

Lightsource Test Report

Product Information

Product Category: LEDtube
 Product Spec: LEDtube-150-10NWM-22W-RAD-A
 Manufacturer: METOLIGHT
 Buyer: 6299

Product Type: LEDtube-PIR
 Product Number: 1
 Submitted Unit: 104604

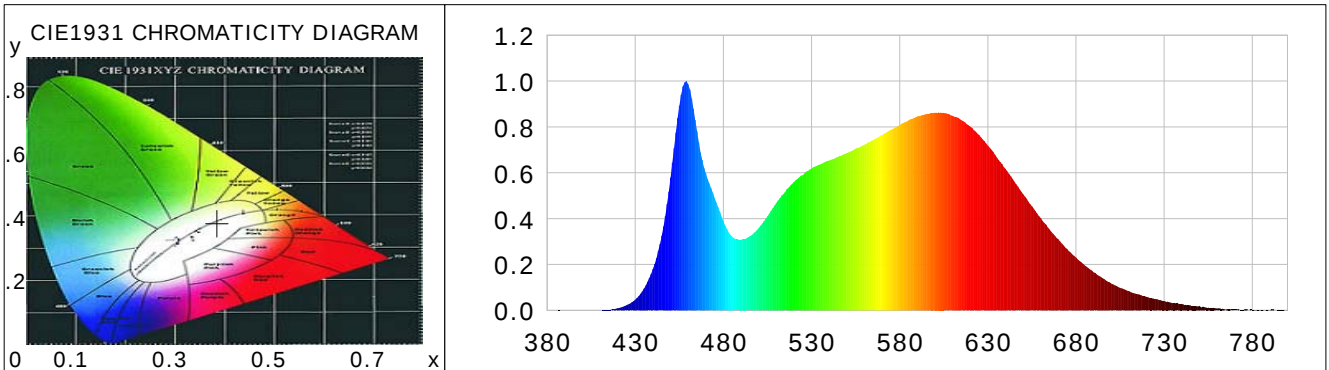
CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3848$ $y=0.3790$ $u(u')=0.2271$ $v=0.3355$ $v'=0.5032$
 CCT: $T_c=3900K$ ($duv=-0.00022$) Color Ratio: $R=0.194$ $G=0.765$ $B=0.042$
 Peak Wavelength: 458.8nm Half Bandwidth: 25.9nm
 Dominant Wavelength: 579.6nm Color Purity: 0.292
 CRI: $R_a=86.5$, $avgR(1\sim14)=81.3$, $avgR(1\sim15)=81.3$ TM30: $R_f=83$, $R_g=93$
 GAI: $GAI_BB_8=92.0$, $GAI_BB_15=100.3$, $GAI_EES=71.0$

R1 =87	R2 =95	R3 =96	R4 =82	R5 =85	R6 =91	R7 =85	R8 =70
R9 =29	R10=85	R11=81	R12=63	R13=89	R14=99	R15=82	

Color Quality Scale: $Q_a=84.8$, $Q_f=85.1$, $Q_p=83.7$, $Q_g=92.2$

Q1 =82	Q2 =96	Q3 =84	Q4 =76	Q5 =79	Q6 =81	Q7 =87	Q8 =90
Q9 =98	Q10=93	Q11=89	Q12=88	Q13=88	Q14=79	Q15=81	



Photometric Parameters

Luminous Flux: 2230.7 lm	Efficiency: 96.82 lm/W	Radiant Power: 6.884 W
Total mains efficacy: 113.86 lm/W	Energy Efficiency Class: E (EU 2019/2015)	
Pupil Flux: 3421.59 Plm	Pupil Lumens Per Watt: 148.51 Plm/W	Pupil Factor (Kp): 1.534
Cirtpic Flux: 7125.39 lm		

Electric Parameters

Voltage: 230.60V	Current: 0.1060A	Power: 23.04W
Power Factor: 0.9410	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: 44808 (2101)	CCD Integration Time: 138.88 ms

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

Test Device: Lisun LMS-9000B
 Test Time: 2021-02-19 10:16:18
 Inspector:

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0005	0.0222	525	0.5895	26.3531	670	0.3100	13.8565
385	0.0005	0.0227	530	0.6185	27.6501	675	0.2675	11.9587
390	0.0002	0.0106	535	0.6368	28.4660	680	0.2310	10.3275
395	0.0007	0.0292	540	0.6538	29.2248	685	0.1961	8.7667
400	0.0003	0.0122	545	0.6694	29.9244	690	0.1657	7.4090
405	0.0002	0.0097	550	0.6863	30.6794	695	0.1408	6.2947
410	0.0006	0.0281	555	0.7055	31.5395	700	0.1169	5.2250
415	0.0027	0.1190	560	0.7224	32.2924	705	0.0983	4.3927
420	0.0094	0.4182	565	0.7426	33.1972	710	0.0838	3.7469
425	0.0219	0.9812	570	0.7640	34.1522	715	0.0711	3.1793
430	0.0466	2.0814	575	0.7878	35.2146	720	0.0590	2.6353
435	0.0956	4.2729	580	0.8083	36.1333	725	0.0497	2.2195
440	0.1796	8.0291	585	0.8285	37.0342	730	0.0408	1.8220
445	0.3266	14.5999	590	0.8460	37.8174	735	0.0319	1.4282
450	0.5788	25.8721	595	0.8565	38.2868	740	0.0279	1.2483
455	0.8925	39.8975	600	0.8627	38.5655	745	0.0215	0.9630
460	0.9859	44.0728	605	0.8613	38.5013	750	0.0191	0.8557
465	0.7814	34.9311	610	0.8482	37.9173	755	0.0121	0.5394
470	0.5977	26.7203	615	0.8297	37.0920	760	0.0082	0.3664
475	0.4899	21.8986	620	0.8020	35.8513	765	0.0035	0.1567
480	0.3884	17.3623	625	0.7646	34.1790	770	0.0040	0.1768
485	0.3214	14.3666	630	0.7177	32.0818	775	0.0017	0.0760
490	0.3076	13.7503	635	0.6679	29.8551	780	0.0038	0.1707
495	0.3235	14.4604	640	0.6168	27.5713	785	0.0015	0.0675
500	0.3584	16.0233	645	0.5622	25.1302	790	0.0012	0.0558
505	0.4111	18.3768	650	0.5063	22.6351	795	0.0020	0.0872
510	0.4686	20.9491	655	0.4540	20.2937	800	0.0022	0.0981
515	0.5162	23.0748	660	0.4029	18.0127			
520	0.5594	25.0046	665	0.3526	15.7633			

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 Test Lab:
 Operator: CRE

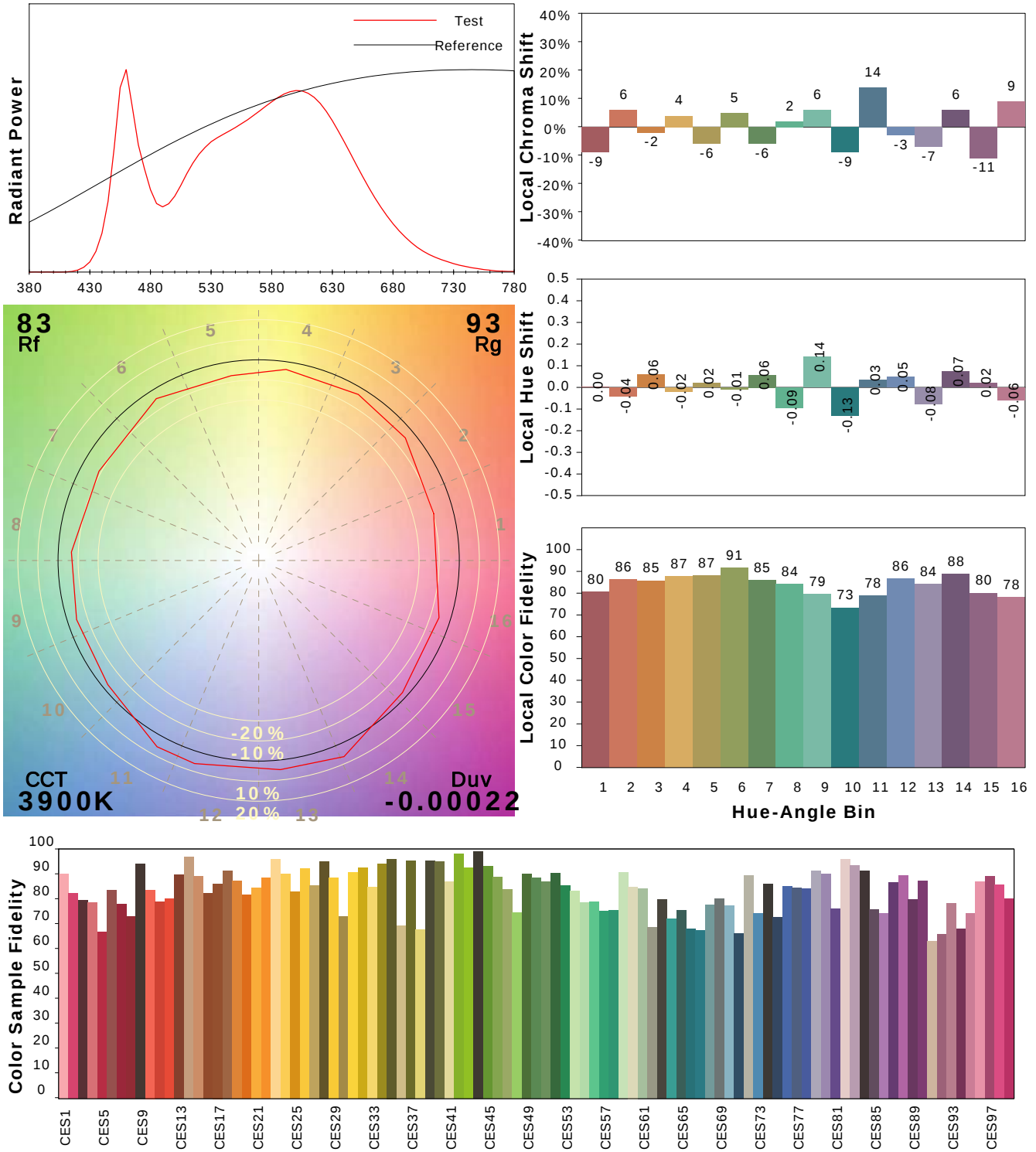
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IES TM-30-18 Color Rendition Report

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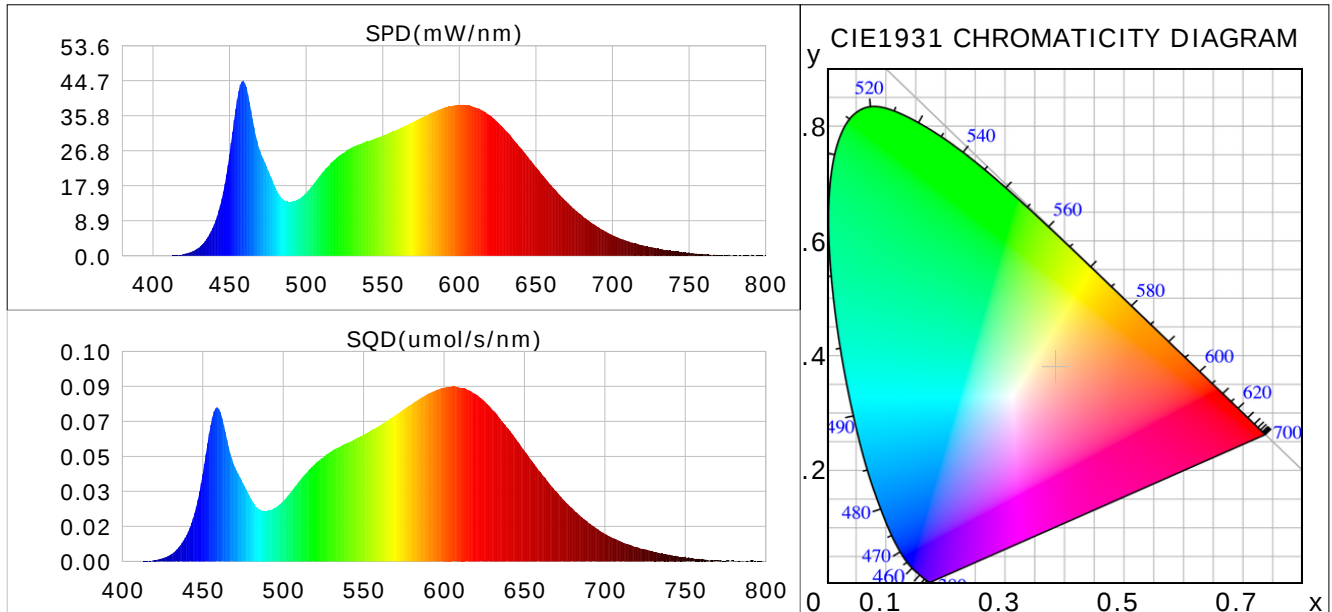
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Plant optical param data

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 CRI: Ra= 86.5



Plant Optical Param

$\mu_v(lm): 2230.70$	$Q_v(lm.s): 2230.70$
$\mu_e, \dot{E}(W/nm): 6.88$	$Q_e(J): 6.88$
$\mu_e(W): 6.75$	$\mu_{fr}(W): 0.14$
$\dot{C}_e: 0.29$	$\dot{C}_{fr}: 0.01$
$PPE(umol/s/w): 1.38$	$K_{fr}: 0.03$
$Erb_Ratio: 1.54$	$PPF(umol/s): 31.80$
$PF_{uv}(360-400)(umol/s): 0.00$	$PPF(400-500)(umol/s): 5.71$
$PPF(500-600)(umol/s): 14.07$	$PPF(600-700)(umol/s): 12.02$
$PF_{fr}(700-800)(umol/s): 0.79$	$PPF.t(umol): 31.80$
$\mu_{ch-A.t}(J): 0.51$	$\mu_{ch-A}(W): 0.51$
$\mu_{ch-B.t}(J): 0.33$	$\mu_{ch-B}(W): 0.33$
$\mu_b.t(J): 1.47$	$\mu_b(W): 1.47$
$\mu_y.t(J): 3.04$	$\mu_y(W): 3.04$
$\mu_r.t(J): 2.30$	$\mu_r(W): 2.30$

Electric Parameters

Voltage: 230.60V	Current: 0.1060A	Power: 23.04W
Power Factor: 0.9410	Frequency: 49.99Hz	