

Lightsource Test Report

Product Information

Product Category: LED-Röhre
 Product Spec: LEDtube-120-8WWM-20W-SCE-24
 Manufacturer: METOLIGHT
 Buyer: 4624

Product Type: LED-Röhre-Spezial
 Product Number: 1
 Submitted Unit: 101760

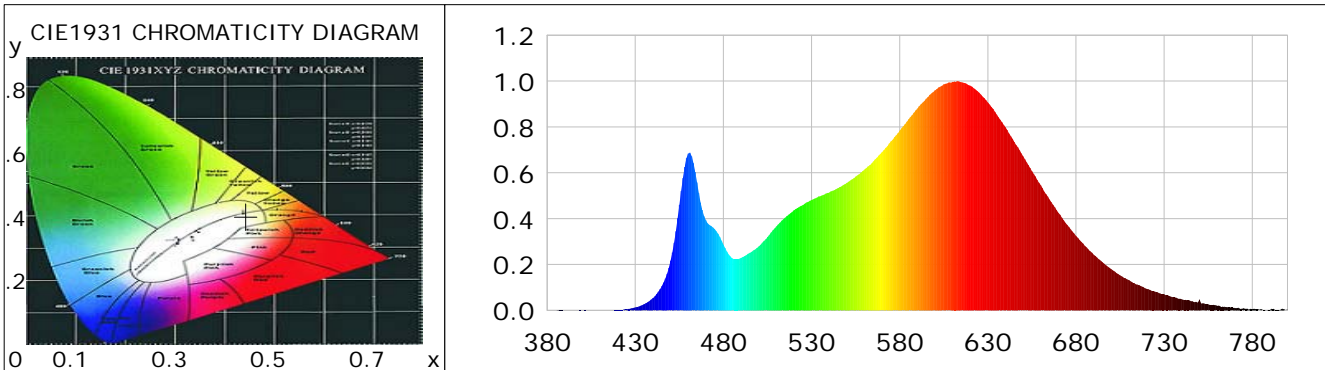
CIE Colorimetric Parameters

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: 1860.7 lm Efficiency: 120.43 lm/W Radiant Power: 5.958 W
 Total mains efficacy: 141.63 lm/W Energy Efficiency Class: D (EU 2019/2015)
 Pupil Flux: 2400.37 Plm Pupil Lumens Per Watt: 155.36 Plm/W Pupil Factor (Kp): 1.290
 Circopic Flux: 4563.02 lm

Electric Parameters

Voltage: 24.010V Current: 0.6440A Power: 15.45W
 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: $T_x:21.3^{\circ}C$, $T_i:0.0^{\circ}C$, 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	0.0151	525	0.4588	18.3269	670	0.4264	17.0331
385	0.0004	0.0166	530	0.4814	19.2321	675	0.3732	14.9074
390	0.0005	0.0200	535	0.4982	19.9027	680	0.3250	12.9819
395	0.0002	0.0066	540	0.5140	20.5336	685	0.2810	11.2269
400	0.0002	0.0095	545	0.5330	21.2924	690	0.2424	9.6844
405	0.0002	0.0089	550	0.5560	22.2126	695	0.2100	8.3882
410	0.0006	0.0243	555	0.5831	23.2946	700	0.1796	7.1761
415	0.0008	0.0306	560	0.6139	24.5241	705	0.1527	6.0994
420	0.0019	0.0771	565	0.6498	25.9579	710	0.1321	5.2777
425	0.0042	0.1671	570	0.6906	27.5867	715	0.1119	4.4688
430	0.0128	0.5121	575	0.7376	29.4667	720	0.0942	3.7640
435	0.0266	1.0626	580	0.7845	31.3402	725	0.0813	3.2483
440	0.0537	2.1456	585	0.8331	33.2788	730	0.0701	2.8000
445	0.1060	4.2345	590	0.8801	35.1595	735	0.0574	2.2915
450	0.2169	8.6627	595	0.9233	36.8823	740	0.0483	1.9301
455	0.4601	18.3810	600	0.9595	38.3285	745	0.0411	1.6429
460	0.6838	27.3159	605	0.9861	39.3909	750	0.0469	1.8743
465	0.5583	22.3045	610	0.9966	39.8133	755	0.0262	1.0468
470	0.3937	15.7287	615	0.9950	39.7492	760	0.0205	0.8198
475	0.3549	14.1755	620	0.9805	39.1697	765	0.0153	0.6118
480	0.2870	11.4654	625	0.9498	37.9407	770	0.0112	0.4459
485	0.2271	9.0718	630	0.9067	36.2223	775	0.0090	0.3614
490	0.2289	9.1454	635	0.8540	34.1141	780	0.0058	0.2336
495	0.2508	10.0186	640	0.7985	31.8978	785	0.0051	0.2047
500	0.2790	11.1456	645	0.7346	29.3443	790	0.0022	0.0875
505	0.3202	12.7912	650	0.6722	26.8546	795	0.0019	0.0743
510	0.3665	14.6394	655	0.6070	24.2498	800	0.0047	0.1879
515	0.4045	16.1602	660	0.5459	21.8093			
520	0.4368	17.4488	665	0.4837	19.3220			

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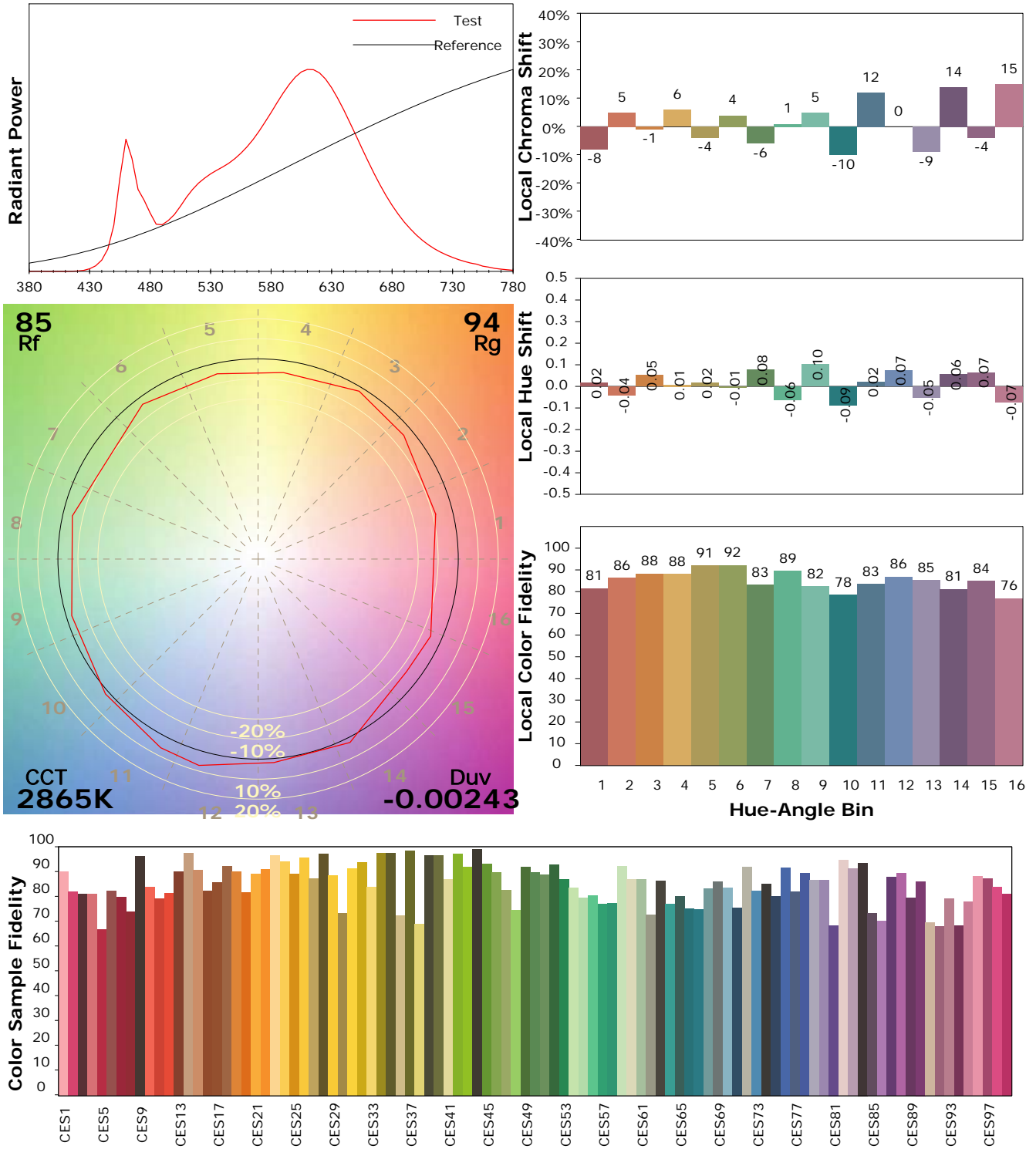
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IES TM-30-18 Color Rendition Report

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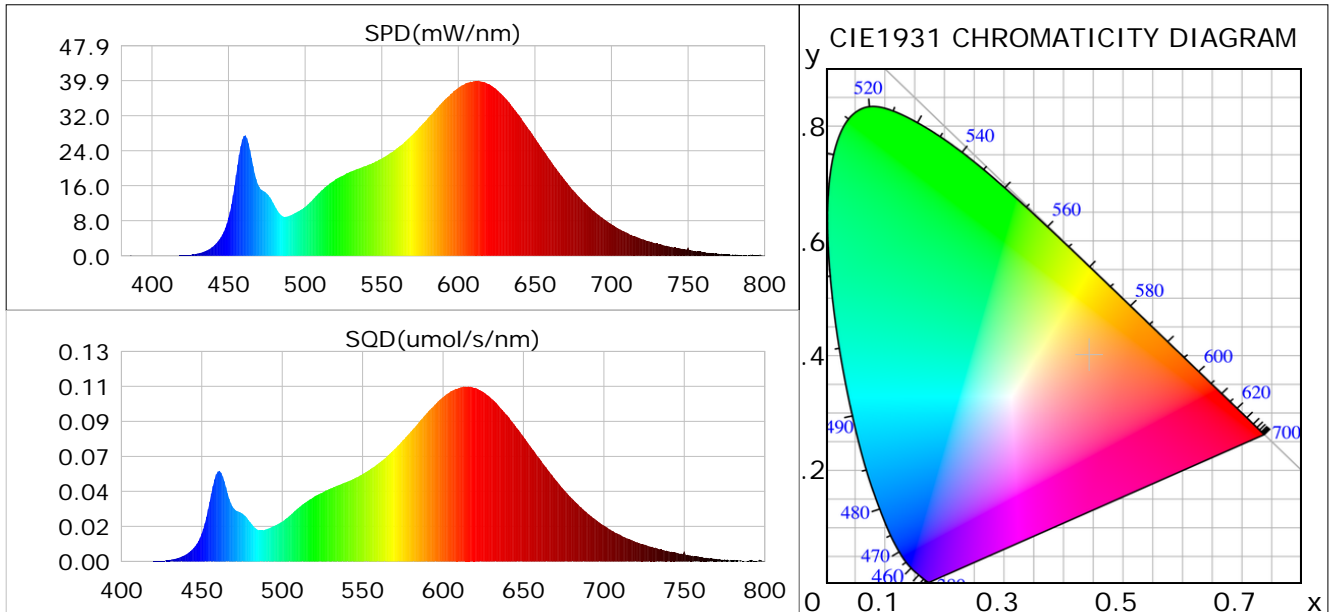
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Plant optical param data

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Plant Optical Param

$ \mu_v(lm)$: 1860.70	$Q_v(lm.s)$: 1860.70
$ \mu_e, \dot{E}(W/nm)$: 5.96	$Q_e(J)$: 5.96
$ \mu_e(W)$: 5.76	$ \mu_{fr}(W)$: 0.21
$ \zeta_e$: 0.37	$ \zeta_{fr}$: 0.01
PPE(umol/s/w): 1.81	Kfr: 0.08
Erb_Ratio: 3.19	PPF(umol/s): 28.02
PFuv(360-400)(umol/s): 0.00	PPF(400-500)(umol/s): 3.16
PPF(500-600)(umol/s): 11.16	PPF(600-700)(umol/s): 13.70
PPfr(700-800)(umol/s): 1.20	PPF.t(umol): 28.02
$ \mu_{ch-A.t}(J)$: 0.45	$ \mu_{ch-A}(W)$: 0.45
$ \mu_{ch-B.t}(J)$: 0.24	$ \mu_{ch-B}(W)$: 0.24
$ \mu_b.t(J)$: 0.81	$ \mu_b(W)$: 0.81
$ \mu_y.t(J)$: 2.40	$ \mu_y(W)$: 2.40
$ \mu_r.t(J)$: 2.61	$ \mu_r(W)$: 2.61

Electric Parameters

Voltage: 24.010V	Current: 0.6440A	Power: 15.45W
Power Factor: 0.7310	Frequency: 49.99Hz	

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