

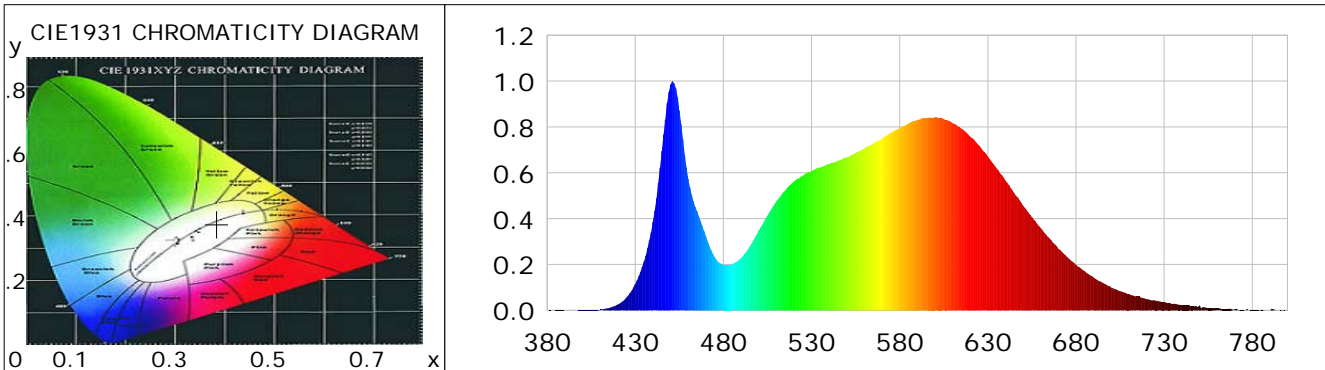
Lightsource Test Report

Product Information

Product Category: LED-Leuchten Product Type: LED-Leuchten-Downlight-Magic
 Product Spec: LED-DEL-M-Modull-125-145-12S-NWM Product Number: 1
 Manufacturer: METOLIGHT Submitted Unit: 104230
 Buyer: 2320

CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3843$ $y=0.3759$ $u(u')=0.2280$ $v=0.3345$ $v'=0.5018$
 CCT: $T_c=3890K$ ($duv=-0.00152$) Color Ratio: $R=0.190$ $G=0.777$ $B=0.032$
 Peak Wavelength: 451.1nm Half Bandwidth: 19.9nm
 Dominant Wavelength: 580.3nm Color Purity: 0.281
 CRI: $R_a=83.8$, $avgR(1\sim14)=77.4$, $avgR(1\sim15)=77.4$ TM30: $R_f=83$, $R_g=97$
 GAI: $GAI_BB_8=96.6$, $GAI_BB_15=103.3$, $GAI_EES=74.4$
 R1 =83 R2 =89 R3 =93 R4 =84 R5 =83 R6 =85 R7 =86 R8 =67
 R9 =16 R10=73 R11=83 R12=61 R13=85 R14=96 R15=78
 Color Quality Scale: $Q_a=82.8$, $Q_f=82.4$, $Q_p=84.0$, $Q_g=94.9$
 Q1 =83 Q2 =98 Q3 =77 Q4 =75 Q5 =82 Q6 =84 Q7 =85 Q8 =89
 Q9 =97 Q10=87 Q11=84 Q12=84 Q13=84 Q14=75 Q15=78



Photometric Parameters

Luminous Flux: 1354.7 lm Efficiency: 104.61 lm/W Radiant Power: 4.103 W
 Total mains efficacy: 113.92 lm/W Energy Efficiency Class: E (EU 2019/2015)
 Pupil Flux: 1996.24 Plm Pupil Lumens Per Watt: 154.15 Plm/W Pupil Factor (Kp): 1.474
 Circopic Flux: 3983.37 lm

Electric Parameters

Voltage: 230.00V Current: 0.0560A Power: 12.95W
 Power Factor: 0.9030 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: 43791 (2786) CCD Integration Time: 110.02 ms

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

Test Device: Lisun LMS-9000B
 Test Time: 2021-08-16 15:17:16
 Inspector:

Lightsource Test Report

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0005	0.0139	525	0.5864	16.4653	670	0.2694	7.5652
385	0.0007	0.0197	530	0.6081	17.0751	675	0.2321	6.5183
390	0.0006	0.0172	535	0.6237	17.5123	680	0.1987	5.5804
395	0.0002	0.0062	540	0.6370	17.8856	685	0.1699	4.7697
400	0.0008	0.0225	545	0.6531	18.3367	690	0.1425	4.0002
405	0.0007	0.0208	550	0.6679	18.7543	695	0.1203	3.3787
410	0.0037	0.1036	555	0.6869	19.2876	700	0.0996	2.7970
415	0.0104	0.2918	560	0.7062	19.8298	705	0.0834	2.3427
420	0.0252	0.7065	565	0.7268	20.4067	710	0.0715	2.0082
425	0.0559	1.5692	570	0.7490	21.0297	715	0.0606	1.7010
430	0.1155	3.2431	575	0.7744	21.7442	720	0.0494	1.3872
435	0.2134	5.9914	580	0.7953	22.3296	725	0.0427	1.1999
440	0.3863	10.8458	585	0.8151	22.8861	730	0.0362	1.0169
445	0.6950	19.5146	590	0.8311	23.3348	735	0.0282	0.7906
450	0.9855	27.6706	595	0.8389	23.5559	740	0.0228	0.6400
455	0.8727	24.5028	600	0.8417	23.6330	745	0.0180	0.5065
460	0.5749	16.1418	605	0.8347	23.4384	750	0.0212	0.5952
465	0.4333	12.1674	610	0.8158	22.9052	755	0.0103	0.2899
470	0.3252	9.1297	615	0.7924	22.2507	760	0.0089	0.2486
475	0.2325	6.5289	620	0.7575	21.2694	765	0.0062	0.1752
480	0.1993	5.5952	625	0.7191	20.1919	770	0.0042	0.1184
485	0.2015	5.6587	630	0.6704	18.8229	775	0.0025	0.0714
490	0.2273	6.3817	635	0.6189	17.3776	780	0.0020	0.0549
495	0.2784	7.8180	640	0.5656	15.8811	785	0.0019	0.0525
500	0.3468	9.7362	645	0.5104	14.3326	790	0.0001	0.0016
505	0.4133	11.6043	650	0.4563	12.8127	795	0.0002	0.0064
510	0.4757	13.3564	655	0.4065	11.4142	800	0.0024	0.0683
515	0.5221	14.6592	660	0.3588	10.0754			
520	0.5617	15.7709	665	0.3140	8.8166			

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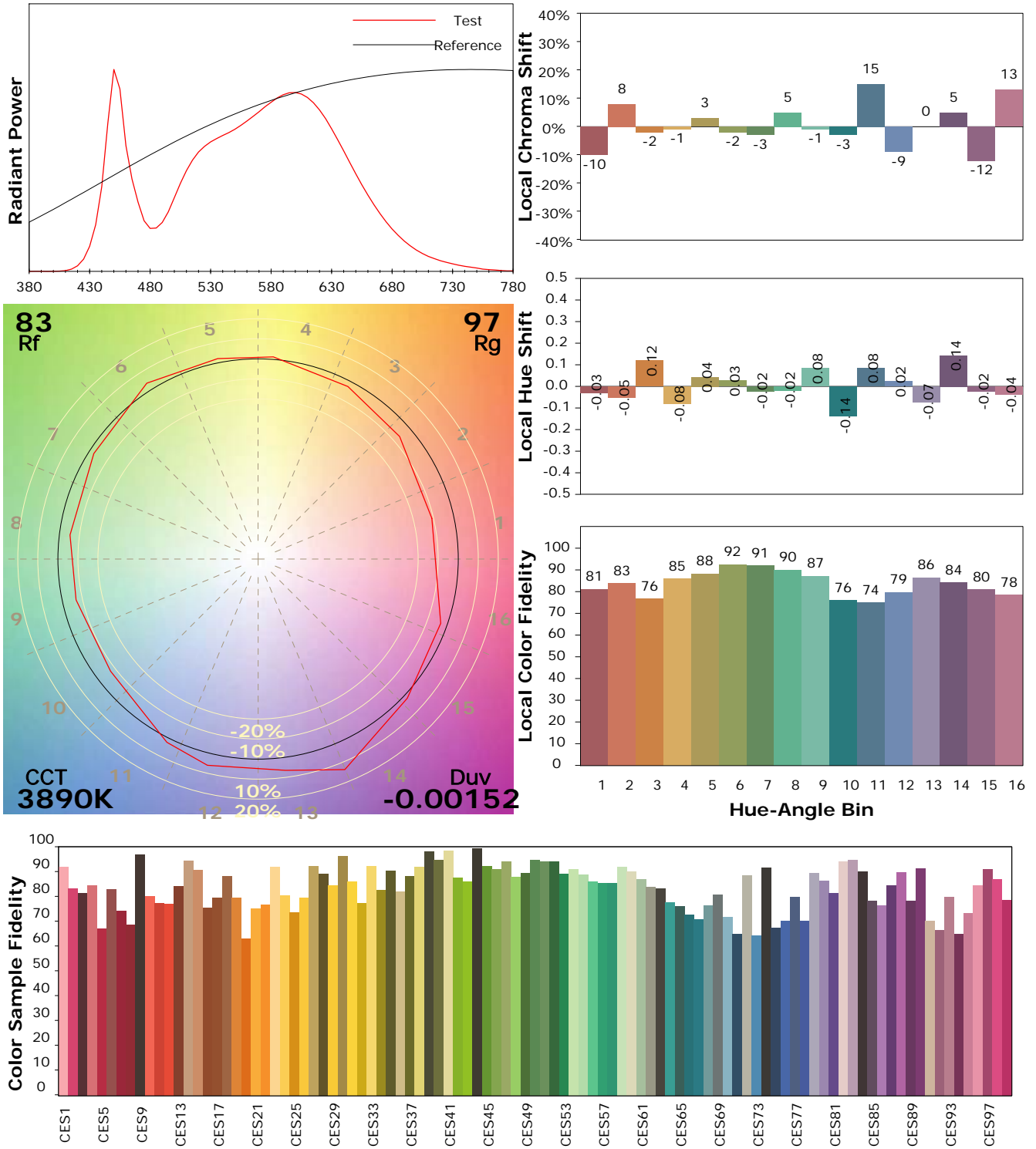
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IES TM-30-18 Color Rendition Report

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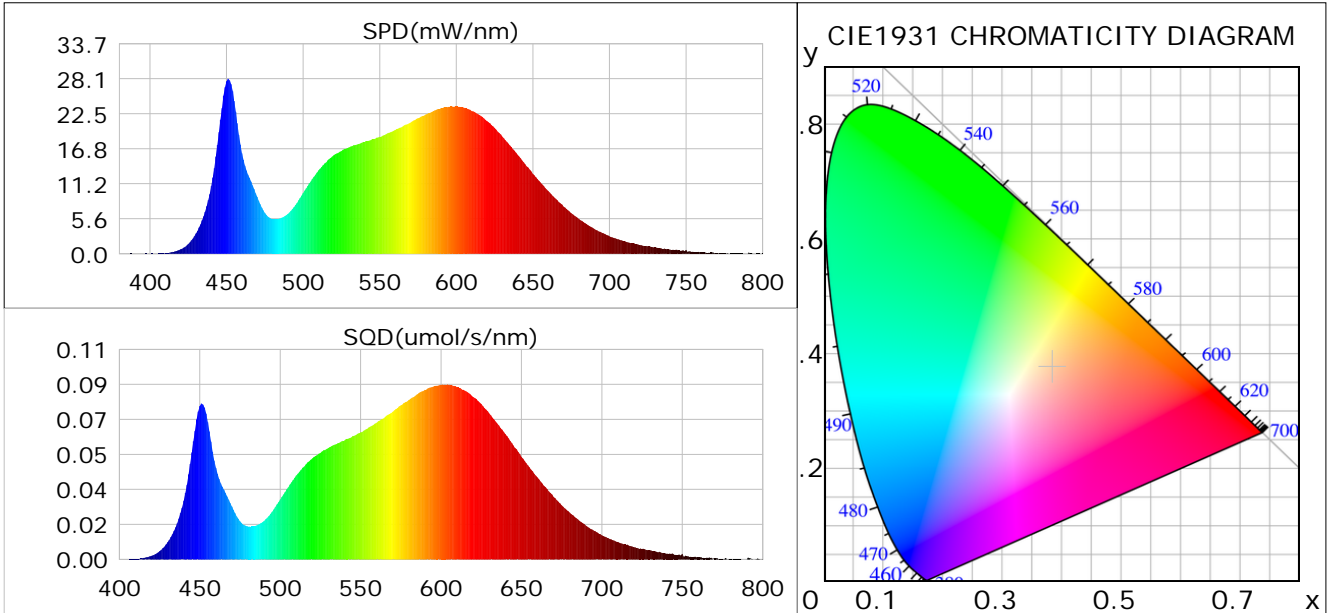
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Plant optical param data

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 CRI: $R_a=83.8$



Plant Optical Param

$ \mu_v(lm): 1354.70$	$Q_v(lm.s): 1354.70$
$ \mu_e, \dot{E}(W/nm): 4.10$	$Q_e(J): 4.10$
$ \mu_e(W): 4.03$	$ \mu_{fr}(W): 0.07$
$ \dot{C}_e: 0.31$	$ \dot{C}_{fr}: 0.01$
$PPE(umol/s/w): 1.46$	$K_{fr}: 0.03$
$Erb_Ratio: 1.55$	$PPF(umol/s): 18.93$
$PF_{uv}(360-400)(umol/s): 0.00$	$PPF(400-500)(umol/s): 3.26$
$PPF(500-600)(umol/s): 8.69$	$PPF(600-700)(umol/s): 6.98$
$PPF_{fr}(700-800)(umol/s): 0.43$	$PPF.t(umol): 18.93$
$ \mu_{ch-A.t}(J): 0.33$	$ \mu_{ch-A}(W): 0.33$
$ \mu_{ch-B.t}(J): 0.19$	$ \mu_{ch-B}(W): 0.19$
$ \mu_b.t(J): 0.85$	$ \mu_b(W): 0.85$
$ \mu_y.t(J): 1.88$	$ \mu_y(W): 1.88$
$ \mu_r.t(J): 1.34$	$ \mu_r(W): 1.34$

Electric Parameters

Voltage: 230.00V	Current: 0.0560A	Power: 12.95W
Power Factor: 0.9030	Frequency: 49.99Hz	

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