Simple Optical Engine w/o Homogenizer

Low Uniformity, Low Optical Utility
6.16 c.c. Volume

.osram LED array
Collimating Lenslet
PBS & LcoS

Beam Profile on '37 LcoS Panel
Low Uniformity, Low Optical Utility
6.16 c.c. Volume
Optical Engine with Microlens Homogenizer

- Chip-Position:
  1: amber
  2: true green
  3: blue
  4: true green

- OSRAM LED Array
- Collimating Lenslet
- Microlens Array
- Condensing Lenslet
- PBS & LcoS
- Beam Profile on '37 LcoS Panel

High Uniformity, High Optical Utility

10 c.c. Volume
Compact Optical Engine w/o Homogenizer

Hight Uniformity, High Optical Utility
6.44 c.c. Volume

Chip-Position:
1: amber
2: true green
3: blue
4: true green

Beam Profile on '37 LcoS Panel
Two Panel Optical Engine for 3-D Display  

Hight Uniformity, Double Brightness  
3-D Image, 7.56 c.c. Volume

**Mechanical Specifications:**  
Panel on PCB with ZIF interconnect

<table>
<thead>
<tr>
<th>Layer</th>
<th>42-2041-23</th>
<th>42-2041-22</th>
<th>( \pm )</th>
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<tbody>
<tr>
<td>Light Mask Only</td>
<td>1.52</td>
<td>1.52</td>
<td>0.03</td>
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<tr>
<td>Light Mask/Retarder</td>
<td>1.51</td>
<td>1.52</td>
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<tr>
<td>TCA-18 Retarder (( \pm 0.01 ))</td>
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<td>D263 Glass (-22 only)</td>
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<tr>
<td>Adhesive</td>
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<td>ITO Glass</td>
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<td>Silicon Die</td>
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<td>0.007</td>
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<td>D263 Glass (LM &amp; AR on top)</td>
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<td>Adhesive</td>
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\( \Rightarrow \) Ordering Part Number

**Notes:**

1. PCB material nominal 0.80mm (0.0315” or 1/32”) thick metal-to-metal, before soldermask and nomenclature ink.
2. Assy. 42-2041-22 with “Light Mask-Retarder” composite is not intended for quarter wave-plate (QWP) applications. QWP applications should use Assy. 42-2041-23.