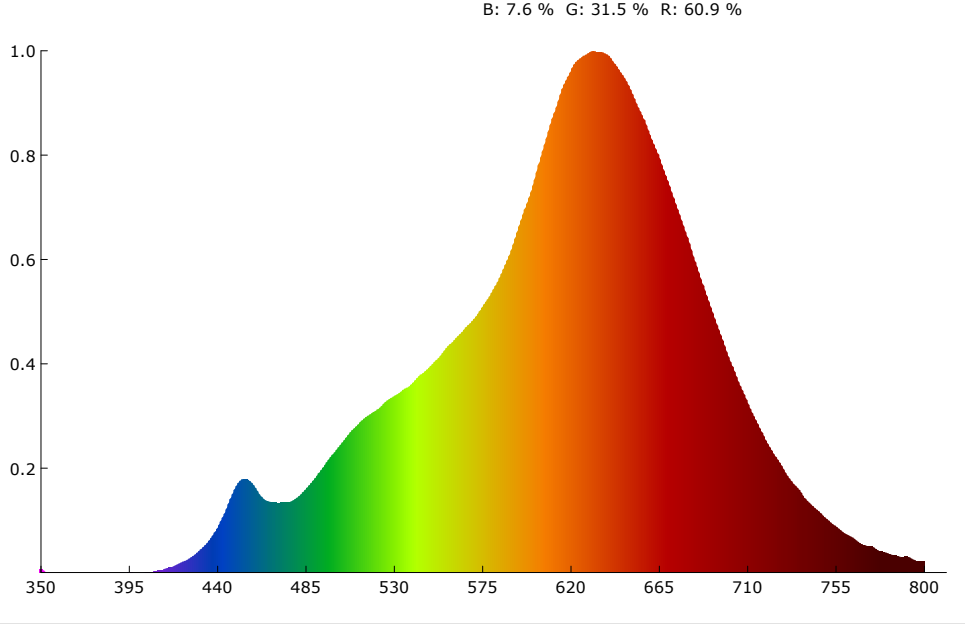
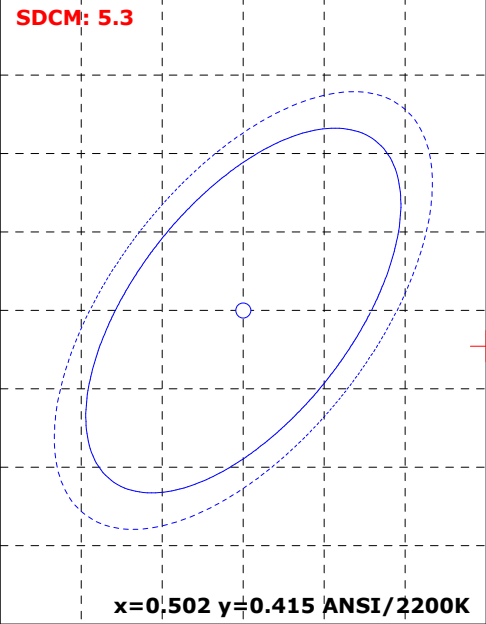


Spectrogram



SDCM



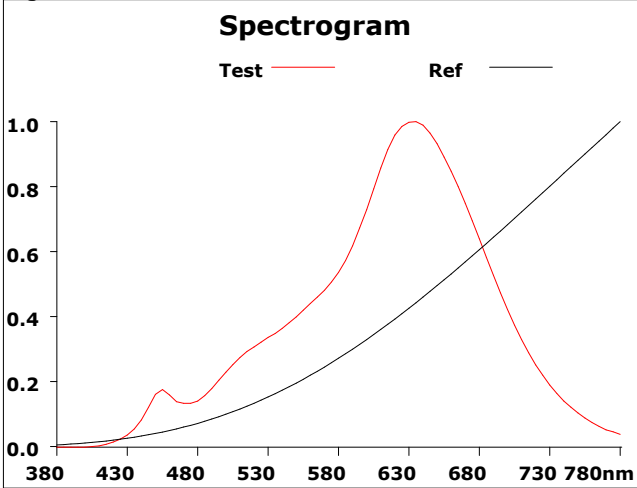
Color Parameter:

x: 0.4916	y: 0.4078	u: 0.2846	v: 0.3541	u': 0.2846	v': 0.5311		
R_ratio: 60.9 %	G_ratio: 31.5 %	B_ratio: 7.6 %	RedRatio: 31.0 %	GreenRatio: 67.7 %	BlueRatio: 1.3 %		
Ra: 94.8	AvgR: 93.8						
R1: 97.2	R2: 96.8	R3: 98.2	R4: 95.9	R5: 95.2	R6: 90.2	R7: 93.6	R8: 91.8
R9: 85.1	R10: 93.8	R11: 90.3	R12: 85.4	R13: 96.4	R14: 98.8	R15: 97.9	
CCT: 2290 K	Flux: 10370.487 lm		PeakWave: 631.5 nm		SDCM: 5.3		
S/P: 1.1	CentralWave: 632.9 nm		DominantWave: 587.4 nm		CentroidWave: 616.2 nm		
HalfWidth: 117.7 nm	duv: -0.00238		purity: 70.0 %		CQS: 84.0		
LER(TM-30): 243.5	Ep: 42593.7 mw		Rg: 102.6		Rf: 94.2		
Red Ep: 23451.4 mw	Near red Ep: 3903.0 mw		Near infrared Ep: 182.1 mw				

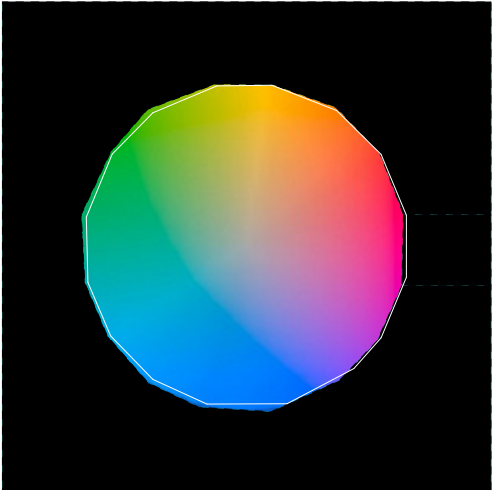
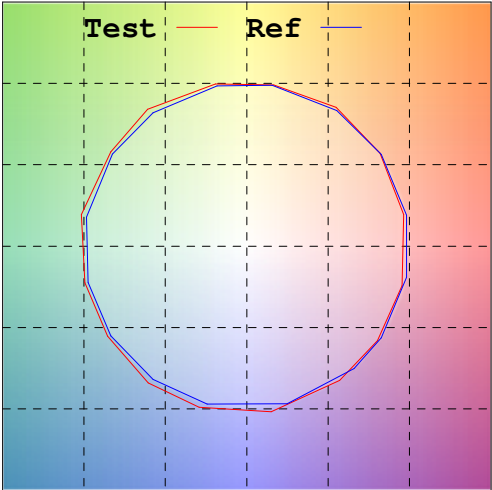
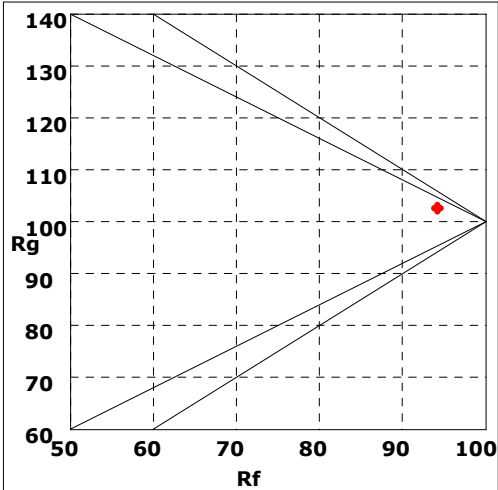
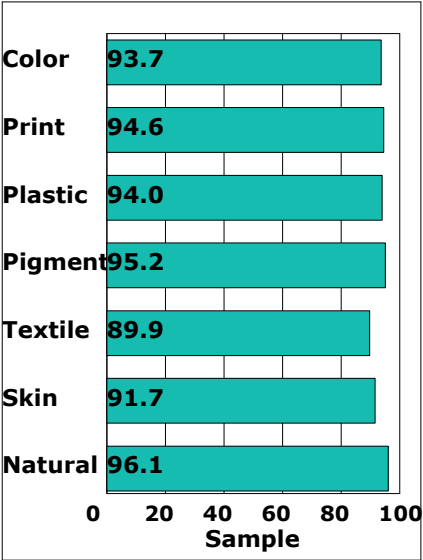
Electrical parameters:

Effic: 27.9 Lm/W	Energy: 30.4	Effi: G	
U: 220.9 V	I: 1.703 A	P: 372.100 W	Pf: 0.988

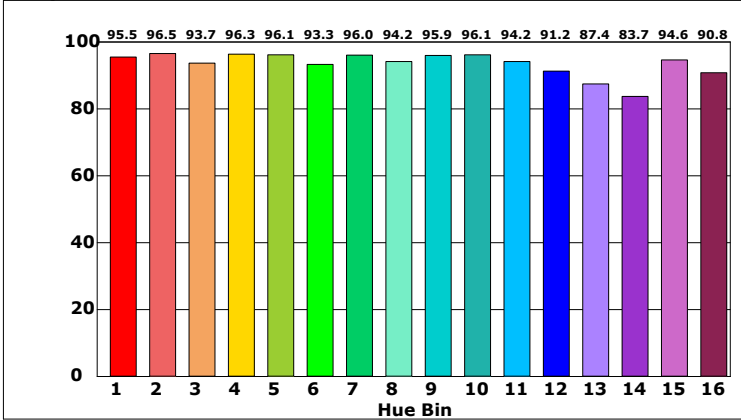
Rf: 94.2 CCT: 2290K u': 0.2846
Rg: 102.6 LER: 243.5 Duv: -0.00238 v': 0.5311



