

Lightsource Test Report

Product Information

Product Category: LED-Röhre
 Product Spec: LEDtube-090-8Sea-15WM
 Manufacturer: METOLIGHT
 Buyer: 7116

Product Type: LED-Röhre-Spezial
 Product Number: 1
 Submitted Unit: 105193

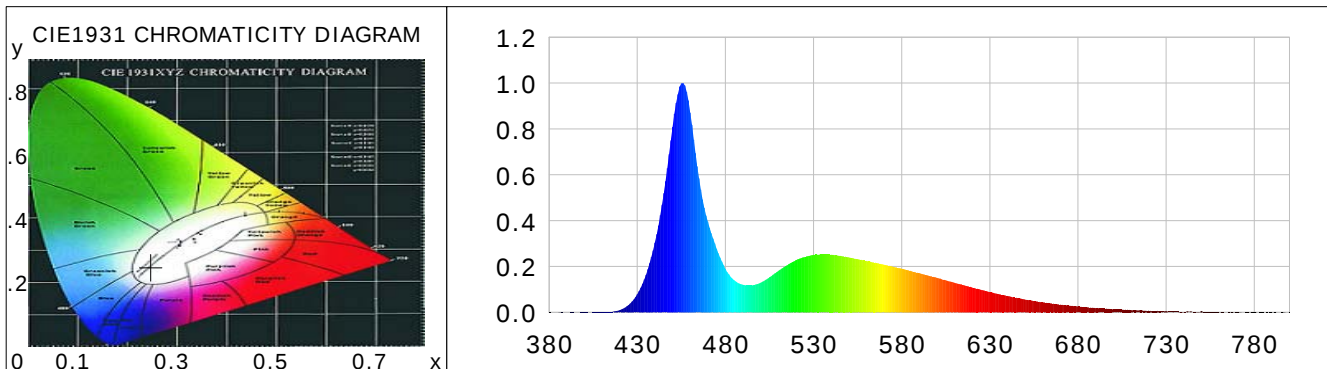
CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.2472$ $y=0.2471$ $u(u')=0.1807$ $v=0.2710$ $v'=0.4065$
 CCT: $T_c=35800K$ ($duv=0.00124$) Color Ratio: $R=0.095$ $G=0.814$ $B=0.091$
 Peak Wavelength: 455.6nm Half Bandwidth: 22.2nm
 Dominant Wavelength: 485.7nm Color Purity: 0.374
 CRI: $R_a=79.9$, $avgR(1\sim14)=71.1$, $avgR(1\sim15)=71.7$ TM30: $R_f=74$, $R_g=88$
 GAI: $GAI_BB_8=84.7$, $GAI_BB_15=89.6$, $GAI_EES=92.1$

R1 =80	R2 =88	R3 =81	R4 =74	R5 =77	R6 =77	R7 =88	R8 =74
R9 =9	R10=63	R11=72	R12=38	R13=85	R14=90	R15=79	

Color Quality Scale: $Q_a=73.4$, $Q_f=71.4$, $Q_p=77.3$, $Q_g=86.4$

Q1 =80	Q2 =98	Q3 =76	Q4 =55	Q5 =58	Q6 =63	Q7 =79	Q8 =88
Q9 =92	Q10=82	Q11=72	Q12=73	Q13=76	Q14=70	Q15=76	



Photometric Parameters

Luminous Flux: 1350.9 lm	Efficiency: 80.41 lm/W	Radiant Power: 5.225 W
Total mains efficacy: 94.56 lm/W	Energy Efficiency Class: F (EU 2019/2015)	
Pupil Flux: 3277.35 Plm	Pupil Lumens Per Watt: 195.08 Plm/W	Pupil Factor (Kp): 2.426
Cirtpic Flux: 8766.15 lm		

Electric Parameters

Voltage: 230.70V	Current: 0.0780A	Power: 16.80W
Power Factor: 0.9270	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: 46074 (2490)	CCD Integration Time: 69.92 ms

Condition: Tx:21.6'C, Ti:0.0'C, R.H.:60%
 Test Lab:
 Operator: CRE

Test Device: Lisun LMS-9000B
 Test Time: 2021-01-13 14:10:09
 Inspector:

