

## Lightsource Test Report

### Product Information

Product Category: LED-HiPower  
 Product Spec: LED-FL-150-W2-CW  
 Manufacturer: METOLIGHT  
 Buyer: 5069

Product Type: LED-HiPower-Fluter  
 Product Number: 1  
 Submitted Unit: 101528

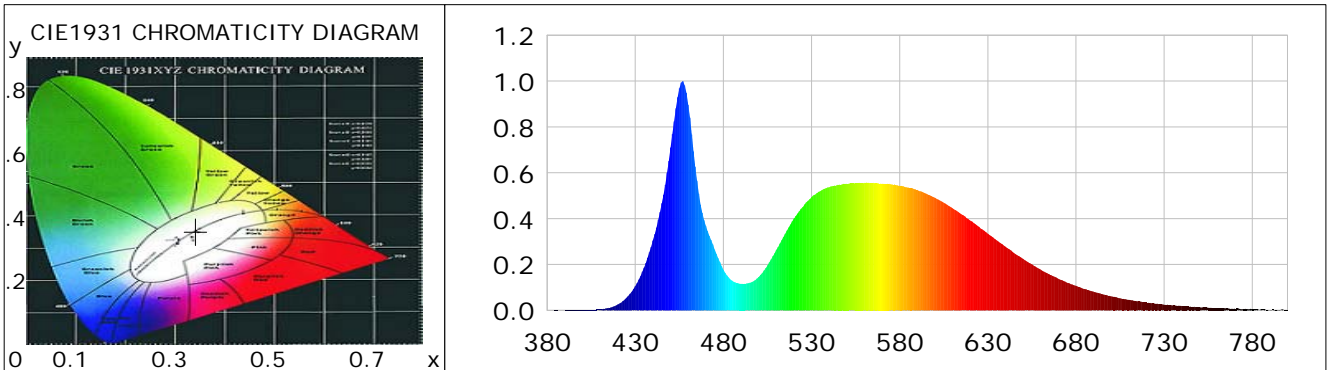
### CIE Colorimetric Parameters

Chromaticity coordinates:  $x=0.3417$   $y=0.3525$   $u(u')=0.2087$   $v=0.3231$   $v'=0.4846$   
 CCT:  $T_c=5136K$  ( $duv=0.00186$ ) Color Ratio:  $R=0.145$   $G=0.817$   $B=0.038$   
 Peak Wavelength: 456.7nm Half Bandwidth: 20.3nm  
 Dominant Wavelength: 568.6nm Color Purity: 0.083  
 CRI:  $R_a=75.3$ ,  $avgR(1\sim14)=66.4$ ,  $avgR(1\sim15)=66.6$  TM30:  $R_f=75$ ,  $R_g=92$   
 GAI:  $GAI\_BB\_8=89.2$ ,  $GAI\_BB\_15=97.0$ ,  $GAI\_EES=79.5$   

R1 =73	R2 =82	R3 =84	R4 =73	R5 =72	R6 =72	R7 =85	R8 =61
R9 =0	R10=53	R11=67	R12=41	R13=75	R14=91	R15=70	

Color Quality Scale:  $Q_a=72.0$ ,  $Q_f=71.7$ ,  $Q_p=73.3$ ,  $Q_g=89.5$   

Q1 =81	Q2 =97	Q3 =65	Q4 =55	Q5 =64	Q6 =69	Q7 =76	Q8 =84
Q9 =91	Q10=77	Q11=71	Q12=72	Q13=74	Q14=64	Q15=70	



### Photometric Parameters

Luminous Flux: 20033 lm	Efficiency: 134.10 lm/W	Radiant Power: 60.445 W
Total mains efficacy: 157.70 lm/W	Energy Efficiency Class: D (EU 2019/2015)	
Pupil Flux: 32379.31 Plm	Pupil Lumens Per Watt: 216.74 Plm/W	Pupil Factor (Kp): 1.616
Cirtopic Flux: 68403.92 lm		

### Electric Parameters

Voltage: 230.60V	Current: 0.6550A	Power: 149.39W
Power Factor: 0.9880	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: 45665 (2606)	CCD Integration Time: 11.81 ms

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0004	0.2649	525	0.4506	267.8524	670	0.1382	82.1263
385	0.0009	0.5445	530	0.4936	293.4144	675	0.1207	71.7735
390	0.0013	0.7855	535	0.5204	309.3319	680	0.1072	63.7242
395	0.0014	0.8426	540	0.5374	319.4361	685	0.0929	55.2293
400	0.0012	0.7249	545	0.5478	325.6124	690	0.0815	48.4612
405	0.0028	1.6466	550	0.5516	327.8868	695	0.0701	41.6697
410	0.0049	2.8858	555	0.5556	330.2855	700	0.0612	36.3764
415	0.0109	6.4795	560	0.5561	330.5549	705	0.0528	31.3795
420	0.0252	14.9789	565	0.5564	330.7135	710	0.0465	27.6522
425	0.0549	32.6480	570	0.5529	328.6496	715	0.0396	23.5329
430	0.1058	62.9015	575	0.5498	326.7972	720	0.0348	20.6764
435	0.1863	110.7402	580	0.5434	322.9908	725	0.0287	17.0789
440	0.3047	181.1088	585	0.5349	317.9827	730	0.0251	14.9105
445	0.4672	277.7102	590	0.5250	312.1030	735	0.0213	12.6856
450	0.7105	422.3654	595	0.5089	302.5149	740	0.0192	11.4048
455	0.9683	575.5815	600	0.4908	291.7634	745	0.0166	9.8920
460	0.8972	533.3194	605	0.4697	279.1850	750	0.0143	8.4713
465	0.5656	336.2067	610	0.4453	264.7016	755	0.0117	6.9638
470	0.3690	219.3291	615	0.4194	249.2918	760	0.0096	5.6848
475	0.2658	158.0185	620	0.3922	233.1442	765	0.0089	5.2919
480	0.1779	105.7784	625	0.3638	216.2425	770	0.0074	4.3837
485	0.1292	76.8230	630	0.3340	198.5122	775	0.0061	3.6269
490	0.1160	68.9594	635	0.3056	181.6547	780	0.0050	2.9543
495	0.1203	71.5360	640	0.2775	164.9721	785	0.0045	2.6988
500	0.1455	86.5180	645	0.2491	148.0765	790	0.0013	0.7670
505	0.1967	116.9162	650	0.2241	133.2063	795	0.0042	2.4713
510	0.2642	157.0454	655	0.2007	119.3023	800	0.0032	1.9213
515	0.3341	198.6164	660	0.1776	105.5489			
520	0.4007	238.1829	665	0.1566	93.1002			

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

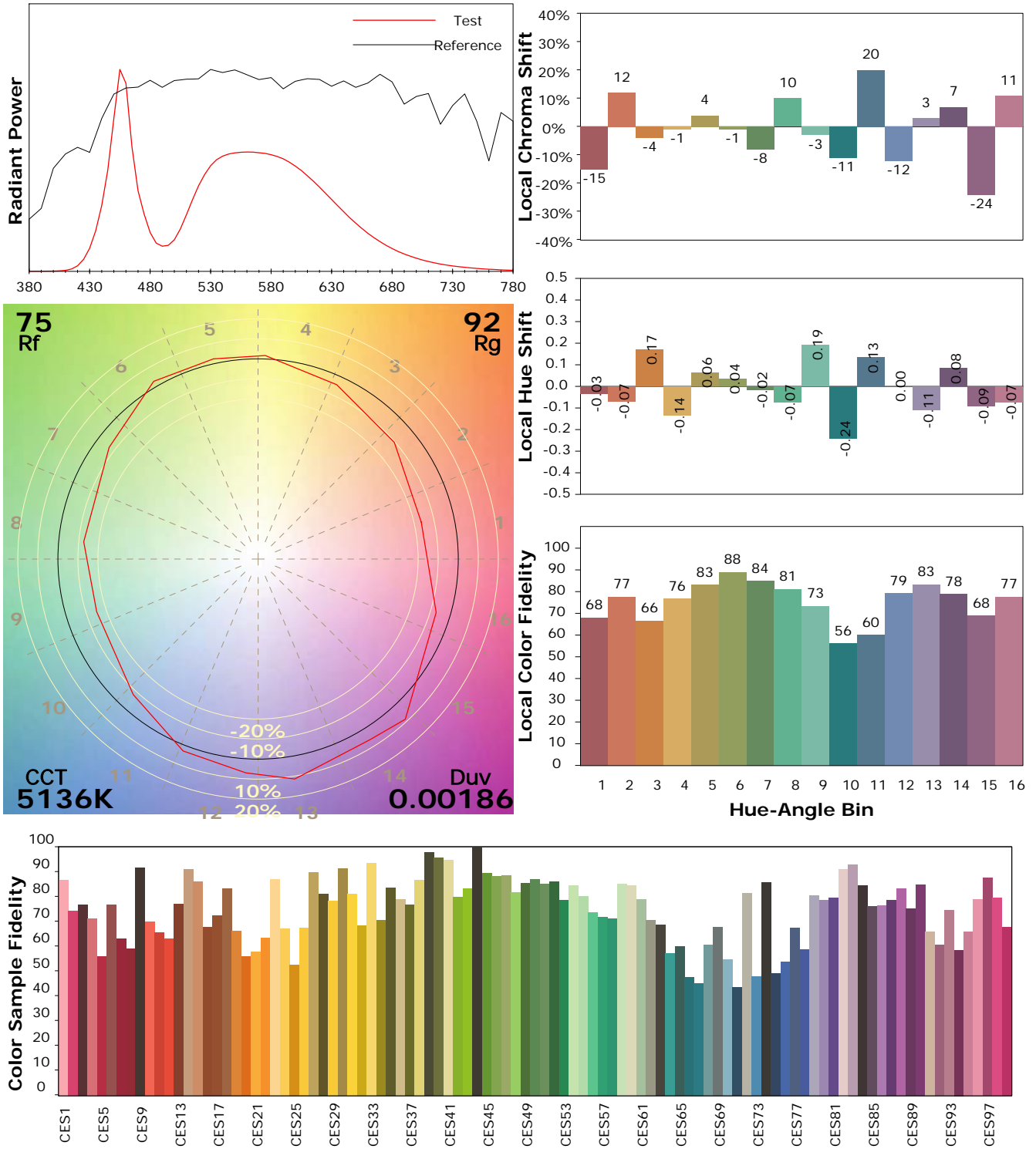
Test Device: Lisun LMS-9000B  
 Test Time: 2021-08-18 11:59:28  
 Inspector:

## IES TM-30-18 Color Rendition Report

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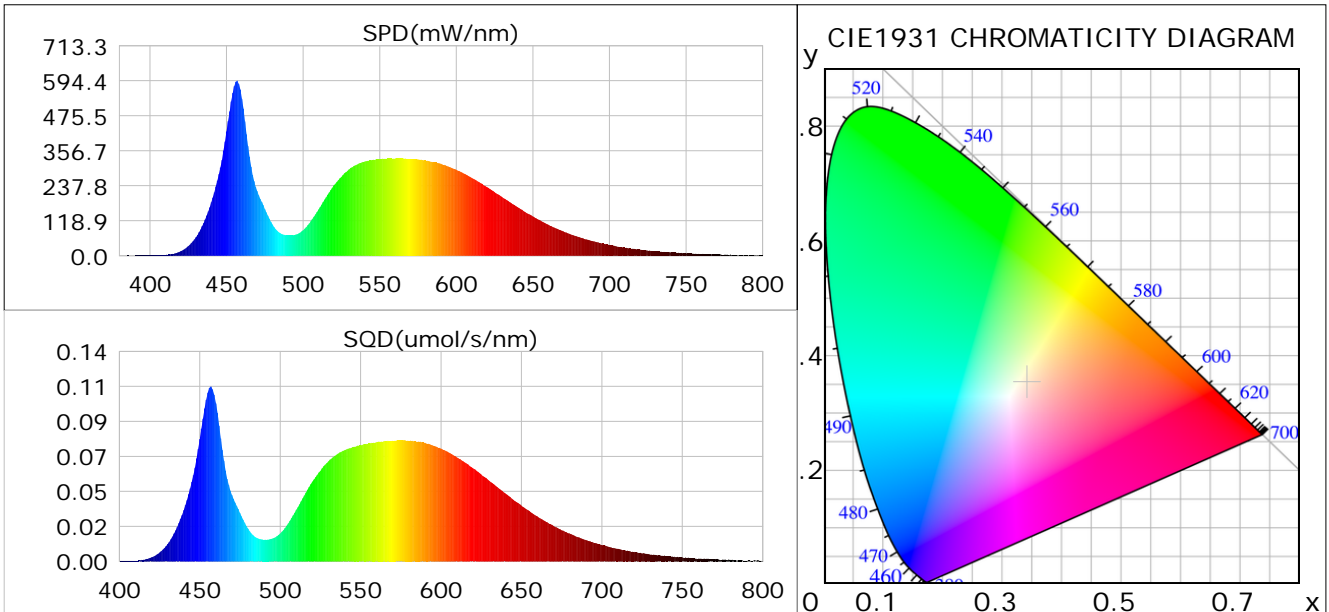
Condition: Tx:0.0°C, Ti:0.0°C, R.H.: 60%  
 Test Lab:  
 Operator: CRE

Test Device: Lisun LMS-9000B  
 Test Time: 2021-08-18 11:59:28  
 Inspector:

## Plant optical param data

### CIE Colorimetric Parameters

Chromaticity coordinates:  $x=0.3417$   $y=0.3525$   $u(u')=0.2087$   $v=0.3231$   $v'=0.4846$   
 CCT:  $T_c=5136K$  ( $duv=0.00186$ ) Color Ratio:  $R=0.145$   $G=0.817$   $B=0.038$   
 Peak Wavelength: 456.7nm Half Bandwidth: 20.3nm  
 Dominant Wavelength: 568.6nm Color Purity: 0.083  
 CRI:  $R_a=75.3$



### Plant Optical Param

$ \mu_v(lm): 20033.29$	$Q_v(lm.s): 20033.29$
$ \mu_e, \dot{E}(W/nm): 60.45$	$Q_e(J): 60.45$
$ \mu_e(W): 59.33$	$ \mu_{fr}(W): 1.18$
$ \zeta_e: 0.40$	$ \zeta_{fr}: 0.01$
$PPE(umol/s/w): 1.82$	$K_{fr}: 0.05$
$Erb\_Ratio: 0.87$	$PPF(umol/s): 271.67$
$PF_{uv}(360-400)(umol/s): 0.04$	$PPF(400-500)(umol/s): 63.38$
$PPF(500-600)(umol/s): 131.62$	$PPF(600-700)(umol/s): 76.67$
$PPF_r(700-800)(umol/s): 6.95$	$PPF.t(umol): 271.67$
$ \mu_{ch-A.t}(J): 4.79$	$ \mu_{ch-A}(W): 4.79$
$ \mu_{ch-B.t}(J): 3.29$	$ \mu_{ch-B}(W): 3.29$
$ \mu_b.t(J): 16.54$	$ \mu_b(W): 16.54$
$ \mu_y.t(J): 28.43$	$ \mu_y(W): 28.43$
$ \mu_r.t(J): 14.74$	$ \mu_r(W): 14.74$

### Electric Parameters

Voltage: 230.60V	Current: 0.6550A	Power: 149.39W
Power Factor: 0.9880	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 11:59:28  
 Inspector: