

## Lightsource Test Report

### Product Information

Product Category: LED-Leuchten      Product Type: LED-Leuchten-Downlight-Magic  
 Product Spec: LED-DEL-M-125-145-12S-WWM-WF-D      Product Number: 1  
 Manufacturer: METOLIGHT      Submitted Unit: 104231  
 Buyer: 2320

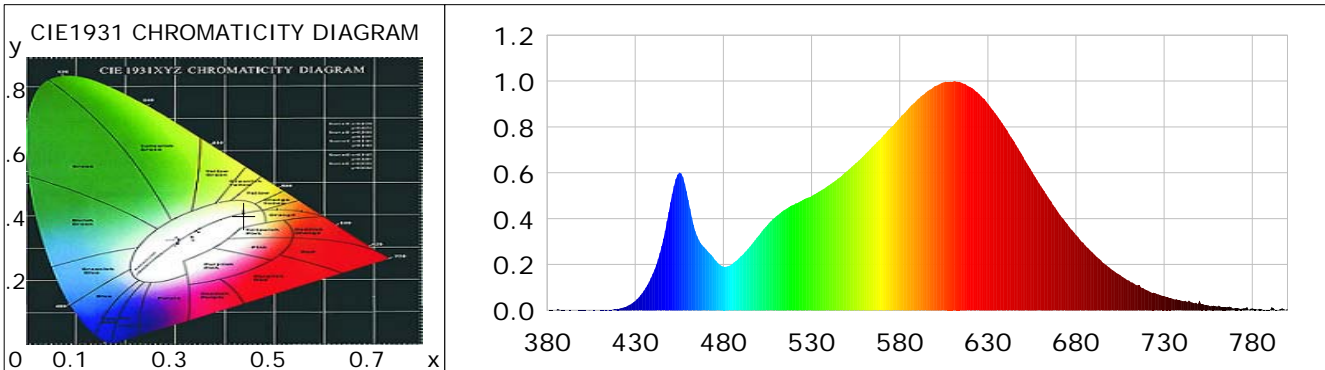
### CIE Colorimetric Parameters

Chromaticity coordinates:  $x=0.4391$   $y=0.4019$   $u(u')=0.2529$   $v=0.3472$   $v'=0.5208$   
 CCT:  $T_c=2946K$  ( $duv=-0.00116$ )      Color Ratio:  $R=0.239$   $G=0.734$   $B=0.027$   
 Peak Wavelength: 611.1nm      Half Bandwidth: 133.2nm  
 Dominant Wavelength: 583.5nm      Color Purity: 0.524  
 CRI:  $R_a = 86.1$ ,  $avgR(1\sim14) = 81.8$ ,  $avgR(1\sim15) = 81.6$       TM30:  $R_f = 86$ ,  $R_g = 96$   
 GAI:  $GAI\_BB\_8=97.8$ ,  $GAI\_BB\_15=105.7$ ,  $GAI\_EES=54.7$   

R1 =85	R2 =94	R3 =97	R4 =84	R5 =86	R6 =93	R7 =84	R8 =66
R9 =26	R10=85	R11=84	R12=74	R13=87	R14=99	R15=79	

Color Quality Scale:  $Q_a = 85.1$ ,  $Q_f = 86.6$ ,  $Q_p = 87.1$ ,  $Q_g = 93.2$   

Q1 =82	Q2 =95	Q3 =85	Q4 =82	Q5 =85	Q6 =86	Q7 =86	Q8 =88
Q9 =96	Q10=91	Q11=88	Q12=86	Q13=85	Q14=78	Q15=79	



### Photometric Parameters

Luminous Flux: 1212.1 lm      Efficiency: 101.94 lm/W      Radiant Power: 3.799 W  
 Total mains efficacy: 119.88 lm/W      Energy Efficiency Class: E (EU 2019/2015)  
 Pupil Flux: 1540.20 Plm      Pupil Lumens Per Watt: 129.54 Plm/W      Pupil Factor (Kp): 1.271  
 Circopic Flux: 2847.26 lm

### Electric Parameters

Voltage: 230.70V      Current: 0.0520A      Power: 11.89W  
 Power Factor: 0.9200      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: 45620 (2949)      CCD Integration Time: 300.14 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 14:27:37  
 Inspector:

## Lightsource Test Report

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 Product Type: LED-Leuchten-Downlight-Magic  
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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0006	0.0137	525	0.4812	11.9272	670	0.4272	10.5898
385	0.0010	0.0259	530	0.4979	12.3423	675	0.3770	9.3460
390	0.0009	0.0213	535	0.5213	12.9215	680	0.3285	8.1431
395	0.0006	0.0138	540	0.5460	13.5353	685	0.2847	7.0564
400	0.0010	0.0240	545	0.5746	14.2436	690	0.2465	6.1100
405	0.0002	0.0049	550	0.6060	15.0221	695	0.2094	5.1904
410	0.0011	0.0277	555	0.6413	15.8977	700	0.1794	4.4460
415	0.0029	0.0716	560	0.6767	16.7755	705	0.1541	3.8202
420	0.0070	0.1728	565	0.7176	17.7886	710	0.1303	3.2308
425	0.0162	0.4006	570	0.7557	18.7322	715	0.1089	2.7006
430	0.0409	1.0149	575	0.7985	19.7930	720	0.0885	2.1940
435	0.0864	2.1417	580	0.8381	20.7760	725	0.0754	1.8687
440	0.1598	3.9614	585	0.8797	21.8054	730	0.0627	1.5546
445	0.2806	6.9568	590	0.9188	22.7765	735	0.0501	1.2428
450	0.4706	11.6649	595	0.9512	23.5780	740	0.0418	1.0357
455	0.6005	14.8860	600	0.9784	24.2543	745	0.0363	0.9004
460	0.4819	11.9465	605	0.9946	24.6557	750	0.0414	1.0263
465	0.3244	8.0425	610	0.9968	24.7084	755	0.0220	0.5447
470	0.2675	6.6299	615	0.9930	24.6149	760	0.0164	0.4075
475	0.2220	5.5023	620	0.9739	24.1412	765	0.0137	0.3401
480	0.1906	4.7254	625	0.9435	23.3893	770	0.0093	0.2308
485	0.2022	5.0116	630	0.9011	22.3363	775	0.0086	0.2129
490	0.2361	5.8515	635	0.8506	21.0852	780	0.0085	0.2106
495	0.2776	6.8811	640	0.7943	19.6908	785	0.0063	0.1553
500	0.3254	8.0666	645	0.7353	18.2276	790	0.0013	0.0311
505	0.3728	9.2401	650	0.6700	16.6079	795	0.0031	0.0767
510	0.4108	10.1823	655	0.6049	14.9953	800	0.0075	0.1855
515	0.4395	10.8941	660	0.5426	13.4508			
520	0.4613	11.4341	665	0.4834	11.9818			

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 Test Lab:  
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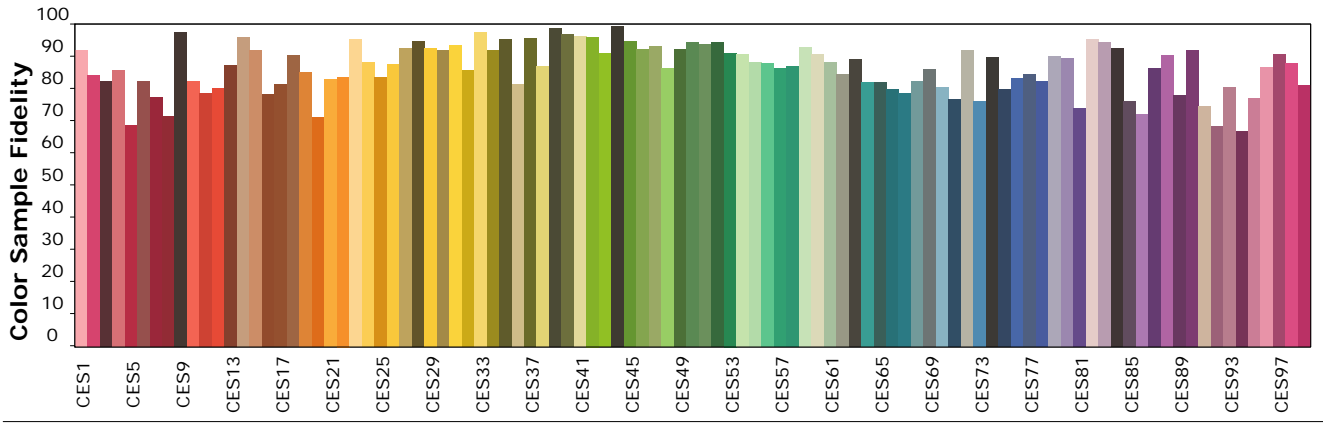
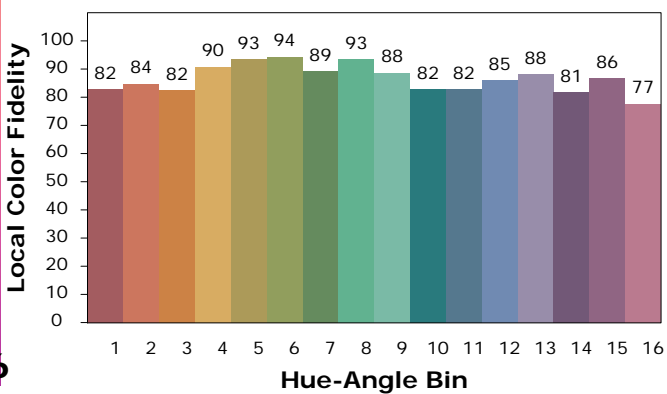
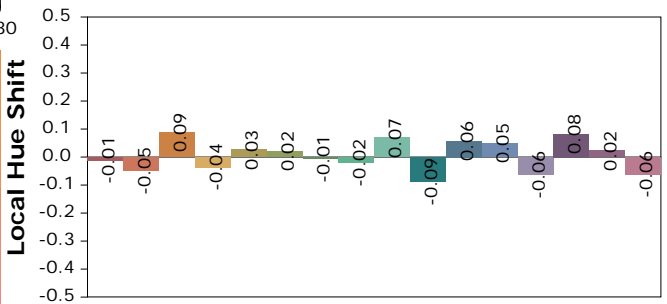
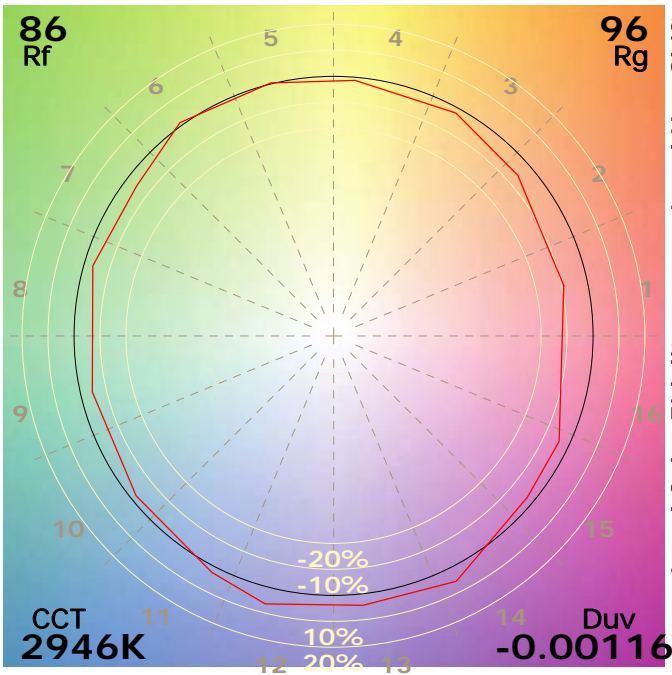
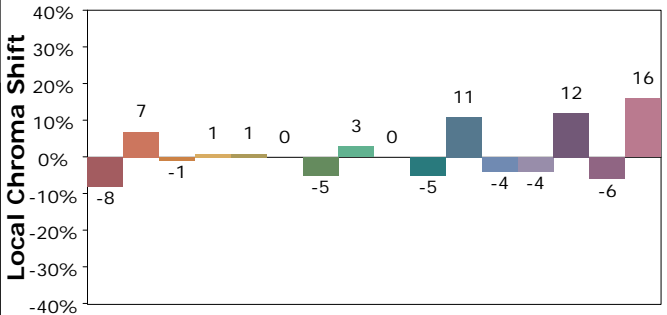
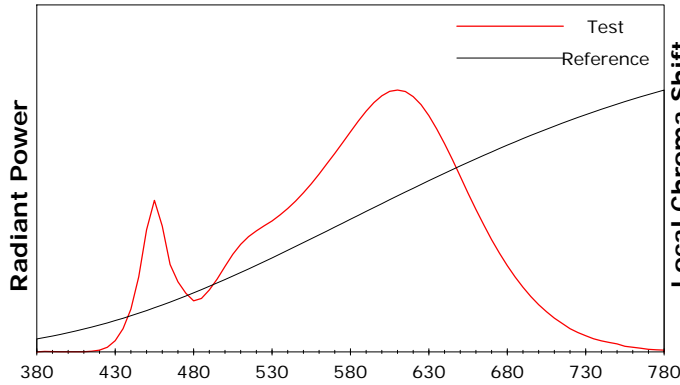
Test Device: Lisun LMS-9000B  
 Test Time: 2021-08-12 14:27:37  
 Inspector:

## IES TM-30-18 Color Rendition Report

### Product Information

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 Buyer: 2320

Product Type: LED-Leuchten-Downlight-Magic  
 Product Number: 1  
 Submitted Unit: 104231



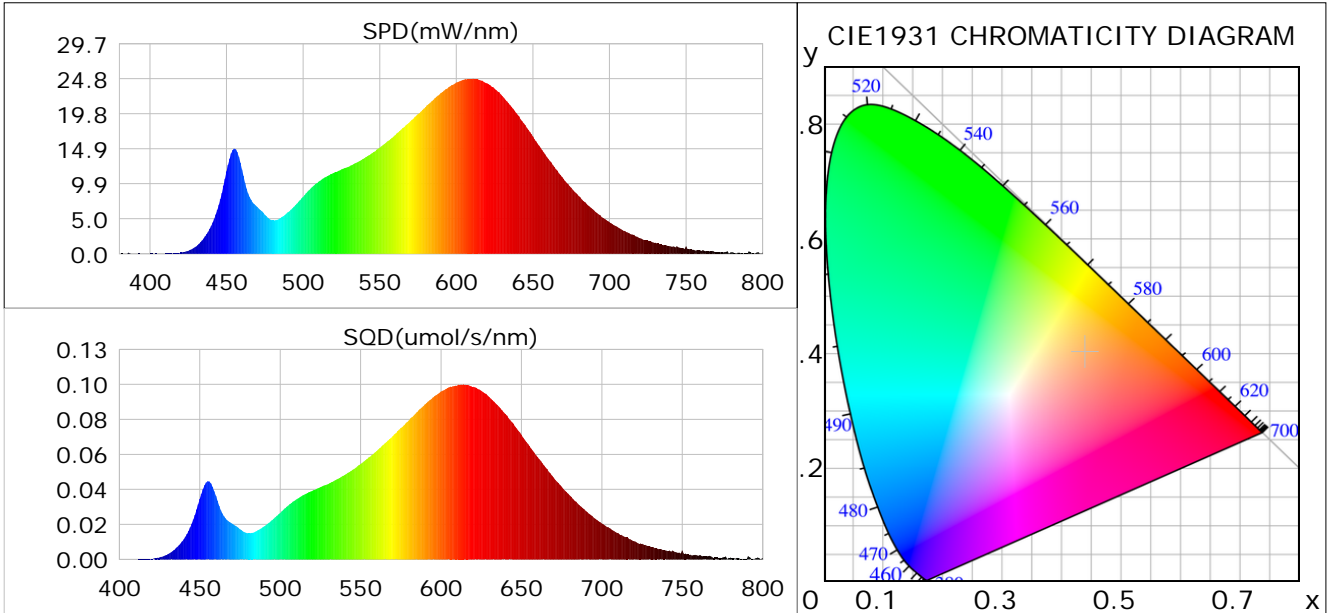
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 Test Lab:  
 Operator: CRE

Test Device: Lisun LMS-9000B  
 Test Time: 2021-08-12 14:27:37  
 Inspector:

## Plant optical param data

### CIE Colorimetric Parameters

Chromaticity coordinates:  $x=0.4391$   $y=0.4019$   $u(u')=0.2529$   $v=0.3472$   $v'=0.5208$   
 CCT:  $T_c=2946K$  ( $duv=-0.00116$ ) Color Ratio:  $R=0.239$   $G=0.734$   $B=0.027$   
 Peak Wavelength: 611.1nm Half Bandwidth: 133.2nm  
 Dominant Wavelength: 583.5nm Color Purity: 0.524  
 CRI:  $R_a=86.1$



### Plant Optical Param

$ \mu_v(lm): 1212.10$	$Q_v(lm.s): 1212.10$
$ \mu_e, \dot{E}(W/nm): 3.80$	$Q_e(J): 3.80$
$ \mu_e(W): 3.68$	$ \mu_{fr}(W): 0.12$
$ \zeta_e: 0.31$	$ \zeta_{fr}: 0.01$
$PPE(umol/s/w): 1.50$	$K_{fr}: 0.06$
$Erb\_Ratio: 3.17$	$PPF(umol/s): 17.87$
$PF_{uv}(360-400)(umol/s): 0.00$	$PPF(400-500)(umol/s): 1.96$
$PPF(500-600)(umol/s): 7.42$	$PPF(600-700)(umol/s): 8.50$
$PPF_{fr}(700-800)(umol/s): 0.70$	$PPF.t(umol): 17.87$
$ \mu_{ch-A.t}(J): 0.30$	$ \mu_{ch-A}(W): 0.30$
$ \mu_{ch-B.t}(J): 0.15$	$ \mu_{ch-B}(W): 0.15$
$ \mu_b.t(J): 0.50$	$ \mu_b(W): 0.50$
$ \mu_y.t(J): 1.60$	$ \mu_y(W): 1.60$
$ \mu_r.t(J): 1.62$	$ \mu_r(W): 1.62$

### Electric Parameters

Voltage: 230.70V	Current: 0.0520A	Power: 11.89W
Power Factor: 0.9200	Frequency: 49.99Hz	

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