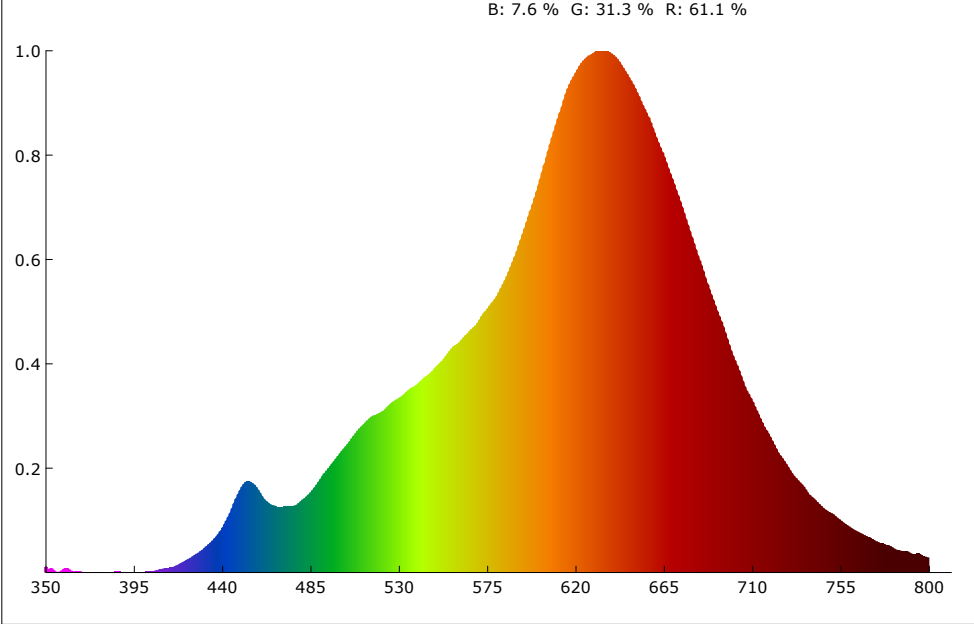
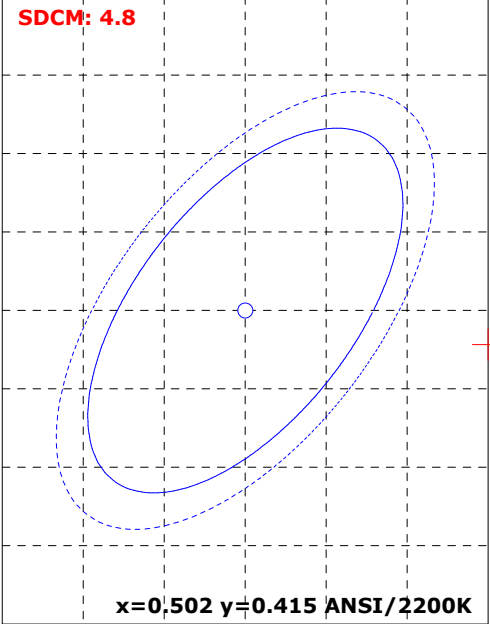


Spectrogram



SDCM



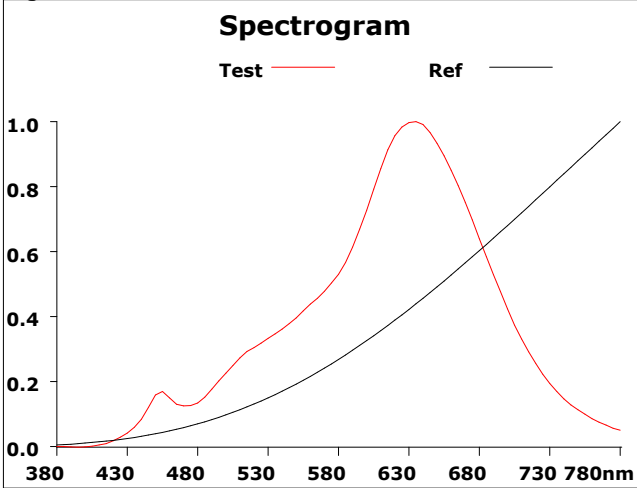
Color Parameter:

x: 0.4926	y: 0.4079	u: 0.2852	v: 0.3542	u': 0.2852	v': 0.5313		
R_ratio: 61.1 %	G_ratio: 31.3 %	B_ratio: 7.6 %	RedRatio: 31.1 %	GreenRatio: 67.6 %	BlueRatio: 1.3 %		
Ra: 94.9		AvgR: 93.8					
R1: 97.1	R2: 96.8	R3: 98.4	R4: 95.5	R5: 95.2	R6: 90.4	R7: 93.8	R8: 92.1
R9: 85.4	R10: 93.9	R11: 89.8	R12: 85.7	R13: 96.2	R14: 98.8	R15: 98.0	
CCT: 2280 K		Flux: 12245.192 lm	PeakWave: 630.5 nm	SDCM: 4.8			
S/P: 1.1		CentralWave: 632.9 nm	DominantWave: 587.4 nm	CentroidWave: 617.0 nm			
HalfWidth: 117.9 nm		duv: -0.00238	purity: 70.3 %	CQS: 84.3			
LER(TM-30): 241.3		Ep: 50756.4 mw	Rg: 102.9	Rf: 94.1			
Red Ep: 27868.3 mw		Near red Ep: 4834.3 mw	Near infrared Ep: 285.3 mw				

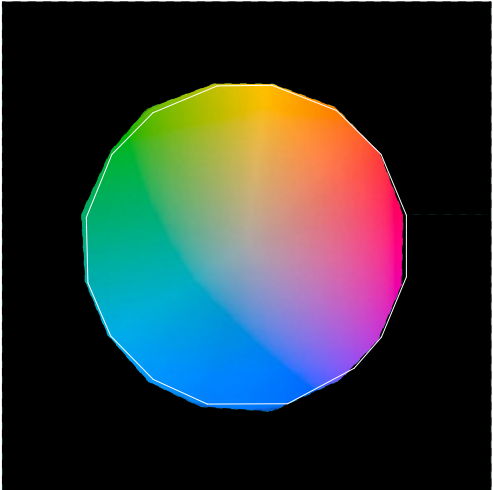
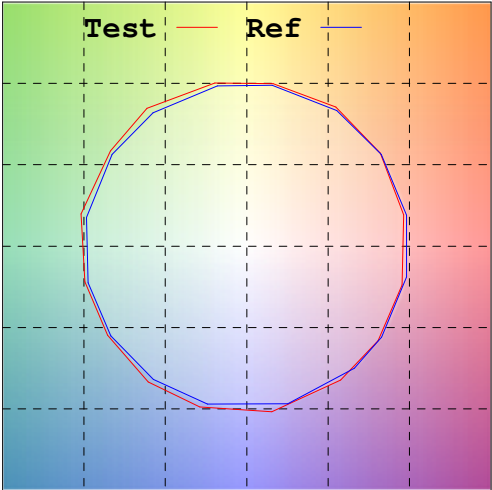
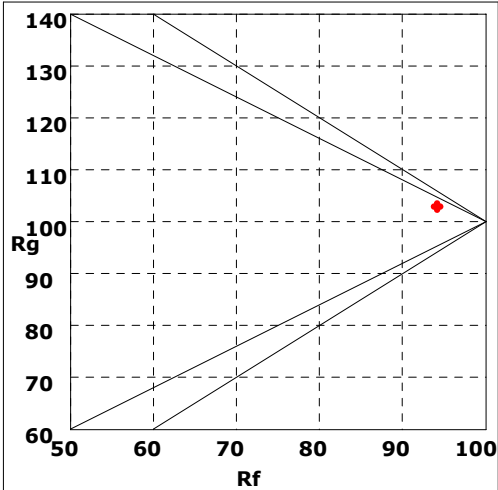
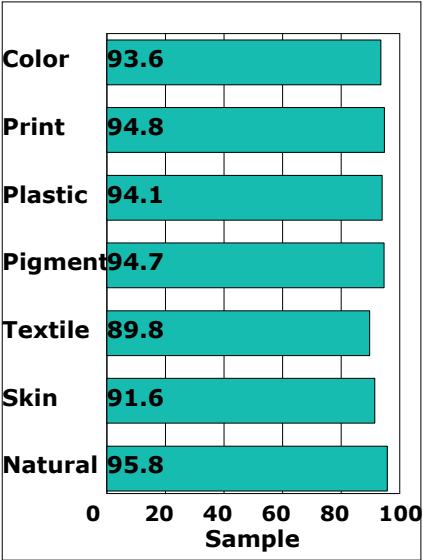
Electrical parameters:

Effic: 32.3 Lm/W	Energy: 35.1	Effi: G	
U: 220.8 V	I: 1.737 A	P: 379.400 W	Pf: 0.989

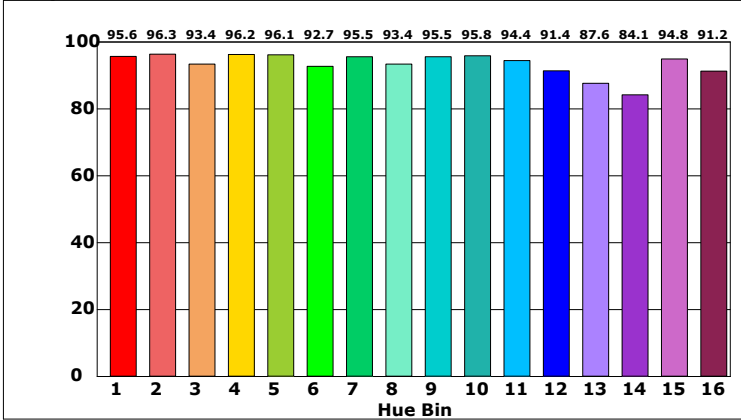
Rf: 94.1 CCT: 2280K u': 0.2852
Rg: 102.9 LER: 241.3 Duv: -0.00238 v': 0.5313



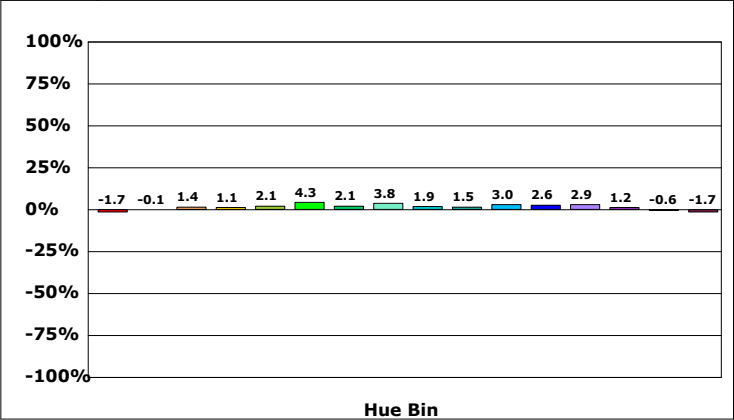
500			
Hue Bin	Rf	Chroma	Hue
1	95.6	-1.7%	0.4%
2	96.3	-0.1%	1.0%
3	93.4	1.4%	1.6%
4	96.2	1.1%	-0.5%
5	96.1	2.1%	1.1%
6	92.7	4.3%	1.6%
7	95.5	2.1%	-1.2%
8	93.4	3.8%	-1.5%
9	95.5	1.9%	-0.9%
10	95.8	1.5%	-1.5%
11	94.4	3.0%	-1.6%
12	91.4	2.6%	-4.4%
13	87.6	2.9%	-10.5%
14	84.1	1.2%	-11.2%
15	94.8	-0.6%	-2.9%
16	91.2	-1.7%	-5.3%



Rf by Bue

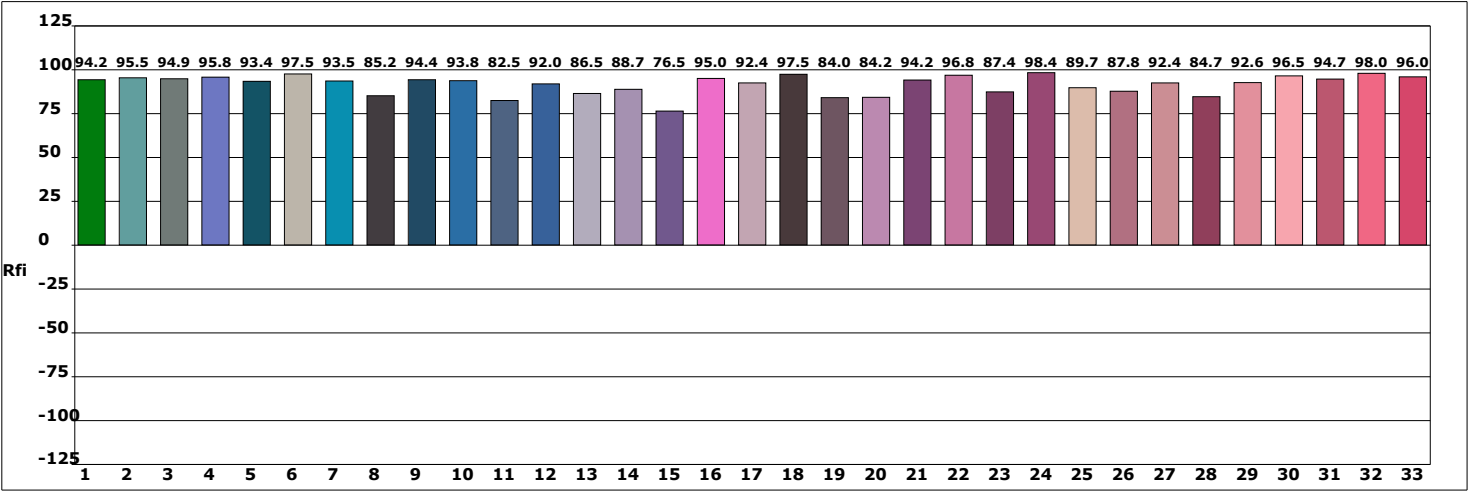
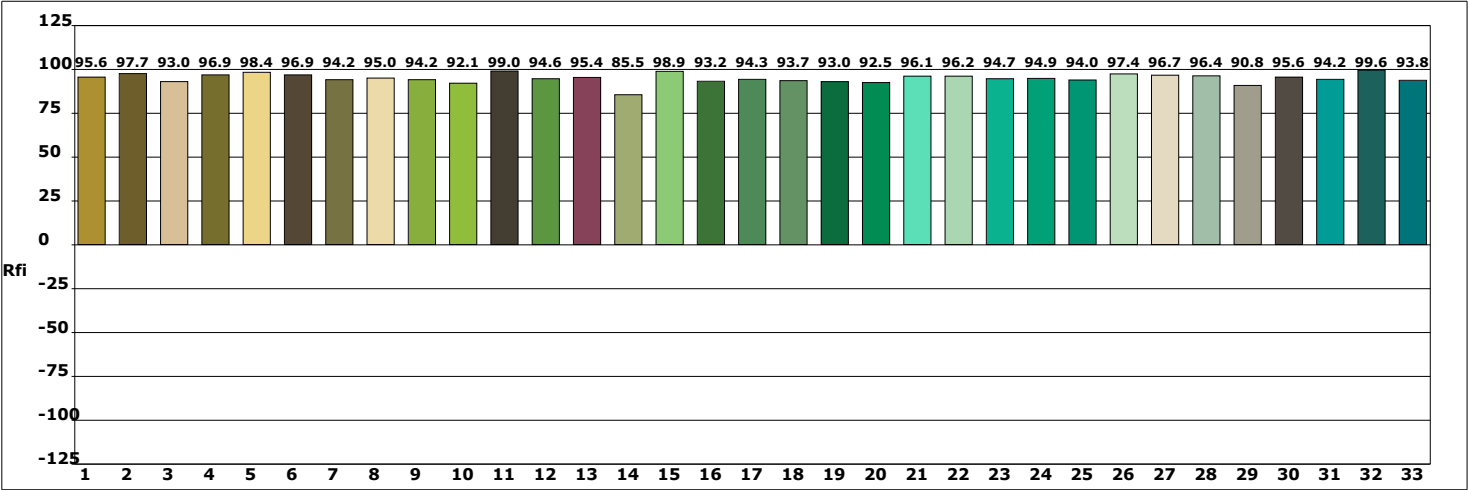
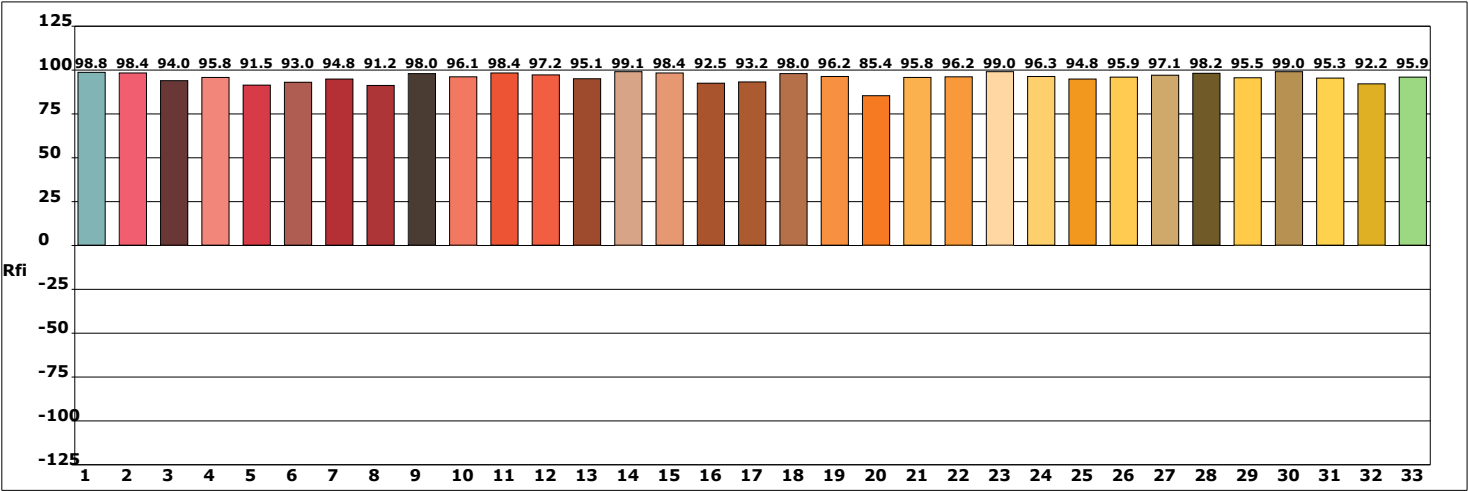


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

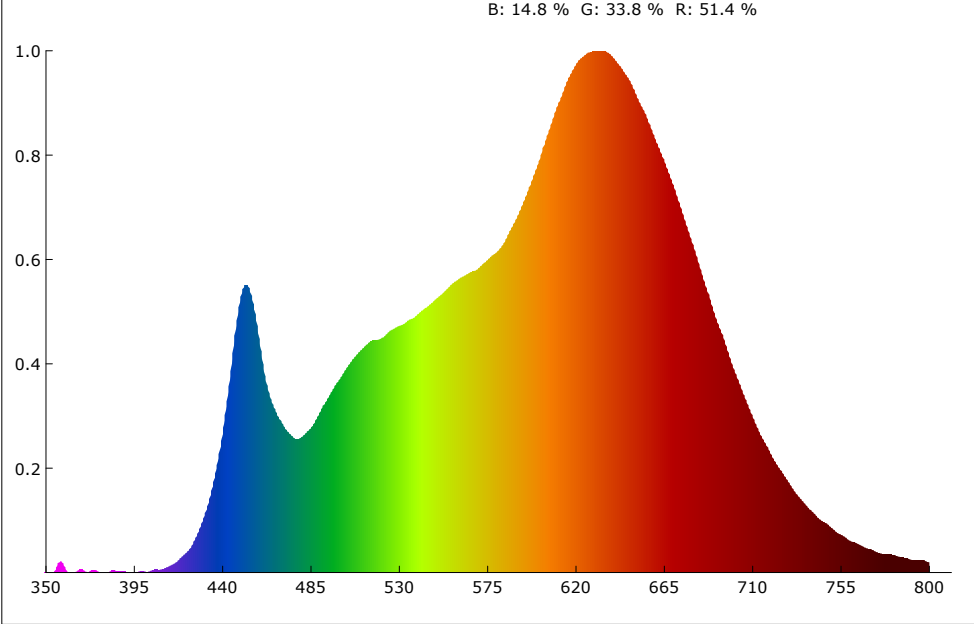
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 07/16/14



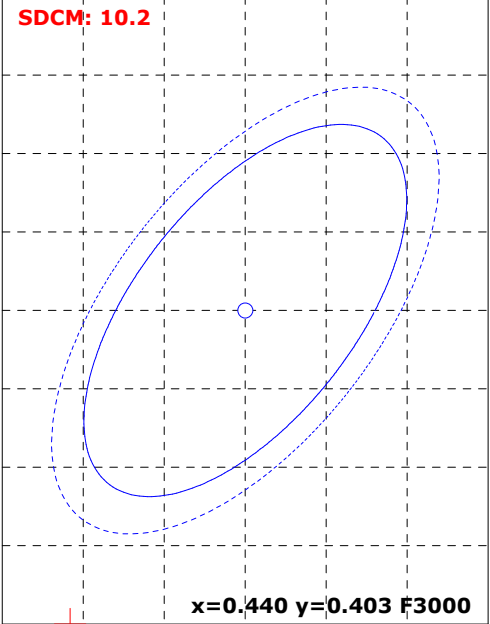
Product model:
Product number:
Tester:
Remarks:

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

Spectrogram



SDCM



Color Parameter:

x: 0.4292 y: 0.3789 u: 0.2567 v: 0.3399 u': 0.2567 v': 0.5098
R_ratio: 51.4 % G_ratio: 33.8 % B_ratio: 14.8 % RedRatio: 26.2 % GreenRatio: 71.4 % BlueRatio: 2.3 %

Ra: 93.3 AvgR: 91.7
R1: 91.7 R2: 93.1 R3: 97.2 R4: 92.3 R5: 90.7 R6: 87.9 R7: 96.1 R8: 97.4
R9: 90.5 R10: 86.7 R11: 87.6 R12: 81.6 R13: 91.1 R14: 98.7 R15: 92.2

CCT: 2918 K Flux: 12635.078 lm PeakWave: 629.5 nm SDCM: 10.2
S/P: 1.5 CentralWave: 616.4 nm DominantWave: 587.3 nm CentroidWave: 597.6 nm
HalfWidth: 146.8 nm duv: -0.00934 purity: 42.5 % CQS: 88.0
LER(TM-30): 252.3 Ep: 50075.1 mw Rg: 105.7 Rf: 93.6
Red Ep: 23840.9 mw Near red Ep: 3503.3 mw Near infrared Ep: 170.8 mw

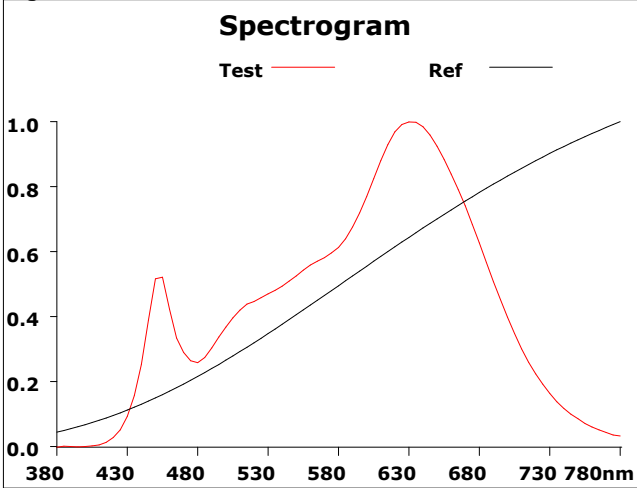
Electrical parameters:

Effic: 35.7 Lm/W Energy: 38.9 Effi: G
U: 221.3 V I: 1.619 A P: 353.900 W Pf: 0.987

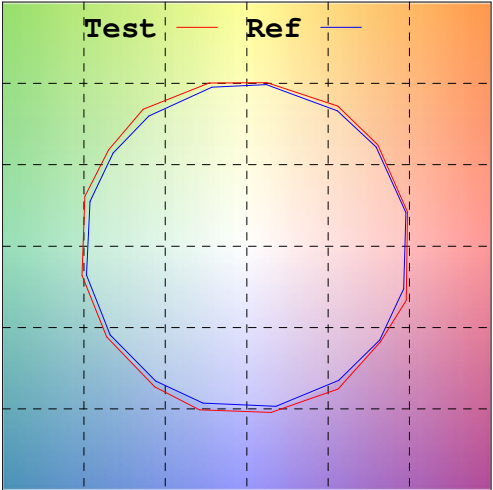
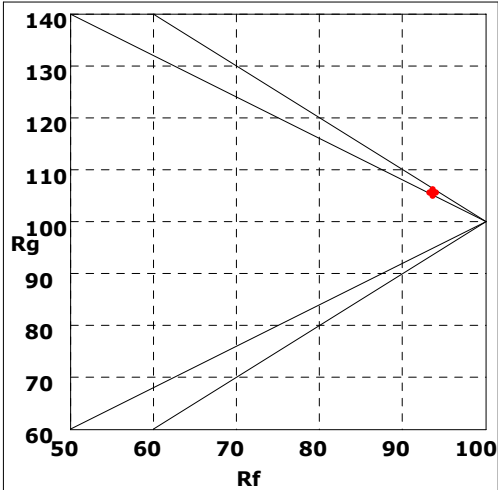
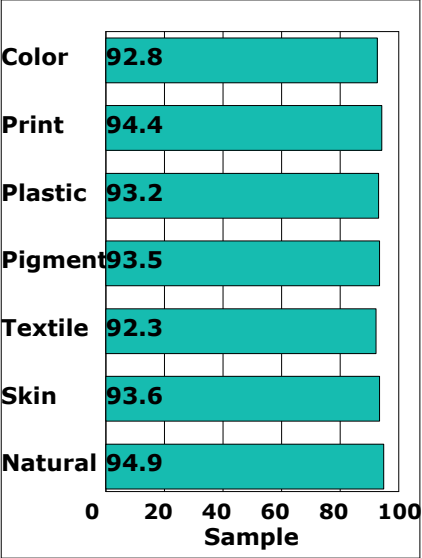
Product model:
Product number:
Tester:
Remarks:

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

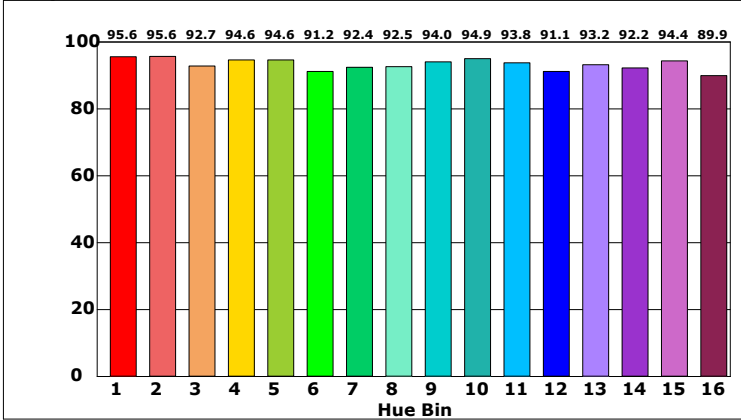
Rf: 93.6 CCT: 2918K u': 0.2567
Rg: 105.7 LER: 252.3 Duv: -0.00934 v': 0.5098



500			
Hue Bin	Rf	Chroma	Hue
1	95.6	0.9%	0.1%
2	95.6	1.7%	0.6%
3	92.7	2.6%	1.7%
4	94.6	1.2%	-0.2%
5	94.6	2.7%	1.2%
6	91.2	5.3%	0.6%
7	92.4	3.3%	-0.1%
8	92.5	3.7%	-2.4%
9	94.0	2.8%	-0.3%
10	94.9	2.5%	-0.1%
11	93.8	3.2%	1.4%
12	91.1	4.5%	-1.3%
13	93.2	3.1%	-3.6%
14	92.2	4.1%	-3.4%
15	94.4	1.0%	-0.6%
16	89.9	2.9%	-6.7%



Rf by Bue

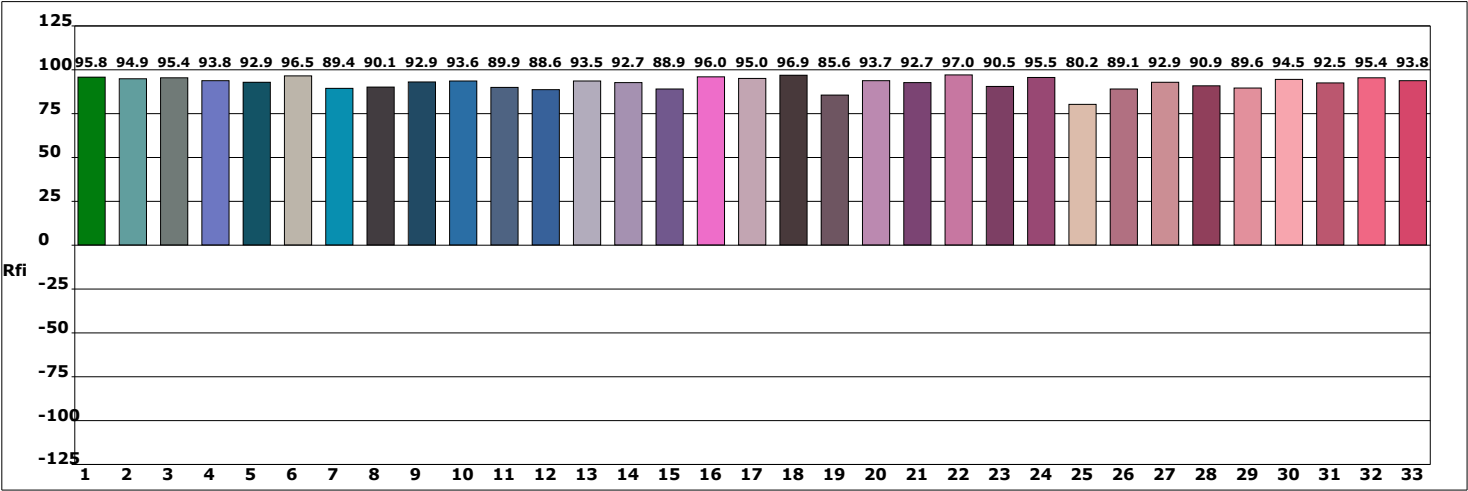
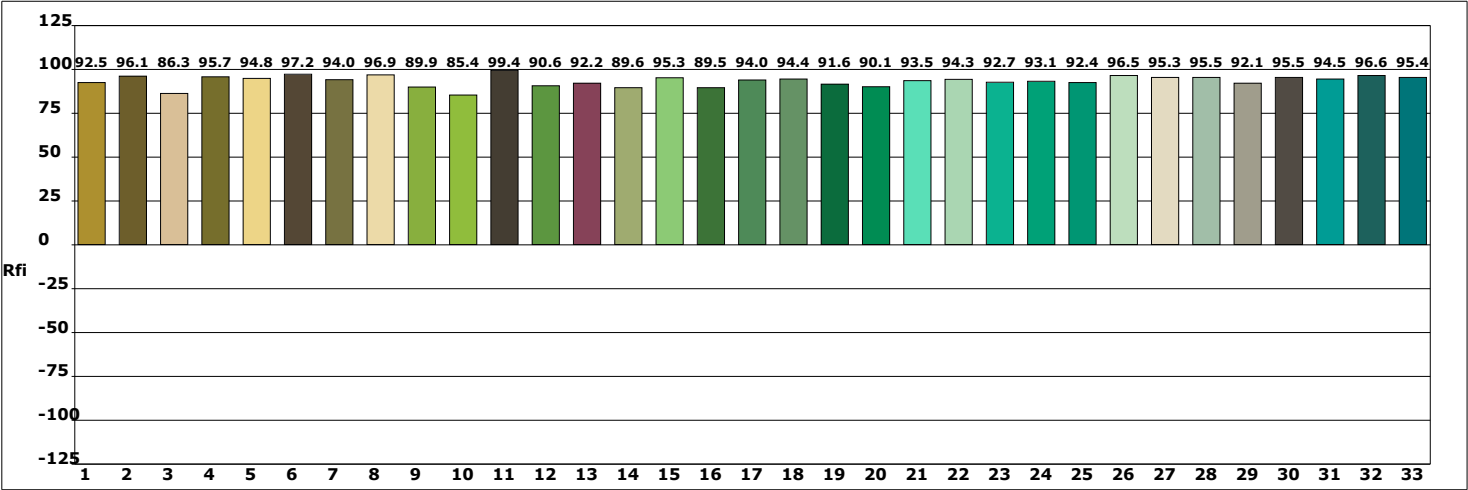
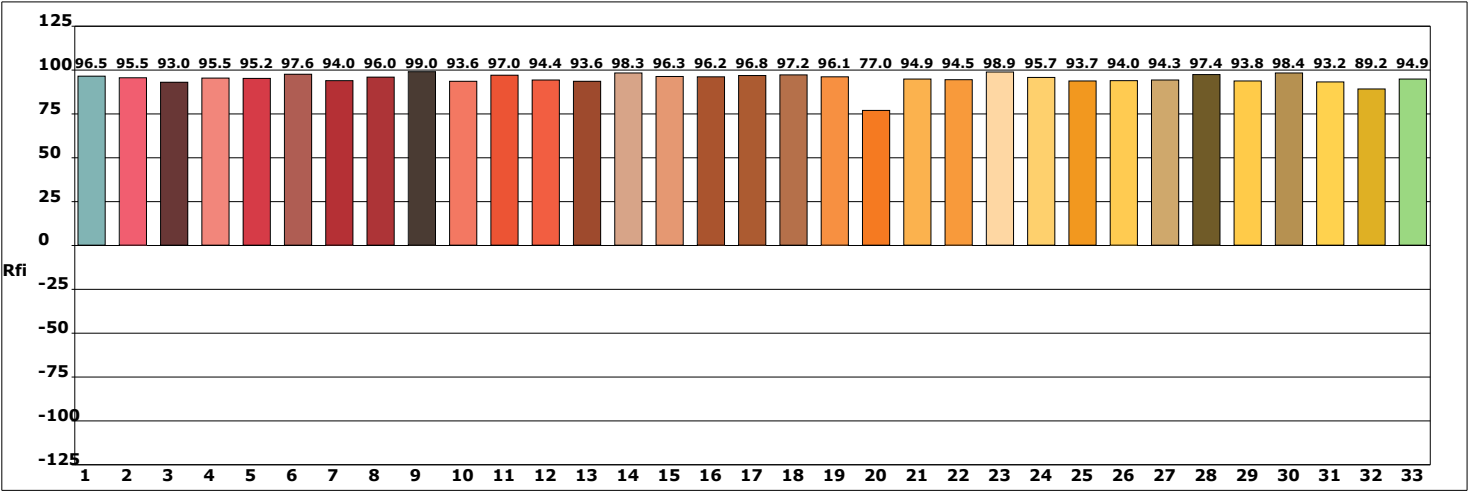


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

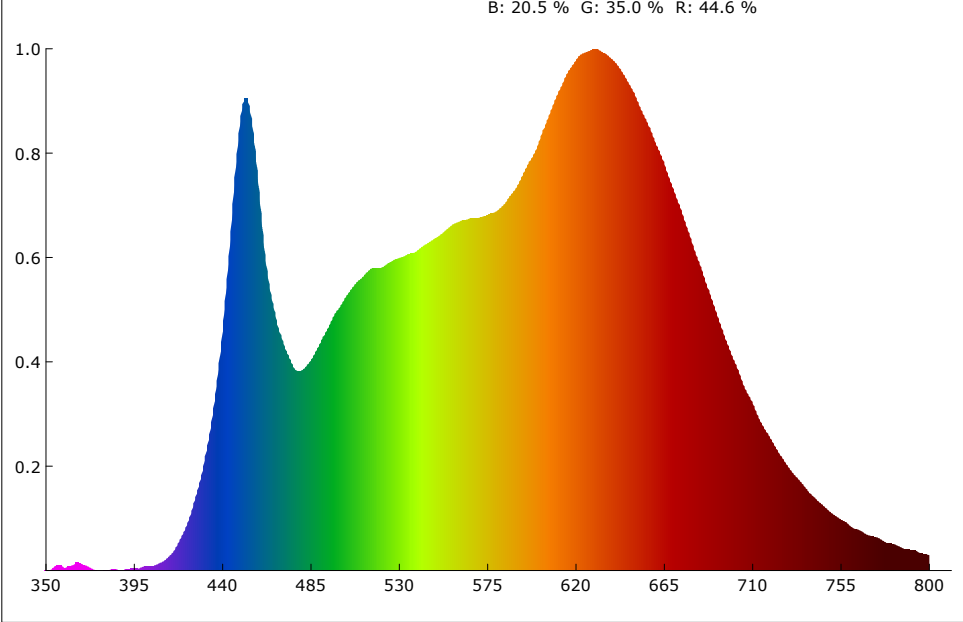
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 07/16/14



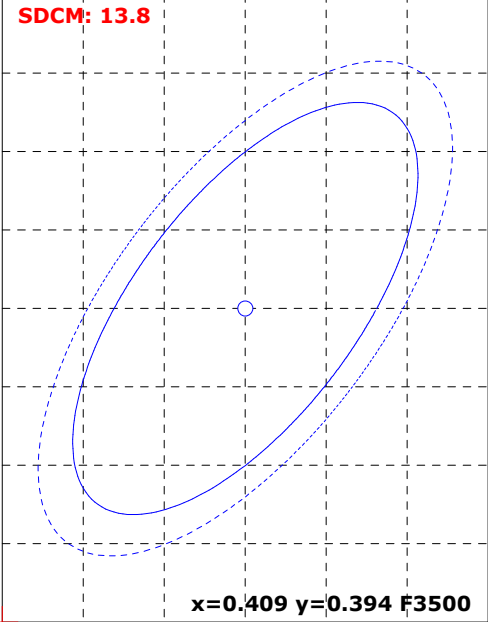
Product model:
Product number:
Tester:
Remarks:

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

Spectrogram



SDCM



Color Parameter:

x: 0.3889 y: 0.3578 u: 0.2387 v: 0.3295 u': 0.2387 v': 0.4942
R_ratio: 44.6 % G_ratio: 35.0 % B_ratio: 20.5 % RedRatio: 23.0 % GreenRatio: 73.9 % BlueRatio: 3.1 %

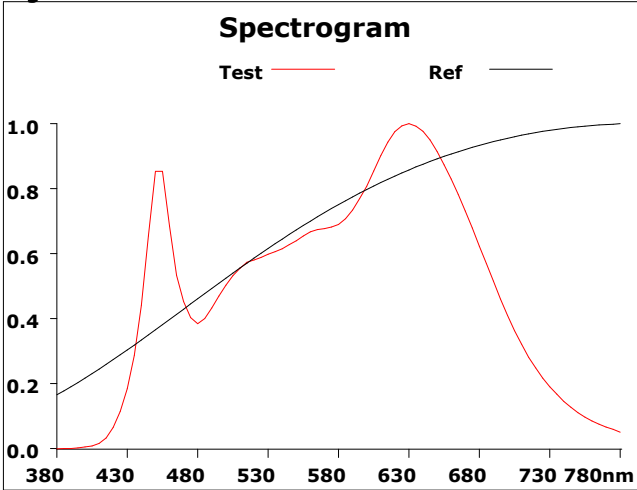
Ra: 92.6 AvgR: 90.1
R1: 89.6 R2: 92.5 R3: 97.8 R4: 91.6 R5: 90.1 R6: 89.4 R7: 98.3 R8: 91.9
R9: 77.3 R10: 86.3 R11: 87.7 R12: 83.4 R13: 89.5 R14: 98.3 R15: 87.7

CCT: 3611 K Flux: 13700.744 lm PeakWave: 630.5 nm SDCM: 13.8
S/P: 1.8 CentralWave: 595.0 nm DominantWave: 588.2 nm CentroidWave: 586.3 nm
HalfWidth: 190.5 nm duv: -0.01138 purity: 24.1 % CQS: 86.0
LER(TM-30): 251.6 Ep: 54451.4 mw Rg: 105.4 Rf: 93.5
Red Ep: 22429.3 mw Near red Ep: 3808.4 mw Near infrared Ep: 238.3 mw

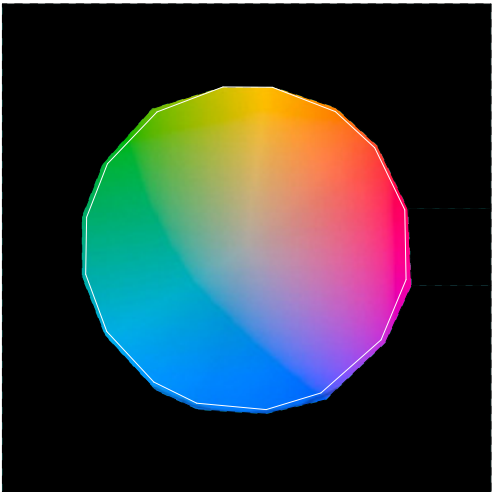
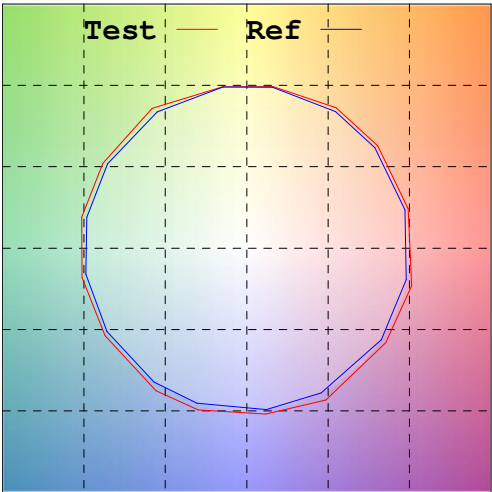
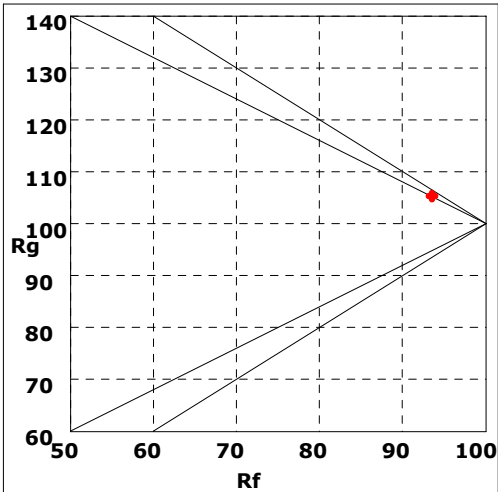
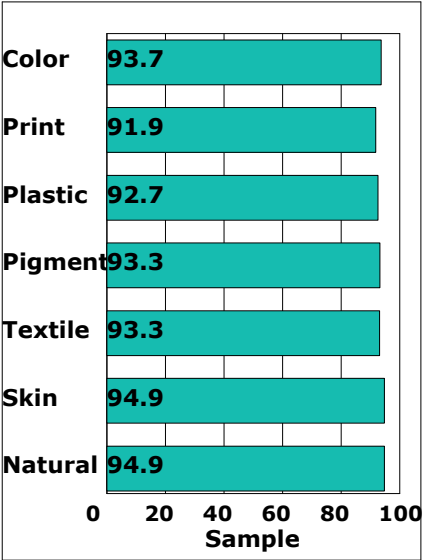
Electrical parameters:

Effic: 38.1 Lm/W Energy: 41.5 Effi: G
U: 221.1 V I: 1.645 A P: 359.300 W Pf: 0.987

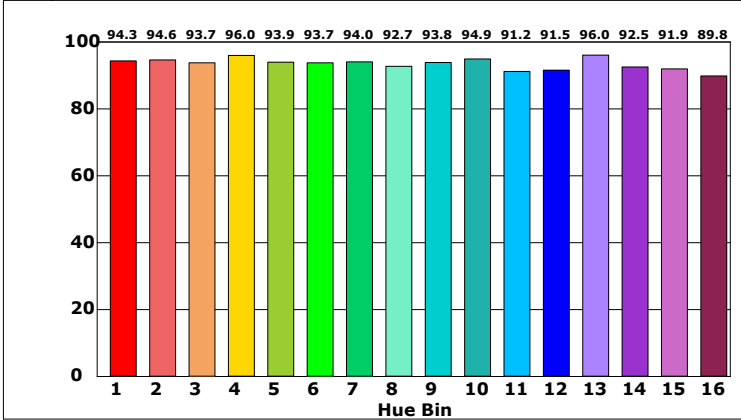
Rf: 93.5 CCT: 3611K u': 0.2387
Rg: 105.4 LER: 251.6 Duv: -0.01138 v': 0.4942



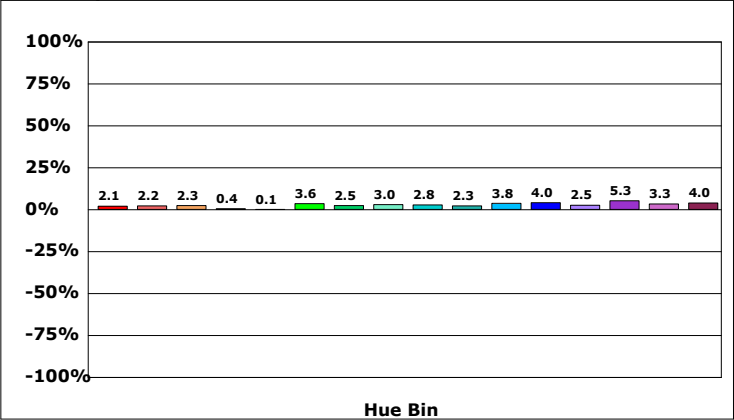
500			
Hue Bin	Rf	Chroma	Hue
1	94.3	2.1%	0.3%
2	94.6	2.2%	-0.0%
3	93.7	2.3%	1.0%
4	96.0	0.4%	-0.3%
5	93.9	0.1%	0.5%
6	93.7	3.6%	1.4%
7	94.0	2.5%	1.5%
8	92.7	3.0%	0.6%
9	93.8	2.8%	1.6%
10	94.9	2.3%	1.6%
11	91.2	3.8%	3.9%
12	91.5	4.0%	1.4%
13	96.0	2.5%	-0.8%
14	92.5	5.3%	0.1%
15	91.9	3.3%	0.0%
16	89.8	4.0%	-3.0%



Rf by Bue

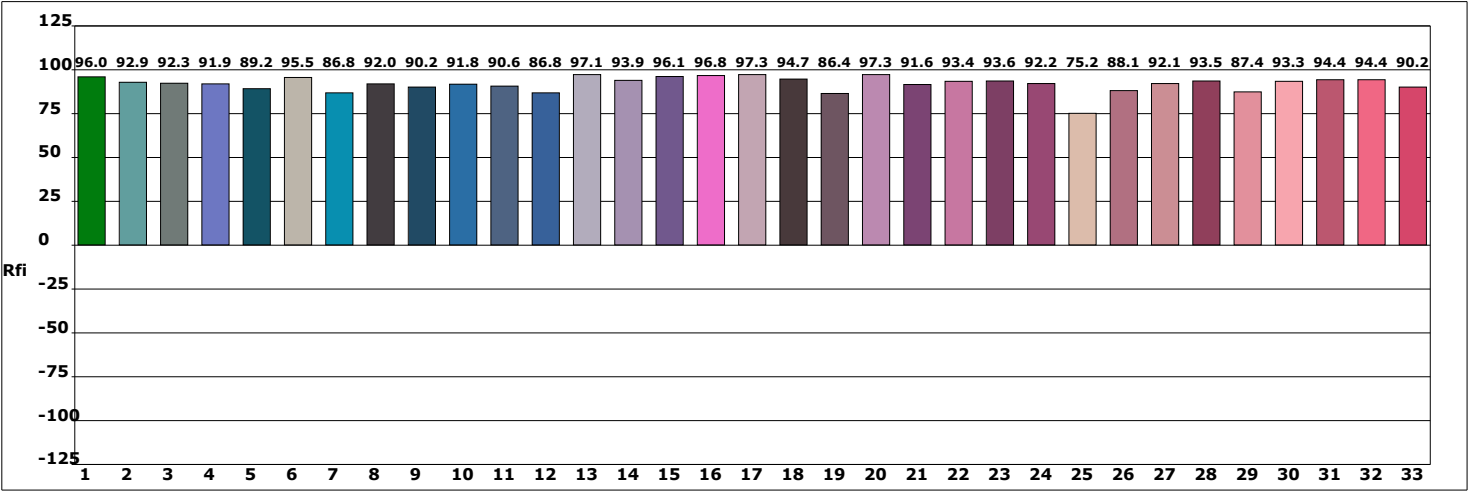
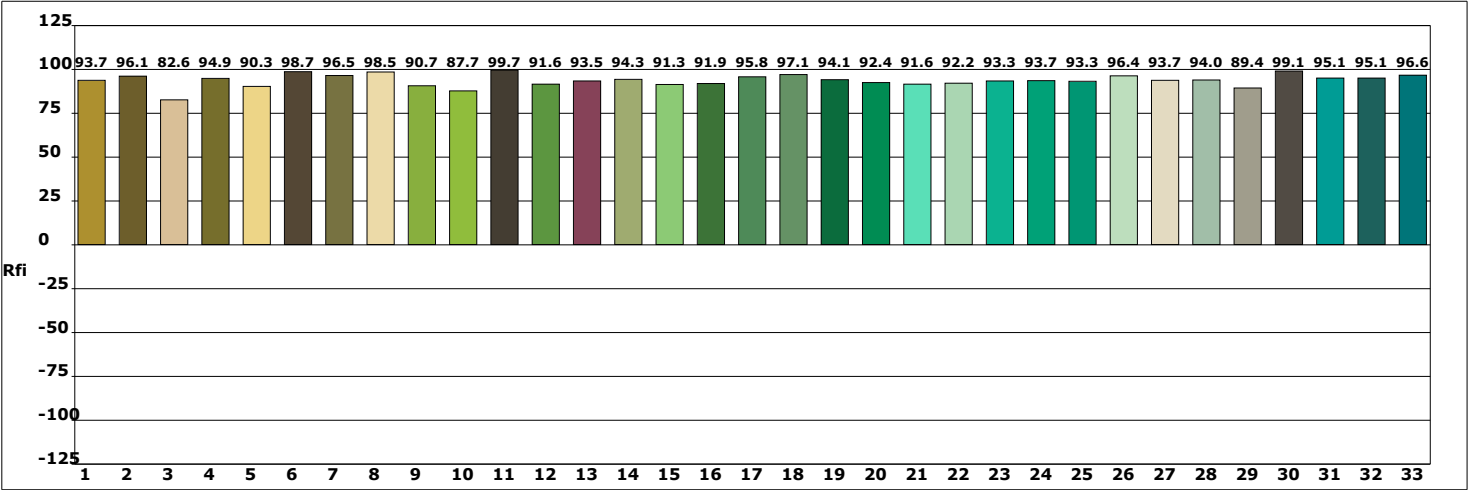
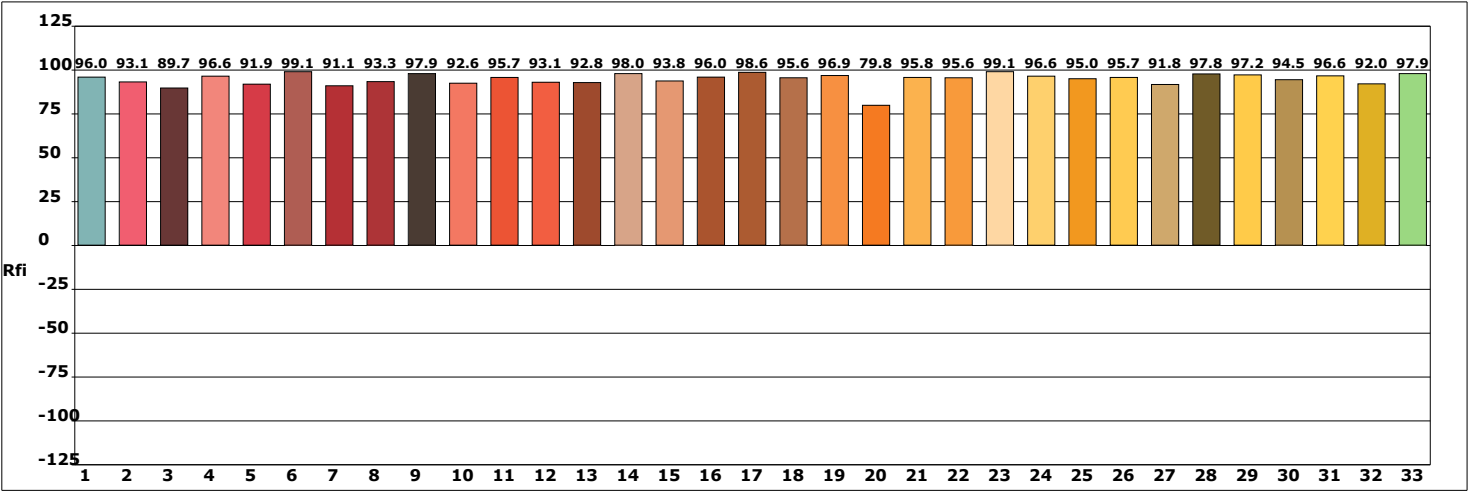


Chroma by Bue

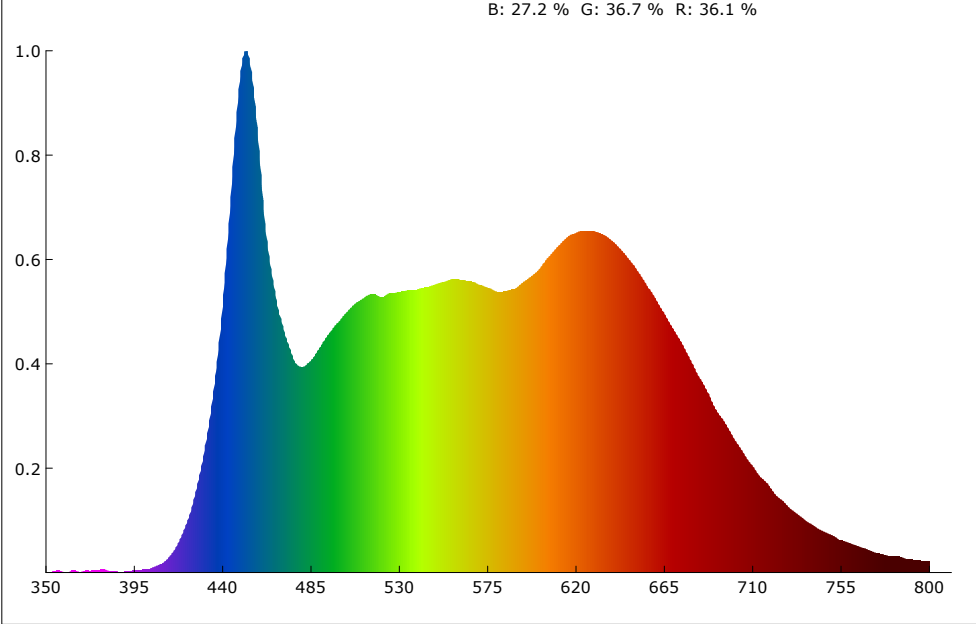


Product model:
Product number:
Tester:
Remarks:

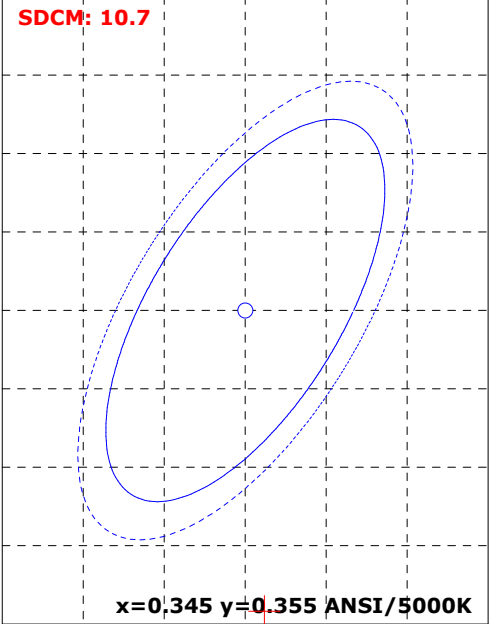
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 07/16/14



Spectrogram



SDCM



Color Parameter:

x: 0.3459 y: 0.3361 u: 0.2182 v: 0.3180 u': 0.2182 v': 0.4770
R_ratio: 36.1 % G_ratio: 36.7 % B_ratio: 27.2 % RedRatio: 19.0 % GreenRatio: 76.9 % BlueRatio: 4.1 %

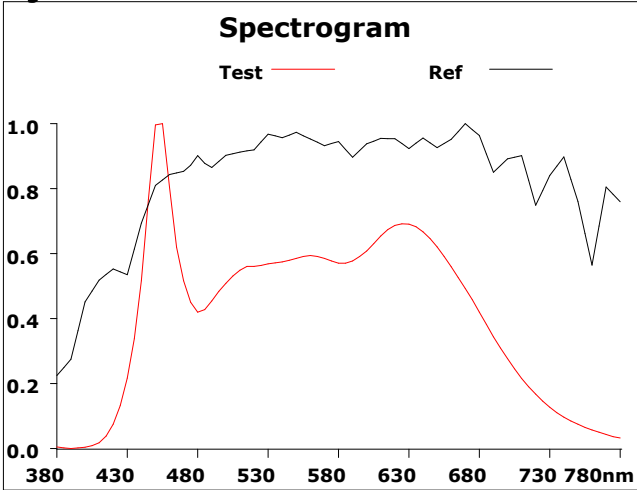
Ra: 94.2 AvgR: 91.5
R1: 91.6 R2: 95.0 R3: 96.8 R4: 94.6 R5: 93.2 R6: 93.1 R7: 98.4 R8: 91.4
R9: 75.4 R10: 92.3 R11: 91.9 R12: 80.2 R13: 92.2 R14: 97.3 R15: 88.8

CCT: 4908 K Flux: 14764.932 lm PeakWave: 452.3 nm SDCM: 10.7
S/P: 2.1 CentralWave: 454.7 nm DominantWave: 595.5 nm CentroidWave: 569.8 nm
HalfWidth: 28.8 nm duv: -0.00840 purity: 4.6 % CQS: 88.3
LER(TM-30): 256.7 Ep: 57512.2 mw Rg: 104.5 Rf: 92.8
Red Ep: 19507.2 mw Near red Ep: 3231.6 mw Near infrared Ep: 207.5 mw

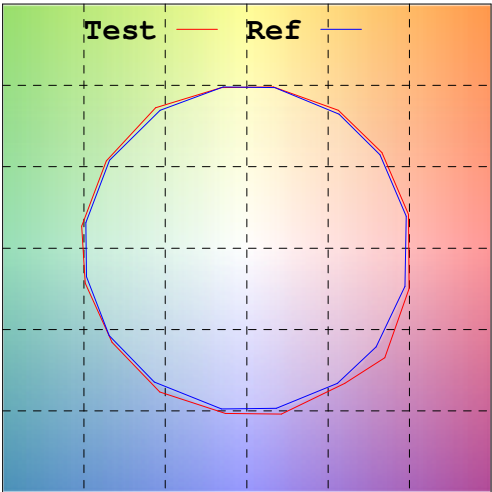
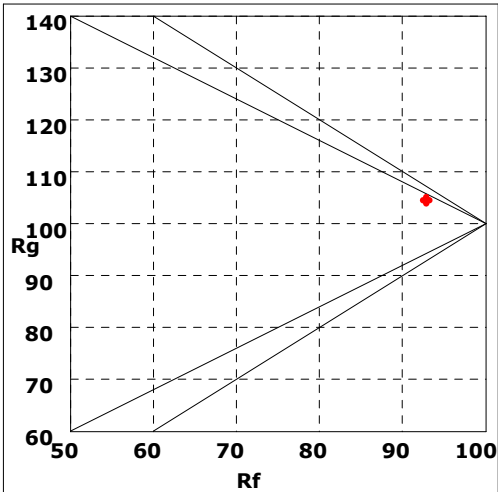
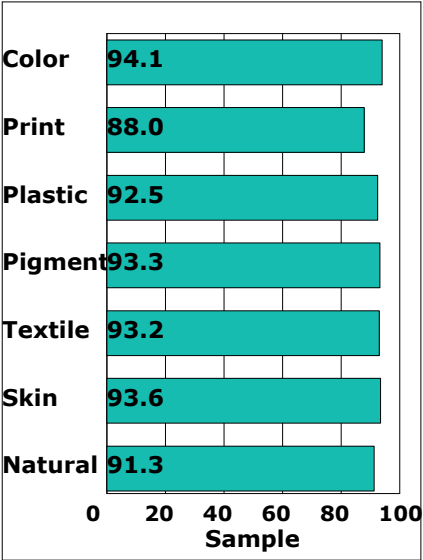
Electrical parameters:

Effic: 41.7 Lm/W Energy: 45.4 Effi: G
U: 220.4 V I: 1.625 A P: 354.000 W Pf: 0.988

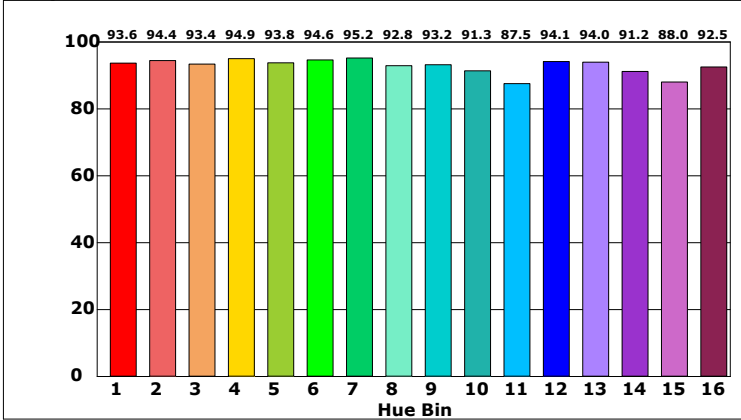
Rf: 92.8 CCT: 4908K u': 0.2182
Rg: 104.5 LER: 256.7 Duv: -0.00840 v': 0.4770



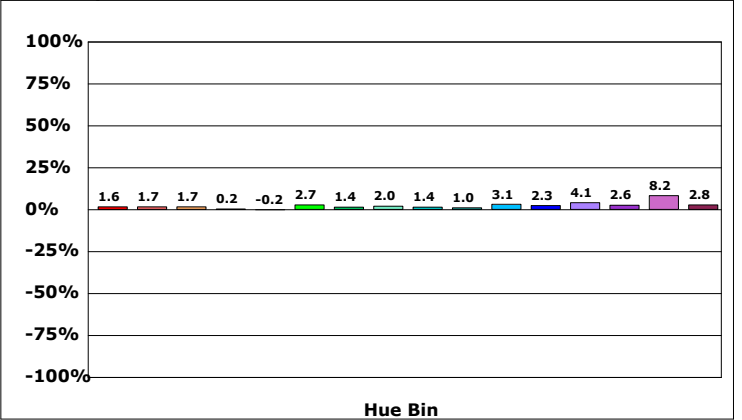
500			
Hue Bin	Rf	Chroma	Hue
1	93.6	1.6%	0.7%
2	94.4	1.7%	0.5%
3	93.4	1.7%	1.7%
4	94.9	0.2%	0.9%
5	93.8	-0.2%	1.0%
6	94.6	2.7%	1.5%
7	95.2	1.4%	1.6%
8	92.8	2.0%	2.5%
9	93.2	1.4%	3.6%
10	91.3	1.0%	4.5%
11	87.5	3.1%	6.2%
12	94.1	2.3%	2.8%
13	94.0	4.1%	2.3%
14	91.2	2.6%	3.7%
15	88.0	8.2%	-2.6%
16	92.5	2.8%	-0.8%



