

Lightsource Test Report

Product Information

Product Category: LED-Technik
 Product Spec: LED-MODUL-180-20-NW
 Manufacturer: METOLIGHT
 Buyer: 5318

Product Type: LED-Technik-Module
 Product Number: 1
 Submitted Unit: 103237

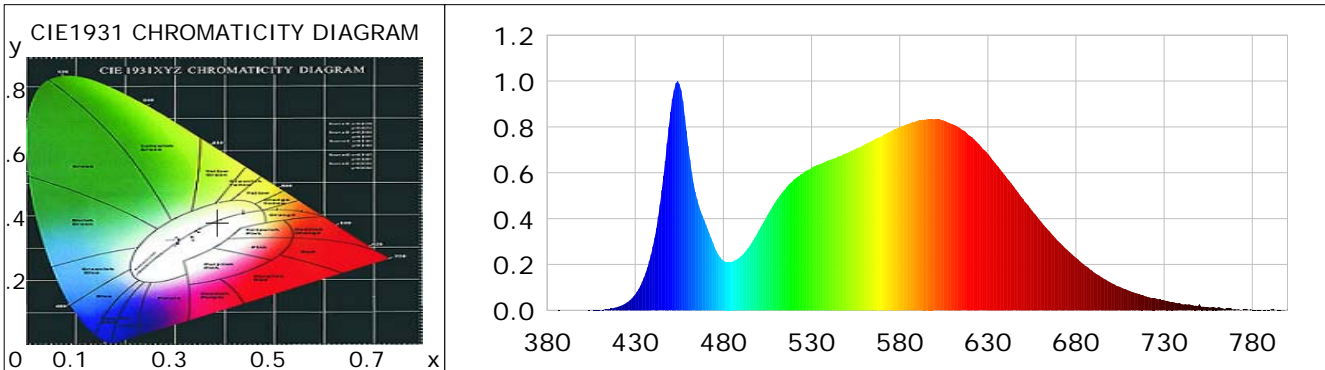
CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3855$ $y=0.3812$ $u(u')=0.2267$ $v=0.3362$ $v'=0.5043$
 CCT: $T_c=3898K$ ($duv=0.00061$) Color Ratio: $R=0.189$ $G=0.778$ $B=0.033$
 Peak Wavelength: 453.9nm Half Bandwidth: 19.9nm
 Dominant Wavelength: 579.1nm Color Purity: 0.301
 CRI: $R_a=84.1$, $avgR(1\sim14)=77.6$, $avgR(1\sim15)=77.7$ TM30: $R_f=84$, $R_g=96$
 GAI: $GAI_BB_8=92.7$, $GAI_BB_15=100.7$, $GAI_EES=71.6$

R1 =83	R2 =90	R3 =94	R4 =83	R5 =82	R6 =85	R7 =87	R8 =69
R9 =20	R10=74	R11=82	R12=57	R13=85	R14=96	R15=78	

Color Quality Scale: $Q_a=83.5$, $Q_f=83.5$, $Q_p=83.7$, $Q_g=93.7$

Q1 =84	Q2 =98	Q3 =78	Q4 =75	Q5 =81	Q6 =83	Q7 =86	Q8 =89
Q9 =97	Q10=89	Q11=86	Q12=86	Q13=86	Q14=76	Q15=79	



Photometric Parameters

Luminous Flux: 2120.1 lm	Efficiency: 100.67 lm/W	Radiant Power: 6.448 W
Total mains efficacy: 118.39 lm/W	Energy Efficiency Class: E (EU 2019/2015)	
Pupil Flux: 3138.14 Plm	Pupil Lumens Per Watt: 149.01 Plm/W	Pupil Factor (Kp): 1.480
Cirtopic Flux: 6287.59 lm		

Electric Parameters

Voltage: 231.40V	Current: 0.1750A	Power: 21.06W
Power Factor: 0.5180	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: 45449 (2772)	CCD Integration Time: 117.09 ms

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

Test Device: Lisun LMS-9000B
 Test Time: 2021-08-16 14:01:31
 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	0.0191	525	0.5962	25.8487	670	0.3012	13.0576
385	0.0004	0.0161	530	0.6224	26.9843	675	0.2640	11.4476
390	0.0006	0.0280	535	0.6384	27.6766	680	0.2290	9.9291
395	0.0003	0.0115	540	0.6554	28.4154	685	0.1961	8.5005
400	0.0006	0.0282	545	0.6709	29.0848	690	0.1668	7.2329
405	0.0003	0.0145	550	0.6858	29.7308	695	0.1420	6.1549
410	0.0020	0.0871	555	0.7050	30.5653	700	0.1195	5.1825
415	0.0064	0.2775	560	0.7228	31.3350	705	0.1022	4.4318
420	0.0153	0.6655	565	0.7423	32.1840	710	0.0862	3.7391
425	0.0330	1.4299	570	0.7600	32.9494	715	0.0727	3.1532
430	0.0697	3.0223	575	0.7813	33.8724	720	0.0603	2.6163
435	0.1431	6.2046	580	0.8005	34.7049	725	0.0529	2.2947
440	0.2782	12.0604	585	0.8139	35.2872	730	0.0439	1.9052
445	0.5245	22.7414	590	0.8264	35.8268	735	0.0356	1.5443
450	0.8654	37.5205	595	0.8325	36.0930	740	0.0278	1.2062
455	0.9876	42.8172	600	0.8323	36.0836	745	0.0241	1.0445
460	0.7173	31.0987	605	0.8282	35.9053	750	0.0271	1.1752
465	0.4864	21.0894	610	0.8118	35.1957	755	0.0144	0.6251
470	0.3761	16.3072	615	0.7897	34.2374	760	0.0115	0.5005
475	0.2747	11.9099	620	0.7605	32.9707	765	0.0081	0.3505
480	0.2164	9.3838	625	0.7240	31.3889	770	0.0063	0.2719
485	0.2124	9.2068	630	0.6821	29.5708	775	0.0042	0.1840
490	0.2362	10.2415	635	0.6337	27.4758	780	0.0027	0.1169
495	0.2816	12.2101	640	0.5853	25.3762	785	0.0025	0.1087
500	0.3473	15.0567	645	0.5365	23.2593	790	0.0024	0.1055
505	0.4158	18.0271	650	0.4857	21.0560	795	0.0018	0.0794
510	0.4790	20.7663	655	0.4353	18.8741	800	0.0045	0.1959
515	0.5281	22.8950	660	0.3886	16.8470			
520	0.5707	24.7418	665	0.3444	14.9296			

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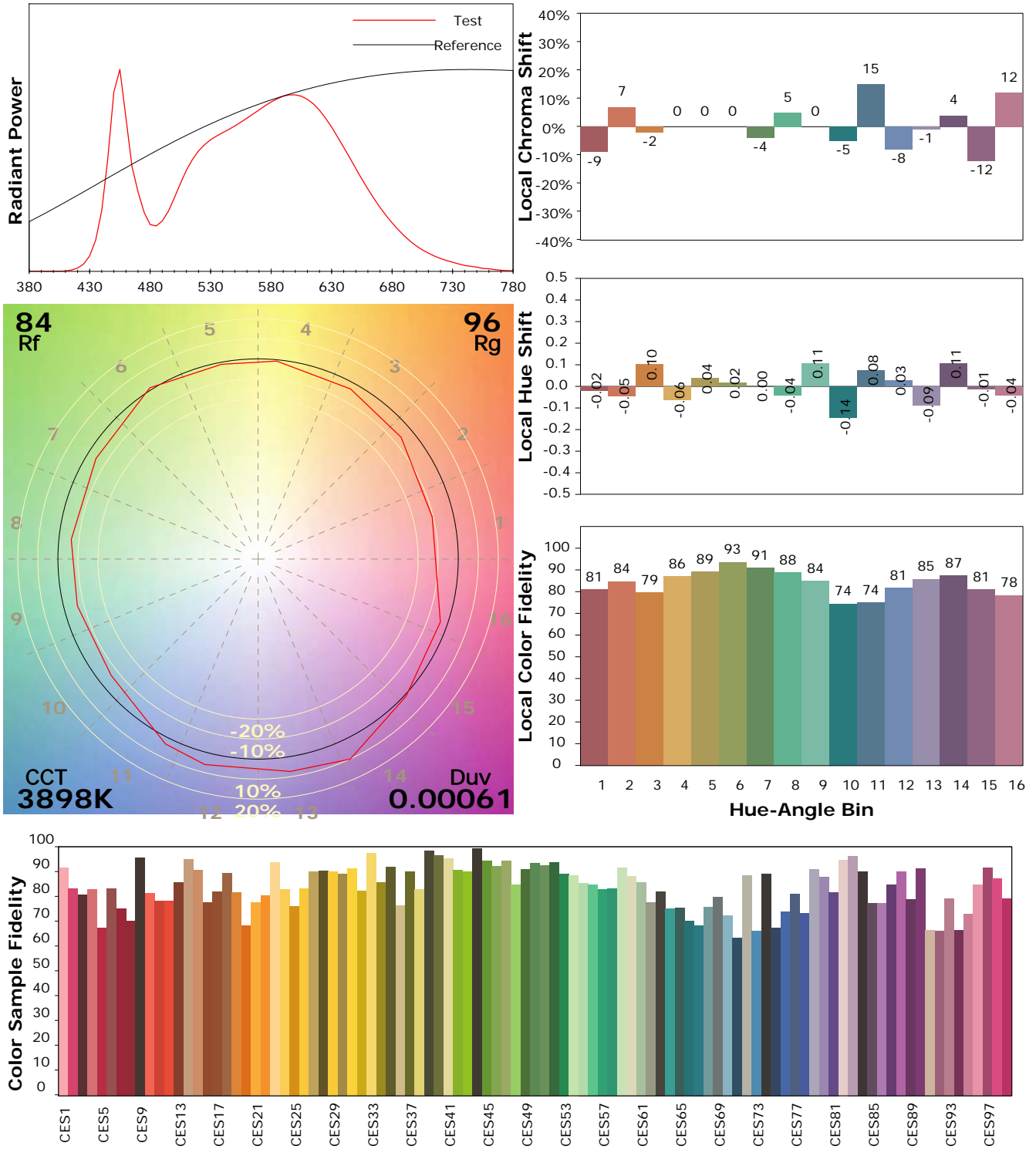
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IES TM-30-18 Color Rendition Report

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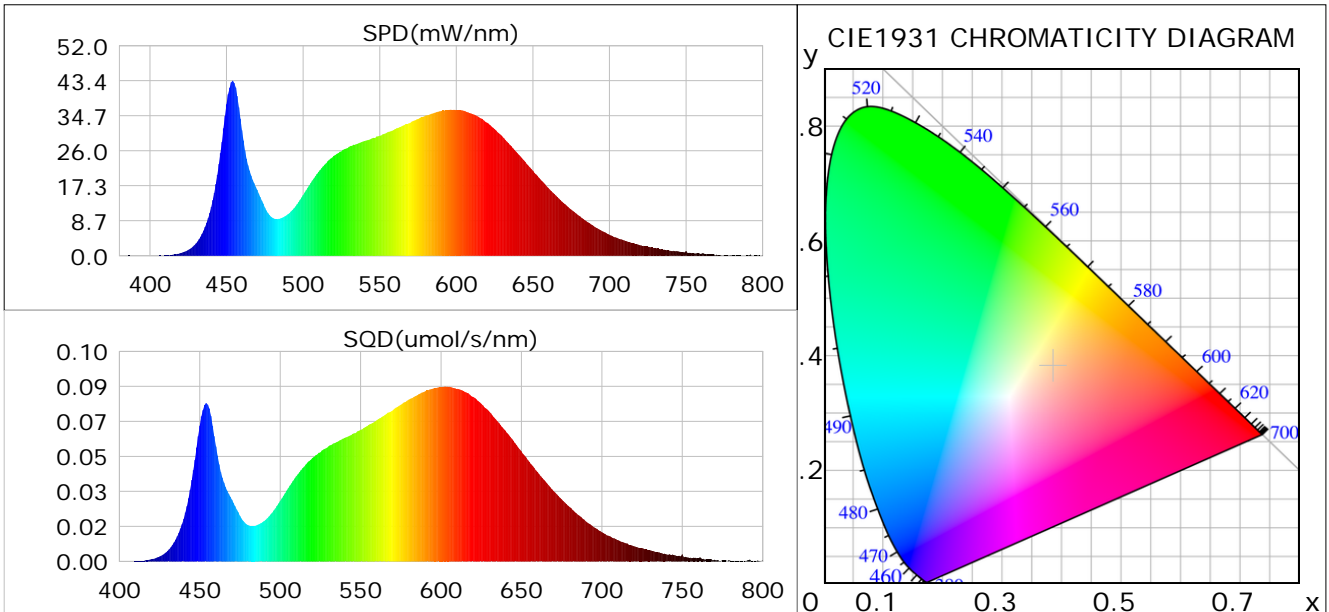
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Plant optical param data

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Plant Optical Param

$ \mu_v(lm): 2120.10$	$Q_v(lm.s): 2120.10$
$ \mu_e, \dot{E}(W/nm): 6.45$	$Q_e(J): 6.45$
$ \mu_e(W): 6.31$	$ \mu_{fr}(W): 0.14$
$ \zeta_e: 0.30$	$ \zeta_{fr}: 0.01$
$PPE(\mu mol/s/w): 1.41$	$K_{fr}: 0.04$
$Erb_Ratio: 1.64$	$PPF(\mu mol/s): 29.74$
$PF_{uv}(360-400)(\mu mol/s): 0.00$	$PPF(400-500)(\mu mol/s): 4.96$
$PPF(500-600)(\mu mol/s): 13.59$	$PPF(600-700)(\mu mol/s): 11.20$
$PPF_r(700-800)(\mu mol/s): 0.82$	$PPF.t(\mu mol): 29.74$
$ \mu_{ch-A.t}(J): 0.50$	$ \mu_{ch-A}(W): 0.50$
$ \mu_{ch-B.t}(J): 0.29$	$ \mu_{ch-B}(W): 0.29$
$ \mu_b.t(J): 1.28$	$ \mu_b(W): 1.28$
$ \mu_y.t(J): 2.94$	$ \mu_y(W): 2.94$
$ \mu_r.t(J): 2.14$	$ \mu_r(W): 2.14$

Electric Parameters

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Power Factor: 0.5180	Frequency: 49.99Hz	

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