**LIQUOR**

<table>
<thead>
<tr>
<th></th>
<th>Litres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Kettle Vol</td>
<td>27</td>
</tr>
<tr>
<td>Beg Kettle Vol</td>
<td>30</td>
</tr>
<tr>
<td>L:G</td>
<td>3.1</td>
</tr>
<tr>
<td>Mashing in Liquor</td>
<td>25</td>
</tr>
<tr>
<td>Lauter</td>
<td>0</td>
</tr>
<tr>
<td>Sparge Liquor</td>
<td>14</td>
</tr>
<tr>
<td>Total Liquor</td>
<td>39</td>
</tr>
</tbody>
</table>

**Step 2**

**MALT**

<table>
<thead>
<tr>
<th></th>
<th>% GRIST</th>
<th>EXTRACT (AS-IS)</th>
<th>YIELD</th>
<th>COLOUR (L)</th>
<th>COLOUR CONTRIBUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pale Ale Malt</td>
<td>0.915</td>
<td>0.800</td>
<td>0.704</td>
<td>2.8</td>
<td>3.3</td>
</tr>
<tr>
<td>Crystal 50 (Simpson T50)</td>
<td>0.080</td>
<td>0.760</td>
<td>0.669</td>
<td>55.0</td>
<td>5.7</td>
</tr>
<tr>
<td>Chocolate</td>
<td>0.005</td>
<td>0.760</td>
<td>0.669</td>
<td>500</td>
<td>3.2</td>
</tr>
</tbody>
</table>

**Total**

12.3

**Step 3**

**TEMPERATURE**

<table>
<thead>
<tr>
<th></th>
<th>°F</th>
<th>°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conversion Temp</td>
<td>149</td>
<td>65.0</td>
</tr>
<tr>
<td>Strike Temp</td>
<td>161</td>
<td>71.5</td>
</tr>
<tr>
<td>Sparge Temp</td>
<td>174</td>
<td>78.9</td>
</tr>
</tbody>
</table>

**Step 4**

**HOPS**

**Kettle Boil Time:** 60 Min

<table>
<thead>
<tr>
<th>Type</th>
<th>Alpha-Acid</th>
<th>Boil Time (Min)</th>
<th>Utilisation %</th>
<th>IBU (%)</th>
<th>IBU Contribution</th>
<th>Weight of Hops (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>0.120</td>
<td>60.00</td>
<td>0.200</td>
<td>0.700</td>
<td>24.50</td>
<td>28</td>
</tr>
<tr>
<td>Challenger</td>
<td>0.080</td>
<td>knockout</td>
<td>0.150</td>
<td>0.200</td>
<td>7.00</td>
<td>16</td>
</tr>
<tr>
<td>Northdown</td>
<td>0.080</td>
<td>knockout</td>
<td>0.100</td>
<td>0.050</td>
<td>1.75</td>
<td>6</td>
</tr>
<tr>
<td>Goldings</td>
<td>0.050</td>
<td>knockout</td>
<td>0.050</td>
<td>0.050</td>
<td>1.75</td>
<td>19</td>
</tr>
</tbody>
</table>

**Total**

68

**Yeast**

**Yeast Type/Number**

Lalbrew® London ESB

**Fermentation Temp**

Pitch at 17°C Allow to rise to 19.5°C

**NOTES**

- Non-filtered
- 1st dry hop: Goldings 125g per 164L
  (added post primary, after diacetyl rest, remove hops after 3 days)
- 2nd dry hop: Goldings 125g per 164L
  (added after 1st dry hop is removed)