

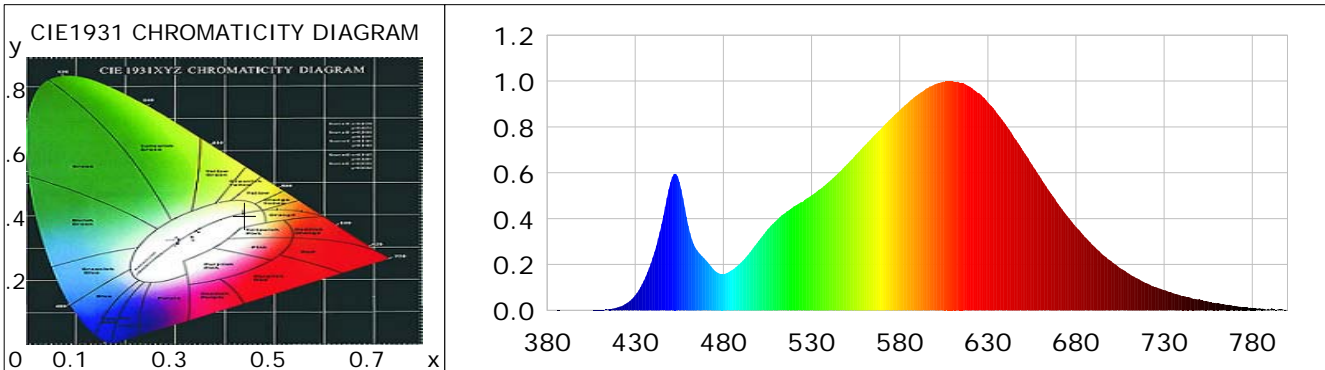
Lightsource Test Report

Product Information

Product Category: LED-Lampen
 Product Spec: LED-SLG28-Plus-E27-36-360-WWM
 Manufacturer: METOLIGHT
 Buyer: 3811
 Product Type: LED-Strassenlampen
 Product Number: 1
 Submitted Unit: 101692

CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.4406$ $y=0.4023$ $u(u')=0.2537$ $v=0.3475$ $v'=0.5212$
 CCT: $T_c=2924K$ ($duv=-0.00118$) Color Ratio: $R=0.236$ $G=0.740$ $B=0.024$
 Peak Wavelength: 609.6nm Half Bandwidth: 137.0nm
 Dominant Wavelength: 583.6nm Color Purity: 0.530
 CRI: $R_a=83.9$, $avgR(1\sim14)=78.8$, $avgR(1\sim15)=78.7$ TM30: $R_f=85$, $R_g=98$
 GAI: $GAI_BB_8=98.7$, $GAI_BB_15=105.7$, $GAI_EES=54.6$
 R1 =82 R2 =91 R3 =97 R4 =82 R5 =82 R6 =88 R7 =84 R8 =65
 R9 =21 R10=78 R11=80 R12=70 R13=84 R14=98 R15=77
 Color Quality Scale: $Q_a=82.9$, $Q_f=84.1$, $Q_p=85.7$, $Q_g=93.8$
 Q1 =81 Q2 =96 Q3 =81 Q4 =79 Q5 =83 Q6 =83 Q7 =82 Q8 =85
 Q9 =96 Q10=89 Q11=85 Q12=83 Q13=84 Q14=76 Q15=77



Photometric Parameters

Luminous Flux: 3944.1 lm Efficiency: 106.25 lm/W Radiant Power: 12.491 W
 Total mains efficacy: 106.25 lm/W Energy Efficiency Class: F (EU 2019/2015)
 Pupil Flux: 4859.45 Plm Pupil Lumens Per Watt: 130.91 Plm/W Pupil Factor (Kp): 1.232
 Circopic Flux: 8747.04 lm

Electric Parameters

Voltage: 230.80V Current: 0.1680A Power: 37.12W
 Power Factor: 0.9560 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: 46578 (2544) CCD Integration Time: 122.17 ms

Condition: $T_x:21.9^{\circ}C$, $T_i:0.0^{\circ}C$, R.H.:60%
 Test Lab:
 Operator: CRE

Test Device: Lisun LMS-9000B
 Test Time: 2021-02-11 14:11:19
 Inspector:

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0001	0.0087	525	0.4731	37.3831	670	0.4630	36.5864
385	0.0001	0.0090	530	0.5016	39.6295	675	0.4117	32.5304
390	0.0003	0.0215	535	0.5294	41.8301	680	0.3641	28.7726
395	0.0000	0.0012	540	0.5613	44.3486	685	0.3195	25.2419
400	0.0005	0.0396	545	0.5970	47.1735	690	0.2806	22.1741
405	0.0004	0.0289	550	0.6362	50.2659	695	0.2435	19.2424
410	0.0014	0.1105	555	0.6777	53.5475	700	0.2148	16.9695
415	0.0049	0.3890	560	0.7183	56.7543	705	0.1837	14.5172
420	0.0127	1.0074	565	0.7592	59.9905	710	0.1602	12.6559
425	0.0304	2.3981	570	0.7967	62.9512	715	0.1384	10.9324
430	0.0658	5.2019	575	0.8362	66.0704	720	0.1186	9.3686
435	0.1300	10.2695	580	0.8734	69.0110	725	0.1025	8.1008
440	0.2307	18.2301	585	0.9069	71.6601	730	0.0883	6.9751
445	0.3780	29.8705	590	0.9392	74.2065	735	0.0753	5.9504
450	0.5586	44.1334	595	0.9670	76.4020	740	0.0627	4.9550
455	0.5609	44.3197	600	0.9864	77.9354	745	0.0545	4.3049
460	0.3695	29.1934	605	0.9981	78.8650	750	0.0501	3.9574
465	0.2622	20.7174	610	1.0000	79.0131	755	0.0386	3.0499
470	0.2189	17.2974	615	0.9924	78.4160	760	0.0310	2.4468
475	0.1738	13.7313	620	0.9749	77.0270	765	0.0243	1.9182
480	0.1584	12.5130	625	0.9471	74.8307	770	0.0197	1.5599
485	0.1759	13.9005	630	0.9065	71.6289	775	0.0147	1.1578
490	0.2086	16.4843	635	0.8610	68.0324	780	0.0109	0.8614
495	0.2525	19.9543	640	0.8118	64.1415	785	0.0072	0.5686
500	0.3033	23.9657	645	0.7523	59.4410	790	0.0032	0.2565
505	0.3525	27.8554	650	0.6950	54.9109	795	0.0048	0.3831
510	0.3923	30.9984	655	0.6361	50.2584	800	0.0038	0.3033
515	0.4243	33.5290	660	0.5774	45.6185			
520	0.4533	35.8159	665	0.5184	40.9642			

Condition: Tx:21.9'C, Ti:0.0'C, R.H.:60%
 Test Lab:
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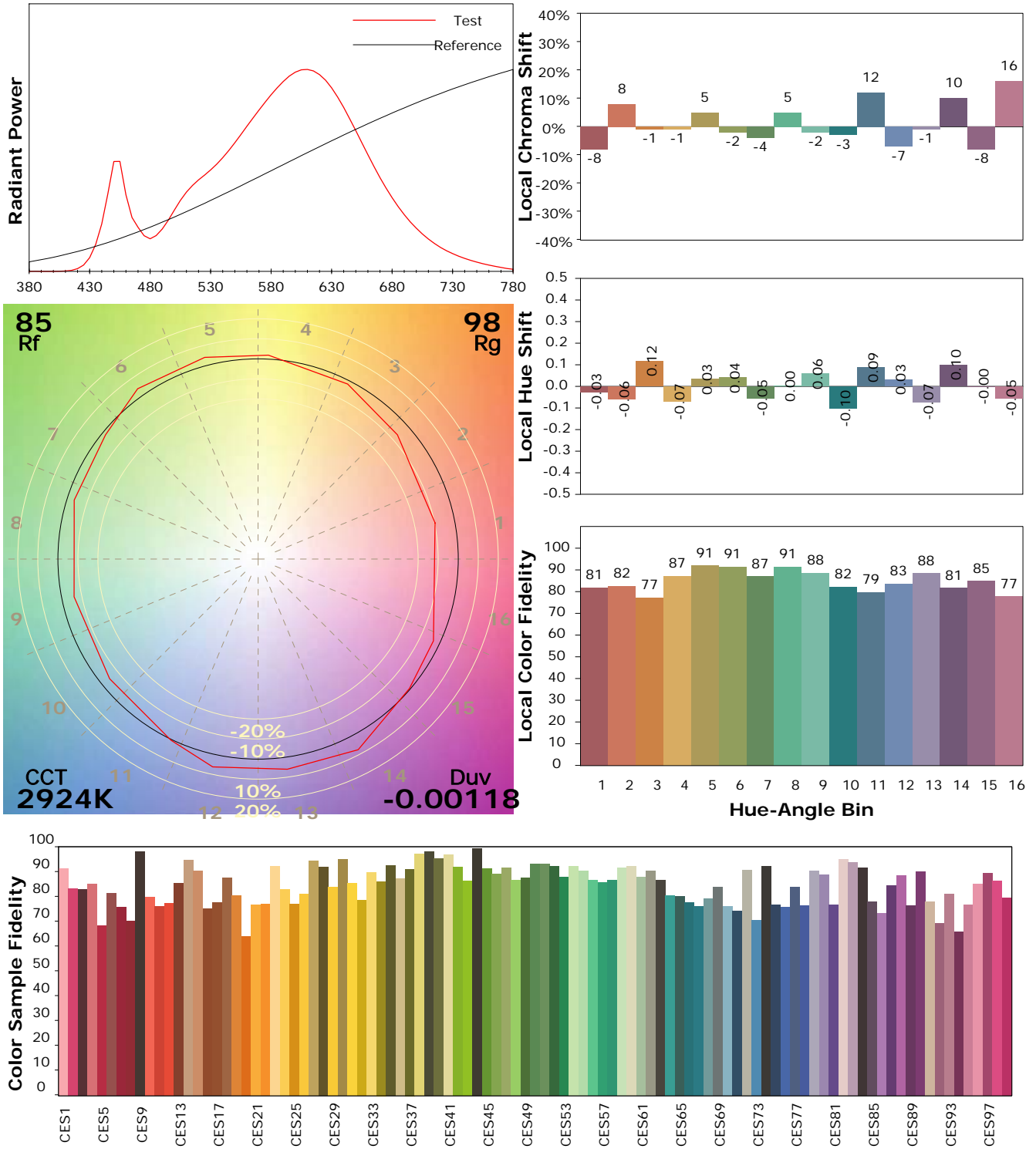
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IES TM-30-18 Color Rendition Report

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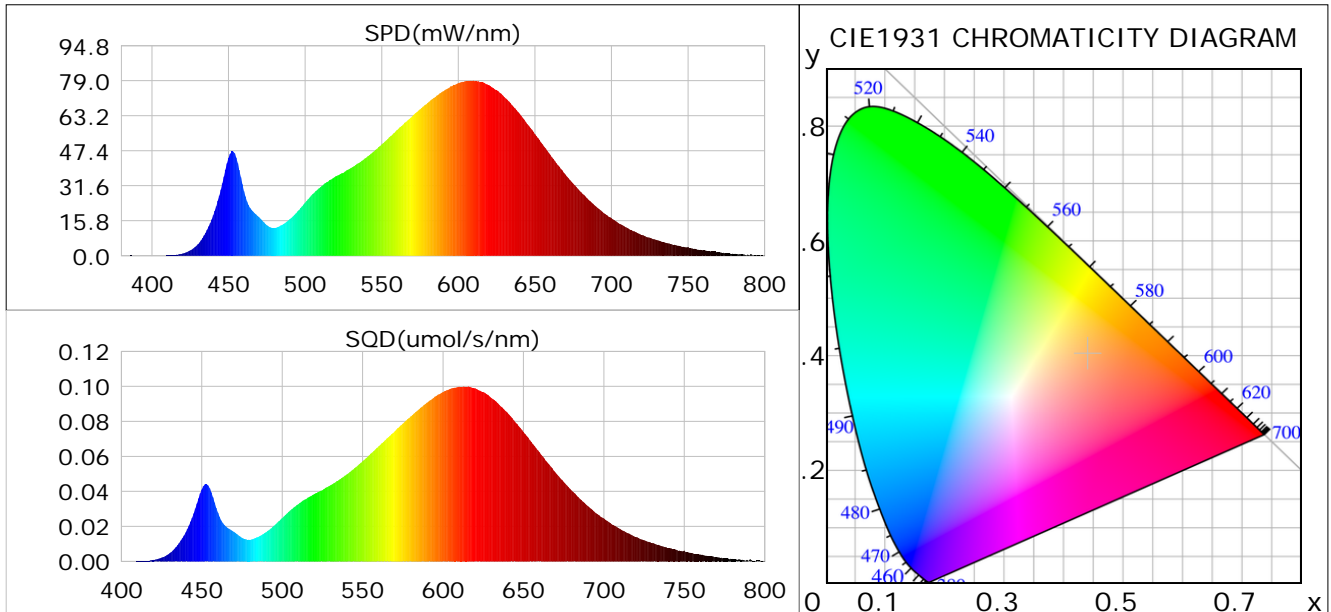
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Plant optical param data

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 CRI: $R_a=83.9$



Plant Optical Param

$ \mu_v(lm)$: 3944.10	$Q_v(lm.s)$: 3944.10
$ \mu_e, \dot{E}(W/nm)$: 12.49	$Q_e(J)$: 12.49
$ \mu_e(W)$: 12.00	$ \mu_{fr}(W)$: 0.52
$ \zeta_e$: 0.32	$ \zeta_{fr}$: 0.01
PPE(umol/s/w): 1.57	Kfr: 0.08
Erb_Ratio: 3.34	PPF(umol/s): 58.31
PFuv(360-400)(umol/s): 0.00	PPF(400-500)(umol/s): 6.07
PPF(500-600)(umol/s): 24.22	PPF(600-700)(umol/s): 28.02
PPfr(700-800)(umol/s): 3.05	PPF.t(umol): 58.31
$ \mu_{ch-A.t}(J)$: 0.99	$ \mu_{ch-A}(W)$: 0.99
$ \mu_{ch-B.t}(J)$: 0.47	$ \mu_{ch-B}(W)$: 0.47
$ \mu_b.t(J)$: 1.57	$ \mu_b(W)$: 1.57
$ \mu_y.t(J)$: 5.20	$ \mu_y(W)$: 5.20
$ \mu_r.t(J)$: 5.32	$ \mu_r(W)$: 5.32

Electric Parameters

Voltage: 230.80V	Current: 0.1680A	Power: 37.12W
Power Factor: 0.9560	Frequency: 49.99Hz	

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