

Lightsource Test Report

Product Information

Product Category: LED-PL-Röhren
 Product Spec: LED-PL-2G11-10-NWC
 Manufacturer: METOLIGHT
 Buyer: 2320

Product Type: LED-PL-Röhren-2G11
 Product Number: 1
 Submitted Unit: 101968

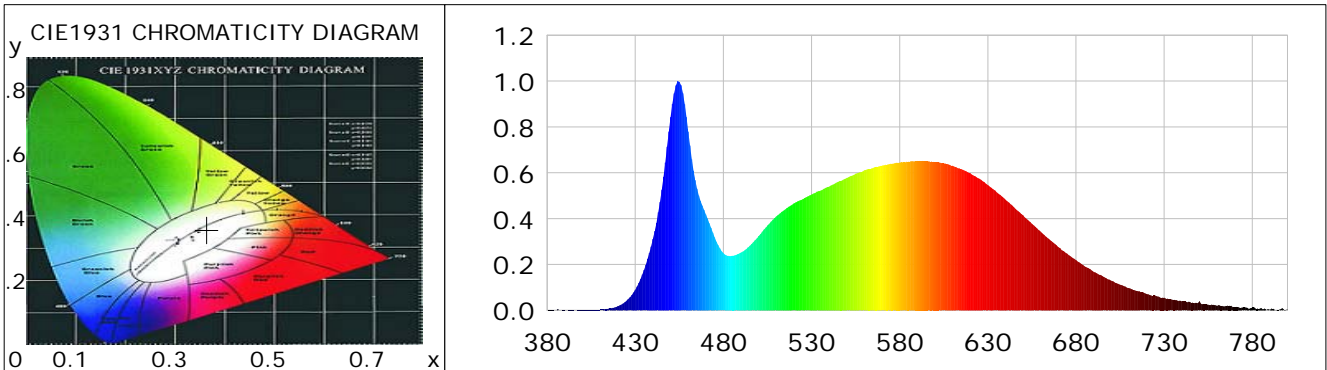
CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3641$ $y=0.3581$ $u(u')=0.2217$ $v=0.3271$ $v'=0.4906$
 CCT: $T_c=4357K$ ($duv=-0.00385$) Color Ratio: $R=0.181$ $G=0.776$ $B=0.043$
 Peak Wavelength: 454.4nm Half Bandwidth: 21.5nm
 Dominant Wavelength: 580.8nm Color Purity: 0.167
 CRI: $R_a=87.1$, $avgR(1\sim14)=81.8$, $avgR(1\sim15)=82.0$ TM30: $R_f=84$, $R_g=96$
 GAI: $GAI_BB_8=98.2$, $GAI_BB_15=104.9$, $GAI_EES=82.5$

R1 =87	R2 =93	R3 =94	R4 =85	R5 =86	R6 =87	R7 =89	R8 =76
R9 =39	R10=80	R11=83	R12=61	R13=89	R14=97	R15=85	

Color Quality Scale: $Q_a=84.1$, $Q_f=83.8$, $Q_p=85.1$, $Q_g=95.4$

Q1 =87	Q2 =99	Q3 =78	Q4 =73	Q5 =80	Q6 =83	Q7 =87	Q8 =90
Q9 =97	Q10=89	Q11=85	Q12=84	Q13=85	Q14=81	Q15=83	



Photometric Parameters

Luminous Flux: 1180.4 lm Efficiency: 85.47 lm/W Radiant Power: 3.842 W
 Total mains efficacy: 100.52 lm/W Energy Efficiency Class: F (EU 2019/2015)
 Pupil Flux: 1894.48 Plm Pupil Lumens Per Watt: 137.18 Plm/W Pupil Factor (Kp): 1.605
 Circopic Flux: 4029.58 lm

Electric Parameters

Voltage: 229.81V Current: 0.1200A Power: 13.81W
 Power Factor: 0.4980 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: 43600 (2483) CCD Integration Time: 176.65 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 13:47:24
 Inspector:

Lightsource Test Report

Product Information

Product Category: LED-PL-Röhren
 Product Spec: LED-PL-2G11-10-NWC
 Manufacturer: METOLIGHT
 Buyer: 2320

Product Type: LED-PL-Röhren-2G11
 Product Number: 1
 Submitted Unit: 101968

WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0006	0.0179	525	0.4851	14.2021	670	0.2763	8.0897
385	0.0007	0.0197	530	0.5048	14.7770	675	0.2472	7.2354
390	0.0008	0.0239	535	0.5219	15.2788	680	0.2197	6.4308
395	0.0012	0.0350	540	0.5402	15.8147	685	0.1920	5.6197
400	0.0014	0.0423	545	0.5599	16.3908	690	0.1682	4.9241
405	0.0016	0.0465	550	0.5775	16.9051	695	0.1488	4.3549
410	0.0037	0.1096	555	0.5961	17.4493	700	0.1293	3.7862
415	0.0077	0.2266	560	0.6109	17.8848	705	0.1124	3.2893
420	0.0176	0.5155	565	0.6217	18.1985	710	0.0977	2.8595
425	0.0416	1.2184	570	0.6312	18.4771	715	0.0842	2.4651
430	0.0900	2.6335	575	0.6399	18.7327	720	0.0716	2.0968
435	0.1763	5.1596	580	0.6448	18.8774	725	0.0643	1.8838
440	0.3108	9.0984	585	0.6483	18.9792	730	0.0555	1.6240
445	0.5267	15.4174	590	0.6519	19.0846	735	0.0457	1.3368
450	0.8432	24.6825	595	0.6503	19.0381	740	0.0392	1.1461
455	0.9968	29.1814	600	0.6470	18.9401	745	0.0345	1.0088
460	0.7799	22.8321	605	0.6410	18.7643	750	0.0394	1.1546
465	0.5308	15.5381	610	0.6306	18.4617	755	0.0246	0.7193
470	0.4183	12.2455	615	0.6160	18.0324	760	0.0201	0.5883
475	0.3187	9.3290	620	0.5985	17.5192	765	0.0192	0.5626
480	0.2496	7.3061	625	0.5746	16.8208	770	0.0140	0.4090
485	0.2381	6.9706	630	0.5462	15.9905	775	0.0135	0.3956
490	0.2521	7.3808	635	0.5152	15.0815	780	0.0119	0.3496
495	0.2813	8.2360	640	0.4831	14.1414	785	0.0099	0.2888
500	0.3245	9.4993	645	0.4483	13.1243	790	0.0029	0.0846
505	0.3701	10.8357	650	0.4145	12.1353	795	0.0029	0.0856
510	0.4099	11.9983	655	0.3775	11.0504	800	0.0055	0.1598
515	0.4402	12.8872	660	0.3435	10.0543			
520	0.4668	13.6663	665	0.3090	9.0450			

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

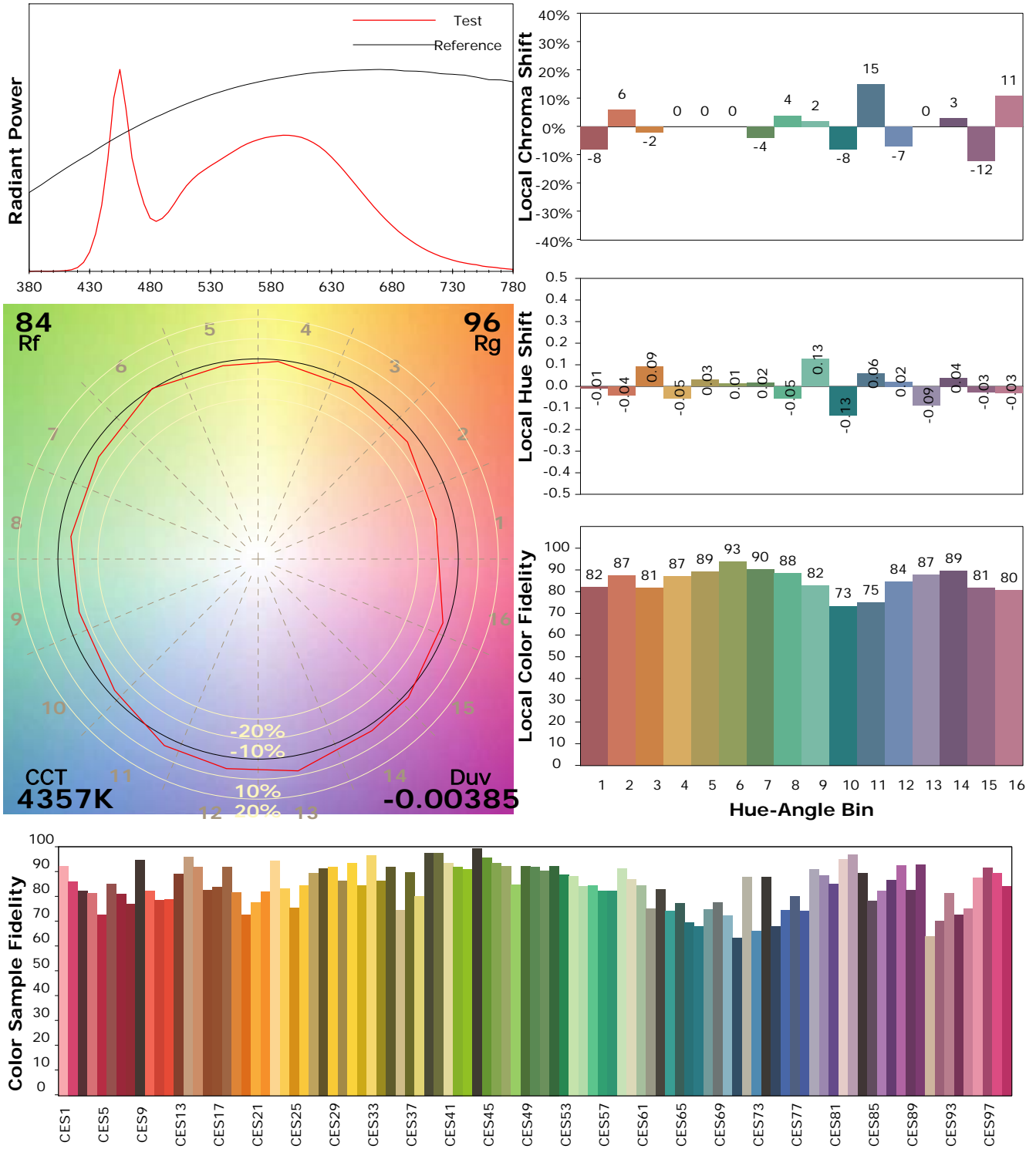
Test Device: Lisun LMS-9000B
 Test Time: 2021-03-01 13:47:24
 Inspector:

IES TM-30-18 Color Rendition Report

Product Information

Product Category: LED-PL-Röhren
 Product Spec: LED-PL-2G11-10-NWC
 Manufacturer: METOLIGHT
 Buyer: 2320

Product Type: LED-PL-Röhren-2G11
 Product Number: 1
 Submitted Unit: 101968



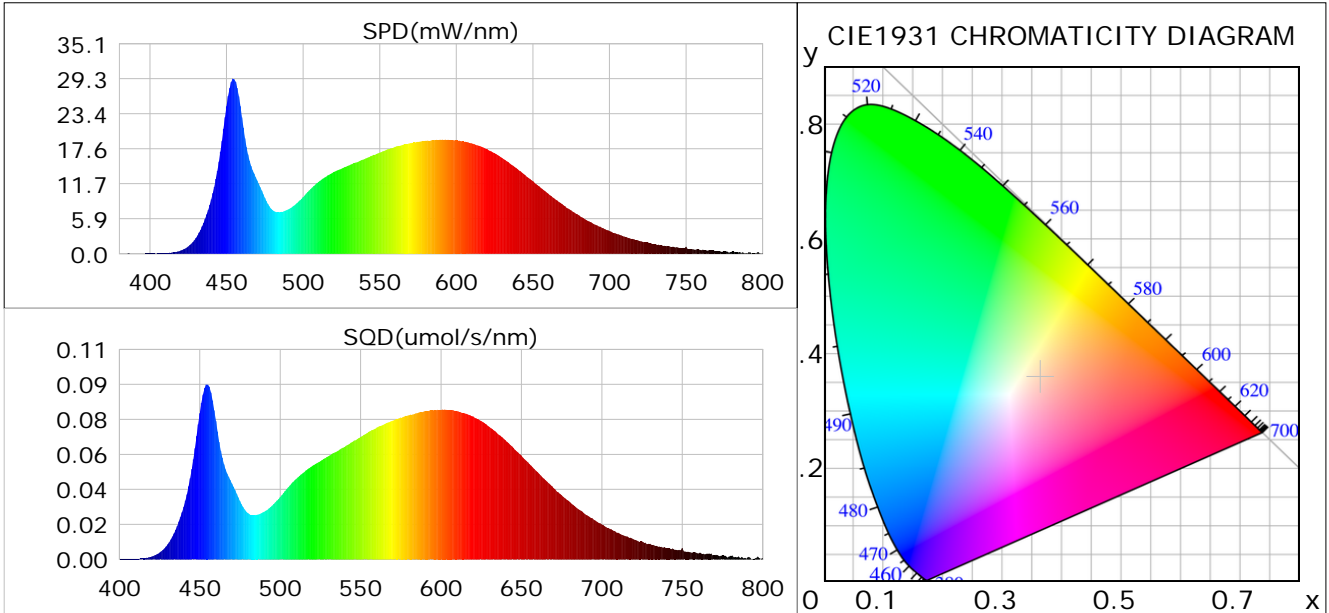
Condition: Tx:0.0°C, Ti:0.0°C, R.H.: 60%
 Test Lab:
 Operator: CRE

Test Device: Lisun LMS-9000B
 Test Time: 2021-03-01 13:47:24
 Inspector:

Plant optical param data

CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3641$ $y=0.3581$ $u(u')=0.2217$ $v=0.3271$ $v'=0.4906$
 CCT: $T_c=4357K$ ($duv=-0.00385$) Color Ratio: $R=0.181$ $G=0.776$ $B=0.043$
 Peak Wavelength: 454.4nm Half Bandwidth: 21.5nm
 Dominant Wavelength: 580.8nm Color Purity: 0.167
 CRI: $R_a=87.1$



Plant Optical Param

$ \mu_v(lm): 1180.40$	$Q_v(lm.s): 1180.40$
$ \mu_e, \dot{E}(W/nm): 3.84$	$Q_e(J): 3.84$
$ \mu_e(W): 3.73$	$ \mu_{fr}(W): 0.12$
$ \zeta_e: 0.27$	$ \zeta_{fr}: 0.01$
$PPE(umol/s/w): 1.26$	$K_{fr}: 0.05$
$Erb_Ratio: 1.29$	$PPF(umol/s): 17.40$
$PF_{uv}(360-400)(umol/s): 0.00$	$PPF(400-500)(umol/s): 3.55$
$PPF(500-600)(umol/s): 7.53$	$PPF(600-700)(umol/s): 6.32$
$PPF_r(700-800)(umol/s): 0.72$	$PPF.t(umol): 17.40$
$ \mu_{ch-A.t}(J): 0.31$	$ \mu_{ch-A}(W): 0.31$
$ \mu_{ch-B.t}(J): 0.19$	$ \mu_{ch-B}(W): 0.19$
$ \mu_b.t(J): 0.92$	$ \mu_b(W): 0.92$
$ \mu_y.t(J): 1.63$	$ \mu_y(W): 1.63$
$ \mu_r.t(J): 1.20$	$ \mu_r(W): 1.20$

Electric Parameters

Voltage: 229.81V	Current: 0.1200A	Power: 13.81W
Power Factor: 0.4980	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
 Test Time: 2021-03-01 13:47:24
 Inspector: