

Lightsource Test Report

Product Information

Product Category: LED-Lampen
 Product Spec: LED-E27-A60-4FS-4W-WWC
 Manufacturer: METOLIGHT
 Buyer: 4545

Product Type: LED-Lampen-E27
 Product Number: 1
 Submitted Unit: 100919

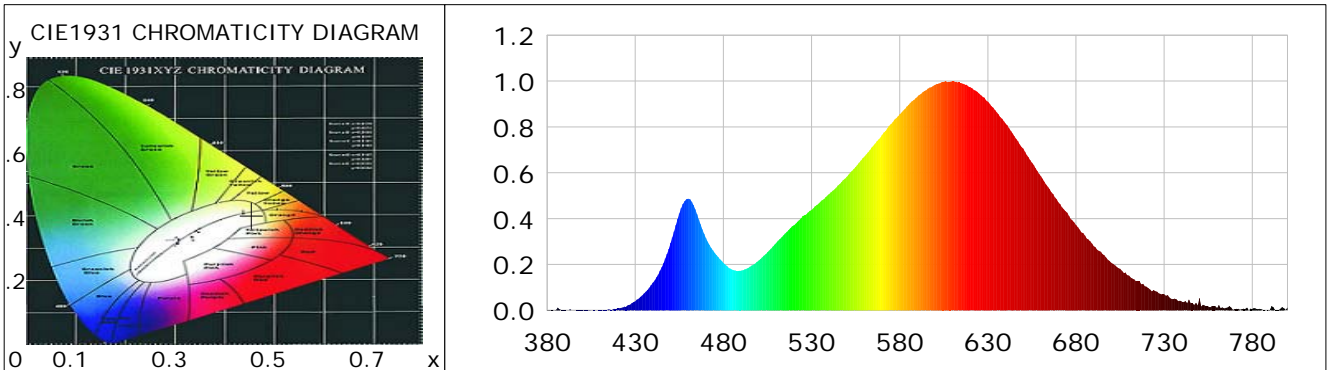
CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.4544$ $y=0.4035$ $u(u')=0.2622$ $v=0.3492$ $v'=0.5238$
 CCT: $T_c=2721K$ ($duv=-0.00219$) Color Ratio: $R=0.249$ $G=0.727$ $B=0.024$
 Peak Wavelength: 606.0nm Half Bandwidth: 128.6nm
 Dominant Wavelength: 584.9nm Color Purity: 0.575
 CRI: $R_a=82.1$, $avgR(1\sim14)=77.1$, $avgR(1\sim15)=77.0$ TM30: $R_f=83$, $R_g=95$
 GAI: $GAI_BB_8=100.2$, $GAI_BB_15=109.5$, $GAI_EES=49.3$

R1 =81	R2 =92	R3 =96	R4 =77	R5 =80	R6 =90	R7 =81	R8 =60
R9 =16	R10=80	R11=73	R12=70	R13=83	R14=99	R15=76	

Color Quality Scale: $Q_a=80.8$, $Q_f=82.4$, $Q_p=84.3$, $Q_g=91.8$

Q1 =80	Q2 =94	Q3 =81	Q4 =74	Q5 =78	Q6 =80	Q7 =80	Q8 =83
Q9 =95	Q10=88	Q11=83	Q12=81	Q13=81	Q14=75	Q15=76	



Photometric Parameters

Luminous Flux: 431.60 lm Efficiency: 109.54 lm/W Radiant Power: 1.370 W
 Total mains efficacy: 109.54 lm/W Energy Efficiency Class: F (EU 2019/2015)
 Pupil Flux: 507.02 Plm Pupil Lumens Per Watt: 128.69 Plm/W Pupil Factor (Kp): 1.175
 Circopic Flux: 903.28 lm

Electric Parameters

Voltage: 230.10V Current: 0.0330A Power: 3.94W
 Power Factor: 0.5050 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: 45287 (2791) CCD Integration Time: 987.86 ms

