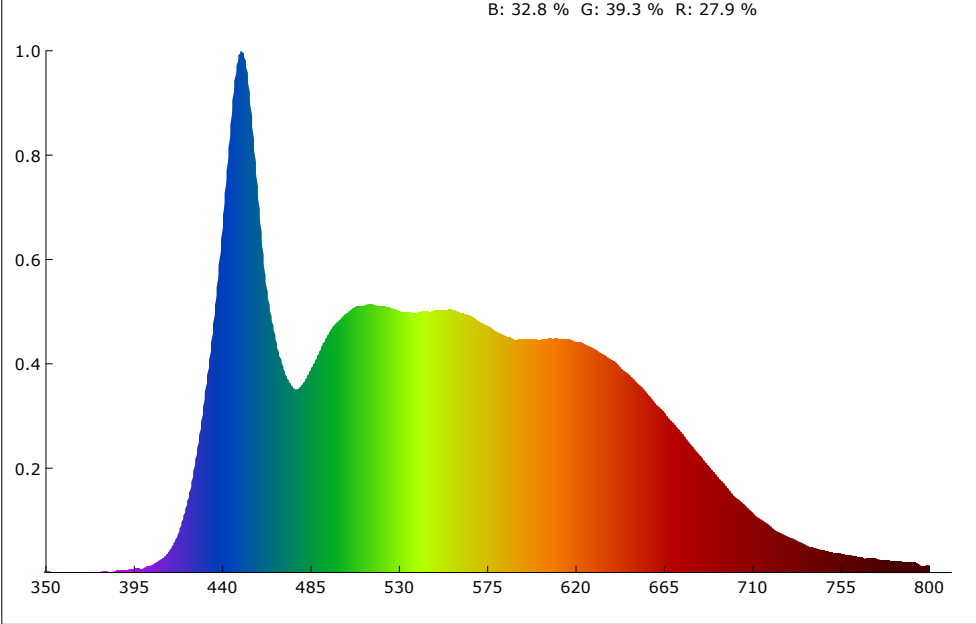
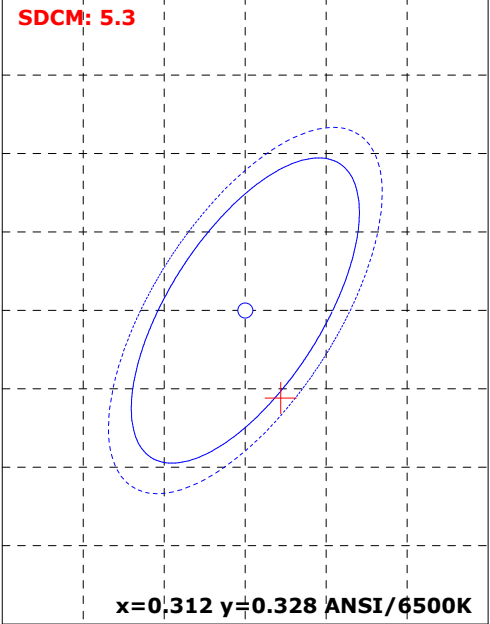


Spectrogram



SDCM



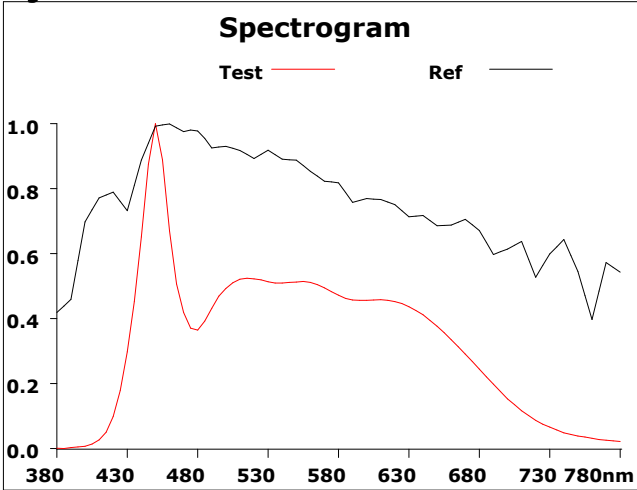
Color Parameter:

x: 0.3145	y: 0.3226	u: 0.2015	v: 0.3101	u': 0.2015	v': 0.4651		
R_ratio: 27.9 %	G_ratio: 39.3 %	B_ratio: 32.8 %	RedRatio: 15.2 %	GreenRatio: 80.3 %	BlueRatio: 4.4 %		
Ra: 96.2	AvgR: 95.0						
R1: 97.7	R2: 96.8	R3: 93.9	R4: 96.1	R5: 97.9	R6: 93.4	R7: 96.7	R8: 97.4
R9: 92.5	R10: 92.1	R11: 94.8	R12: 80.8	R13: 98.1	R14: 96.6	R15: 99.6	
CCT: 6455 K		Flux: 2517.746 lm	PeakWave: 449.6 nm	SDCM: 5.3			
S/P: 2.4		CentralWave: 450.6 nm	DominantWave: 484.0 nm	CentroidWave: 552.7 nm			
HalfWidth: 27.8 nm		duv: -0.00103	purity: 7.2 %	CQS: 91.4			
LER(TM-30): 267.2		Ep: 9421.4 mw	Rg: 101.8	Rf: 92.6			
Red Ep: 2517.3 mw		Near red Ep: 360.9 mw	Near infrared Ep: 28.9 mw				

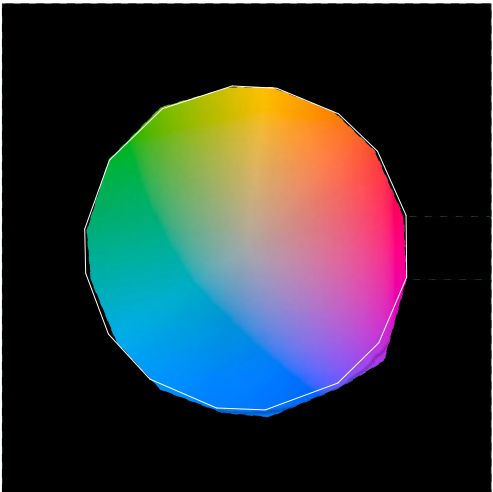
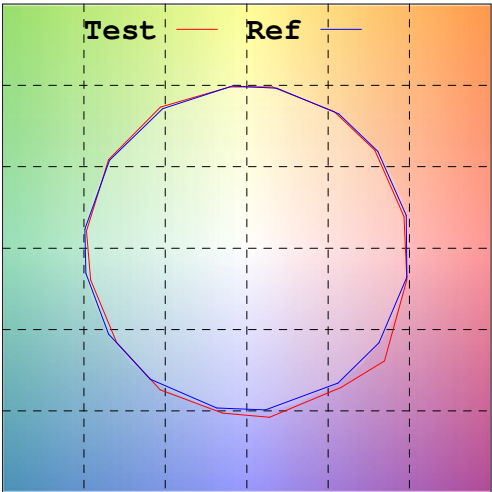
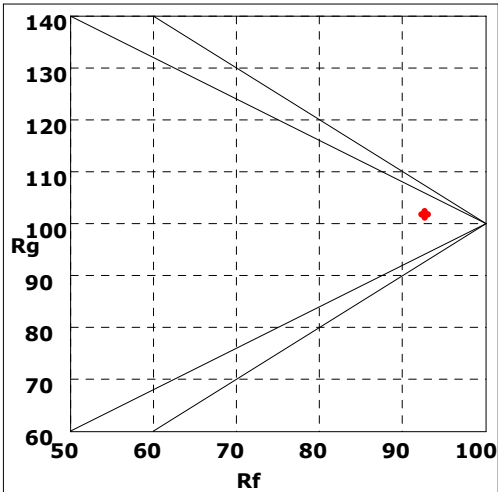
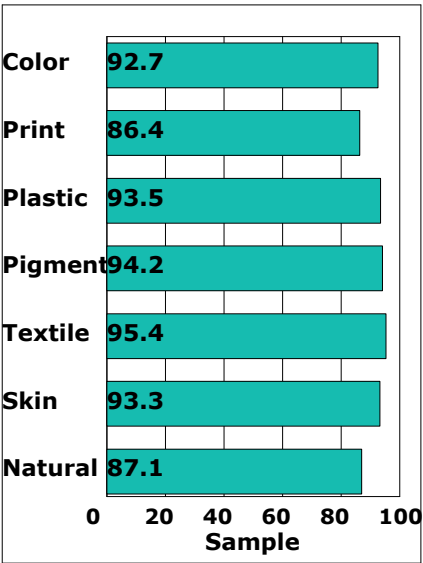
Electrical parameters:

Effic: 26.4 Lm/W	Energy: 28.7	Effi: G	
U: 220.2 V	I: 0.678 A	P: 95.480 W	Pf: 0.638

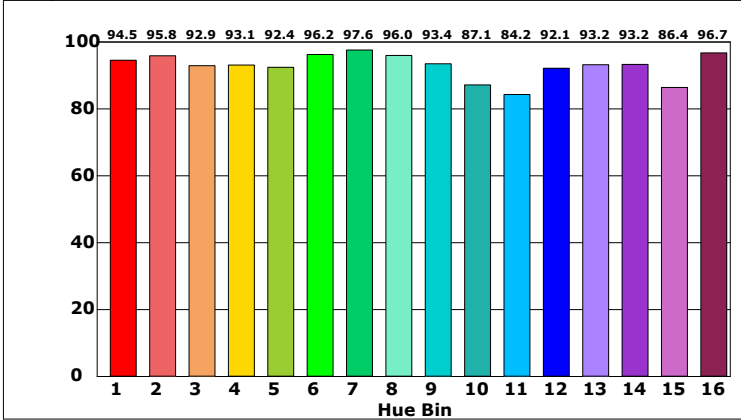
Rf: 92.6 CCT: 6455K u': 0.2015
Rg: 101.8 LER: 267.2 Duv: -0.00103 v': 0.4651



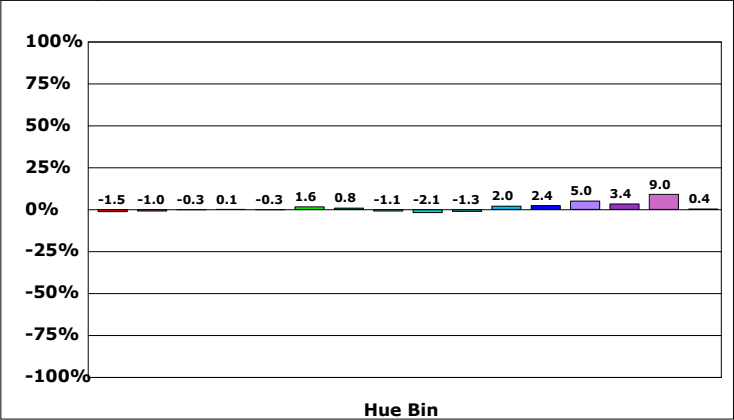
500			
Hue Bin	Rf	Chroma	Hue
1	94.5	-1.5%	-0.5%
2	95.8	-1.0%	1.5%
3	92.9	-0.3%	3.1%
4	93.1	0.1%	2.8%
5	92.4	-0.3%	1.6%
6	96.2	1.6%	0.8%
7	97.6	0.8%	-0.0%
8	96.0	-1.1%	1.1%
9	93.4	-2.1%	4.5%
10	87.1	-1.3%	7.0%
11	84.2	2.0%	8.7%
12	92.1	2.4%	4.2%
13	93.2	5.0%	1.8%
14	93.2	3.4%	-0.1%
15	86.4	9.0%	-7.4%
16	96.7	0.4%	-1.6%



Rf by Bue

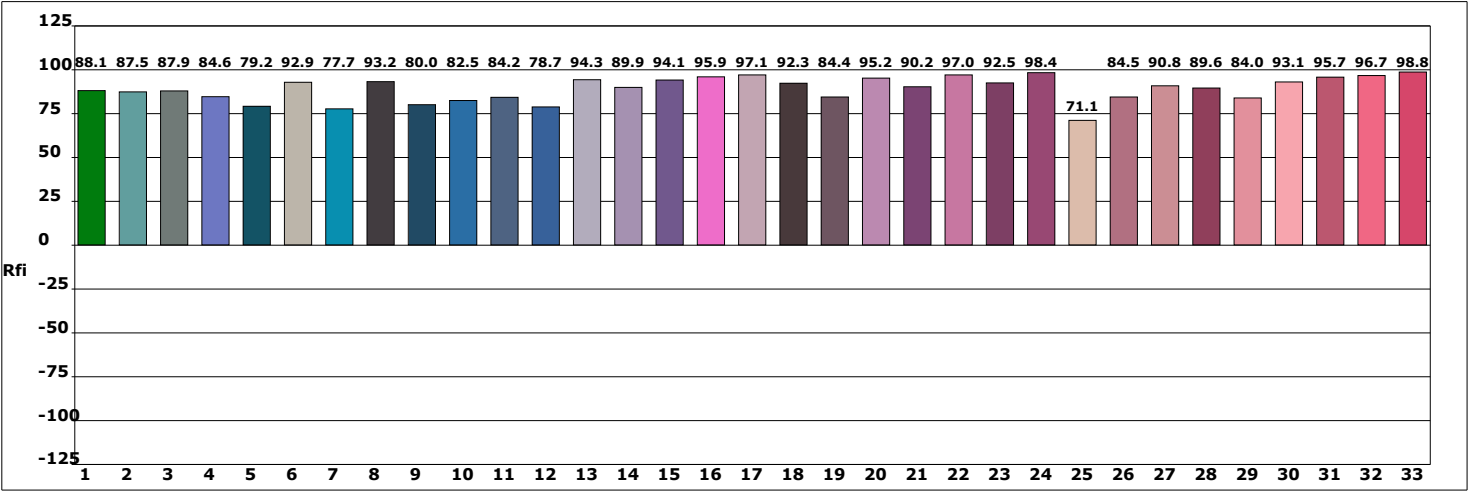
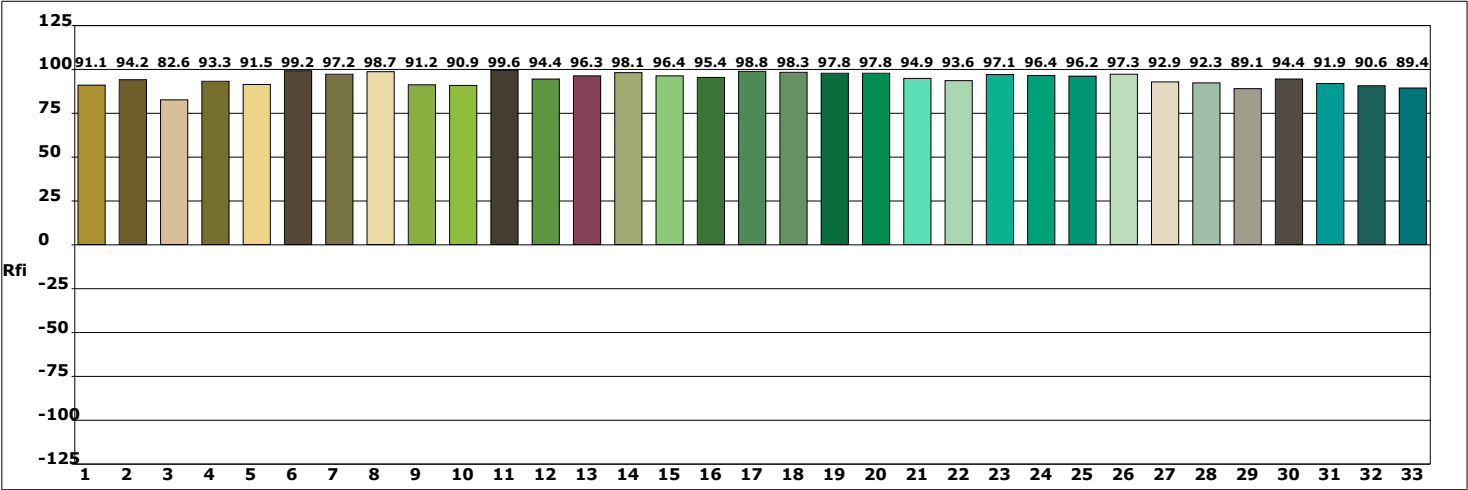
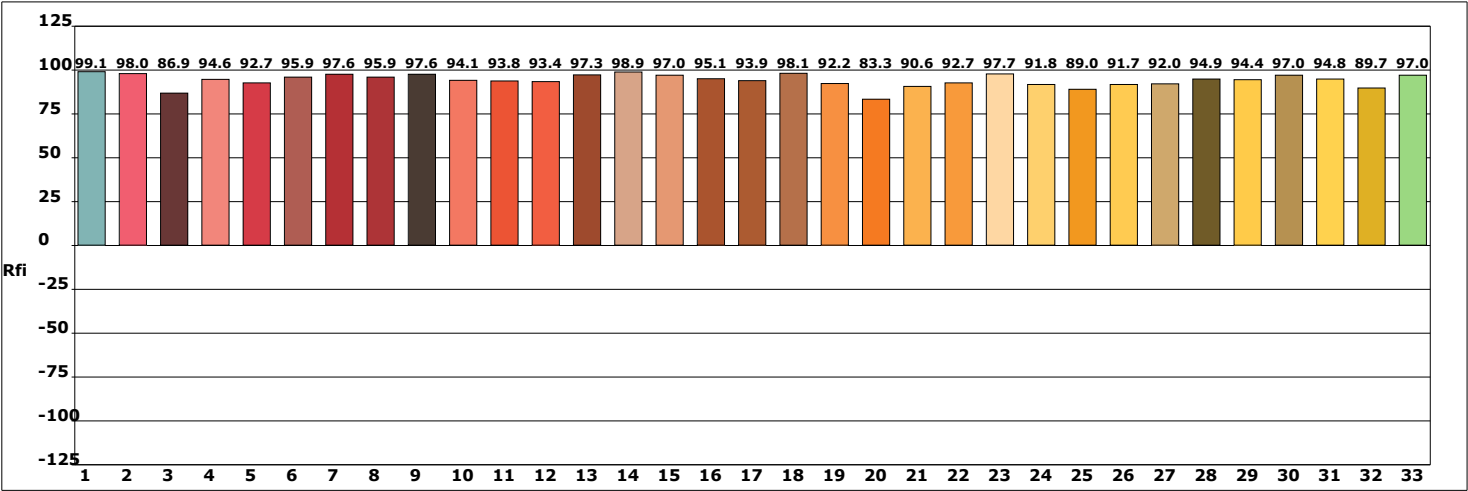


Chroma by Bue



Product model: P19
Product number:
Tester:
Remarks:

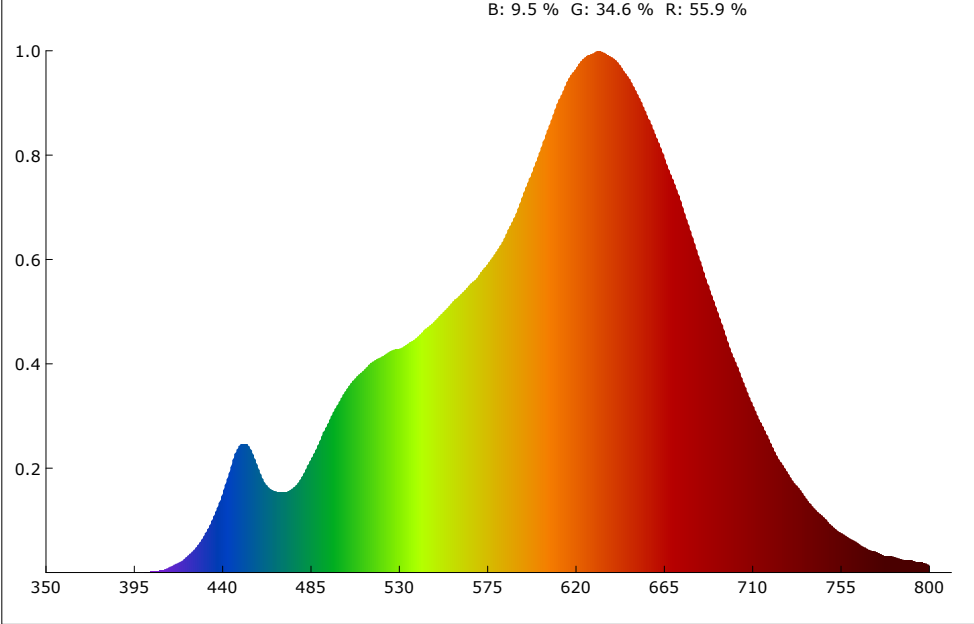
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 12/14/12



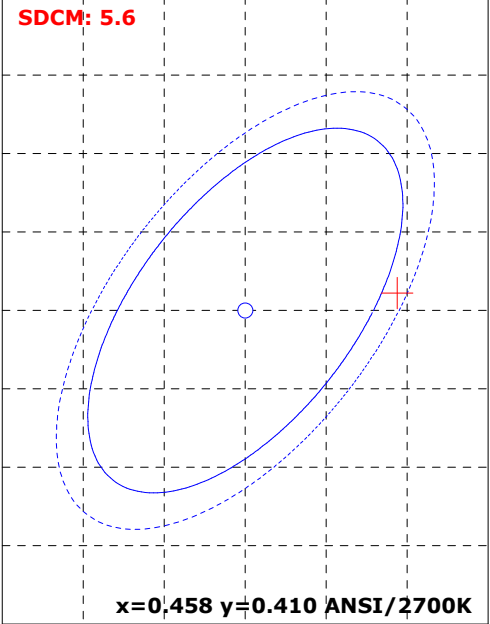
Product model: P19
Product number:
Tester:
Remarks:

Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 12/14/12

Spectrogram



SDCM



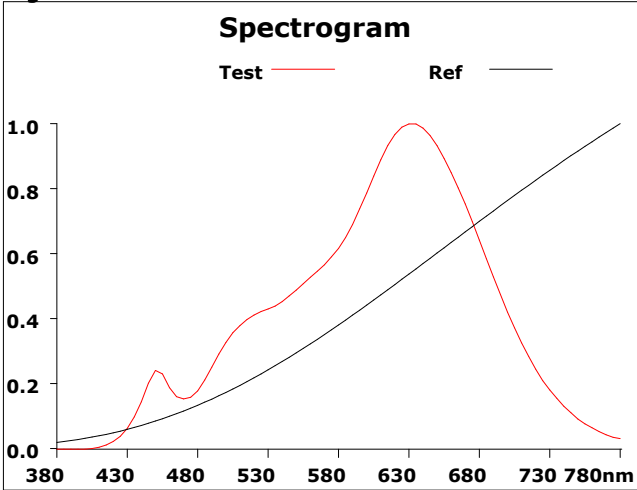
Color Parameter:

x: 0.4672	y: 0.4112	u: 0.2670	v: 0.3525	u': 0.2670	v': 0.5288
R_ratio: 55.9 %	G_ratio: 34.6 %	B_ratio: 9.5 %	RedRatio: 27.5 %	GreenRatio: 71.0 %	BlueRatio: 1.5 %
Ra: 96.5	AvgR: 95.7				
R1: 97.9	R2: 98.5	R3: 99.2	R4: 95.8	R5: 96.6	R6: 93.9
R7: 96.2	R8: 94.2				
R9: 87.7	R10: 96.7	R11: 90.9	R12: 93.0	R13: 97.7	R14: 98.6
R15: 98.0					
CCT: 2604 K	Flux: 1839.611 lm	PeakWave: 631.5 nm	SDCM: 5.6		
S/P: 1.3	CentralWave: 622.4 nm	DominantWave: 584.8 nm	CentroidWave: 608.1 nm		
HalfWidth: 139.0 nm	duv: -0.00030	purity: 63.7 %	CQS: 91.2		
LER(TM-30): 257.8	Ep: 7137.0 mw	Rg: 101.0	Rf: 95.5		
Red Ep: 3656.0 mw	Near red Ep: 572.7 mw	Near infrared Ep: 22.6 mw			

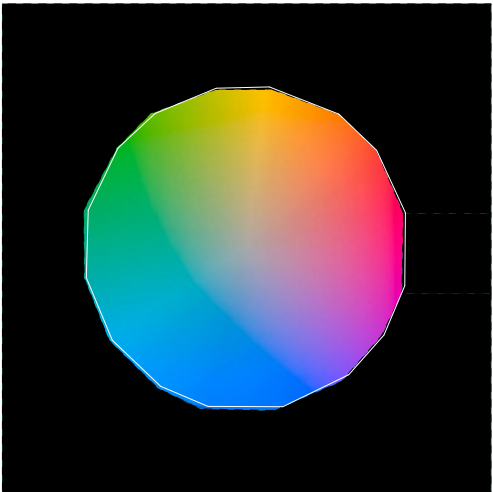
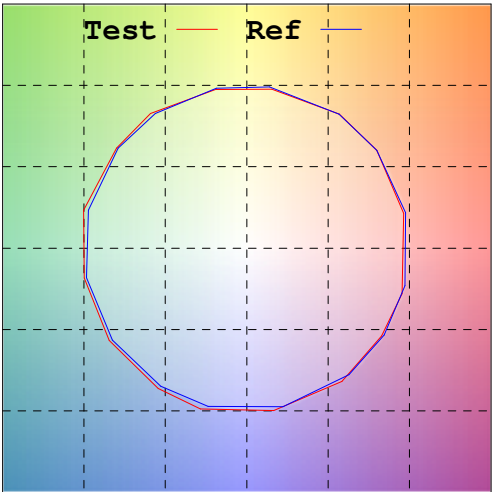
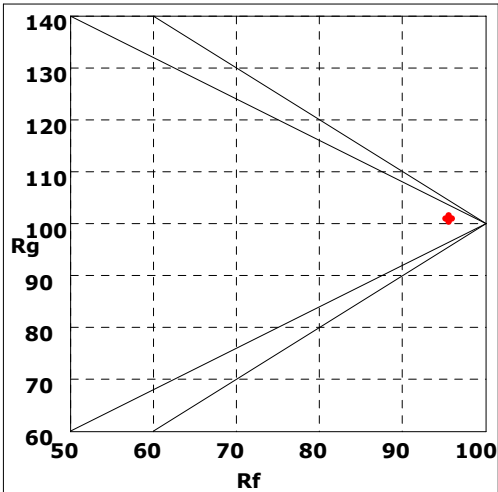
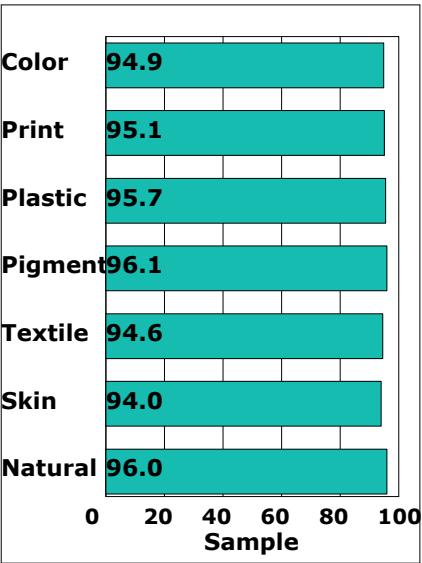
Electrical parameters:

Effic: 20.8 Lm/W	Energy: 22.7	Effi: G	
U: 220.3 V	I: 0.634 A	P: 88.430 W	Pf: 0.632

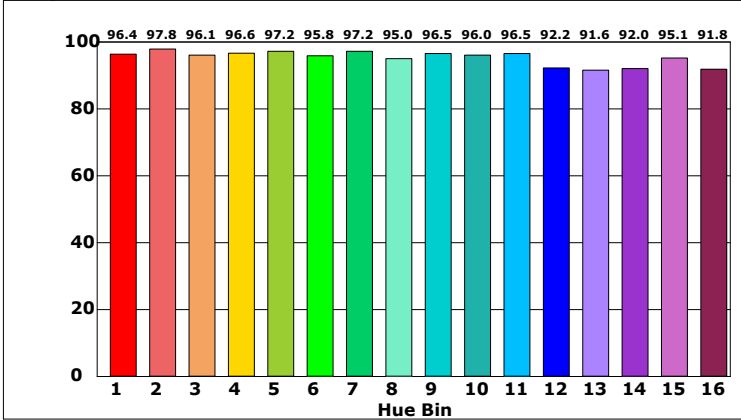
Rf: 95.5 CCT: 2604K u': 0.2670
Rg: 101.0 LER: 257.8 Duv: -0.00030 v': 0.5288



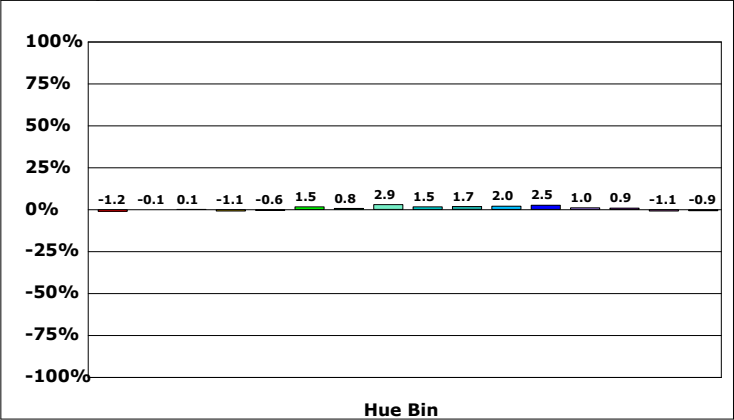
500			
Hue Bin	Rf	Chroma	Hue
1	96.4	-1.2%	-0.1%
2	97.8	-0.1%	-0.1%
3	96.1	0.1%	-0.2%
4	96.6	-1.1%	-1.6%
5	97.2	-0.6%	0.7%
6	95.8	1.5%	2.3%
7	97.2	0.8%	0.6%
8	95.0	2.9%	0.5%
9	96.5	1.5%	-0.1%
10	96.0	1.7%	-0.9%
11	96.5	2.0%	-0.5%
12	92.2	2.5%	-4.3%
13	91.6	1.0%	-6.0%
14	92.0	0.9%	-5.8%
15	95.1	-1.1%	-1.5%
16	91.8	-0.9%	-5.3%



Rf by Bue

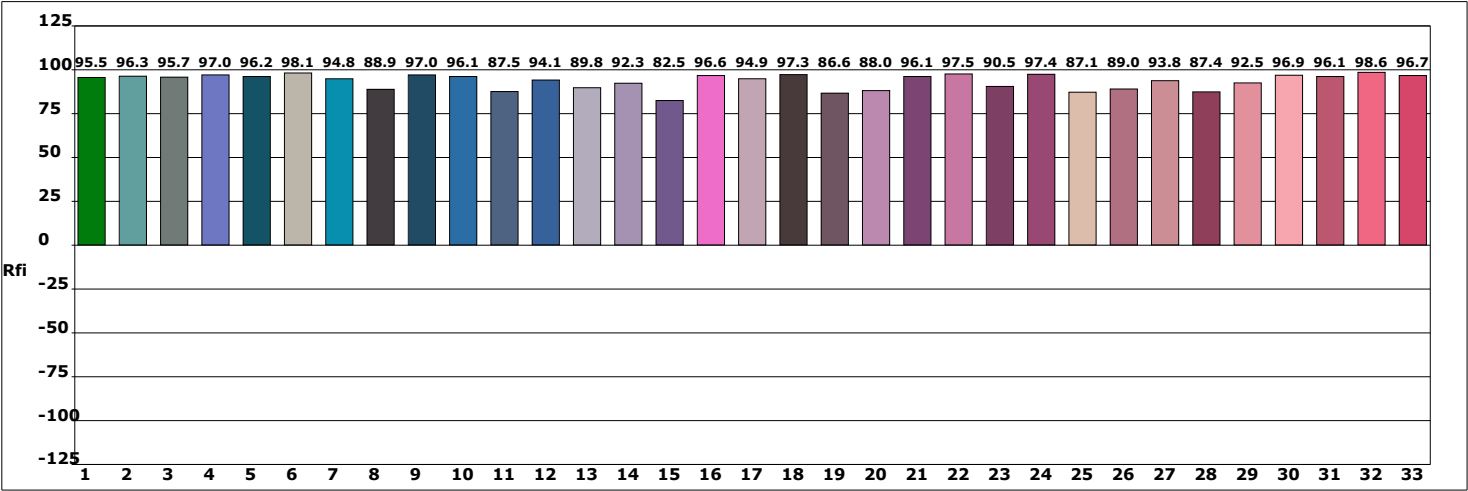
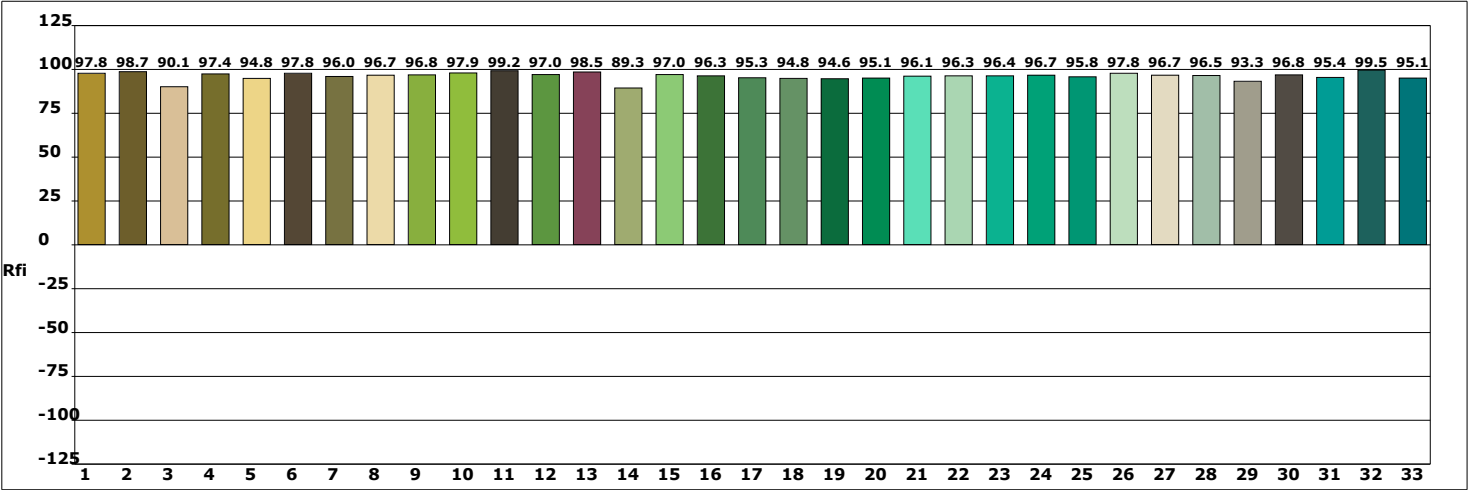
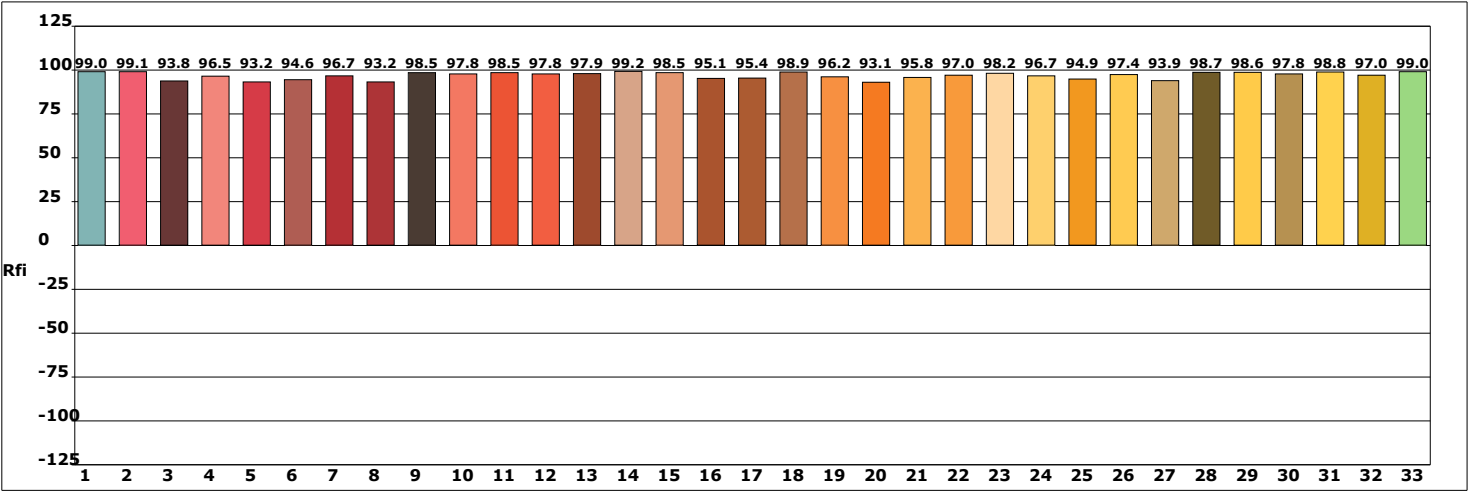


Chroma by Bue

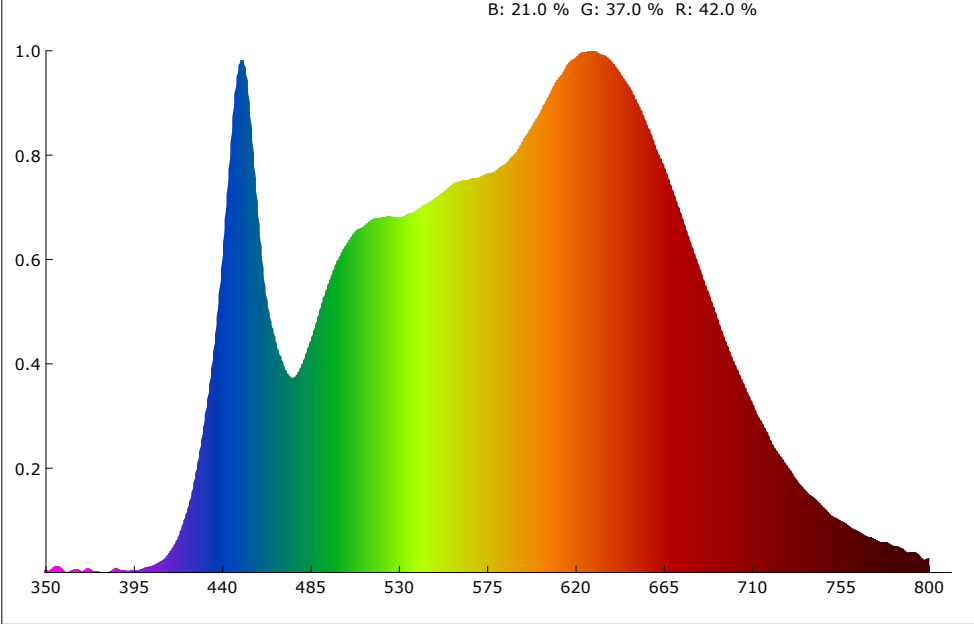


Product model: P19
Product number:
Tester:
Remarks:

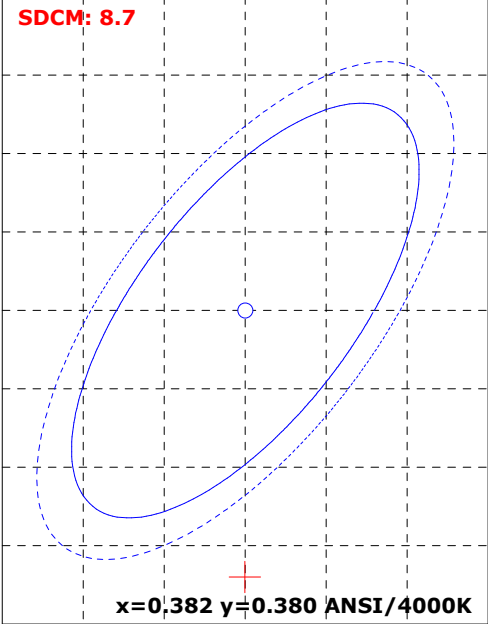
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 12/14/12



Spectrogram



SDCM



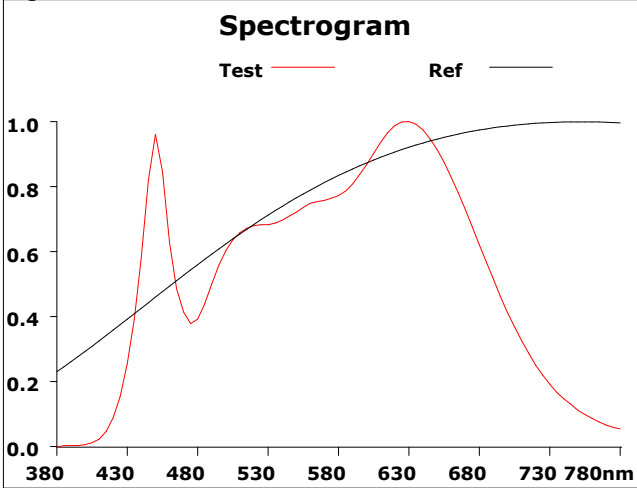
Color Parameter:

x: 0.3818	y: 0.3627	u: 0.2318	v: 0.3303	u': 0.2318	v': 0.4955		
R_ratio: 42.0 %	G_ratio: 37.0 %	B_ratio: 21.0 %	RedRatio: 21.3 %	GreenRatio: 75.8 %	BlueRatio: 2.9 %		
Ra: 95.5	AvgR: 94.3						
R1: 94.3	R2: 96.7	R3: 97.2	R4: 93.2	R5: 94.7	R6: 94.5	R7: 97.8	R8: 96.1
R9: 90.1	R10: 94.4	R11: 89.8	R12: 89.7	R13: 94.6	R14: 97.7	R15: 93.6	
CCT: 3851 K	Flux: 1839.118 lm		PeakWave: 626.6 nm		SDCM: 8.7		
S/P: 1.8	CentralWave: 589.6 nm		DominantWave: 584.3 nm		CentroidWave: 582.4 nm		
HalfWidth: 201.2 nm	duv: -0.00712		purity: 23.4 %		CQS: 88.5		
LER(TM-30): 260.1	Ep: 7070.7 mw		Rg: 104.5		Rf: 94.4		
Red Ep: 2755.3 mw	Near red Ep: 469.9 mw		Near infrared Ep: 28.8 mw				

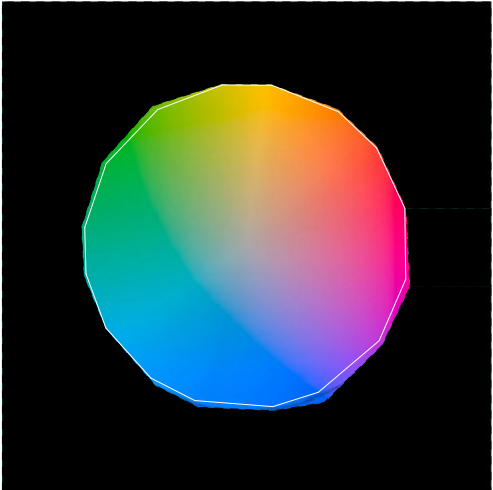
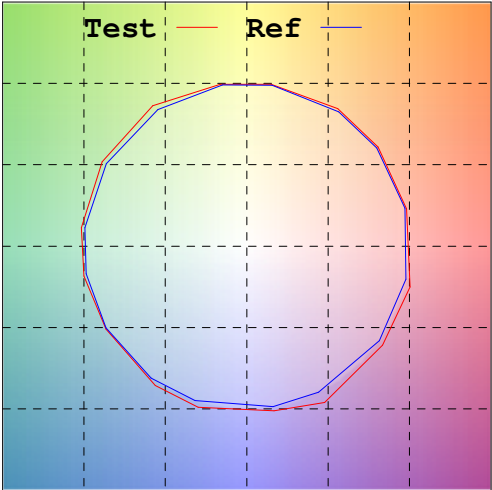
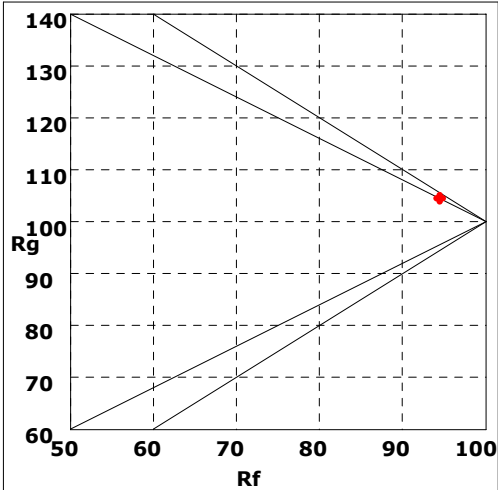
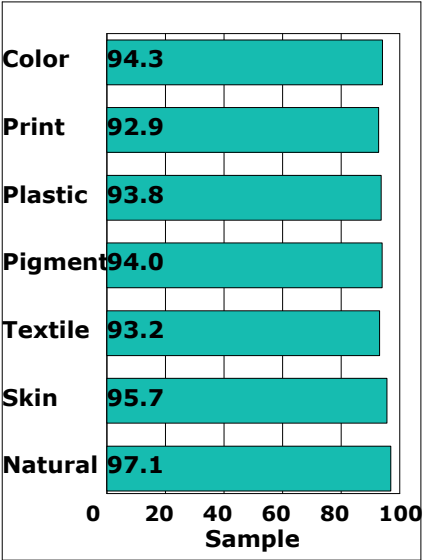
Electrical parameters:

Effic: 25.4 Lm/W	Energy: 27.6	Effi: G	
U: 220.1 V	I: 0.531 A	P: 72.540 W	Pf: 0.620

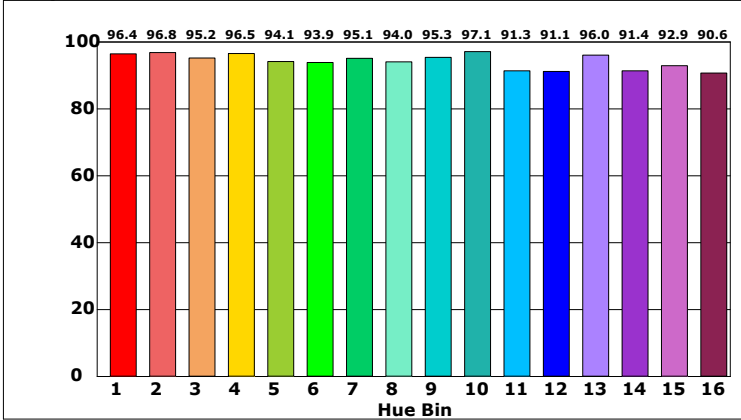
Rf: 94.4 CCT: 3851K u': 0.2318
Rg: 104.5 LER: 260.1 Duv: -0.00712 v': 0.4955



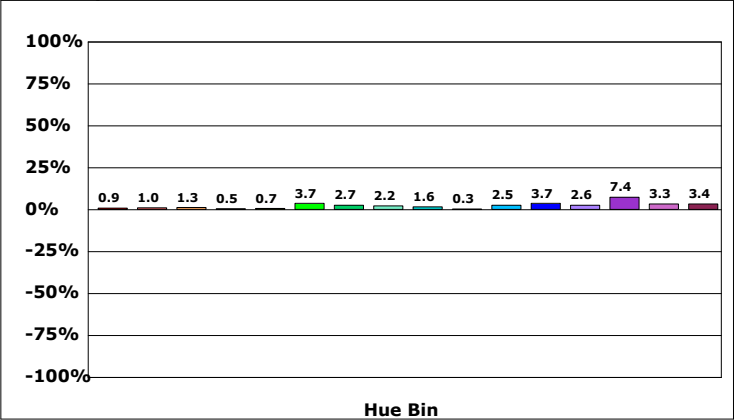
500			
Hue Bin	Rf	Chroma	Hue
1	96.4	0.9%	-0.4%
2	96.8	1.0%	0.1%
3	95.2	1.3%	1.7%
4	96.5	0.5%	0.8%
5	94.1	0.7%	1.3%
6	93.9	3.7%	1.3%
7	95.1	2.7%	0.4%
8	94.0	2.2%	0.5%
9	95.3	1.6%	1.1%
10	97.1	0.3%	0.7%
11	91.3	2.5%	4.6%
12	91.1	3.7%	2.7%
13	96.0	2.6%	0.1%
14	91.4	7.4%	-0.5%
15	92.9	3.3%	-1.2%
16	90.6	3.4%	-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: 12/14/12

