

Lightsource Test Report

Product Information

Product Category: LED-Röhren
 Product Spec: LEDtube-021-5WWM-4W-DC
 Manufacturer: METOLIGHT
 Buyer: 7709

Product Type: LED-Röhren-TRF
 Product Number: 1
 Submitted Unit: 105253

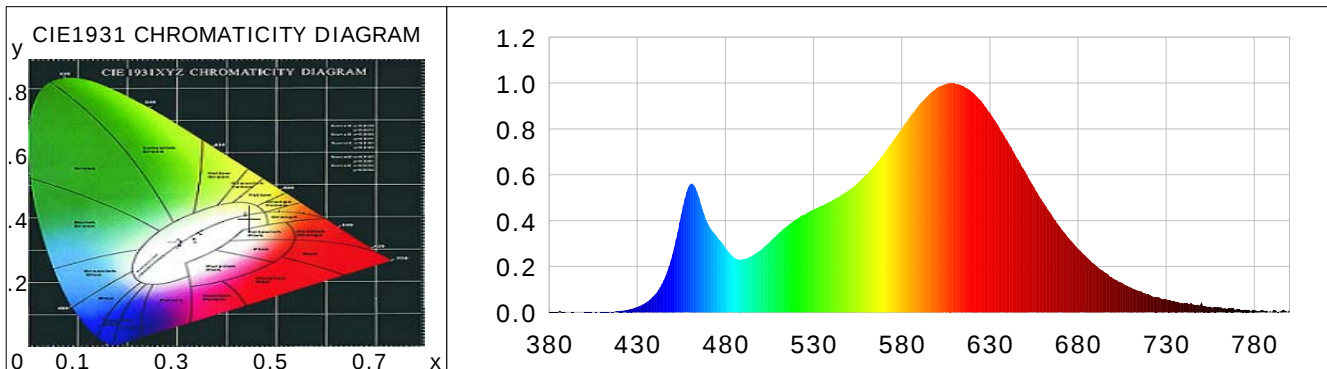
CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.4461$ $y=0.3996$ $u(u')=0.2585$ $v=0.3473$ $v'=0.5210$
 CCT: $T_c=2815K$ ($duv=-0.00289$) Color Ratio: $R=0.250$ $G=0.720$ $B=0.030$
 Peak Wavelength: 607.9nm Half Bandwidth: 115.1nm
 Dominant Wavelength: 584.7nm Color Purity: 0.538
 CRI: $R_a=84.5$, $avgR(1\sim14)=80.9$, $avgR(1\sim15)=80.7$ TM30: $R_f=84$, $R_g=93$
 GAI: $GAI_BB_8=100.2$, $GAI_BB_15=109.4$, $GAI_EES=52.2$

R1 =86	R2 =97	R3 =91	R4 =82	R5 =87	R6 =95	R7 =79	R8 =60
R9 =19	R10=93	R11=82	R12=78	R13=89	R14=96	R15=78	

Color Quality Scale: $Q_a=83.8$, $Q_f=85.5$, $Q_p=86.1$, $Q_g=91.2$

Q1 =79	Q2 =92	Q3 =88	Q4 =81	Q5 =81	Q6 =83	Q7 =86	Q8 =87
Q9 =94	Q10=93	Q11=89	Q12=85	Q13=84	Q14=76	Q15=77	



Photometric Parameters

Luminous Flux: 543.60 lm	Efficiency: 126.13 lm/W	Radiant Power: 1.701 W
Total mains efficacy: 137.35 lm/W	Energy Efficiency Class: D (EU 2019/2015)	
Pupil Flux: 687.73 Plm	Pupil Lumens Per Watt: 159.57 Plm/W	Pupil Factor (Kp): 1.265
Cirtpic Flux: 1296.15 lm		

Electric Parameters

Voltage: 230.00V	Current: 0.0190A	Power: 4.31W
Power Factor: 0.7420	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: 46543 (2677)	CCD Integration Time: 319.39 ms

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

Test Device: Lisun LMS-9000B
 Test Time: 2021-03-03 15:25:26
 Inspector:

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0014	0.0170	525	0.4265	5.0685	670	0.3709	4.4085
385	0.0014	0.0169	530	0.4487	5.3325	675	0.3216	3.8220
390	0.0006	0.0076	535	0.4663	5.5419	680	0.2774	3.2962
395	0.0003	0.0032	540	0.4851	5.7653	685	0.2393	2.8439
400	0.0008	0.0100	545	0.5073	6.0287	690	0.2044	2.4294
405	0.0002	0.0027	550	0.5333	6.3384	695	0.1751	2.0806
410	0.0013	0.0153	555	0.5644	6.7076	700	0.1471	1.7486
415	0.0030	0.0356	560	0.6007	7.1395	705	0.1286	1.5278
420	0.0064	0.0756	565	0.6435	7.6478	710	0.1086	1.2908
425	0.0117	0.1394	570	0.6928	8.2340	715	0.0927	1.1021
430	0.0233	0.2765	575	0.7475	8.8835	720	0.0785	0.9326
435	0.0429	0.5100	580	0.8019	9.5304	725	0.0673	0.7998
440	0.0774	0.9195	585	0.8571	10.1858	730	0.0566	0.6725
445	0.1408	1.6728	590	0.9063	10.7709	735	0.0470	0.5584
450	0.2529	3.0055	595	0.9463	11.2458	740	0.0389	0.4629
455	0.4282	5.0889	600	0.9791	11.6362	745	0.0350	0.4165
460	0.5588	6.6406	605	0.9948	11.8227	750	0.0434	0.5154
465	0.5006	5.9497	610	0.9983	11.8647	755	0.0256	0.3047
470	0.3875	4.6053	615	0.9867	11.7262	760	0.0211	0.2505
475	0.3323	3.9498	620	0.9612	11.4232	765	0.0172	0.2042
480	0.2827	3.3599	625	0.9226	10.9643	770	0.0133	0.1586
485	0.2393	2.8443	630	0.8703	10.3430	775	0.0117	0.1395
490	0.2311	2.7468	635	0.8110	9.6385	780	0.0101	0.1195
495	0.2459	2.9228	640	0.7476	8.8851	785	0.0088	0.1046
500	0.2721	3.2335	645	0.6777	8.0539	790	0.0017	0.0196
505	0.3057	3.6329	650	0.6140	7.2971	795	0.0043	0.0513
510	0.3439	4.0872	655	0.5463	6.4922	800	0.0110	0.1309
515	0.3761	4.4695	660	0.4830	5.7398			
520	0.4059	4.8243	665	0.4252	5.0537			

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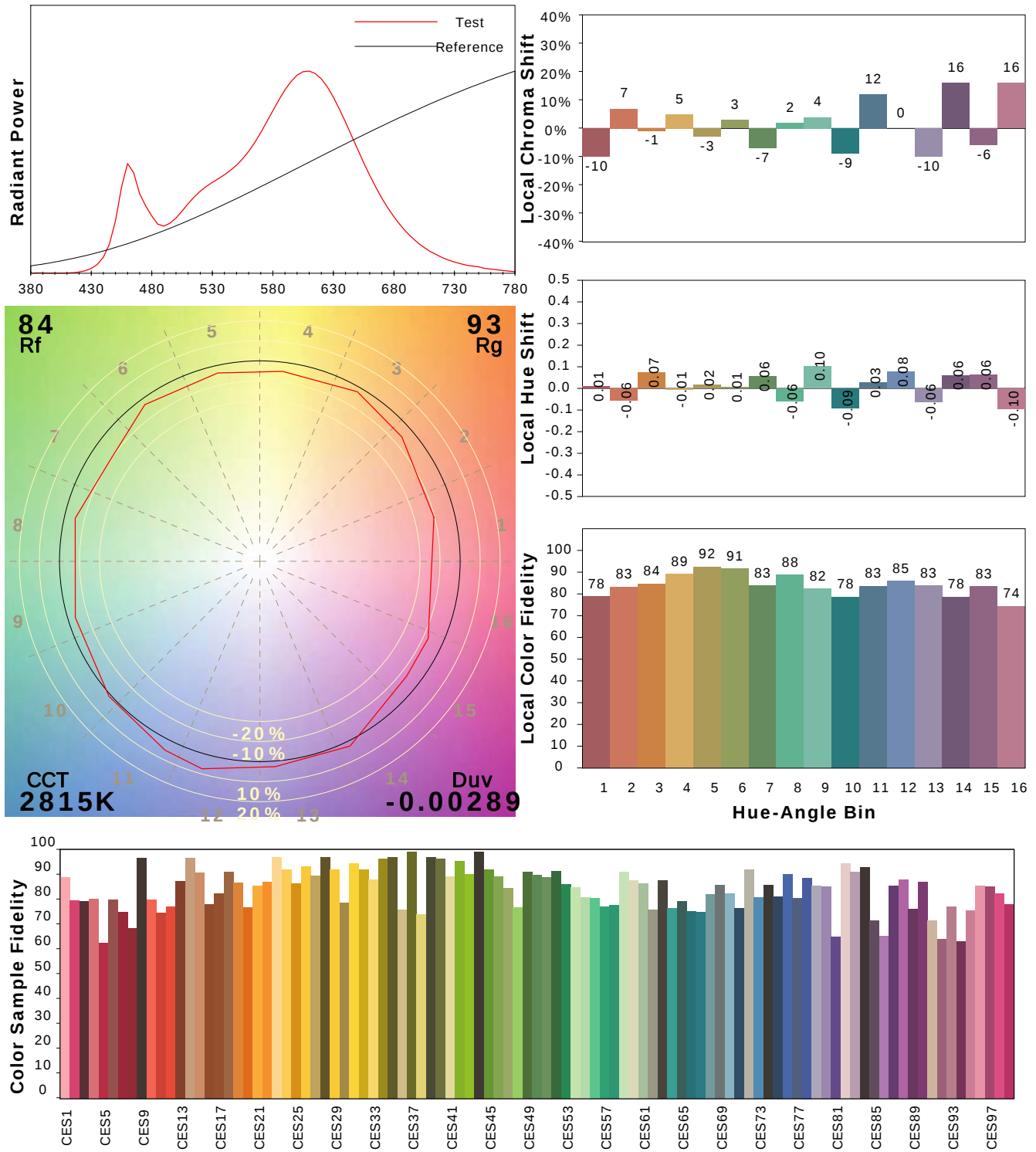
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IES TM-30-18 Color Rendition Report

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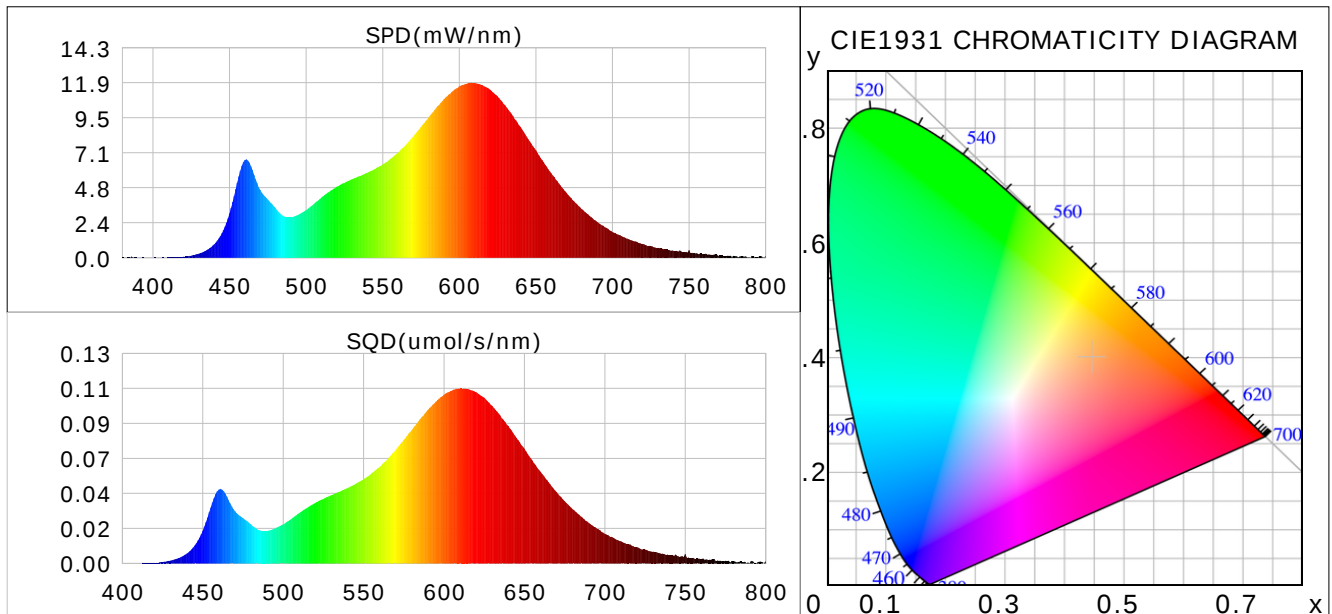
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Plant optical param data

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 CRI: Ra= 84.5



Plant Optical Param

$\int \mu_v(lm): 543.60$	$Q_v(lm.s): 543.60$
$\int \mu_e, \int \ddot{E}(W/nm): 1.70$	$Q_e(J): 1.70$
$\int \mu_e(W): 1.65$	$\int \mu_{fr}(W): 0.05$
$\int \dot{C}_e: 0.38$	$\int \dot{C}_{fr}: 0.01$
$PPE(umol/s/w): 1.86$	$K_{fr}: 0.07$
$Erb_Ratio: 3.08$	$PPF(umol/s): 8.01$
$PF_{uv}(360-400)(umol/s): 0.00$	$PPF(400-500)(umol/s): 0.91$
$PPF(500-600)(umol/s): 3.27$	$PPF(600-700)(umol/s): 3.83$
$PF_{fr}(700-800)(umol/s): 0.31$	$PPF.t(umol): 8.01$
$\int \mu_{ch-A.t}(J): 0.13$	$\int \mu_{ch-A}(W): 0.13$
$\int \mu_{ch-B.t}(J): 0.07$	$\int \mu_{ch-B}(W): 0.07$
$\int \mu_b.t(J): 0.23$	$\int \mu_b(W): 0.23$
$\int \mu_y.t(J): 0.70$	$\int \mu_y(W): 0.70$
$\int \mu_r.t(J): 0.73$	$\int \mu_r(W): 0.73$

Electric Parameters

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