

Report of Photometry & Chromaticity for Light Source

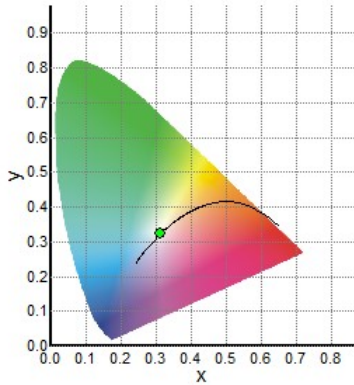


Product Description

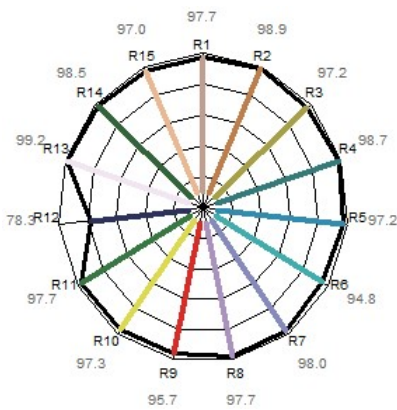
Product Name	TV Mini Fresnel Max Zoom 80° CW		
Sample Number			
Date(YYYY/MM/DD)	2021/2/19 15:07:32		
Manufacturer			
Tester			
Temperature(°C)	26	Re. Humidity(%)	32
Reviewer			

Photometry and Chromaticity

CIE_x	0.3144	Duv	0.0002
CIE_y	0.3249	λ_d (nm)	485.7
CIE_u'	0.2006	Purity(%)	7
CIE_v'	0.4664	FWHM(nm)	32
CCT(K)	6440	SP ratio	2.42
Illuminance(lx)	2218	PPFD 400-700nm($\mu\text{mol}/\text{m}^2 \text{s}$)	35.95
λ_p (nm)	451	CRI(Ra)	98
TLCI(Qa)	98.3	GAI	99.0
GAI BB8	102	GAI BB15	104
TM-30 Rf	93	TM-30 Rg	100



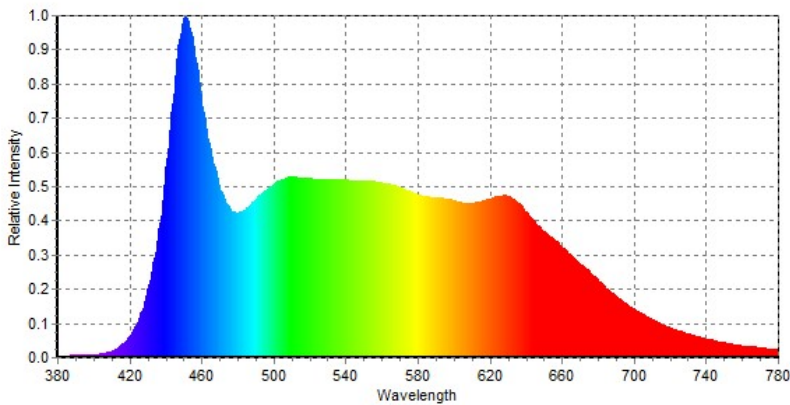
CIE1931 Chromaticity Diagram



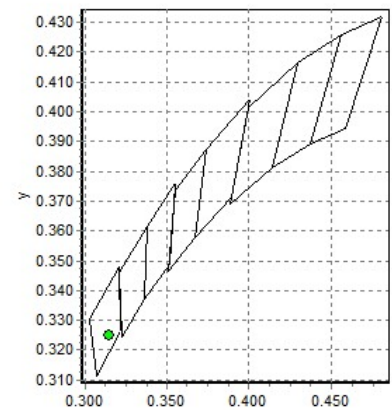
Radar Diagram of CRI

CQS-Qa	95	Re(thru R1~R15)	96
R1	97.7	R6	94.8
R2	98.9	R7	98.0
R3	97.2	R8	97.7
R4	98.7	R9	95.7
R5	97.2	R10	97.3
R11	97.7	R12	78.3
R13	99.2	R14	98.5
R15	97.0	R15	97.0

Flicker Frequency(Hz)	90	Flicker %	12
Flicker Index	0.03		



Spectral Distribution



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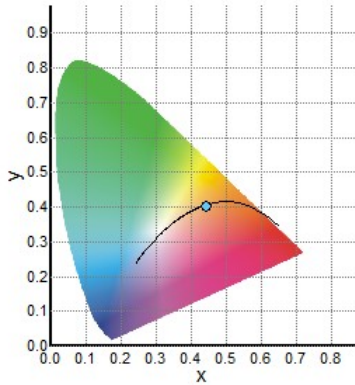


Product Description

Product Name	FOS TV Mini Fresnel Max Zoom 80° WW		
Sample Number			
Date(YYYY/MM/DD)	2021/2/19 13:22:03		
Manufacturer			
Tester			
Temperature(°C)	29	Re. Humidity(%)	28
Reviewer			

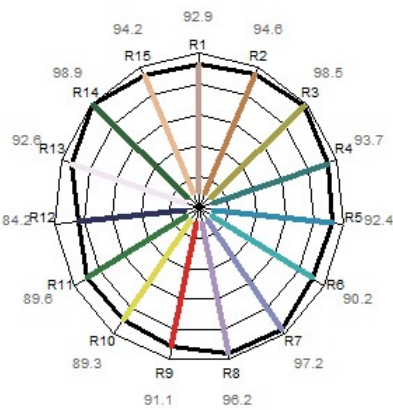
Photometry and Chromaticity

CIE_x	0.4450	Duv	-0.0024
CIE_y	0.4006	λ_d (nm)	584.4
CIE_u'	0.2573	Purity(%)	54
CIE_v'	0.5212	FWHM(nm)	135
CCT(K)	2840	SP ratio	1.48
Illuminance(lx)	1778	PPFD 400-700nm($\mu\text{mol}/\text{m}^2 \text{ s}$)	15.51
λ_p (nm)	633	CRI(Ra)	94
TLCI(Qa)	97.8	GAI	57.8
GAI BB8	109	GAI BB15	112
TM-30 Rf	93	TM-30 Rg	101



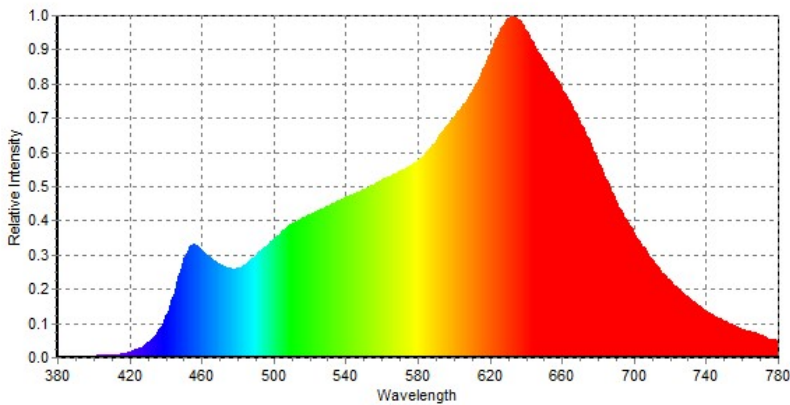
CIE1931 Chromaticity Diagram

CQS-Qa	97	Re(thru R1~R15)	93
R1	92.9	R6	90.2
R2	94.6	R7	97.2
R3	98.5	R8	96.2
R4	93.7	R9	91.1
R5	92.4	R10	89.3
R11	89.6	R12	84.2
R13	92.6	R14	98.9
R15	94.2	R15	94.2

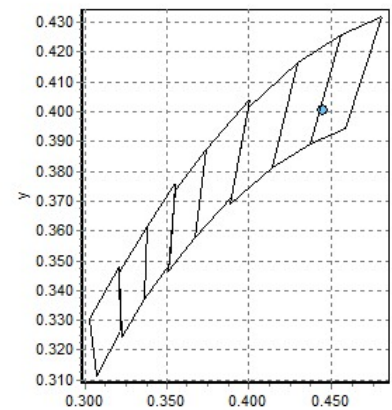


Radar Diagram of CRI

Flicker Frequency(Hz)	90	Flicker %	11
Flicker Index	0.03		



Spectral Distribution



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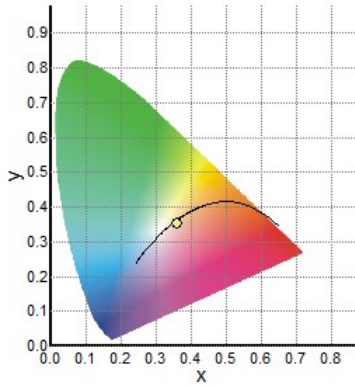


Product Description

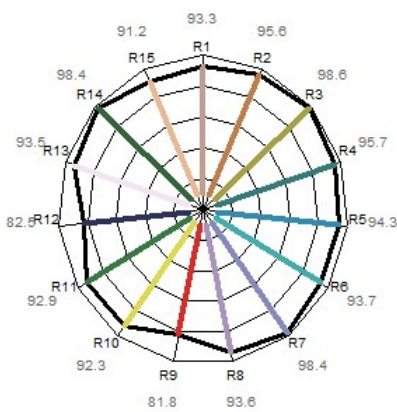
Product Name	TV Mini Fresnel Max Zoom 80° WW + CW		
Sample Number			
Date(YYYY/MM/DD)	2021/2/19 15:10:05		
Manufacturer			
Tester			
Temperature(°C)	27	Re. Humidity(%)	30
Reviewer			

Photometry and Chromaticity

CIE_x	0.3613	Duv	-0.0055
CIE_y	0.3530	λ_d (nm)	582.5
CIE_u'	0.2219	Purity(%)	14
CIE_v'	0.4877	FWHM(nm)	37
CCT(K)	4417	SP ratio	2.03
Illuminance(lx)	1801	PPFD 400-700nm($\mu\text{mol}/\text{m}^2 \text{s}$)	30.25
λ_p (nm)	452	CRI(Ra)	95
TLCI(Qa)	98.7	GAI	92.5
GAI BB8	109	GAI BB15	111
TM-30 Rf	93	TM-30 Rg	102



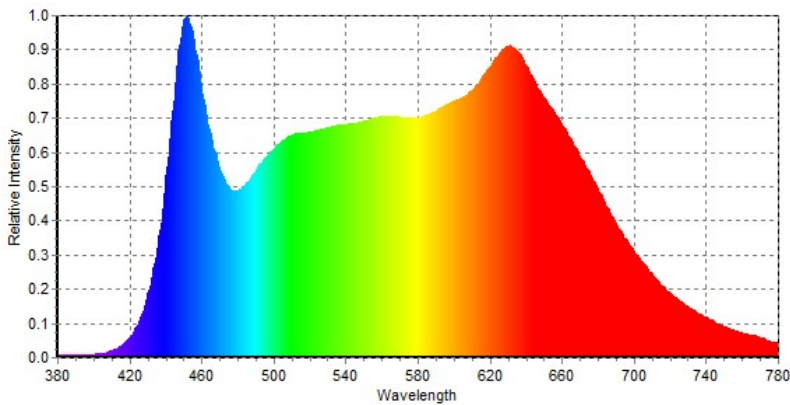
CIE1931 Chromaticity Diagram



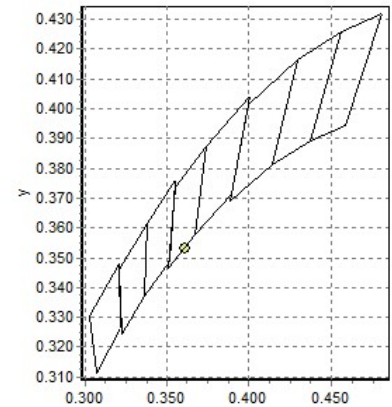
Radar Diagram of CRI

CQS-Qa	97	Re(thru R1~R15)	93
R1	93.3	R6	93.7
R2	95.6	R7	98.4
R3	98.6	R8	93.6
R4	95.7	R9	81.8
R5	94.3	R10	92.3
		R11	92.9
		R12	82.5
		R13	93.5
		R14	98.4
		R15	91.2

