

Lightsource Test Report

Product Information

Product Category: LED-Röhre
 Product Spec: LEDtube-055-5CWM-12W-TRF
 Manufacturer: METOLIGHT
 Buyer: 7709

Product Type: LED-Röhre-TRF
 Product Number: 1
 Submitted Unit: 104529

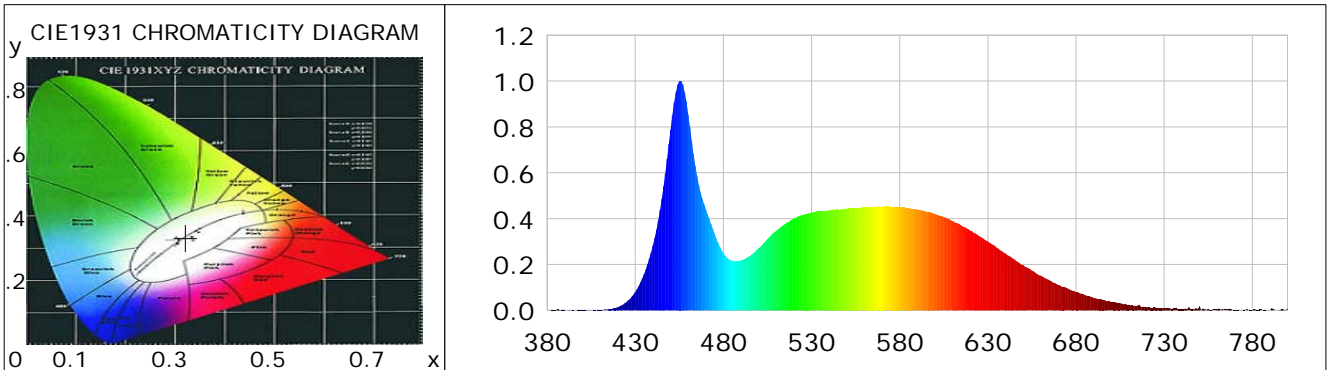
CIE Colorimetric Parameters

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: 1438.2 lm	Efficiency: 121.68 lm/W	Radiant Power: 4.596 W
Total mains efficacy: 132.50 lm/W	Energy Efficiency Class: E (EU 2019/2015)	
Pupil Flux: 2657.04 Plm	Pupil Lumens Per Watt: 224.79 Plm/W	Pupil Factor (Kp): 1.847
Cirtopic Flux: 6103.92 lm		

Electric Parameters

Voltage: 230.00V	Current: 0.0510A	Power: 11.82W
Power Factor: 0.9200	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	0.0479	525	0.4166	20.2347	670	0.1113	5.4067
385	0.0011	0.0532	530	0.4270	20.7426	675	0.0969	4.7059
390	0.0009	0.0423	535	0.4315	20.9610	680	0.0796	3.8670
395	0.0008	0.0365	540	0.4367	21.2102	685	0.0669	3.2486
400	0.0011	0.0519	545	0.4403	21.3849	690	0.0544	2.6428
405	0.0006	0.0270	550	0.4435	21.5442	695	0.0459	2.2287
410	0.0027	0.1296	555	0.4478	21.7512	700	0.0347	1.6872
415	0.0057	0.2761	560	0.4487	21.7928	705	0.0311	1.5102
420	0.0143	0.6964	565	0.4519	21.9497	710	0.0247	1.2010
425	0.0359	1.7428	570	0.4523	21.9710	715	0.0213	1.0331
430	0.0802	3.8943	575	0.4520	21.9562	720	0.0144	0.6986
435	0.1571	7.6317	580	0.4497	21.8449	725	0.0124	0.6001
440	0.2822	13.7094	585	0.4466	21.6949	730	0.0110	0.5323
445	0.4869	23.6502	590	0.4399	21.3662	735	0.0080	0.3885
450	0.7872	38.2372	595	0.4314	20.9521	740	0.0064	0.3118
455	0.9991	48.5291	600	0.4205	20.4268	745	0.0061	0.2974
460	0.8549	41.5235	605	0.4066	19.7489	750	0.0176	0.8536
465	0.5877	28.5462	610	0.3900	18.9425	755	0.0059	0.2850
470	0.4416	21.4521	615	0.3703	17.9867	760	0.0044	0.2121
475	0.3342	16.2347	620	0.3484	16.9230	765	0.0039	0.1909
480	0.2484	12.0674	625	0.3240	15.7355	770	0.0017	0.0805
485	0.2165	10.5183	630	0.2997	14.5578	775	0.0024	0.1154
490	0.2186	10.6194	635	0.2735	13.2871	780	0.0015	0.0748
495	0.2367	11.4951	640	0.2476	12.0257	785	0.0046	0.2230
500	0.2717	13.1989	645	0.2228	10.8225	790	0.0009	0.0446
505	0.3108	15.0986	650	0.1976	9.5990	795	0.0010	0.0473
510	0.3482	16.9149	655	0.1730	8.4016	800	0.0093	0.4506
515	0.3767	18.2981	660	0.1509	7.3279			
520	0.3994	19.3976	665	0.1309	6.3589			

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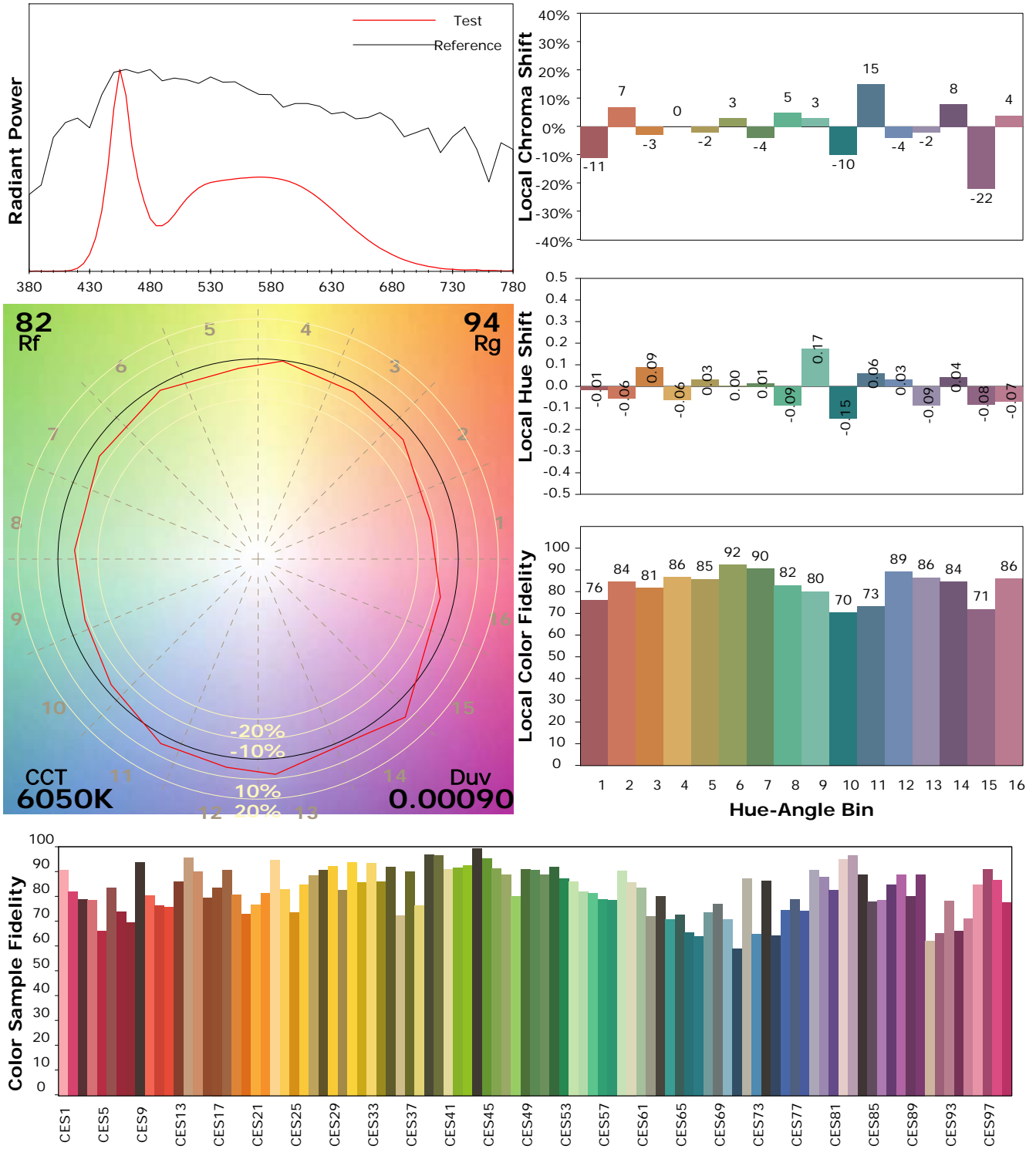
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IES TM-30-18 Color Rendition Report

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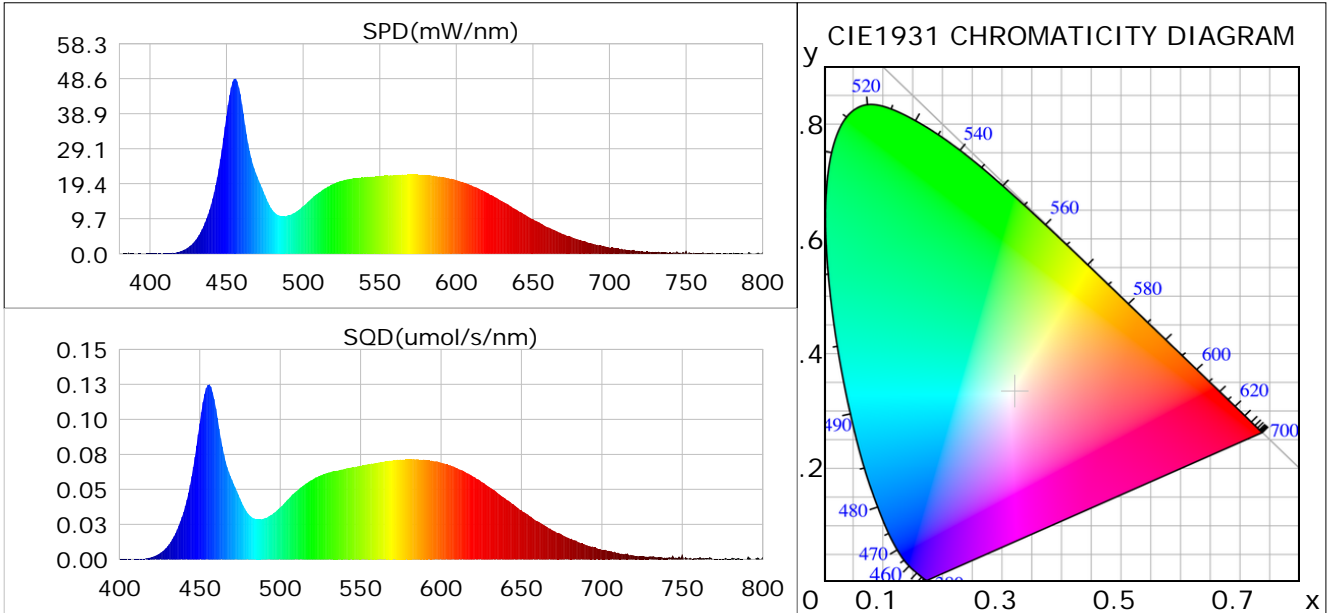
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Plant optical param data

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 CRI: $R_a=84.9$



Plant Optical Param

$ \mu_v(lm): 1438.20$	$Q_v(lm.s): 1438.20$
$ \mu_e, \dot{E}(W/nm): 4.60$	$Q_e(J): 4.60$
$ \mu_e(W): 4.55$	$ \mu_{fr}(W): 0.05$
$ \zeta_e: 0.39$	$ \zeta_{fr}: 0.00$
$PPE(umol/s/w): 1.74$	$K_{fr}: 0.02$
$Erb_Ratio: 0.68$	$PPF(umol/s): 20.58$
$PF_{uv}(360-400)(umol/s): 0.00$	$PPF(400-500)(umol/s): 5.76$
$PPF(500-600)(umol/s): 9.44$	$PPF(600-700)(umol/s): 5.38$
$PPF_{fr}(700-800)(umol/s): 0.28$	$PPF.t(umol): 20.58$
$ \mu_{ch-A.t}(J): 0.36$	$ \mu_{ch-A}(W): 0.36$
$ \mu_{ch-B.t}(J): 0.27$	$ \mu_{ch-B}(W): 0.27$
$ \mu_b.t(J): 1.49$	$ \mu_b(W): 1.49$
$ \mu_y.t(J): 2.06$	$ \mu_y(W): 2.06$
$ \mu_r.t(J): 1.04$	$ \mu_r(W): 1.04$

Electric Parameters

Voltage: 230.00V	Current: 0.0510A	Power: 11.82W
Power Factor: 0.9200	Frequency: 49.99Hz	

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