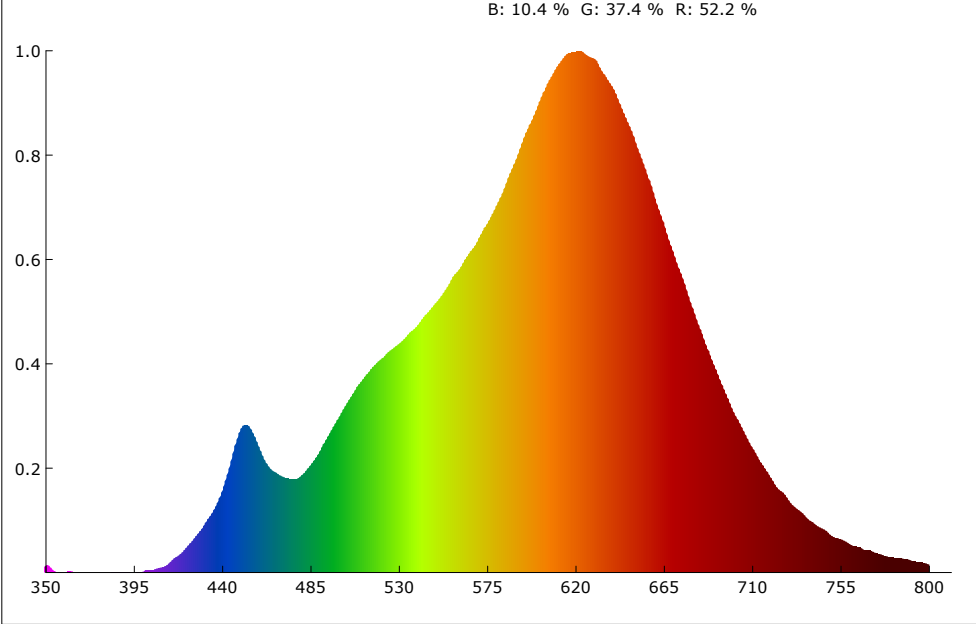
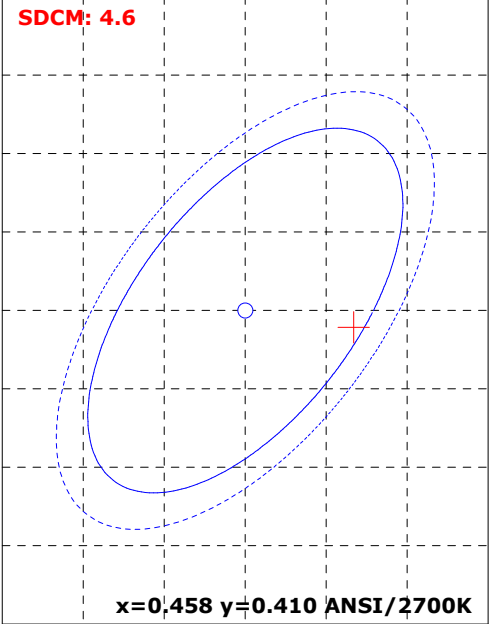


Spectrogram



SDCM



Color Parameter:

x: 0.4645 y: 0.4090 u: 0.2662 v: 0.3516 u': 0.2662 v': 0.5274
R_ratio: 52.2 % G_ratio: 37.4 % B_ratio: 10.4 % RedRatio: 26.4 % GreenRatio: 72.1 % BlueRatio: 1.5 %

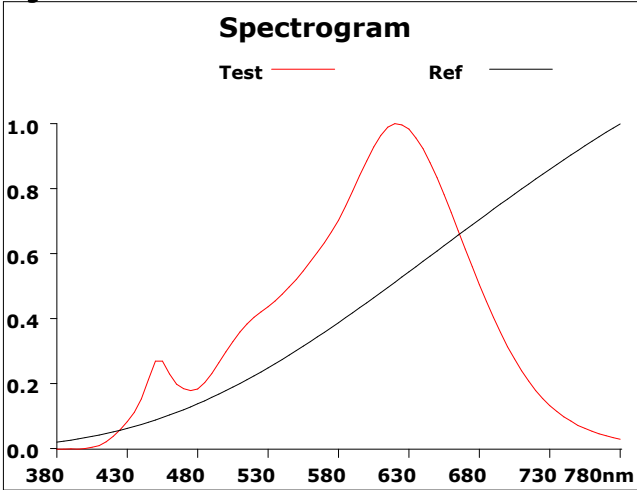
Ra: 93.1 AvgR: 91.2
R1: 93.6 R2: 97.6 R3: 98.4 R4: 94.2 R5: 94.6 R6: 97.6 R7: 90.0 R8: 79.4
R9: 57.0 R10: 94.4 R11: 96.3 R12: 92.9 R13: 94.8 R14: 99.4 R15: 88.4

CCT: 2624 K Flux: 895.772 lm PeakWave: 621.6 nm SDCM: 4.6
S/P: 1.2 CentralWave: 613.0 nm DominantWave: 584.9 nm CentroidWave: 600.7 nm
HalfWidth: 133.6 nm duv: -0.00096 purity: 62.2 % CQS: 87.5
LER(TM-30): 280.8 Ep: 3190.1 mw Rg: 99.7 Rf: 92.2
Red Ep: 1554.6 mw Near red Ep: 199.3 mw Near infrared Ep: 10.3 mw

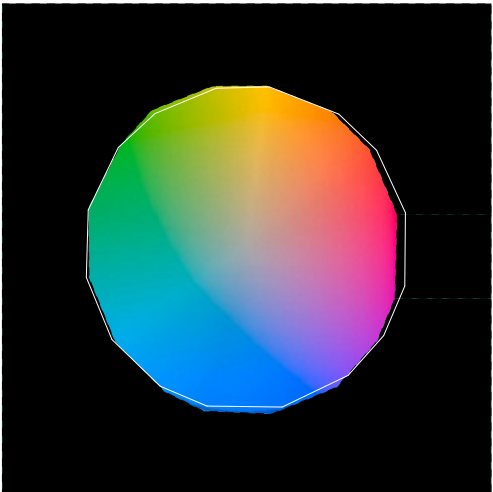
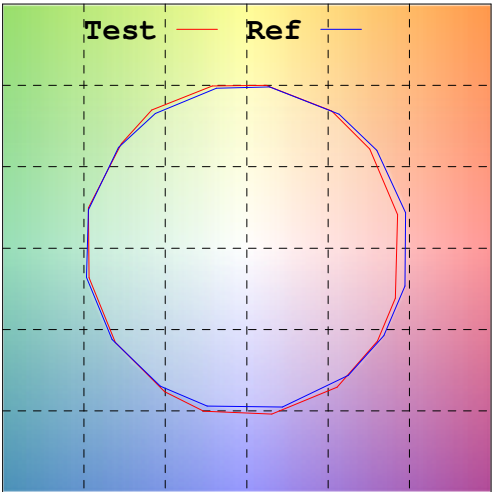
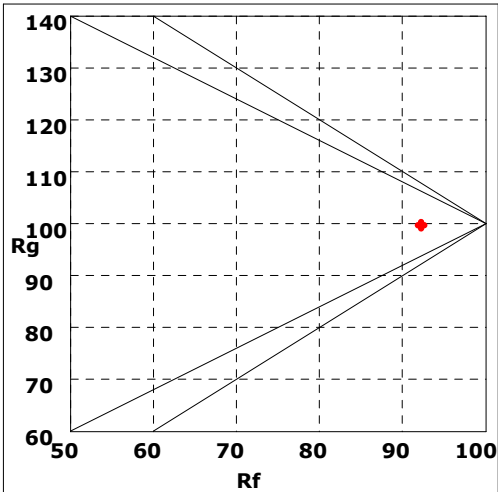
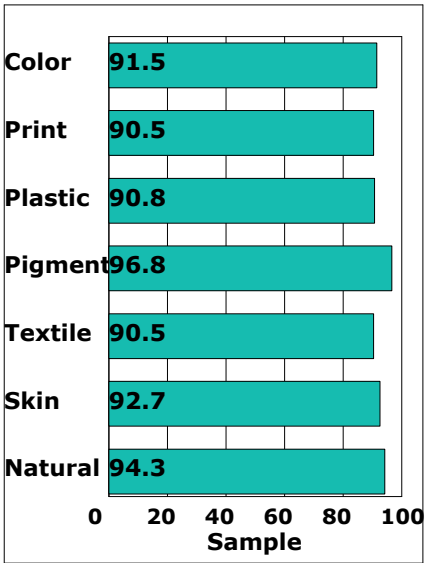
Electrical parameters:

Effic: 20.7 Lm/W Energy: 22.6 Effi: G
U: 221.3 V I: 0.332 A P: 43.190 W Pf: 0.587

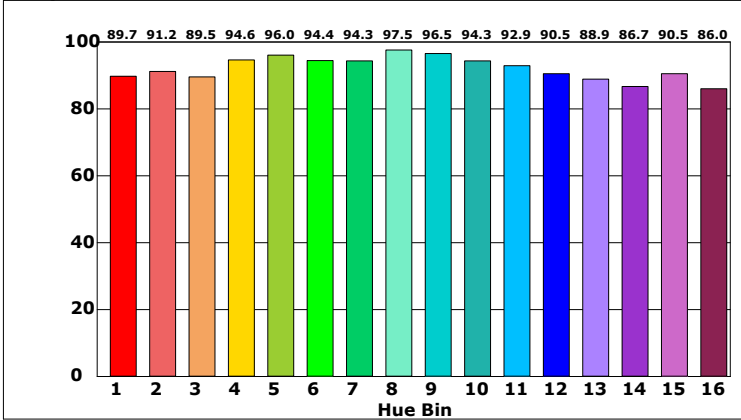
Rf: 92.2 CCT: 2624K u': 0.2662
Rg: 99.7 LER: 280.8 Duv: -0.00096 v': 0.5274



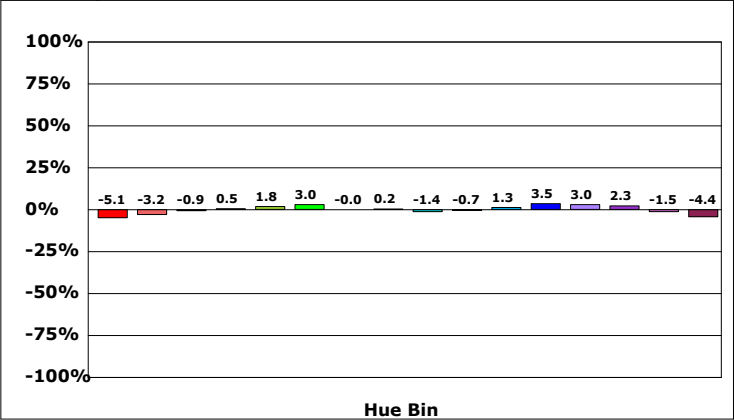
500			
Hue Bin	Rf	Chroma	Hue
1	89.7	-5.1%	-0.0%
2	91.2	-3.2%	3.1%
3	89.5	-0.9%	4.9%
4	94.6	0.5%	2.3%
5	96.0	1.8%	2.2%
6	94.4	3.0%	0.6%
7	94.3	-0.0%	-2.9%
8	97.5	0.2%	-1.1%
9	96.5	-1.4%	0.4%
10	94.3	-0.7%	2.6%
11	92.9	1.3%	4.0%
12	90.5	3.5%	-1.5%
13	88.9	3.0%	-7.2%
14	86.7	2.3%	-9.7%
15	90.5	-1.5%	-5.1%
16	86.0	-4.4%	-8.6%



Rf by Bue

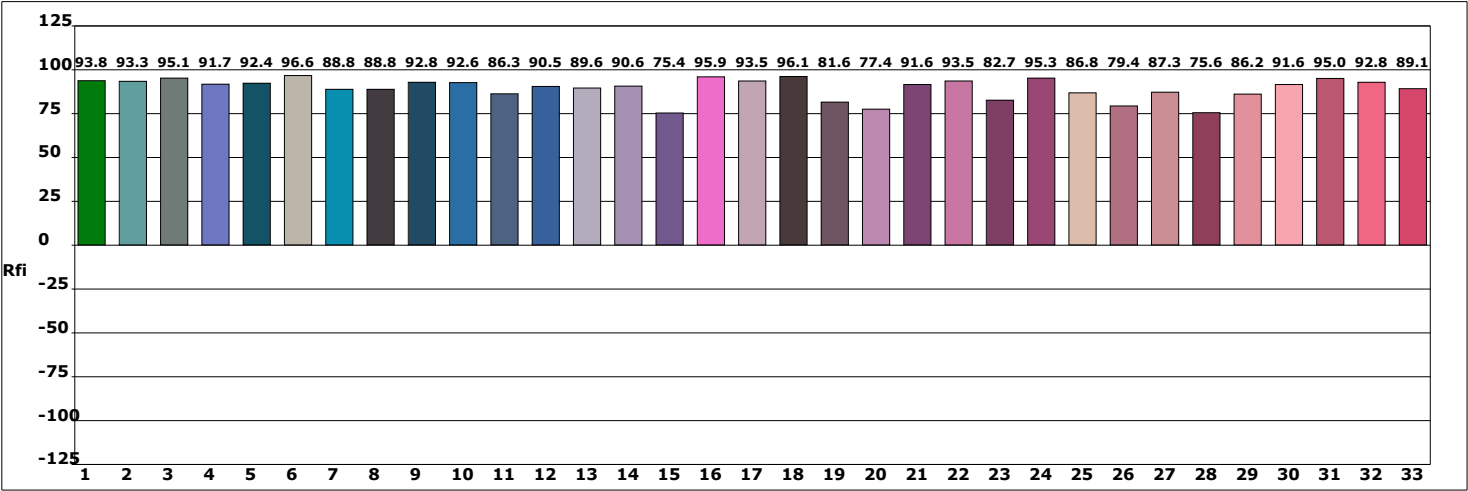
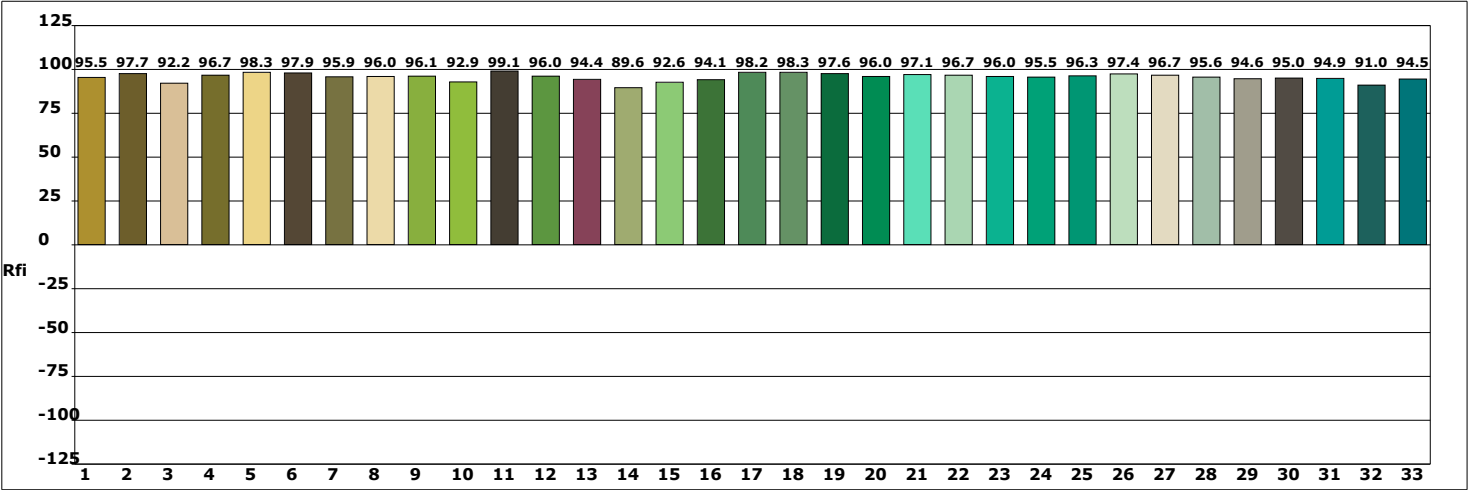
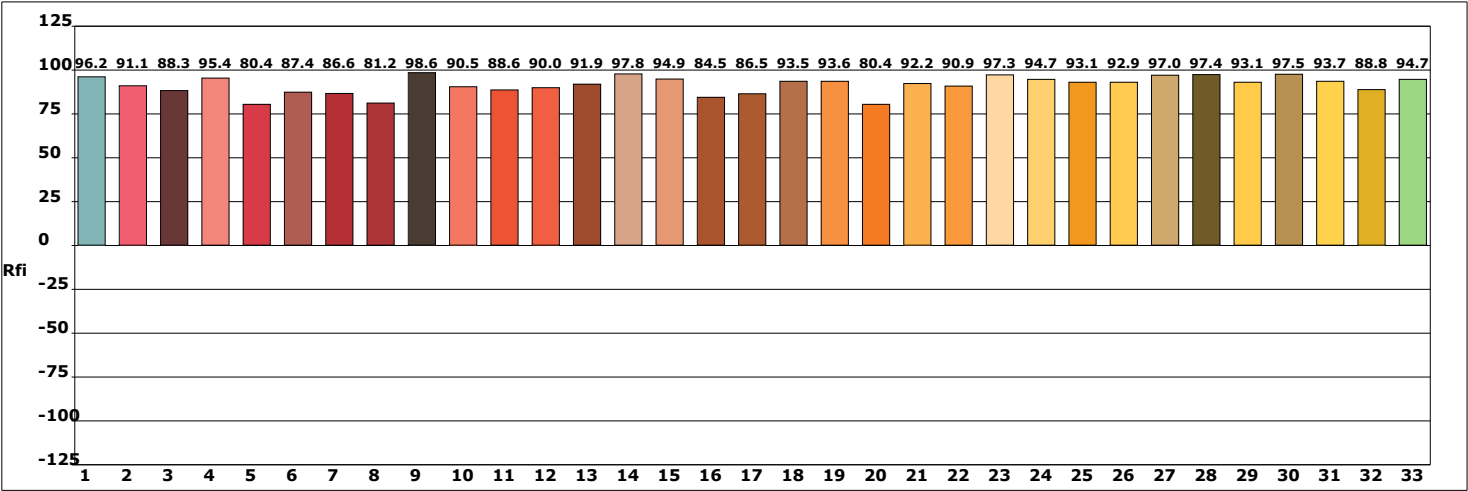


Chroma by Bue



Product model: P19
Product number:
Tester:
Remarks:

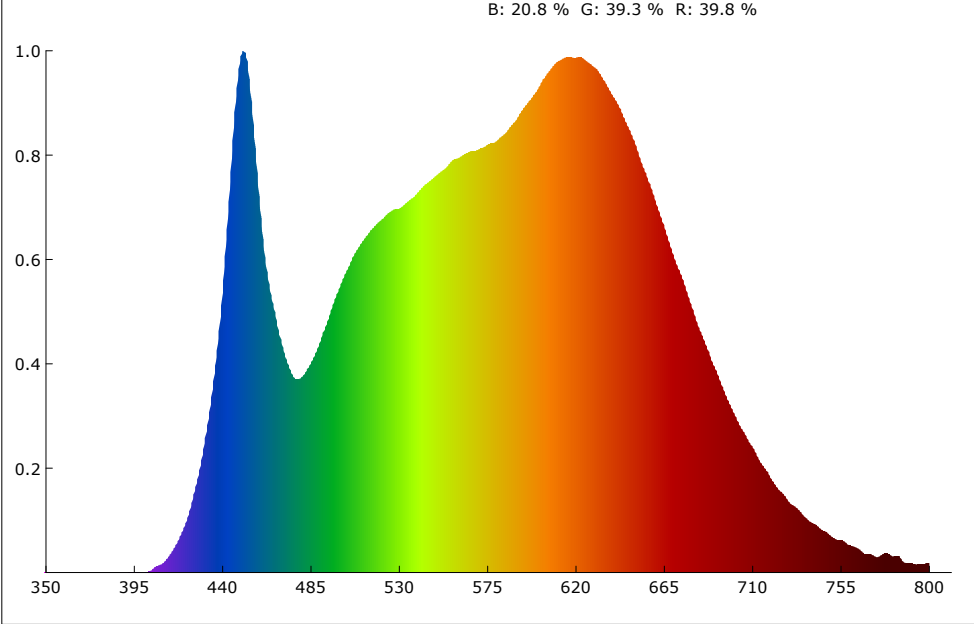
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 08/11/12



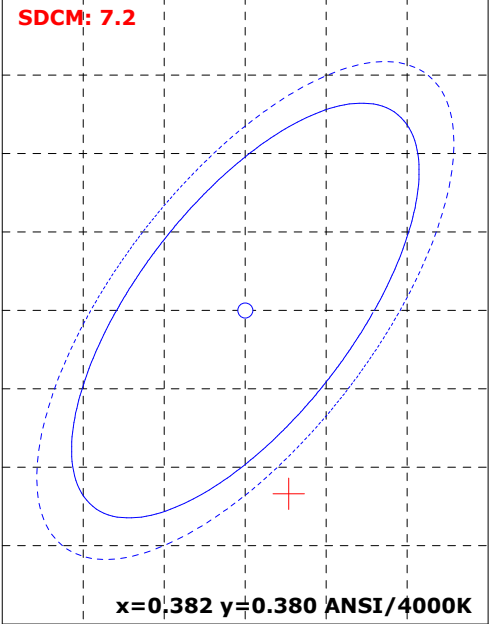
Product model: P19
Product number:
Tester:
Remarks:

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

Spectrogram



SDCM



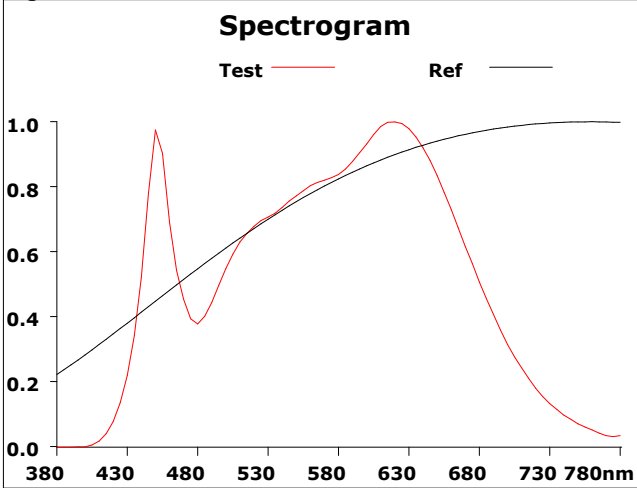
Color Parameter:

x: 0.3845	y: 0.3680	u: 0.2314	v: 0.3322	u': 0.2314	v': 0.4983
R_ratio: 39.8 %	G_ratio: 39.3 %	B_ratio: 20.8 %	RedRatio: 20.6 %	GreenRatio: 76.6 %	BlueRatio: 2.8 %
Ra: 96.2	AvgR: 94.7				
R1: 98.1	R2: 98.0	R3: 96.2	R4: 96.5	R5: 98.2	R6: 95.2
R7: 95.2	R8: 92.5	R9: 82.8	R10: 94.8	R11: 95.6	R12: 83.1
R13: 98.5	R14: 97.3	R15: 97.8			
CCT: 3819 K	Flux: 886.865 lm	PeakWave: 450.6 nm	SDCM: 7.2		
S/P: 1.8	CentralWave: 453.1 nm	DominantWave: 582.9 nm	CentroidWave: 577.1 nm		
HalfWidth: 26.7 nm	duv: -0.00530	purity: 25.8 %	CQS: 86.2		
LER(TM-30): 281.2	Ep: 3153.8 mw	Rg: 102.0	Rf: 92.2		
Red Ep: 1192.6 mw	Near red Ep: 151.2 mw	Near infrared Ep: 7.4 mw			

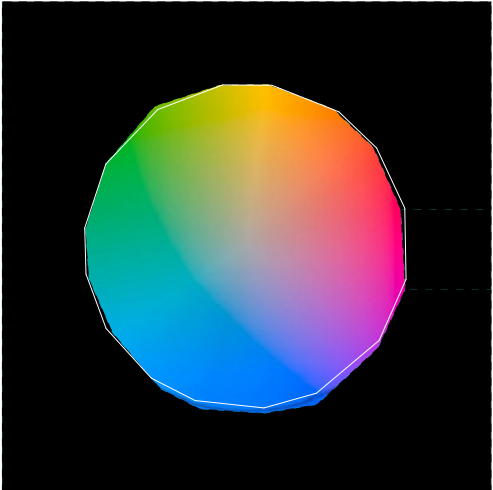
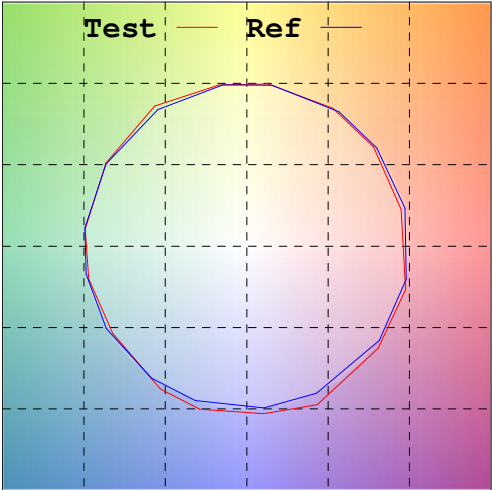
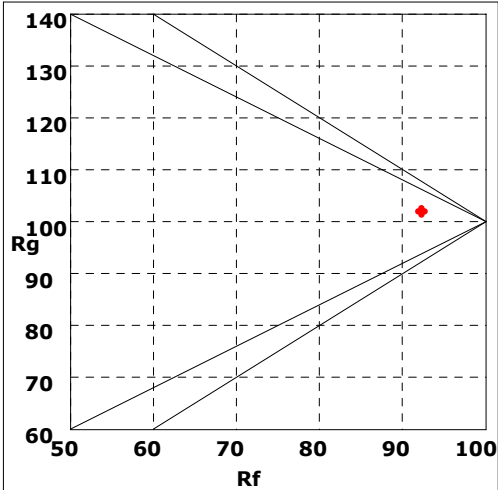
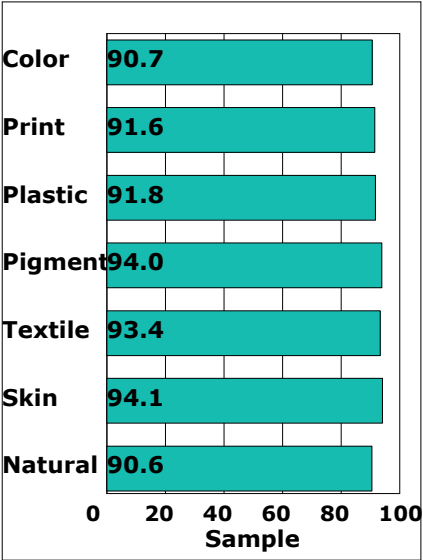
Electrical parameters:

Effic: 24.2 Lm/W	Energy: 26.3	Effi: G	
U: 221.4 V	I: 0.287 A	P: 36.660 W	Pf: 0.576

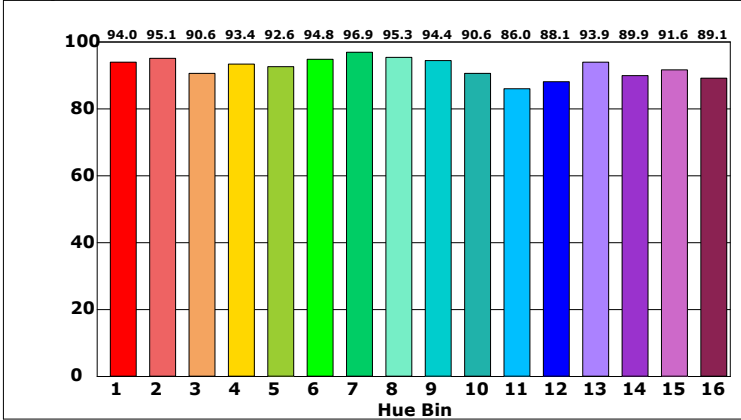
Rf: 92.2 CCT: 3819K u': 0.2314
Rg: 102.0 LER: 281.2 Duv: -0.00530 v': 0.4983



