

Lightsource Test Report

Product Information

Product Category: LED-Röhre
 Product Spec: LEDtube-150-8DWM-24W-TRF-RM
 Manufacturer: METOLIGHT
 Buyer: 6961 - 20881

Product Type: LEDtube-150-TRF
 Product Number: 1
 Submitted Unit: 102343

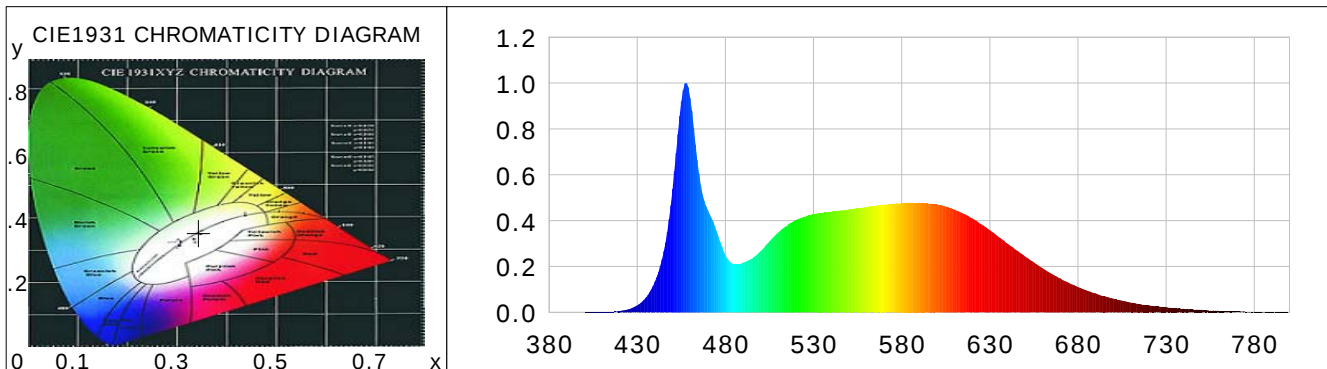
CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3434$ $y=0.3543$ $u(u')=0.2092$ $v=0.3238$ $v'=0.4857$
 CCT: $T_c=5074K$ ($duv=0.00203$) Color Ratio: $R=0.162$ $G=0.787$ $B=0.051$
 Peak Wavelength: 457.6nm Half Bandwidth: 18.1nm
 Dominant Wavelength: 569.6nm Color Purity: 0.094
 CRI: $R_a=85.7$, $avgR(1\sim14)=79.9$, $avgR(1\sim15)=80.0$ TM30: $R_f=83$, $R_g=93$
 GAI: $GAI_BB_8=91.9$, $GAI_BB_15=98.9$, $GAI_EES=81.4$

R1 =86	R2 =94	R3 =95	R4 =82	R5 =84	R6 =89	R7 =86	R8 =70
R9 =24	R10=83	R11=81	R12=58	R13=89	R14=98	R15=81	

Color Quality Scale: $Q_a=82.8$, $Q_f=83.0$, $Q_p=82.0$, $Q_g=91.9$

Q1 =81	Q2 =97	Q3 =81	Q4 =73	Q5 =77	Q6 =80	Q7 =86	Q8 =90
Q9 =98	Q10=91	Q11=86	Q12=85	Q13=85	Q14=76	Q15=79	



Photometric Parameters

Luminous Flux: 3629.5 lm	Efficiency: 146.00 lm/W	Radiant Power: 11.404 W
Total mains efficacy: 171.69 lm/W	Energy Efficiency Class: C (EU 2019/2015)	
Pupil Flux: 6332.54 Plm	Pupil Lumens Per Watt: 254.73 Plm/W	Pupil Factor (Kp): 1.745
Cirtpic Flux: 14137.69 lm		

Electric Parameters

Voltage: 230.40V	Current: 0.1140A	Power: 24.86W
Power Factor: 0.9380	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: 44889 (1985)	CCD Integration Time: 49.71 ms

Condition: Tx:14.5'C, Ti:0.0'C, R.H.:60%
 Test Lab:
 Operator: CRE

Test Device: Lisun LMS-9000B
 Test Time: 2021-01-08 09:36:57
 Inspector:

Lightsource Test Report

Product Information

Product Category: LED-Röhre
 Product Spec: LEDtube-150-8DWM-24W-TRF-RM
 Manufacturer: METOLIGHT
 Buyer: 6961 - 20881

Product Type: LEDtube-150-TRF
 Product Number: 1
 Submitted Unit: 102343

WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0001	0.0083	525	0.4142	48.5722	670	0.1480	17.3577
385	0.0002	0.0200	530	0.4278	50.1718	675	0.1283	15.0404
390	0.0003	0.0373	535	0.4342	50.9232	680	0.1110	13.0138
395	0.0001	0.0149	540	0.4385	51.4254	685	0.0953	11.1730
400	0.0007	0.0828	545	0.4440	52.0664	690	0.0824	9.6612
405	0.0010	0.1195	550	0.4488	52.6316	695	0.0706	8.2748
410	0.0019	0.2225	555	0.4542	53.2694	700	0.0602	7.0556
415	0.0028	0.3247	560	0.4598	53.9177	705	0.0512	6.0005
420	0.0061	0.7127	565	0.4653	54.5709	710	0.0425	4.9874
425	0.0139	1.6284	570	0.4700	55.1177	715	0.0368	4.3111
430	0.0304	3.5680	575	0.4740	55.5906	720	0.0312	3.6646
435	0.0651	7.6310	580	0.4764	55.8708	725	0.0255	2.9888
440	0.1337	15.6802	585	0.4777	56.0240	730	0.0225	2.6334
445	0.2662	31.2177	590	0.4777	56.0189	735	0.0183	2.1462
450	0.5380	63.0923	595	0.4754	55.7489	740	0.0158	1.8492
455	0.9196	107.8465	600	0.4708	55.2173	745	0.0127	1.4908
460	0.9347	109.6191	605	0.4618	54.1544	750	0.0118	1.3875
465	0.6056	71.0145	610	0.4478	52.5134	755	0.0070	0.8214
470	0.4467	52.3817	615	0.4312	50.5667	760	0.0056	0.6596
475	0.3537	41.4827	620	0.4102	48.1071	765	0.0045	0.5300
480	0.2506	29.3883	625	0.3845	45.0958	770	0.0038	0.4422
485	0.2096	24.5833	630	0.3578	41.9577	775	0.0024	0.2769
490	0.2164	25.3784	635	0.3282	38.4905	780	0.0013	0.1472
495	0.2339	27.4337	640	0.2999	35.1685	785	0.0041	0.4851
500	0.2673	31.3472	645	0.2709	31.7699	790	0.0017	0.1993
505	0.3093	36.2761	650	0.2436	28.5625	795	0.0021	0.2450
510	0.3486	40.8864	655	0.2178	25.5452	800	0.0004	0.0464
515	0.3783	44.3651	660	0.1920	22.5135			
520	0.4031	47.2680	665	0.1685	19.7611			

Condition: Tx:14.5'C, Ti:0.0'C, R.H.:60%
 Test Lab:
 Operator: CRE

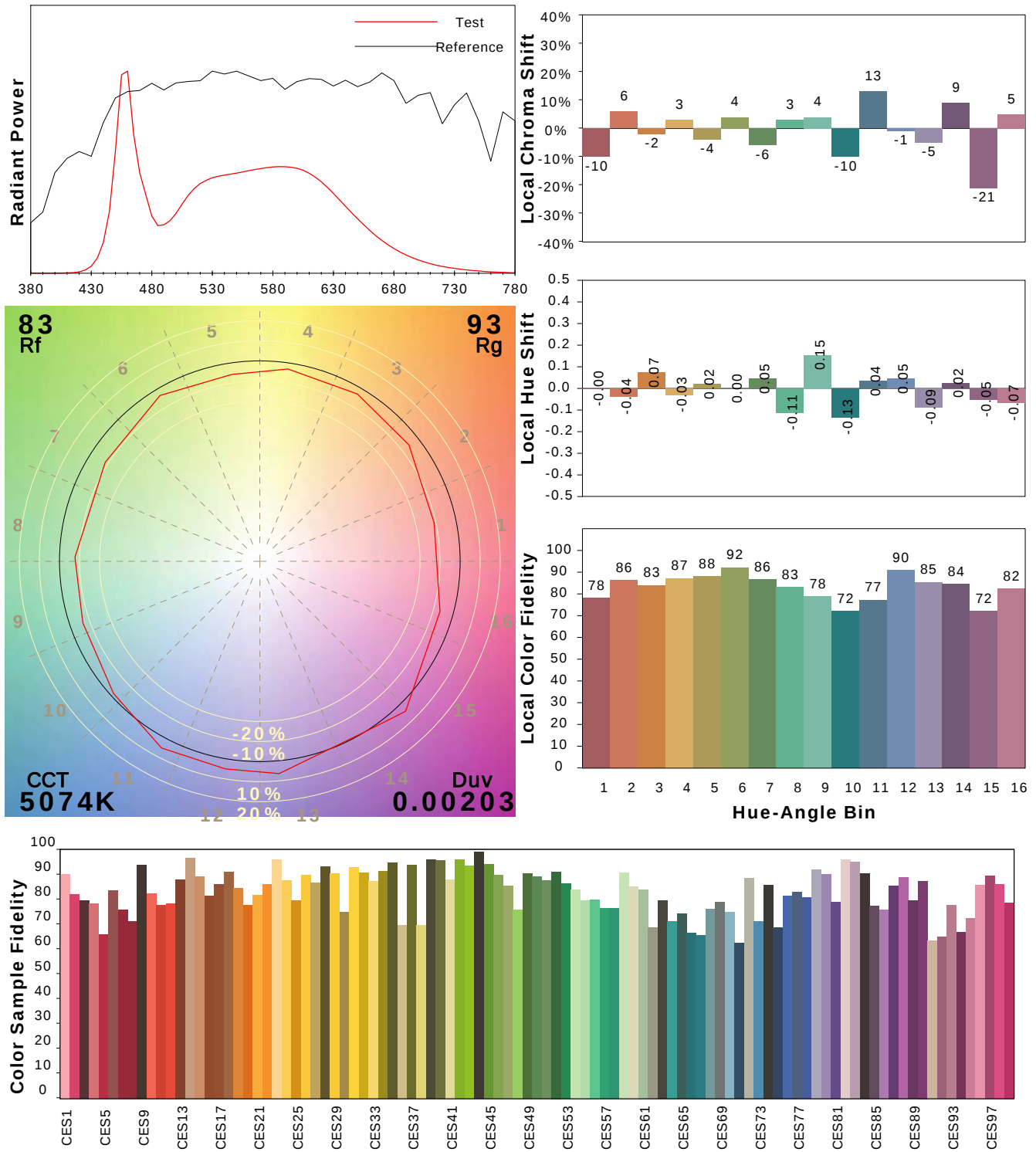
Test Device: Lisun LMS-9000B
 Test Time: 2021-01-08 09:36:57
 Inspector:

IES TM-30-18 Color Rendition Report

Product Information

Product Category: LED-Röhre
 Product Spec: LEDtube-150-8DWM-24W-TRF-RM
 Manufacturer: METOLIGHT
 Buyer: 6961 - 20881

Product Type: LEDtube-150-TRF
 Product Number: 1
 Submitted Unit: 102343



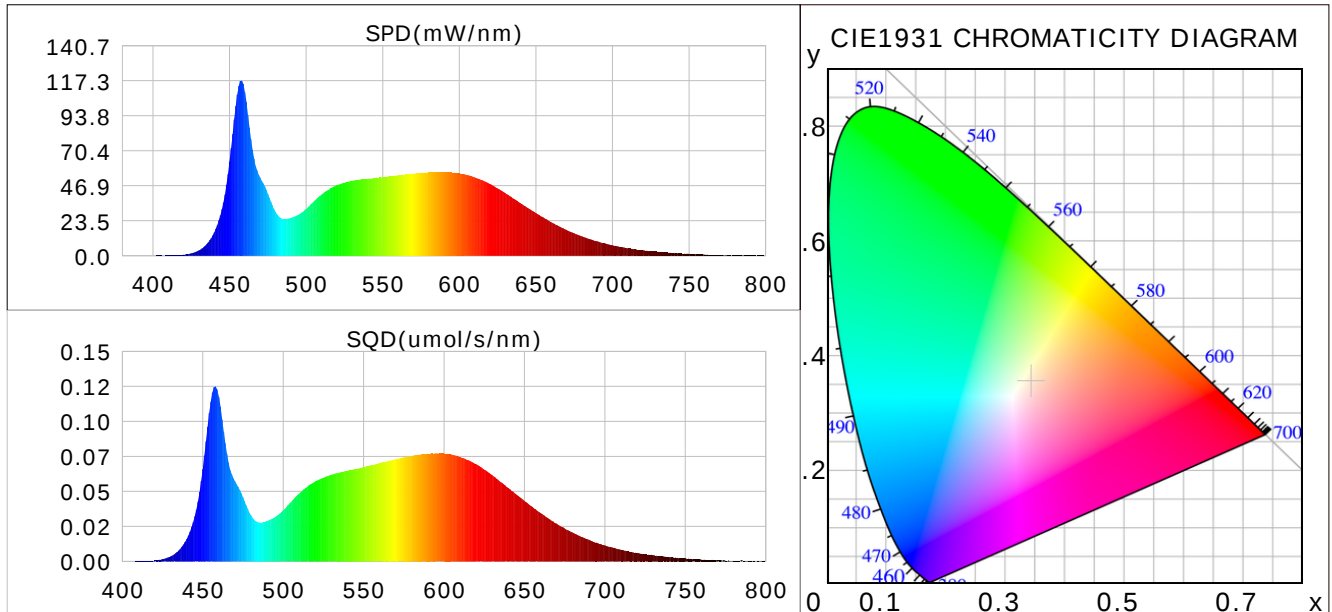
Condition: Tx:14.5°C, Ti:0.0°C, R.H.:60%
 Test Lab:
 Operator: CRE

Test Device: Lisun LMS-9000B
 Test Time: 2021-01-08 09:36:57
 Inspector:

Plant optical param data

CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3434$ $y=0.3543$ $u(u')=0.2092$ $v=0.3238$ $v'=0.4857$
 CCT: $T_c=5074K$ ($duv=0.00203$) Color Ratio: $R=0.162$ $G=0.787$ $B=0.051$
 Peak Wavelength: 457.6nm Half Bandwidth: 18.1nm
 Dominant Wavelength: 569.6nm Color Purity: 0.094
 CRI: Ra= 85.7



Plant Optical Param

$\mu_v(lm)$: 3629.50	$Q_v(lm.s)$: 3629.50
$\mu_e, \dot{E}(W/nm)$: 11.40	$Q_e(J)$: 11.40
$\mu_e(W)$: 11.22	$\mu_{fr}(W)$: 0.20
$\dot{C}_e$: 0.45	$\dot{C}_{fr}$: 0.01
$PPE(umol/s/w)$: 2.07	K_{fr} : 0.05
Erb_Ratio : 0.94	$PPF(umol/s)$: 51.58
$PF_{uv}(360-400)(umol/s)$: 0.00	$PPF(400-500)(umol/s)$: 12.26
$PPF(500-600)(umol/s)$: 23.52	$PPF(600-700)(umol/s)$: 15.80
$PF_{fr}(700-800)(umol/s)$: 1.15	$PPF.t(umol)$: 51.58
$\mu_{ch-A.t}(J)$: 0.83	$\mu_{ch-A}(W)$: 0.83
$\mu_{ch-B.t}(J)$: 0.63	$\mu_{ch-B}(W)$: 0.63
$\mu_{b.t}(J)$: 3.16	$\mu_b(W)$: 3.16
$\mu_{y.t}(J)$: 5.12	$\mu_y(W)$: 5.12
$\mu_{r.t}(J)$: 3.03	$\mu_r(W)$: 3.03

Electric Parameters

Voltage: 230.40V	Current: 0.1140A	Power: 24.86W
Power Factor: 0.9380	Frequency: 49.99Hz	

Condition: Tx:14.5'C, Ti:0.0'C, R.H.:60%
 Test Lab:
 Operator: CRE

Test Device: Lisun LMS-9000B
 Test Time: 2021-01-08 09:36:57
 Inspector: