

FOS Urban 100(100W;4000K;150x70)

Report No: 31

Category : Urban

Spec: URS 01-100A-RW2-D150x70

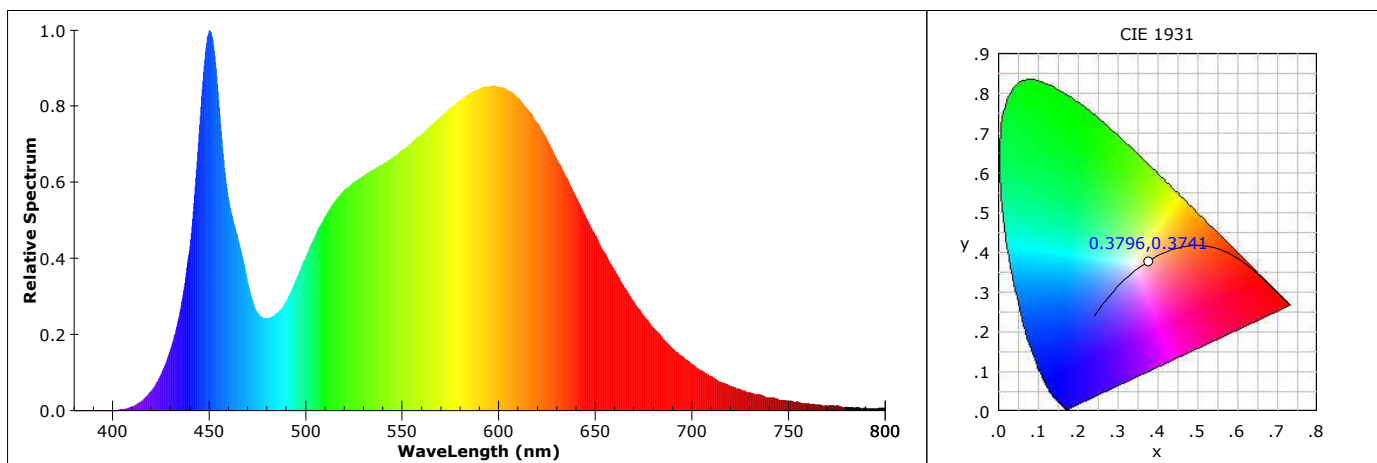
Manufacturer: LLC"FOS GROUP"

Test Time: 2024-05-02 15:54:37

Type: LED

Number: 31

Submitter:



CIE Colorimetric Parameters

CIE(x,y): 0.3796,0.3741

CIE(u,v): 0.2256,0.3335

CIE(u',v'): 0.2256,0.5003

CCT: 4005 K (Duv=-0.001003)

Dominant Wavelength: 579.6 nm

Color Purity: 0.262

Peak Wavelength: 450.3 nm

Half Width: 21.3 nm

Color Ratio: R:0.186, G:0.778, B:0.036

Color Render Index: Ra:84.4 , avgR(1~14):78.2 , avgR(1~15):78.2

R1: 83

R2: 90

R3: 94

R4: 84

R5: 83

R6: 86

R7: 87

R8: 68

R9: 16

R10: 75

R11: 83

R12: 64

R13: 85

R14: 97

R15: 78

Color Quality Scale: Qa:83.5 , Qf:83.5 , Qp:84.3 , Qg:94.4 ,

Q1: 83

Q2: 99

Q3: 79

Q4: 77

Q5: 83

Q6: 85

Q7: 86

Q8: 90

Q9: 97

Q10: 88

Q11: 85

Q12: 84

Q13: 84

Q14: 75

Q15: 78

TM-30-18: Rf:84 , Rg:97

Gamut Area Index (GAI): GAI_EES:75.3 , GAI_BB_8:95.4 , GAI_BB_15:101.4

Photometric Parameters

Luminous Flux: 14302.77 lm

Radiant Power: 44.151 W

Efficiency: 144.32 lm/W

Energy Efficiency Class:D (EU 2019/2015 η TM:144.32lm/W)

S/P: 1.695

Pupil Flux: 21585.17 Plm (Kp=1.509)

Pupil Lumens per Watt: 217.80 Plm/W

Cirtopic Flux: 46530.01 lm

Mesopic Flux (CIE R.): 17462.77 lm (Lp=0.100)

Mesopic Flux (USP): 19960.64 lm (Lp=0.100)

Mesopic Flux (MOVE): 18000.22 lm (Lp=0.100)

Electric Parameters

Voltage: 219.27 V

Current: 0.4600 A

Power: 99.11 W

Power Factor: 0.9825

Frequency: 50.00 Hz

Geometry: 4n, 2m

Warmup Time: 24 Minutes 42 Seconds

Spectroradiometer: LMS-9000C

Self-absorption Factor: 1.244

Integration Time: 49 ms

Digital Power Meter: LS2050B

Photometric Method: sphere-photometer (spec_rev)

Peak of Signal: 49448

Power Source: LSP Series

Test Lab: "FOS GROUP"

Operator: Итыгина Е.О

Testing Environment: Ts:22.0°C, Ta:23.5°C,

Approver:

Plant Growth Lamp Test Report

Report No: 31

Category : Urban

Spec: URS 01-100A-RW2-D150x70

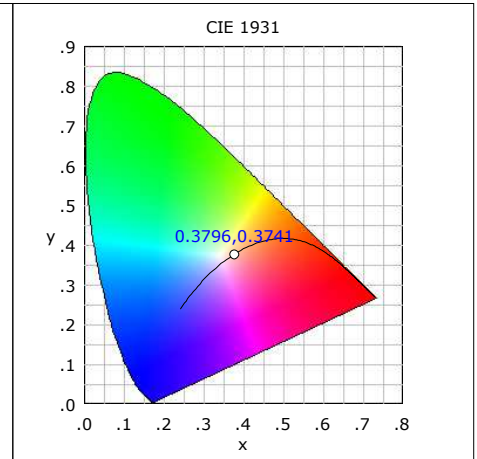
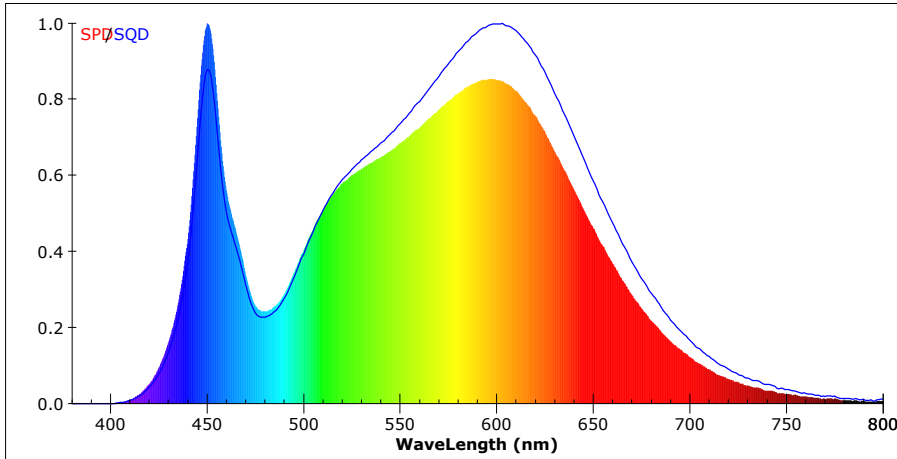
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CIE(u,v): 0.2256,0.3335

Dominant Wavelength: 579.6 nm

Half Width: 21.3 nm

CIE(u',v'): 0.2256,0.5003

Color Purity: 0.262

Color Ratio: R:0.186, G:0.778, B:0.036

Color Render Index: Ra:84.4 , avgR(1~14):78.2 , avgR(1~15):78.2

R1: 83

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R6: 86

R7: 87

R8: 68

R9: 16

R10: 75

R11: 83

R12: 64

R13: 85

R14: 97

R15: 78

Photometric Parameters

Luminous Flux: 14302.77 lm

Radiant Power: 44.151 W

Photosynthetic Photon Flux (Φ_p): 201.710 $\mu\text{mol/s}$ Photosynthetic Radiant Flux (Φ_e): 43.088 WPhoton Flux (400~500nm): 36.080 $\mu\text{mol/s}$ Photon Flux (600~700nm): 74.284 $\mu\text{mol/s}$ Photon Flux (PFuv 280~400nm): 0.009 $\mu\text{mol/s}$

