

Lightsource Test Report

Product Information

Product Category: LED-Leuchten
 Product Spec: LED-DEL-M-160-190-30S-WWM-WF-D
 Manufacturer: METOLIGHT
 Buyer: 2320
 Product Type: LED-Leuchten-Downlight-Magic
 Product Number: 1
 Submitted Unit: 104229

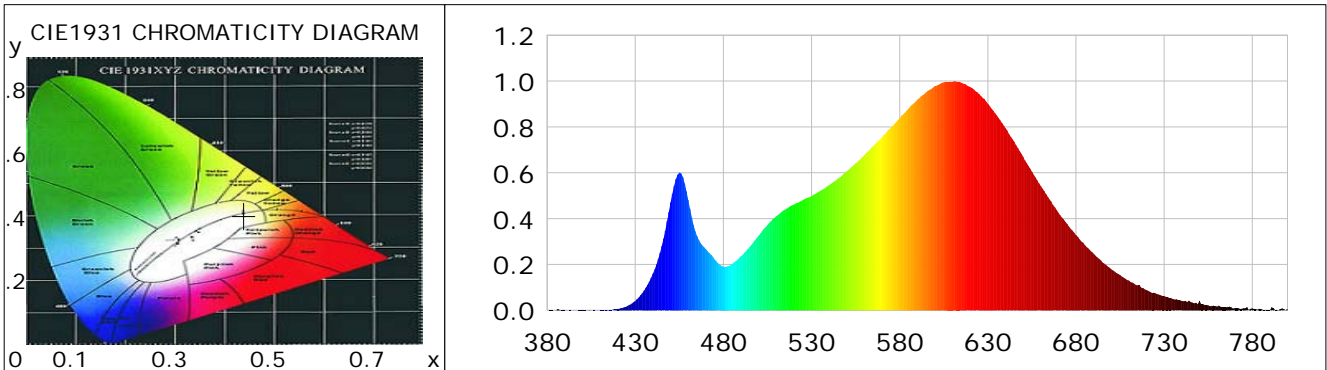
CIE Colorimetric Parameters

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: 2912.1 lm Efficiency: 97.43 lm/W Radiant Power: 9.127 W
 Total mains efficacy: 114.57 lm/W Energy Efficiency Class: E (EU 2019/2015)
 Pupil Flux: 3700.37 Plm Pupil Lumens Per Watt: 123.80 Plm/W Pupil Factor (Kp): 1.271
 Circopic Flux: 6840.61 lm

Electric Parameters

Voltage: 230.70V Current: 0.1300A Power: 29.89W
 Power Factor: 0.8820 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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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0006	0.0328	525	0.4812	28.6553	670	0.4272	25.4423
385	0.0010	0.0622	530	0.4979	29.6527	675	0.3770	22.4539
390	0.0009	0.0512	535	0.5213	31.0441	680	0.3285	19.5639
395	0.0006	0.0332	540	0.5460	32.5188	685	0.2847	16.9532
400	0.0010	0.0576	545	0.5746	34.2205	690	0.2465	14.6794
405	0.0002	0.0119	550	0.6060	36.0910	695	0.2094	12.4701
410	0.0011	0.0665	555	0.6413	38.1945	700	0.1794	10.6816
415	0.0029	0.1720	560	0.6767	40.3036	705	0.1541	9.1781
420	0.0070	0.4151	565	0.7176	42.7377	710	0.1303	7.7621
425	0.0162	0.9626	570	0.7557	45.0047	715	0.1089	6.4883
430	0.0409	2.4384	575	0.7985	47.5531	720	0.0885	5.2712
435	0.0864	5.1454	580	0.8381	49.9149	725	0.0754	4.4896
440	0.1598	9.5173	585	0.8797	52.3880	730	0.0627	3.7348
445	0.2806	16.7138	590	0.9188	54.7211	735	0.0501	2.9859
450	0.4706	28.0253	595	0.9512	56.6468	740	0.0418	2.4883
455	0.6005	35.7641	600	0.9784	58.2716	745	0.0363	2.1631
460	0.4819	28.7019	605	0.9946	59.2360	750	0.0414	2.4657
465	0.3244	19.3222	610	0.9968	59.3626	755	0.0220	1.3086
470	0.2675	15.9285	615	0.9930	59.1378	760	0.0164	0.9789
475	0.2220	13.2193	620	0.9739	57.9999	765	0.0137	0.8170
480	0.1906	11.3528	625	0.9435	56.1934	770	0.0093	0.5545
485	0.2022	12.0405	630	0.9011	53.6636	775	0.0086	0.5114
490	0.2361	14.0584	635	0.8506	50.6578	780	0.0085	0.5059
495	0.2776	16.5321	640	0.7943	47.3077	785	0.0063	0.3731
500	0.3254	19.3802	645	0.7353	43.7923	790	0.0013	0.0748
505	0.3728	22.1996	650	0.6700	39.9008	795	0.0031	0.1842
510	0.4108	24.4632	655	0.6049	36.0265	800	0.0075	0.4458
515	0.4395	26.1733	660	0.5426	32.3160			
520	0.4613	27.4707	665	0.4834	28.7866			

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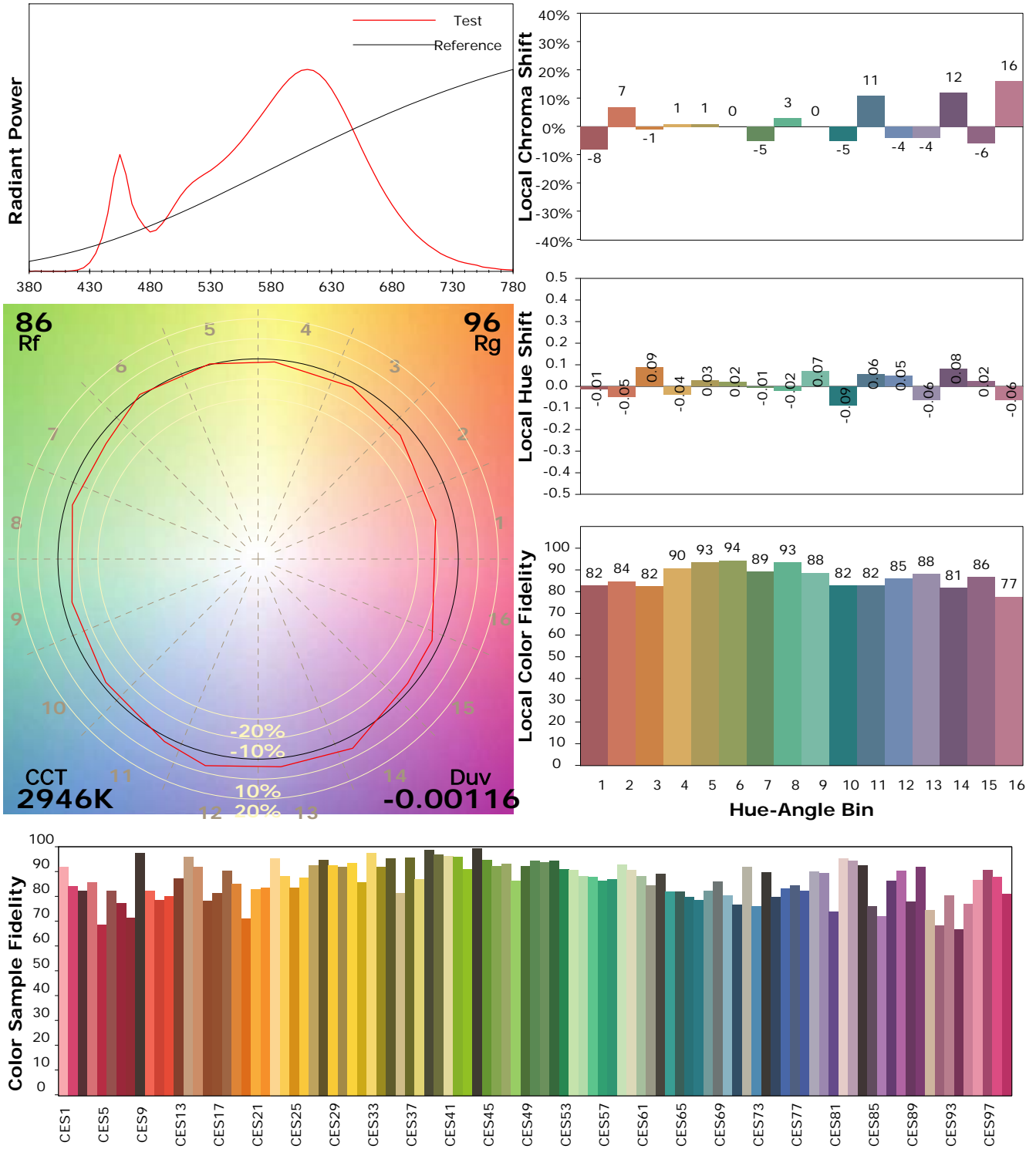
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IES TM-30-18 Color Rendition Report

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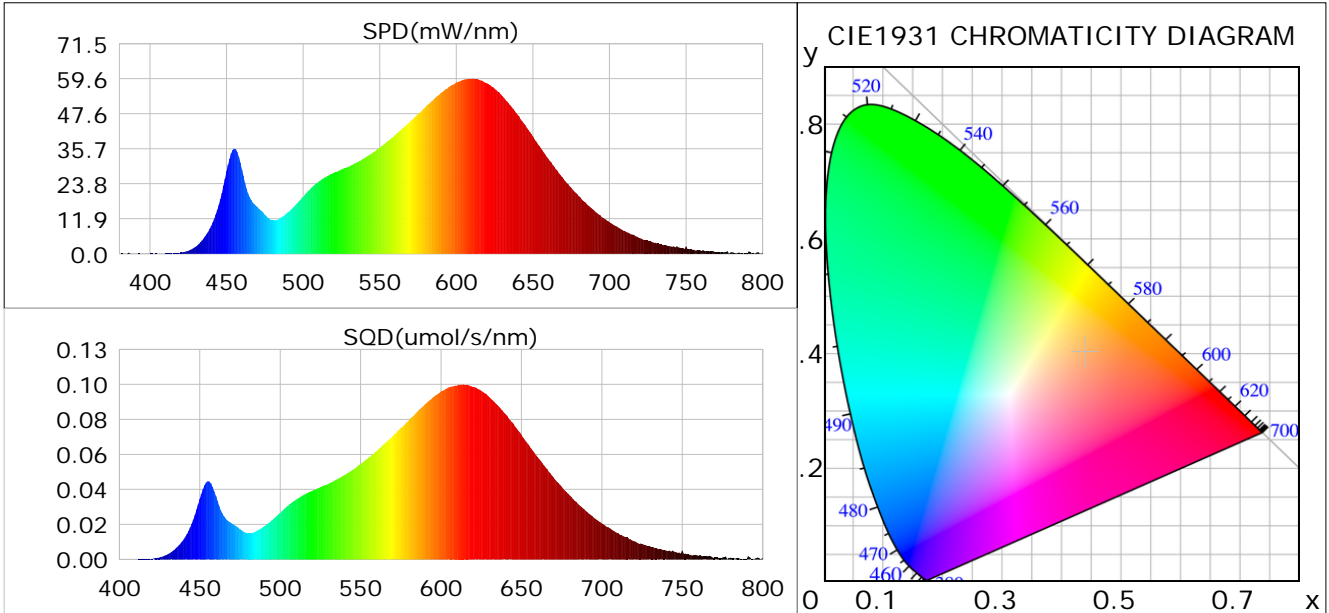
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Plant optical param data

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 CRI: $R_a=86.1$



Plant Optical Param

$ \mu_v(lm): 2912.10$	$Q_v(lm.s): 2912.10$
$ \mu_e, \dot{E}(W/nm): 9.13$	$Q_e(J): 9.13$
$ \mu_e(W): 8.85$	$ \mu_{fr}(W): 0.29$
$ \zeta_e: 0.30$	$ \zeta_{fr}: 0.01$
$PPE(umol/s/w): 1.44$	$K_{fr}: 0.06$
$Erb_Ratio: 3.17$	$PPF(umol/s): 42.93$
$PF_{uv}(360-400)(umol/s): 0.00$	$PPF(400-500)(umol/s): 4.70$
$PPF(500-600)(umol/s): 17.82$	$PPF(600-700)(umol/s): 20.42$
$PPF_{fr}(700-800)(umol/s): 1.69$	$PPF.t(umol): 42.93$
$ \mu_{ch-A.t}(J): 0.71$	$ \mu_{ch-A}(W): 0.71$
$ \mu_{ch-B.t}(J): 0.36$	$ \mu_{ch-B}(W): 0.36$
$ \mu_b.t(J): 1.21$	$ \mu_b(W): 1.21$
$ \mu_y.t(J): 3.83$	$ \mu_y(W): 3.83$
$ \mu_r.t(J): 3.89$	$ \mu_r(W): 3.89$

Electric Parameters

Voltage: 230.70V	Current: 0.1300A	Power: 29.89W
Power Factor: 0.8820	Frequency: 49.99Hz	

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