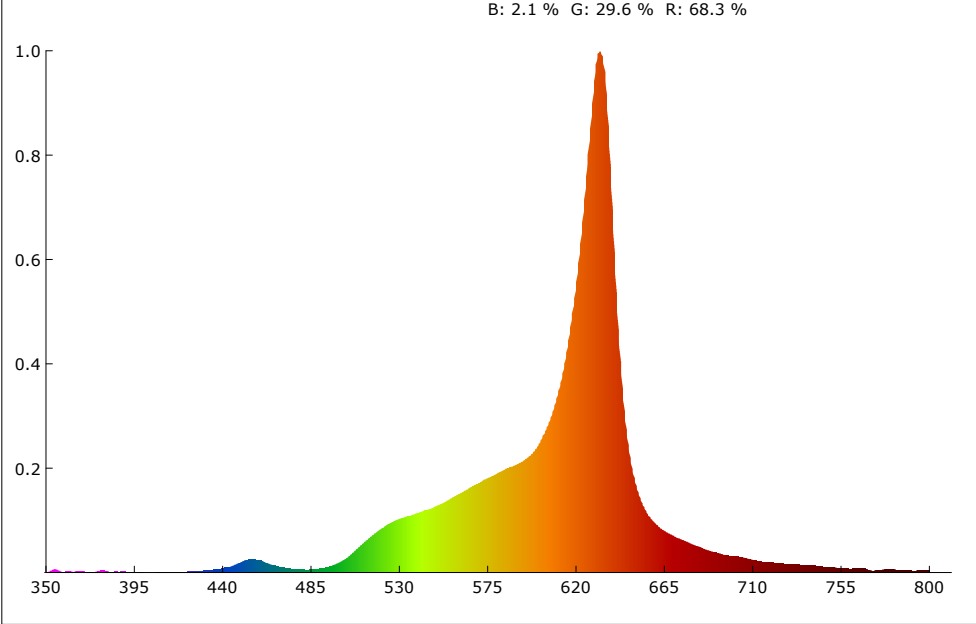
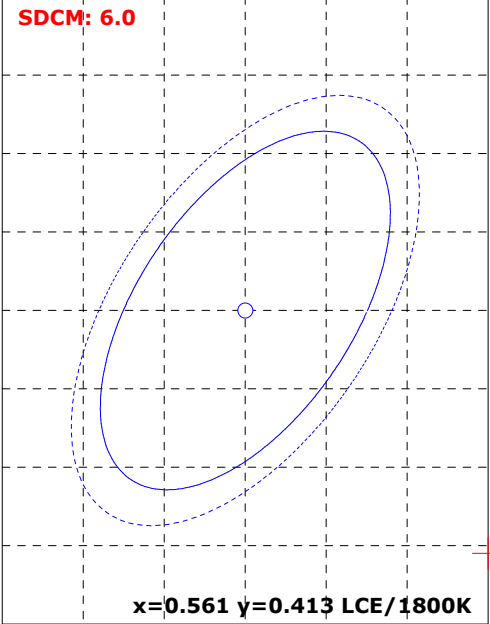


Spectrogram



SDCM



Color Parameter:

x: 0.5647 y: 0.4045 u: 0.3359 v: 0.3609 u': 0.3359 v': 0.5414
R_ratio: 68.3 % G_ratio: 29.6 % B_ratio: 2.1 % RedRatio: 41.9 % GreenRatio: 57.8 % BlueRatio: 0.3 %

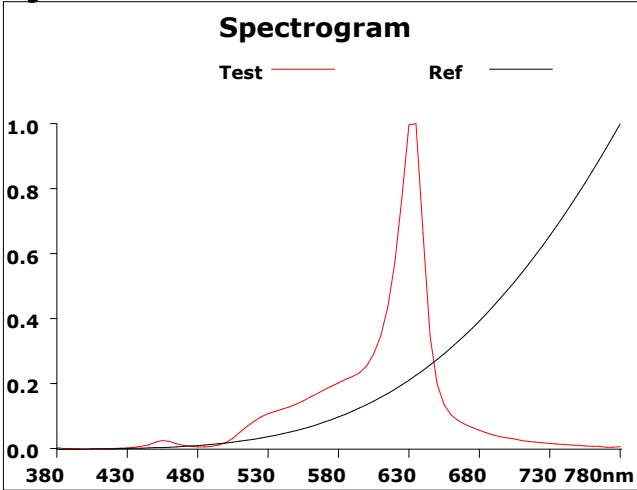
Ra: 92.7 AvgR: 91.2
R1: 95.5 R2: 99.1 R3: 87.7 R4: 91.4 R5: 95.6 R6: 90.2 R7: 92.9 R8: 89.7
R9: 75.0 R10: 93.4 R11: 83.0 R12: 93.9 R13: 95.8 R14: 88.3 R15: 95.9

CCT: 1678 K Flux: 4855.172 lm PeakWave: 632.5 nm SDCM: 6.0
S/P: 0.7 CentralWave: 630.3 nm DominantWave: 592.2 nm CentroidWave: 610.8 nm
HalfWidth: 22.3 nm duv: 0.00040 purity: 90.9 % CQS: 50.0
LER(TM-30): 292.8 Ep: 16580.4 mw Rg: 102.5 Rf: 85.4
Red Ep: 10966.1 mw Near red Ep: 439.7 mw Near infrared Ep: 40.4 mw

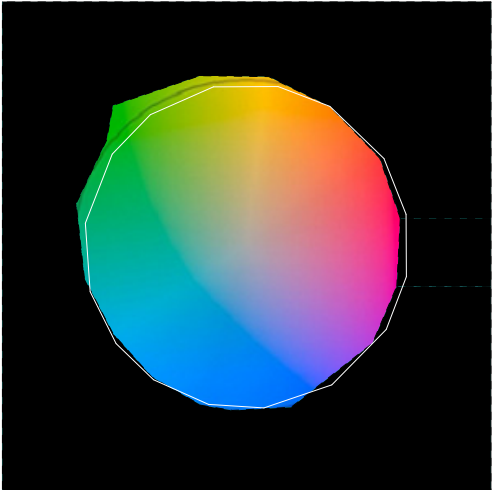
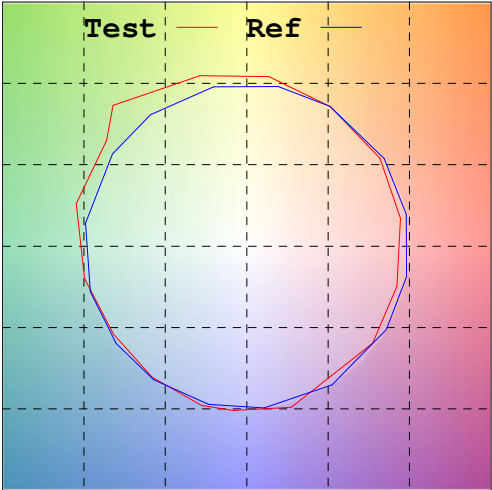
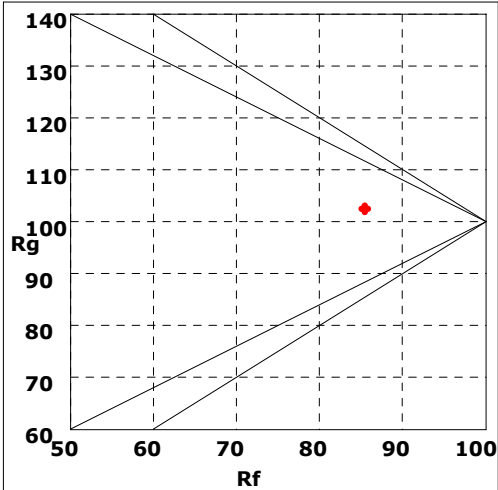
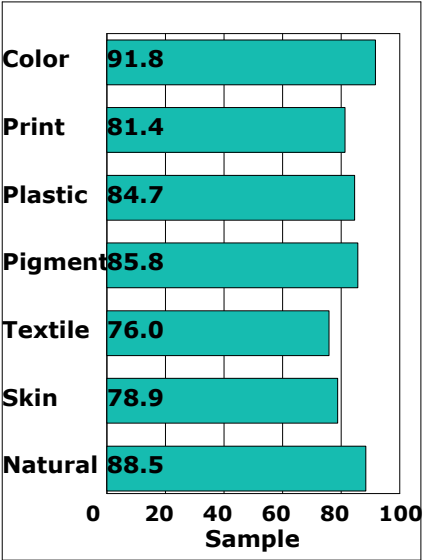
Electrical parameters:

Effic: 33.7 Lm/W Energy: 36.7 Effi: G
U: 219.4 V I: 0.974 A P: 143.900 W Pf: 0.673

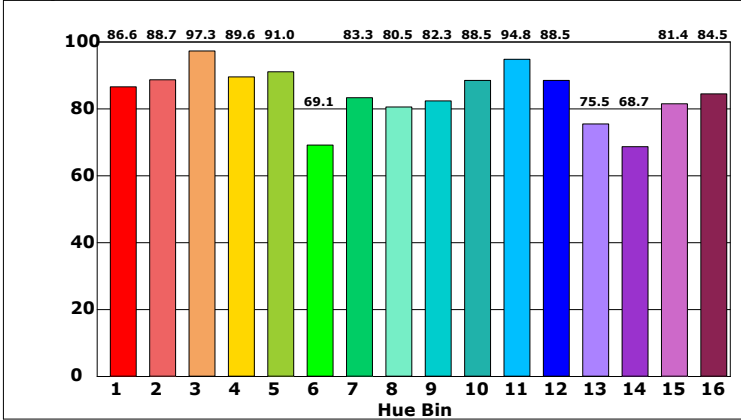
Rf: 85.4 CCT: 1678K u': 0.3359
Rg: 102.5 LER: 292.8 Duv: 0.00040 v': 0.5414



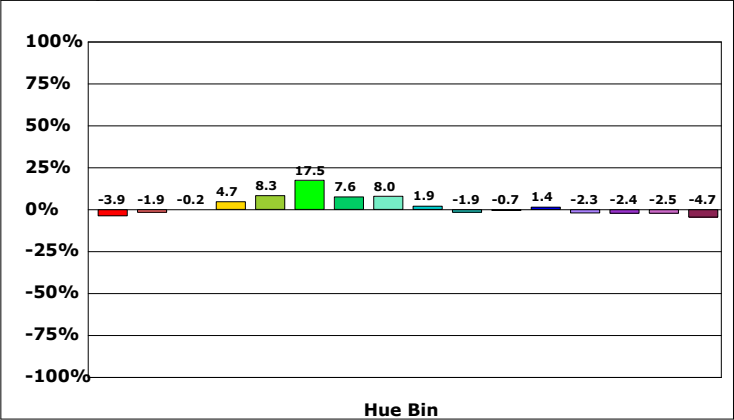
500			
Hue Bin	Rf	Chroma	Hue
1	86.6	-3.9%	-1.9%
2	88.7	-1.9%	1.5%
3	97.3	-0.2%	-0.2%
4	89.6	4.7%	6.8%
5	91.0	8.3%	6.6%
6	69.1	17.5%	16.1%
7	83.3	7.6%	-5.2%
8	80.5	8.0%	-10.7%
9	82.3	1.9%	-8.5%
10	88.5	-1.9%	-5.9%
11	94.8	-0.7%	-1.7%
12	88.5	1.4%	-4.4%
13	75.5	-2.3%	-19.1%
14	68.7	-2.4%	-28.5%
15	81.4	-2.5%	-11.7%
16	84.5	-4.7%	-7.0%



