

Lightsource Test Report

Product Information

Product Category: LED-Lampen
 Product Spec: LED-AR111-12-CW-M-160
 Manufacturer: METOLIGHT
 Buyer: 2320

Product Type: LED-Lampen-AR111
 Product Number: 1
 Submitted Unit: 102004

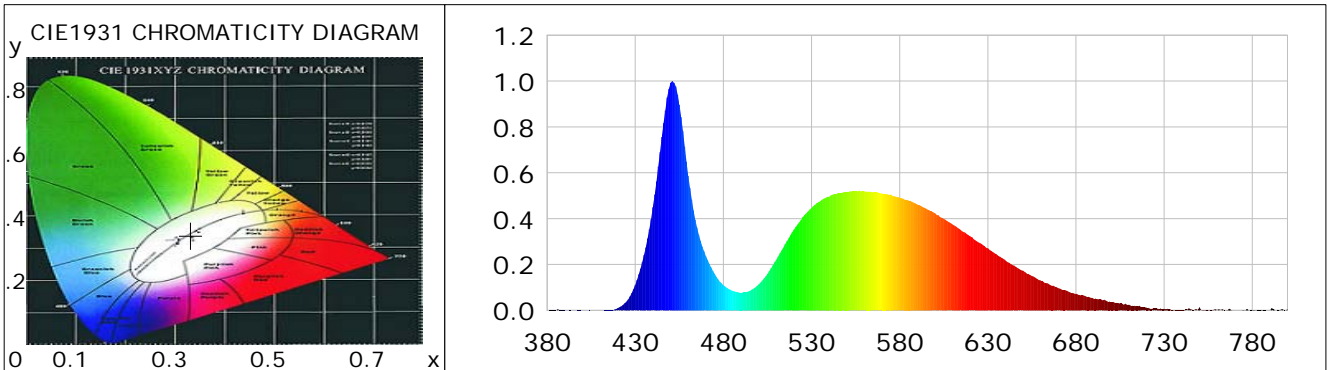
CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3316$ $y=0.3401$ $u(u')=0.2067$ $v=0.3180$ $v'=0.4770$
 CCT: $T_c=5536K$ ($duv=-0.00011$) Color Ratio: $R=0.134$ $G=0.832$ $B=0.034$
 Peak Wavelength: 451.0nm Half Bandwidth: 20.8nm
 Dominant Wavelength: 540.2nm Color Purity: 0.016
 CRI: $R_a=70.9$, $avgR(1\sim14)=61.5$, $avgR(1\sim15)=61.9$ TM30: $R_f=70$, $R_g=92$
 GAI: $GAI_BB_8=89.3$, $GAI_BB_15=96.8$, $GAI_EES=82.3$

R1 =69	R2 =76	R3 =77	R4 =70	R5 =69	R6 =65	R7 =82	R8 =59
R9 =0	R10=40	R11=64	R12=34	R13=70	R14=87	R15=67	

Color Quality Scale: $Q_a=67.2$, $Q_f=66.1$, $Q_p=70.5$, $Q_g=89.0$

Q1 =80	Q2 =94	Q3 =57	Q4 =48	Q5 =61	Q6 =66	Q7 =74	Q8 =83
Q9 =88	Q10=70	Q11=63	Q12=65	Q13=69	Q14=59	Q15=67	



Photometric Parameters

Luminous Flux: 757.09 lm	Efficiency: 62.57 lm/W	Radiant Power: 2.246 W
Total mains efficacy: 68.14 lm/W	Energy Efficiency Class: G (EU 2019/2015)	
Pupil Flux: 1218.68 Plm	Pupil Lumens Per Watt: 100.72 Plm/W	Pupil Factor (Kp): 1.610
Cirtopic Flux: 2545.07 lm		

Electric Parameters

Voltage: 10.510V	Current: 1.1500A	Power: 12.10W
Power Factor: 0.8300	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: 43561 (2795)	CCD Integration Time: 268.44 ms

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

Test Device: Lisun LMS-9000B
 Test Time: 2021-08-17 10:26:25
 Inspector:

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0003	0.0064	525	0.4074	10.2440	670	0.0964	2.4229
385	0.0012	0.0296	530	0.4466	11.2288	675	0.0846	2.1276
390	0.0009	0.0226	535	0.4768	11.9897	680	0.0723	1.8183
395	0.0002	0.0038	540	0.4963	12.4801	685	0.0633	1.5907
400	0.0006	0.0159	545	0.5111	12.8526	690	0.0508	1.2764
405	0.0001	0.0024	550	0.5172	13.0061	695	0.0439	1.1031
410	0.0003	0.0072	555	0.5189	13.0486	700	0.0358	0.8998
415	0.0016	0.0401	560	0.5188	13.0440	705	0.0295	0.7406
420	0.0093	0.2335	565	0.5148	12.9455	710	0.0246	0.6185
425	0.0381	0.9588	570	0.5083	12.7812	715	0.0179	0.4490
430	0.1106	2.7801	575	0.5053	12.7048	720	0.0116	0.2922
435	0.2417	6.0764	580	0.4913	12.3530	725	0.0079	0.1984
440	0.4502	11.3196	585	0.4788	12.0395	730	0.0066	0.1647
445	0.7566	19.0237	590	0.4618	11.6120	735	0.0016	0.0404
450	0.9923	24.9514	595	0.4433	11.1478	740	0.0024	0.0593
455	0.8972	22.5588	600	0.4235	10.6478	745	0.0045	0.1141
460	0.5876	14.7758	605	0.3987	10.0257	750	0.0129	0.3232
465	0.3610	9.0774	610	0.3746	9.4190	755	0.0033	0.0839
470	0.2369	5.9574	615	0.3478	8.7464	760	0.0022	0.0550
475	0.1596	4.0141	620	0.3232	8.1264	765	0.0001	0.0025
480	0.1096	2.7547	625	0.2946	7.4087	770	0.0008	0.0203
485	0.0857	2.1541	630	0.2706	6.8042	775	0.0024	0.0610
490	0.0770	1.9362	635	0.2442	6.1397	780	0.0019	0.0489
495	0.0850	2.1362	640	0.2176	5.4710	785	0.0041	0.1021
500	0.1135	2.8529	645	0.1952	4.9087	790	0.0001	0.0035
505	0.1598	4.0179	650	0.1731	4.3530	795	0.0008	0.0213
510	0.2209	5.5541	655	0.1496	3.7623	800	0.0058	0.1470
515	0.2896	7.2811	660	0.1302	3.2729			
520	0.3525	8.8640	665	0.1123	2.8249			

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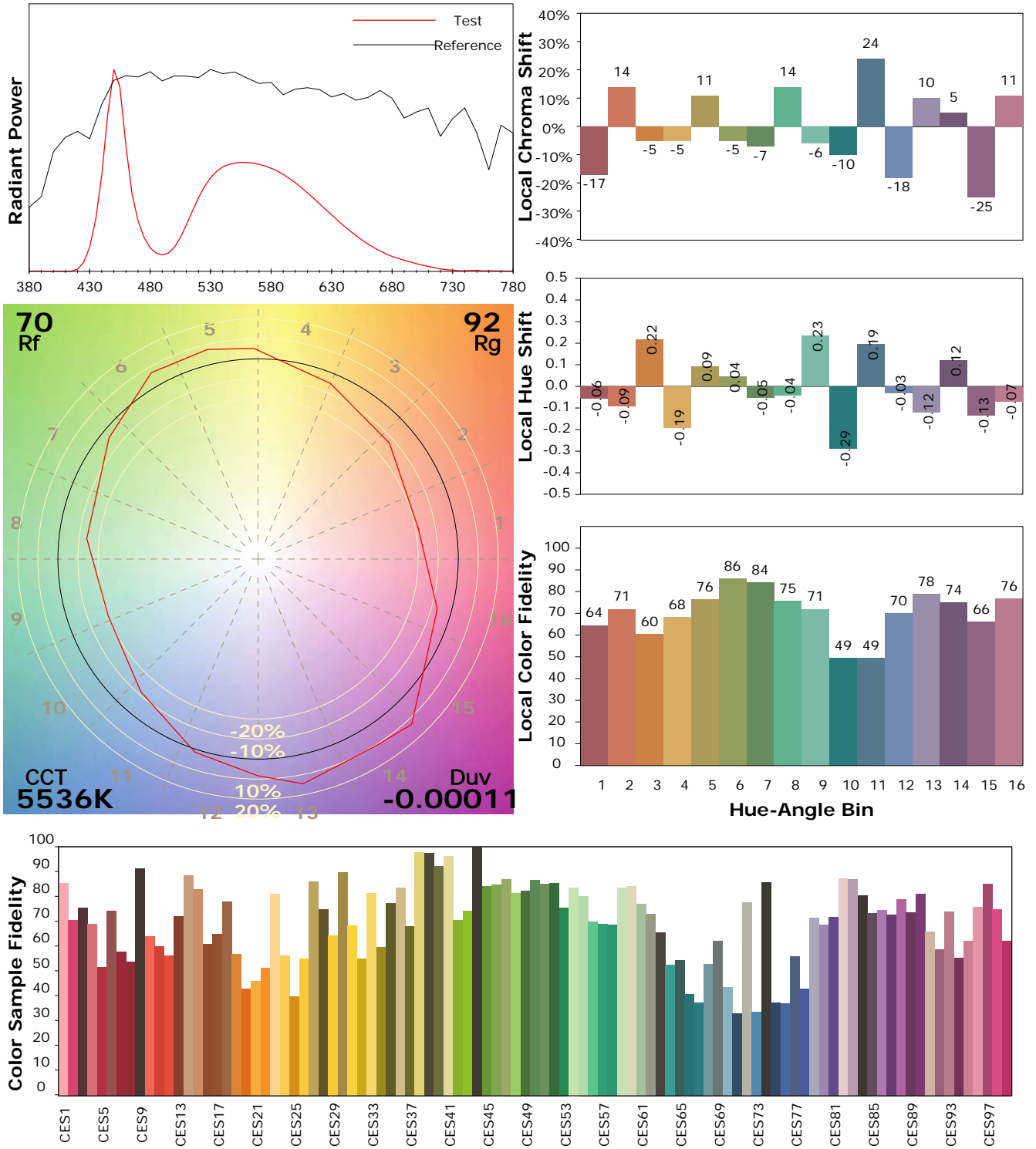
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IES TM-30-18 Color Rendition Report

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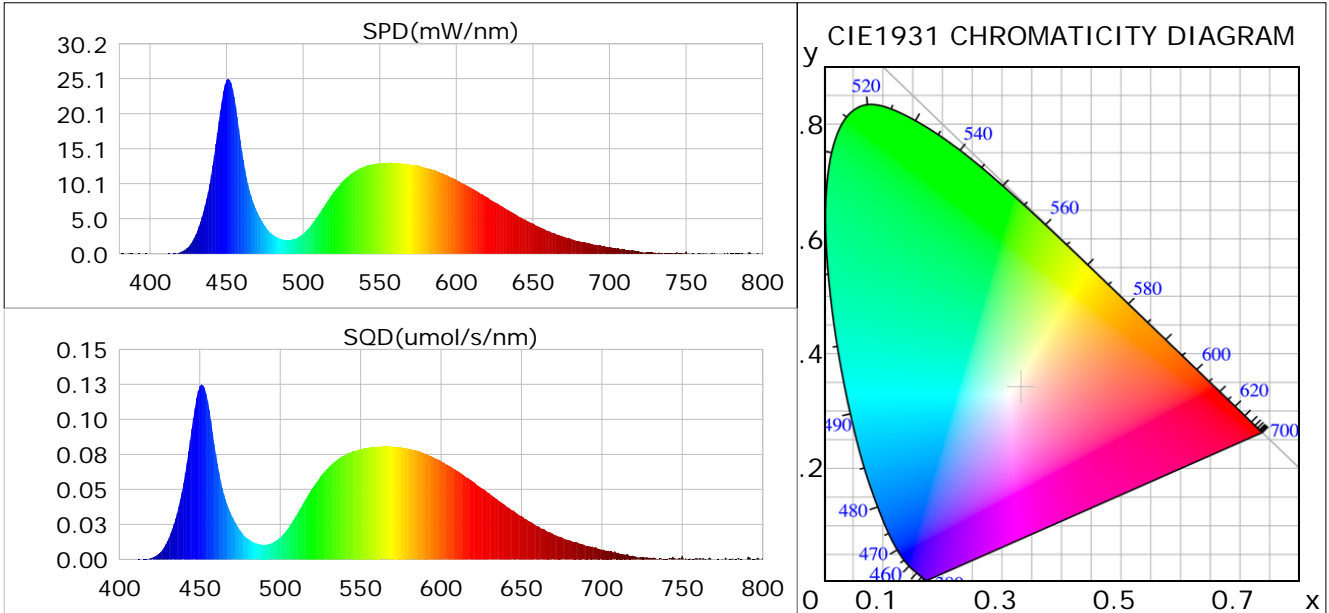
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Plant optical param data

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 Dominant Wavelength: 540.2nm Color Purity: 0.016
 CRI: $R_a=70.9$



Plant Optical Param

$ \mu_v(lm): 757.09$	$Q_v(lm.s): 757.09$
$ \mu_e, \dot{E}(W/nm): 2.25$	$Q_e(J): 2.25$
$ \mu_e(W): 2.23$	$ \mu_{fr}(W): 0.02$
$ \zeta_e: 0.18$	$ \zeta_{fr}: 0.00$
$PPE(umol/s/w): 0.83$	$K_{fr}: 0.01$
$Erb_Ratio: 0.73$	$PPF(umol/s): 10.10$
$PF_{uv}(360-400)(umol/s): 0.00$	$PPF(400-500)(umol/s): 2.52$
$PPF(500-600)(umol/s): 5.04$	$PPF(600-700)(umol/s): 2.55$
$PPF_{fr}(700-800)(umol/s): 0.11$	$PPF.t(umol): 10.10$
$ \mu_{ch-A.t}(J): 0.19$	$ \mu_{ch-A}(W): 0.19$
$ \mu_{ch-B.t}(J): 0.12$	$ \mu_{ch-B}(W): 0.12$
$ \mu_b.t(J): 0.66$	$ \mu_b(W): 0.66$
$ \mu_y.t(J): 1.09$	$ \mu_y(W): 1.09$
$ \mu_r.t(J): 0.49$	$ \mu_r(W): 0.49$

Electric Parameters

Voltage: 10.510V	Current: 1.1500A	Power: 12.10W
Power Factor: 0.8300	Frequency: 49.99Hz	

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