

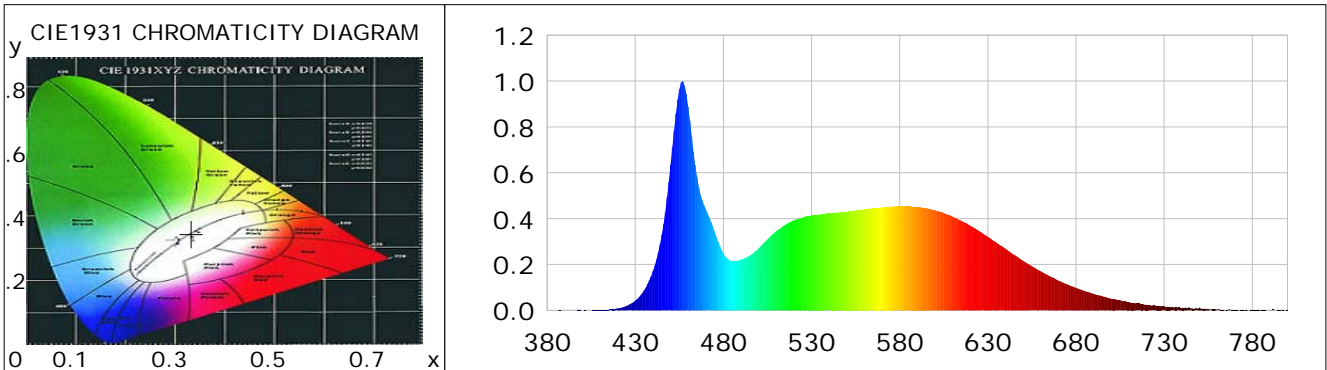
Lightsource Test Report

Product Information

Product Category: LED-Leuchten
 Product Spec: LED-DEL-M-Modul-065-09W-CWM
 Manufacturer: METOLIGHT
 Buyer: 2320
 Product Type: LED-Leuchten-Downlight-Magic
 Product Number: 1
 Submitted Unit: 103376

CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3329$ $y=0.3449$ $u(u')=0.2057$ $v=0.3197$ $v'=0.4795$
 CCT: $T_c=5484K$ ($duv=0.00176$) Color Ratio: $R=0.154$ $G=0.792$ $B=0.055$
 Peak Wavelength: 456.7nm Half Bandwidth: 19.1nm
 Dominant Wavelength: 552.7nm Color Purity: 0.034
 CRI: $R_a=85.7$, $avgR(1\sim14)=79.7$, $avgR(1\sim15)=79.8$ TM30: $R_f=83$, $R_g=93$
 GAI: $GAI_BB_8=91.8$, $GAI_BB_15=98.3$, $GAI_EES=84.3$
 R1 =85 R2 =93 R3 =95 R4 =82 R5 =84 R6 =88 R7 =86 R8 =71
 R9 =22 R10=82 R11=82 R12=58 R13=89 R14=98 R15=81
 Color Quality Scale: $Q_a=82.5$, $Q_f=82.6$, $Q_p=81.9$, $Q_g=91.8$
 Q1 =82 Q2 =97 Q3 =80 Q4 =72 Q5 =77 Q6 =80 Q7 =86 Q8 =90
 Q9 =98 Q10=90 Q11=86 Q12=84 Q13=84 Q14=76 Q15=79



Photometric Parameters

Luminous Flux: 1008.6 lm Efficiency: 115.27 lm/W Radiant Power: 3.200 W
 Total mains efficacy: 125.53 lm/W Energy Efficiency Class: E (EU 2019/2015)
 Pupil Flux: 1816.24 Plm Pupil Lumens Per Watt: 207.57 Plm/W Pupil Factor (Kp): 1.801
 Circopic Flux: 4124.60 lm

Electric Parameters

Voltage: 231.00V Current: 0.0380A Power: 8.75W
 Power Factor: 0.8950 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: 46103 (2669) CCD Integration Time: 92.73 ms

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

Test Device: Lisun LMS-9000B
 Test Time: 2021-08-12 11:05:50
 Inspector:

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0004	0.0123	525	0.4045	13.8024	670	0.1300	4.4366
385	0.0006	0.0211	530	0.4134	14.1045	675	0.1137	3.8800
390	0.0005	0.0158	535	0.4186	14.2830	680	0.0983	3.3538
395	0.0002	0.0066	540	0.4230	14.4328	685	0.0843	2.8777
400	0.0005	0.0158	545	0.4270	14.5679	690	0.0713	2.4327
405	0.0005	0.0157	550	0.4300	14.6707	695	0.0612	2.0890
410	0.0016	0.0552	555	0.4361	14.8806	700	0.0508	1.7331
415	0.0038	0.1296	560	0.4415	15.0650	705	0.0440	1.4999
420	0.0085	0.2891	565	0.4455	15.1997	710	0.0370	1.2621
425	0.0192	0.6558	570	0.4495	15.3374	715	0.0304	1.0388
430	0.0423	1.4438	575	0.4521	15.4264	720	0.0248	0.8474
435	0.0870	2.9690	580	0.4531	15.4604	725	0.0211	0.7203
440	0.1710	5.8350	585	0.4534	15.4694	730	0.0176	0.6005
445	0.3296	11.2452	590	0.4509	15.3862	735	0.0124	0.4246
450	0.6349	21.6643	595	0.4454	15.1981	740	0.0111	0.3774
455	0.9644	32.9062	600	0.4366	14.8955	745	0.0096	0.3266
460	0.8881	30.3013	605	0.4243	14.4772	750	0.0120	0.4081
465	0.5835	19.9087	610	0.4089	13.9506	755	0.0065	0.2205
470	0.4415	15.0645	615	0.3914	13.3560	760	0.0036	0.1228
475	0.3432	11.7092	620	0.3698	12.6187	765	0.0027	0.0904
480	0.2483	8.4715	625	0.3460	11.8053	770	0.0029	0.0984
485	0.2161	7.3747	630	0.3206	10.9404	775	0.0015	0.0511
490	0.2212	7.5485	635	0.2949	10.0618	780	0.0015	0.0508
495	0.2388	8.1464	640	0.2686	9.1643	785	0.0010	0.0329
500	0.2703	9.2225	645	0.2424	8.2723	790	0.0010	0.0355
505	0.3096	10.5635	650	0.2162	7.3770	795	0.0013	0.0458
510	0.3462	11.8143	655	0.1922	6.5585	800	0.0014	0.0461
515	0.3724	12.7069	660	0.1705	5.8175			
520	0.3932	13.4172	665	0.1491	5.0873			

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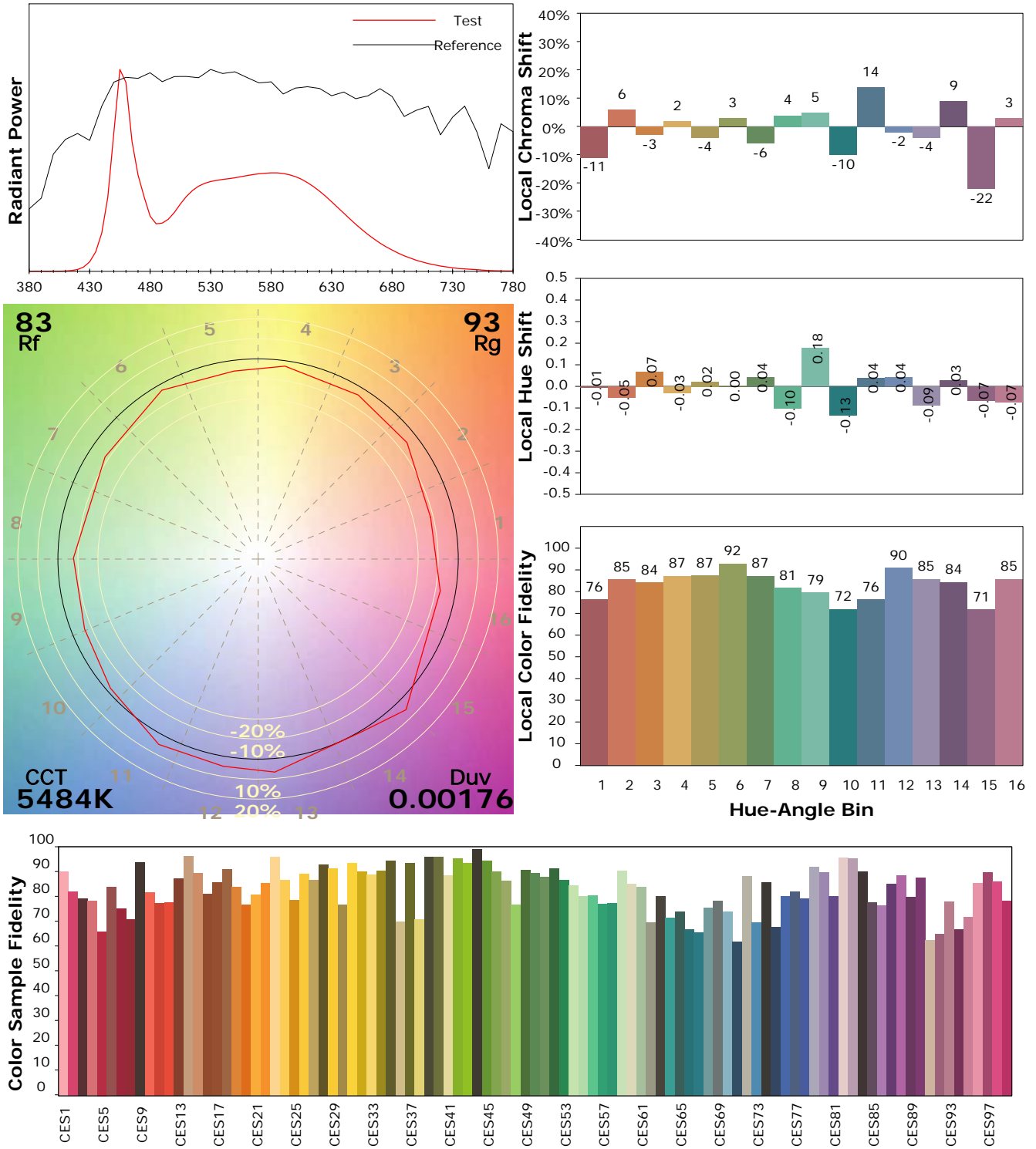
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IES TM-30-18 Color Rendition Report

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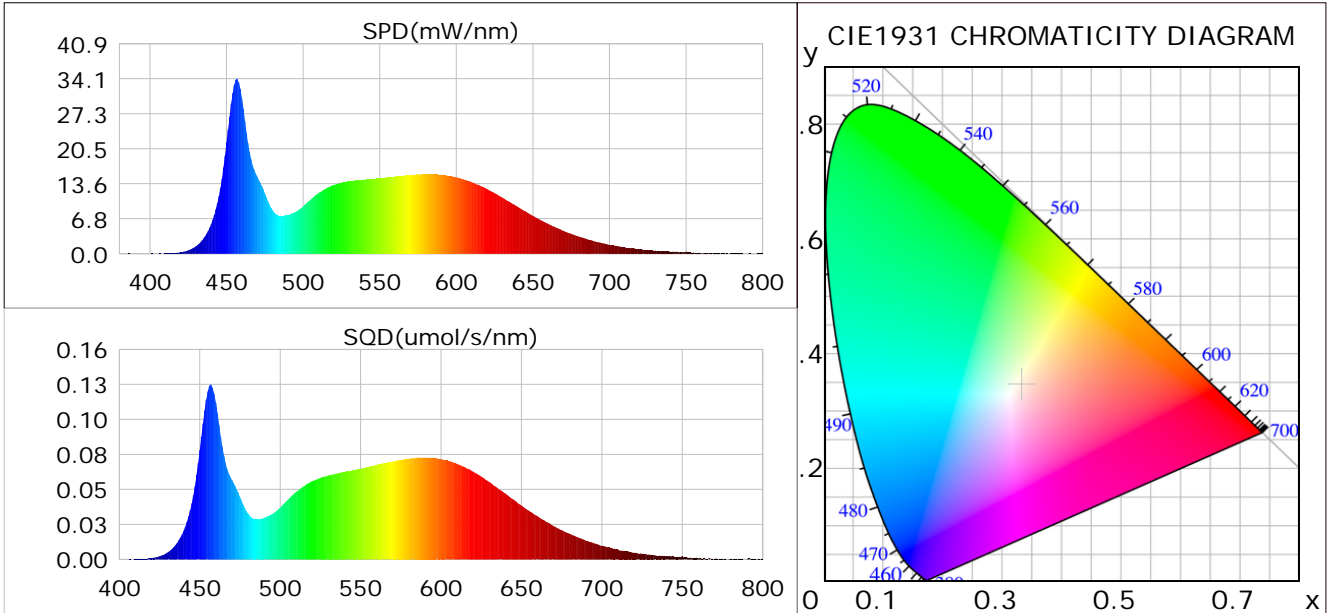
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Plant optical param data

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 CRI: $R_a=85.7$



Plant Optical Param

$ \mu_v(lm): 1008.60$	$Q_v(lm.s): 1008.60$
$ \mu_e, \dot{E}(W/nm): 3.20$	$Q_e(J): 3.20$
$ \mu_e(W): 3.16$	$ \mu_{fr}(W): 0.05$
$ \zeta_e: 0.36$	$ \zeta_{fr}: 0.01$
$PPE(umol/s/w): 1.65$	$K_{fr}: 0.03$
$Erb_Ratio: 0.81$	$PPF(umol/s): 14.41$
$PF_{uv}(360-400)(umol/s): 0.00$	$PPF(400-500)(umol/s): 3.70$
$PPF(500-600)(umol/s): 6.58$	$PPF(600-700)(umol/s): 4.13$
$PPF_{fr}(700-800)(umol/s): 0.27$	$PPF.t(umol): 14.41$
$ \mu_{ch-A.t}(J): 0.24$	$ \mu_{ch-A}(W): 0.24$
$ \mu_{ch-B.t}(J): 0.18$	$ \mu_{ch-B}(W): 0.18$
$ \mu_b.t(J): 0.96$	$ \mu_b(W): 0.96$
$ \mu_y.t(J): 1.43$	$ \mu_y(W): 1.43$
$ \mu_r.t(J): 0.79$	$ \mu_r(W): 0.79$

Electric Parameters

Voltage: 231.00V	Current: 0.0380A	Power: 8.75W
Power Factor: 0.8950	Frequency: 49.99Hz	

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