Radiant Flux (400~500nm): 9.399 W

Radiant Flux (600~700nm): 13.987 W

Radiant Flux (280~400nm): 0.003 W

YPF (320~780nm): 178.039 $\mu\text{mol/s}$ YPF (500~600nm): 80.062 $\mu\text{mol/s}$ YPF (700~780nm): 1.349 $\mu\text{mol/s}$

Radiant Flux (Chl-A): 3.137 W

Efficiency: 144.32 lm/W

Radiant Efficiency (η): 0.445Photosynthetic Photon Efficacy (K_p): 2.035 $\mu\text{mol/J}$ Photosynthetic Radiant Efficiency (η_e): 0.435Photon Flux (500~600nm): 91.346 $\mu\text{mol/s}$ Photon Flux (PFfr 700~800nm): 6.440 $\mu\text{mol/s}$ Photon Flux (PF_PBAR): 208.160 $\mu\text{mol/s}$

Radiant Flux (500~600nm): 19.702 W

Radiant Flux (700~800nm): 1.060 W

R/B: 1.5 R/FR: 13.2

YPF (400~500nm): 26.226 $\mu\text{mol/s}$ YPF (600~700nm): 70.396 $\mu\text{mol/s}$ YPF (320~400nm): 0.006 $\mu\text{mol/s}$

Radiant Flux (Chl-B): 6.230 W

Electric Parameters

Voltage: 219.27 V

Power Factor: 0.9825

Current: 0.4600 A

Frequency: 50.00 Hz

Power: 99.11 W

Geometry: 4n, 2m

Warmup Time: 24 Minutes 42 Seconds

Spectroradiometer: LMS-9000C

Self-absorption Factor: 1.244

Integration Time: 49 ms

Digital Power Meter: LS2050B

Photometric Method: sphere-photometer (spec_rev)

Peak of Signal: 49448

Power Source: LSP Series

Test Lab: "FOS GROUP"

Operator: Итыгина Е.О

Testing Environment: Ts:22.0°C, Ta:23.5°C,

Approver:

IES TM-30-18 Color Rendition Report

Report No: 31

Category: Urban

Spec: URS 01-100A-RW2-D150x70

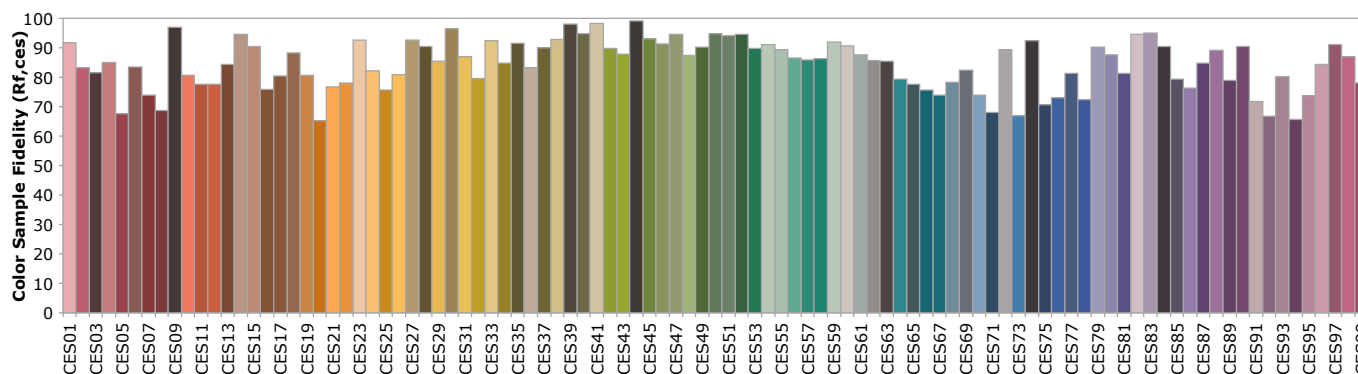
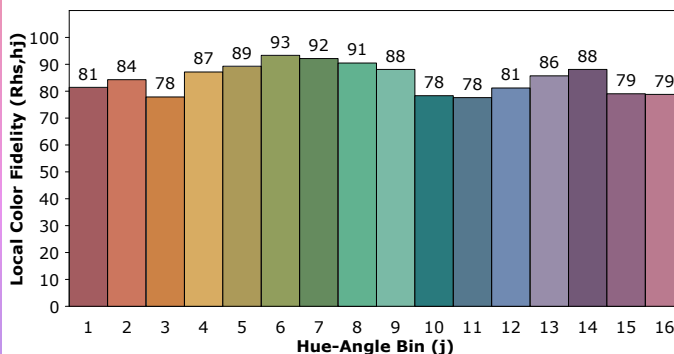
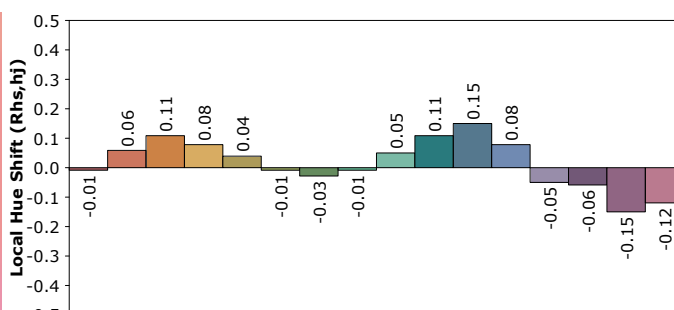
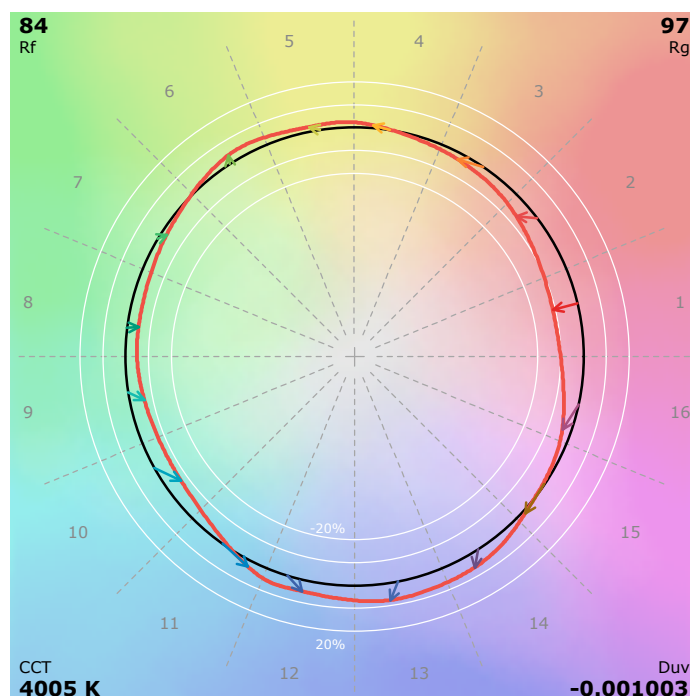
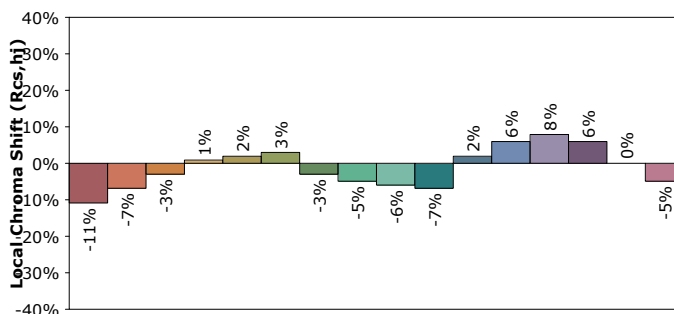
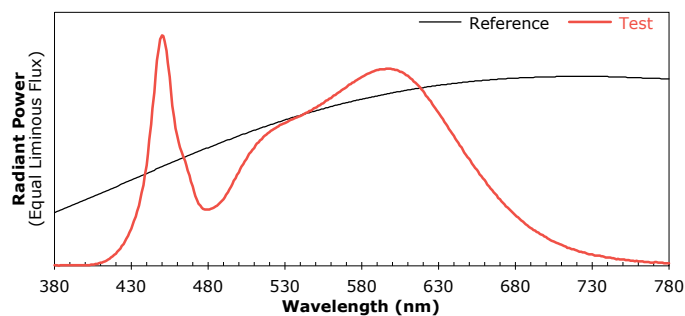
Manufacturer: LLC"FOS GROUP"

Test Time: 2024-05-02 15:54:37

Type: LED

Number: 31

Submitter:



Notes: This is a recommended method for displaying IES TM-30-18 information.

x 0.3796
y 0.3741
u' 0.2256
v' 0.5003

CIE13.3-1995
(CRI)
Ra 84
R9 16

Test Lab: "FOS GROUP"
Operator: Итыгина Е.О

Testing Environment: Ts:22.0°C, Ta:23.5°C,
Approver:

Spectral Power Distribution Data

Report No: 31

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Spec: URS 01-100A-RW2-D150x70

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Submitter:

WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380.0	0.0002	0.0600	525.0	0.6012	173.5401	670.0	0.2862	82.6163
385.0	0.0003	0.0774	530.0	0.6191	178.7035	675.0	0.2511	72.4732
390.0	0.0006	0.1866	535.0	0.6346	183.1895	680.0	0.2183	63.0241
395.0	0.0009	0.2503	540.0	0.6495	187.4849	685.0	0.1901	54.8709
400.0	0.0012	0.3517	545.0	0.6664	192.3719	690.0	0.1633	47.1420
405.0	0.0045	1.2904	550.0	0.6853	197.8160	695.0	0.1419	40.9745
410.0	0.0112	3.2466	555.0	0.7052	203.5510	700.0	0.1227	35.4311
415.0	0.0260	7.5002	560.0	0.7273	209.9302	705.0	0.1050	30.3205
420.0	0.0519	14.9740	565.0	0.7512	216.8311	710.0	0.0897	25.9051
425.0	0.0935	26.9863	570.0	0.7731	223.1670	715.0	0.0753	21.7242
430.0	0.1596	46.0693	575.0	0.7963	229.8642	720.0	0.0653	18.8554
435.0	0.2589	74.7429	580.0	0.8172	235.8850	725.0	0.0556	16.0516
440.0	0.4339	125.2618	585.0	0.8339	240.7228	730.0	0.0477	13.7774
445.0	0.7523	217.1428	590.0	0.8477	244.6947	735.0	0.0426	12.3070
450.0	1.0000	288.6564	595.0	0.8524	246.0630	740.0	0.0352	10.1485
455.0	0.8173	235.9125	600.0	0.8513	245.7293	745.0	0.0285	8.2165
460.0	0.5608	161.8926	605.0	0.8411	242.7791	750.0	0.0253	7.3082
465.0	0.4535	130.9111	610.0	0.8232	237.6102	755.0	0.0220	6.3437
470.0	0.3417	98.6344	615.0	0.7938	229.1302	760.0	0.0188	5.4134
475.0	0.2584	74.5978	620.0	0.7564	218.3522	765.0	0.0153	4.4205
480.0	0.2432	70.1917	625.0	0.7124	205.6273	770.0	0.0128	3.6943
485.0	0.2560	73.9017	630.0	0.6620	191.0863	775.0	0.0136	3.9228
490.0	0.2882	83.1923	635.0	0.6136	177.1325	780.0	0.0090	2.6035
495.0	0.3418	98.6757	640.0	0.5633	162.5920	785.0	0.0087	2.5091
500.0	0.4046	116.7895	645.0	0.5114	147.6228	790.0	0.0078	2.2412
505.0	0.4619	133.3243	650.0	0.4618	133.3129	795.0	0.0054	1.5627
510.0	0.5105	147.3507	655.0	0.4149	119.7549	800.0	0.0081	2.3283
515.0	0.5490	158.4852	660.0	0.3701	106.8230			
520.0	0.5798	167.3609	665.0	0.3259	94.0656			

Test Lab: "FOS GROUP"

Operator: Итыгина Е.О

Testing Environment: Ts:22.0°C, Ta:23.5°C,

Approver:

Warmup Curve

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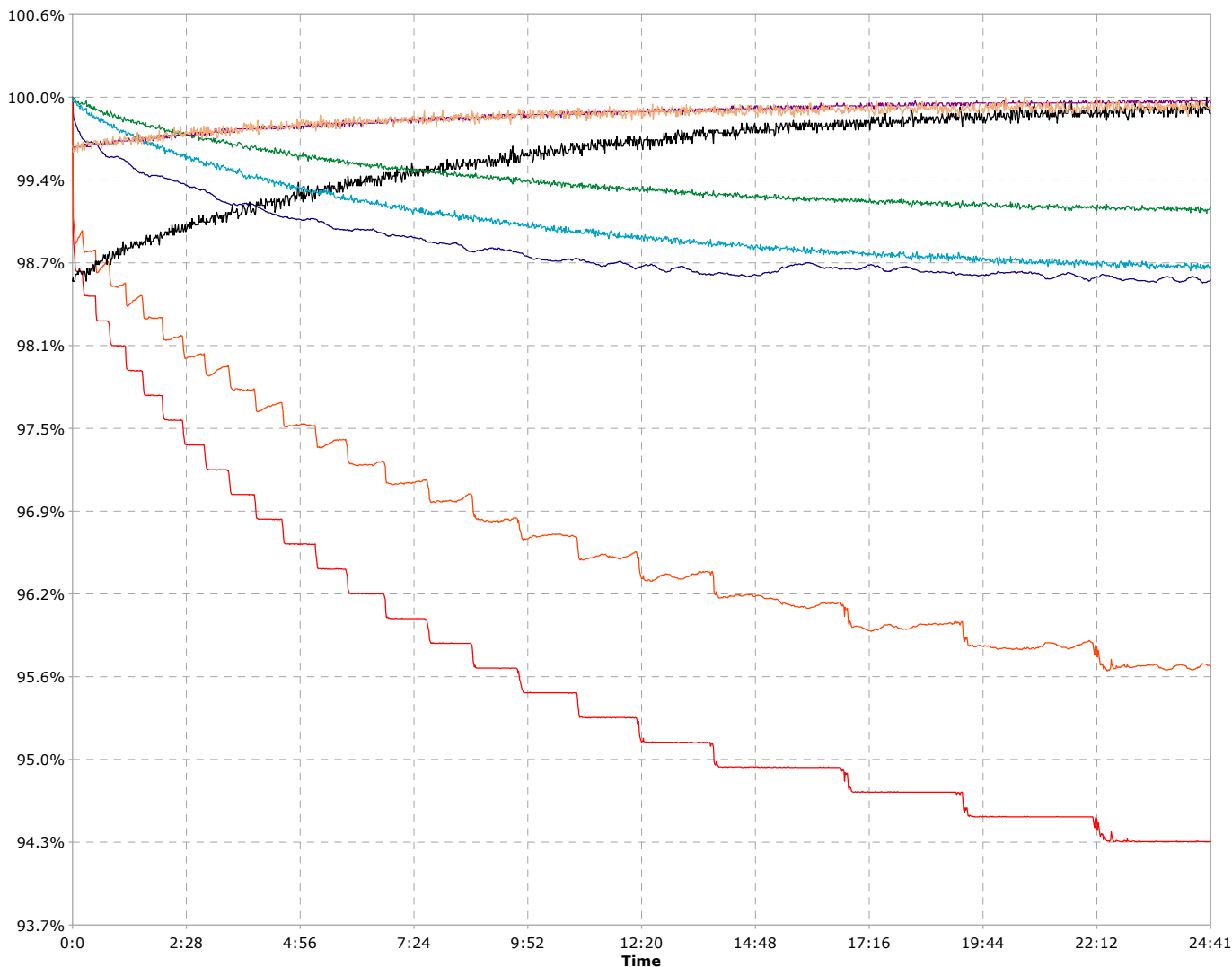
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Parameters	Maximum	Minimum	Change
Luminous Flux ,lm	15159.70	14302.30	857.40
Power ,W	100.49	99.07	1.42
Efficiency ,lm/W	150.86	144.28	6.57
CCT ,K	4008	3952	56
CIE x	0.3829	0.3795	0.0034
CIE y	0.3790	0.3740	0.0050
Peak Wavelength ,nm	450.4	448.6	1.8
Ra	84.4	84.0	0.4

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Approver: