

Lightsource Test Report

Product Information

Product Category: LED-Röhre	Product Type: LED-Röhre-Spezial
Product Spec: LEDtube-150-8Meat-TR-25WM	Product Number: 1
Manufacturer: METOLIGHT	Submitted Unit: 101790
Buyer: 7116	

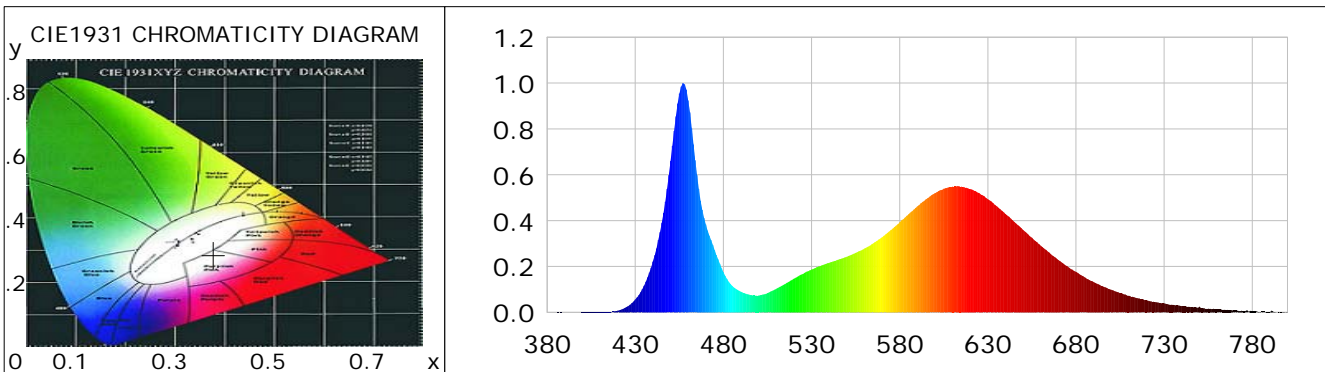
CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3776$ $y=0.2850$ $u(u')=0.2666$ $v=0.3018$ $v'=0.4528$
 CCT: $T_c=3054K$ ($duv=-0.04845$) Color Ratio: $R=0.281$ $G=0.666$ $B=0.052$
 Peak Wavelength: 457.2nm Half Bandwidth: 19.4nm
 Dominant Wavelength: 699.4nm Color Purity: 0.489
 CRI: $R_a=76.5$, $avgR(1\sim14)=73.5$, $avgR(1\sim15)=74.5$ TM30: $R_f=78$, $R_g=105$
 GAI: $GAI_BB_8=190.5$, $GAI_BB_15=179.4$, $GAI_EES=112.1$

R1 =92	R2 =78	R3 =73	R4 =78	R5 =90	R6 =65	R7 =65	R8 =72
R9 =72	R10=63	R11=73	R12=35	R13=86	R14=89	R15=89	

 Color Quality Scale: $Q_a=72.7$, $Q_f=65.1$, $Q_p=90.0$, $Q_g=109.7$

Q1 =89	Q2 =94	Q3 =61	Q4 =56	Q5 =71	Q6 =82	Q7 =78	Q8 =81
Q9 =93	Q10=77	Q11=66	Q12=60	Q13=62	Q14=78	Q15=85	



Photometric Parameters

Luminous Flux: 2149.5 lm	Efficiency: 86.71 lm/W	Radiant Power: 8.542 W
Total mains efficacy: 101.97 lm/W	Energy Efficiency Class: F (EU 2019/2015)	
Pupil Flux: 3376.98 Plm	Pupil Lumens Per Watt: 136.22 Plm/W	Pupil Factor (Kp): 1.571
Cirtopic Flux: 7839.66 lm		

Electric Parameters

Voltage: 230.70V	Current: 0.1140A	Power: 24.79W
Power Factor: 0.9390	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: 46562 (2619)	CCD Integration Time: 74.23 ms

Condition: $T_x=23.3^{\circ}C$, $T_i=0.0^{\circ}C$, R.H.: 60%
 Test Lab:
 Operator: CRE

Test Device: Lisun LMS-9000B
 Test Time: 2021-02-17 11:17:00
 Inspector:

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0008	0.0778	525	0.1675	15.8925	670	0.2290	21.7230
385	0.0003	0.0310	530	0.1868	17.7196	675	0.2015	19.1205
390	0.0005	0.0493	535	0.2024	19.2064	680	0.1766	16.7585
395	0.0003	0.0322	540	0.2162	20.5098	685	0.1525	14.4737
400	0.0008	0.0726	545	0.2292	21.7485	690	0.1321	12.5382
405	0.0010	0.0929	550	0.2426	23.0168	695	0.1142	10.8377
410	0.0012	0.1166	555	0.2596	24.6261	700	0.0986	9.3572
415	0.0028	0.2636	560	0.2781	26.3907	705	0.0834	7.9097
420	0.0077	0.7278	565	0.3009	28.5529	710	0.0730	6.9268
425	0.0231	2.1913	570	0.3276	31.0832	715	0.0616	5.8457
430	0.0559	5.3039	575	0.3594	34.1019	720	0.0531	5.0418
435	0.1162	11.0275	580	0.3932	37.3105	725	0.0452	4.2932
440	0.2216	21.0221	585	0.4279	40.5989	730	0.0391	3.7131
445	0.3910	37.1013	590	0.4622	43.8552	735	0.0332	3.1457
450	0.6610	62.7134	595	0.4936	46.8318	740	0.0272	2.5847
455	0.9549	90.6003	600	0.5200	49.3418	745	0.0231	2.1911
460	0.9244	87.7097	605	0.5391	51.1502	750	0.0247	2.3482
465	0.5983	56.7627	610	0.5480	51.9962	755	0.0164	1.5517
470	0.3834	36.3770	615	0.5487	52.0565	760	0.0134	1.2744
475	0.2718	25.7851	620	0.5381	51.0566	765	0.0106	1.0054
480	0.1754	16.6401	625	0.5201	49.3468	770	0.0086	0.8140
485	0.1158	10.9824	630	0.4930	46.7743	775	0.0062	0.5860
490	0.0898	8.5187	635	0.4633	43.9589	780	0.0056	0.5305
495	0.0766	7.2699	640	0.4290	40.6996	785	0.0037	0.3483
500	0.0738	7.0034	645	0.3949	37.4697	790	0.0015	0.1413
505	0.0842	7.9908	650	0.3594	34.1009	795	0.0020	0.1861
510	0.1030	9.7750	655	0.3254	30.8705	800	0.0039	0.3715
515	0.1241	11.7780	660	0.2910	27.6100			
520	0.1472	13.9675	665	0.2597	24.6405			

Condition: Tx:23.3'C, Ti:0.0'C, R.H.:60%
 Test Lab:
 Operator: CRE

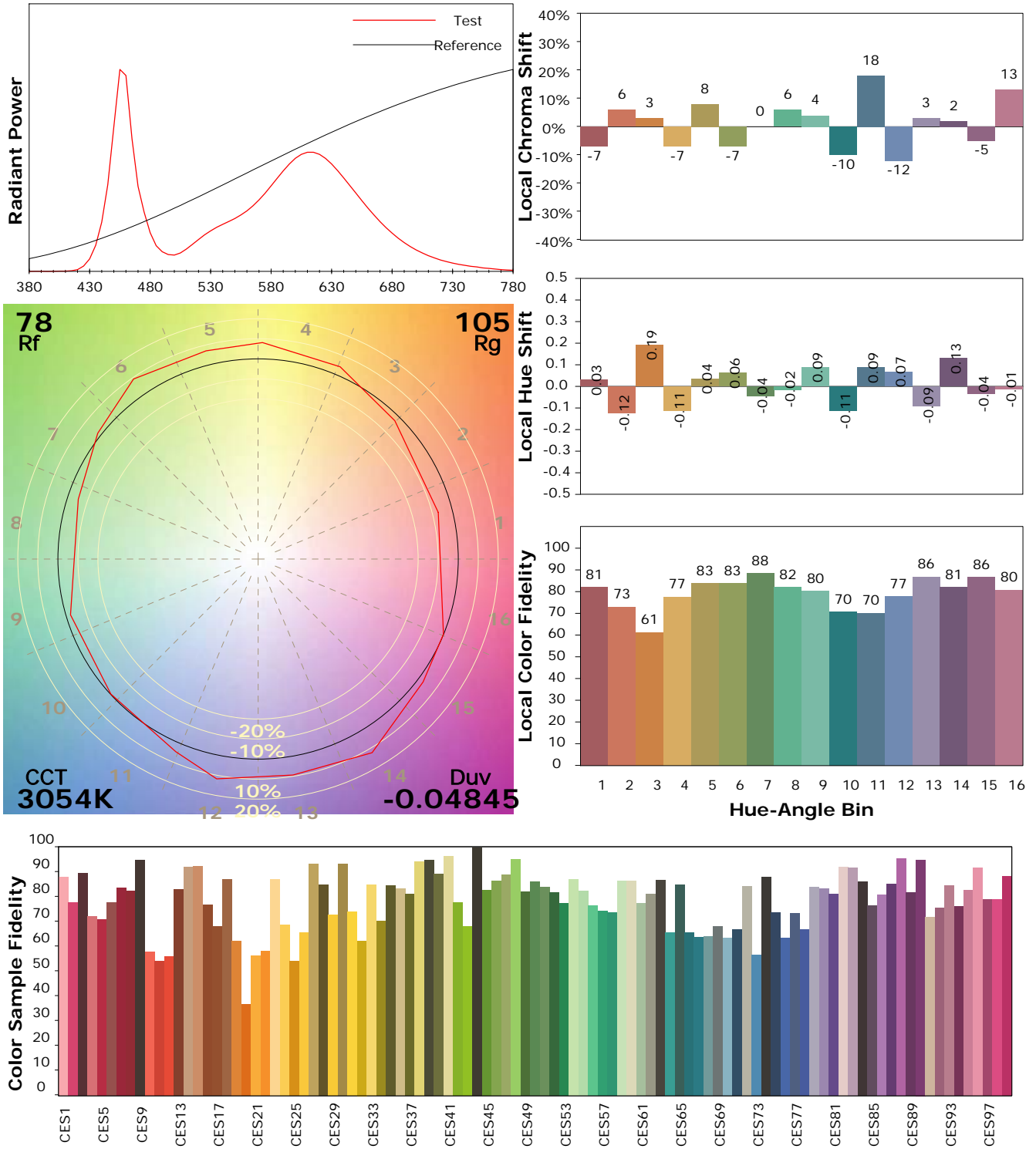
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IES TM-30-18 Color Rendition Report

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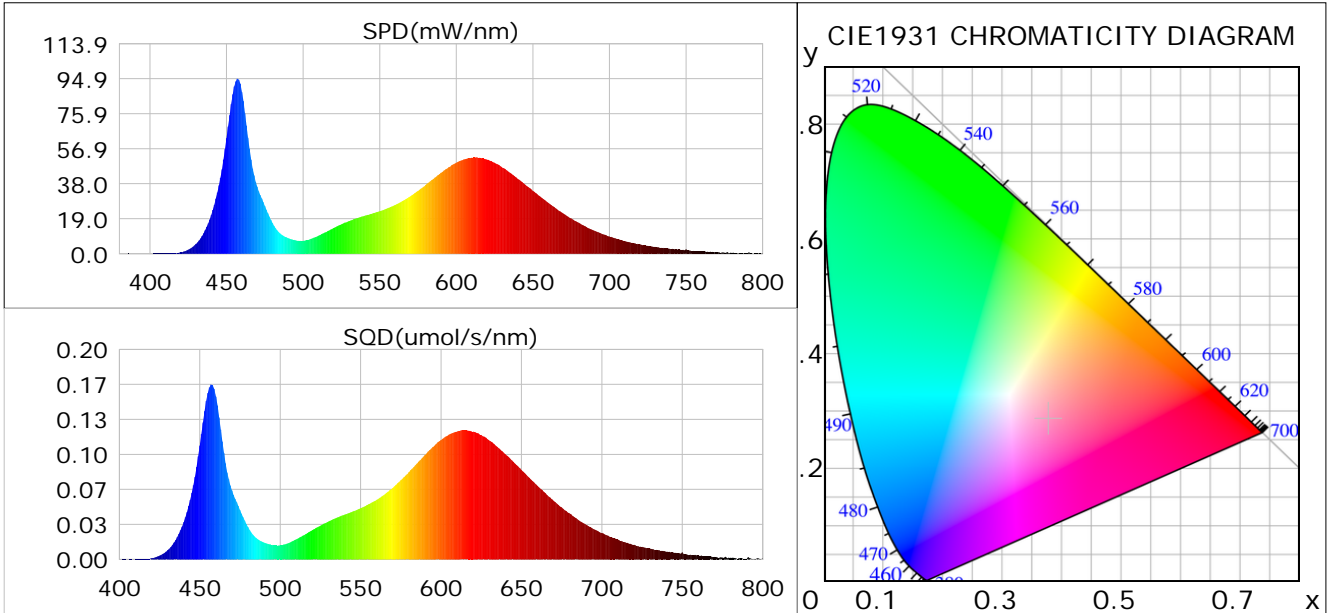
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Plant optical param data

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 Dominant Wavelength: 699.4nm Color Purity: 0.489
 CRI: $R_a=76.5$



Plant Optical Param

$ \mu_v(lm): 2149.49$	$Q_v(lm.s): 2149.49$
$ \mu_e, \dot{E}(W/nm): 8.54$	$Q_e(J): 8.54$
$ \mu_e(W): 8.28$	$ \mu_{fr}(W): 0.28$
$ \zeta_e: 0.33$	$ \zeta_{fr}: 0.01$
$PPE(umol/s/w): 1.57$	$K_{fr}: 0.07$
$Erb_Ratio: 1.37$	$PPF(umol/s): 38.94$
$PF_{uv}(360-400)(umol/s): 0.00$	$PPF(400-500)(umol/s): 9.32$
$PPF(500-600)(umol/s): 11.96$	$PPF(600-700)(umol/s): 17.66$
$PPF_r(700-800)(umol/s): 1.64$	$PPF.t(umol): 38.94$
$ \mu_{ch-A.t}(J): 0.78$	$ \mu_{ch-A}(W): 0.78$
$ \mu_{ch-B.t}(J): 0.52$	$ \mu_{ch-B}(W): 0.52$
$ \mu_b.t(J): 2.43$	$ \mu_b(W): 2.43$
$ \mu_y.t(J): 2.54$	$ \mu_y(W): 2.54$
$ \mu_r.t(J): 3.36$	$ \mu_r(W): 3.36$

Electric Parameters

Voltage: 230.70V	Current: 0.1140A	Power: 24.79W
Power Factor: 0.9390	Frequency: 49.99Hz	

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