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0014	0.0131	525	0.4116	3.7571	670	0.4715	4.3041
385	0.0021	0.0196	530	0.4384	4.0016	675	0.4263	3.8910
390	0.0015	0.0133	535	0.4733	4.3206	680	0.3725	3.4004
395	0.0003	0.0025	540	0.5080	4.6368	685	0.3262	2.9778
400	0.0010	0.0089	545	0.5451	4.9758	690	0.2801	2.5569
405	0.0002	0.0022	550	0.5829	5.3206	695	0.2454	2.2403
410	0.0015	0.0141	555	0.6254	5.7084	700	0.2078	1.8971
415	0.0043	0.0396	560	0.6707	6.1222	705	0.1809	1.6513
420	0.0087	0.0793	565	0.7177	6.5515	710	0.1517	1.3847
425	0.0174	0.1586	570	0.7658	6.9901	715	0.1281	1.1693
430	0.0396	0.3612	575	0.8124	7.4155	720	0.1027	0.9371
435	0.0737	0.6728	580	0.8553	7.8077	725	0.0844	0.7704
440	0.1202	1.0968	585	0.8960	8.1786	730	0.0699	0.6381
445	0.1882	1.7178	590	0.9317	8.5047	735	0.0490	0.4473
450	0.2938	2.6820	595	0.9604	8.7667	740	0.0387	0.3530
455	0.4230	3.8610	600	0.9833	8.9761	745	0.0317	0.2891
460	0.4870	4.4459	605	0.9964	9.0957	750	0.0526	0.4798
465	0.4191	3.8257	610	0.9992	9.1214	755	0.0170	0.1552
470	0.3159	2.8832	615	0.9908	9.0441	760	0.0107	0.0975
475	0.2513	2.2935	620	0.9734	8.8851	765	0.0111	0.1009
480	0.2071	1.8905	625	0.9453	8.6289	770	0.0059	0.0536
485	0.1773	1.6188	630	0.9100	8.3065	775	0.0073	0.0668
490	0.1735	1.5833	635	0.8640	7.8868	780	0.0063	0.0575
495	0.1901	1.7357	640	0.8149	7.4385	785	0.0055	0.0506
500	0.2174	1.9847	645	0.7597	6.9344	790	0.0034	0.0310
505	0.2535	2.3142	650	0.7058	6.4427	795	0.0020	0.0185
510	0.2948	2.6907	655	0.6437	5.8755	800	0.0139	0.1266
515	0.3352	3.0598	660	0.5858	5.3473			
520	0.3708	3.3848	665	0.5286	4.8248			

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

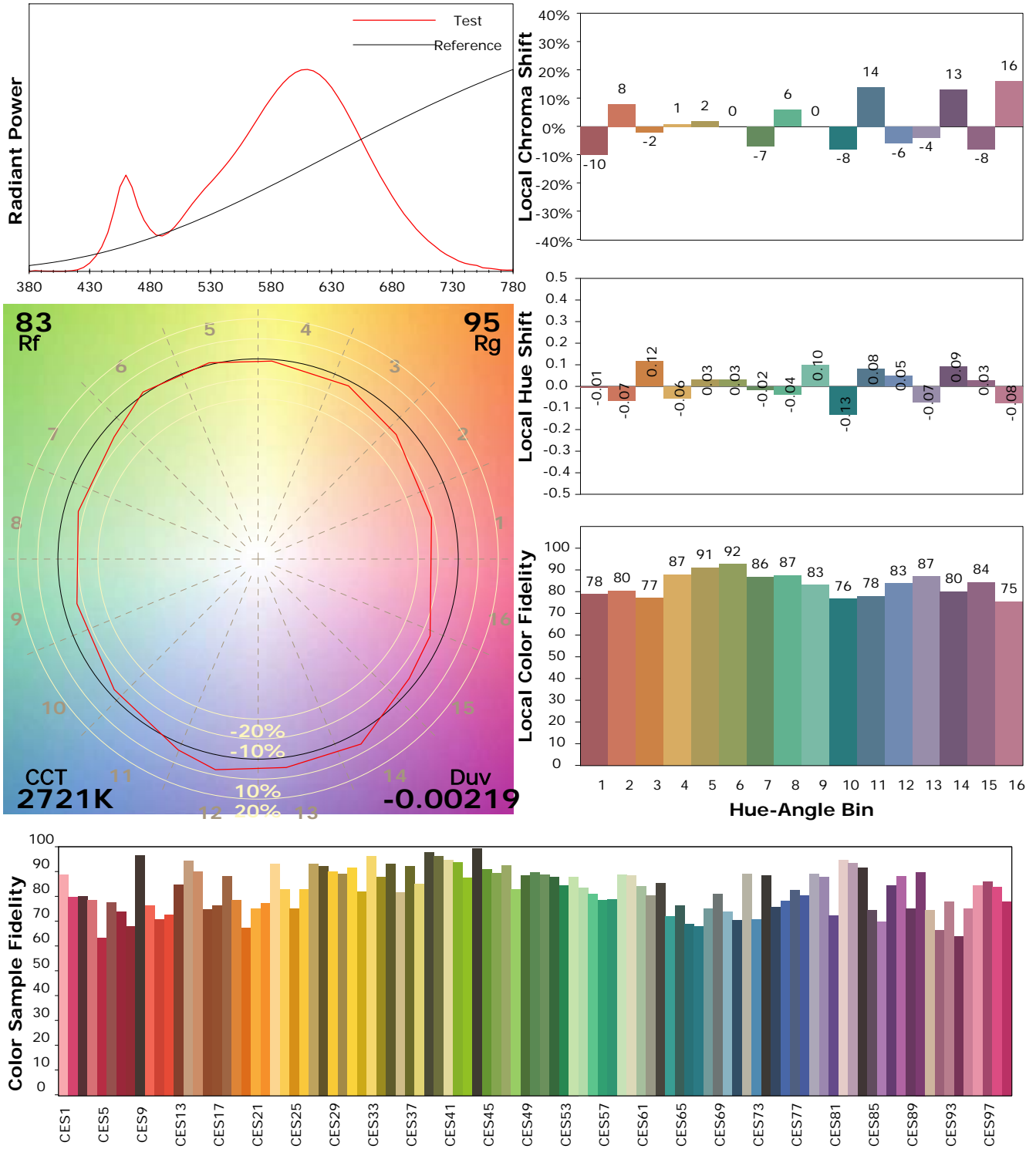
Test Device: Lisun LMS-9000B
 Test Time: 2021-04-28 09:32:14
 Inspector:

IES TM-30-18 Color Rendition Report

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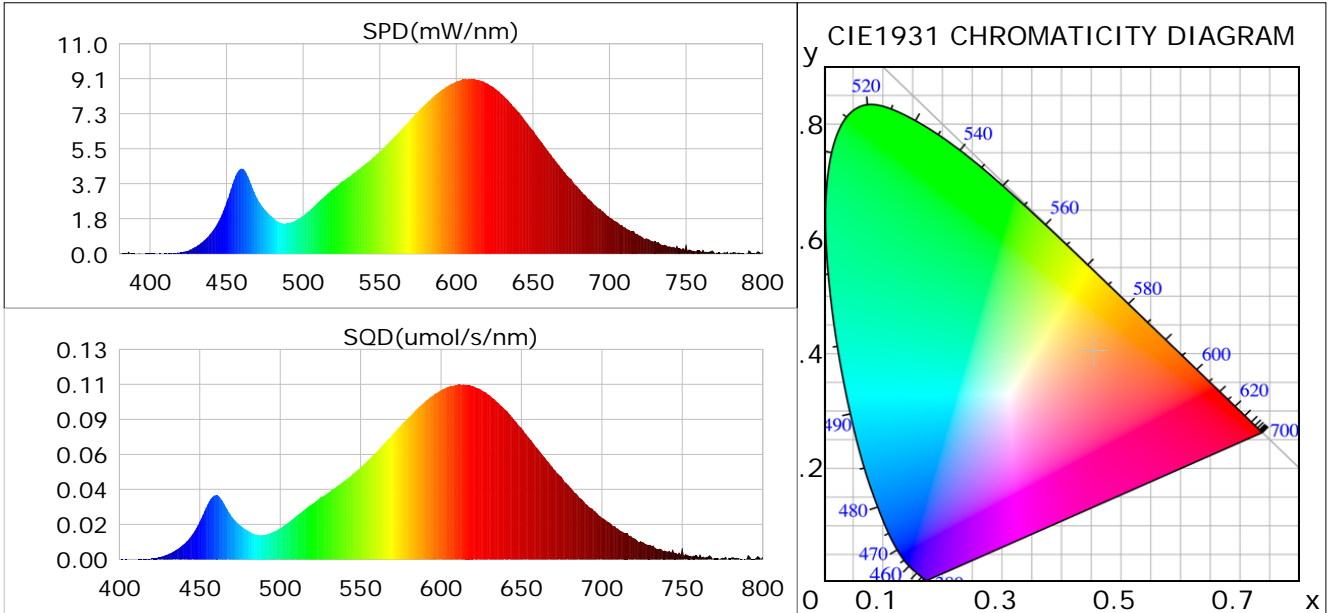
Condition: Tx:0.0°C, Ti:0.0°C, R.H.: 60%
 Test Lab:
 Operator: CRE

Test Device: Lisun LMS-9000B
 Test Time: 2021-04-28 09:32:14
 Inspector:

Plant optical param data

CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.4544$ $y=0.4035$ $u(u')=0.2622$ $v=0.3492$ $v'=0.5238$
 CCT: $T_c=2721K$ ($duv=-0.00219$) Color Ratio: $R=0.249$ $G=0.727$ $B=0.024$
 Peak Wavelength: 606.0nm Half Bandwidth: 128.6nm
 Dominant Wavelength: 584.9nm Color Purity: 0.575
 CRI: $R_a=82.1$



Plant Optical Param

$ \mu_v(lm): 431.60$	$Q_v(lm.s): 431.60$
$ \mu_e, \dot{E}(W/nm): 1.37$	$Q_e(J): 1.37$
$ \mu_e(W): 1.32$	$ \mu_{fr}(W): 0.05$
$ \zeta_e: 0.34$	$ \zeta_{fr}: 0.01$
$PPE(umol/s/w): 1.64$	$K_{fr}: 0.07$
$Erb_Ratio: 3.79$	$PPF(umol/s): 6.48$
$PF_{uv}(360-400)(umol/s): 0.00$	$PPF(400-500)(umol/s): 0.63$
$PPF(500-600)(umol/s): 2.60$	$PPF(600-700)(umol/s): 3.26$
$PPF_{fr}(700-800)(umol/s): 0.28$	$PPF.t(umol): 6.48$
$ \mu_{ch-A.t}(J): 0.11$	$ \mu_{ch-A}(W): 0.11$
$ \mu_{ch-B.t}(J): 0.05$	$ \mu_{ch-B}(W): 0.05$
$ \mu_b.t(J): 0.16$	$ \mu_b(W): 0.16$
$ \mu_y.t(J): 0.56$	$ \mu_y(W): 0.56$
$ \mu_r.t(J): 0.62$	$ \mu_r(W): 0.62$

Electric Parameters

Voltage: 230.10V	Current: 0.0330A	Power: 3.94W
Power Factor: 0.5050	Frequency: 49.99Hz	

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

Test Device: Lisun LMS-9000B
 Test Time: 2021-04-28 09:32:14
 Inspector: