

Lightsource Test Report

Product Information

Product Category: LED-Röhre
 Product Spec: LEDtube-150-8Sea-25WM
 Manufacturer: METOLIGHT
 Buyer: 7116

Product Type: LED-Röhre-Spezial
 Product Number: 1
 Submitted Unit: 105195

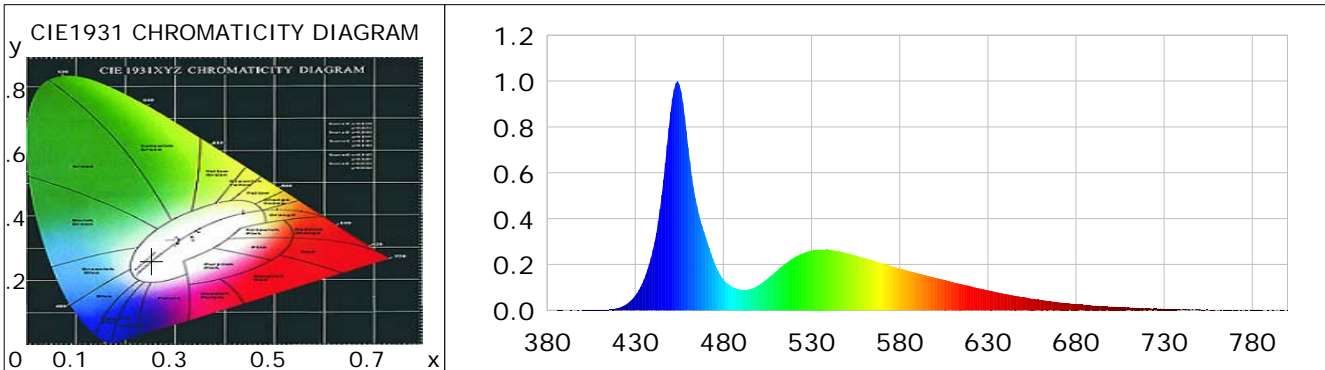
CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.2526$ $y=0.2600$ $u(u')=0.1800$ $v=0.2778$ $v'=0.4167$
 CCT: $T_c=20670K$ ($duv=0.00390$) Color Ratio: $R=0.093$ $G=0.830$ $B=0.077$
 Peak Wavelength: 453.9nm Half Bandwidth: 18.9nm
 Dominant Wavelength: 478.6nm Color Purity: 0.341
 CRI: $R_a = 77.0$, $avgR(1\sim14) = 66.8$, $avgR(1\sim15) = 67.4$ TM30: $R_f = 72$, $R_g = 88$
 GAI: $GAI_BB_8=83.2$, $GAI_BB_15=89.4$, $GAI_EES=90.3$

R1 =76	R2 =82	R3 =77	R4 =74	R5 =74	R6 =72	R7 =89	R8 =72
R9 =0	R10=50	R11=70	R12=33	R13=79	R14=87	R15=75	

Color Quality Scale: $Q_a = 72.0$, $Q_f = 69.9$, $Q_p = 76.8$, $Q_g = 85.9$

Q1 =83	Q2 =98	Q3 =72	Q4 =52	Q5 =58	Q6 =64	Q7 =79	Q8 =87
Q9 =90	Q10=77	Q11=68	Q12=71	Q13=75	Q14=67	Q15=76	



Photometric Parameters

Luminous Flux: 2029.2 lm	Efficiency: 82.96 lm/W	Radiant Power: 7.494 W
Total mains efficacy: 97.56 lm/W	Energy Efficiency Class: F (EU 2019/2015)	
Pupil Flux: 4666.84 Plm	Pupil Lumens Per Watt: 190.79 Plm/W	Pupil Factor (Kp): 2.300
Cirtopic Flux: 12032.64 lm		

Electric Parameters

Voltage: 230.90V	Current: 0.1080A	Power: 24.46W
Power Factor: 0.9760	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: 48668 (2569)	CCD Integration Time: 42.04 ms

Condition: Tx:23.1'C, Ti:0.0'C, R.H.:60%
 Test Lab:
 Operator: CRE

Test Device: Lisun LMS-9000B
 Test Time: 2021-02-17 10:53:49
 Inspector:

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0002	0.0343	525	0.2476	35.0022	670	0.0360	5.0848
385	0.0002	0.0329	530	0.2608	36.8557	675	0.0321	4.5304
390	0.0006	0.0788	535	0.2651	37.4680	680	0.0279	3.9430
395	0.0004	0.0634	540	0.2637	37.2774	685	0.0243	3.4360
400	0.0010	0.1423	545	0.2586	36.5442	690	0.0206	2.9113
405	0.0015	0.2184	550	0.2497	35.2907	695	0.0184	2.6051
410	0.0017	0.2467	555	0.2391	33.7958	700	0.0162	2.2924
415	0.0037	0.5175	560	0.2287	32.3209	705	0.0142	2.0019
420	0.0102	1.4432	565	0.2170	30.6753	710	0.0126	1.7810
425	0.0266	3.7644	570	0.2054	29.0287	715	0.0109	1.5370
430	0.0643	9.0813	575	0.1945	27.4919	720	0.0091	1.2910
435	0.1350	19.0780	580	0.1831	25.8783	725	0.0088	1.2385
440	0.2625	37.1023	585	0.1724	24.3664	730	0.0067	0.9402
445	0.5038	71.2067	590	0.1620	22.9027	735	0.0059	0.8325
450	0.8636	122.0534	595	0.1525	21.5503	740	0.0040	0.5626
455	0.9857	139.3160	600	0.1431	20.2198	745	0.0034	0.4807
460	0.7111	100.5029	605	0.1333	18.8393	750	0.0056	0.7944
465	0.4551	64.3229	610	0.1232	17.4059	755	0.0036	0.5047
470	0.3185	45.0102	615	0.1146	16.1972	760	0.0011	0.1493
475	0.2062	29.1508	620	0.1060	14.9825	765	0.0017	0.2378
480	0.1346	19.0245	625	0.0960	13.5656	770	0.0009	0.1236
485	0.1029	14.5483	630	0.0875	12.3690	775	0.0022	0.3070
490	0.0905	12.7899	635	0.0796	11.2460	780	0.0017	0.2405
495	0.0923	13.0463	640	0.0716	10.1175	785	0.0011	0.1608
500	0.1092	15.4360	645	0.0641	9.0555	790	0.0001	0.0185
505	0.1382	19.5283	650	0.0579	8.1875	795	0.0014	0.1946
510	0.1705	24.0966	655	0.0513	7.2573	800	0.0018	0.2595
515	0.2019	28.5420	660	0.0455	6.4280			
520	0.2295	32.4345	665	0.0404	5.7048			

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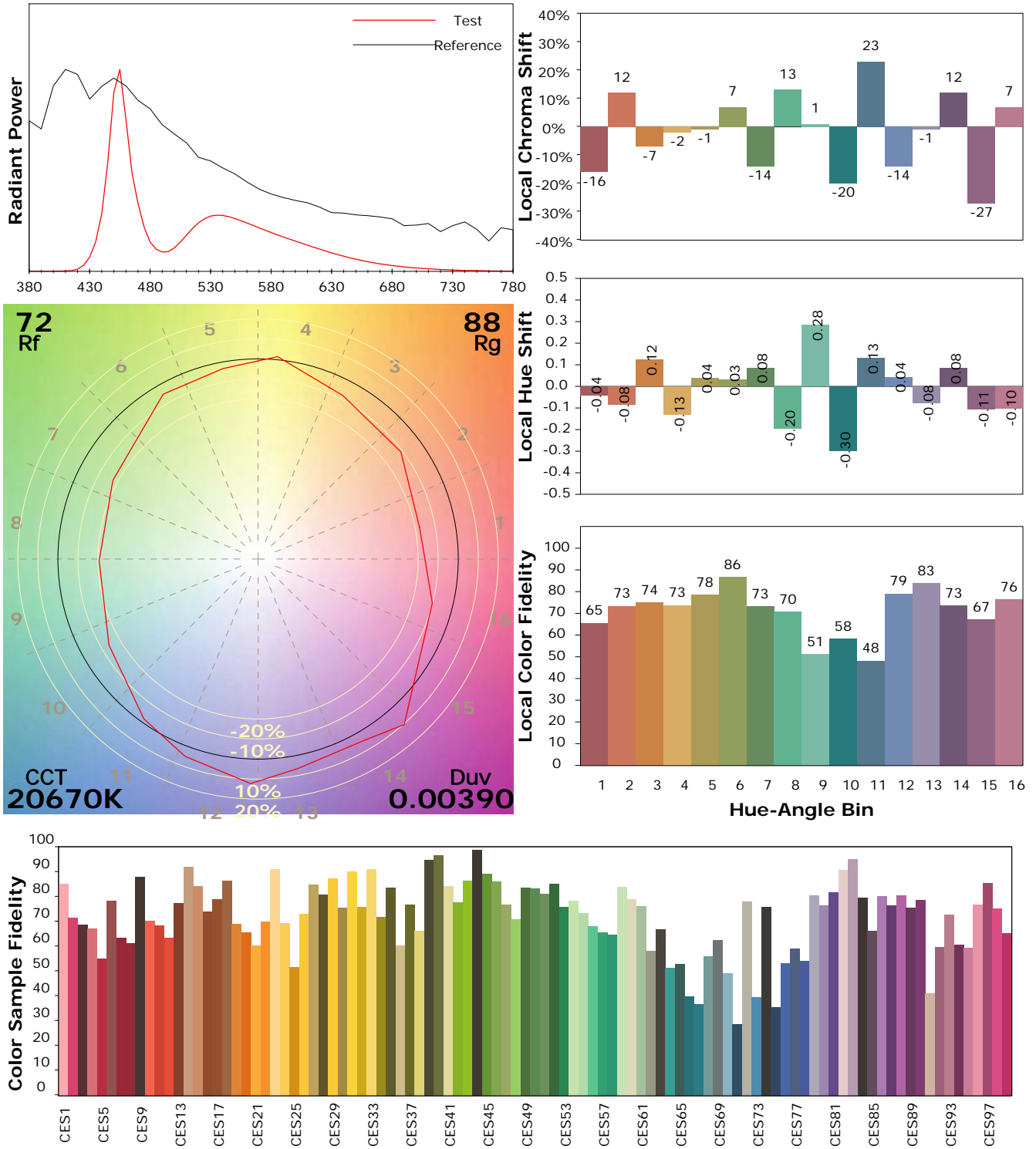
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IES TM-30-18 Color Rendition Report

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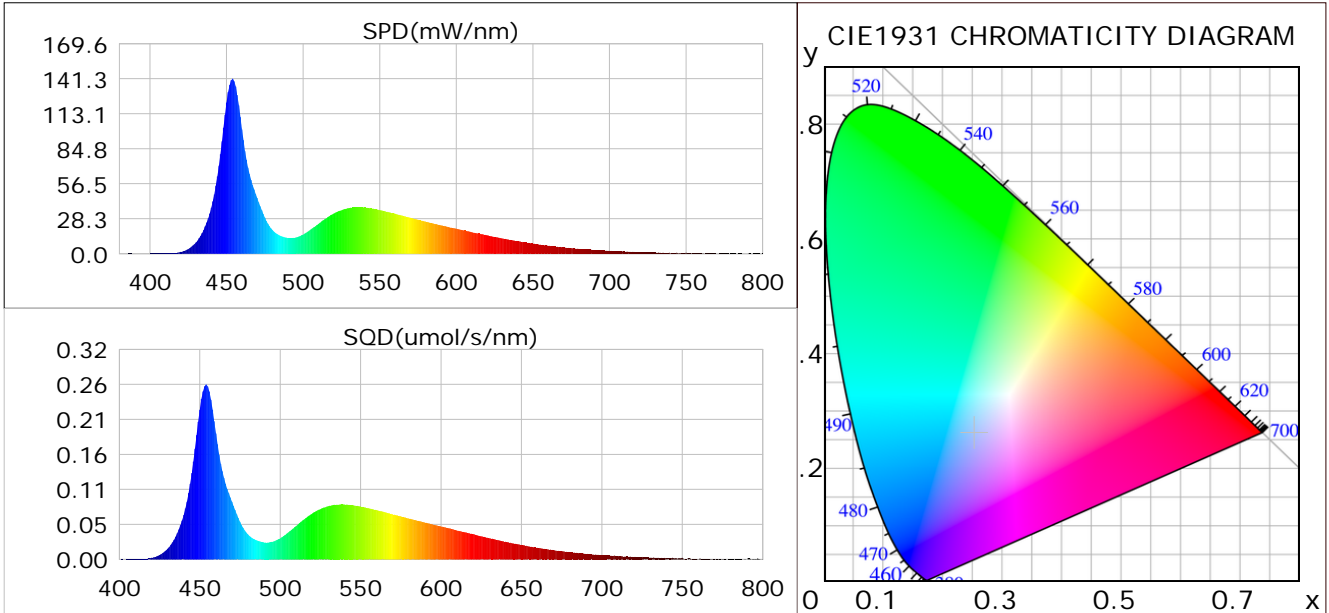
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Plant optical param data

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 CCT: $T_c=20670K$ ($duv=0.00390$) Color Ratio: $R=0.093$ $G=0.830$ $B=0.077$
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 Dominant Wavelength: 478.6nm Color Purity: 0.341
 CRI: $R_a=77.0$



Plant Optical Param

$ \mu_v(lm)$: 2029.20	$Q_v(lm.s)$: 2029.20
$ \mu_e, \dot{E}(W/nm)$: 7.49	$Q_e(J)$: 7.49
$ \mu_e(W)$: 7.42	$ \mu_{fr}(W)$: 0.07
$ \zeta_e$: 0.30	$ \zeta_{fr}$: 0.00
$PPE(umol/s/w)$: 1.31	K_{fr} : 0.02
Erb_Ratio : 0.26	$PPF(umol/s)$: 32.02
$PF_{uv}(360-400)(umol/s)$: 0.01	$PPF(400-500)(umol/s)$: 13.61
$PPF(500-600)(umol/s)$: 13.54	$PPF(600-700)(umol/s)$: 4.86
$PPF_{fr}(700-800)(umol/s)$: 0.44	$PPF.t(umol)$: 32.02
$ \mu_{ch-A.t}(J)$: 0.67	$ \mu_{ch-A}(W)$: 0.67
$ \mu_{ch-B.t}(J)$: 0.58	$ \mu_{ch-B}(W)$: 0.58
$ \mu_b.t(J)$: 3.56	$ \mu_b(W)$: 3.56
$ \mu_y.t(J)$: 2.97	$ \mu_y(W)$: 2.97
$ \mu_r.t(J)$: 0.94	$ \mu_r(W)$: 0.94

Electric Parameters

Voltage: 230.90V	Current: 0.1080A	Power: 24.46W
Power Factor: 0.9760	Frequency: 49.99Hz	

Condition: $T_x:23.1^\circ C$, $T_i:0.0^\circ C$, R.H.:60%
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