



# ATOP LIGHTING SIMULATION

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Customer :  
Operator : ZHH  
Date : 2021/7/30

# Background



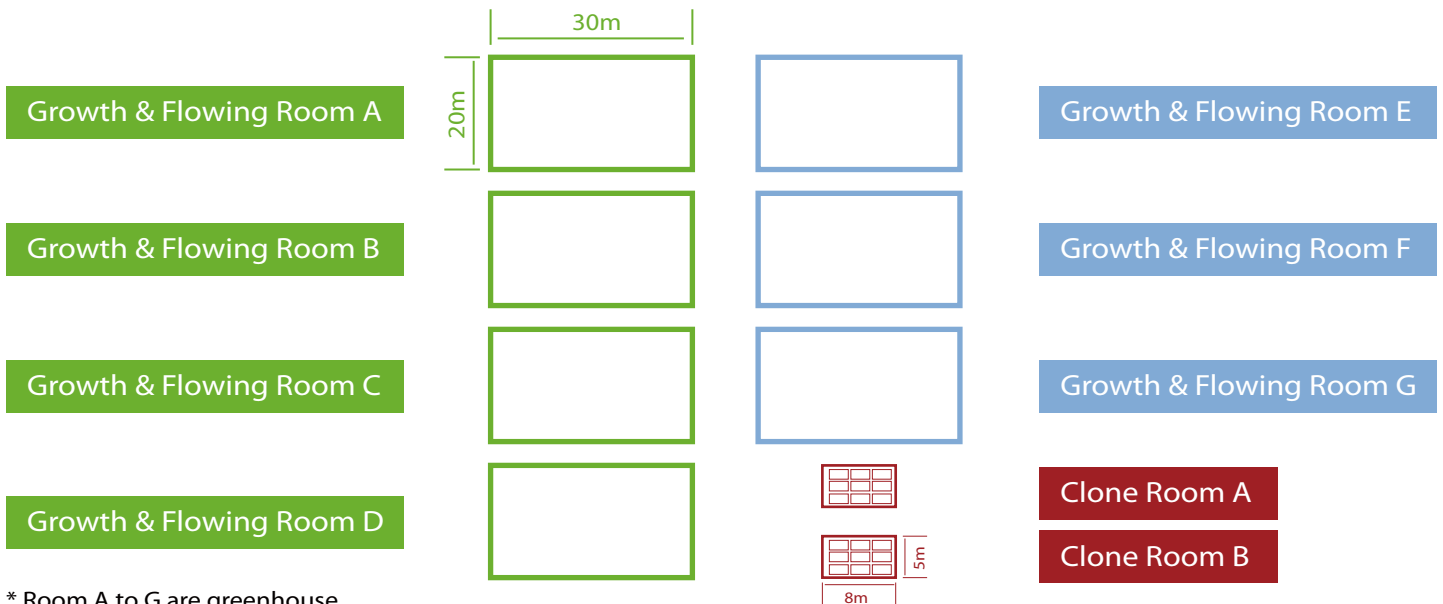
## Light recommendations for cannabis

Recommended light levels for the different stages of cannabis cultivation is shown in the table below.

	 Photoperiod(h)	 DLI(mol/m <sup>2</sup> /day)
Clone stage	18-24	10-15
Growth stage(Vge)	18	24-32
Flowering stage	12	32-40+

Large cannabis plants can thrive under as high DLI as 65 mol/m<sup>2</sup>/day during flowering. For sea of green grown cannabis, the corresponding DLI is 48 mol/m<sup>2</sup>/day.

# Room layout



- \* Room A to G are greenhouse
- \* Clone A & B are indoor grow room

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# Solution summary



	Tiers	Grow racks (0.5m/1m/1.5m/2m)	Distance from light to plants(m)	Grow area (m <sup>2</sup> )	Fixtures	Power(kW)
Growth & Flowering Room A	/	/	1	2400	210	120.6
Growth & Flowering Room B	/	/	1	2400	210	120.6
Growth & Flowering Room C	/	/	1	2400	210	120.6
Growth & Flowering Room D	/	/	1	2400	210	120.6
Growth & Flowering Room E	/	/	1	2400	210	120.6
Growth & Flowering Room F	/	/	1	2400	210	120.6
Growth & Flowering Room G	/	/	1	2400	210	120.6
Clone Room A	4	9	0.2	120	288	8.6
Clone Room B	4	9	0.2	120	288	8.6

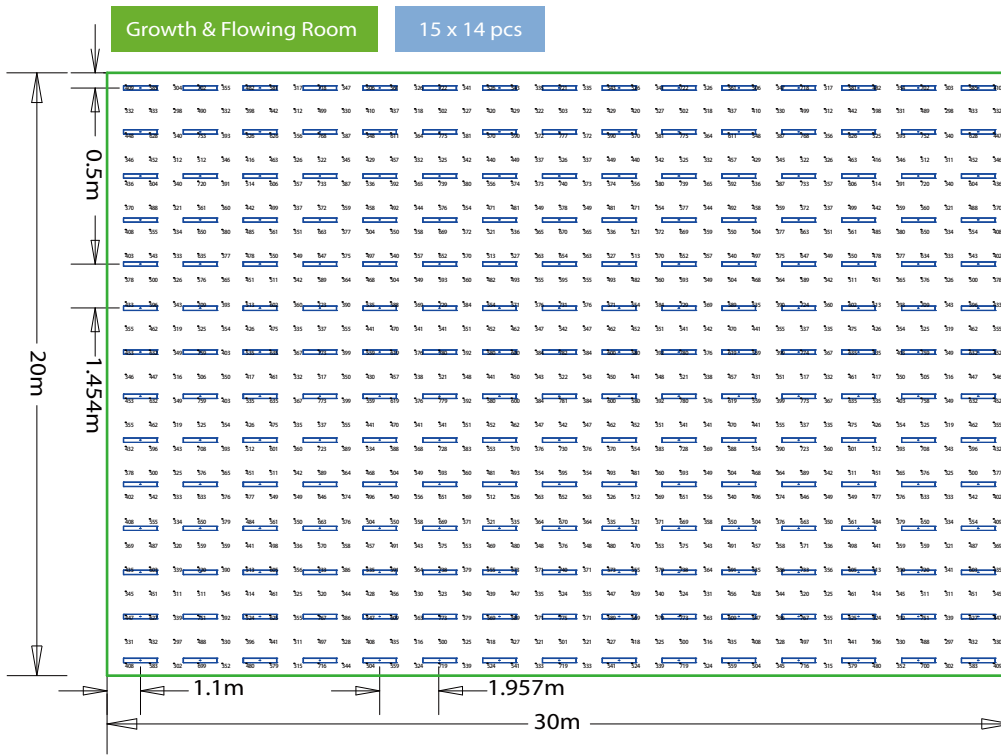
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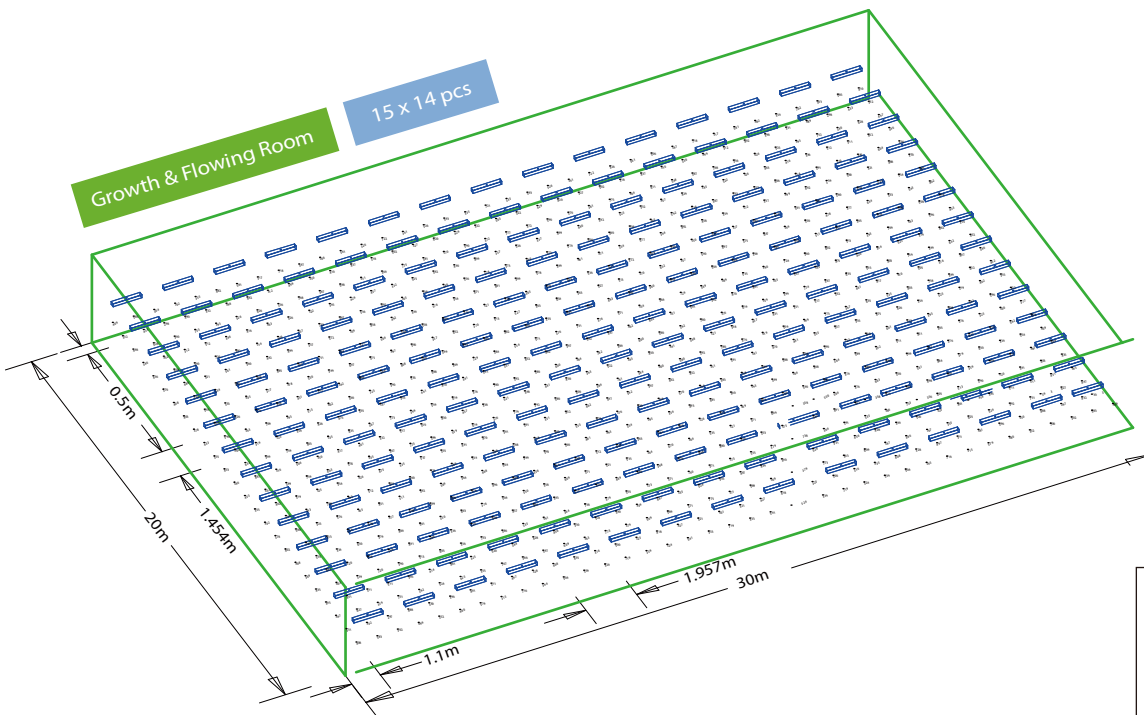
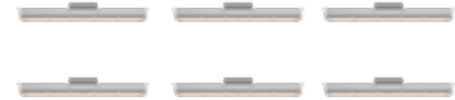
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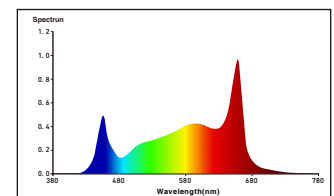
# Light distribution



Fixture Orientation



HL06-P68-00



## Luminaire Schedule

Symbol	Qty	Label	LLF	Lumens/Lamp	Lum. Watts	Total Watts
	210	HL06-P68-600W	0.900	81594	574.7	120687

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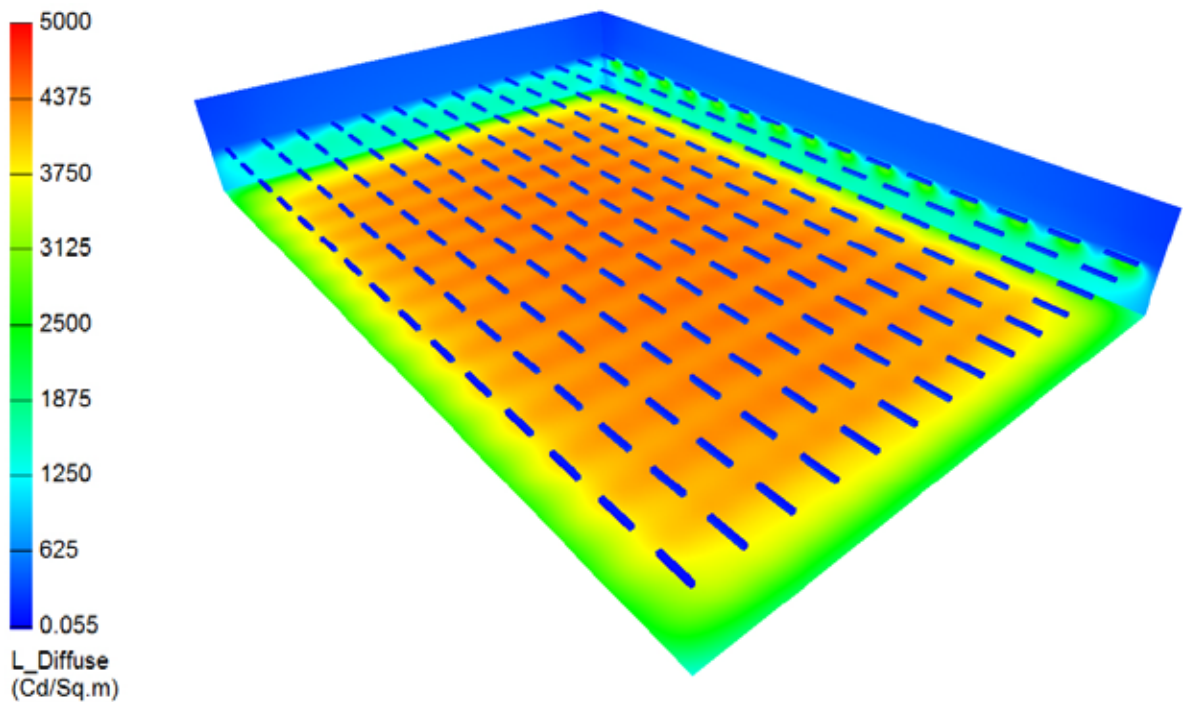
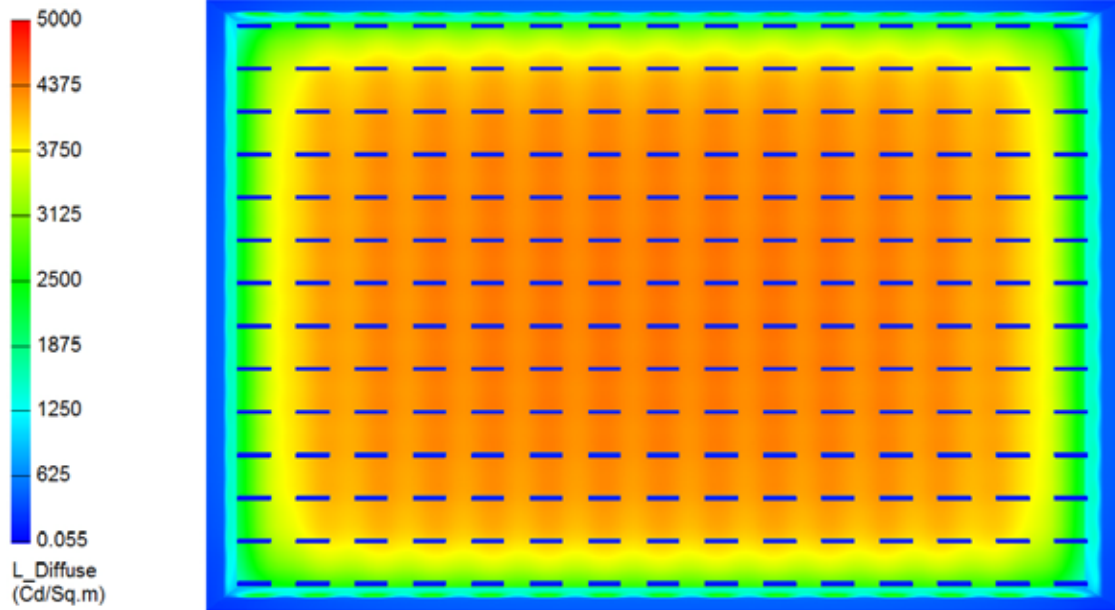
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# Light distribution

Growth & Flowering Room

15 x 14 pcs



## Calculation Summary

Label	Avg	Max	Min	Min/Avg	Min/Max	PPFD Factor	UNIT
Growth & Flowering Room _ Workplane	469.65	782	297	0.63	0.38	17.7	umol/s/m <sup>2</sup>

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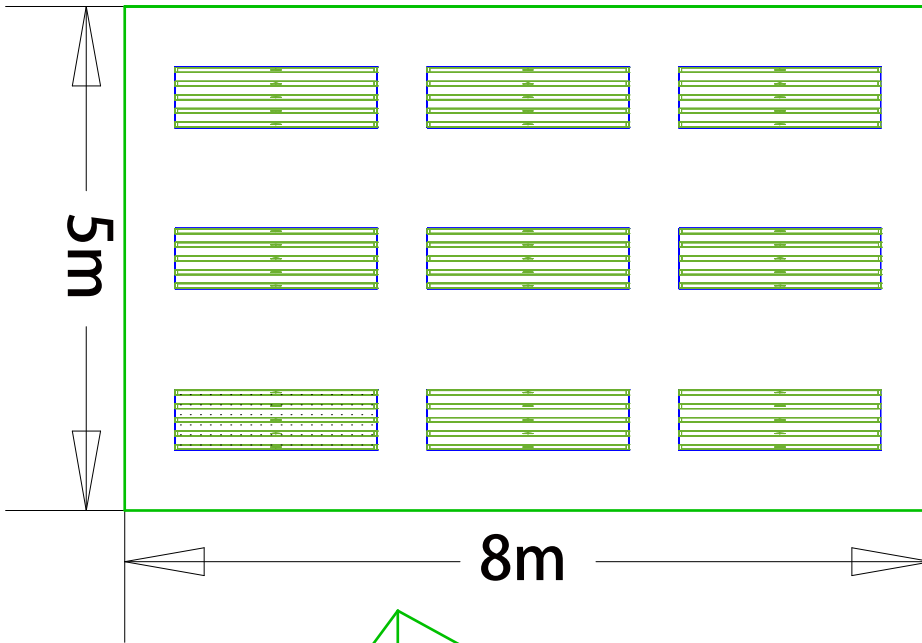
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# Light distribution

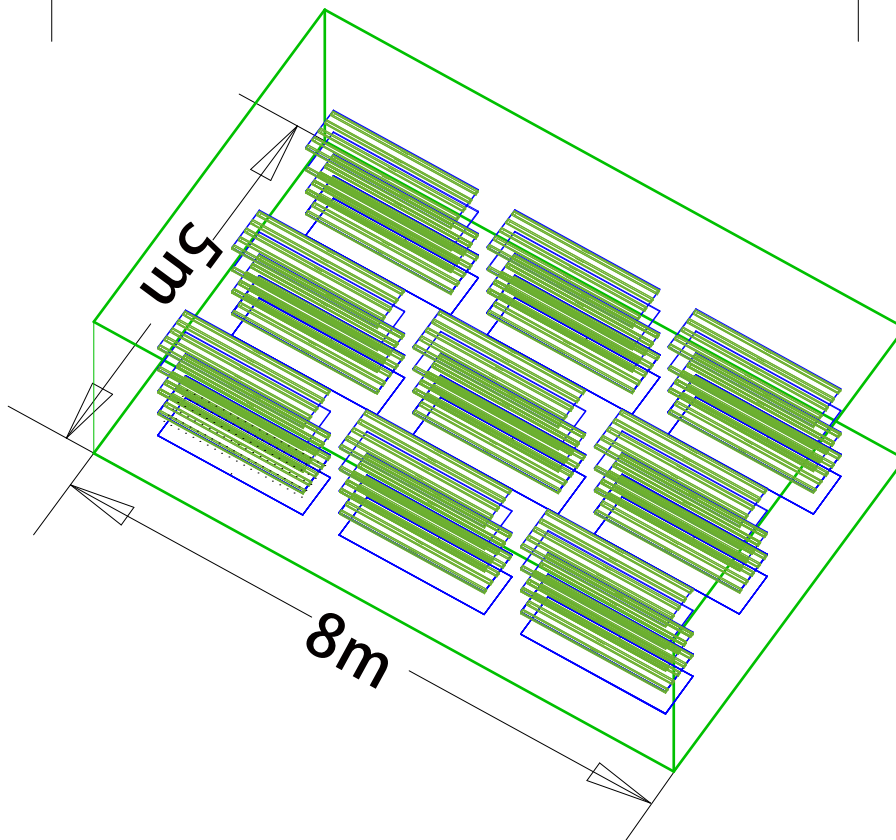


Clone Room

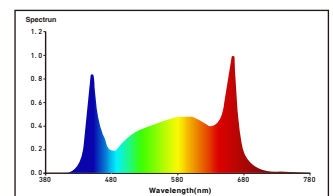
8 pcs x 4 tiers x 9 shelves




Fixture Orientation



HL11-P02-B00



Luminaire Schedule						
Symbol	Qty	Label	LLF	Lumens/Lamp	Lum. Watts	Total Watts
	180	HL11-P02-B00-30W	0.900	4292.6	28.1	8092.8

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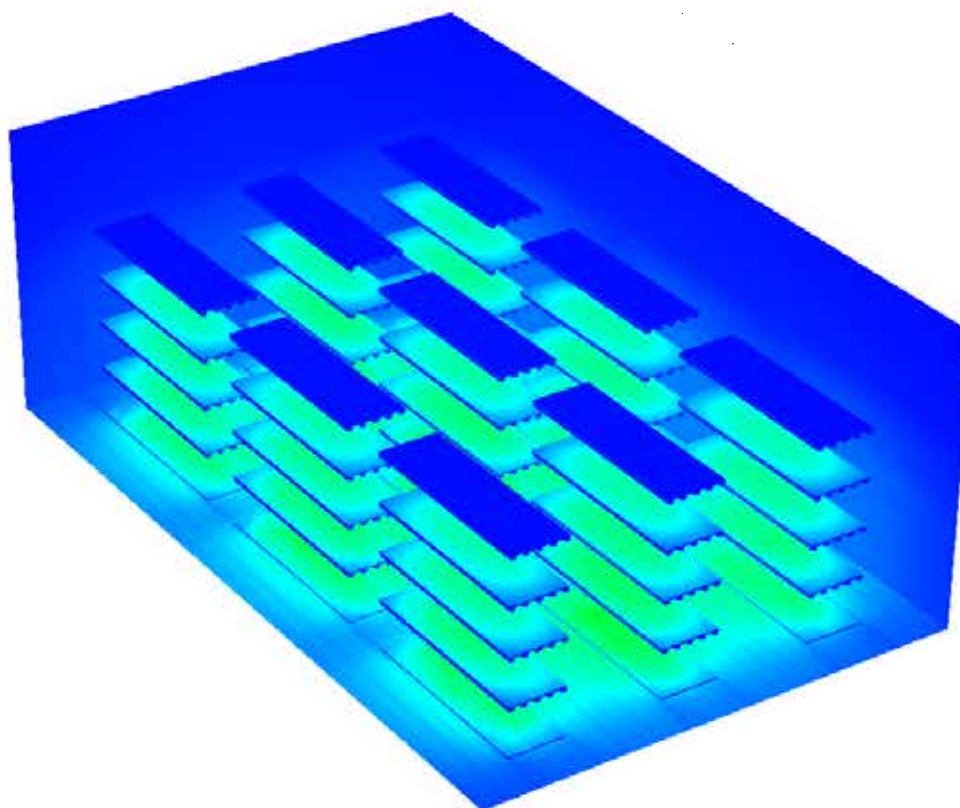
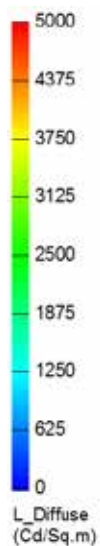
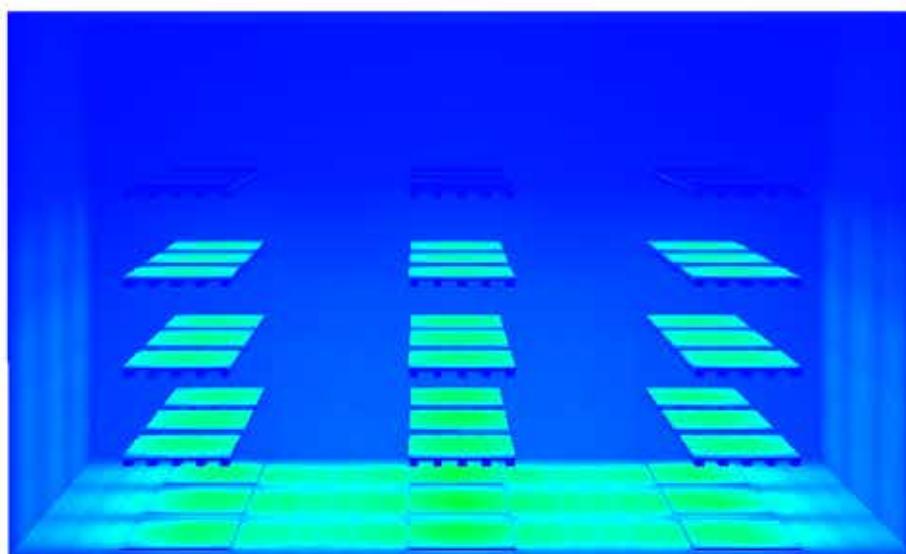
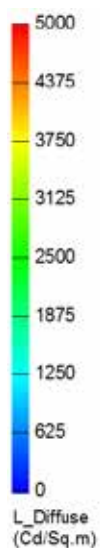
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# Light distribution



## Calculation Summary

Label	Avg	Max	Min	Min/Avg	Min/Max	PPFD Factor	UNIT
Shelf_Top	229.78	276.2	115.3	0.5	0.41	17.2	umol/s/m <sup>2</sup>

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