

# New VTS Solar EU

**Product card**

- Flexibility of the LED lights:
  - 4x100W G4
  - Adjustable light power
- Improved autonomy
- User friendly
- Simplification of control panel
- Zero emissions
- Homologated road trailer
- Telemetric

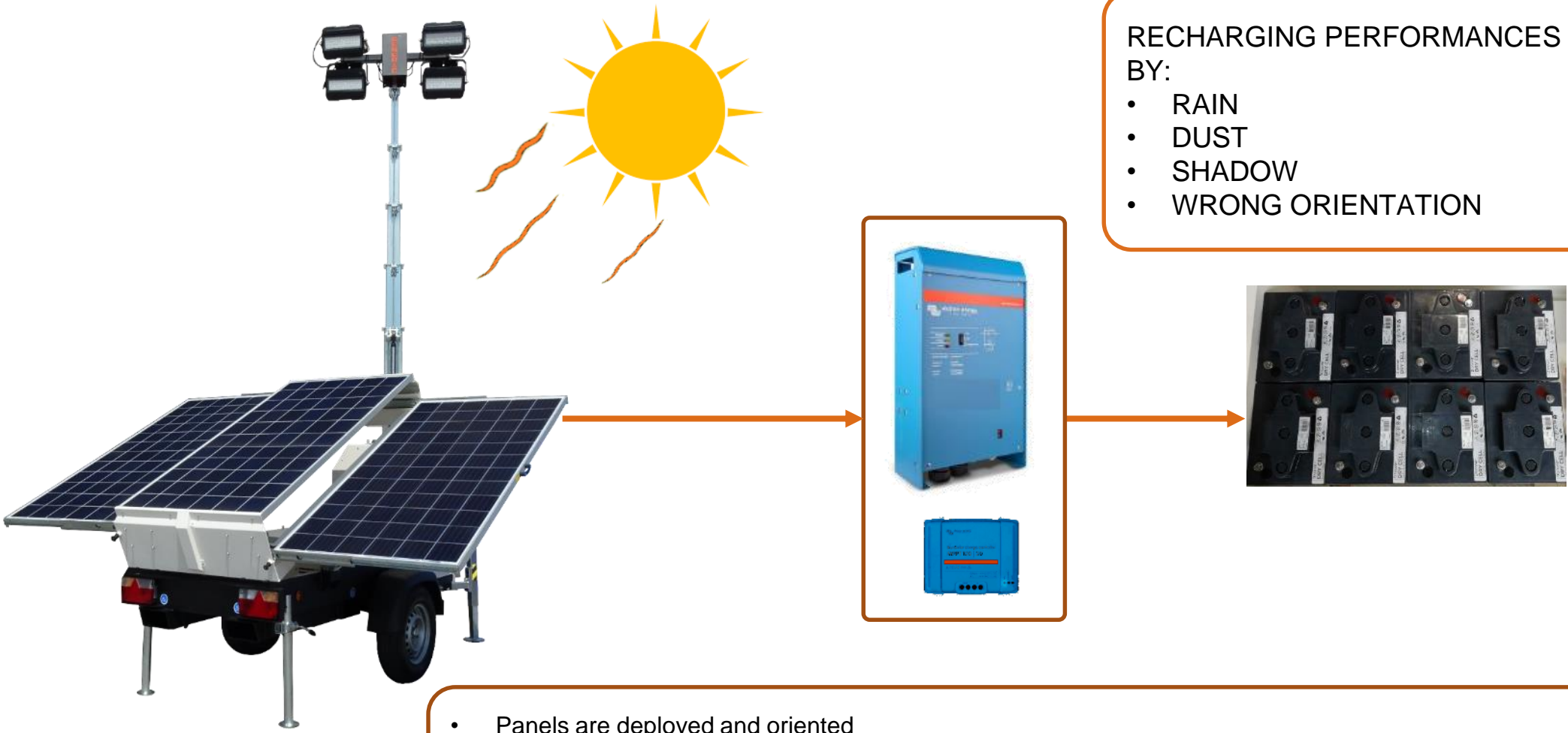


# VTS **Solar EU**

- Lamps: 4x100W G4 LED light
- Dimmable LED lights
- Maximum lumen output: 60000 lm
- 3x400 Wp solar panels half cell
- Sliding panels on heavy duty rails
- Manual tilting solar panels, gas spring assisted
- Hydraulic mast 8.2m
- Manual rotation 340°
- 8 AGM batteries 12V 120Ah each
- Nominal energy storage capacity: 11,5 kWh
- Wind resistance: 80 Km/h
- CEE inlet plug: 230V 16A 50/60Hz
- Multipin inlet plug for external solar kit
- Homologated road trailer
- 4 adjustable stabilizers
- Fork lift pockets
- Optional: Telemetric
- Weight: 1150 Kg



# NEW VTS EU: HOW IT WORKS



RECHARGING PERFORMANCES ARE INFLUENCED BY:

- RAIN
- DUST
- SHADOW
- WRONG ORIENTATION

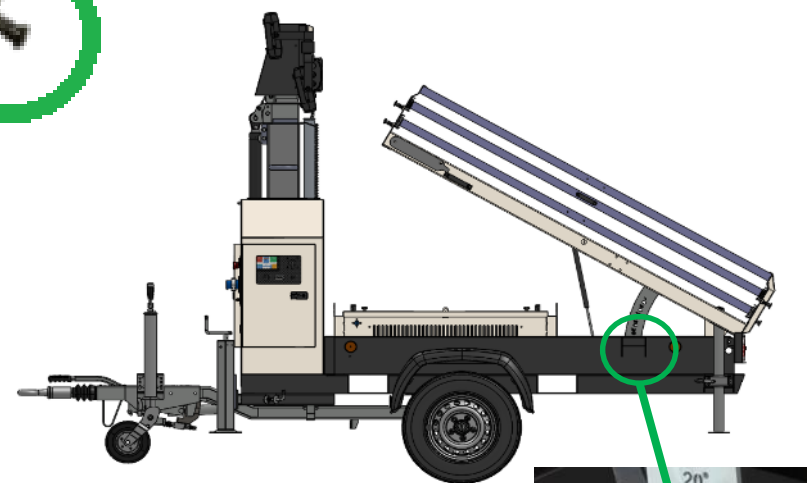
- Panels are deployed and oriented
- They collect the photons from the sun and they convert them into electric current during the day
- MPPT and inverter/charger optimize the power that arrives from solar panels optimizing the current to recharge the battery pack
- The energy is stored into the batteries

# NEW VTS EU: SOLAR PANELS DEPLOYMENT

- Security pins of panels



- Security pin of tilting system



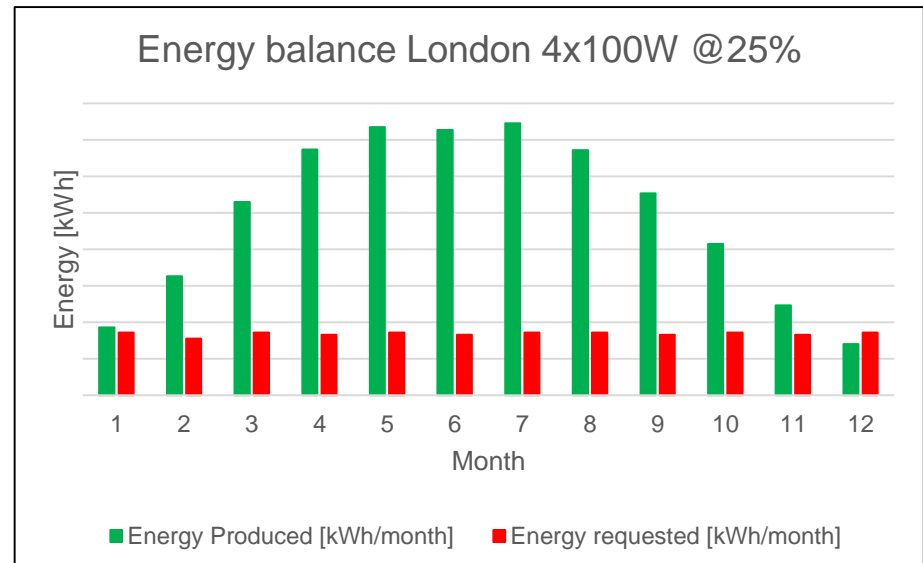
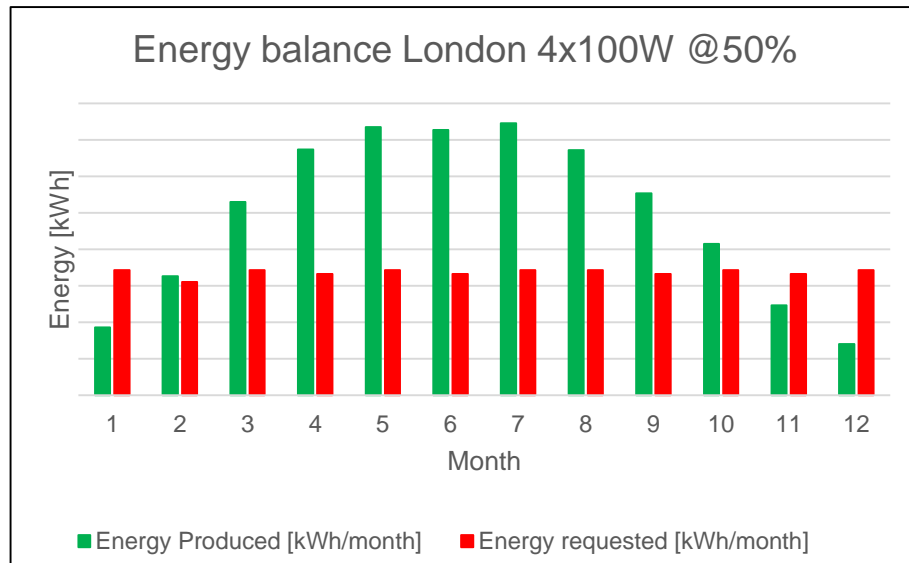
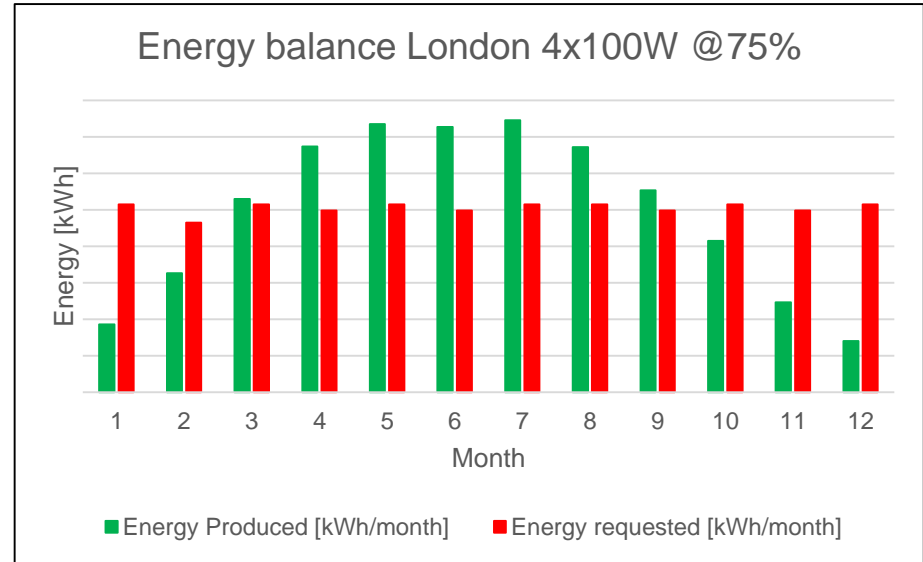
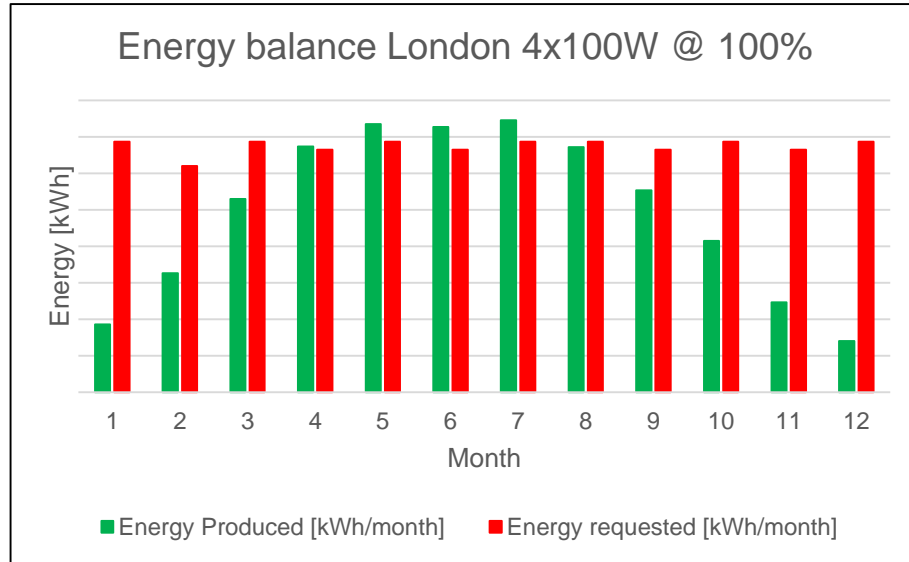
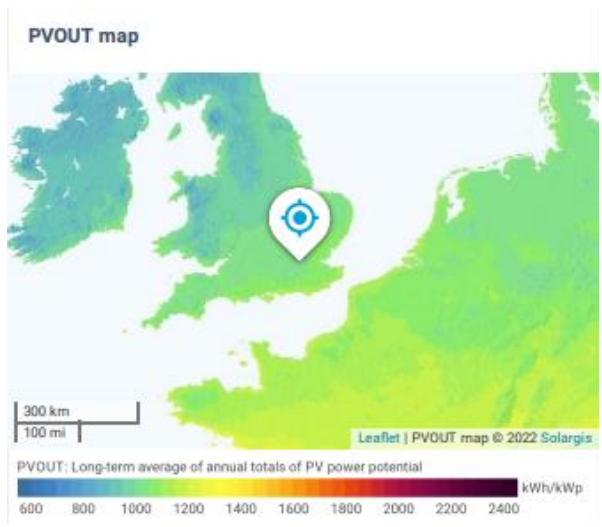
- Tilt the solar panels
- Lock the security pin for tilting system



- Slide the solar panels
- Lock the security pin for the panels

# Performance: LONDON ENERGY BALANCE

- Location: London area
- Inclination: 35°C
- Azimuth: 180°
- No shadow
- Sunny day
- Shift: 8 h/day
- Theoretical calculation

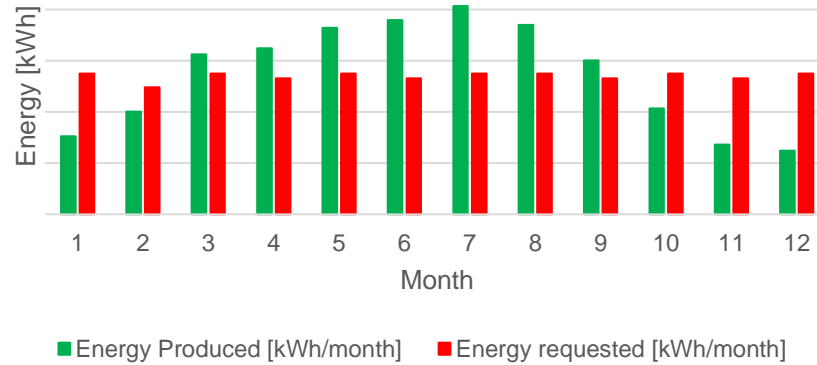


# Performance: PAVIA ENERGY BALANCE

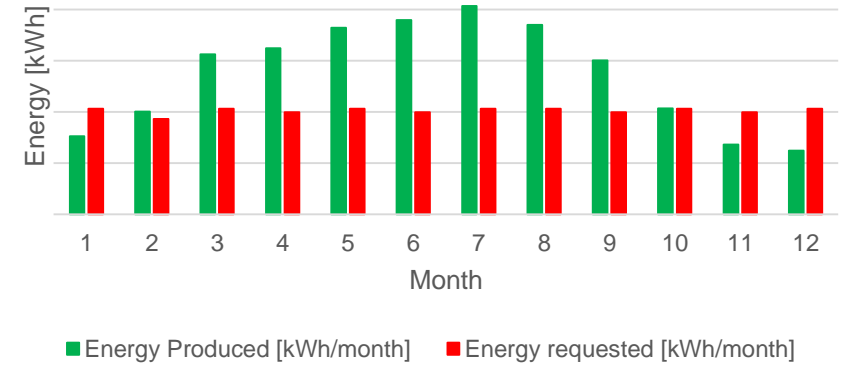
- Location: Pavia area
- Inclination: 35°C
- Azimuth: 180°
- No shadow
- Sunny day
- Shift: 8h/day
- Theoretical calculation



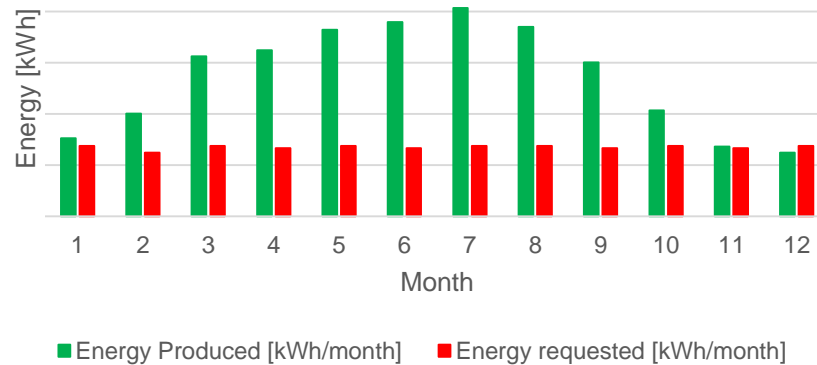
Energy balance Pavia 4x100W @100%



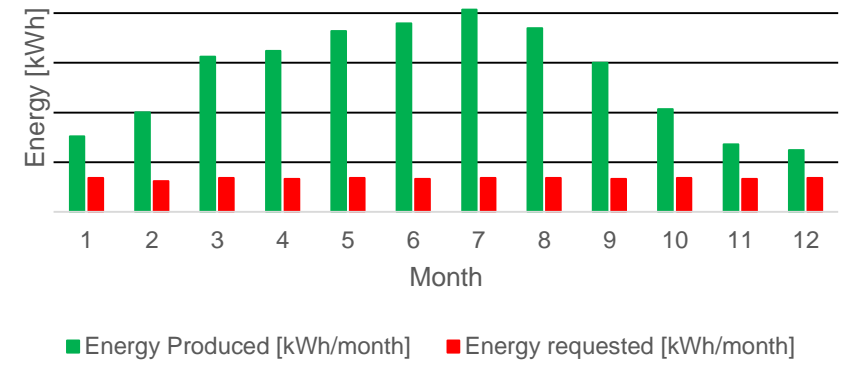
Energy balance Pavia 4x100W @75%



Energy balance Pavia 4x100W @50%



Energy balance Pavia 4x100W @25%



# NEW VTS EU: EXTERNAL RECHARGING OPTIONS



External Solar Kit



Grid

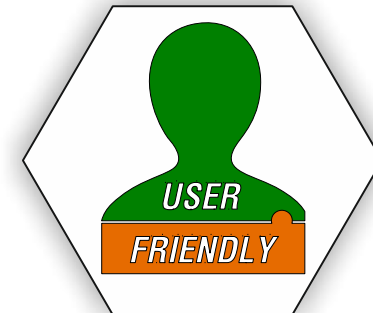
External Generator

External Battery Pack

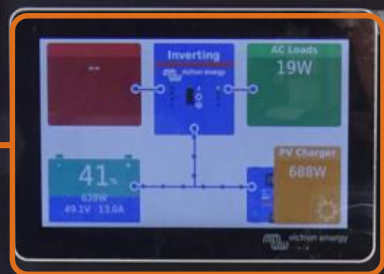
Recharging time 8h from grid  
Discharging time 20h with 4x100W G4 @100%



