

## Lightsource Test Report

### Product Information

Product Category: LED-Lampen  
 Product Spec: LED-E27-CFL-8W-3811-DW  
 Manufacturer: METOLIGHT  
 Buyer: 3811

Product Type: LED-Lampen-E27  
 Product Number: 1  
 Submitted Unit: 100276

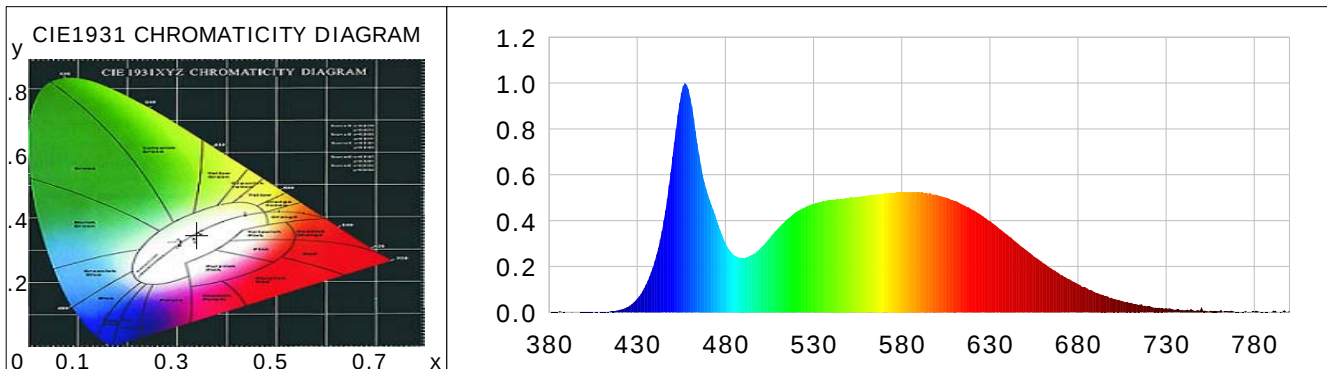
### CIE Colorimetric Parameters

Chromaticity coordinates:  $x=0.3400$   $y=0.3477$   $u(u')=0.2094$   $v=0.3213$   $v'=0.4820$   
 CCT:  $T_c=5192K$  ( $duv=0.00015$ ) Color Ratio:  $R=0.161$   $G=0.787$   $B=0.052$   
 Peak Wavelength: 457.1nm Half Bandwidth: 23.5nm  
 Dominant Wavelength: 569.2nm Color Purity: 0.064  
 CRI:  $R_a=86.3$ ,  $avgR(1\sim14)=80.6$ ,  $avgR(1\sim15)=80.8$  TM30:  $R_f=83$ ,  $R_g=94$   
 GAI:  $GAI\_BB\_8=94.0$ ,  $GAI\_BB\_15=100.4$ ,  $GAI\_EES=84.3$   

|        |        |        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|--------|--------|
| R1 =86 | R2 =94 | R3 =95 | R4 =83 | R5 =85 | R6 =88 | R7 =87 | R8 =73 |
| R9 =29 | R10=82 | R11=82 | R12=60 | R13=89 | R14=97 | R15=83 |        |

Color Quality Scale:  $Q_a=82.6$ ,  $Q_f=82.7$ ,  $Q_p=82.6$ ,  $Q_g=92.9$   

|        |        |        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|--------|--------|
| Q1 =83 | Q2 =98 | Q3 =79 | Q4 =72 | Q5 =77 | Q6 =80 | Q7 =87 | Q8 =90 |
| Q9 =97 | Q10=89 | Q11=85 | Q12=84 | Q13=84 | Q14=77 | Q15=80 |        |



### Photometric Parameters

|                                  |                                           |                          |
|----------------------------------|-------------------------------------------|--------------------------|
| Luminous Flux: 670.92 lm         | Efficiency: 84.93 lm/W                    | Radiant Power: 2.129 W   |
| Total mains efficacy: 84.93 lm/W | Energy Efficiency Class: G (EU 2019/2015) |                          |
| Pupil Flux: 1177.71 Plm          | Pupil Lumens Per Watt: 149.08 Plm/W       | Pupil Factor (Kp): 1.755 |
| Cirtpic Flux: 2641.85 lm         |                                           |                          |

### Electric Parameters

|                      |                    |              |
|----------------------|--------------------|--------------|
| Voltage: 230.80V     | Current: 0.0370A   | Power: 7.90W |
| Power Factor: 0.9240 | 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: 46308 (2699)           | CCD Integration Time: 300.93 ms                    |

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

Test Device: Lisun LMS-9000B  
 Test Time: 2021-04-28 13:28:30  
 Inspector:

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| WL(nm) | PL     | PE(mW/nm) | WL(nm) | PL     | PE(mW/nm) | WL(nm) | PL     | PE(mW/nm) |
|--------|--------|-----------|--------|--------|-----------|--------|--------|-----------|
| 380    | 0.0006 | 0.0121    | 525    | 0.4577 | 9.0125    | 670    | 0.1647 | 3.2435    |
| 385    | 0.0012 | 0.0235    | 530    | 0.4715 | 9.2843    | 675    | 0.1451 | 2.8564    |
| 390    | 0.0005 | 0.0096    | 535    | 0.4831 | 9.5135    | 680    | 0.1229 | 2.4203    |
| 395    | 0.0001 | 0.0022    | 540    | 0.4915 | 9.6777    | 685    | 0.1053 | 2.0735    |
| 400    | 0.0012 | 0.0245    | 545    | 0.4954 | 9.7544    | 690    | 0.0854 | 1.6808    |
| 405    | 0.0005 | 0.0107    | 550    | 0.4995 | 9.8365    | 695    | 0.0713 | 1.4037    |
| 410    | 0.0019 | 0.0377    | 555    | 0.5037 | 9.9181    | 700    | 0.0582 | 1.1453    |
| 415    | 0.0046 | 0.0909    | 560    | 0.5088 | 10.0194   | 705    | 0.0496 | 0.9762    |
| 420    | 0.0110 | 0.2166    | 565    | 0.5142 | 10.1246   | 710    | 0.0421 | 0.8296    |
| 425    | 0.0249 | 0.4906    | 570    | 0.5193 | 10.2257   | 715    | 0.0339 | 0.6685    |
| 430    | 0.0596 | 1.1737    | 575    | 0.5210 | 10.2595   | 720    | 0.0265 | 0.5220    |
| 435    | 0.1213 | 2.3886    | 580    | 0.5247 | 10.3321   | 725    | 0.0202 | 0.3973    |
| 440    | 0.2238 | 4.4067    | 585    | 0.5240 | 10.3192   | 730    | 0.0185 | 0.3644    |
| 445    | 0.4003 | 7.8832    | 590    | 0.5243 | 10.3249   | 735    | 0.0110 | 0.2162    |
| 450    | 0.6781 | 13.3524   | 595    | 0.5169 | 10.1795   | 740    | 0.0089 | 0.1751    |
| 455    | 0.9569 | 18.8437   | 600    | 0.5128 | 10.0981   | 745    | 0.0102 | 0.2010    |
| 460    | 0.9371 | 18.4538   | 605    | 0.5008 | 9.8619    | 750    | 0.0219 | 0.4303    |
| 465    | 0.6889 | 13.5656   | 610    | 0.4853 | 9.5558    | 755    | 0.0071 | 0.1393    |
| 470    | 0.5141 | 10.1227   | 615    | 0.4679 | 9.2133    | 760    | 0.0046 | 0.0904    |
| 475    | 0.4030 | 7.9361    | 620    | 0.4477 | 8.8164    | 765    | 0.0047 | 0.0934    |
| 480    | 0.3027 | 5.9600    | 625    | 0.4242 | 8.3539    | 770    | 0.0010 | 0.0202    |
| 485    | 0.2486 | 4.8958    | 630    | 0.3981 | 7.8392    | 775    | 0.0051 | 0.1009    |
| 490    | 0.2381 | 4.6893    | 635    | 0.3671 | 7.2282    | 780    | 0.0036 | 0.0712    |
| 495    | 0.2501 | 4.9248    | 640    | 0.3376 | 6.6475    | 785    | 0.0025 | 0.0484    |
| 500    | 0.2798 | 5.5094    | 645    | 0.3055 | 6.0150    | 790    | 0.0023 | 0.0450    |
| 505    | 0.3225 | 6.3503    | 650    | 0.2747 | 5.4091    | 795    | 0.0015 | 0.0289    |
| 510    | 0.3674 | 7.2351    | 655    | 0.2439 | 4.8025    | 800    | 0.0083 | 0.1635    |
| 515    | 0.4059 | 7.9924    | 660    | 0.2161 | 4.2551    |        |        |           |
| 520    | 0.4375 | 8.6158    | 665    | 0.1906 | 3.7535    |        |        |           |

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 Operator: CRE

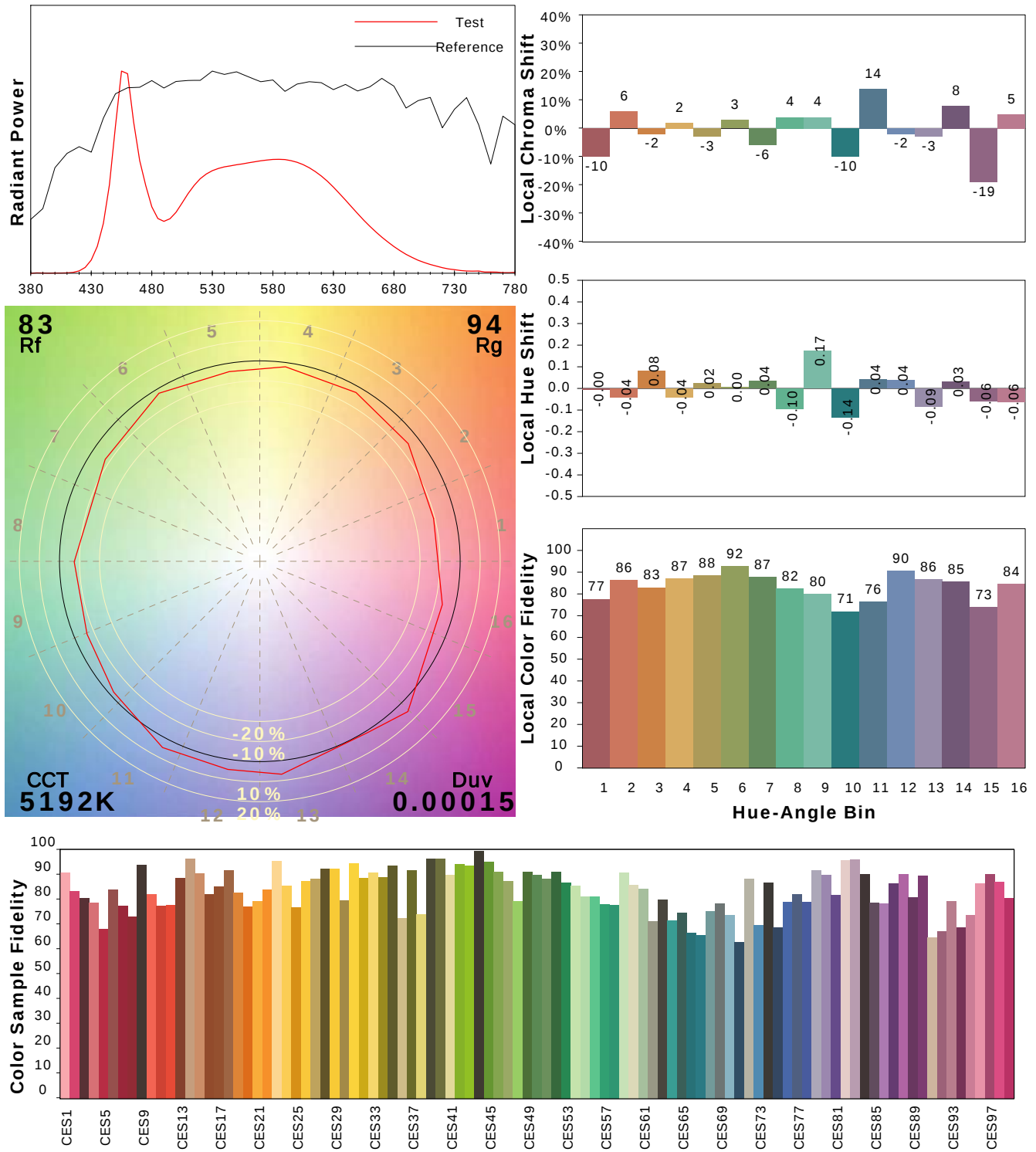
Test Device: Lisun LMS-9000B  
 Test Time: 2021-04-28 13:28:30  
 Inspector:

## IES TM-30-18 Color Rendition Report

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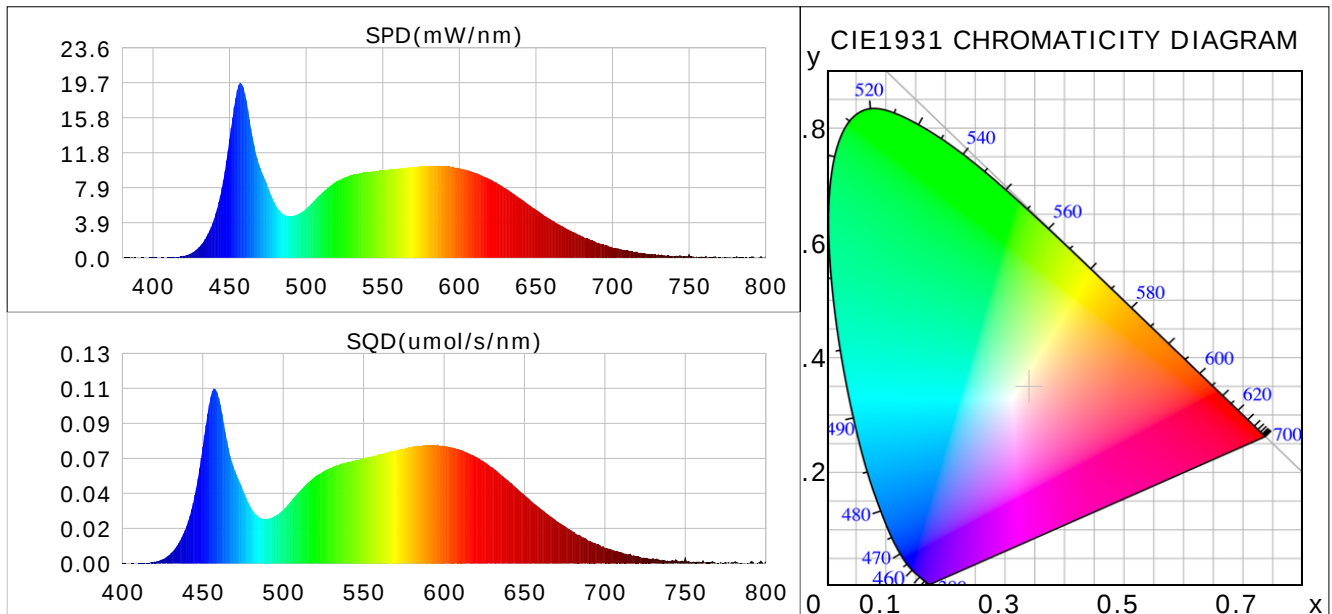
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 Operator: CRE

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## Plant optical param data

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 Dominant Wavelength: 569.2nm Color Purity: 0.064  
 CRI: Ra= 86.3



### Plant Optical Param

|                                  |                              |
|----------------------------------|------------------------------|
| $\mu_v(lm): 670.92$              | $Q_v(lm.s): 670.92$          |
| $\mu_e, \dot{E}(W/nm): 2.13$     | $Q_e(J): 2.13$               |
| $\mu_e(W): 2.10$                 | $\mu_{fr}(W): 0.03$          |
| $\dot{C}_e: 0.27$                | $\dot{C}_{fr}: 0.00$         |
| $PPE(umol/s/w): 1.22$            | $K_{fr}: 0.02$               |
| $Erb\_Ratio: 0.90$               | $PPF(umol/s): 9.64$          |
| $PF_{uv}(360-400)(umol/s): 0.00$ | $PPF(400-500)(umol/s): 2.38$ |
| $PPF(500-600)(umol/s): 4.33$     | $PPF(600-700)(umol/s): 2.93$ |
| $PF_{fr}(700-800)(umol/s): 0.17$ | $PPF.t(umol): 9.64$          |
| $\mu_{ch-A.t}(J): 0.16$          | $\mu_{ch-A}(W): 0.16$        |
| $\mu_{ch-B.t}(J): 0.12$          | $\mu_{ch-B}(W): 0.12$        |
| $\mu_b.t(J): 0.61$               | $\mu_b(W): 0.61$             |
| $\mu_y.t(J): 0.94$               | $\mu_y(W): 0.94$             |
| $\mu_r.t(J): 0.56$               | $\mu_r(W): 0.56$             |

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|                      |                    |              |
|----------------------|--------------------|--------------|
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