

Project 1

Educational premises - Laboratories and practical rooms

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Customer No.:

Date: 01.01.2015

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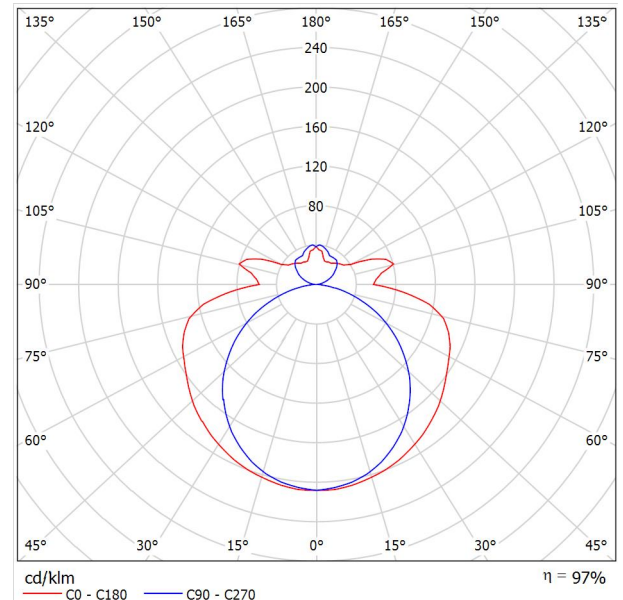
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PHILIPS TMX204 2xTL-DR36W HFP / Luminaire Data Sheet

Luminous emittance 1:



Luminaire classification according to CIE: 80
CIE flux code: 37 66 87 79 97

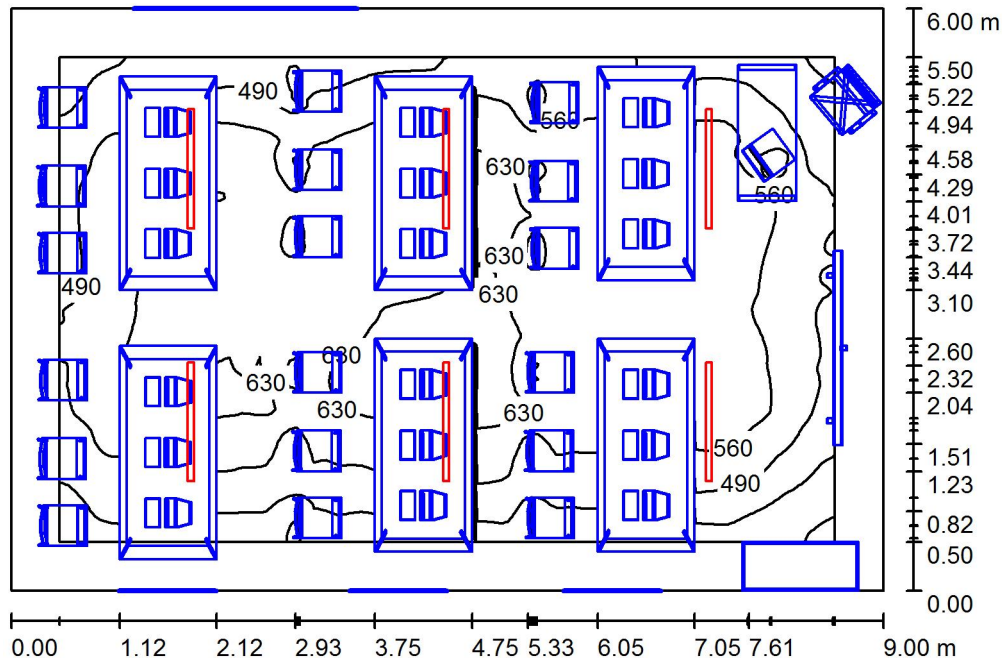
TMX204 LS – slender and versatile TMX204 LS is a functional batten for TL-D and TL5 fluorescent lamps for general lighting. A wide range of reflectors and attachments from the TTX400 series can be fitted to enhance system efficiency and versatility, making it suitable for a variety of applications. This batten can be suspended or surface-mounted. Thanks to its slim design, it is also well suited for build-in applications and coves.

Luminous emittance 1:

Glare Evaluation According to UGR											
ρ Ceiling	70	70	50	50	30	70	70	50	50	30	
ρ Walls	50	30	50	30	30	50	30	50	30	30	
ρ Floor	20	20	20	20	20	20	20	20	20	20	
Room Size X Y	Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis					
2H	2H	19.9	21.0	20.4	21.6	22.3	17.6	18.8	18.1	19.3	20.0
	3H	22.7	23.8	23.3	24.4	25.1	19.1	20.2	19.8	20.8	21.5
	4H	24.1	25.1	24.7	25.7	26.4	19.7	20.7	20.3	21.4	22.1
	6H	25.3	26.3	25.9	26.9	27.6	20.1	21.0	20.7	21.7	22.4
	8H	25.8	26.7	26.5	27.4	28.1	20.2	21.1	20.8	21.8	22.5
	12H	26.3	27.2	26.9	27.8	28.6	20.2	21.1	20.9	21.8	22.5
4H	2H	20.3	21.3	20.9	21.9	22.6	18.6	19.6	19.2	20.3	21.0
	3H	23.4	24.3	24.1	25.0	25.7	20.5	21.4	21.2	22.1	22.8
	4H	25.0	25.8	25.7	26.5	27.3	21.3	22.1	22.0	22.8	23.6
	6H	26.5	27.2	27.2	27.9	28.7	21.9	22.6	22.6	23.3	24.1
	8H	27.1	27.7	27.8	28.5	29.3	22.0	22.7	22.8	23.4	24.2
	12H	27.6	28.2	28.4	29.0	29.8	22.1	22.7	22.9	23.5	24.3
8H	4H	25.3	26.0	26.0	26.7	27.5	22.4	23.1	23.1	23.8	24.6
	6H	27.0	27.6	27.8	28.3	29.2	23.3	23.9	24.1	24.6	25.5
	8H	27.8	28.3	28.6	29.0	29.9	23.7	24.1	24.4	24.9	25.8
	12H	28.5	29.0	29.3	29.7	30.6	23.9	24.3	24.7	25.1	26.0
12H	4H	25.3	25.9	26.1	26.7	27.5	22.7	23.3	23.4	24.0	24.8
	6H	27.1	27.6	27.9	28.3	29.2	23.8	24.2	24.5	25.0	25.9
	8H	28.0	28.4	28.7	29.2	30.1	24.3	24.7	25.0	25.4	26.4
Variation of the observer position for the luminaire distances S											
S = 1.0H	+0.1 / -0.1					+0.1 / -0.1					
S = 1.5H	+0.2 / -0.2					+0.2 / -0.3					
S = 2.0H	+0.3 / -0.3					+0.3 / -0.6					
Standard table	BK11					BK13					
Correction	6.0					1.3					
Summand											
Corrected Glare Indices referring to 6700lm Total Luminous Flux											

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Room 1 / Summary



Height of Room: 2.800 m, Mounting Height: 2.800 m, Maintenance factor: 0.80

Values in Lux, Scale 1:78

Surface	ρ [%]	E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u_0
Workplane	/	549	334	670	0.607
Floor	30	269	51	465	0.191
Ceiling	85	285	138	2328	0.486
Walls (4)	65	285	25	449	/

Workplane:

Height: 0.800 m
Grid: 128 x 128 Points
Boundary Zone: 0.500 m

Illuminance Quotient (according to LG7): Walls / Working Plane: 0.568, Ceiling / Working Plane: 0.518.

Luminaire Parts List

No.	Pieces	Designation (Correction Factor)	Φ (Luminaire) [lm]	Φ (Lamps) [lm]	P [W]
1	6	PHILIPS TMX204 2xTL-DR36W HFP (1.000)	6499	6700	72.0
Total:			38994	40200	432.0

Specific connected load: $8.00 \text{ W/m}^2 = 1.46 \text{ W/m}^2/100 \text{ lx}$ (Ground area: 54.00 m^2)

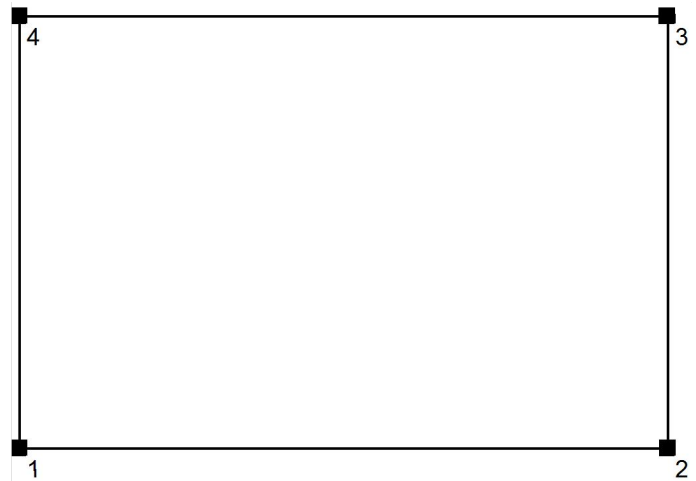
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Room 1 / Input Protocol

Height of working plane: 0.800 m
Boundary Zone: 0.500 m

Maintenance factor: 0.80

Height of Room: 2.800 m
Ground area: 54.00 m²

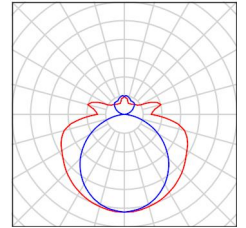


Surface	Rho [%]	from ([m] [m])	towards ([m] [m])	Length [m]
Floor	30	/	/	/
Ceiling	85	/	/	/
Wall 1	65	(0.000 0.000)	(9.000 0.000)	9.000
Wall 2	65	(9.000 0.000)	(9.000 6.000)	6.000
Wall 3	65	(9.000 6.000)	(0.000 6.000)	9.000
Wall 4	65	(0.000 6.000)	(0.000 0.000)	6.000

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Room 1 / Luminaire parts list

6 Pieces PHILIPS TMX204 2xTL-DR36W HFP
Article No.:
Luminous flux (Luminaire): 6499 lm
Luminous flux (Lamps): 6700 lm
Luminaire Wattage: 72.0 W
Luminaire classification according to CIE: 80
CIE flux code: 37 66 87 79 97
Fitting: 2 x TL-DR36W/840 (Correction Factor 1.000).



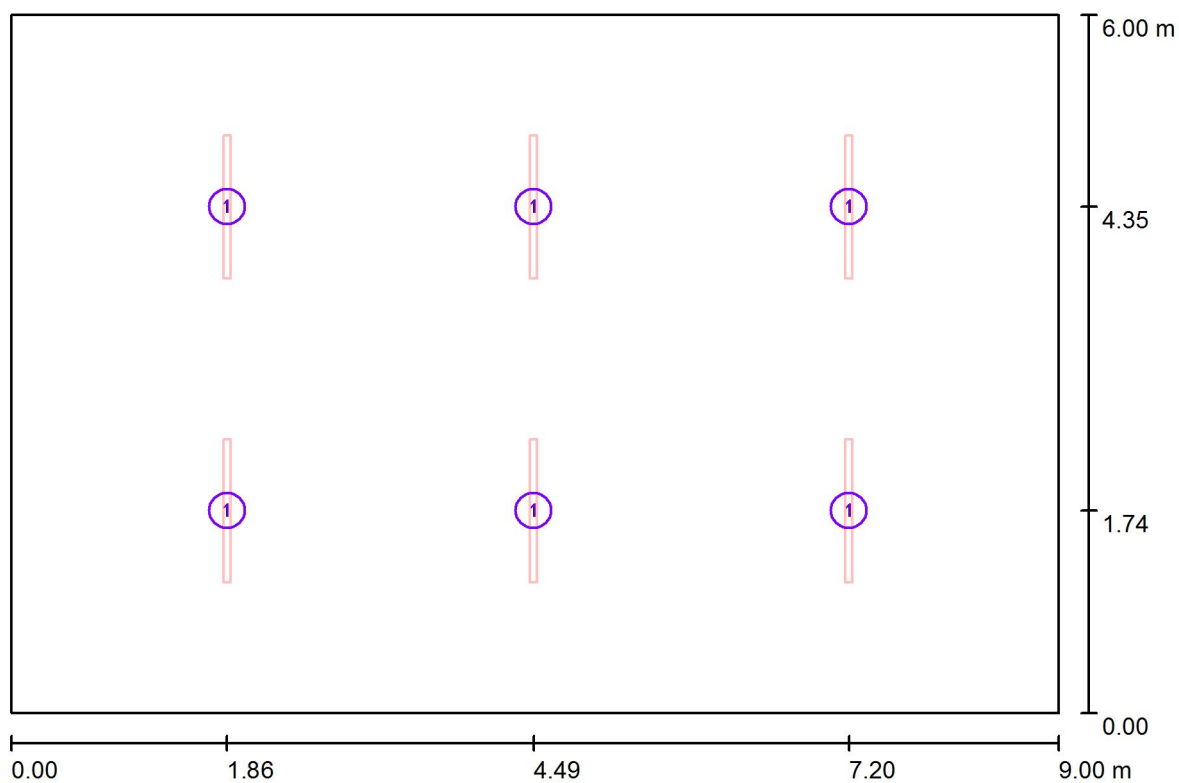
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Room 1 / Floor plan



Scale 1 : 65

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Room 1 / Luminaires (layout plan)

Scale 1 : 65

Luminaire Parts List

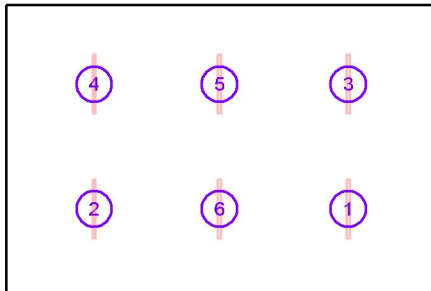
No.	Pieces	Designation
1	6	PHILIPS TMX204 2xTL-DR36W HFP

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Room 1 / Luminaires (coordinates list)

PHILIPS TMX204 2xTL-DR36W HFP

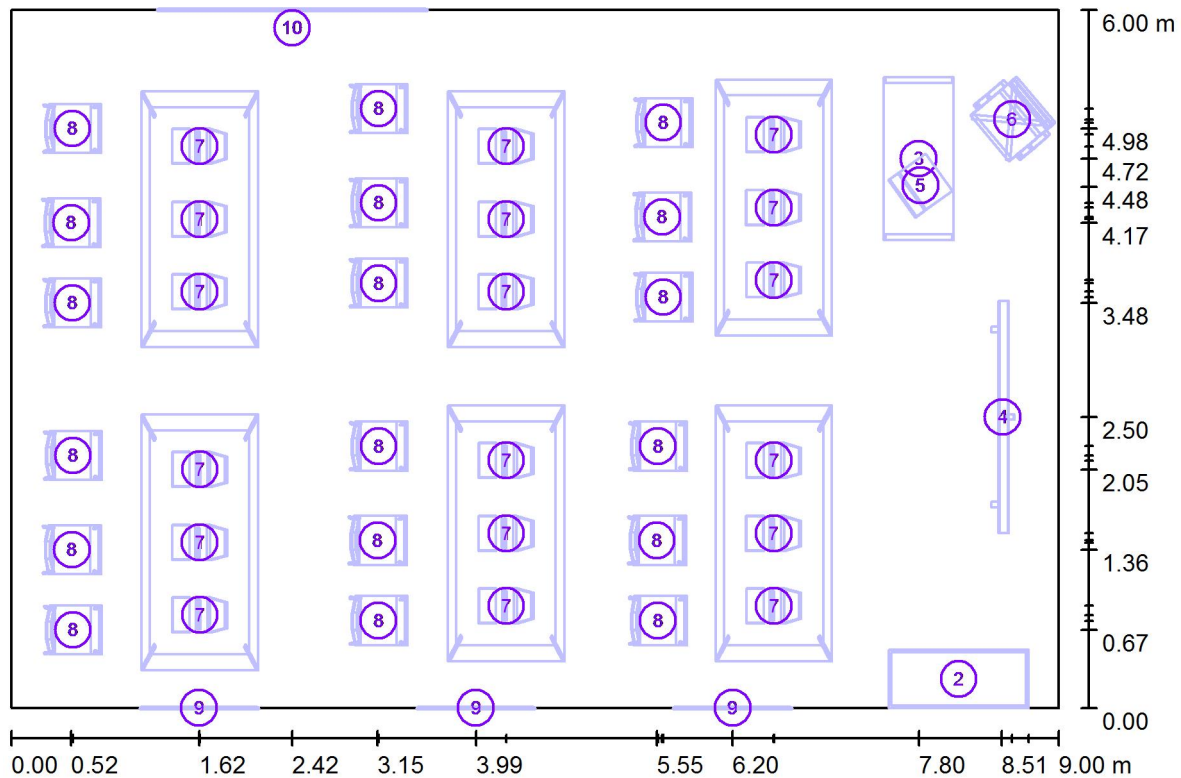
6499 lm, 72.0 W, 1 x 2 x TL-DR36W/840 (Correction Factor 1.000).



No.	Position [m]			Rotation [°]		
	X	Y	Z	X	Y	Z
1	7.200	1.740	2.800	0.0	0.0	0.0
2	1.856	1.740	2.800	0.0	0.0	0.0
3	7.200	4.350	2.800	0.0	0.0	0.0
4	1.856	4.350	2.800	0.0	0.0	0.0
5	4.490	4.350	2.800	0.0	0.0	0.0
6	4.490	1.740	2.800	0.0	0.0	0.0

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Room 1 / Objects (layout plan)



Scale 1 : 65

Object parts list

No.	Pieces	Designation
1	6	120x140 delta
2	1	120x200 2Doors
3	1	140x60 cubic
4	1	Flip Chart t

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Room 1 / Objects (layout plan)**Object parts list**

No.	Pieces	Designation
5	1	Laptop
6	1	Office chair1
7	18	PC
8	18	simple chair
9	3	Window
10	1	Door

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Room 1 / Photometric Results

Total Luminous Flux: 38994 lm
Total Load: 432.0 W
Maintenance factor: 0.80
Boundary Zone: 0.500 m

Surface	Average illuminances [lx]			Reflection factor [%]	Average luminance [cd/m²]
	direct	indirect	total		
Workplane	318	232	549	/	/
Floor	122	148	269	30	26
Ceiling	113	171	285	85	77
Wall 1	106	146	253	65	52
Wall 2	128	145	273	65	56
Wall 3	128	175	303	65	63
Wall 4	157	161	318	65	66

Uniformity on the working plane

u0: 0.607 (1:2)

E_{min} / E_{max}: 0.498 (1:2)

Illuminance Quotient (according to LG7): Walls / Working Plane: 0.568, Ceiling / Working Plane: 0.518.

Specific connected load: 8.00 W/m² = 1.46 W/m²/100 lx (Ground area: 54.00 m²)