

Lightsource Test Report

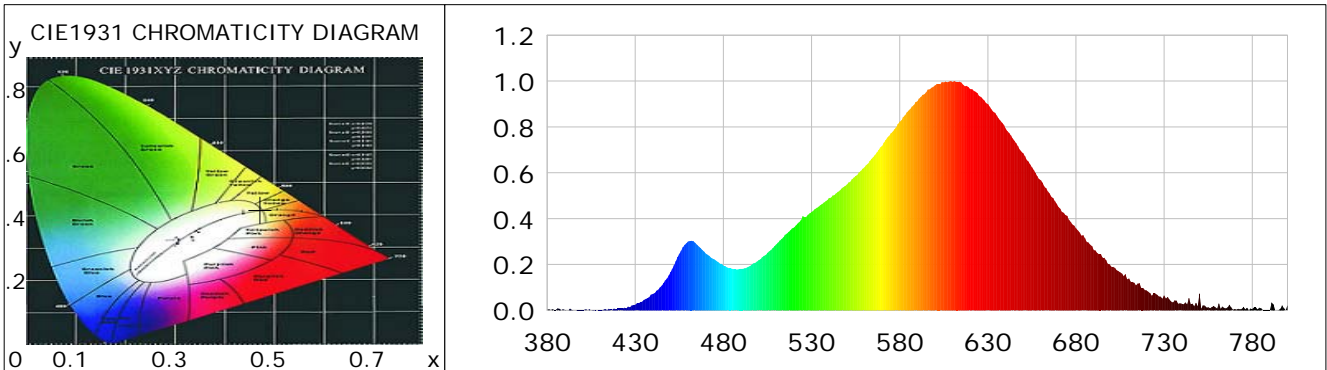
Product Information

Product Category: LED-Lampen
 Product Spec: LED-E27-G45-2FS-2W-WWC
 Manufacturer: METOLIGHT
 Buyer: 4545

Product Type: LED-Lampen-E27
 Product Number: 1
 Submitted Unit: 100921

CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.4720$ $y=0.4208$ $u(u')=0.2657$ $v=0.3553$ $v'=0.5330$
 CCT: $T_c=2615K$ ($duv=0.00278$) Color Ratio: $R=0.256$ $G=0.723$ $B=0.021$
 Peak Wavelength: 611.0nm Half Bandwidth: 123.8nm
 Dominant Wavelength: 583.8nm Color Purity: 0.680
 CRI: $R_a=82.1$, $avgR(1\sim14)=76.7$, $avgR(1\sim15)=76.5$ TM30: $R_f=83$, $R_g=92$
 GAI: $GAI_BB_8=80.2$, $GAI_BB_15=90.7$, $GAI_EES=36.8$
 R1 =80 R2 =91 R3 =97 R4 =78 R5 =80 R6 =90 R7 =82 R8 =59
 R9 =11 R10=79 R11=76 R12=70 R13=83 R14=99 R15=73
 Color Quality Scale: $Q_a=82.2$, $Q_f=85.2$, $Q_p=82.0$, $Q_g=85.6$
 Q1 =79 Q2 =92 Q3 =86 Q4 =79 Q5 =79 Q6 =80 Q7 =82 Q8 =88
 Q9 =94 Q10=90 Q11=87 Q12=85 Q13=83 Q14=73 Q15=75



Photometric Parameters

Luminous Flux: 280.74 lm Efficiency: 114.12 lm/W Radiant Power: 0.871 W
 Total mains efficacy: 114.12 lm/W Energy Efficiency Class: E (EU 2019/2015)
 Pupil Flux: 314.78 Plm Pupil Lumens Per Watt: 127.96 Plm/W Pupil Factor (Kp): 1.121
 Circopic Flux: 536.82 lm

Electric Parameters

Voltage: 230.30V Current: 0.0210A Power: 2.46W
 Power Factor: 0.4960 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: 24190 (2736) CCD Integration Time: 1000.00 ms

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

Test Device: Lisun LMS-9000B
 Test Time: 2021-04-28 09:25:25
 Inspector:

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0022	0.0136	525	0.4110	2.5276	670	0.4522	2.7813
385	0.0038	0.0233	530	0.4293	2.6405	675	0.4123	2.5362
390	0.0022	0.0135	535	0.4593	2.8248	680	0.3576	2.1993
395	0.0011	0.0066	540	0.4903	3.0158	685	0.3147	1.9357
400	0.0032	0.0196	545	0.5169	3.1791	690	0.2636	1.6212
405	0.0004	0.0025	550	0.5485	3.3733	695	0.2310	1.4206
410	0.0020	0.0123	555	0.5860	3.6046	700	0.1907	1.1730
415	0.0068	0.0420	560	0.6241	3.8385	705	0.1655	1.0180
420	0.0077	0.0475	565	0.6690	4.1148	710	0.1395	0.8582
425	0.0091	0.0559	570	0.7173	4.4118	715	0.1167	0.7177
430	0.0248	0.1526	575	0.7726	4.7518	720	0.0868	0.5341
435	0.0455	0.2796	580	0.8232	5.0631	725	0.0740	0.4549
440	0.0712	0.4380	585	0.8709	5.3564	730	0.0649	0.3990
445	0.1081	0.6646	590	0.9121	5.6101	735	0.0349	0.2145
450	0.1671	1.0275	595	0.9514	5.8518	740	0.0291	0.1792
455	0.2467	1.5176	600	0.9814	6.0361	745	0.0274	0.1688
460	0.3008	1.8502	605	0.9942	6.1148	750	0.0727	0.4475
465	0.2855	1.7562	610	0.9967	6.1301	755	0.0136	0.0837
470	0.2477	1.5237	615	0.9934	6.1100	760	0.0079	0.0488
475	0.2214	1.3617	620	0.9660	5.9418	765	0.0089	0.0548
480	0.1957	1.2035	625	0.9351	5.7513	770	0.0058	0.0358
485	0.1813	1.1150	630	0.8998	5.5341	775	0.0147	0.0902
490	0.1810	1.1135	635	0.8499	5.2277	780	0.0063	0.0390
495	0.1932	1.1883	640	0.7930	4.8777	785	0.0090	0.0554
500	0.2186	1.3448	645	0.7402	4.5525	790	0.0020	0.0126
505	0.2509	1.5435	650	0.6849	4.2124	795	0.0021	0.0131
510	0.2879	1.7710	655	0.6235	3.8347	800	0.0243	0.1497
515	0.3296	2.0274	660	0.5678	3.4924			
520	0.3616	2.2238	665	0.5100	3.1367			

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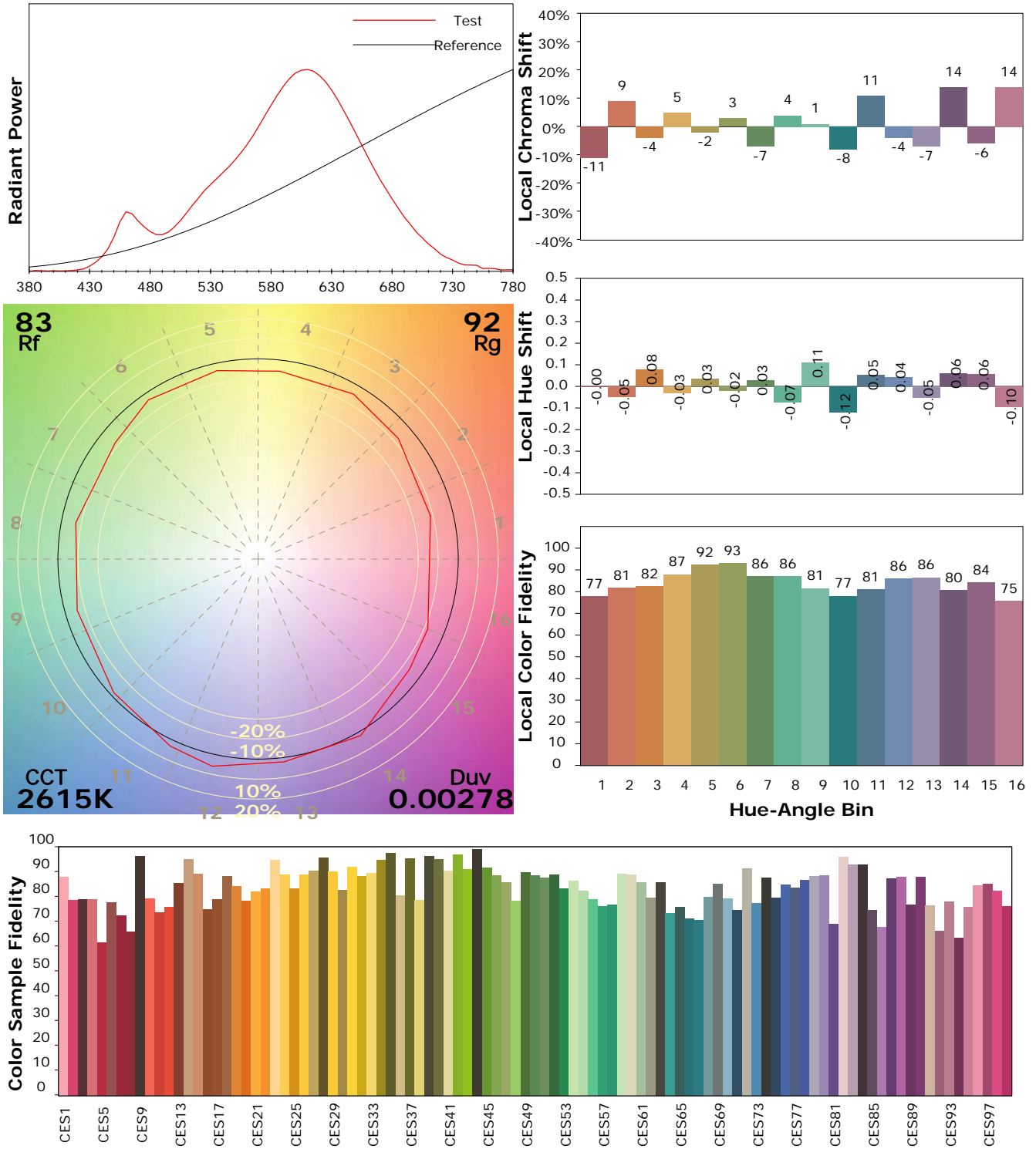
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IES TM-30-18 Color Rendition Report

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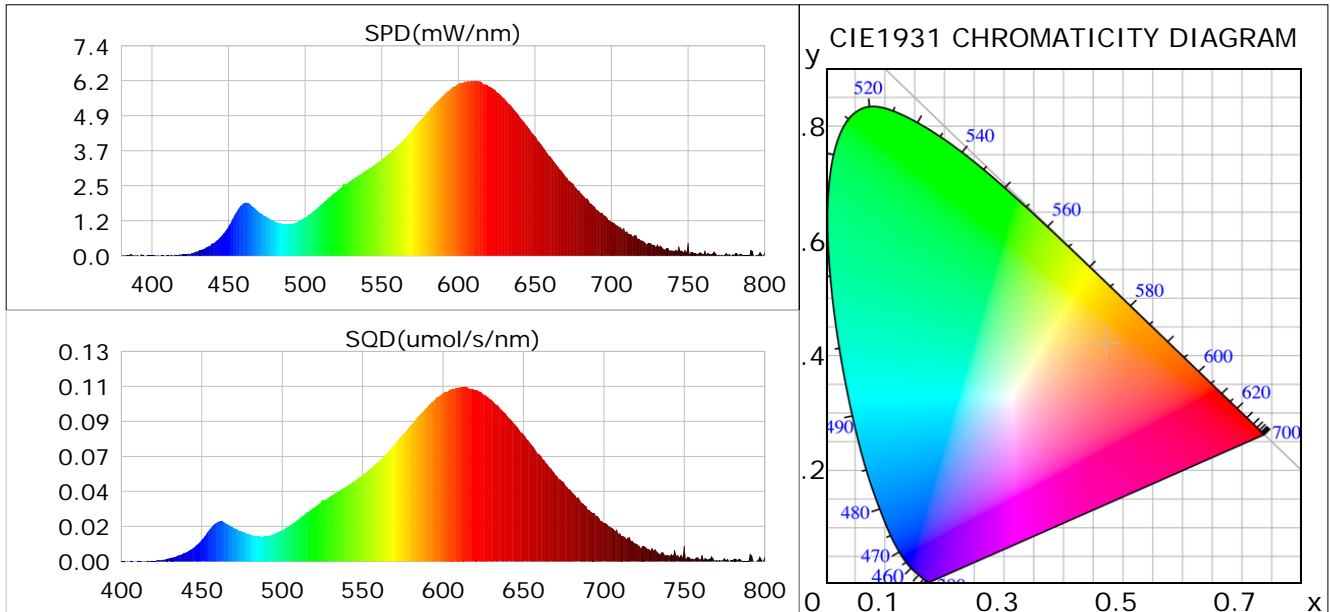
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Plant optical param data

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 CRI: $R_a=82.1$



Plant Optical Param

$ \mu_v(lm)$: 280.74	$Q_v(lm.s)$: 280.74
$ \mu_e, \dot{E}(W/nm)$: 0.87	$Q_e(J)$: 0.87
$ \mu_e(W)$: 0.84	$ \mu_{fr}(W)$: 0.03
$ \zeta_e$: 0.34	$ \zeta_{fr}$: 0.01
$PPE(umol/s/w)$: 1.69	K_{fr} : 0.07
Erb_Ratio : 4.98	$PPF(umol/s)$: 4.15
$PF_{uv}(360-400)(umol/s)$: 0.00	$PPF(400-500)(umol/s)$: 0.32
$PPF(500-600)(umol/s)$: 1.69	$PPF(600-700)(umol/s)$: 2.15
$PPF_{fr}(700-800)(umol/s)$: 0.17	$PPF.t(umol)$: 4.15
$ \mu_{ch-A.t}(J)$: 0.07	$ \mu_{ch-A}(W)$: 0.07
$ \mu_{ch-B.t}(J)$: 0.03	$ \mu_{ch-B}(W)$: 0.03
$ \mu_b.t(J)$: 0.08	$ \mu_b(W)$: 0.08
$ \mu_y.t(J)$: 0.36	$ \mu_y(W)$: 0.36
$ \mu_r.t(J)$: 0.41	$ \mu_r(W)$: 0.41

Electric Parameters

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Power Factor: 0.4960	Frequency: 49.99Hz	

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