Flicker Frequency(Hz)	90	Flicker %	25
Flicker Index	0.07		



Spectral Distribution



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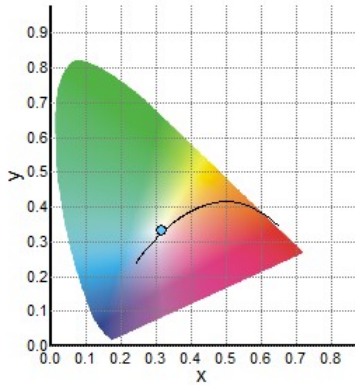


Product Description

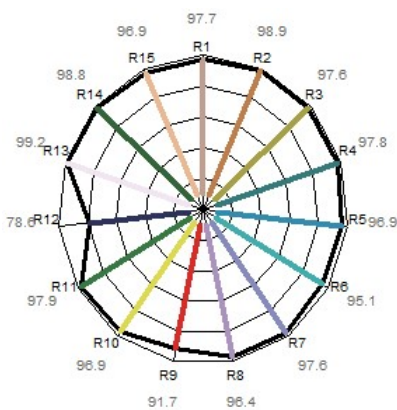
Product Name	TV Mini Fresnel Min Zoom 25° CW		
Sample Number			
Date(YYYY/MM/DD)	2021/2/19 15:08:12		
Manufacturer			
Tester			
Temperature(°C)	27	Re. Humidity(%)	31
Reviewer			

Photometry and Chromaticity

CIE_x	0.3180	Duv	0.0013
CIE_y	0.3305	λ_d (nm)	489.3
CIE_u'	0.2009	Purity(%)	5
CIE_v'	0.4699	FWHM(nm)	33
CCT(K)	6216	SP ratio	2.38
Illuminance(lx)	8258	PPFD 400-700nm($\mu\text{mol}/\text{m}^2 \cdot \text{s}$)	32.65
λ_p (nm)	451	CRI(Ra)	97
TLCI(Qa)	98.2	GAI	96.8
GAI BB8	100	GAI BB15	103
TM-30 Rf	93	TM-30 Rg	100



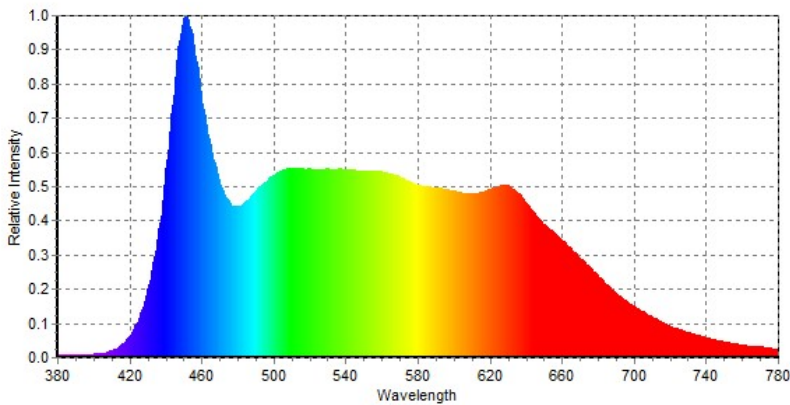
CIE1931 Chromaticity Diagram



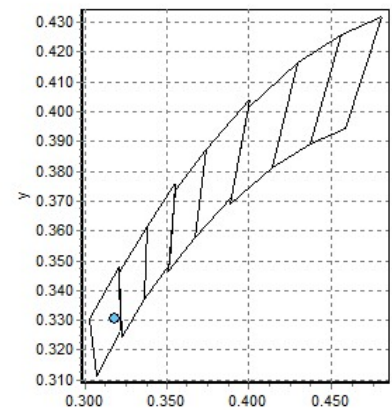
Radar Diagram of CRI

CQS-Qa	95	Re(thru R1~R15)	96
R1	97.7	R6	95.1
R2	98.9	R7	97.6
R3	97.6	R8	96.4
R4	97.8	R9	91.7
R5	96.9	R10	96.9
R11	97.9	R12	78.6
R13	99.2	R14	98.8
R14	98.8	R15	96.9

Flicker Frequency(Hz)	3	Flicker %	22
Flicker Index	0.06		



Spectral Distribution



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Report of Photometry & Chromaticity for Light Source

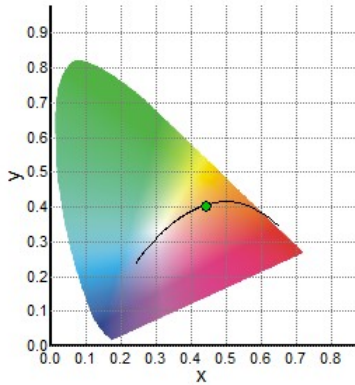


Product Description

Product Name	FOS TV Mini Fresnel WW Min Zoom 25°		
Sample Number			
Date(YYYY/MM/DD)	2021/2/19 13:24:48		
Manufacturer			
Tester			
Temperature(°C)	29	Re. Humidity(%)	28
Reviewer			

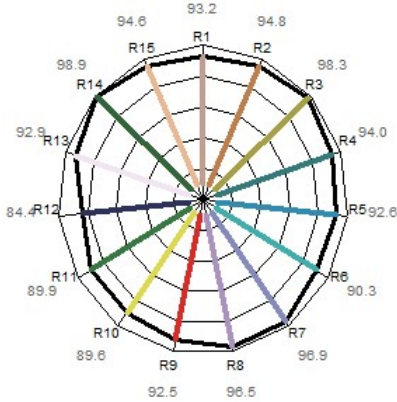
Photometry and Chromaticity

CIE_x	0.4459	Duv	-0.0020
CIE_y	0.4019	λ_d (nm)	584.2
CIE_u'	0.2574	Purity(%)	54
CIE_v'	0.5219	FWHM(nm)	135
CCT(K)	2836	SP ratio	1.47
Illuminance(lx)	6046	PPFD 400-700nm($\mu\text{mol}/\text{m}^2/\text{s}$)	106.74
λ_p (nm)	633	CRI(Ra)	95
TLCI(Qa)	97.6	GAI	56.8
GAI BB8	107	GAI BB15	110
TM-30 Rf	92	TM-30 Rg	100



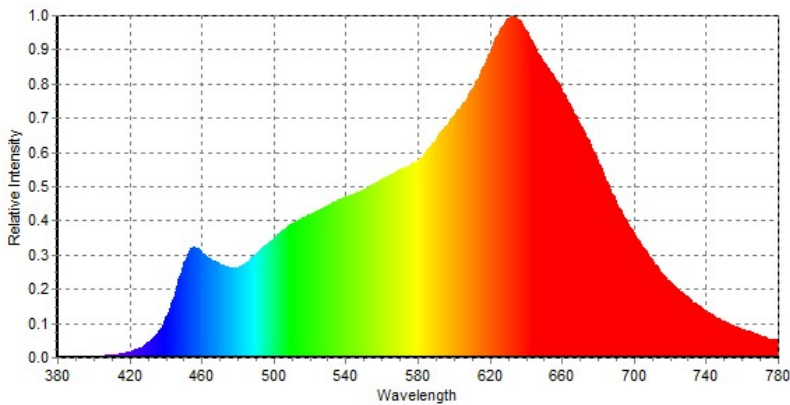
CIE1931 Chromaticity Diagram

CQS-Qa	97	Re(thru R1~R15)	93
R1	93.2	R6	90.3
R2	94.8	R7	96.9
R3	98.3	R8	96.5
R4	94.0	R9	92.5
R5	92.6	R10	89.6
R11	89.9	R12	84.4
R13	92.9	R14	98.9
R15	94.6	R15	94.6

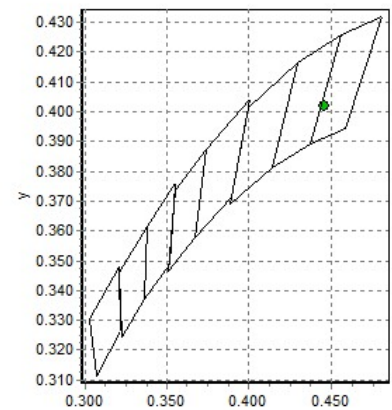


Radar Diagram of CRI

Flicker Frequency(Hz)	3	Flicker %	20
Flicker Index	0.05		



Spectral Distribution



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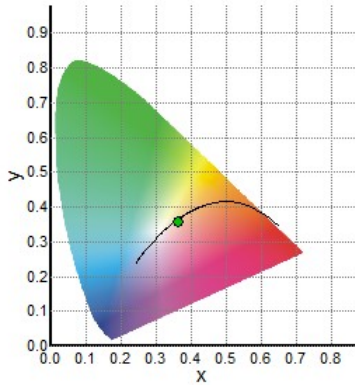


Product Description

Product Name	TV Mini Fresnel Min Zoom 25° WW + CW		
Sample Number			
Date(YYYY/MM/DD)	2021/2/19 15:09:06		
Manufacturer			
Tester			
Temperature(°C)	27	Re. Humidity(%)	31
Reviewer			

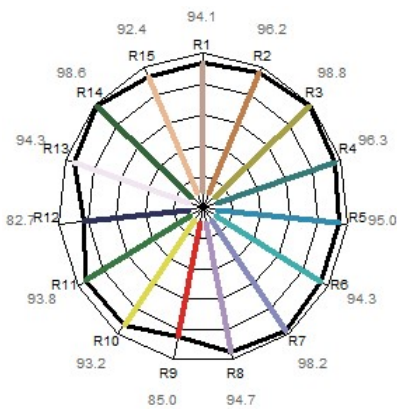
Photometry and Chromaticity

CIE_x	0.3639	Duv	-0.0044
CIE_y	0.3570	λ_d (nm)	581.3
CIE_u'	0.2220	Purity(%)	16
CIE_v'	0.4901	FWHM(nm)	243
CCT(K)	4356	SP ratio	2.01
Illuminance(lx)	6683	PPFD 400-700nm($\mu\text{mol}/\text{m}^2 \cdot \text{s}$)	11.55
λ_p (nm)	452	CRI(Ra)	96
TLCI(Qa)	98.7	GAI	90.3
GAI BB8	107	GAI BB15	109
TM-30 Rf	93	TM-30 Rg	102



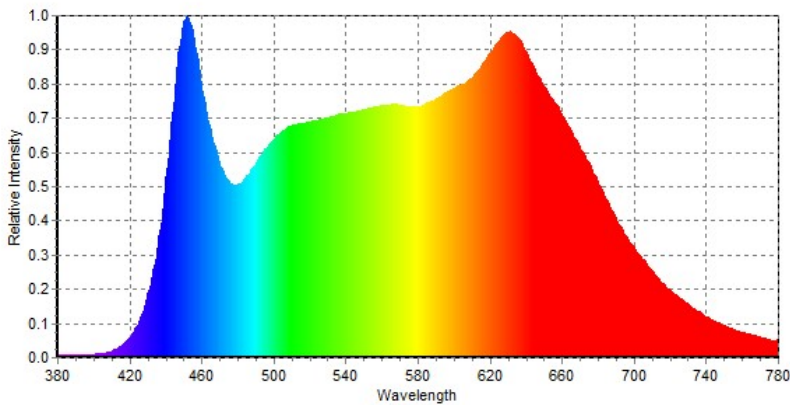
CIE1931 Chromaticity Diagram

CQS-Qa	97	Re(thru R1~R15)	94
R1	94.1	R6	94.3
R2	96.2	R7	98.2
R3	98.8	R8	94.7
R4	96.3	R9	85.0
R5	95.0	R10	93.2
R11	93.8	R12	82.7
R13	94.3	R14	98.6
R15	92.4	R15	92.4

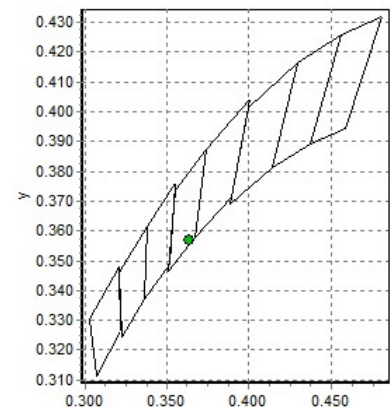


Radar Diagram of CRI

Flicker Frequency(Hz)	90	Flicker %	28
Flicker Index	0.07		



Spectral Distribution



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