

Lightsource Test Report

Product Information

Product Category: LED-PL-Röhren
 Product Spec: LED-PL-G24-09W-CWM-TRF
 Manufacturer: METOLIGHT
 Buyer: 6852

Product Type: LED-PL-Röhren-G24
 Product Number: 1
 Submitted Unit: 104970

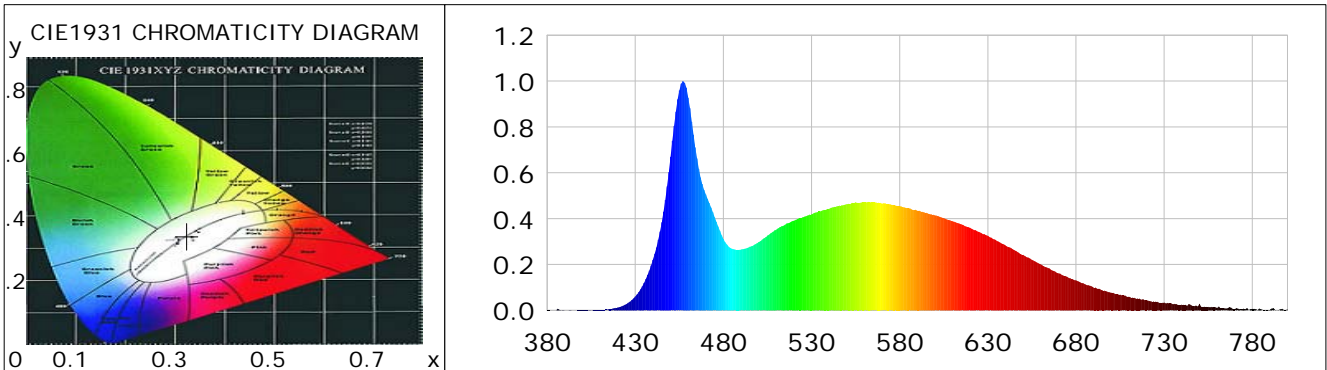
CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3236$ $y=0.3381$ $u(u')=0.2020$ $v=0.3165$ $v'=0.4747$
 CCT: $T_c=5906K$ ($duv=0.00252$) Color Ratio: $R=0.147$ $G=0.792$ $B=0.061$
 Peak Wavelength: 457.1nm Half Bandwidth: 23.0nm
 Dominant Wavelength: 498.2nm Color Purity: 0.030
 CRI: $R_a = 86.3$, $avgR(1\sim14) = 80.8$, $avgR(1\sim15) = 80.9$ TM30: $R_f = 83$, $R_g = 93$
 GAI: $GAI_BB_8=91.0$, $GAI_BB_15=97.3$, $GAI_EES=86.1$

R1 =86	R2 =94	R3 =95	R4 =81	R5 =84	R6 =88	R7 =88	R8 =75
R9 =34	R10=83	R11=80	R12=58	R13=89	R14=98	R15=83	

Color Quality Scale: $Q_a = 83.0$, $Q_f = 83.1$, $Q_p = 82.3$, $Q_g = 91.7$

Q1 =83	Q2 =97	Q3 =81	Q4 =72	Q5 =76	Q6 =78	Q7 =85	Q8 =90
Q9 =98	Q10=91	Q11=86	Q12=85	Q13=85	Q14=79	Q15=82	



Photometric Parameters

Luminous Flux: 932.65 lm Efficiency: 108.45 lm/W Radiant Power: 3.091 W
 Total mains efficacy: 127.53 lm/W Energy Efficiency Class: E (EU 2019/2015)
 Pupil Flux: 1738.08 Plm Pupil Lumens Per Watt: 202.10 Plm/W Pupil Factor (Kp): 1.864
 Circopic Flux: 4028.30 lm

Electric Parameters

Voltage: 230.00V Current: 0.0370A Power: 8.60W
 Power Factor: 0.4930 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: 45980 (2560) CCD Integration Time: 253.77 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 14:17:31
 Inspector:

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0026	0.0792	525	0.4060	12.4772	670	0.1619	4.9760
385	0.0012	0.0357	530	0.4183	12.8553	675	0.1462	4.4938
390	0.0008	0.0247	535	0.4316	13.2650	680	0.1309	4.0216
395	0.0006	0.0194	540	0.4426	13.6033	685	0.1145	3.5177
400	0.0015	0.0461	545	0.4548	13.9779	690	0.0987	3.0322
405	0.0010	0.0317	550	0.4632	14.2365	695	0.0872	2.6800
410	0.0025	0.0758	555	0.4705	14.4598	700	0.0770	2.3670
415	0.0053	0.1639	560	0.4718	14.5001	705	0.0684	2.1031
420	0.0120	0.3681	565	0.4715	14.4900	710	0.0600	1.8427
425	0.0275	0.8463	570	0.4655	14.3060	715	0.0520	1.5981
430	0.0607	1.8645	575	0.4620	14.1970	720	0.0442	1.3588
435	0.1197	3.6796	580	0.4548	13.9779	725	0.0379	1.1654
440	0.2200	6.7621	585	0.4455	13.6911	730	0.0349	1.0715
445	0.3844	11.8136	590	0.4348	13.3627	735	0.0270	0.8295
450	0.6696	20.5777	595	0.4255	13.0771	740	0.0245	0.7516
455	0.9592	29.4791	600	0.4144	12.7358	745	0.0239	0.7335
460	0.9283	28.5284	605	0.4022	12.3601	750	0.0285	0.8755
465	0.6631	20.3779	610	0.3885	11.9405	755	0.0153	0.4699
470	0.5059	15.5481	615	0.3750	11.5249	760	0.0111	0.3424
475	0.4064	12.4904	620	0.3602	11.0683	765	0.0081	0.2498
480	0.3118	9.5834	625	0.3416	10.4992	770	0.0057	0.1753
485	0.2686	8.2547	630	0.3252	9.9932	775	0.0077	0.2360
490	0.2654	8.1566	635	0.3032	9.3168	780	0.0064	0.1966
495	0.2773	8.5218	640	0.2831	8.6999	785	0.0043	0.1323
500	0.2974	9.1397	645	0.2625	8.0671	790	0.0042	0.1284
505	0.3264	10.0313	650	0.2416	7.4239	795	0.0031	0.0944
510	0.3522	10.8238	655	0.2205	6.7749	800	0.0061	0.1867
515	0.3738	11.4883	660	0.2010	6.1778			
520	0.3915	12.0307	665	0.1823	5.6035			

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

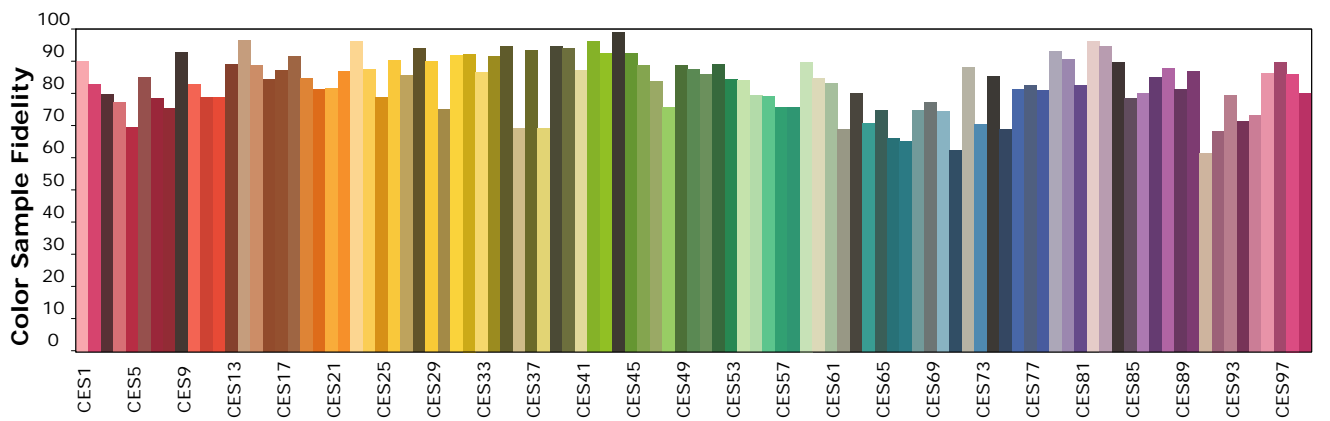
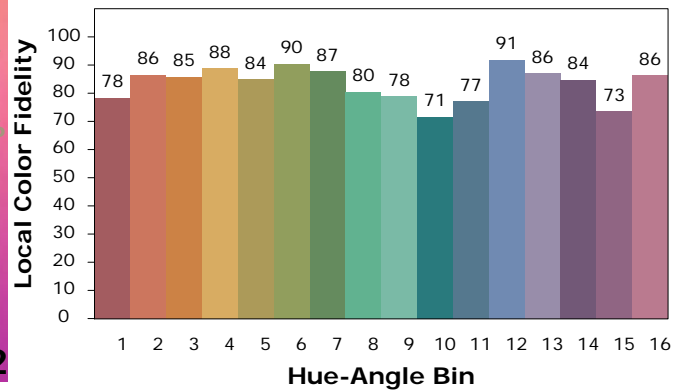
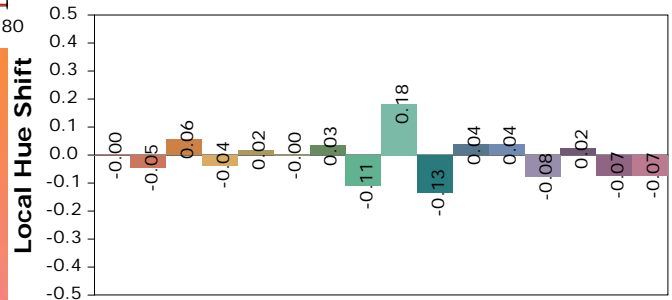
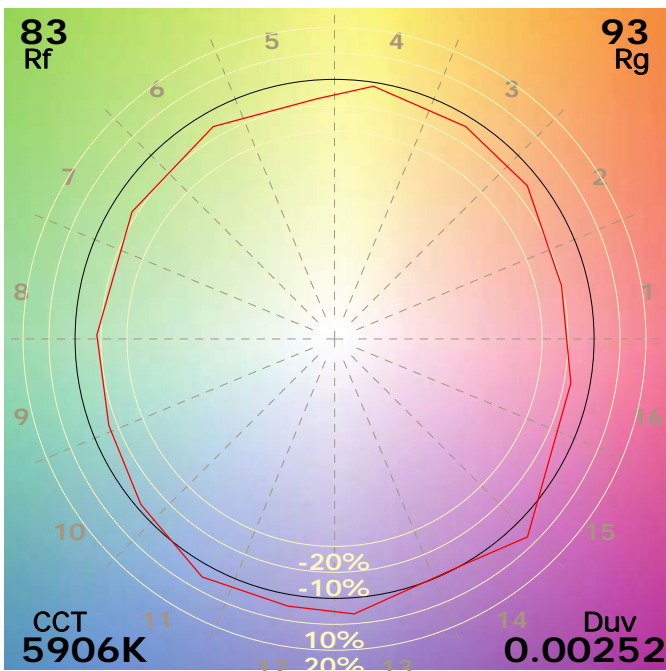
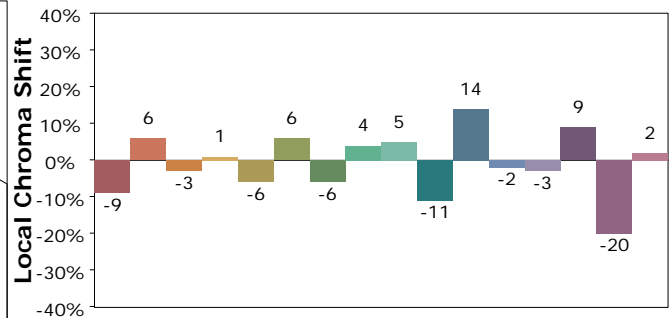
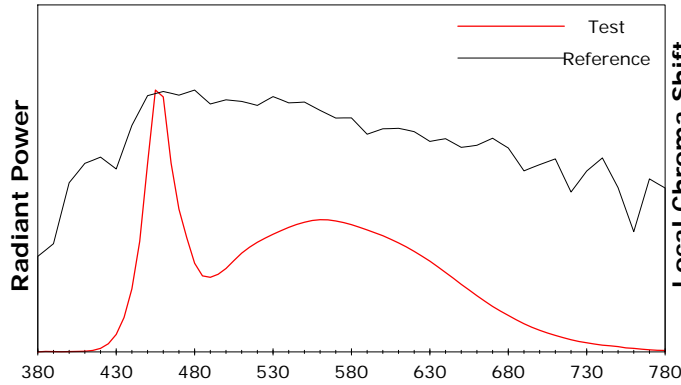
Test Device: Lisun LMS-9000B
 Test Time: 2021-03-03 14:17:31
 Inspector:

