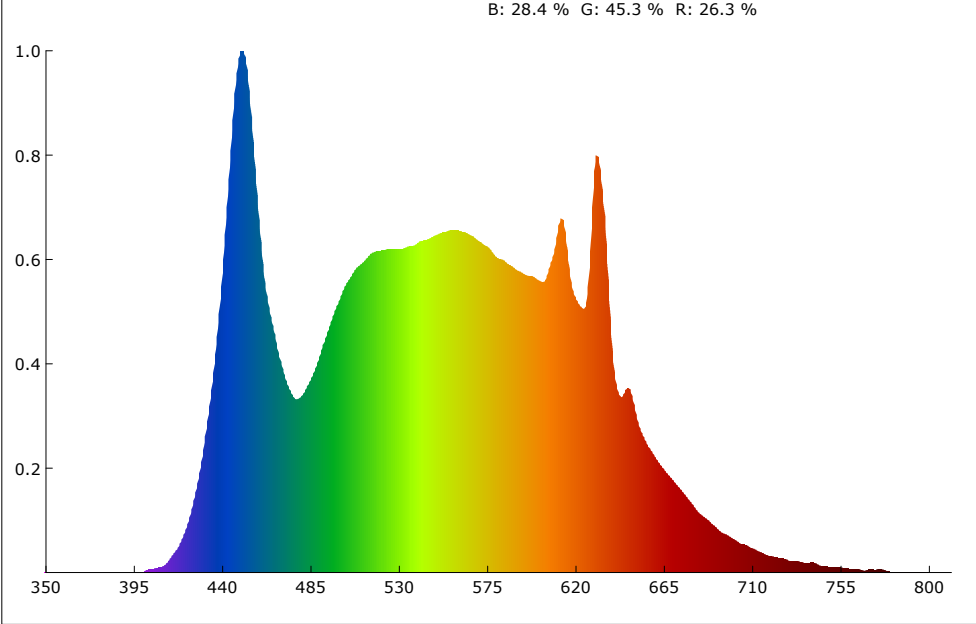
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 03/04/13



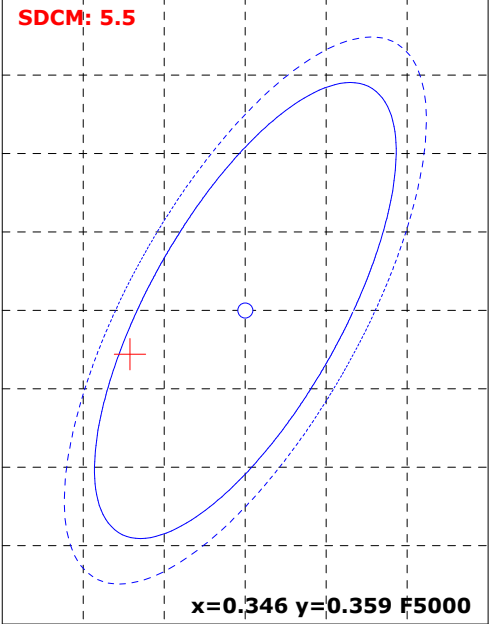
Product model:
Product number:
Tester:
Remarks:

Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 03/04/13

Spectrogram



SDCM



Color Parameter:

x: 0.3379 y: 0.3572 u: 0.2045 v: 0.3242 u': 0.2045 v': 0.4863
R_ratio: 26.3 % G_ratio: 45.3 % B_ratio: 28.4 % RedRatio: 15.5 % GreenRatio: 81.1 % BlueRatio: 3.4 %

Ra: 89.5 AvgR: 85.0
R1: 88.4 R2: 91.2 R3: 93.4 R4: 90.4 R5: 89.0 R6: 89.1 R7: 93.1 R8: 81.7
R9: 46.1 R10: 79.5 R11: 90.3 R12: 71.8 R13: 88.8 R14: 96.3 R15: 85.2

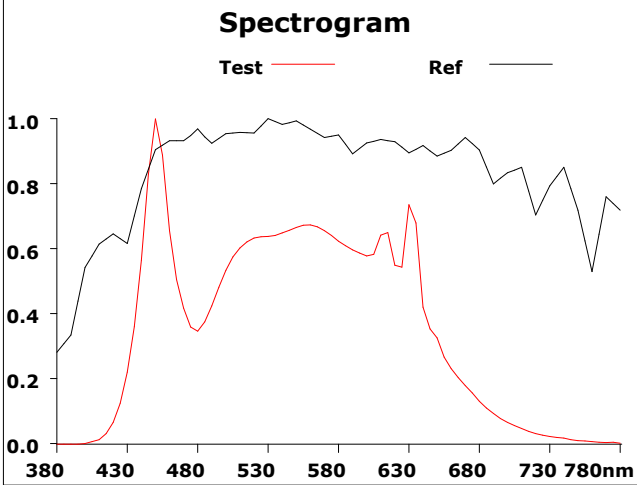
CCT: 5291 K Flux: 488.138 lm PeakWave: 450.6 nm SDCM: 5.5
S/P: 2.1 CentralWave: 451.8 nm DominantWave: 561.9 nm CentroidWave: 548.8 nm
HalfWidth: 25.5 nm duv: 0.00569 purity: 8.6 % CQS: 91.6
LER(TM-30): 316.5 Ep: 1542.1 mw Rg: 98.1 Rf: 88.5
Red Ep: 401.0 mw Near red Ep: 19.8 mw Near infrared Ep: 0.4 mw

Electrical parameters:

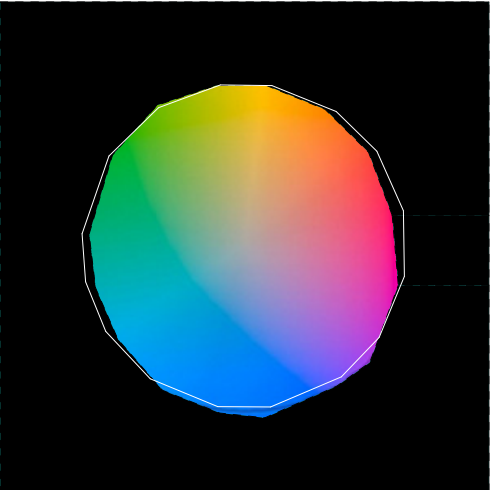
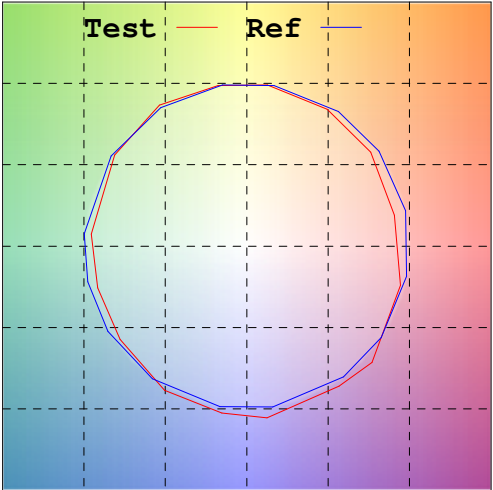
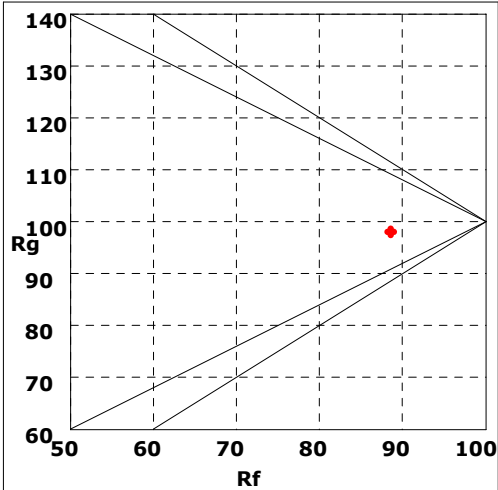
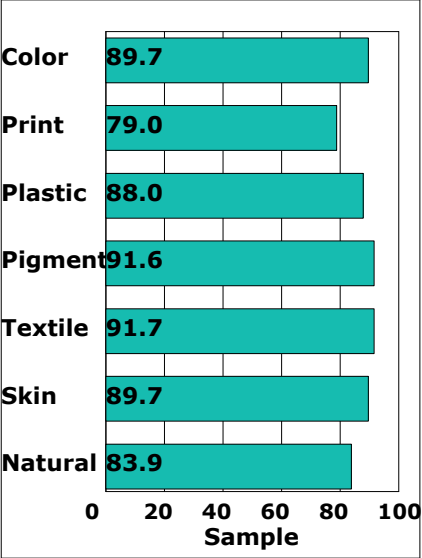
Effic: 50.6 Lm/W Energy: 55.1 Effi: G
U: 222.0 V I: 0.086 A P: 9.650 W Pf: 0.501

Product model: Manufacturer: Guangzhou Hotion Technology Co.,
Product number: Test unit:
Tester: Date of observation: 03/04/13
Remarks:

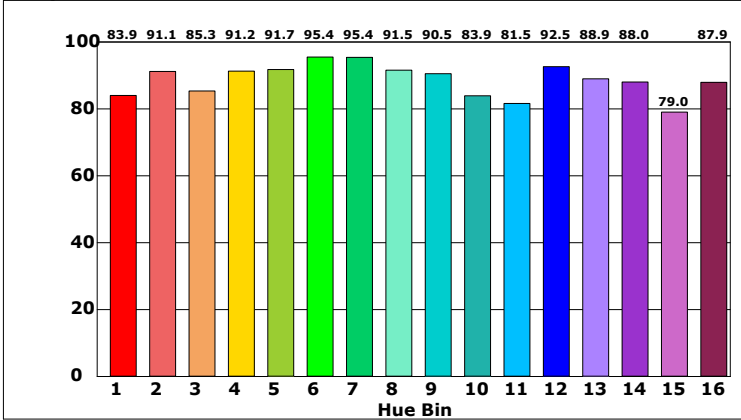
Rf: 88.5 CCT: 5291K u': 0.2045
Rg: 98.1 LER: 316.5 Duv: 0.00569 v': 0.4863



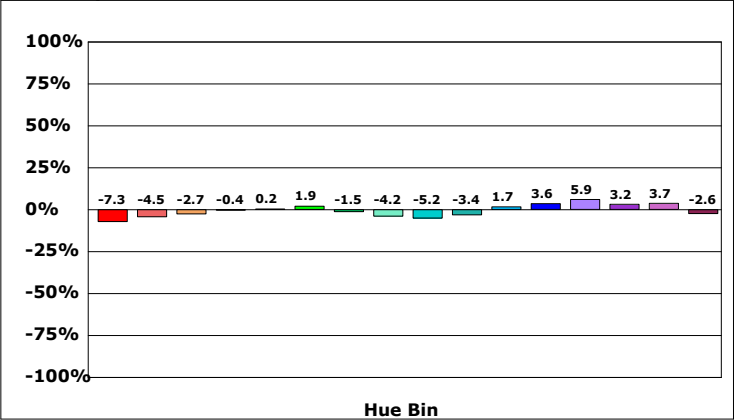
500			
Hue Bin	Rf	Chroma	Hue
1	83.9	-7.3%	-1.2%
2	91.1	-4.5%	2.3%
3	85.3	-2.7%	6.5%
4	91.2	-0.4%	4.2%
5	91.7	0.2%	2.8%
6	95.4	1.9%	-0.2%
7	95.4	-1.5%	-1.7%
8	91.5	-4.2%	-0.6%
9	90.5	-5.2%	4.9%
10	83.9	-3.4%	8.2%
11	81.5	1.7%	10.0%
12	92.5	3.6%	1.9%
13	88.9	5.9%	-4.8%
14	88.0	3.2%	-5.5%
15	79.0	3.7%	-16.0%
16	87.9	-2.6%	-6.1%



Rf by Bue

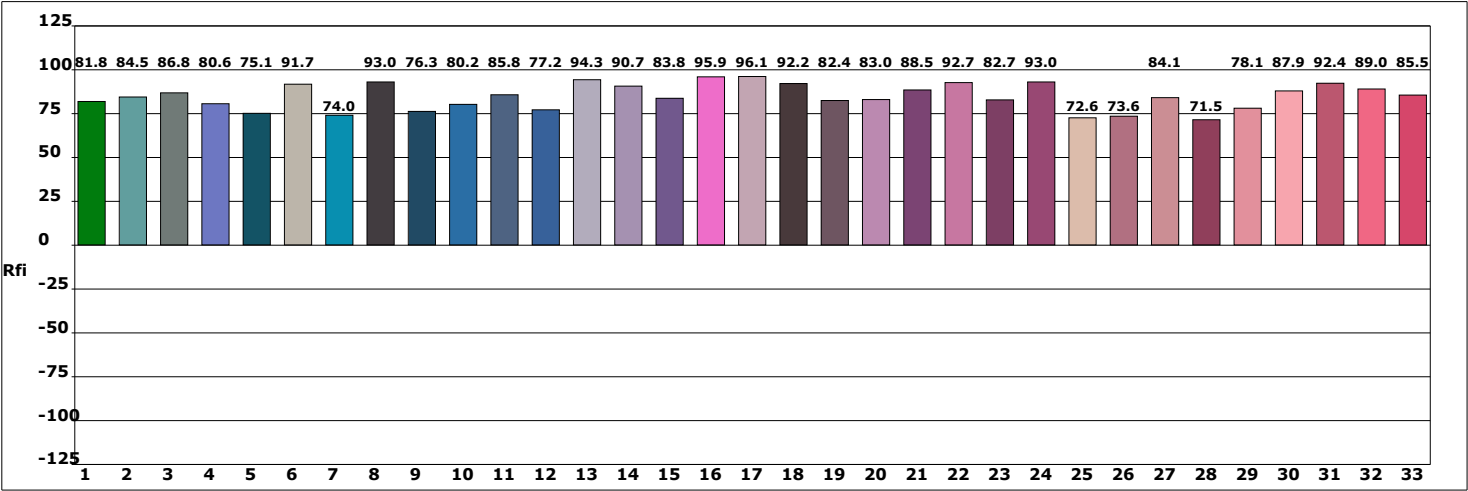
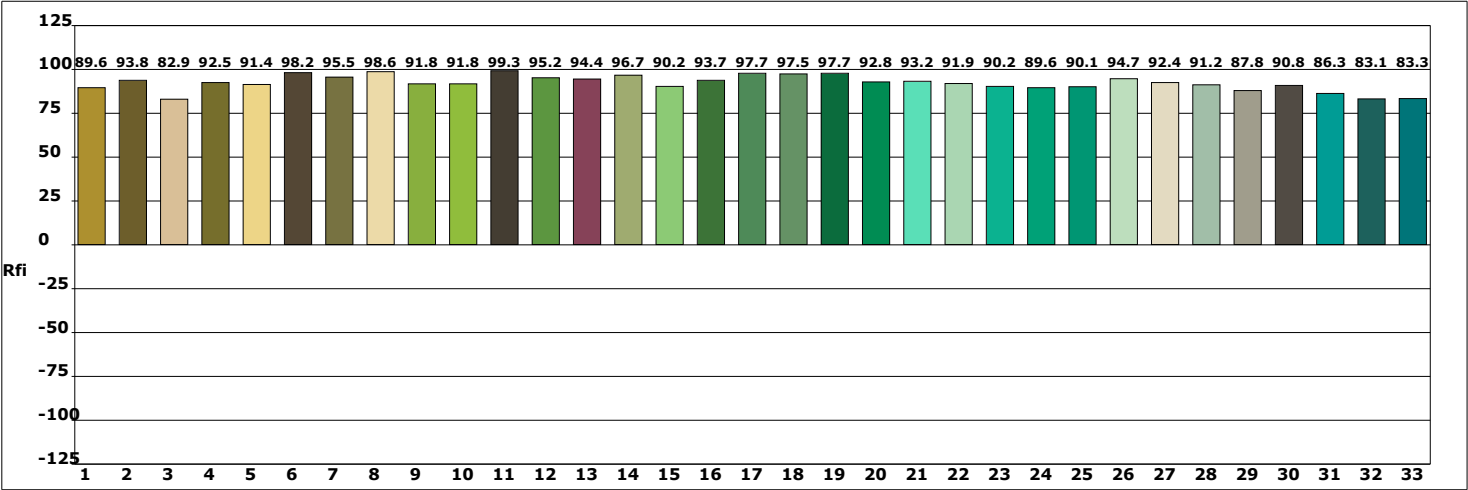
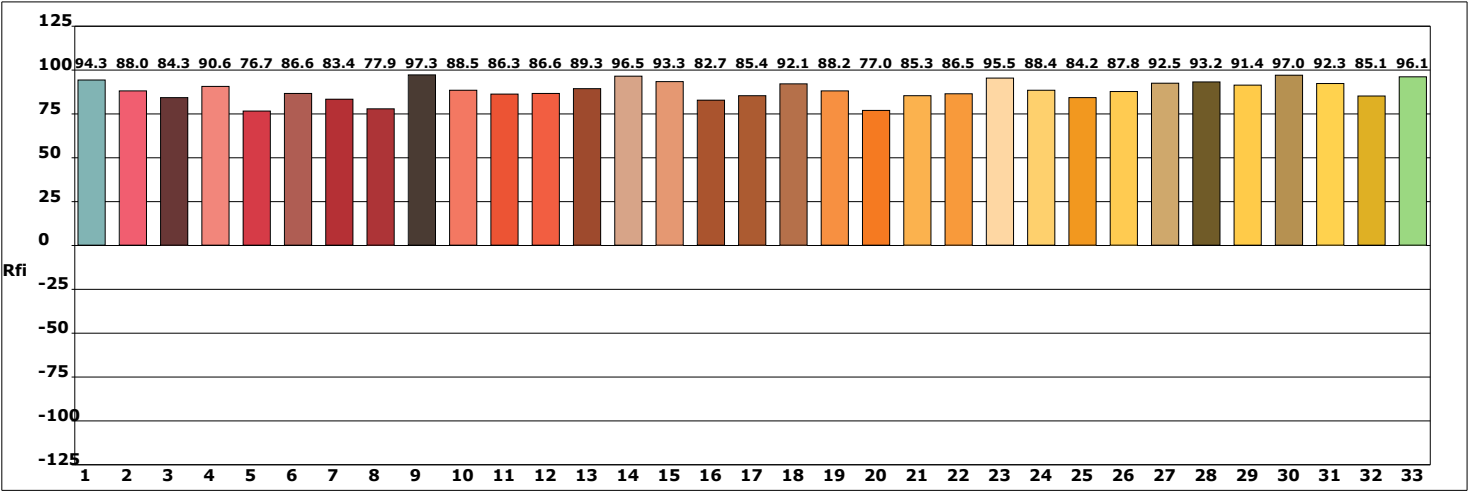


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 03/04/13



Product model:
Product number:
Tester:
Remarks:

Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 03/04/13