

Lightsource Test Report

Product Information

Product Category: LED-Röhre
 Product Spec: LEDtube-060-8NWM-10W-SCE-24
 Manufacturer: METOLIGHT
 Buyer: 4624 - 20852

Product Type: 12/24 Volt
 Product Number: 2
 Submitted Unit: 101755

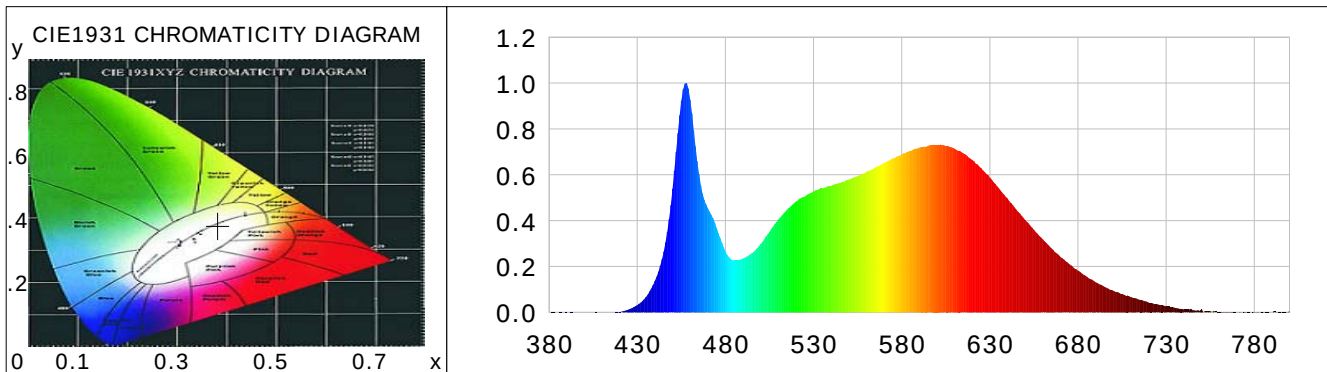
CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3825$ $y=0.3773$ $u(u')=0.2262$ $v=0.3347$ $v'=0.5021$
 CCT: $T_c=3949K$ ($duv=-0.00035$) Color Ratio: $R=0.191$ $G=0.770$ $B=0.039$
 Peak Wavelength: 457.6nm Half Bandwidth: 18.2nm
 Dominant Wavelength: 579.4nm Color Purity: 0.280
 CRI: $R_a=85.3$, $avgR(1\sim14)=79.5$, $avgR(1\sim15)=79.5$ TM30: $R_f=83$, $R_g=93$
 GAI: $GAI_BB_8=92.1$, $GAI_BB_15=100.9$, $GAI_EES=71.9$

R1 =85	R2 =93	R3 =96	R4 =82	R5 =84	R6 =89	R7 =85	R8 =68
R9 =22	R10=82	R11=81	R12=59	R13=88	R14=99	R15=80	

Color Quality Scale: $Q_a=83.6$, $Q_f=83.8$, $Q_p=82.9$, $Q_g=92.2$

Q1 =81	Q2 =96	Q3 =81	Q4 =74	Q5 =78	Q6 =81	Q7 =86	Q8 =90
Q9 =98	Q10=92	Q11=88	Q12=87	Q13=86	Q14=77	Q15=79	



Photometric Parameters

Luminous Flux: 1131.1 lm Efficiency: 116.97 lm/W Radiant Power: 3.447 W
 Total mains efficacy: 137.56 lm/W Energy Efficiency Class: D (EU 2019/2015)
 Pupil Flux: 1729.88 Plm Pupil Lumens Per Watt: 178.89 Plm/W Pupil Factor (Kp): 1.529
 Cirtopic Flux: 3586.95 lm

Electric Parameters

Voltage: 24.010V Current: 0.4030A Power: 9.67W
 Power Factor: 0.7030 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: 46476 (2332) CCD Integration Time: 206.45 ms

Condition: Tx:18.4'C, Ti:0.0'C, R.H.:60%
 Test Lab:
 Operator: CRE

Test Device: Lisun LMS-9000B
 Test Time: 2021-01-08 11:09:01
 Inspector:

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0003	0.0087	525	0.5051	13.5567	670	0.2429	6.5194
385	0.0002	0.0050	530	0.5267	14.1385	675	0.2112	5.6686
390	0.0007	0.0199	535	0.5405	14.5069	680	0.1819	4.8814
395	0.0001	0.0035	540	0.5522	14.8213	685	0.1552	4.1647
400	0.0004	0.0110	545	0.5642	15.1432	690	0.1306	3.5045
405	0.0000	0.0002	550	0.5794	15.5529	695	0.1115	2.9930
410	0.0005	0.0143	555	0.5947	15.9633	700	0.0947	2.5430
415	0.0005	0.0144	560	0.6130	16.4540	705	0.0809	2.1709
420	0.0032	0.0861	565	0.6324	16.9739	710	0.0670	1.7982
425	0.0121	0.3251	570	0.6527	17.5186	715	0.0548	1.4703
430	0.0315	0.8448	575	0.6716	18.0276	720	0.0429	1.1525
435	0.0674	1.8092	580	0.6884	18.4769	725	0.0350	0.9388
440	0.1371	3.6795	585	0.7028	18.8636	730	0.0261	0.7009
445	0.2660	7.1388	590	0.7179	19.2698	735	0.0196	0.5269
450	0.5394	14.4772	595	0.7269	19.5118	740	0.0132	0.3532
455	0.9231	24.7790	600	0.7308	19.6150	745	0.0104	0.2782
460	0.9278	24.9041	605	0.7257	19.4779	750	0.0153	0.4109
465	0.6035	16.1981	610	0.7140	19.1655	755	0.0048	0.1301
470	0.4545	12.1989	615	0.6938	18.6234	760	0.0031	0.0842
475	0.3686	9.8932	620	0.6649	17.8480	765	0.0032	0.0856
480	0.2660	7.1394	625	0.6295	16.8979	770	0.0006	0.0154
485	0.2267	6.0841	630	0.5872	15.7609	775	0.0031	0.0830
490	0.2349	6.3047	635	0.5420	14.5487	780	0.0035	0.0929
495	0.2581	6.9281	640	0.4966	13.3305	785	0.0032	0.0850
500	0.2982	8.0053	645	0.4486	12.0406	790	0.0001	0.0039
505	0.3518	9.4437	650	0.4029	10.8150	795	0.0007	0.0189
510	0.4050	10.8714	655	0.3600	9.6631	800	0.0058	0.1548
515	0.4478	12.0195	660	0.3191	8.5647			
520	0.4832	12.9687	665	0.2788	7.4848			

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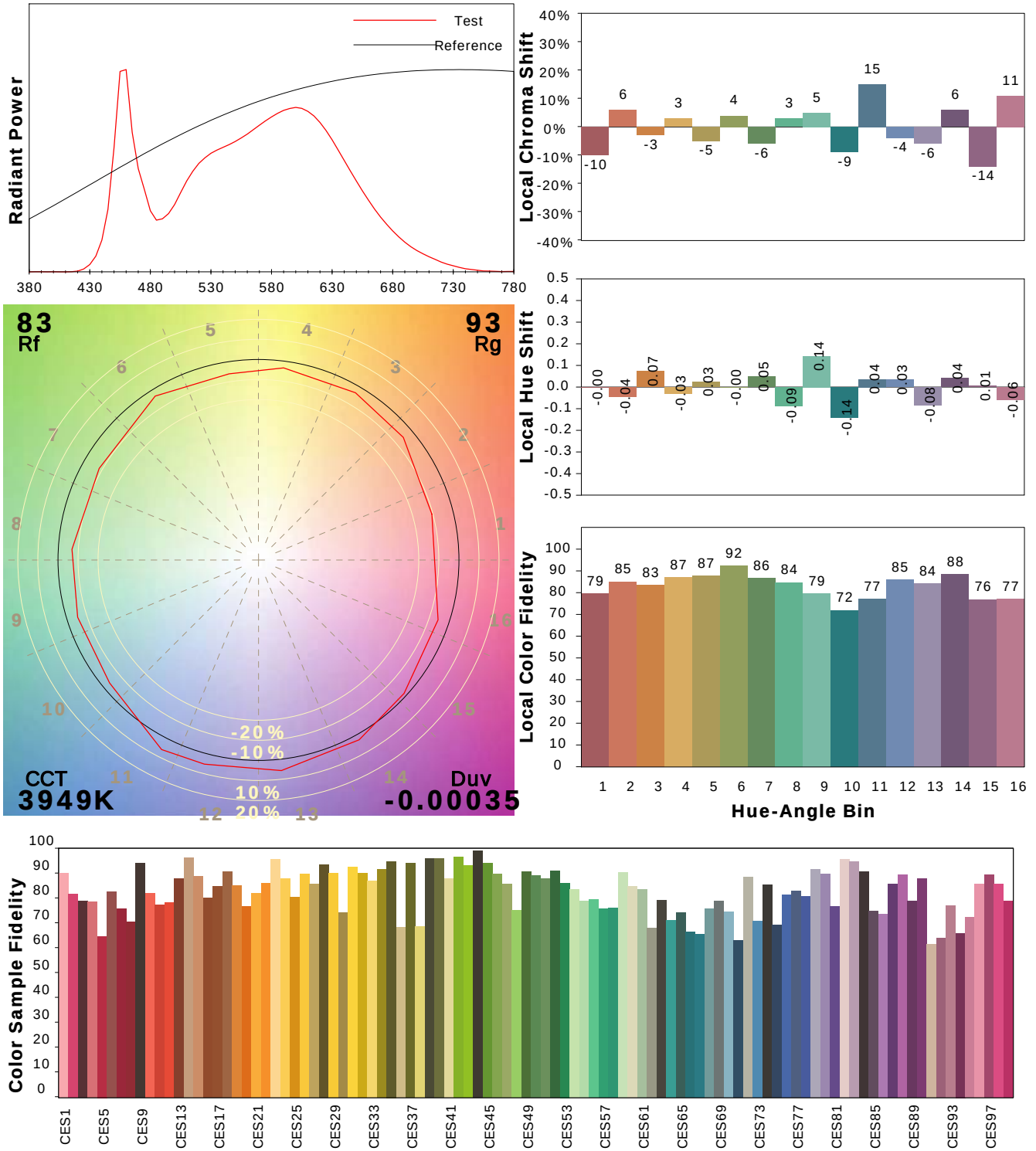
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IES TM-30-18 Color Rendition Report

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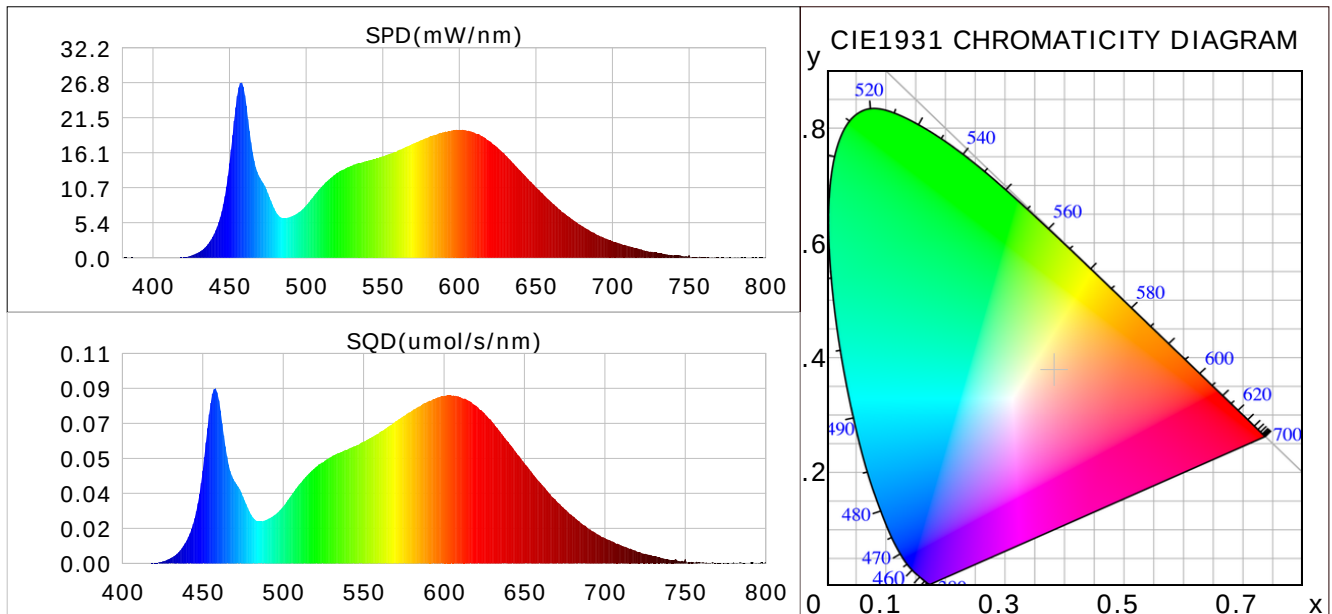
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Plant optical param data

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 CRI: Ra= 85.3



Plant Optical Param

$\mu_v(lm)$: 1131.10	$Q_v(lm.s)$: 1131.10
$\mu_e, \dot{E}(W/nm)$: 3.45	$Q_e(J)$: 3.45
$\mu_e(W)$: 3.39	$\mu_{fr}(W)$: 0.06
$\dot{C}_e$: 0.35	$\dot{C}_{fr}$: 0.01
$PPE(umol/s/w)$: 1.65	K_{fr} : 0.04
E_{rb_Ratio} : 1.50	$PPF(umol/s)$: 15.93
$PF_{uv}(360-400)(umol/s)$: 0.00	$PPF(400-500)(umol/s)$: 2.87
$PPF(500-600)(umol/s)$: 7.19	$PPF(600-700)(umol/s)$: 5.88
$PF_{fr}(700-800)(umol/s)$: 0.34	$PPF.t(umol)$: 15.93
$\mu_{ch-A.t}(J)$: 0.25	$\mu_{ch-A}(W)$: 0.25
$\mu_{ch-B.t}(J)$: 0.17	$\mu_{ch-B}(W)$: 0.17
$\mu_{b.t}(J)$: 0.74	$\mu_b(W)$: 0.74
$\mu_{y.t}(J)$: 1.55	$\mu_y(W)$: 1.55
$\mu_{r.t}(J)$: 1.13	$\mu_r(W)$: 1.13

Electric Parameters

Voltage: 24.010V	Current: 0.4030A	Power: 9.67W
Power Factor: 0.7030	Frequency: 49.99Hz	

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