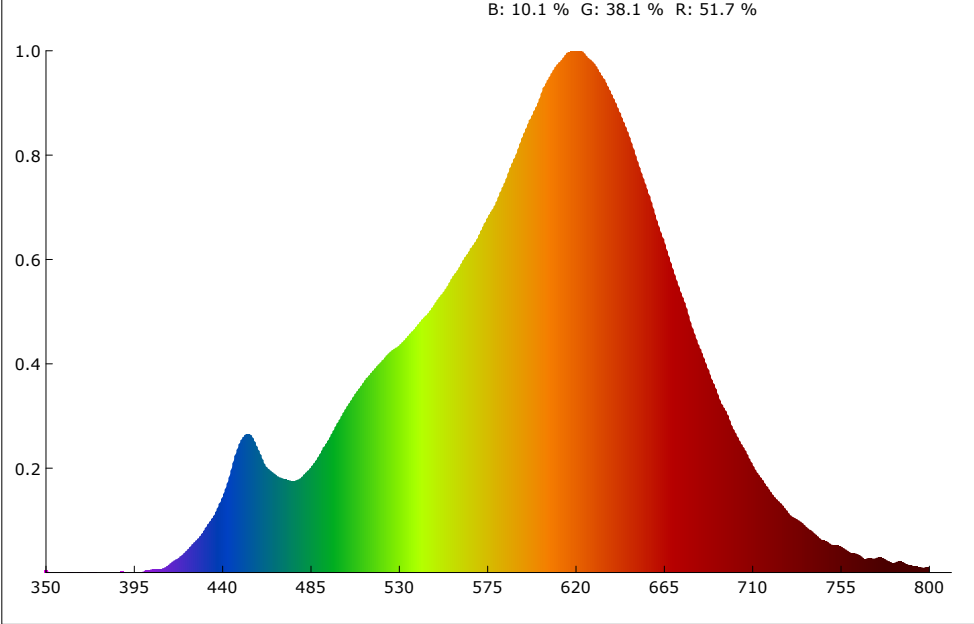
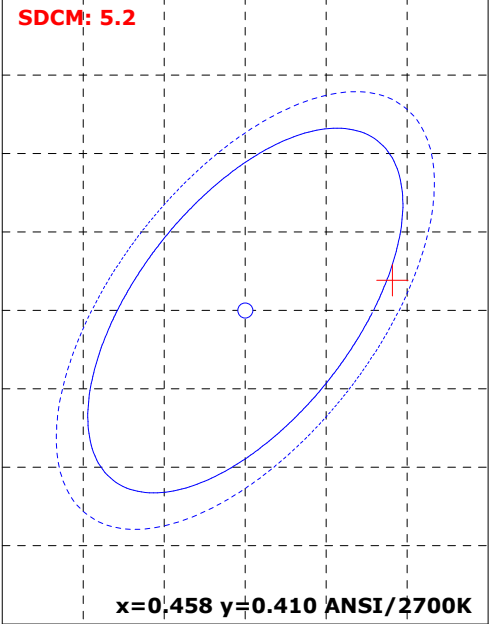


Spectrogram



SDCM



Color Parameter:

x: 0.4669 y: 0.4120 u: 0.2664 v: 0.3526 u': 0.2664 v': 0.5289
R_ratio: 51.7 % G_ratio: 38.1 % B_ratio: 10.1 % RedRatio: 26.3 % GreenRatio: 72.3 % BlueRatio: 1.4 %

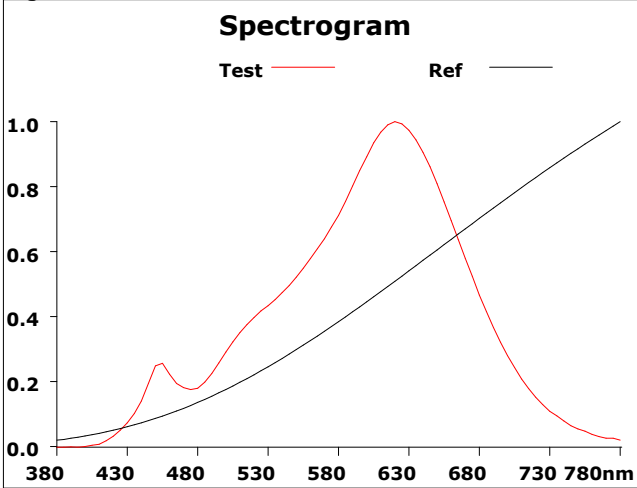
Ra: 92.1 AvgR: 89.6
R1: 92.1 R2: 96.8 R3: 98.5 R4: 92.6 R5: 92.8 R6: 97.8 R7: 89.3 R8: 76.9
R9: 51.1 R10: 92.4 R11: 94.5 R12: 90.7 R13: 93.3 R14: 99.5 R15: 86.4

CCT: 2615 K Flux: 351.999 lm PeakWave: 621.6 nm SDCM: 5.2
S/P: 1.2 CentralWave: 611.4 nm DominantWave: 584.7 nm CentroidWave: 599.0 nm
HalfWidth: 130.6 nm duv: -0.00005 purity: 63.8 % CQS: 86.9
LER(TM-30): 289.1 Ep: 1217.5 mw Rg: 98.5 Rf: 91.5
Red Ep: 594.7 mw Near red Ep: 65.2 mw Near infrared Ep: 2.6 mw

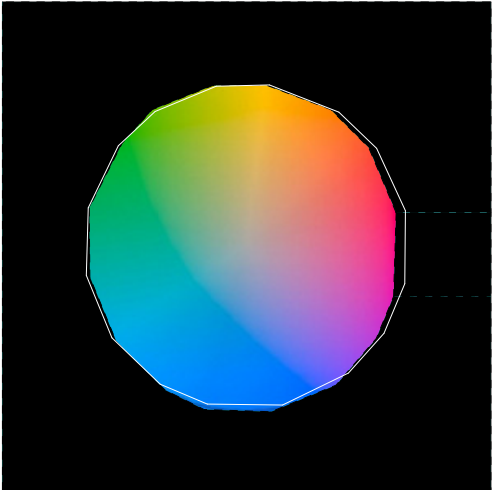
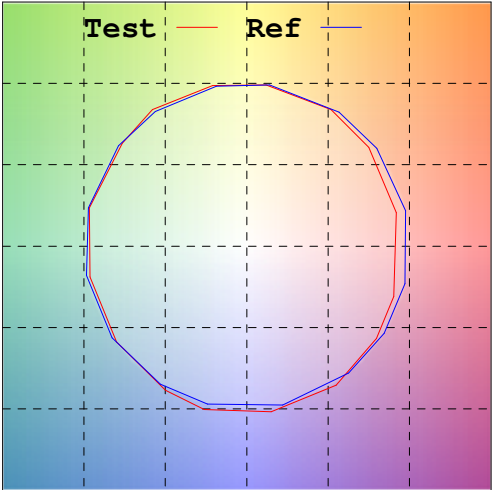
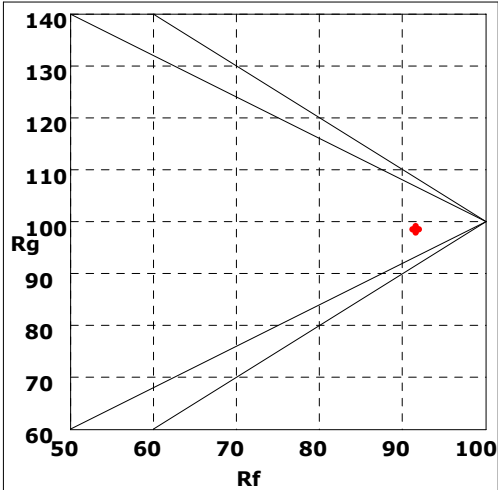
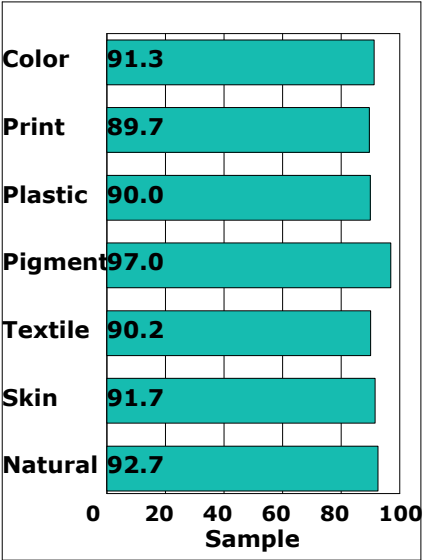
Electrical parameters:

Effic: 8.1 Lm/W Energy: 8.8 Effi: G
U: 221.3 V I: 0.333 A P: 43.330 W Pf: 0.587

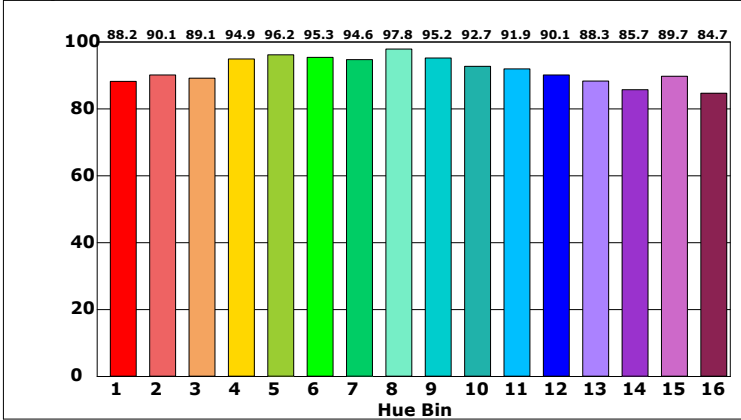
Rf: 91.5 CCT: 2615K u': 0.2664
Rg: 98.5 LER: 289.1 Duv: -0.00005 v': 0.5289



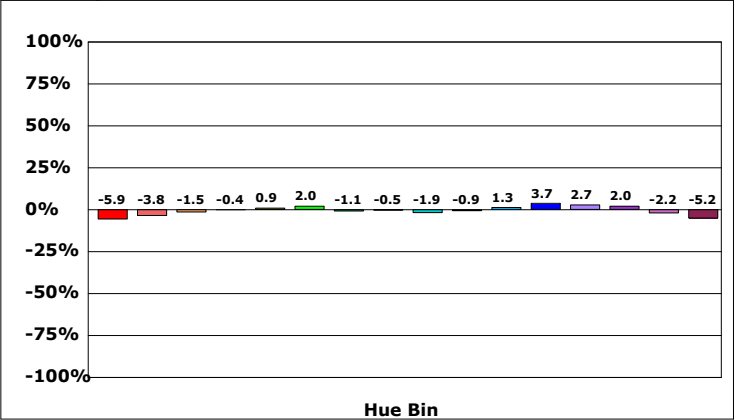
500			
Hue Bin	Rf	Chroma	Hue
1	88.2	-5.9%	0.1%
2	90.1	-3.8%	3.2%
3	89.1	-1.5%	4.9%
4	94.9	-0.4%	2.1%
5	96.2	0.9%	2.2%
6	95.3	2.0%	0.8%
7	94.6	-1.1%	-2.5%
8	97.8	-0.5%	-0.2%
9	95.2	-1.9%	1.3%
10	92.7	-0.9%	3.7%
11	91.9	1.3%	4.6%
12	90.1	3.7%	-1.4%
13	88.3	2.7%	-7.8%
14	85.7	2.0%	-10.4%
15	89.7	-2.2%	-5.2%
16	84.7	-5.2%	-9.1%



Rf by Bue

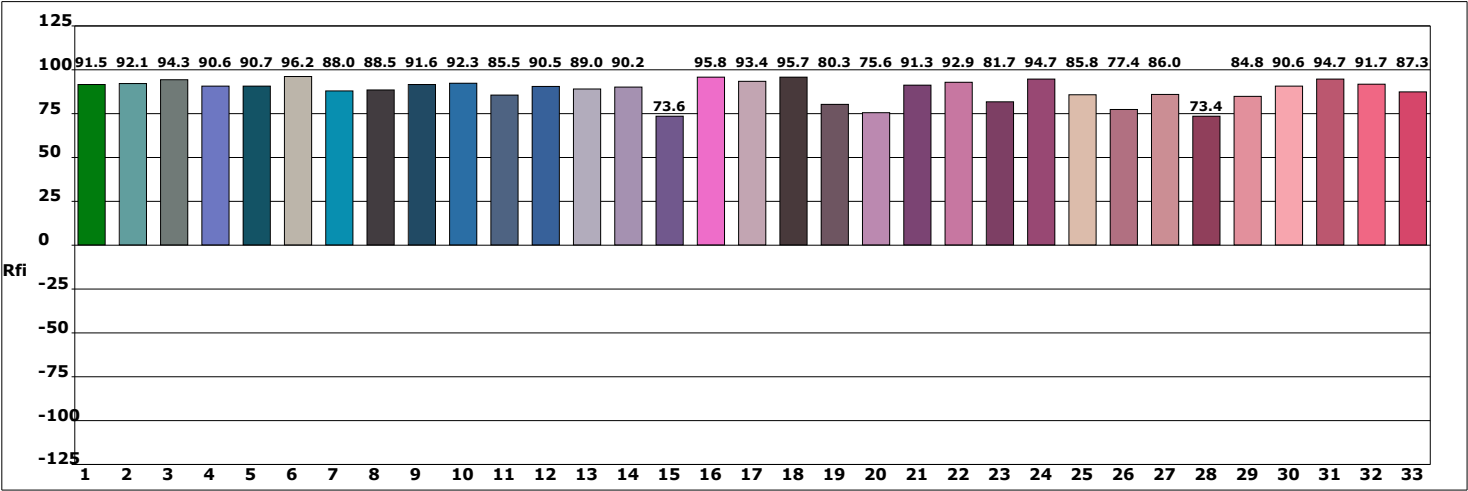
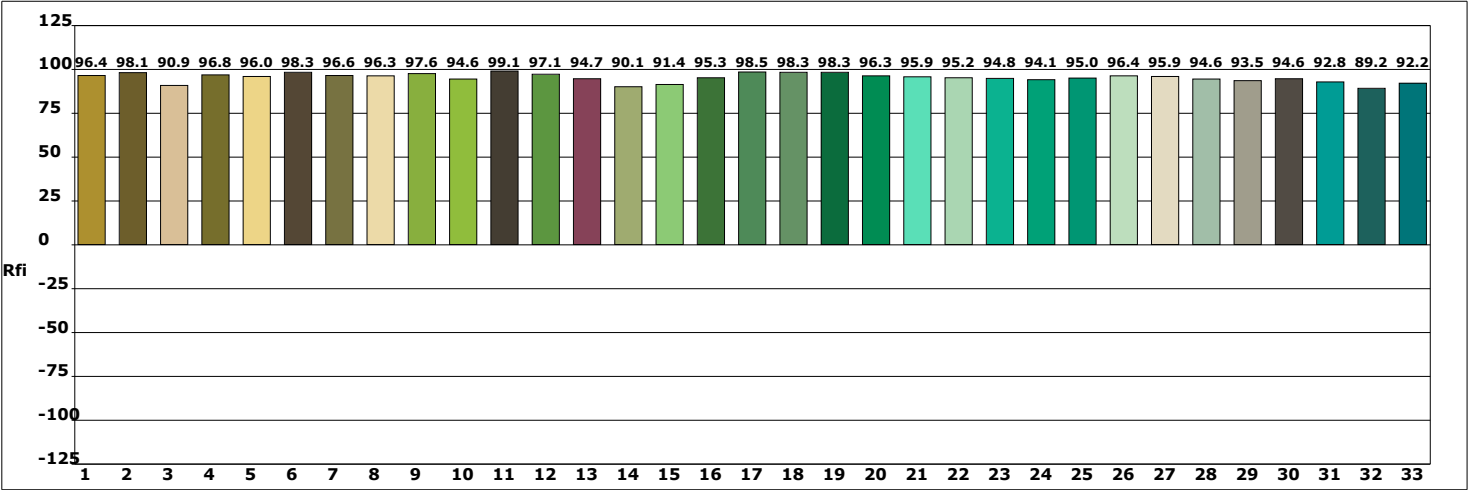
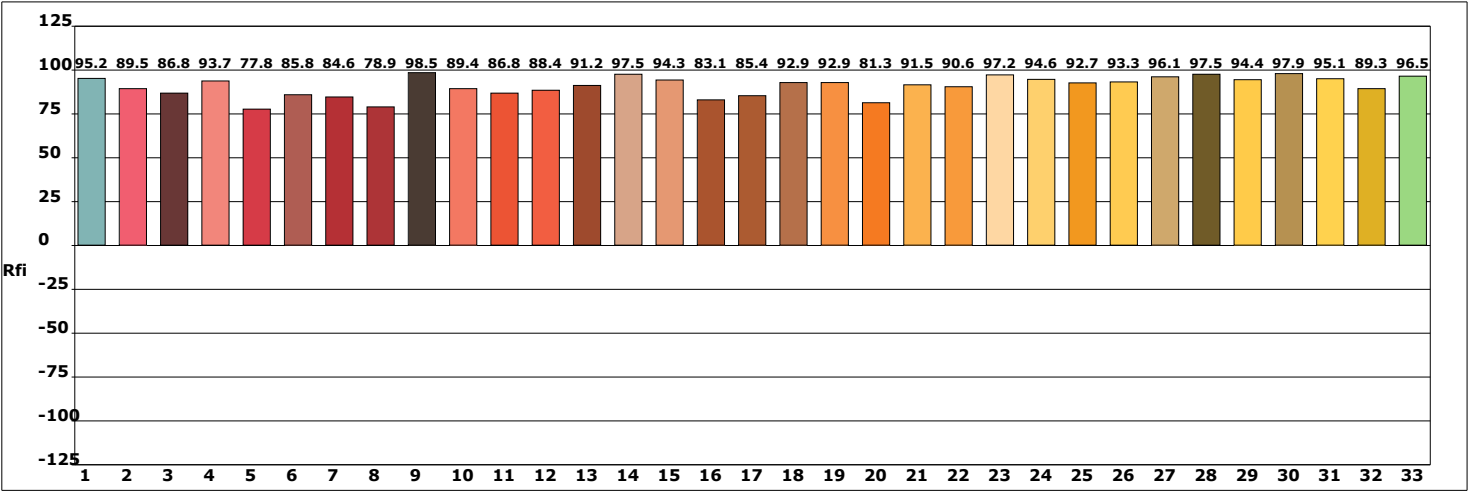


Chroma by Bue



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:

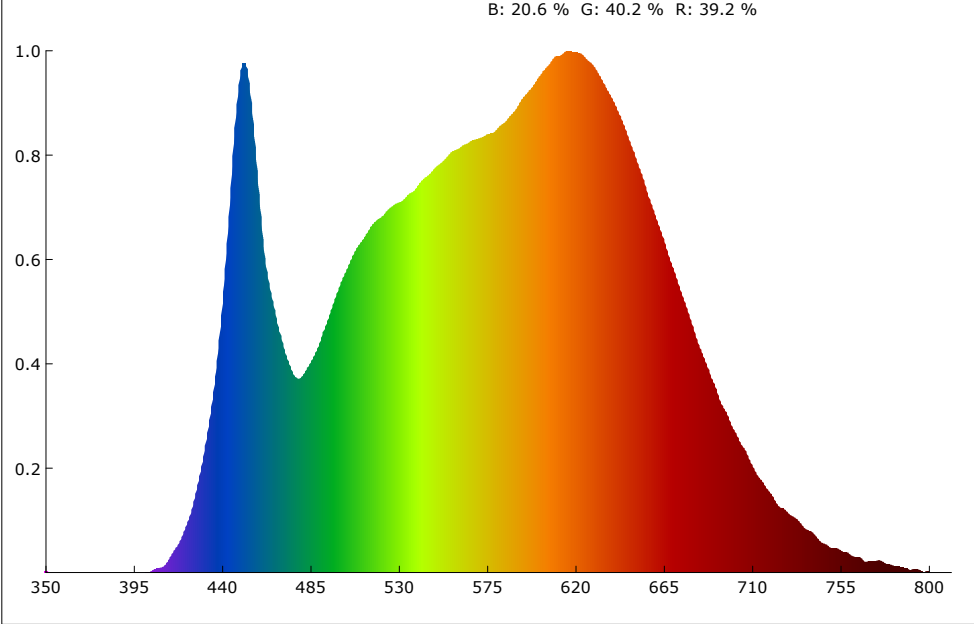
Remarks:

Manufacturer: Guangzhou Hotion Technology Co.,

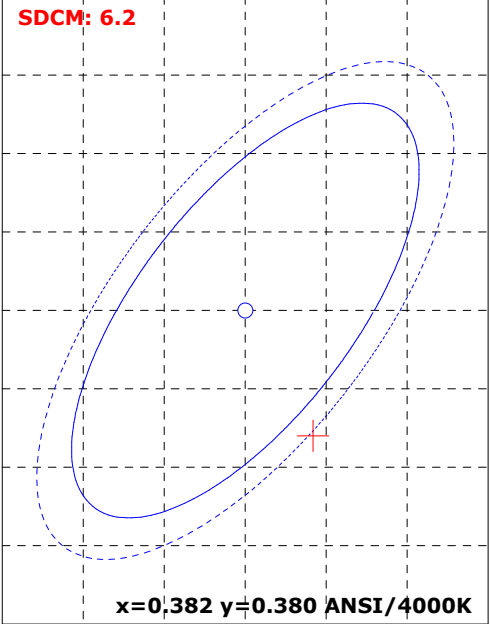
Test unit:

Date of observation: 08/11/12

Spectrogram



SDCM



Color Parameter:

x: 0.3860 y: 0.3717 u: 0.2308 v: 0.3334 u': 0.2308 v': 0.5001
R_ratio: 39.2 % G_ratio: 40.2 % B_ratio: 20.6 % RedRatio: 20.4 % GreenRatio: 76.9 % BlueRatio: 2.7 %

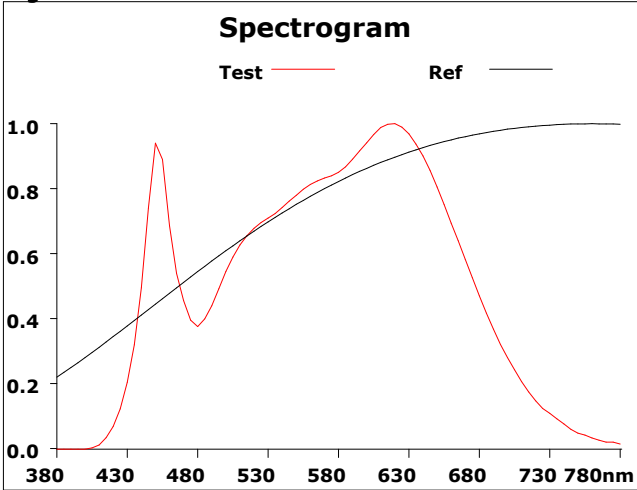
Ra: 95.3 AvgR: 93.3
R1: 96.8 R2: 97.6 R3: 96.4 R4: 95.6 R5: 96.3 R6: 95.3 R7: 94.9 R8: 90.1
R9: 75.8 R10: 93.3 R11: 95.4 R12: 81.3 R13: 97.4 R14: 97.5 R15: 95.7

CCT: 3813 K Flux: 359.772 lm PeakWave: 616.6 nm SDCM: 6.2
S/P: 1.7 CentralWave: 585.9 nm DominantWave: 582.0 nm CentroidWave: 574.9 nm
HalfWidth: 181.3 nm duv: -0.00397 purity: 27.4 % CQS: 86.7
LER(TM-30): 289.5 Ep: 1242.7 mw Rg: 101.0 Rf: 91.6
Red Ep: 467.6 mw Near red Ep: 49.0 mw Near infrared Ep: 1.1 mw

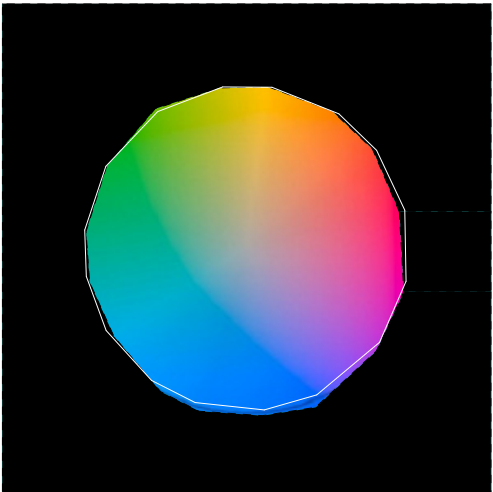
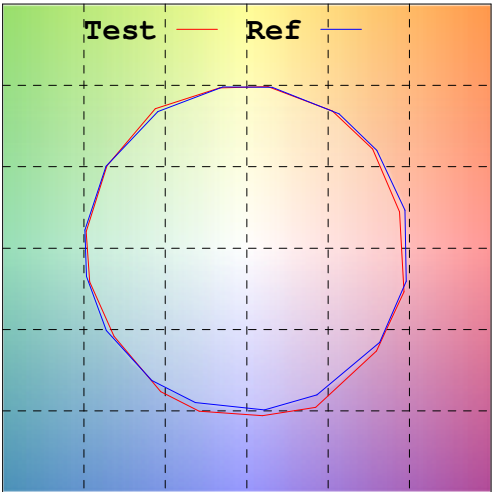
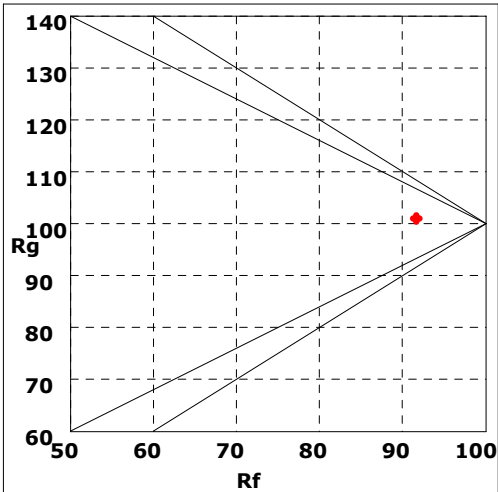
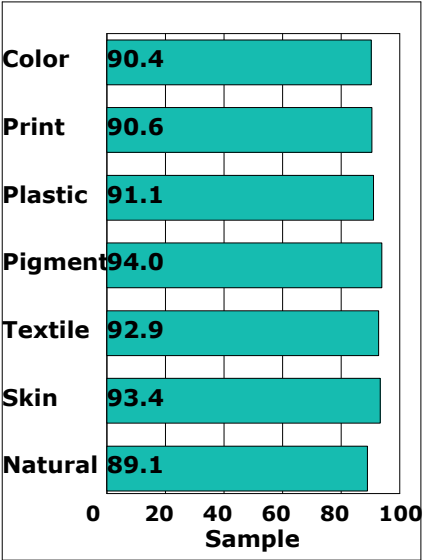
Electrical parameters:

Effic: 9.8 lm/W Energy: 10.6 Effi: G
U: 221.5 V I: 0.288 A P: 36.870 W Pf: 0.577

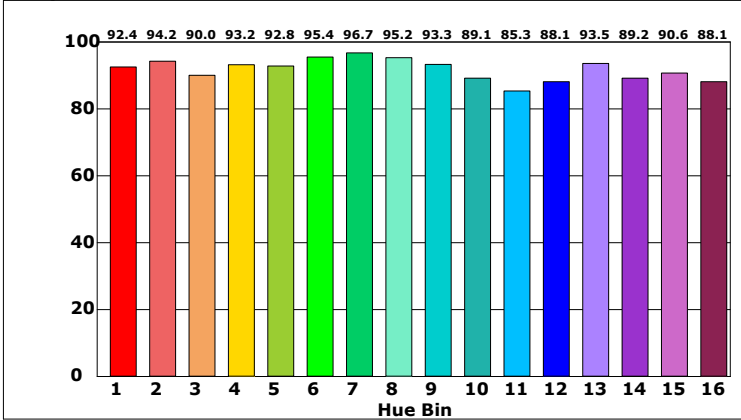
Rf: 91.6 CCT: 3813K u': 0.2308
Rg: 101.0 LER: 289.5 Duv: -0.00397 v': 0.5001



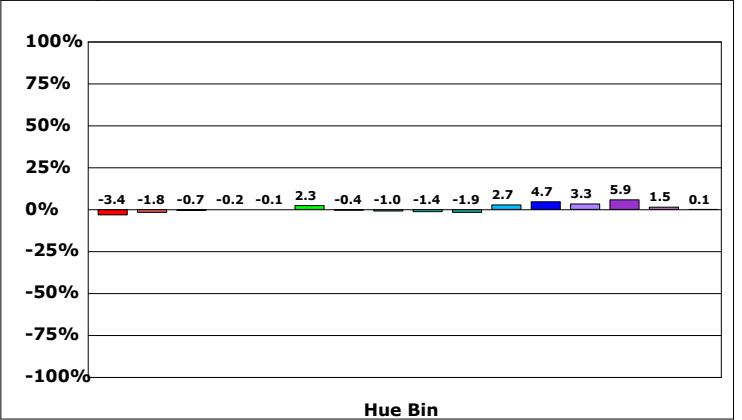
500			
Hue Bin	Rf	Chroma	Hue
1	92.4	-3.4%	-0.2%
2	94.2	-1.8%	2.0%
3	90.0	-0.7%	4.5%
4	93.2	-0.2%	2.6%
5	92.8	-0.1%	2.0%
6	95.4	2.3%	0.3%
7	96.7	-0.4%	-0.5%
8	95.2	-1.0%	0.8%
9	93.3	-1.4%	3.9%
10	89.1	-1.9%	5.6%
11	85.3	2.7%	8.6%
12	88.1	4.7%	3.4%
13	93.5	3.3%	-1.7%
14	89.2	5.9%	-4.9%
15	90.6	1.5%	-5.5%
16	88.1	0.1%	-6.7%



Rf by Bue

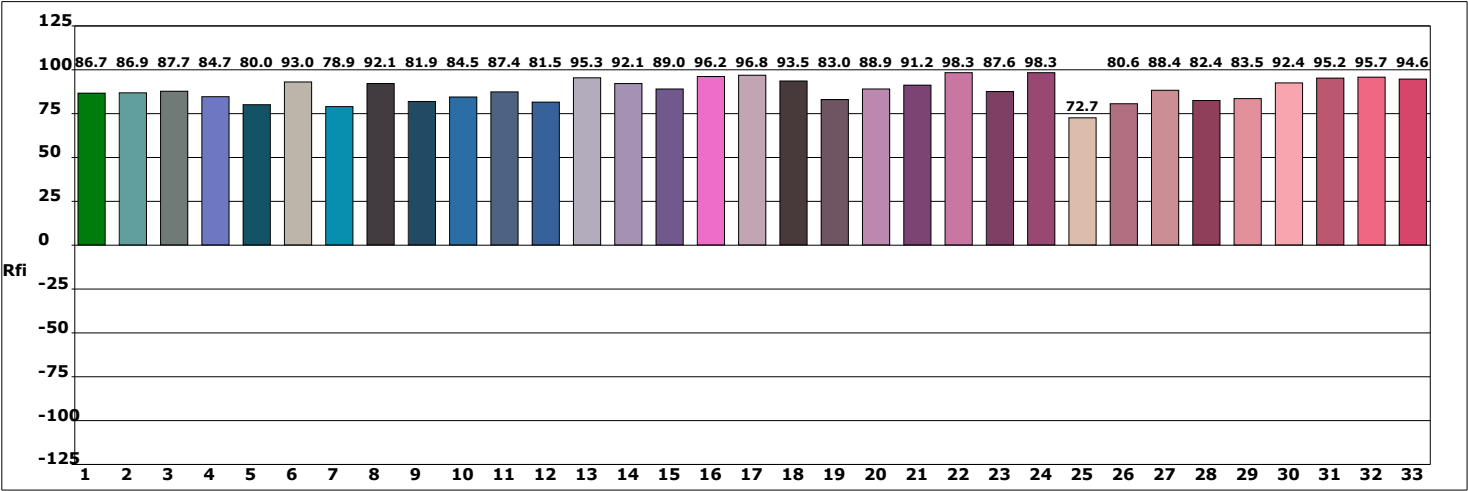
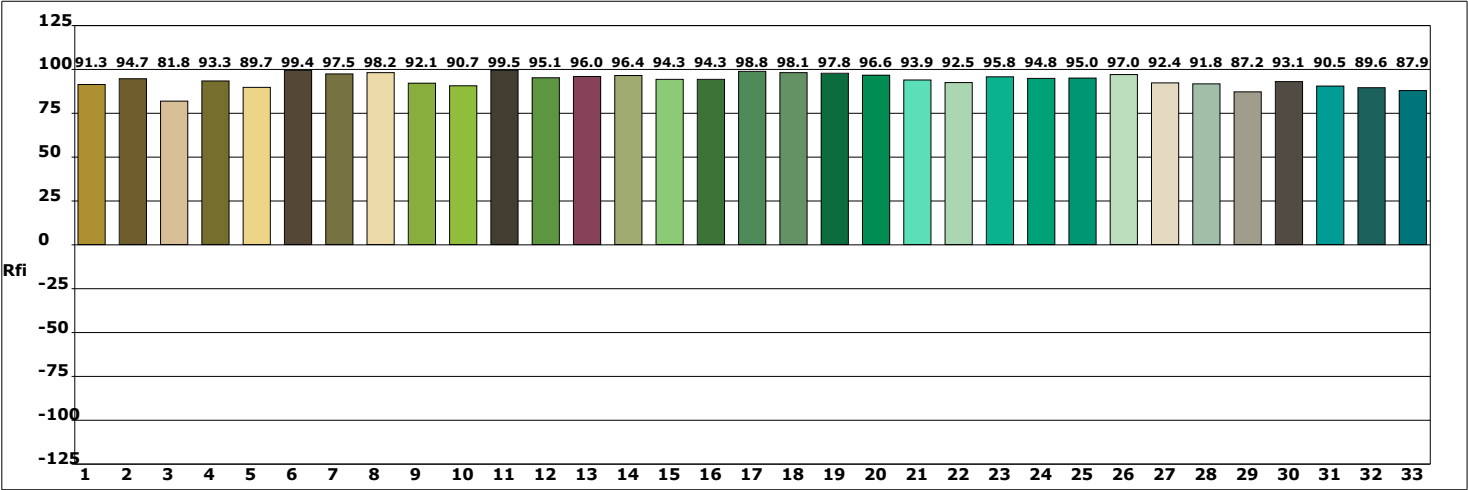
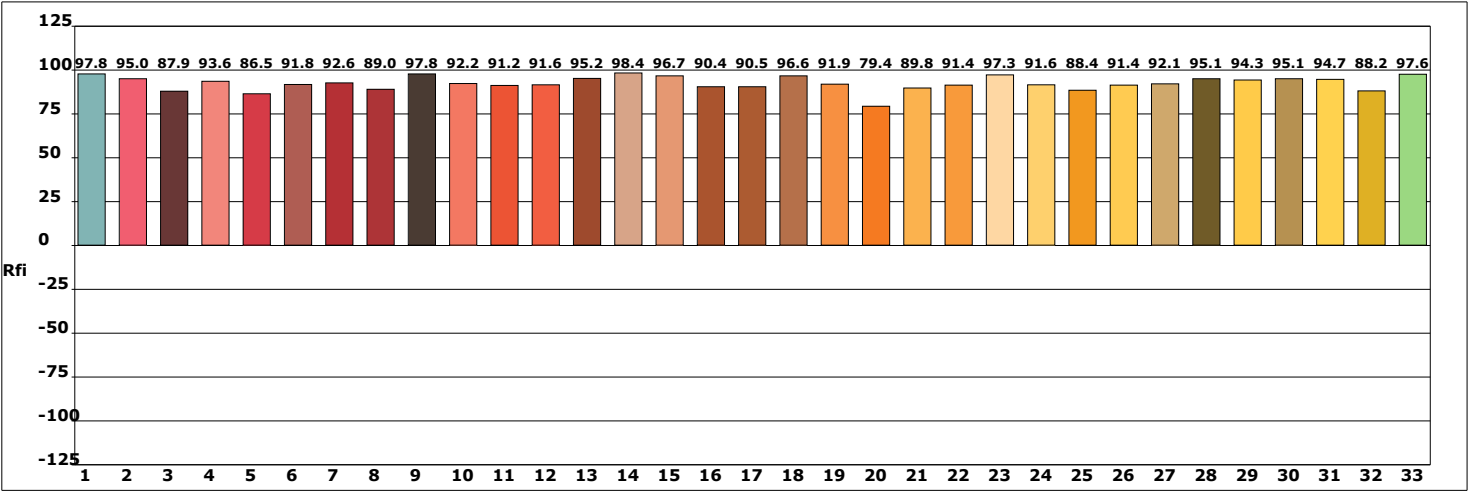


Chroma by Bue



Product model: P19
Product number:
Tester:
Remarks:

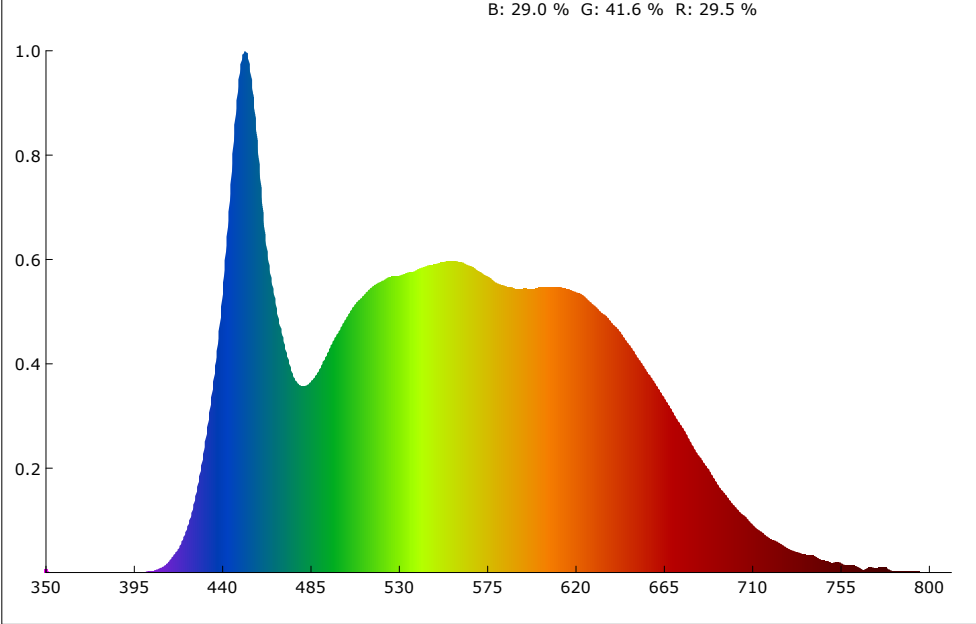
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 08/11/12



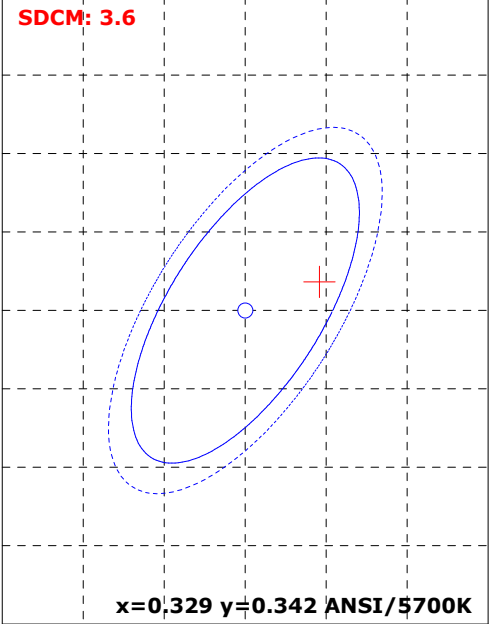
Product model: P19
Product number:
Tester:
Remarks:

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

Spectrogram



SDCM



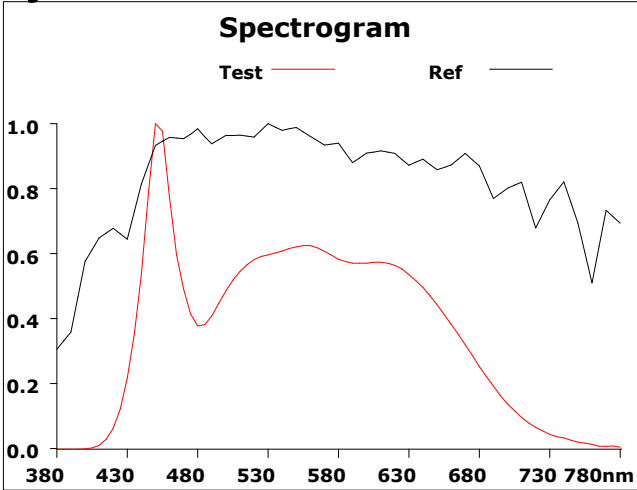
Color Parameter:

x: 0.3333	y: 0.3435	u: 0.2065	v: 0.3193	u': 0.2065	v': 0.4789
R_ratio: 29.5 %	G_ratio: 41.6 %	B_ratio: 29.0 %	RedRatio: 15.9 %	GreenRatio: 80.3 %	BlueRatio: 3.9 %
Ra: 93.0	AvgR: 90.1				
R1: 93.5	R2: 94.8	R3: 93.7	R4: 93.7	R5: 93.0	R6: 91.0
R7: 95.2	R8: 89.5	R9: 70.1	R10: 86.3	R11: 93.3	R12: 73.9
R13: 94.1	R14: 96.4	R15: 93.0			
CCT: 5463 K	Flux: 441.775 lm	PeakWave: 452.3 nm	SDCM: 3.6		
S/P: 2.1	CentralWave: 454.3 nm	DominantWave: 554.0 nm	CentroidWave: 555.0 nm		
HalfWidth: 28.8 nm	duv: 0.00090	purity: 3.1 %	CQS: 89.4		
LER(TM-30): 290.4	Ep: 1521.0 mw	Rg: 99.5	Rf: 89.9		
Red Ep: 436.8 mw	Near red Ep: 37.4 mw	Near infrared Ep: 0.7 mw			

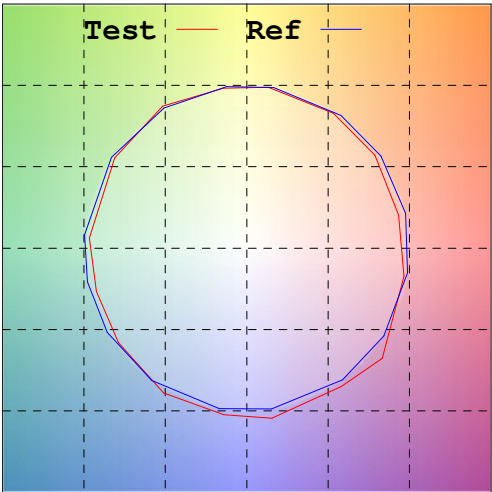
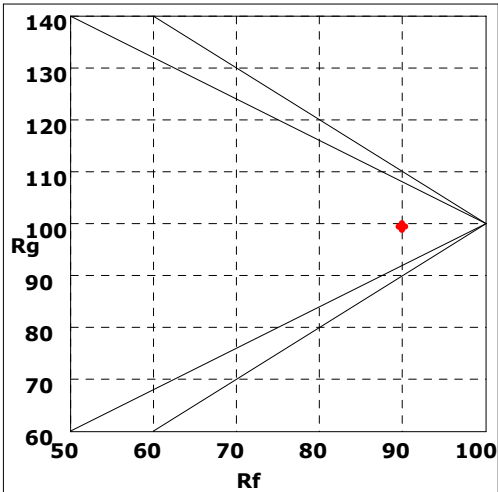
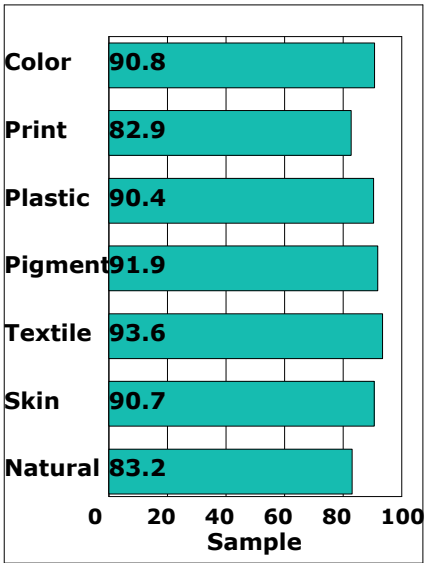
Electrical parameters:

Effic: 10.2 Lm/W	Energy: 11.1	Effi: G	
U: 221.4 V	I: 0.334 A	P: 43.430 W	Pf: 0.587

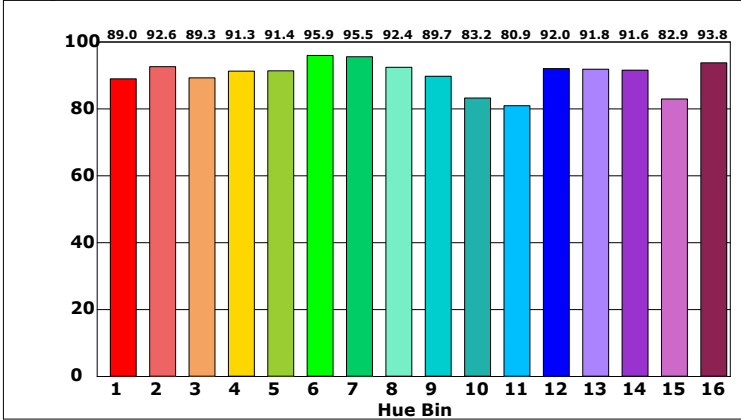
Rf: 89.9 CCT: 5463K u': 0.2065
Rg: 99.5 LER: 290.4 Duv: 0.00090 v': 0.4789



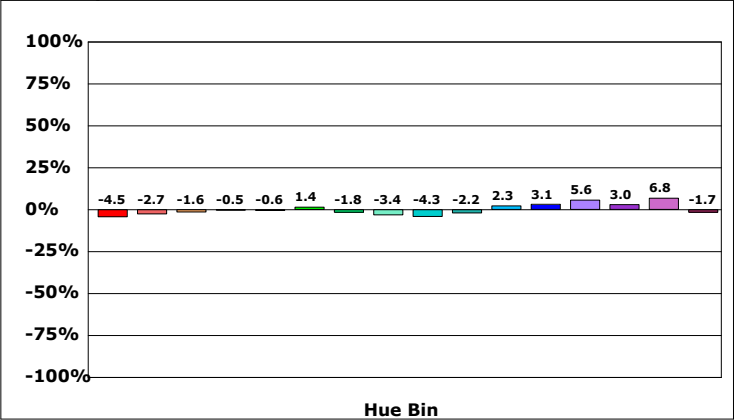
500			
Hue Bin	Rf	Chroma	Hue
1	89.0	-4.5%	-0.3%
2	92.6	-2.7%	2.5%
3	89.3	-1.6%	4.7%
4	91.3	-0.5%	3.4%
5	91.4	-0.6%	2.2%
6	95.9	1.4%	0.1%
7	95.5	-1.8%	-0.6%
8	92.4	-3.4%	1.4%
9	89.7	-4.3%	6.9%
10	83.2	-2.2%	9.1%
11	80.9	2.3%	10.4%
12	92.0	3.1%	3.5%
13	91.8	5.6%	-1.0%
14	91.6	3.0%	-2.9%
15	82.9	6.8%	-11.8%
16	93.8	-1.7%	-2.5%



Rf by Bue

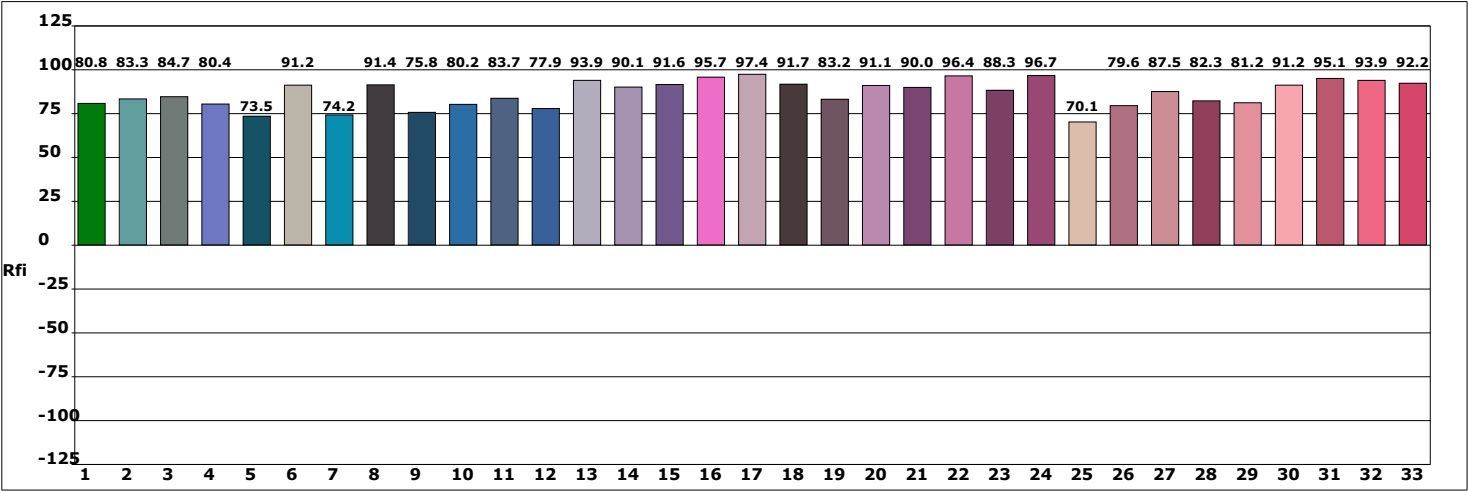
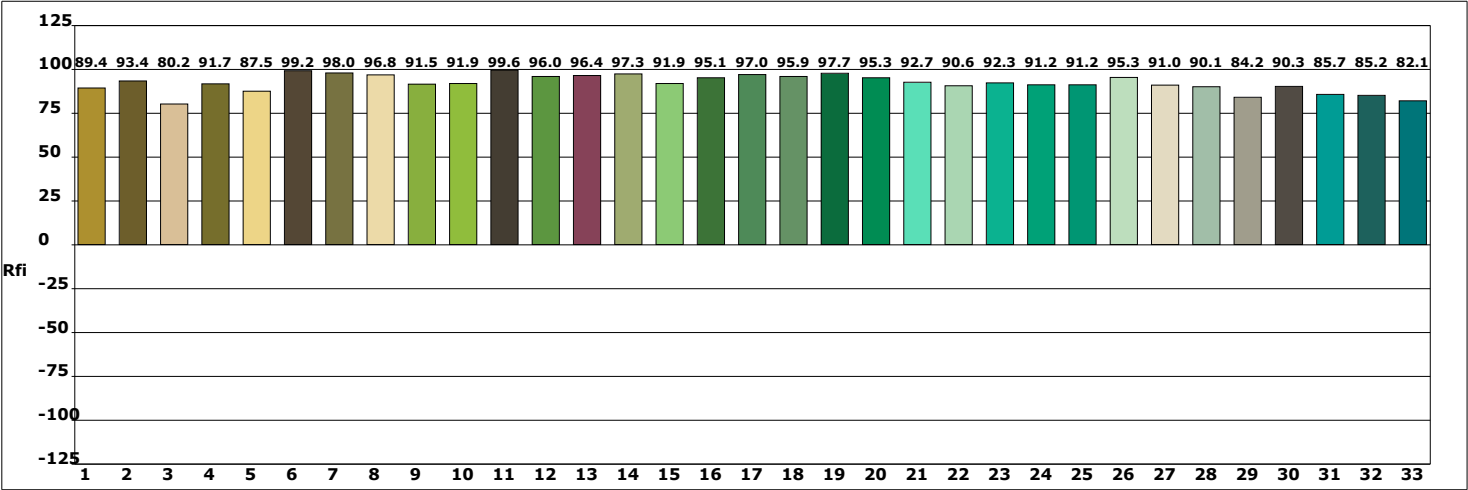
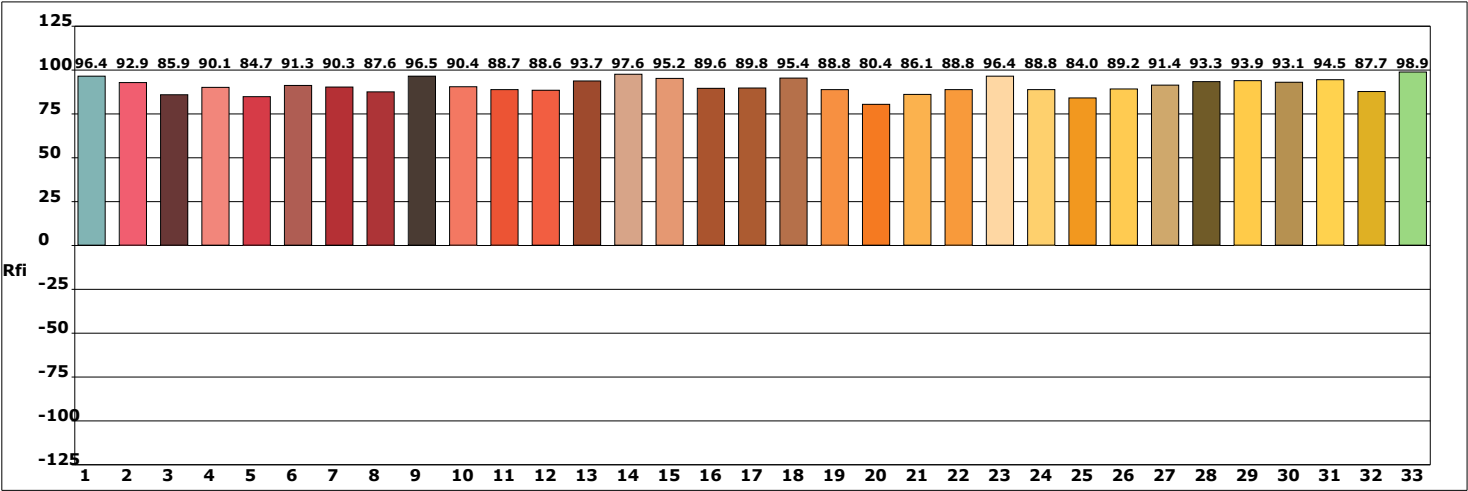


Chroma by Bue



Product model: P19
Product number:
Tester:
Remarks:

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



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