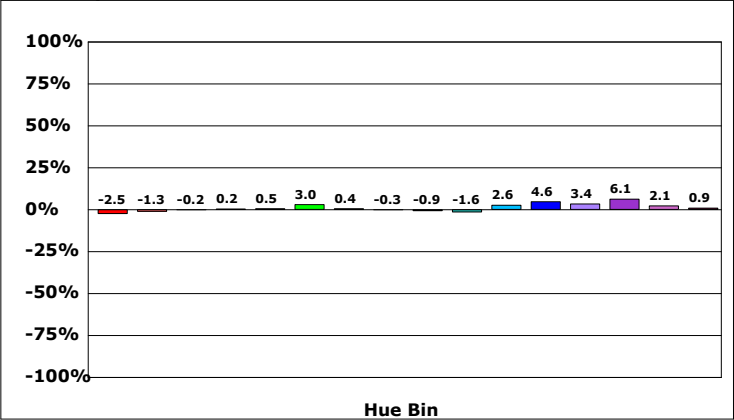
500			
Hue Bin	Rf	Chroma	Hue
1	94.0	-2.5%	-0.3%
2	95.1	-1.3%	1.8%
3	90.6	-0.2%	4.3%
4	93.4	0.2%	2.7%
5	92.6	0.5%	2.1%
6	94.8	3.0%	0.5%
7	96.9	0.4%	-0.6%
8	95.3	-0.3%	0.5%
9	94.4	-0.9%	3.1%
10	90.6	-1.6%	4.7%
11	86.0	2.6%	8.2%
12	88.1	4.6%	3.7%
13	93.9	3.4%	-1.0%
14	89.9	6.1%	-3.7%
15	91.6	2.1%	-4.6%
16	89.1	0.9%	-6.2%



Rf by Bue

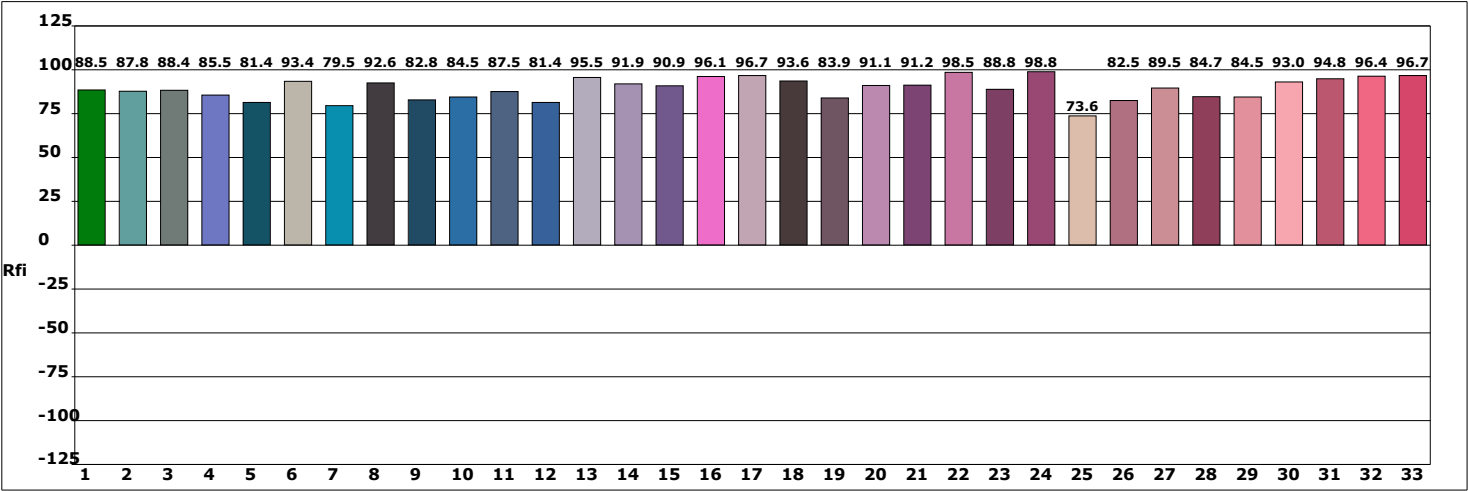
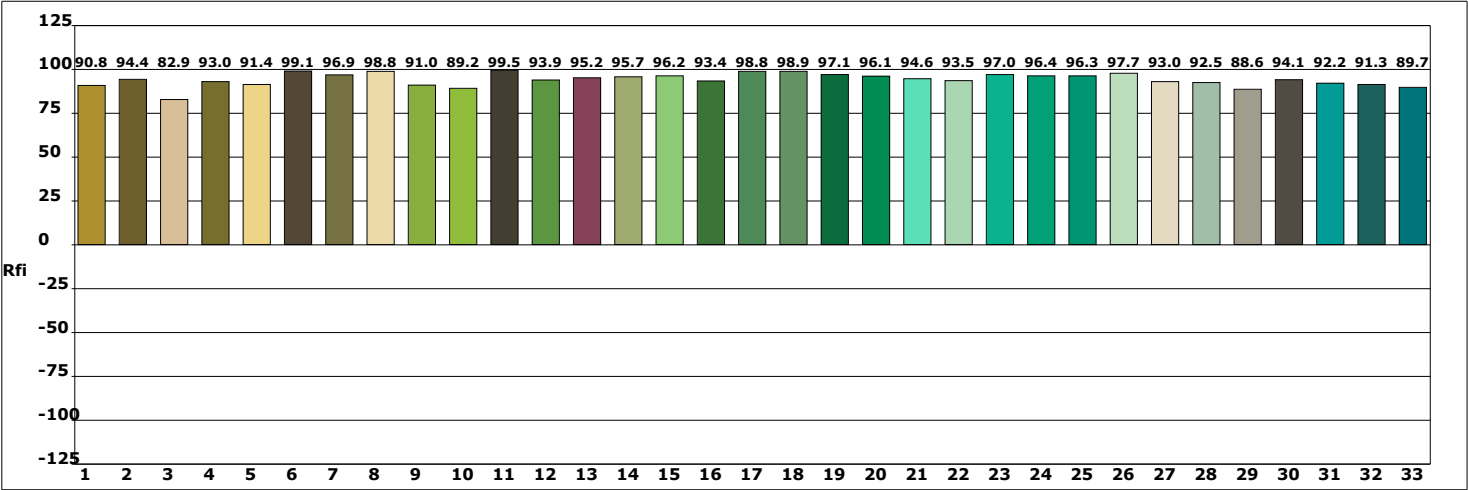
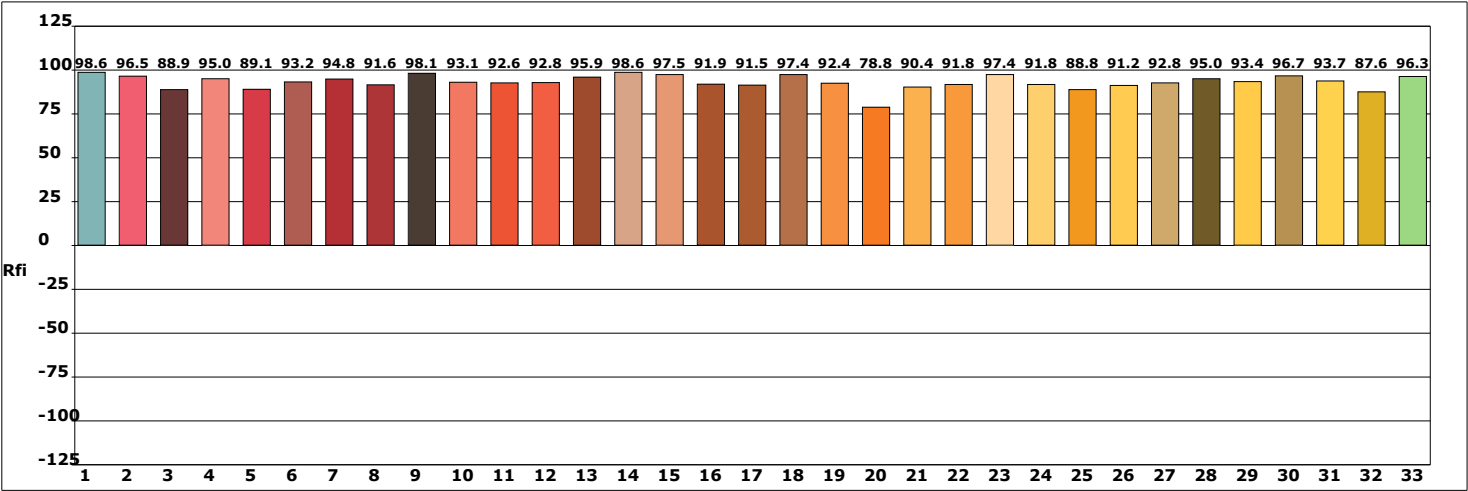


Chroma by Bue

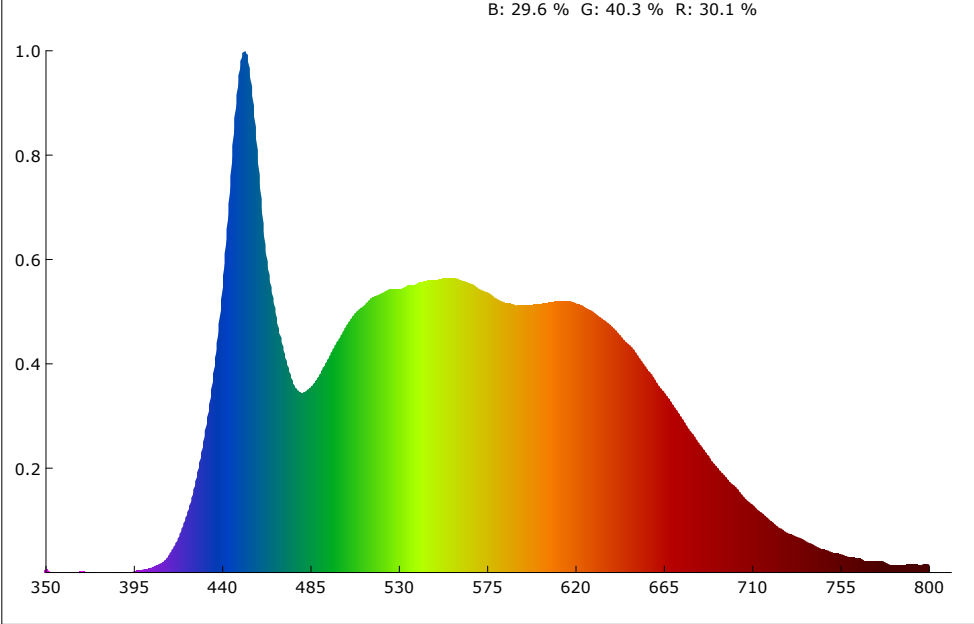


Product model: P19
Product number:
Tester:
Remarks:

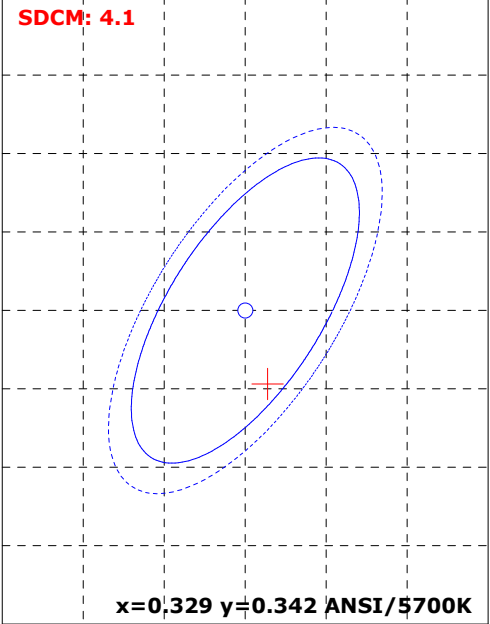
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 08/11/12



Spectrogram



SDCM



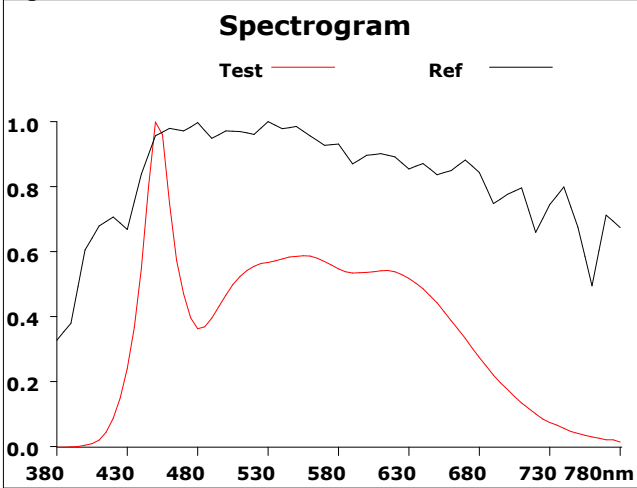
Color Parameter:

x: 0.3301	y: 0.3370	u: 0.2068	v: 0.3167	u': 0.2068	v': 0.4751
R_ratio: 30.1 %	G_ratio: 40.3 %	B_ratio: 29.6 %	RedRatio: 16.0 %	GreenRatio: 80.0 %	BlueRatio: 4.0 %
Ra: 94.7	AvgR: 92.6				
R1: 96.1	R2: 95.7	R3: 93.0	R4: 95.2	R5: 95.3	R6: 92.0
R7: 96.5	R8: 94.3	R9: 82.6	R10: 88.5	R11: 94.8	R12: 76.3
R13: 96.3	R14: 95.9	R15: 97.2			
CCT: 5610 K	Flux: 1072.284 lm	PeakWave: 451.6 nm	SDCM: 4.1		
S/P: 2.2	CentralWave: 453.3 nm	DominantWave: 507.7 nm	CentroidWave: 558.0 nm		
HalfWidth: 28.2 nm	duv: -0.00105	purity: 1.0 %	CQS: 89.0		
LER(TM-30): 277.5	Ep: 3863.7 mw	Rg: 100.8	Rf: 90.8		
Red Ep: 1113.2 mw	Near red Ep: 150.1 mw	Near infrared Ep: 9.0 mw			

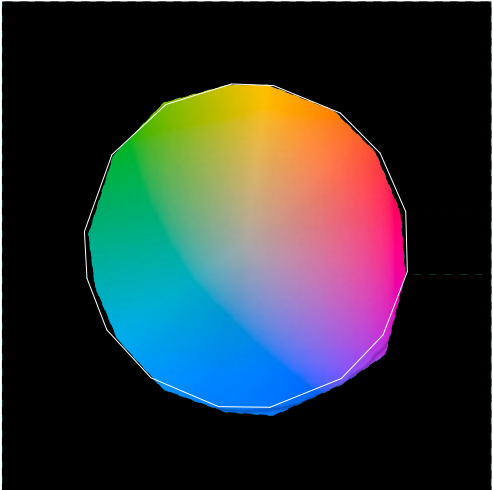
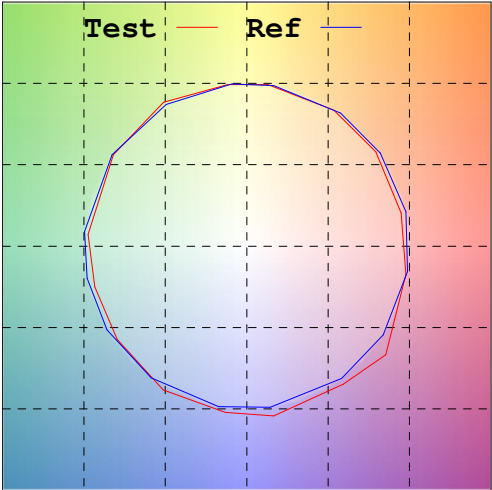
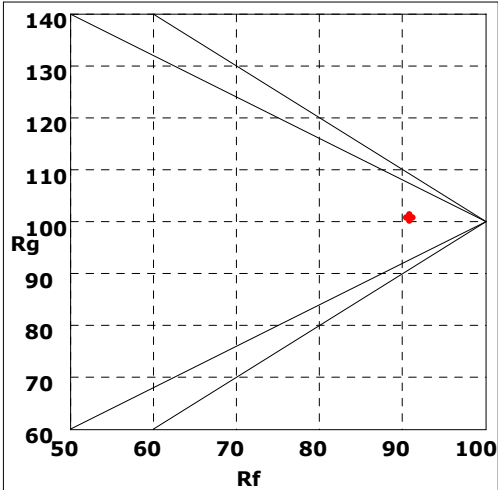
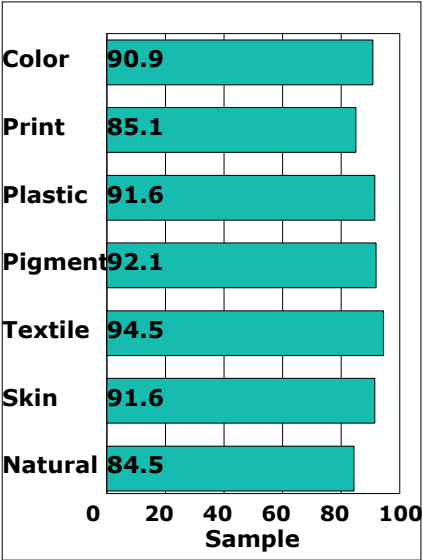
Electrical parameters:

Effic: 24.8 Lm/W	Energy: 27.0	Effi: G	
U: 221.4 V	I: 0.332 A	P: 43.280 W	Pf: 0.587

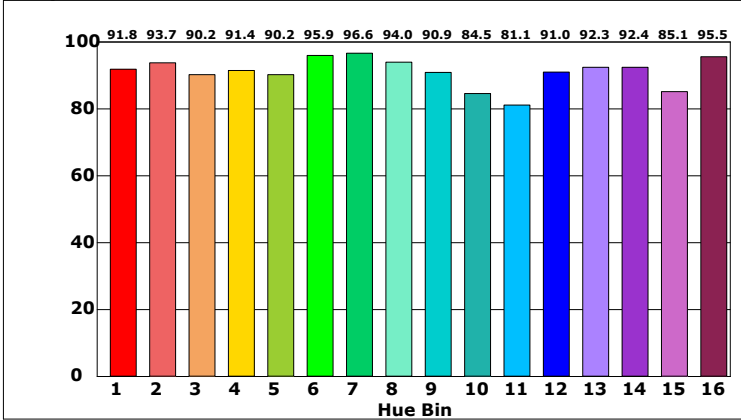
Rf: 90.8 CCT: 5610K u': 0.2068
Rg: 100.8 LER: 277.5 Duv: -0.00105 v': 0.4751



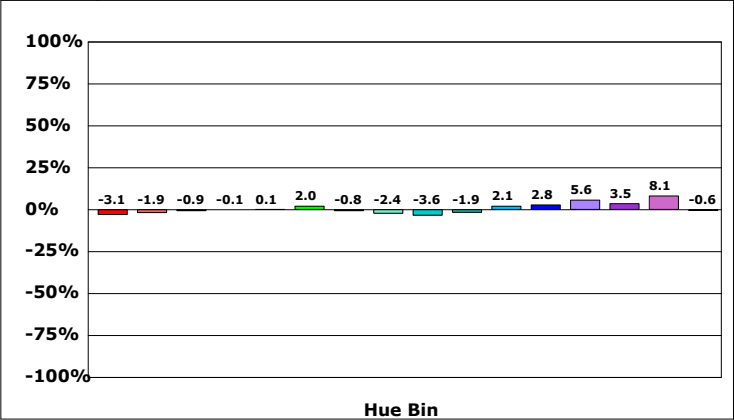
500			
Hue Bin	Rf	Chroma	Hue
1	91.8	-3.1%	-0.2%
2	93.7	-1.9%	2.3%
3	90.2	-0.9%	4.4%
4	91.4	-0.1%	3.6%
5	90.2	0.1%	2.5%
6	95.9	2.0%	0.4%
7	96.6	-0.8%	-0.4%
8	94.0	-2.4%	1.2%
9	90.9	-3.6%	6.0%
10	84.5	-1.9%	8.4%
11	81.1	2.1%	10.4%
12	91.0	2.8%	4.6%
13	92.3	5.6%	1.1%
14	92.4	3.5%	-1.2%
15	85.1	8.1%	-9.3%
16	95.5	-0.6%	-2.0%



Rf by Bue

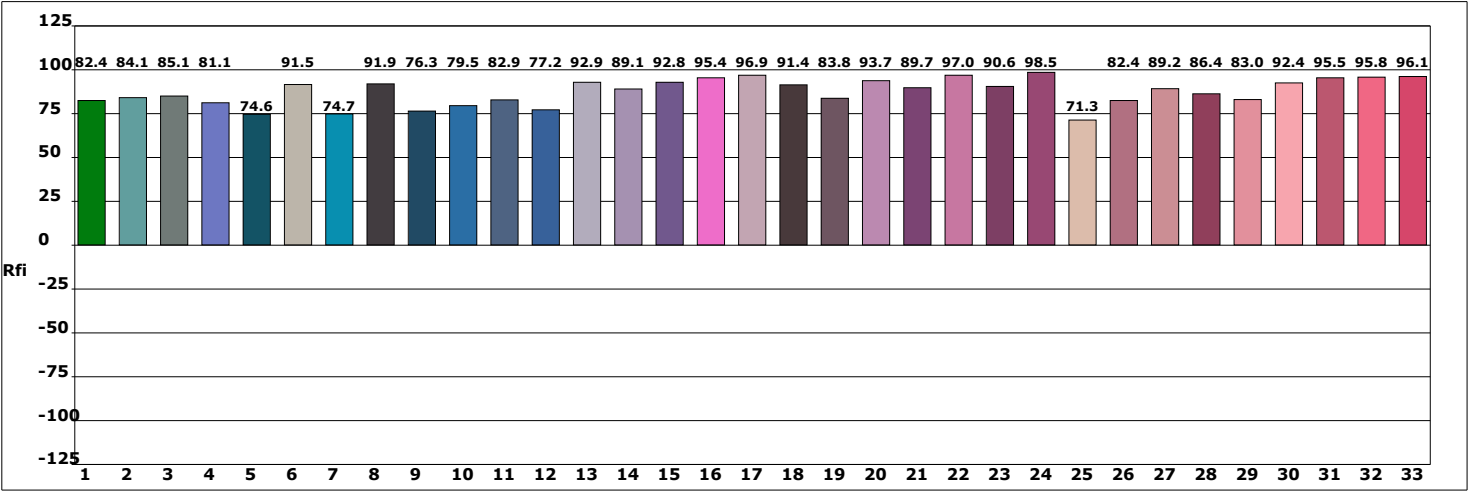
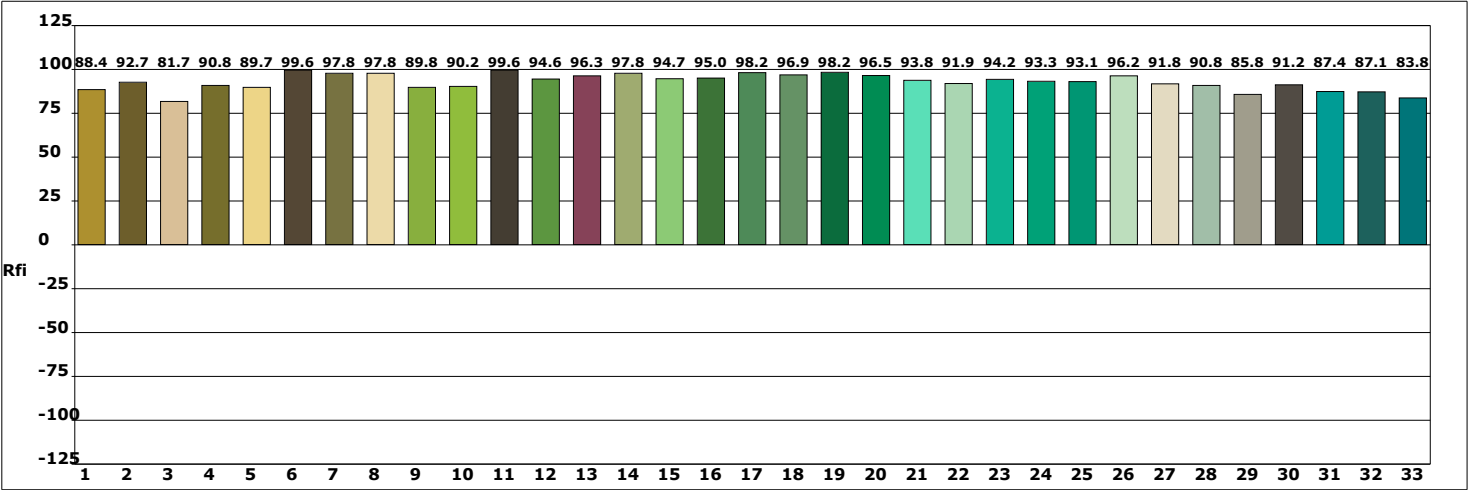
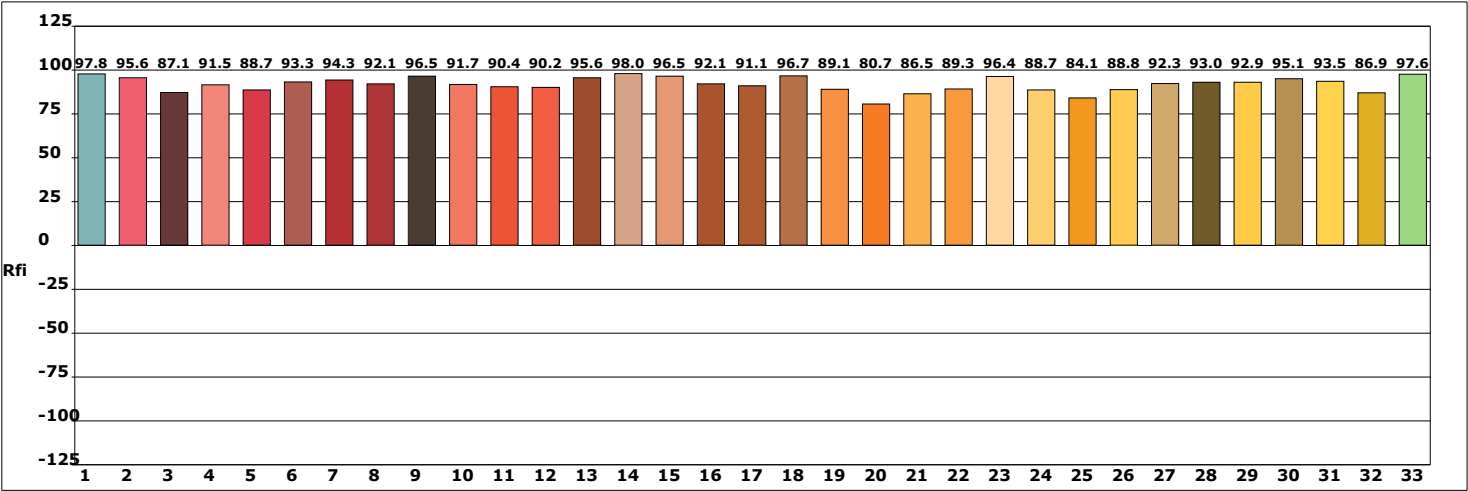


Chroma by Bue



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:
Remarks:

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