

Lightsource Test Report

Product Information

Product Category: LED-Technik
 Product Spec: LED-MODUL-142-15-NW
 Manufacturer: METOLIGHT
 Buyer: 5318

Product Type: LED-Technik-Module
 Product Number: 1
 Submitted Unit: 103234

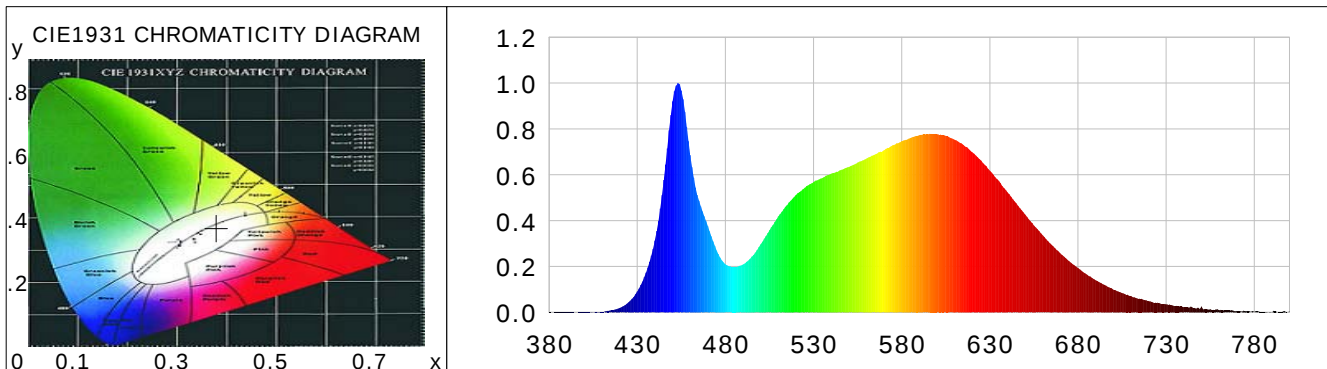
CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3796$ $y=0.3703$ $u(u')=0.2271$ $v=0.3324$ $v'=0.4986$
 CCT: $T_c=3975K$ ($duv=-0.00279$) Color Ratio: $R=0.188$ $G=0.778$ $B=0.034$
 Peak Wavelength: 453.2nm Half Bandwidth: 20.7nm
 Dominant Wavelength: 580.8nm Color Purity: 0.251
 CRI: $R_a=83.6$, $avgR(1\sim14)=77.0$, $avgR(1\sim15)=77.2$ TM30: $R_f=82$, $R_g=96$
 GAI: $GAI_BB_8=97.2$, $GAI_BB_15=104.6$, $GAI_EES=76.3$

R1 =83	R2 =90	R3 =93	R4 =82	R5 =82	R6 =85	R7 =86	R8 =68
R9 =18	R10=74	R11=80	R12=58	R13=85	R14=96	R15=79	

Color Quality Scale: $Q_a=81.6$, $Q_f=81.3$, $Q_p=82.9$, $Q_g=94.5$

Q1 =84	Q2 =99	Q3 =75	Q4 =71	Q5 =79	Q6 =82	Q7 =84	Q8 =88
Q9 =96	Q10=86	Q11=83	Q12=82	Q13=83	Q14=75	Q15=78	



Photometric Parameters

Luminous Flux: 1651.8 lm	Efficiency: 96.31 lm/W	Radiant Power: 5.055 W
Total mains efficacy: 113.27 lm/W	Energy Efficiency Class: E (EU 2019/2015)	
Pupil Flux: 2468.71 Plm	Pupil Lumens Per Watt: 143.95 Plm/W	Pupil Factor (Kp): 1.495
Cirtpic Flux: 5005.09 lm		

Electric Parameters

Voltage: 231.40V	Current: 0.1260A	Power: 17.15W
Power Factor: 0.5840	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: 46016 (2798)	CCD Integration Time: 145.84 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 11:47:32
 Inspector:

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0009	0.0336	525	0.5433	19.8966	670	0.2575	9.4285
385	0.0008	0.0279	530	0.5678	20.7931	675	0.2232	8.1754
390	0.0010	0.0350	535	0.5858	21.4511	680	0.1937	7.0926
395	0.0002	0.0071	540	0.6047	22.1441	685	0.1649	6.0380
400	0.0013	0.0471	545	0.6199	22.7003	690	0.1401	5.1306
405	0.0009	0.0324	550	0.6339	23.2134	695	0.1196	4.3804
410	0.0031	0.1120	555	0.6532	23.9208	700	0.0997	3.6528
415	0.0086	0.3141	560	0.6703	24.5475	705	0.0843	3.0866
420	0.0195	0.7147	565	0.6894	25.2451	710	0.0717	2.6261
425	0.0435	1.5939	570	0.7075	25.9090	715	0.0600	2.1956
430	0.0908	3.3261	575	0.7290	26.6951	720	0.0495	1.8111
435	0.1734	6.3489	580	0.7467	27.3433	725	0.0421	1.5428
440	0.3133	11.4713	585	0.7602	27.8397	730	0.0355	1.2994
445	0.5777	21.1571	590	0.7730	28.3068	735	0.0275	1.0077
450	0.9205	33.7080	595	0.7766	28.4403	740	0.0229	0.8391
455	0.9681	35.4531	600	0.7776	28.4766	745	0.0205	0.7508
460	0.6856	25.1067	605	0.7700	28.1966	750	0.0257	0.9401
465	0.4867	17.8238	610	0.7528	27.5663	755	0.0136	0.4988
470	0.3763	13.7798	615	0.7304	26.7472	760	0.0095	0.3477
475	0.2699	9.8840	620	0.6986	25.5830	765	0.0080	0.2941
480	0.2101	7.6940	625	0.6623	24.2517	770	0.0062	0.2274
485	0.1989	7.2834	630	0.6176	22.6175	775	0.0042	0.1551
490	0.2092	7.6615	635	0.5740	21.0199	780	0.0030	0.1106
495	0.2434	8.9129	640	0.5232	19.1593	785	0.0033	0.1197
500	0.2967	10.8667	645	0.4755	17.4142	790	0.0002	0.0069
505	0.3583	13.1193	650	0.4267	15.6257	795	0.0023	0.0830
510	0.4192	15.3527	655	0.3784	13.8569	800	0.0049	0.1812
515	0.4684	17.1514	660	0.3361	12.3069			
520	0.5119	18.7467	665	0.2948	10.7941			

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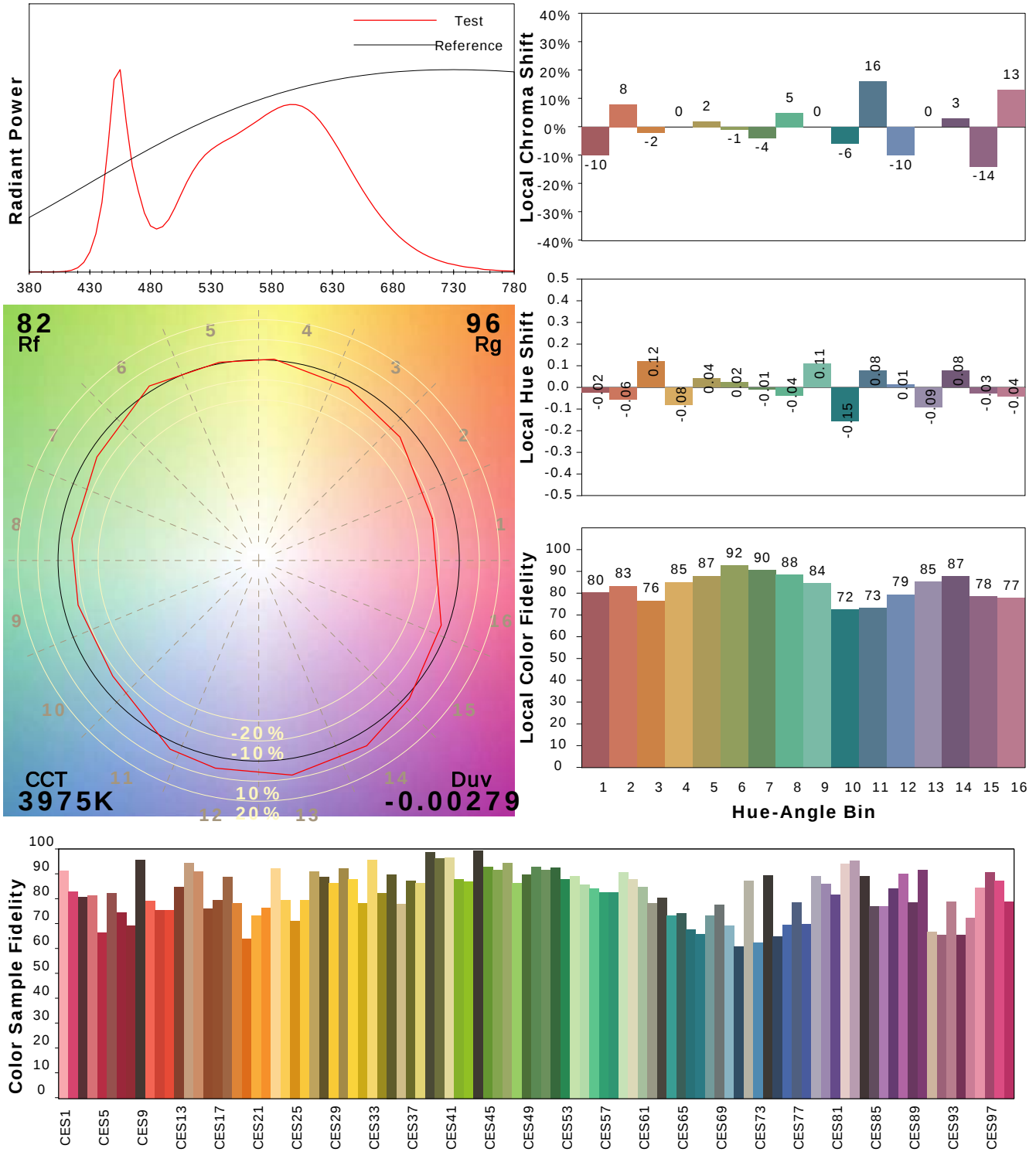
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IES TM-30-18 Color Rendition Report

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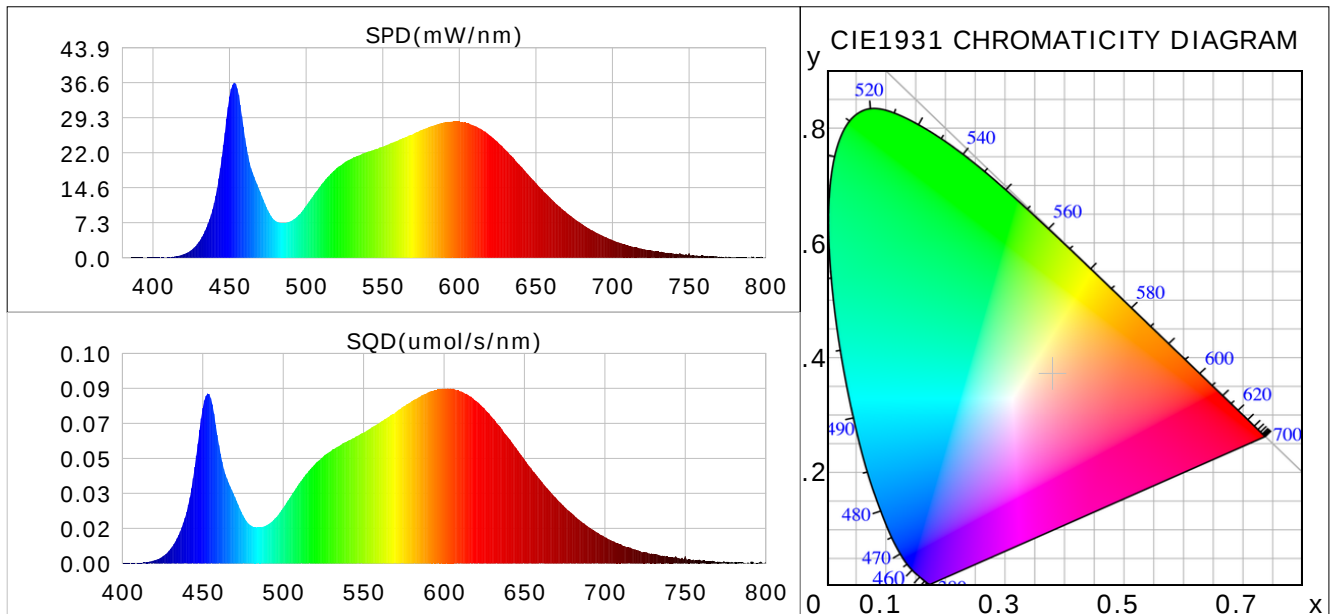
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Plant optical param data

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 CRI: Ra= 83.6



Plant Optical Param

$\mu_v(lm)$: 1651.80	$Q_v(lm.s)$: 1651.80
$\mu_e, \dot{E}(W/nm)$: 5.05	$Q_e(J)$: 5.05
$\mu_e(W)$: 4.96	$\mu_{fr}(W)$: 0.10
$\dot{C}_e$: 0.29	$\dot{C}_{fr}$: 0.01
$PPE(umol/s/w)$: 1.36	K_{fr} : 0.03
Erb_Ratio : 1.46	$PPF(umol/s)$: 23.24
$PF_{uv}(360-400)(umol/s)$: 0.00	$PPF(400-500)(umol/s)$: 4.21
$PPF(500-600)(umol/s)$: 10.57	$PPF(600-700)(umol/s)$: 8.47
$PF_{fr}(700-800)(umol/s)$: 0.58	$PPF.t(umol)$: 23.24
$\mu_{ch-A.t}(J)$: 0.40	$\mu_{ch-A}(W)$: 0.40
$\mu_{ch-B.t}(J)$: 0.24	$\mu_{ch-B}(W)$: 0.24
$\mu_{b.t}(J)$: 1.09	$\mu_b(W)$: 1.09
$\mu_{y.t}(J)$: 2.28	$\mu_y(W)$: 2.28
$\mu_{r.t}(J)$: 1.62	$\mu_r(W)$: 1.62

Electric Parameters

Voltage: 231.40V	Current: 0.1260A	Power: 17.15W
Power Factor: 0.5840	Frequency: 49.99Hz	