

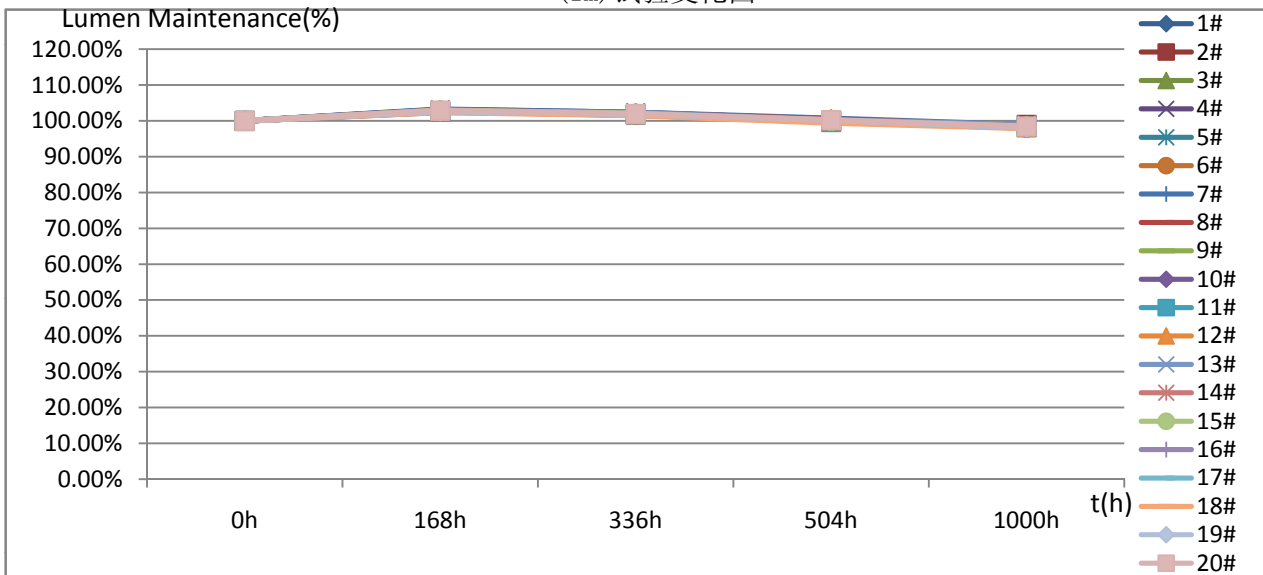
检测报告(内部)

报告编号: LAB0205203-12

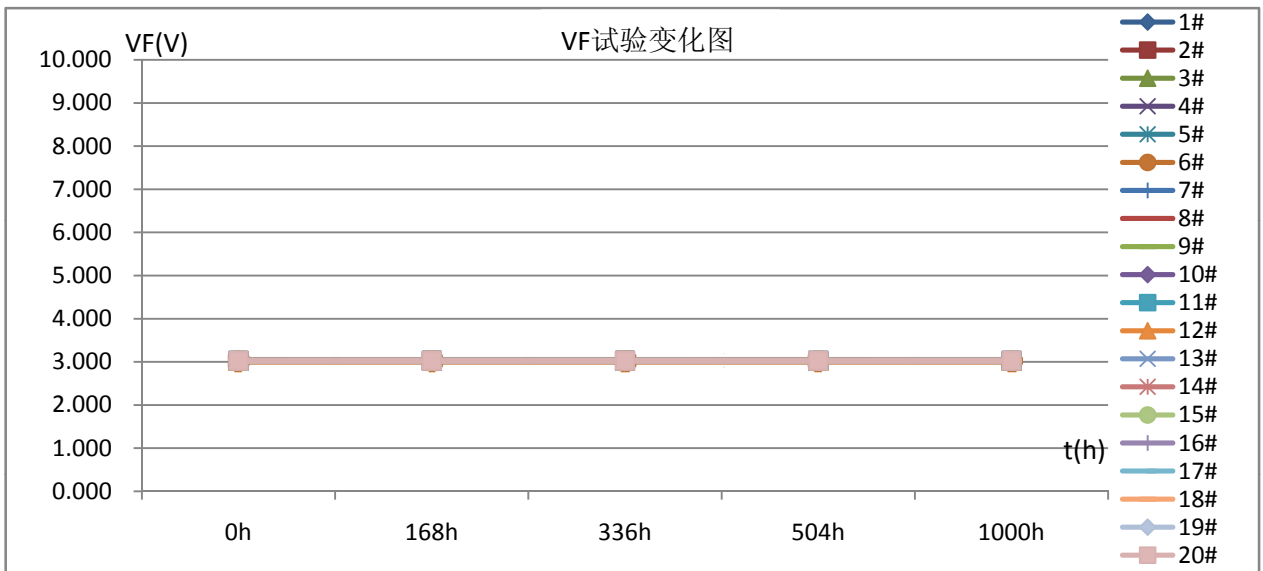
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1. 客户名称:深圳瑞丰_通用封装事业部_照明事业部_产品技术一部_中小功率产品组/曹昌鹏
2. 样品编号:1#~20#
3. 产品规格(型号)/批次:RF-40QI32DS-FH-N-Y/YW20200515-01
4. 检测时间:2020. 6. 16~2020. 7. 29
5. 检测设备: 高低温交变湿热试验箱(131197); HAAS-1200快速光谱辐射计(G113724CS1321116);
 FLUKE万用表(27500021WS); 电热鼓风干燥箱(TST1005028); 回流焊炉(N0842010);
 显微镜(MT 4X); DC POWER SUPPLY(010908164)
6. 环境条件:(22~28)℃, (30~70)%RH
7. 检测依据标准: 环境试验 第2部分: 试验方法 试验Cab: 恒定湿热试验 GB/T 2423.3-2016,
 LED的测量 CIE127: 2007
8. 检测项目: 高温高湿老化试验
9. 检测条件: 预处理: 125℃烘烤2H, 回流焊1次(参照SMT回流焊说明WI-R00-004文件)
 60℃/90%RH, 老化时间1000H, 老化电流72mA, 测试电流72mA,
 积分球2π测试, 测试点: 0h, 168h, 336h, 504h, 1000h

Φ (lm) 试验变化图



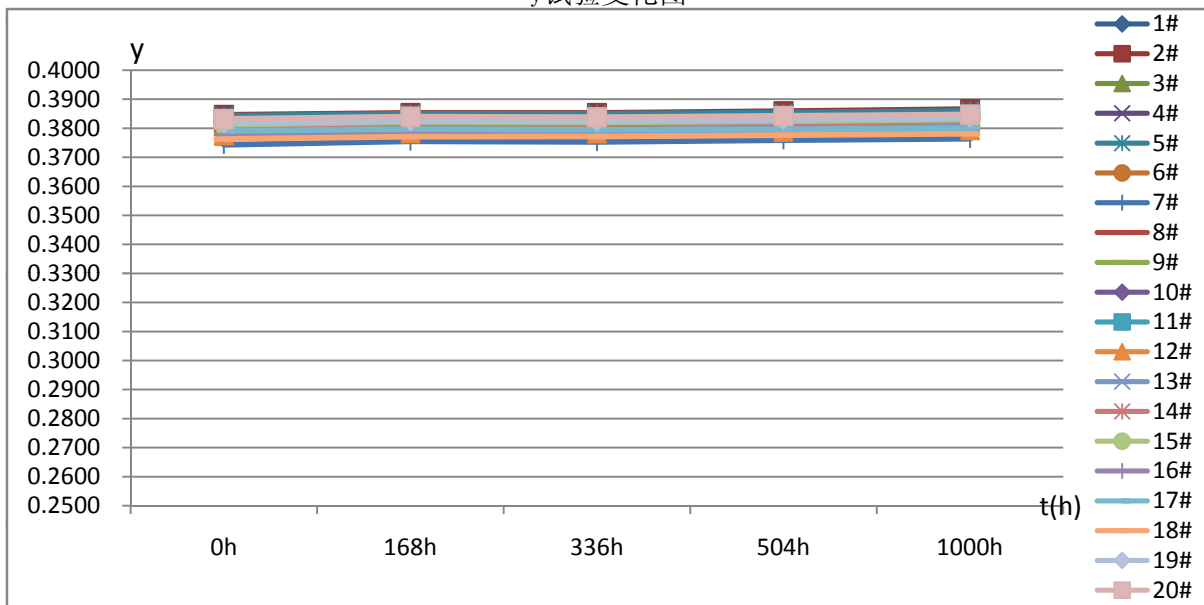
VF试验变化图



检测: 黄凯 2020.07.31 审核: 张水城 2020.08.01 批准: 张利辉 2020.08.04

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y试验变化图



| 序号 | Φ (lm) | | | | | Lumen Maintenance (%) | | | | |
|-----|--------|-------|-------|-------|-------|-----------------------|---------|---------|---------|--------|
| | 0h | 168h | 336h | 504h | 1000h | 0h | 168h | 336h | 504h | 1000h |
| 1# | 24.63 | 25.33 | 25.08 | 24.65 | 24.27 | 100.00% | 102.84% | 101.83% | 100.08% | 98.54% |
| 2# | 24.69 | 25.37 | 25.15 | 24.70 | 24.42 | 100.00% | 102.75% | 101.86% | 100.04% | 98.91% |
| 3# | 24.57 | 25.26 | 25.05 | 24.58 | 24.16 | 100.00% | 102.81% | 101.95% | 100.04% | 98.33% |
| 4# | 24.36 | 25.12 | 24.93 | 24.44 | 24.07 | 100.00% | 103.12% | 102.34% | 100.33% | 98.81% |
| 5# | 24.64 | 25.24 | 25.13 | 24.70 | 24.31 | 100.00% | 102.44% | 101.99% | 100.24% | 98.66% |
| 6# | 24.74 | 25.37 | 25.14 | 24.69 | 24.26 | 100.00% | 102.55% | 101.62% | 99.80% | 98.06% |
| 7# | 24.32 | 25.10 | 24.89 | 24.48 | 24.05 | 100.00% | 103.21% | 102.34% | 100.66% | 98.89% |
| 8# | 24.74 | 25.46 | 25.28 | 24.86 | 24.40 | 100.00% | 102.91% | 102.18% | 100.49% | 98.63% |
| 9# | 24.90 | 25.61 | 25.38 | 24.89 | 24.51 | 100.00% | 102.85% | 101.93% | 99.96% | 98.43% |
| 10# | 24.66 | 25.41 | 25.18 | 24.68 | 24.32 | 100.00% | 103.04% | 102.11% | 100.08% | 98.62% |
| 11# | 24.63 | 25.26 | 25.06 | 24.55 | 24.18 | 100.00% | 102.56% | 101.75% | 99.68% | 98.17% |
| 12# | 24.41 | 25.09 | 24.86 | 24.44 | 24.01 | 100.00% | 102.79% | 101.84% | 100.12% | 98.36% |
| 13# | 24.73 | 25.37 | 25.29 | 24.79 | 24.47 | 100.00% | 102.59% | 102.26% | 100.24% | 98.95% |
| 14# | 24.56 | 25.22 | 24.98 | 24.50 | 24.19 | 100.00% | 102.69% | 101.71% | 99.76% | 98.49% |
| 15# | 24.57 | 25.30 | 25.08 | 24.56 | 24.19 | 100.00% | 102.97% | 102.08% | 99.96% | 98.45% |
| 16# | 24.34 | 24.99 | 24.73 | 24.31 | 23.92 | 100.00% | 102.67% | 101.60% | 99.88% | 98.27% |
| 17# | 24.59 | 25.25 | 25.01 | 24.53 | 24.10 | 100.00% | 102.68% | 101.71% | 99.76% | 98.01% |
| 18# | 24.48 | 25.06 | 24.85 | 24.34 | 23.97 | 100.00% | 102.37% | 101.51% | 99.43% | 97.92% |
| 19# | 24.95 | 25.60 | 25.42 | 25.00 | 24.47 | 100.00% | 102.61% | 101.88% | 100.20% | 98.08% |
| 20# | 25.30 | 26.02 | 25.79 | 25.36 | 24.91 | 100.00% | 102.85% | 101.94% | 100.24% | 98.46% |
| Max | 25.30 | 26.02 | 25.79 | 25.36 | 24.91 | 100.00% | 103.21% | 102.34% | 100.66% | 98.95% |
| Min | 24.32 | 24.99 | 24.73 | 24.31 | 23.92 | 100.00% | 102.37% | 101.51% | 99.43% | 97.92% |
| Avg | 24.64 | 25.32 | 25.11 | 24.65 | 24.26 | 100.00% | 102.76% | 101.92% | 100.05% | 98.45% |

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| 序号 | VF (V) | | | | | △VF (V) | | | |
|-----|--------|-------|-------|-------|-------|---------|-------|--------|-------|
| | 0h | 168h | 336h | 504h | 1000h | 168h | 336h | 504h | 1000h |
| 1# | 3.031 | 3.032 | 3.032 | 3.031 | 3.032 | 0.001 | 0.001 | 0.000 | 0.001 |
| 2# | 3.023 | 3.025 | 3.025 | 3.024 | 3.024 | 0.002 | 0.002 | 0.001 | 0.001 |
| 3# | 3.029 | 3.030 | 3.030 | 3.028 | 3.029 | 0.001 | 0.001 | -0.001 | 0.000 |
| 4# | 3.028 | 3.030 | 3.030 | 3.028 | 3.030 | 0.002 | 0.002 | 0.000 | 0.002 |
| 5# | 3.030 | 3.032 | 3.032 | 3.036 | 3.032 | 0.002 | 0.002 | 0.006 | 0.002 |
| 6# | 3.029 | 3.031 | 3.030 | 3.029 | 3.030 | 0.002 | 0.001 | 0.000 | 0.001 |
| 7# | 3.033 | 3.033 | 3.034 | 3.033 | 3.033 | 0.000 | 0.001 | 0.000 | 0.000 |
| 8# | 3.027 | 3.029 | 3.029 | 3.028 | 3.029 | 0.002 | 0.002 | 0.001 | 0.002 |
| 9# | 3.028 | 3.029 | 3.029 | 3.028 | 3.029 | 0.001 | 0.001 | 0.000 | 0.001 |
| 10# | 3.030 | 3.031 | 3.032 | 3.030 | 3.032 | 0.001 | 0.002 | 0.000 | 0.002 |
| 11# | 3.026 | 3.026 | 3.027 | 3.026 | 3.027 | 0.000 | 0.001 | 0.000 | 0.001 |
| 12# | 3.035 | 3.036 | 3.035 | 3.035 | 3.036 | 0.001 | 0.000 | 0.000 | 0.001 |
| 13# | 3.027 | 3.028 | 3.028 | 3.028 | 3.029 | 0.001 | 0.001 | 0.001 | 0.002 |
| 14# | 3.025 | 3.026 | 3.027 | 3.025 | 3.026 | 0.001 | 0.002 | 0.000 | 0.001 |
| 15# | 3.028 | 3.029 | 3.029 | 3.028 | 3.030 | 0.001 | 0.001 | 0.000 | 0.002 |
| 16# | 3.028 | 3.029 | 3.030 | 3.028 | 3.029 | 0.001 | 0.002 | 0.000 | 0.001 |
| 17# | 3.030 | 3.031 | 3.031 | 3.030 | 3.031 | 0.001 | 0.001 | 0.000 | 0.001 |
| 18# | 3.026 | 3.027 | 3.028 | 3.026 | 3.027 | 0.001 | 0.002 | 0.000 | 0.001 |
| 19# | 3.027 | 3.028 | 3.028 | 3.027 | 3.028 | 0.001 | 0.001 | 0.000 | 0.001 |
| 20# | 3.026 | 3.027 | 3.027 | 3.026 | 3.028 | 0.001 | 0.001 | 0.000 | 0.002 |

| 序号 | IF (mA) | | | | |
|-----|---------|-------|-------|-------|-------|
| | 0h | 168h | 336h | 504h | 1000h |
| 1# | 72.01 | 71.99 | 72.01 | 72.00 | 72.00 |
| 2# | 72.03 | 71.98 | 72.01 | 72.00 | 72.00 |
| 3# | 72.00 | 71.97 | 72.01 | 72.00 | 72.00 |
| 4# | 72.00 | 71.98 | 72.01 | 72.00 | 72.00 |
| 5# | 72.01 | 72.00 | 72.01 | 72.00 | 72.00 |
| 6# | 72.01 | 72.00 | 72.01 | 72.00 | 72.00 |
| 7# | 72.00 | 72.01 | 72.01 | 72.00 | 71.99 |
| 8# | 72.00 | 72.00 | 72.01 | 72.00 | 72.00 |
| 9# | 72.00 | 71.99 | 72.01 | 72.00 | 72.00 |
| 10# | 72.00 | 71.99 | 72.01 | 72.00 | 72.00 |
| 11# | 72.01 | 72.00 | 72.01 | 72.00 | 72.00 |
| 12# | 72.01 | 71.98 | 72.01 | 72.00 | 71.99 |
| 13# | 72.01 | 71.99 | 72.01 | 72.00 | 72.00 |
| 14# | 72.01 | 71.98 | 72.01 | 72.00 | 72.00 |
| 15# | 72.01 | 71.99 | 72.01 | 72.00 | 72.00 |
| 16# | 72.01 | 71.97 | 72.01 | 72.00 | 72.00 |
| 17# | 72.00 | 71.98 | 72.01 | 72.00 | 72.00 |
| 18# | 72.00 | 71.99 | 72.02 | 72.00 | 72.00 |
| 19# | 72.00 | 71.99 | 72.01 | 72.00 | 72.00 |
| 20# | 72.00 | 71.98 | 72.01 | 72.00 | 72.00 |

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| 序号 | IR(μA) | | | | |
|-----|--------|-------|-------|-------|-------|
| | 0h | 168h | 336h | 504h | 1000h |
| 1# | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2# | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 3# | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 4# | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5# | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 6# | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 7# | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 8# | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 9# | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 10# | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 11# | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 12# | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 13# | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 14# | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 15# | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 16# | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 17# | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 18# | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 19# | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 20# | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| 序号 | x | | | | | Δx | | | |
|-----|--------|--------|--------|--------|--------|---------|---------|---------|---------|
| | 0h | 168h | 336h | 504h | 1000h | 168h | 336h | 504h | 1000h |
| 1# | 0.3783 | 0.3783 | 0.3783 | 0.3786 | 0.3789 | 0.0000 | 0.0000 | 0.0003 | 0.0006 |
| 2# | 0.3802 | 0.3802 | 0.3801 | 0.3805 | 0.3811 | 0.0000 | -0.0001 | 0.0003 | 0.0009 |
| 3# | 0.3777 | 0.3778 | 0.3773 | 0.3776 | 0.3778 | 0.0001 | -0.0004 | -0.0001 | 0.0001 |
| 4# | 0.3773 | 0.3776 | 0.3776 | 0.3779 | 0.3784 | 0.0003 | 0.0003 | 0.0006 | 0.0011 |
| 5# | 0.3791 | 0.3791 | 0.3790 | 0.3791 | 0.3797 | 0.0000 | -0.0001 | 0.0000 | 0.0006 |
| 6# | 0.3740 | 0.3743 | 0.3741 | 0.3744 | 0.3746 | 0.0003 | 0.0001 | 0.0004 | 0.0006 |
| 7# | 0.3742 | 0.3747 | 0.3743 | 0.3746 | 0.3751 | 0.0005 | 0.0001 | 0.0004 | 0.0009 |
| 8# | 0.3791 | 0.3793 | 0.3791 | 0.3794 | 0.3796 | 0.0002 | 0.0000 | 0.0003 | 0.0005 |
| 9# | 0.3780 | 0.3782 | 0.3780 | 0.3783 | 0.3785 | 0.0002 | 0.0000 | 0.0003 | 0.0005 |
| 10# | 0.3793 | 0.3793 | 0.3792 | 0.3793 | 0.3795 | 0.0000 | -0.0001 | 0.0000 | 0.0002 |
| 11# | 0.3807 | 0.3807 | 0.3803 | 0.3803 | 0.3809 | 0.0000 | -0.0004 | -0.0004 | 0.0002 |
| 12# | 0.3781 | 0.3783 | 0.3781 | 0.3784 | 0.3789 | 0.0002 | 0.0000 | 0.0003 | 0.0008 |
| 13# | 0.3752 | 0.3757 | 0.3753 | 0.3755 | 0.3760 | 0.0005 | 0.0001 | 0.0003 | 0.0008 |
| 14# | 0.3776 | 0.3774 | 0.3772 | 0.3773 | 0.3778 | -0.0002 | -0.0004 | -0.0003 | 0.0002 |
| 15# | 0.3781 | 0.3785 | 0.3781 | 0.3783 | 0.3787 | 0.0004 | 0.0000 | 0.0002 | 0.0006 |
| 16# | 0.3756 | 0.3763 | 0.3761 | 0.3763 | 0.3768 | 0.0007 | 0.0005 | 0.0007 | 0.0012 |
| 17# | 0.3768 | 0.3768 | 0.3764 | 0.3763 | 0.3766 | 0.0000 | -0.0004 | -0.0005 | -0.0002 |
| 18# | 0.3738 | 0.3744 | 0.3743 | 0.3745 | 0.3749 | 0.0006 | 0.0005 | 0.0007 | 0.0011 |
| 19# | 0.3757 | 0.3760 | 0.3759 | 0.3762 | 0.3766 | 0.0003 | 0.0002 | 0.0005 | 0.0009 |
| 20# | 0.3754 | 0.3755 | 0.3751 | 0.3754 | 0.3758 | 0.0001 | -0.0003 | 0.0000 | 0.0004 |

