

Lightsource Test Report

Product Information

Product Category: LED-Röhre
 Product Spec: LEDtube-085-5CWM-18W-TRF
 Manufacturer: METOLIGHT
 Buyer: 7709

Product Type: LED-Röhre-TRF
 Product Number: 1
 Submitted Unit: 104531

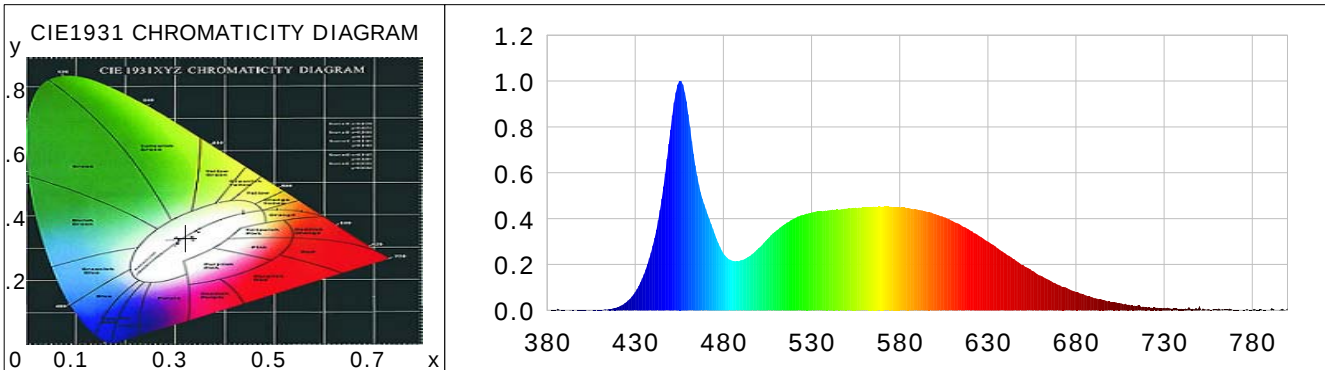
CIE Colorimetric Parameters

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: 2338.2 lm	Efficiency: 114.06 lm/W	Radiant Power: 7.472 W
Total mains efficacy: 124.21 lm/W	Energy Efficiency Class: E (EU 2019/2015)	
Pupil Flux: 4319.78 Plm	Pupil Lumens Per Watt: 210.72 Plm/W	Pupil Factor (Kp): 1.847
Cirtpic Flux: 9923.65 lm		

Electric Parameters

Voltage: 230.00V	Current: 0.0940A	Power: 20.50W
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	0.0779	525	0.4166	32.8973	670	0.1113	8.7902
385	0.0011	0.0865	530	0.4270	33.7230	675	0.0969	7.6507
390	0.0009	0.0689	535	0.4315	34.0780	680	0.0796	6.2869
395	0.0008	0.0594	540	0.4367	34.4831	685	0.0669	5.2815
400	0.0011	0.0844	545	0.4403	34.7672	690	0.0544	4.2967
405	0.0006	0.0438	550	0.4435	35.0263	695	0.0459	3.6234
410	0.0027	0.2107	555	0.4478	35.3627	700	0.0347	2.7431
415	0.0057	0.4488	560	0.4487	35.4304	705	0.0311	2.4553
420	0.0143	1.1322	565	0.4519	35.6854	710	0.0247	1.9525
425	0.0359	2.8335	570	0.4523	35.7200	715	0.0213	1.6797
430	0.0802	6.3314	575	0.4520	35.6960	720	0.0144	1.1357
435	0.1571	12.4074	580	0.4497	35.5150	725	0.0124	0.9756
440	0.2822	22.2885	585	0.4466	35.2711	730	0.0110	0.8654
445	0.4869	38.4500	590	0.4399	34.7367	735	0.0080	0.6317
450	0.7872	62.1654	595	0.4314	34.0636	740	0.0064	0.5069
455	0.9991	78.8977	600	0.4205	33.2095	745	0.0061	0.4834
460	0.8549	67.5082	605	0.4066	32.1075	750	0.0176	1.3878
465	0.5877	46.4099	610	0.3900	30.7963	755	0.0059	0.4633
470	0.4416	34.8765	615	0.3703	29.2425	760	0.0044	0.3449
475	0.3342	26.3941	620	0.3484	27.5131	765	0.0039	0.3104
480	0.2484	19.6190	625	0.3240	25.5826	770	0.0017	0.1309
485	0.2165	17.1005	630	0.2997	23.6677	775	0.0024	0.1876
490	0.2186	17.2648	635	0.2735	21.6019	780	0.0015	0.1215
495	0.2367	18.6886	640	0.2476	19.5512	785	0.0046	0.3625
500	0.2717	21.4585	645	0.2228	17.5950	790	0.0009	0.0724
505	0.3108	24.5471	650	0.1976	15.6058	795	0.0010	0.0769
510	0.3482	27.4999	655	0.1730	13.6592	800	0.0093	0.7326
515	0.3767	29.7487	660	0.1509	11.9136			
520	0.3994	31.5362	665	0.1309	10.3381			

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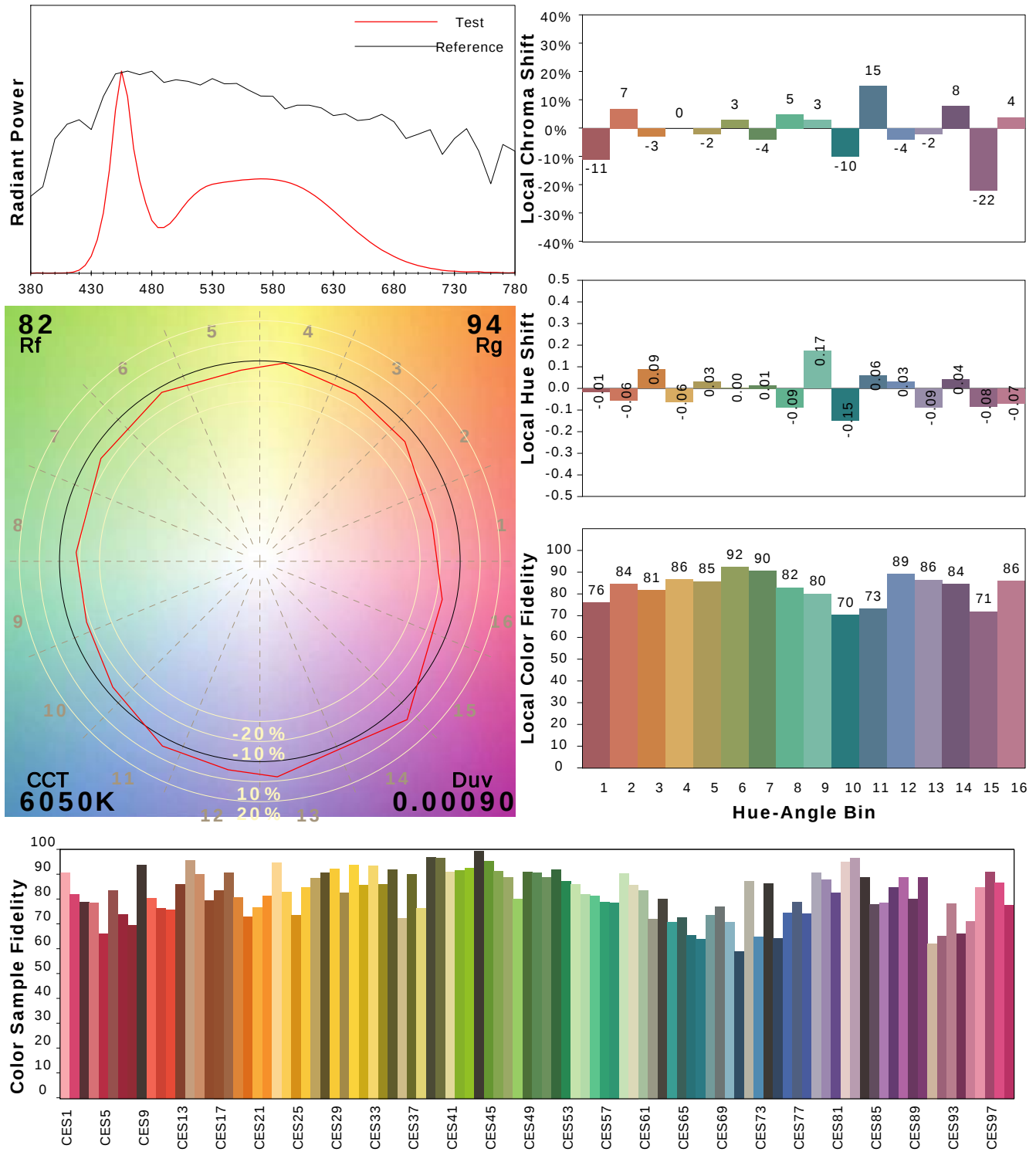
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IES TM-30-18 Color Rendition Report

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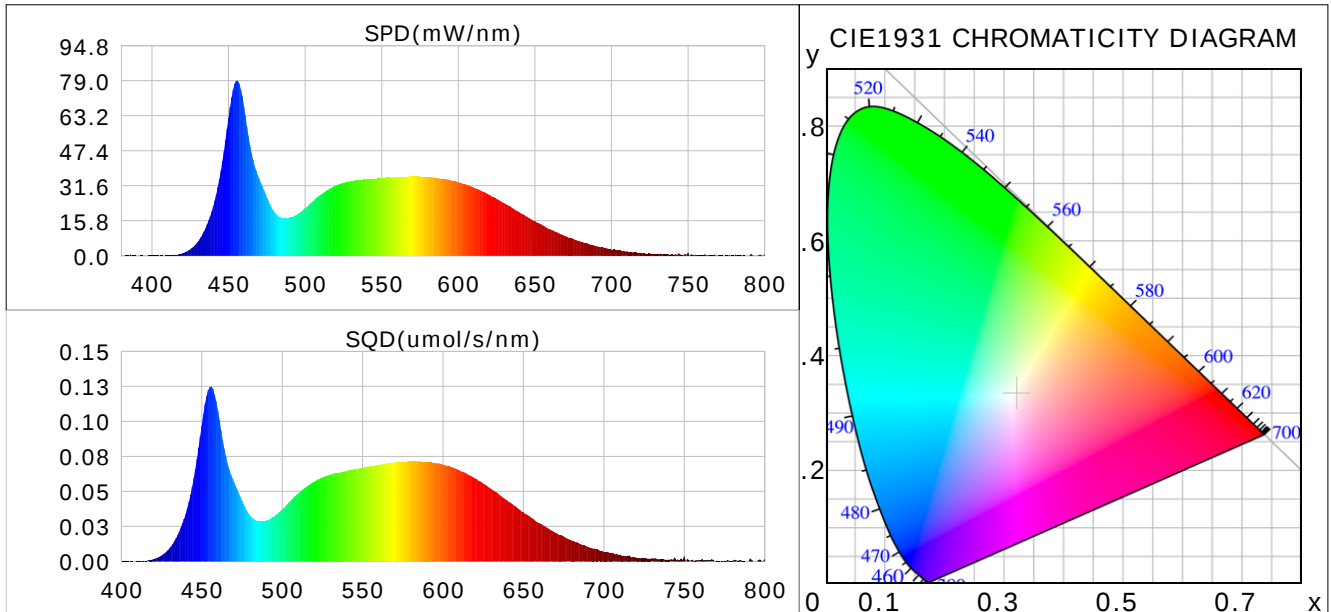
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Plant optical param data

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 CRI: Ra= 84.9



Plant Optical Param

$\mu_v(lm)$: 2338.20	$Q_v(lm.s)$: 2338.20
$\mu_e, \dot{E}(W/nm)$: 7.47	$Q_e(J)$: 7.47
$\mu_e(W)$: 7.40	$\mu_{fr}(W)$: 0.08
$\dot{C}_e$: 0.36	$\dot{C}_{fr}$: 0.00
$PPE(umol/s/w)$: 1.63	K_{fr} : 0.02
Erb_Ratio : 0.68	$PPF(umol/s)$: 33.46
$PF_{uv}(360-400)(umol/s)$: 0.01	$PPF(400-500)(umol/s)$: 9.37
$PPF(500-600)(umol/s)$: 15.35	$PPF(600-700)(umol/s)$: 8.74
$PF_{fr}(700-800)(umol/s)$: 0.45	$PPF.t(umol)$: 33.46
$\mu_{ch-A.t}(J)$: 0.59	$\mu_{ch-A}(W)$: 0.59
$\mu_{ch-B.t}(J)$: 0.44	$\mu_{ch-B}(W)$: 0.44
$\mu_b.t(J)$: 2.43	$\mu_b(W)$: 2.43
$\mu_y.t(J)$: 3.34	$\mu_y(W)$: 3.34
$\mu_r.t(J)$: 1.68	$\mu_r(W)$: 1.68

Electric Parameters

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Power Factor: 0.9450	Frequency: 49.99Hz	

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