

Lightsource Test Report

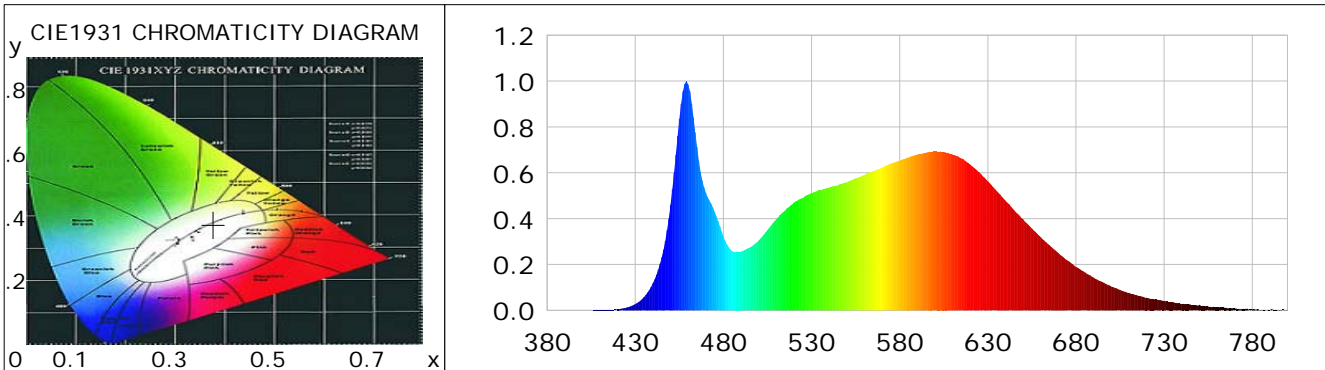
Product Information

Product Category: LED-Röhre
 Product Spec: Ledtube-055-5NWM-12W-TRF
 Manufacturer: METOLIGHT
 Buyer: 7709

Product Type: LED-Röhre-TRF
 Product Number: 1
 Submitted Unit: 104528

CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3771$ $y=0.3740$ $u(u')=0.2240$ $v=0.3332$ $v'=0.4998$
 CCT: $T_c=4073K$ ($duv=-0.00032$) Color Ratio: $R=0.189$ $G=0.767$ $B=0.044$
 Peak Wavelength: 459.0nm Half Bandwidth: 20.2nm
 Dominant Wavelength: 579.0nm Color Purity: 0.254
 CRI: $R_a = 86.4$, $avgR(1\sim 14) = 81.3$, $avgR(1\sim 15) = 81.4$ TM30: $R_f = 83$, $R_g = 92$
 GAI: $GAI_BB_8 = 91.6$, $GAI_BB_15 = 100.1$, $GAI_EES = 73.3$
 R1 =87 R2 =96 R3 =96 R4 =82 R5 =85 R6 =91 R7 =85 R8 =70
 R9 =30 R10=87 R11=81 R12=60 R13=90 R14=99 R15=82
 Color Quality Scale: $Q_a = 84.4$, $Q_f = 84.7$, $Q_p = 83.2$, $Q_g = 91.8$
 Q1 =81 Q2 =95 Q3 =84 Q4 =76 Q5 =78 Q6 =80 Q7 =86 Q8 =90
 Q9 =98 Q10=94 Q11=90 Q12=88 Q13=88 Q14=79 Q15=81



Photometric Parameters

Luminous Flux: 1483.0 lm Efficiency: 117.70 lm/W Radiant Power: 4.632 W
 Total mains efficacy: 128.17 lm/W Energy Efficiency Class: E (EU 2019/2015)
 Pupil Flux: 2340.93 Plm Pupil Lumens Per Watt: 185.79 Plm/W Pupil Factor (Kp): 1.579
 Circopic Flux: 4967.63 lm

Electric Parameters

Voltage: 229.90V Current: 0.0550A Power: 12.60W
 Power Factor: 0.9390 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: 45577 (2370) CCD Integration Time: 80.00 ms

Condition: Tx:19.8'C, Ti:0.0'C, R.H.:60%
 Test Lab:
 Operator: CRE

Test Device: Lisun LMS-9000B
 Test Time: 2021-01-22 11:50:17
 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	0.0068	525	0.4898	17.8516	670	0.2503	9.1224
385	0.0006	0.0232	530	0.5112	18.6322	675	0.2185	7.9629
390	0.0003	0.0093	535	0.5236	19.0813	680	0.1897	6.9148
395	0.0003	0.0112	540	0.5361	19.5364	685	0.1660	6.0502
400	0.0006	0.0202	545	0.5458	19.8917	690	0.1426	5.1962
405	0.0006	0.0210	550	0.5586	20.3573	695	0.1231	4.4851
410	0.0012	0.0455	555	0.5754	20.9713	700	0.1044	3.8062
415	0.0025	0.0893	560	0.5908	21.5302	705	0.0888	3.2364
420	0.0050	0.1827	565	0.6082	22.1676	710	0.0762	2.7768
425	0.0123	0.4483	570	0.6226	22.6890	715	0.0647	2.3562
430	0.0273	0.9959	575	0.6407	23.3497	720	0.0552	2.0100
435	0.0581	2.1171	580	0.6535	23.8174	725	0.0476	1.7340
440	0.1184	4.3134	585	0.6666	24.2926	730	0.0413	1.5042
445	0.2318	8.4489	590	0.6793	24.7566	735	0.0350	1.2749
450	0.4606	16.7879	595	0.6881	25.0790	740	0.0286	1.0427
455	0.8350	30.4323	600	0.6932	25.2630	745	0.0248	0.9039
460	0.9850	35.8988	605	0.6907	25.1733	750	0.0239	0.8723
465	0.7134	25.9988	610	0.6794	24.7599	755	0.0173	0.6310
470	0.5141	18.7371	615	0.6630	24.1613	760	0.0146	0.5303
475	0.4301	15.6750	620	0.6362	23.1857	765	0.0113	0.4116
480	0.3224	11.7492	625	0.6022	21.9488	770	0.0085	0.3115
485	0.2581	9.4055	630	0.5632	20.5239	775	0.0063	0.2306
490	0.2568	9.3584	635	0.5204	18.9646	780	0.0046	0.1689
495	0.2740	9.9871	640	0.4780	17.4205	785	0.0026	0.0961
500	0.3045	11.0966	645	0.4362	15.8962	790	0.0021	0.0781
505	0.3505	12.7740	650	0.3967	14.4592	795	0.0032	0.1149
510	0.3979	14.5011	655	0.3573	13.0207	800	0.0040	0.1458
515	0.4360	15.8900	660	0.3195	11.6454			
520	0.4694	17.1090	665	0.2836	10.3367			

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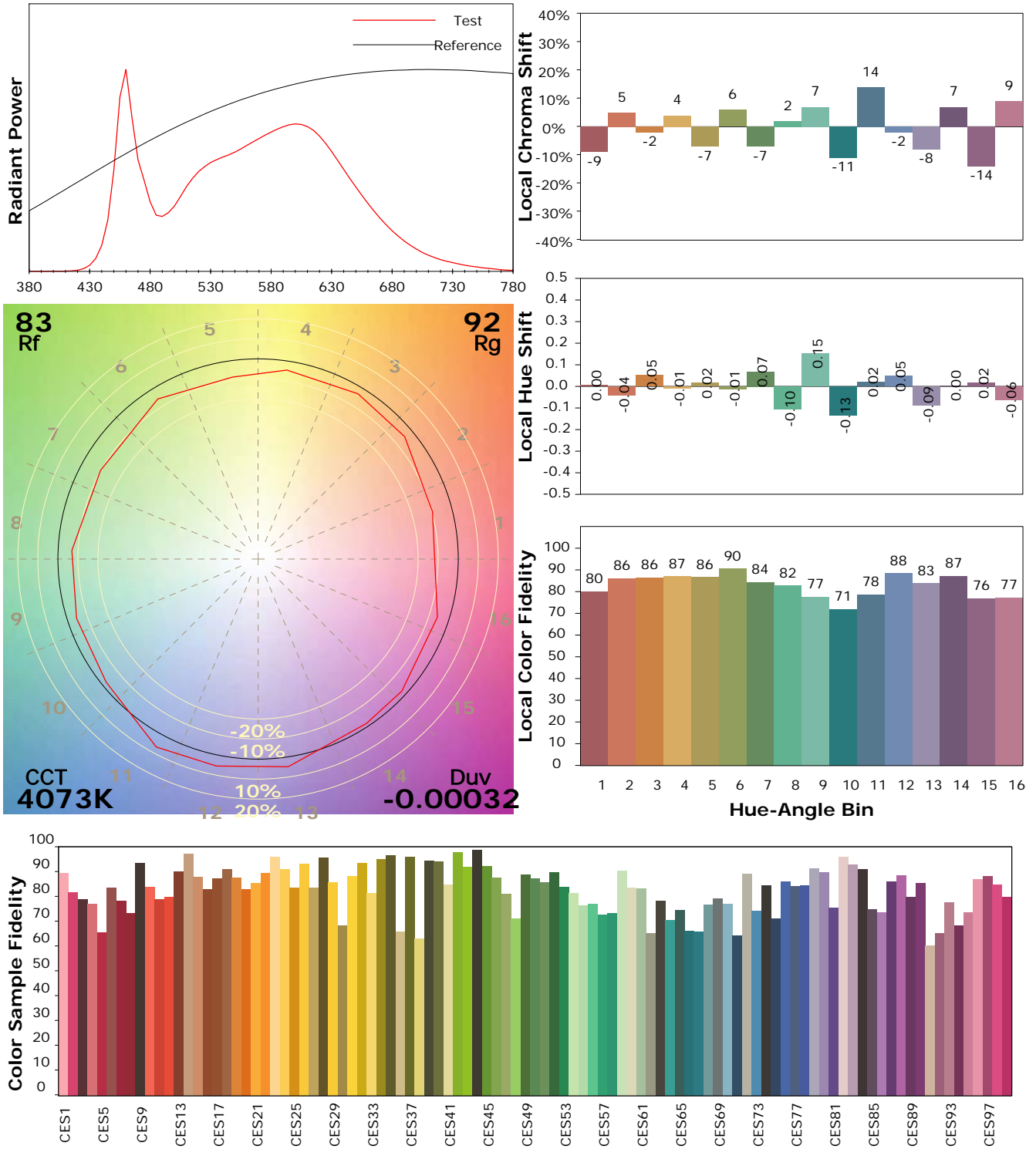
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IES TM-30-18 Color Rendition Report

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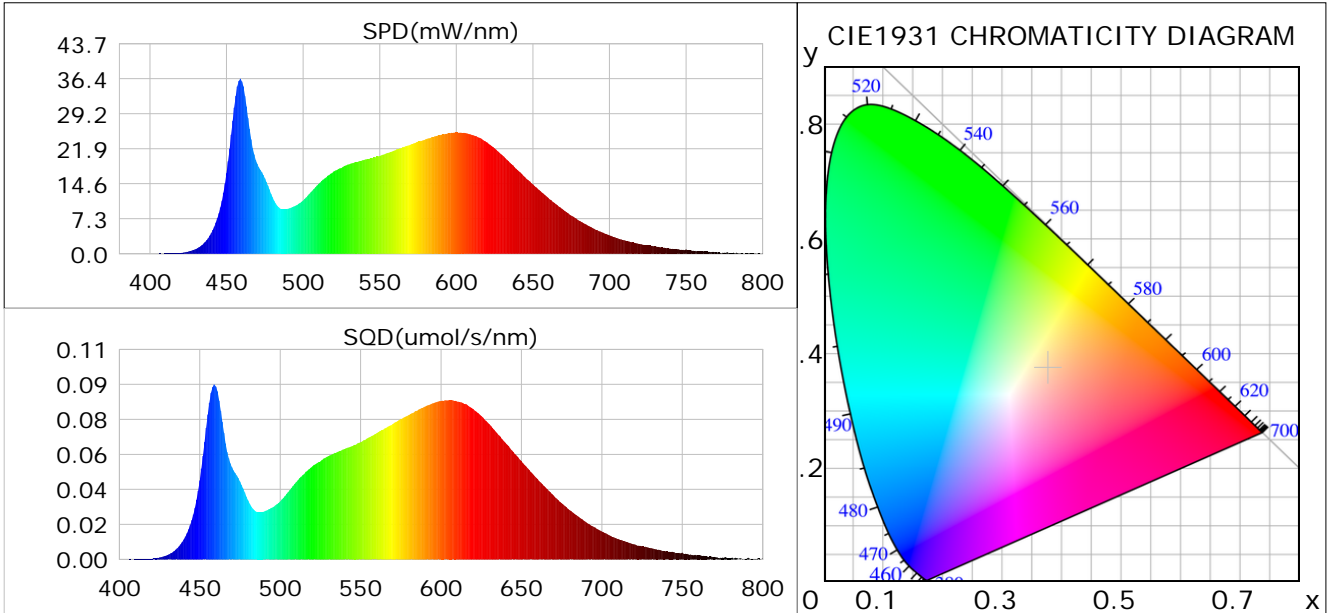
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Plant optical param data

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 CRI: $R_a=86.4$



Plant Optical Param

$ \mu_v(lm)$: 1483.00	$Q_v(lm.s)$: 1483.00
$ \mu_e, \dot{E}(W/nm)$: 4.63	$Q_e(J)$: 4.63
$ \mu_e(W)$: 4.53	$ \mu_{fr}(W)$: 0.11
$ \zeta_e$: 0.36	$ \zeta_{fr}$: 0.01
PPE(umol/s/w): 1.69	Kfr: 0.05
Erb_Ratio: 1.42	PPF(umol/s): 21.23
PFuv(360-400)(umol/s): 0.00	PPF(400-500)(umol/s): 4.04
PPF(500-600)(umol/s): 9.39	PPF(600-700)(umol/s): 7.81
PPfr(700-800)(umol/s): 0.66	PPF.t(umol): 21.23
$ \mu_{ch-A.t}(J)$: 0.34	$ \mu_{ch-A}(W)$: 0.34
$ \mu_{ch-B.t}(J)$: 0.23	$ \mu_{ch-B}(W)$: 0.23
$ \mu_b.t(J)$: 1.04	$ \mu_b(W)$: 1.04
$ \mu_y.t(J)$: 2.03	$ \mu_y(W)$: 2.03
$ \mu_r.t(J)$: 1.49	$ \mu_r(W)$: 1.49

Electric Parameters

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