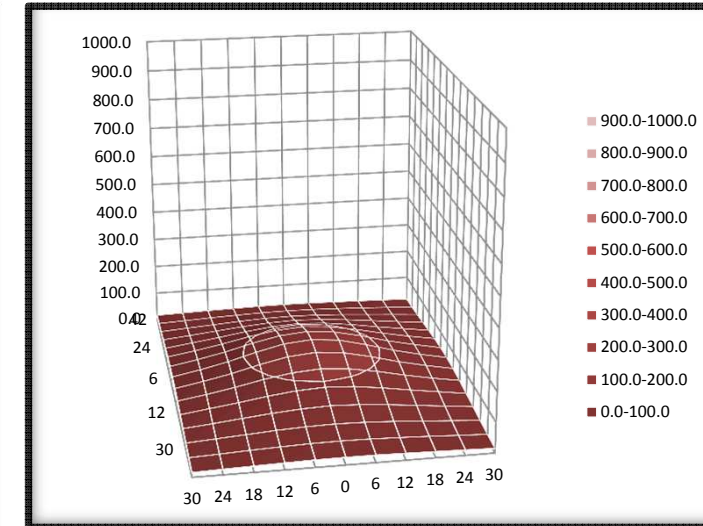
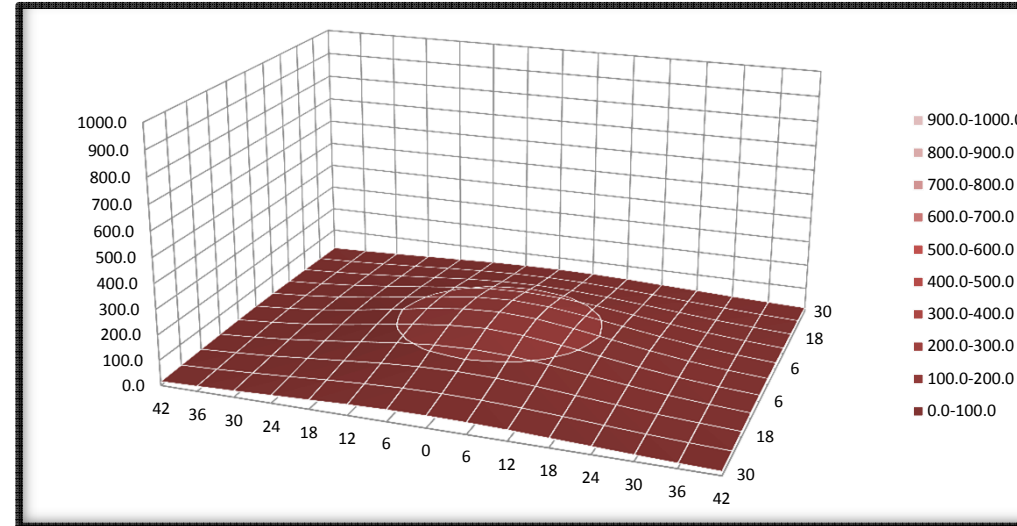


# Hypernova LED Budget

## H = 30cm

Modul: Hypernova LED Budget  
 Raumtemperatur: 19 Grad Celsius  
 Messinstrument: kalibriertes Spektrometer  
 Abstand von Sensor bis uk Modul: 30 cm  
 Raum: Abgedunkelt  
 Einheit: PAR in  $\mu\text{mol}/\text{m}^2/\text{sec}$   
 Leistungsangabe Hersteller: 75 Watt

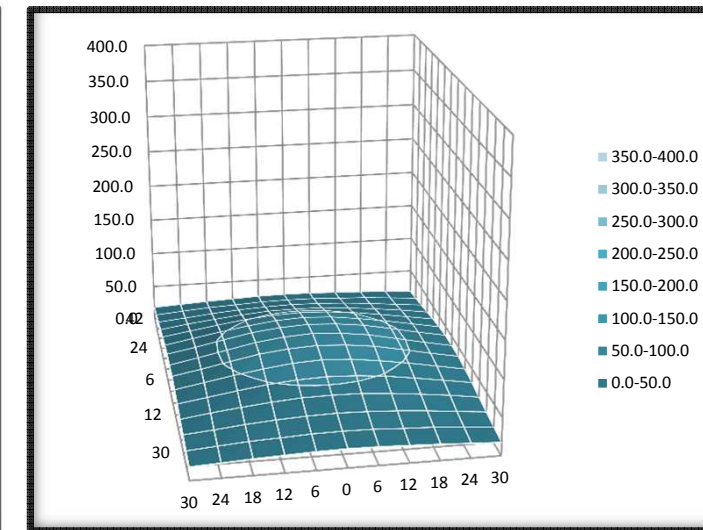
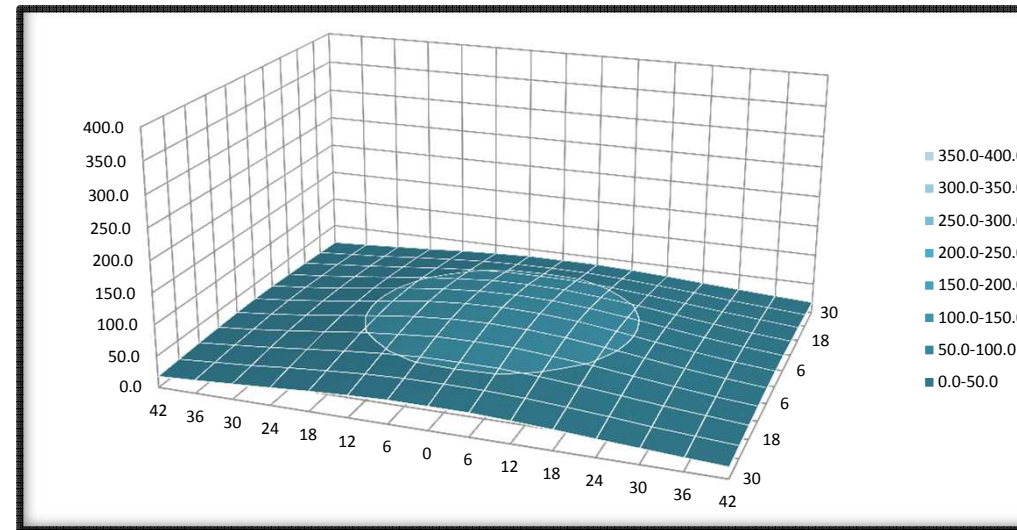
cm/cm	42	36	30	24	18	12	6	0	6	12	18	24	30	36	42						
30	15.0	19.0	24.0	30.0	35.5	41.5	45.0	46.5	45.0	41.5	35.5	30.0	24.0	19.0	15.0	466.50					
24	17.5	23.0	30.5	39.0	48.5	56.5	62.5	64.5	62.5	56.5	48.5	39.0	30.5	23.0	17.5	619.50	477.50				
18	20.0	27.5	36.5	49.0	61.5	74.0	82.5	86.0	82.5	74.0	61.5	49.0	36.5	27.5	20.0	788.00	620.00				
12	22.0	31.0	43.0	58.5	76.0	94.0	107.0	112.0	107.0	94.0	76.0	58.5	43.0	31.0	22.0	975.00	783.00				
6	24.0	34.0	47.5	66.0	87.5	109.5	127.0	134.5	127.0	109.5	87.5	66.0	47.5	34.0	24.0	1'125.50	914.50				
0	24.5	35.0	49.5	69.5	92.5	116.5	135.5	143.0	135.5	116.5	92.5	69.5	49.5	35.0	24.5	1'189.00	971.00				
6	24.0	34.0	47.5	66.0	87.5	109.5	127.0	134.5	127.0	109.5	87.5	66.0	47.5	34.0	24.0	1'125.50	914.50				
12	22.0	31.0	43.0	58.5	76.0	94.0	107.0	112.0	107.0	94.0	76.0	58.5	43.0	31.0	22.0	975.00	783.00				
18	20.0	27.5	36.5	49.0	61.5	74.0	82.5	86.0	82.5	74.0	61.5	49.0	36.5	27.5	20.0	788.00	620.00				
24	17.5	23.0	30.5	39.0	48.5	56.5	62.5	64.5	62.5	56.5	48.5	39.0	30.5	23.0	17.5	619.50	477.50				
30	15.0	19.0	24.0	30.0	35.5	41.5	45.0	46.5	45.0	41.5	35.5	30.0	24.0	19.0	15.0	466.50					
Beleuchtungsstärke																100 %	x =	0.197	Summe	9'138.00	6'561.00
Leistungsaufnahme gemessen																54.0 Watt	y =	0.141	<b>PAR pro Watt</b>	<b>169.22</b>	<b>121.50</b>
Lux																4'450 lx	z =	0.661	<b>PAR im Mittel</b>	<b>55.38</b>	<b>81.00</b>



## H = 45cm

Modul: Hypernova LED Budget  
 Raumtemperatur: 19 Grad Celsius  
 Messinstrument: kalibriertes Spektrometer  
 Abstand von Sensor bis uk Modul: 45 cm  
 Raum: Abgedunkelt  
 Einheit: PAR in  $\mu\text{mol}/\text{m}^2/\text{sec}$   
 Leistungsangabe Hersteller: 75 Watt

cm/cm	42	36	30	24	18	12	6	0	6	12	18	24	30	36	42						
30	17.5	20.5	24.0	27.5	31.5	34.5	37.0	37.0	37.0	34.5	31.5	27.5	24.0	20.5	17.5	422.00					
24	19.5	23.5	27.5	33.0	37.5	41.5	44.0	44.5	44.0	41.5	37.5	33.0	27.5	23.5	19.5	497.50	356.50				
18	21.5	26.5	31.5	37.5	43.5	48.5	52.0	52.5	52.0	48.5	43.5	37.5	31.5	26.5	21.5	574.50	415.50				
12	23.0	28.0	34.5	41.5	49.0	54.5	59.5	60.5	59.5	54.5	49.0	41.5	34.5	28.0	23.0	640.50	469.50				
6	24.5	30.0	36.5	44.5	52.5	59.5	64.0	65.5	64.0	59.5	52.5	44.5	36.5	30.0	24.5	688.50	506.50				
0	25.0	30.5	37.5	45.0	54.0	61.5	66.0	68.0	66.0	61.5	54.0	45.0	37.5	30.5	25.0	707.00	521.00				
6	24.5	30.0	36.5	44.5	52.5	59.5	64.0	65.5	64.0	59.5	52.5	44.5	36.5	30.0	24.5	688.50	506.50				
12	23.0	28.0	34.5	41.5	49.0	54.5	59.5	60.5	59.5	54.5	49.0	41.5	34.5	28.0	23.0	640.50	469.50				
18	21.5	26.5	31.5	37.5	43.5	48.5	52.0	52.5	52.0	48.5	43.5	37.5	31.5	26.5	21.5	574.50	415.50				
24	19.5	23.5	27.5	33.0	37.5	41.5	44.0	44.5	44.0	41.5	37.5	33.0	27.5	23.5	19.5	497.50	356.50				
30	17.5	20.5	24.0	27.5	31.5	34.5	37.0	37.0	37.0	34.5	31.5	27.5	24.0	20.5	17.5	422.00					
Beleuchtungsstärke																100 %	x =	0.196	Summe	6'353.00	4'017.00
Leistungsaufnahme gemessen																53.0 Watt	y =	0.140	<b>PAR pro Watt</b>	<b>119.87</b>	<b>75.79</b>
Lux																2'090 lx	z =	0.664	<b>PAR im Mittel</b>	<b>38.50</b>	<b>49.59</b>



## H = 60 cm

Modul: Hypernova LED Budget  
 Raumtemperatur: 19 Grad Celsius  
 Messinstrument: kalibriertes Spektrometer  
 Abstand von Sensor bis uk Modul: 60 cm  
 Raum: Abgedunkelt  
 Einheit: PAR in  $\mu\text{mol}/\text{m}^2/\text{sec}$   
 Leistungsangabe Hersteller: 75 Watt

cm/cm	42	36	30	24	18	12	6	0	6	12	18	24	30	36	42						
30	17.0	19.0	21.0	23.5	25.5	27.0	28.0	28.5	28.0	27.0	25.5	23.5	21.0	19.0	17.0	350.50					
24	18.5	20.5	23.0	26.0	28.5	30.5	31.5	32.0	31.5	30.5	28.5	26.0	23.0	20.5	18.5	389.00	265.00				
18	19.5	22.5	25.0	28.0	31.0	33.0	35.0	35.0	35.0	33.0	31.0	28.0	25.0	22.5	19.5	423.00	289.00				
12	20.5	23.5	26.5	30.0	33.0	35.5	37.0	37.5	37.0	35.5	33.0	30.0	26.5	23.5	20.5	449.50	308.50				
6	21.0	24.0	27.0	31.0	34.5	37.0	39.0	39.5	39.0	37.0	34.5	31.0	27.0	24.0	21.0	466.50	322.50				
0	21.5	24.5	27.5	32.0	35.5	38.0	39.5	40.0	39.5	38.0	35.5	32.0	27.5	24.5	21.5	477.00	330.00				
6	21.0	24.0	27.0	31.0	34.5	37.0	39.0	39.5	39.0	37.0	34.5	31.0	27.0	24.0	21.0	466.50	322.50				
12	20.5	23.5	26.5	30.0	33.0	35.5	37.0	37.5	37.0	35.5	33.0	30.0	26.5	23.5	20.5	443.50	308.50				
18	19.5	22.5	25.0	28.0	31.0	33.0	35.0	35.0	35.0	33.0	31.0	28.0	25.0	22.5	19.5	423.00	289.00				
24	18.5	20.5	23.0	26.0	28.5	30.5	31.5	32.0	31.5	30.5	28.5	26.0	23.0	20.5	18.5	389.00	265.00				
30	17.0	19.0	21.0	23.5	25.5	27.0	28.0	28.5	28.0	27.0	25.5	23.5	21.0	19.0	17.0	350.50					
Beleuchtungsstärke																100 %	x =	0.196	Summe	4'628.00	2'700.00
Leistungsaufnahme gemessen																53.0 Watt	y =	0.141	<b>PAR pro Watt</b>	<b>87.32</b>	<b>50.94</b>
Lux																1'265 lx	z =	0.664	<b>PAR im Mittel</b>	<b>28.05</b>	<b>33.33</b>

