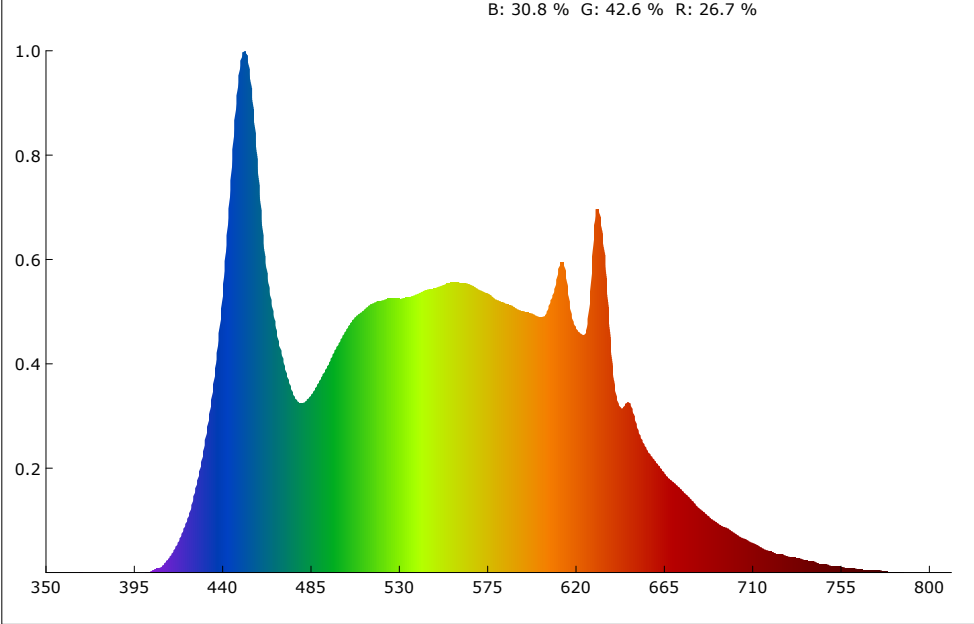
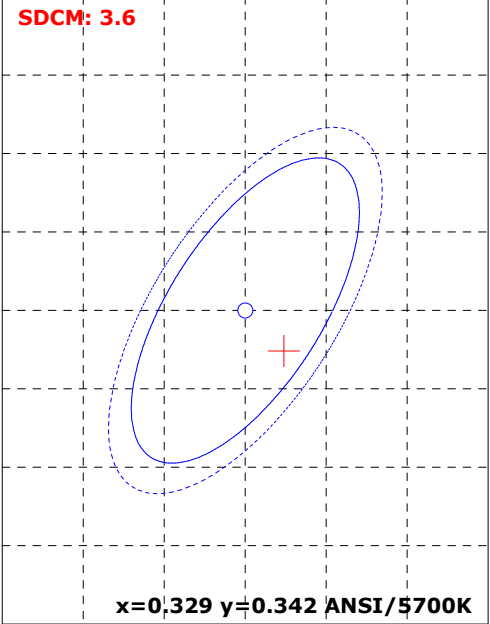


Spectrogram



SDCM



Color Parameter:

x: 0.3311 y: 0.3391 u: 0.2067 v: 0.3176 u': 0.2067 v': 0.4764
R_ratio: 26.7 % G_ratio: 42.6 % B_ratio: 30.8 % RedRatio: 16.0 % GreenRatio: 80.1 % BlueRatio: 3.9 %

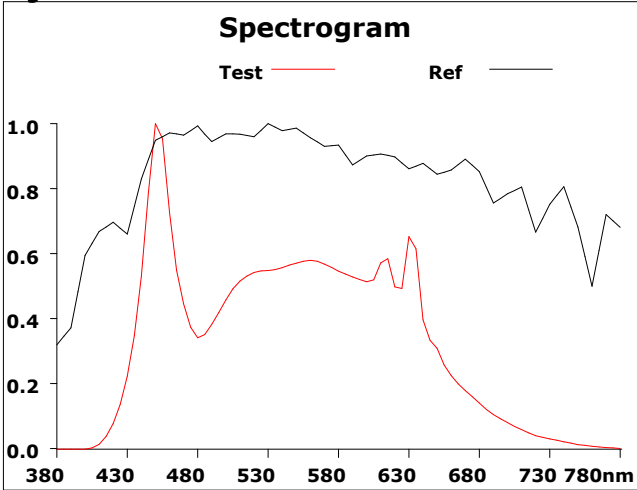
Ra: 92.6 AvgR: 89.8
R1: 94.3 R2: 95.3 R3: 94.1 R4: 94.4 R5: 92.8 R6: 89.3 R7: 92.8 R8: 87.8
R9: 66.5 R10: 86.8 R11: 94.4 R12: 73.6 R13: 94.8 R14: 96.5 R15: 93.0

CCT: 5558 K Flux: 907.901 lm PeakWave: 451.6 nm SDCM: 3.6
S/P: 2.2 CentralWave: 452.9 nm DominantWave: 529.9 nm CentroidWave: 547.9 nm
HalfWidth: 26.3 nm duv: -0.00038 purity: 1.2 % CQS: 88.0
LER(TM-30): 300.8 Ep: 3018.0 mw Rg: 100.0 Rf: 89.5
Red Ep: 790.5 mw Near red Ep: 51.7 mw Near infrared Ep: 0.3 mw

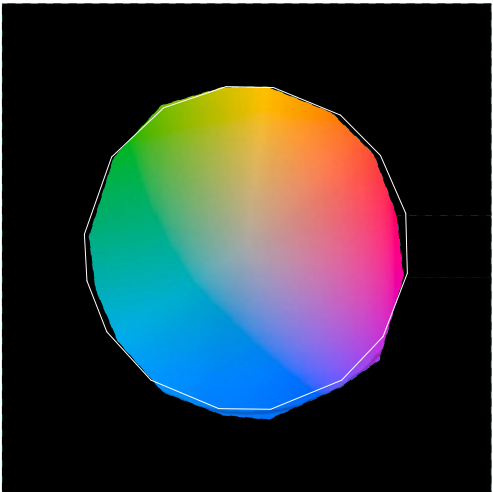
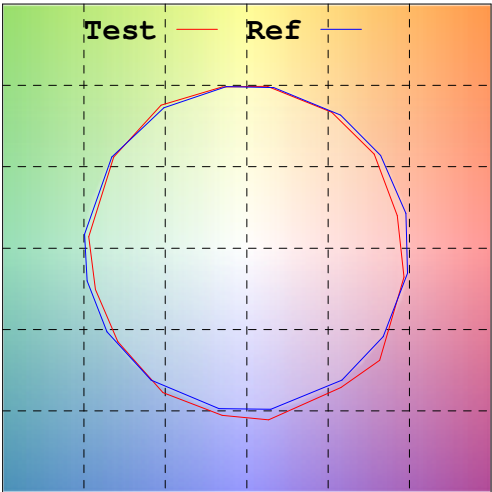
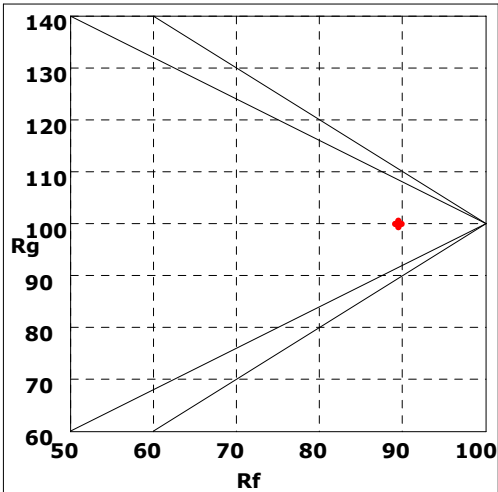
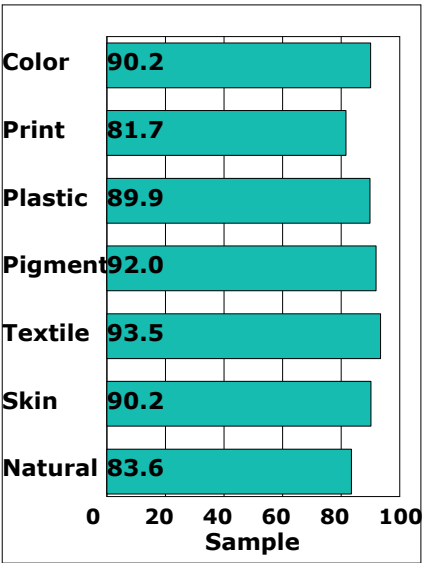
Electrical parameters:

Effic: 30.9 lm/W Energy: 33.7 Effi: G
U: 221.6 V I: 0.134 A P: 29.350 W Pf: 0.981

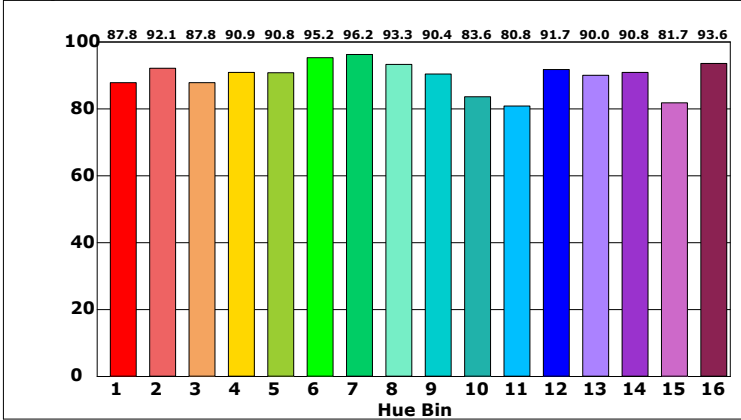
Rf: 89.5 CCT: 5558K u': 0.2067
Rg: 100.0 LER: 300.8 Duv: -0.00038 v': 0.4764



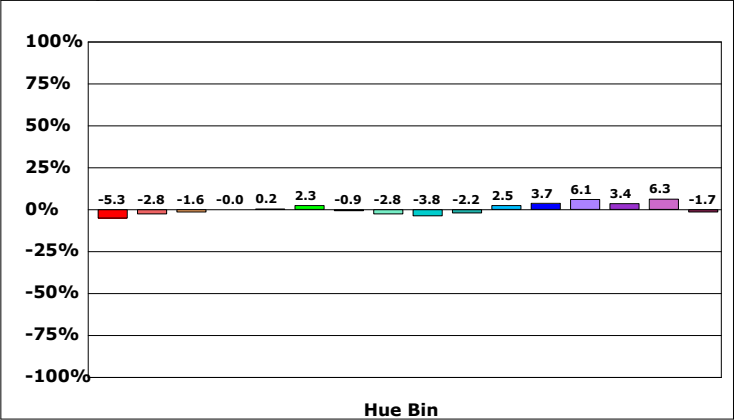
500			
Hue Bin	Rf	Chroma	Hue
1	87.8	-5.3%	-0.3%
2	92.1	-2.8%	2.9%
3	87.8	-1.6%	5.6%
4	90.9	-0.0%	4.0%
5	90.8	0.2%	2.7%
6	95.2	2.3%	0.6%
7	96.2	-0.9%	-0.6%
8	93.3	-2.8%	1.1%
9	90.4	-3.8%	6.2%
10	83.6	-2.2%	8.8%
11	80.8	2.5%	10.3%
12	91.7	3.7%	2.8%
13	90.0	6.1%	-2.6%
14	90.8	3.4%	-3.0%
15	81.7	6.3%	-13.2%
16	93.6	-1.7%	-2.8%



Rf by Bue

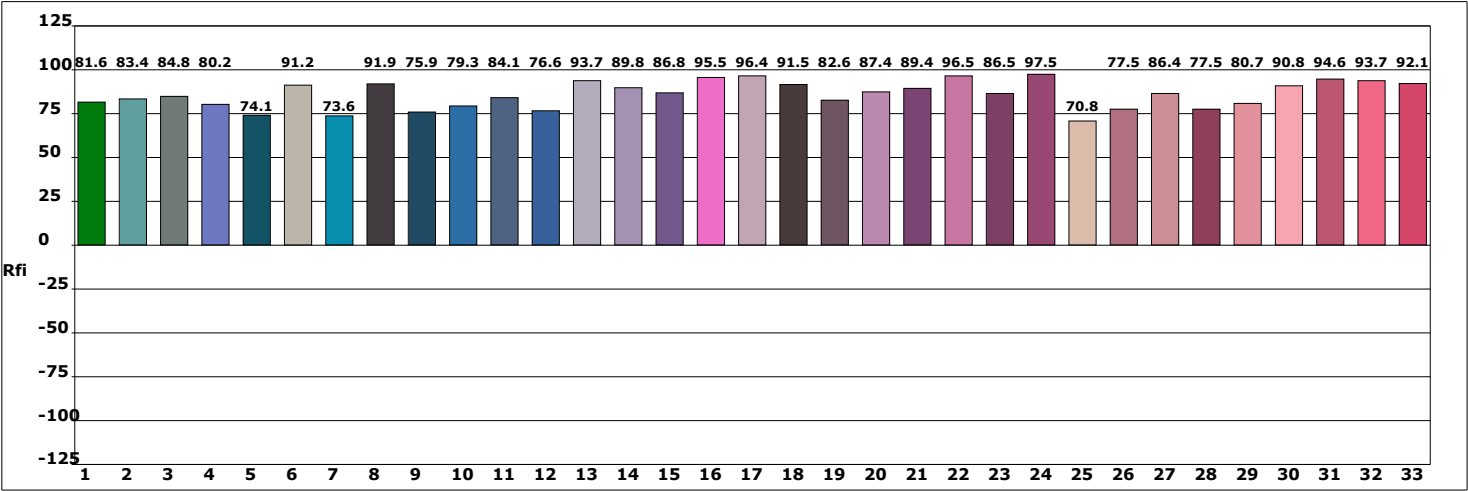
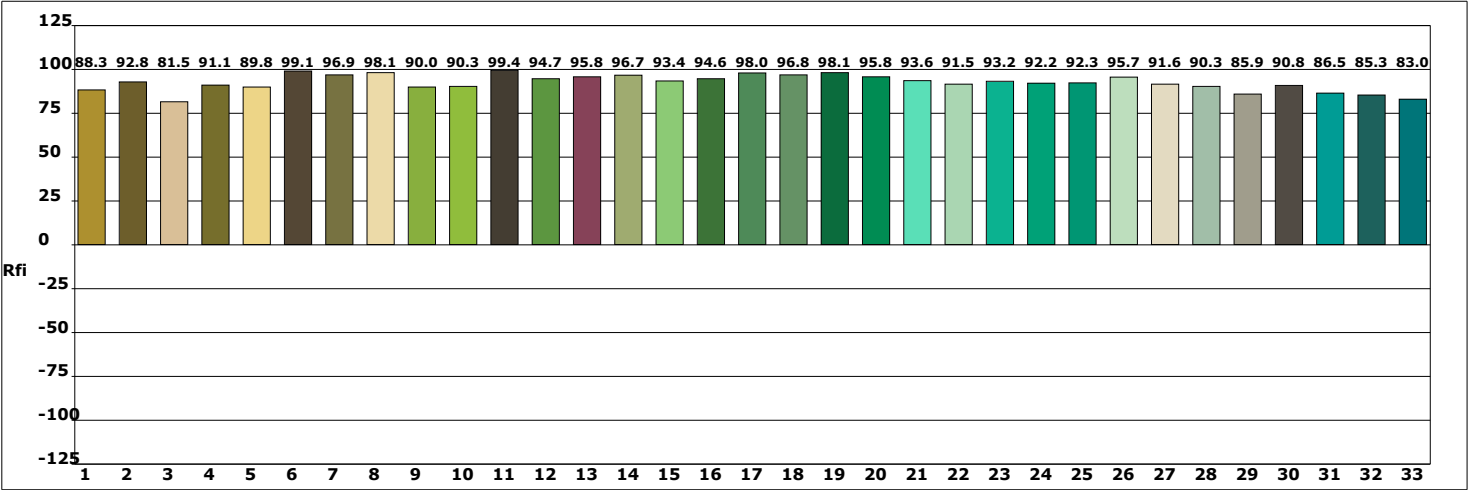
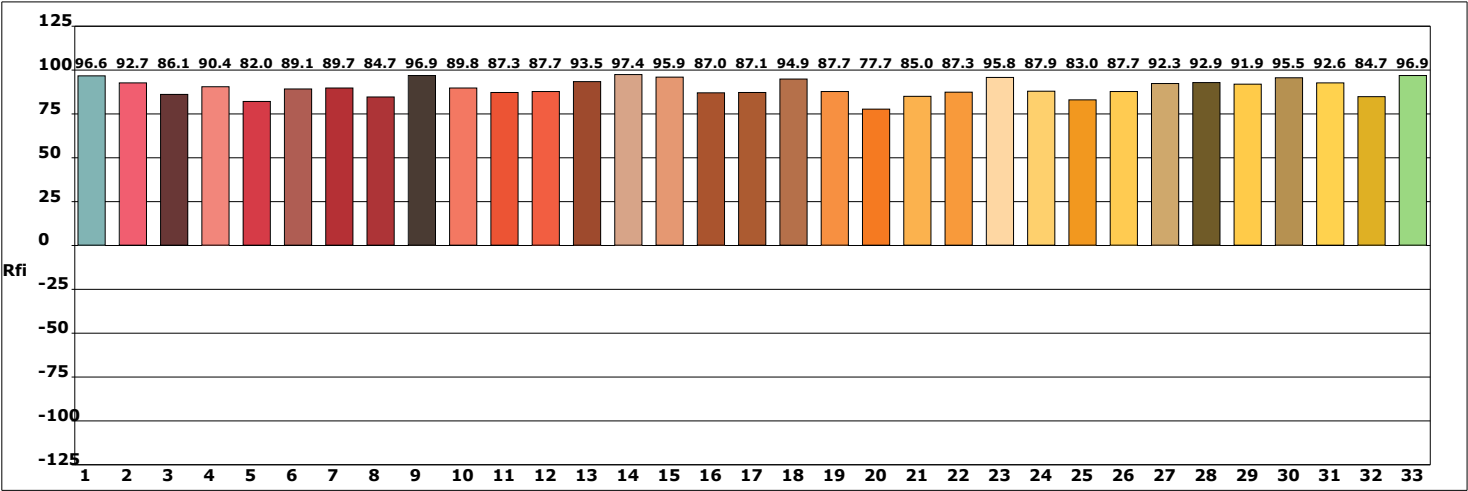


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

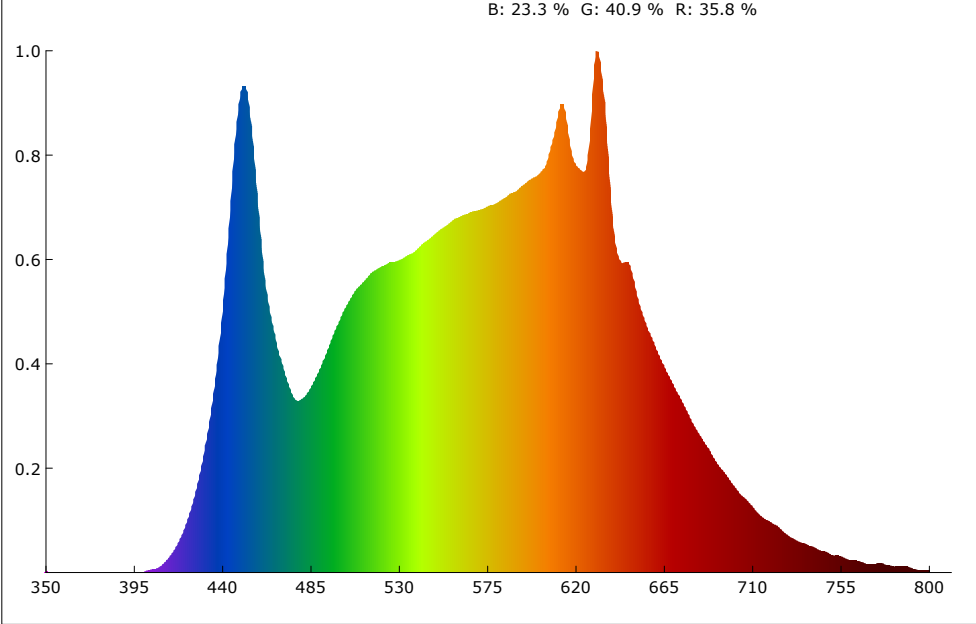
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 02/12/13



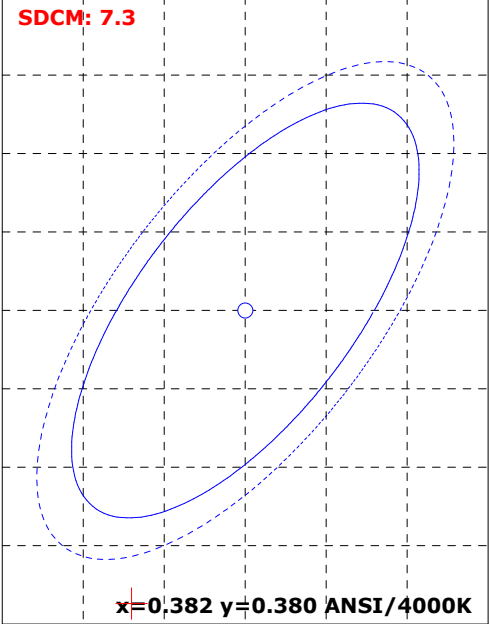
Product model:
Product number:
Tester:
Remarks:

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

Spectrogram



SDCM



Color Parameter:

x: 0.3748 y: 0.3610 u: 0.2278 v: 0.3291 u': 0.2278 v': 0.4937
R_ratio: 35.8 % G_ratio: 40.9 % B_ratio: 23.3 % RedRatio: 20.0 % GreenRatio: 77.1 % BlueRatio: 3.0 %

Ra: 95.3 AvgR: 93.3
R1: 97.2 R2: 97.7 R3: 96.3 R4: 96.2 R5: 97.6 R6: 94.5 R7: 93.6 R8: 89.4
R9: 75.1 R10: 94.0 R11: 95.6 R12: 81.6 R13: 97.7 R14: 97.3 R15: 96.2

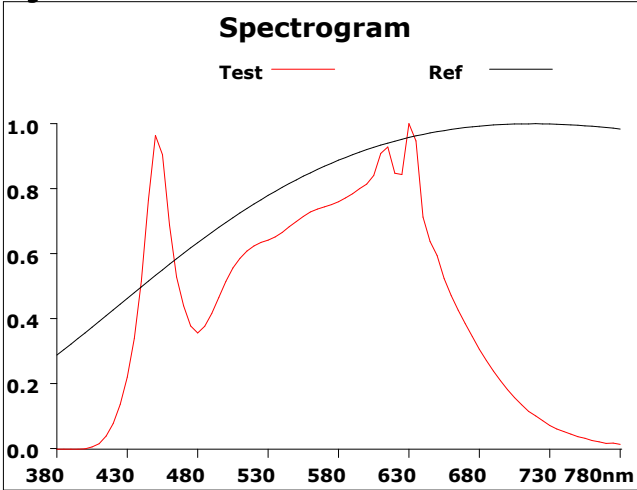
CCT: 4037 K Flux: 841.587 lm PeakWave: 631.5 nm SDCM: 7.3
S/P: 1.8 CentralWave: 577.6 nm DominantWave: 583.1 nm CentroidWave: 566.9 nm
HalfWidth: 150.7 nm duv: -0.00589 purity: 20.8 % CQS: 85.1
LER(TM-30): 296.0 Ep: 2843.0 mw Rg: 101.3 Rf: 91.1
Red Ep: 984.4 mw Near red Ep: 88.0 mw Near infrared Ep: 3.5 mw

Electrical parameters:

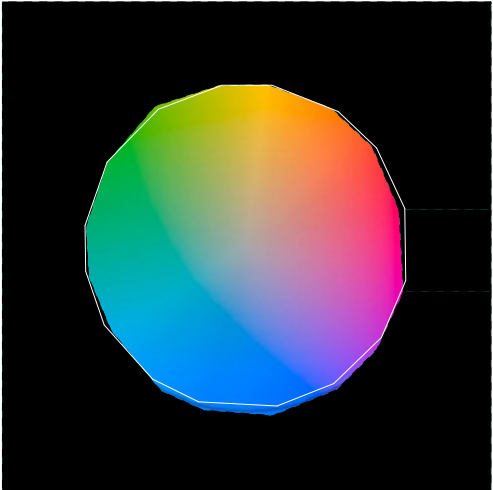
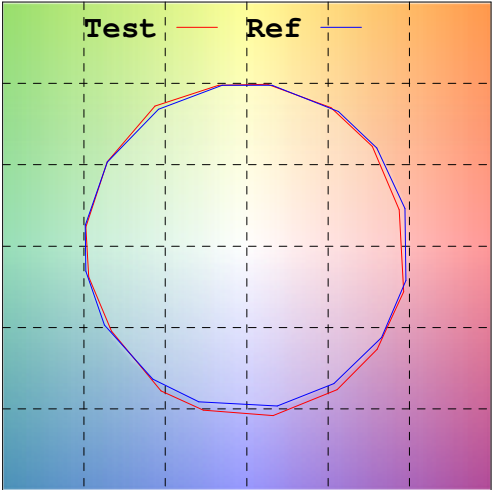
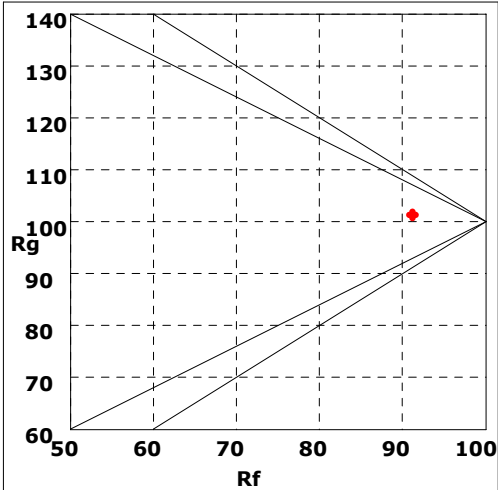
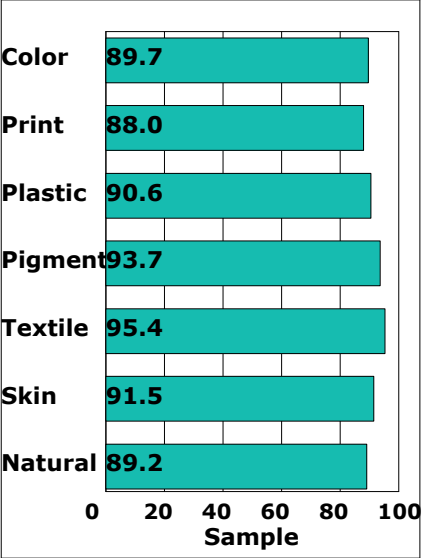
Effic: 28.6 Lm/W Energy: 31.2 Effi: G
U: 221.7 V I: 0.135 A P: 29.420 W Pf: 0.981

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

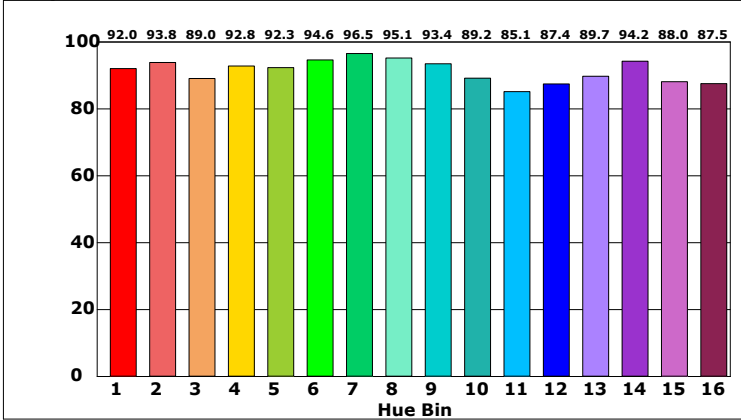
Rf: 91.1 CCT: 4037K u': 0.2278
Rg: 101.3 LER: 296.0 Duv: -0.00589 v': 0.4937



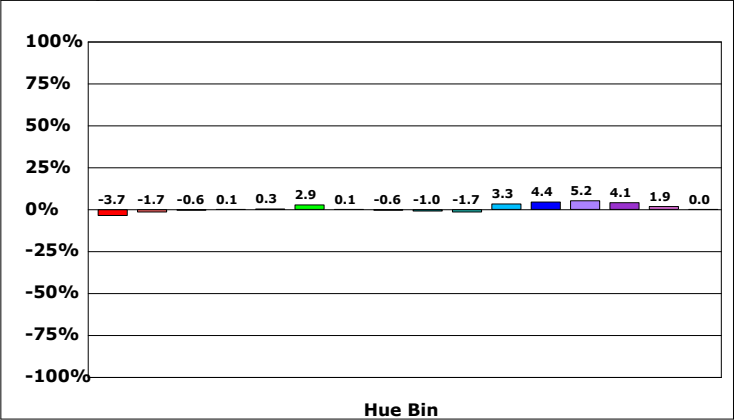
500			
Hue Bin	Rf	Chroma	Hue
1	92.0	-3.7%	-0.1%
2	93.8	-1.7%	2.3%
3	89.0	-0.6%	5.0%
4	92.8	0.1%	2.9%
5	92.3	0.3%	2.2%
6	94.6	2.9%	0.7%
7	96.5	0.1%	-0.3%
8	95.1	-0.6%	0.9%
9	93.4	-1.0%	3.8%
10	89.2	-1.7%	5.5%
11	85.1	3.3%	8.2%
12	87.4	4.4%	3.6%
13	89.7	5.2%	-3.8%
14	94.2	4.1%	-0.5%
15	88.0	1.9%	-7.6%
16	87.5	0.0%	-7.0%



Rf by Bue

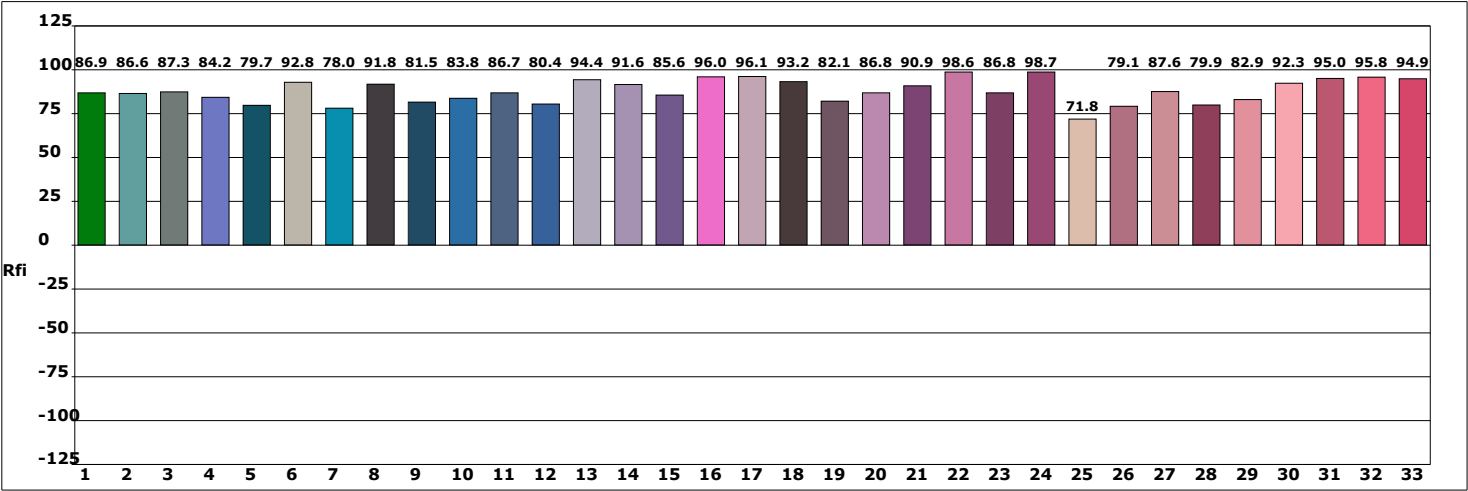
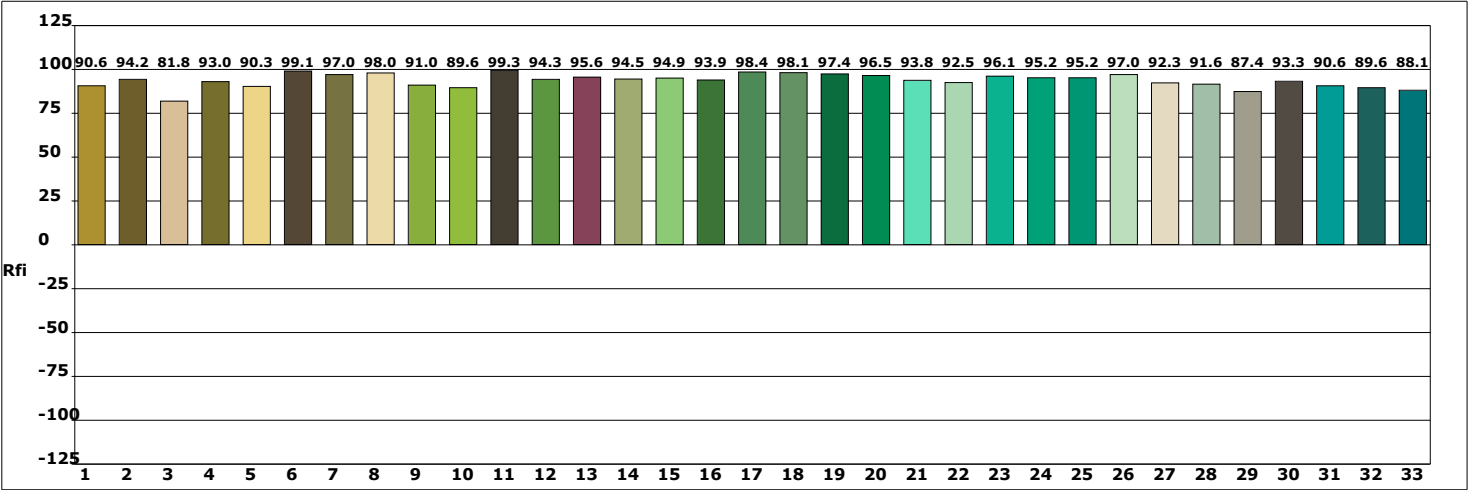
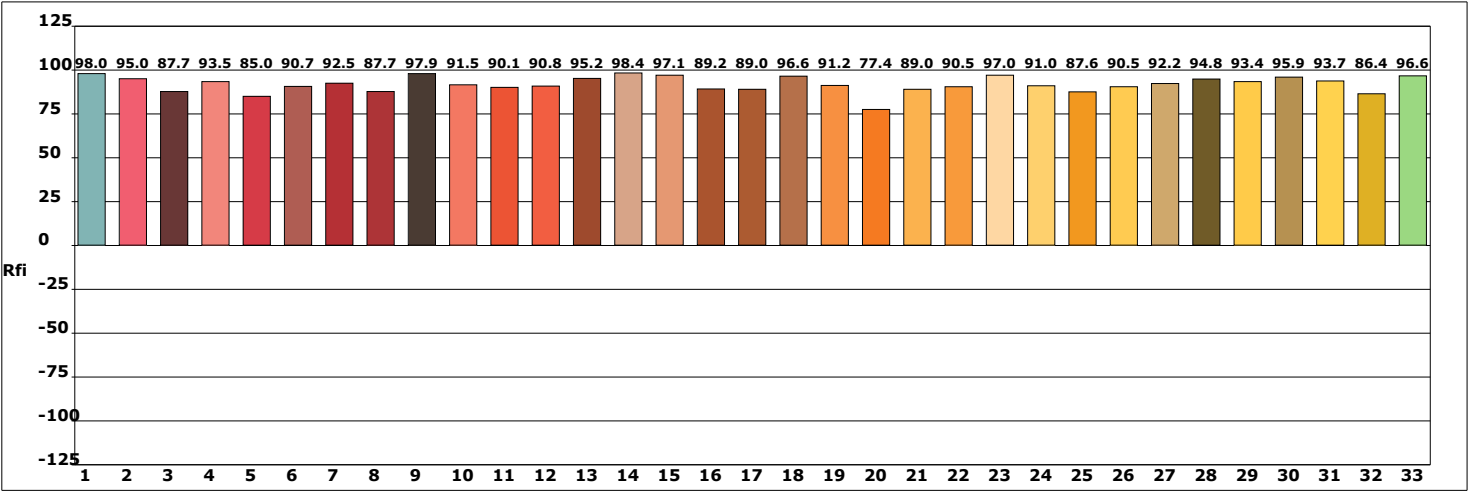


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

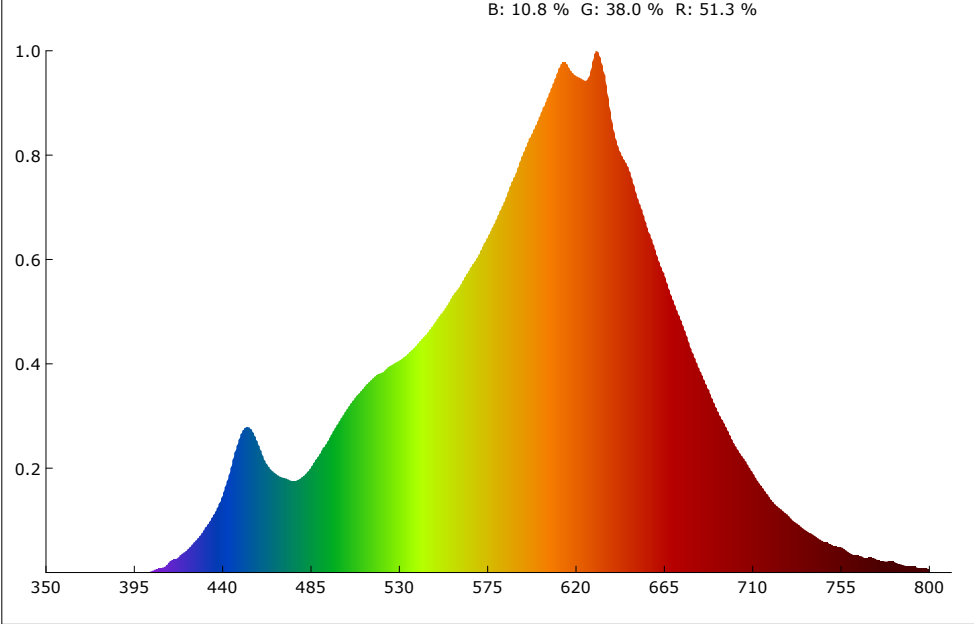
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 02/12/13



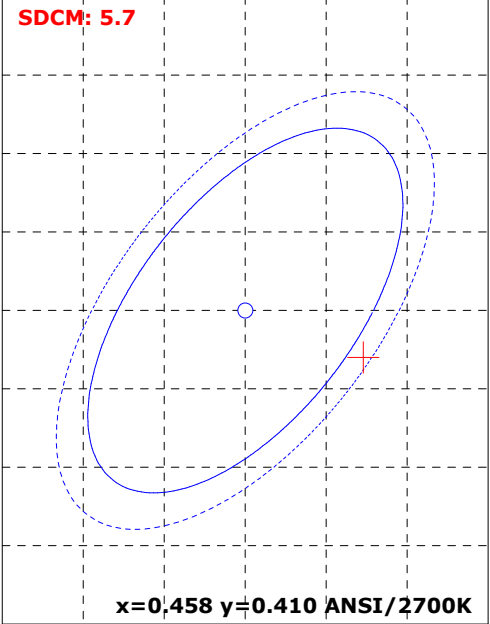
Product model:
Product number:
Tester:
Remarks:

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

Spectrogram



SDCM



Color Parameter:

x: 0.4651 y: 0.4071 u: 0.2675 v: 0.3512 u': 0.2675 v': 0.5268
R_ratio: 51.3 % G_ratio: 38.0 % B_ratio: 10.8 % RedRatio: 26.7 % GreenRatio: 71.8 % BlueRatio: 1.5 %

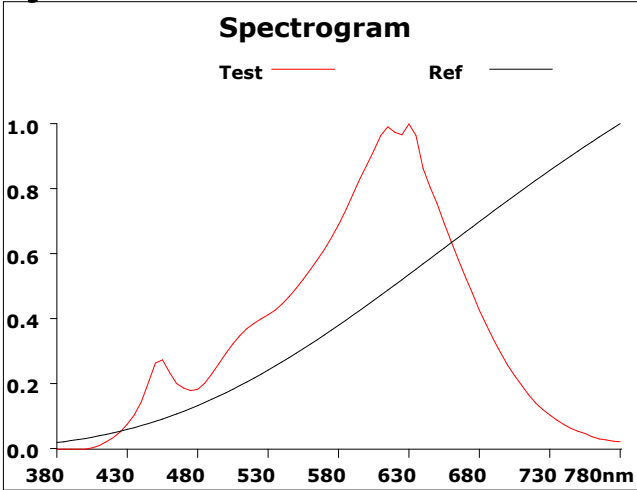
Ra: 91.9 AvgR: 90.1
R1: 93.1 R2: 98.2 R3: 96.4 R4: 93.1 R5: 94.3 R6: 96.4 R7: 87.9 R8: 76.0
R9: 50.9 R10: 96.0 R11: 95.7 R12: 93.0 R13: 94.7 R14: 99.0 R15: 87.1

CCT: 2601 K Flux: 709.882 lm PeakWave: 630.5 nm SDCM: 5.7
S/P: 1.2 CentralWave: 612.2 nm DominantWave: 585.3 nm CentroidWave: 597.5 nm
HalfWidth: 118.6 nm duv: -0.00168 purity: 61.8 % CQS: 86.3
LER(TM-30): 289.6 Ep: 2451.2 mw Rg: 99.4 Rf: 91.3
Red Ep: 1188.5 mw Near red Ep: 127.7 mw Near infrared Ep: 4.9 mw

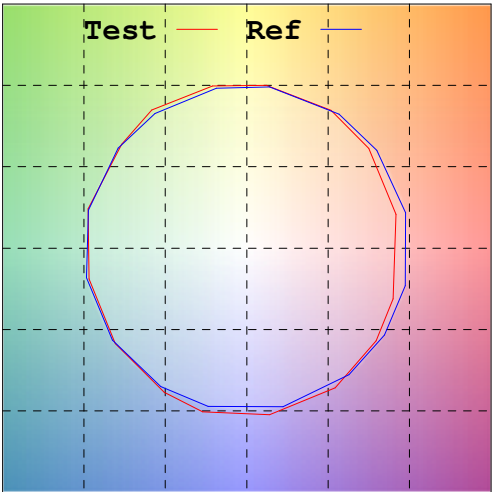
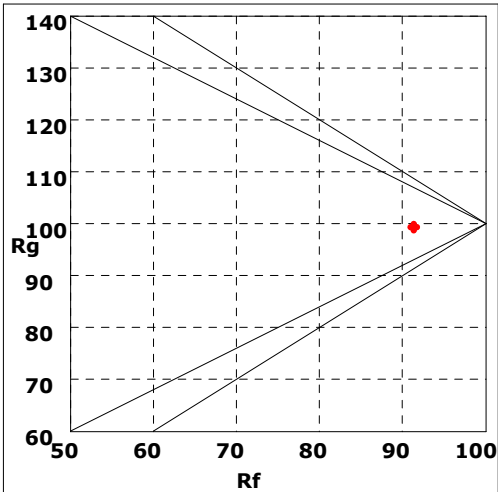
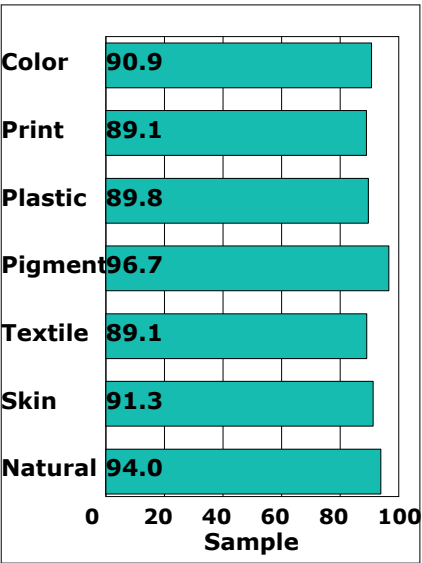
Electrical parameters:

Effic: 24.3 Lm/W Energy: 26.5 Effi: G
U: 221.8 V I: 0.134 A P: 29.220 W Pf: 0.981

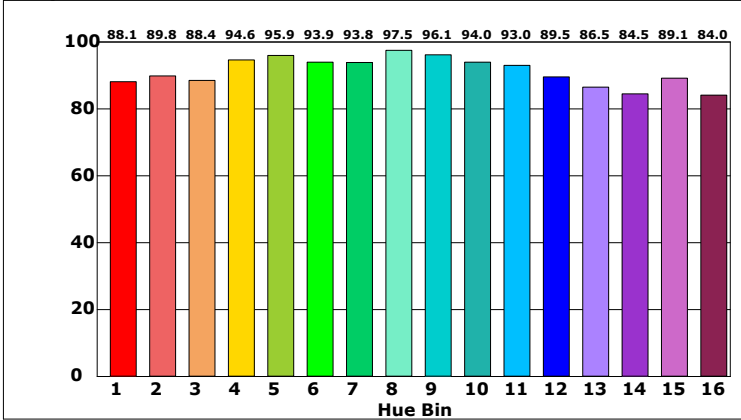
Rf: 91.3 CCT: 2601K u': 0.2675
Rg: 99.4 LER: 289.6 Duv: -0.00168 v': 0.5268



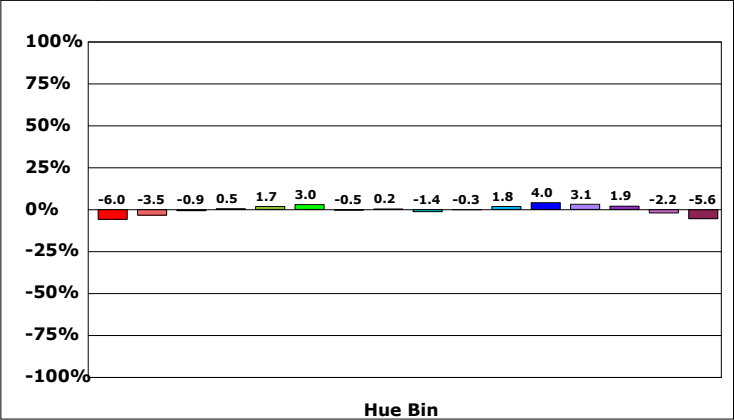
500			
Hue Bin	Rf	Chroma	Hue
1	88.1	-6.0%	0.3%
2	89.8	-3.5%	3.7%
3	88.4	-0.9%	5.4%
4	94.6	0.5%	2.1%
5	95.9	1.7%	2.0%
6	93.9	3.0%	0.5%
7	93.8	-0.5%	-3.1%
8	97.5	0.2%	-0.8%
9	96.1	-1.4%	0.9%
10	94.0	-0.3%	2.8%
11	93.0	1.8%	3.7%
12	89.5	4.0%	-2.7%
13	86.5	3.1%	-9.1%
14	84.5	1.9%	-11.6%
15	89.1	-2.2%	-5.7%
16	84.0	-5.6%	-9.4%



Rf by Bue

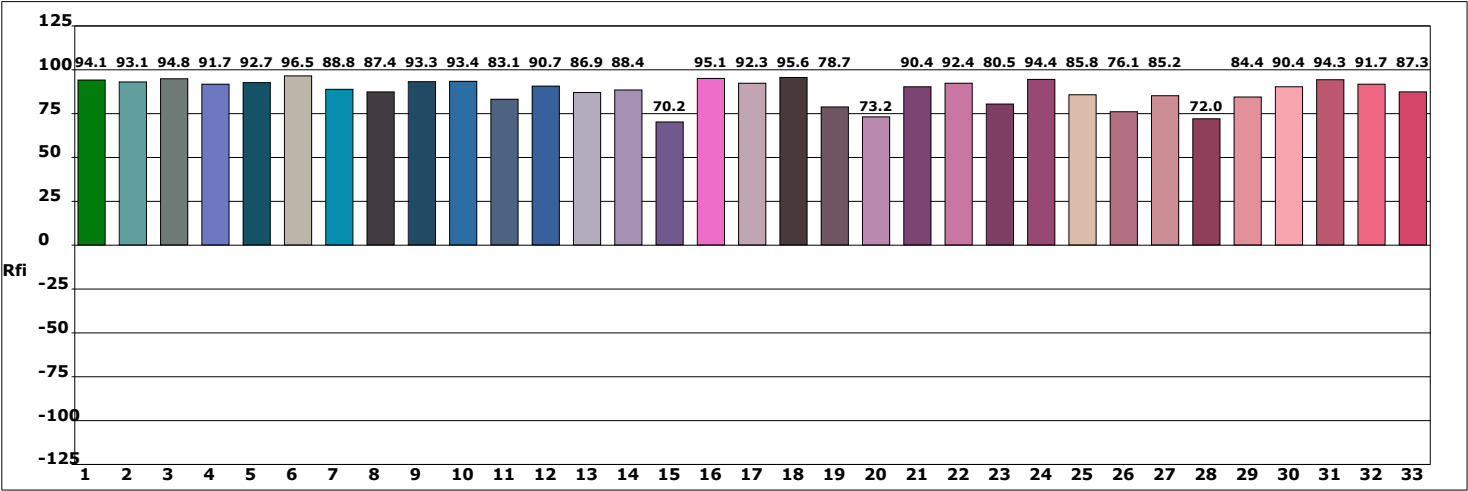
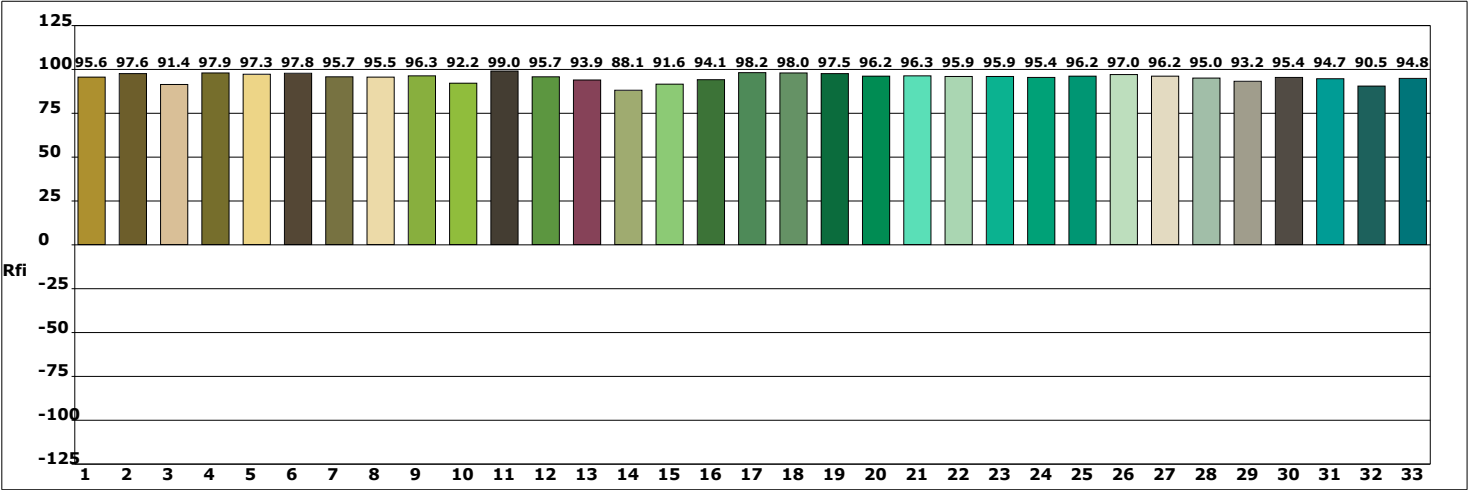
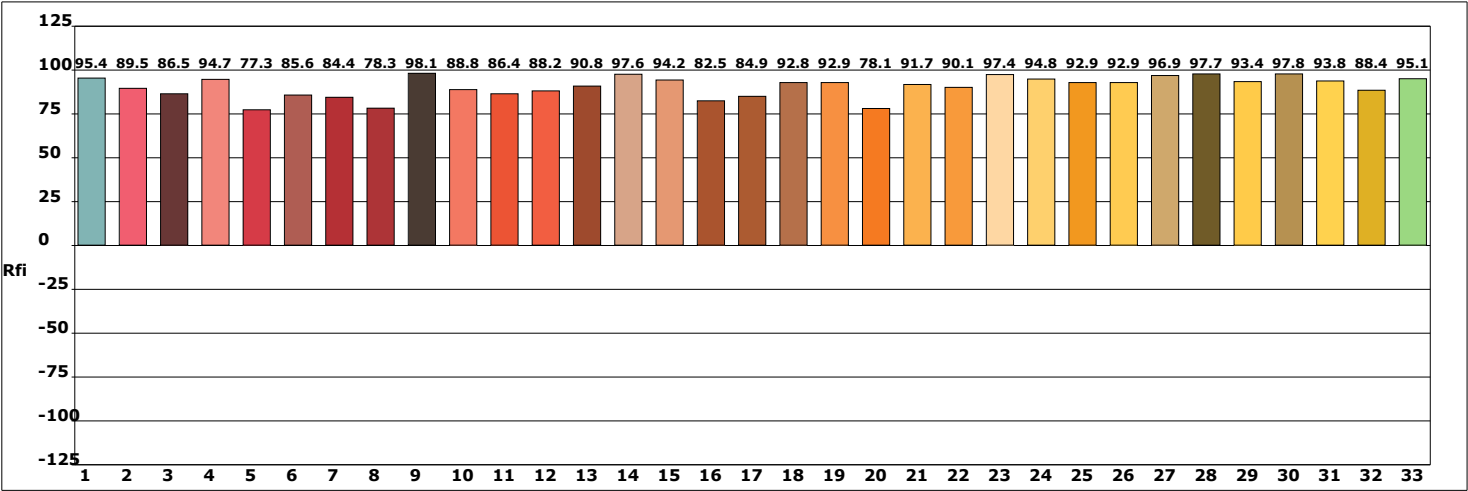


Chroma by Bue



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