

## Lightsource Test Report

### Product Information

Product Category: LED-HiPower  
 Product Spec: LED-FLS-AX2-240-CW  
 Manufacturer: METOLIGHT  
 Buyer: 1953

Product Type: LED-HiPower-Station  
 Product Number: 1  
 Submitted Unit: 101793

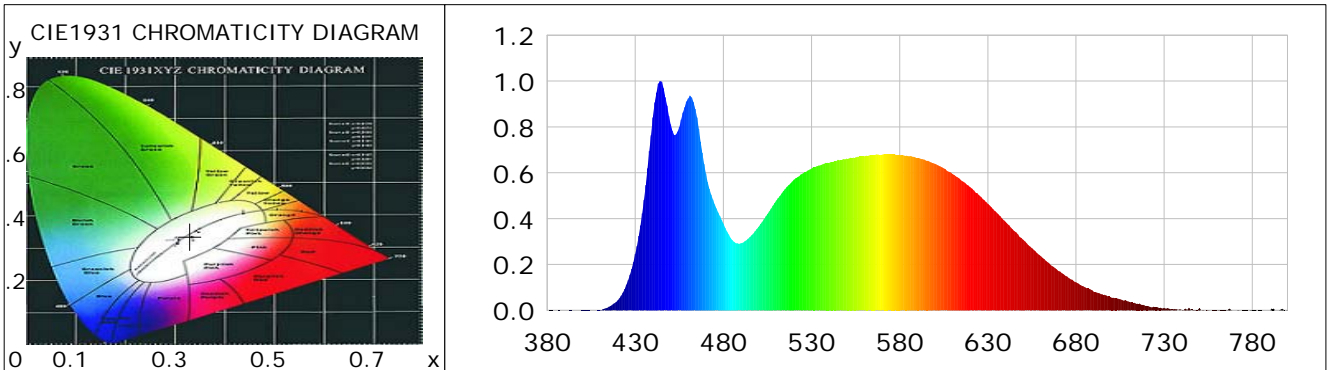
### CIE Colorimetric Parameters

Chromaticity coordinates:  $x=0.3300$   $y=0.3371$   $u(u')=0.2067$   $v=0.3168$   $v'=0.4752$   
 CCT:  $T_c=5612K$  ( $duv=-0.00092$ ) Color Ratio:  $R=0.150$   $G=0.799$   $B=0.050$   
 Peak Wavelength: 444.3nm Half Bandwidth: 37.9nm  
 Dominant Wavelength: 507.6nm Color Purity: 0.010  
 CRI:  $R_a=84.1$ ,  $avgR(1\sim14)=77.6$ ,  $avgR(1\sim15)=77.8$  TM30:  $R_f=83$ ,  $R_g=96$   
 GAI:  $GAI\_BB\_8=95.0$ ,  $GAI\_BB\_15=99.3$ ,  $GAI\_EES=88.1$   

R1 =83	R2 =89	R3 =90	R4 =84	R5 =84	R6 =83	R7 =88	R8 =72
R9 =17	R10=71	R11=82	R12=64	R13=85	R14=94	R15=80	

Color Quality Scale:  $Q_a=80.7$ ,  $Q_f=80.4$ ,  $Q_p=81.8$ ,  $Q_g=93.4$   

Q1 =86	Q2 =98	Q3 =76	Q4 =70	Q5 =77	Q6 =81	Q7 =86	Q8 =90
Q9 =95	Q10=84	Q11=79	Q12=79	Q13=81	Q14=73	Q15=78	



### Photometric Parameters

Luminous Flux: 28952 lm	Efficiency: 121.65 lm/W	Radiant Power: 91.705 W
Total mains efficacy: 143.06 lm/W	Energy Efficiency Class: D (EU 2019/2015)	
Pupil Flux: 51053.91 Plm	Pupil Lumens Per Watt: 214.51 Plm/W	Pupil Factor (Kp): 1.763
Cirtopic Flux: 113695.27 lm		

### Electric Parameters

Voltage: 230.00V	Current: 1.0350A	Power: 238.00W
Power Factor: 0.9590	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: 45293 (2675)	CCD Integration Time: 275.30 ms

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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	0.1834	525	0.5974	395.0978	670	0.1724	114.0188
385	0.0006	0.3956	530	0.6179	408.6707	675	0.1475	97.5814
390	0.0005	0.3534	535	0.6328	418.4982	680	0.1227	81.1759
395	0.0001	0.0774	540	0.6434	425.5486	685	0.1007	66.6138
400	0.0010	0.6287	545	0.6562	434.0038	690	0.0815	53.9157
405	0.0002	0.1634	550	0.6620	437.8567	695	0.0697	46.1050
410	0.0023	1.5528	555	0.6672	441.2879	700	0.0561	37.1203
415	0.0155	10.2693	560	0.6717	444.2672	705	0.0488	32.2942
420	0.0431	28.5005	565	0.6772	447.8833	710	0.0382	25.2836
425	0.1117	73.8855	570	0.6789	449.0089	715	0.0292	19.3428
430	0.2455	162.3806	575	0.6812	450.5185	720	0.0189	12.5085
435	0.4820	318.8050	580	0.6782	448.5296	725	0.0141	9.3518
440	0.8412	556.3649	585	0.6717	444.2401	730	0.0107	7.0603
445	0.9974	659.6897	590	0.6639	439.0792	735	0.0043	2.8275
450	0.8116	536.7952	595	0.6532	432.0148	740	0.0028	1.8234
455	0.7998	528.9834	600	0.6388	422.4864	745	0.0041	2.6888
460	0.9240	611.0933	605	0.6198	409.9562	750	0.0101	6.7029
465	0.8413	556.4061	610	0.5941	392.9204	755	0.0035	2.2946
470	0.5972	394.9629	615	0.5665	374.6609	760	0.0010	0.6628
475	0.4623	305.7815	620	0.5373	355.3692	765	0.0013	0.8278
480	0.3785	250.3648	625	0.5019	331.9537	770	0.0013	0.8850
485	0.3070	203.0596	630	0.4647	307.3324	775	0.0016	1.0560
490	0.2929	193.7316	635	0.4259	281.6503	780	0.0037	2.4338
495	0.3191	211.0723	640	0.3865	255.6144	785	0.0018	1.1778
500	0.3651	241.4440	645	0.3462	228.9643	790	0.0001	0.0737
505	0.4204	278.0344	650	0.3085	204.0396	795	0.0008	0.5181
510	0.4793	316.9712	655	0.2714	179.5198	800	0.0037	2.4143
515	0.5294	350.1440	660	0.2367	156.5300			
520	0.5697	376.7881	665	0.2038	134.8051			

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

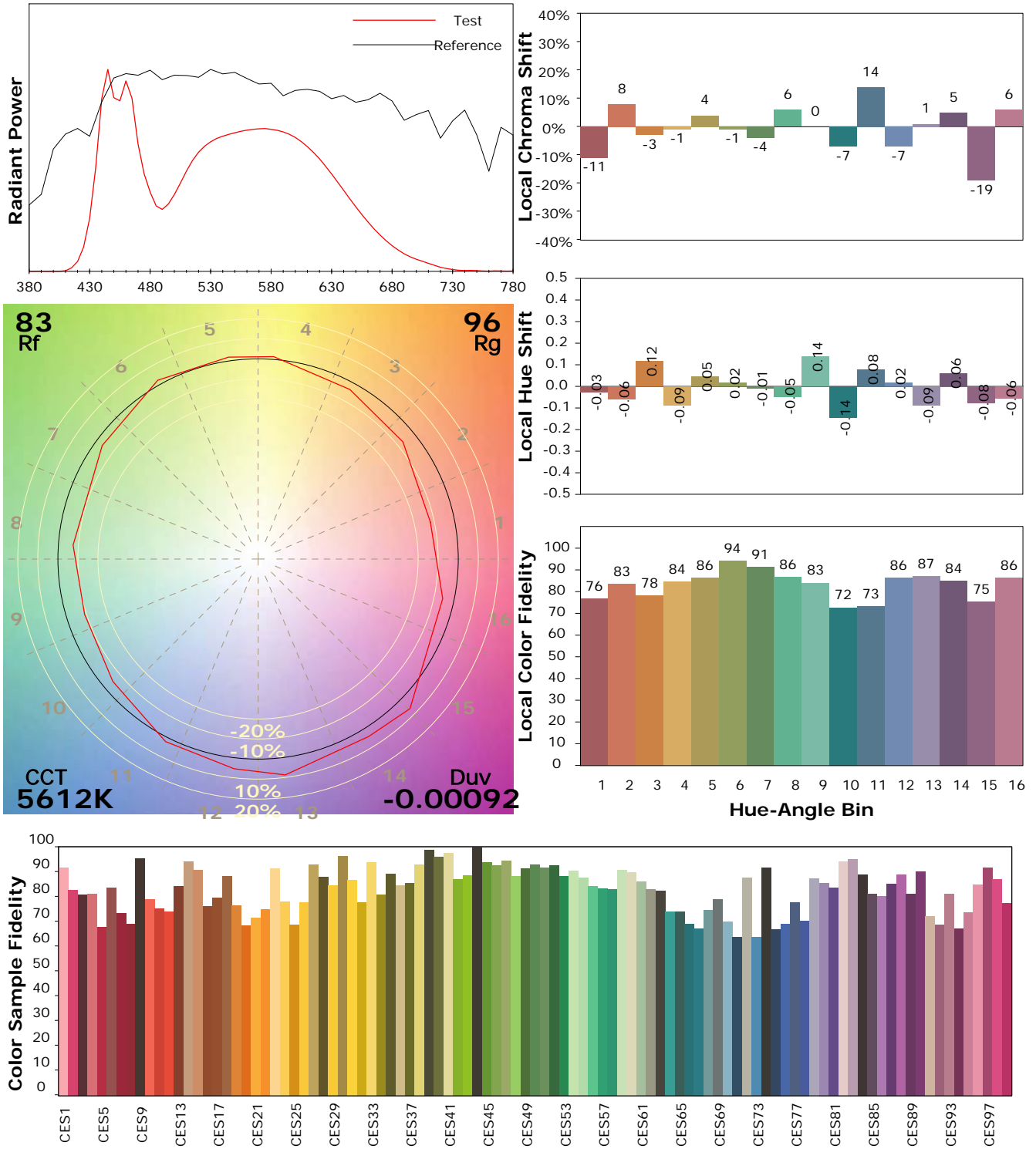
Test Device: Lisun LMS-9000B  
 Test Time: 2021-08-18 09:36:16  
 Inspector:

## IES TM-30-18 Color Rendition Report

### Product Information

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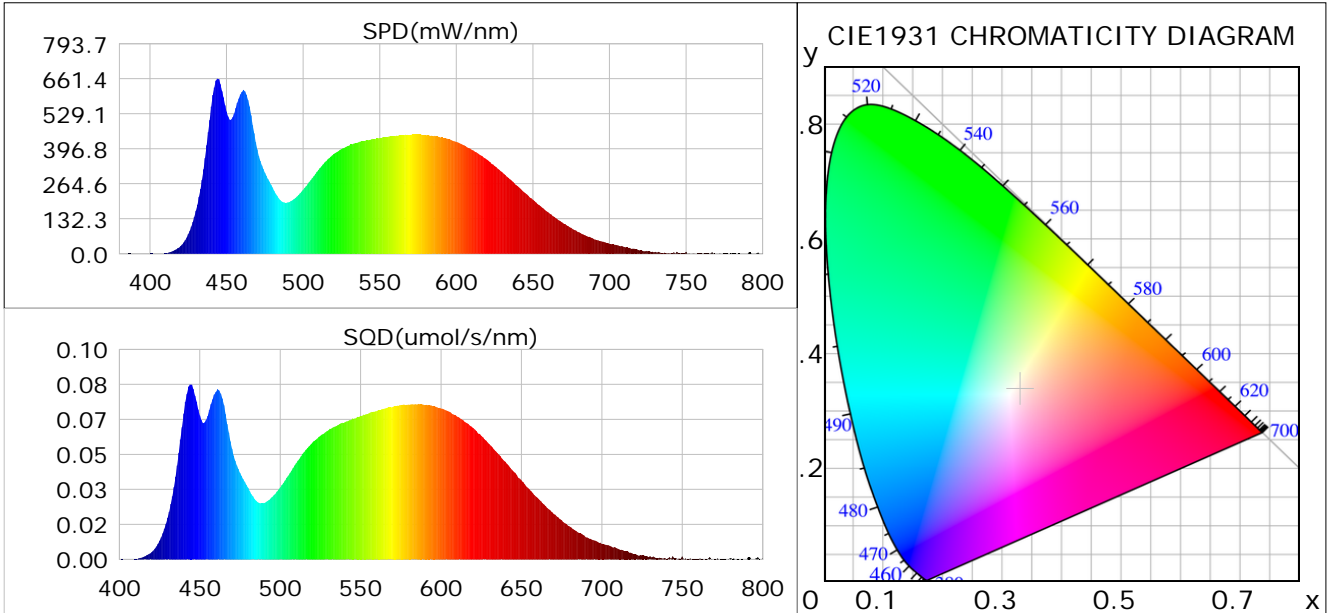
Condition: Tx:0.0°C, Ti:0.0°C, R.H.: 60%  
 Test Lab:  
 Operator: CRE

Test Device: Lisun LMS-9000B  
 Test Time: 2021-08-18 09:36:16  
 Inspector:

## Plant optical param data

### CIE Colorimetric Parameters

Chromaticity coordinates:  $x=0.3300$   $y=0.3371$   $u(u')=0.2067$   $v=0.3168$   $v'=0.4752$   
 CCT:  $T_c=5612K$  ( $duv=-0.00092$ ) Color Ratio:  $R=0.150$   $G=0.799$   $B=0.050$   
 Peak Wavelength: 444.3nm Half Bandwidth: 37.9nm  
 Dominant Wavelength: 507.6nm Color Purity: 0.010  
 CRI:  $R_a=84.1$



### Plant Optical Param

$ \mu_v(lm): 28952.00$	$Q_v(lm.s): 28952.00$
$ \mu_e, \dot{E}(W/nm): 91.71$	$Q_e(J): 91.71$
$ \mu_e(W): 91.01$	$ \mu_{fr}(W): 0.76$
$ \zeta_e: 0.38$	$ \zeta_{fr}: 0.00$
$PPE(umol/s/w): 1.73$	$K_{fr}: 0.02$
$Erb\_Ratio: 0.74$	$PPF(umol/s): 412.66$
$PF_{uv}(360-400)(umol/s): 0.03$	$PPF(400-500)(umol/s): 110.15$
$PPF(500-600)(umol/s): 189.54$	$PPF(600-700)(umol/s): 112.96$
$PPF_r(700-800)(umol/s): 4.33$	$PPF.t(umol): 412.66$
$ \mu_{ch-A.t}(J): 8.06$	$ \mu_{ch-A}(W): 8.06$
$ \mu_{ch-B.t}(J): 5.15$	$ \mu_{ch-B}(W): 5.15$
$ \mu_b.t(J): 28.71$	$ \mu_b(W): 28.71$
$ \mu_y.t(J): 41.21$	$ \mu_y(W): 41.21$
$ \mu_r.t(J): 21.74$	$ \mu_r(W): 21.74$

### Electric Parameters

Voltage: 230.00V	Current: 1.0350A	Power: 238.00W
Power Factor: 0.9590	Frequency: 49.99Hz	

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

Test Device: Lisun LMS-9000B  
 Test Time: 2021-08-18 09:36:16  
 Inspector: