

Lightsource Test Report

Product Information

Product Category: LED-Röhre
 Product Spec: LEDtube-090-8WWM-14W-SCE-24
 Manufacturer: METOLIGHT
 Buyer: 4624

Product Type: LED-Röhre-Spezial
 Product Number: 1
 Submitted Unit: 105107

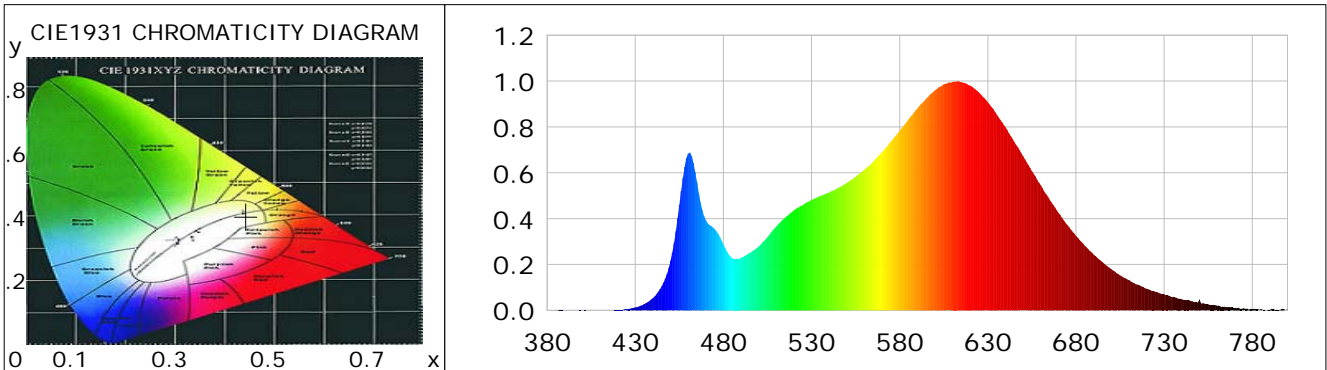
CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.4430$ $y=0.3999$ $u(u')=0.2564$ $v=0.3471$ $v'=0.5207$
 CCT: $T_c=2865K$ ($duv=-0.00243$) Color Ratio: $R=0.250$ $G=0.719$ $B=0.031$
 Peak Wavelength: 612.9nm Half Bandwidth: 128.1nm
 Dominant Wavelength: 584.3nm Color Purity: 0.530
 CRI: $R_a=87.5$, $avgR(1\sim14)=84.3$, $avgR(1\sim15)=84.2$ TM30: $R_f=85$, $R_g=94$
 GAI: $GAI_BB_8=100.0$, $GAI_BB_15=109.6$, $GAI_EES=53.6$

R1 =89	R2 =98	R3 =93	R4 =85	R5 =89	R6 =95	R7 =82	R8 =68
R9 =34	R10=95	R11=86	R12=76	R13=92	R14=98	R15=83	

Color Quality Scale: $Q_a=86.0$, $Q_f=87.6$, $Q_p=88.1$, $Q_g=92.5$

Q1 =81	Q2 =93	Q3 =88	Q4 =82	Q5 =82	Q6 =85	Q7 =88	Q8 =89
Q9 =95	Q10=94	Q11=91	Q12=88	Q13=87	Q14=80	Q15=81	



Photometric Parameters

Luminous Flux: 1560.7 lm Efficiency: 116.04 lm/W Radiant Power: 4.998 W
 Total mains efficacy: 136.46 lm/W Energy Efficiency Class: D (EU 2019/2015)
 Pupil Flux: 2013.36 Plm Pupil Lumens Per Watt: 149.69 Plm/W Pupil Factor (Kp): 1.290
 Circopic Flux: 3827.32 lm

Electric Parameters

Voltage: 24.010V Current: 0.6440A Power: 13.45W
 Power Factor: 0.7310 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: 46189 (2557) CCD Integration Time: 191.03 ms

Condition: Tx:21.3'C, Ti:0.0'C, R.H.:60%
 Test Lab:
 Operator: CRE

Test Device: Lisun LMS-9000B
 Test Time: 2021-02-15 15:40:02
 Inspector:

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0004	0.0127	525	0.4588	15.3721	670	0.4264	14.2869
385	0.0004	0.0139	530	0.4814	16.1313	675	0.3732	12.5039
390	0.0005	0.0168	535	0.4982	16.6938	680	0.3250	10.8888
395	0.0002	0.0055	540	0.5140	17.2230	685	0.2810	9.4168
400	0.0002	0.0080	545	0.5330	17.8595	690	0.2424	8.1230
405	0.0002	0.0075	550	0.5560	18.6313	695	0.2100	7.0358
410	0.0006	0.0203	555	0.5831	19.5388	700	0.1796	6.0191
415	0.0008	0.0257	560	0.6139	20.5701	705	0.1527	5.1160
420	0.0019	0.0647	565	0.6498	21.7727	710	0.1321	4.4268
425	0.0042	0.1402	570	0.6906	23.1389	715	0.1119	3.7483
430	0.0128	0.4296	575	0.7376	24.7158	720	0.0942	3.1571
435	0.0266	0.8913	580	0.7845	26.2873	725	0.0813	2.7246
440	0.0537	1.7997	585	0.8331	27.9133	730	0.0701	2.3485
445	0.1060	3.5518	590	0.8801	29.4907	735	0.0574	1.9220
450	0.2169	7.2660	595	0.9233	30.9358	740	0.0483	1.6189
455	0.4601	15.4175	600	0.9595	32.1488	745	0.0411	1.3780
460	0.6838	22.9117	605	0.9861	33.0399	750	0.0469	1.5721
465	0.5583	18.7084	610	0.9966	33.3942	755	0.0262	0.8780
470	0.3937	13.1927	615	0.9950	33.3405	760	0.0205	0.6876
475	0.3549	11.8900	620	0.9805	32.8544	765	0.0153	0.5131
480	0.2870	9.6169	625	0.9498	31.8236	770	0.0112	0.3740
485	0.2271	7.6091	630	0.9067	30.3822	775	0.0090	0.3031
490	0.2289	7.6709	635	0.8540	28.6139	780	0.0058	0.1959
495	0.2508	8.4033	640	0.7985	26.7550	785	0.0051	0.1717
500	0.2790	9.3486	645	0.7346	24.6132	790	0.0022	0.0734
505	0.3202	10.7289	650	0.6722	22.5249	795	0.0019	0.0624
510	0.3665	12.2791	655	0.6070	20.3401	800	0.0047	0.1576
515	0.4045	13.5547	660	0.5459	18.2930			
520	0.4368	14.6356	665	0.4837	16.2067			

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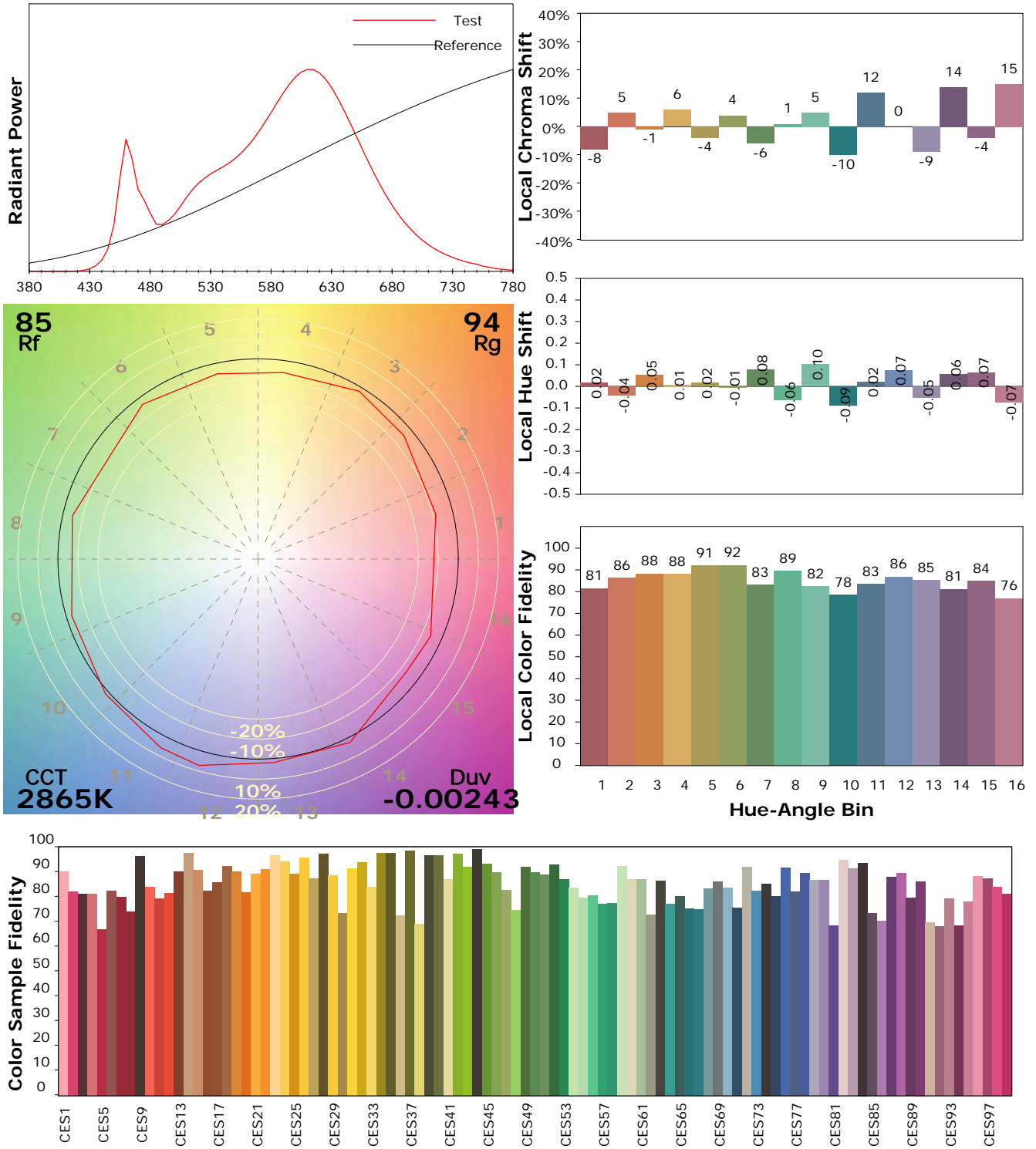
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IES TM-30-18 Color Rendition Report

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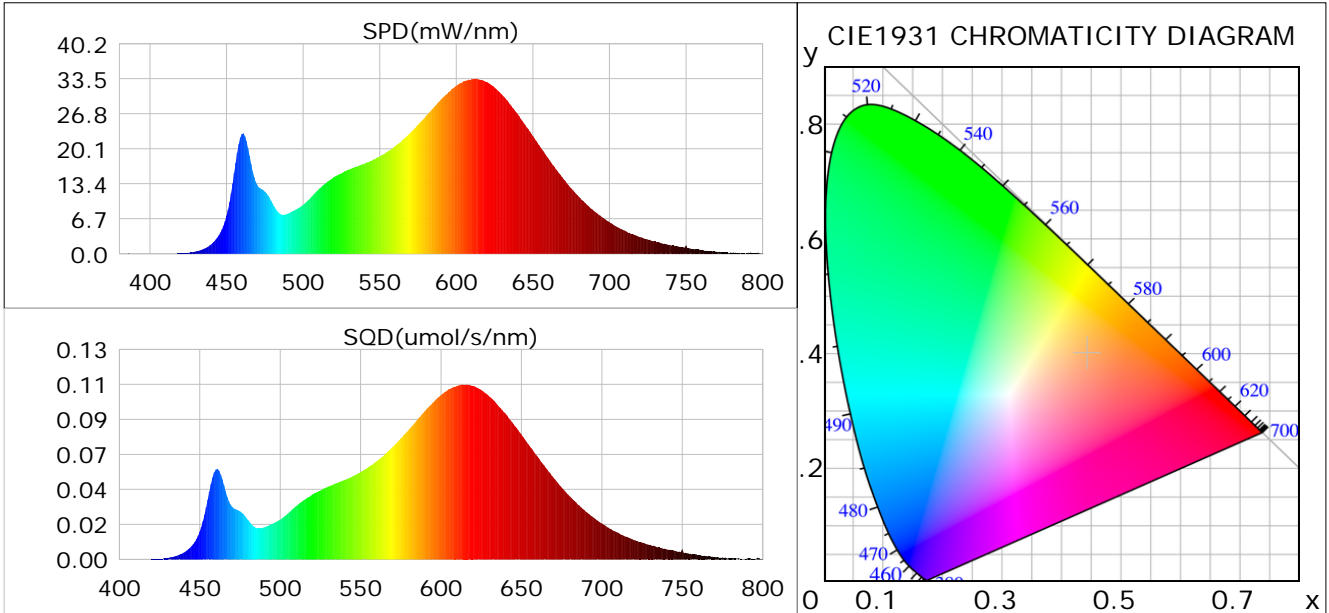
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Plant optical param data

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 CRI: $R_a=87.5$



Plant Optical Param

$ \mu_v(lm)$: 1560.70	$Q_v(lm.s)$: 1560.70
$ \mu_e, \dot{E}(W/nm)$: 5.00	$Q_e(J)$: 5.00
$ \mu_e(W)$: 4.83	$ \mu_{fr}(W)$: 0.17
$ \zeta_e$: 0.36	$ \zeta_{fr}$: 0.01
PPE(umol/s/w): 1.75	Kfr: 0.07
Erb_Ratio: 3.19	PPF(umol/s): 23.50
PFuv(360-400)(umol/s): 0.00	PPF(400-500)(umol/s): 2.65
PPF(500-600)(umol/s): 9.36	PPF(600-700)(umol/s): 11.49
PPfr(700-800)(umol/s): 1.01	PPF.t(umol): 23.50
$ \mu_{ch-A.t}(J)$: 0.38	$ \mu_{ch-A}(W)$: 0.38
$ \mu_{ch-B.t}(J)$: 0.20	$ \mu_{ch-B}(W)$: 0.20
$ \mu_b.t(J)$: 0.68	$ \mu_b(W)$: 0.68
$ \mu_y.t(J)$: 2.01	$ \mu_y(W)$: 2.01
$ \mu_r.t(J)$: 2.19	$ \mu_r(W)$: 2.19

Electric Parameters

Voltage: 24.010V	Current: 0.6440A	Power: 13.45W
Power Factor: 0.7310	Frequency: 49.99Hz	

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