The last equation on pp18:

$$
\begin{aligned}
e^{\lambda A} e^{-\lambda A} &= \sum_{nm} \frac{(-1)^m}{n!m!} \lambda^{n+m} A^{n+m} \\
&= \sum_{n+m} \sum_{k}^{n+m} \frac{(-1)^k}{(n+m-k)!k!} \lambda^{n+m} A^{n+m} \\
&= \sum_{n+m} \lambda^{n+m} A^{n+m} \sum_{k}^{n+m} \frac{(-1)^k}{(n+m-k)!k!}
\end{aligned}
$$

Given that $(x-1)^{n+m} = \sum_k^{n+m} x^{n+m-k} (-1)^k \frac{(n+m)!}{(n+m-k)!k!}$,

$$
\begin{aligned}
e^{\lambda A} e^{-\lambda A} &= \sum_{n+m} \lambda^{n+m} A^{n+m} \frac{1}{(n+m)!} (x-1)^{n+m}|_{x=1} \\
&= e^{\lambda A (x-1)|_{x=1}} = 1
\end{aligned}
$$