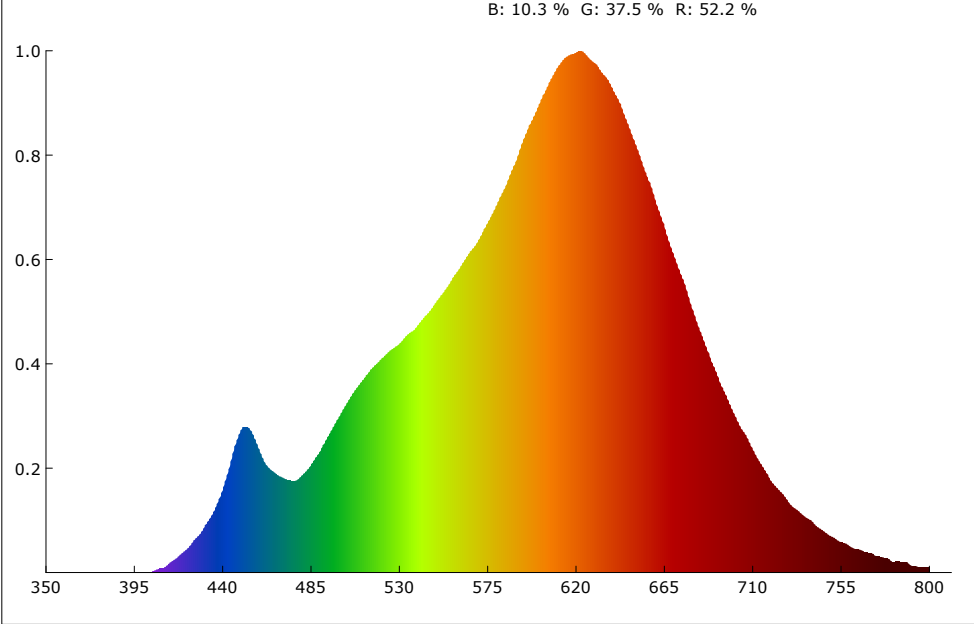
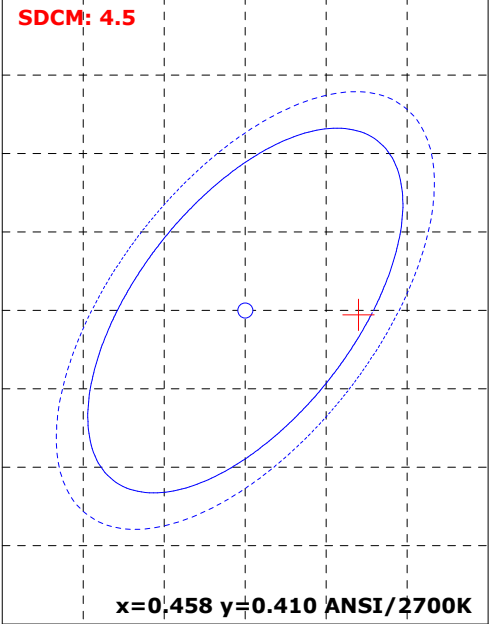


Spectrogram



SDCM



Color Parameter:

x: 0.4648 y: 0.4098 u: 0.2661 v: 0.3519 u': 0.2661 v': 0.5279
R_ratio: 52.2 % G_ratio: 37.5 % B_ratio: 10.3 % RedRatio: 26.4 % GreenRatio: 72.1 % BlueRatio: 1.5 %

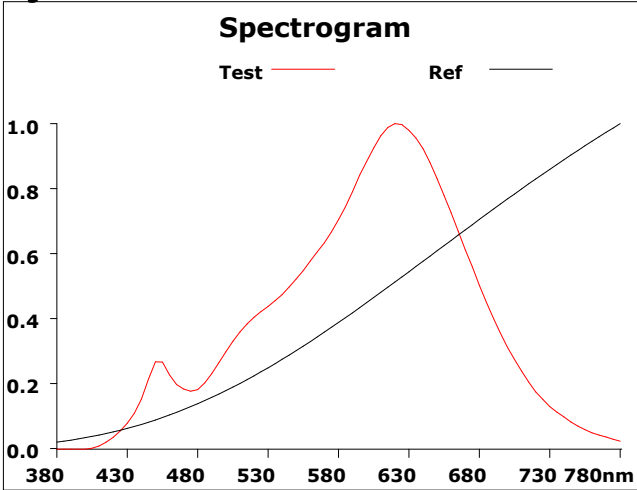
Ra: 93.1 AvgR: 91.1
R1: 93.5 R2: 97.4 R3: 98.6 R4: 94.2 R5: 94.5 R6: 97.4 R7: 90.0 R8: 79.2
R9: 56.7 R10: 94.0 R11: 96.3 R12: 92.1 R13: 94.6 R14: 99.4 R15: 88.2

CCT: 2625 K Flux: 893.849 lm PeakWave: 622.6 nm SDCM: 4.5
S/P: 1.2 CentralWave: 613.0 nm DominantWave: 584.8 nm CentroidWave: 600.6 nm
HalfWidth: 133.2 nm duv: -0.00065 purity: 62.5 % CQS: 87.5
LER(TM-30): 282.2 Ep: 3166.9 mw Rg: 99.5 Rf: 92.2
Red Ep: 1547.8 mw Near red Ep: 194.1 mw Near infrared Ep: 7.1 mw