Rf by Bue

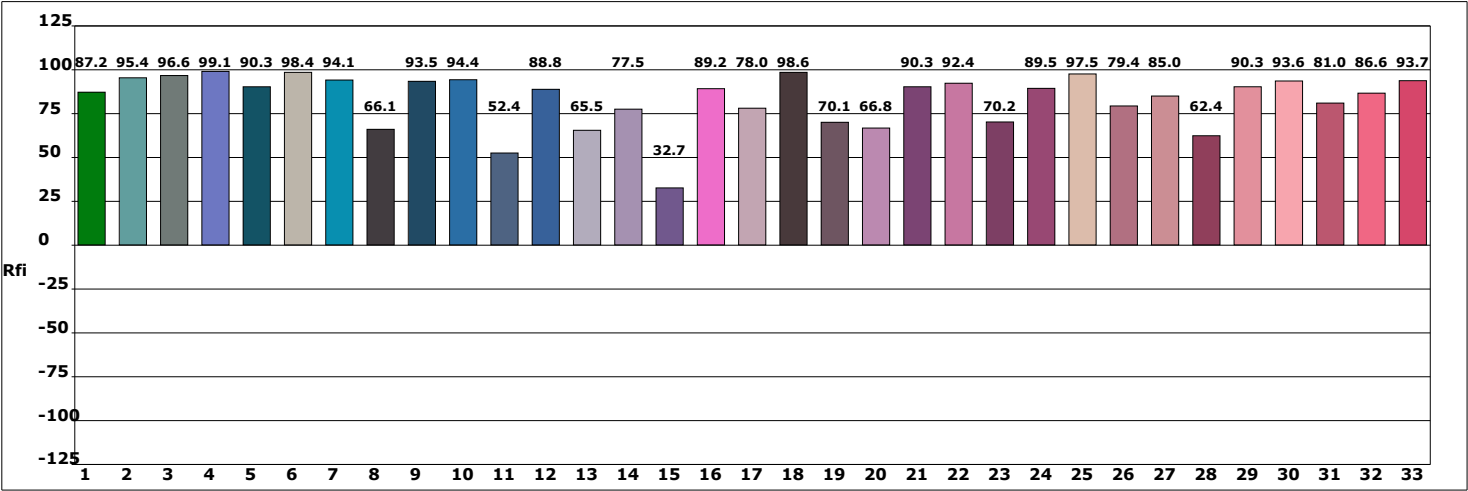
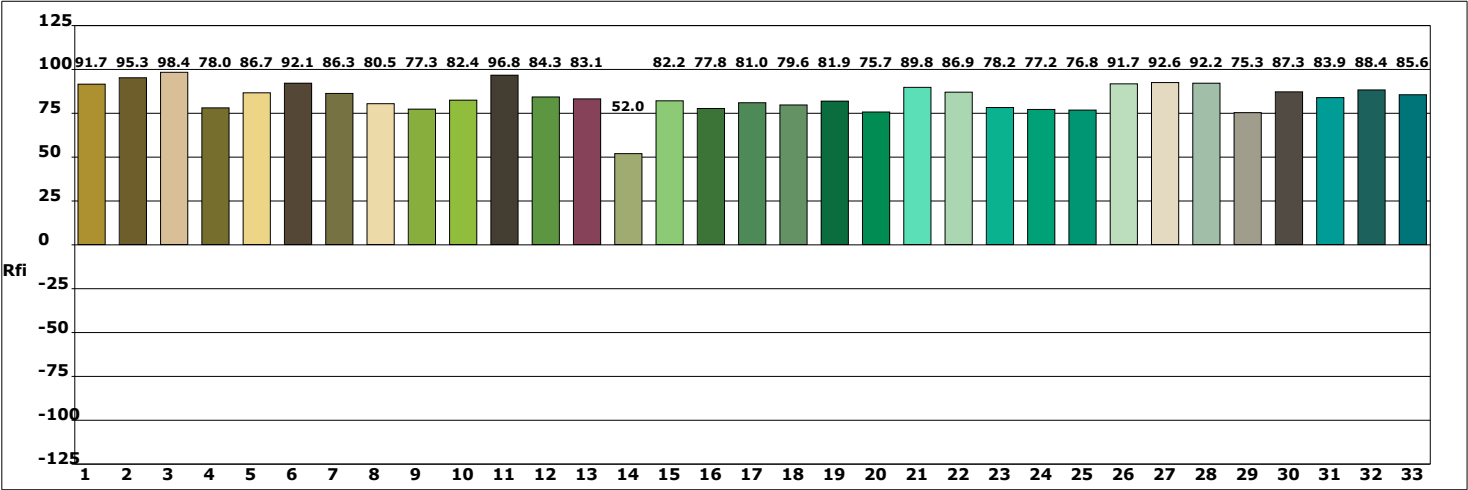
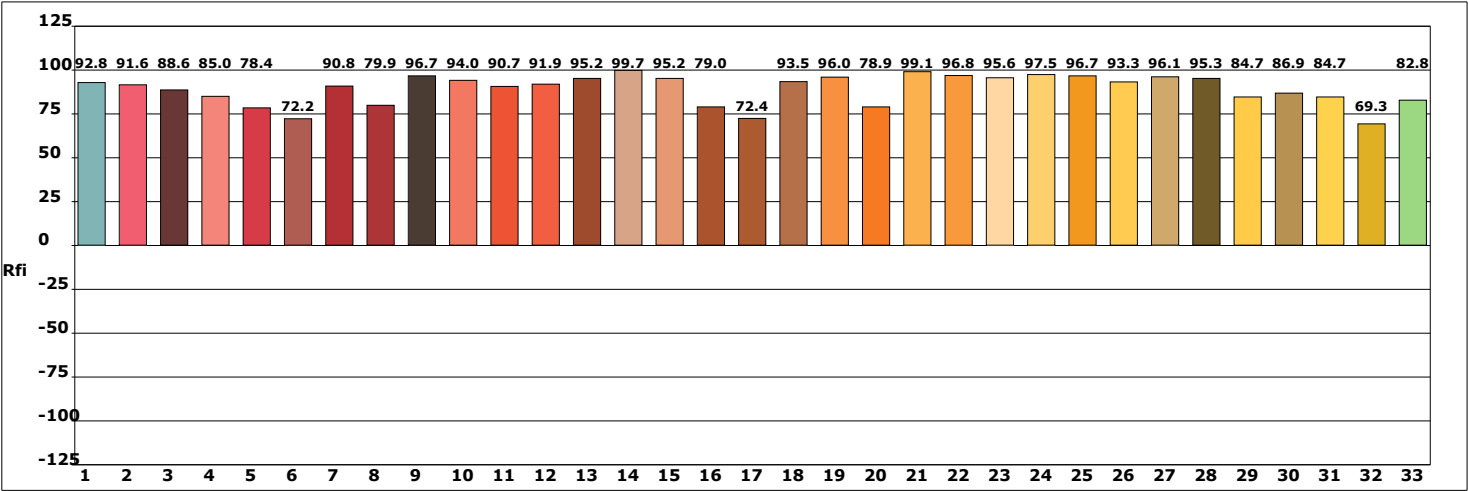


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

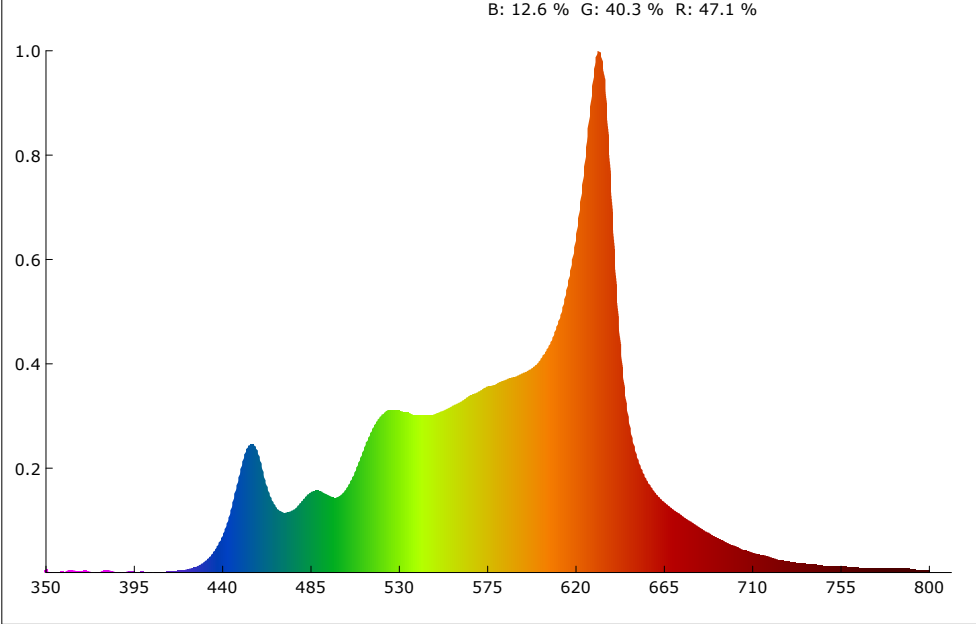
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 07/16/14



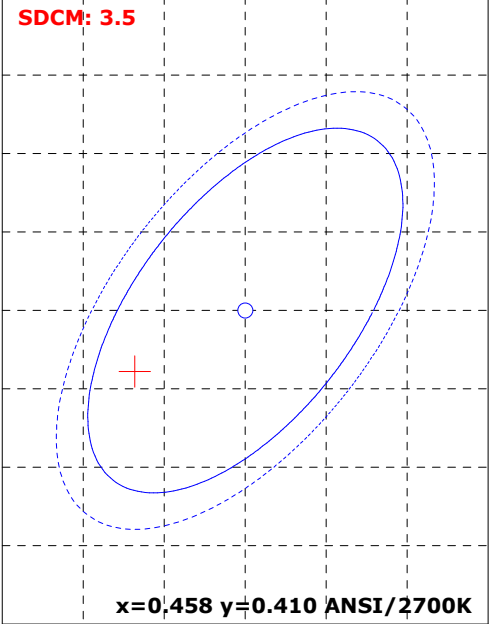
Product model:
Product number:
Tester:
Remarks:

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

Spectrogram



SDCM



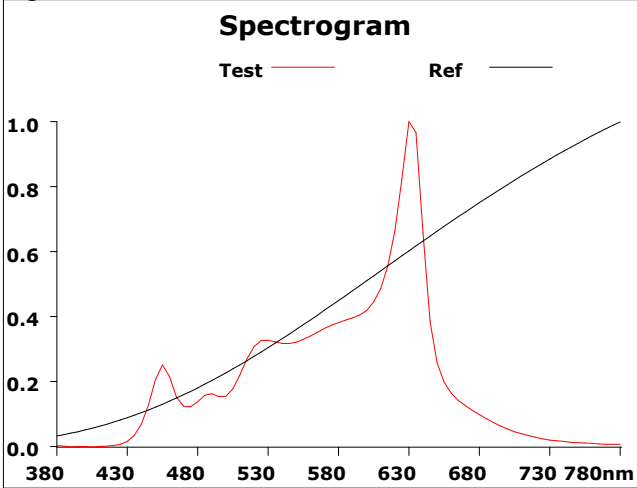
Color Parameter:

x: 0.4510	y: 0.4062	u: 0.2587	v: 0.3495	u': 0.2587	v': 0.5243		
R_ratio: 47.1 %	G_ratio: 40.3 %	B_ratio: 12.6 %	RedRatio: 26.8 %	GreenRatio: 71.4 %	BlueRatio: 1.8 %		
Ra: 95.2	AvgR: 94.6						
R1: 93.4	R2: 97.5	R3: 94.9	R4: 92.9	R5: 94.5	R6: 92.6	R7: 98.4	R8: 98.0
R9: 96.9	R10: 98.7	R11: 88.2	R12: 87.4	R13: 94.2	R14: 94.8	R15: 96.7	
CCT: 2794 K	Flux: 6332.232 lm		PeakWave: 632.5 nm		SDCM: 3.5		
S/P: 1.4	CentralWave: 627.6 nm		DominantWave: 584.0 nm		CentroidWave: 583.5 nm		
HalfWidth: 28.3 nm	duv: -0.00088		purity: 57.3 %		CQS: 92.7		
LER(TM-30): 320.1	Ep: 19780.7 mw		Rg: 101.8		Rf: 92.1		
Red Ep: 9078.7 mw	Near red Ep: 419.4 mw		Near infrared Ep: 40.0 mw				

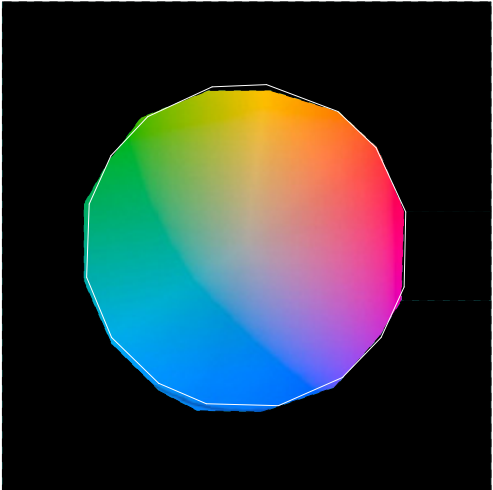
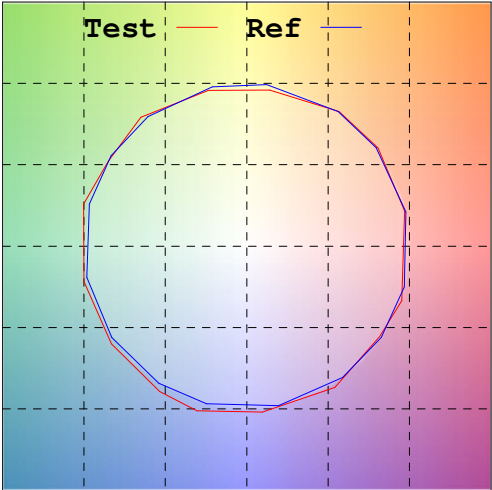
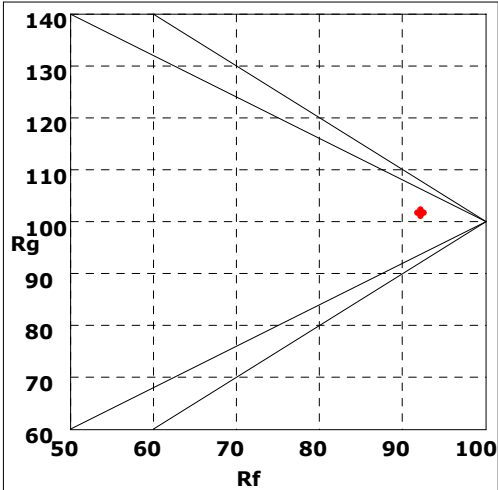
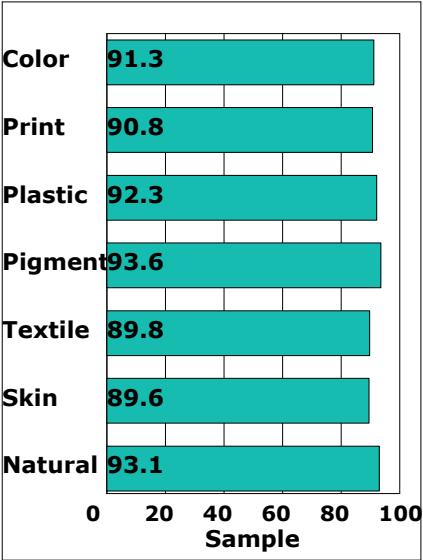
Electrical parameters:

Effic: 36.9 Lm/W	Energy: 40.2	Effi: G	
U: 219.4 V	I: 1.140 A	P: 171.400 W	Pf: 0.685

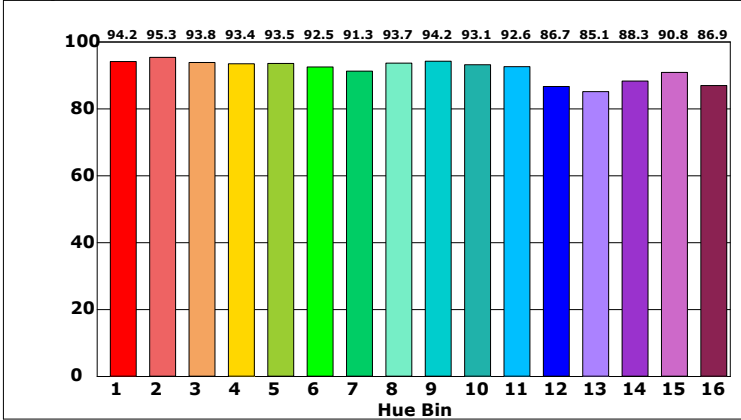
Rf: 92.1 CCT: 2794K u': 0.2587
Rg: 101.8 LER: 320.1 Duv: -0.00088 v': 0.5243



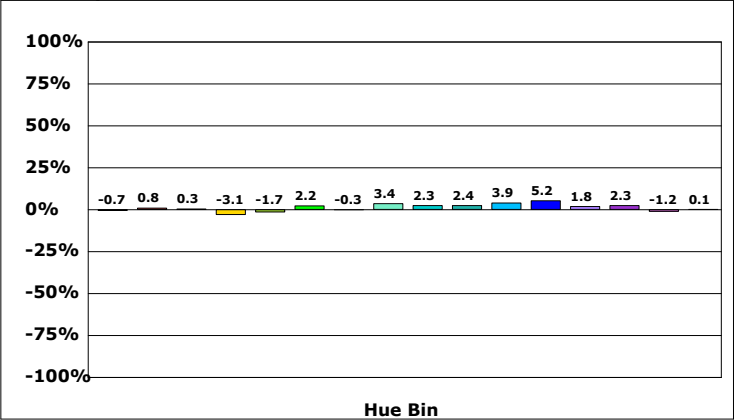
500			
Hue Bin	Rf	Chroma	Hue
1	94.2	-0.7%	0.6%
2	95.3	0.8%	-0.9%
3	93.8	0.3%	-0.6%
4	93.4	-3.1%	-2.4%
5	93.5	-1.7%	2.7%
6	92.5	2.2%	3.8%
7	91.3	-0.3%	3.6%
8	93.7	3.4%	0.8%
9	94.2	2.3%	2.2%
10	93.1	2.4%	3.2%
11	92.6	3.9%	3.2%
12	86.7	5.2%	-4.9%
13	85.1	1.8%	-10.4%
14	88.3	2.3%	-7.2%
15	90.8	-1.2%	0.0%
16	86.9	0.1%	-8.7%



Rf by Bue

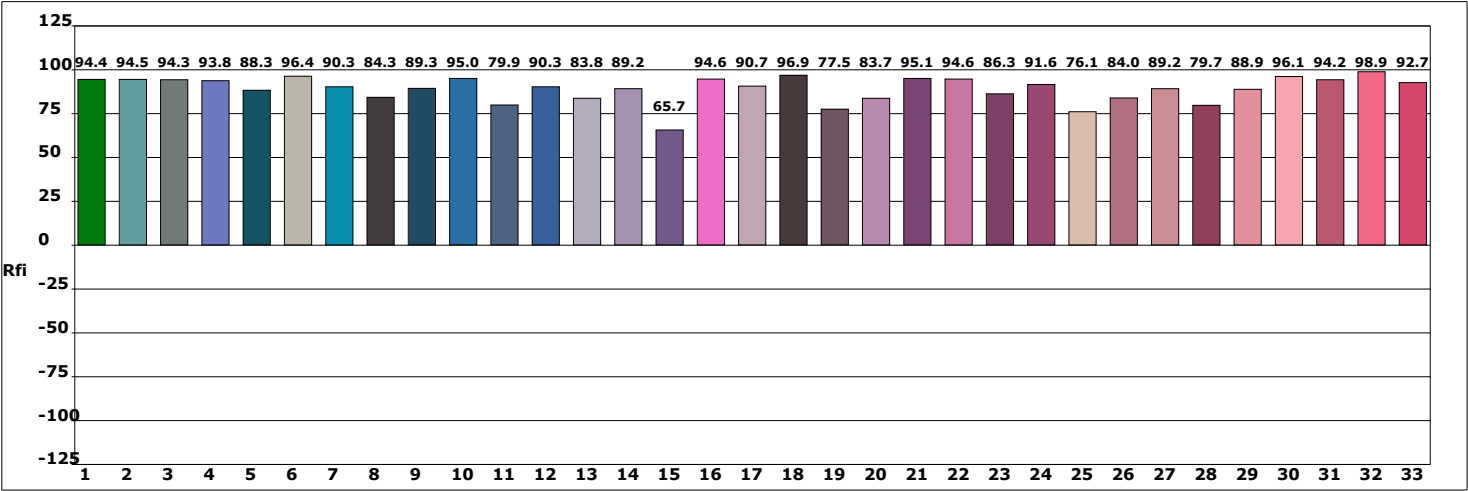
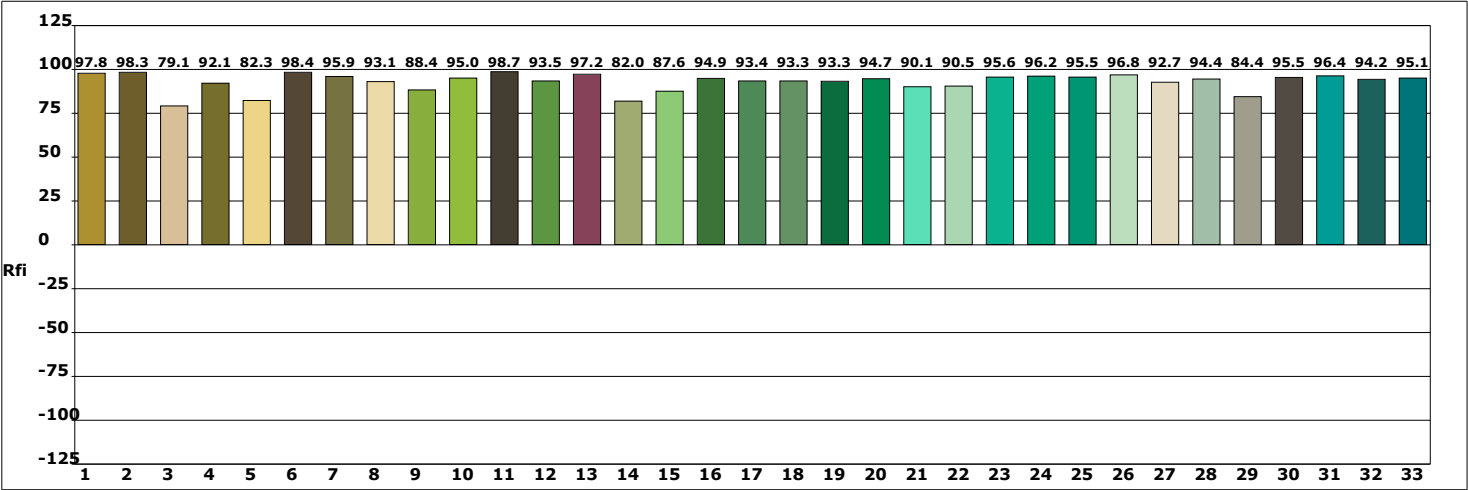
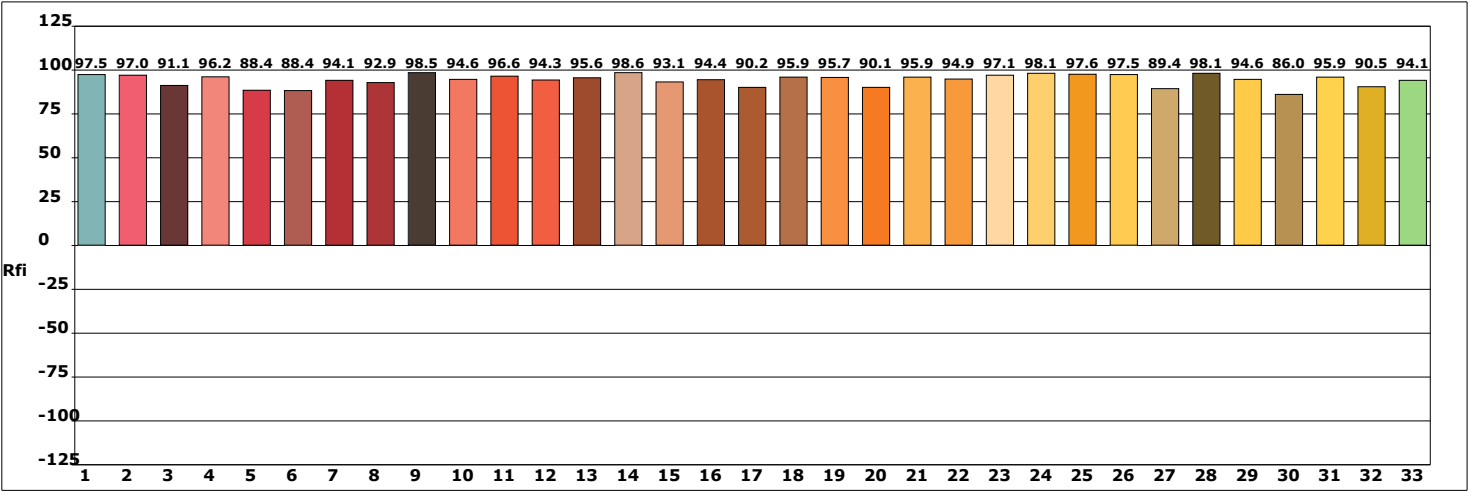


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

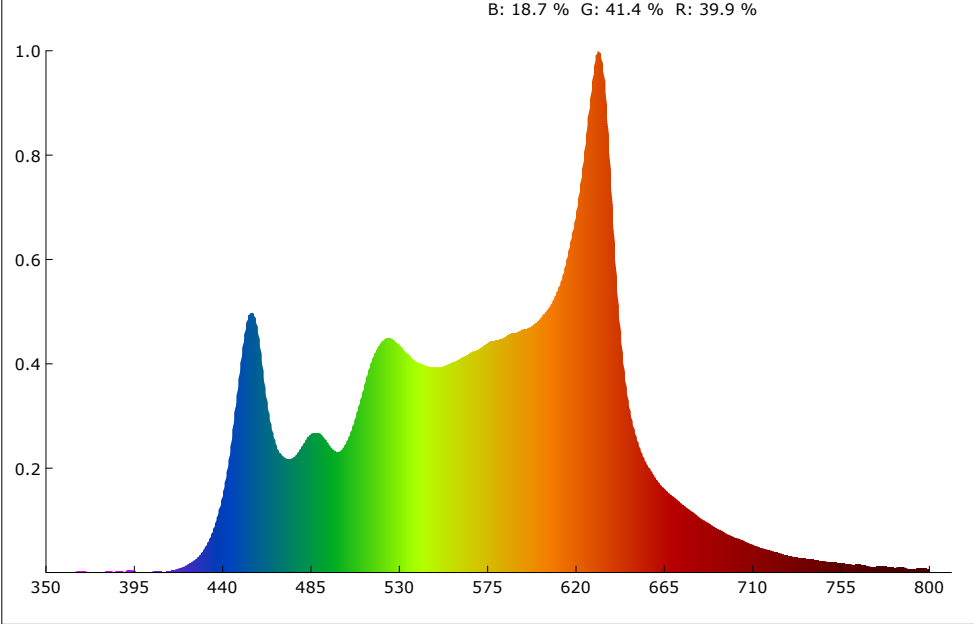
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 07/16/14



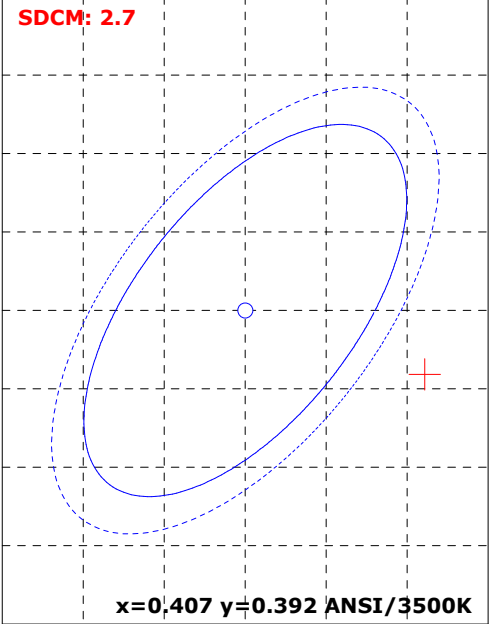
Product model:
Product number:
Tester:
Remarks:

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

Spectrogram



SDCM



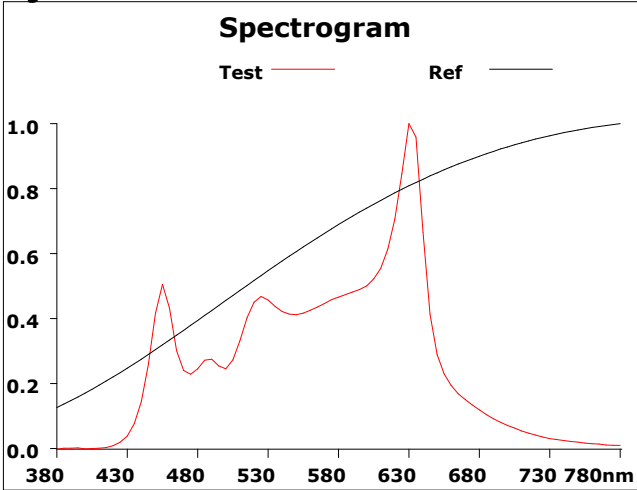
Color Parameter:

x: 0.4061	y: 0.3859	u: 0.2382	v: 0.3396	u': 0.2382	v': 0.5094
R_ratio: 39.9 %	G_ratio: 41.4 %	B_ratio: 18.7 %	RedRatio: 23.1 %	GreenRatio: 74.2 %	BlueRatio: 2.7 %
Ra: 95.1	AvgR: 93.8				
R1: 92.6	R2: 96.4	R3: 97.1	R4: 94.0	R5: 94.3	R6: 92.3
R7: 97.8	R8: 96.7	R9: 94.5	R10: 95.7	R11: 89.4	R12: 82.0
R13: 93.1	R14: 96.5	R15: 94.7			
CCT: 3442 K	Flux: 6641.365 lm	PeakWave: 632.5 nm	SDCM: 2.7		
S/P: 1.7	CentralWave: 623.8 nm	DominantWave: 582.1 nm	CentroidWave: 572.4 nm		
HalfWidth: 36.6 nm	duv: -0.00227	purity: 37.7 %	CQS: 93.3		
LER(TM-30): 313.7	Ep: 21169.8 mw	Rg: 101.3	Rf: 91.4		
Red Ep: 8220.0 mw	Near red Ep: 503.9 mw	Near infrared Ep: 41.0 mw			

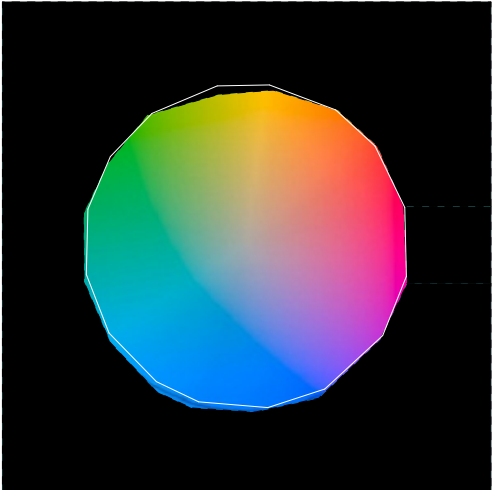
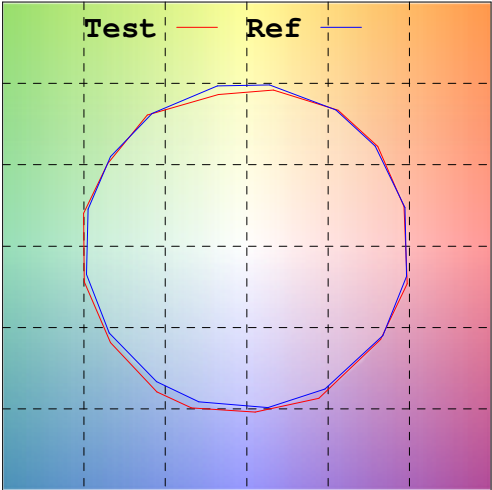
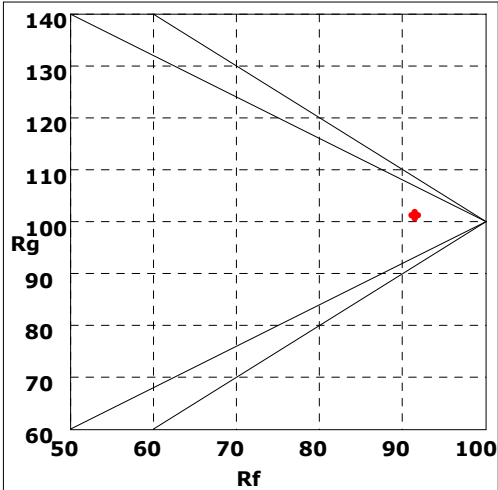
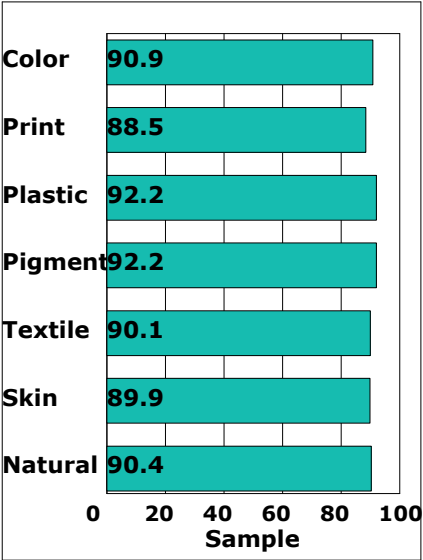
Electrical parameters:

Effic: 36.2 Lm/W	Energy: 39.4	Effi: G	
U: 219.6 V	I: 1.209 A	P: 183.500 W	Pf: 0.690

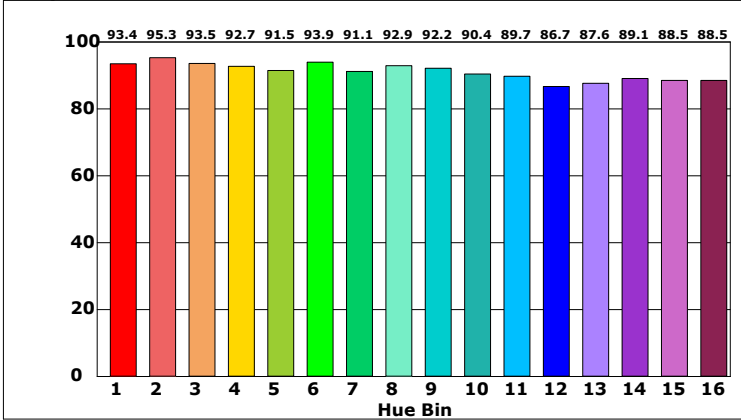
Rf: 91.4 CCT: 3442K u': 0.2382
Rg: 101.3 LER: 313.7 Duv: -0.00227 v': 0.5094