IES TM-30-18 Color Rendition Report

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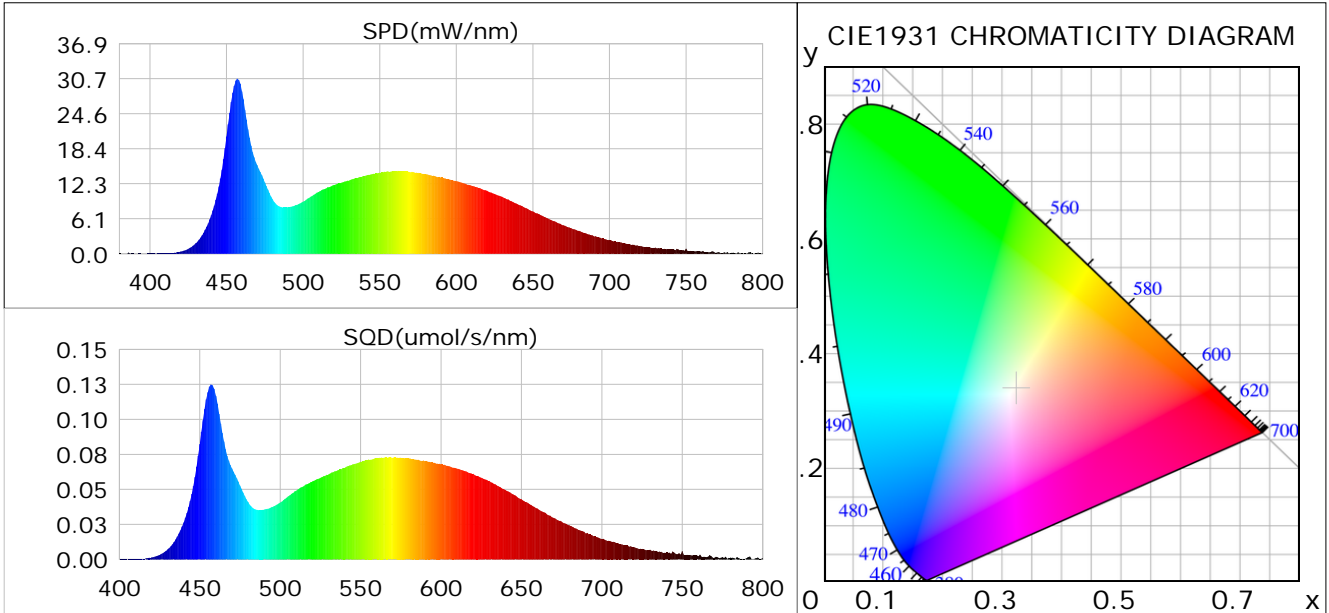
Condition: Tx:0.0°C, Ti:0.0°C, R.H.: 60%
 Test Lab:
 Operator: CRE

Test Device: Lisun LMS-9000B
 Test Time: 2021-03-03 14:17:31
 Inspector:

Plant optical param data

CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3236$ $y=0.3381$ $u(u')=0.2020$ $v=0.3165$ $v'=0.4747$
 CCT: $T_c=5906K$ ($duv=0.00252$) Color Ratio: $R=0.147$ $G=0.792$ $B=0.061$
 Peak Wavelength: 457.1nm Half Bandwidth: 23.0nm
 Dominant Wavelength: 498.2nm Color Purity: 0.030
 CRI: $R_a=86.3$



Plant Optical Param

$ \mu_v(lm): 932.65$	$Q_v(lm.s): 932.65$
$ \mu_e, \dot{E}(W/nm): 3.09$	$Q_e(J): 3.09$
$ \mu_e(W): 3.02$	$ \mu_{fr}(W): 0.08$
$ \zeta_e: 0.35$	$ \zeta_{fr}: 0.01$
$PPE(umol/s/w): 1.60$	$K_{fr}: 0.05$
$Erb_Ratio: 0.77$	$PPF(umol/s): 13.75$
$PF_{uv}(360-400)(umol/s): 0.00$	$PPF(400-500)(umol/s): 3.73$
$PPF(500-600)(umol/s): 6.06$	$PPF(600-700)(umol/s): 3.96$
$PPF_{fr}(700-800)(umol/s): 0.45$	$PPF.t(umol): 13.75$
$ \mu_{ch-A.t}(J): 0.24$	$ \mu_{ch-A}(W): 0.24$
$ \mu_{ch-B.t}(J): 0.18$	$ \mu_{ch-B}(W): 0.18$
$ \mu_b.t(J): 0.96$	$ \mu_b(W): 0.96$
$ \mu_y.t(J): 1.32$	$ \mu_y(W): 1.32$
$ \mu_r.t(J): 0.76$	$ \mu_r(W): 0.76$

Electric Parameters

Voltage: 230.00V	Current: 0.0370A	Power: 8.60W
Power Factor: 0.4930	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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 Inspector: