

MODERNIAZCE HALY H53

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Mladoboleslavská 1093
Praha 9 - Kbely
k.ú. Vysočany
p.č. 1725/14

Světelně-technický projekt

Date: 27.02.2019
Operator: ZG Lighting, s.r.o.

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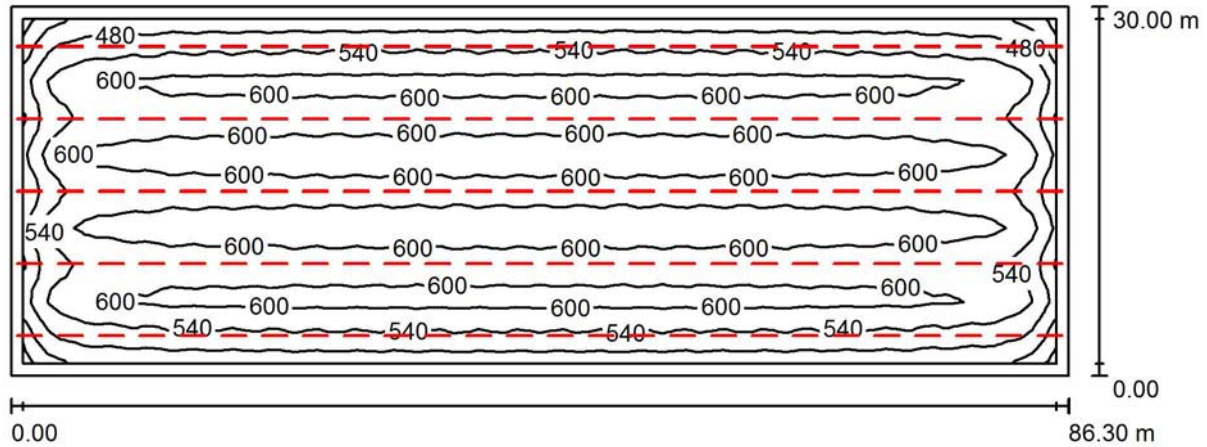
MODERNIAZCE HALY H53

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1.01 HALA (500lx) / Summary



Height of Room: 8.000 m, Mounting Height: 6.200 m, Maintenance factor: 0.70

Values in Lux, Scale 1:617

Surface	u [%]	E _{av} [lx]	E _{min} [lx]	E _{max} [lx]	u0
Workplane	/	570	357	647	0.626
Floor	20	549	388	659	0.707
Ceiling	50	90	57	107	0.635
Walls (4)	30	167	58	587	/

Workplane:

Height: 0.850 m
 Grid: 84 x 28 Points
 Boundary Zone: 1.000 m

Luminaire Parts List

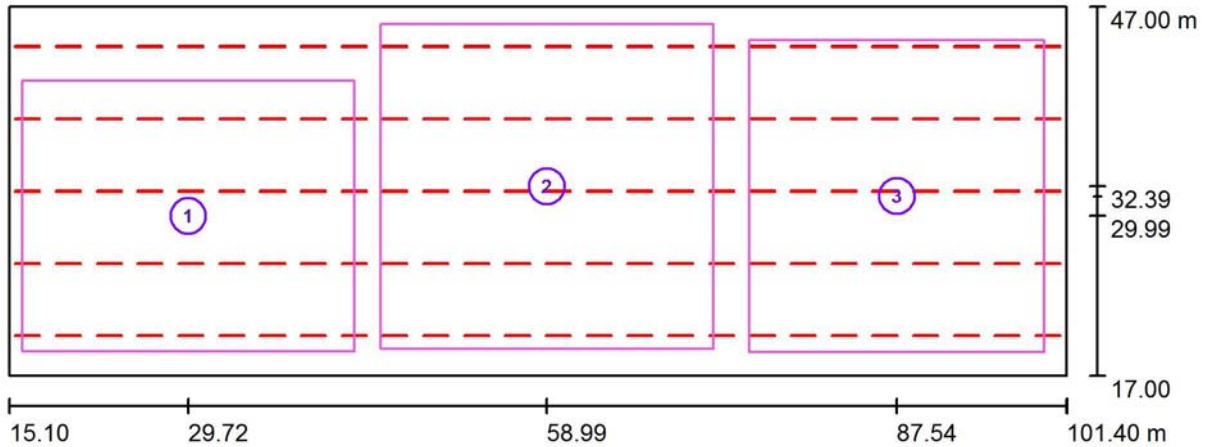
No.	Pieces	Designation (Correction Factor)	I (Luminaire) [lm]	I (Lamps) [lm]	P [W]
1	130	ZUMTOBEL 42184978 (STD - Standard) TECTON C LED16000-840 L2000 WB LDE WH (1.000)	15995	16000	104.0
Total:			2079301	2080000	13520.0

Specific connected load: 5.22 W/m² = 0.92 W/m²/100 lx (Ground area: 2589.00 m²)

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1.01 HALA (500lx) / Calculation surfaces (results overview)



Scale 1 : 617

Calculation Surface List

No.	Designation	Type	Grid	E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u0	E_{min} / E_{max}
1	Sekice 01	perpendicular	64 x 64	577	365	651	0.632	0.560
2	Sekice 02	perpendicular	64 x 64	586	467	653	0.797	0.716
3	Sekice 03	perpendicular	64 x 64	575	401	652	0.698	0.615

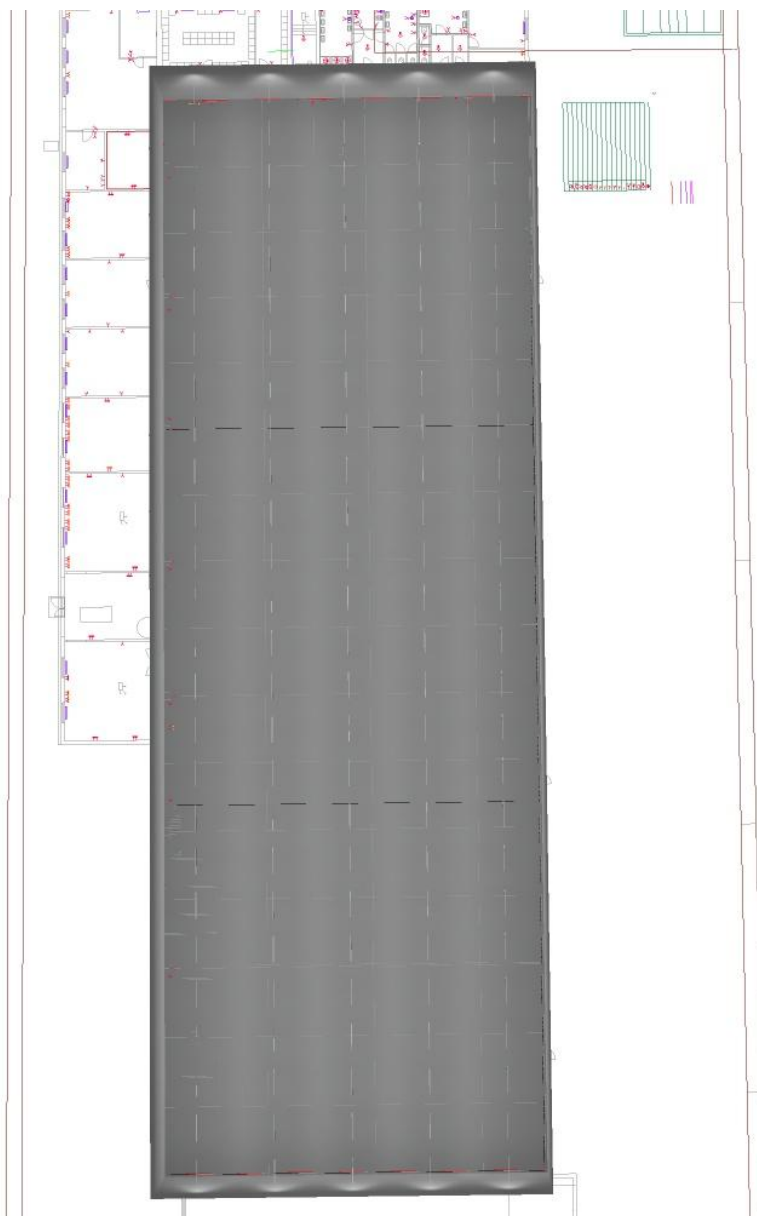
Summary of Results

Type	Quantity	Average [lx]	Min [lx]	Max [lx]	u0	E_{min} / E_{max}
perpendicular	3	580	365	653	0.63	0.56

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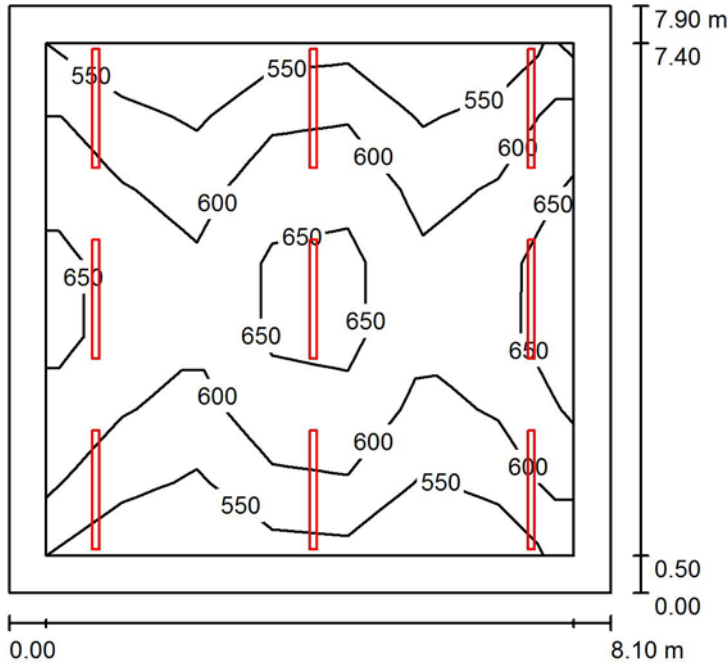
1.01 HALA (500lx) / 3D Rendering



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1.03 (500lx) / Summary



Height of Room: 3.000 m, Mounting Height: 3.000 m, Maintenance factor: 0.70

Values in Lux, Scale 1:102

Surface	u [%]	E _{av} [lx]	E _{min} [lx]	E _{max} [lx]	u0
Workplane	/	594	503	738	0.847
Floor	20	477	328	596	0.687
Ceiling	50	145	80	656	0.551
Walls (4)	30	319	140	558	/

Workplane:

Height: 0.850 m
Grid: 7 x 7 Points
Boundary Zone: 0.500 m

Luminaire Parts List

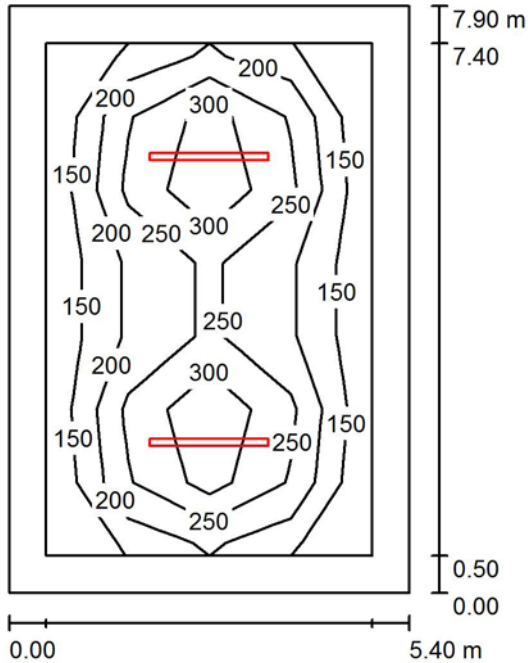
No.	Pieces	Designation (Correction Factor)	∑ (Luminaire) [lm]	∑ (Lamps) [lm]	P [W]
1	9	THORN 96630758 (STD - standard) AQFPRO L LED8000-840 PC MB HF (1.000)	8000	8000	64.0
Total:			71998	72000	576.0

Specific connected load: 9.00 W/m² = 1.52 W/m²/100 lx (Ground area: 63.99 m²)

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1.04 (200lx) / Summary



Height of Room: 3.000 m, Mounting Height: 3.000 m, Maintenance factor: 0.70

Values in Lux, Scale 1:102

Surface	u [%]	E _{av} [lx]	E _{min} [lx]	E _{max} [lx]	u ₀
Workplane	/	237	146	392	0.618
Floor	20	160	84	255	0.527
Ceiling	50	44	20	576	0.440
Walls (4)	30	85	34	160	/

Workplane:

Height: 0.850 m
 Grid: 7 x 4 Points
 Boundary Zone: 0.500 m

Luminaire Parts List

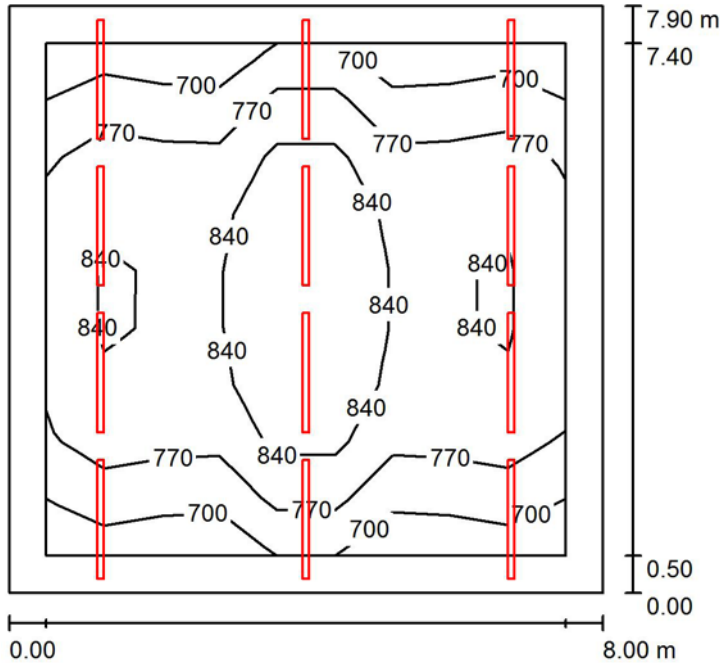
No.	Pieces	Designation (Correction Factor)	∑ (Luminaire) [lm]	∑ (Lamps) [lm]	P [W]
1	2	THORN 96630758 (STD - standard) AQFPRO L LED8000-840 PC MB HF (1.000)	8000	8000	64.0
Total:			16000	16000	128.0

Specific connected load: 3.00 W/m² = 1.27 W/m²/100 lx (Ground area: 42.66 m²)

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1.05 (750lx) / Summary



Height of Room: 3.000 m, Mounting Height: 3.000 m, Maintenance factor: 0.70

Values in Lux, Scale 1:102

Surface	u [%]	E _{av} [lx]	E _{min} [lx]	E _{max} [lx]	u ₀
Workplane	/	793	643	954	0.812
Floor	20	640	446	802	0.697
Ceiling	50	197	120	684	0.608
Walls (4)	30	431	220	1265	/

Workplane:

Height: 0.850 m
Grid: 9 x 9 Points
Boundary Zone: 0.500 m

Luminaire Parts List

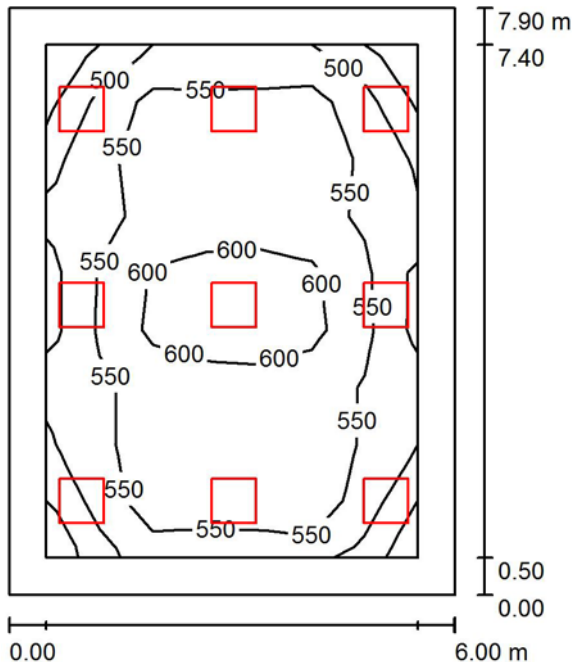
No.	Pieces	Designation (Correction Factor)	∑ (Luminaire) [lm]	∑ (Lamps) [lm]	P [W]
1	12	THORN 96630758 (STD - standard) AQFPRO L LED8000-840 PC MB HF (1.000)	8000	8000	64.0
Total:			95998	96000	768.0

Specific connected load: 12.15 W/m² = 1.53 W/m²/100 lx (Ground area: 63.20 m²)

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1.06 (500lx) / Summary



Height of Room: 3.000 m, Mounting Height: 3.000 m, Maintenance factor: 0.80

Values in Lux, Scale 1:102

Surface	u [%]	E _{av} [lx]	E _{min} [lx]	E _{max} [lx]	u0
Workplane	/	555	447	650	0.805
Floor	20	454	310	564	0.682
Ceiling	70	94	64	104	0.675
Walls (4)	50	204	76	458	/

Workplane:

Height: 0.850 m
Grid: 9 x 7 Points
Boundary Zone: 0.500 m

Luminaire Parts List

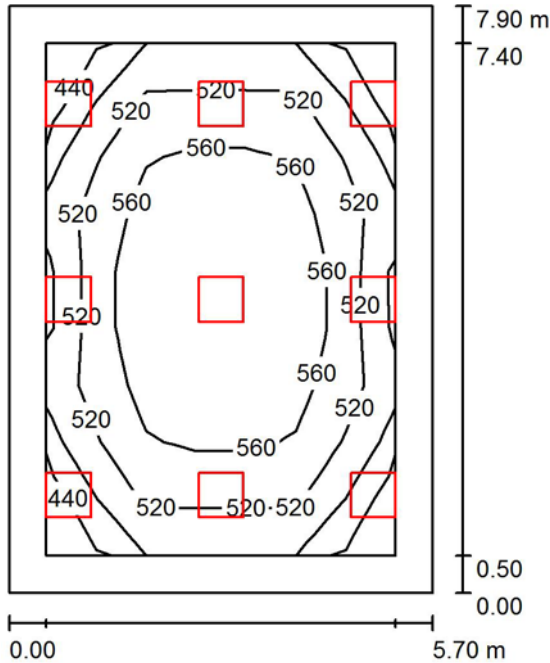
No.	Pieces	Designation (Correction Factor)	∑ (Luminaire) [lm]	∑ (Lamps) [lm]	P [W]
1	9	ZUMTOBEL 42928712 (STD - Standard) MIRL A LED3800-840 Q600 WB EVG (1.000)	3740	3740	27.8
Total:			33663	33660	250.2

Specific connected load: 5.28 W/m² = 0.95 W/m²/100 lx (Ground area: 47.40 m²)

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1.09 (500lx) / Summary



Height of Room: 3.400 m, Mounting Height: 3.400 m, Maintenance factor: 0.80

Values in Lux, Scale 1:102

Surface	u [%]	E _{av} [lx]	E _{min} [lx]	E _{max} [lx]	u ₀
Workplane	/	533	422	612	0.791
Floor	20	437	308	545	0.704
Ceiling	70	96	70	107	0.723
Walls (4)	50	213	77	570	/

Workplane:

Height: 0.850 m
Grid: 9 x 7 Points
Boundary Zone: 0.500 m

Luminaire Parts List

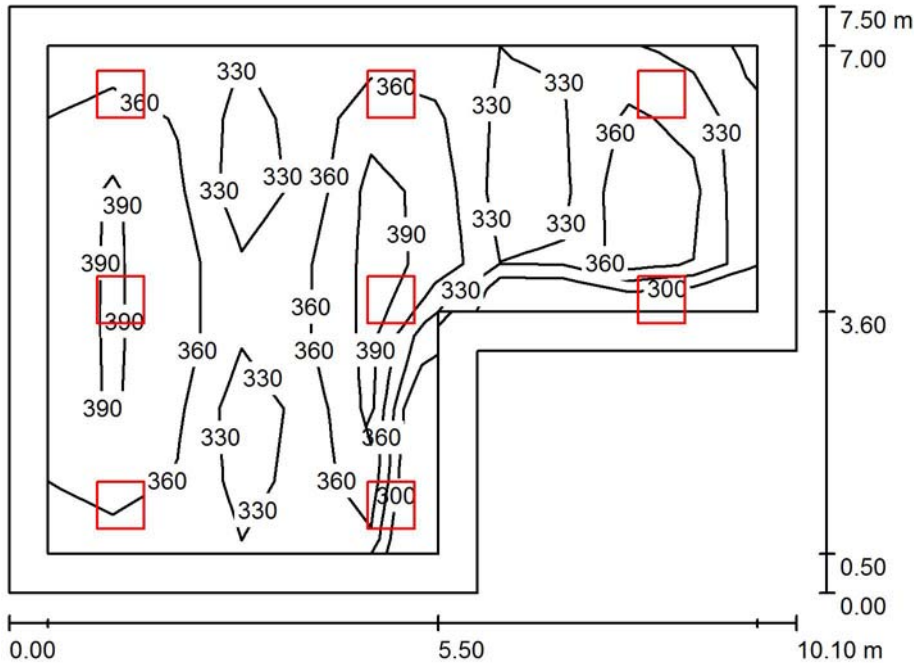
No.	Pieces	Designation (Correction Factor)	∑ (Luminaire) [lm]	∑ (Lamps) [lm]	P [W]
1	9	ZUMTOBEL 42928712 (STD - Standard) MIRL A LED3800-840 Q600 WB EVG (1.000)	3740	3740	27.8
Total:			33663	33660	250.2

Specific connected load: 5.56 W/m² = 1.04 W/m²/100 lx (Ground area: 45.03 m²)

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1.12 (200lx) / Summary



Height of Room: 3.100 m, Mounting Height: 3.100 m, Maintenance factor: 0.80

Values in Lux, Scale 1:97

Surface	u [%]	E _{av} [lx]	E _{min} [lx]	E _{max} [lx]	u0
Workplane	/	357	283	418	0.791
Floor	20	301	220	369	0.730
Ceiling	70	63	42	102	0.673
Walls (6)	50	139	51	755	/

Workplane:

Height: 0.850 m
Grid: 11 x 7 Points
Boundary Zone: 0.500 m

Luminaire Parts List

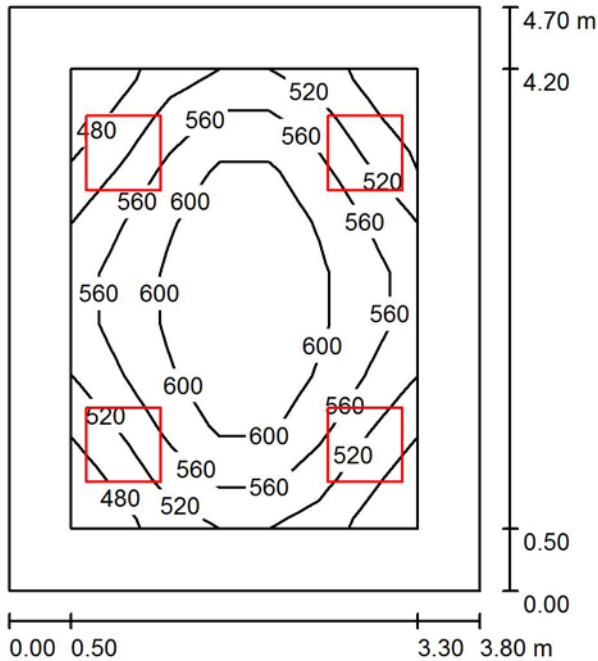
No.	Pieces	Designation (Correction Factor)	∑ (Luminaire) [lm]	∑ (Lamps) [lm]	P [W]
1	8	ZUMTOBEL 42928712 (STD - Standard) MIRL A LED3800-840 Q600 WB EVG (1.000)	3740	3740	27.8
Total:			29923	Total: 29920	222.4

Specific connected load: 3.53 W/m² = 0.99 W/m²/100 lx (Ground area: 63.04 m²)

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1.23 + 1.24 (500lx) / Summary



Height of Room: 3.100 m, Mounting Height: 3.100 m, Maintenance factor: 0.80

Values in Lux, Scale 1:61

Surface	u [%]	E _{av} [lx]	E _{min} [lx]	E _{max} [lx]	u ₀
Workplane	/	557	459	623	0.824
Floor	20	406	310	523	0.764
Ceiling	70	94	69	105	0.732
Walls (4)	50	214	73	454	/

Workplane:

Height: 0.850 m
Grid: 9 x 7 Points
Boundary Zone: 0.500 m

Luminaire Parts List

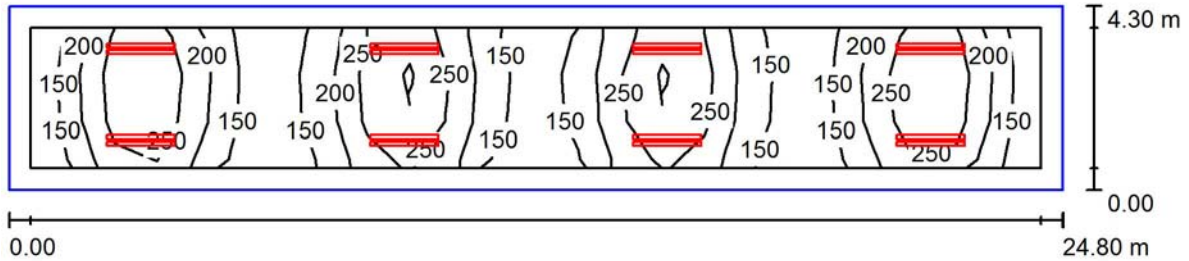
No.	Pieces	Designation (Correction Factor)	∑ (Luminaire) [lm]	∑ (Lamps) [lm]	P [W]
1	4	ZUMTOBEL 42928712 (STD - Standard) MIRL A LED3800-840 Q600 WB EVG (1.000)	3740	3740	27.8
Total:			14962	14960	111.2

Specific connected load: 6.23 W/m² = 1.12 W/m²/100 lx (Ground area: 17.86 m²)

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1.01 HALA VESTAVEK (100lx) / Summary



Height of Room: 8.000 m, Maintenance factor: 0.70

Values in Lux, Scale 1:178

Surface	u [%]	E _{av} [lx]	E _{min} [lx]	E _{max} [lx]	u0
Workplane	/	206	114	333	0.551
Floor	20	160	121	202	0.756
Ceiling	50	64	29	529	0.453
Walls (4)	30	124	23	533	/

Workplane:

Height: 0.850 m
Grid: 24 x 3 Points
Boundary Zone: 0.500 m

Luminaire Parts List

No.	Pieces	Designation (Correction Factor)	∑ (Luminaire) [lm]	∑ (Lamps) [lm]	P [W]
1	16	ZUMTOBEL 92901865 (STD - standard) AQFPRO L LED6400-840 PC WB HFI (1.000)	6440	6440	49.0
Total:			103041	Total: 103040	784.0

Specific connected load: 7.35 W/m² = 3.56 W/m²/100 lx (Ground area: 106.64 m²)

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1.01 HALA VESTAVEK (100lx) / Calculation surfaces (results overview)



Scale 1 : 178

Calculation Surface List

No.	Designation	Type	Grid	E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u0	E_{min} / E_{max}
1	level 1.np	perpendicular	35 x 5	206	113	333	0.545	0.338
2	level 2.np	perpendicular	35 x 5	164	118	208	0.722	0.570

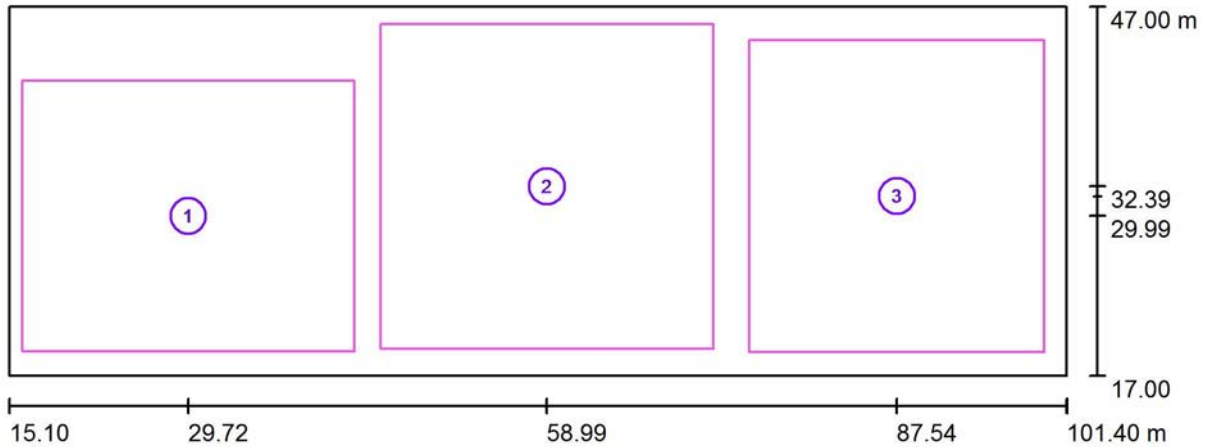
Summary of Results

Type	Quantity	Average [lx]	Min [lx]	Max [lx]	u0	E_{min} / E_{max}
perpendicular	2	185	113	333	0.61	0.34

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1.01 HALA (500lx) nouzové osvětlení / Calculation surfaces (results overview)



Scale 1 : 617

Calculation Surface List

No.	Designation	Type	Grid	E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u_0	E_{min} / E_{max}
1	Sekice 01	perpendicular	64 x 64	1.45	0.81	2.03	0.557	0.397
2	Sekice 02	perpendicular	64 x 64	1.51	1.08	2.05	0.712	0.525
3	Sekice 03	perpendicular	64 x 64	1.42	0.85	2.03	0.597	0.419

Summary of Results

Type	Quantity	Average [lx]	Min [lx]	Max [lx]	u_0	E_{min} / E_{max}
perpendicular	3	1.46	0.81	2.05	0.55	0.39