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0010	0.0931	525	0.2410	22.3806	670	0.0336	3.1206
385	0.0009	0.0881	530	0.2507	23.2747	675	0.0300	2.7811
390	0.0006	0.0516	535	0.2532	23.5130	680	0.0253	2.3500
395	0.0006	0.0541	540	0.2517	23.3680	685	0.0226	2.1016
400	0.0007	0.0665	545	0.2465	22.8864	690	0.0188	1.7423
405	0.0007	0.0695	550	0.2397	22.2540	695	0.0168	1.5571
410	0.0011	0.1017	555	0.2320	21.5417	700	0.0127	1.1794
415	0.0029	0.2709	560	0.2243	20.8241	705	0.0122	1.1291
420	0.0098	0.9055	565	0.2166	20.1084	710	0.0102	0.9464
425	0.0319	2.9630	570	0.2074	19.2573	715	0.0095	0.8832
430	0.0791	7.3472	575	0.1990	18.4806	720	0.0073	0.6758
435	0.1640	15.2273	580	0.1905	17.6842	725	0.0064	0.5899
440	0.3043	28.2545	585	0.1810	16.8063	730	0.0057	0.5278
445	0.5198	48.2634	590	0.1714	15.9168	735	0.0036	0.3311
450	0.8086	75.0769	595	0.1609	14.9386	740	0.0032	0.2933
455	0.9983	92.6942	600	0.1506	13.9811	745	0.0021	0.1930
460	0.8715	80.9157	605	0.1398	12.9817	750	0.0058	0.5419
465	0.5847	54.2923	610	0.1291	11.9862	755	0.0018	0.1697
470	0.3963	36.7920	615	0.1190	11.0476	760	0.0011	0.1002
475	0.2776	25.7777	620	0.1087	10.0903	765	0.0013	0.1211
480	0.1899	17.6325	625	0.0982	9.1136	770	0.0016	0.1510
485	0.1400	12.9991	630	0.0885	8.2205	775	0.0008	0.0769
490	0.1202	11.1641	635	0.0798	7.4112	780	0.0016	0.1484
495	0.1173	10.8905	640	0.0712	6.6144	785	0.0019	0.1787
500	0.1296	12.0300	645	0.0636	5.9013	790	0.0011	0.1032
505	0.1535	14.2481	650	0.0563	5.2283	795	0.0009	0.0857
510	0.1809	16.7923	655	0.0495	4.5984	800	0.0015	0.1431
515	0.2054	19.0706	660	0.0442	4.0995			
520	0.2277	21.1368	665	0.0389	3.6141			

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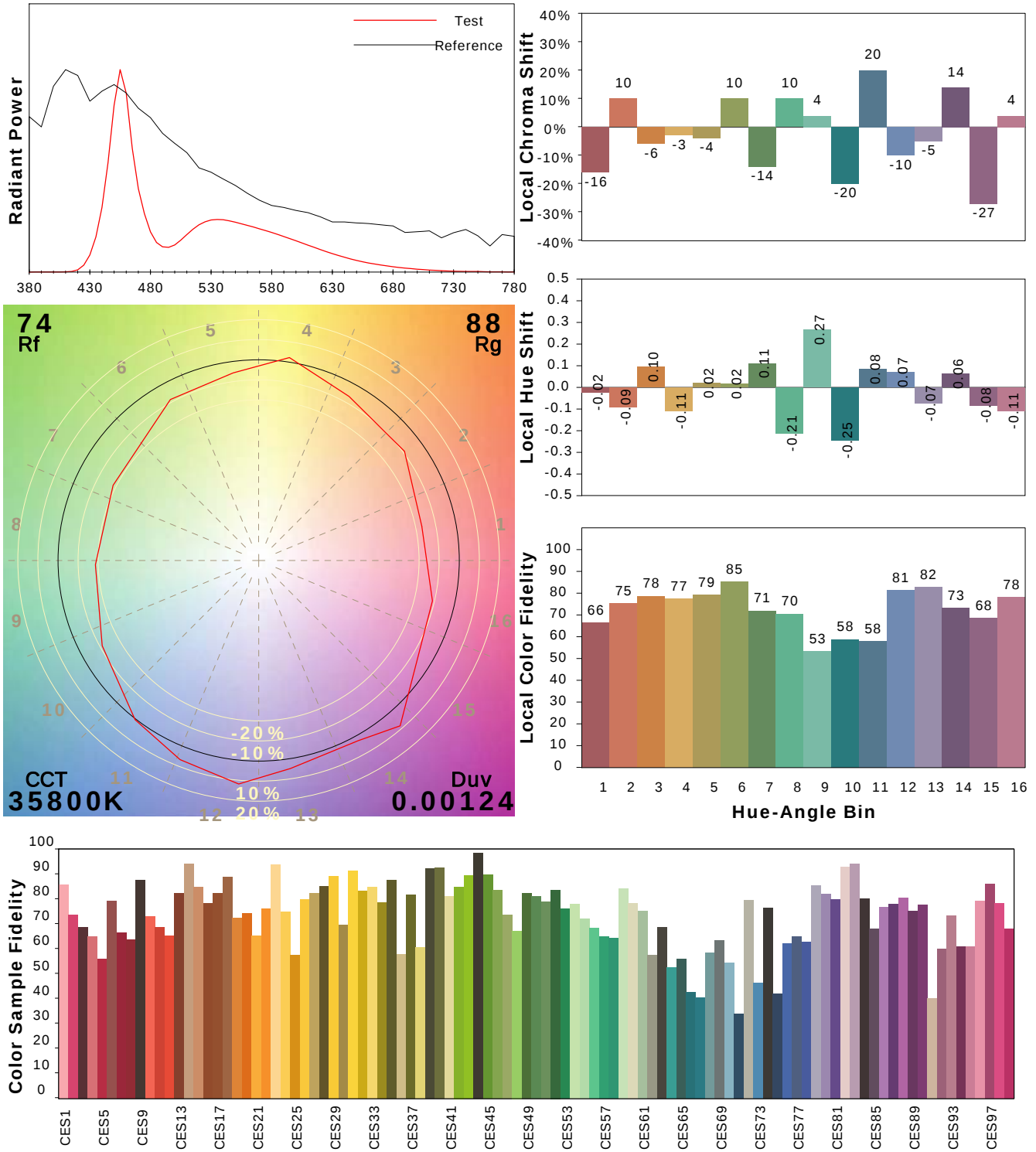
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IES TM-30-18 Color Rendition Report

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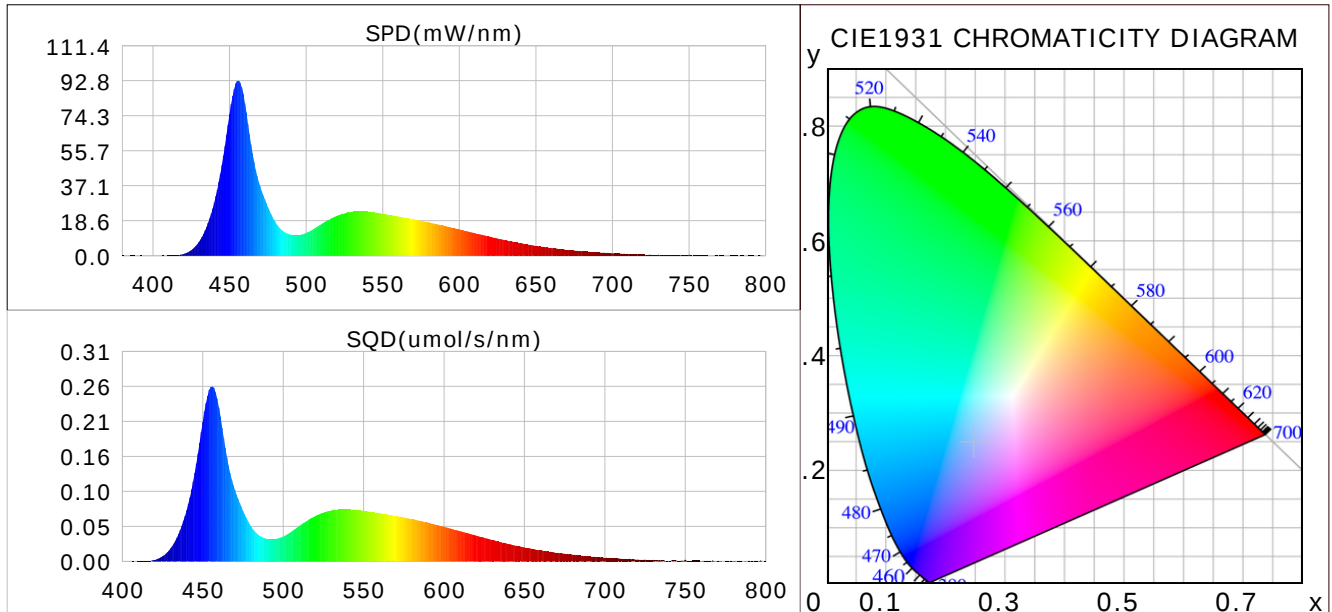
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Plant optical param data

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 CRI: Ra= 79.9



Plant Optical Param

$\int \mu_v(lm): 1350.90$	$Q_v(lm.s): 1350.90$
$\int \mu_e, \int \ddot{E}(W/nm): 5.22$	$Q_e(J): 5.22$
$\int \mu_e(W): 5.19$	$\int \mu_{fr}(W): 0.04$
$\int \dot{C}_e: 0.31$	$\int \dot{C}_{fr}: 0.00$
$PPE(umol/s/w): 1.32$	$K_{fr}: 0.01$
$Erb_Ratio: 0.23$	$PPF(umol/s): 22.25$
$PF_{uv}(360-400)(umol/s): 0.01$	$PPF(400-500)(umol/s): 10.14$
$PPF(500-600)(umol/s): 8.91$	$PPF(600-700)(umol/s): 3.20$
$PF_{fr}(700-800)(umol/s): 0.23$	$PPF.t(umol): 22.25$
$\int \mu_{ch-A.t}(J): 0.48$	$\int \mu_{ch-A}(W): 0.48$
$\int \mu_{ch-B.t}(J): 0.43$	$\int \mu_{ch-B}(W): 0.43$
$\int \mu_b.t(J): 2.64$	$\int \mu_b(W): 2.64$
$\int \mu_y.t(J): 1.95$	$\int \mu_y(W): 1.95$
$\int \mu_r.t(J): 0.62$	$\int \mu_r(W): 0.62$

Electric Parameters

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