

PRINCESS ALEXANDREA HOSPITAL

PRELIMINARY LIGHTING CALCULATIONS

BASEMENT

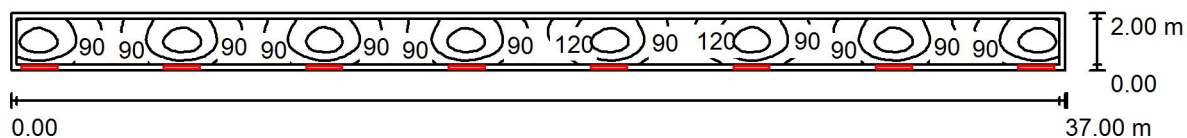
CORRIDORS 100LX
PLANT ROOMS 200LX

ESCAPE ROUTE 1LX
OPEN AREA ANTI PANIC 0.5LX
PLANT ROOMS 15LX

Table of contents

Project Cover	1
Table of contents	2
WALKWAY SPACING	
Summary	3
M3 WALKWAY SPACING	
Summary	4
M3 WALKWAY OPEN AREA	
Summary	5
CRAWLWAY SPACING	
Summary	6
M3 CRAWLWAY SPACING	
Summary	7
HAROLD WARD PLANT ROOM	
Summary	8
M3 HAROLD WARD PLANT ROOM	
Summary	9
VACUUM PLANT ROOM	
Summary	10
M3 VACUUM PLANT ROOM	
Summary	11
ESTATES ELECTRICAL STORE	
Summary	12
M3 ESTATES ELECTRICAL STORE	
Summary	13
ESTATES MECHANICAL STORE	
Summary	14
M3 ESTATES MECHANICAL STORE	
Summary	15
MAIN CALORIFIER ROOM	
Summary	16
M3 MAIN CALORIFIER ROOM	
Summary	17
STORE ROOM	
Summary	18

WALKWAY SPACING / Summary



Height of Room: 3.000 m, Mounting Height: 2.000 m, Maintenance factor: 0.80

Values in Lux, Scale 1:265

Surface	ρ [%]	E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u_0
Workplane	/	114	63	168	0.551
Floor	10	109	56	167	0.515
Ceiling	50	145	34	445	0.236
Walls (4)	30	115	31	429	/

Workplane:

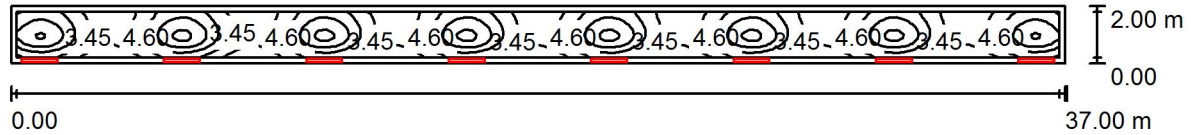
Height: 0.000 m
Grid: 128 x 16 Points
Boundary Zone: 0.200 m

Luminaire Parts List

No.	Pieces	Designation (Correction Factor)	Φ (Luminaire) [lm]	Φ (Lamps) [lm]	P [W]
1	8	NVC LIGHTING LTD NGN5000/LED NGN5000/LED (1.000)	4936	4936	46.0
Total:			39489	Total: 39488	368.0

Specific connected load: $4.97 \text{ W/m}^2 = 4.38 \text{ W/m}^2/100 \text{ lx}$ (Ground area: 74.00 m^2)

M3 WALKWAY SPACING / Summary



Height of Room: 3.000 m, Mounting Height: 2.000 m, Maintenance factor: 0.80

Values in Lux, Scale 1:265

Surface	ρ [%]	E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u_0
Workplane	/	4.22	1.53	7.27	0.363
Floor	0	3.99	1.08	7.25	0.270
Ceiling	0	6.85	0.76	24	0.111
Walls (4)	0	4.56	0.02	22	/

Workplane:

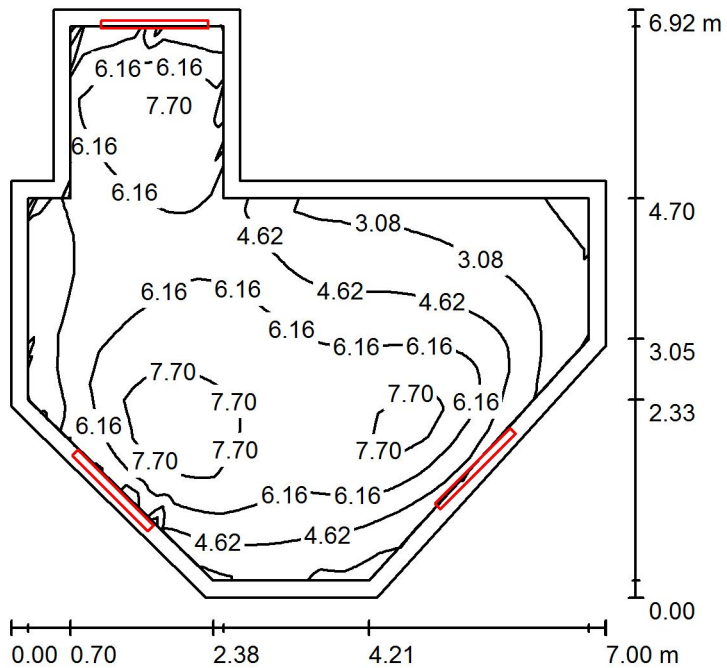
Height: 0.000 m
Grid: 128 x 16 Points
Boundary Zone: 0.200 m

Luminaire Parts List

No.	Pieces	Designation (Correction Factor)	Φ (Luminaire) [lm]	Φ (Lamps) [lm]	P [W]
1	8	NVC LIGHTING LTD NGN5000-LED-M3 NGN5000-LED-M3 (1.000)	293	293	46.0
Total:			2344	Total: 2344	368.0

Specific connected load: $4.97 \text{ W/m}^2 = 117.73 \text{ W/m}^2/100 \text{ lx}$ (Ground area: 74.00 m^2)

M3 WALKWAY OPEN AREA / Summary



Height of Room: 3.000 m, Mounting Height: 2.000 m, Maintenance factor: 0.80

Values in Lux, Scale 1:89

Surface	ρ [%]	E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u_0
Workplane	/	5.57	1.28	8.99	0.230
Floor	0	5.18	1.13	8.93	0.219
Ceiling	0	7.28	0.59	25	0.081
Walls (10)	0	4.05	0.74	22	/

Workplane:

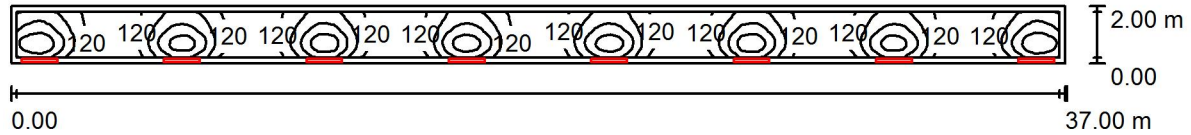
Height: 0.000 m
Grid: 128 x 16 Points
Boundary Zone: 0.200 m

Luminaire Parts List

No.	Pieces	Designation (Correction Factor)	Φ (Luminaire) [lm]	Φ (Lamps) [lm]	P [W]
1	3	NVC LIGHTING LTD NGN5000-LED-M3 NGN5000-LED-M3 (1.000)	293	293	46.0
Total:			879	879	138.0

Specific connected load: $4.29 \text{ W/m}^2 = 77.12 \text{ W/m}^2/100 \text{ lx}$ (Ground area: 32.15 m^2)

CRAWLWAY SPACING / Summary



Height of Room: 1.510 m, Mounting Height: 1.400 m, Maintenance factor: 0.80

Values in Lux, Scale 1:265

Surface	ρ [%]	E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u_0
Workplane	/	169	60	358	0.353
Floor	10	164	58	354	0.355
Ceiling	50	232	18	5597	0.077
Walls (4)	30	146	26	1072	/

Workplane:

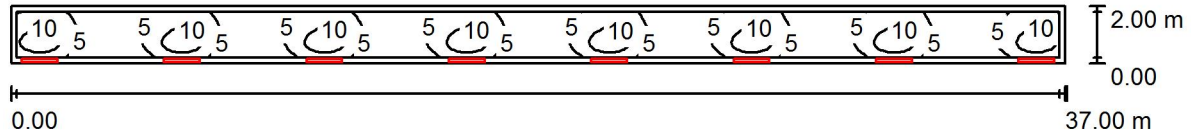
Height: 0.000 m
Grid: 128 x 16 Points
Boundary Zone: 0.200 m

Luminaire Parts List

No.	Pieces	Designation (Correction Factor)	Φ (Luminaire) [lm]	Φ (Lamps) [lm]	P [W]
1	8	NVC LIGHTING LTD NGN5000/LED NGN5000/LED (1.000)	4936	4936	46.0
Total:			39489	39488	368.0

Specific connected load: $4.97 \text{ W/m}^2 = 2.93 \text{ W/m}^2/100 \text{ lx}$ (Ground area: 74.00 m^2)

M3 CRAWLWAY SPACING / Summary



Height of Room: 1.510 m, Mounting Height: 1.400 m, Maintenance factor: 0.80

Values in Lux, Scale 1:265

Surface	ρ [%]	E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u_0
Workplane	/	5.86	1.46	14	0.249
Floor	0	5.44	1.02	14	0.188
Ceiling	0	12	0.03	327	0.003
Walls (4)	0	5.00	0.02	23	/

Workplane:

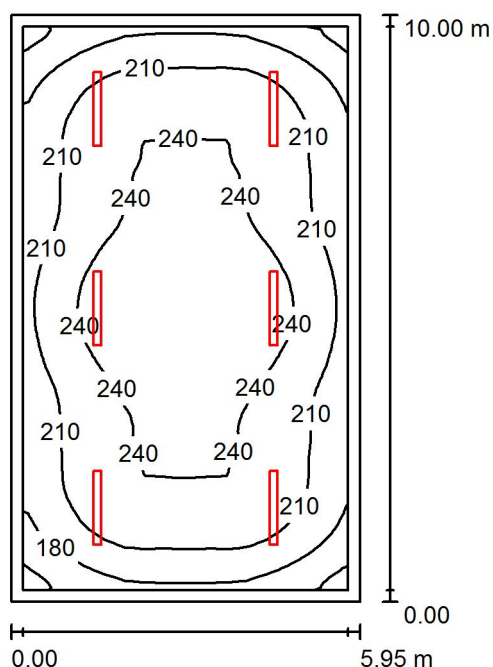
Height: 0.000 m
Grid: 128 x 16 Points
Boundary Zone: 0.200 m

Luminaire Parts List

No.	Pieces	Designation (Correction Factor)	Φ (Luminaire) [lm]	Φ (Lamps) [lm]	P [W]
1	8	NVC LIGHTING LTD NGN5000-LED-M3 NGN5000-LED-M3 (1.000)	293	293	46.0
Total:			2344	Total: 2344	368.0

Specific connected load: $4.97 \text{ W/m}^2 = 84.87 \text{ W/m}^2/100 \text{ lx}$ (Ground area: 74.00 m^2)

HAROLD WARD PLANT ROOM / Summary



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

Values in Lux, Scale 1:129

Surface	ρ [%]	E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u_0
Workplane	/	222	143	264	0.643
Floor	10	215	127	263	0.593
Ceiling	50	63	34	509	0.543
Walls (4)	30	155	66	281	/

Workplane:

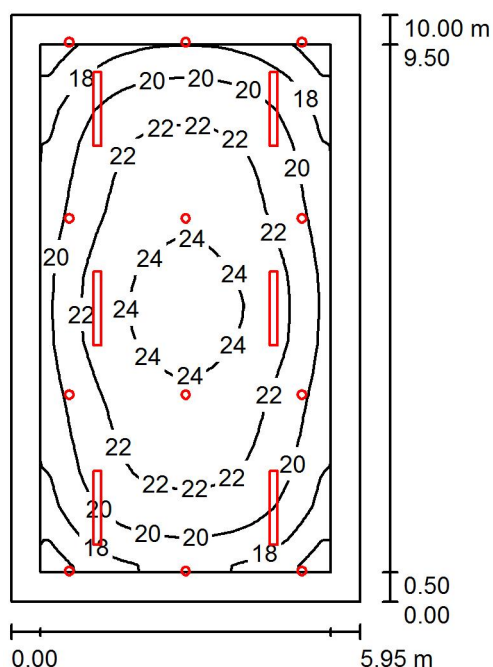
Height: 0.000 m
Grid: 128 x 16 Points
Boundary Zone: 0.200 m

Luminaire Parts List

No.	Pieces	Designation (Correction Factor)	Φ (Luminaire) [lm]	Φ (Lamps) [lm]	P [W]
1	6	NVC LIGHTING LTD NGN5000/LED NGN5000/LED (1.000)	4936	4936	46.0
Total:			29616	29616	276.0

Specific connected load: $4.64 \text{ W/m}^2 = 2.09 \text{ W/m}^2/100 \text{ lx}$ (Ground area: 59.45 m^2)

M3 HAROLD WARD PLANT ROOM / Summary



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

Values in Lux, Scale 1:129

Surface	ρ [%]	E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u_0
Workplane	/	21	15	25	0.727
Floor	0	20	11	25	0.569
Ceiling	0	1.64	0.06	28	0.039
Walls (4)	0	19	2.21	115	/

Workplane:

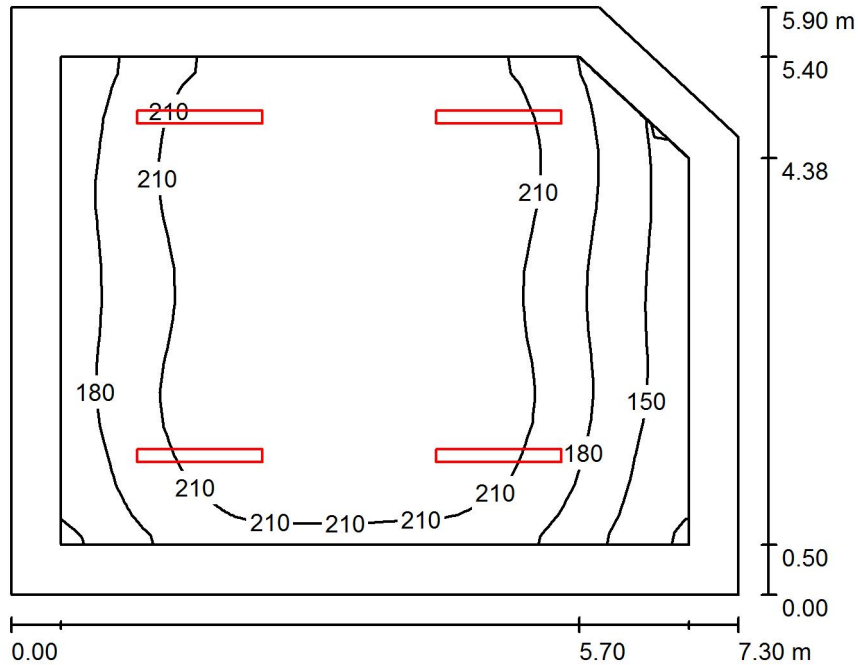
Height: 0.000 m
Grid: 128 x 16 Points
Boundary Zone: 0.500 m

Luminaire Parts List

No.	Pieces	Designation (Correction Factor)	Φ (Luminaire) [lm]	Φ (Lamps) [lm]	P [W]
1	6	NVC LIGHTING LTD NGN5000-LED-M3 NGN5000-LED-M3 (1.000)	293	293	46.0
2	12	NVC LIGHTING LTD NSC2/LED/SURF/NM3 SENECA SURFACE LED EMERGENCY DOWNLIGHTER (1.000)	170	170	2.7
Total:			3798	3798	308.4

Specific connected load: $5.19 \text{ W/m}^2 = 24.45 \text{ W/m}^2/100 \text{ lx}$ (Ground area: 59.45 m^2)

VACUUM PLANT ROOM / Summary



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

Values in Lux, Scale 1:76

Surface	ρ [%]	E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u_0
Workplane	/	206	118	238	0.576
Floor	10	190	90	239	0.473
Ceiling	50	58	24	499	0.410
Walls (5)	30	137	43	408	/

Workplane:

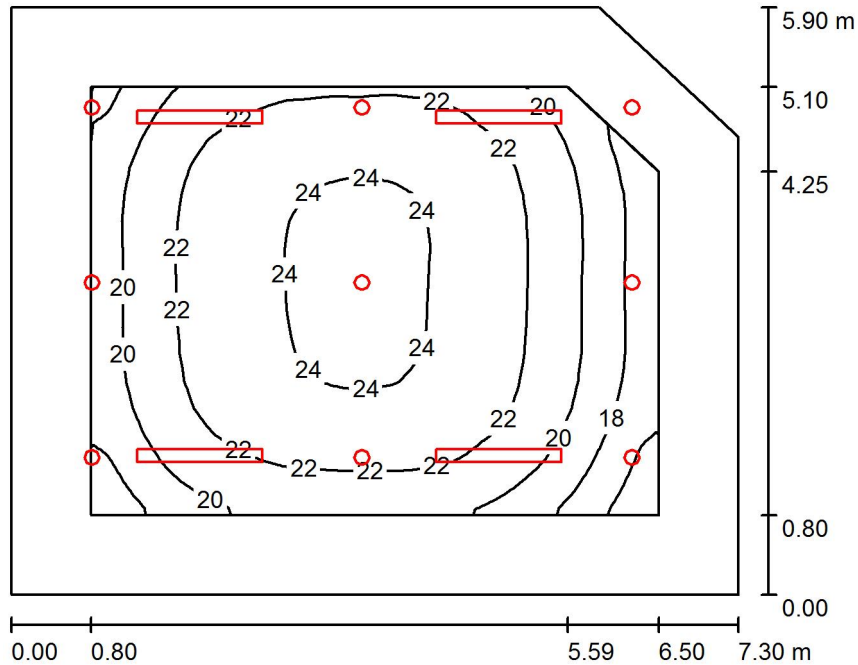
Height: 0.000 m
Grid: 128 x 16 Points
Boundary Zone: 0.500 m

Luminaire Parts List

No.	Pieces	Designation (Correction Factor)	Φ (Luminaire) [lm]	Φ (Lamps) [lm]	P [W]
1	4	NVC LIGHTING LTD NGN5000/LED NGN5000/LED (1.000)	4936	4936	46.0
Total:			19744	19744	184.0

Specific connected load: $4.36 \text{ W/m}^2 = 2.12 \text{ W/m}^2/100 \text{ lx}$ (Ground area: 42.16 m^2)

M3 VACUUM PLANT ROOM / Summary



Height of Room: 3.000 m, Mounting Height: 3.000 m, Maintenance factor: 0.85

Values in Lux, Scale 1:76

Surface	ρ [%]	E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u_0
Workplane	/	22	15	24	0.674
Floor	0	19	9.22	24	0.478
Ceiling	0	1.61	0.02	29	0.015
Walls (5)	0	19	1.20	102	/

Workplane:

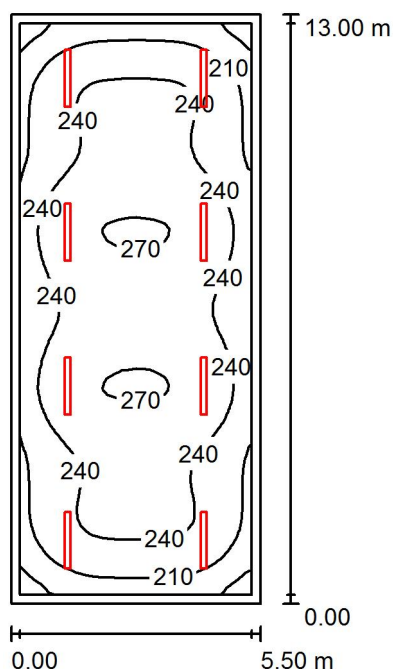
Height: 0.000 m
Grid: 128 x 16 Points
Boundary Zone: 0.800 m

Luminaire Parts List

No.	Pieces	Designation (Correction Factor)	Φ (Luminaire) [lm]	Φ (Lamps) [lm]	P [W]
1	4	NVC LIGHTING LTD NGN5000-LED-M3 NGN5000-LED-M3 (1.000)	293	293	46.0
2	9	NVC LIGHTING LTD NSC2/LED/SURF/NM3 SENECA SURFACE LED EMERGENCY DOWNLIGHTER (1.000)	170	170	2.7
Total:			2702	Total: 2702	208.3

Specific connected load: $4.94 \text{ W/m}^2 = 22.91 \text{ W/m}^2/100 \text{ lx}$ (Ground area: 42.16 m^2)

ESTATES ELECTRICAL STORE / Summary



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

Values in Lux, Scale 1:167

Surface	ρ [%]	E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u_0
Workplane	/	239	167	272	0.699
Floor	10	235	149	272	0.634
Ceiling	50	69	37	445	0.540
Walls (4)	30	181	76	367	/

Workplane:

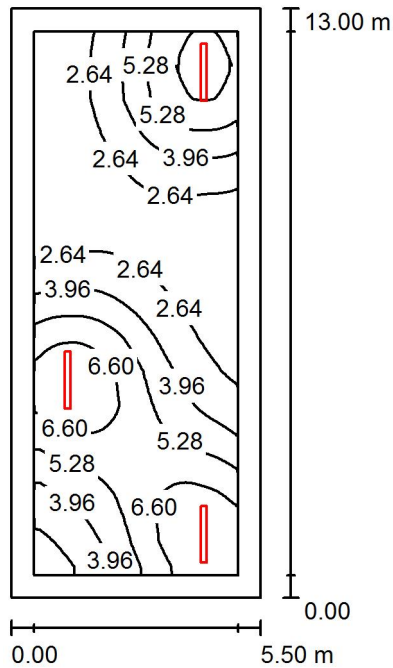
Height: 0.000 m
Grid: 128 x 16 Points
Boundary Zone: 0.200 m

Luminaire Parts List

No.	Pieces	Designation (Correction Factor)	Φ (Luminaire) [lm]	Φ (Lamps) [lm]	P [W]
1	8	NVC LIGHTING LTD NGN5000/LED NGN5000/LED (1.000)	4936	4936	46.0
Total:			39489	39488	368.0

Specific connected load: $5.15 \text{ W/m}^2 = 2.15 \text{ W/m}^2/100 \text{ lx}$ (Ground area: 71.50 m^2)

M3 ESTATES ELECTRICAL STORE / Summary



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

Values in Lux, Scale 1:167

Surface	ρ [%]	E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u_0
Workplane	/	4.23	1.37	7.97	0.323
Floor	0	4.09	1.00	7.94	0.245
Ceiling	0	0.65	0.01	24	0.009
Walls (4)	0	3.31	0.30	17	/

Workplane:

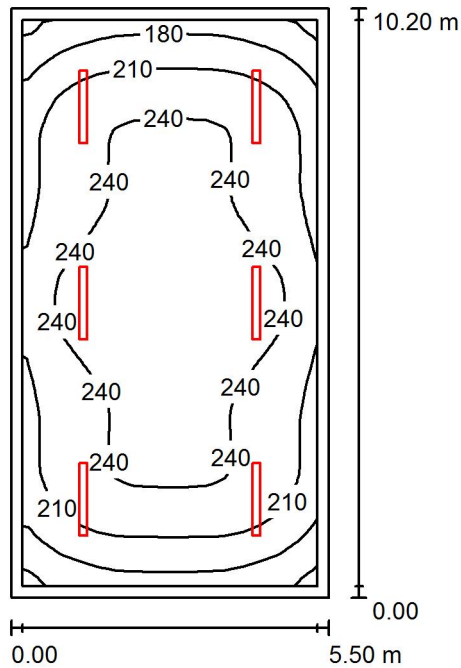
Height: 0.000 m
Grid: 128 x 16 Points
Boundary Zone: 0.500 m

Luminaire Parts List

No.	Pieces	Designation (Correction Factor)	Φ (Luminaire) [lm]	Φ (Lamps) [lm]	P [W]
1	3	NVC LIGHTING LTD NGN5000-LED-M3 NGN5000-LED-M3 (1.000)	293	293	46.0
Total:			879	879	138.0

Specific connected load: $1.93 \text{ W/m}^2 = 45.63 \text{ W/m}^2/100 \text{ lx}$ (Ground area: 71.50 m^2)

ESTATES MECHANICAL STORE / Summary



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

Values in Lux, Scale 1:131

Surface	ρ [%]	E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u_0
Workplane	/	226	145	265	0.645
Floor	10	220	134	265	0.608
Ceiling	50	65	36	428	0.558
Walls (4)	30	164	64	357	/

Workplane:

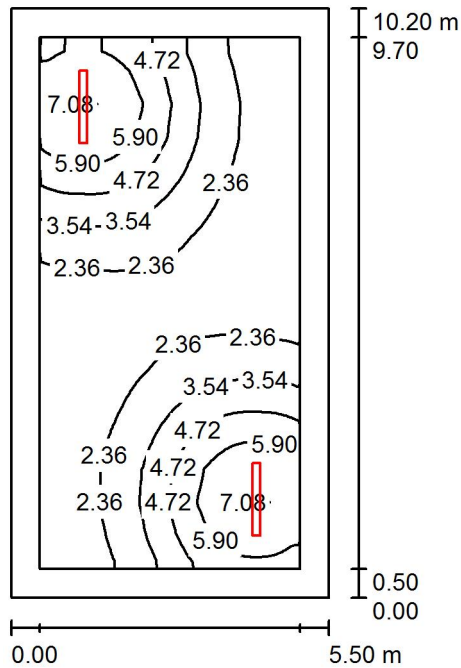
Height: 0.000 m
Grid: 128 x 16 Points
Boundary Zone: 0.200 m

Luminaire Parts List

No.	Pieces	Designation (Correction Factor)	Φ (Luminaire) [lm]	Φ (Lamps) [lm]	P [W]
1	6	NVC LIGHTING LTD NGN5000/LED NGN5000/LED (1.000)	4936	4936	46.0
Total:			29616	29616	276.0

Specific connected load: $4.92 \text{ W/m}^2 = 2.18 \text{ W/m}^2/100 \text{ lx}$ (Ground area: 56.10 m^2)

M3 ESTATES MECHANICAL STORE / Summary



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

Values in Lux, Scale 1:131

Surface	ρ [%]	E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u_0
Workplane	/	3.44	1.25	7.16	0.365
Floor	0	3.34	0.91	7.27	0.273
Ceiling	0	0.55	0.01	23	0.010
Walls (4)	0	2.68	0.28	17	/

Workplane:

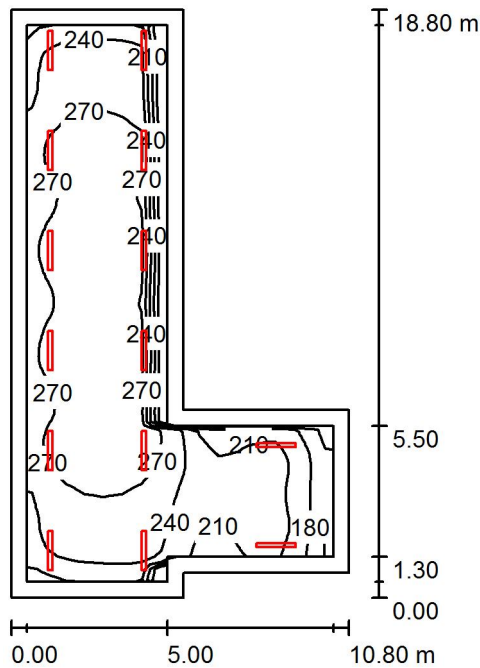
Height: 0.000 m
Grid: 128 x 16 Points
Boundary Zone: 0.500 m

Luminaire Parts List

No.	Pieces	Designation (Correction Factor)	Φ (Luminaire) [lm]	Φ (Lamps) [lm]	P [W]
1	2	NVC LIGHTING LTD NGN5000-LED-M3 NGN5000-LED-M3 (1.000)	293	293	46.0
Total:			586	586	92.0

Specific connected load: $1.64 \text{ W/m}^2 = 47.73 \text{ W/m}^2/100 \text{ lx}$ (Ground area: 56.10 m^2)

MAIN CALORIFIER ROOM / Summary



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

Values in Lux, Scale 1:242

Surface	ρ [%]	E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u_0
Workplane	/	255	144	293	0.565
Floor	10	242	111	292	0.459
Ceiling	50	67	25	518	0.375
Walls (8)	30	179	56	570	/

Workplane:

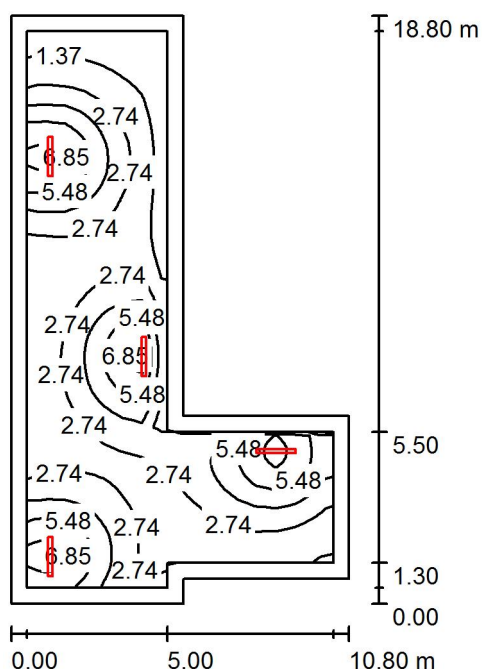
Height: 0.000 m
Grid: 128 x 16 Points
Boundary Zone: 0.500 m

Luminaire Parts List

No.	Pieces	Designation (Correction Factor)	Φ (Luminaire) [lm]	Φ (Lamps) [lm]	P [W]
1	14	NVC LIGHTING LTD NGN5000/LED NGN5000/LED (1.000)	4936	4936	46.0
Total:			69105	69104	644.0

Specific connected load: $4.92 \text{ W/m}^2 = 1.93 \text{ W/m}^2/100 \text{ lx}$ (Ground area: 130.96 m^2)

M3 MAIN CALORIFIER ROOM / Summary



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

Values in Lux, Scale 1:242

Surface	ρ [%]	E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u_0
Workplane	/	3.47	0.49	7.36	0.142
Floor	0	3.28	0.36	7.42	0.109
Ceiling	0	0.49	0.00	25	0.003
Walls (8)	0	2.51	0.10	20	/

Workplane:

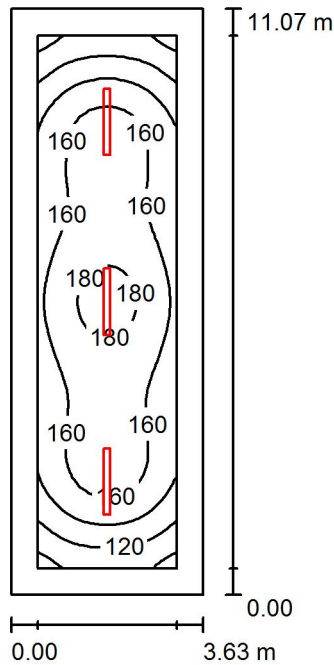
Height: 0.000 m
Grid: 128 x 16 Points
Boundary Zone: 0.500 m

Luminaire Parts List

No.	Pieces	Designation (Correction Factor)	Φ (Luminaire) [lm]	Φ (Lamps) [lm]	P [W]
1	4	NVC LIGHTING LTD NGN5000-LED-M3 NGN5000-LED-M3 (1.000)	293	293	46.0
Total:			1172	1172	184.0

Specific connected load: $1.41 \text{ W/m}^2 = 40.48 \text{ W/m}^2/100 \text{ lx}$ (Ground area: 130.96 m^2)

STORE ROOM / Summary



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

Values in Lux, Scale 1:143

Surface	ρ [%]	E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u_0
Workplane	/	153	92	186	0.603
Floor	10	140	69	187	0.494
Ceiling	50	43	17	312	0.404
Walls (4)	30	96	30	182	/

Workplane:

Height: 0.000 m
Grid: 128 x 16 Points
Boundary Zone: 0.500 m

Luminaire Parts List

No.	Pieces	Designation (Correction Factor)	Φ (Luminaire) [lm]	Φ (Lamps) [lm]	P [W]
1	3	NVC LIGHTING LTD NGN5000/LED NGN5000/LED (1.000)	4936	4936	46.0
Total:			14808	14808	138.0

Specific connected load: $3.44 \text{ W/m}^2 = 2.24 \text{ W/m}^2/100 \text{ lx}$ (Ground area: 40.17 m^2)