■ Semiconductor Yield Analysis Report

Wafer ID:	WAFER_Photonic
Report Date:	2025-11-23 16:04:24
Analysis Type:	Multi-Agent Yield Prediction & Optimization

■ Executive Summary

Metric	Value
Predicted Yield	71.00%
Confidence Level	70.0%
Current Yield	71.00%
Optimized Yield	80.37%
Potential Improvement	+13.20%

■ Yield Prediction Analysis

The prediction model has analyzed the wafer data and process parameters to forecast a yield of **71.00%** with a confidence level of **70.0%**.

Key Factors Affecting Yield:

1. Standard process parameters

■■ Parameter Optimization

Parameter	Current Value	Optimized Value	Change	Unit
Temperature	198.50	198.50	+0.00	°C
Etch Time	46.20	46.20	+0.00	s
Exposure Dose	51.50	49.50	-2.00	mJ/cm²

■ Actionable Recommendations

■ *Recommendation 1: Reduce exposure dose*

Reduce stepper exposure dose by 3.9% to improve yield from 71.0% → 80.4%

Metric	Value
Current Value	51.50
Recommended Value	49.50
Expected Improvement	+5.94%

■■ *Recommendation 2: Review process*

Review and address: Standard process parameters

Metric	Value
Current Value	0.00
Recommended Value	0.00
Expected Improvement	+1.32%

■ Multi-Agent System Status

Agent	Status	Description
Data Agent	■ Complete	Processed wafer data and metrology information
Prediction Agent	■ Complete	Yield predicted: 71.00%
Optimization Agent	■ Complete	Parameters optimized with 13.20% improvement
Recommendation Agent	■ Complete	Generated 2 actionable recommendations
Report Agent	■ Complete	PDF report generated successfully

This report was generated by the Semiconductor Yield Prediction & Optimization Multi-Agent System.
For questions or support, please contact your system administrator.