

Lightsource Test Report

Product Information

Product Category: LED-Röhre
 Product Spec: LEDtube-060-8NWM-09W-SCE-RM-175
 Manufacturer: METOLIGHT
 Buyer: 6961
 Product Type: LED-Röhre-SCE
 Product Number: 1
 Submitted Unit: 102588

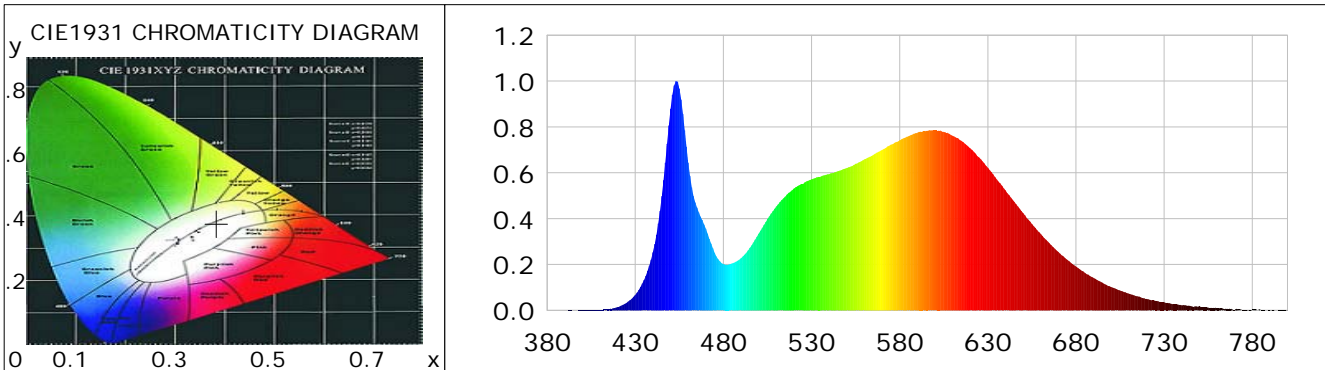
CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3835$ $y=0.3777$ $u(u')=0.2267$ $v=0.3350$ $v'=0.5025$
 CCT: $T_c=3925K$ ($duv=-0.00043$) Color Ratio: $R=0.189$ $G=0.776$ $B=0.034$
 Peak Wavelength: 453.4nm Half Bandwidth: 17.9nm
 Dominant Wavelength: 579.6nm Color Purity: 0.285
 CRI: $R_a=84.4$, $avgR(1\sim14)=78.0$, $avgR(1\sim15)=78.0$ TM30: $R_f=84$, $R_g=96$
 GAI: $GAI_BB_8=94.0$, $GAI_BB_15=101.7$, $GAI_EES=73.0$

R1 =84	R2 =90	R3 =95	R4 =83	R5 =83	R6 =86	R7 =86	R8 =67
R9 =17	R10=76	R11=83	R12=59	R13=85	R14=97	R15=78	

Color Quality Scale: $Q_a=83.4$, $Q_f=83.4$, $Q_p=83.8$, $Q_g=93.8$

Q1 =83	Q2 =98	Q3 =78	Q4 =75	Q5 =81	Q6 =84	Q7 =86	Q8 =89
Q9 =98	Q10=89	Q11=86	Q12=85	Q13=85	Q14=75	Q15=78	



Photometric Parameters

Luminous Flux: 1509.0 lm Efficiency: 170.12 lm/W Radiant Power: 4.574 W
 Total mains efficacy: 200.07 lm/W Energy Efficiency Class: B (EU 2019/2015)
 Pupil Flux: 2255.70 Plm Pupil Lumens Per Watt: 254.31 Plm/W Pupil Factor (Kp): 1.495
 Circopic Flux: 4557.11 lm

Electric Parameters

Voltage: 230.70V Current: 0.0385A Power: 8.87W
 Power Factor: 0.9330 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: 44630 (2535) CCD Integration Time: 91.59 ms

Condition: $T_x=21.7^\circ C$, $T_i=0.0^\circ C$, R.H.: 60%
 Test Lab:
 Operator: CRE

Test Device: Lisun LMS-9000B
 Test Time: 2021-02-17
 Inspector:

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0007	0.0222	525	0.5508	18.4000	670	0.2553	8.5303
385	0.0007	0.0225	530	0.5714	19.0901	675	0.2210	7.3839
390	0.0011	0.0363	535	0.5829	19.4716	680	0.1913	6.3925
395	0.0006	0.0207	540	0.5944	19.8587	685	0.1640	5.4780
400	0.0008	0.0254	545	0.6068	20.2730	690	0.1413	4.7190
405	0.0008	0.0280	550	0.6209	20.7433	695	0.1201	4.0121
410	0.0026	0.0879	555	0.6394	21.3607	700	0.1017	3.3986
415	0.0059	0.1969	560	0.6584	21.9966	705	0.0872	2.9139
420	0.0143	0.4775	565	0.6785	22.6659	710	0.0728	2.4311
425	0.0325	1.0870	570	0.6996	23.3723	715	0.0613	2.0490
430	0.0676	2.2591	575	0.7228	24.1470	720	0.0502	1.6772
435	0.1321	4.4142	580	0.7420	24.7876	725	0.0418	1.3959
440	0.2528	8.4444	585	0.7592	25.3637	730	0.0351	1.1741
445	0.4981	16.6402	590	0.7743	25.8664	735	0.0271	0.9063
450	0.8794	29.3789	595	0.7829	26.1563	740	0.0221	0.7391
455	0.9677	32.3271	600	0.7853	26.2358	745	0.0192	0.6399
460	0.6447	21.5370	605	0.7789	26.0223	750	0.0194	0.6492
465	0.4486	14.9882	610	0.7616	25.4427	755	0.0125	0.4165
470	0.3561	11.8954	615	0.7398	24.7147	760	0.0100	0.3333
475	0.2513	8.3952	620	0.7071	23.6222	765	0.0073	0.2442
480	0.2024	6.7605	625	0.6671	22.2849	770	0.0041	0.1369
485	0.2047	6.8401	630	0.6214	20.7607	775	0.0041	0.1373
490	0.2272	7.5912	635	0.5715	19.0930	780	0.0036	0.1188
495	0.2723	9.0974	640	0.5231	17.4753	785	0.0019	0.0618
500	0.3350	11.1918	645	0.4733	15.8131	790	0.0010	0.0343
505	0.3986	13.3172	650	0.4240	14.1647	795	0.0016	0.0549
510	0.4533	15.1445	655	0.3769	12.5912	800	0.0021	0.0718
515	0.4960	16.5712	660	0.3334	11.1390			
520	0.5313	17.7507	665	0.2924	9.7678			

Condition: Tx:21.7'C, Ti:0.0'C, R.H.:60%
 Test Lab:
 Operator: CRE

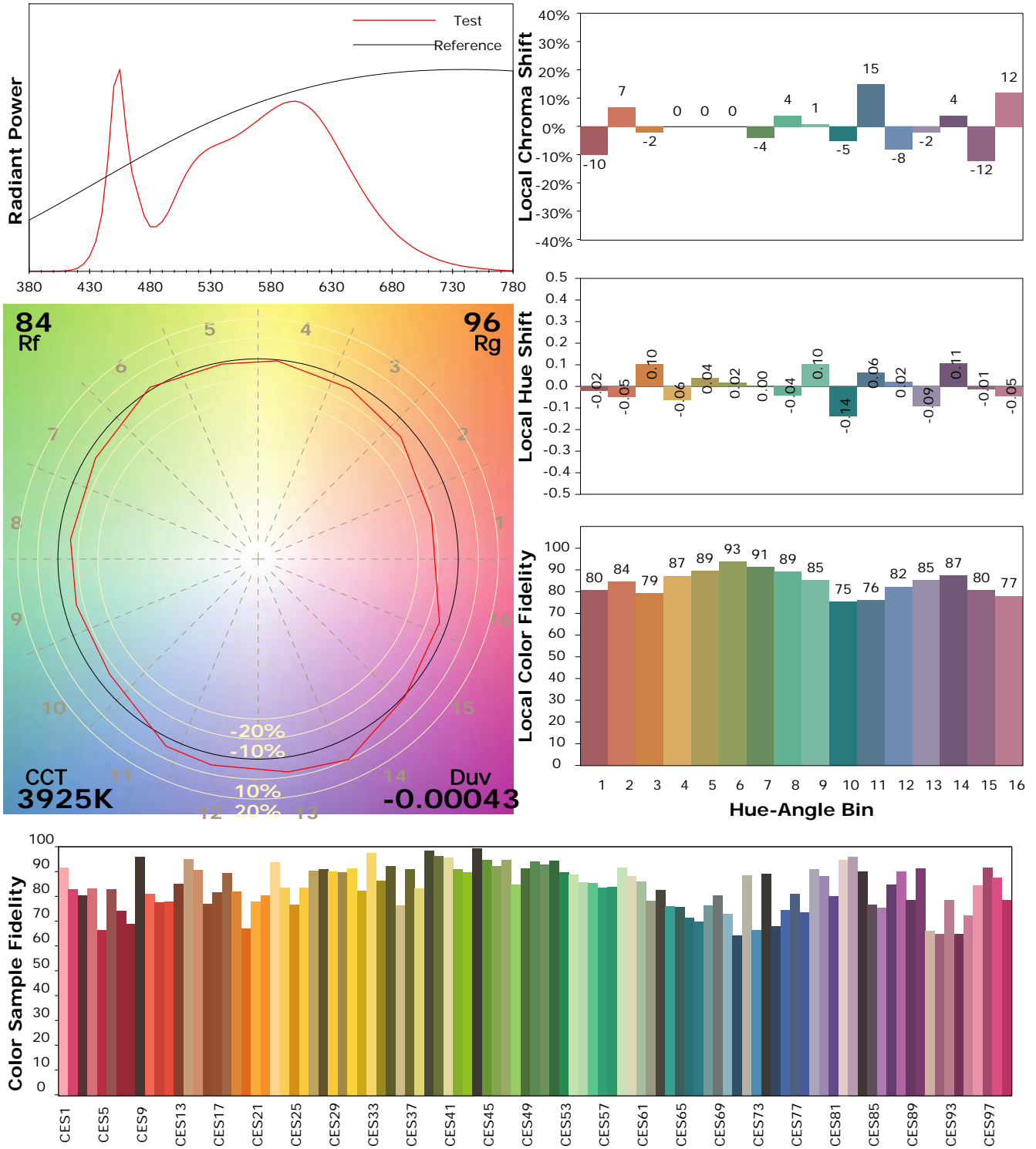
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IES TM-30-18 Color Rendition Report

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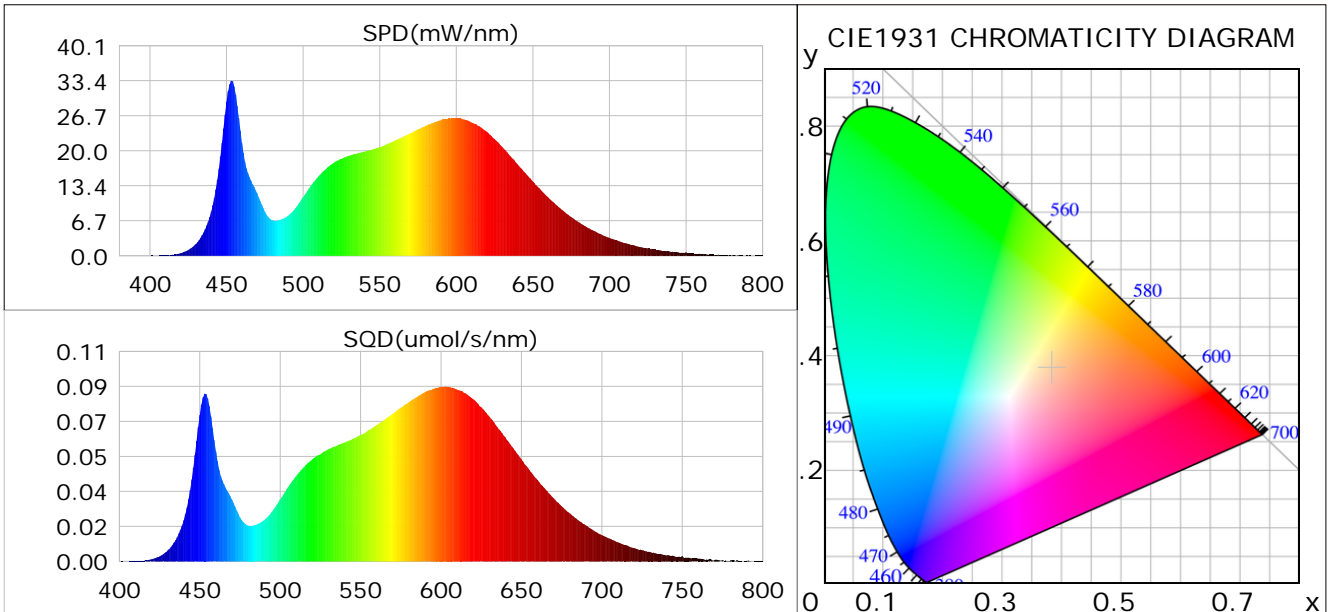
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 Operator: CRE

Test Device: Lisun LMS-9000B
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 Inspector:

Plant optical param data

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 CRI: $R_a=84.4$



Plant Optical Param

$ \mu_v(lm): 1509.00$	$Q_v(lm.s): 1509.00$
$ \mu_e, \dot{E}(W/nm): 4.57$	$Q_e(J): 4.57$
$ \mu_e(W): 4.49$	$ \mu_{fr}(W): 0.09$
$ \zeta_e: 0.51$	$ \zeta_{fr}: 0.01$
$PPE(umol/s/w): 2.38$	$K_{fr}: 0.06$
$Erb_Ratio: 1.54$	$PPF(umol/s): 21.08$
$PF_{uv}(360-400)(umol/s): 0.00$	$PPF(400-500)(umol/s): 3.65$
$PPF(500-600)(umol/s): 9.68$	$PPF(600-700)(umol/s): 7.75$
$PPF_r(700-800)(umol/s): 0.52$	$PPF.t(umol): 21.08$
$ \mu_{ch-A.t}(J): 0.35$	$ \mu_{ch-A}(W): 0.35$
$ \mu_{ch-B.t}(J): 0.21$	$ \mu_{ch-B}(W): 0.21$
$ \mu_b.t(J): 0.94$	$ \mu_b(W): 0.94$
$ \mu_y.t(J): 2.10$	$ \mu_y(W): 2.10$
$ \mu_r.t(J): 1.49$	$ \mu_r(W): 1.49$

Electric Parameters

Voltage: 230.70V	Current: 0.0385A	Power: 8.87W
Power Factor: 0.9330	Frequency: 49.99Hz	

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