

Lightsource Test Report

Product Information

Product Category: LED-Röhre
 Product Spec: LEDtube-060-8Bread-10W
 Manufacturer: METOLIGHT
 Buyer: 7116

Product Type: LED-Röhre-Bread
 Product Number: 1
 Submitted Unit: 104308

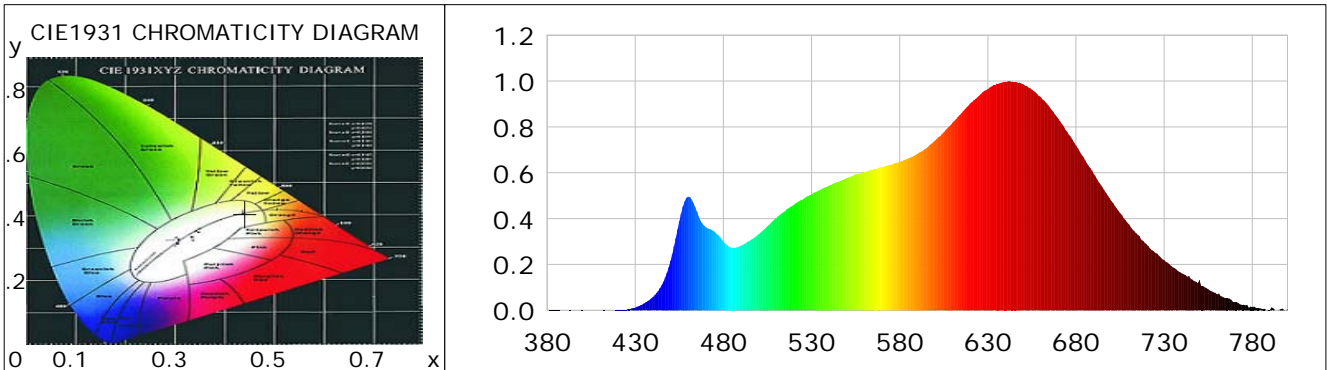
CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.4411$ $y=0.4076$ $u(u')=0.2518$ $v=0.3489$ $v'=0.5234$
 CCT: $T_c=2959K$ ($duv=0.00083$) Color Ratio: $R=0.254$ $G=0.712$ $B=0.033$
 Peak Wavelength: 642.0nm Half Bandwidth: 169.6nm
 Dominant Wavelength: 582.7nm Color Purity: 0.548
 CRI: $R_a=96.6$, $avgR(1\sim14)=95.5$, $avgR(1\sim15)=95.5$ TM30: $R_f=90$, $R_g=97$
 GAI: $GAI_BB_8=96.5$, $GAI_BB_15=103.9$, $GAI_EES=54.3$

R1 =97	R2 =98	R3 =98	R4 =96	R5 =96	R6 =97	R7 =96	R8 =95
R9 =94	R10=98	R11=98	R12=81	R13=97	R14=98	R15=96	

Color Quality Scale: $Q_a=92.7$, $Q_f=93.8$, $Q_p=95.2$, $Q_g=96.9$

Q1 =87	Q2 =93	Q3 =95	Q4 =92	Q5 =91	Q6 =90	Q7 =96	Q8 =96
Q9 =93	Q10=93	Q11=95	Q12=95	Q13=96	Q14=96	Q15=92	



Photometric Parameters

Luminous Flux: 842.78 lm	Efficiency: 77.82 lm/W	Radiant Power: 3.306 W
Total mains efficacy: 91.52 lm/W	Energy Efficiency Class: F (EU 2019/2015)	
Pupil Flux: 1141.67 Plm	Pupil Lumens Per Watt: 105.42 Plm/W	Pupil Factor (Kp): 1.355
Cirtopic Flux: 2195.42 lm		

Electric Parameters

Voltage: 230.90V	Current: 0.0500A	Power: 10.83W
Power Factor: 0.9330	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: 46644 (2604)	CCD Integration Time: 556.20 ms

Condition: Tx: 19.7°C, Ti: 0.0°C, R.H.: 60%
 Test Lab:
 Operator: CRE

Test Device: Lisun LMS-9000B
 Test Time: 2021-01-06 10:26:59
 Inspector:

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0002	0.0033	525	0.4836	9.2130	670	0.8362	15.9304
385	0.0011	0.0211	530	0.5055	9.6312	675	0.7784	14.8307
390	0.0005	0.0094	535	0.5254	10.0098	680	0.7195	13.7082
395	0.0002	0.0038	540	0.5440	10.3640	685	0.6565	12.5077
400	0.0007	0.0142	545	0.5604	10.6766	690	0.5961	11.3566
405	0.0001	0.0017	550	0.5774	11.0004	695	0.5355	10.2025
410	0.0003	0.0050	555	0.5926	11.2908	700	0.4770	9.0876
415	0.0007	0.0143	560	0.6036	11.4999	705	0.4242	8.0820
420	0.0011	0.0207	565	0.6143	11.7038	710	0.3752	7.1483
425	0.0025	0.0481	570	0.6249	11.9064	715	0.3298	6.2825
430	0.0121	0.2305	575	0.6359	12.1151	720	0.2876	5.4799
435	0.0302	0.5755	580	0.6480	12.3451	725	0.2508	4.7775
440	0.0578	1.1017	585	0.6628	12.6279	730	0.2197	4.1849
445	0.1097	2.0906	590	0.6821	12.9945	735	0.1877	3.5761
450	0.2158	4.1115	595	0.7068	13.4664	740	0.1614	3.0747
455	0.3893	7.4165	600	0.7406	14.1099	745	0.1378	2.6245
460	0.4958	9.4454	605	0.7767	14.7976	750	0.1314	2.5038
465	0.4297	8.1858	610	0.8185	15.5938	755	0.0921	1.7547
470	0.3630	6.9159	615	0.8599	16.3827	760	0.0697	1.3273
475	0.3429	6.5322	620	0.9020	17.1848	765	0.0532	1.0140
480	0.3002	5.7192	625	0.9363	17.8378	770	0.0362	0.6891
485	0.2717	5.1773	630	0.9654	18.3929	775	0.0245	0.4662
490	0.2822	5.3762	635	0.9885	18.8336	780	0.0155	0.2958
495	0.3037	5.7866	640	0.9969	18.9924	785	0.0081	0.1541
500	0.3321	6.3265	645	0.9957	18.9698	790	0.0028	0.0533
505	0.3674	6.9998	650	0.9868	18.8002	795	0.0026	0.0494
510	0.4034	7.6859	655	0.9624	18.3356	800	0.0062	0.1189
515	0.4329	8.2472	660	0.9309	17.7351			
520	0.4606	8.7751	665	0.8860	16.8807			

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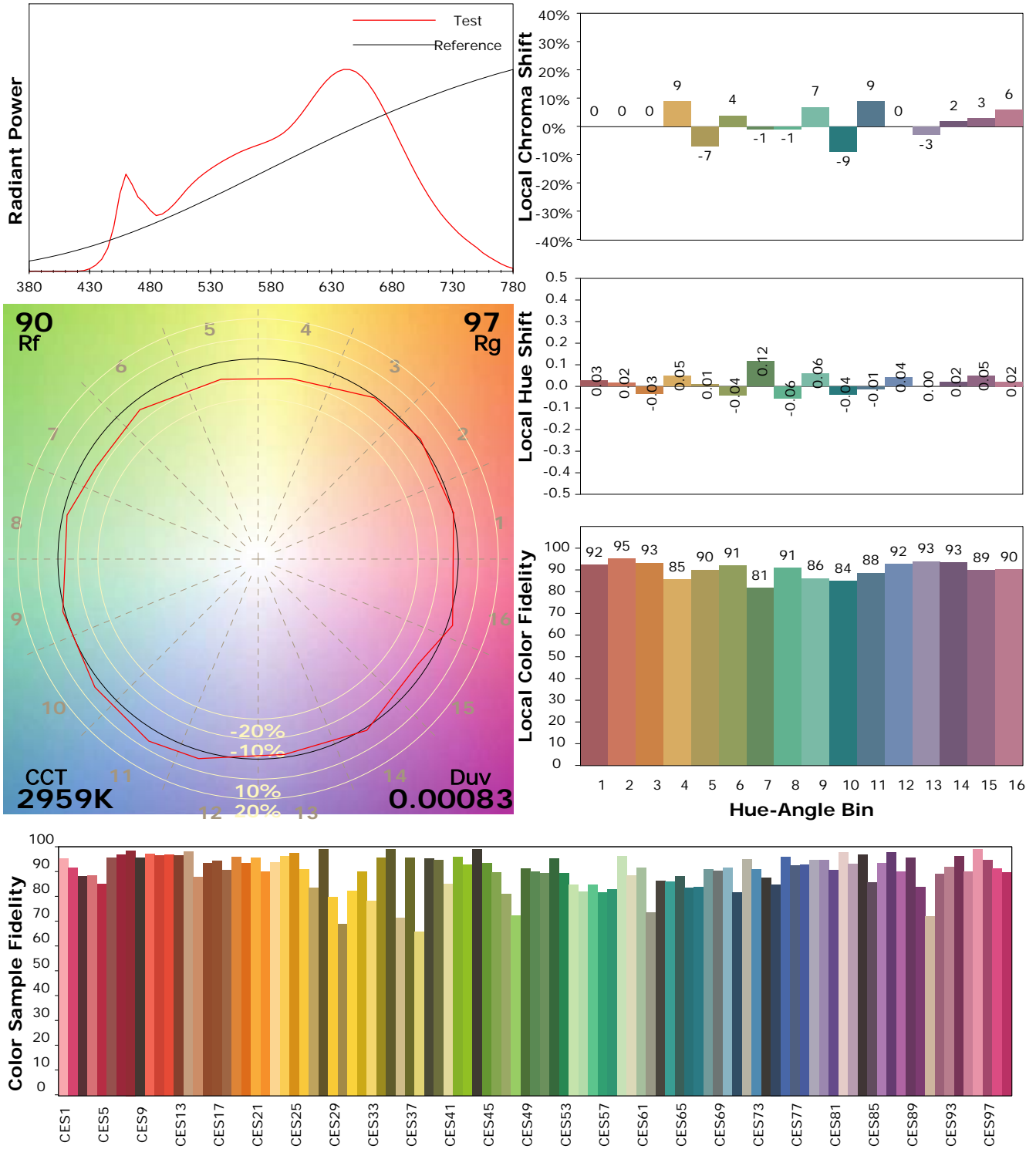
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IES TM-30-18 Color Rendition Report

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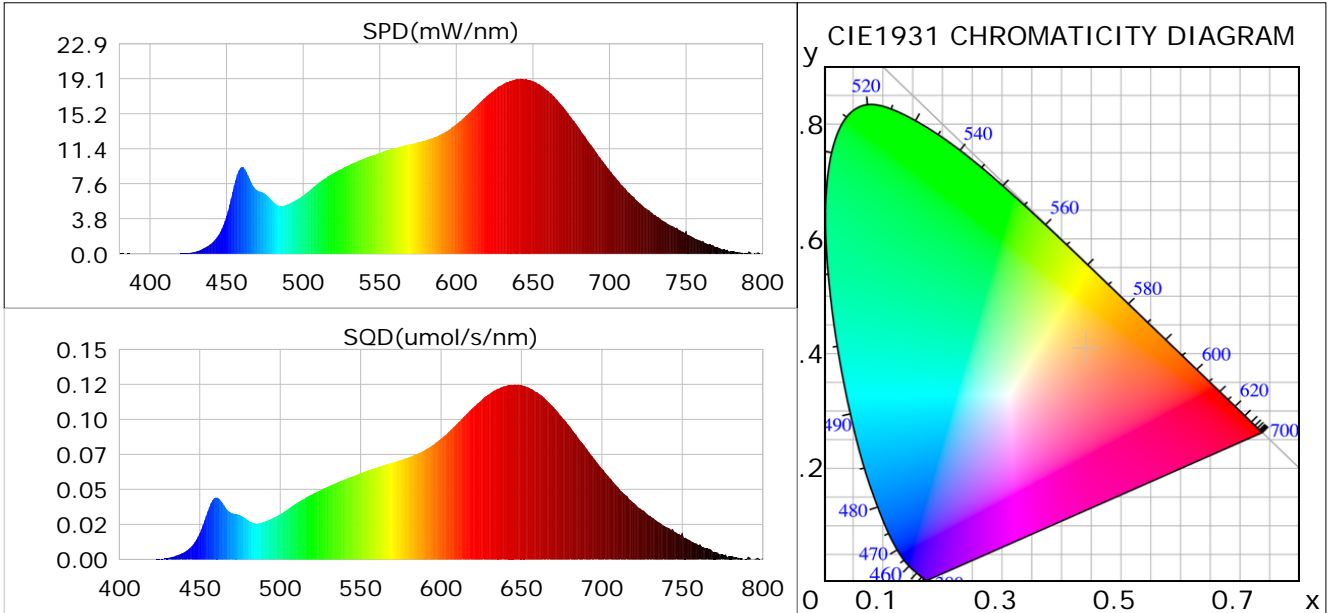
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Plant optical param data

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 Dominant Wavelength: 582.7nm Color Purity: 0.548
 CRI: $R_a=96.6$



Plant Optical Param

$ \mu_v(lm): 842.78$	$Q_v(lm.s): 842.78$
$ \mu_e, \dot{E}(W/nm): 3.31$	$Q_e(J): 3.31$
$ \mu_e(W): 3.02$	$ \mu_{fr}(W): 0.29$
$ \dot{C}_e: 0.28$	$ \dot{C}_{fr}: 0.03$
$PPE(umol/s/w): 1.39$	$K_{fr}: 0.16$
$Erb_Ratio: 4.39$	$PPF(umol/s): 15.01$
$PF_{uv}(360-400)(umol/s): 0.00$	$PPF(400-500)(umol/s): 1.43$
$PPF(500-600)(umol/s): 4.96$	$PPF(600-700)(umol/s): 8.62$
$PPF_{fr}(700-800)(umol/s): 1.73$	$PPF.t(umol): 15.01$
$ \mu_{ch-A.t}(J): 0.27$	$ \mu_{ch-A}(W): 0.27$
$ \mu_{ch-B.t}(J): 0.12$	$ \mu_{ch-B}(W): 0.12$
$ \mu_b.t(J): 0.36$	$ \mu_b(W): 0.36$
$ \mu_y.t(J): 1.07$	$ \mu_y(W): 1.07$
$ \mu_r.t(J): 1.61$	$ \mu_r(W): 1.61$

Electric Parameters

Voltage: 230.90V	Current: 0.0500A	Power: 10.83W
Power Factor: 0.9330	Frequency: 49.99Hz	

Condition: $T_x: 19.7^\circ C$, $T_i: 0.0^\circ C$, R.H.: 60%
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