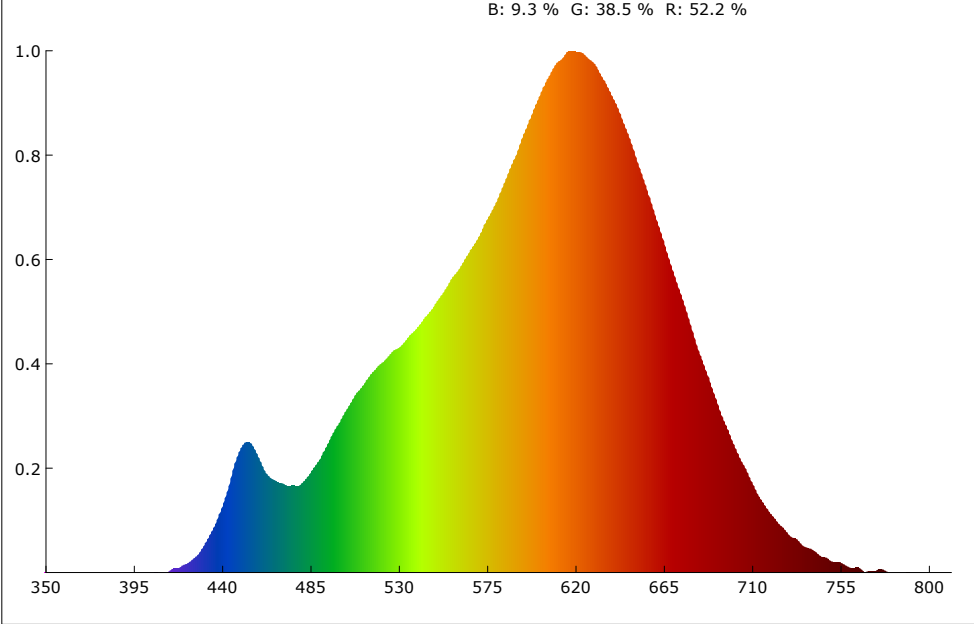
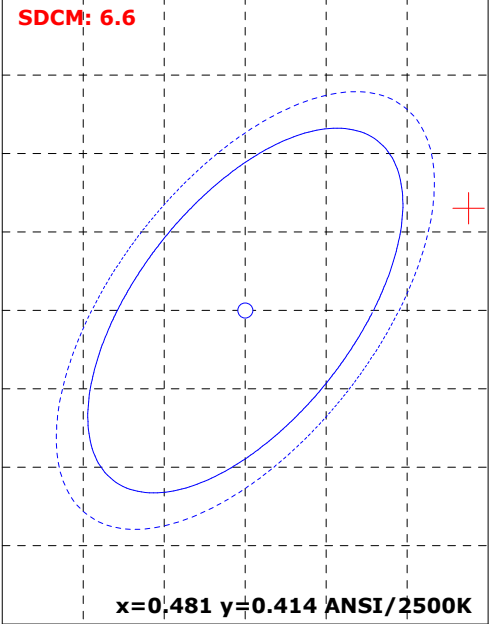


Spectrogram



SDCM



Color Parameter:

x: 0.4716 y: 0.4166 u: 0.2673 v: 0.3543 u': 0.2673 v': 0.5314
R_ratio: 52.2 % G_ratio: 38.5 % B_ratio: 9.3 % RedRatio: 26.4 % GreenRatio: 72.2 % BlueRatio: 1.3 %

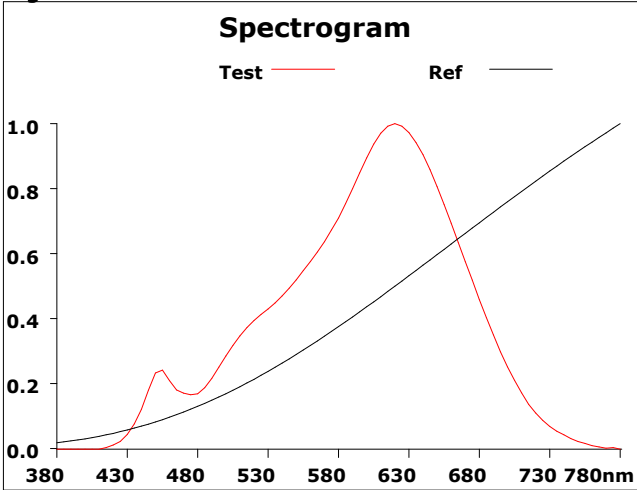
Ra: 91.6 AvgR: 88.8
R1: 91.5 R2: 96.3 R3: 98.9 R4: 92.0 R5: 91.9 R6: 97.2 R7: 89.4 R8: 76.0
R9: 48.8 R10: 91.3 R11: 94.0 R12: 87.4 R13: 92.7 R14: 99.5 R15: 85.4

CCT: 2589 K Flux: 305.971 lm PeakWave: 617.6 nm SDCM: 6.6
S/P: 1.2 CentralWave: 611.2 nm DominantWave: 584.4 nm CentroidWave: 597.5 nm
HalfWidth: 129.4 nm duv: 0.00137 purity: 66.6 % CQS: 86.4
LER(TM-30): 298.1 Ep: 1026.5 mw Rg: 97.2 Rf: 91.0
Red Ep: 515.9 mw Near red Ep: 38.2 mw Near infrared Ep: 0.0 mw

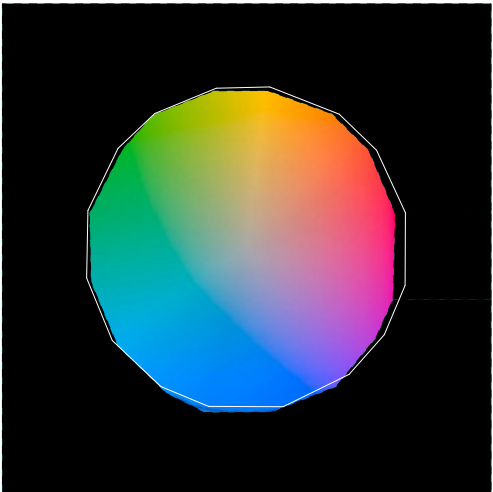
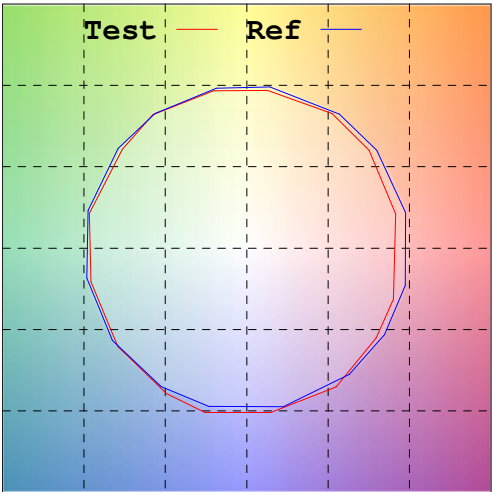
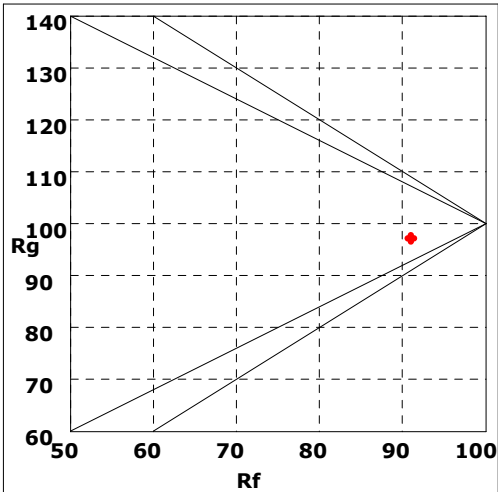
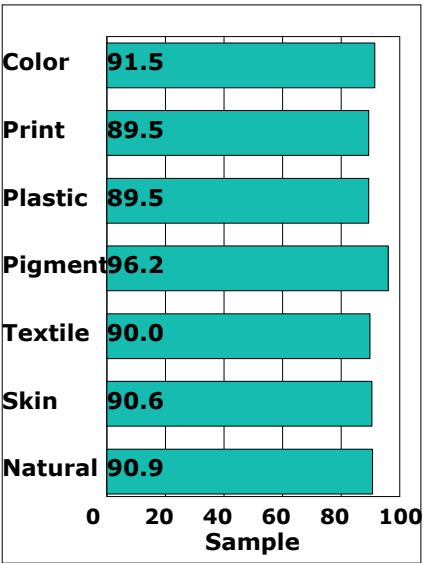
Electrical parameters:

Effic: 7.1 Lm/W Energy: 7.7 Effi: G
U: 221.4 V I: 0.332 A P: 43.270 W Pf: 0.587

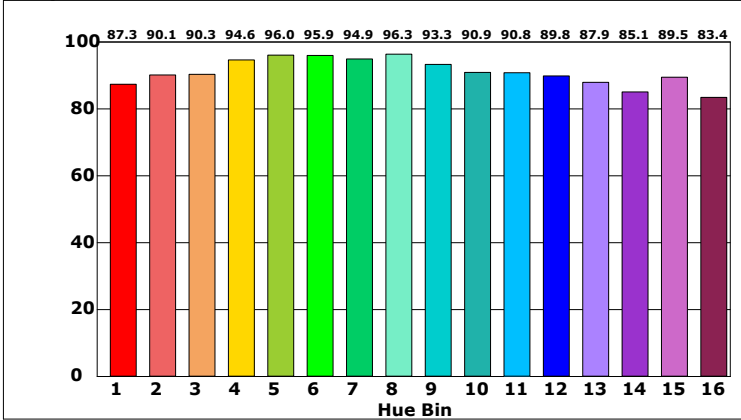
Rf: 91.0 CCT: 2589K u': 0.2673
Rg: 97.2 LER: 298.1 Duv: 0.00137 v': 0.5314



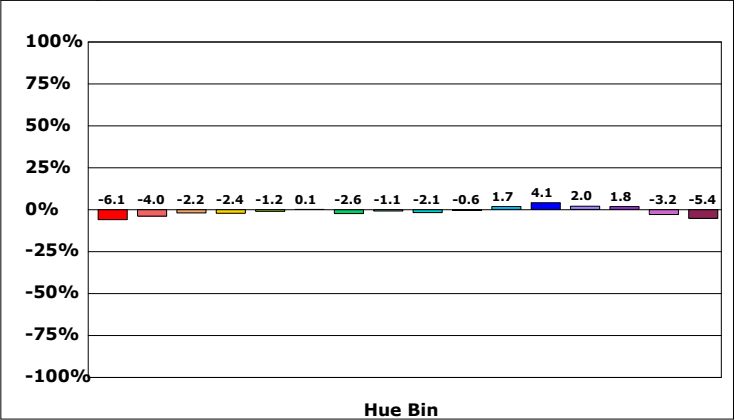
500			
Hue Bin	Rf	Chroma	Hue
1	87.3	-6.1%	0.4%
2	90.1	-4.0%	2.7%
3	90.3	-2.2%	4.0%
4	94.6	-2.4%	0.8%
5	96.0	-1.2%	2.0%
6	95.9	0.1%	1.6%
7	94.9	-2.6%	-1.0%
8	96.3	-1.1%	1.5%
9	93.3	-2.1%	2.8%
10	90.9	-0.6%	5.1%
11	90.8	1.7%	5.2%
12	89.8	4.1%	-1.5%
13	87.9	2.0%	-8.3%
14	85.1	1.8%	-10.9%
15	89.5	-3.2%	-4.5%
16	83.4	-5.4%	-9.7%



Rf by Bue

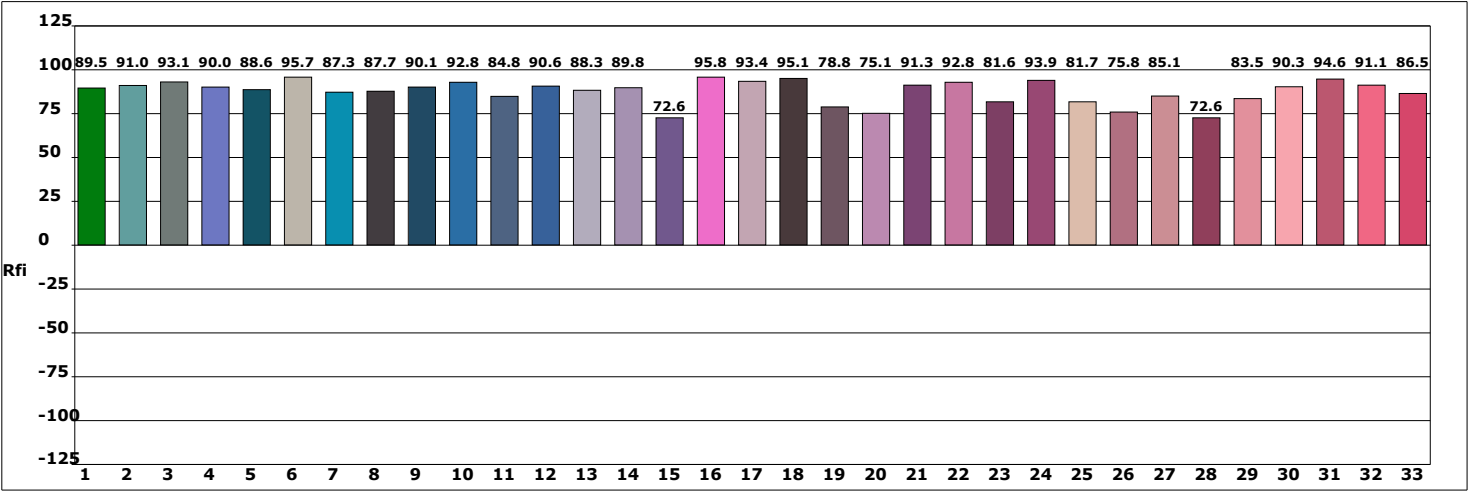
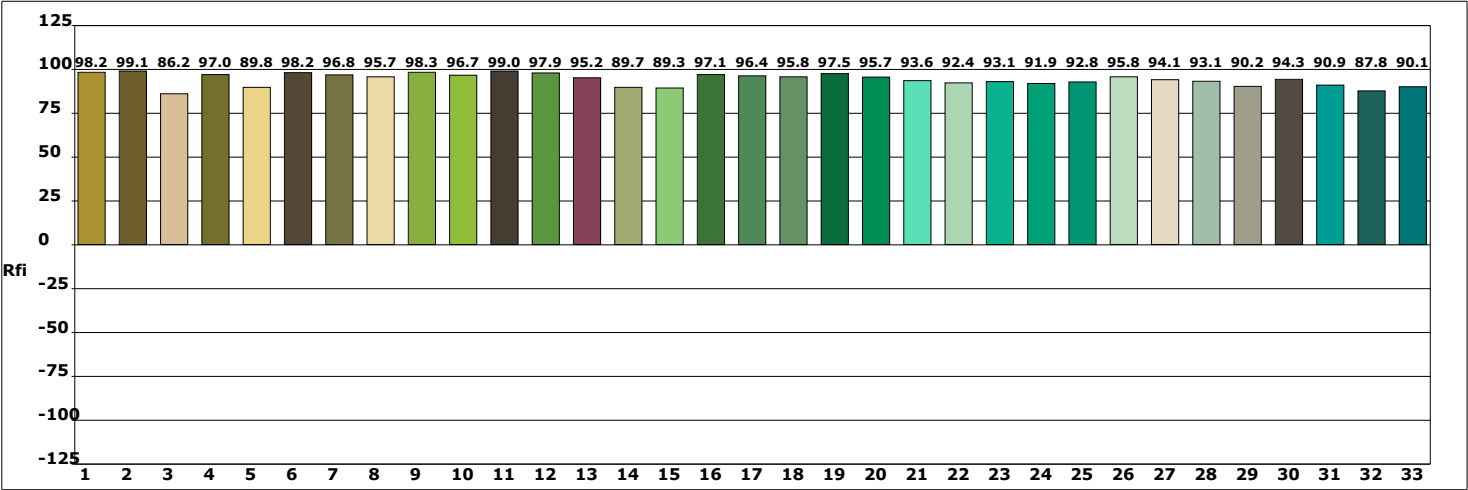
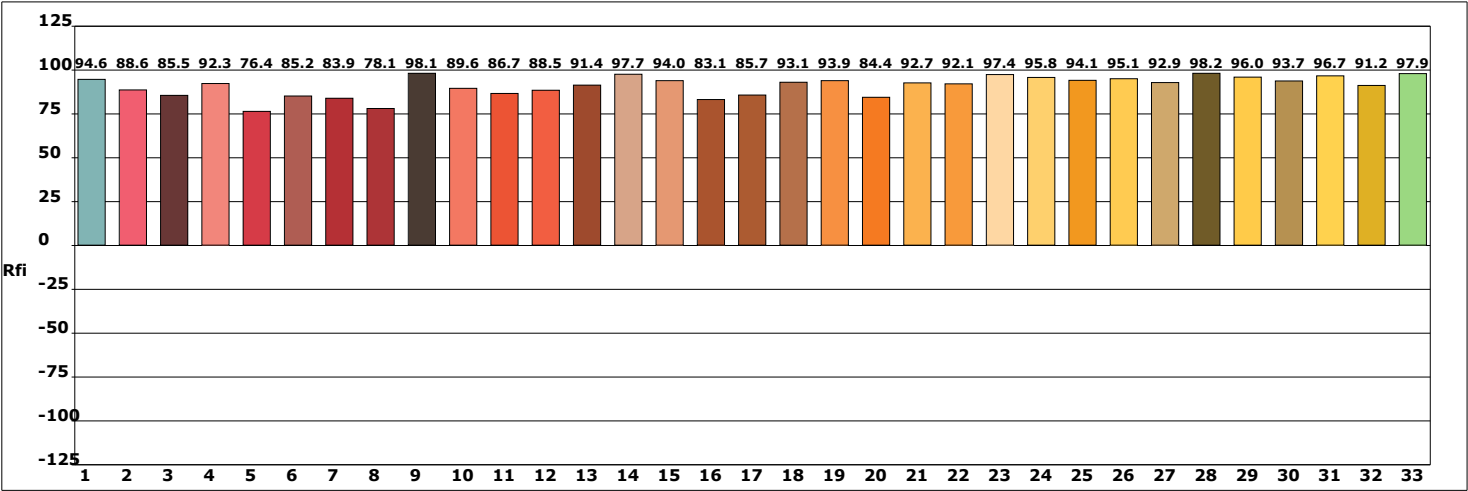


Chroma by Bue

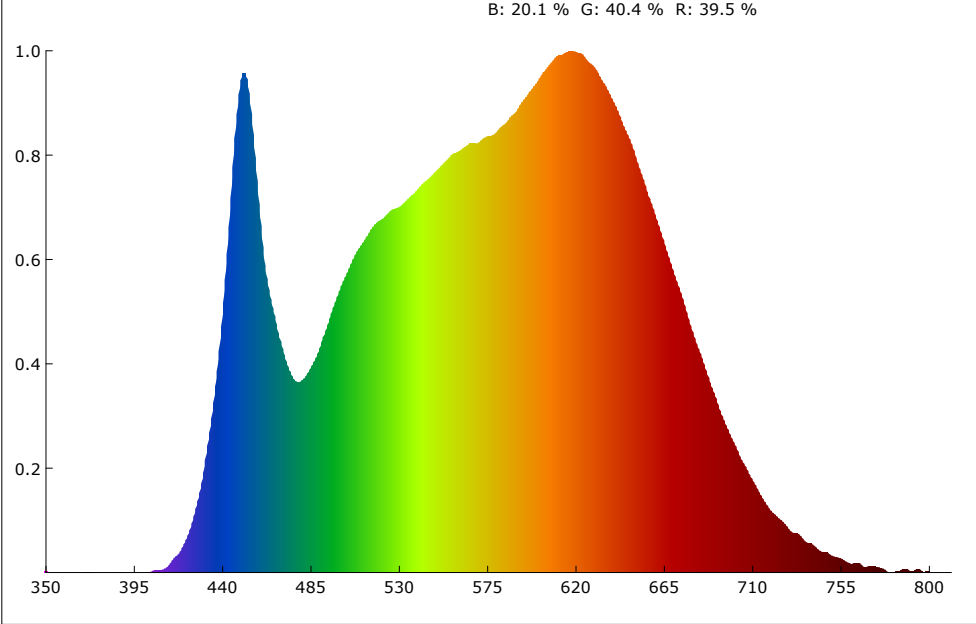


Product model: P19
Product number:
Tester:
Remarks:

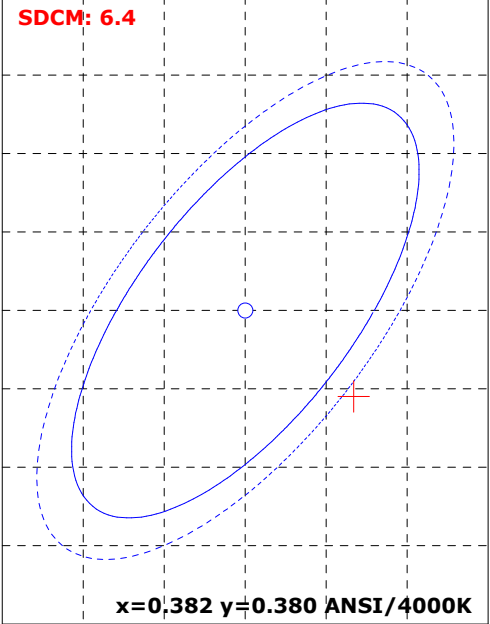
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 08/11/12



Spectrogram



SDCM



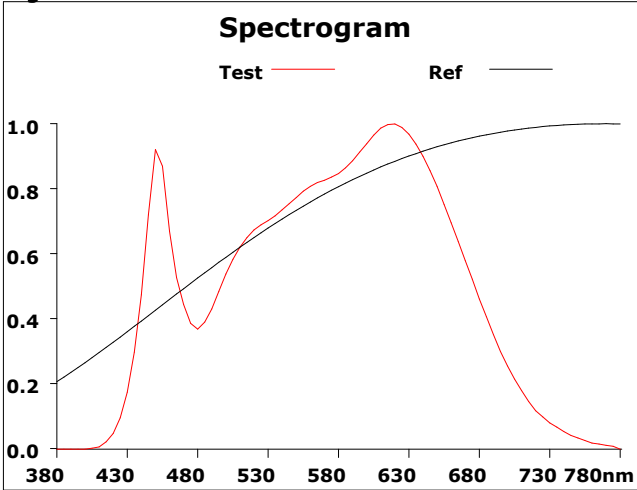
Color Parameter:

x: 0.3885	y: 0.3742	u: 0.2315	v: 0.3344	u': 0.2315	v': 0.5016
R_ratio: 39.5 %	G_ratio: 40.4 %	B_ratio: 20.1 %	RedRatio: 20.5 %	GreenRatio: 76.8 %	BlueRatio: 2.7 %
Ra: 95.1	AvgR: 92.9				
R1: 96.3	R2: 97.3	R3: 96.4	R4: 95.8	R5: 96.4	R6: 95.4
R7: 94.5	R8: 89.2	R9: 74.5	R10: 92.9	R11: 95.6	R12: 80.7
R13: 96.8	R14: 97.4	R15: 94.9			
CCT: 3765 K	Flux: 311.416 lm	PeakWave: 618.6 nm	SDCM: 6.4		
S/P: 1.7	CentralWave: 585.9 nm	DominantWave: 581.8 nm	CentroidWave: 574.3 nm		
HalfWidth: 179.7 nm	duv: -0.00349	purity: 28.9 %	CQS: 87.1		
LER(TM-30): 293.8	Ep: 1059.8 mw	Rg: 100.7	Rf: 91.5		
Red Ep: 405.1 mw	Near red Ep: 33.5 mw	Near infrared Ep: 0.5 mw			

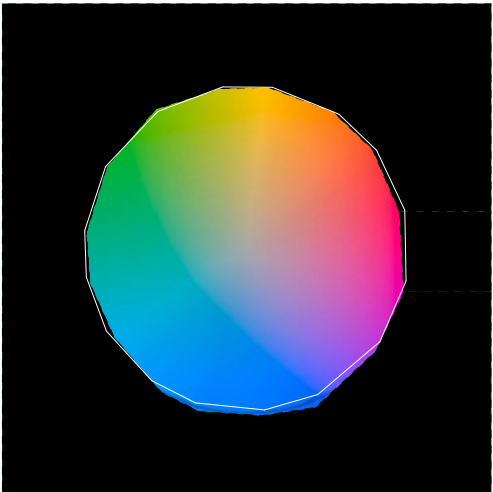
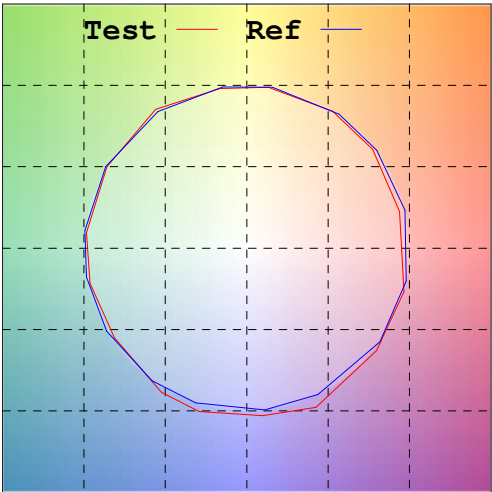
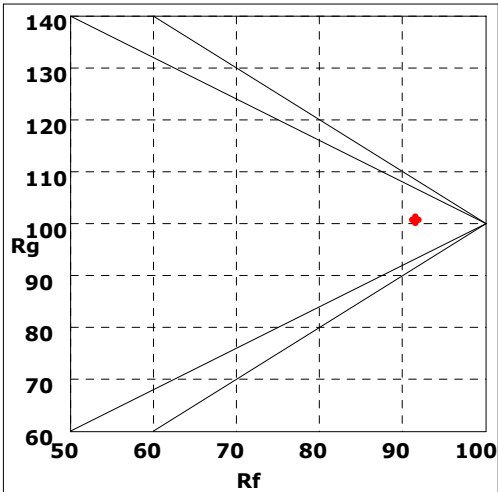
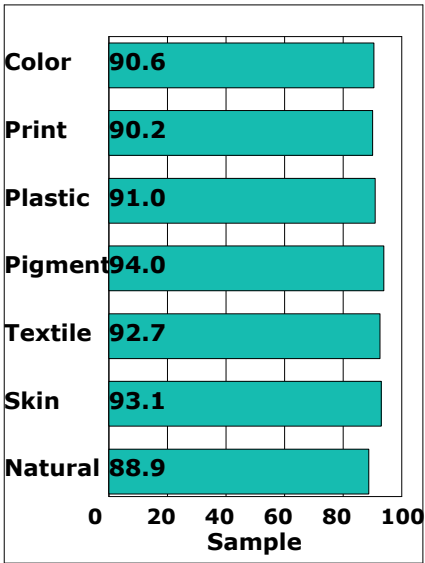
Electrical parameters:

Effic: 8.5 Lm/W	Energy: 9.2	Effi: G	
U: 221.4 V	I: 0.288 A	P: 36.790 W	Pf: 0.577

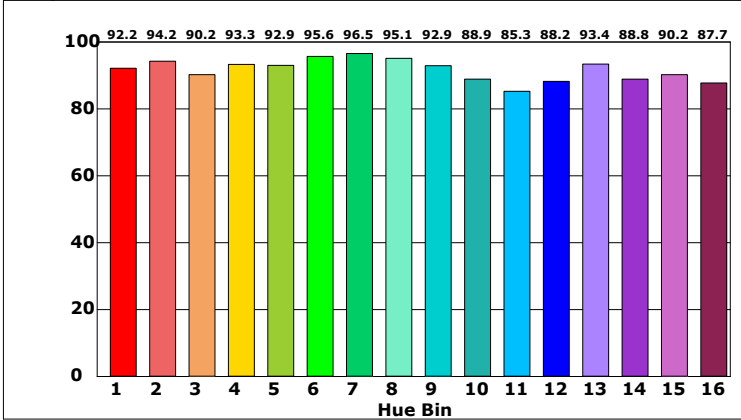
Rf: 91.5 CCT: 3765K u': 0.2315
Rg: 100.7 LER: 293.8 Duv: -0.00349 v': 0.5016



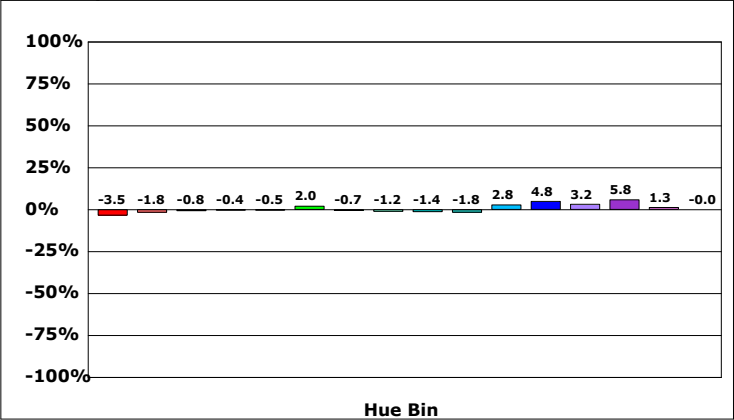
500			
Hue Bin	Rf	Chroma	Hue
1	92.2	-3.5%	-0.2%
2	94.2	-1.8%	1.9%
3	90.2	-0.8%	4.3%
4	93.3	-0.4%	2.3%
5	92.9	-0.5%	1.8%
6	95.6	2.0%	0.3%
7	96.5	-0.7%	-0.4%
8	95.1	-1.2%	1.0%
9	92.9	-1.4%	4.2%
10	88.9	-1.8%	5.8%
11	85.3	2.8%	8.6%
12	88.2	4.8%	3.1%
13	93.4	3.2%	-2.1%
14	88.8	5.8%	-5.4%
15	90.2	1.3%	-5.7%
16	87.7	-0.0%	-6.8%



Rf by Bue

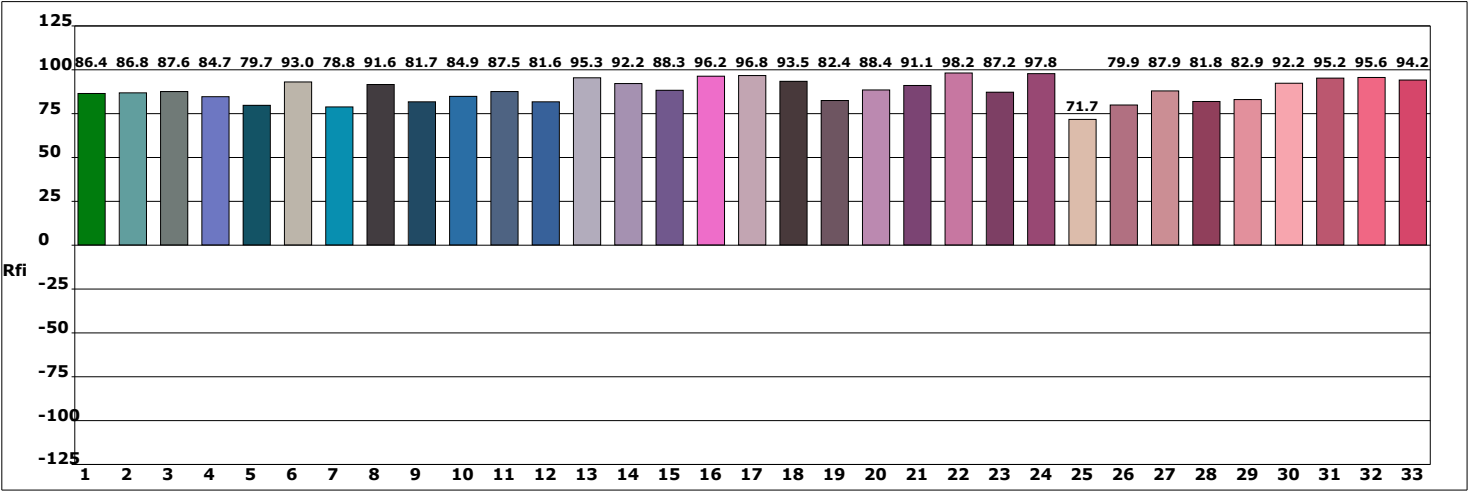
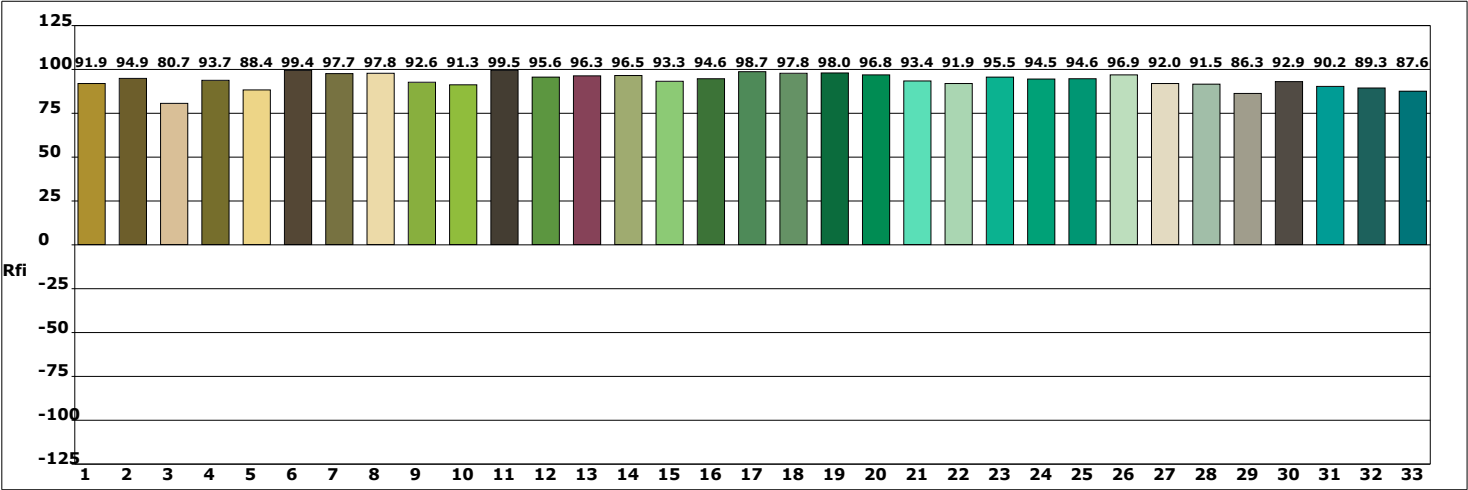
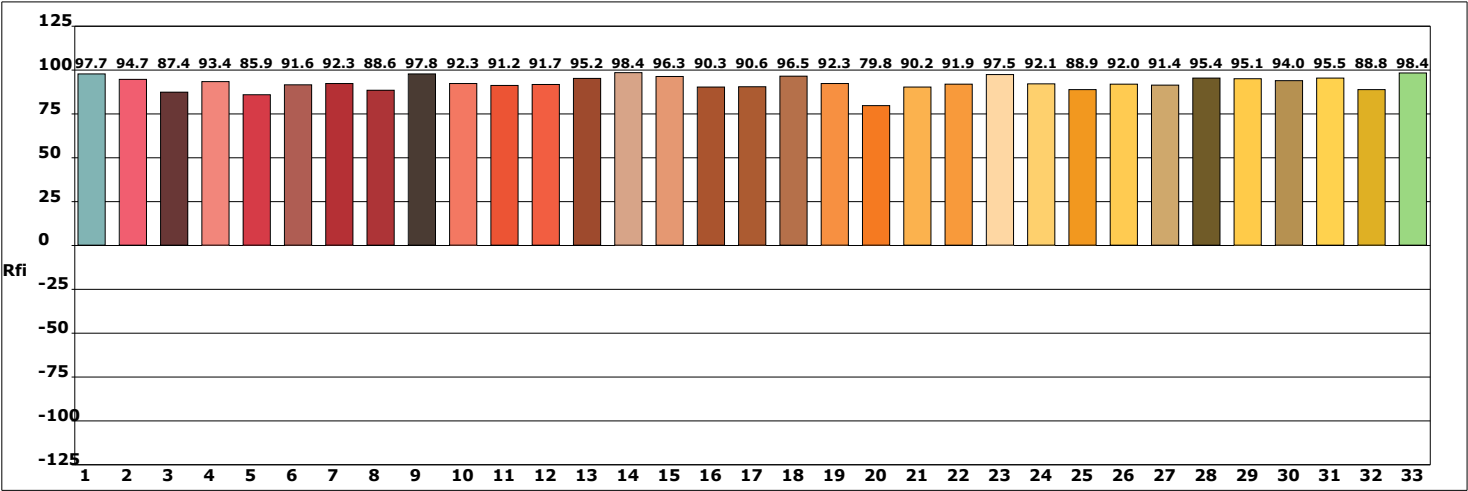


Chroma by Bue



Product model: P19
Product number:
Tester:
Remarks:

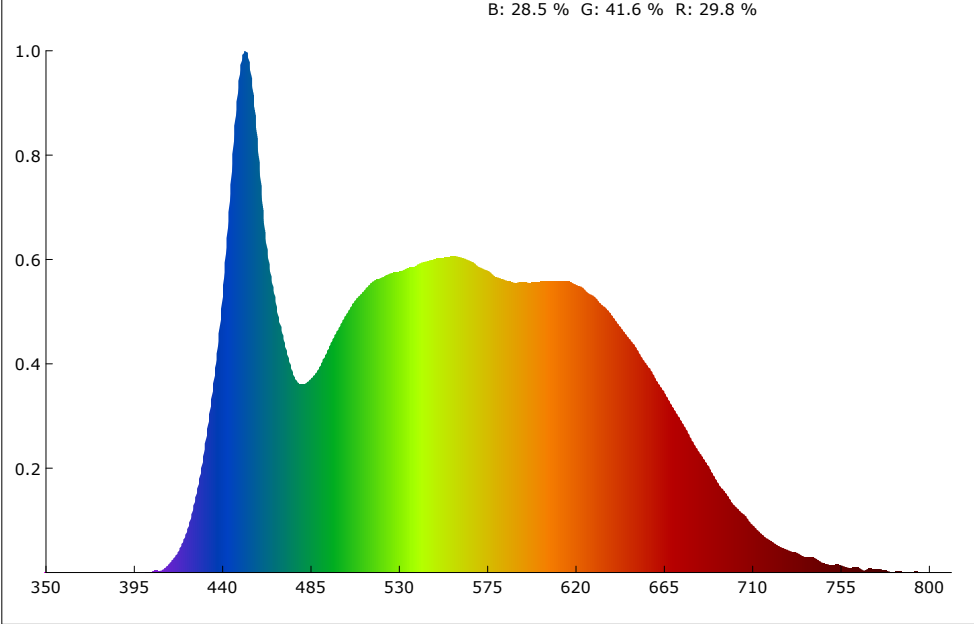
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 08/11/12



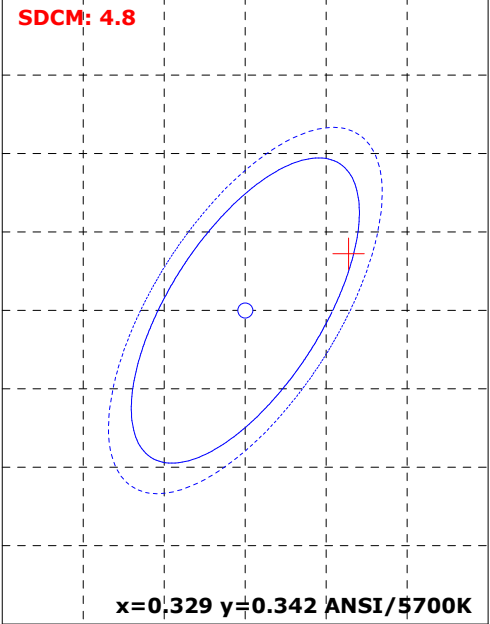
Product model: P19
Product number:
Tester:
Remarks:

Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 08/11/12

Spectrogram



SDCM



Color Parameter:

x: 0.3351 y: 0.3453 u: 0.2071 v: 0.3200 u': 0.2071 v': 0.4800
R_ratio: 29.8 % G_ratio: 41.6 % B_ratio: 28.5 % RedRatio: 16.0 % GreenRatio: 80.2 % BlueRatio: 3.8 %

Ra: 93.2 AvgR: 90.3
R1: 93.5 R2: 94.8 R3: 93.8 R4: 93.7 R5: 93.3 R6: 91.6 R7: 95.4 R8: 89.6
R9: 70.4 R10: 86.5 R11: 93.4 R12: 74.3 R13: 94.1 R14: 96.4 R15: 93.1

CCT: 5389 K Flux: 382.028 lm PeakWave: 452.3 nm SDCM: 4.8
S/P: 2.1 CentralWave: 454.3 nm DominantWave: 560.5 nm CentroidWave: 555.3 nm
HalfWidth: 28.8 nm duv: 0.00093 purity: 4.2 % CQS: 89.6
LER(TM-30): 291.8 Ep: 1309.0 mw Rg: 99.5 Rf: 90.0
Red Ep: 381.4 mw Near red Ep: 29.4 mw Near infrared Ep: 0.3 mw

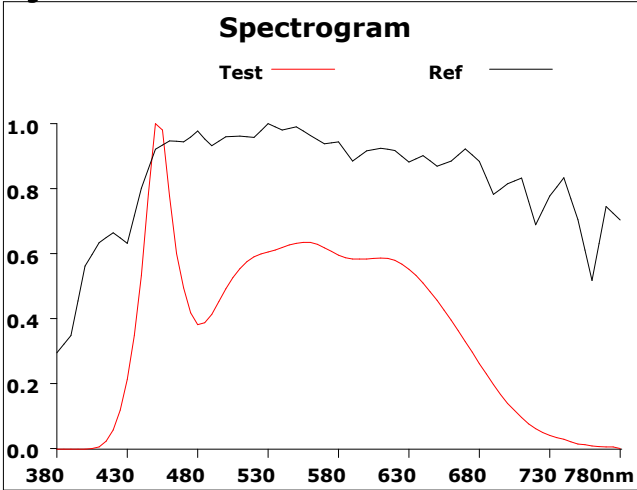
Electrical parameters:

Effic: 8.8 Lm/W Energy: 9.6 Effi: G
U: 221.3 V I: 0.333 A P: 43.390 W Pf: 0.588

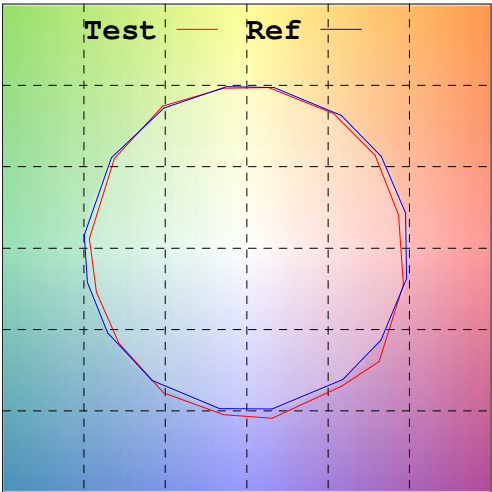
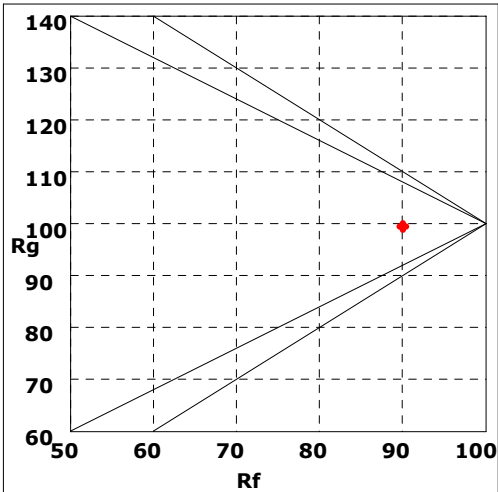
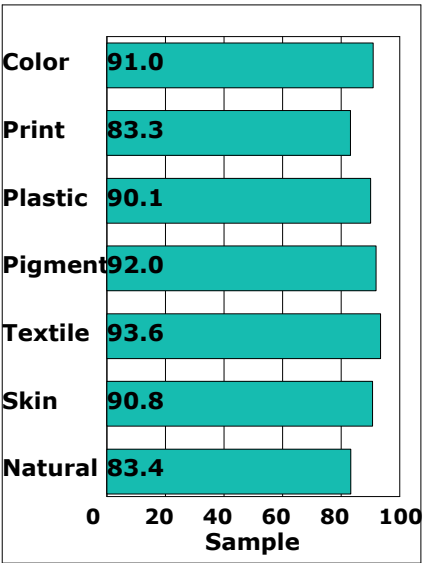
Product model: P19
Product number:
Tester:
Remarks:

Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 08/11/12

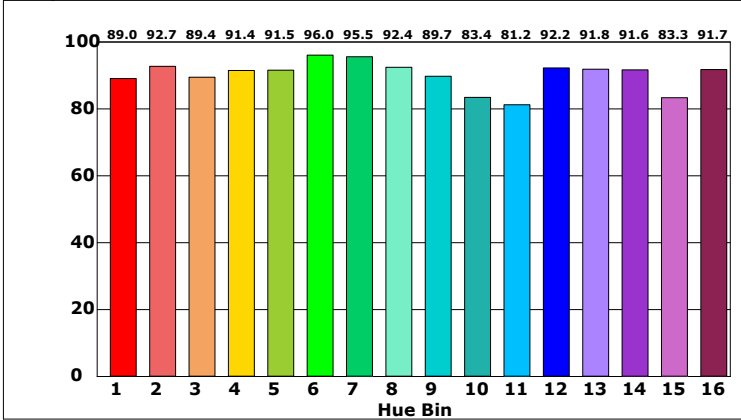
Rf: 90.0 CCT: 5389K u': 0.2071
Rg: 99.5 LER: 291.8 Duv: 0.00093 v': 0.4800



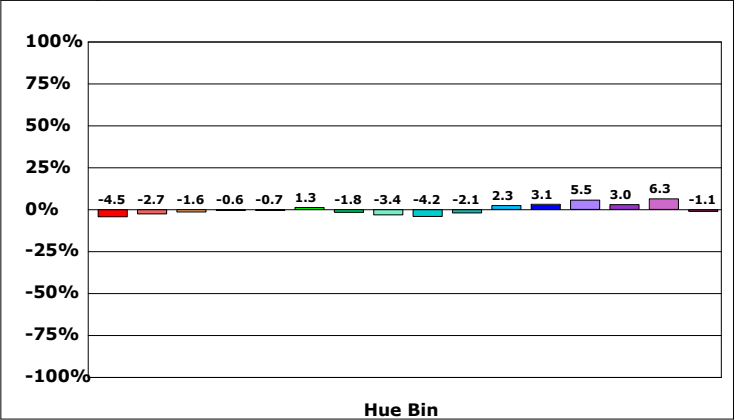
500			
Hue Bin	Rf	Chroma	Hue
1	89.0	-4.5%	-0.3%
2	92.7	-2.7%	2.5%
3	89.4	-1.6%	4.6%
4	91.4	-0.6%	3.3%
5	91.5	-0.7%	2.1%
6	96.0	1.3%	0.1%
7	95.5	-1.8%	-0.6%
8	92.4	-3.4%	1.4%
9	89.7	-4.2%	6.9%
10	83.4	-2.1%	9.0%
11	81.2	2.3%	10.2%
12	92.2	3.1%	3.3%
13	91.8	5.5%	-1.1%
14	91.6	3.0%	-3.0%
15	83.3	6.3%	-11.5%
16	91.7	-1.1%	-4.0%



Rf by Bue

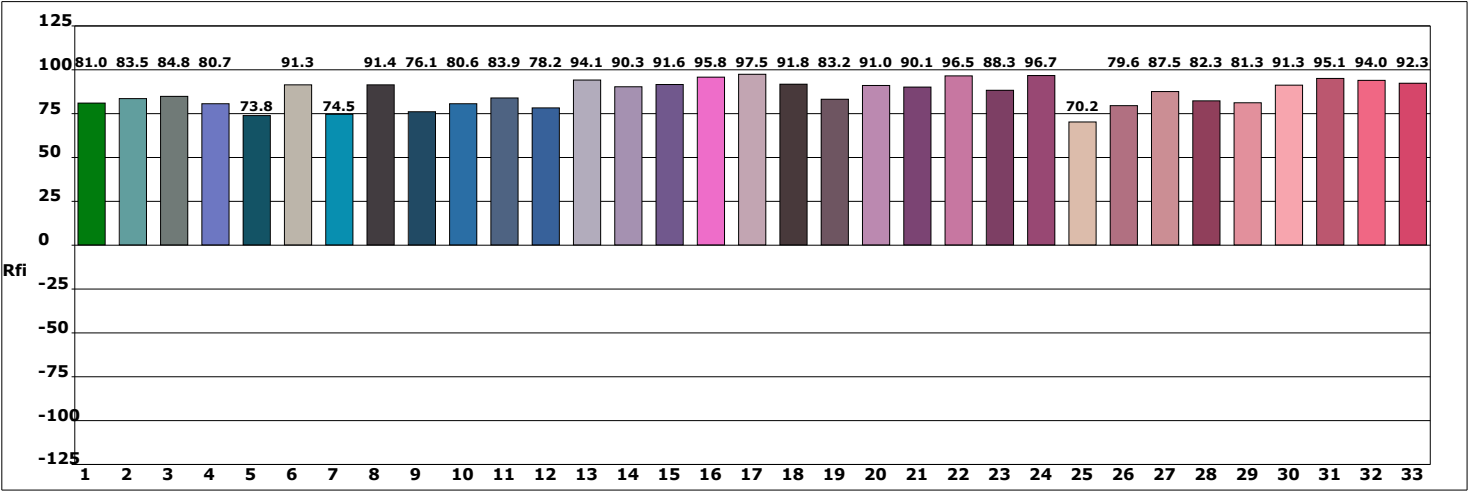
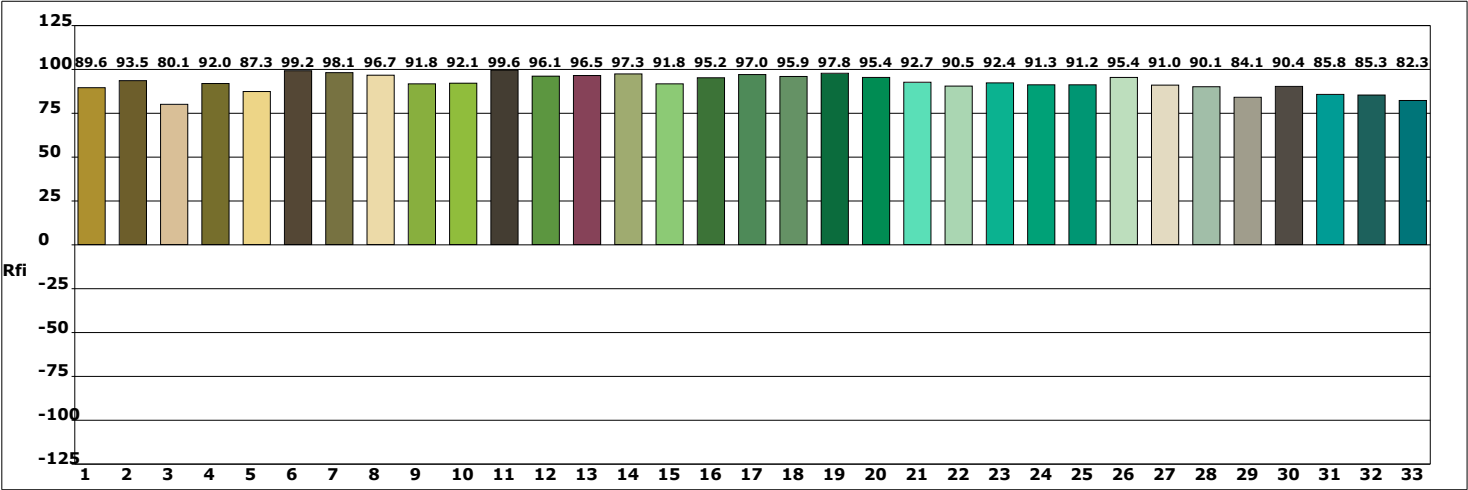
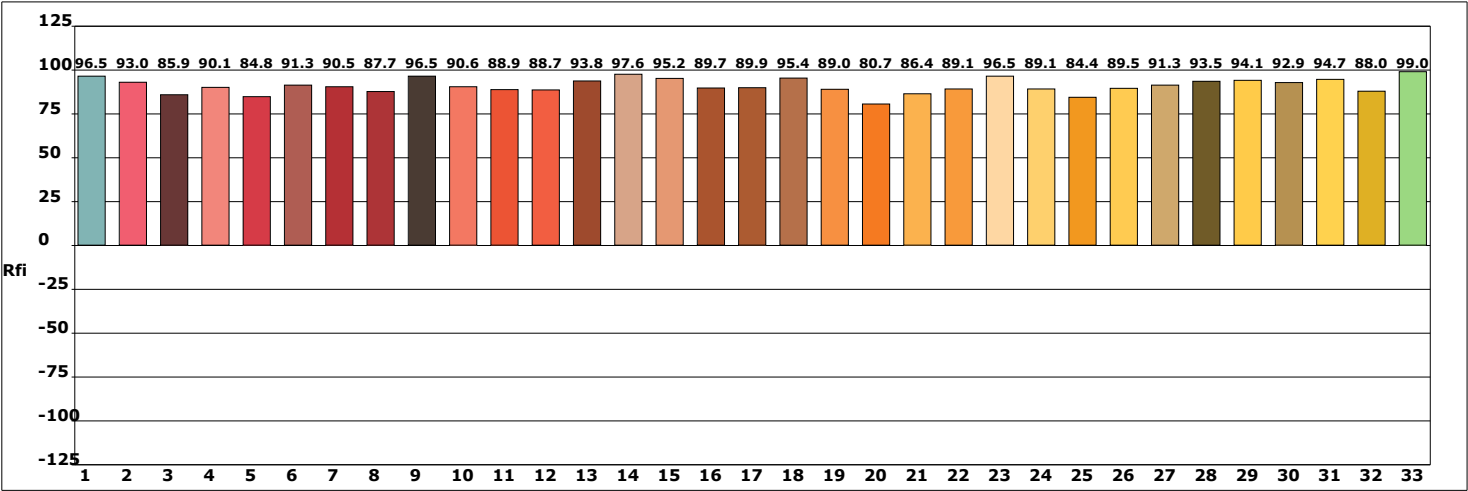


Chroma by Bue



Product model: P19
Product number:
Tester:
Remarks:

Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 08/11/12



Product model: P19
Product number:
Tester:
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Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 08/11/12