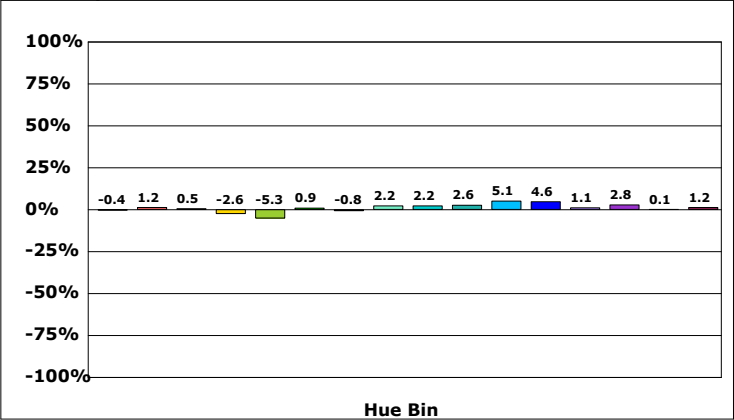
500			
Hue Bin	Rf	Chroma	Hue
1	93.4	-0.4%	0.8%
2	95.3	1.2%	-1.0%
3	93.5	0.5%	-1.2%
4	92.7	-2.6%	-2.8%
5	91.5	-5.3%	0.5%
6	93.9	0.9%	3.1%
7	91.1	-0.8%	4.5%
8	92.9	2.2%	3.0%
9	92.2	2.2%	4.2%
10	90.4	2.6%	5.3%
11	89.7	5.1%	3.7%
12	86.7	4.6%	-3.7%
13	87.6	1.1%	-8.3%
14	89.1	2.8%	-6.2%
15	88.5	0.1%	-2.8%
16	88.5	1.2%	-4.3%



Rf by Bue

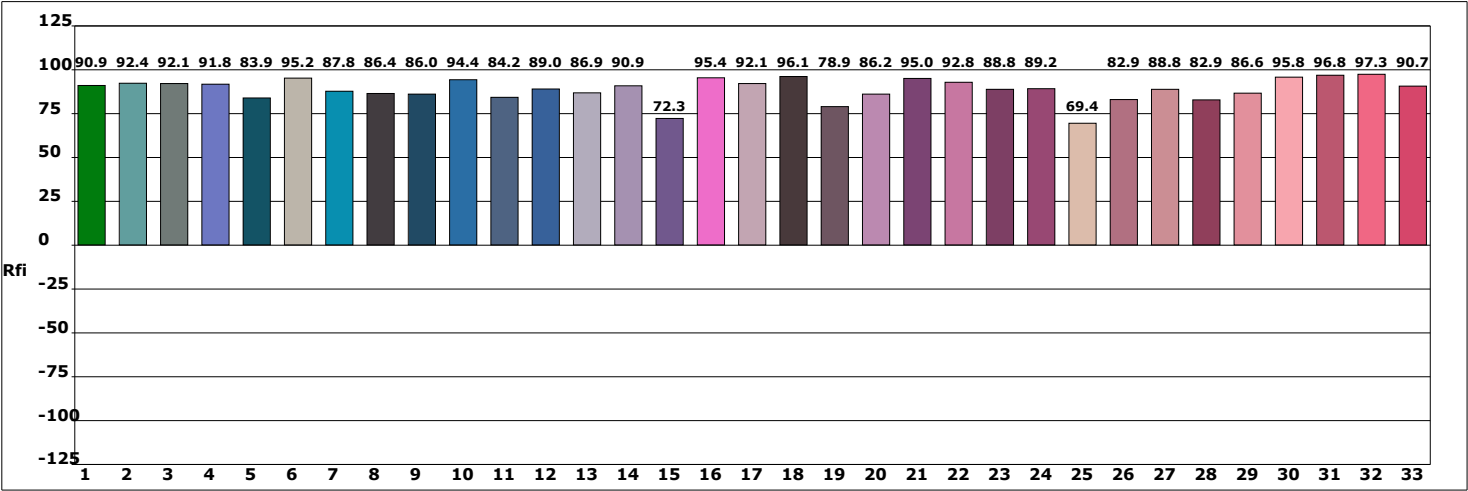
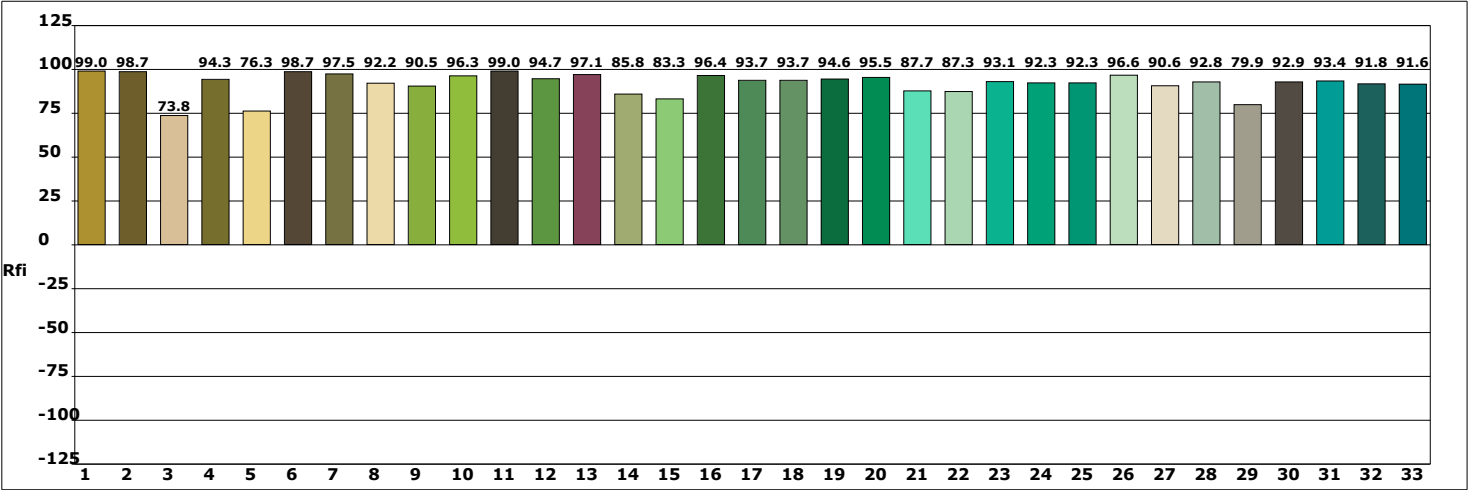
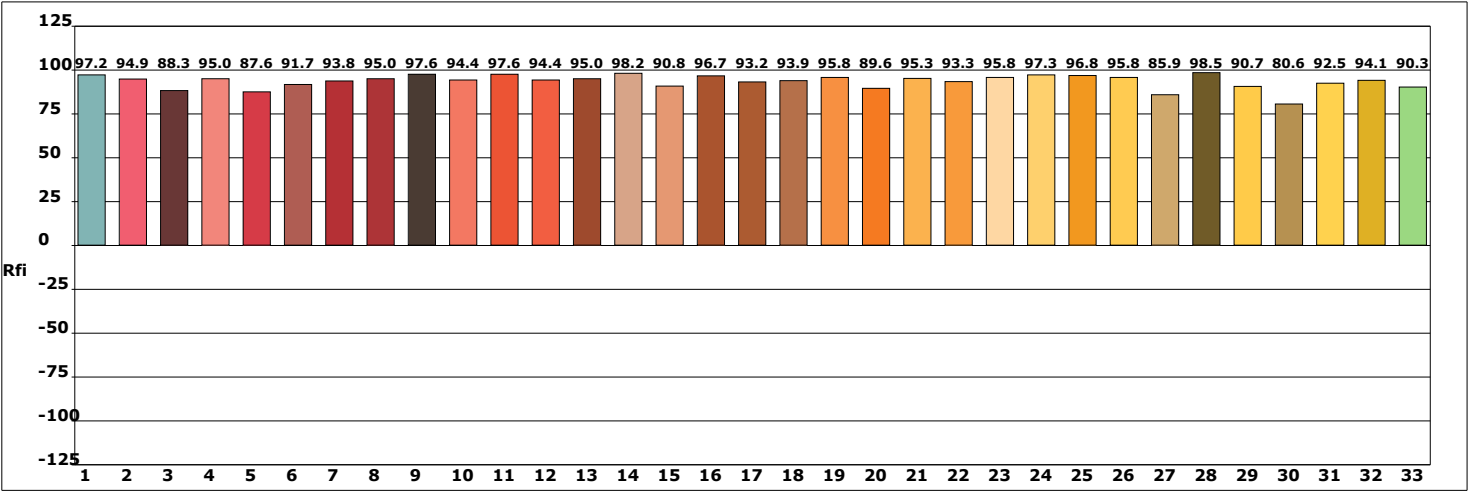


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

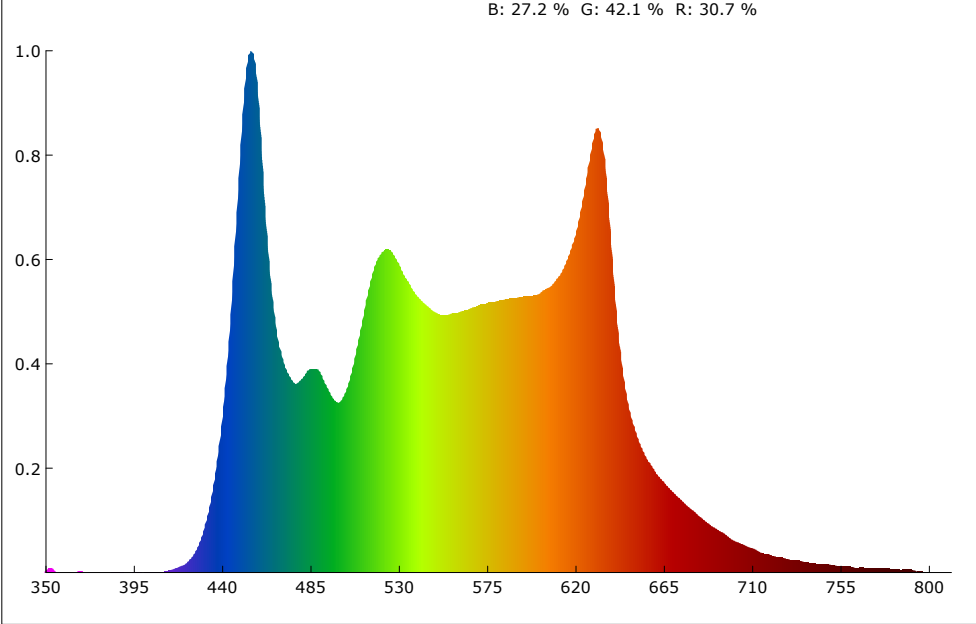
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 07/16/14



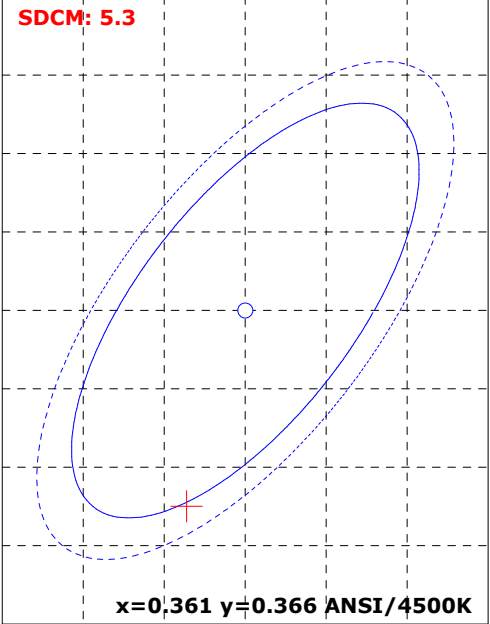
Product model:
Product number:
Tester:
Remarks:

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

Spectrogram



SDCM



Color Parameter:

x: 0.3514 y: 0.3525 u: 0.2153 v: 0.3240 u': 0.2153 v': 0.4860
R_ratio: 30.7 % G_ratio: 42.1 % B_ratio: 27.2 % RedRatio: 18.6 % GreenRatio: 77.5 % BlueRatio: 3.9 %

Ra: 96.3 AvgR: 94.6
R1: 95.3 R2: 98.0 R3: 96.8 R4: 98.1 R5: 96.4 R6: 94.6 R7: 95.8 R8: 95.9
R9: 95.8 R10: 99.3 R11: 95.0 R12: 70.3 R13: 95.8 R14: 96.8 R15: 95.3

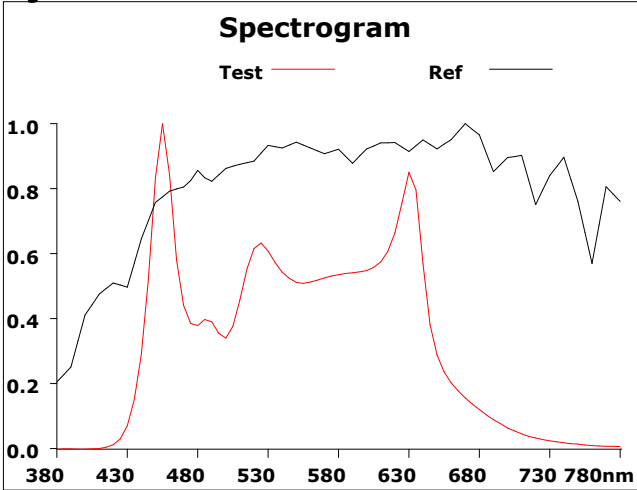
CCT: 4770 K Flux: 6274.937 lm PeakWave: 454.5 nm SDCM: 5.3
S/P: 2.1 CentralWave: 455.6 nm DominantWave: 577.3 nm CentroidWave: 554.9 nm
HalfWidth: 21.6 nm duv: -0.00204 purity: 11.2 % CQS: 91.2
LER(TM-30): 307.0 Ep: 20440.7 mw Rg: 101.2 Rf: 91.0
Red Ep: 6174.9 mw Near red Ep: 315.0 mw Near infrared Ep: 17.6 mw

Electrical parameters:

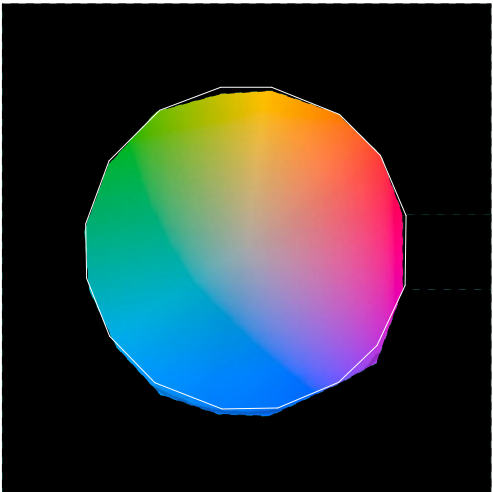
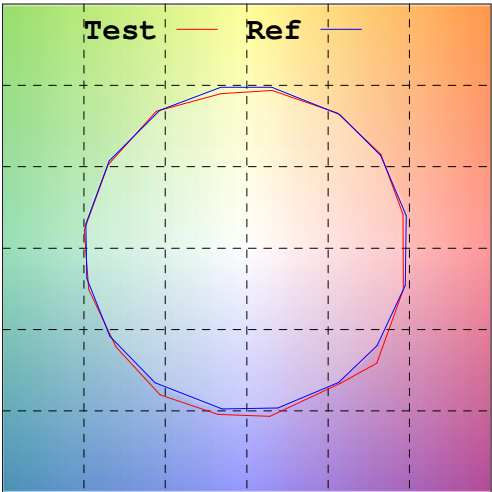
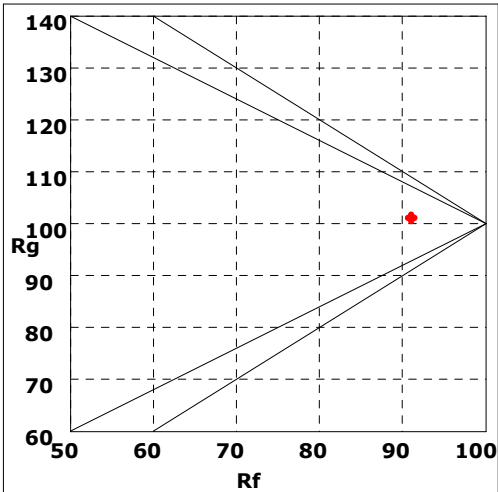
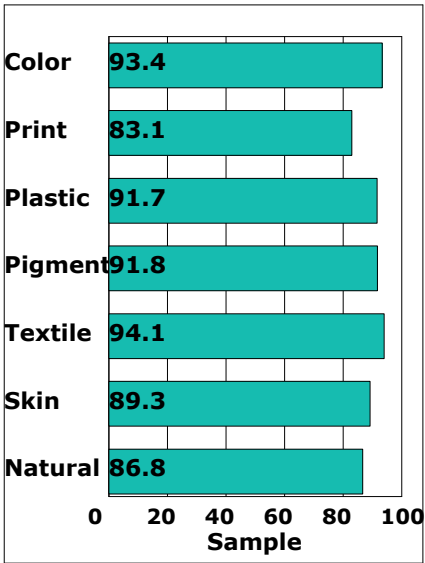
Effic: 35.4 Lm/W Energy: 38.6 Effi: G
U: 219.8 V I: 1.171 A P: 177.200 W Pf: 0.688

Product model: Manufacturer: Guangzhou Hotion Technology Co.,
Product number: Test unit:
Tester: Date of observation: 07/16/14
Remarks:

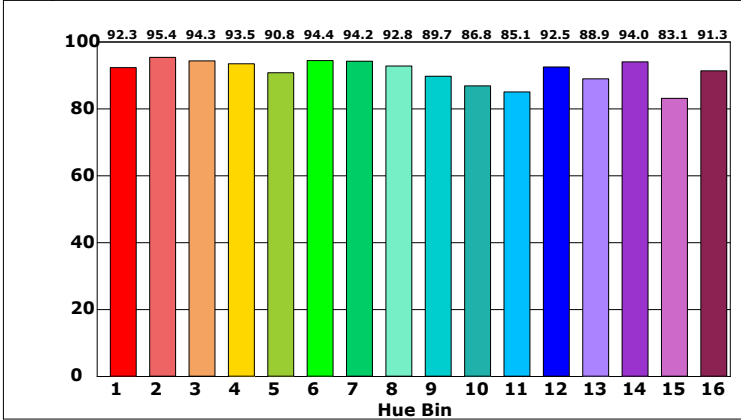
Rf: 91.0 CCT: 4770K u': 0.2153
Rg: 101.2 LER: 307.0 Duv: -0.00204 v': 0.4860



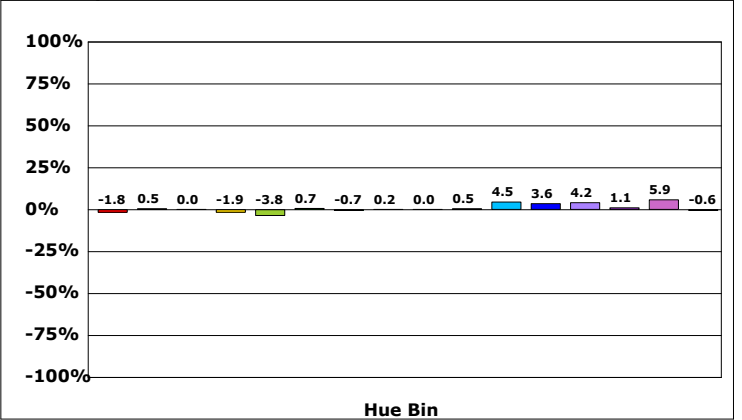
500			
Hue Bin	Rf	Chroma	Hue
1	92.3	-1.8%	1.1%
2	95.4	0.5%	0.3%
3	94.3	0.0%	1.4%
4	93.5	-1.9%	-0.6%
5	90.8	-3.8%	0.7%
6	94.4	0.7%	2.1%
7	94.2	-0.7%	2.5%
8	92.8	0.2%	3.9%
9	89.7	0.0%	6.9%
10	86.8	0.5%	7.4%
11	85.1	4.5%	6.7%
12	92.5	3.6%	-1.9%
13	88.9	4.2%	-5.7%
14	94.0	1.1%	1.0%
15	83.1	5.9%	-9.1%
16	91.3	-0.6%	-2.7%



Rf by Bue

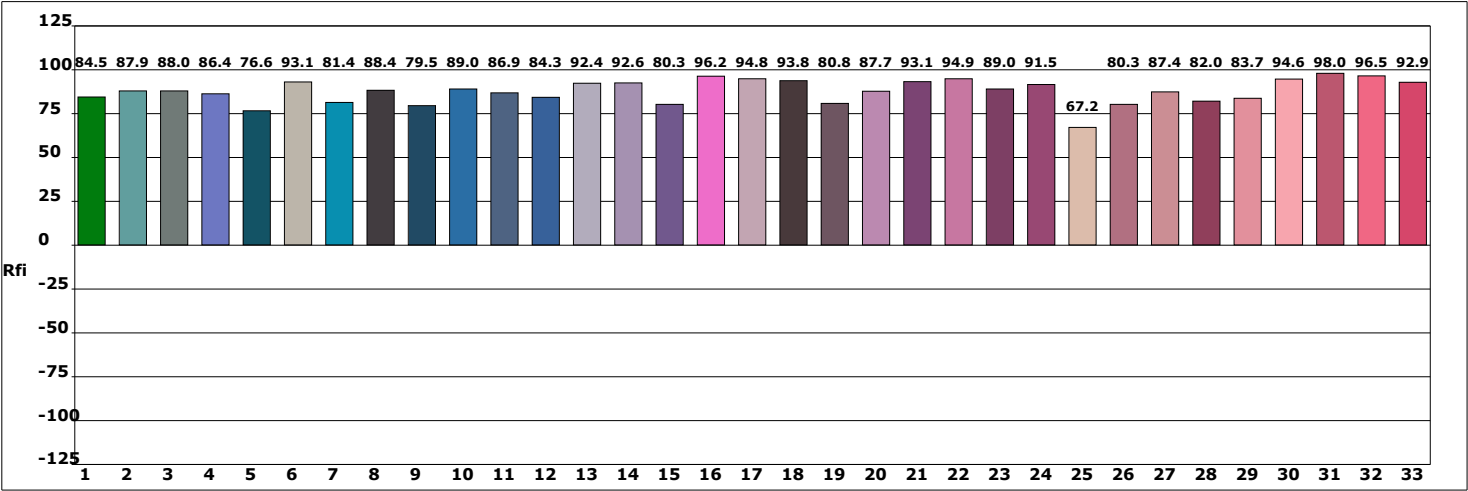
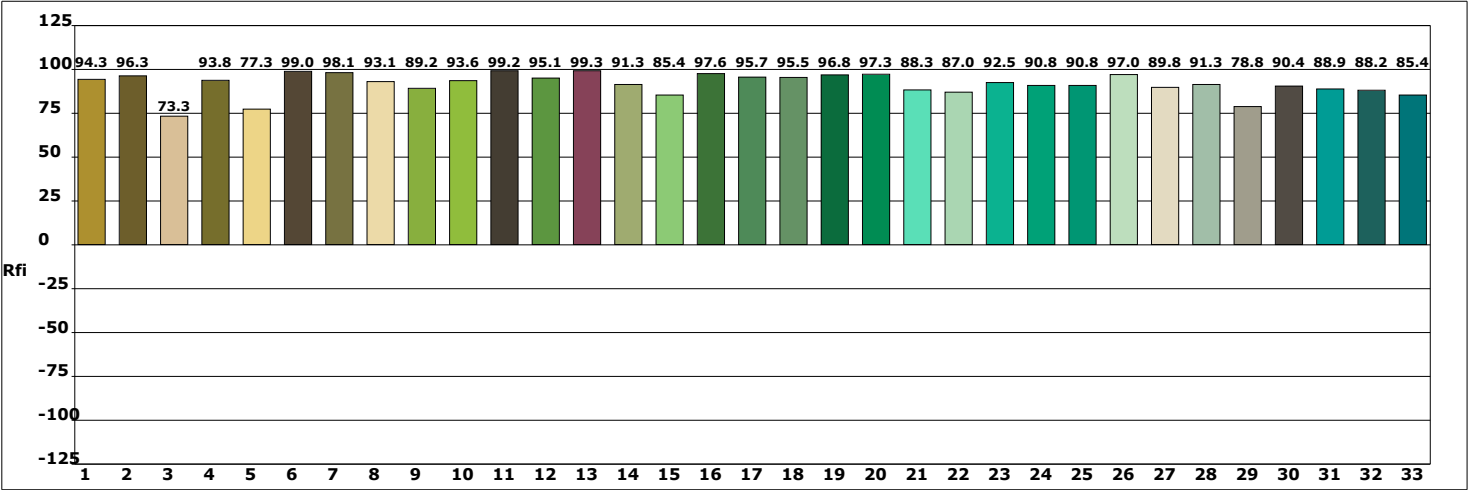
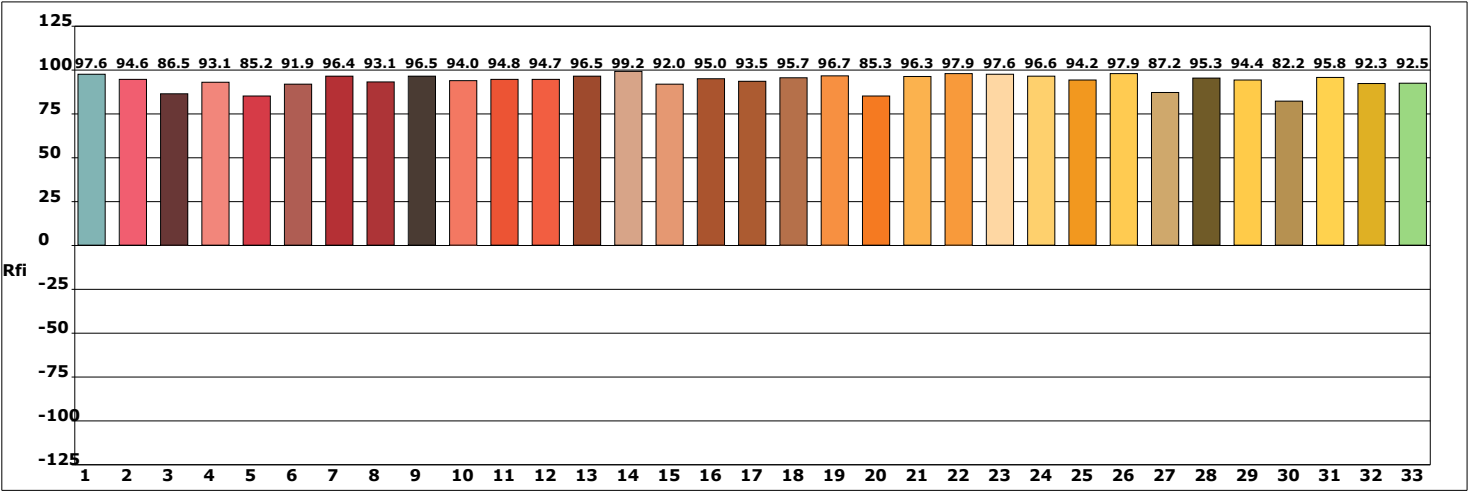


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

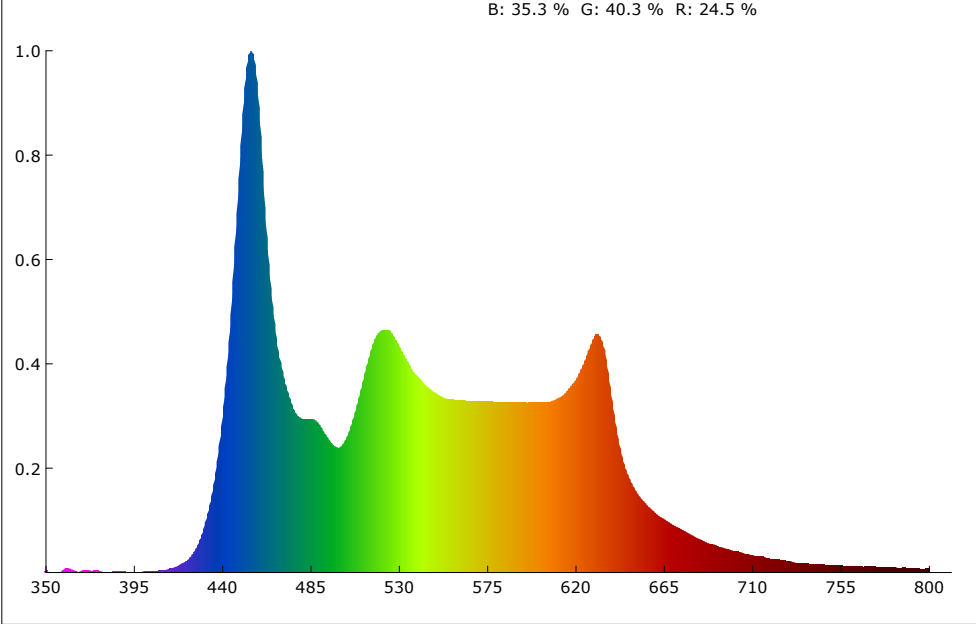
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 07/16/14



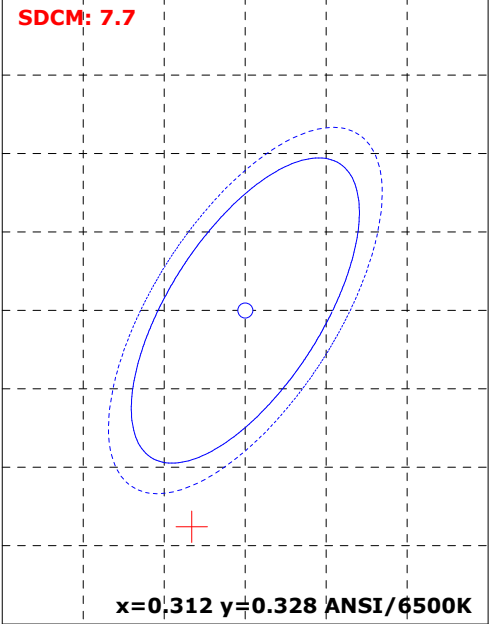
Product model:
Product number:
Tester:
Remarks:

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

Spectrogram



SDCM



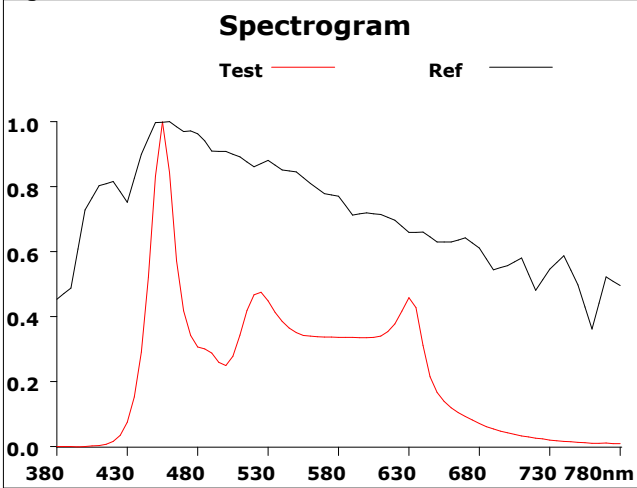
Color Parameter:

x: 0.3090	y: 0.3144	u: 0.2008	v: 0.3065	u': 0.2008	v': 0.4597
R_ratio: 24.5 %	G_ratio: 40.3 %	B_ratio: 35.3 %	RedRatio: 15.9 %	GreenRatio: 78.9 %	BlueRatio: 5.2 %
Ra: 94.9	AvgR: 92.5				
R1: 92.6	R2: 96.8	R3: 94.3	R4: 96.7	R5: 94.5	R6: 92.8
R7: 96.7	R8: 95.3				
R9: 89.7	R10: 97.0	R11: 92.6	R12: 67.3	R13: 93.6	R14: 95.5
R15: 91.9					
CCT: 6863 K	Flux: 6291.387 lm	PeakWave: 454.5 nm	SDCM: 7.7		
S/P: 2.4	CentralWave: 455.6 nm	DominantWave: 480.8 nm	CentroidWave: 542.3 nm		
HalfWidth: 21.4 nm	duv: -0.00253	purity: 9.9 %	CQS: 89.5		
LER(TM-30): 285.4	Ep: 22041.3 mw	Rg: 101.1	Rf: 88.7		
Red Ep: 5275.1 mw	Near red Ep: 405.5 mw	Near infrared Ep: 47.1 mw			

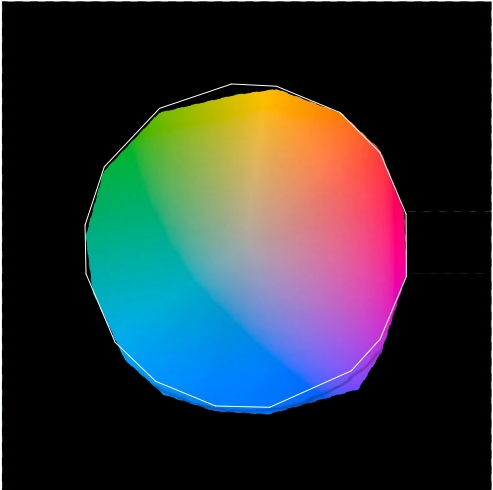
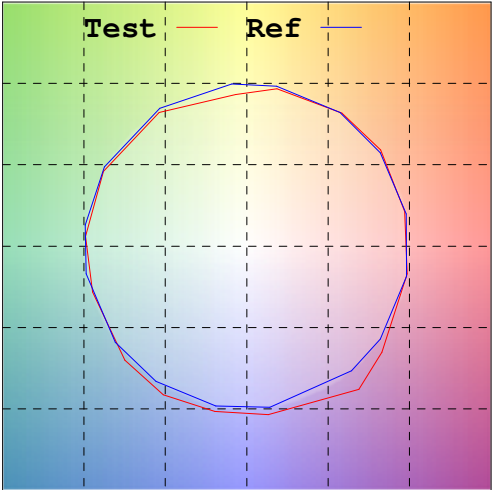
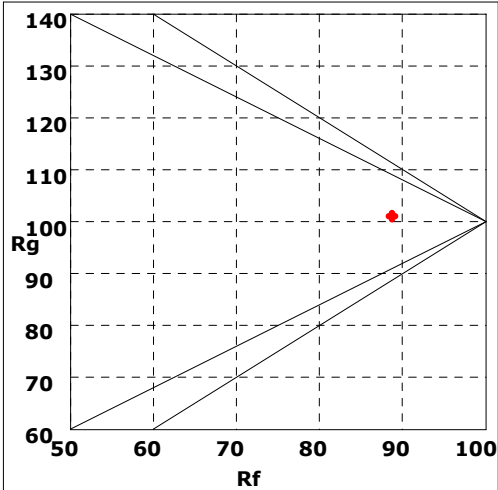
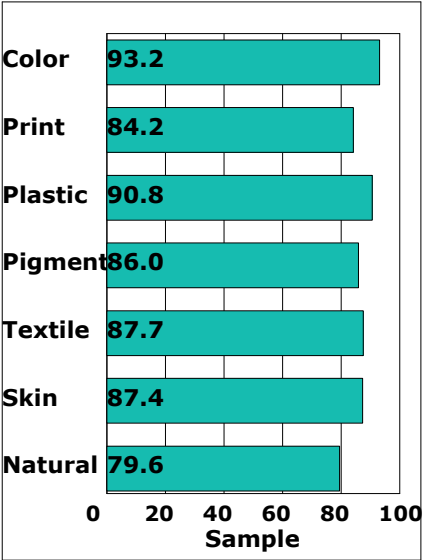
Electrical parameters:

Effic: 33.6 Lm/W	Energy: 36.6	Effi: G	
U: 219.5 V	I: 1.229 A	P: 187.100 W	Pf: 0.693

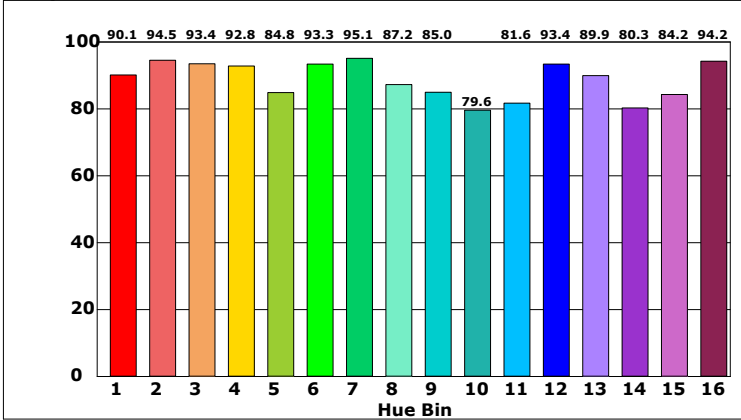
Rf: 88.7 CCT: 6863K u': 0.2008
Rg: 101.1 LER: 285.4 Duv: -0.00253 v': 0.4597



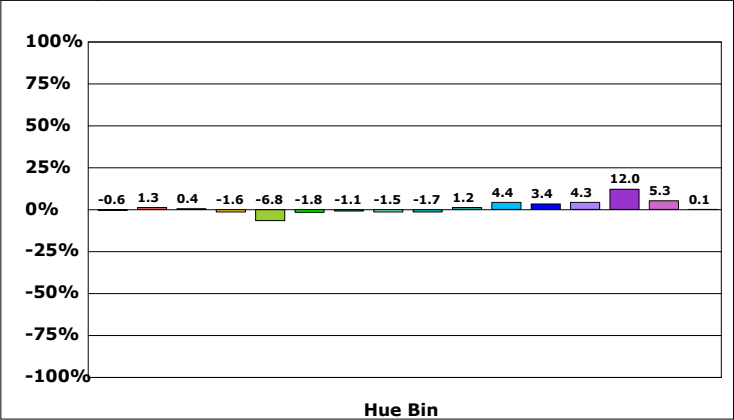
500			
Hue Bin	Rf	Chroma	Hue
1	90.1	-0.6%	1.7%
2	94.5	1.3%	1.4%
3	93.4	0.4%	-1.2%
4	92.8	-1.6%	-0.4%
5	84.8	-6.8%	-1.0%
6	93.3	-1.8%	1.8%
7	95.1	-1.1%	2.5%
8	87.2	-1.5%	6.7%
9	85.0	-1.7%	11.7%
10	79.6	1.2%	12.4%
11	81.6	4.4%	8.3%
12	93.4	3.4%	-0.0%
13	89.9	4.3%	-1.8%
14	80.3	12.0%	-2.5%
15	84.2	5.3%	-6.0%
16	94.2	0.1%	1.7%



Rf by Bue

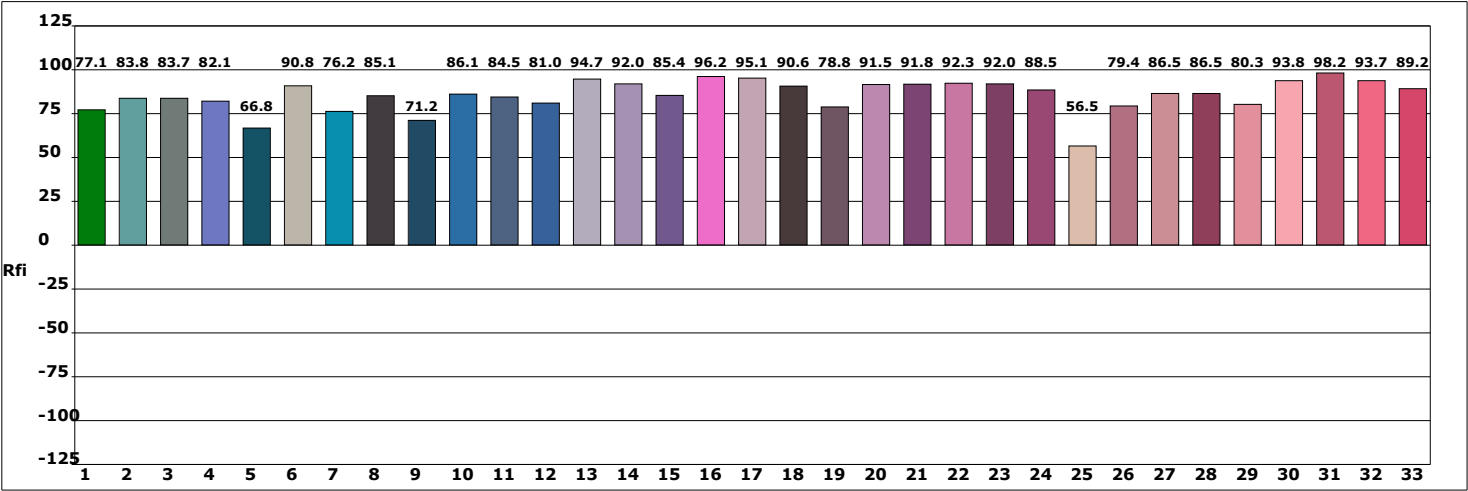
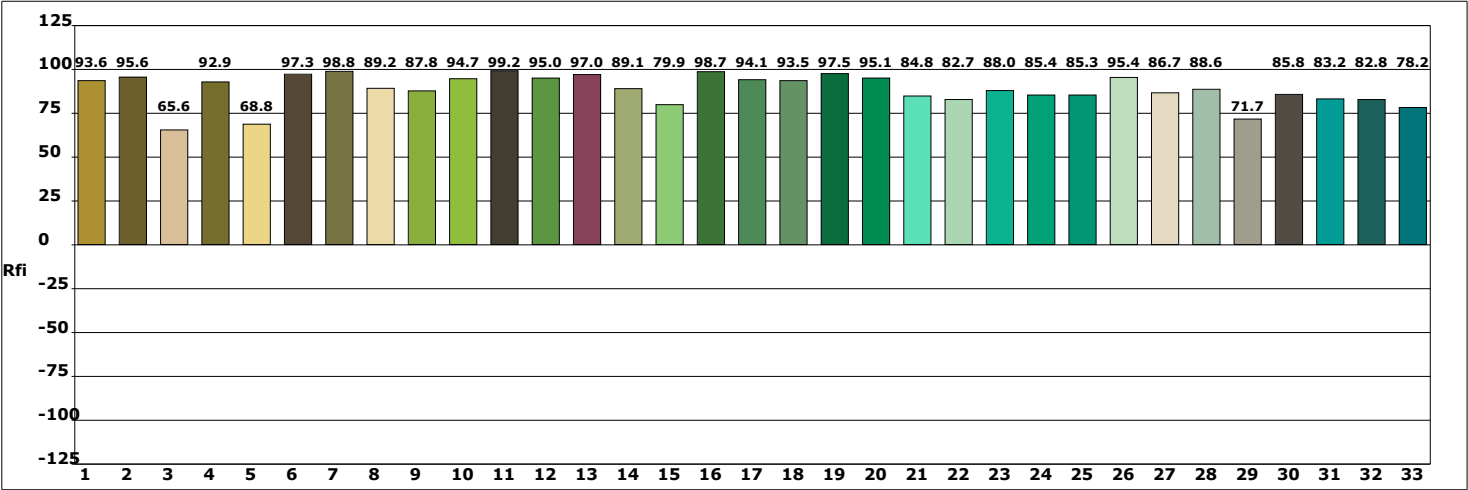
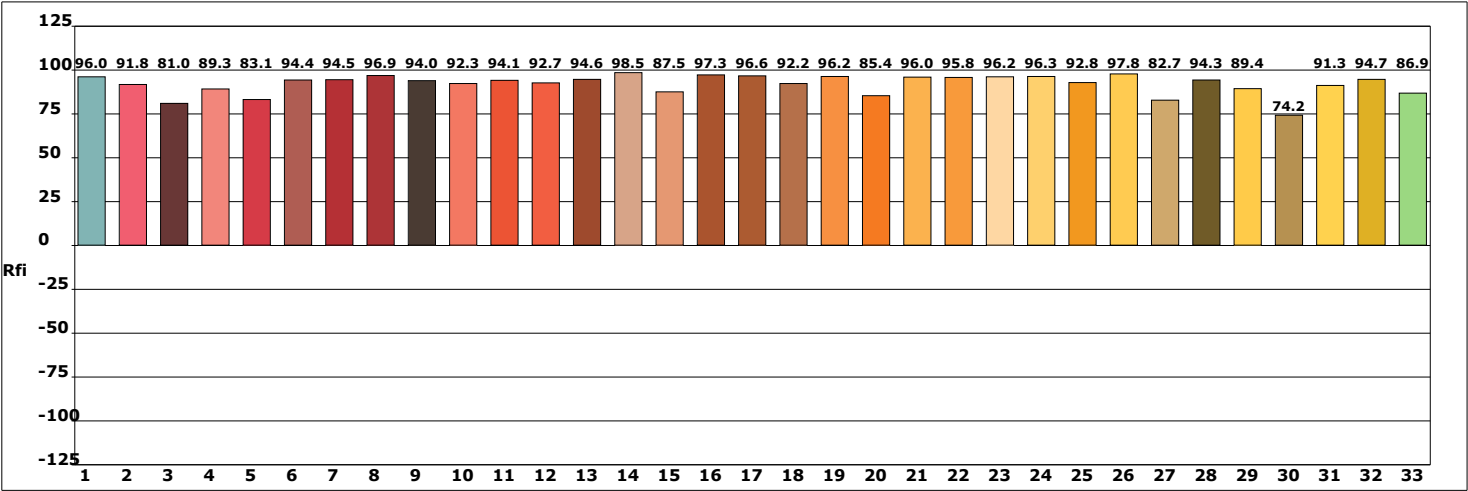


Chroma by Bue



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