Rf by Bue

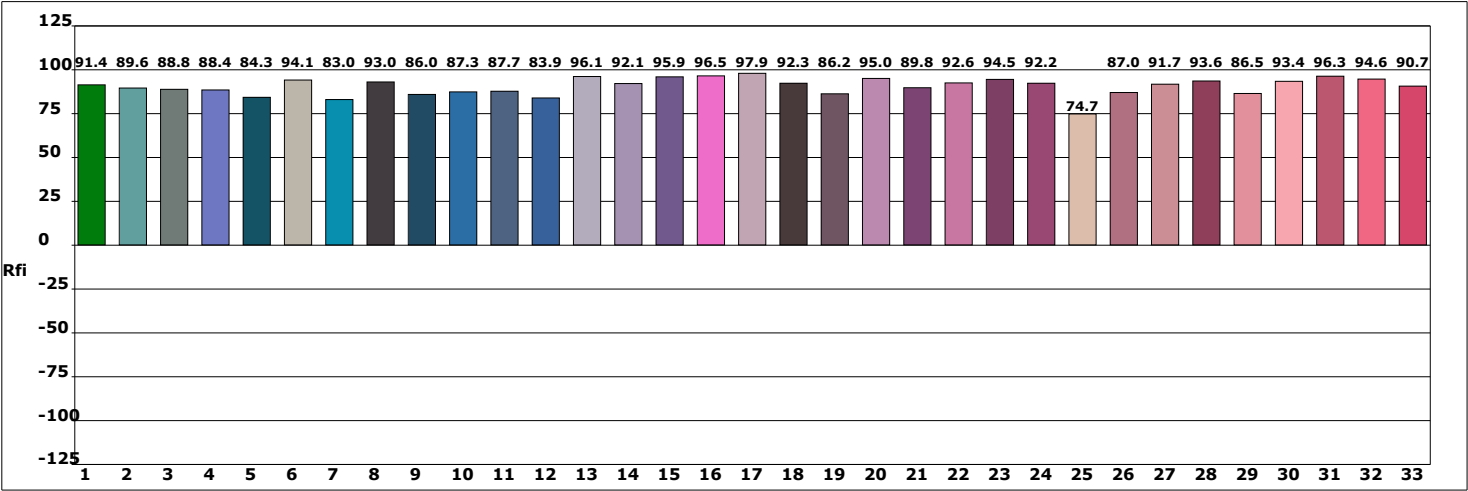
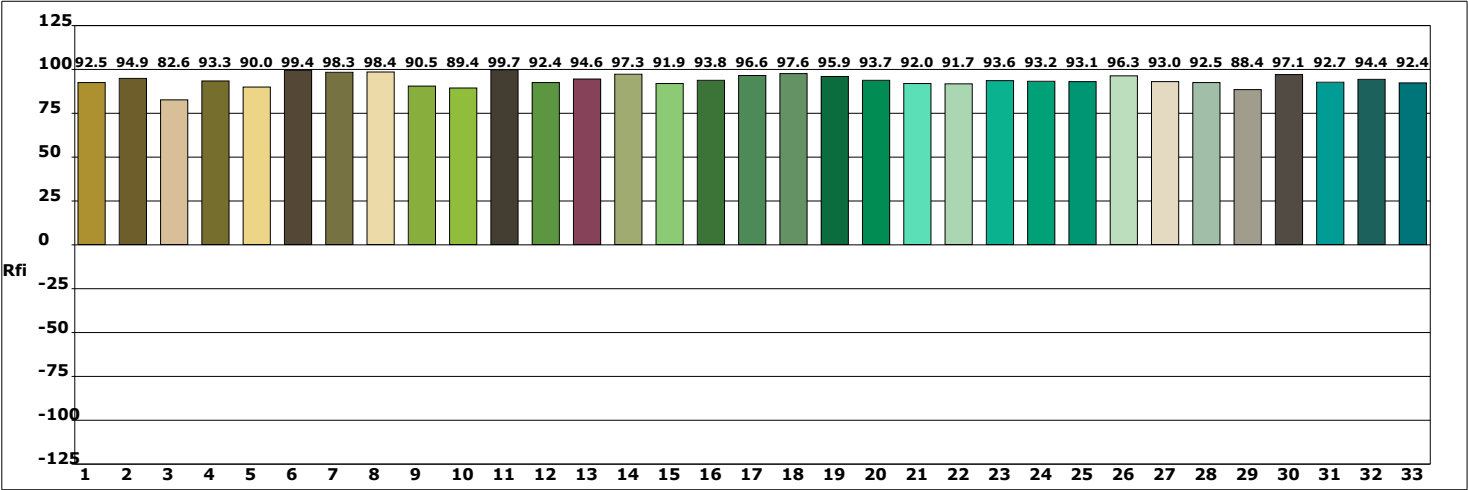
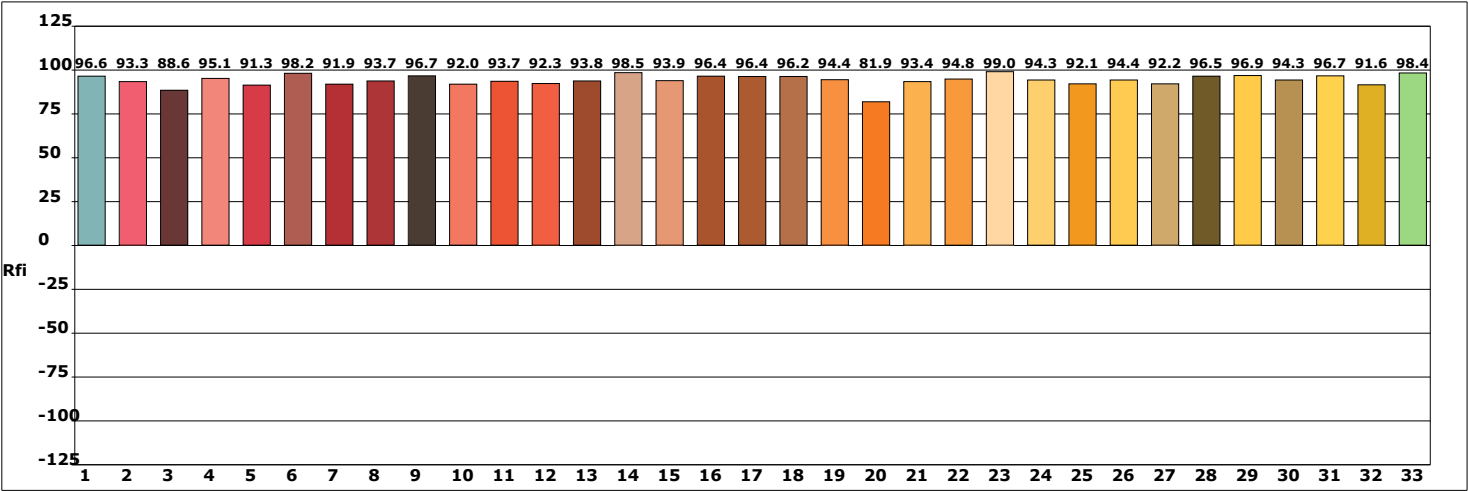


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

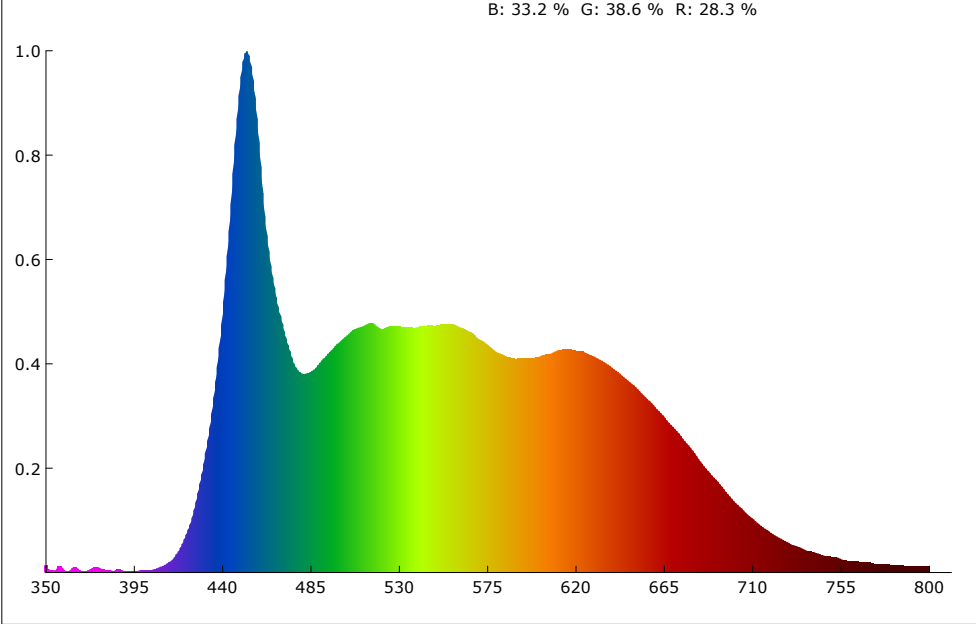
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 07/16/14



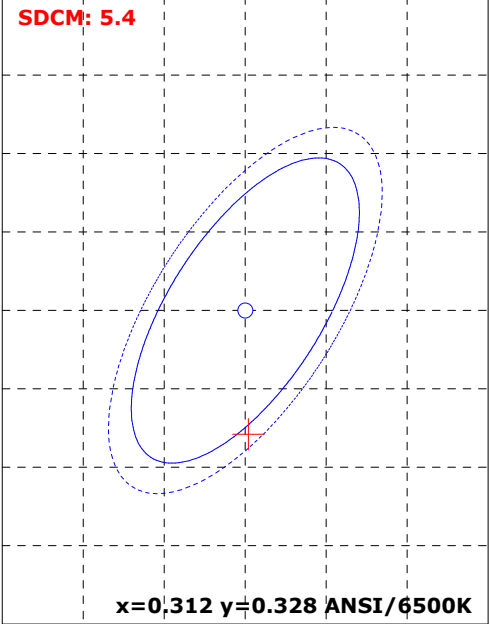
Product model:
Product number:
Tester:
Remarks:

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

Spectrogram



SDCM



Color Parameter:

x: 0.3125	y: 0.3203	u: 0.2010	v: 0.3090	u': 0.2010	v': 0.4635
R_ratio: 28.3 %	G_ratio: 38.6 %	B_ratio: 33.2 %	RedRatio: 15.5 %	GreenRatio: 79.6 %	BlueRatio: 4.9 %

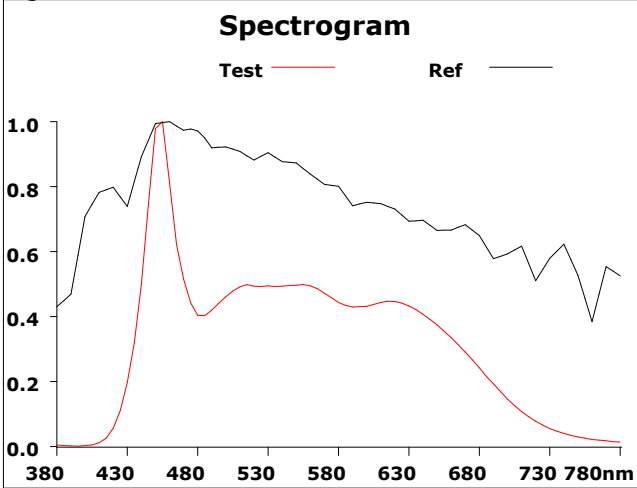
Ra: 97.1	AvgR: 95.6						
R1: 96.6	R2: 98.2	R3: 96.1	R4: 98.8	R5: 96.9	R6: 94.5	R7: 98.3	R8: 97.9
R9: 95.6	R10: 97.0	R11: 97.4	R12: 76.2	R13: 97.8	R14: 97.6	R15: 95.7	

CCT: 6592 K	Flux: 16041.865 lm	PeakWave: 453.3 nm	SDCM: 5.4
S/P: 2.4	CentralWave: 455.1 nm	DominantWave: 483.2 nm	CentroidWave: 552.2 nm
HalfWidth: 29.0 nm	duv: -0.00126	purity: 8.1 %	CQS: 91.4
LER(TM-30): 266.3	Ep: 60237.0 mw	Rg: 100.1	Rf: 91.7
Red Ep: 16371.9 mw	Near red Ep: 2047.6 mw	Near infrared Ep: 140.0 mw	

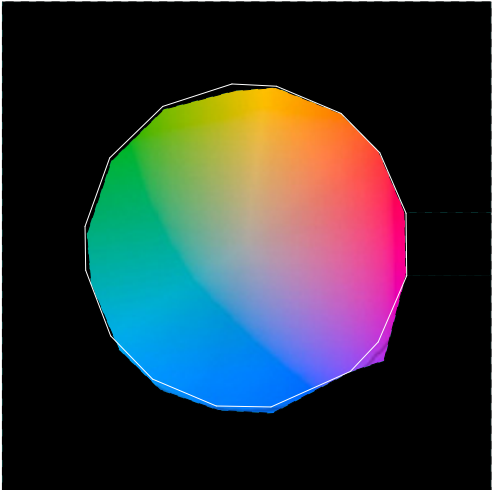
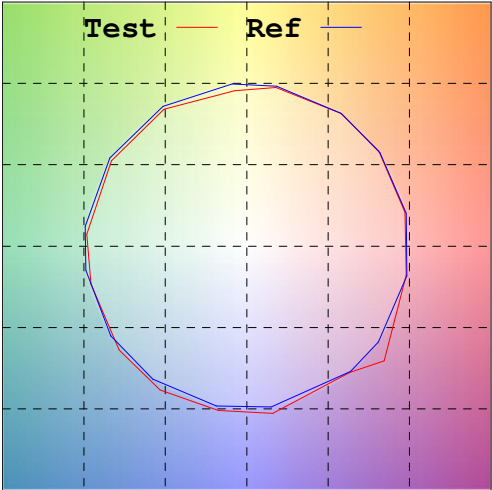
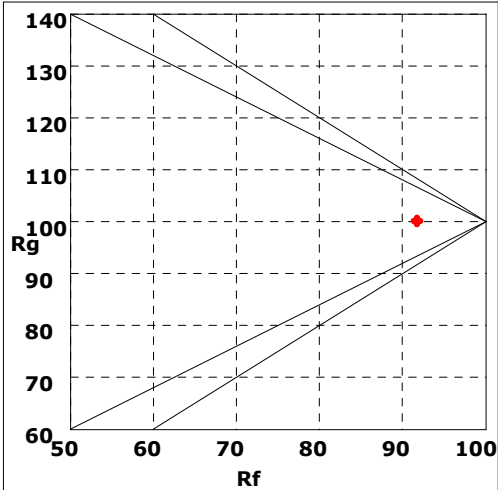
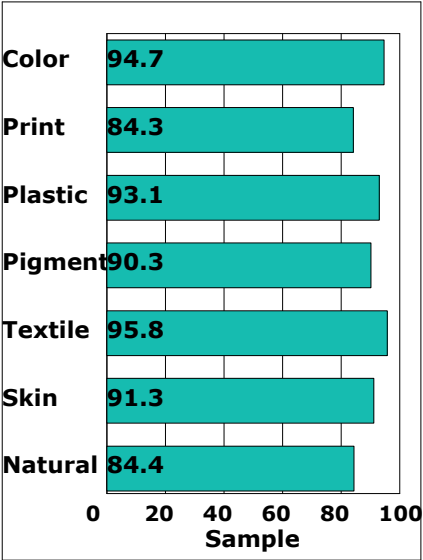
Electrical parameters:

Effic: 43.4 Lm/W	Energy: 47.3	Effi: G	
U: 221.0 V	I: 1.692 A	P: 369.700 W	Pf: 0.988

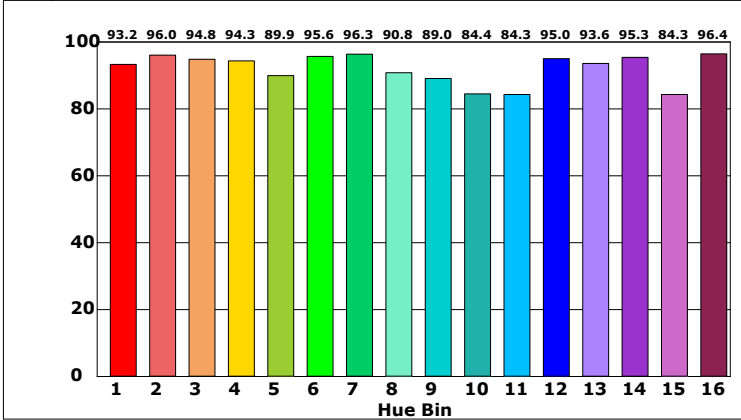
Rf: 91.7 CCT: 6592K u': 0.2010
Rg: 100.1 LER: 266.3 Duv: -0.00126 v': 0.4635



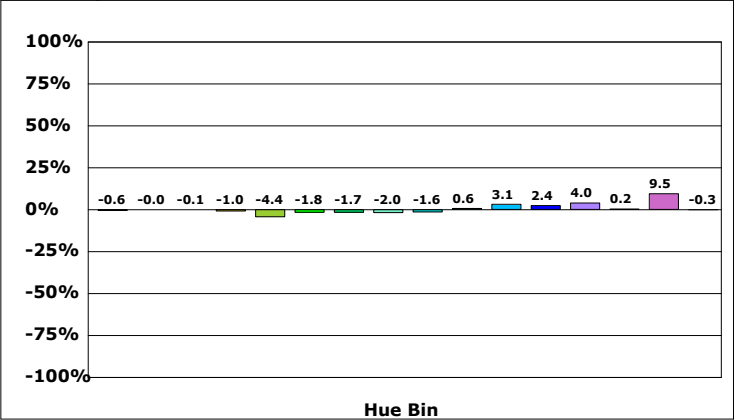
500			
Hue Bin	Rf	Chroma	Hue
1	93.2	-0.6%	0.8%
2	96.0	-0.0%	1.5%
3	94.8	-0.1%	0.2%
4	94.3	-1.0%	0.3%
5	89.9	-4.4%	-0.6%
6	95.6	-1.8%	0.5%
7	96.3	-1.7%	1.0%
8	90.8	-2.0%	4.4%
9	89.0	-1.6%	8.8%
10	84.4	0.6%	10.0%
11	84.3	3.1%	7.4%
12	95.0	2.4%	1.7%
13	93.6	4.0%	0.2%
14	95.3	0.2%	-0.8%
15	84.3	9.5%	-7.6%
16	96.4	-0.3%	0.3%



Rf by Bue

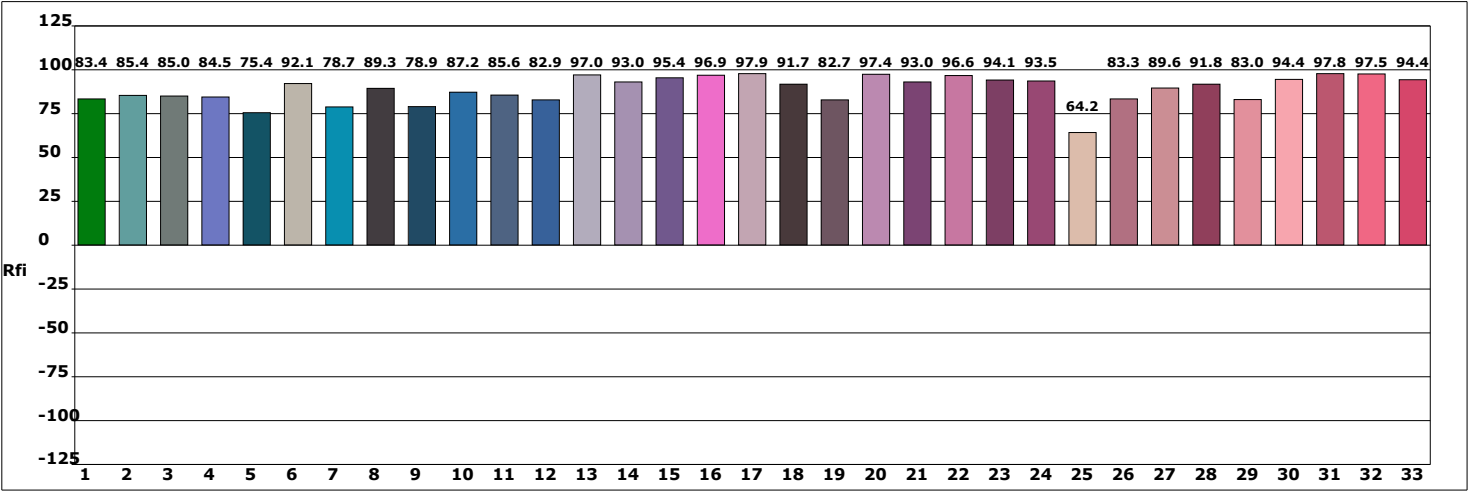
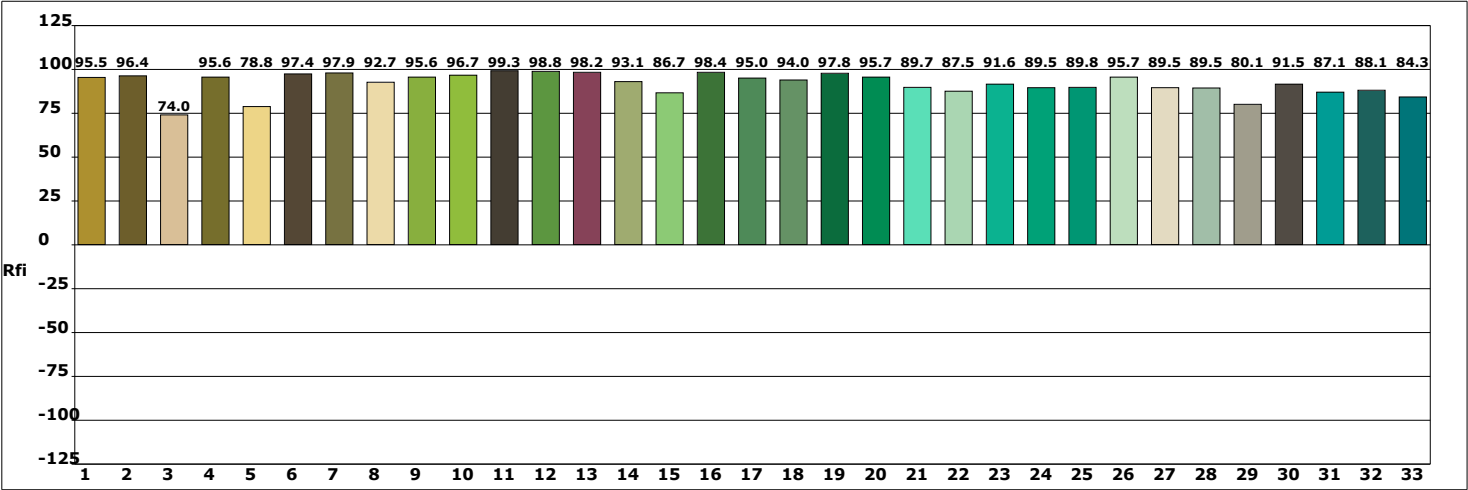
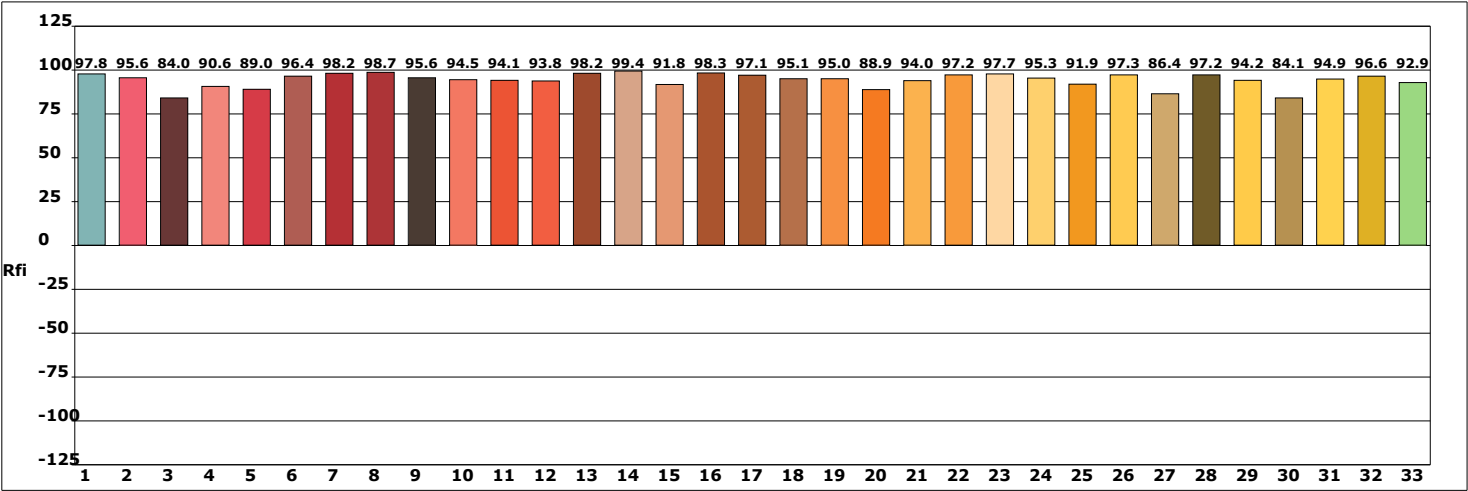


Chroma by Bue



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