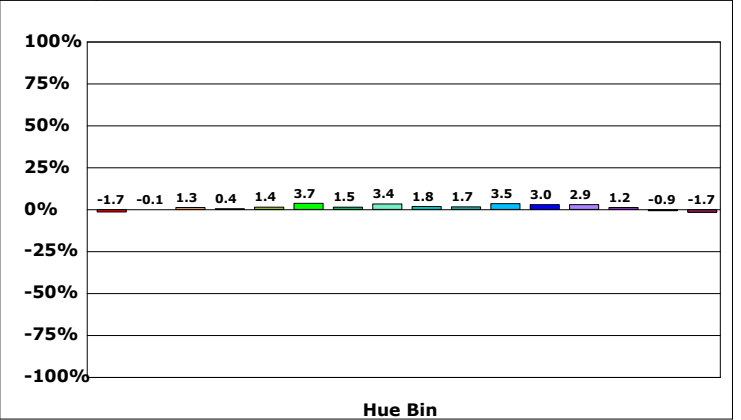
500			
Hue Bin	Rf	Chroma	Hue
1	95.5	-1.7%	0.6%
2	96.5	-0.1%	1.0%
3	93.7	1.3%	1.4%
4	96.3	0.4%	-1.0%
5	96.1	1.4%	0.9%
6	93.3	3.7%	1.7%
7	96.0	1.5%	-0.7%
8	94.2	3.4%	-0.9%
9	95.9	1.8%	-0.1%
10	96.1	1.7%	-0.8%
11	94.2	3.5%	-1.2%
12	91.2	3.0%	-4.4%
13	87.4	2.9%	-10.7%
14	83.7	1.2%	-11.4%
15	94.6	-0.9%	-2.8%
16	90.8	-1.7%	-5.6%



Rf by Bue

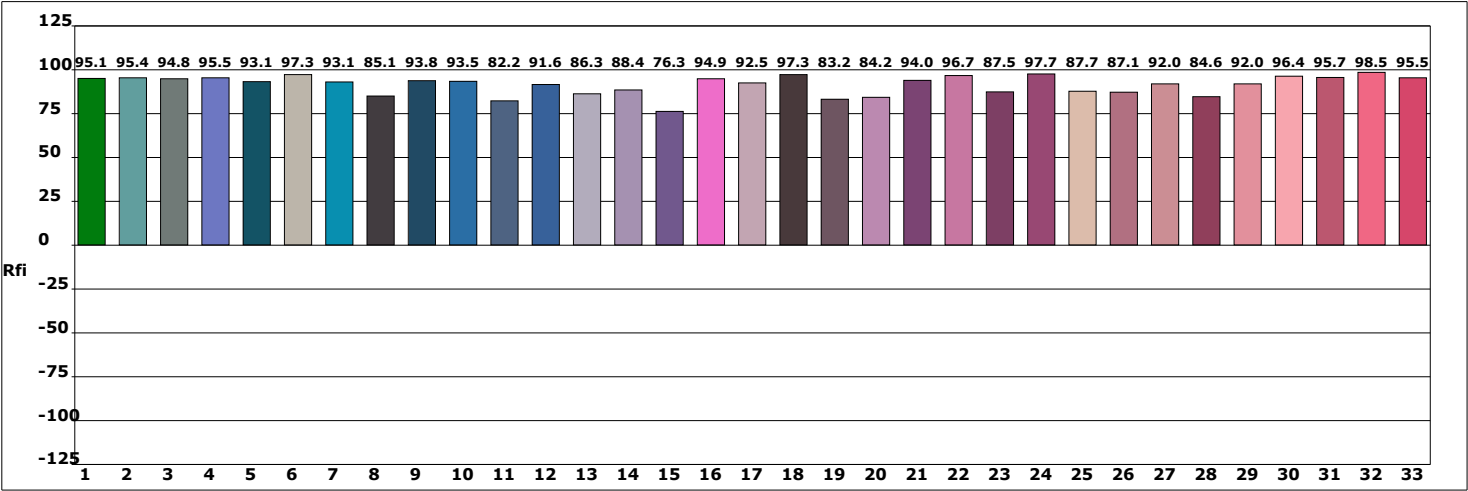
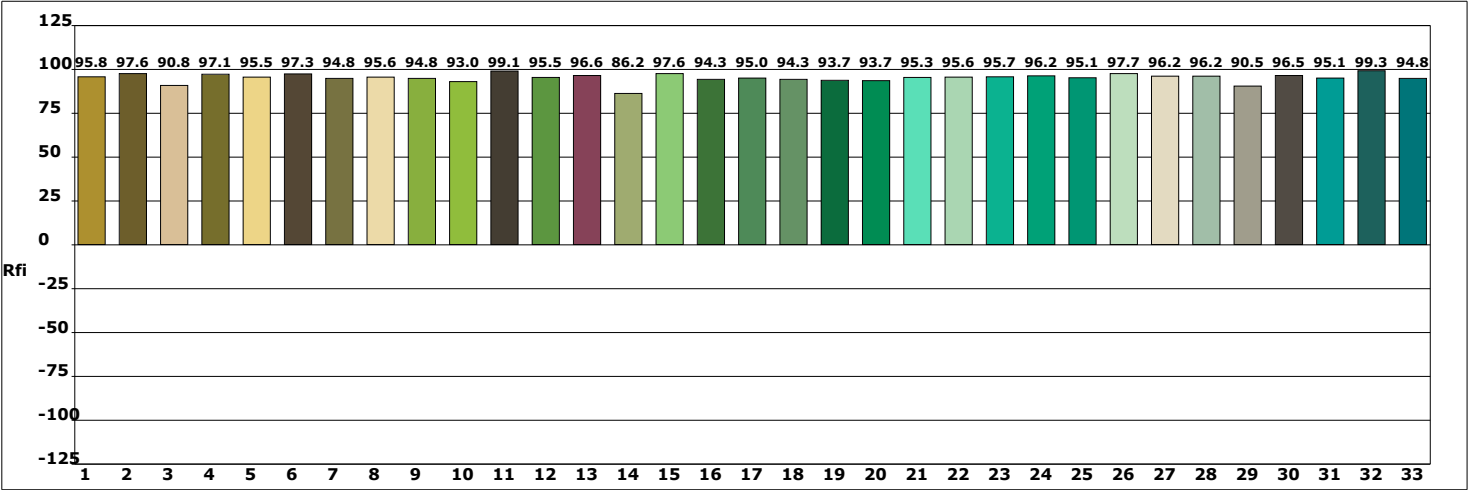
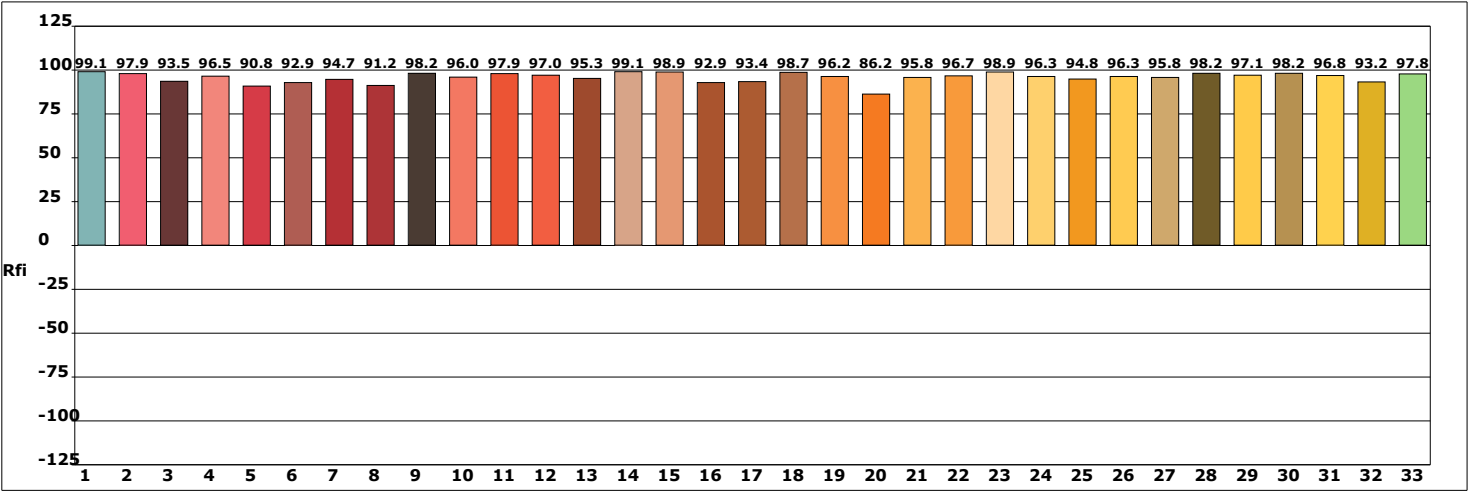


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

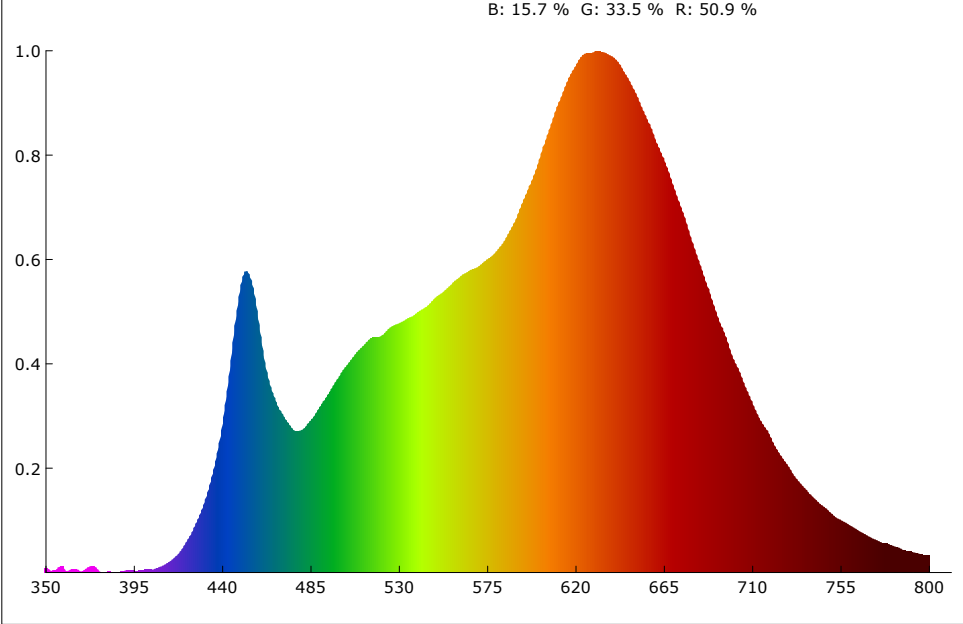
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 07/16/14



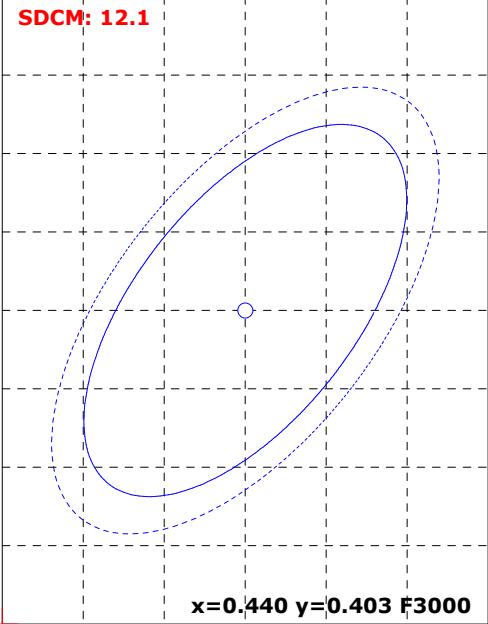
Product model:
Product number:
Tester:
Remarks:

Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 07/16/14

Spectrogram



SDCM



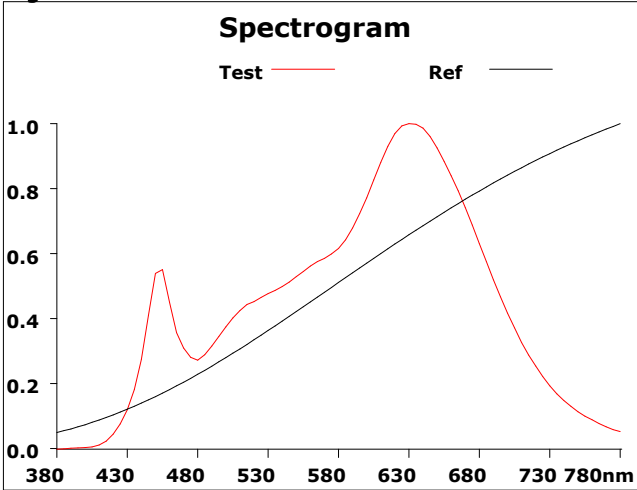
Color Parameter:

x: 0.4246	y: 0.3743	u: 0.2557	v: 0.3381	u': 0.2557	v': 0.5071
R_ratio: 50.9 %	G_ratio: 33.5 %	B_ratio: 15.7 %	RedRatio: 26.1 %	GreenRatio: 71.5 %	BlueRatio: 2.4 %
Ra: 92.6	AvgR: 90.8				
R1: 91.1	R2: 92.5	R3: 96.9	R4: 91.6	R5: 89.7	R6: 86.9
R7: 95.8	R8: 96.7	R9: 88.1	R10: 85.5	R11: 87.0	R12: 80.1
R13: 90.4	R14: 98.7	R15: 91.2			
CCT: 2961 K	Flux: 11010.294 lm	PeakWave: 630.5 nm	SDCM: 12.1		
S/P: 1.5	CentralWave: 616.4 nm	DominantWave: 587.9 nm	CentroidWave: 598.1 nm		
HalfWidth: 148.8 nm	duv: -0.01069	purity: 39.8 %	CQS: 87.0		
LER(TM-30): 246.9	Ep: 44599.7 mw	Rg: 106.2	Rf: 93.4		
Red Ep: 20715.9 mw	Near red Ep: 3582.2 mw	Near infrared Ep: 224.9 mw			

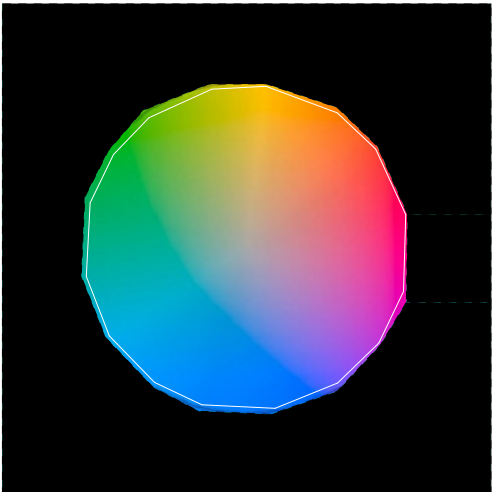
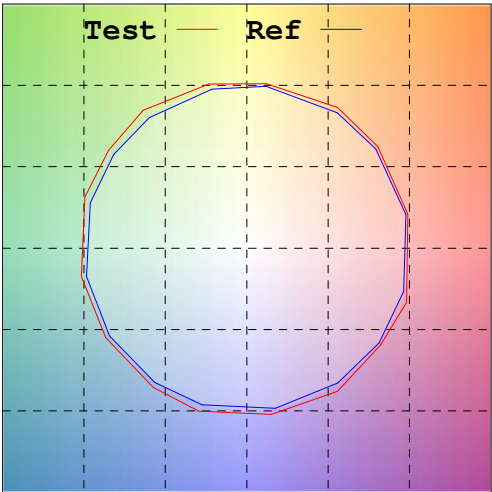
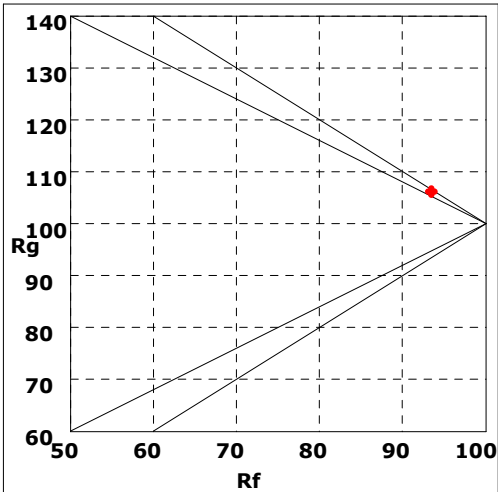
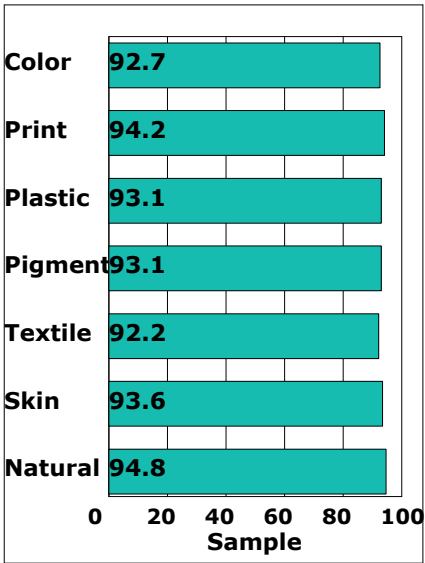
Electrical parameters:

Effic: 31.2 Lm/W	Energy: 34.0	Effi: G	
U: 221.2 V	I: 1.613 A	P: 352.400 W	Pf: 0.987

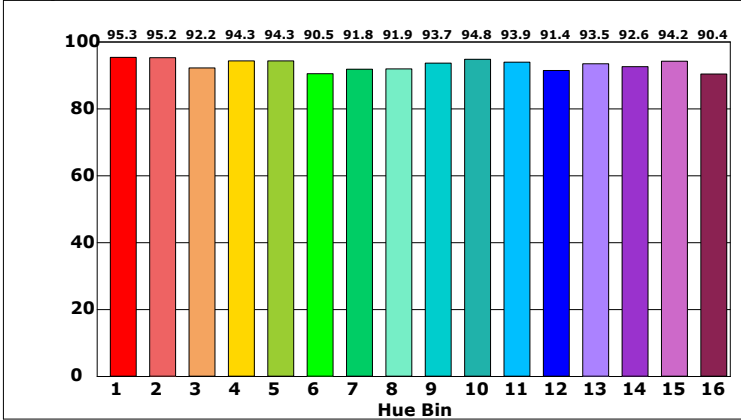
Rf: 93.4 CCT: 2961K u': 0.2557
Rg: 106.2 LER: 246.9 Duv: -0.01069 v': 0.5071



500			
Hue Bin	Rf	Chroma	Hue
1	95.3	1.1%	0.1%
2	95.2	1.8%	0.7%
3	92.2	2.8%	1.9%
4	94.3	1.7%	0.1%
5	94.3	3.3%	1.3%
6	90.5	5.8%	0.6%
7	91.8	3.9%	-0.4%
8	91.9	3.9%	-2.7%
9	93.7	3.0%	-0.6%
10	94.8	2.5%	-0.6%
11	93.9	3.1%	1.1%
12	91.4	4.4%	-1.1%
13	93.5	3.2%	-3.1%
14	92.6	4.2%	-2.8%
15	94.2	1.4%	-0.5%
16	90.4	3.1%	-6.2%



