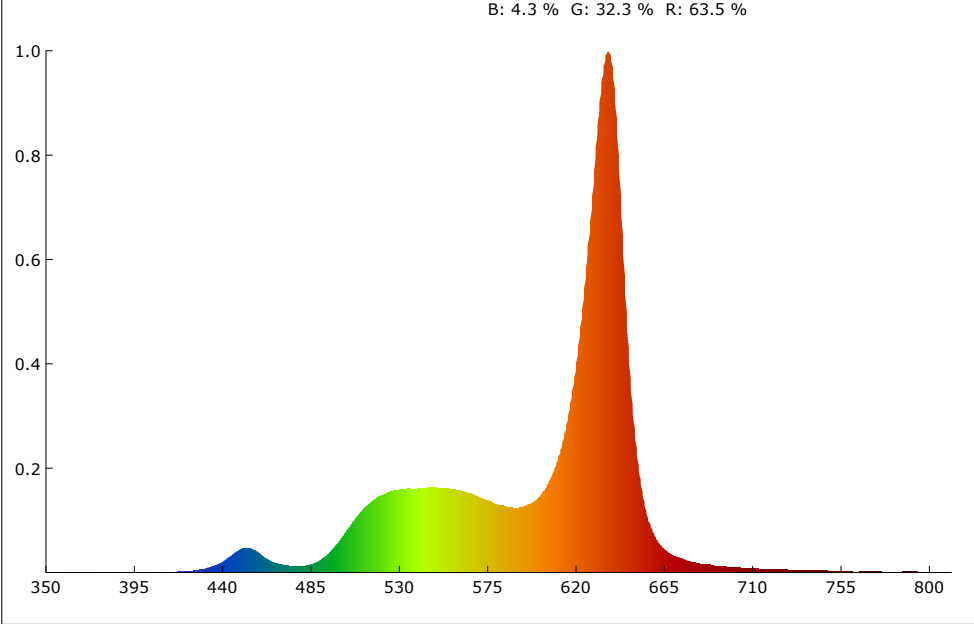
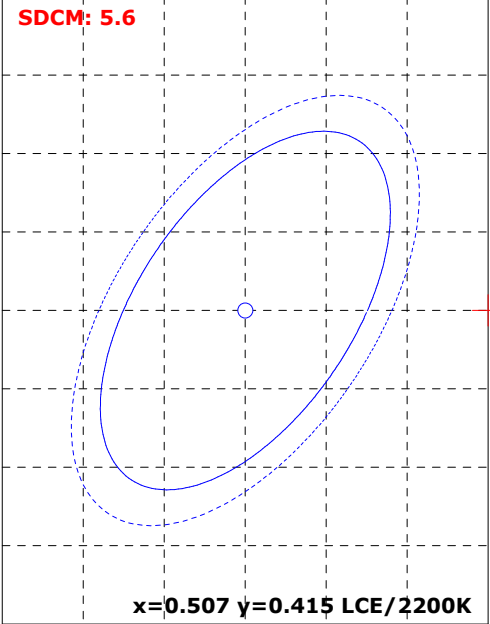


Spectrogram



SDCM



Color Parameter:

x: 0.5165 y: 0.4200 u: 0.2948 v: 0.3596 u': 0.2948 v': 0.5394
R_ratio: 63.5 % G_ratio: 32.3 % B_ratio: 4.3 % RedRatio: 36.2 % GreenRatio: 63.3 % BlueRatio: 0.5 %

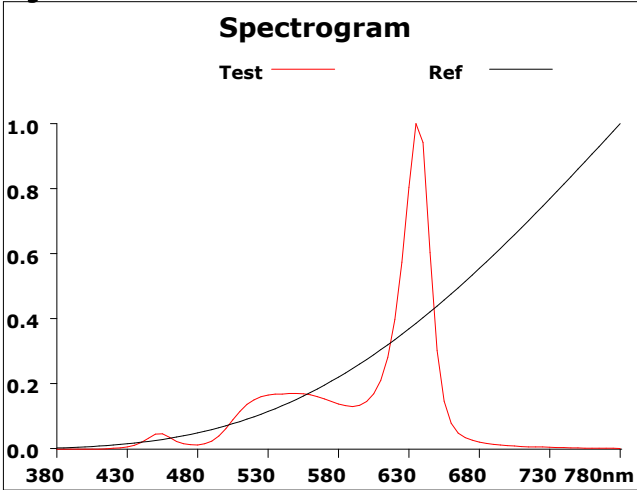
Ra: 68.3 AvgR: 65.0
R1: 64.0 R2: 88.9 R3: 71.7 R4: 54.3 R5: 65.0 R6: 81.1 R7: 76.3 R8: 45.6
R9: 9.9 R10: 85.7 R11: 40.8 R12: 79.5 R13: 68.7 R14: 79.6 R15: 64.5

CCT: 2130 K Flux: 1911.507 lm PeakWave: 636.5 nm SDCM: 5.6
S/P: 1.1 CentralWave: 634.7 nm DominantWave: 587.3 nm CentroidWave: 601.1 nm
HalfWidth: 22.1 nm duv: 0.00161 purity: 81.1 % CQS: 84.3
LER(TM-30): 292.7 Ep: 6530.5 mw Rg: 109.6 Rf: 78.9
Red Ep: 4100.1 mw Near red Ep: 62.5 mw Near infrared Ep: 7.0 mw

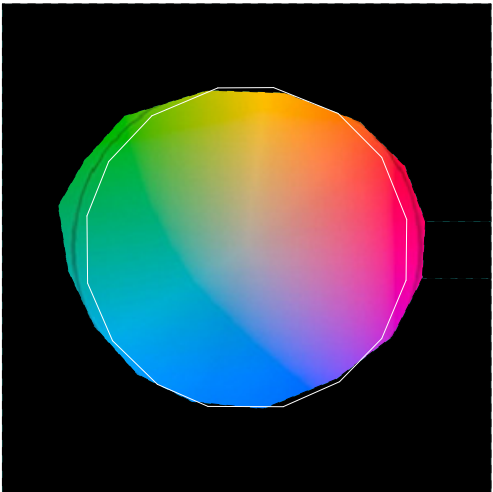
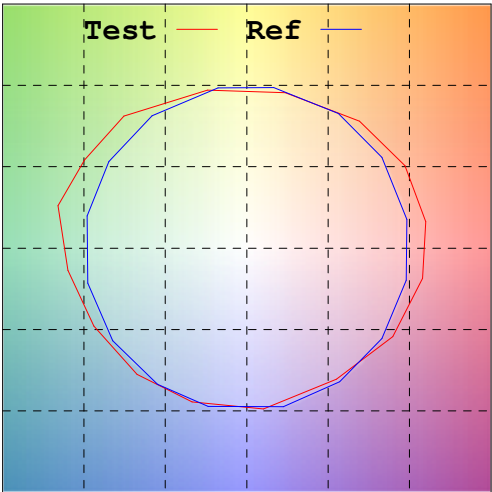
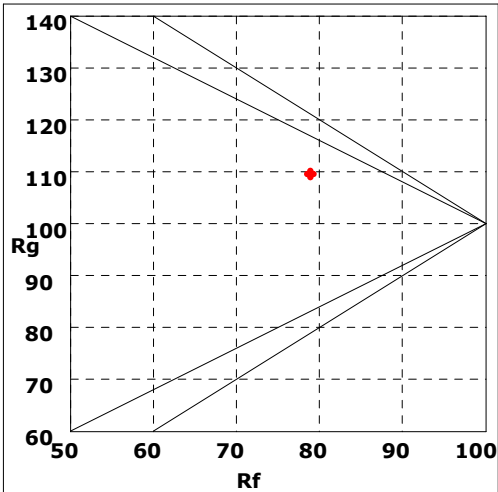
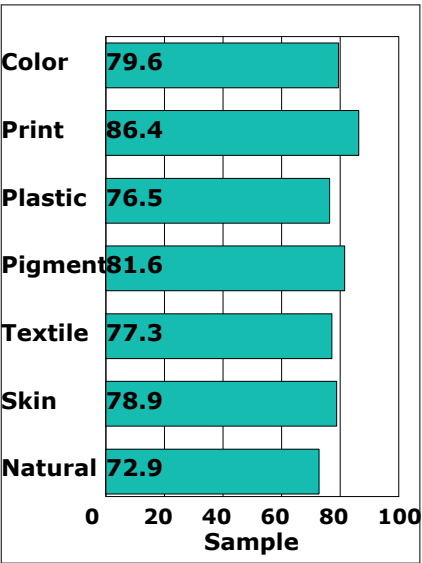
Electrical parameters:

Effic: 18.7 Lm/W Energy: 20.3 Effi: G P: 102.300 W Pf: 0.909
U: 220.7 V I: 0.509 A

