

Phase 2 Batch 2 Elevated Temperature Life Testing - Lumen Maintenance Final Results 10/1/07

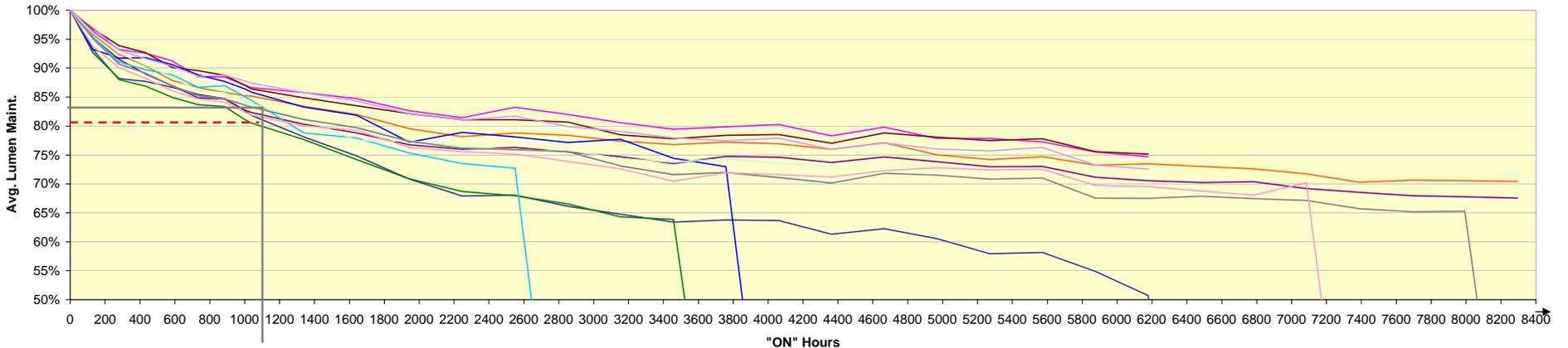
Average Lumen Maintenance

Lamp Model ²	Rated Life	"ON" Hrs																			
		0.0	129.6	280.8	432.0	583.2	734.4	885.6	1000.0 ¹	1036.8	1339.2	1641.6	1944.0	2246.4	2548.8	2851.2	3153.6	3456.0 ⁴	3758.4	4060.8	4363.2
Model 1	8000	100.0%	92.7%	88.2%	87.7%	86.7%	85.5%	84.8%	82.7%	81.9%	78.1%	74.8%	70.8%	67.9%	68.1%	66.2%	64.8%	63.4%	63.8%	63.7%	61.3%
Model 2	8000	100.0%	96.3%	93.2%	92.6%	91.3%	88.5%	88.4%	87.1%	86.7%	85.8%	84.8%	82.7%	81.5%	83.2%	82.0%	80.6%	79.5%	79.9%	80.3%	78.3%
Model 3	8000	100.0%	93.2%	88.0%	86.9%	85.0%	83.7%	83.4%	81.1%	80.5%	77.7%	74.2%	70.9%	68.7%	68.0%	66.5%	64.3%	63.8%			
Model 4	8000	100.0%	95.8%	92.3%	90.4%	87.9%	86.7%	85.8%	85.2%	83.4%	82.0%	79.5%	78.2%	78.8%	78.4%	77.4%	76.8%	77.2%	76.9%	76.0%	
Model 5	8000	100.0%	95.3%	91.5%	89.0%	87.0%	84.9%	84.6%	82.8%	82.4%	80.3%	78.8%	76.8%	76.0%	76.3%	75.5%	74.7%	73.5%	74.7%	74.6%	73.7%
Model 6	8000	100.0%	96.8%	93.9%	92.7%	90.1%	89.6%	88.7%	87.1%	86.4%	84.9%	83.5%	82.1%	81.1%	81.1%	80.7%	78.5%	77.8%	78.4%	78.5%	77.0%
Model 7	8000	100.0%	95.6%	91.5%	89.8%	88.2%	85.8%	85.3%	84.1%	83.7%	82.4%	81.6%	78.5%	79.4%	79.1%	77.7%	77.2%	76.5%	77.5%	76.3%	75.1%
Model 8	8000	100.0%	93.2%	91.7%	91.8%	90.6%	88.8%	87.7%	86.4%	85.9%	83.3%	81.9%	77.2%	78.9%	78.1%	77.2%	77.7%	74.4%	73.0%		
Model 9 ³	8000	100.0%	95.4%	91.1%	89.7%	88.8%	86.7%	86.9%	85.1%	84.4%	78.8%	77.9%	75.4%	73.5%	72.7%						
Model 10	8000	100.0%	96.1%	92.6%	90.5%	88.4%	86.2%	85.7%	84.3%	83.9%	81.2%	77.5%	77.4%	76.6%	75.8%	75.8%	74.4%	73.7%	74.3%	73.6%	73.0%
Model 11	8000	100.0%	97.0%	93.1%	91.6%	90.4%	88.6%	88.8%	87.8%	87.4%	85.8%	84.3%	82.1%	81.0%	81.7%	79.9%	79.1%	77.9%	77.5%	77.9%	76.0%
Model 12	8000	100.0%	95.1%	90.7%	89.1%	87.0%	85.2%	84.7%	83.6%	83.3%	81.1%	79.7%	77.3%	76.2%	76.0%	75.6%	73.1%	71.6%	72.0%	71.1%	70.1%
Model 13	8000	100.0%	93.8%	90.1%	88.2%	86.1%	84.7%	84.1%	82.4%	81.9%	80.0%	79.2%	76.3%	75.6%	75.2%	73.9%	72.6%	70.5%	71.9%	71.6%	71.2%

Lamp Model ²	Rated Life	"ON" Hrs																			
		4665.6	4968.0	5270.4	5572.8	5875.2	6177.6	6480.0	6782.4	7084.8	7387.2	7689.6	7992.0	8294.4	8596.8	8899.2	9201.6	9504.0	9806.4	10108.8	10411.2
Model 1	8000	62.3%	60.5%	57.9%	58.1%	54.9%	50.7%														
Model 2	8000	79.8%	77.8%	77.8%	77.2%	75.5%	74.7%														
Model 3	8000																				
Model 4	8000	77.1%	75.0%	74.2%	74.7%	73.3%	73.5%	73.0%	72.6%	71.7%	70.3%	70.6%	70.5%	70.4%							
Model 5	8000	74.7%	73.9%	73.0%	73.0%	71.2%	70.6%	70.3%	70.4%	69.2%	68.5%	68.0%	67.8%	67.6%							
Model 6	8000	78.8%	78.1%	78.1%	77.5%	77.8%	75.2%														
Model 7	8000	75.3%	75.9%	74.7%	75.0%	73.6%	73.5%	71.9%	73.8%	72.6%	72.4%	71.4%	71.9%	71.1%							
Model 8	8000																				
Model 9 ³	8000																				
Model 10	8000	74.6%	73.1%	71.9%	74.5%	71.3%	70.5%	69.5%	71.7%	70.1%	70.3%	71.9%									
Model 11	8000	77.1%	76.0%	75.7%	76.3%	73.3%	72.6%														
Model 12	8000	71.8%	71.5%	70.8%	71.0%	67.6%	67.9%	67.5%	67.1%	65.7%	65.2%	65.3%									
Model 13	8000	72.3%	72.8%	72.4%	72.5%	69.8%	69.5%	68.8%	68.0%	70.2%											

- 1,000 Hour Lumen Maintenance - ENERGY STAR® requires that average lumen output measurement of the 10 lamps tested must be greater than 90% of initial (100 hour) lumen output at 1,000 hours (measurement error of 3%). Models in **red** have failed the test.
- Lamp Model - 10 samples per lamp model undergo testing. Percentage shown in table is the average for the model at a specific number of "on" hours.
- Readings highlighted in **grey** indicate that the model was removed from testing.
- 40% Rated Life Lumen Maintenance - ENERGY STAR® requires that the average of 10 samples tested must be greater than 80% of initial (100 hour) rating at 40% of model's rated life (measurement error of 3%). Readings highlighted in **blue** indicate the model reached 40% of rated life. Models in **red** have failed the test.
- Readings highlighted in **green** indicate that the model has successfully completed ETLT.

Average Lumen Maintenance



Light intensity for each lamp is measured every 2 weeks throughout the ETLT process to evaluate lumen depreciation over time.