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| 序号 | y | | | | | Δy | | | |
|-----|--------|--------|--------|--------|--------|------------|--------|--------|--------|
| | 0h | 168h | 336h | 504h | 1000h | 168h | 336h | 504h | 1000h |
| 1# | 0.3808 | 0.3816 | 0.3815 | 0.3821 | 0.3826 | 0.0008 | 0.0007 | 0.0013 | 0.0018 |
| 2# | 0.3846 | 0.3853 | 0.3853 | 0.3859 | 0.3866 | 0.0007 | 0.0007 | 0.0013 | 0.0020 |
| 3# | 0.3808 | 0.3816 | 0.3813 | 0.3820 | 0.3823 | 0.0008 | 0.0005 | 0.0012 | 0.0015 |
| 4# | 0.3790 | 0.3798 | 0.3799 | 0.3805 | 0.3811 | 0.0008 | 0.0009 | 0.0015 | 0.0021 |
| 5# | 0.3843 | 0.3850 | 0.3850 | 0.3854 | 0.3860 | 0.0007 | 0.0007 | 0.0011 | 0.0017 |
| 6# | 0.3790 | 0.3799 | 0.3799 | 0.3803 | 0.3808 | 0.0009 | 0.0009 | 0.0013 | 0.0018 |
| 7# | 0.3743 | 0.3755 | 0.3753 | 0.3759 | 0.3764 | 0.0012 | 0.0010 | 0.0016 | 0.0021 |
| 8# | 0.3815 | 0.3823 | 0.3823 | 0.3827 | 0.3832 | 0.0008 | 0.0008 | 0.0012 | 0.0017 |
| 9# | 0.3828 | 0.3836 | 0.3836 | 0.3840 | 0.3844 | 0.0008 | 0.0008 | 0.0012 | 0.0016 |
| 10# | 0.3823 | 0.3831 | 0.3831 | 0.3834 | 0.3838 | 0.0008 | 0.0008 | 0.0011 | 0.0015 |
| 11# | 0.3833 | 0.3840 | 0.3838 | 0.3839 | 0.3848 | 0.0007 | 0.0005 | 0.0006 | 0.0015 |
| 12# | 0.3776 | 0.3783 | 0.3782 | 0.3788 | 0.3793 | 0.0007 | 0.0006 | 0.0012 | 0.0017 |
| 13# | 0.3788 | 0.3797 | 0.3795 | 0.3800 | 0.3806 | 0.0009 | 0.0007 | 0.0012 | 0.0018 |
| 14# | 0.3811 | 0.3816 | 0.3816 | 0.3818 | 0.3825 | 0.0005 | 0.0005 | 0.0007 | 0.0014 |
| 15# | 0.3812 | 0.3822 | 0.3820 | 0.3824 | 0.3830 | 0.0010 | 0.0008 | 0.0012 | 0.0018 |
| 16# | 0.3779 | 0.3791 | 0.3790 | 0.3795 | 0.3802 | 0.0012 | 0.0011 | 0.0016 | 0.0023 |
| 17# | 0.3791 | 0.3797 | 0.3795 | 0.3796 | 0.3801 | 0.0006 | 0.0004 | 0.0005 | 0.0010 |
| 18# | 0.3763 | 0.3771 | 0.3772 | 0.3776 | 0.3781 | 0.0008 | 0.0009 | 0.0013 | 0.0018 |
| 19# | 0.3817 | 0.3825 | 0.3824 | 0.3829 | 0.3836 | 0.0008 | 0.0007 | 0.0012 | 0.0019 |
| 20# | 0.3832 | 0.3840 | 0.3838 | 0.3843 | 0.3847 | 0.0008 | 0.0006 | 0.0011 | 0.0015 |

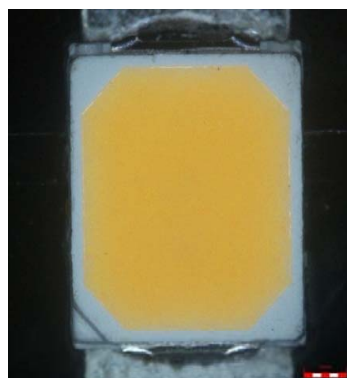
单颗LED判定基准:

| 项目 | min | max |
|-----------------------|--------|-------|
| Lumen Maintenance (%) | 90% | 110% |
| ΔVF | -0.5 | 0.5 |
| Δx | -0.01 | 0.01 |
| Δy | -0.015 | 0.015 |
| IR (μA) | / | 10 |

外观无胶裂, 变黄, 发黑等现象

经过1000h高温高湿老化试验, 全部样品各项参数均在标准标准范围内。

外观描述: 全部样品外观正常。



试验结果: 合格。

检测结果只对本次样品负责。

.....结束.....