

Lightsource Test Report

Product Information

Product Category: LED-Röhre
 Product Spec: LEDtube-060-8Sea-10WM
 Manufacturer: METOLIGHT
 Buyer: 7116

Product Type: LED-Röhre-Spezial
 Product Number: 1
 Submitted Unit: 105192

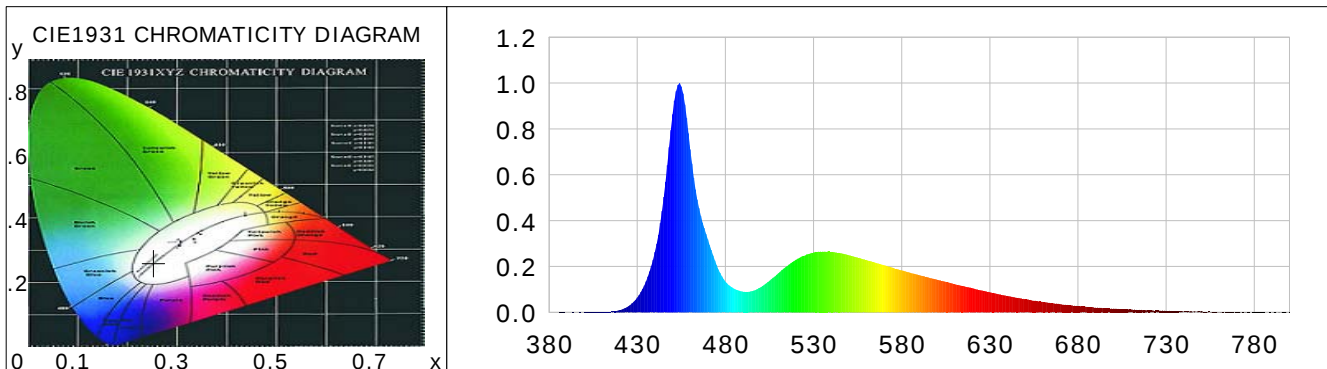
CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.2526$ $y=0.2600$ $u(u')=0.1800$ $v=0.2778$ $v'=0.4167$
 CCT: $T_c=20670K$ ($duv=0.00390$) Color Ratio: $R=0.093$ $G=0.830$ $B=0.077$
 Peak Wavelength: 453.9nm Half Bandwidth: 18.9nm
 Dominant Wavelength: 478.6nm Color Purity: 0.341
 CRI: $R_a=77.0$, $avgR(1\sim14)=66.8$, $avgR(1\sim15)=67.4$ TM30: $R_f=72$, $R_g=88$
 GAI: $GAI_BB_8=83.2$, $GAI_BB_15=89.4$, $GAI_EES=90.3$

R1 = 76	R2 = 82	R3 = 77	R4 = 74	R5 = 74	R6 = 72	R7 = 89	R8 = 72
R9 = 0	R10 = 50	R11 = 70	R12 = 33	R13 = 79	R14 = 87	R15 = 75	

Color Quality Scale: $Q_a=72.0$, $Q_f=69.9$, $Q_p=76.8$, $Q_g=85.9$

Q1 = 83	Q2 = 98	Q3 = 72	Q4 = 52	Q5 = 58	Q6 = 64	Q7 = 79	Q8 = 87
Q9 = 90	Q10 = 77	Q11 = 68	Q12 = 71	Q13 = 75	Q14 = 67	Q15 = 76	



Photometric Parameters

Luminous Flux: 839.20 lm	Efficiency: 88.71 lm/W	Radiant Power: 3.099 W
Total mains efficacy: 104.32 lm/W	Energy Efficiency Class: F (EU 2019/2015)	
Pupil Flux: 1930.03 Plm	Pupil Lumens Per Watt: 204.02 Plm/W	Pupil Factor (Kp): 2.300
Cirtpic Flux: 4976.24 lm		

Electric Parameters

Voltage: 230.90V	Current: 0.0400A	Power: 9.46W
Power Factor: 0.9760	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: 48668 (2569)	CCD Integration Time: 42.04 ms

Condition: Tx:23.1'C, Ti:0.0'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	0.0002	0.0142	525	0.2476	14.4756	670	0.0360	2.1029
385	0.0002	0.0136	530	0.2608	15.2421	675	0.0321	1.8736
390	0.0006	0.0326	535	0.2651	15.4954	680	0.0279	1.6307
395	0.0004	0.0262	540	0.2637	15.4165	685	0.0243	1.4210
400	0.0010	0.0588	545	0.2586	15.1133	690	0.0206	1.2040
405	0.0015	0.0903	550	0.2497	14.5949	695	0.0184	1.0774
410	0.0017	0.1020	555	0.2391	13.9766	700	0.0162	0.9480
415	0.0037	0.2140	560	0.2287	13.3667	705	0.0142	0.8279
420	0.0102	0.5969	565	0.2170	12.6861	710	0.0126	0.7365
425	0.0266	1.5568	570	0.2054	12.0052	715	0.0109	0.6357
430	0.0643	3.7557	575	0.1945	11.3696	720	0.0091	0.5339
435	0.1350	7.8899	580	0.1831	10.7023	725	0.0088	0.5122
440	0.2625	15.3441	585	0.1724	10.0770	730	0.0067	0.3888
445	0.5038	29.4484	590	0.1620	9.4717	735	0.0059	0.3443
450	0.8636	50.4766	595	0.1525	8.9124	740	0.0040	0.2327
455	0.9857	57.6158	600	0.1431	8.3621	745	0.0034	0.1988
460	0.7111	41.5642	605	0.1333	7.7912	750	0.0056	0.3285
465	0.4551	26.6015	610	0.1232	7.1984	755	0.0036	0.2087
470	0.3185	18.6145	615	0.1146	6.6985	760	0.0011	0.0618
475	0.2062	12.0557	620	0.1060	6.1962	765	0.0017	0.0984
480	0.1346	7.8678	625	0.0960	5.6102	770	0.0009	0.0511
485	0.1029	6.0166	630	0.0875	5.1153	775	0.0022	0.1270
490	0.0905	5.2894	635	0.0796	4.6509	780	0.0017	0.0995
495	0.0923	5.3955	640	0.0716	4.1842	785	0.0011	0.0665
500	0.1092	6.3837	645	0.0641	3.7450	790	0.0001	0.0077
505	0.1382	8.0762	650	0.0579	3.3860	795	0.0014	0.0805
510	0.1705	9.9654	655	0.0513	3.0013	800	0.0018	0.1073
515	0.2019	11.8039	660	0.0455	2.6584			
520	0.2295	13.4137	665	0.0404	2.3593			

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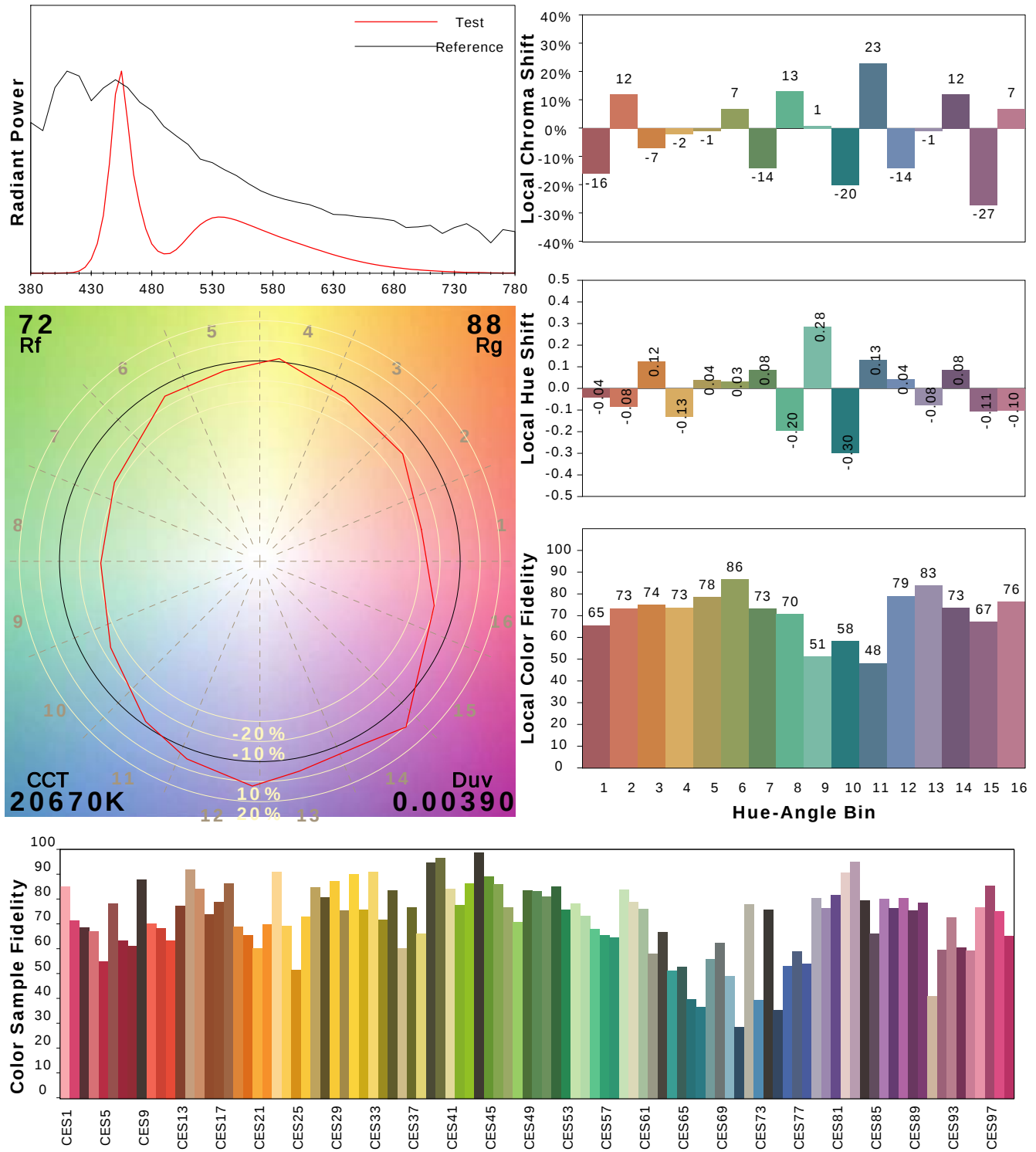
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IES TM-30-18 Color Rendition Report

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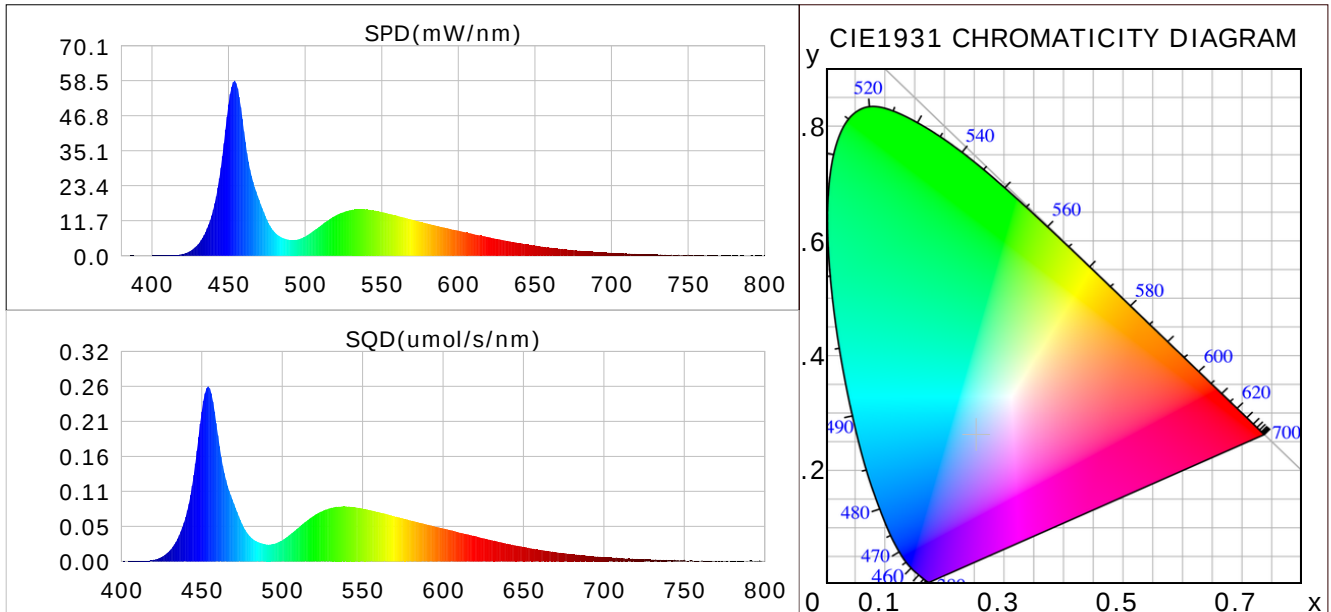
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Test Device: Lisun LMS-9000B
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 Inspector:

Plant optical param data

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 Dominant Wavelength: 478.6nm Color Purity: 0.341
 CRI: Ra= 77.0



Plant Optical Param

$\mu_v(lm): 839.20$	$Q_v(lm.s): 839.20$
$\mu_e, \dot{E}(W/nm): 3.10$	$Q_e(J): 3.10$
$\mu_e(W): 3.07$	$\mu_{fr}(W): 0.03$
$\dot{C}_e: 0.32$	$\dot{C}_{fr}: 0.00$
$PPE(umol/s/w): 1.40$	$K_{fr}: 0.02$
$Erb_Ratio: 0.26$	$PPF(umol/s): 13.24$
$PF_{uv}(360-400)(umol/s): 0.00$	$PPF(400-500)(umol/s): 5.63$
$PPF(500-600)(umol/s): 5.60$	$PPF(600-700)(umol/s): 2.01$
$PF_{fr}(700-800)(umol/s): 0.18$	$PPF.t(umol): 13.24$
$\mu_{ch-A.t}(J): 0.28$	$\mu_{ch-A}(W): 0.28$
$\mu_{ch-B.t}(J): 0.24$	$\mu_{ch-B}(W): 0.24$
$\mu_{b.t}(J): 1.47$	$\mu_b(W): 1.47$
$\mu_{y.t}(J): 1.23$	$\mu_y(W): 1.23$
$\mu_{r.t}(J): 0.39$	$\mu_r(W): 0.39$

Electric Parameters

Voltage: 230.90V	Current: 0.0400A	Power: 9.46W
Power Factor: 0.9760	Frequency: 49.99Hz	

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