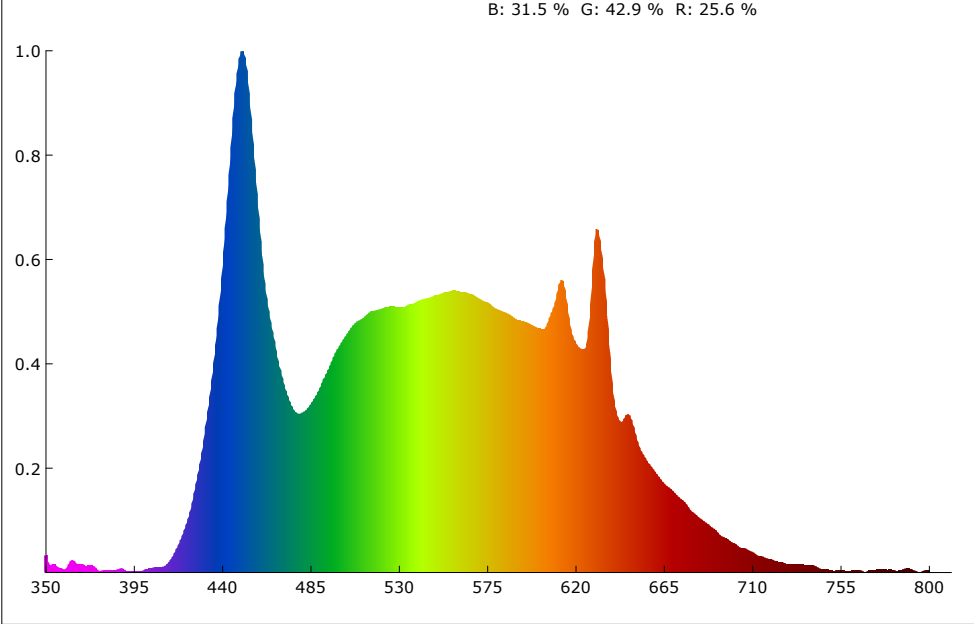
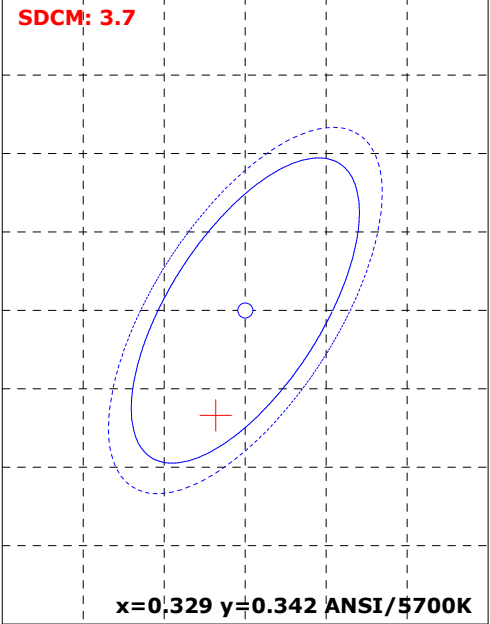


Spectrogram



SDCM



Color Parameter:

x: 0.3269 y: 0.3350 u: 0.2054 v: 0.3157 u': 0.2054 v': 0.4735
R_ratio: 25.6 % G_ratio: 42.9 % B_ratio: 31.5 % RedRatio: 15.6 % GreenRatio: 80.5 % BlueRatio: 3.9 %

Ra: 92.2 AvgR: 89.0
R1: 93.3 R2: 93.8 R3: 92.3 R4: 93.2 R5: 93.1 R6: 90.3 R7: 93.9 R8: 87.9
R9: 63.6 R10: 84.0 R11: 93.4 R12: 74.5 R13: 93.4 R14: 95.5 R15: 92.4

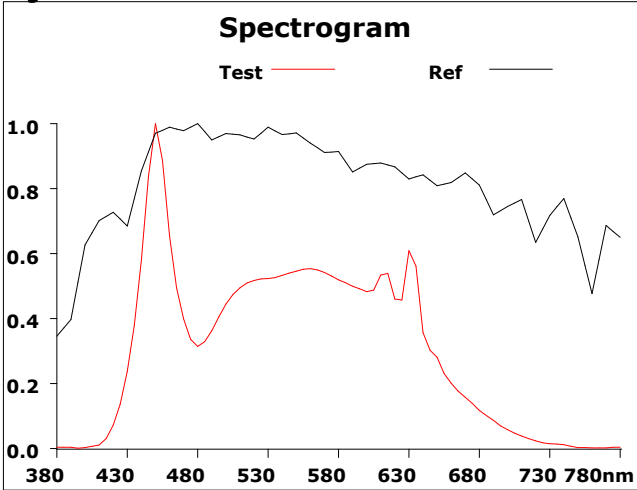
CCT: 5759 K Flux: 198.280 lm PeakWave: 450.6 nm SDCM: 3.7
S/P: 2.2 CentralWave: 451.2 nm DominantWave: 495.1 nm CentroidWave: 544.2 nm
HalfWidth: 24.9 nm duv: -0.00063 purity: 2.1 % CQS: 87.5
LER(TM-30): 300.6 Ep: 659.7 mw Rg: 100.2 Rf: 88.8
Red Ep: 166.1 mw Near red Ep: 7.6 mw Near infrared Ep: 0.6 mw

Electrical parameters:

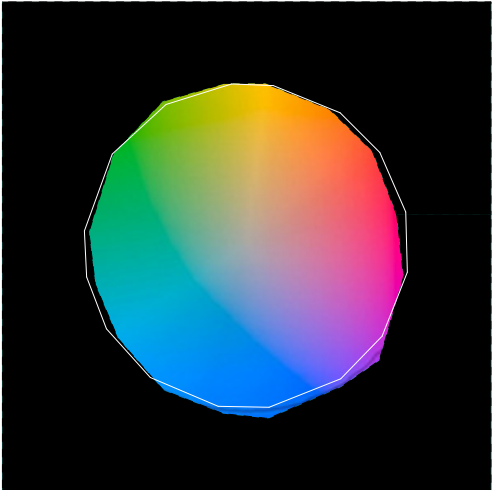
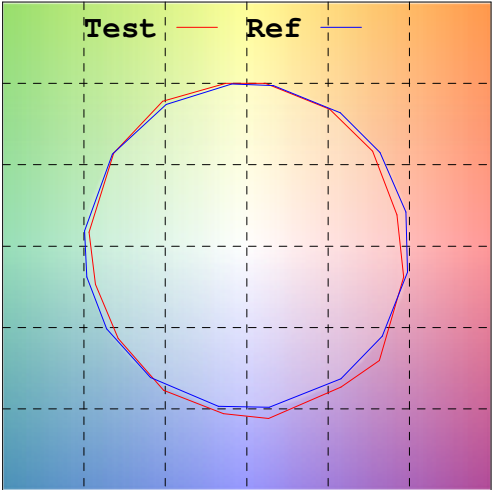
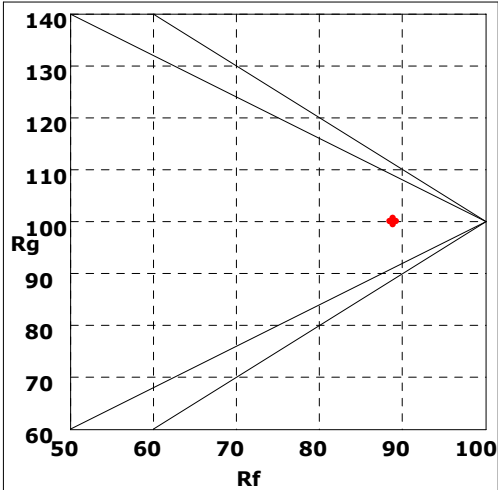
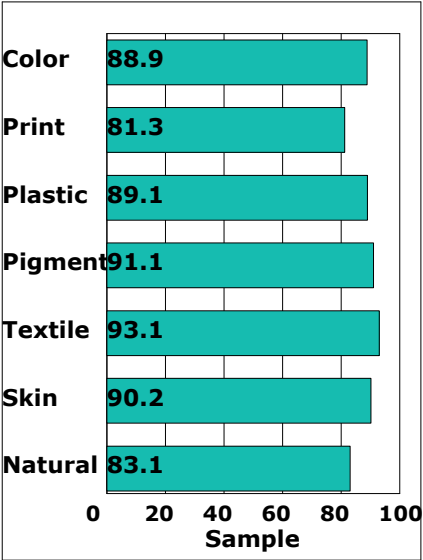
Effic: 19.6 Lm/W Energy: 21.3 Effi: G
U: 222.4 V I: 0.049 A P: 10.130 W Pf: 0.921

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

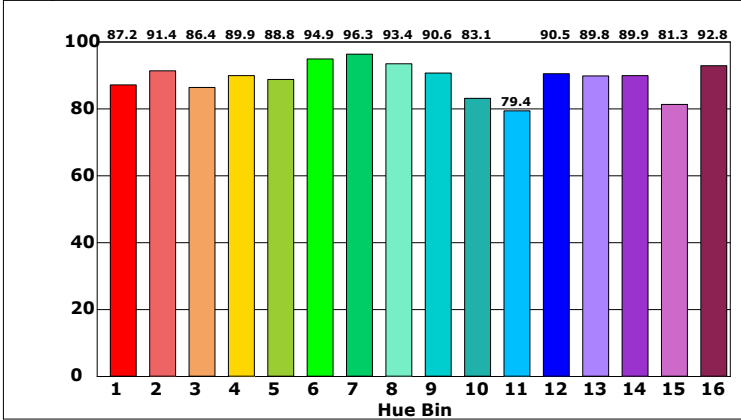
Rf: 88.8 CCT: 5759K u': 0.2054
Rg: 100.2 LER: 300.6 Duv: -0.00063 v': 0.4735



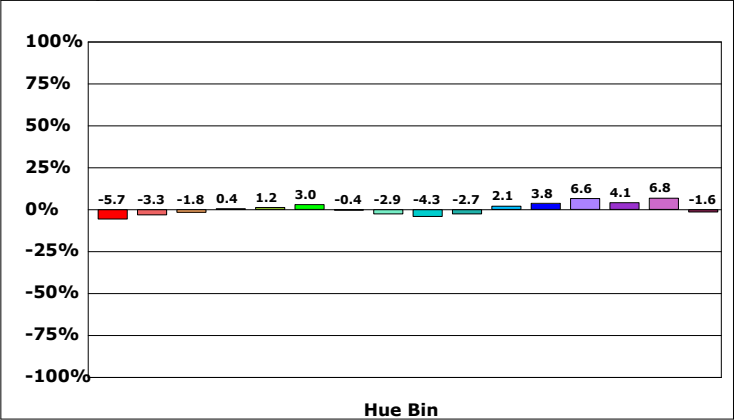
500			
Hue Bin	Rf	Chroma	Hue
1	87.2	-5.7%	-0.6%
2	91.4	-3.3%	3.2%
3	86.4	-1.8%	6.5%
4	89.9	0.4%	5.0%
5	88.8	1.2%	3.4%
6	94.9	3.0%	0.7%
7	96.3	-0.4%	-1.0%
8	93.4	-2.9%	0.3%
9	90.6	-4.3%	5.5%
10	83.1	-2.7%	8.8%
11	79.4	2.1%	11.2%
12	90.5	3.8%	3.9%
13	89.8	6.6%	-1.8%
14	89.9	4.1%	-2.8%
15	81.3	6.8%	-13.5%
16	92.8	-1.6%	-3.4%



Rf by Bue

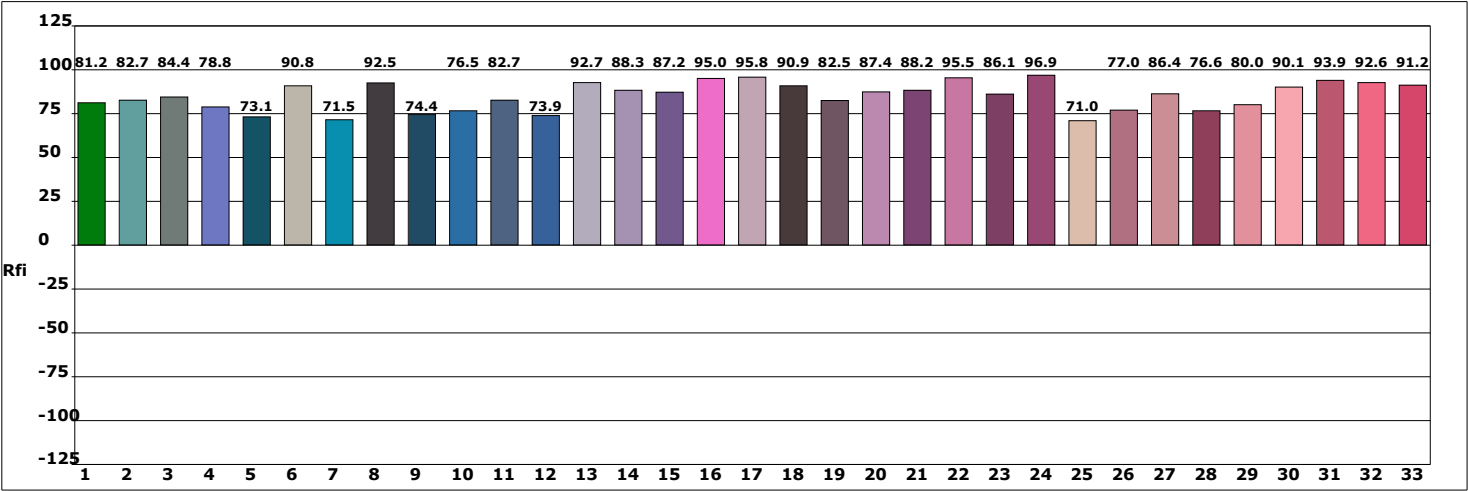
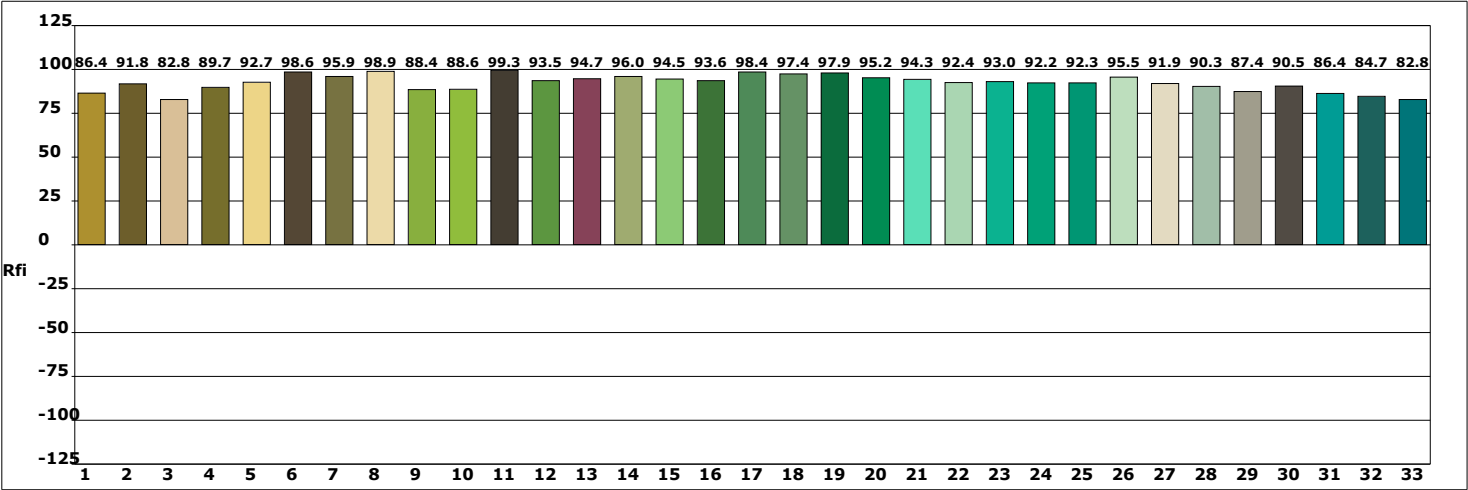
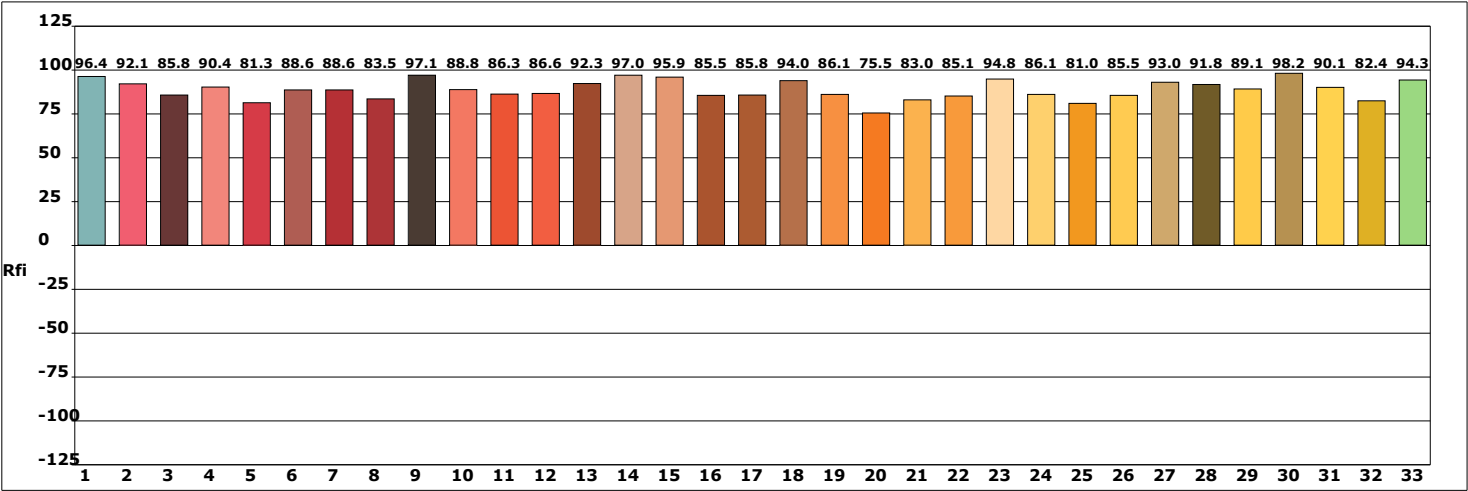


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

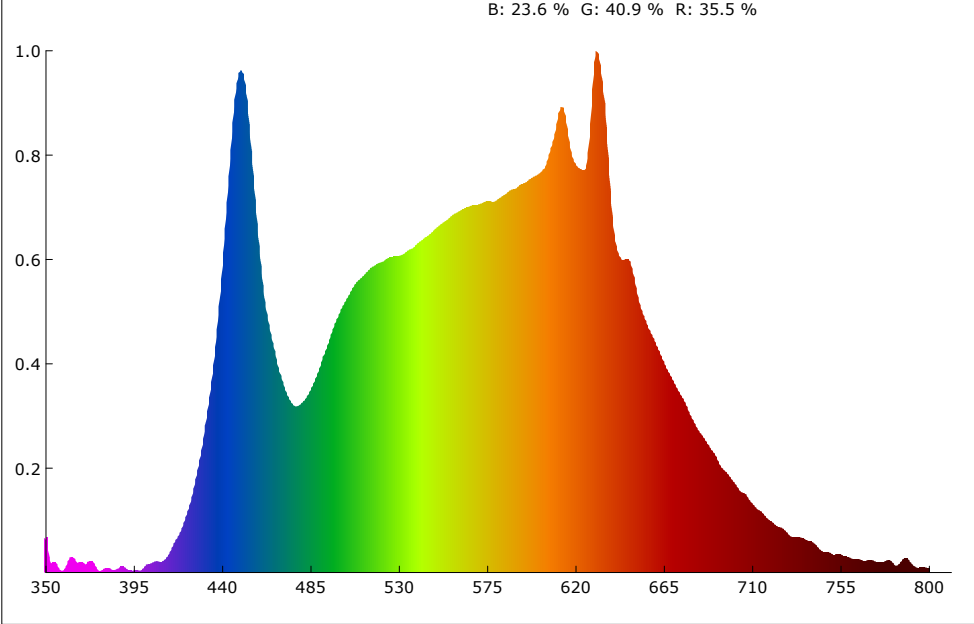
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 02/12/13



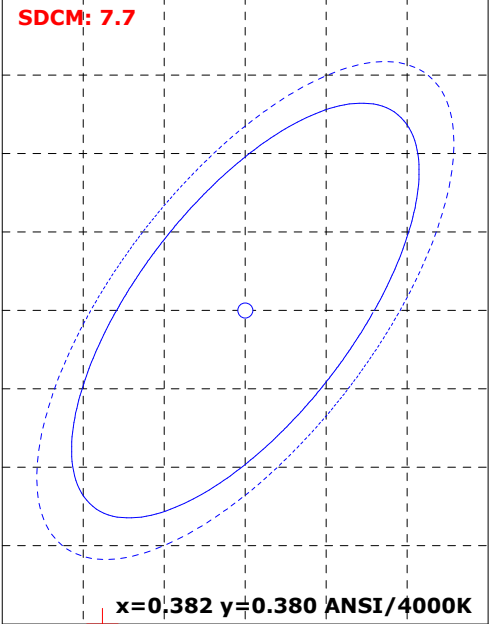
Product model:
Product number:
Tester:
Remarks:

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

Spectrogram



SDCM



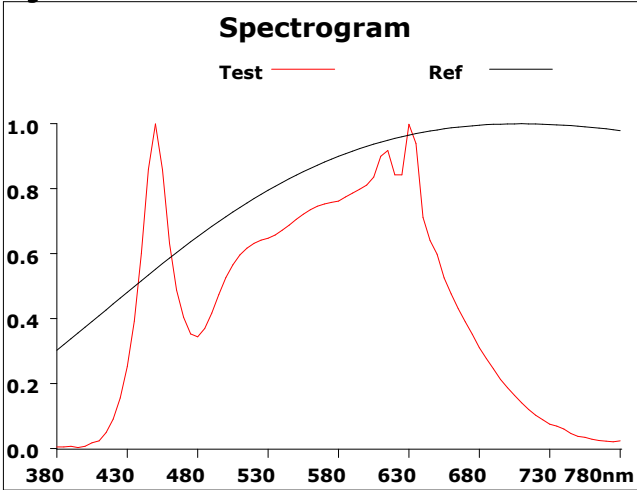
Color Parameter:

x: 0.3730	y: 0.3596	u: 0.2271	v: 0.3284	u': 0.2271	v': 0.4926
R_ratio: 35.5 %	G_ratio: 40.9 %	B_ratio: 23.6 %	RedRatio: 19.8 %	GreenRatio: 77.3 %	BlueRatio: 2.9 %
Ra: 95.0	AvgR: 93.1				
R1: 97.0	R2: 97.0	R3: 95.3	R4: 95.2	R5: 97.2	R6: 94.6
R7: 94.2	R8: 90.1	R9: 75.5	R10: 92.4	R11: 94.8	R12: 82.8
R13: 97.2	R14: 96.8	R15: 96.3			
CCT: 4086 K	Flux: 186.996 lm	PeakWave: 631.5 nm	SDCM: 7.7		
S/P: 1.8	CentralWave: 576.8 nm	DominantWave: 583.2 nm	CentroidWave: 565.8 nm		
HalfWidth: 152.9 nm	duv: -0.00606	purity: 19.8 %	CQS: 84.6		
LER(TM-30): 292.8	Ep: 638.6 mw	Rg: 102.0	Rf: 91.0		
Red Ep: 217.9 mw	Near red Ep: 20.8 mw	Near infrared Ep: 1.3 mw			

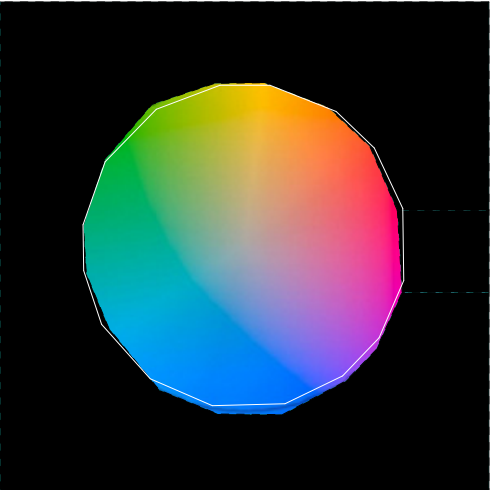
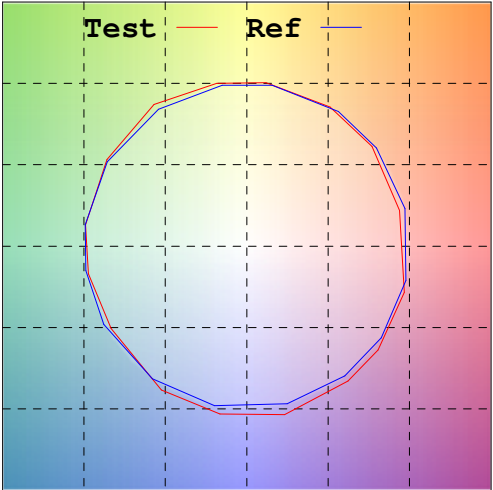
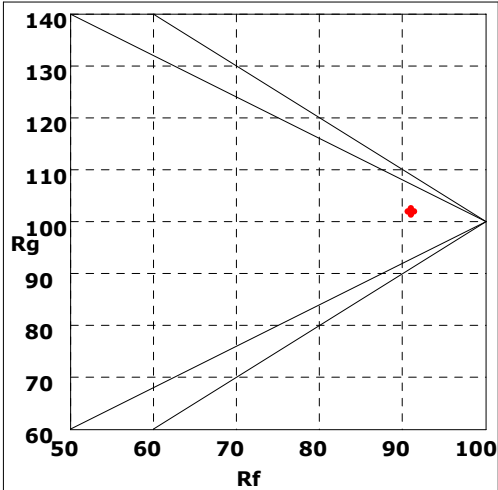
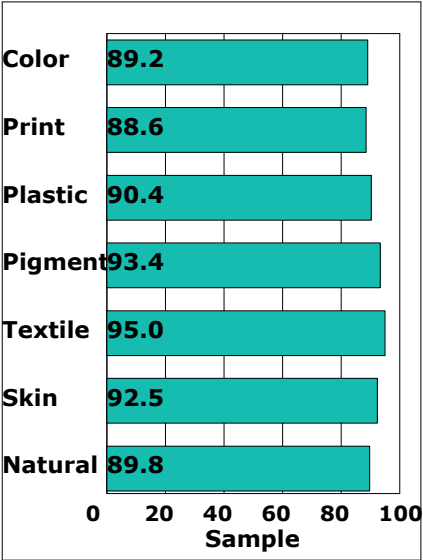
Electrical parameters:

Effic: 18.4 Lm/W	Energy: 20.0	Effi: G	
U: 222.3 V	I: 0.049 A	P: 10.190 W	Pf: 0.921

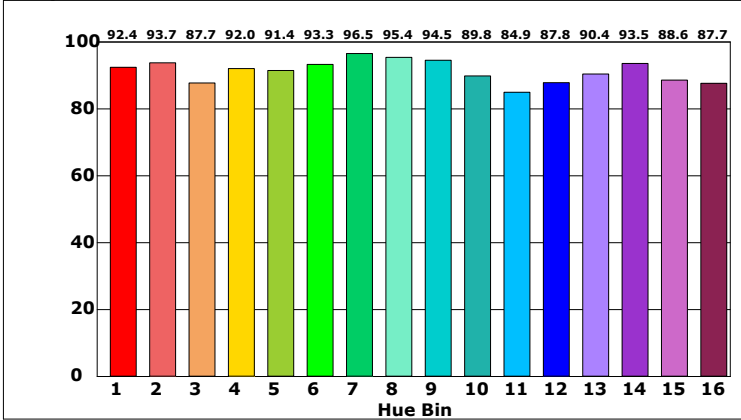
Rf: 91.0 CCT: 4086K u': 0.2271
Rg: 102.0 LER: 292.8 Duv: -0.00606 v': 0.4926



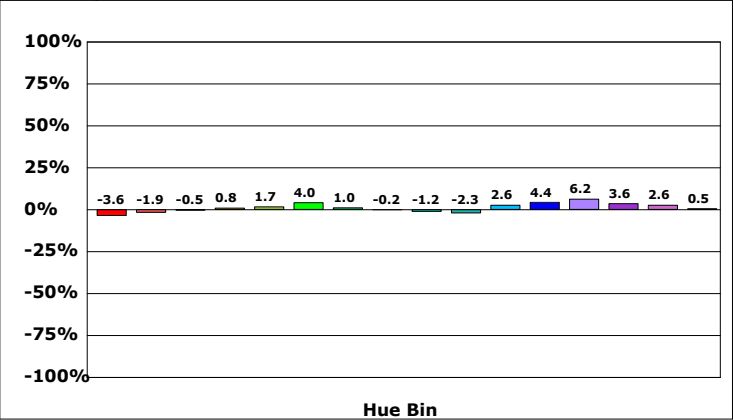
500			
Hue Bin	Rf	Chroma	Hue
1	92.4	-3.6%	-0.5%
2	93.7	-1.9%	2.4%
3	87.7	-0.5%	5.7%
4	92.0	0.8%	3.9%
5	91.4	1.7%	2.9%
6	93.3	4.0%	0.7%
7	96.5	1.0%	-1.1%
8	95.4	-0.2%	-0.1%
9	94.5	-1.2%	2.4%
10	89.8	-2.3%	4.7%
11	84.9	2.6%	8.5%
12	87.8	4.4%	4.3%
13	90.4	6.2%	-2.8%
14	93.5	3.6%	-0.2%
15	88.6	2.6%	-7.3%
16	87.7	0.5%	-7.2%



Rf by Bue

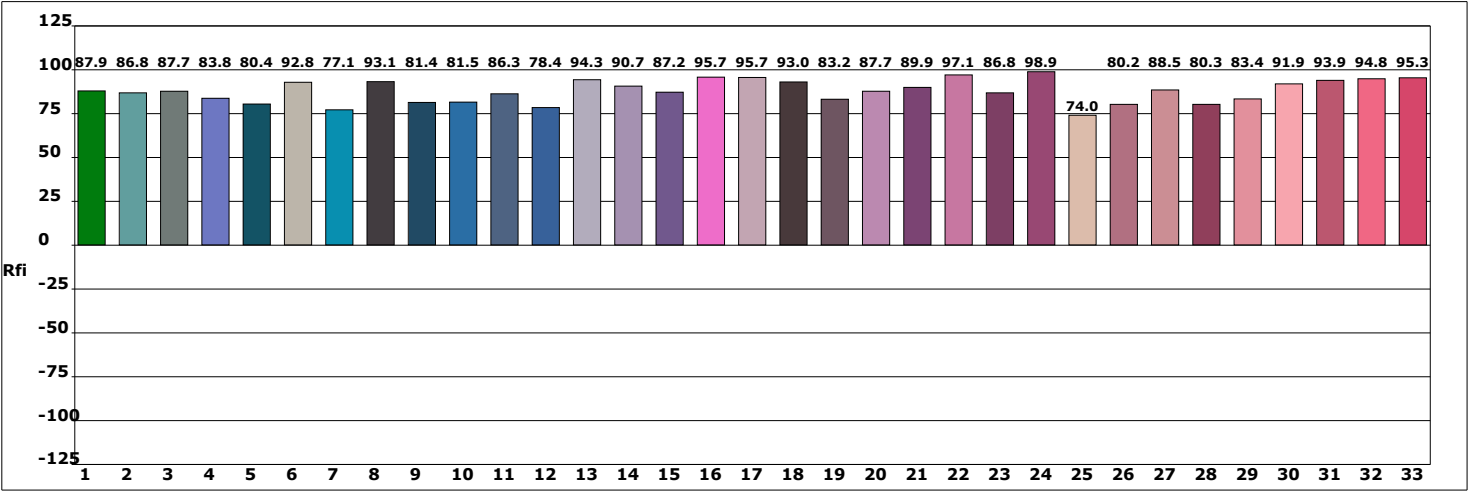
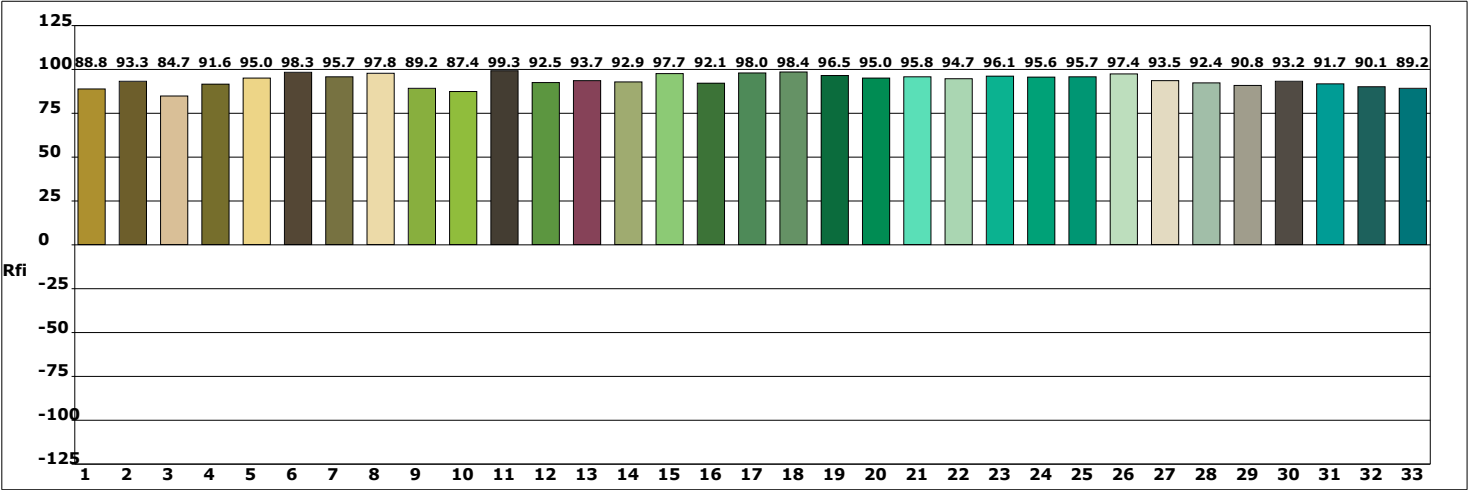
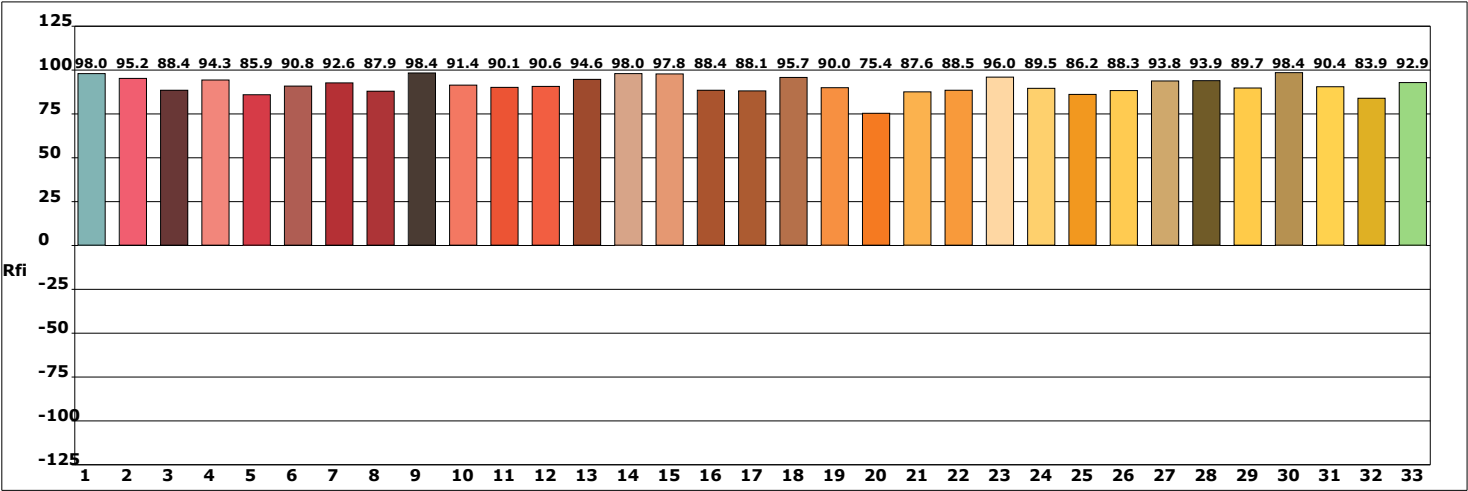


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

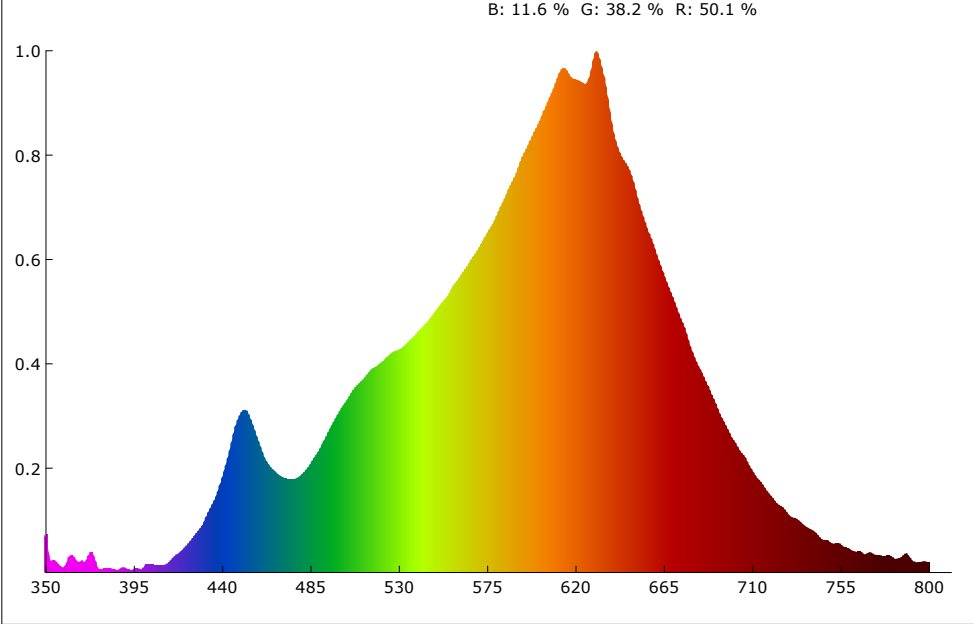
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 02/12/13



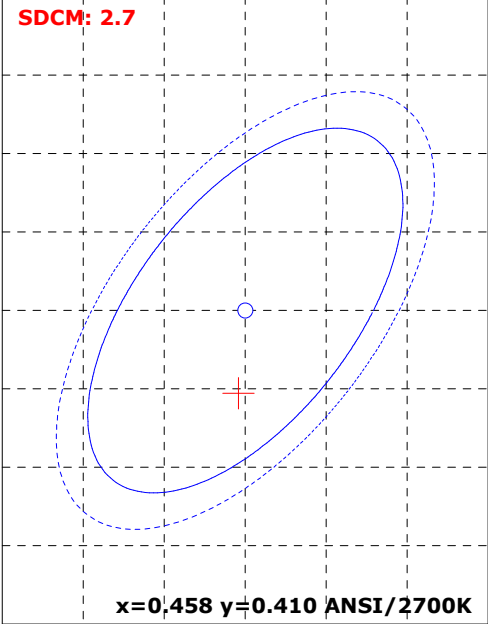
Product model:
Product number:
Tester:
Remarks:

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

Spectrogram



SDCM



Color Parameter:

x: 0.4574 y: 0.4048 u: 0.2635 v: 0.3498 u': 0.2635 v': 0.5247
R_ratio: 50.1 % G_ratio: 38.2 % B_ratio: 11.6 % RedRatio: 26.0 % GreenRatio: 72.4 % BlueRatio: 1.6 %

Ra: 92.7 AvgR: 91.0
R1: 93.8 R2: 97.9 R3: 97.4 R4: 93.8 R5: 94.7 R6: 97.1 R7: 89.2 R8: 78.2
R9: 54.5 R10: 95.3 R11: 96.1 R12: 93.7 R13: 95.1 R14: 99.4 R15: 88.3

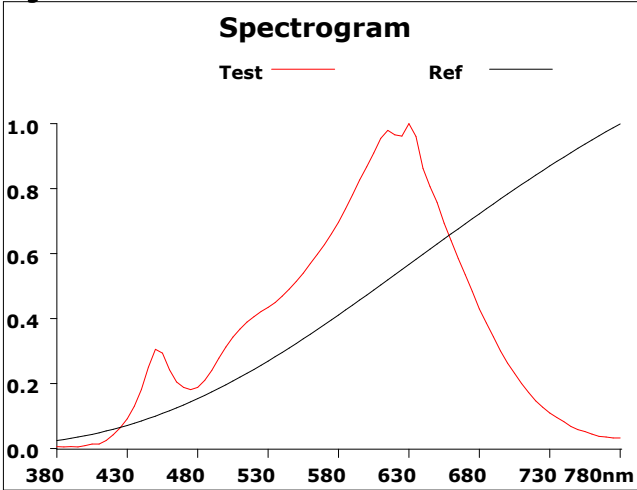
CCT: 2689 K Flux: 159.503 lm PeakWave: 630.5 nm SDCM: 2.7
S/P: 1.3 CentralWave: 610.4 nm DominantWave: 584.9 nm CentroidWave: 594.9 nm
HalfWidth: 122.6 nm duv: -0.00198 purity: 58.8 % CQS: 87.3
LER(TM-30): 286.1 Ep: 557.5 mw Rg: 100.1 Rf: 91.5
Red Ep: 261.5 mw Near red Ep: 30.3 mw Near infrared Ep: 2.1 mw

Electrical parameters:

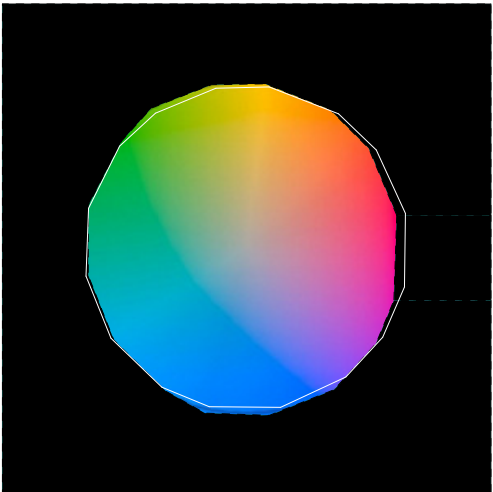
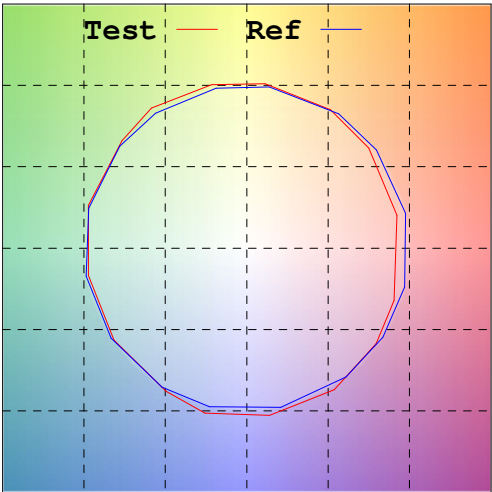
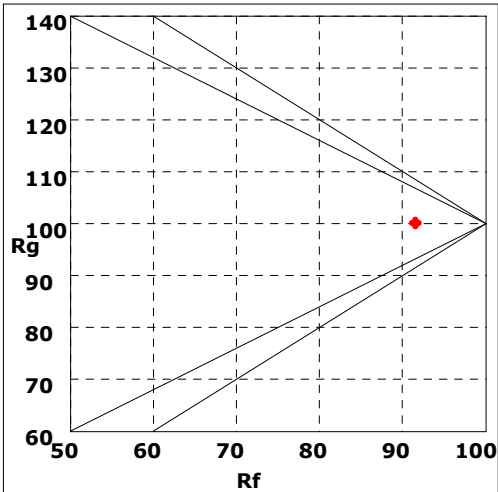
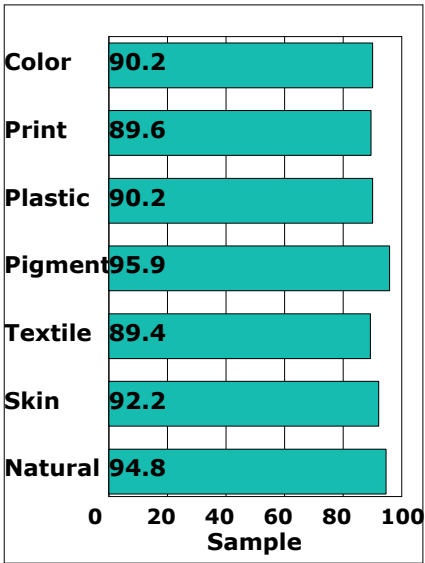
Effic: 15.7 lm/W Energy: 17.1 Effi: G
U: 222.4 V I: 0.049 A P: 10.160 W Pf: 0.921

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

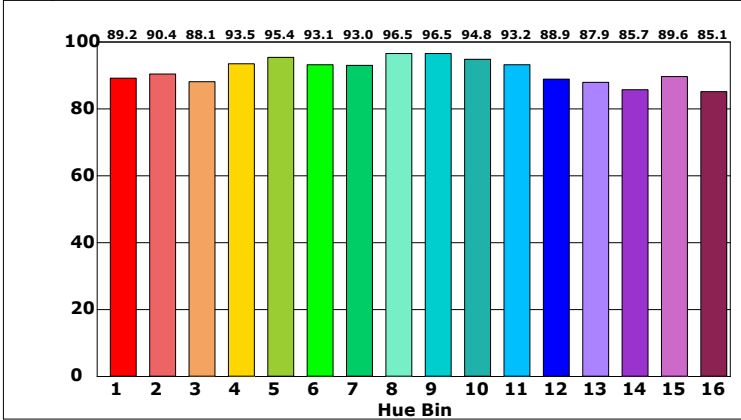
Rf: 91.5 CCT: 2689K u': 0.2635
Rg: 100.1 LER: 286.1 Duv: -0.00198 v': 0.5247



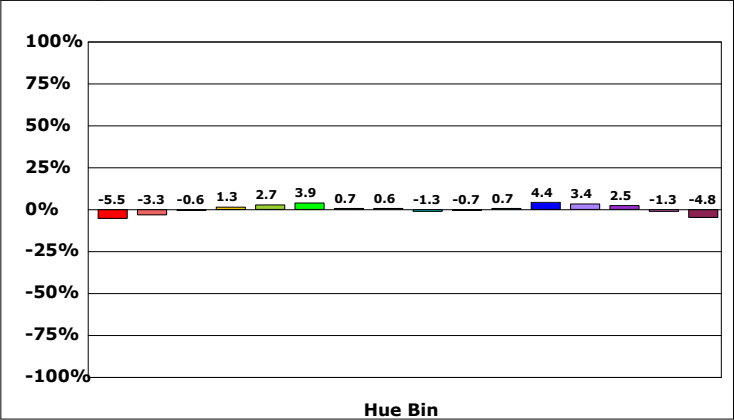
500			
Hue Bin	Rf	Chroma	Hue
1	89.2	-5.5%	-0.2%
2	90.4	-3.3%	3.6%
3	88.1	-0.6%	5.6%
4	93.5	1.3%	2.9%
5	95.4	2.7%	2.4%
6	93.1	3.9%	0.4%
7	93.0	0.7%	-3.6%
8	96.5	0.6%	-1.7%
9	96.5	-1.3%	-0.2%
10	94.8	-0.7%	2.1%
11	93.2	0.7%	3.7%
12	88.9	4.4%	-1.9%
13	87.9	3.4%	-7.7%
14	85.7	2.5%	-10.4%
15	89.6	-1.3%	-5.7%
16	85.1	-4.8%	-9.2%



Rf by Bue

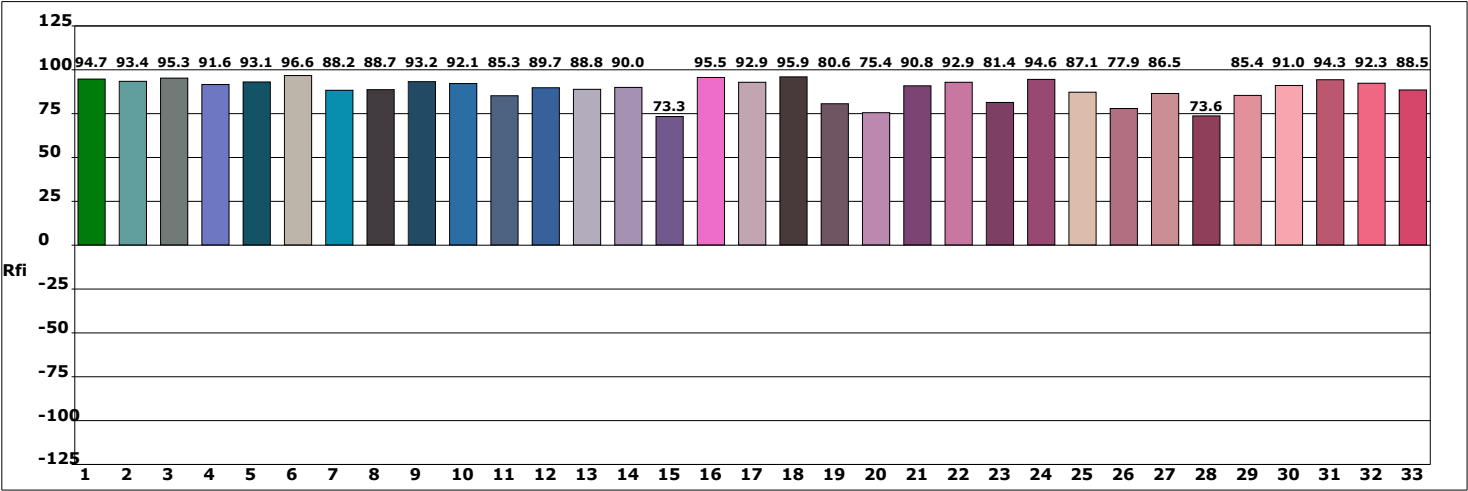
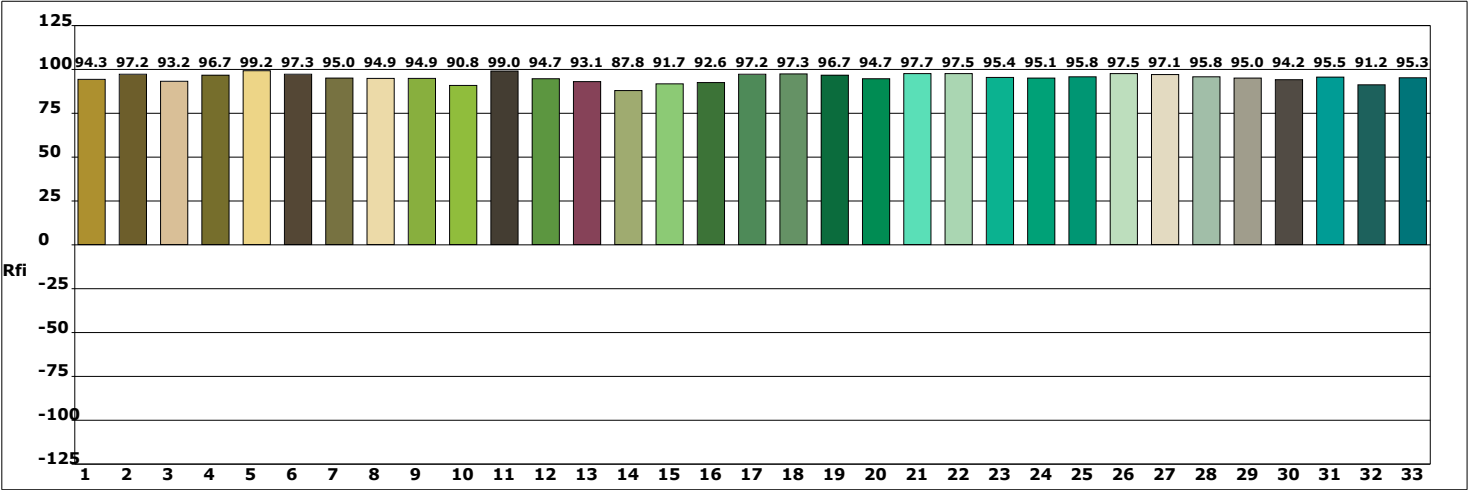
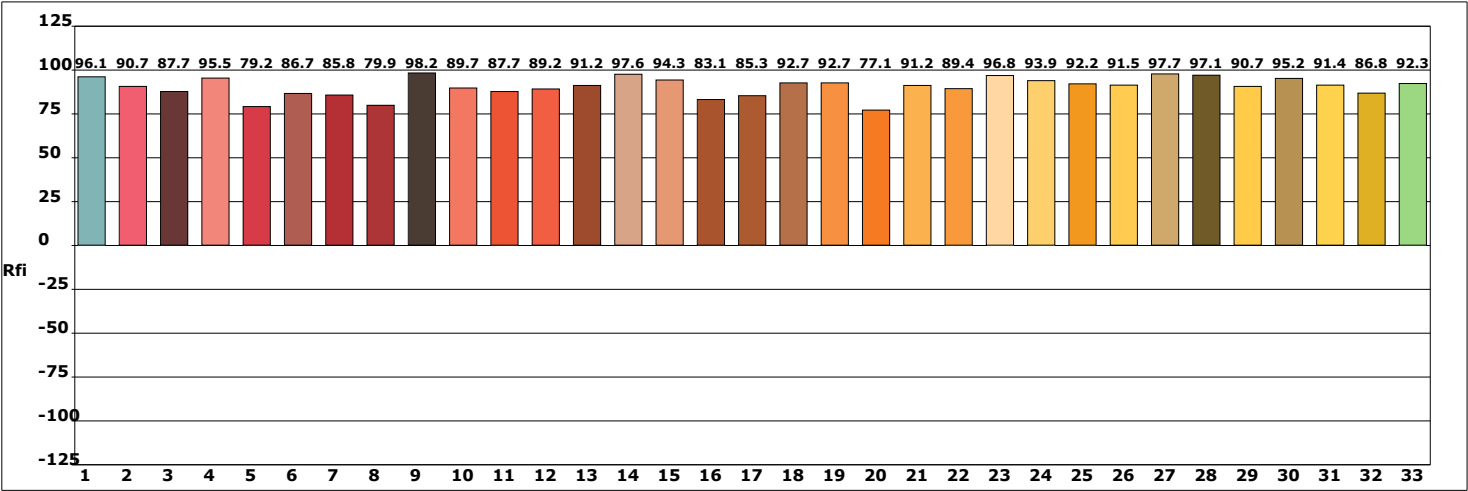


Chroma by Bue



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