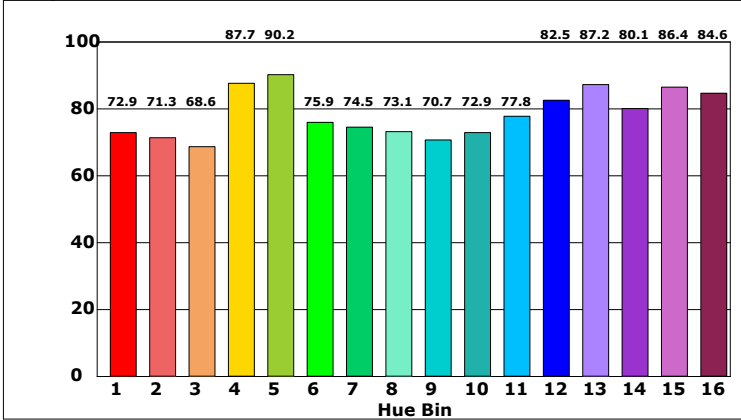
Rf: 78.9 CCT: 2130K u': 0.2948
Rg: 109.6 LER: 292.7 Duv: 0.00161 v': 0.5394



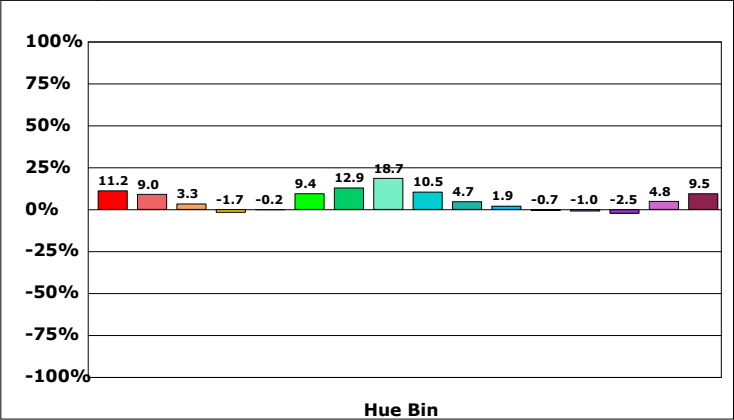
500			
Hue Bin	Rf	Chroma	Hue
1	72.9	11.2%	-3.5%
2	71.3	9.0%	-12.0%
3	68.6	3.3%	-13.3%
4	87.7	-1.7%	-7.6%
5	90.2	-0.2%	6.6%
6	75.9	9.4%	14.5%
7	74.5	12.9%	7.4%
8	73.1	18.7%	-2.7%
9	70.7	10.5%	-10.0%
10	72.9	4.7%	-14.2%
11	77.8	1.9%	-13.9%
12	82.5	-0.7%	-10.3%
13	87.2	-1.0%	-12.1%
14	80.1	-2.5%	-0.7%
15	86.4	4.8%	4.8%
16	84.6	9.5%	3.1%



Rf by Bue

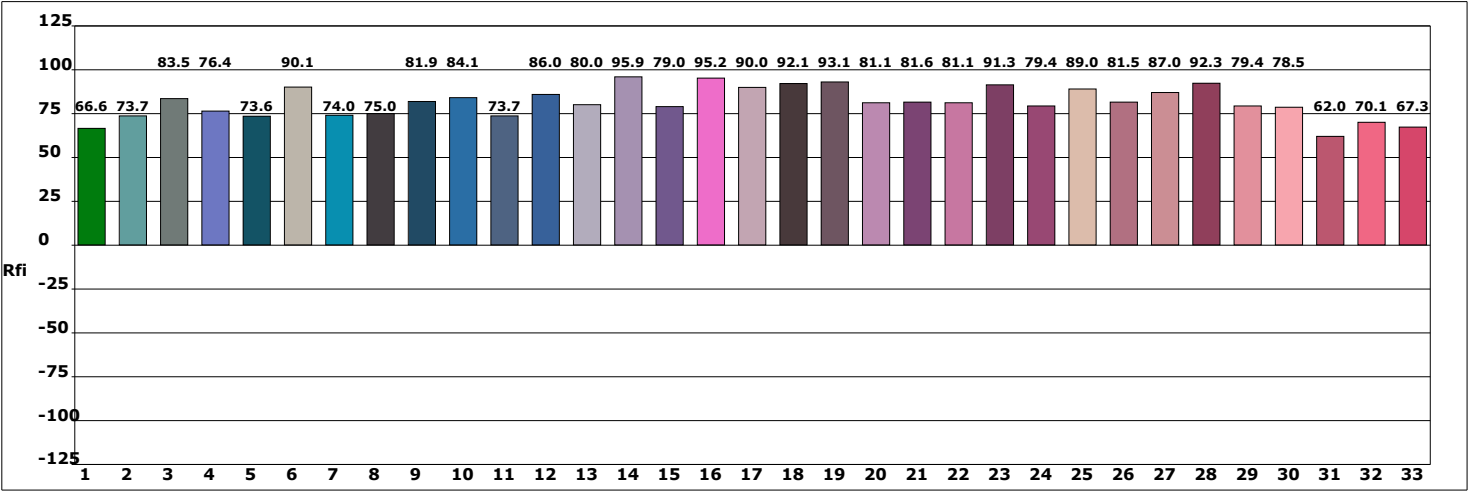
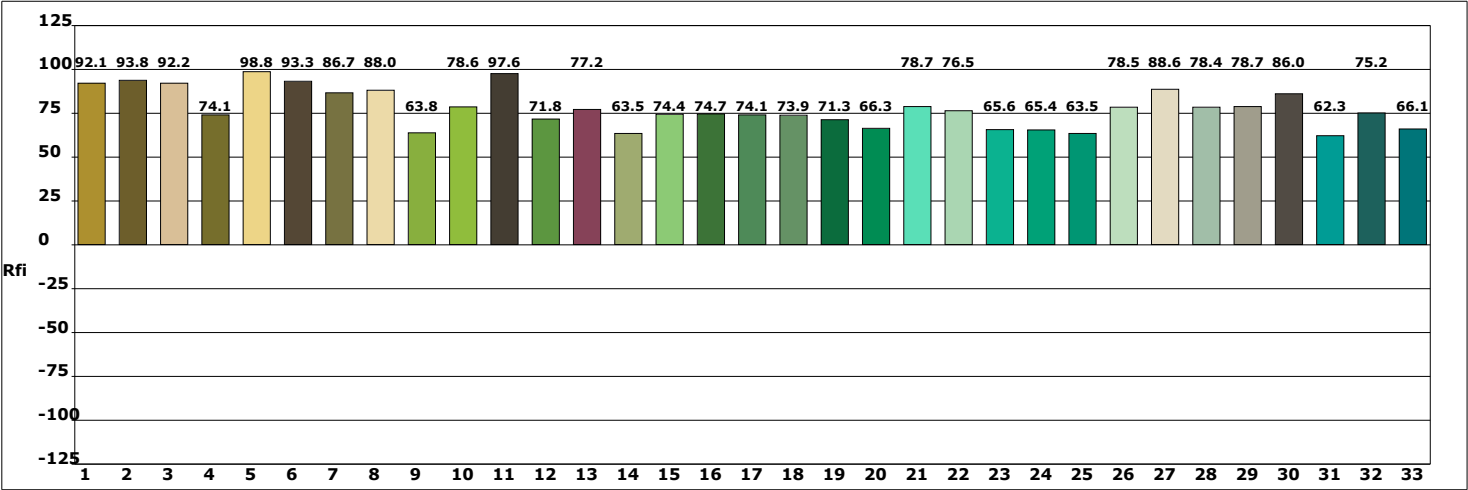
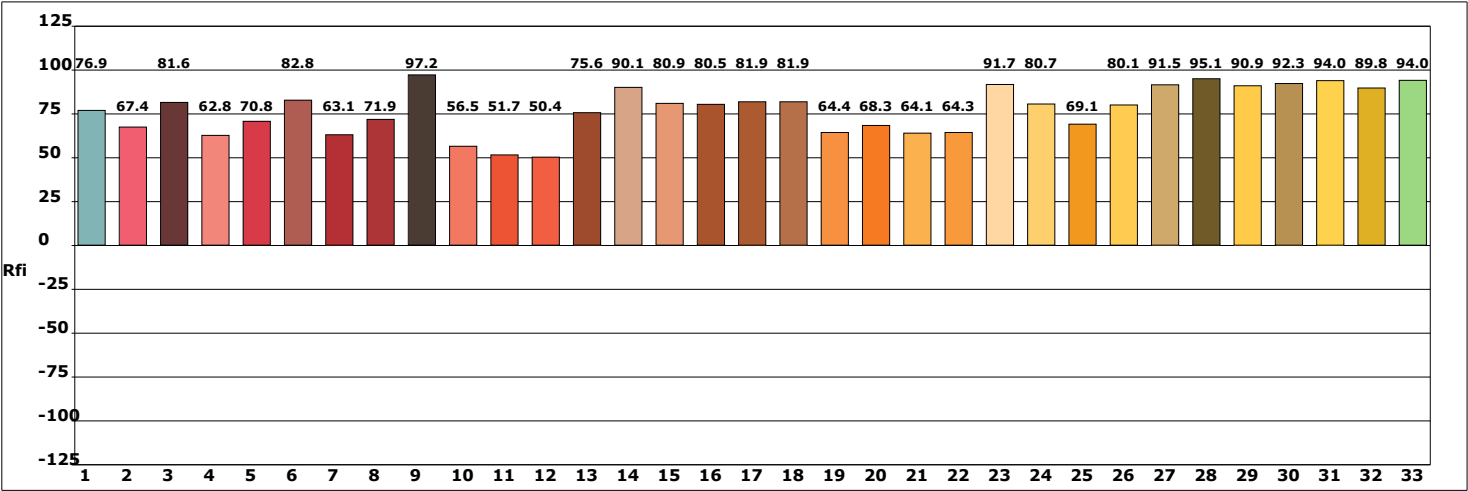


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

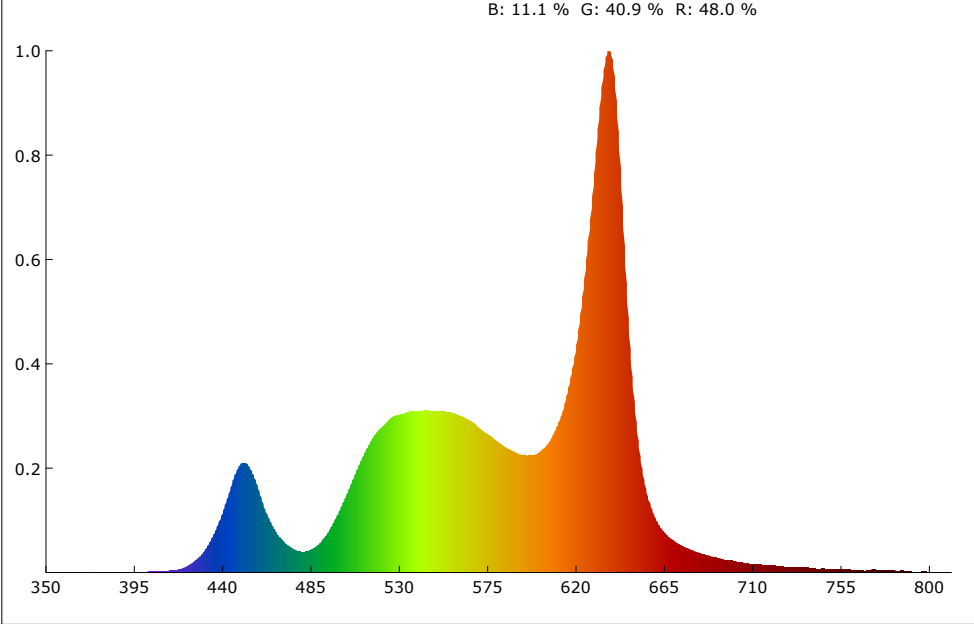
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 07/15/14



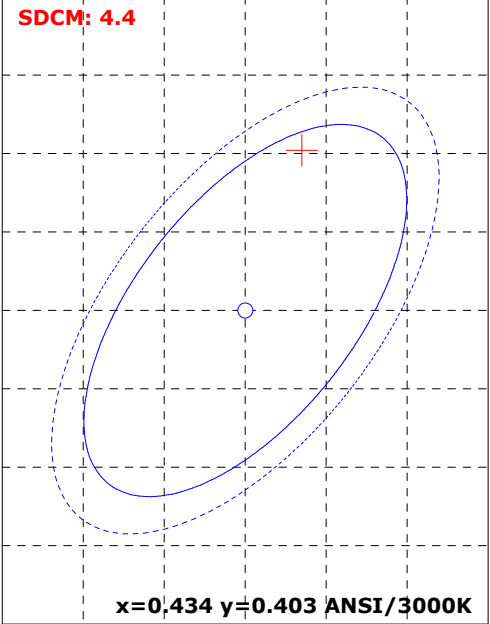
Product model:
Product number:
Tester:
Remarks:

Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 07/15/14

Spectrogram



SDCM



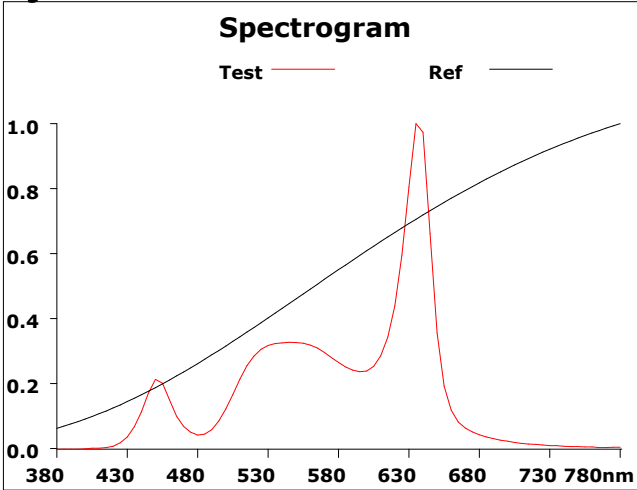
Color Parameter:

x: 0.4373	y: 0.4132	u: 0.2469	v: 0.3500	u': 0.2469	v': 0.5250
R_ratio: 48.0 %	G_ratio: 40.9 %	B_ratio: 11.1 %	RedRatio: 25.2 %	GreenRatio: 73.7 %	BlueRatio: 1.2 %
Ra: 82.7	AvgR: 79.2				
R1: 86.1	R2: 97.0	R3: 73.0	R4: 79.6	R5: 90.8	R6: 93.4
R7: 79.7	R8: 62.1	R9: 32.4	R10: 86.6	R11: 77.3	R12: 75.7
R13: 91.1	R14: 82.4	R15: 80.4			
CCT: 3067 K	Flux: 2798.748 lm	PeakWave: 637.5 nm	SDCM: 4.4		
S/P: 1.4	CentralWave: 634.9 nm	DominantWave: 581.3 nm	CentroidWave: 582.7 nm		
HalfWidth: 23.5 nm	duv: 0.00358	purity: 55.3 %	CQS: 92.4		
LER(TM-30): 318.7	Ep: 8782.4 mw	Rg: 109.5	Rf: 87.4		
Red Ep: 4158.0 mw	Near red Ep: 112.4 mw	Near infrared Ep: 9.7 mw			

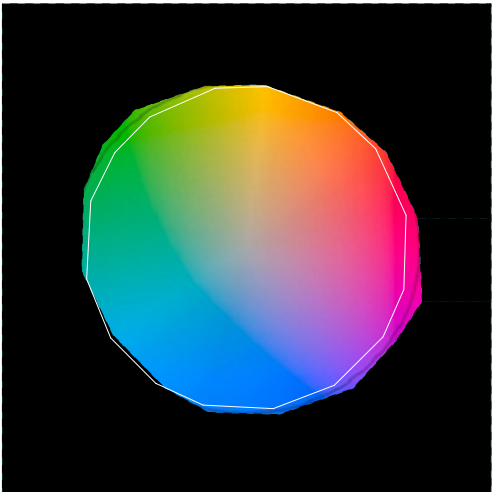
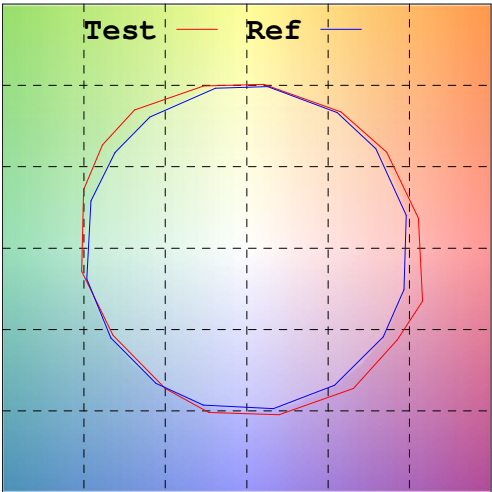
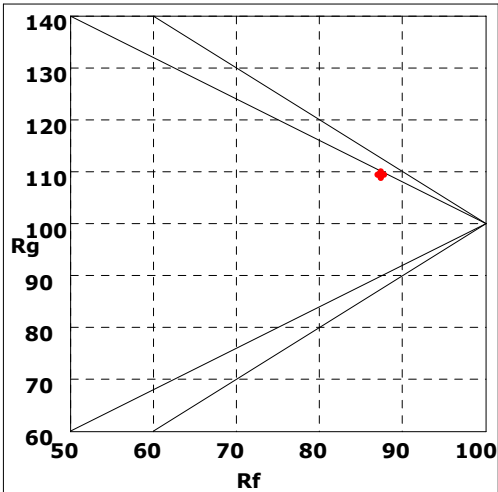
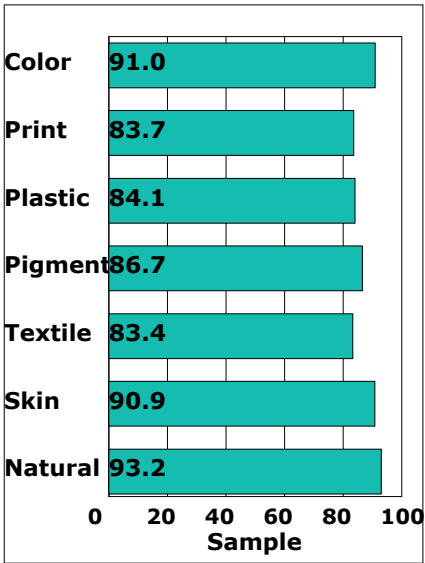
Electrical parameters:

Effic: 20.2 Lm/W	Energy: 22.0	Effi: G	
U: 220.9 V	I: 0.666 A	P: 138.600 W	Pf: 0.941

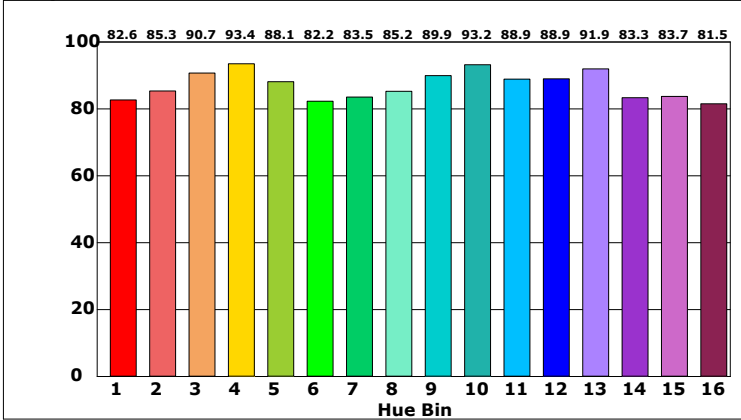
Rf: 87.4 CCT: 3067K u': 0.2469
Rg: 109.5 LER: 318.7 Duv: 0.00358 v': 0.5250



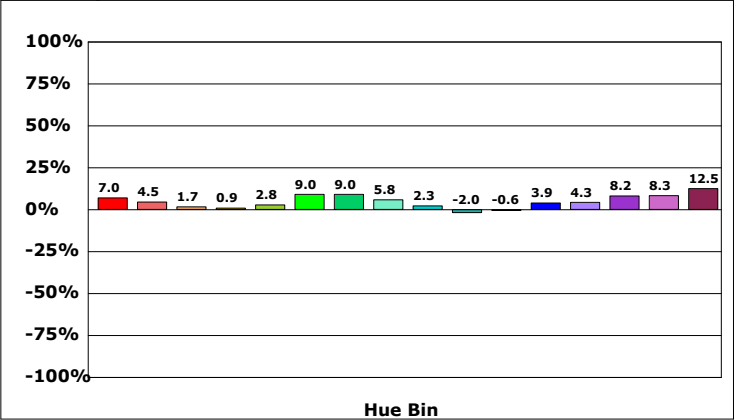
500			
Hue Bin	Rf	Chroma	Hue
1	82.6	7.0%	-3.2%
2	85.3	4.5%	-5.6%
3	90.7	1.7%	-1.7%
4	93.4	0.9%	2.8%
5	88.1	2.8%	6.7%
6	82.2	9.0%	5.5%
7	83.5	9.0%	0.2%
8	85.2	5.8%	-5.9%
9	89.9	2.3%	-5.2%
10	93.2	-2.0%	-0.7%
11	88.9	-0.6%	6.5%
12	88.9	3.9%	4.1%
13	91.9	4.3%	2.7%
14	83.3	8.2%	8.5%
15	83.7	8.3%	3.5%
16	81.5	12.5%	-4.8%



Rf by Bue

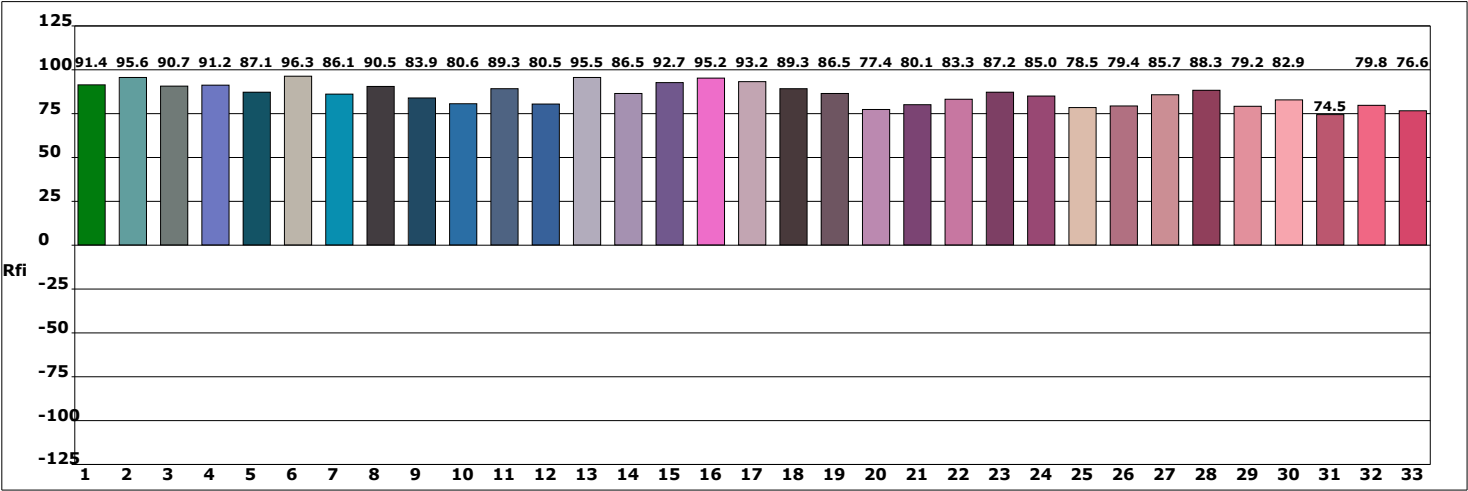
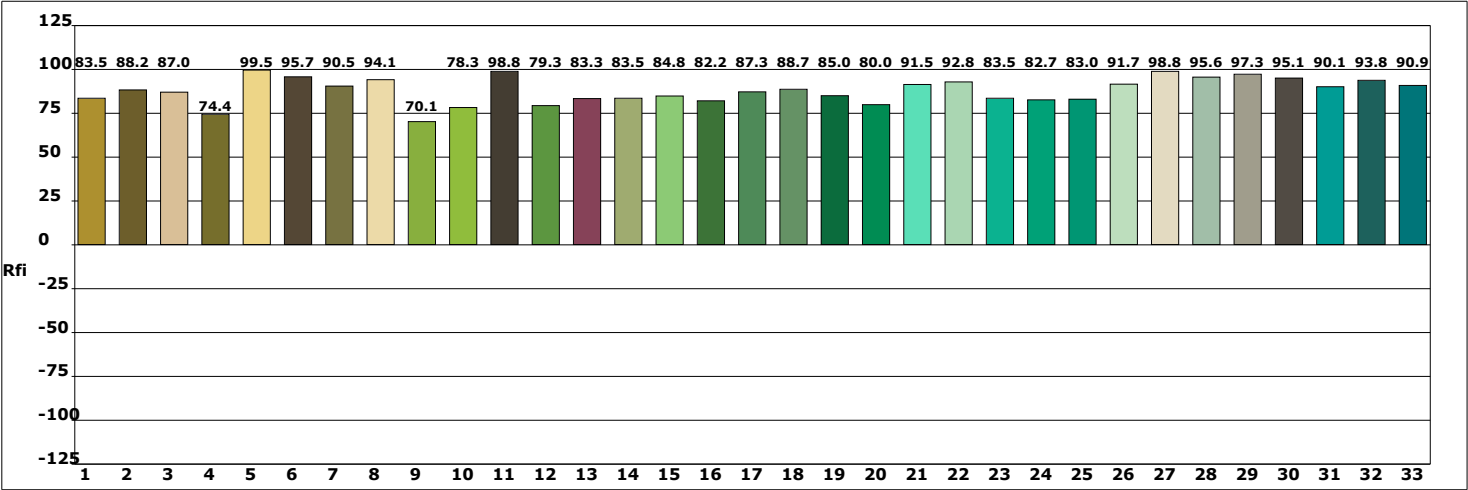
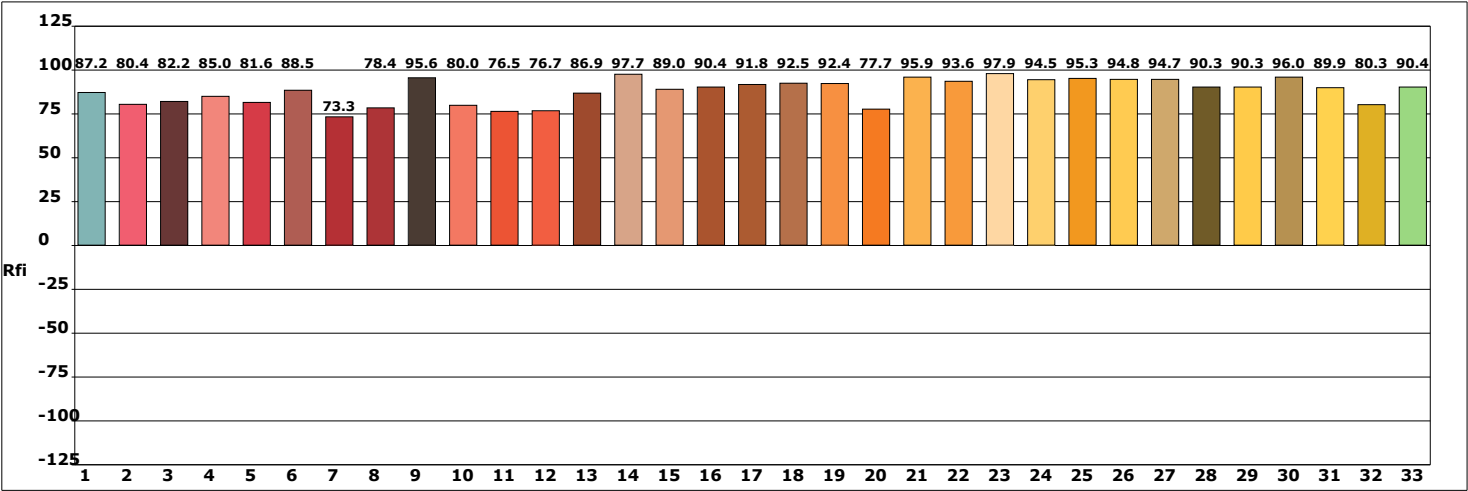


Chroma by Bue

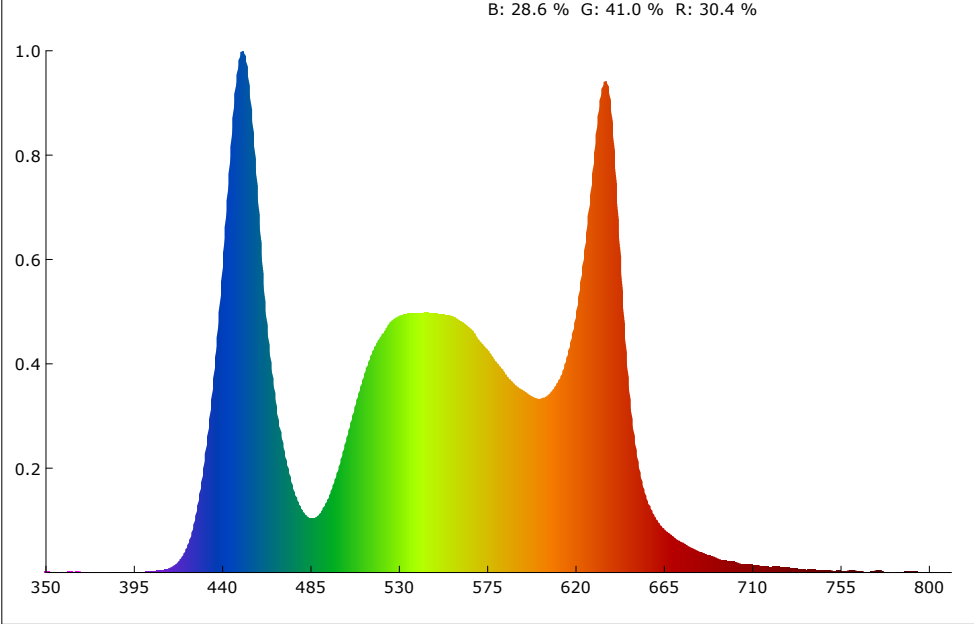


Product model:
Product number:
Tester:
Remarks:

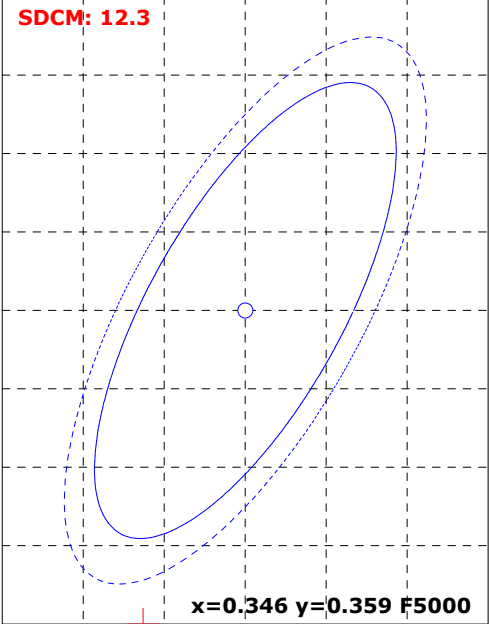
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 07/15/14



Spectrogram



SDCM



Color Parameter:

x: 0.3387 y: 0.3267 u: 0.2170 v: 0.3140 u': 0.2170 v': 0.4710
R_ratio: 30.4 % G_ratio: 41.0 % B_ratio: 28.6 % RedRatio: 18.3 % GreenRatio: 78.6 % BlueRatio: 3.1 %

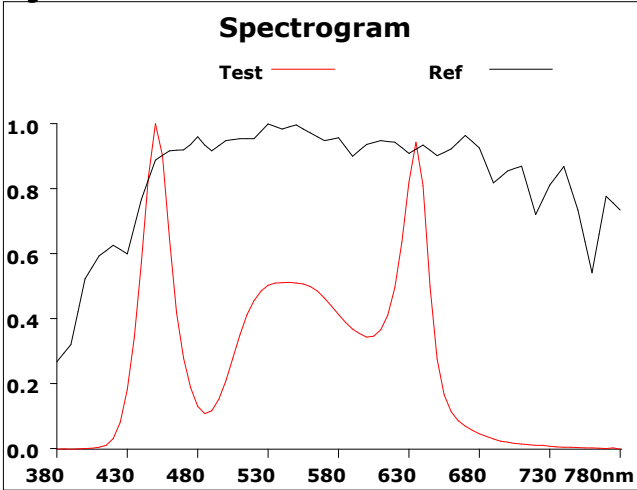
Ra: 85.9 AvgR: 81.9
R1: 94.1 R2: 92.0 R3: 72.9 R4: 84.2 R5: 97.6 R6: 85.4 R7: 84.9 R8: 76.5
R9: 52.0 R10: 75.2 R11: 84.6 R12: 65.4 R13: 96.2 R14: 82.8 R15: 84.7

CCT: 5191 K Flux: 2161.191 lm PeakWave: 450.6 nm SDCM: 12.3
S/P: 2.0 CentralWave: 450.8 nm DominantWave: 0.0 nm CentroidWave: 548.8 nm
HalfWidth: 23.7 nm duv: -0.01040 purity: 0.0 % CQS: 78.0
LER(TM-30): 301.1 Ep: 7177.5 mw Rg: 109.7 Rf: 80.7
Red Ep: 2165.3 mw Near red Ep: 45.6 mw Near infrared Ep: 2.9 mw

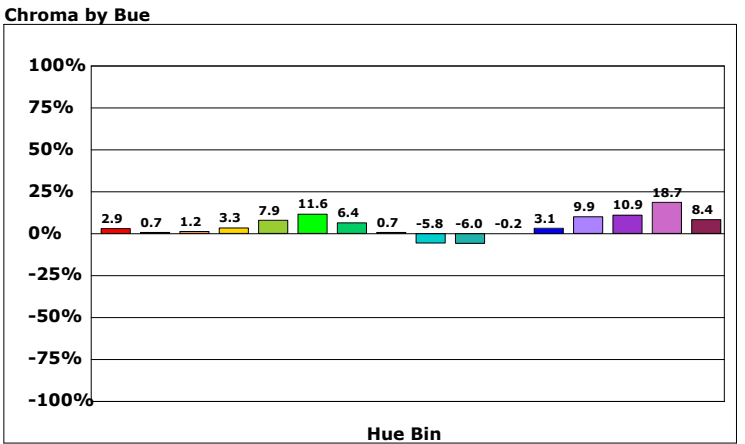
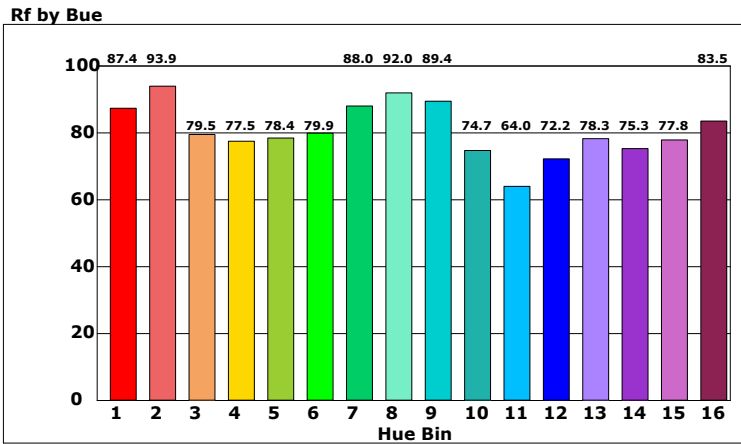
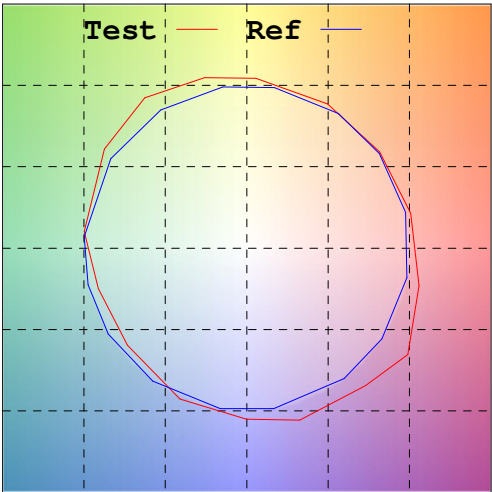
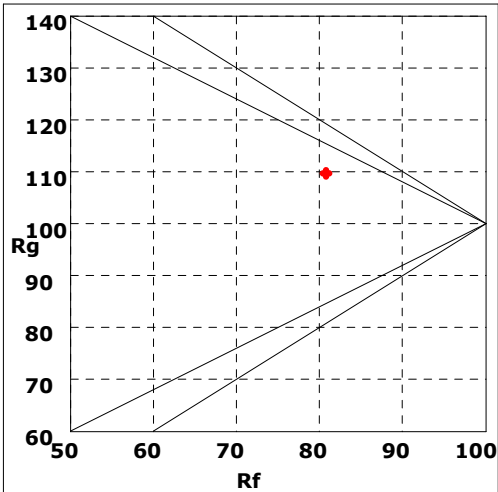
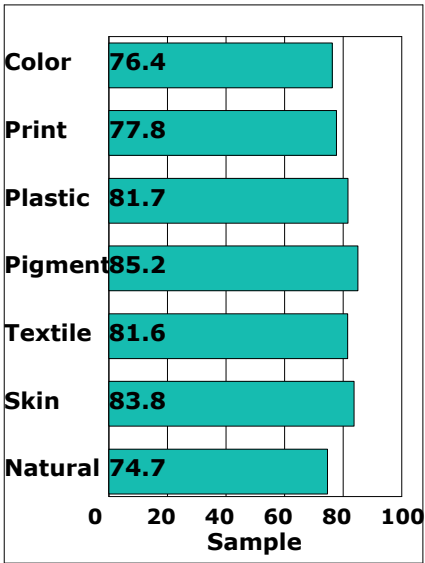
Electrical parameters:

Effic: 20.4 Lm/W Energy: 22.2 Effi: G
U: 220.6 V I: 0.527 A P: 106.200 W Pf: 0.913

Rf: 80.7 CCT: 5191K u': 0.2170
Rg: 109.7 LER: 301.1 Duv: -0.01040 v': 0.4710

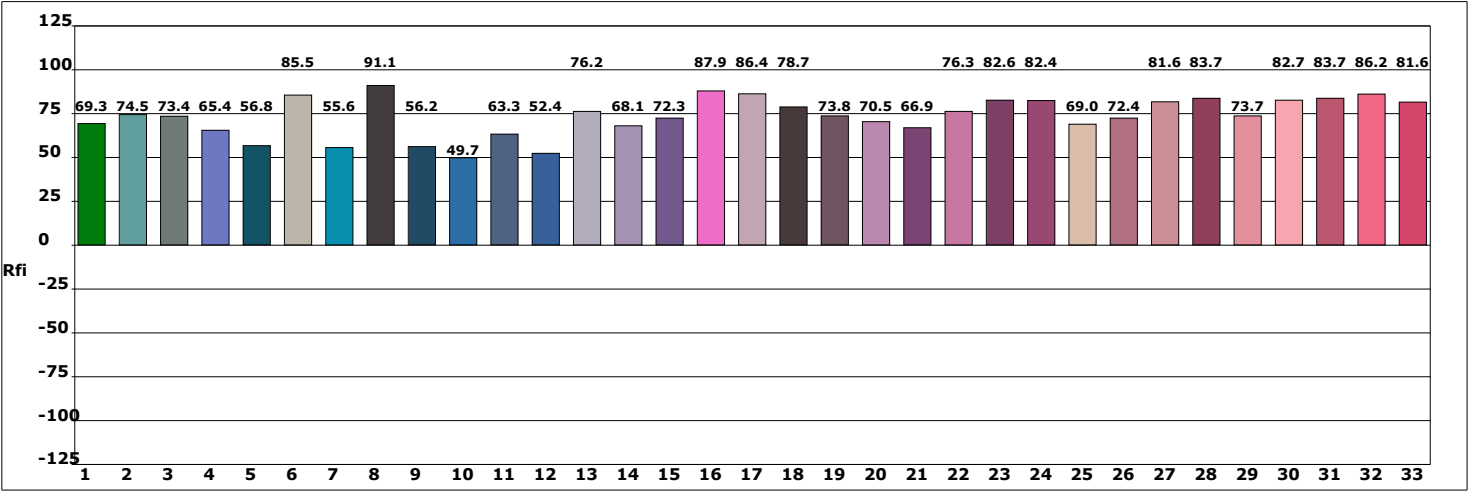
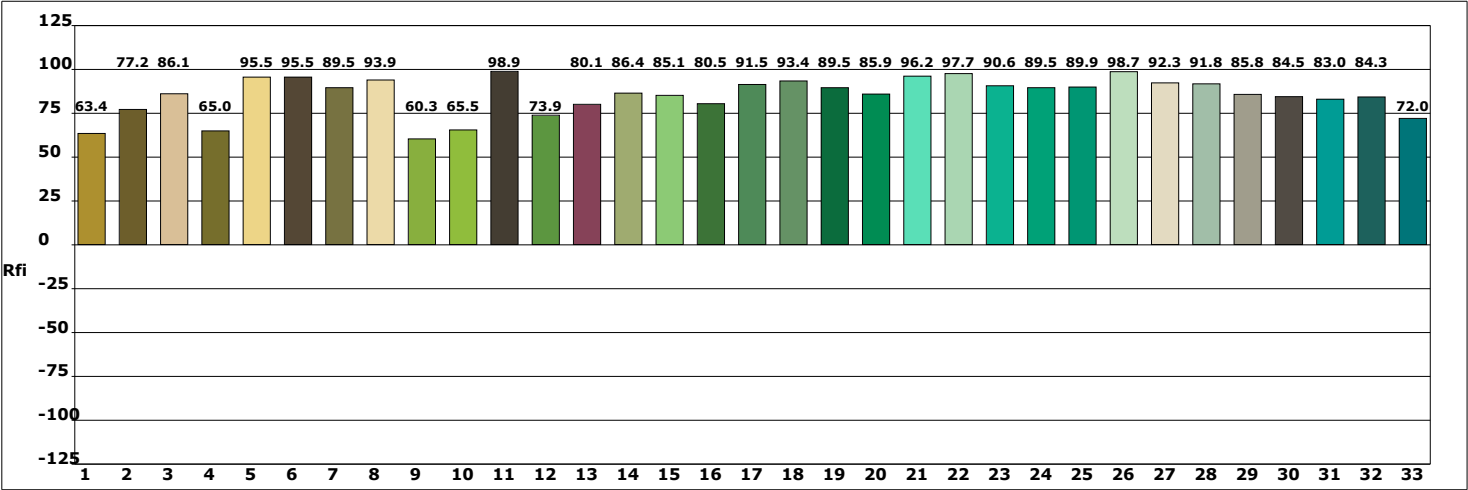
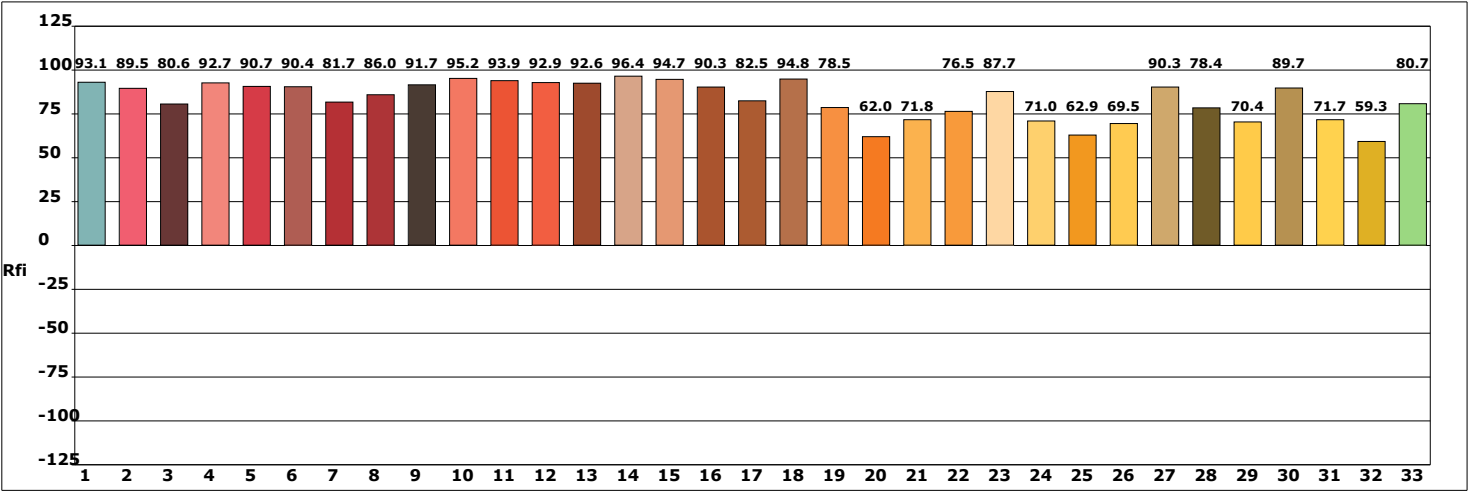


500			
Hue Bin	Rf	Chroma	Hue
1	87.4	2.9%	-1.1%
2	93.9	0.7%	0.7%
3	79.5	1.2%	9.0%
4	77.5	3.3%	12.3%
5	78.4	7.9%	9.8%
6	79.9	11.6%	4.0%
7	88.0	6.4%	-2.6%
8	92.0	0.7%	-3.0%
9	89.4	-5.8%	3.4%
10	74.7	-6.0%	12.2%
11	64.0	-0.2%	20.0%
12	72.2	3.1%	17.0%
13	78.3	9.9%	14.3%
14	75.3	10.9%	8.5%
15	77.8	18.7%	0.7%
16	83.5	8.4%	-3.4%



Product model:
Product number:
Tester:
Remarks:

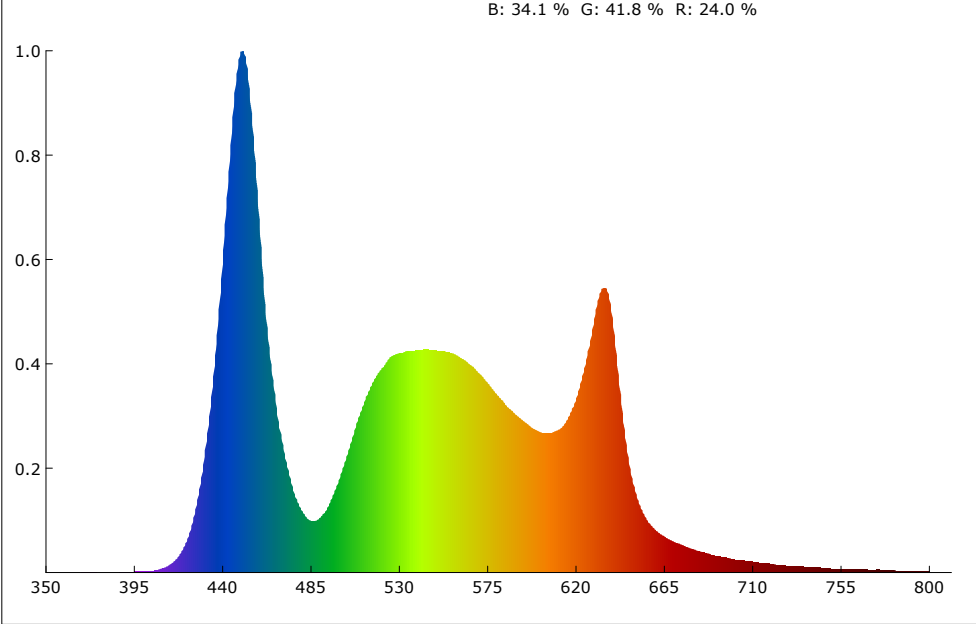
Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 07/15/14



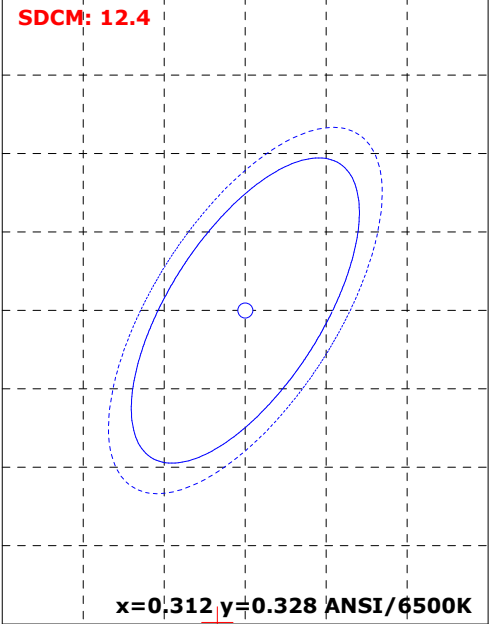
Product model:
Product number:
Tester:
Remarks:

Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 07/15/14

Spectrogram



SDCM



Color Parameter:

x: 0.3106 y: 0.3083 u: 0.2044 v: 0.3043 u': 0.2044 v': 0.4565
R_ratio: 24.0 % G_ratio: 41.8 % B_ratio: 34.1 % RedRatio: 14.9 % GreenRatio: 81.3 % BlueRatio: 3.7 %

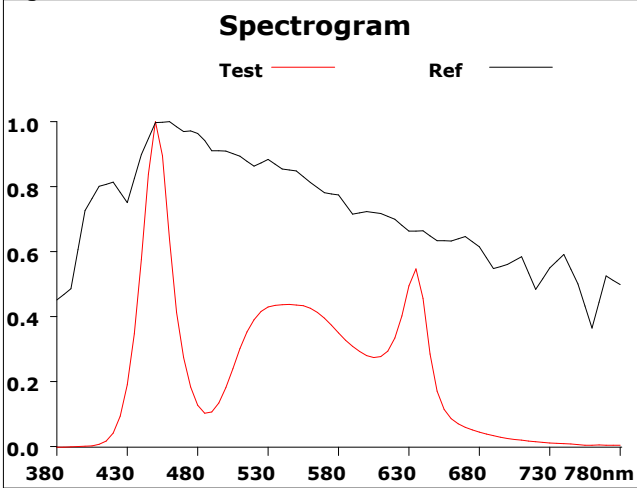
Ra: 85.9 AvgR: 83.6
R1: 95.0 R2: 86.5 R3: 71.9 R4: 87.3 R5: 92.1 R6: 78.4 R7: 87.1 R8: 89.6
R9: 90.8 R10: 62.2 R11: 87.4 R12: 53.7 R13: 91.8 R14: 83.0 R15: 97.2

CCT: 6833 K Flux: 2066.039 lm PeakWave: 450.6 nm SDCM: 12.4
S/P: 2.2 CentralWave: 450.6 nm DominantWave: 475.0 nm CentroidWave: 539.2 nm
HalfWidth: 23.5 nm duv: -0.00675 purity: 10.1 % CQS: 77.3
LER(TM-30): 295.3 Ep: 6996.4 mw Rg: 104.5 Rf: 79.1
Red Ep: 1659.1 mw Near red Ep: 77.8 mw Near infrared Ep: 6.4 mw

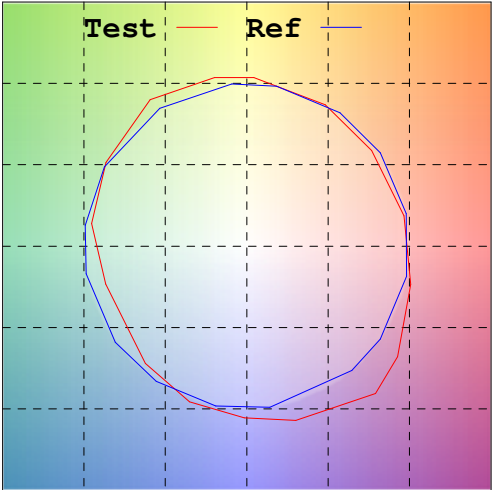
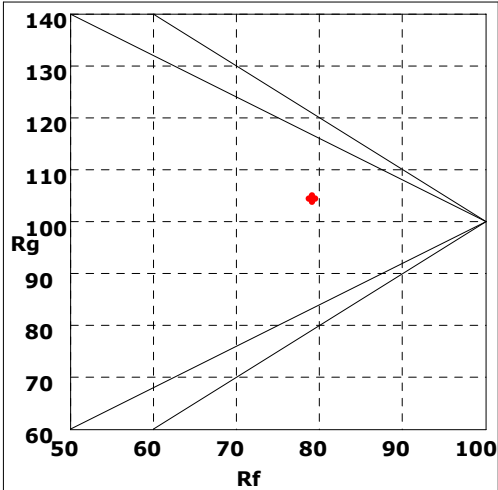
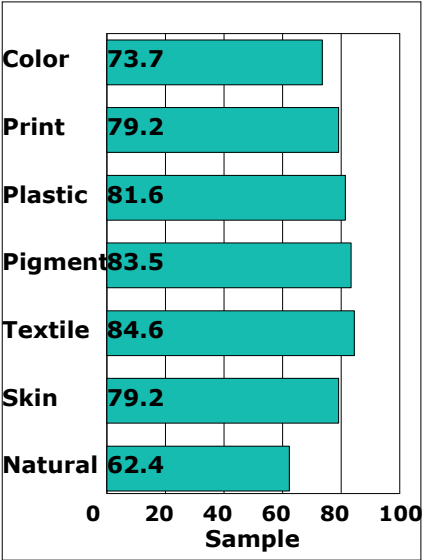
Electrical parameters:

Effic: 20.3 Lm/W Energy: 22.1 Effi: G
U: 220.7 V I: 0.507 A P: 101.700 W Pf: 0.909

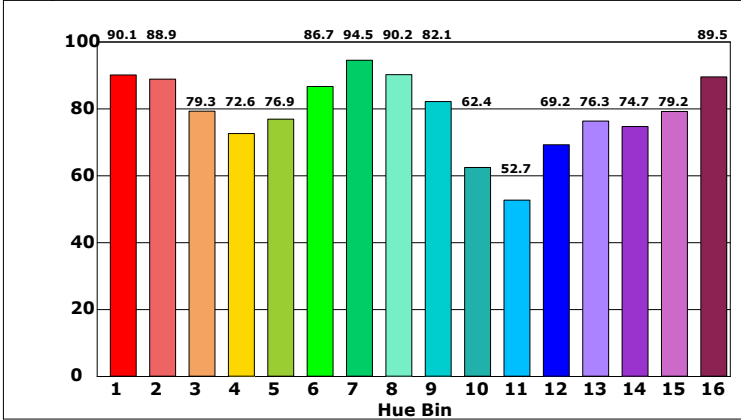
Rf: 79.1 CCT: 6833K u': 0.2044
Rg: 104.5 LER: 295.3 Duv: -0.00675 v': 0.4565



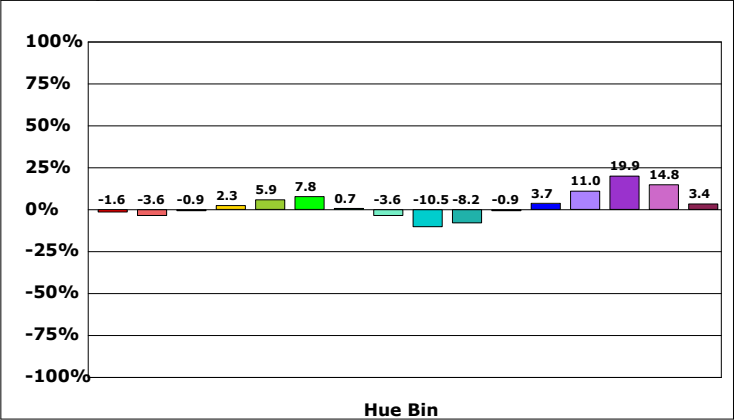
500			
Hue Bin	Rf	Chroma	Hue
1	90.1	-1.6%	-1.0%
2	88.9	-3.6%	4.1%
3	79.3	-0.9%	10.2%
4	72.6	2.3%	14.8%
5	76.9	5.9%	9.6%
6	86.7	7.8%	1.9%
7	94.5	0.7%	-2.8%
8	90.2	-3.6%	-1.8%
9	82.1	-10.5%	8.5%
10	62.4	-8.2%	21.0%
11	52.7	-0.9%	24.0%
12	69.2	3.7%	18.5%
13	76.3	11.0%	13.9%
14	74.7	19.9%	4.1%
15	79.2	14.8%	-3.2%
16	89.5	3.4%	-4.2%



Rf by Bue

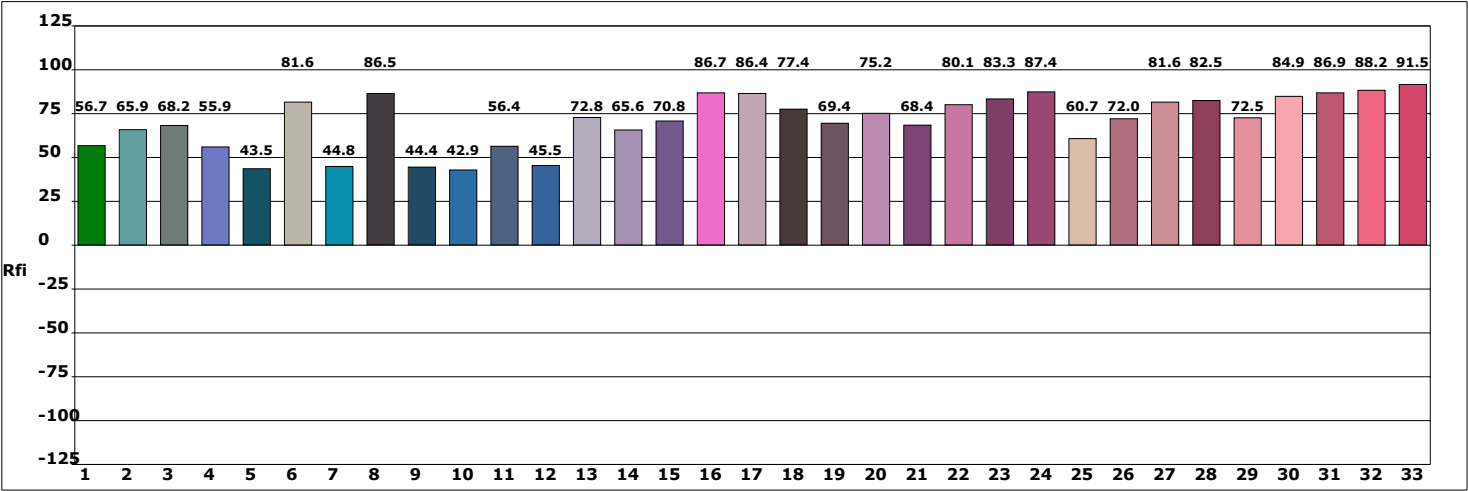
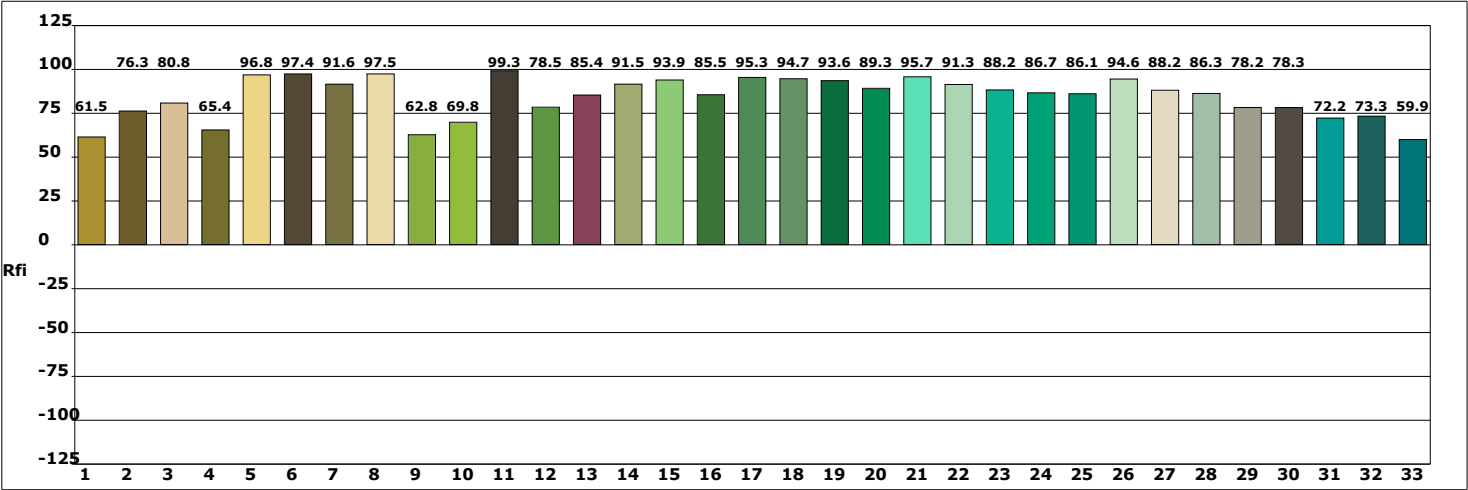
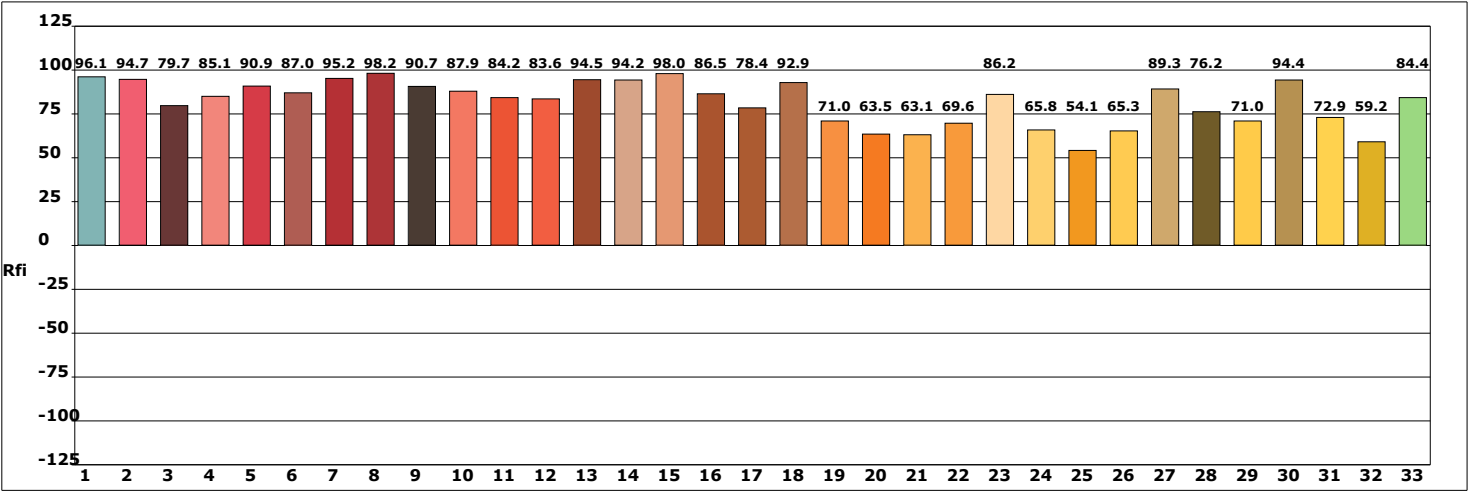


Chroma by Bue



Product model:
Product number:
Tester:
Remarks:

Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 07/15/14



Product model:
Product number:
Tester:
Remarks:

Manufacturer: Guangzhou Hotion Technology Co.,
Test unit:
Date of observation: 07/15/14