

Lightsource Test Report

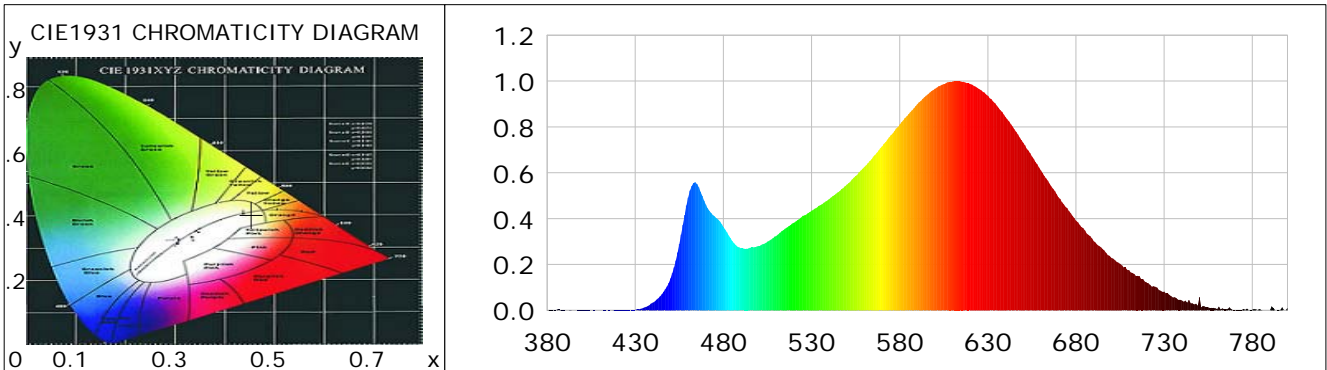
Product Information

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

Product Type: LED-PL-Röhren-2G11
 Product Number: 1
 Submitted Unit: 101895

CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.4543$ $y=0.4055$ $u(u')=0.2612$ $v=0.3497$ $v'=0.5246$
 CCT: $T_c=2739K$ ($duv=-0.00142$) Color Ratio: $R=0.256$ $G=0.711$ $B=0.033$
 Peak Wavelength: 613.7nm Half Bandwidth: 127.1nm
 Dominant Wavelength: 584.5nm Color Purity: 0.581
 CRI: $R_a=85.9$, $avgR(1\sim14)=82.9$, $avgR(1\sim15)=82.8$ TM30: $R_f=83$, $R_g=91$
 GAI: $GAI_BB_8=94.5$, $GAI_BB_15=104.7$, $GAI_EES=47.0$
 R1 =88 R2 =99 R3 =90 R4 =81 R5 =88 R6 =96 R7 =80 R8 =66
 R9 =33 R10=96 R11=80 R12=78 R13=91 R14=96 R15=81
 Color Quality Scale: $Q_a=84.4$, $Q_f=86.5$, $Q_p=85.9$, $Q_g=89.1$
 Q1 =79 Q2 =90 Q3 =91 Q4 =82 Q5 =79 Q6 =78 Q7 =84 Q8 =88
 Q9 =93 Q10=96 Q11=91 Q12=87 Q13=86 Q14=80 Q15=80



Photometric Parameters

Luminous Flux: 843.30 lm Efficiency: 110.96 lm/W Radiant Power: 2.763 W
 Total mains efficacy: 130.49 lm/W Energy Efficiency Class: E (EU 2019/2015)
 Pupil Flux: 1059.31 Plm Pupil Lumens Per Watt: 139.38 Plm/W Pupil Factor (Kp): 1.256
 Circopic Flux: 2000.51 lm

Electric Parameters

Voltage: 230.00V Current: 0.0350A Power: 7.60W
 Power Factor: 0.9500 Frequency: 50.00Hz

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: 46795 (2894) CCD Integration Time: 763.50 ms

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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	0.0235	525	0.4125	7.4785	670	0.4937	8.9521
385	0.0020	0.0363	530	0.4348	7.8838	675	0.4459	8.0840
390	0.0011	0.0197	535	0.4590	8.3217	680	0.3911	7.0909
395	0.0000	0.0006	540	0.4855	8.8034	685	0.3485	6.3183
400	0.0013	0.0229	545	0.5146	9.3295	690	0.3021	5.4766
405	0.0001	0.0025	550	0.5481	9.9375	695	0.2674	4.8490
410	0.0006	0.0109	555	0.5864	10.6313	700	0.2293	4.1577
415	0.0016	0.0298	560	0.6256	11.3429	705	0.2026	3.6727
420	0.0016	0.0287	565	0.6705	12.1575	710	0.1754	3.1806
425	0.0010	0.0184	570	0.7153	12.9683	715	0.1504	2.7276
430	0.0028	0.0505	575	0.7639	13.8494	720	0.1215	2.2030
435	0.0122	0.2211	580	0.8109	14.7020	725	0.1027	1.8613
440	0.0335	0.6077	585	0.8554	15.5085	730	0.0817	1.4811
445	0.0699	1.2678	590	0.8997	16.3131	735	0.0560	1.0151
450	0.1393	2.5260	595	0.9362	16.9750	740	0.0434	0.7875
455	0.2893	5.2459	600	0.9663	17.5199	745	0.0315	0.5707
460	0.4918	8.9160	605	0.9870	17.8955	750	0.0574	1.0405
465	0.5509	9.9880	610	0.9980	18.0954	755	0.0132	0.2391
470	0.4611	8.3608	615	0.9982	18.0974	760	0.0057	0.1031
475	0.4102	7.4376	620	0.9876	17.9060	765	0.0053	0.0964
480	0.3643	6.6052	625	0.9649	17.4947	770	0.0016	0.0298
485	0.3026	5.4871	630	0.9358	16.9664	775	0.0059	0.1061
490	0.2705	4.9051	635	0.8929	16.1898	780	0.0038	0.0691
495	0.2725	4.9412	640	0.8432	15.2884	785	0.0035	0.0630
500	0.2811	5.0960	645	0.7898	14.3191	790	0.0010	0.0188
505	0.3000	5.4391	650	0.7314	13.2616	795	0.0016	0.0288
510	0.3248	5.8887	655	0.6714	12.1725	800	0.0125	0.2264
515	0.3562	6.4584	660	0.6110	11.0779			
520	0.3819	6.9239	665	0.5524	10.0158			

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

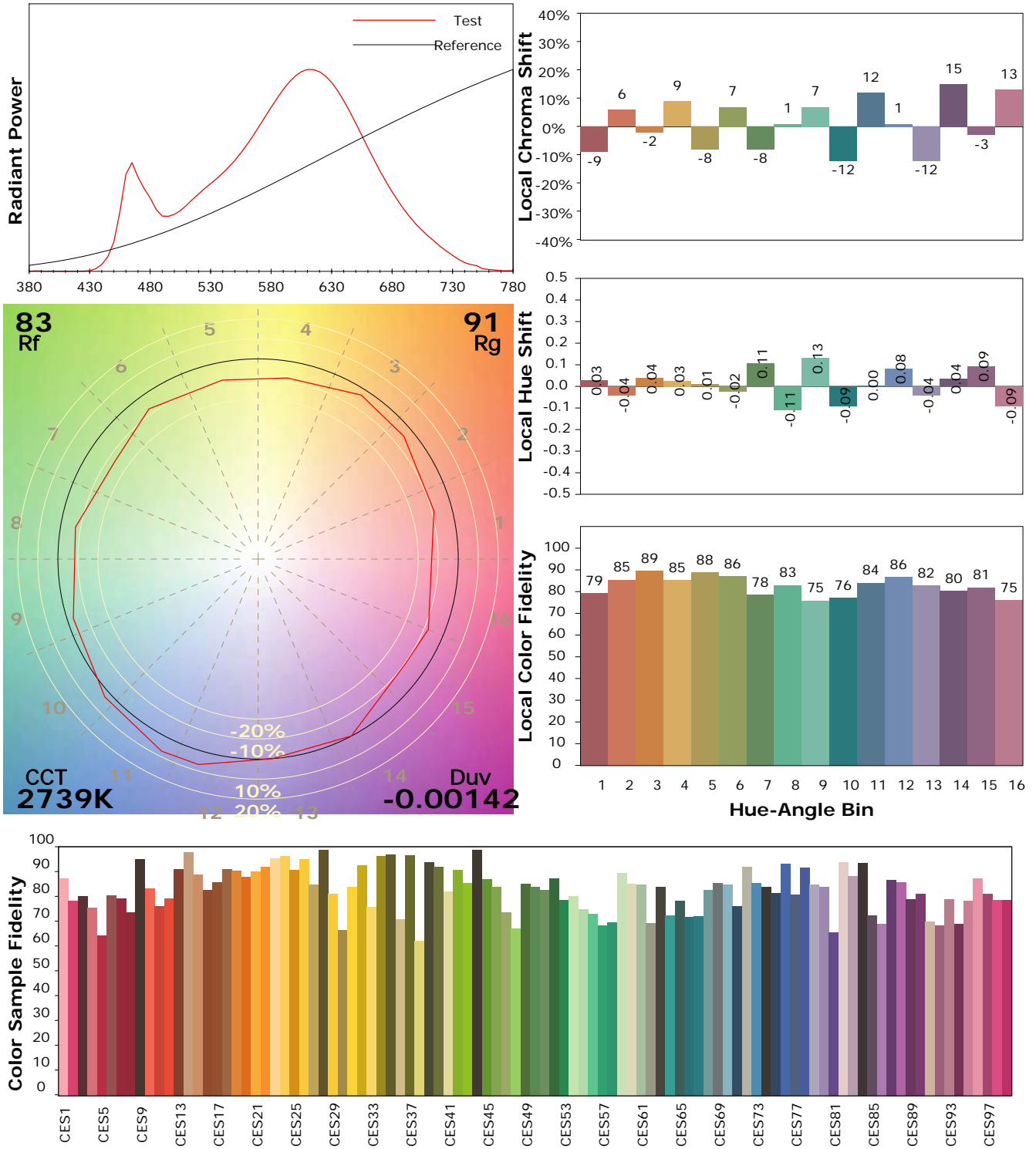
Test Device: Lisun LMS-9000B
 Test Time: 2021-03-03 14:48:33
 Inspector:

IES TM-30-18 Color Rendition Report

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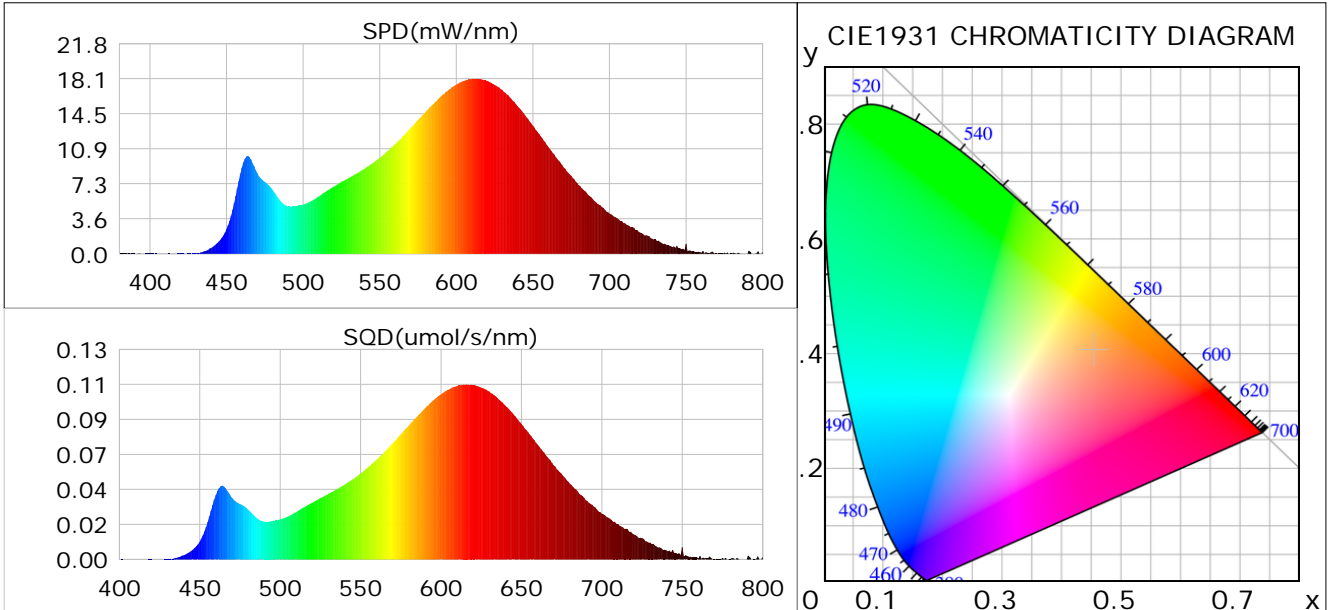
Condition: Tx:0.0°C, Ti:0.0°C, R.H.: 60%
 Test Lab:
 Operator: CRE

Test Device: Lisun LMS-9000B
 Test Time: 2021-03-03 14:48:33
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Plant optical param data

CIE Colorimetric Parameters

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 Dominant Wavelength: 584.5nm Color Purity: 0.581
 CRI: $R_a=85.9$



Plant Optical Param

$ \mu_v(lm)$: 843.30	$Q_v(lm.s)$: 843.30
$ \mu_e, \dot{E}(W/nm)$: 2.76	$Q_e(J)$: 2.76
$ \mu_e(W)$: 2.66	$ \mu_{fr}(W)$: 0.11
$ \zeta_e$: 0.35	$ \zeta_{fr}$: 0.01
PPE(umol/s/w): 1.72	Kfr: 0.08
Erb_Ratio: 3.57	PPF(umol/s): 13.04
PFuv(360-400)(umol/s): 0.00	PPF(400-500)(umol/s): 1.38
PPF(500-600)(umol/s): 5.00	PPF(600-700)(umol/s): 6.66
PPfr(700-800)(umol/s): 0.62	PPF.t(umol): 13.04
$ \mu_{ch-A.t}(J)$: 0.21	$ \mu_{ch-A}(W)$: 0.21
$ \mu_{ch-B.t}(J)$: 0.11	$ \mu_{ch-B}(W)$: 0.11
$ \mu_b.t(J)$: 0.35	$ \mu_b(W)$: 0.35
$ \mu_y.t(J)$: 1.07	$ \mu_y(W)$: 1.07
$ \mu_r.t(J)$: 1.26	$ \mu_r(W)$: 1.26

Electric Parameters

Voltage: 230.00V	Current: 0.0350A	Power: 7.60W
Power Factor: 0.9500	Frequency: 50.00Hz	

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
 Test Time: 2021-03-03 14:48:33
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