

Lightsource Test Report

Product Information

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

Product Type: LED-Röhren-TRF
 Product Number: 1
 Submitted Unit: 105252

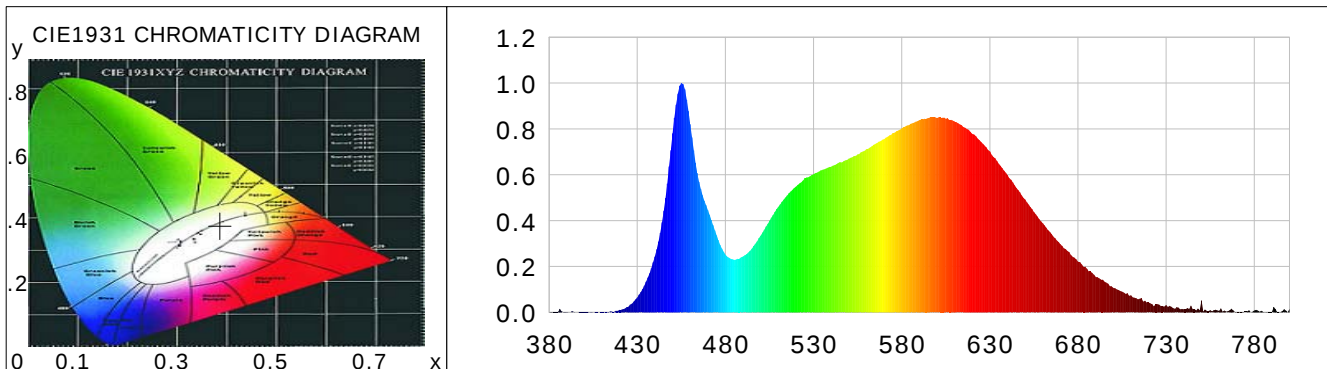
CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3870$ $y=0.3777$ $u(u')=0.2291$ $v=0.3353$ $v'=0.5030$
 CCT: $T_c=3832K$ ($duv=-0.00140$) Color Ratio: $R=0.194$ $G=0.770$ $B=0.035$
 Peak Wavelength: 455.2nm Half Bandwidth: 21.4nm
 Dominant Wavelength: 580.4nm Color Purity: 0.295
 CRI: $R_a=85.1$, $avgR(1\sim14)=79.2$, $avgR(1\sim15)=79.2$ TM30: $R_f=84$, $R_g=95$
 GAI: $GAI_BB_8=95.3$, $GAI_BB_15=103.2$, $GAI_EES=72.4$

R1 =85	R2 =92	R3 =95	R4 =83	R5 =84	R6 =88	R7 =86	R8 =69
R9 =23	R10=79	R11=82	R12=60	R13=87	R14=97	R15=80	

Color Quality Scale: $Q_a=83.6$, $Q_f=83.6$, $Q_p=83.9$, $Q_g=93.9$

Q1 =84	Q2 =98	Q3 =79	Q4 =75	Q5 =80	Q6 =83	Q7 =86	Q8 =89
Q9 =98	Q10=90	Q11=86	Q12=85	Q13=85	Q14=77	Q15=80	



Photometric Parameters

Luminous Flux: 576.15 lm	Efficiency: 129.18 lm/W	Radiant Power: 1.758 W
Total mains efficacy: 140.68 lm/W	Energy Efficiency Class: D (EU 2019/2015)	
Pupil Flux: 856.05 Plm	Pupil Lumens Per Watt: 191.94 Plm/W	Pupil Factor (Kp): 1.486
Cirtpic Flux: 1735.21 lm		

Electric Parameters

Voltage: 230.00V	Current: 0.0230A	Power: 4.46W
Power Factor: 0.6480	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: 45999 (3131)	CCD Integration Time: 656.47 ms

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

Test Device: Lisun LMS-9000B
 Test Time: 2021-08-25 14:26:21
 Inspector:

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0013	0.0156	525	0.5862	6.9356	670	0.2976	3.5207
385	0.0020	0.0240	530	0.6018	7.1201	675	0.2628	3.1088
390	0.0025	0.0301	535	0.6215	7.3533	680	0.2218	2.6243
395	0.0005	0.0056	540	0.6354	7.5180	685	0.1905	2.2539
400	0.0020	0.0235	545	0.6554	7.7548	690	0.1546	1.8293
405	0.0003	0.0037	550	0.6705	7.9329	695	0.1336	1.5803
410	0.0016	0.0191	555	0.6890	8.1518	700	0.1071	1.2670
415	0.0045	0.0531	560	0.7120	8.4233	705	0.0902	1.0669
420	0.0109	0.1289	565	0.7345	8.6896	710	0.0742	0.8775
425	0.0249	0.2947	570	0.7559	8.9434	715	0.0594	0.7023
430	0.0649	0.7674	575	0.7819	9.2508	720	0.0435	0.5148
435	0.1334	1.5782	580	0.8022	9.4915	725	0.0361	0.4267
440	0.2434	2.8793	585	0.8219	9.7239	730	0.0315	0.3731
445	0.4437	5.2492	590	0.8386	9.9213	735	0.0154	0.1824
450	0.7807	9.2365	595	0.8476	10.0286	740	0.0134	0.1591
455	1.0000	11.8313	600	0.8476	10.0282	745	0.0142	0.1680
460	0.8209	9.7126	605	0.8443	9.9889	750	0.0520	0.6153
465	0.5696	6.7391	610	0.8326	9.8509	755	0.0095	0.1128
470	0.4466	5.2841	615	0.8084	9.5649	760	0.0065	0.0768
475	0.3359	3.9737	620	0.7784	9.2095	765	0.0055	0.0647
480	0.2521	2.9832	625	0.7432	8.7929	770	0.0039	0.0458
485	0.2297	2.7172	630	0.7022	8.3084	775	0.0038	0.0447
490	0.2437	2.8828	635	0.6480	7.6665	780	0.0079	0.0929
495	0.2773	3.2804	640	0.5983	7.0784	785	0.0030	0.0354
500	0.3345	3.9570	645	0.5432	6.4267	790	0.0018	0.0209
505	0.3999	4.7308	650	0.4927	5.8291	795	0.0026	0.0304
510	0.4605	5.4482	655	0.4376	5.1780	800	0.0160	0.1899
515	0.5101	6.0356	660	0.3891	4.6033			
520	0.5486	6.4903	665	0.3420	4.0468			

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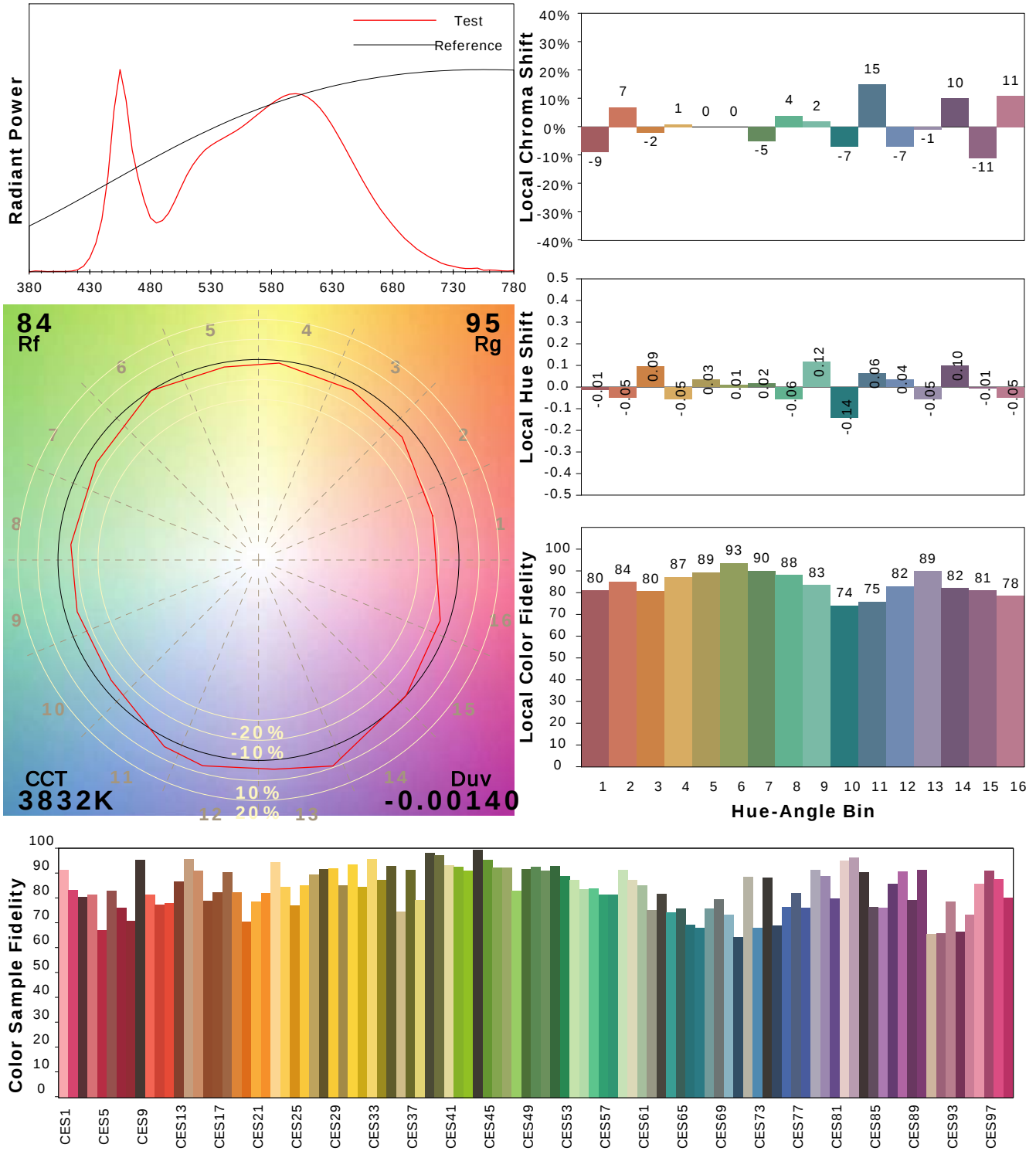
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IES TM-30-18 Color Rendition Report

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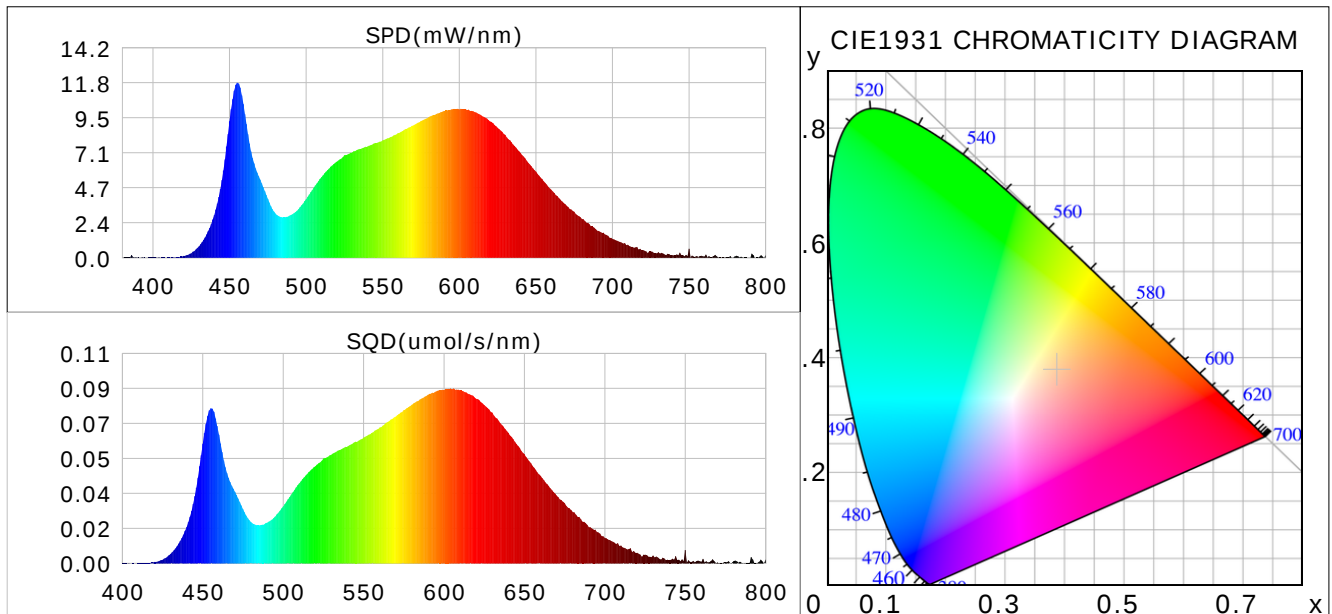
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Plant optical param data

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 CRI: Ra= 85.1



Plant Optical Param

$\mu_v(\text{lm})$: 576.15	$Q_v(\text{lm.s})$: 576.15
$\mu_e, \dot{E}(\text{W/nm})$: 1.76	$Q_e(\text{J})$: 1.76
$\mu_e(\text{W})$: 1.73	$\mu_{fr}(\text{W})$: 0.03
$\dot{C}_e$: 0.39	$\dot{C}_{fr}$: 0.01
$PPE(\mu\text{mol/s/w})$: 1.83	K_{fr} : 0.04
E_{rb_Ratio} : 1.62	$PPF(\mu\text{mol/s})$: 8.15
$PF_{uv}(360-400)(\mu\text{mol/s})$: 0.00	$PPF(400-500)(\mu\text{mol/s})$: 1.39
$PPF(500-600)(\mu\text{mol/s})$: 3.66	$PPF(600-700)(\mu\text{mol/s})$: 3.09
$PF_{fr}(700-800)(\mu\text{mol/s})$: 0.18	$PPF.t(\mu\text{mol})$: 8.15
$\mu_{ch-A.t}(\text{J})$: 0.13	$\mu_{ch-A}(\text{W})$: 0.13
$\mu_{ch-B.t}(\text{J})$: 0.08	$\mu_{ch-B}(\text{W})$: 0.08
$\mu_b.t(\text{J})$: 0.36	$\mu_b(\text{W})$: 0.36
$\mu_y.t(\text{J})$: 0.79	$\mu_y(\text{W})$: 0.79
$\mu_r.t(\text{J})$: 0.59	$\mu_r(\text{W})$: 0.59

Electric Parameters

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