

## Lightsource Test Report

### Product Information

Product Category: LED-PL-Röhren  
 Product Spec: LED-PL-2G11-07W-CW  
 Manufacturer: METOLIGHT  
 Buyer: 2320

Product Type: LED-PL-Röhren-2G11  
 Product Number: 1  
 Submitted Unit: 101896

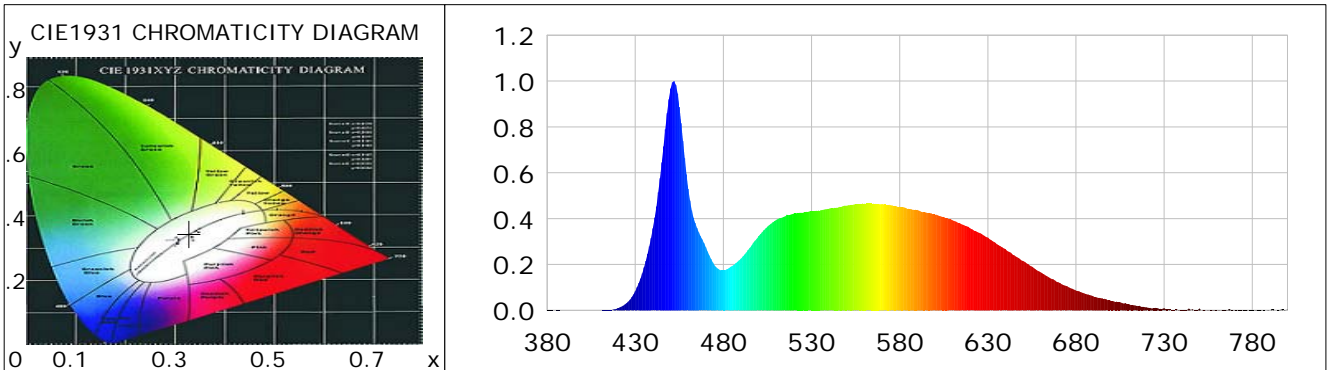
### CIE Colorimetric Parameters

Chromaticity coordinates:  $x=0.3283$   $y=0.3456$   $u(u')=0.2023$   $v=0.3195$   $v'=0.4792$   
 CCT:  $T_c=5682K$  ( $duv=0.00417$ ) Color Ratio:  $R=0.146$   $G=0.806$   $B=0.049$   
 Peak Wavelength: 451.7nm Half Bandwidth: 17.8nm  
 Dominant Wavelength: 527.9nm Color Purity: 0.026  
 CRI:  $R_a=83.8$ ,  $avgR(1\sim14)=76.8$ ,  $avgR(1\sim15)=76.9$  TM30:  $R_f=84$ ,  $R_g=96$   
 GAI:  $GAI\_BB\_8=92.0$ ,  $GAI\_BB\_15=97.6$ ,  $GAI\_EES=85.7$   

R1 =82	R2 =87	R3 =91	R4 =84	R5 =83	R6 =82	R7 =89	R8 =72
R9 =15	R10=70	R11=84	R12=57	R13=83	R14=95	R15=78	

Color Quality Scale:  $Q_a=82.7$ ,  $Q_f=82.5$ ,  $Q_p=83.4$ ,  $Q_g=93.2$   

Q1 =85	Q2 =98	Q3 =77	Q4 =74	Q5 =81	Q6 =84	Q7 =87	Q8 =91
Q9 =96	Q10=87	Q11=84	Q12=83	Q13=83	Q14=74	Q15=78	



### Photometric Parameters

Luminous Flux: 722.30 lm Efficiency: 90.29 lm/W Radiant Power: 2.252 W  
 Total mains efficacy: 106.18 lm/W Energy Efficiency Class: F (EU 2019/2015)  
 Pupil Flux: 1287.53 Plm Pupil Lumens Per Watt: 160.94 Plm/W Pupil Factor (Kp): 1.783  
 Circopic Flux: 2849.52 lm

### Electric Parameters

Voltage: 230.60V Current: 0.0360A Power: 8.00W  
 Power Factor: 0.9540 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: 45009 (2503) CCD Integration Time: 202.73 ms

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

Test Device: Lisun LMS-9000B  
 Test Time: 2021-03-01 14:33:47  
 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	0.0235	525	0.4255	10.1821	670	0.1227	2.9356
385	0.0010	0.0239	530	0.4323	10.3435	675	0.1050	2.5115
390	0.0009	0.0211	535	0.4362	10.4373	680	0.0867	2.0741
395	0.0001	0.0025	540	0.4438	10.6206	685	0.0727	1.7398
400	0.0009	0.0217	545	0.4487	10.7377	690	0.0603	1.4441
405	0.0003	0.0073	550	0.4567	10.9290	695	0.0520	1.2437
410	0.0006	0.0146	555	0.4634	11.0896	700	0.0412	0.9850
415	0.0016	0.0385	560	0.4652	11.1331	705	0.0349	0.8360
420	0.0091	0.2183	565	0.4655	11.1391	710	0.0268	0.6411
425	0.0310	0.7417	570	0.4638	11.0985	715	0.0192	0.4592
430	0.0835	1.9985	575	0.4580	10.9597	720	0.0131	0.3130
435	0.1874	4.4850	580	0.4522	10.8207	725	0.0105	0.2517
440	0.3581	8.5689	585	0.4430	10.6016	730	0.0093	0.2227
445	0.6457	15.4509	590	0.4380	10.4802	735	0.0034	0.0825
450	0.9671	23.1412	595	0.4272	10.2217	740	0.0026	0.0631
455	0.8868	21.2194	600	0.4186	10.0165	745	0.0026	0.0628
460	0.5300	12.6821	605	0.4076	9.7546	750	0.0078	0.1869
465	0.3595	8.6028	610	0.3930	9.4039	755	0.0034	0.0802
470	0.2750	6.5817	615	0.3760	8.9972	760	0.0009	0.0221
475	0.1960	4.6907	620	0.3579	8.5653	765	0.0019	0.0444
480	0.1747	4.1802	625	0.3381	8.0897	770	0.0031	0.0730
485	0.1935	4.6293	630	0.3171	7.5872	775	0.0021	0.0511
490	0.2261	5.4101	635	0.2893	6.9238	780	0.0014	0.0333
495	0.2727	6.5254	640	0.2669	6.3865	785	0.0023	0.0550
500	0.3241	7.7564	645	0.2398	5.7375	790	0.0001	0.0013
505	0.3652	8.7378	650	0.2152	5.1487	795	0.0010	0.0246
510	0.3949	9.4486	655	0.1907	4.5645	800	0.0045	0.1067
515	0.4101	9.8123	660	0.1656	3.9636			
520	0.4228	10.1168	665	0.1421	3.4000			

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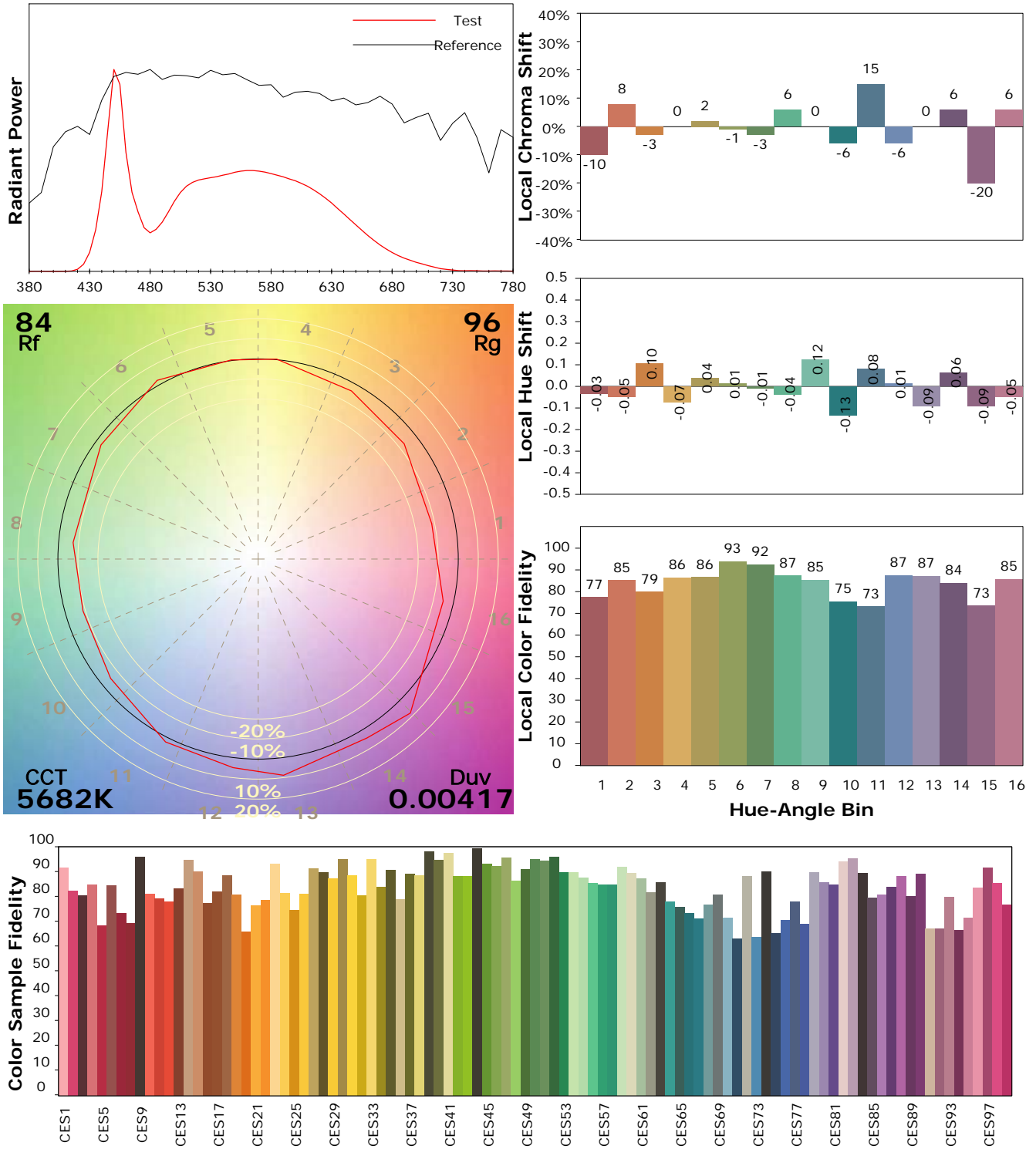
Test Device: Lisun LMS-9000B  
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## IES TM-30-18 Color Rendition Report

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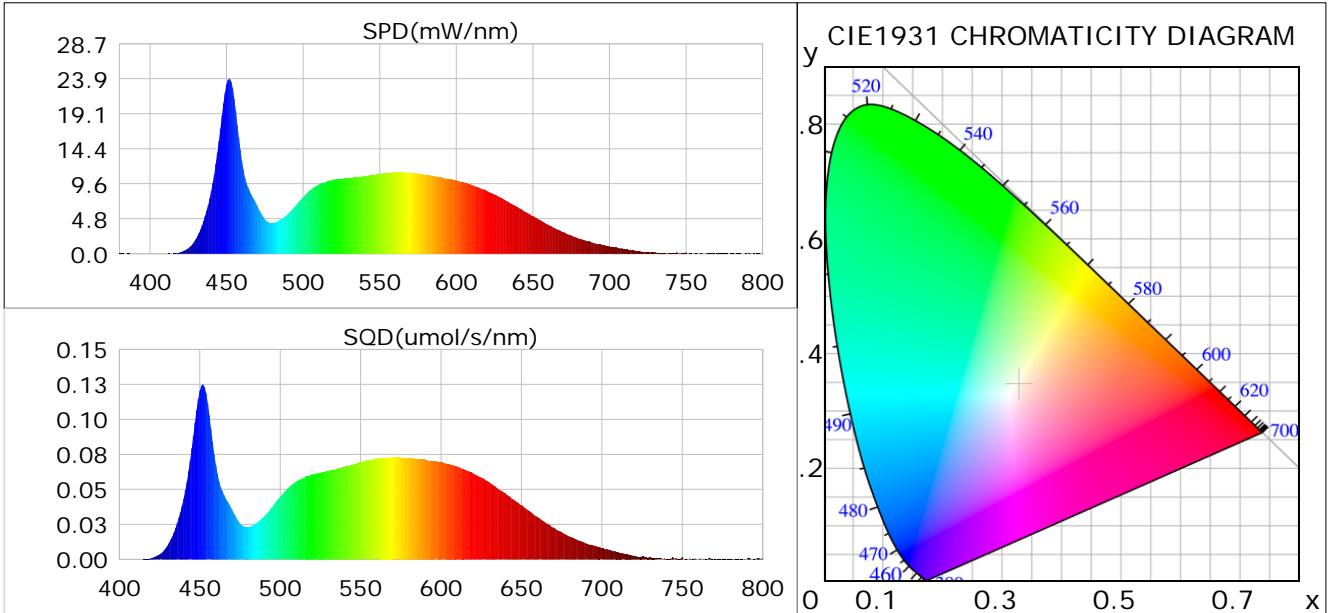
Condition: Tx:0.0°C, Ti:0.0°C, R.H.: 60%  
 Test Lab:  
 Operator: CRE

Test Device: Lisun LMS-9000B  
 Test Time: 2021-03-01 14:33:47  
 Inspector:

## Plant optical param data

### CIE Colorimetric Parameters

Chromaticity coordinates:  $x=0.3283$   $y=0.3456$   $u(u')=0.2023$   $v=0.3195$   $v'=0.4792$   
 CCT:  $T_c=5682K$  ( $duv=0.00417$ ) Color Ratio:  $R=0.146$   $G=0.806$   $B=0.049$   
 Peak Wavelength: 451.7nm Half Bandwidth: 17.8nm  
 Dominant Wavelength: 527.9nm Color Purity: 0.026  
 CRI:  $R_a=83.8$



### Plant Optical Param

$ \mu_v(lm): 722.30$	$Q_v(lm.s): 722.30$
$ \mu_e, \dot{E}(W/nm): 2.25$	$Q_e(J): 2.25$
$ \mu_e(W): 2.23$	$ \mu_{fr}(W): 0.02$
$ \zeta_e: 0.28$	$ \zeta_{fr}: 0.00$
$PPE(umol/s/w): 1.27$	$K_{fr}: 0.01$
$Erb\_Ratio: 0.79$	$PPF(umol/s): 10.15$
$PF_{uv}(360-400)(umol/s): 0.00$	$PPF(400-500)(umol/s): 2.57$
$PPF(500-600)(umol/s): 4.80$	$PPF(600-700)(umol/s): 2.78$
$PPF_{fr}(700-800)(umol/s): 0.11$	$PPF.t(umol): 10.15$
$ \mu_{ch-A.t}(J): 0.18$	$ \mu_{ch-A}(W): 0.18$
$ \mu_{ch-B.t}(J): 0.12$	$ \mu_{ch-B}(W): 0.12$
$ \mu_b.t(J): 0.67$	$ \mu_b(W): 0.67$
$ \mu_y.t(J): 1.05$	$ \mu_y(W): 1.05$
$ \mu_r.t(J): 0.54$	$ \mu_r(W): 0.54$

### Electric Parameters

Voltage: 230.60V	Current: 0.0360A	Power: 8.00W
Power Factor: 0.9540	Frequency: 49.99Hz	

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

Test Device: Lisun LMS-9000B  
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