

Lightsource Test Report

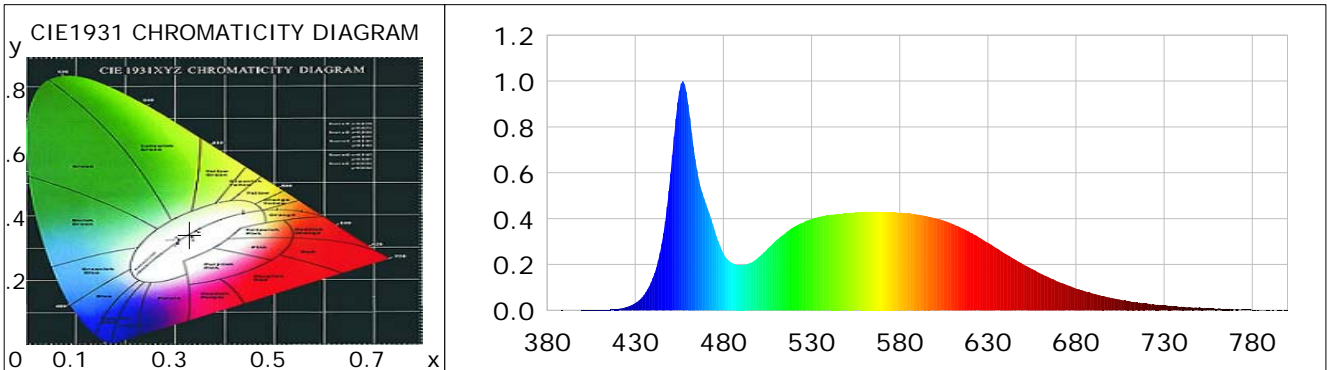
Product Information

Product Category: LED-Röhre
 Product Spec: LEDtube-150-8CWM-30W-SCE-RM
 Manufacturer: METOLIGHT
 Buyer: 2105

Product Type: LED-Röhre-SCE
 Product Number: 1
 Submitted Unit: 101102

CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3291$ $y=0.3424$ $u(u')=0.2041$ $v=0.3185$ $v'=0.4777$
 CCT: $T_c=5648K$ ($duv=0.00216$) Color Ratio: $R=0.149$ $G=0.795$ $B=0.055$
 Peak Wavelength: 456.9nm Half Bandwidth: 19.8nm
 Dominant Wavelength: 523.8nm Color Purity: 0.018
 CRI: $R_a=84.4$, $avgR(1\sim14)=77.9$, $avgR(1\sim15)=78.1$ TM30: $R_f=81$, $R_g=92$
 GAI: $GAI_BB_8=90.4$, $GAI_BB_15=97.4$, $GAI_EES=84.1$
 R1 =84 R2 =93 R3 =94 R4 =80 R5 =82 R6 =86 R7 =86 R8 =71
 R9 =21 R10=79 R11=78 R12=54 R13=87 R14=97 R15=81
 Color Quality Scale: $Q_a=80.7$, $Q_f=80.8$, $Q_p=80.1$, $Q_g=90.9$
 Q1 =81 Q2 =97 Q3 =78 Q4 =68 Q5 =73 Q6 =76 Q7 =84 Q8 =89
 Q9 =97 Q10=89 Q11=84 Q12=83 Q13=83 Q14=75 Q15=78



Photometric Parameters

Luminous Flux: 3839.0 lm Efficiency: 135.18 lm/W Radiant Power: 12.252 W
 Total mains efficacy: 158.97 lm/W Energy Efficiency Class: D (EU 2019/2015)
 Pupil Flux: 6950.20 Plm Pupil Lumens Per Watt: 244.73 Plm/W Pupil Factor (Kp): 1.810
 Circopic Flux: 15865.47 lm

Electric Parameters

Voltage: 230.70V Current: 0.1250A Power: 28.40W
 Power Factor: 0.9780 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: 45737 (2520) CCD Integration Time: 46.89 ms

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0006	0.0812	525	0.3814	52.2532	670	0.1252	17.1529
385	0.0003	0.0429	530	0.3984	54.5807	675	0.1100	15.0695
390	0.0005	0.0650	535	0.4083	55.9448	680	0.0956	13.0964
395	0.0004	0.0552	540	0.4144	56.7780	685	0.0833	11.4191
400	0.0010	0.1355	545	0.4201	57.5545	690	0.0720	9.8678
405	0.0010	0.1347	550	0.4234	58.0159	695	0.0628	8.6073
410	0.0019	0.2654	555	0.4275	58.5731	700	0.0547	7.4879
415	0.0031	0.4230	560	0.4302	58.9395	705	0.0474	6.4995
420	0.0069	0.9469	565	0.4306	59.0019	710	0.0407	5.5780
425	0.0148	2.0237	570	0.4300	58.9146	715	0.0344	4.7115
430	0.0317	4.3485	575	0.4291	58.7969	720	0.0304	4.1609
435	0.0673	9.2265	580	0.4257	58.3216	725	0.0251	3.4362
440	0.1410	19.3219	585	0.4224	57.8721	730	0.0216	2.9546
445	0.2915	39.9418	590	0.4177	57.2305	735	0.0181	2.4768
450	0.5965	81.7269	595	0.4118	56.4223	740	0.0165	2.2675
455	0.9562	131.0130	600	0.4027	55.1767	745	0.0135	1.8461
460	0.8984	123.0936	605	0.3917	53.6703	750	0.0146	1.9976
465	0.6129	83.9758	610	0.3767	51.6096	755	0.0086	1.1746
470	0.4664	63.9098	615	0.3589	49.1696	760	0.0069	0.9445
475	0.3493	47.8594	620	0.3400	46.5787	765	0.0068	0.9294
480	0.2486	34.0618	625	0.3176	43.5106	770	0.0035	0.4855
485	0.2062	28.2556	630	0.2947	40.3825	775	0.0036	0.4958
490	0.1977	27.0813	635	0.2707	37.0933	780	0.0027	0.3676
495	0.2060	28.2215	640	0.2464	33.7569	785	0.0036	0.4908
500	0.2318	31.7560	645	0.2235	30.6288	790	0.0013	0.1789
505	0.2681	36.7312	650	0.2010	27.5399	795	0.0014	0.1934
510	0.3051	41.8065	655	0.1807	24.7547	800	0.0010	0.1434
515	0.3356	45.9804	660	0.1605	21.9966			
520	0.3643	49.9179	665	0.1420	19.4581			

Condition: Tx:21.8'C, Ti:0.0'C, R.H.:60%
 Test Lab:
 Operator: CRE

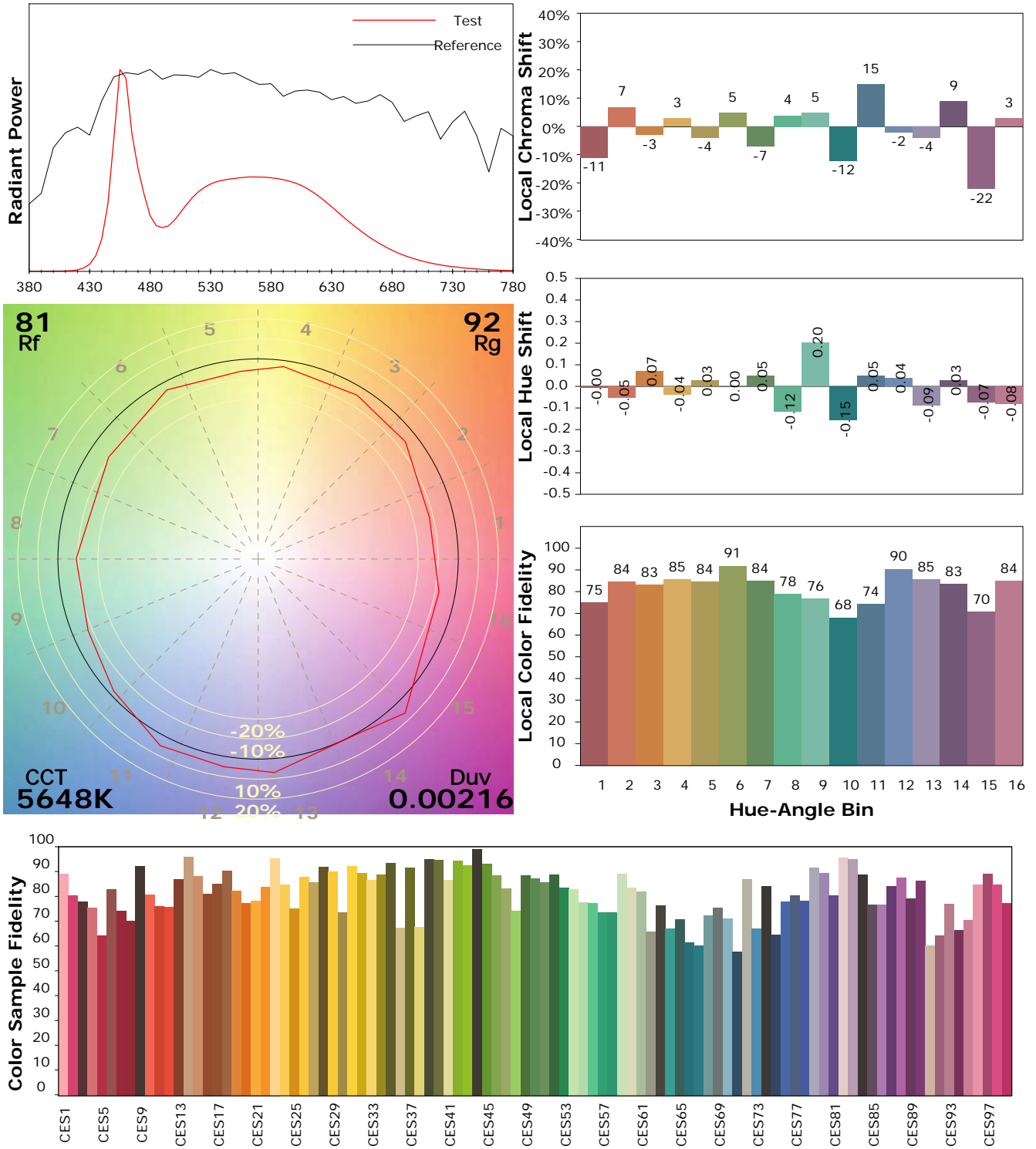
Test Device: Lisun LMS-9000B
 Test Time: 2021-02-17 15:12:58
 Inspector:

IES TM-30-18 Color Rendition Report

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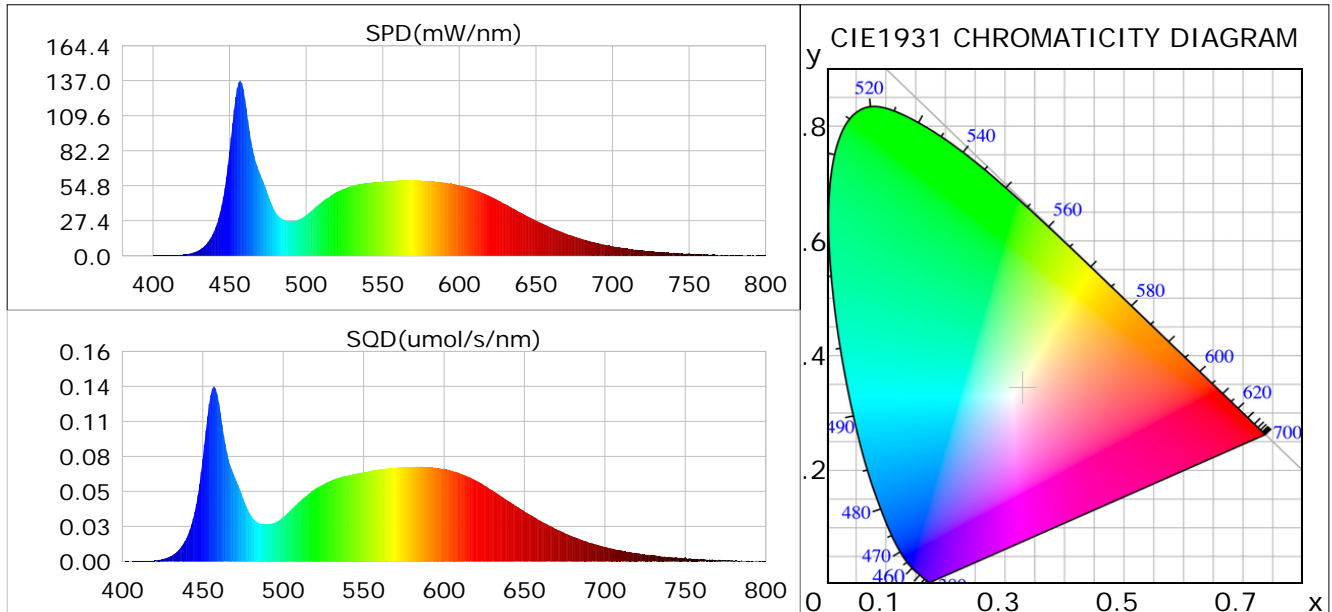
Condition: Tx:21.8°C, Ti:0.0°C, R.H.:60%
 Test Lab:
 Operator: CRE

Test Device: Lisun LMS-9000B
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 Inspector:

Plant optical param data

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 CCT: $T_c=5648K$ ($duv=0.00216$) Color Ratio: $R=0.149$ $G=0.795$ $B=0.055$
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 Dominant Wavelength: 523.8nm Color Purity: 0.018
 CRI: $R_a=84.4$



Plant Optical Param

$ \mu_v(lm): 3839.00$	$Q_v(lm.s): 3839.00$
$ \mu_e, \dot{E}(W/nm): 12.25$	$Q_e(J): 12.25$
$ \mu_e(W): 12.04$	$ \mu_{fr}(W): 0.23$
$ \zeta_e: 0.42$	$ \zeta_{fr}: 0.01$
$PPE(umol/s/w): 1.93$	$K_{fr}: 0.05$
$Erb_Ratio: 0.78$	$PPF(umol/s): 54.88$
$PF_{uv}(360-400)(umol/s): 0.01$	$PPF(400-500)(umol/s): 14.43$
$PPF(500-600)(umol/s): 24.98$	$PPF(600-700)(umol/s): 15.47$
$PPF_r(700-800)(umol/s): 1.33$	$PPF.t(umol): 54.88$
$ \mu_{ch-A.t}(J): 0.90$	$ \mu_{ch-A}(W): 0.90$
$ \mu_{ch-B.t}(J): 0.71$	$ \mu_{ch-B}(W): 0.71$
$ \mu_b.t(J): 3.72$	$ \mu_b(W): 3.72$
$ \mu_y.t(J): 5.43$	$ \mu_y(W): 5.43$
$ \mu_r.t(J): 2.97$	$ \mu_r(W): 2.97$

Electric Parameters

Voltage: 230.70V	Current: 0.1250A	Power: 28.40W
Power Factor: 0.9780	Frequency: 49.99Hz	

Condition: $T_x: 21.8^\circ C$, $T_i: 0.0^\circ C$, R.H.: 60%
 Test Lab:
 Operator: CRE

Test Device: Lisun LMS-9000B
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