Fixtures: Directing the Light

Direct Fixtures can be designed for either general (ambient) or specific (task) illumination.

<table>
<thead>
<tr>
<th>Fixture Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct</td>
<td>(task light)</td>
</tr>
<tr>
<td>Direct/Indirect</td>
<td>(aka Indirect/Direct, Diffuse, Semi-Direct)</td>
</tr>
<tr>
<td>Indirect</td>
<td>(ambient light)</td>
</tr>
</tbody>
</table>
Photometric Curve

Two ways to get 40fc…

Photometrics visualized
Photometrics in manufacturer's data...

Direct Lighting Issues: Glare!

Zero contrast glare!
No gloom, no glare?

Direct/Indirect Fixtures use both fixture and architectural surfaces to distribute light.

High IRC improves efficiency… For electric lighting & daylighting
Low IRC isolates sources, targets...

Dolce Gabbana NYC

Direct/Indirect luminous ceiling

...both create contrast between fixture and grid...
Design Direct-Indirect fixtures to reduce contrast…

“Neuron” lights for a medical clinic from concept to …

… to direct/indirect lighting solution
Indirect Lighting is architectural.

Indirect fixtures blend or contrast...

...work well with daylighting.
Burlington Arcade, London’s award-winning lighting scheme

Indirect lighting combines with daylight

Full daylight — late afternoon — evening — night

Architecture loves lighting.
Indirect Lighting Issues: Inefficiency

Troffers: Fixtures that handle air

...can easily integrate with displacement ventilation...

...IRC and efficiency...
…ceiling as fixture…
Steven Holl and James Turrell

Turrell’s “Meeting” @ MOMA PS1 NYC

Combined Strategies