

Lightsource Test Report

Product Information

Product Category: LED-Röhre
 Product Spec: LEDtube-120-8Meat-RBW-20WM
 Manufacturer: METOLIGHT
 Buyer: 7116

Product Type: LED-Röhre-Spezial
 Product Number: 1
 Submitted Unit: 101077

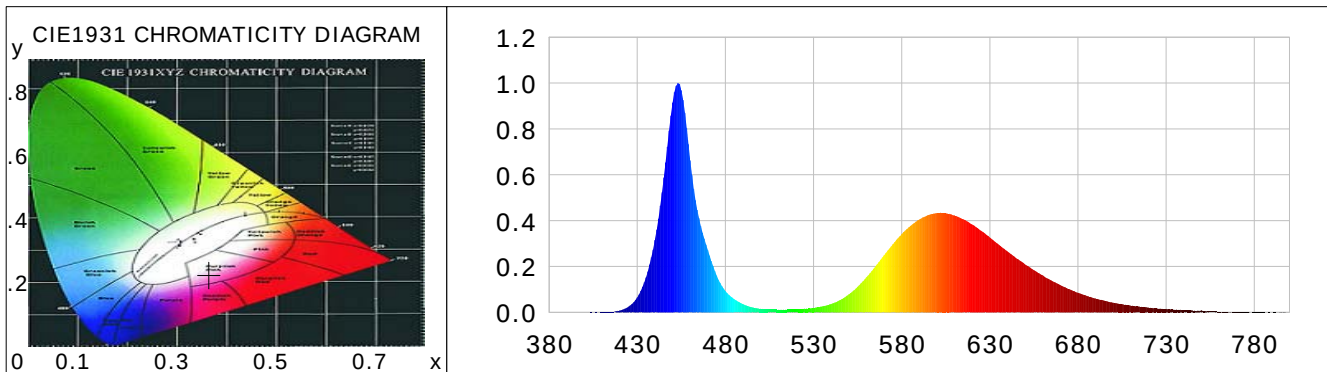
CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3647$ $y=0.2227$ $u(u')=0.2951$ $v=0.2703$ $v'=0.4055$
 CCT: $T_c=2387K$ ($duv=-0.08670$) Color Ratio: $R=0.326$ $G=0.611$ $B=0.063$
 Peak Wavelength: 453.2nm Half Bandwidth: 19.2nm
 Dominant Wavelength: 0.0nm Color Purity: 0.000
 CRI: $R_a=37.6$, $avgR(1\sim14)=34.0$, $avgR(1\sim15)=37.7$ TM30: $R_f=44$, $R_g=95$
 GAI: $GAI_BB_8=259.1$, $GAI_BB_15=211.5$, $GAI_EES=99.2$

R1 = 75	R2 = 68	R3 = 13	R4 = 8	R5 = 82	R6 = 38	R7 = 9	R8 = 7
R9 = 0	R10 = 32	R11 = 0	R12 = 0	R13 = 89	R14 = 54	R15 = 88	

Color Quality Scale: $Q_a=33.9$, $Q_f=13.0$, $Q_p=78.8$, $Q_g=100.3$

Q1 = 66	Q2 = 82	Q3 = 21	Q4 = 5	Q5 = 21	Q6 = 35	Q7 = 46	Q8 = 56
Q9 = 93	Q10 = 52	Q11 = 25	Q12 = 9	Q13 = 9	Q14 = 47	Q15 = 59	



Photometric Parameters

Luminous Flux: 1521.2 lm Efficiency: 90.33 lm/W Radiant Power: 6.759 W
 Total mains efficacy: 106.23 lm/W Energy Efficiency Class: F (EU 2019/2015)
 Pupil Flux: 2424.74 Plm Pupil Lumens Per Watt: 143.99 Plm/W Pupil Factor (K_p): 1.594
 Cirtopic Flux: 6187.13 lm

Electric Parameters

Voltage: 230.50V Current: 0.0770A Power: 16.84W
 Power Factor: 0.9450 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: 49920 (2191) CCD Integration Time: 88.10 ms

Condition: Tx:17.6'C, Ti:0.0'C, R.H.:60%
 Test Lab:
 Operator: CRE

Test Device: Lisun LMS-9000B
 Test Time: 2021-01-18 14:32:09
 Inspector:

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0009	0.0929	525	0.0162	1.7418	670	0.1187	12.7512
385	0.0002	0.0247	530	0.0195	2.0886	675	0.1013	10.8781
390	0.0007	0.0774	535	0.0263	2.8294	680	0.0853	9.1591
395	0.0003	0.0323	540	0.0365	3.9177	685	0.0713	7.6587
400	0.0005	0.0588	545	0.0535	5.7443	690	0.0600	6.4477
405	0.0006	0.0676	550	0.0784	8.4171	695	0.0510	5.4716
410	0.0013	0.1360	555	0.1113	11.9514	700	0.0421	4.5176
415	0.0032	0.3433	560	0.1529	16.4228	705	0.0359	3.8574
420	0.0082	0.8826	565	0.1997	21.4466	710	0.0291	3.1266
425	0.0244	2.6244	570	0.2495	26.7917	715	0.0249	2.6759
430	0.0651	6.9929	575	0.2980	31.9943	720	0.0207	2.2183
435	0.1526	16.3868	580	0.3415	36.6745	725	0.0172	1.8426
440	0.3151	33.8382	585	0.3774	40.5309	730	0.0152	1.6317
445	0.5883	63.1688	590	0.4053	43.5167	735	0.0117	1.2608
450	0.9146	98.2109	595	0.4248	45.6153	740	0.0094	1.0069
455	0.9688	104.0308	600	0.4330	46.5006	745	0.0079	0.8528
460	0.6626	71.1506	605	0.4327	46.4646	750	0.0086	0.9278
465	0.4111	44.1425	610	0.4225	45.3667	755	0.0041	0.4385
470	0.2719	29.1966	615	0.4060	43.5940	760	0.0032	0.3386
475	0.1610	17.2891	620	0.3835	41.1819	765	0.0027	0.2863
480	0.0931	9.9963	625	0.3557	38.1970	770	0.0019	0.1990
485	0.0578	6.2112	630	0.3262	35.0329	775	0.0008	0.0849
490	0.0360	3.8650	635	0.2954	31.7253	780	0.0017	0.1817
495	0.0224	2.4086	640	0.2657	28.5334	785	0.0016	0.1754
500	0.0160	1.7139	645	0.2356	25.2976	790	0.0007	0.0702
505	0.0127	1.3641	650	0.2094	22.4880	795	0.0029	0.3119
510	0.0118	1.2637	655	0.1839	19.7512	800	0.0013	0.1396
515	0.0120	1.2892	660	0.1613	17.3247			
520	0.0131	1.4086	665	0.1383	14.8464			

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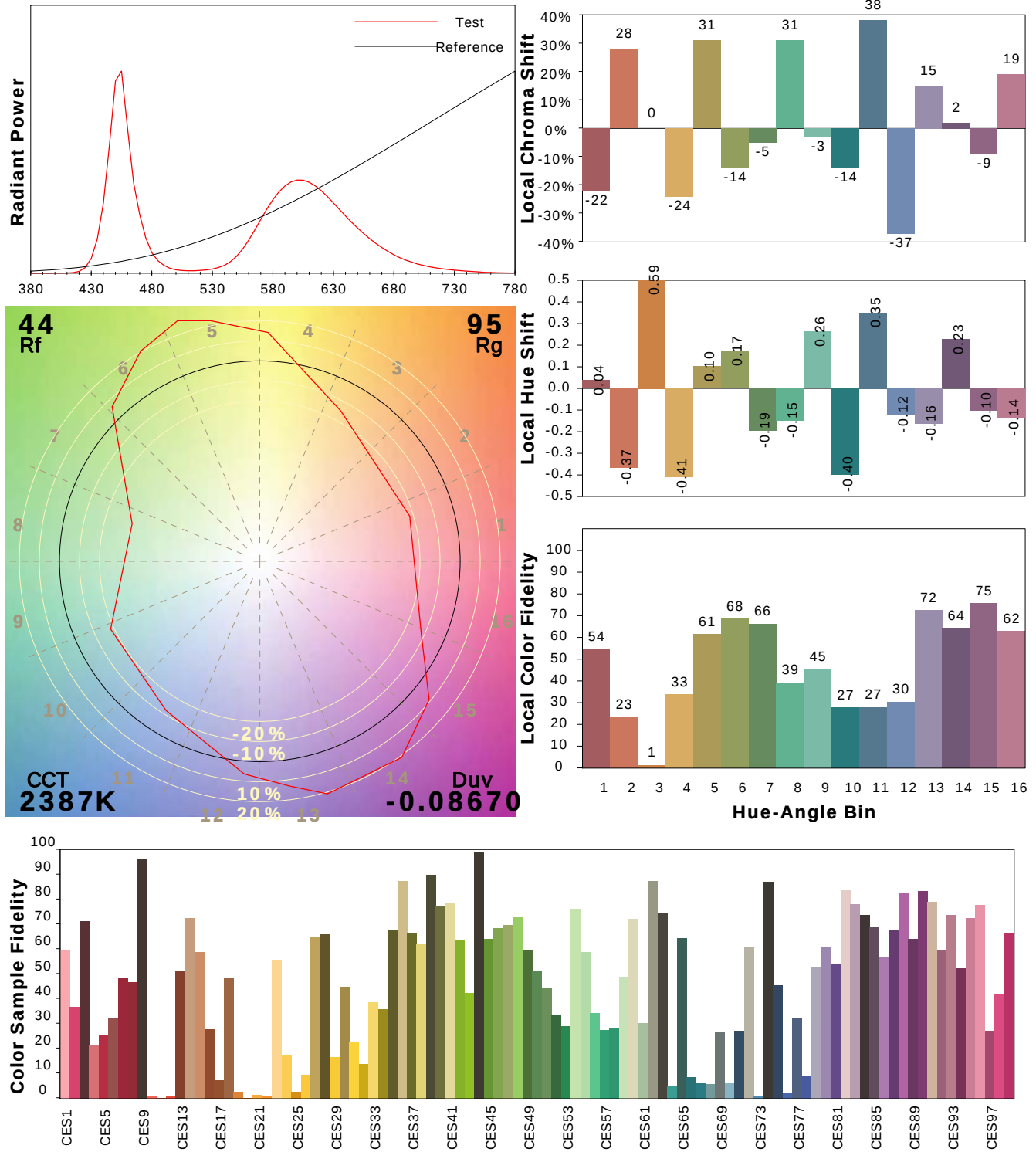
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IES TM-30-18 Color Rendition Report

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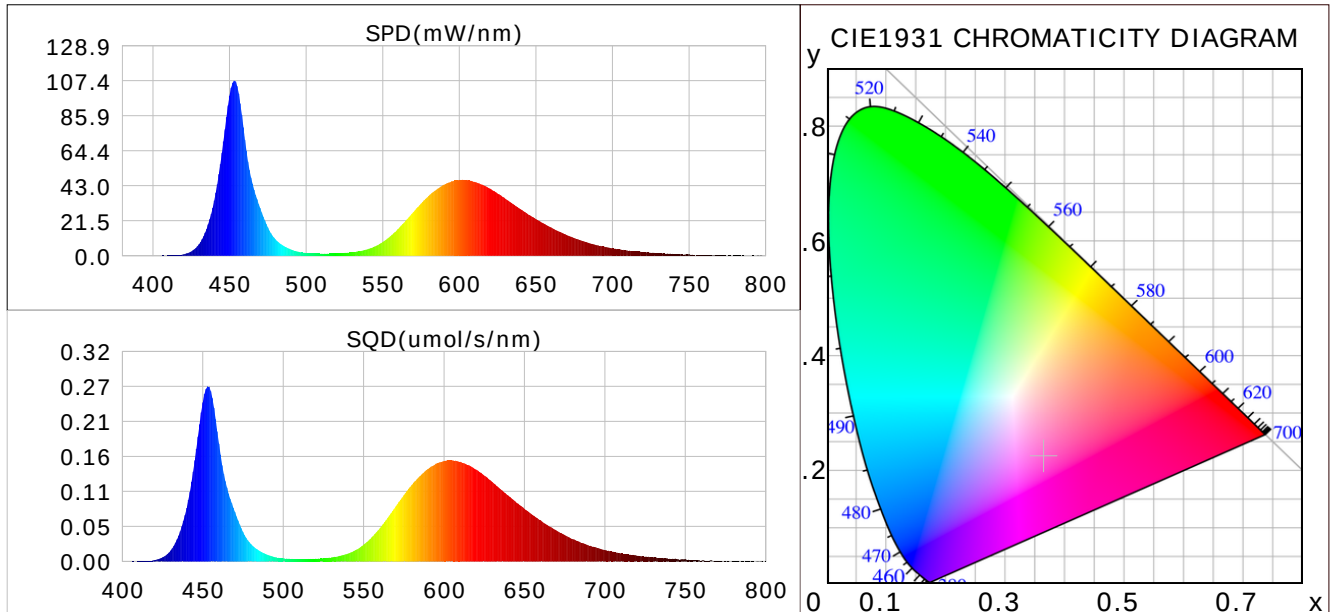
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Plant optical param data

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 CRI: Ra= 37.6



Plant Optical Param

$\mu_v(lm)$: 1521.20	$Q_v(lm.s)$: 1521.20
$\mu_e, \dot{E}(W/nm)$: 6.76	$Q_e(J)$: 6.76
$\mu_e(W)$: 6.64	$\mu_{fr}(W)$: 0.12
$\dot{C}_e$: 0.39	$\dot{C}_{fr}$: 0.01
$PPE(umol/s/w)$: 1.82	K_{fr} : 0.04
Erb_Ratio : 0.95	$PPF(umol/s)$: 30.59
$PF_{uv}(360-400)(umol/s)$: 0.00	$PPF(400-500)(umol/s)$: 9.73
$PPF(500-600)(umol/s)$: 8.05	$PPF(600-700)(umol/s)$: 12.81
$PF_{fr}(700-800)(umol/s)$: 0.70	$PPF.t(umol)$: 30.59
$\mu_{ch-A.t}(J)$: 0.71	$\mu_{ch-A}(W)$: 0.71
$\mu_{ch-B.t}(J)$: 0.49	$\mu_{ch-B}(W)$: 0.49
$\mu_b.t(J)$: 2.56	$\mu_b(W)$: 2.56
$\mu_y.t(J)$: 1.67	$\mu_y(W)$: 1.67
$\mu_r.t(J)$: 2.47	$\mu_r(W)$: 2.47

Electric Parameters

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Power Factor: 0.9450	Frequency: 49.99Hz	

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