Rf by Bue

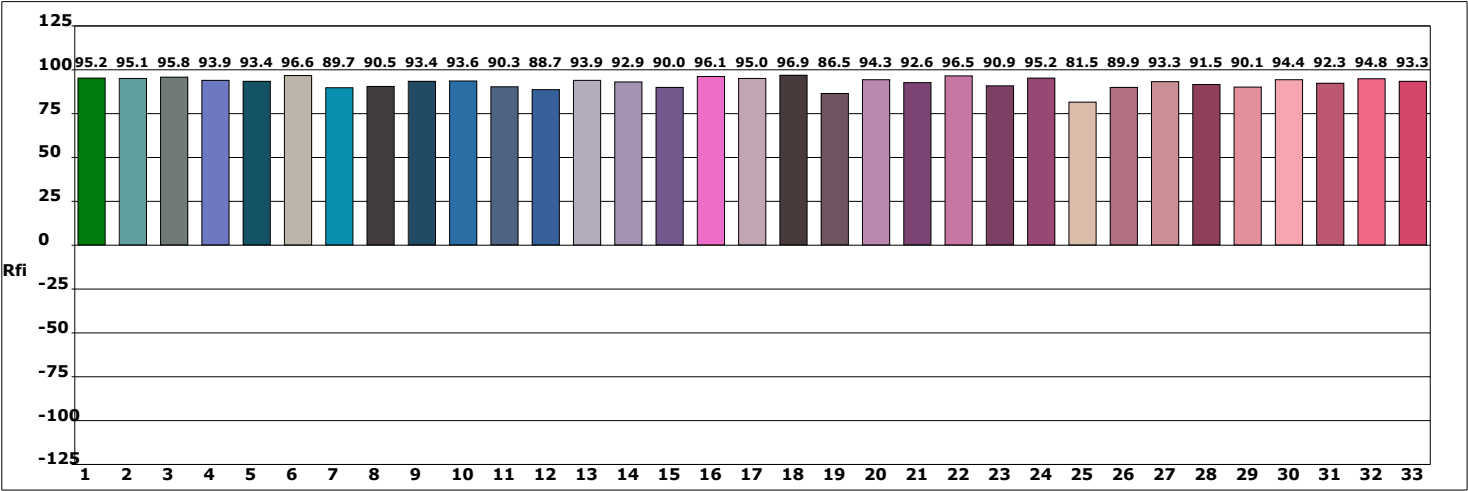
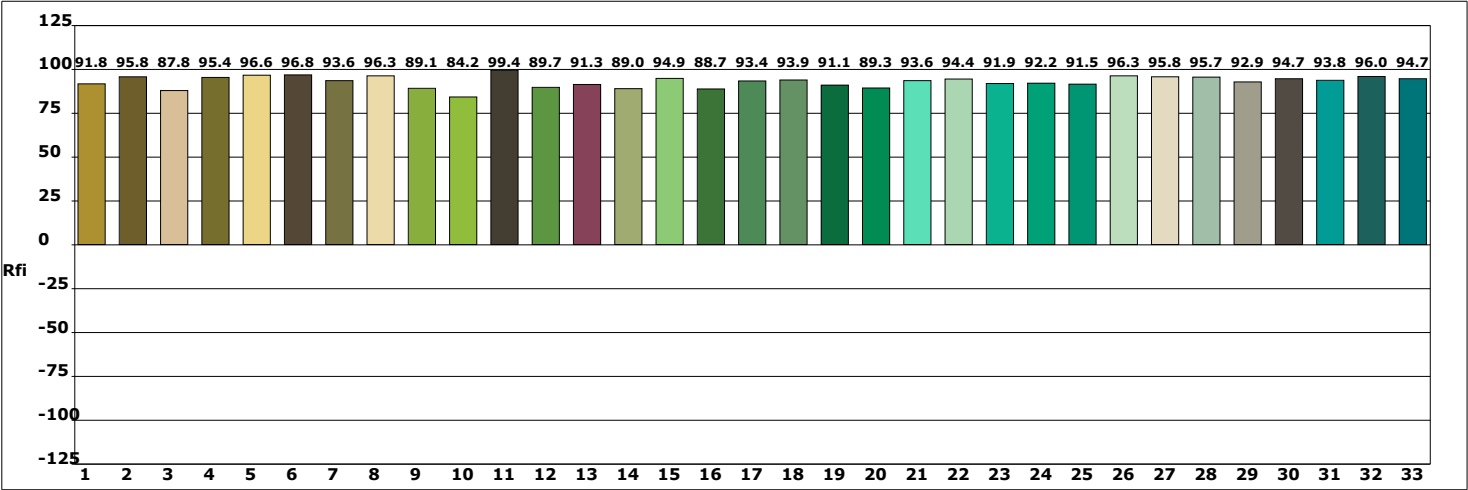
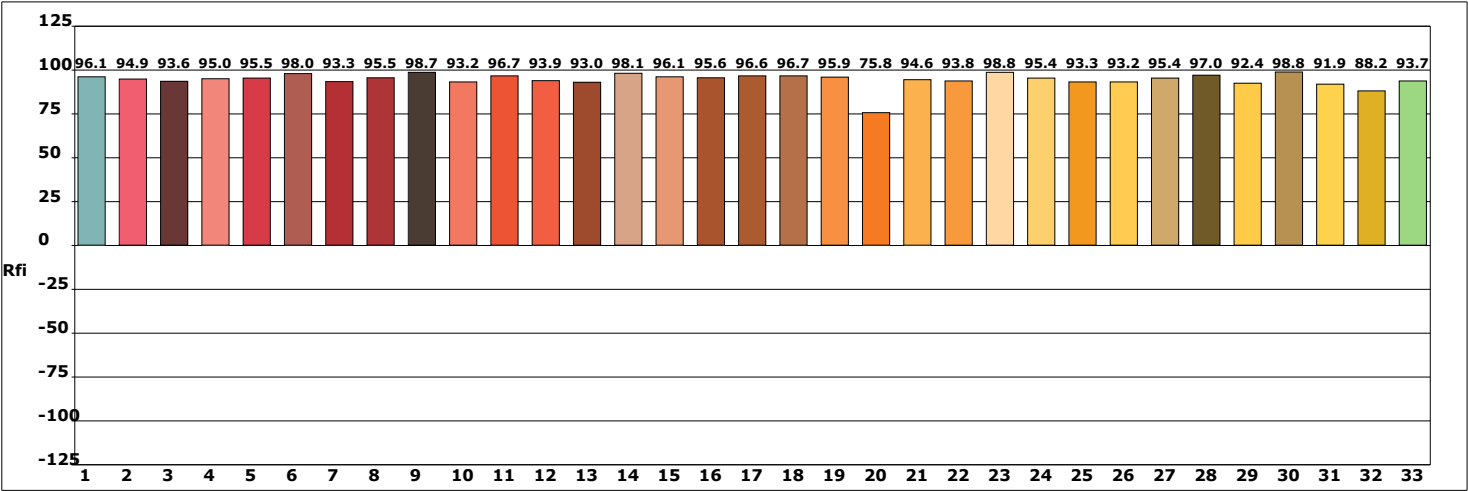


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

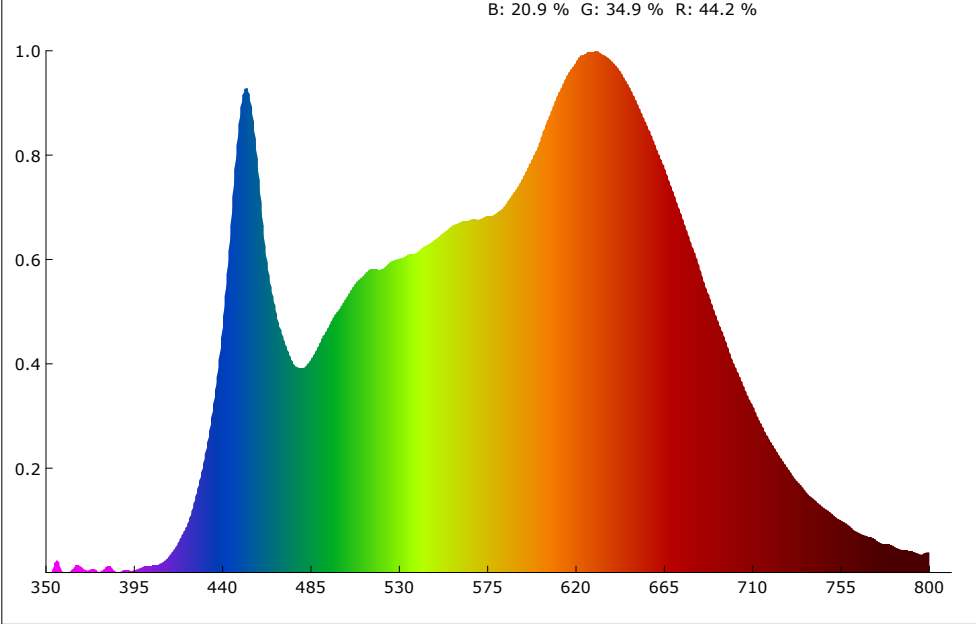
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 07/16/14



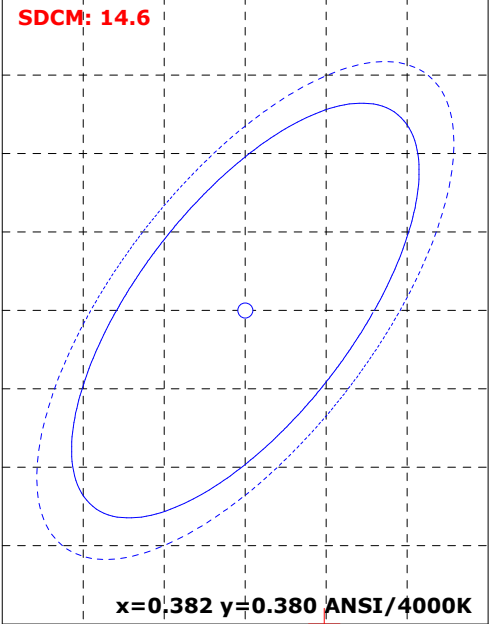
Product model:
Product number:
Tester:
Remarks:

Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 07/16/14

Spectrogram



SDCM



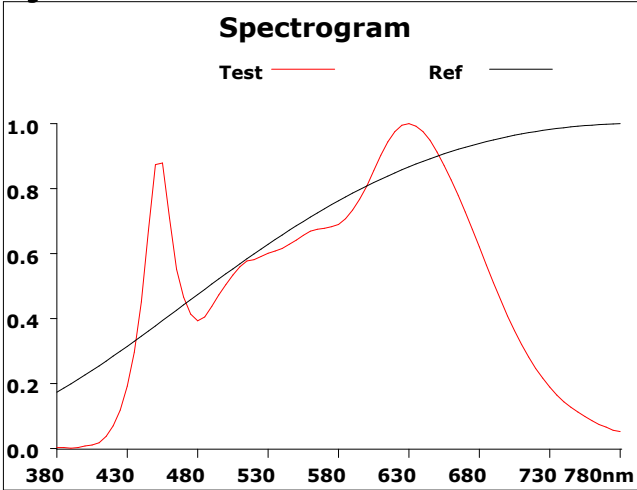
Color Parameter:

x: 0.3867	y: 0.3554	u: 0.2383	v: 0.3285	u': 0.2383	v': 0.4927
R_ratio: 44.2 %	G_ratio: 34.9 %	B_ratio: 20.9 %	RedRatio: 22.9 %	GreenRatio: 73.9 %	BlueRatio: 3.2 %
Ra: 92.3	AvgR: 89.7				
R1: 89.3	R2: 92.3	R3: 97.7	R4: 91.2	R5: 89.5	R6: 88.7
R7: 98.2	R8: 91.7	R9: 76.1	R10: 85.8	R11: 87.3	R12: 82.8
R13: 89.3	R14: 98.2	R15: 87.3			
CCT: 3643 K	Flux: 11833.774 lm	PeakWave: 630.5 nm	SDCM: 14.6		
S/P: 1.8	CentralWave: 594.2 nm	DominantWave: 588.9 nm	CentroidWave: 585.5 nm		
HalfWidth: 190.5 nm	duv: -0.01205	purity: 22.7 %	CQS: 85.5		
LER(TM-30): 250.9	Ep: 47168.5 mw	Rg: 105.5	Rf: 93.4		
Red Ep: 19291.7 mw	Near red Ep: 3276.5 mw	Near infrared Ep: 212.0 mw			

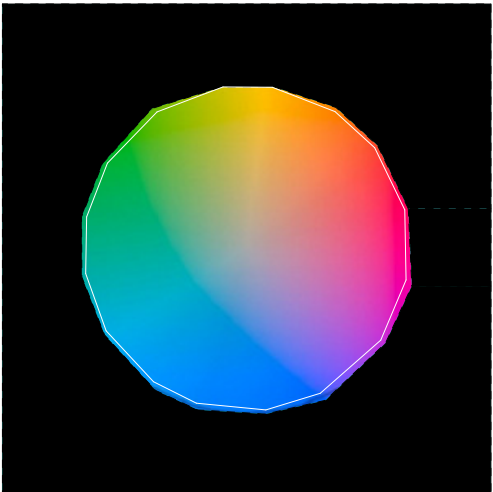
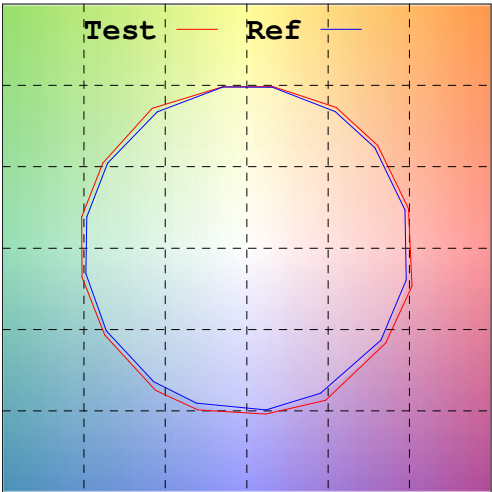
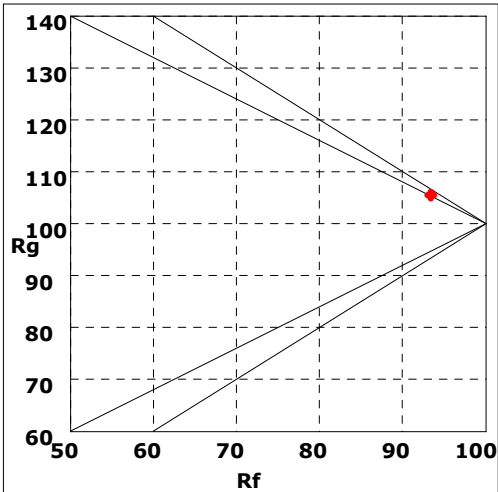
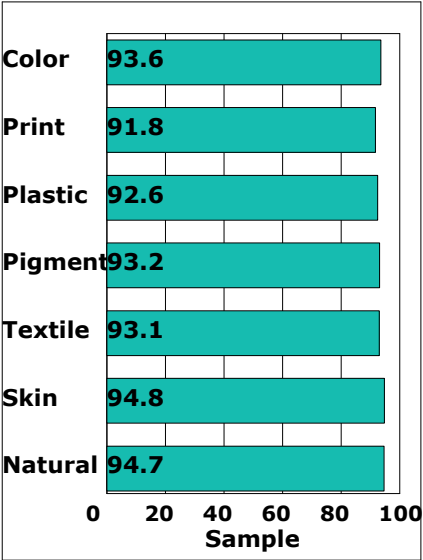
Electrical parameters:

Effic: 33.1 Lm/W	Energy: 36.1	Effi: G	
U: 221.3 V	I: 1.634 A	P: 357.100 W	Pf: 0.987

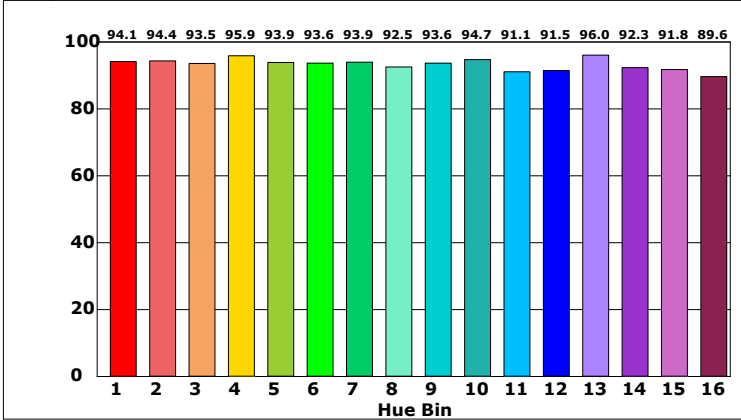
Rf: 93.4 CCT: 3643K u': 0.2383
Rg: 105.5 LER: 250.9 Duv: -0.01205 v': 0.4927



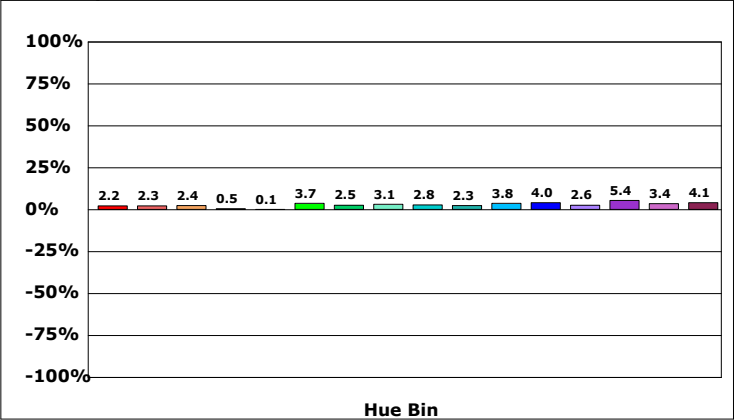
500			
Hue Bin	Rf	Chroma	Hue
1	94.1	2.2%	0.4%
2	94.4	2.3%	0.0%
3	93.5	2.4%	1.0%
4	95.9	0.5%	-0.3%
5	93.9	0.1%	0.5%
6	93.6	3.7%	1.5%
7	93.9	2.5%	1.5%
8	92.5	3.1%	0.7%
9	93.6	2.8%	1.6%
10	94.7	2.3%	1.6%
11	91.1	3.8%	3.9%
12	91.5	4.0%	1.5%
13	96.0	2.6%	-0.7%
14	92.3	5.4%	0.3%
15	91.8	3.4%	0.2%
16	89.6	4.1%	-2.9%



Rf by Bue

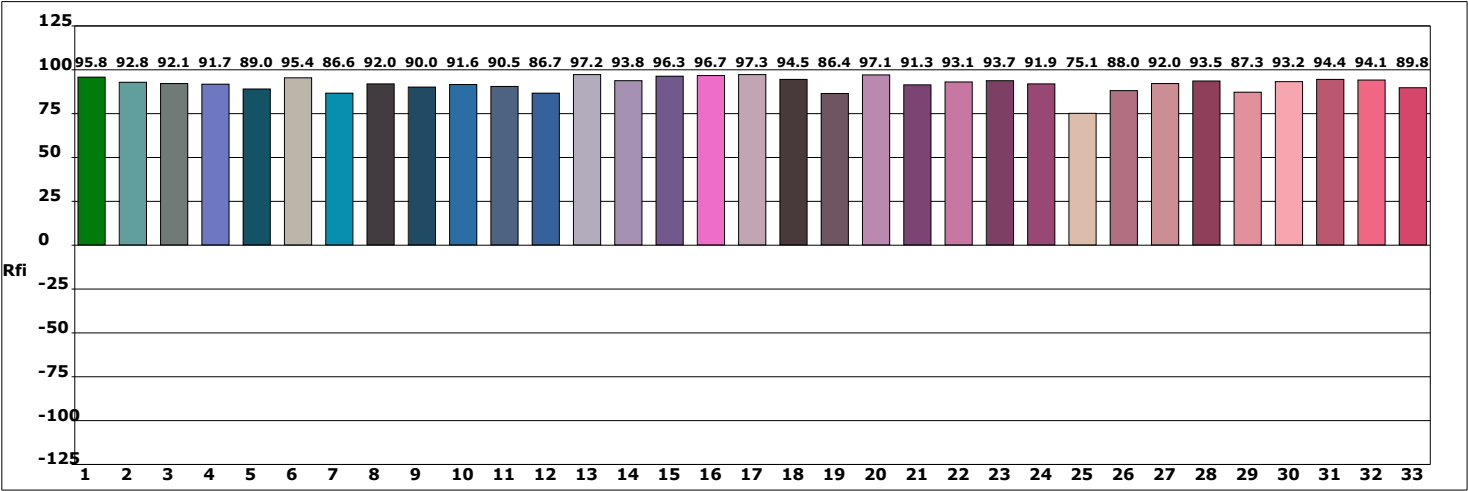
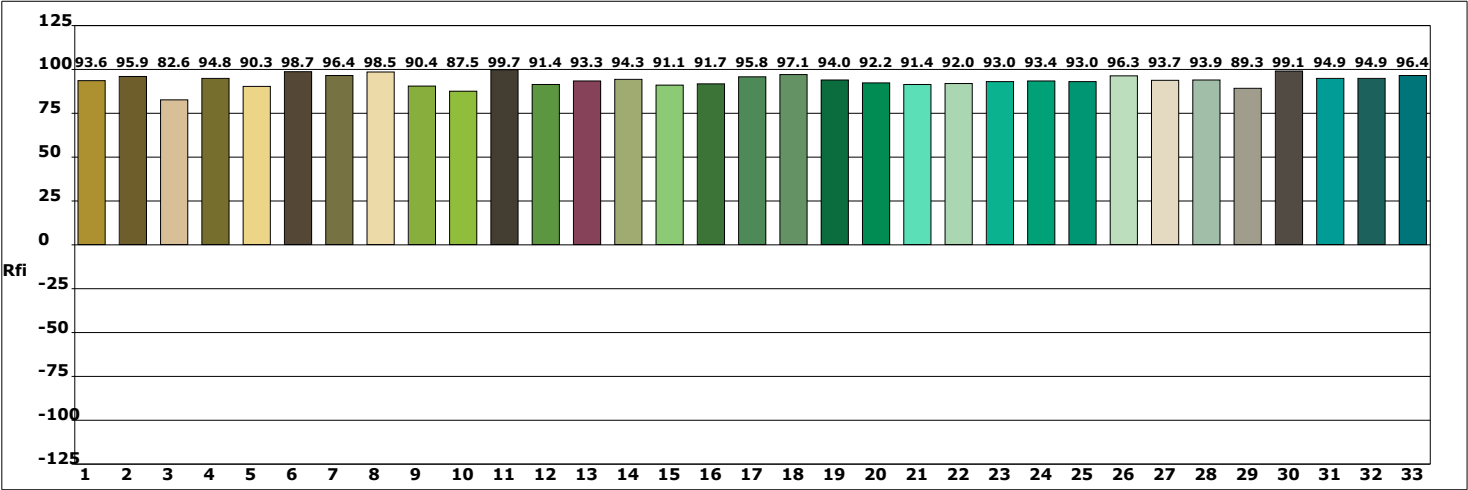
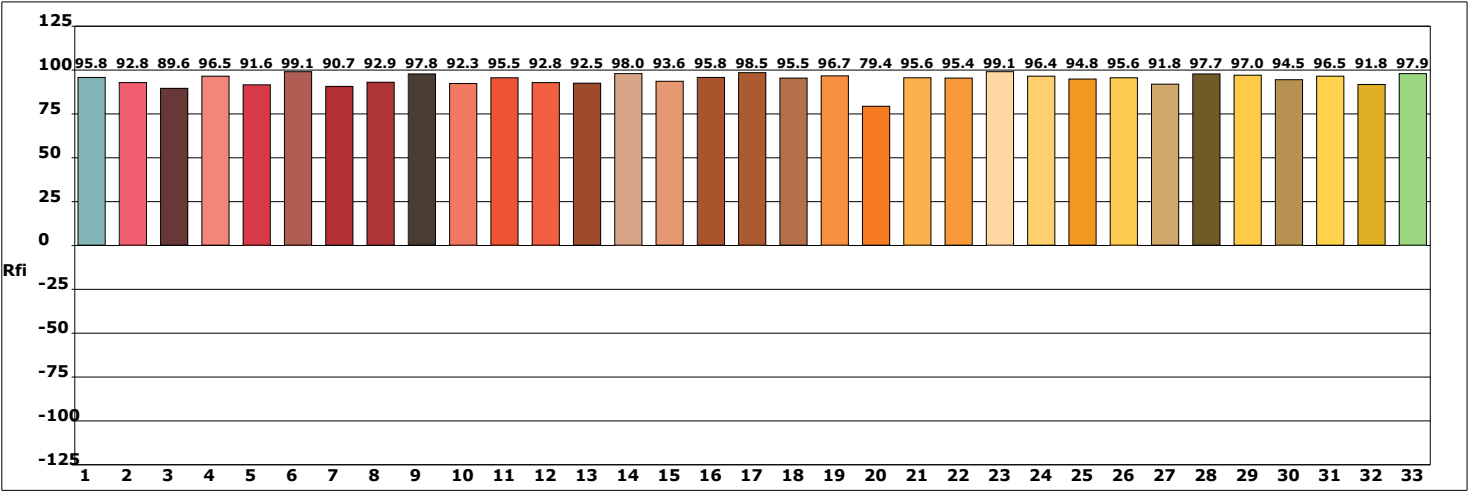