# NEW VTS EU: CONTROL PANEL



1 – Digital control panel:  
• Battery status  
• Applied load  
• Recharging status from solar panels  
• Grid status



11 -Main switch on/off

2 – Mast switch



10 – Fuse



9 – Hour counter



3 – Circuit breaker



7 – Solar panel switch

4 – Operating mode switch:  
• OFF  
• Manual mode  
• Dusk to down mode  
• Timer mode



5 - Dimming switch:  
• 25%  
• 50%  
• 75%  
• 100%

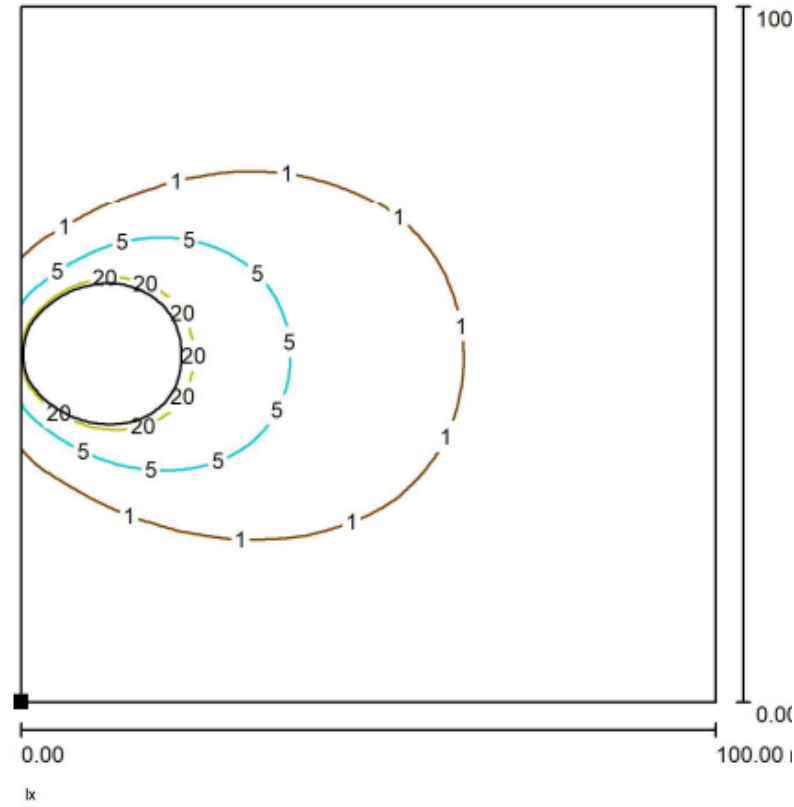
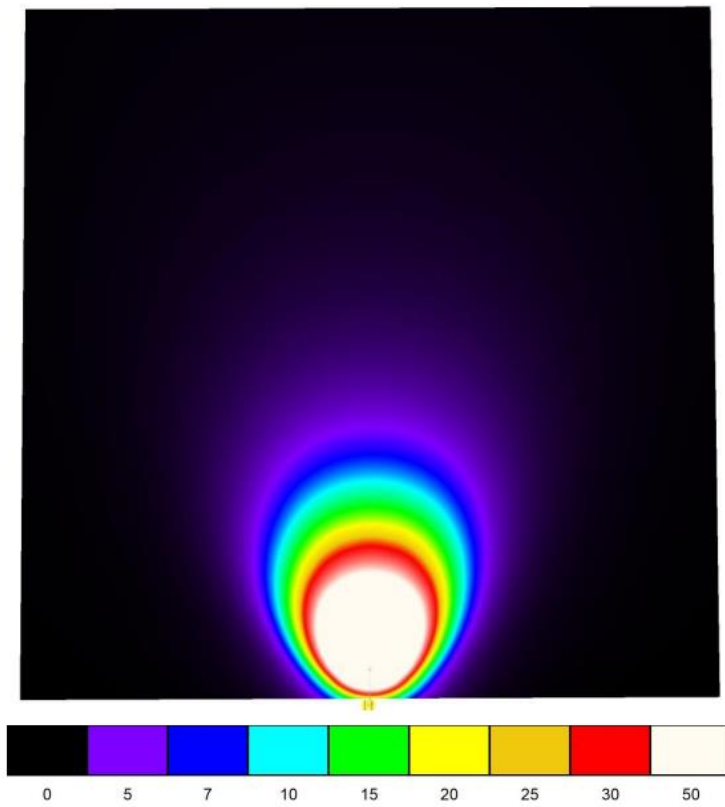


8 – Dusk to down

6 – Timer

# NEW VTS EU: LIGHT DIAGRAM 100% LAMPS DIMMING

- Light diagram simulation 100% 4x100W
- Light diagram simulation Isolines



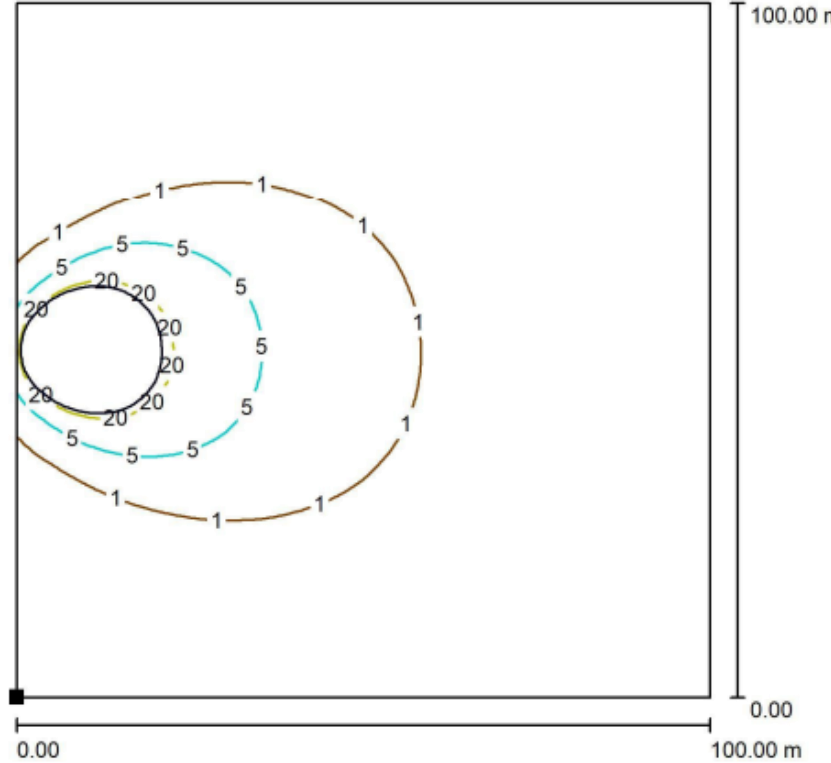
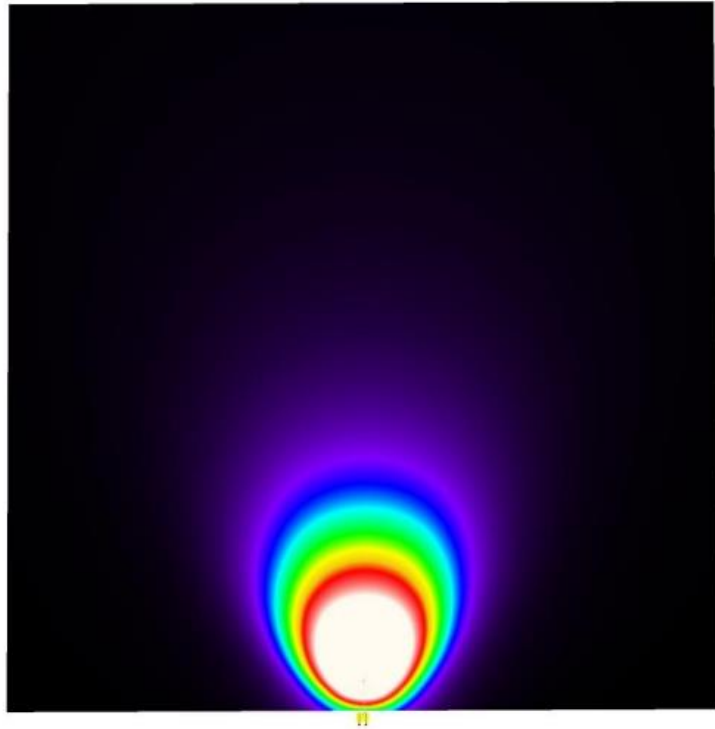
0.01	0.04	0.06	0.08	0.11	0.12	0.14	0.15	0.15	0.14	0.13	0.12	
0.03	0.06	0.08	0.12	0.16	0.20	0.21	0.21	0.20	0.18	0.16	0.14	
0.06	0.10	0.14	0.21	0.28	0.32	0.32	0.30	0.26	0.23	0.20	0.17	
0.08	0.16	0.27	0.39	0.49	0.53	0.48	0.41	0.34	0.29	0.24	0.19	
0.16	0.31	0.58	0.84	0.92	0.85	0.71	0.55	0.44	0.35	0.28	0.22	
0.34	0.75	1.46	1.79	1.64	1.31	1.00	0.75	0.54	0.41	0.32	0.25	
0.81	2.35	4.17	3.81	2.76	1.91	1.32	0.93	0.65	0.48	0.36	0.28	
2.53	10	11	7.12	4.25	2.59	1.65	1.10	0.76	0.53	0.39	0.30	
12	44	24	11	5.69	3.16	1.92	1.23	0.83	0.57	0.42	0.32	
47	146	47	17	7.69	4.01	2.32	1.44	0.95	0.64	0.46	0.34	0.26
91	189	53	19	7.99	4.12	2.39	1.47	0.96	0.65	0.47	0.35	0.27
19	93	40	16	7.35	3.88	2.27	1.42	0.94	0.64	0.46	0.34	0.26
5.87	22	18	9.70	5.21	2.99	1.85	1.20	0.82	0.57	0.42	0.32	
1.42	5.14	7.21	5.60	3.67	2.36	1.55	1.05	0.74	0.53	0.39	0.30	
0.54	1.35	2.60	2.82	2.26	1.68	1.22	0.88	0.64	0.47	0.36	0.28	
0.27	0.52	0.95	1.29	1.30	1.11	0.89	0.70	0.53	0.41	0.32	0.25	
0.13	0.26	0.45	0.62	0.72	0.71	0.62	0.53	0.43	0.35	0.28	0.22	
0.09	0.15	0.24	0.34	0.42	0.45	0.43	0.39	0.33	0.28	0.23	0.19	
0.04	0.08	0.13	0.19	0.24	0.28	0.29	0.28	0.25	0.22	0.19	0.16	
0.03	0.06	0.09	0.12	0.15	0.18	0.19	0.20	0.19	0.17	0.15	0.14	
0.01	0.03	0.05	0.07	0.09	0.11	0.13	0.14	0.14	0.13	0.12	0.11	

Grid: 128 x 128 Points

$E_{av}$  [lx] 4.44     
  $E_{min}$  [lx] 0.01     
  $E_{max}$  [lx] 286     
  $u_0$  0.003     
  $E_{min} / E_{max}$  0.000

# NEW VTS EU: LIGHT DIAGRAM 75% LAMPS DIMMING

- Light diagram simulation 75% 4x100W
- Light diagram simulation Isolines



0.01	0.03	0.05	0.06	0.08	0.09	0.11	0.11	0.11	0.10	0.10	0.09	
0.02	0.04	0.06	0.09	0.12	0.15	0.16	0.16	0.15	0.14	0.12	0.10	
0.04	0.08	0.11	0.16	0.21	0.24	0.24	0.22	0.20	0.17	0.15	0.12	
0.06	0.12	0.20	0.29	0.37	0.40	0.36	0.31	0.26	0.22	0.18	0.15	
0.12	0.23	0.43	0.63	0.69	0.64	0.53	0.42	0.33	0.26	0.21	0.17	
0.25	0.56	1.09	1.34	1.23	0.98	0.75	0.56	0.41	0.31	0.24	0.19	
0.61	1.76	3.13	2.86	2.07	1.43	0.99	0.70	0.49	0.36	0.27	0.21	
1.90	7.59	8.23	5.34	3.19	1.94	1.24	0.83	0.57	0.40	0.30	0.22	
9.25	33	18	8.51	4.27	2.37	1.44	0.92	0.62	0.43	0.31	0.24	
35	110	35	13	5.76	3.00	1.74	1.08	0.71	0.48	0.35	0.26	0.20
68	141	39	14	5.99	3.09	1.79	1.10	0.72	0.49	0.35	0.26	0.20
14	70	30	12	5.52	2.91	1.70	1.06	0.70	0.48	0.35	0.26	0.20
4.40	17	13	7.27	3.90	2.24	1.38	0.90	0.61	0.43	0.31	0.24	
1.06	3.85	5.41	4.20	2.76	1.77	1.16	0.79	0.55	0.40	0.30	0.22	
0.41	1.01	1.95	2.11	1.69	1.26	0.91	0.66	0.48	0.36	0.27	0.21	
0.20	0.39	0.71	0.97	0.98	0.83	0.67	0.52	0.40	0.31	0.24	0.19	
0.10	0.20	0.34	0.47	0.54	0.53	0.46	0.39	0.32	0.26	0.21	0.17	
0.06	0.11	0.18	0.26	0.31	0.34	0.33	0.29	0.25	0.21	0.18	0.15	
0.03	0.06	0.10	0.14	0.18	0.21	0.22	0.21	0.19	0.17	0.14	0.12	
0.02	0.04	0.07	0.09	0.11	0.13	0.14	0.15	0.14	0.13	0.12	0.10	
0.01	0.02	0.04	0.05	0.07	0.08	0.10	0.10	0.10	0.10	0.09	0.08	

Grid: 128 x 128 Points

$E_{av}$  [lx]  
3.33

$E_{min}$  [lx]  
0.01

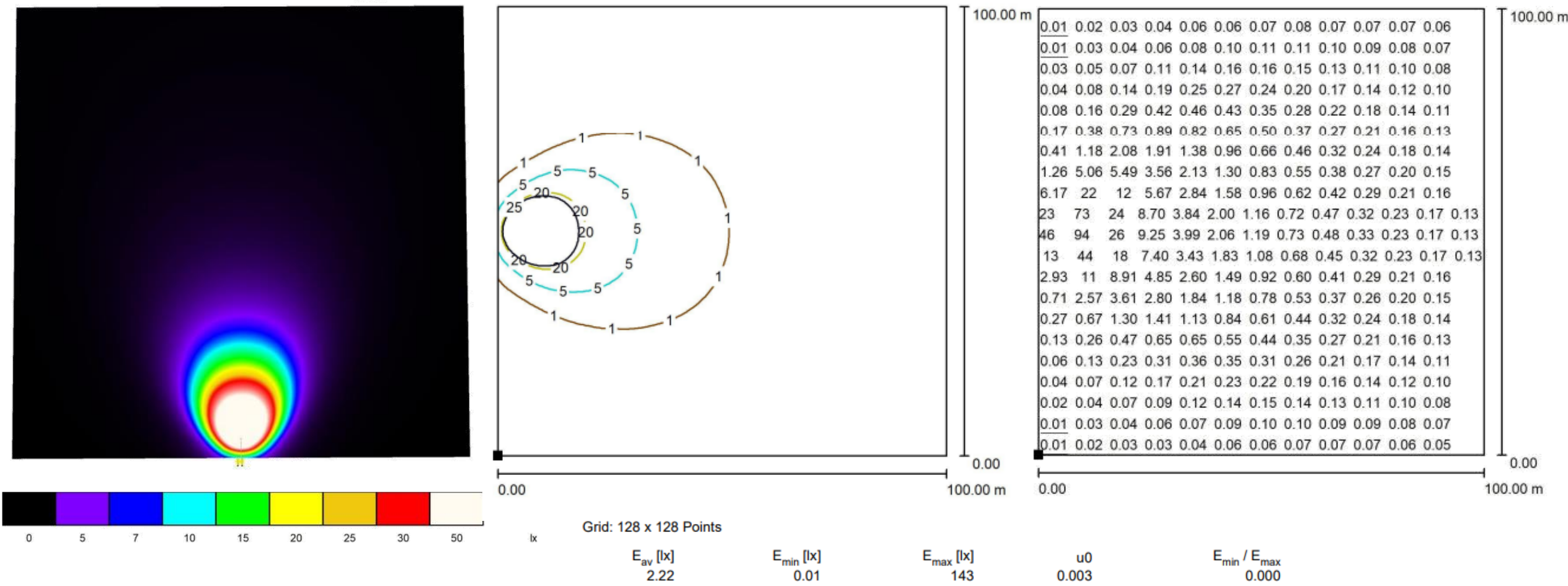
$E_{max}$  [lx]  
215

$u_0$   
0.003

$E_{min} / E_{max}$   
0.000

