

Lightsource Test Report

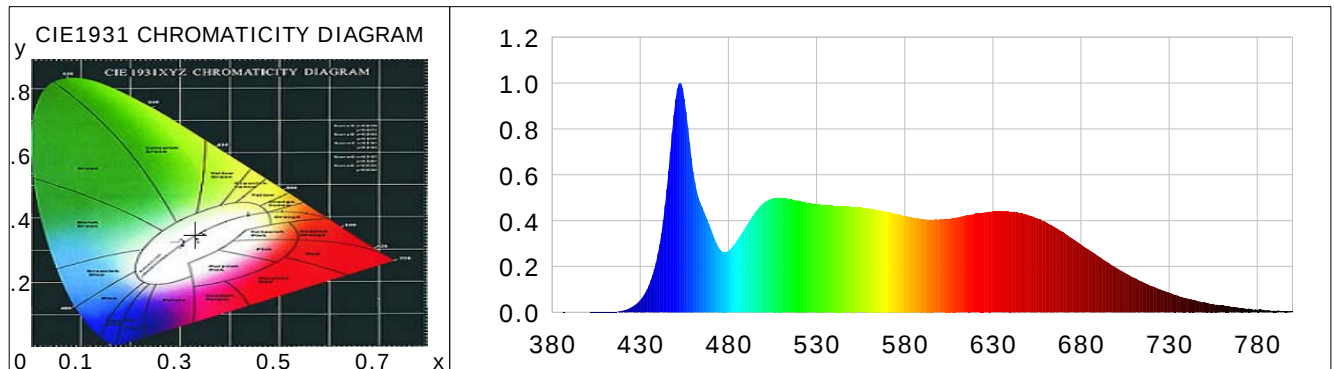
Product Information

Product Category: LED-Röhre
 Product Spec: LEDtube-150-8DWM-25W-CRI95
 Manufacturer: METOLIGHT
 Buyer: 6961

Product Type: LED-Röhre-SCE
 Product Number: 1
 Submitted Unit: 101061

CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3309$ $y=0.3489$ $u(u')=0.0209$ $v=0.3208$ $v'=0.4812$
 CCT: $T_c=5568K$ ($duv=0.00465$) Color Ratio: $R=0.167$ $G=0.772$ $B=0.061$
 Peak Wavelength: 452.6nm Half Bandwidth: 18.5nm
 Dominant Wavelength: 546.2nm Color Purity: 0.041
 CRI: $R_a=98.2$, $avgR(1\sim14)=96.2$, $avgR(1\sim15)=96.2$ TM30: $R_f=93$, $R_g=100$
 GAI: $GAI_BB_8=99.4$, $GAI_BB_15=103.5$, $GAI_EES=91.9$
 R1 =99 R2 =99 R3 =98 R4 =100 R5 =98 R6 =96 R7 =98 R8 =97
 R9 =95 R10=99 R11=96 R12=74 R13=99 R14=99 R15=96
 Color Quality Scale: $Q_a=96.3$, $Q_f=95.6$, $Q_p=97.2$, $Q_g=100.5$
 Q1 =94 Q2 =99 Q3 =92 Q4 =92 Q5 =96 Q6 =99 Q7 =98 Q8 =100
 Q9 =99 Q10=99 Q11=99 Q12=98 Q13=99 Q14=99 Q15=97



Photometric Parameters

Luminous Flux: 2546.7 lm Efficiency: 101.02 lm/W Radiant Power: 9.436 W
 Total mains efficacy: 118.80 lm/W Energy Efficiency Class: E (EU 2019/2015)
 Pupil Flux: 4839.45 Plm Pupil Lumens Per Watt: 191.97 Plm/W Pupil Factor (Kp): 1.900
 Cirtopic Flux: 11129.51 lm

Electric Parameters

Voltage: 230.80V Current: 0.1180A Power: 25.21W
 Power Factor: 0.9230 Frequency: 49.99Hz

Test Information

Scan Range: 380~800:1nm Photometric Method: sphere-spectroradiometer
 Stabilization Time: 0 ms ALC.: 1.0000 Photometric Condition: Sphere diameter: 2.00m, 4PI
 Max of Signal: 46059 (2135) CCD Integration Time: 85.58 ms

Condition: Tx:0.0°C, Ti:0.0°C, R.H.:60%
 Test Lab:
 Operator: CRE

Test Device: Lisun LMS-9000B
 Test Time: 2021-02-19 10:27:45
 Inspector:

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0005	0.0426	525	0.4757	37.4287	670	0.3500	27.5355
385	0.0005	0.0371	530	0.4729	37.2067	675	0.3228	25.3977
390	0.0003	0.0238	535	0.4676	36.7865	680	0.2967	23.3414
395	0.0005	0.0377	540	0.4641	36.5163	685	0.2700	21.2426
400	0.0007	0.0513	545	0.4633	36.4522	690	0.2441	19.2060
405	0.0010	0.0803	550	0.4606	36.2364	695	0.2184	17.1838
410	0.0014	0.1071	555	0.4580	36.0379	700	0.1947	15.3182
415	0.0023	0.1800	560	0.4524	35.5942	705	0.1716	13.5016
420	0.0071	0.5610	565	0.4465	35.1309	710	0.1508	11.8670
425	0.0222	1.7450	570	0.4379	34.4503	715	0.1320	10.3828
430	0.0536	4.2170	575	0.4289	33.7480	720	0.1158	9.1094
435	0.1190	9.3639	580	0.4218	33.1851	725	0.1003	7.8884
440	0.2549	20.0526	585	0.4124	32.4497	730	0.0871	6.8497
445	0.5393	42.4341	590	0.4071	32.0282	735	0.0731	5.7502
450	0.9278	73.0013	595	0.4046	31.8300	740	0.0608	4.7857
455	0.9332	73.4268	600	0.4056	31.9141	745	0.0528	4.1550
460	0.6140	48.3102	605	0.4088	32.1616	750	0.0463	3.6450
465	0.4608	36.2558	610	0.4145	32.6140	755	0.0376	2.9562
470	0.3644	28.6677	615	0.4232	33.2985	760	0.0307	2.4132
475	0.2768	21.7754	620	0.4307	33.8902	765	0.0249	1.9586
480	0.2682	21.1041	625	0.4353	34.2470	770	0.0201	1.5841
485	0.3143	24.7252	630	0.4405	34.6578	775	0.0173	1.3606
490	0.3738	29.4085	635	0.4408	34.6812	780	0.0118	0.9298
495	0.4343	34.1728	640	0.4394	34.5733	785	0.0088	0.6903
500	0.4769	37.5199	645	0.4339	34.1380	790	0.0071	0.5606
505	0.4976	39.1468	650	0.4237	33.3333	795	0.0051	0.4002
510	0.4993	39.2849	655	0.4107	32.3104	800	0.0040	0.3121
515	0.4927	38.7636	660	0.3945	31.0411			
520	0.4870	38.3154	665	0.3721	29.2737			

Condition: Tx:0.0'C, Ti:0.0'C, R.H.:60%
 Test Lab:
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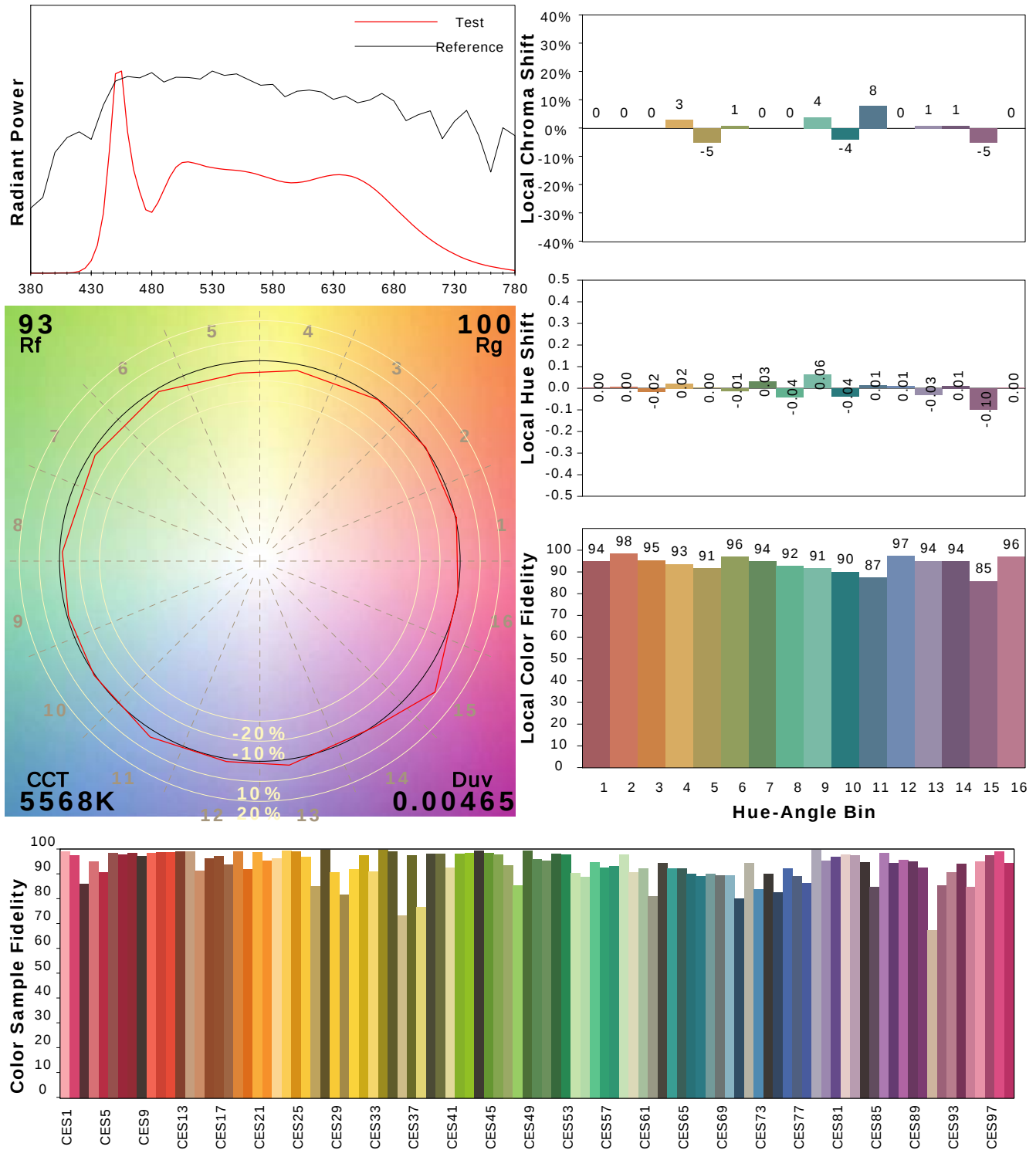
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IES TM-30-18 Color Rendition Report

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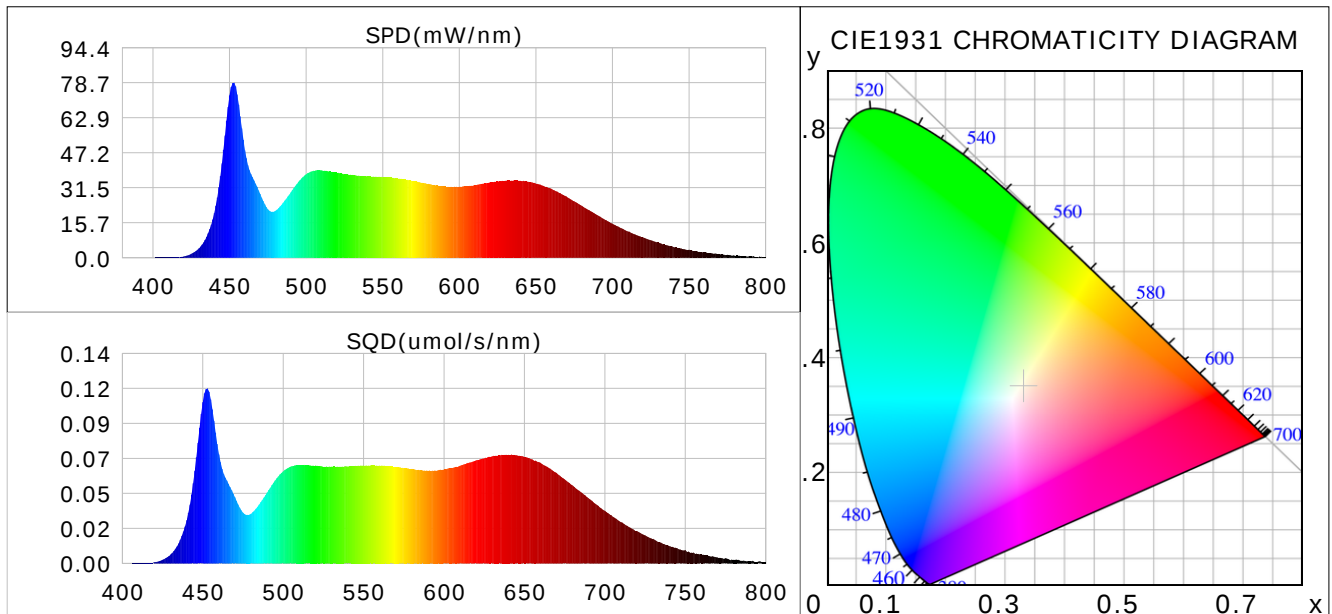
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Test Device: Lisun LMS-9000B
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Plant optical param data

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 Peak Wavelength: 452.6nm Half Bandwidth: 18.5nm
 Dominant Wavelength: 546.2nm Color Purity: 0.041
 CRI: Ra= 98.2



Plant Optical Param

$\mu_v(lm): 2546.70$	$Q_v(lm.s): 2546.70$
$\mu_e, \dot{E}(W/nm): 9.44$	$Q_e(J): 9.44$
$\mu_e(W): 8.96$	$\mu_{fr}(W): 0.50$
$\dot{C}_e: 0.36$	$\dot{C}_{fr}: 0.02$
$PPE(umol/s/w): 1.66$	$K_{fr}: 0.12$
$Erb_Ratio: 1.19$	$PPF(umol/s): 41.76$
$PF_{uv}(360-400)(umol/s): 0.00$	$PPF(400-500)(umol/s): 9.55$
$PPF(500-600)(umol/s): 16.40$	$PPF(600-700)(umol/s): 15.81$
$PF_{fr}(700-800)(umol/s): 2.93$	$PPF.t(umol): 41.76$
$\mu_{ch-A.t}(J): 0.76$	$\mu_{ch-A}(W): 0.76$
$\mu_{ch-B.t}(J): 0.47$	$\mu_{ch-B}(W): 0.47$
$\mu_b.t(J): 2.46$	$\mu_b(W): 2.46$
$\mu_y.t(J): 3.61$	$\mu_y(W): 3.61$
$\mu_r.t(J): 2.96$	$\mu_r(W): 2.96$

Electric Parameters

Voltage: 230.80V	Current: 0.1180A	Power: 25.21W
Power Factor: 0.9230	Frequency: 49.99Hz	