Chroma by Bue

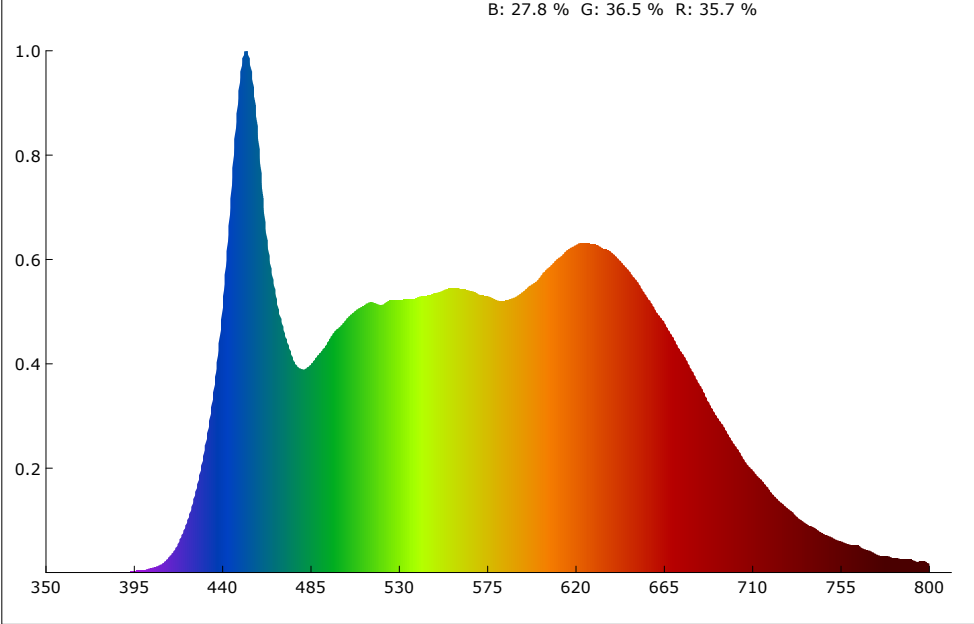


Product model:
Product number:
Tester:
Remarks:

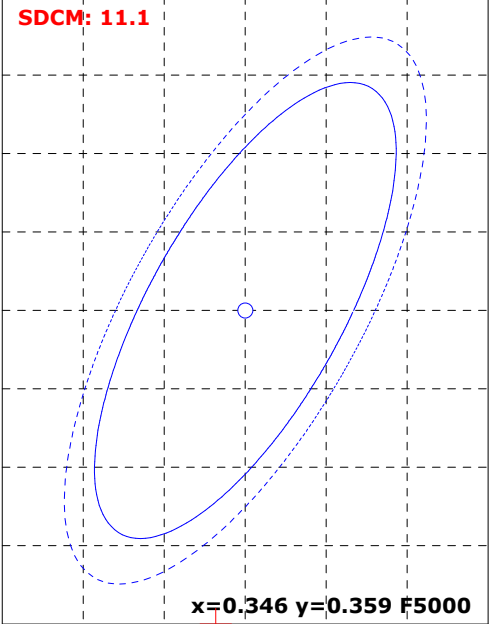
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 07/16/14



Spectrogram



SDCM



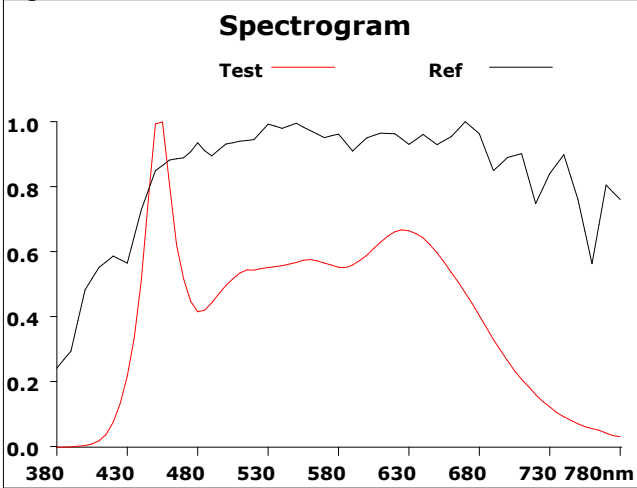
Color Parameter:

x: 0.3432	y: 0.3330	u: 0.2176	v: 0.3167	u': 0.2176	v': 0.4751
R_ratio: 35.7 %	G_ratio: 36.5 %	B_ratio: 27.8 %	RedRatio: 18.9 %	GreenRatio: 76.9 %	BlueRatio: 4.2 %
Ra: 93.4	AvgR: 90.9				
R1: 90.7	R2: 94.2	R3: 96.2	R4: 92.4	R5: 91.9	R6: 91.9
R7: 98.5	R8: 91.4				
R9: 74.9	R10: 90.9	R11: 89.4	R12: 84.6	R13: 91.1	R14: 97.0
R15: 87.8					
CCT: 5008 K	Flux: 12791.124 lm	PeakWave: 452.3 nm	SDCM: 11.1		
S/P: 2.1	CentralWave: 454.9 nm	DominantWave: 613.8 nm	CentroidWave: 568.8 nm		
HalfWidth: 29.2 nm	duv: -0.00892	purity: 2.9 %	CQS: 87.9		
LER(TM-30): 256.1	Ep: 49941.1 mw	Rg: 104.7	Rf: 92.5		
Red Ep: 16769.3 mw	Near red Ep: 2764.1 mw	Near infrared Ep: 171.4 mw			

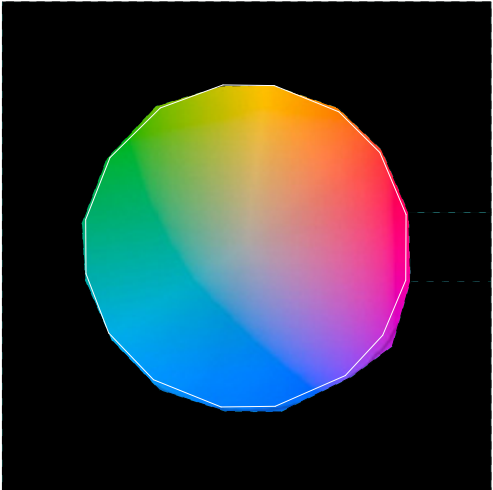
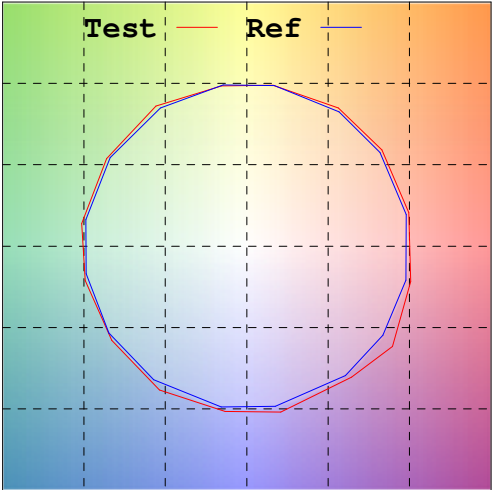
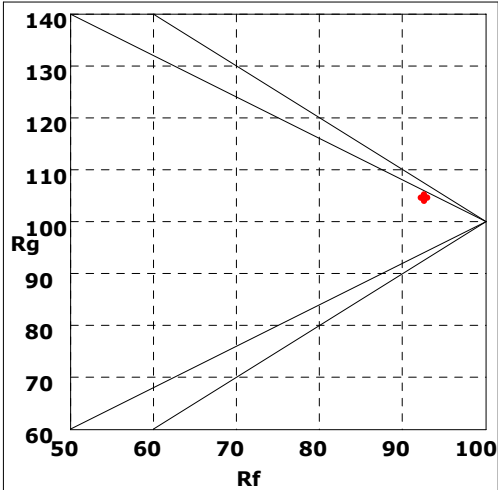
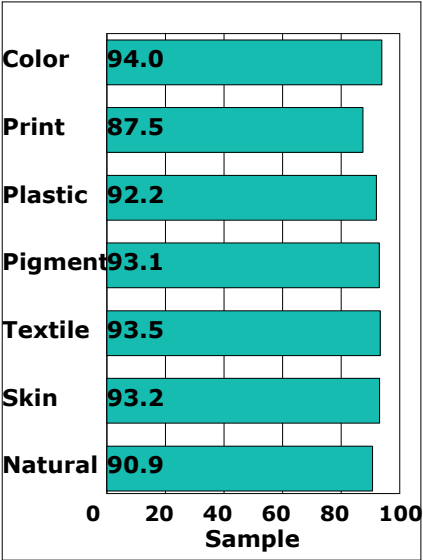
Electrical parameters:

Effic: 36.3 Lm/W	Energy: 39.5	Effi: G	
U: 220.6 V	I: 1.617 A	P: 352.400 W	Pf: 0.987

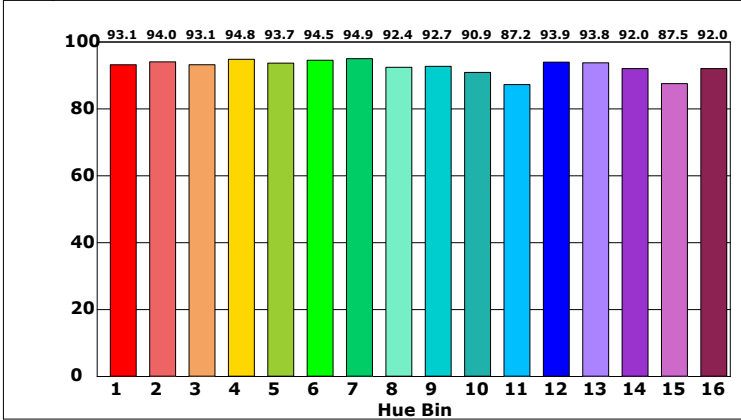
Rf: 92.5 CCT: 5008K u': 0.2176
Rg: 104.7 LER: 256.1 Duv: -0.00892 v': 0.4751



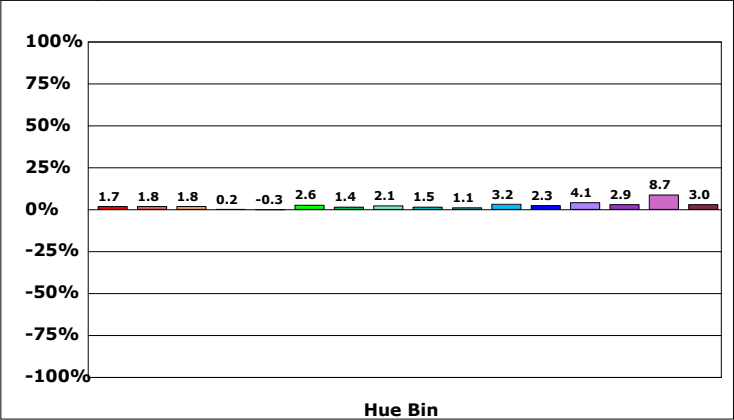
500			
Hue Bin	Rf	Chroma	Hue
1	93.1	1.7%	0.8%
2	94.0	1.8%	0.5%
3	93.1	1.8%	1.7%
4	94.8	0.2%	0.9%
5	93.7	-0.3%	1.0%
6	94.5	2.6%	1.6%
7	94.9	1.4%	1.7%
8	92.4	2.1%	2.8%
9	92.7	1.5%	3.9%
10	90.9	1.1%	4.7%
11	87.2	3.2%	6.3%
12	93.9	2.3%	2.9%
13	93.8	4.1%	2.6%
14	92.0	2.9%	2.7%
15	87.5	8.7%	-2.4%
16	92.0	3.0%	-0.2%



Rf by Bue

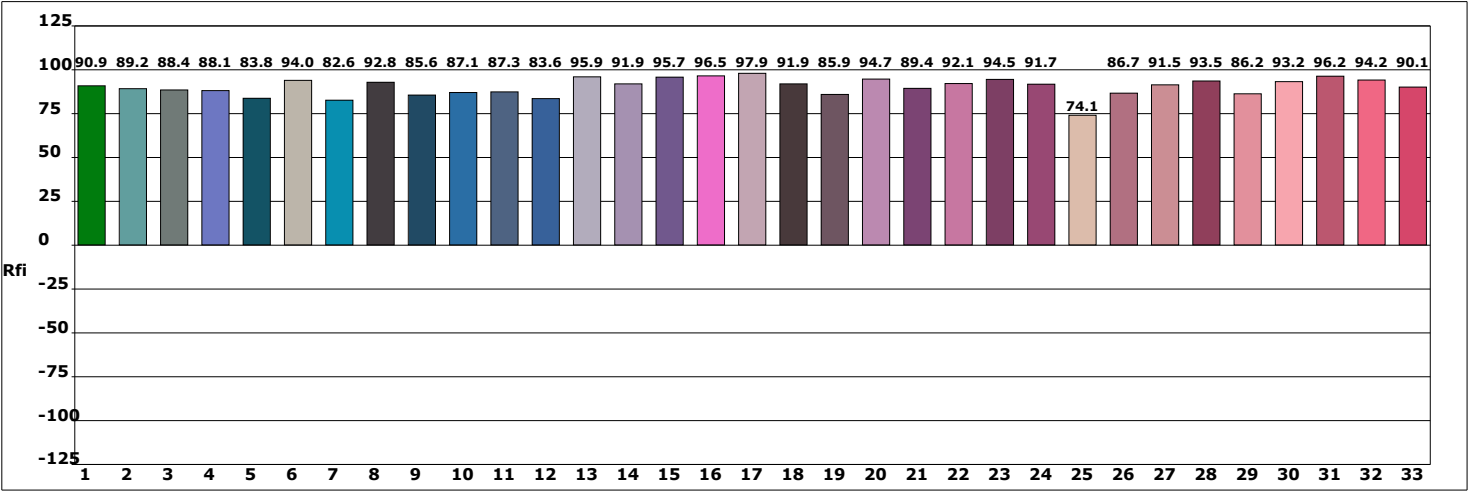
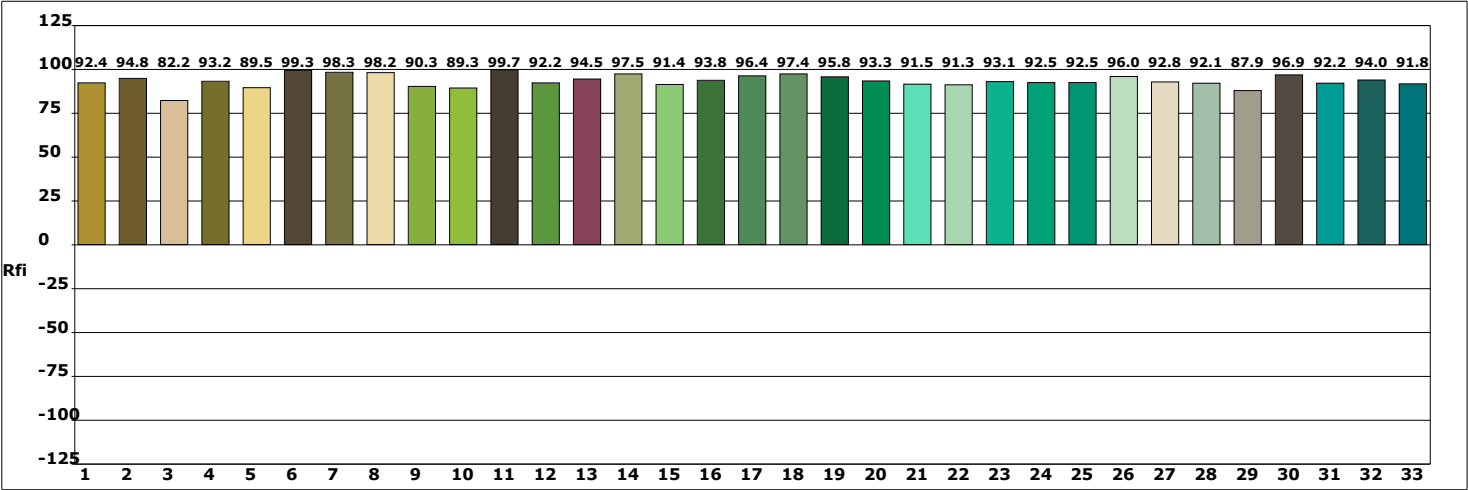
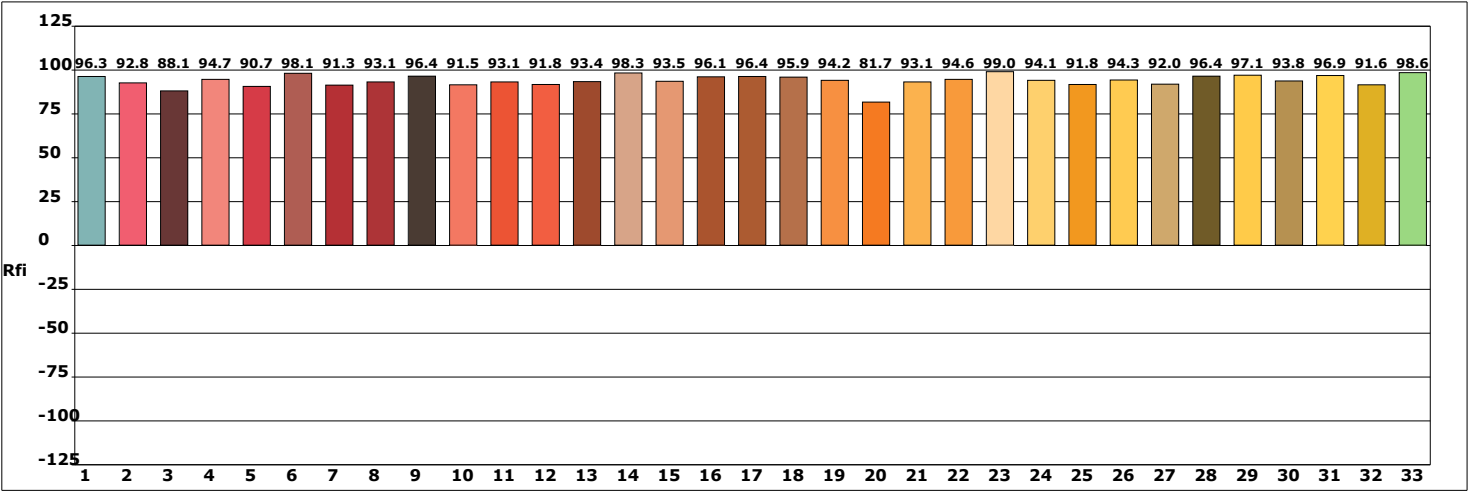


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

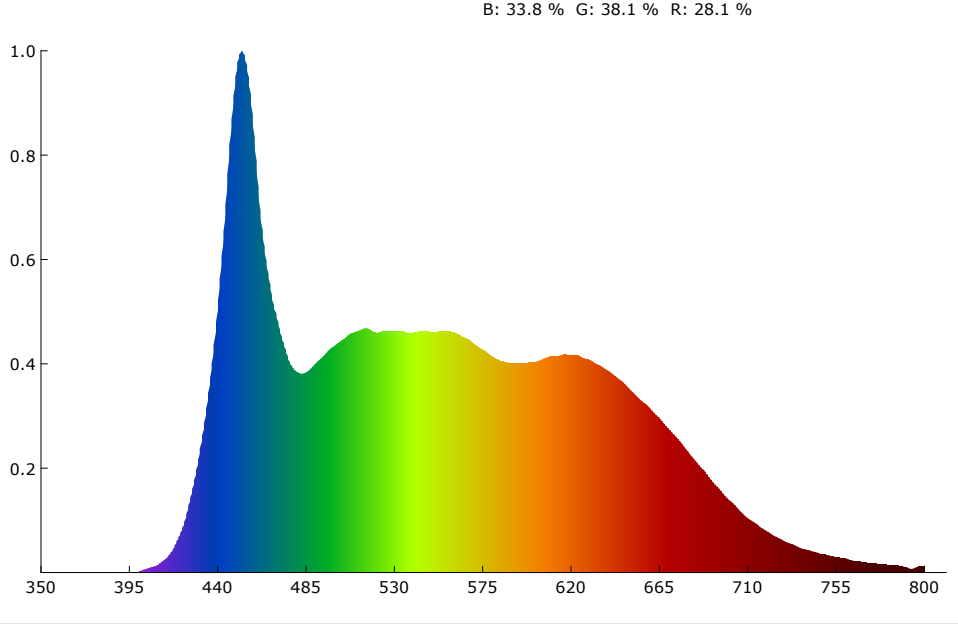
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 07/16/14



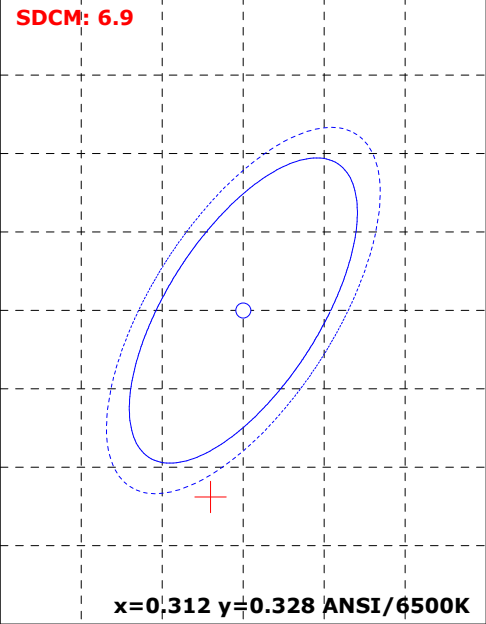
Product model:
Product number:
Tester:
Remarks:

Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 07/16/14

Spectrogram



SDCM



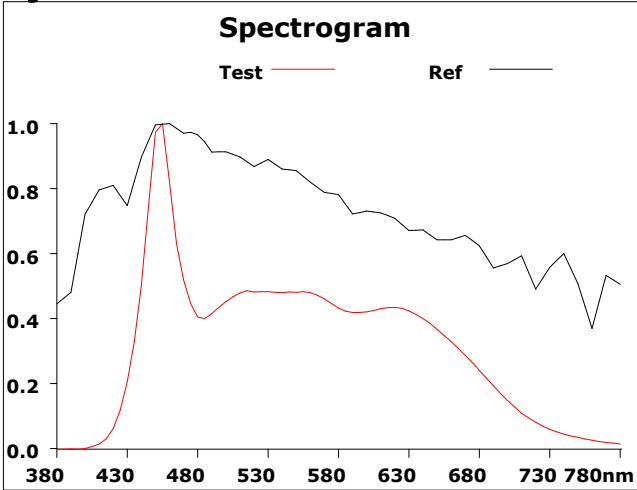
Color Parameter:

x: 0.3103	y: 0.3163	u: 0.2010	v: 0.3073	u': 0.2010	v': 0.4610
R_ratio: 28.1 %	G_ratio: 38.1 %	B_ratio: 33.8 %	RedRatio: 15.5 %	GreenRatio: 79.5 %	BlueRatio: 5.1 %
Ra: 96.7	AvgR: 95.0				
R1: 95.7	R2: 97.8	R3: 96.0	R4: 98.6	R5: 96.4	R6: 94.2
R7: 98.4	R8: 97.1	R9: 91.4	R10: 97.0	R11: 96.8	R12: 76.5
R13: 96.8	R14: 97.5	R15: 94.5			
CCT: 6764 K	Flux: 14144.332 lm	PeakWave: 453.3 nm	SDCM: 6.9		
S/P: 2.4	CentralWave: 455.1 nm	DominantWave: 481.4 nm	CentroidWave: 552.4 nm		
HalfWidth: 29.2 nm	duv: -0.00224	purity: 9.3 %	CQS: 91.0		
LER(TM-30): 263.4	Ep: 53689.3 mw	Rg: 101.0	Rf: 91.6		
Red Ep: 14525.7 mw	Near red Ep: 1950.4 mw	Near infrared Ep: 110.7 mw			

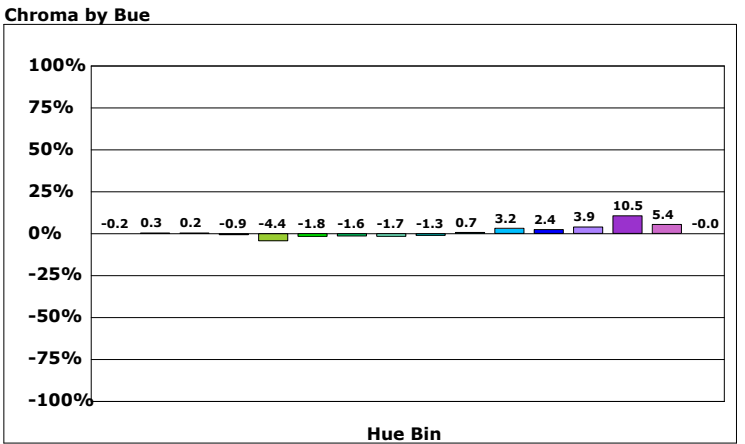
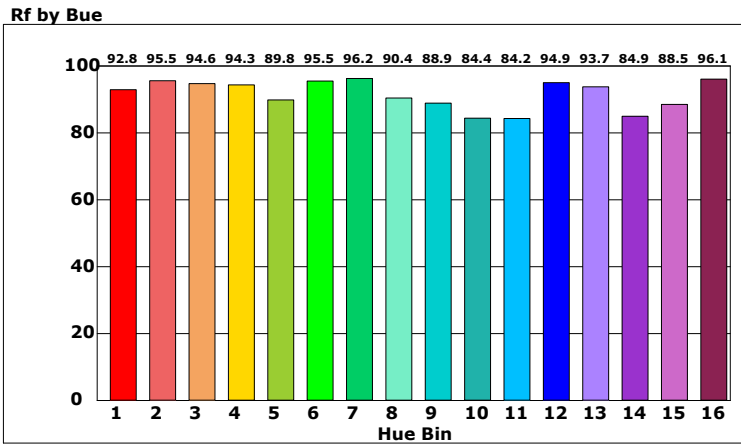
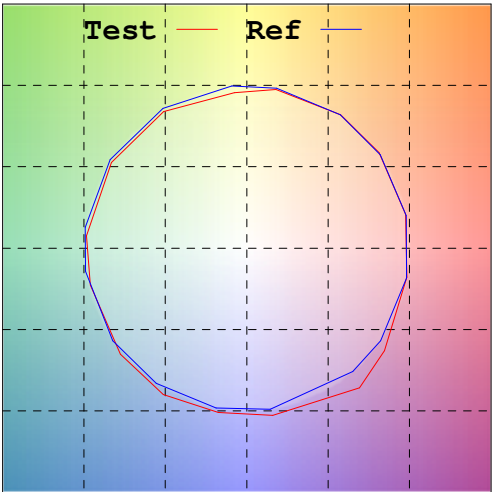
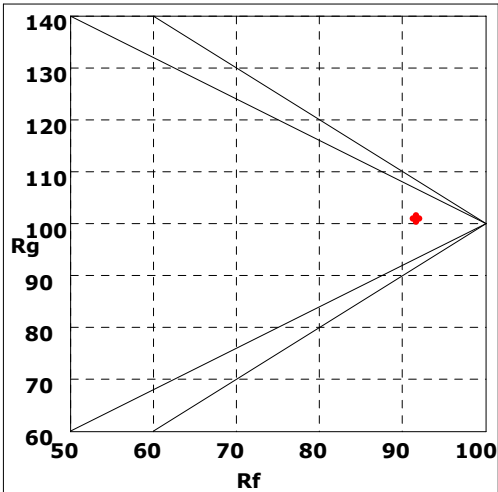
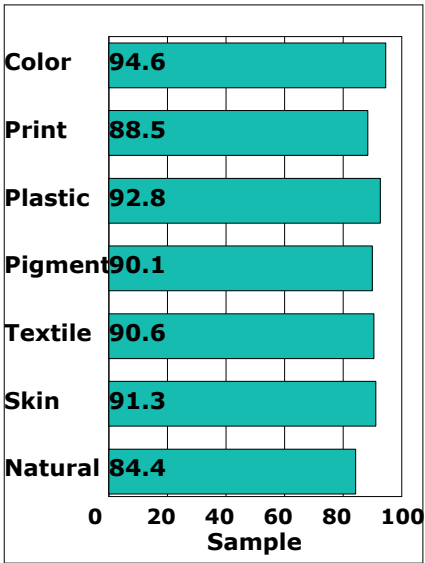
Electrical parameters:

Effic: 38.4 Lm/W	Energy: 41.8	Effi: G	
U: 221.1 V	I: 1.685 A	P: 368.200 W	Pf: 0.988

Rf: 91.6 CCT: 6764K u': 0.2010
Rg: 101.0 LER: 263.4 Duv: -0.00224 v': 0.4610



500			
Hue Bin	Rf	Chroma	Hue
1	92.8	-0.2%	1.0%
2	95.5	0.3%	1.5%
3	94.6	0.2%	-0.0%
4	94.3	-0.9%	0.2%
5	89.8	-4.4%	-0.7%
6	95.5	-1.8%	0.6%
7	96.2	-1.6%	1.2%
8	90.4	-1.7%	4.7%
9	88.9	-1.3%	8.9%
10	84.4	0.7%	9.7%
11	84.2	3.2%	7.5%
12	94.9	2.4%	1.9%
13	93.7	3.9%	0.7%
14	84.9	10.5%	-2.2%
15	88.5	5.4%	-3.9%
16	96.1	-0.0%	0.6%



Product model:
Product number:
Tester:
Remarks:

Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 07/16/14

