

## Lightsource Test Report

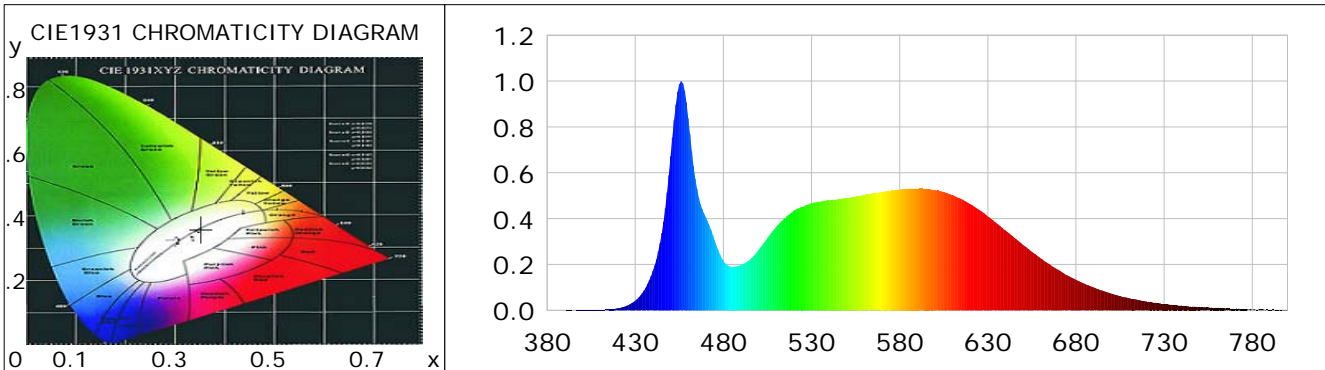
### Product Information

Product Category: LED-Lampen  
 Product Spec: LED-SLG381-E40-40-DW  
 Manufacturer: METOLIGHT  
 Buyer: 3811

Product Type: LED-Strassenlampen  
 Product Number: 1  
 Submitted Unit: 102940

### CIE Colorimetric Parameters

Chromaticity coordinates:  $x=0.3527$   $y=0.3596$   $u(u')=0.2134$   $v=0.3264$   $v'=0.4897$   
 CCT:  $T_c=4754K$  ( $duv=0.00102$ ) Color Ratio:  $R=0.167$   $G=0.788$   $B=0.045$   
 Peak Wavelength: 456.1nm Half Bandwidth: 18.0nm  
 Dominant Wavelength: 574.4nm Color Purity: 0.138  
 CRI:  $R_a=85.1$ ,  $avgR(1\sim14)=78.5$ ,  $avgR(1\sim15)=78.6$  TM30:  $R_f=82$ ,  $R_g=93$   
 GAI:  $GAI\_BB\_8=90.8$ ,  $GAI\_BB\_15=98.9$ ,  $GAI\_EES=80.6$   
 R1 =85 R2 =92 R3 =94 R4 =82 R5 =83 R6 =86 R7 =88 R8 =71  
 R9 =24 R10=77 R11=81 R12=52 R13=87 R14=97 R15=80  
 Color Quality Scale:  $Q_a=82.9$ ,  $Q_f=83.0$ ,  $Q_p=82.5$ ,  $Q_g=92.2$   
 Q1 =83 Q2 =97 Q3 =79 Q4 =72 Q5 =77 Q6 =80 Q7 =86 Q8 =90  
 Q9 =97 Q10=90 Q11=87 Q12=86 Q13=86 Q14=78 Q15=80



### Photometric Parameters

Luminous Flux: 5988.0 lm Efficiency: 145.73 lm/W Radiant Power: 18.699 W  
 Total mains efficacy: 171.38 lm/W Energy Efficiency Class: C (EU 2019/2015)  
 Pupil Flux: 9980.68 Plm Pupil Lumens Per Watt: 242.90 Plm/W Pupil Factor (Kp): 1.667  
 Circopic Flux: 21599.26 lm

### Electric Parameters

Voltage: 231.10V Current: 0.1880A Power: 41.09W  
 Power Factor: 0.9400 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: 51454 (2490) CCD Integration Time: 23.15 ms

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0011	0.1989	525	0.4509	79.8344	670	0.1767	31.2893
385	0.0014	0.2415	530	0.4672	82.7285	675	0.1530	27.0824
390	0.0004	0.0776	535	0.4741	83.9509	680	0.1337	23.6689
395	0.0004	0.0734	540	0.4801	85.0140	685	0.1152	20.4048
400	0.0013	0.2247	545	0.4851	85.9025	690	0.1001	17.7199
405	0.0013	0.2375	550	0.4903	86.8071	695	0.0859	15.2129
410	0.0027	0.4777	555	0.4968	87.9714	700	0.0734	13.0017
415	0.0049	0.8660	560	0.5038	89.1999	705	0.0631	11.1680
420	0.0093	1.6475	565	0.5109	90.4618	710	0.0531	9.4058
425	0.0201	3.5557	570	0.5167	91.4973	715	0.0455	8.0600
430	0.0425	7.5181	575	0.5227	92.5554	720	0.0386	6.8288
435	0.0869	15.3896	580	0.5269	93.2915	725	0.0338	5.9784
440	0.1720	30.4484	585	0.5301	93.8695	730	0.0279	4.9333
445	0.3370	59.6783	590	0.5311	94.0411	735	0.0235	4.1694
450	0.6717	118.9336	595	0.5294	93.7345	740	0.0213	3.7767
455	0.9869	174.7531	600	0.5244	92.8522	745	0.0166	2.9313
460	0.8387	148.4987	605	0.5169	91.5229	750	0.0152	2.6882
465	0.5304	93.9107	610	0.5029	89.0461	755	0.0134	2.3786
470	0.4060	71.8800	615	0.4858	86.0115	760	0.0114	2.0228
475	0.3057	54.1283	620	0.4642	82.1882	765	0.0080	1.4080
480	0.2157	38.1852	625	0.4382	77.5958	770	0.0067	1.1818
485	0.1902	33.6789	630	0.4090	72.4258	775	0.0055	0.9763
490	0.1983	35.1053	635	0.3798	67.2414	780	0.0031	0.5438
495	0.2213	39.1821	640	0.3488	61.7613	785	0.0045	0.8016
500	0.2635	46.6557	645	0.3163	56.0140	790	0.0029	0.5212
505	0.3159	55.9368	650	0.2852	50.5037	795	0.0031	0.5439
510	0.3652	64.6676	655	0.2552	45.1874	800	0.0042	0.7380
515	0.4025	71.2653	660	0.2275	40.2783			
520	0.4357	77.1484	665	0.2009	35.5791			

Condition: Tx:21.4'C, Ti:0.0'C, R.H.:60%  
 Test Lab:  
 Operator: CRE

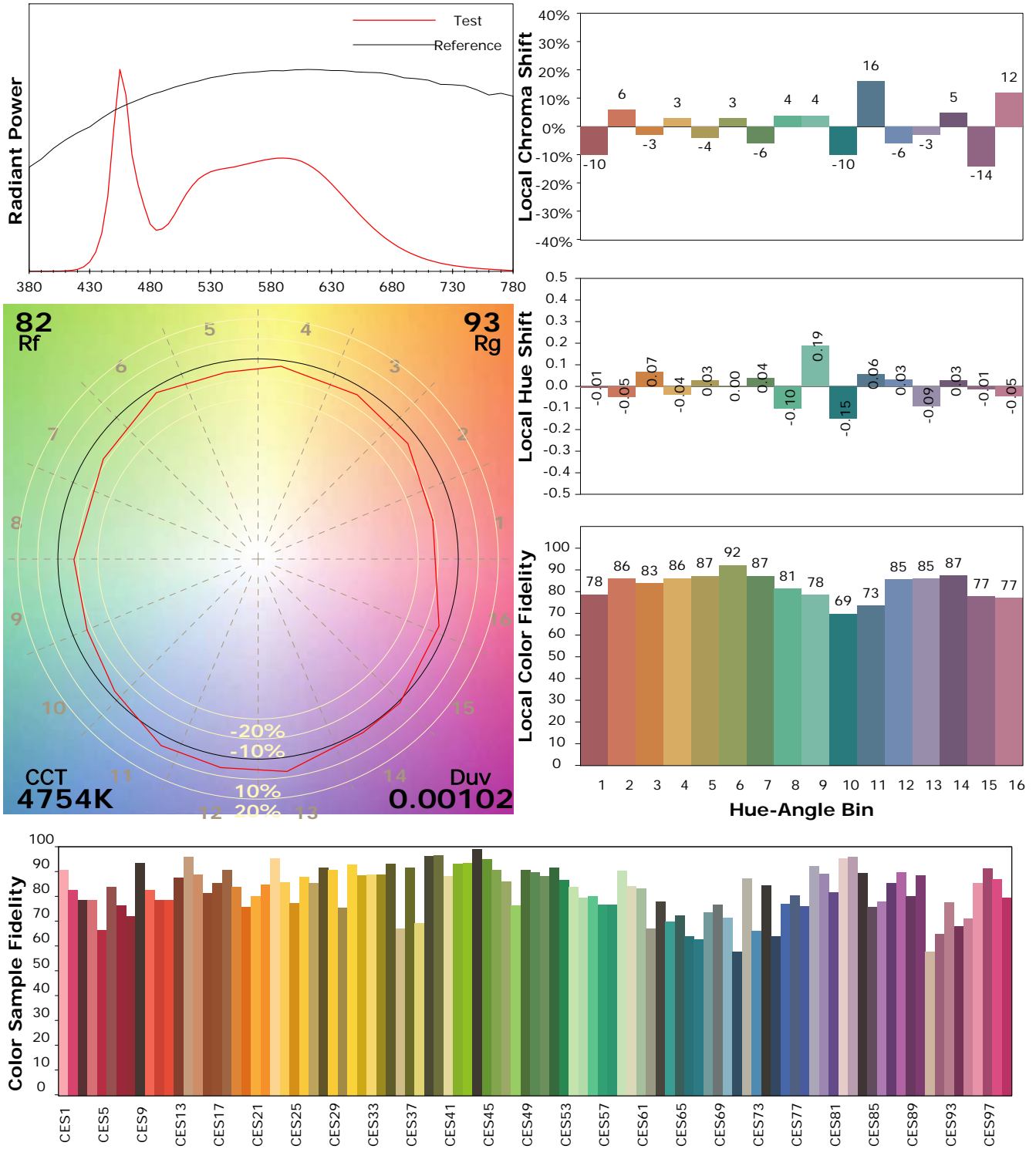
Test Device: Lisun LMS-9000B  
 Test Time: 2021-02-12 12:26:52  
 Inspector:

## IES TM-30-18 Color Rendition Report

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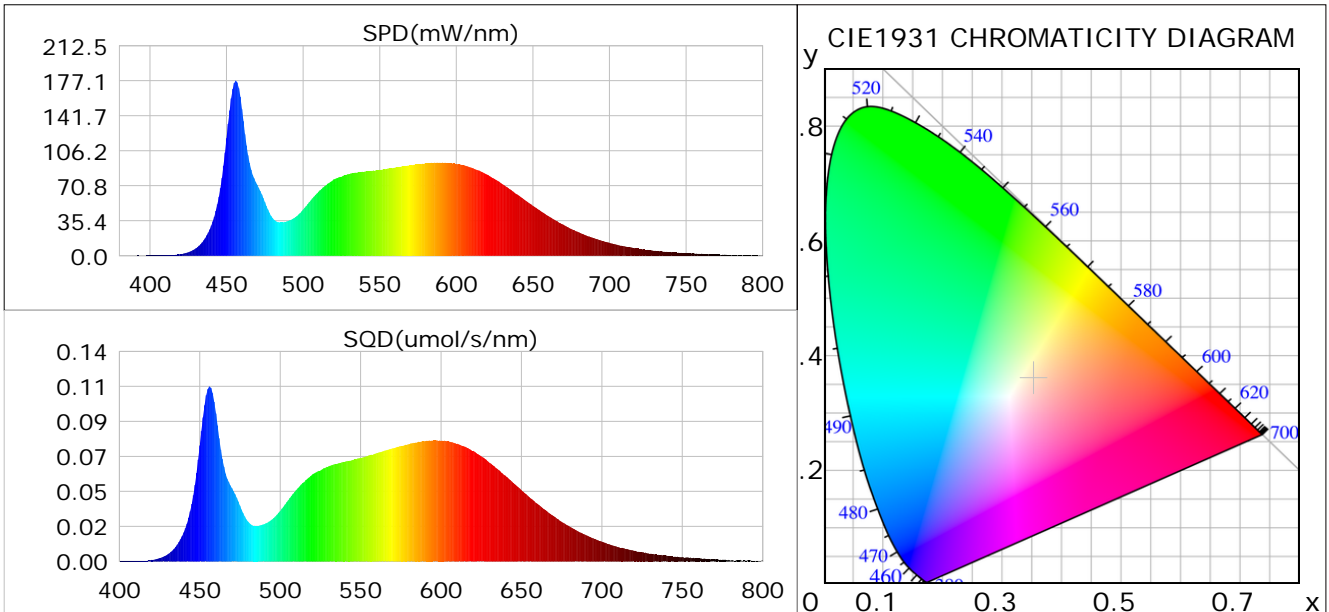
Condition: Tx:21.4°C, Ti:0.0°C, R.H.:60%  
 Test Lab:  
 Operator: CRE

Test Device: Lisun LMS-9000B  
 Test Time: 2021-02-12 12:26:52  
 Inspector:

## Plant optical param data

### CIE Colorimetric Parameters

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 Peak Wavelength: 456.1nm Half Bandwidth: 18.0nm  
 Dominant Wavelength: 574.4nm Color Purity: 0.138  
 CRI:  $R_a=85.1$



### Plant Optical Param

$ \mu_v(lm): 5988.00$	$Q_v(lm.s): 5988.00$
$ \mu_e, \dot{E}(W/nm): 18.70$	$Q_e(J): 18.70$
$ \mu_e(W): 18.33$	$ \mu_{fr}(W): 0.39$
$ \zeta_e: 0.45$	$ \zeta_{fr}: 0.01$
$PPE(umol/s/w): 2.06$	$K_{fr}: 0.06$
$Erb\_Ratio: 1.08$	$PPF(umol/s): 84.79$
$PF_{uv}(360-400)(umol/s): 0.01$	$PPF(400-500)(umol/s): 18.47$
$PPF(500-600)(umol/s): 38.80$	$PPF(600-700)(umol/s): 27.52$
$PPF_{fr}(700-800)(umol/s): 2.28$	$PPF.t(umol): 84.79$
$ \mu_{ch-A.t}(J): 1.40$	$ \mu_{ch-A}(W): 1.40$
$ \mu_{ch-B.t}(J): 0.98$	$ \mu_{ch-B}(W): 0.98$
$ \mu_b.t(J): 4.77$	$ \mu_b(W): 4.77$
$ \mu_y.t(J): 8.43$	$ \mu_y(W): 8.43$
$ \mu_r.t(J): 5.27$	$ \mu_r(W): 5.27$

### Electric Parameters

Voltage: 231.10V	Current: 0.1880A	Power: 41.09W
Power Factor: 0.9400	Frequency: 49.99Hz	

Condition:  $T_x: 21.4^\circ C$ ,  $T_i: 0.0^\circ C$ , R.H.: 60%  
 Test Lab:  
 Operator: CRE

Test Device: Lisun LMS-9000B  
 Test Time: 2021-02-12 12:26:52  
 Inspector: