

Lightsource Test Report

Product Information

Product Category: LED-HiPower
 Product Spec: LED-HBL-4Way-200-CW-60
 Manufacturer: METOLIGHT
 Buyer: 7093

Product Type: LED-HiPower-Highbay
 Product Number: 1
 Submitted Unit: 103025

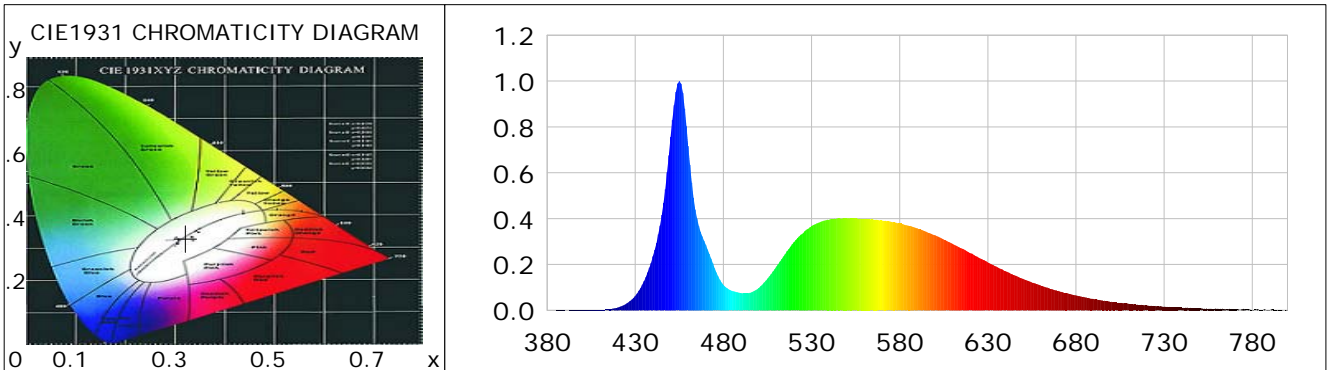
CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3211$ $y=0.3310$ $u(u')=0.2029$ $v=0.3137$ $v'=0.4706$
 CCT: $T_c=6056K$ ($duv=0.00008$) Color Ratio: $R=0.132$ $G=0.826$ $B=0.042$
 Peak Wavelength: 455.0nm Half Bandwidth: 16.3nm
 Dominant Wavelength: 489.3nm Color Purity: 0.043
 CRI: $R_a = 74.7$, $avgR(1\sim14) = 65.2$, $avgR(1\sim15) = 65.7$ TM30: $R_f = 72$, $R_g = 92$
 GAI: $GAI_BB_8=88.7$, $GAI_BB_15=96.5$, $GAI_EES=84.6$

R1 = 73	R2 = 81	R3 = 81	R4 = 73	R5 = 72	R6 = 70	R7 = 85	R8 = 63
R9 = 0	R10 = 49	R11 = 67	R12 = 35	R13 = 75	R14 = 89	R15 = 72	

Color Quality Scale: $Q_a = 69.8$, $Q_f = 68.9$, $Q_p = 72.4$, $Q_g = 88.9$

Q1 = 82	Q2 = 96	Q3 = 61	Q4 = 49	Q5 = 61	Q6 = 67	Q7 = 76	Q8 = 85
Q9 = 89	Q10 = 74	Q11 = 67	Q12 = 69	Q13 = 72	Q14 = 63	Q15 = 71	



Photometric Parameters

Luminous Flux: 28149 lm	Efficiency: 139.13 lm/W	Radiant Power: 87.015 W
Total mains efficacy: 163.61 lm/W	Energy Efficiency Class: C (EU 2019/2015)	
Pupil Flux: 48333.55 Plm	Pupil Lumens Per Watt: 238.88 Plm/W	Pupil Factor (Kp): 1.717
Cirtopic Flux: 106007.57 lm		

Electric Parameters

Voltage: 231.10V	Current: 0.9050A	Power: 202.33W
Power Factor: 0.9660	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: 45722 (2584)	CCD Integration Time: 5.96 ms

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: 2021-08-19 11:22:07
 Inspector:

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0010	1.2098	525	0.3358	395.7456	670	0.0847	99.7837
385	0.0008	0.9154	530	0.3675	433.1164	675	0.0748	88.1758
390	0.0008	0.9882	535	0.3857	454.6496	680	0.0652	76.7976
395	0.0013	1.5549	540	0.3952	465.8349	685	0.0567	66.8040
400	0.0008	0.9216	545	0.4016	473.4008	690	0.0499	58.7783
405	0.0018	2.1434	550	0.4024	474.2707	695	0.0432	50.9187
410	0.0029	3.4607	555	0.4018	473.5607	700	0.0374	44.0884
415	0.0050	5.8751	560	0.3982	469.3629	705	0.0328	38.6076
420	0.0124	14.5804	565	0.3961	466.8224	710	0.0282	33.2391
425	0.0295	34.8289	570	0.3920	462.0440	715	0.0247	29.1149
430	0.0633	74.5771	575	0.3865	455.5965	720	0.0222	26.1870
435	0.1273	149.9934	580	0.3785	446.1627	725	0.0190	22.3405
440	0.2355	277.6039	585	0.3691	435.0447	730	0.0167	19.6471
445	0.4165	490.8788	590	0.3576	421.5000	735	0.0141	16.6079
450	0.7561	891.1308	595	0.3430	404.3312	740	0.0122	14.4269
455	1.0000	1178.6506	600	0.3276	386.1120	745	0.0106	12.4913
460	0.7163	844.2532	605	0.3091	364.2874	750	0.0094	11.1126
465	0.4012	472.8811	610	0.2901	341.9257	755	0.0066	7.7921
470	0.2856	336.6525	615	0.2704	318.6606	760	0.0070	8.2441
475	0.1839	216.7796	620	0.2498	294.4001	765	0.0049	5.7212
480	0.1116	131.5590	625	0.2287	269.5131	770	0.0055	6.5096
485	0.0850	100.2096	630	0.2089	246.2718	775	0.0063	7.4108
490	0.0754	88.9075	635	0.1901	224.1057	780	0.0027	3.2361
495	0.0768	90.4684	640	0.1709	201.4702	785	0.0028	3.2710
500	0.0977	115.1482	645	0.1533	180.7055	790	0.0019	2.2487
505	0.1384	163.1287	650	0.1371	161.6340	795	0.0026	3.0056
510	0.1909	225.0287	655	0.1220	143.8437	800	0.0028	3.3435
515	0.2454	289.2209	660	0.1083	127.6018			
520	0.2976	350.8157	665	0.0951	112.1473			

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

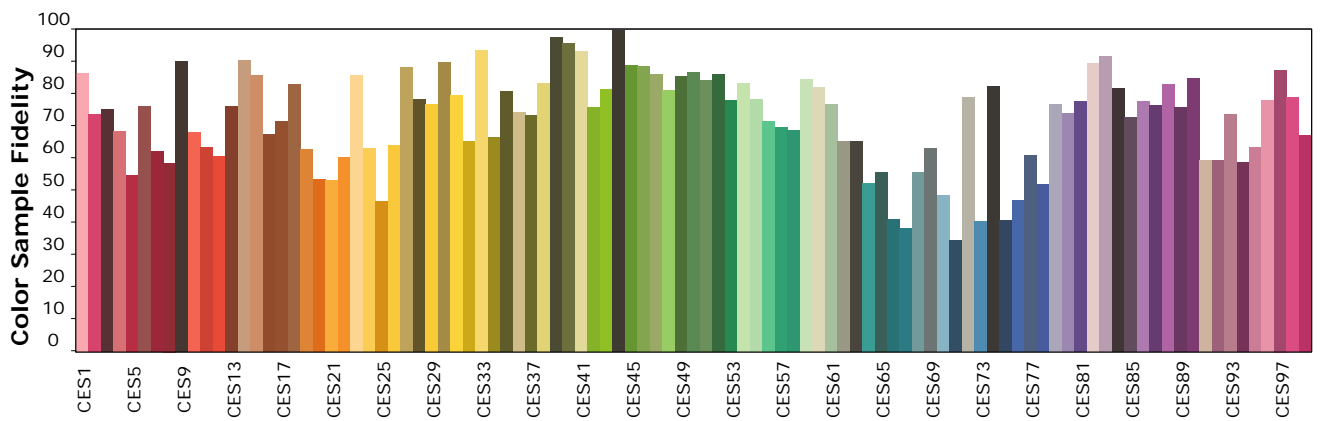
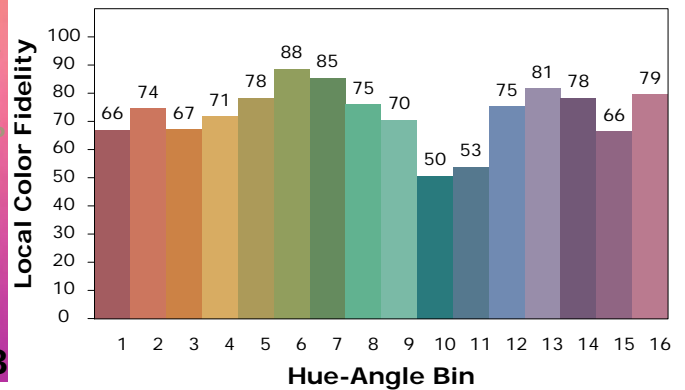
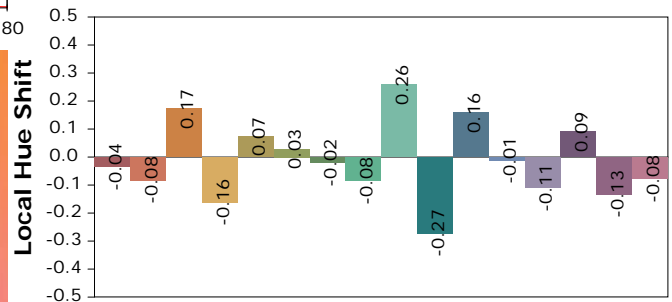
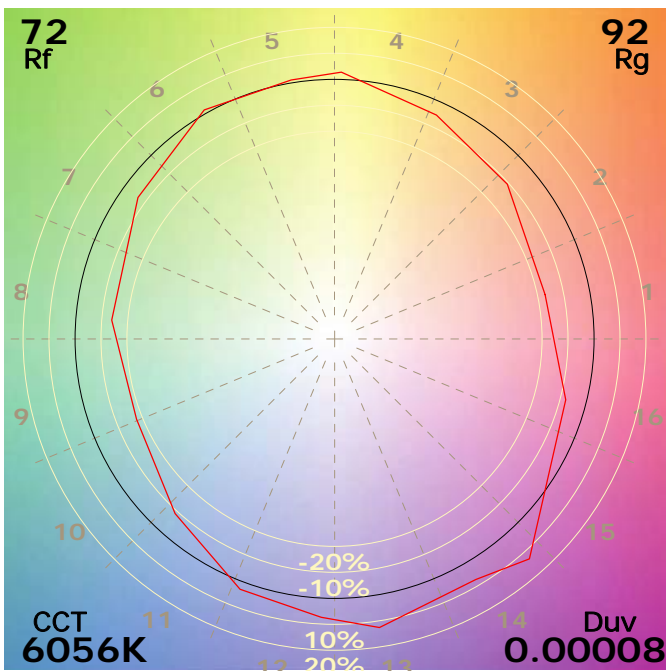
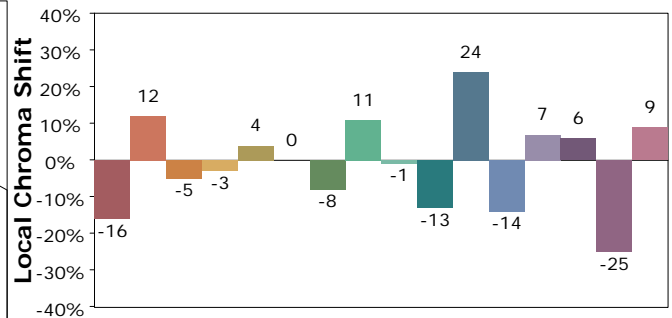
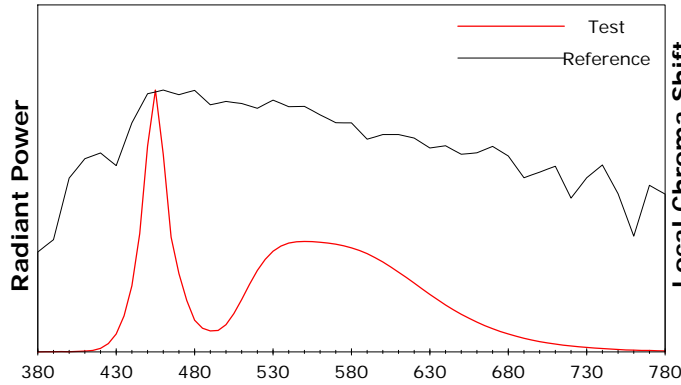
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IES TM-30-18 Color Rendition Report

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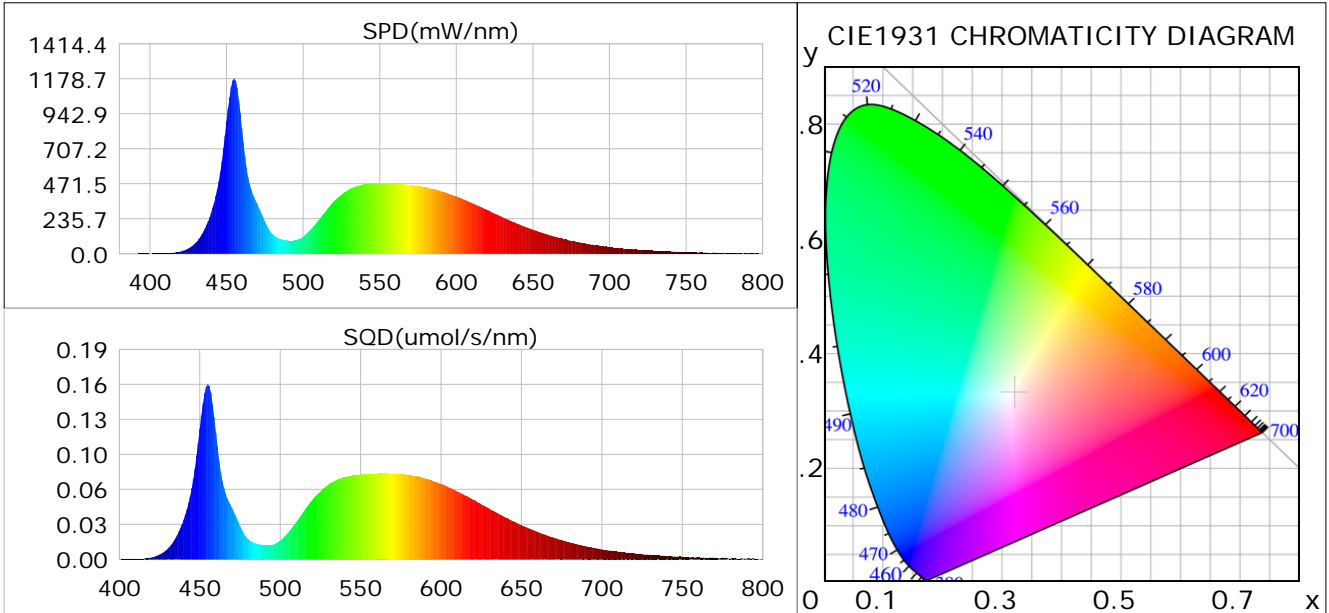
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Plant optical param data

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 Dominant Wavelength: 489.3nm Color Purity: 0.043
 CRI: $R_a=74.7$



Plant Optical Param

$ \mu_v(lm): 28149.47$	$Q_v(lm.s): 28149.47$
$ \mu_e, \dot{E}(W/nm): 87.01$	$Q_e(J): 87.01$
$ \mu_e(W): 85.61$	$ \mu_{fr}(W): 1.50$
$ \zeta_e: 0.42$	$ \zeta_{fr}: 0.01$
$PPE(umol/s/w): 1.91$	$K_{fr}: 0.04$
$Erb_Ratio: 0.66$	$PPF(umol/s): 386.76$
$PF_{uv}(360-400)(umol/s): 0.07$	$PPF(400-500)(umol/s): 104.58$
$PPF(500-600)(umol/s): 186.47$	$PPF(600-700)(umol/s): 95.70$
$PPF_r(700-800)(umol/s): 8.86$	$PPF.t(umol): 386.76$
$ \mu_{ch-A.t}(J): 6.98$	$ \mu_{ch-A}(W): 6.98$
$ \mu_{ch-B.t}(J): 5.17$	$ \mu_{ch-B}(W): 5.17$
$ \mu_b.t(J): 27.35$	$ \mu_b(W): 27.35$
$ \mu_y.t(J): 40.33$	$ \mu_y(W): 40.33$
$ \mu_r.t(J): 18.44$	$ \mu_r(W): 18.44$

Electric Parameters

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