

Lightsource Test Report

Product Information

Product Category: LED-Röhre
 Product Spec: LEDtube-115-5CWM-HO-24W-TRF
 Manufacturer: METOLIGHT
 Buyer: 7709

Product Type: LED-Röhre-TRF
 Product Number: 1
 Submitted Unit: 104533

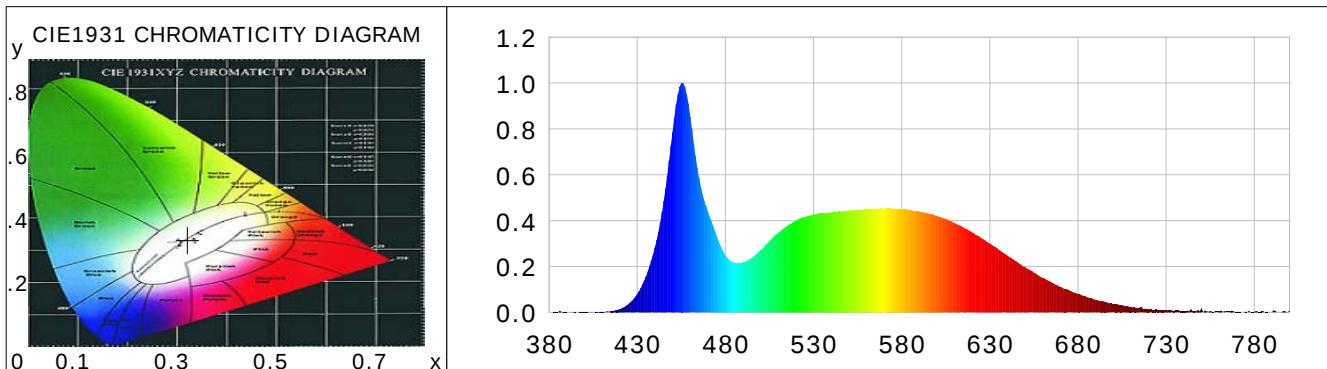
CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3211$ $y=0.3326$ $u(u')=0.2023$ $v=0.3143$ $v'=0.4714$
 CCT: $T_c=6050K$ ($duv=0.00090$) Color Ratio: $R=0.145$ $G=0.799$ $B=0.056$
 Peak Wavelength: 455.6nm Half Bandwidth: 22.3nm
 Dominant Wavelength: 490.9nm Color Purity: 0.042
 CRI: $R_a=84.9$, $avgR(1\sim14)=78.4$, $avgR(1\sim15)=78.6$ TM30: $R_f=82$, $R_g=94$
 GAI: $GAI_BB_8=92.2$, $GAI_BB_15=98.1$, $GAI_EES=87.9$

R1 =84	R2 =91	R3 =93	R4 =83	R5 =84	R6 =85	R7 =88	R8 =72
R9 =20	R10=77	R11=82	R12=57	R13=87	R14=96	R15=81	

Color Quality Scale: $Q_a=81.2$, $Q_f=81.1$, $Q_p=81.6$, $Q_g=92.1$

Q1 =83	Q2 =99	Q3 =77	Q4 =69	Q5 =76	Q6 =79	Q7 =86	Q8 =90
Q9 =96	Q10=87	Q11=82	Q12=82	Q13=83	Q14=74	Q15=78	



Photometric Parameters

Luminous Flux: 2238.2 lm	Efficiency: 114.78 lm/W	Radiant Power: 7.153 W
Total mains efficacy: 124.99 lm/W	Energy Efficiency Class: E (EU 2019/2015)	
Pupil Flux: 4135.03 Plm	Pupil Lumens Per Watt: 212.05 Plm/W	Pupil Factor (Kp): 1.847
Cirtpic Flux: 9499.24 lm		

Electric Parameters

Voltage: 230.00V	Current: 0.0850A	Power: 19.50W
Power Factor: 0.9450	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: 46459 (2542)	CCD Integration Time: 395.67 ms

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

Test Device: Lisun LMS-9000B
 Test Time: 2021-03-08 10:30:20
 Inspector:

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0010	0.0746	525	0.4166	31.4903	670	0.1113	8.4142
385	0.0011	0.0828	530	0.4270	32.2807	675	0.0969	7.3235
390	0.0009	0.0659	535	0.4315	32.6205	680	0.0796	6.0180
395	0.0008	0.0569	540	0.4367	33.0083	685	0.0669	5.0556
400	0.0011	0.0808	545	0.4403	33.2802	690	0.0544	4.1129
405	0.0006	0.0420	550	0.4435	33.5283	695	0.0459	3.4684
410	0.0027	0.2017	555	0.4478	33.8503	700	0.0347	2.6257
415	0.0057	0.4296	560	0.4487	33.9151	705	0.0311	2.3503
420	0.0143	1.0838	565	0.4519	34.1592	710	0.0247	1.8690
425	0.0359	2.7123	570	0.4523	34.1924	715	0.0213	1.6078
430	0.0802	6.0606	575	0.4520	34.1694	720	0.0144	1.0872
435	0.1571	11.8768	580	0.4497	33.9961	725	0.0124	0.9339
440	0.2822	21.3353	585	0.4466	33.7627	730	0.0110	0.8284
445	0.4869	36.8056	590	0.4399	33.2511	735	0.0080	0.6046
450	0.7872	59.5067	595	0.4314	32.6068	740	0.0064	0.4853
455	0.9991	75.5234	600	0.4205	31.7892	745	0.0061	0.4628
460	0.8549	64.6210	605	0.4066	30.7343	750	0.0176	1.3284
465	0.5877	44.4250	610	0.3900	29.4792	755	0.0059	0.4435
470	0.4416	33.3849	615	0.3703	27.9919	760	0.0044	0.3301
475	0.3342	25.2653	620	0.3484	26.3364	765	0.0039	0.2971
480	0.2484	18.7800	625	0.3240	24.4885	770	0.0017	0.1253
485	0.2165	16.3691	630	0.2997	22.6555	775	0.0024	0.1796
490	0.2186	16.5264	635	0.2735	20.6780	780	0.0015	0.1163
495	0.2367	17.8893	640	0.2476	18.7151	785	0.0046	0.3470
500	0.2717	20.5407	645	0.2228	16.8425	790	0.0009	0.0694
505	0.3108	23.4973	650	0.1976	14.9384	795	0.0010	0.0736
510	0.3482	26.3238	655	0.1730	13.0750	800	0.0093	0.7012
515	0.3767	28.4764	660	0.1509	11.4041			
520	0.3994	30.1875	665	0.1309	9.8960			

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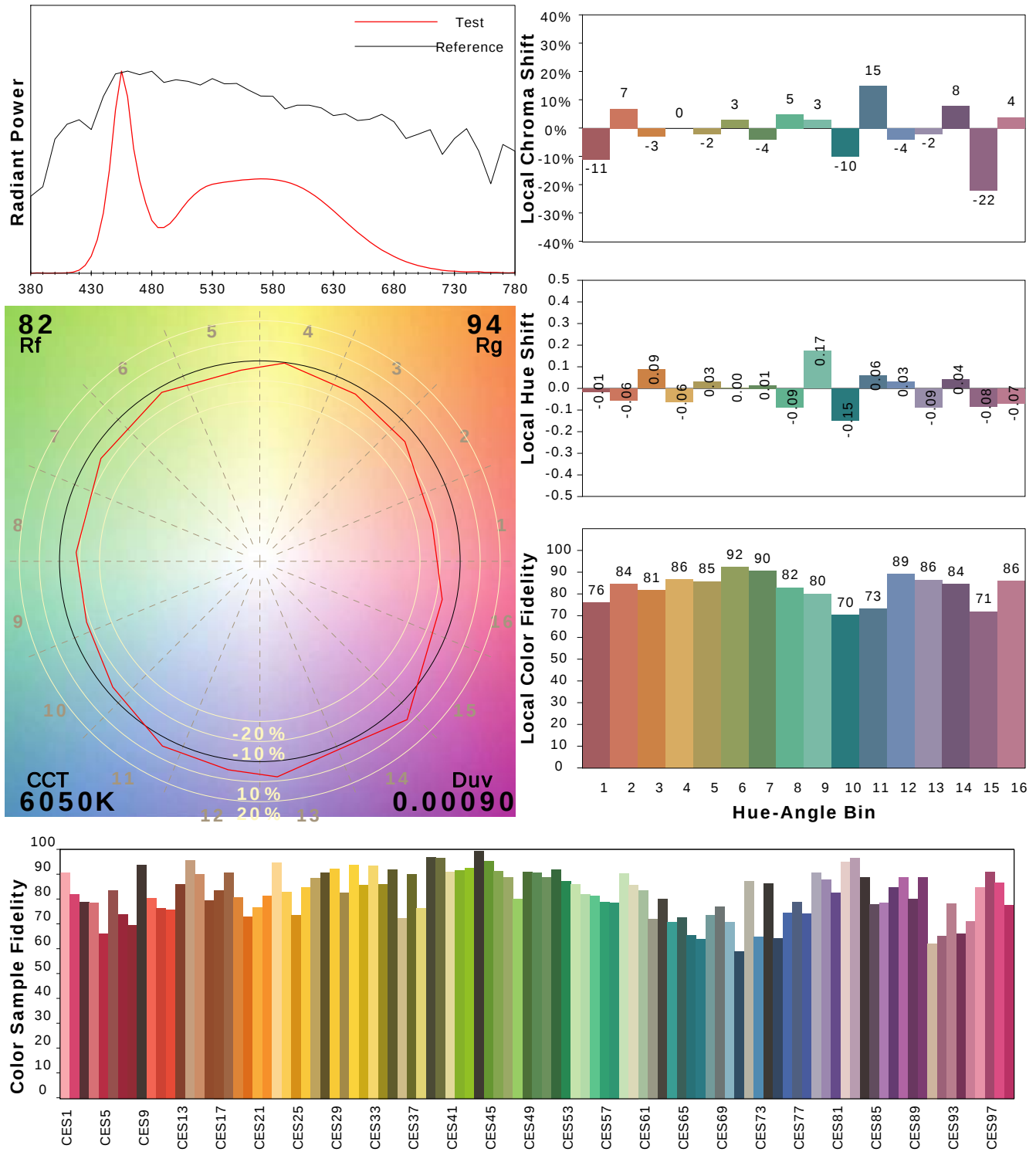
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IES TM-30-18 Color Rendition Report

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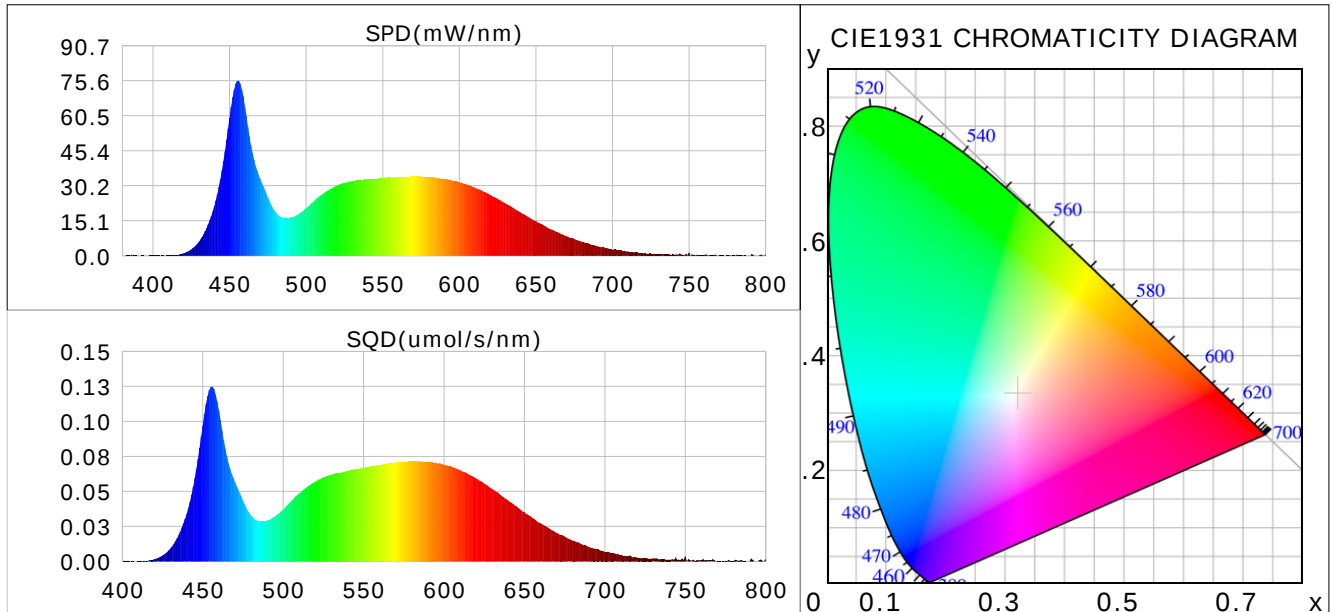
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Plant optical param data

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 CRI: Ra= 84.9



Plant Optical Param

$\mu_v(lm): 2238.20$	$Q_v(lm.s): 2238.20$
$\mu_e, \dot{E}(W/nm): 7.15$	$Q_e(J): 7.15$
$\mu_e(W): 7.08$	$\mu_{fr}(W): 0.07$
$\dot{C}_e: 0.36$	$\dot{C}_{fr}: 0.00$
$PPE(umol/s/w): 1.64$	$K_{fr}: 0.02$
$Erb_Ratio: 0.68$	$PPF(umol/s): 32.03$
$PF_{uv}(360-400)(umol/s): 0.01$	$PPF(400-500)(umol/s): 8.97$
$PPF(500-600)(umol/s): 14.69$	$PPF(600-700)(umol/s): 8.37$
$PF_{fr}(700-800)(umol/s): 0.43$	$PPF.t(umol): 32.03$
$\mu_{ch-A.t}(J): 0.56$	$\mu_{ch-A}(W): 0.56$
$\mu_{ch-B.t}(J): 0.42$	$\mu_{ch-B}(W): 0.42$
$\mu_b.t(J): 2.33$	$\mu_b(W): 2.33$
$\mu_y.t(J): 3.20$	$\mu_y(W): 3.20$
$\mu_r.t(J): 1.61$	$\mu_r(W): 1.61$

Electric Parameters

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