

Lightsource Test Report

Product Information

Product Category: LED-Lampen
 Product Spec: LED-AR111-12-WW-C-60
 Manufacturer: METOLIGHT
 Buyer: 2320

Product Type: LED-Lampen-AR111
 Product Number: 1
 Submitted Unit: 101999

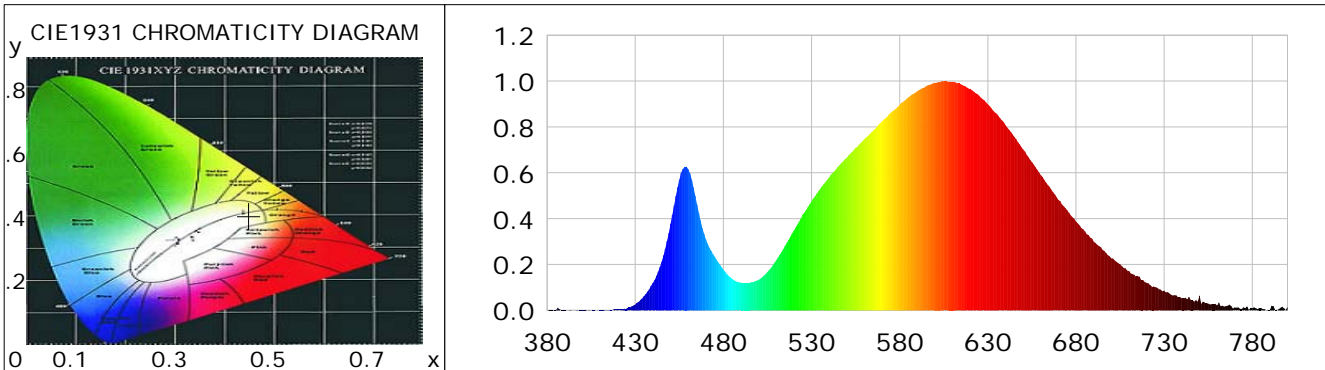
CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.4489$ $y=0.4013$ $u(u')=0.2596$ $v=0.3481$ $v'=0.5221$
 CCT: $T_c=2785K$ ($duv=-0.00251$) Color Ratio: $R=0.239$ $G=0.740$ $B=0.021$
 Peak Wavelength: 604.2nm Half Bandwidth: 136.3nm
 Dominant Wavelength: 584.7nm Color Purity: 0.552
 CRI: $R_a=78.2$, $avgR(1\sim14)=71.0$, $avgR(1\sim15)=71.2$ TM30: $R_f=78$, $R_g=95$
 GAI: $GAI_BB_8=100.9$, $GAI_BB_15=111.8$, $GAI_EES=51.7$

R1 =76	R2 =88	R3 =94	R4 =72	R5 =74	R6 =81	R7 =82	R8 =59
R9 =9	R10=68	R11=63	R12=54	R13=79	R14=96	R15=73	

Color Quality Scale: $Q_a=76.0$, $Q_f=76.7$, $Q_p=80.4$, $Q_g=92.2$

Q1 =79	Q2 =95	Q3 =72	Q4 =64	Q5 =70	Q6 =73	Q7 =73	Q8 =79
Q9 =95	Q10=83	Q11=77	Q12=77	Q13=78	Q14=73	Q15=75	



Photometric Parameters

Luminous Flux: 664.87 lm	Efficiency: 59.26 lm/W	Radiant Power: 2.092 W
Total mains efficacy: 64.53 lm/W	Energy Efficiency Class: G (EU 2019/2015)	
Pupil Flux: 759.58 Plm	Pupil Lumens Per Watt: 67.70 Plm/W	Pupil Factor (Kp): 1.142
Cirtopic Flux: 1322.03 lm		

Electric Parameters

Voltage: 10.690V	Current: 1.0980A	Power: 11.22W
Power Factor: 0.8270	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: 44600 (3102)	CCD Integration Time: 615.23 ms

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: 2021-08-17 10:34:15
 Inspector:

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0010	0.0137	525	0.4187	5.6584	670	0.4821	6.5155
385	0.0015	0.0202	530	0.4753	6.4237	675	0.4363	5.8964
390	0.0020	0.0264	535	0.5312	7.1792	680	0.3880	5.2432
395	0.0006	0.0077	540	0.5799	7.8372	685	0.3447	4.6585
400	0.0014	0.0196	545	0.6261	8.4615	690	0.2998	4.0515
405	0.0002	0.0033	550	0.6659	8.9988	695	0.2639	3.5664
410	0.0014	0.0194	555	0.7089	9.5798	700	0.2271	3.0687
415	0.0029	0.0395	560	0.7470	10.0954	705	0.2004	2.7088
420	0.0045	0.0613	565	0.7846	10.6032	710	0.1723	2.3287
425	0.0074	0.1006	570	0.8239	11.1350	715	0.1482	2.0023
430	0.0257	0.3476	575	0.8622	11.6524	720	0.1196	1.6160
435	0.0624	0.8434	580	0.8976	12.1299	725	0.1018	1.3756
440	0.1193	1.6122	585	0.9296	12.5624	730	0.0862	1.1643
445	0.2134	2.8833	590	0.9562	12.9221	735	0.0647	0.8737
450	0.3771	5.0957	595	0.9780	13.2165	740	0.0525	0.7096
455	0.5702	7.7059	600	0.9930	13.4197	745	0.0456	0.6168
460	0.6162	8.3273	605	0.9983	13.4908	750	0.0641	0.8660
465	0.4616	6.2380	610	0.9973	13.4776	755	0.0296	0.3996
470	0.3104	4.1949	615	0.9852	13.3143	760	0.0216	0.2923
475	0.2347	3.1713	620	0.9662	13.0572	765	0.0183	0.2469
480	0.1777	2.4013	625	0.9366	12.6580	770	0.0131	0.1775
485	0.1370	1.8521	630	0.8984	12.1414	775	0.0130	0.1762
490	0.1207	1.6310	635	0.8573	11.5862	780	0.0096	0.1303
495	0.1198	1.6191	640	0.8076	10.9142	785	0.0096	0.1300
500	0.1339	1.8096	645	0.7569	10.2292	790	0.0028	0.0384
505	0.1677	2.2657	650	0.7022	9.4896	795	0.0055	0.0742
510	0.2194	2.9648	655	0.6461	8.7314	800	0.0165	0.2235
515	0.2824	3.8171	660	0.5905	7.9802			
520	0.3483	4.7069	665	0.5388	7.2821			

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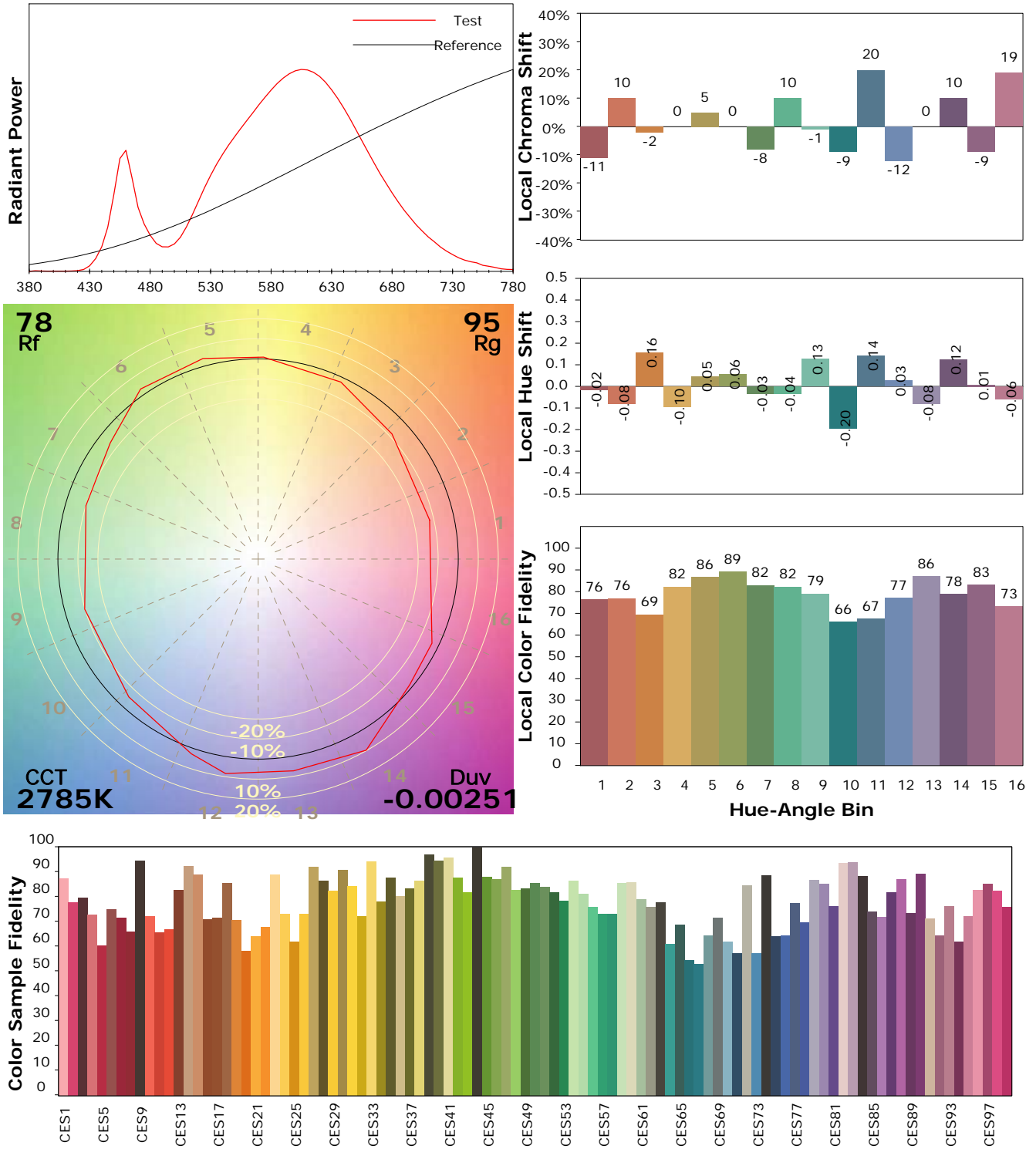
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IES TM-30-18 Color Rendition Report

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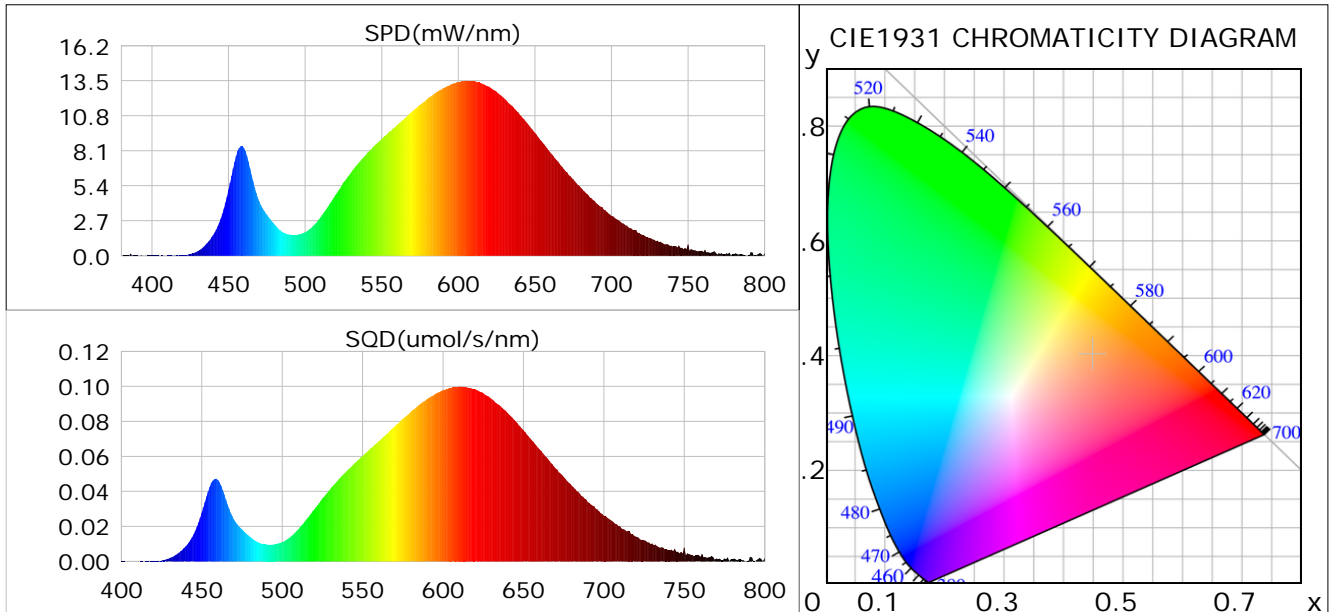
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Plant optical param data

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 CRI: $R_a=78.2$



Plant Optical Param

$ \mu_v(lm): 664.87$	$Q_v(lm.s): 664.87$
$ \mu_e, \dot{E}(W/nm): 2.09$	$Q_e(J): 2.09$
$ \mu_e(W): 2.01$	$ \mu_{fr}(W): 0.09$
$ \zeta_e: 0.18$	$ \zeta_{fr}: 0.01$
$PPE(\mu mol/s/w): 0.88$	$K_{fr}: 0.05$
$Erb_Ratio: 3.69$	$PPF(\mu mol/s): 9.82$
$PF_{uv}(360-400)(\mu mol/s): 0.00$	$PPF(400-500)(\mu mol/s): 0.95$
$PPF(500-600)(\mu mol/s): 4.02$	$PPF(600-700)(\mu mol/s): 4.85$
$PPF_{fr}(700-800)(\mu mol/s): 0.51$	$PPF.t(\mu mol): 9.82$
$ \mu_{ch-A.t}(J): 0.16$	$ \mu_{ch-A}(W): 0.16$
$ \mu_{ch-B.t}(J): 0.08$	$ \mu_{ch-B}(W): 0.08$
$ \mu_b.t(J): 0.25$	$ \mu_b(W): 0.25$
$ \mu_y.t(J): 0.86$	$ \mu_y(W): 0.86$
$ \mu_r.t(J): 0.92$	$ \mu_r(W): 0.92$

Electric Parameters

Voltage: 10.690V	Current: 1.0980A	Power: 11.22W
Power Factor: 0.8270	Frequency: 49.99Hz	

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