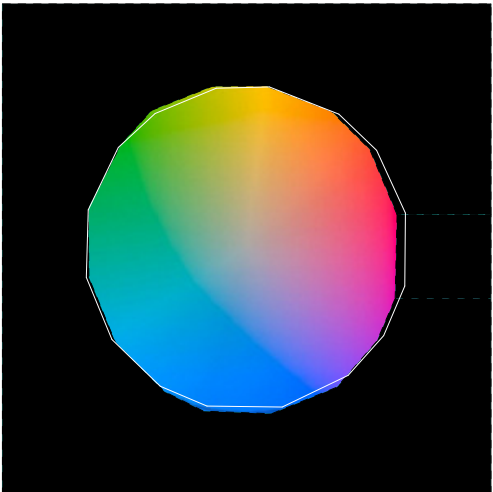
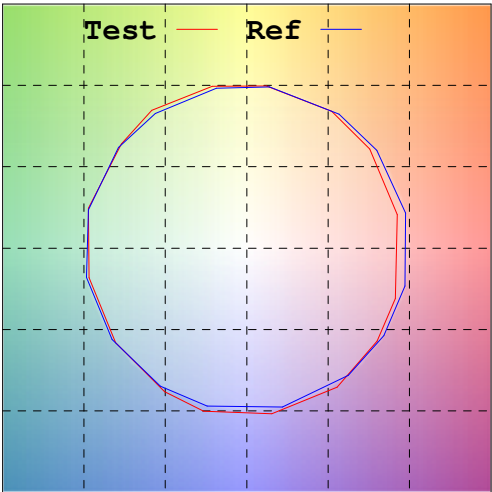
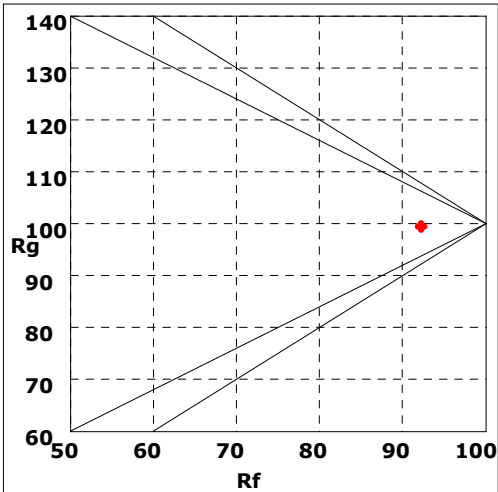
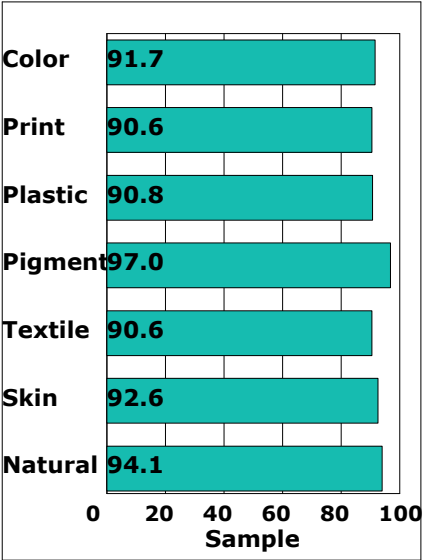
Electrical parameters:

Effic: 20.7 lm/W Energy: 22.6 Effi: G
U: 221.3 V I: 0.331 A P: 43.090 W Pf: 0.587

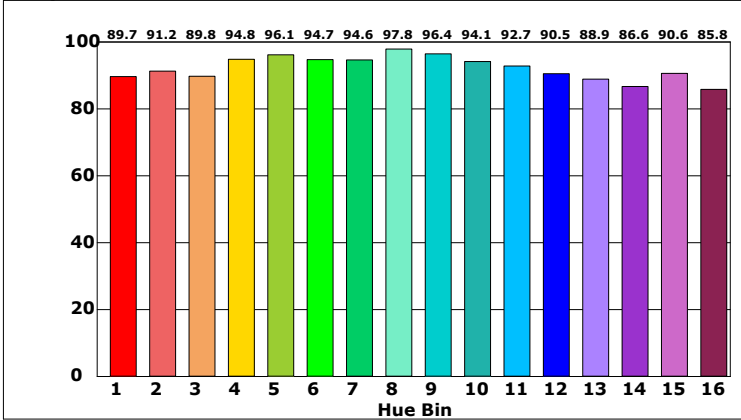
Rf: 92.2 CCT: 2625K u': 0.2661
Rg: 99.5 LER: 282.2 Duv: -0.00065 v': 0.5279



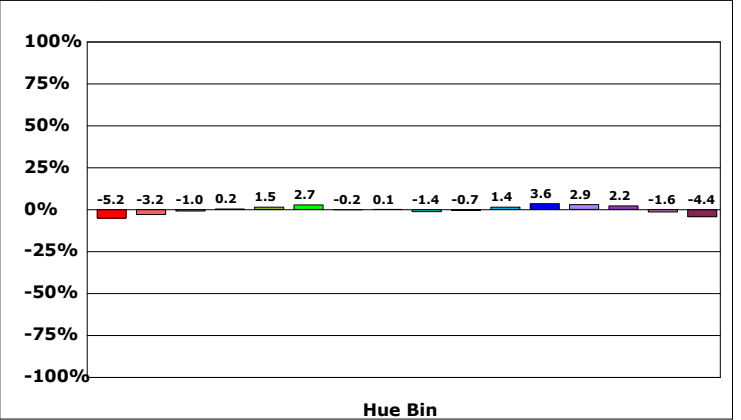
500			
Hue Bin	Rf	Chroma	Hue
1	89.7	-5.2%	-0.0%
2	91.2	-3.2%	3.0%
3	89.8	-1.0%	4.7%
4	94.8	0.2%	2.1%
5	96.1	1.5%	2.2%
6	94.7	2.7%	0.7%
7	94.6	-0.2%	-2.7%
8	97.8	0.1%	-0.8%
9	96.4	-1.4%	0.6%
10	94.1	-0.7%	2.8%
11	92.7	1.4%	4.1%
12	90.5	3.6%	-1.4%
13	88.9	2.9%	-7.3%
14	86.6	2.2%	-9.7%
15	90.6	-1.6%	-5.0%
16	85.8	-4.4%	-8.7%



Rf by Bue

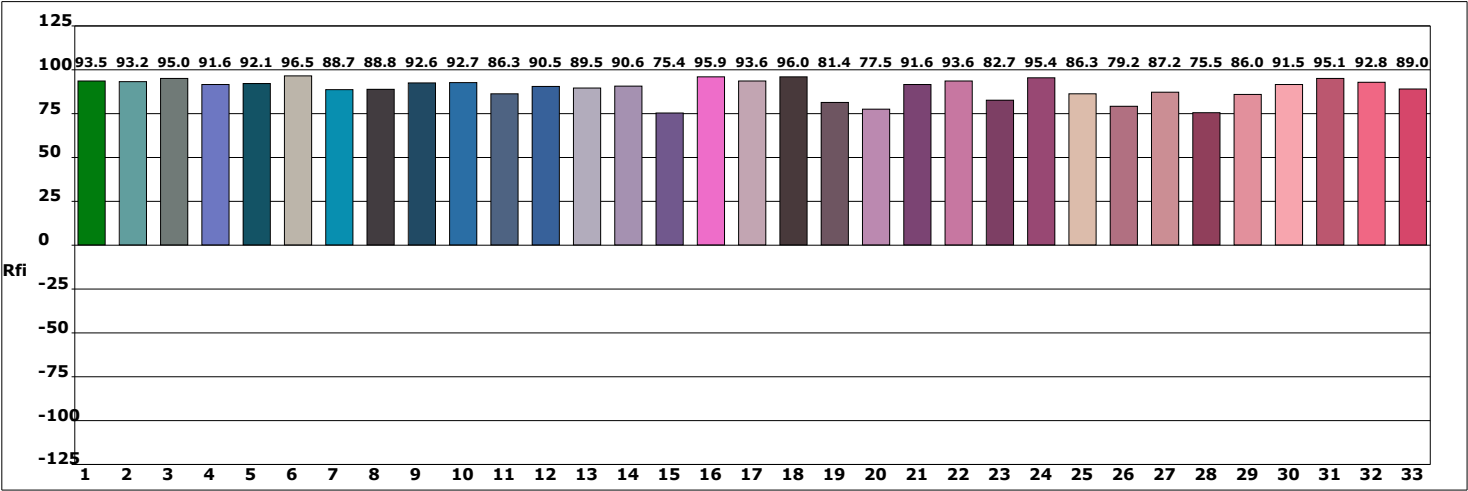
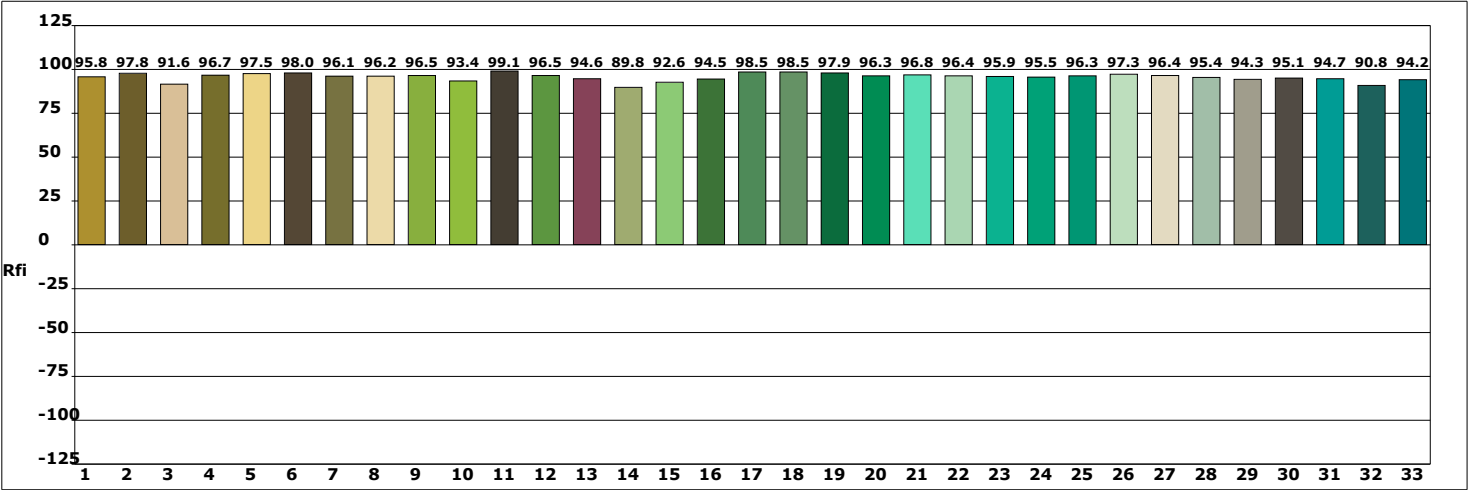
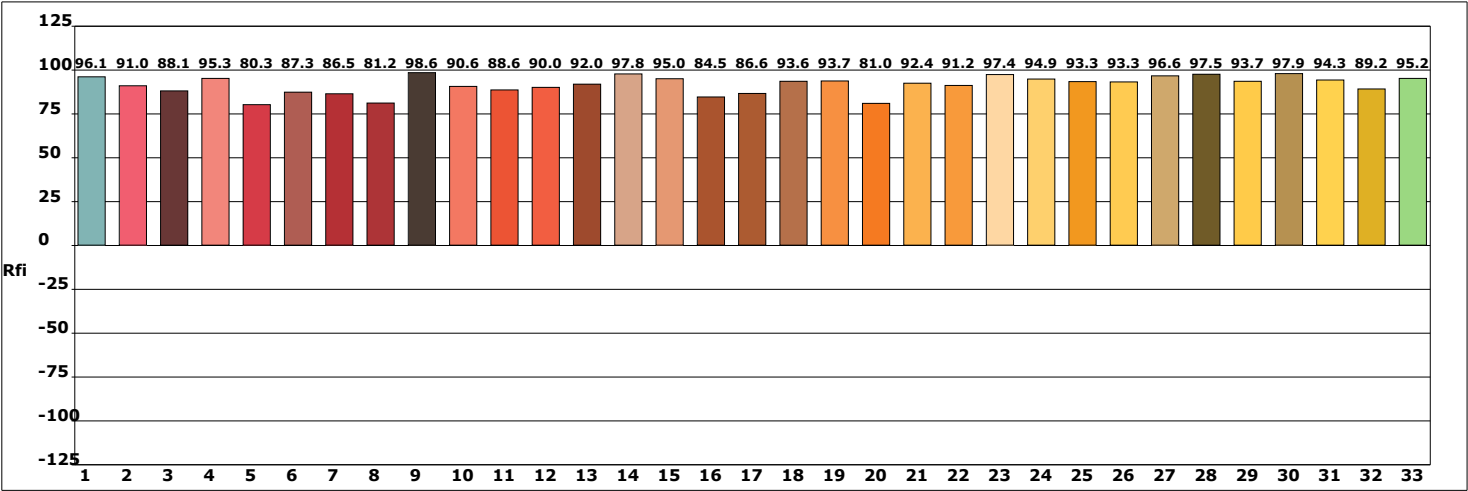


Chroma by Bue



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:

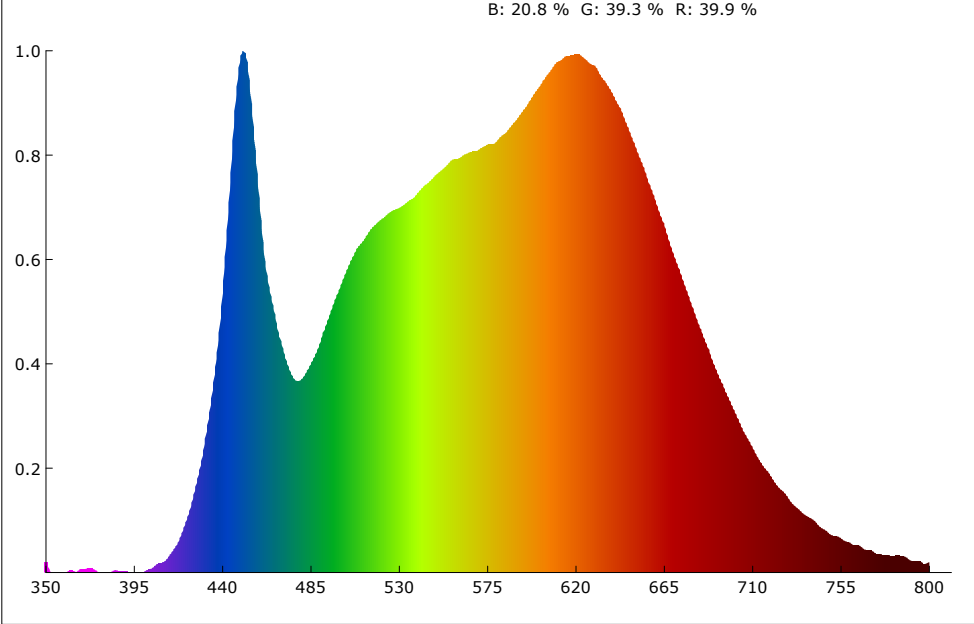
Remarks:

Manufacturer: Guangzhou Hotion Technology Co.,

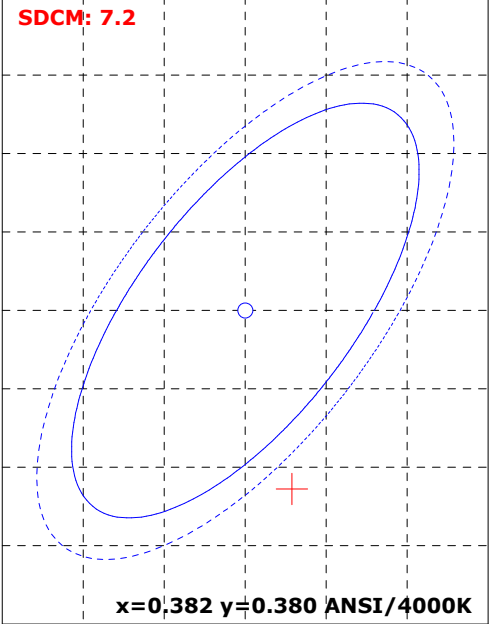
Test unit:

Date of observation: 08/11/12

Spectrogram



SDCM



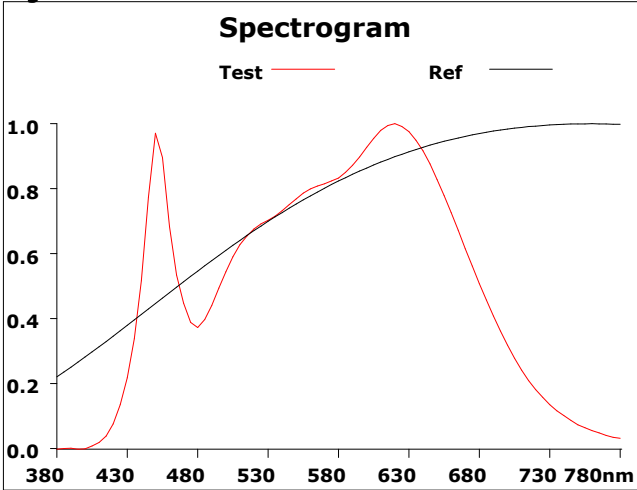
Color Parameter:

x: 0.3847	y: 0.3683	u: 0.2314	v: 0.3323	u': 0.2314	v': 0.4985		
R_ratio: 39.9 %	G_ratio: 39.3 %	B_ratio: 20.8 %	RedRatio: 20.6 %	GreenRatio: 76.6 %	BlueRatio: 2.8 %		
Ra: 96.3		AvgR: 94.7					
R1: 98.2	R2: 98.0	R3: 96.2	R4: 96.4	R5: 98.1	R6: 95.3	R7: 95.4	R8: 92.8
R9: 83.1	R10: 94.9	R11: 95.5	R12: 83.1	R13: 98.5	R14: 97.3	R15: 98.0	
CCT: 3817 K		Flux: 885.812 lm	PeakWave: 620.6 nm	SDCM: 7.2			
S/P: 1.7		CentralWave: 587.3 nm	DominantWave: 582.9 nm	CentroidWave: 577.4 nm			
HalfWidth: 184.5 nm		duv: -0.00522	purity: 26.0 %	CQS: 86.3			
LER(TM-30): 280.5		Ep: 3158.5 mw	Rg: 102.0	Rf: 92.2			
Red Ep: 1193.6 mw		Near red Ep: 155.4 mw	Near infrared Ep: 8.6 mw				

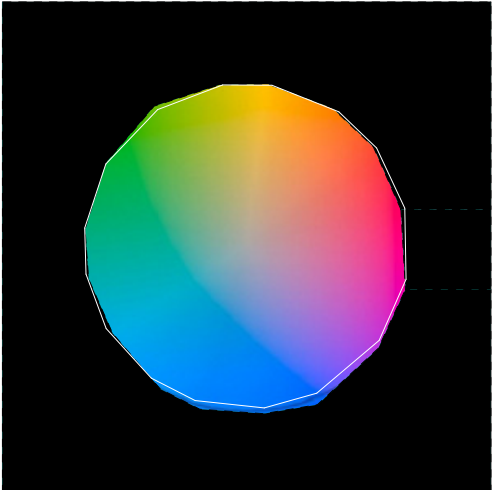
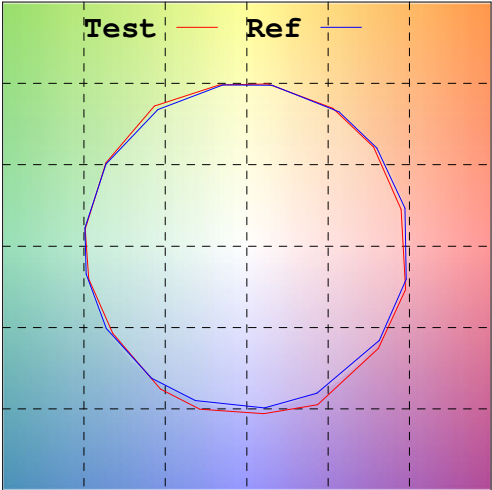
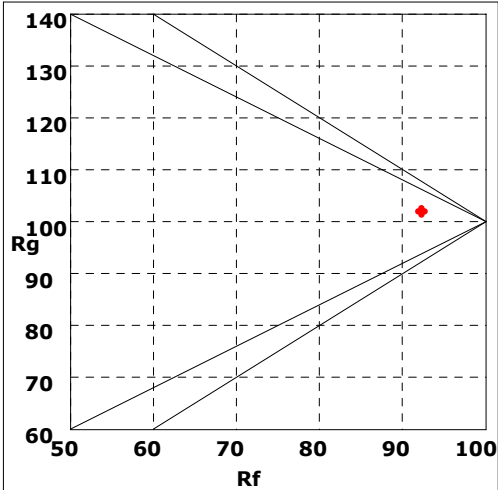
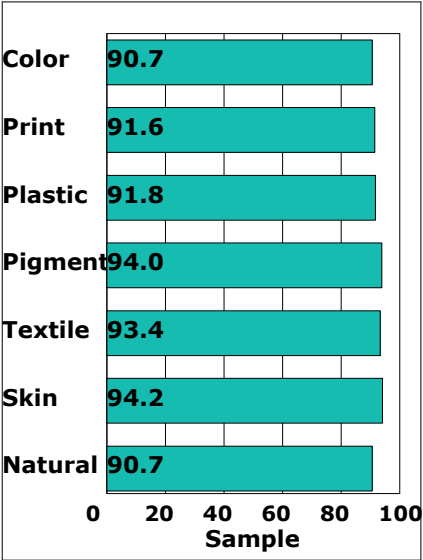
Electrical parameters:

Effic: 24.2 Lm/W	Energy: 26.4	Effi: G	
U: 221.3 V	I: 0.286 A	P: 36.570 W	Pf: 0.577

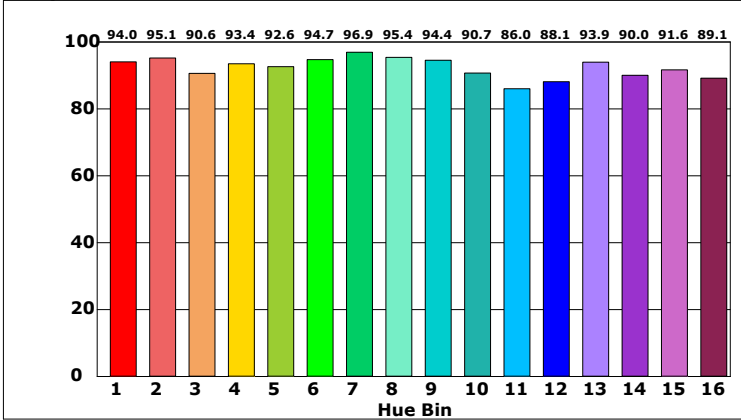
Rf: 92.2 CCT: 3817K u': 0.2314
Rg: 102.0 LER: 280.5 Duv: -0.00522 v': 0.4985



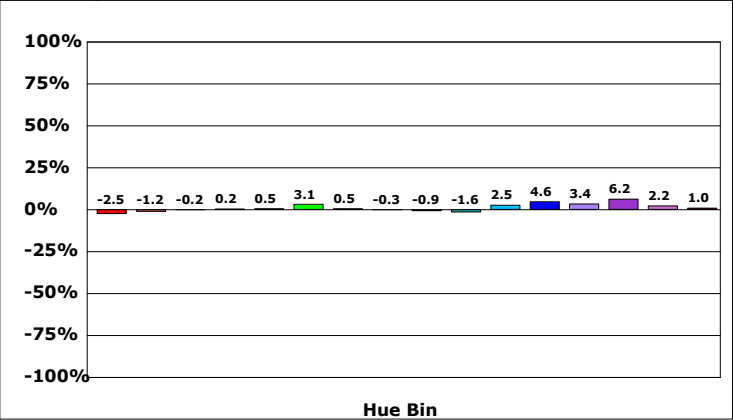
500			
Hue Bin	Rf	Chroma	Hue
1	94.0	-2.5%	-0.3%
2	95.1	-1.2%	1.7%
3	90.6	-0.2%	4.3%
4	93.4	0.2%	2.7%
5	92.6	0.5%	2.1%
6	94.7	3.1%	0.5%
7	96.9	0.5%	-0.6%
8	95.4	-0.3%	0.5%
9	94.4	-0.9%	3.1%
10	90.7	-1.6%	4.7%
11	86.0	2.5%	8.2%
12	88.1	4.6%	3.7%
13	93.9	3.4%	-0.9%
14	90.0	6.2%	-3.7%
15	91.6	2.2%	-4.6%
16	89.1	1.0%	-6.2%



Rf by Bue

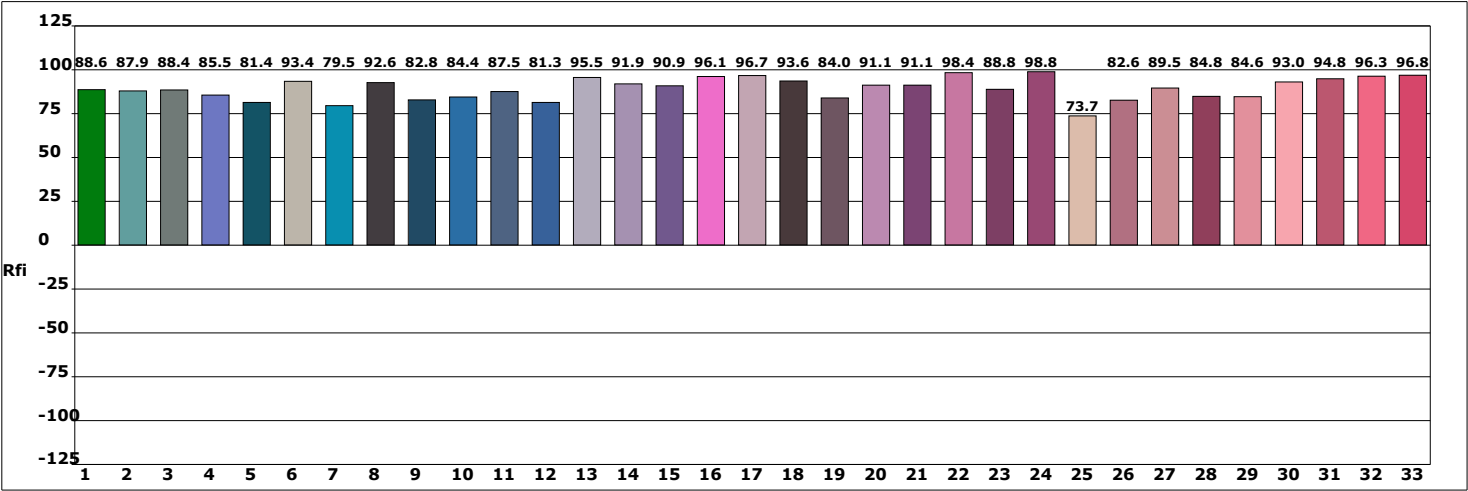
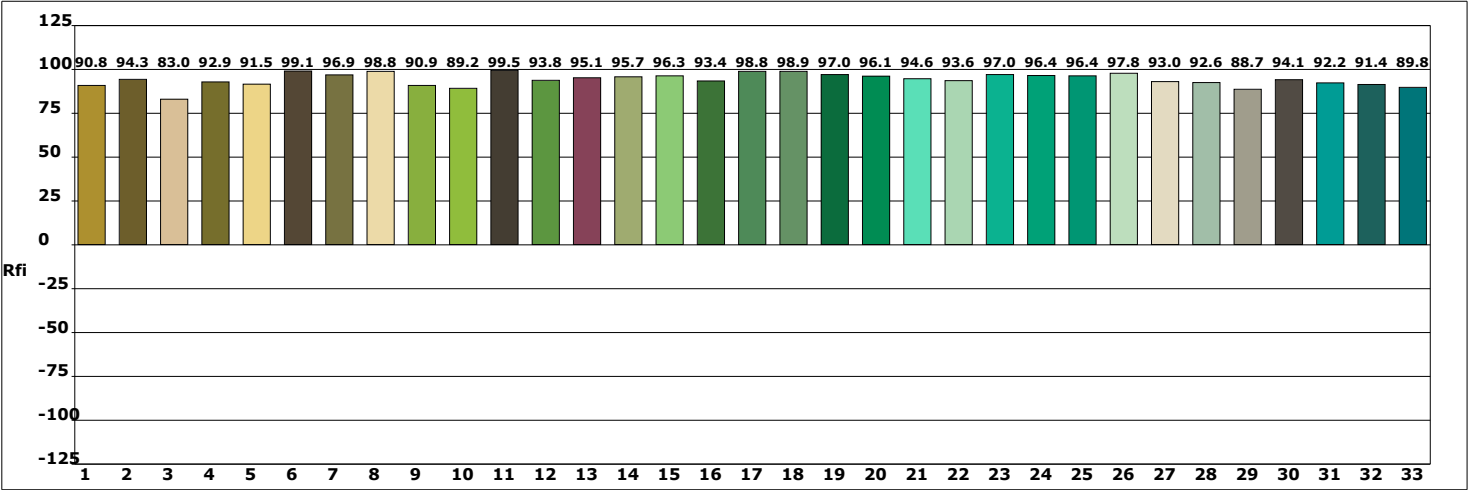
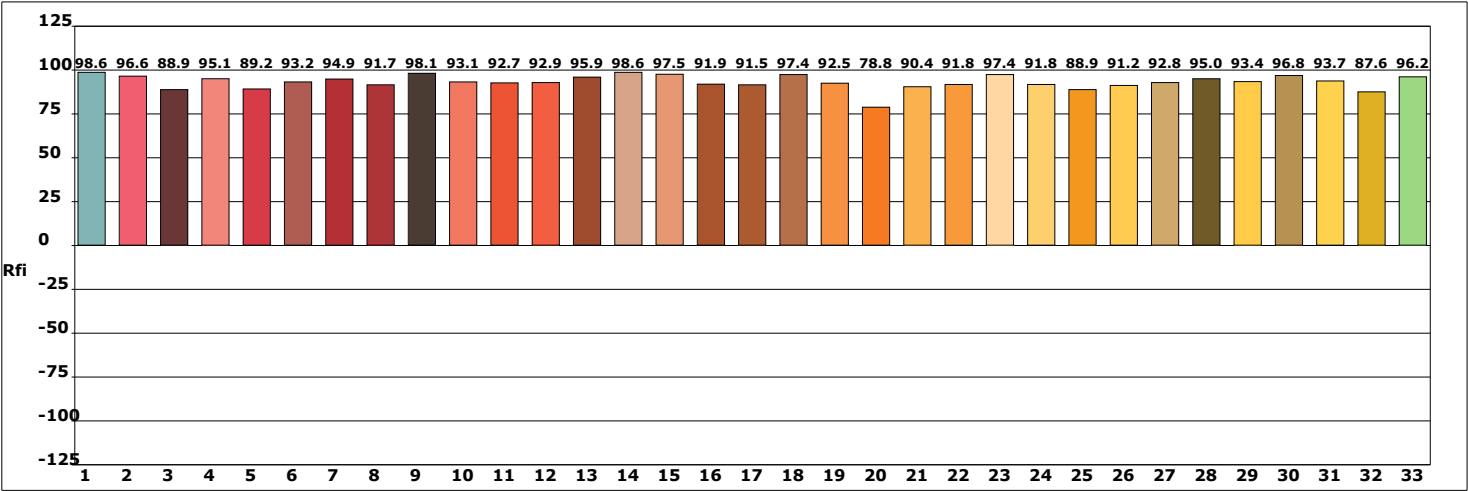


Chroma by Bue

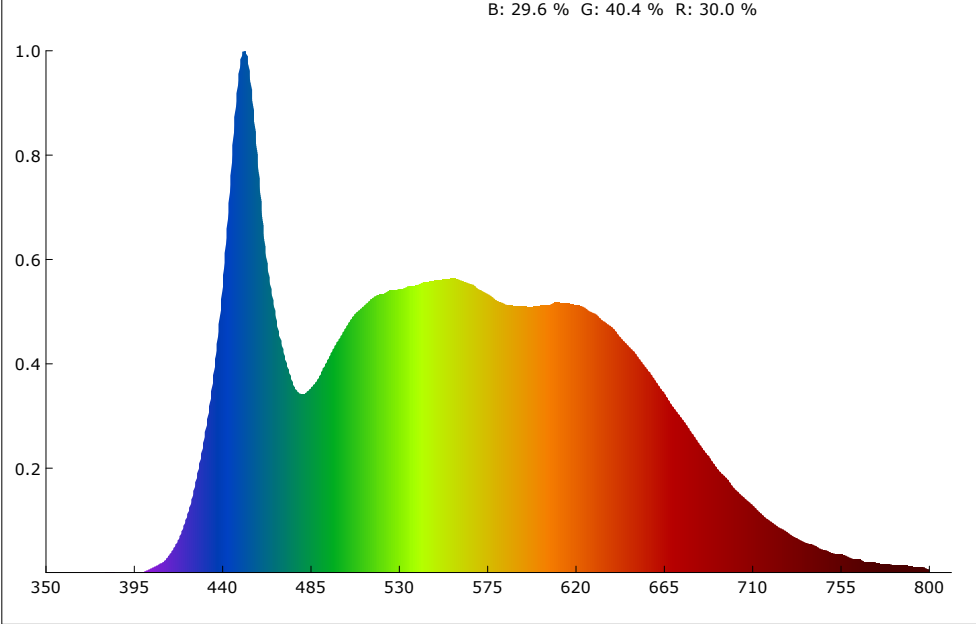


Product model: P19
Product number:
Tester:
Remarks:

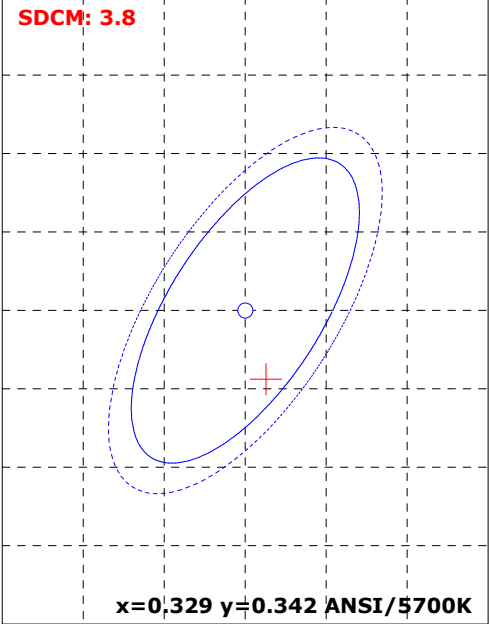
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 08/11/12



Spectrogram



SDCM



Color Parameter:

x: 0.3300 y: 0.3373 u: 0.2067 v: 0.3168 u': 0.2067 v': 0.4752
R_ratio: 30.0 % G_ratio: 40.4 % B_ratio: 29.6 % RedRatio: 16.0 % GreenRatio: 80.0 % BlueRatio: 4.0 %

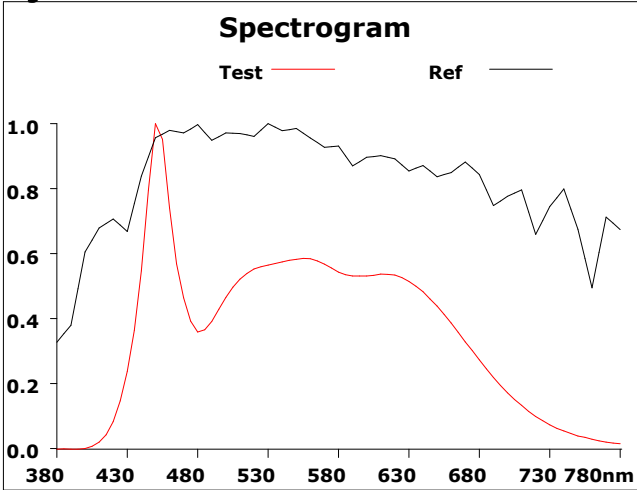
Ra: 94.5 AvgR: 92.4
R1: 95.7 R2: 95.4 R3: 92.8 R4: 95.3 R5: 95.4 R6: 91.9 R7: 96.2 R8: 93.9
R9: 82.1 R10: 87.9 R11: 94.8 R12: 76.1 R13: 95.9 R14: 95.7 R15: 96.7

CCT: 5610 K Flux: 1068.408 lm PeakWave: 451.6 nm SDCM: 3.8
S/P: 2.2 CentralWave: 453.3 nm DominantWave: 508.6 nm CentroidWave: 557.9 nm
HalfWidth: 28.0 nm duv: -0.00091 purity: 1.0 % CQS: 89.0
LER(TM-30): 278.2 Ep: 3840.0 mw Rg: 100.8 Rf: 90.7
Red Ep: 1107.4 mw Near red Ep: 146.7 mw Near infrared Ep: 7.4 mw

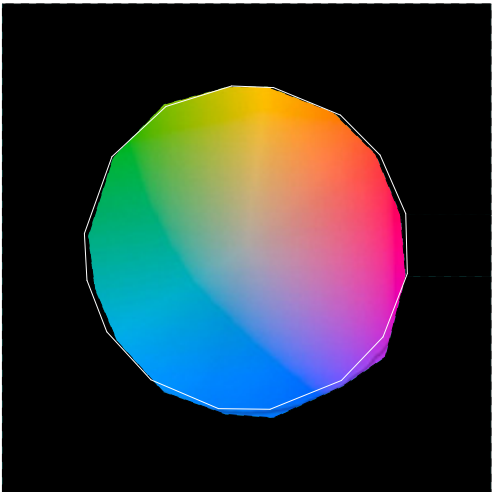
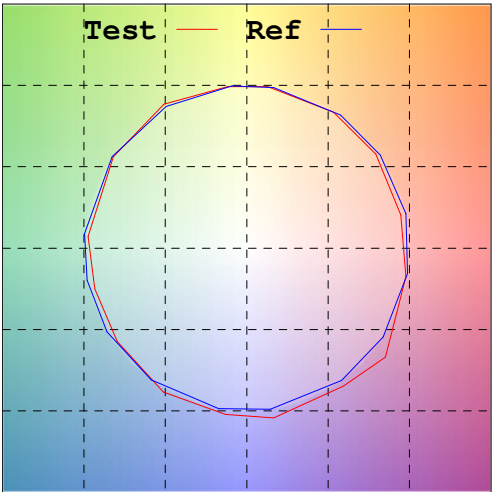
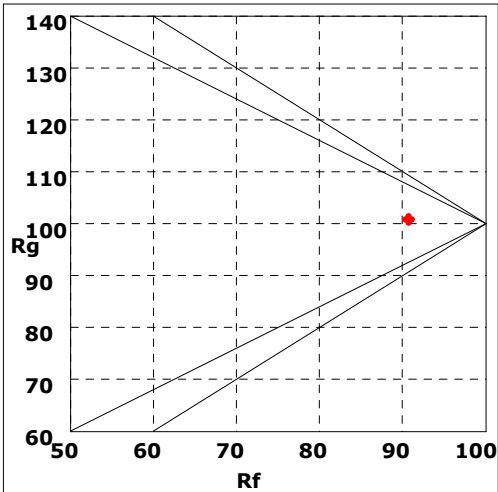
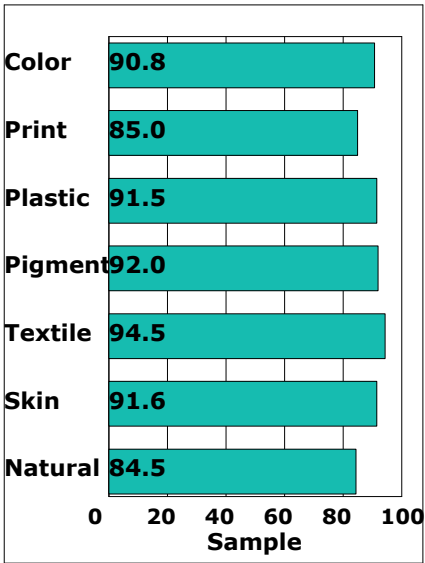
Electrical parameters:

Effic: 24.8 Lm/W Energy: 27.0 Effi: G
U: 221.3 V I: 0.332 A P: 43.130 W Pf: 0.587

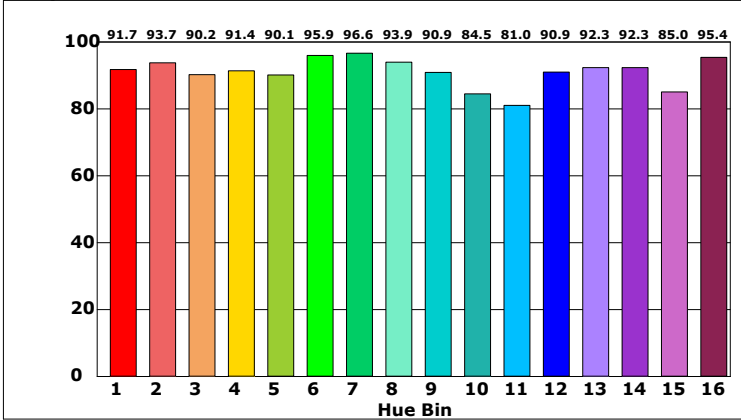
Rf: 90.7 CCT: 5610K u': 0.2067
Rg: 100.8 LER: 278.2 Duv: -0.00091 v': 0.4752



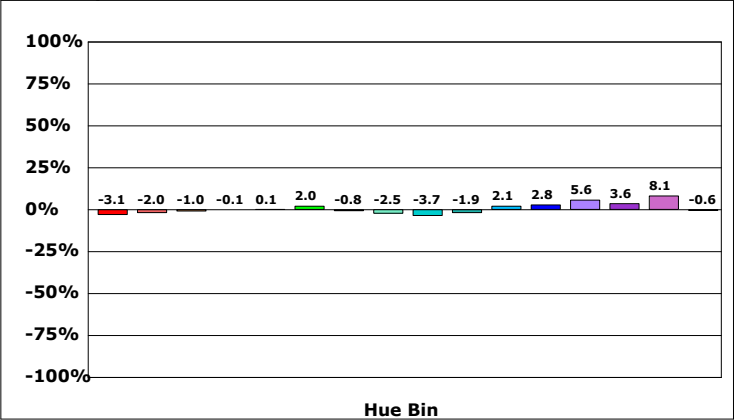
500			
Hue Bin	Rf	Chroma	Hue
1	91.7	-3.1%	-0.3%
2	93.7	-2.0%	2.2%
3	90.2	-1.0%	4.4%
4	91.4	-0.1%	3.7%
5	90.1	0.1%	2.6%
6	95.9	2.0%	0.4%
7	96.6	-0.8%	-0.5%
8	93.9	-2.5%	1.1%
9	90.9	-3.7%	6.0%
10	84.5	-1.9%	8.4%
11	81.0	2.1%	10.4%
12	90.9	2.8%	4.6%
13	92.3	5.6%	1.1%
14	92.3	3.6%	-1.3%
15	85.0	8.1%	-9.4%
16	95.4	-0.6%	-2.1%



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

