

Lightsource Test Report

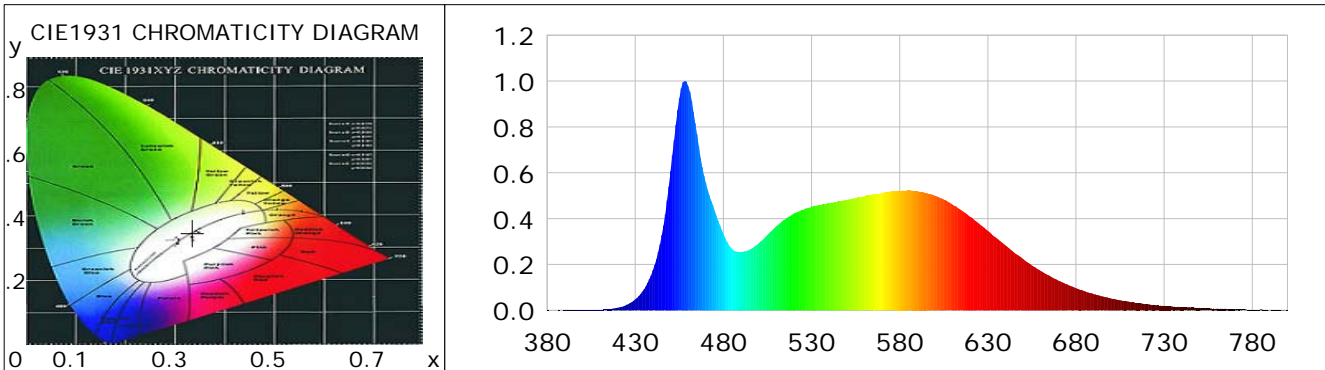
Product Information

Product Category: LED-HiPower
 Product Spec: LED-FL-120-W2-CW
 Manufacturer: METOLIGHT
 Buyer: 5069

Product Type: LED-HiPower-Fluter
 Product Number: 1
 Submitted Unit: 101527

CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3352$ $y=0.3480$ $u(u')=0.2061$ $v=0.3209$ $v'=0.4814$
 CCT: $T_c=5388K$ ($duv=0.00231$) Color Ratio: $R=0.152$ $G=0.791$ $B=0.056$
 Peak Wavelength: 458.2nm Half Bandwidth: 23.8nm
 Dominant Wavelength: 559.7nm Color Purity: 0.050
 CRI: $R_a=83.7$, $avgR(1\sim14)=77.4$, $avgR(1\sim15)=77.5$ TM30: $R_f=81$, $R_g=91$
 GAI: $GAI_BB_8=89.2$, $GAI_BB_15=96.0$, $GAI_EES=81.3$
 R1 =83 R2 =94 R3 =94 R4 =78 R5 =82 R6 =88 R7 =83 R8 =66
 R9 =11 R10=83 R11=77 R12=59 R13=87 R14=98 R15=78
 Color Quality Scale: $Q_a=80.7$, $Q_f=81.1$, $Q_p=79.1$, $Q_g=89.6$
 Q1 =78 Q2 =96 Q3 =81 Q4 =71 Q5 =74 Q6 =76 Q7 =83 Q8 =89
 Q9 =97 Q10=91 Q11=85 Q12=83 Q13=82 Q14=72 Q15=75



Photometric Parameters

Luminous Flux: 14427 lm Efficiency: 120.95 lm/W Radiant Power: 45.224 W
 Total mains efficacy: 142.24 lm/W Energy Efficiency Class: D (EU 2019/2015)
 Pupil Flux: 25863.98 Plm Pupil Lumens Per Watt: 216.83 Plm/W Pupil Factor (Kp): 1.793
 Circopic Flux: 58874.38 lm

Electric Parameters

Voltage: 230.80V Current: 0.5160A Power: 119.28W
 Power Factor: 0.9720 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: 45599 (2615) CCD Integration Time: 8.97 ms

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0008	0.3584	525	0.4363	190.1876	670	0.1303	56.8150
385	0.0006	0.2807	530	0.4518	196.9435	675	0.1136	49.5428
390	0.0007	0.3119	535	0.4601	200.5768	680	0.0968	42.1963
395	0.0017	0.7252	540	0.4661	203.2114	685	0.0831	36.2321
400	0.0013	0.5574	545	0.4765	207.7224	690	0.0708	30.8871
405	0.0024	1.0552	550	0.4817	210.0052	695	0.0608	26.4930
410	0.0032	1.3858	555	0.4906	213.8598	700	0.0520	22.6589
415	0.0056	2.4364	560	0.4976	216.9322	705	0.0441	19.2246
420	0.0112	4.8763	565	0.5062	220.6991	710	0.0378	16.4871
425	0.0238	10.3670	570	0.5124	223.3777	715	0.0319	13.9074
430	0.0476	20.7414	575	0.5191	226.3140	720	0.0272	11.8542
435	0.0917	39.9783	580	0.5215	227.3705	725	0.0233	10.1629
440	0.1746	76.1100	585	0.5225	227.7966	730	0.0199	8.6830
445	0.3283	143.1073	590	0.5201	226.7348	735	0.0161	7.0121
450	0.6072	264.6935	595	0.5120	223.1942	740	0.0140	6.1239
455	0.9247	403.1398	600	0.5001	218.0228	745	0.0119	5.2077
460	0.9774	426.1021	605	0.4836	210.8178	750	0.0106	4.6129
465	0.7676	334.6543	610	0.4612	201.0827	755	0.0089	3.8767
470	0.5561	242.4444	615	0.4367	190.3899	760	0.0081	3.5313
475	0.4355	189.8579	620	0.4082	177.9719	765	0.0076	3.3074
480	0.3336	145.4505	625	0.3783	164.9392	770	0.0062	2.6963
485	0.2685	117.0720	630	0.3464	151.0155	775	0.0037	1.6122
490	0.2542	110.8365	635	0.3141	136.9546	780	0.0031	1.3662
495	0.2658	115.8972	640	0.2827	123.2644	785	0.0046	1.9838
500	0.2920	127.3013	645	0.2519	109.8371	790	0.0014	0.5973
505	0.3290	143.4237	650	0.2236	97.4837	795	0.0031	1.3573
510	0.3669	159.9728	655	0.1958	85.3718	800	0.0009	0.4068
515	0.3967	172.9299	660	0.1720	74.9864			
520	0.4224	184.1403	665	0.1510	65.8176			

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

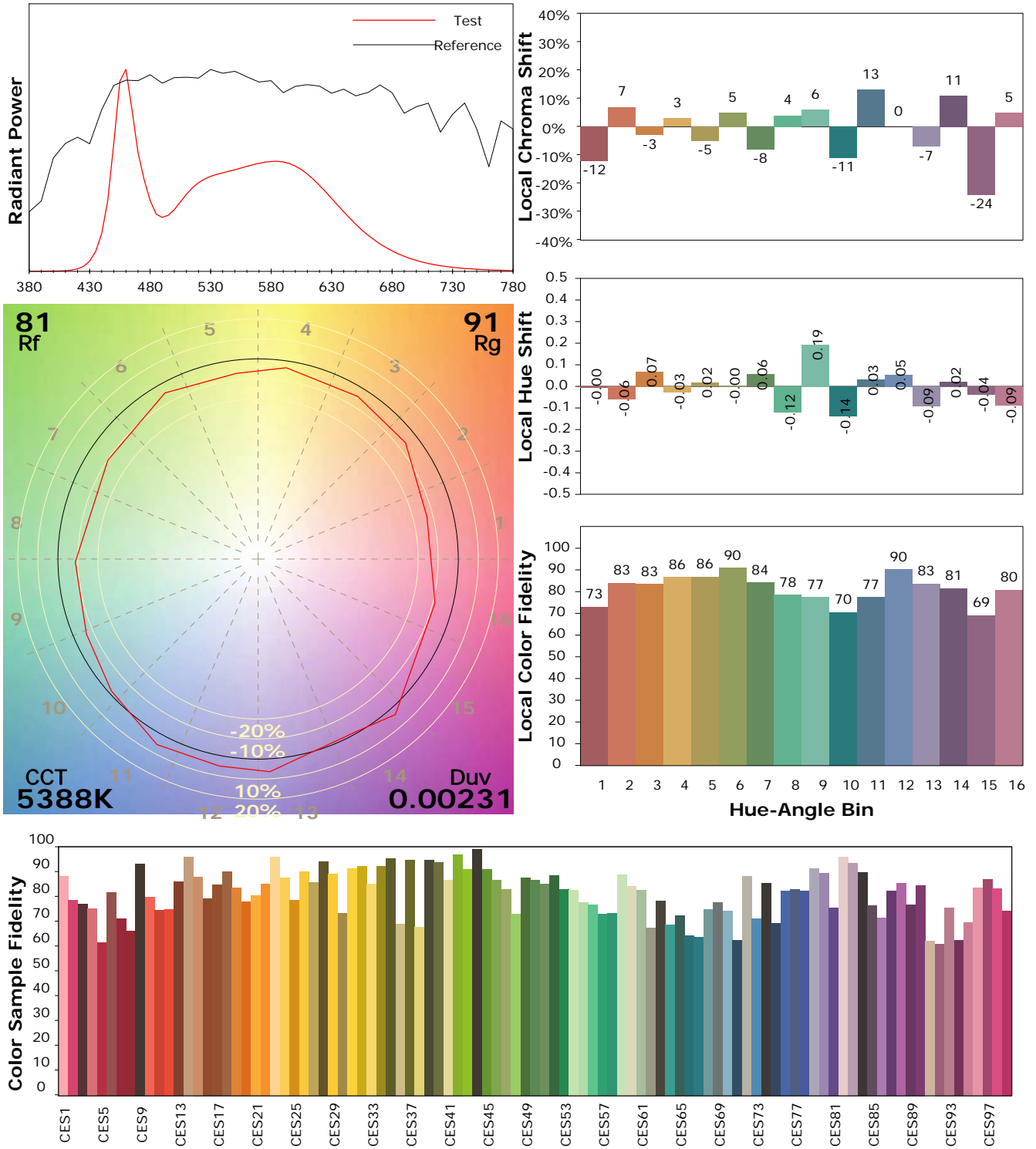
Test Device: Lisun LMS-9000B
 Test Time: 2021-08-18 13:09:54
 Inspector:

IES TM-30-18 Color Rendition Report

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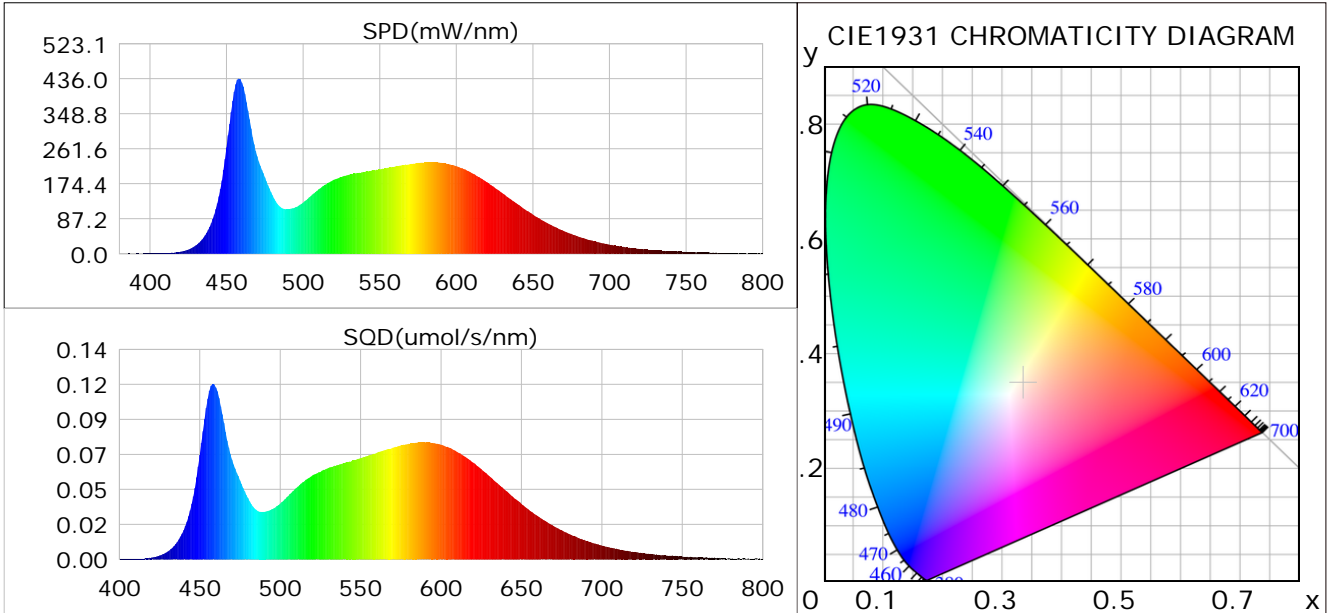
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Plant optical param data

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 CRI: $R_a=83.7$



Plant Optical Param

$ \mu_v(lm): 14427.00$	$Q_v(lm.s): 14427.00$
$ \mu_e, \dot{E}(W/nm): 45.22$	$Q_e(J): 45.22$
$ \mu_e(W): 44.58$	$ \mu_{fr}(W): 0.68$
$ \zeta_e: 0.37$	$ \zeta_{fr}: 0.01$
$PPE(umol/s/w): 1.70$	$K_{fr}: 0.03$
$Erb_Ratio: 0.78$	$PPF(umol/s): 203.35$
$PF_{uv}(360-400)(umol/s): 0.03$	$PPF(400-500)(umol/s): 52.89$
$PPF(500-600)(umol/s): 93.94$	$PPF(600-700)(umol/s): 56.52$
$PPF_r(700-800)(umol/s): 4.00$	$PPF.t(umol): 203.35$
$ \mu_{ch-A.t}(J): 3.30$	$ \mu_{ch-A}(W): 3.30$
$ \mu_{ch-B.t}(J): 2.57$	$ \mu_{ch-B}(W): 2.57$
$ \mu_b.t(J): 13.62$	$ \mu_b(W): 13.62$
$ \mu_y.t(J): 20.42$	$ \mu_y(W): 20.42$
$ \mu_r.t(J): 10.89$	$ \mu_r(W): 10.89$

Electric Parameters

Voltage: 230.80V	Current: 0.5160A	Power: 119.28W
Power Factor: 0.9720	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
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