

## Lightsource Test Report

### Product Information

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

Product Type: LED-Lampen-E27  
 Product Number: 1  
 Submitted Unit: 100278

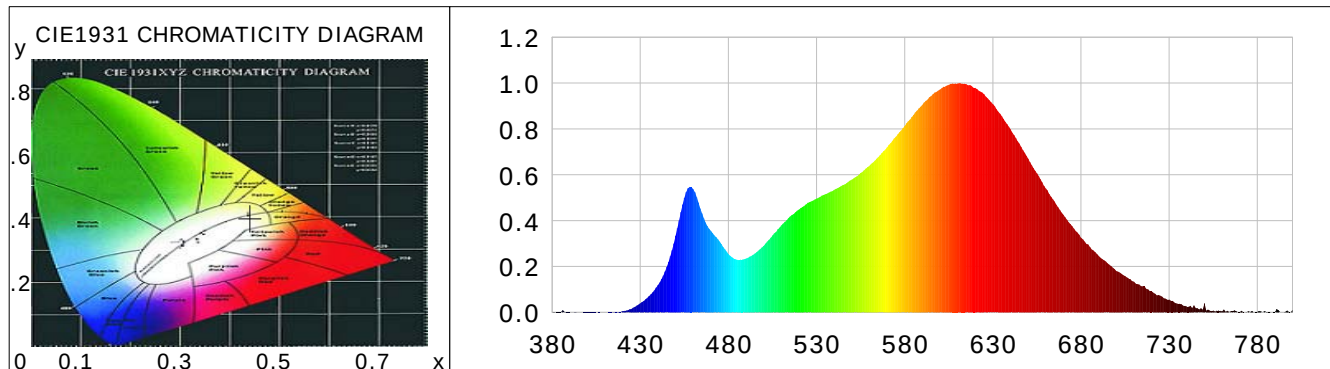
### CIE Colorimetric Parameters

Chromaticity coordinates:  $x=0.4416$   $y=0.4010$   $u(u')=0.2549$   $v=0.3472$   $v'=0.5209$   
 CCT:  $T_c=2898K$  ( $duv=-0.00183$ ) Color Ratio:  $R=0.245$   $G=0.726$   $B=0.029$   
 Peak Wavelength: 611.1nm Half Bandwidth: 132.3nm  
 Dominant Wavelength: 583.9nm Color Purity: 0.529  
 CRI:  $R_a=87.0$ ,  $avgR(1\sim14)=83.2$ ,  $avgR(1\sim15)=83.1$  TM30:  $R_f=86$ ,  $R_g=95$   
 GAI:  $GAI\_BB\_8=99.0$ ,  $GAI\_BB\_15=107.4$ ,  $GAI\_EES=54.0$   

|        |        |        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|--------|--------|
| R1 =87 | R2 =96 | R3 =95 | R4 =85 | R5 =88 | R6 =95 | R7 =83 | R8 =67 |
| R9 =29 | R10=90 | R11=85 | R12=77 | R13=90 | R14=99 | R15=81 |        |

Color Quality Scale:  $Q_a=85.8$ ,  $Q_f=87.3$ ,  $Q_p=87.8$ ,  $Q_g=92.8$   

|        |        |        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|--------|--------|
| Q1 =82 | Q2 =94 | Q3 =87 | Q4 =82 | Q5 =84 | Q6 =86 | Q7 =87 | Q8 =88 |
| Q9 =95 | Q10=93 | Q11=90 | Q12=87 | Q13=86 | Q14=79 | Q15=80 |        |



### Photometric Parameters

|                                  |                                           |                          |
|----------------------------------|-------------------------------------------|--------------------------|
| Luminous Flux: 679.58 lm         | Efficiency: 84.63 lm/W                    | Radiant Power: 2.144 W   |
| Total mains efficacy: 84.63 lm/W | Energy Efficiency Class: G (EU 2019/2015) |                          |
| Pupil Flux: 868.24 Plm           | Pupil Lumens Per Watt: 108.12 Plm/W       | Pupil Factor (Kp): 1.278 |
| Cirtpic Flux: 1626.31 lm         |                                           |                          |

### Electric Parameters

|                      |                    |              |
|----------------------|--------------------|--------------|
| Voltage: 230.60V     | Current: 0.0370A   | Power: 8.03W |
| Power Factor: 0.9210 | 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: 46538 (2844)           | CCD Integration Time: 602.06 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 13:24:55  
 Inspector:

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| WL(nm) | PL     | PE(mW/nm) | WL(nm) | PL     | PE(mW/nm) | WL(nm) | PL     | PE(mW/nm) |
|--------|--------|-----------|--------|--------|-----------|--------|--------|-----------|
| 380    | 0.0012 | 0.0175    | 525    | 0.4782 | 6.8018    | 670    | 0.4265 | 6.0663    |
| 385    | 0.0018 | 0.0262    | 530    | 0.4960 | 7.0561    | 675    | 0.3760 | 5.3493    |
| 390    | 0.0012 | 0.0175    | 535    | 0.5154 | 7.3310    | 680    | 0.3258 | 4.6350    |
| 395    | 0.0004 | 0.0055    | 540    | 0.5344 | 7.6015    | 685    | 0.2852 | 4.0569    |
| 400    | 0.0014 | 0.0202    | 545    | 0.5550 | 7.8951    | 690    | 0.2458 | 3.4970    |
| 405    | 0.0002 | 0.0022    | 550    | 0.5791 | 8.2373    | 695    | 0.2142 | 3.0474    |
| 410    | 0.0008 | 0.0120    | 555    | 0.6074 | 8.6405    | 700    | 0.1806 | 2.5684    |
| 415    | 0.0025 | 0.0350    | 560    | 0.6390 | 9.0893    | 705    | 0.1584 | 2.2529    |
| 420    | 0.0053 | 0.0755    | 565    | 0.6774 | 9.6355    | 710    | 0.1337 | 1.9021    |
| 425    | 0.0153 | 0.2175    | 570    | 0.7203 | 10.2460   | 715    | 0.1134 | 1.6133    |
| 430    | 0.0391 | 0.5563    | 575    | 0.7665 | 10.9032   | 720    | 0.0923 | 1.3126    |
| 435    | 0.0710 | 1.0097    | 580    | 0.8132 | 11.5681   | 725    | 0.0729 | 1.0363    |
| 440    | 0.1184 | 1.6841    | 585    | 0.8611 | 12.2490   | 730    | 0.0561 | 0.7976    |
| 445    | 0.1984 | 2.8223    | 590    | 0.9054 | 12.8795   | 735    | 0.0372 | 0.5289    |
| 450    | 0.3338 | 4.7485    | 595    | 0.9435 | 13.4215   | 740    | 0.0258 | 0.3666    |
| 455    | 0.4992 | 7.1019    | 600    | 0.9720 | 13.8275   | 745    | 0.0190 | 0.2709    |
| 460    | 0.5369 | 7.6379    | 605    | 0.9925 | 14.1187   | 750    | 0.0395 | 0.5615    |
| 465    | 0.4318 | 6.1419    | 610    | 0.9979 | 14.1954   | 755    | 0.0078 | 0.1104    |
| 470    | 0.3556 | 5.0590    | 615    | 0.9949 | 14.1533   | 760    | 0.0044 | 0.0620    |
| 475    | 0.3086 | 4.3905    | 620    | 0.9788 | 13.9229   | 765    | 0.0046 | 0.0653    |
| 480    | 0.2545 | 3.6201    | 625    | 0.9508 | 13.5255   | 770    | 0.0018 | 0.0252    |
| 485    | 0.2295 | 3.2645    | 630    | 0.9081 | 12.9174   | 775    | 0.0043 | 0.0614    |
| 490    | 0.2347 | 3.3380    | 635    | 0.8565 | 12.1842   | 780    | 0.0025 | 0.0359    |
| 495    | 0.2562 | 3.6446    | 640    | 0.7982 | 11.3551   | 785    | 0.0034 | 0.0477    |
| 500    | 0.2901 | 4.1267    | 645    | 0.7369 | 10.4828   | 790    | 0.0019 | 0.0275    |
| 505    | 0.3356 | 4.7745    | 650    | 0.6707 | 9.5415    | 795    | 0.0010 | 0.0138    |
| 510    | 0.3795 | 5.3989    | 655    | 0.6060 | 8.6209    | 800    | 0.0117 | 0.1669    |
| 515    | 0.4182 | 5.9493    | 660    | 0.5405 | 7.6889    |        |        |           |
| 520    | 0.4483 | 6.3767    | 665    | 0.4835 | 6.8772    |        |        |           |

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

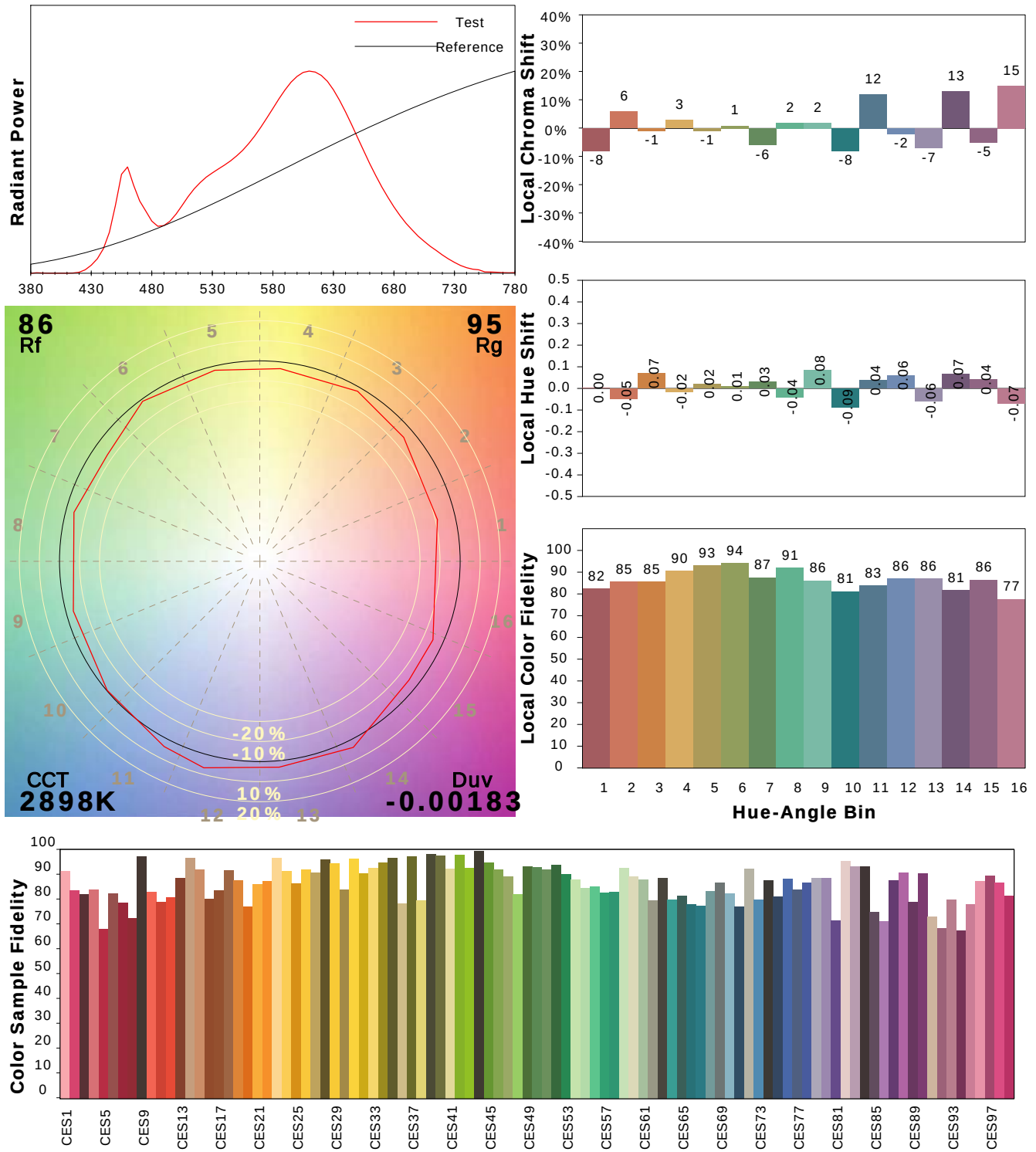
Test Device: Lisun LMS-9000B  
 Test Time: 2021-04-28 13:24:55  
 Inspector:

## IES TM-30-18 Color Rendition Report

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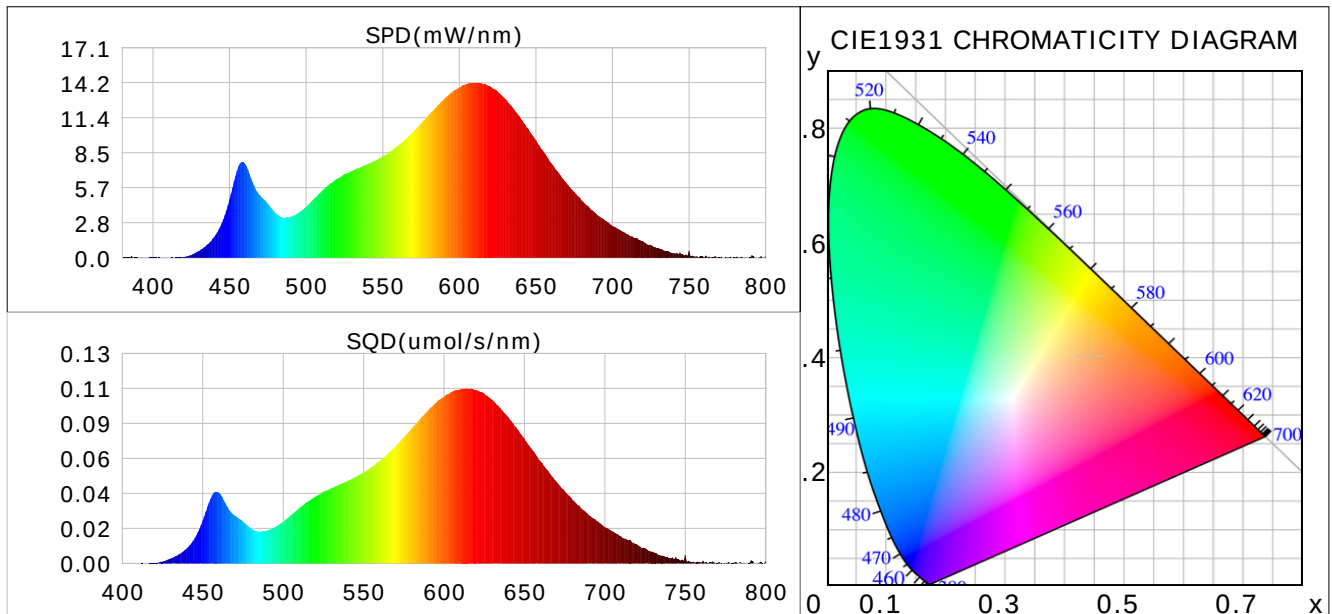
Condition: Tx:0.0°C, Ti:0.0°C, R.H.:60%  
 Test Lab:  
 Operator: CRE

Test Device: Lisun LMS-9000B  
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## Plant optical param data

### CIE Colorimetric Parameters

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 Peak Wavelength: 611.1nm Half Bandwidth: 132.3nm  
 Dominant Wavelength: 583.9nm Color Purity: 0.529  
 CRI: Ra= 87.0



### Plant Optical Param

|                                  |                              |
|----------------------------------|------------------------------|
| $\mu_v(lm): 679.58$              | $Q_v(lm.s): 679.58$          |
| $\mu_e, \dot{E}(W/nm): 2.14$     | $Q_e(J): 2.14$               |
| $\mu_e(W): 2.09$                 | $\mu_{fr}(W): 0.06$          |
| $\dot{Q}_e: 0.26$                | $\dot{Q}_{fr}: 0.01$         |
| $PPE(umol/s/w): 1.26$            | $K_{fr}: 0.04$               |
| $Erb\_Ratio: 3.17$               | $PPF(umol/s): 10.13$         |
| $PF_{uv}(360-400)(umol/s): 0.00$ | $PPF(400-500)(umol/s): 1.13$ |
| $PPF(500-600)(umol/s): 4.11$     | $PPF(600-700)(umol/s): 4.89$ |
| $PF_{fr}(700-800)(umol/s): 0.36$ | $PPF.t(umol): 10.13$         |
| $\mu_{ch-A.t}(J): 0.17$          | $\mu_{ch-A}(W): 0.17$        |
| $\mu_{ch-B.t}(J): 0.09$          | $\mu_{ch-B}(W): 0.09$        |
| $\mu_b.t(J): 0.29$               | $\mu_b(W): 0.29$             |
| $\mu_y.t(J): 0.88$               | $\mu_y(W): 0.88$             |
| $\mu_r.t(J): 0.93$               | $\mu_r(W): 0.93$             |

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|                      |                    |              |
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