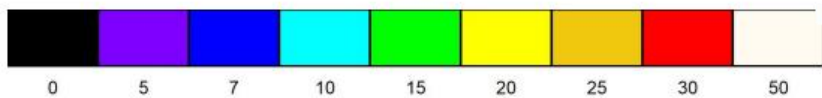
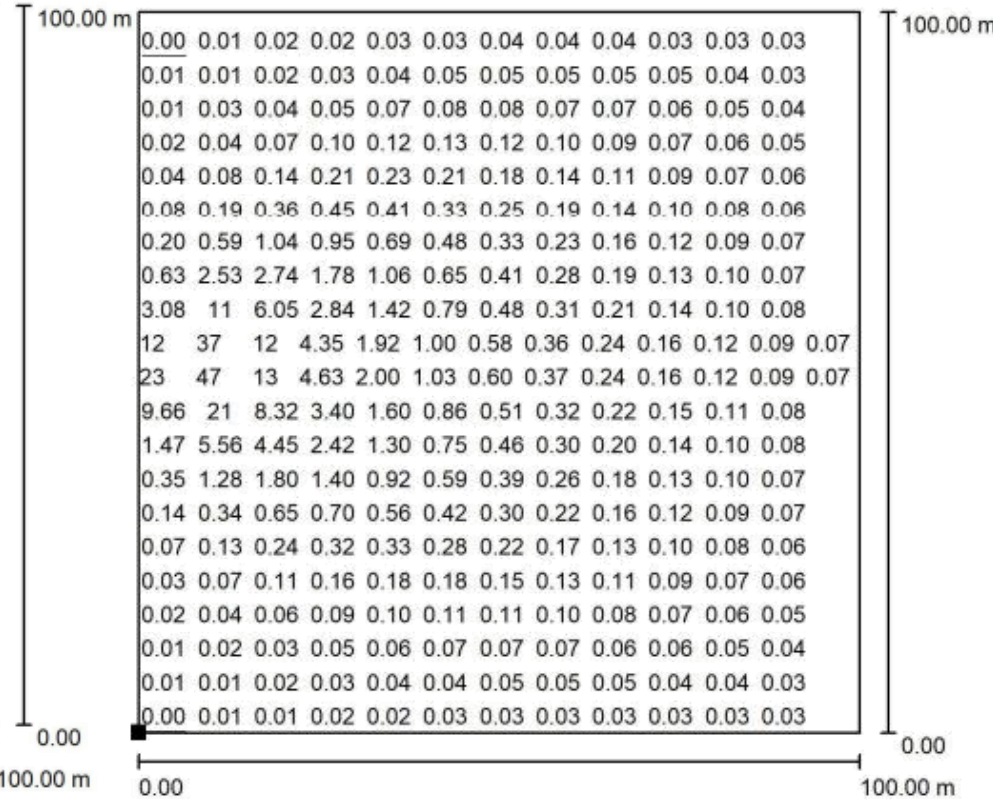
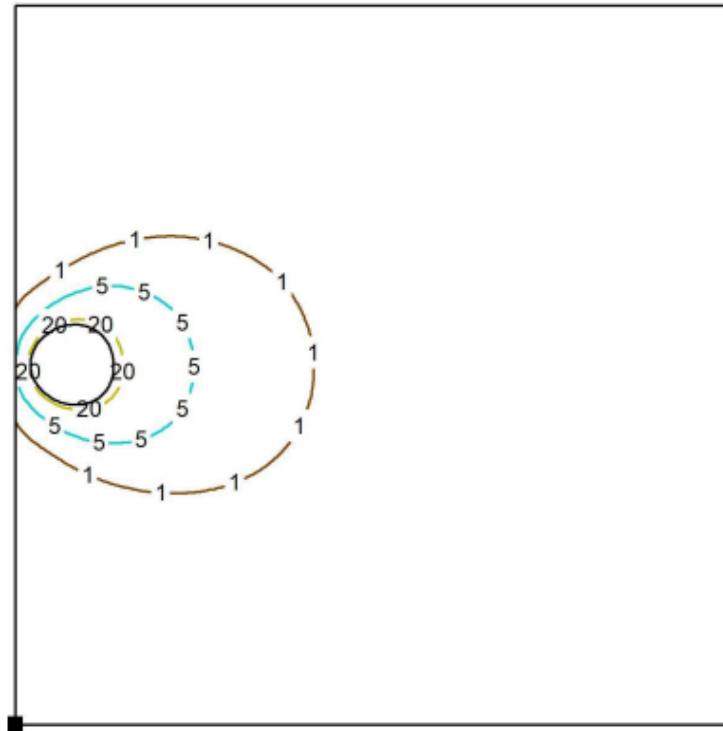
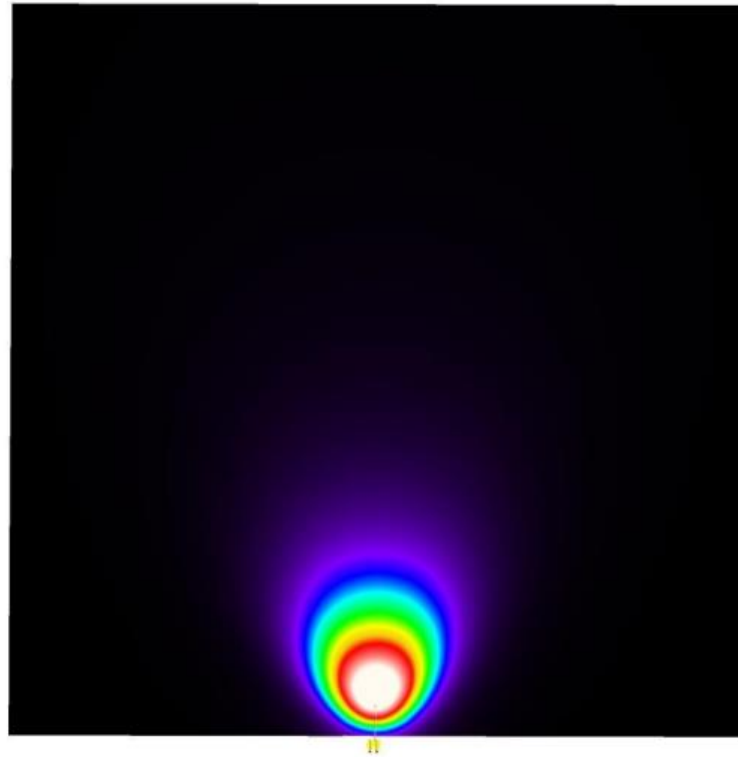
# NEW VTS EU: LIGHT DIAGRAM 50% LAMPS DIMMING

- Light diagram simulation 50% 4x100W
- Light diagram simulation Isolines



# NEW VTS EU: LIGHT DIAGRAM 25% LAMPS DIMMING

- Light diagram simulation 25% 4x100W
- Light diagram simulation Isolines



Grid: 128 x 128 Points

$E_{av}$  [lx]  
1.11

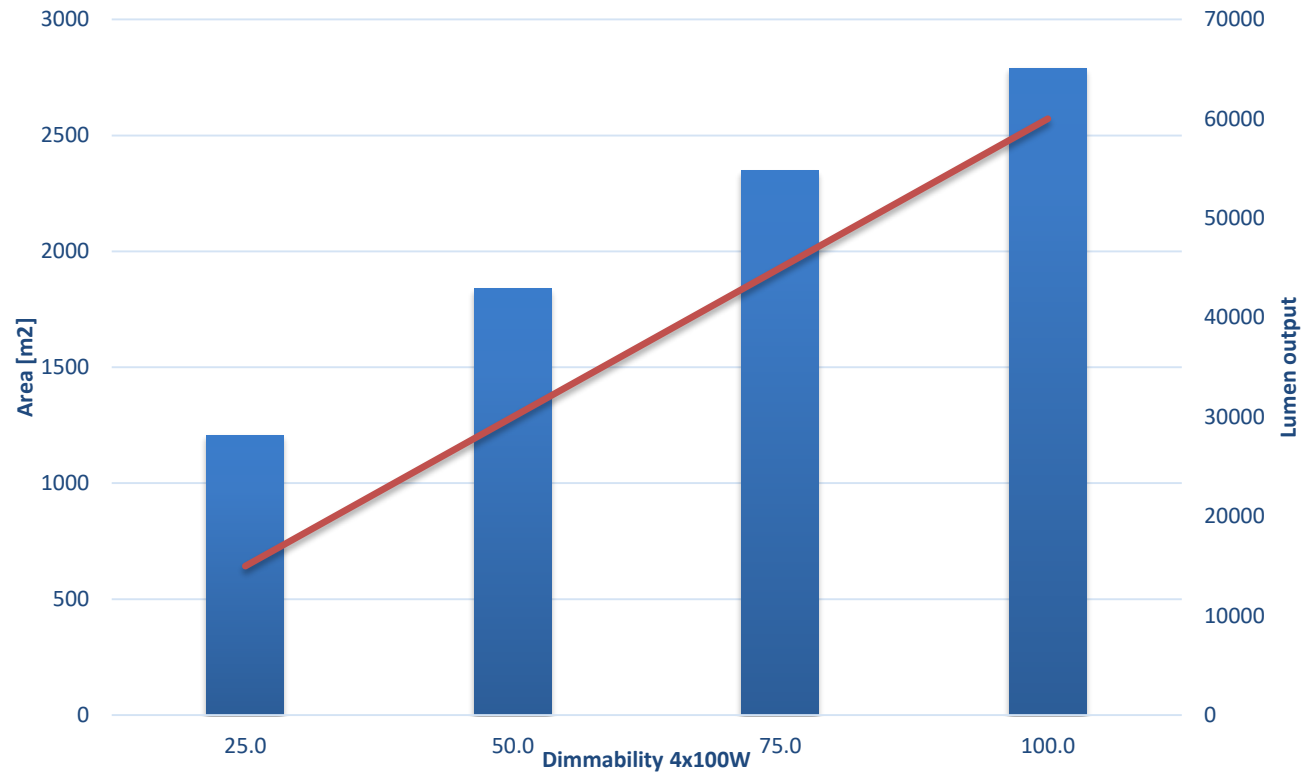
$E_{min}$  [lx]  
0.00

$E_{max}$  [lx]  
72

$u_0$   
0.003

$E_{min} / E_{max}$   
0.000

## Light Performance



Light adjustment	Illuminated Area [m2]*	Total lumen output [lm]
25%	1207	15000
50%	1838	30000
75%	2348	45000
100%	2791	60000

\* Referred to 1 lux min

## Feature: SOLAR KIT INLET



The unit can be connected to an external Generac solar kit to faster recharge the batteries of the new VTS. Connecting the solar kit, the total nominal power of the solar panels is 1,8 kWp. Charging time depends on weather conditions.

# OPTION: TELEMETRIC



Telemetric device is available as option.  
The customer can monitor the unit remotely.

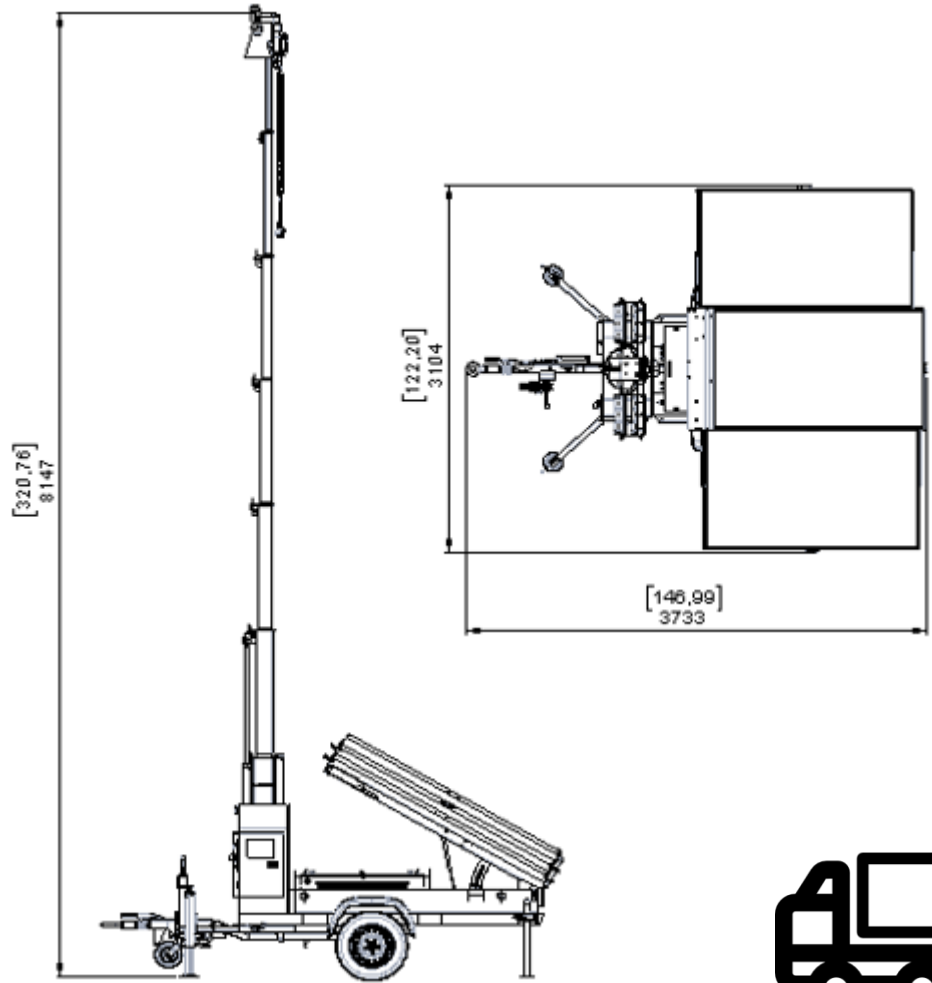
Monitored parameters:

- Location
- Battery status
- Solar panel energy flow
- Plug in energy flow
- Electric load

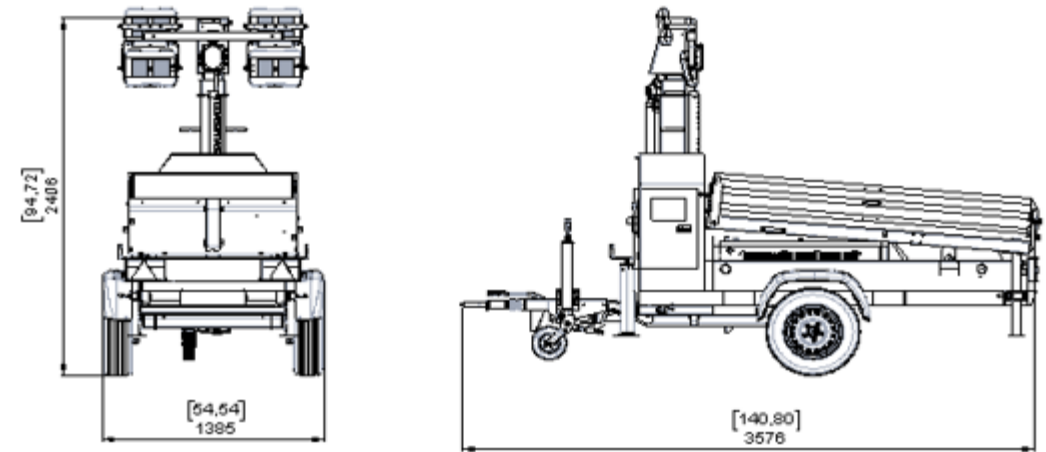


# NEW VTS EU: DIMENSIONS

- Open configuration: 3733x3104x8147 mm



- Closed configuration: 3576x1385x2406 mm



Up to 6 units on a 13,6m truck

mm [in]

# NEW VTS EU: Prototype





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