

## **Estudo Luminotécnico Ginásio Albertina Salmon**

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Visões

Estudo Luminotécnico Ginásio Albertina Salmon / Índice

## Índice

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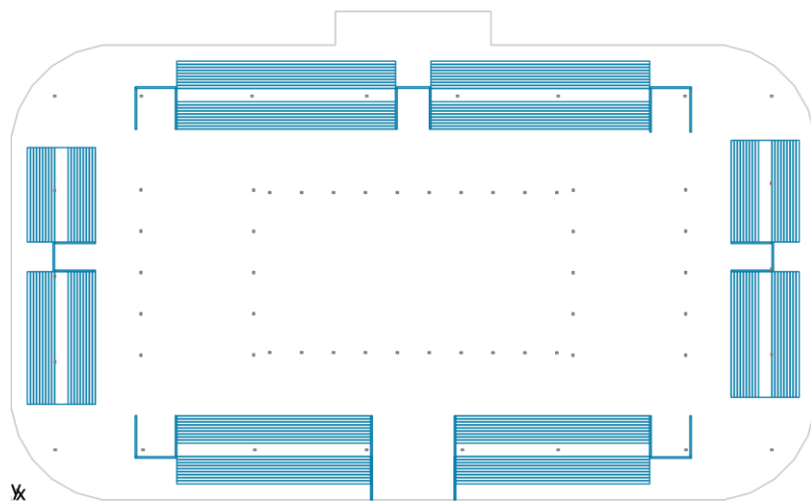
## Estudo Luminotécnico Ginásio Albertina Salmon

#	Luminária	$\Phi$ (Luminária) [lm]	Potência [W]	Rendimento luminoso [lm/W]
40	Refletor High Pole 440W	52849	440.0	125.8
22	Refletor High Pole 440W	53435	440.0	127.2
	Somatório de todas as luminárias	3289530	27280.0	126.3

Visões

Recapitulação do ambiente

## Sala 1



Pé direito livre: 11.000 m, Grau de reflexão: Tecto 68.8%, Paredes 50.0%, Solo 24.1%, Factor de manutenção: 0.80

# Luminária

40 Refletor High Pole 440W

22 Refletor High Pole 440W

Potência de ligação específica: 4.62 W/m<sup>2</sup> (Superfície da divisão 5630.28 m<sup>2</sup>)

Os valores de consumo de energia referem-se às luminárias planeadas para o ambiente, sem considerar cenários de iluminação e seus estados reostáticos.

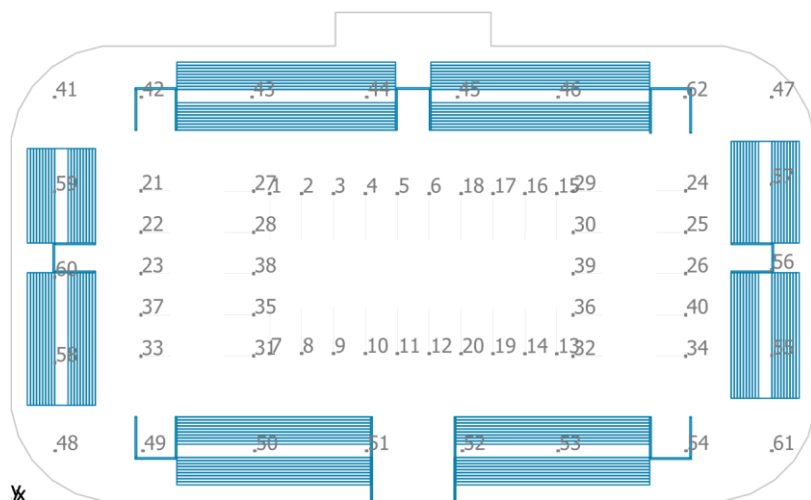
Consumo: 71600 kWh/a de no máximo 197100 kWh/a

Nº	[m]	Y [m]	Altura de montagem [m]	Factor de manutenção
1	32.240	38.379	10.000	0.80
2	36.220	38.379	10.000	0.80
3	40.200	38.379	10.000	0.80
4	44.180	38.379	10.000	0.80
5	48.160	38.379	10.000	0.80
6	52.140	38.379	10.000	0.80
7	32.240	18.378	10.000	0.80
8	36.220	18.373	10.000	0.80
9	40.200	18.367	10.000	0.80
10	44.180	18.362	10.000	0.80
11	48.160	18.357	10.000	0.80
12	52.140	18.352	10.000	0.80
13	68.060	18.332	10.000	0.80
14	64.080	18.337	10.000	0.80
15	68.060	38.379	10.000	0.80
16	64.080	38.379	10.000	0.80
17	60.100	38.379	10.000	0.80
18	56.120	38.379	10.000	0.80
19	60.100	18.342	10.000	0.80
20	56.120	18.347	10.000	0.80
21	16.150	38.700	10.000	0.80
22	16.150	33.540	10.000	0.80
23	16.150	28.380	10.000	0.80
24	84.150	38.700	10.000	0.80
25	84.150	33.540	10.000	0.80
26	84.150	28.380	10.000	0.80
27	30.250	38.660	10.000	0.80
28	30.250	33.520	10.000	0.80
29	70.095	38.655	10.000	0.80
30	70.085	33.505	10.000	0.80
31	30.250	18.100	10.000	0.80
32	70.055	18.055	10.000	0.80

Esquema de posição de luminárias

Visões

### Sala 1



Refletor High Pole 440W

## Esquema de posição de luminárias

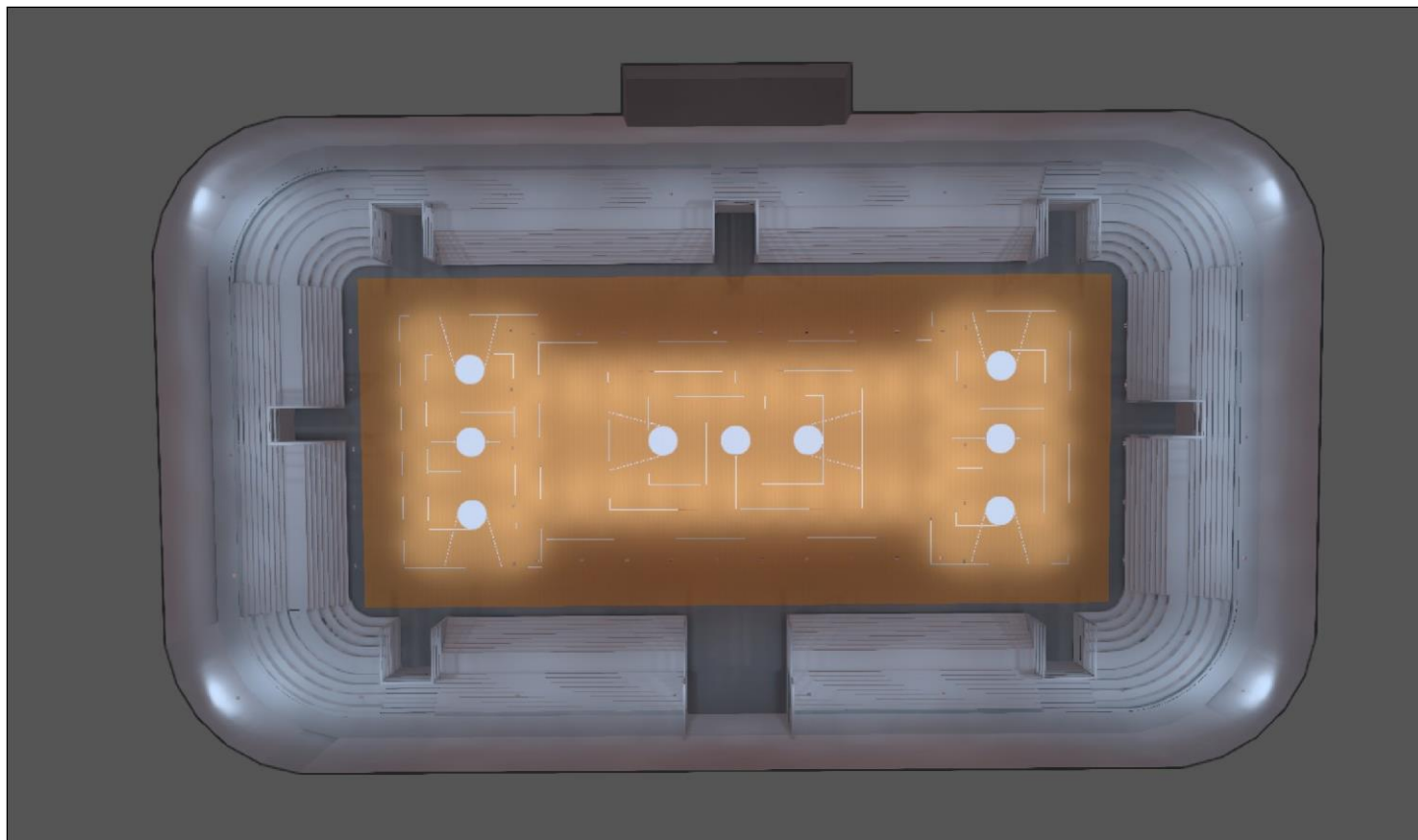
N°	X [m]	Y [m]	Altura de montagem [m]	Factor de manutenção
33	16.150	18.060	10.000	0.80
34	84.150	18.060	10.000	0.80
35	30.250	23.240	10.000	0.80
36	70.065	23.205	10.000	0.80
37	16.150	23.220	10.000	0.80
38	30.250	28.380	10.000	0.80
39	70.075	28.355	10.000	0.80
40	84.150	23.220	10.000	0.80

## Refletor High Pole 440W

N°	X [m]	Y [m]	Altura de montagem [m]	Factor de manutenção
41	5.411	50.396	10.000	0.80
42	16.226	50.396	10.000	0.80
43	30.040	50.396	10.000	0.80
44	44.354	50.396	10.000	0.80
45	55.669	50.396	10.000	0.80
46	68.233	50.396	10.000	0.80
47	94.861	50.396	10.000	0.80
48	5.478	6.250	10.000	0.80
49	16.428	6.250	10.000	0.80
50	30.378	6.250	10.000	0.80
51	44.327	6.250	10.000	0.80
52	56.277	6.250	10.000	0.80
53	68.227	6.250	10.000	0.80
54	84.177	6.250	10.000	0.80
55	94.877	18.146	10.000	0.80
56	94.849	28.835	10.000	0.80
57	94.820	39.524	10.000	0.80
58	5.449	17.245	10.000	0.80
59	5.410	38.600	10.000	0.80
60	5.429	27.923	10.000	0.80
61	94.876	6.250	10.000	0.80
62	84.047	50.396	10.000	0.80

Visões

**Sala 1**  
**VISTA 01**





VISTA 02, Potência luminosa em [lx]

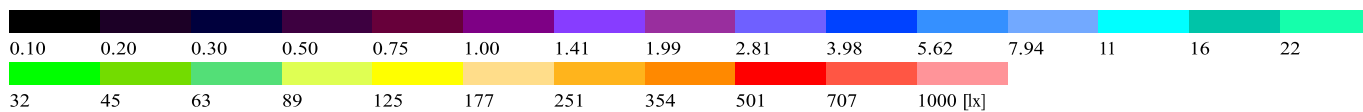
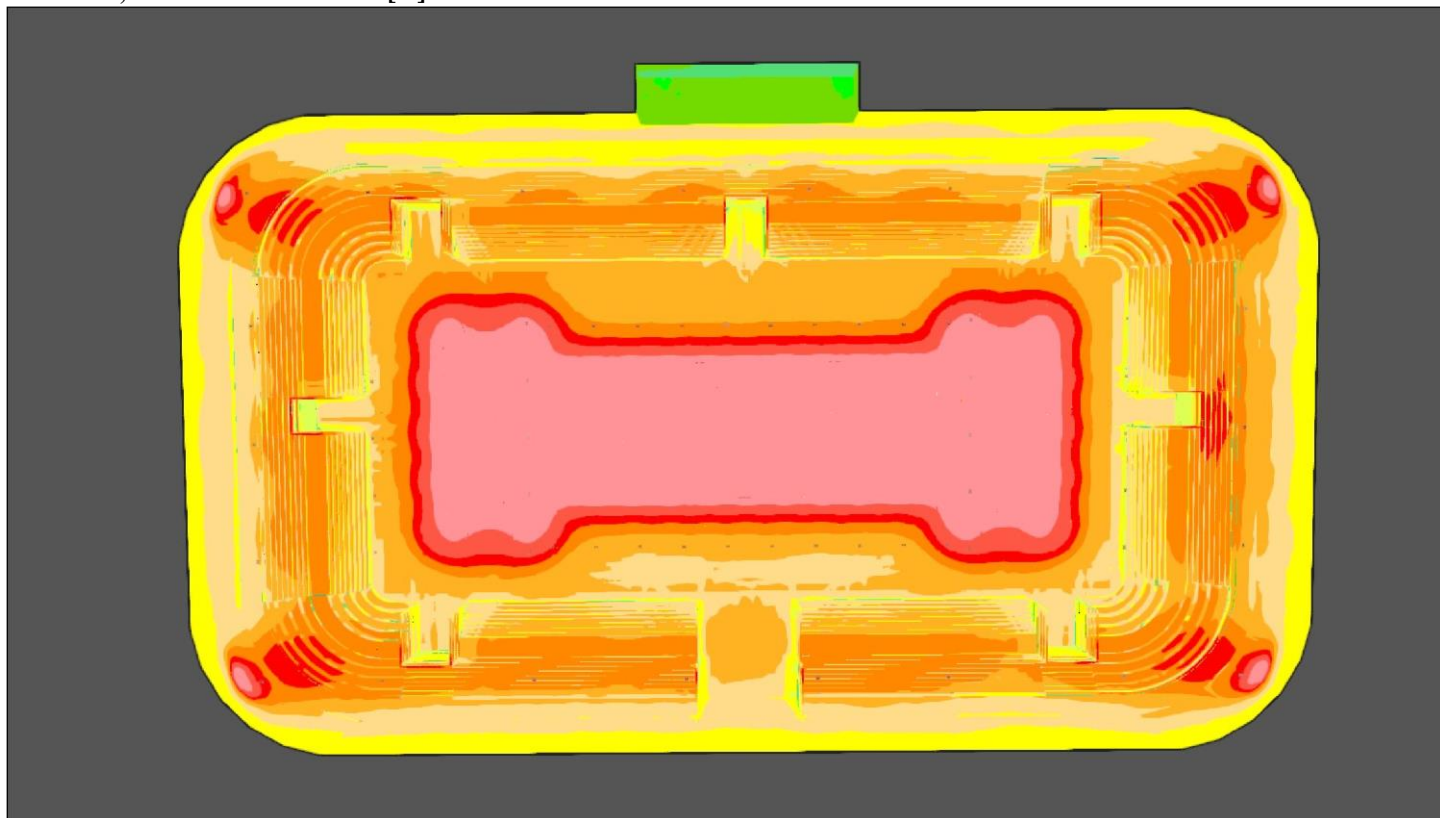
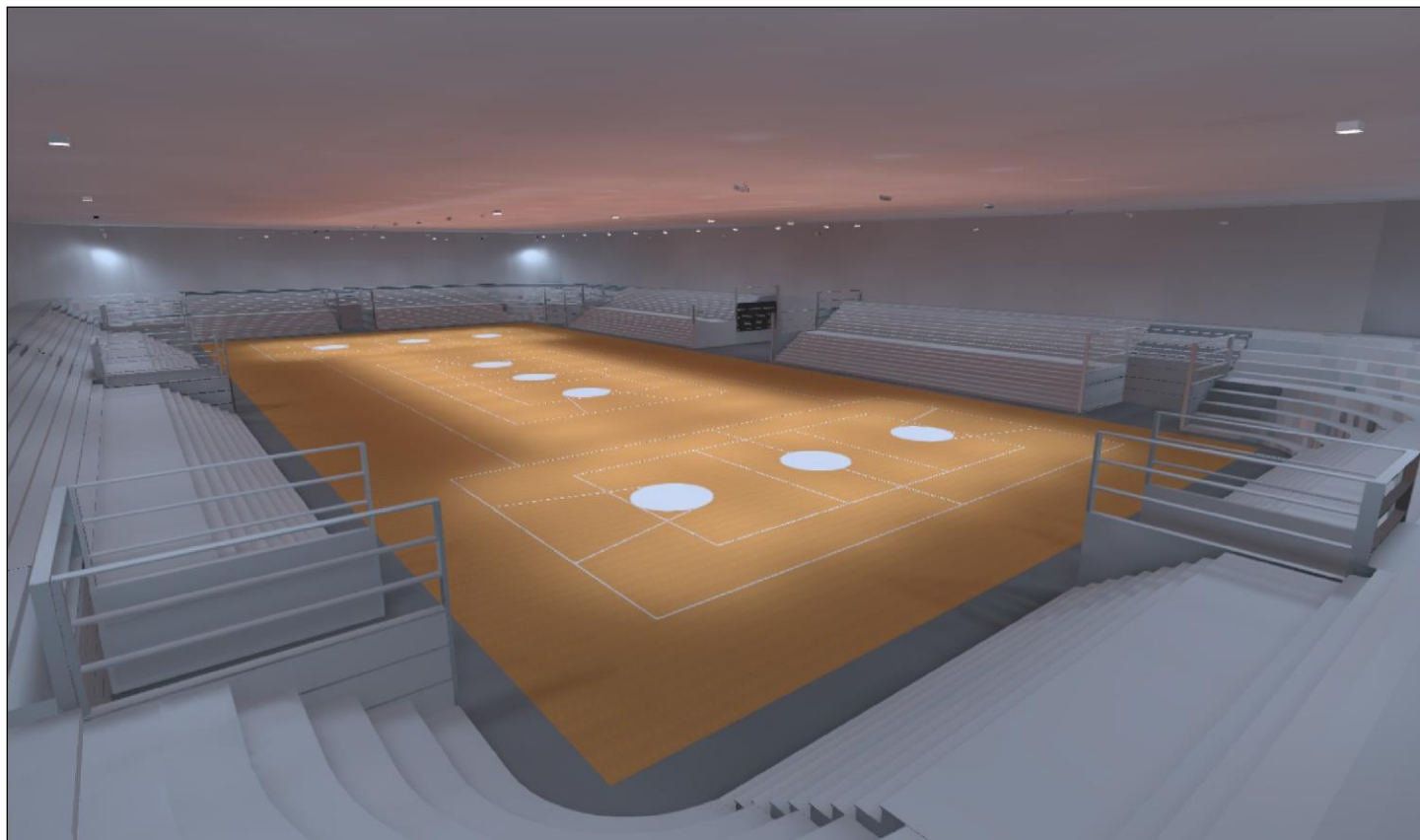


Diagrama de cores

Visões

**VISTA 03**



VISTA 04, Potência luminosa em [lx]

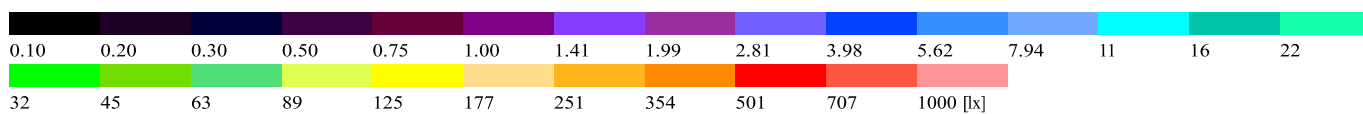
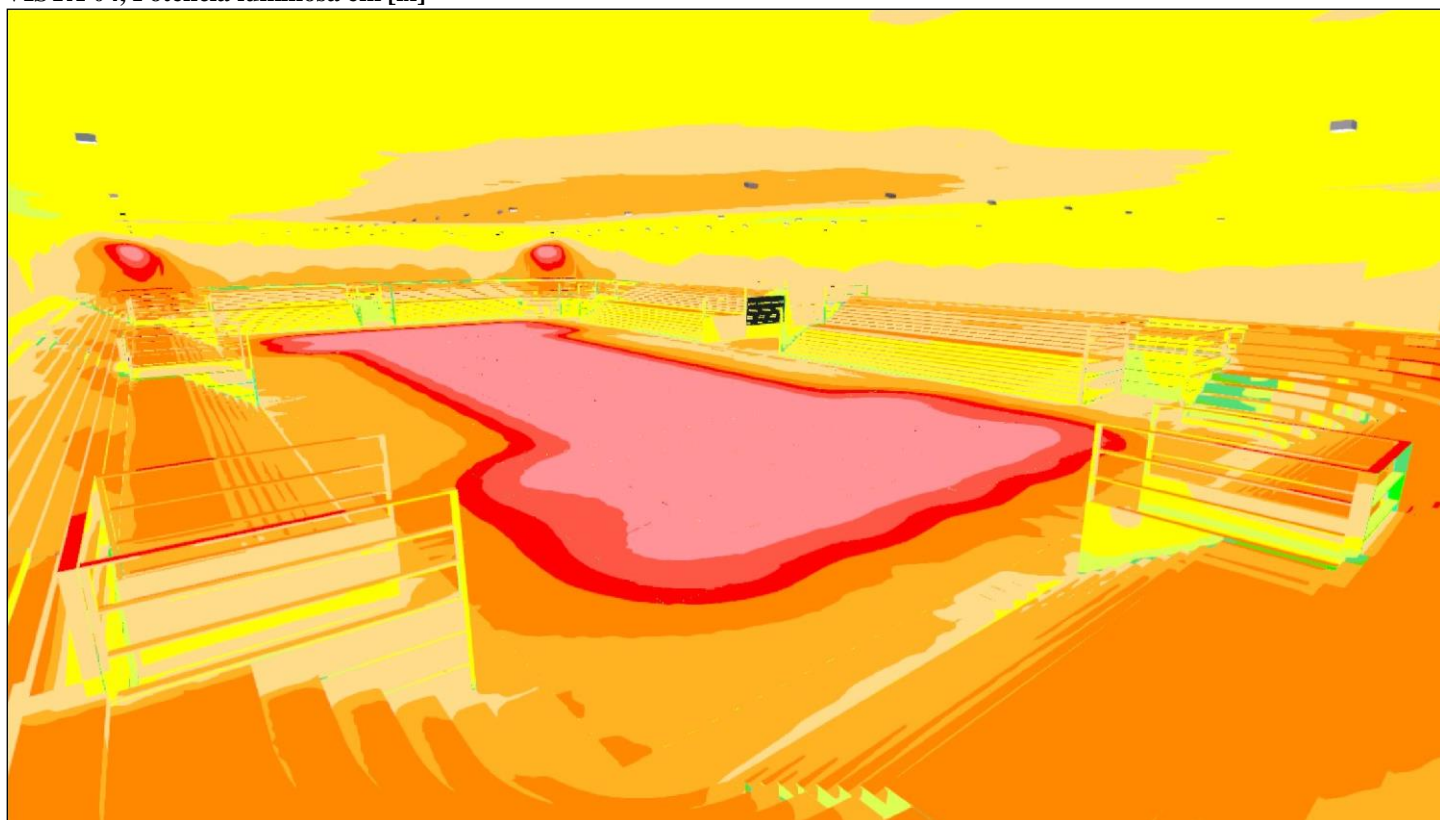


Diagrama de cores

Visões

**VISTA 05**



Visões

VISTA 06, Potência luminosa em [lx]

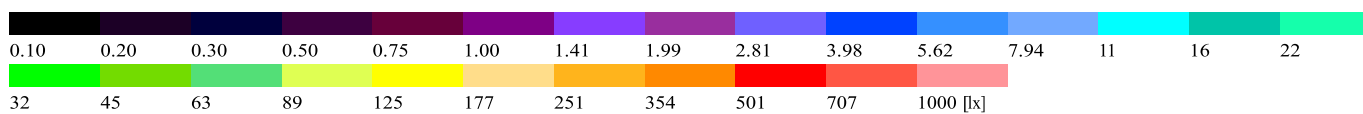
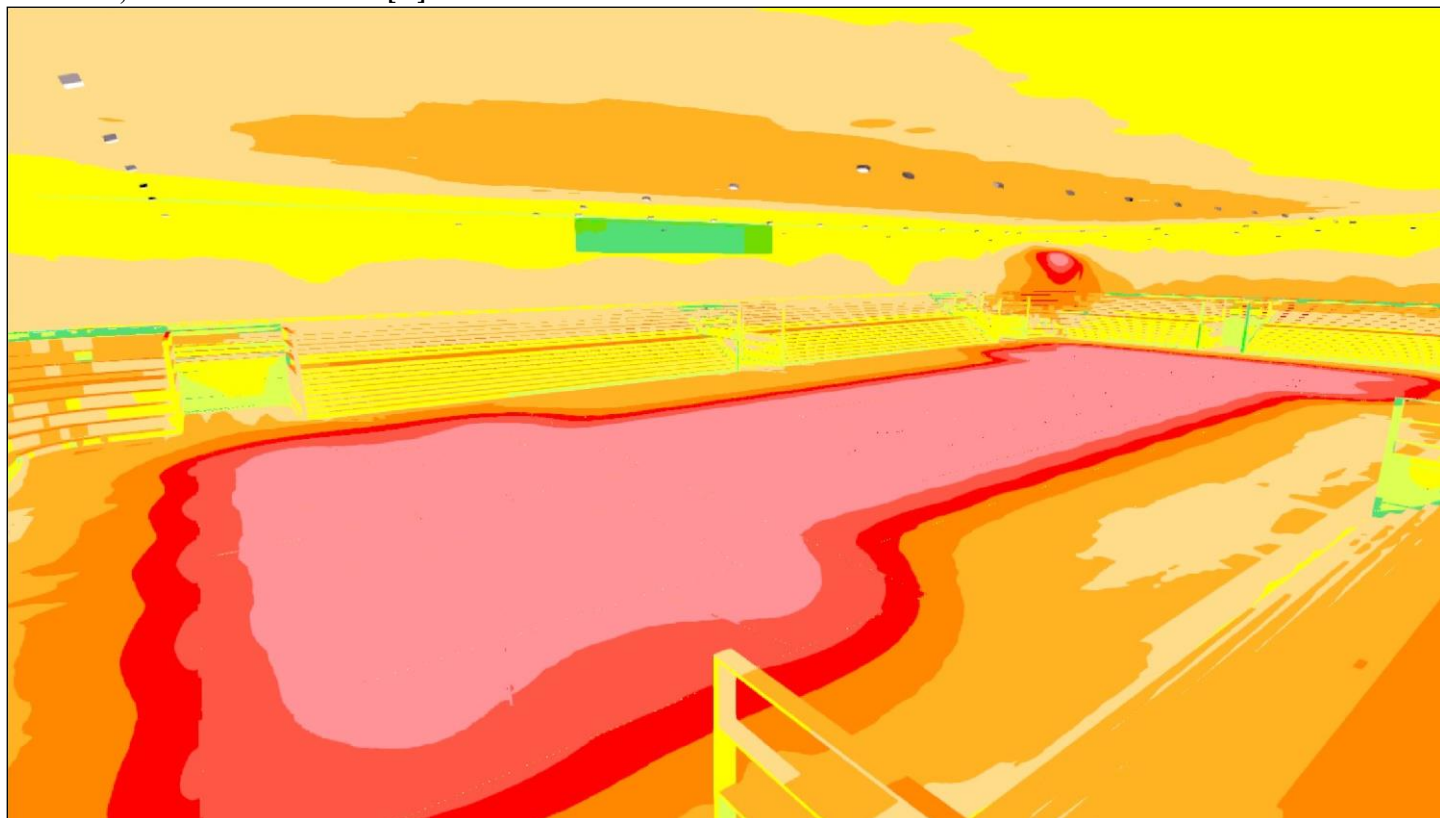


Diagrama de cores

Visões

**VISTA 07**



Visões

VISTA 08, Potência luminosa em [lx]

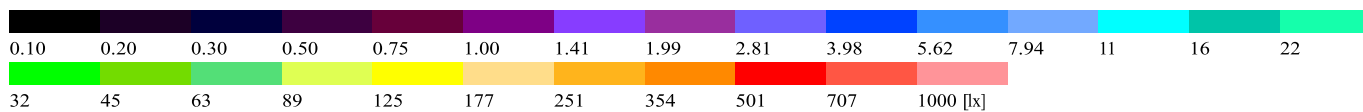
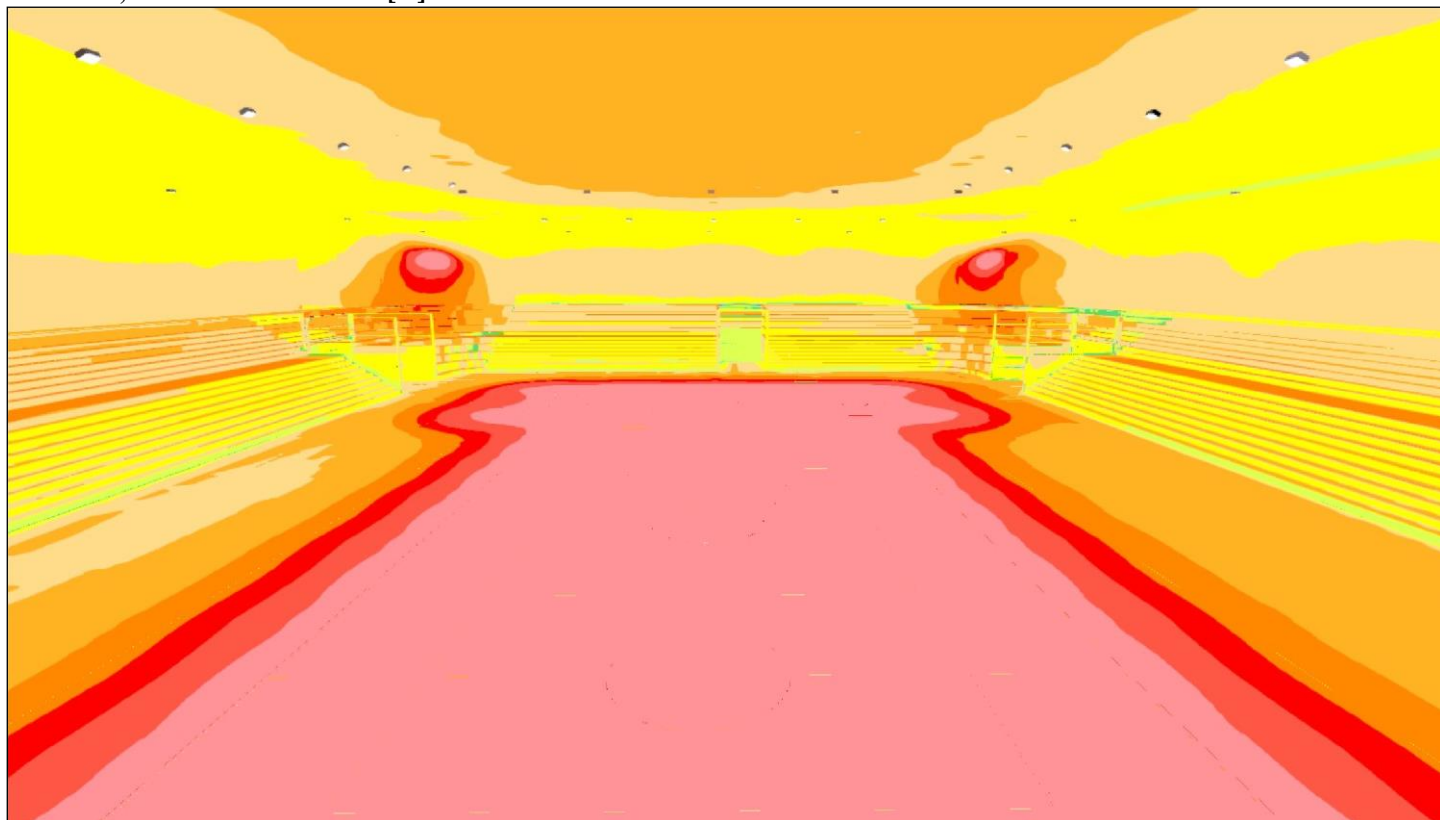
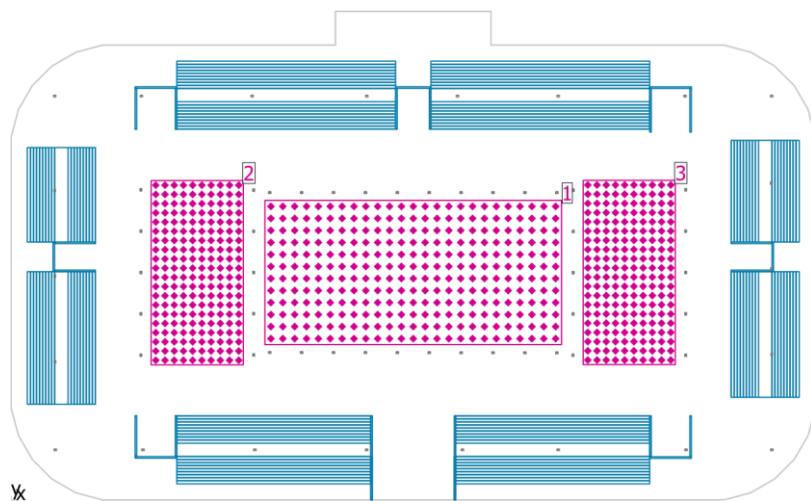


Diagrama de cores

Resumo de resultados de superfícies

### Sala 1



Pé direito livre: 11.000 m, Grau de reflexão: Tecto 68.8%, Paredes 50.0%, Solo 24.1%, Factor de manutenção: 0.80

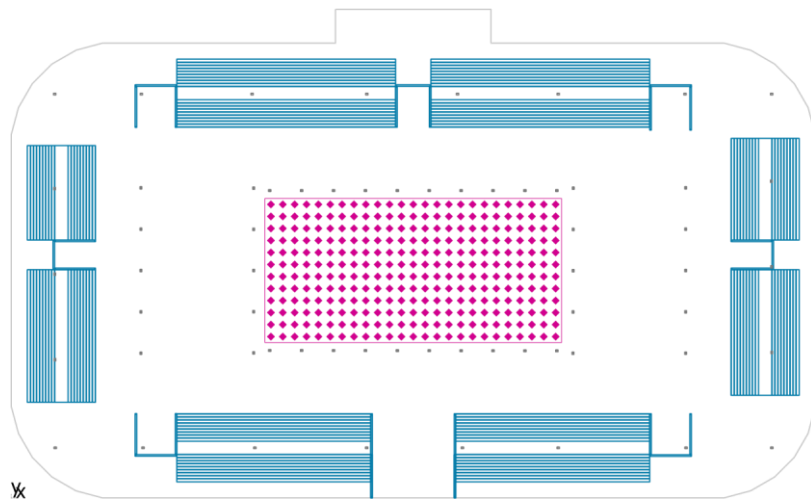
Superfície	Resultado	Médio (Nominal)	Min	Máx	Mín/Médio	Mín/ Máx
QUADRA CENTRAL	Potência luminosa vertical [lx] 1178 Altura: 0.005 m		869	1429	0.74	0.61
QUADRA LATERAL 01	Potência luminosa vertical [lx] 1189 Altura: 0.005 m		931	1465	0.78	0.64
QUADRA LATERAL 02	Potência luminosa vertical [lx] 1189 Altura: 0.005 m		937	1466	0.79	0.64

Geral



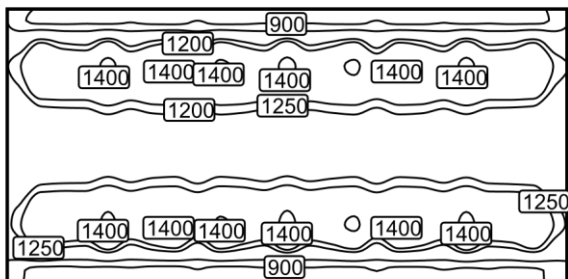
QUADRA CENTRAL / Potência luminosa vertical

### QUADRA CENTRAL / Potência luminosa vertical



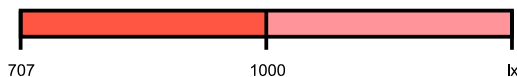
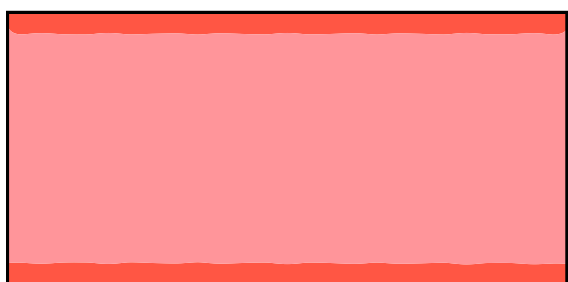
#### QUADRA CENTRAL: Potência luminosa vertical (Trama)

Linhas isográficas [lx]



Escala: 1 : 500

Cores falsas [lx]

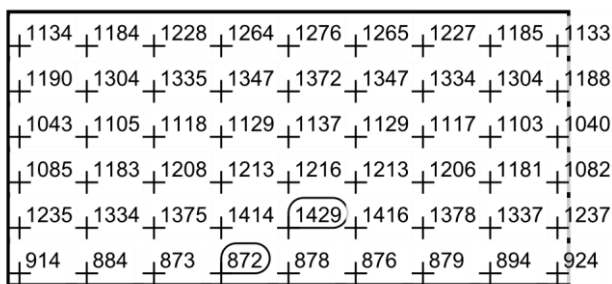


Escala: 1 : 500

**Cenário de Luz: Cenário de Luz 1**

m	8.880	10.360	11.840	13.320	14.800	16.280	17.760
8.250	875	891	877	887	880	879	917
6.750	1227	1173	1275	1185	1199	1256	1133
5.250	1377	1330	1428	1334	1343	1393	1236
3.750	1334	1302	1367	1304	1308	1312	1188
2.250	1210	1188	1214	1184	1179	1171	1083
0.750	1117	1114	1131	1103	1092	1091	1040
-0.750	1116	1113	1129	1103	1092	1089	1040
-2.250	1206	1185	1210	1181	1175	1168	1082
-3.750	1331	1299	1362	1302	1305	1309	1186
-5.250	1378	1331	1428	1337	1345	1392	1237
-6.750	1230	1174	1282	1189	1203	1261	1137
-8.250	879	897	887	894	886	888	924

**Grelha de valores [lx]**



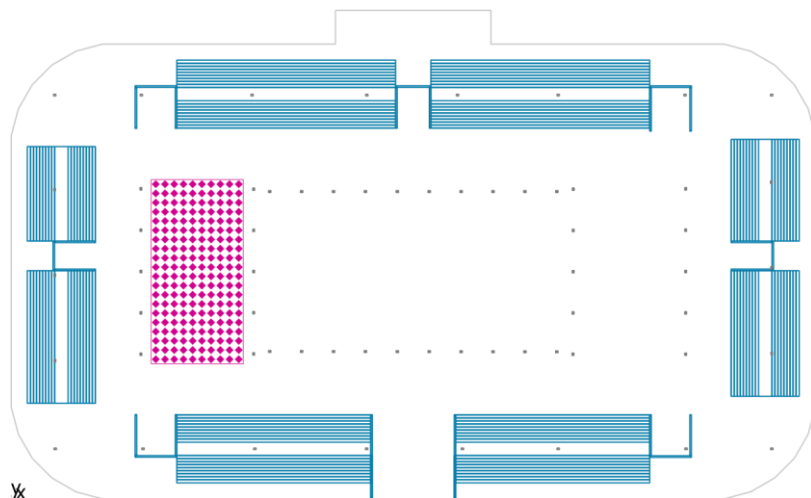
Escala: 1 : 500  
 Médio: 1178 lx, Mín: 869 lx, Máx: 1429 lx, Mín/Médio: 0.74, Mín/ Máx: 0.61  
 Altura: 0.005 m

QUADRA CENTRAL / Potência luminosa vertical

**Tabela de valores [lx]**

m	-17.760	-16.280	-14.800	-13.320	-11.840	-10.360	-8.880	-7.400	-5.920	-4.440	-2.960	-1.480	0.000	1.480	2.960	4.440	5.920	7.400
8.250	920	879	879	885	876	892	876	872	899	872	877	889	876	889	878	873	900	872
6.750	1134	1256	1199	1184	1275	1172	1228	1258	1155	1264	1218	1180	1276	1181	1218	1265	1155	1258
5.250	1238	1393	1343	1335	1427	1330	1377	1410	1312	1416	1367	1337	1429	1337	1367	1416	1312	1410
3.750	1190	1314	1308	1304	1367	1303	1335	1343	1293	1347	1334	1310	1372	1310	1334	1347	1293	1343
2.250	1085	1173	1181	1185	1215	1189	1210	1216	1183	1215	1207	1193	1218	1194	1207	1215	1183	1215
0.750	1043	1093	1095	1105	1132	1115	1118	1126	1118	1129	1117	1117	1137	1117	1117	1129	1116	1125
-0.750	1043	1093	1095	1104	1133	1115	1118	1126	1118	1128	1117	1117	1137	1116	1117	1128	1117	1125
-2.250	1085	1173	1180	1183	1213	1188	1208	1213	1182	1213	1206	1191	1216	1192	1204	1213	1181	1212
-3.750	1190	1312	1308	1303	1365	1301	1333	1340	1291	1344	1332	1307	1369	1308	1331	1344	1291	1339
-5.250	1235	1391	1343	1334	1426	1329	1375	1408	1311	1414	1367	1336	1429	1337	1367	1416	1312	1407
-6.750	1132	1253	1198	1183	1275	1170	1225	1255	1155	1263	1218	1179	1278	1181	1218	1265	1158	1259
-8.250	914	875	875	884	874	888	873	869	895	872	876	889	878	889	879	876	901	876

### QUADRA LATERAL 01 / Potência luminosa vertical



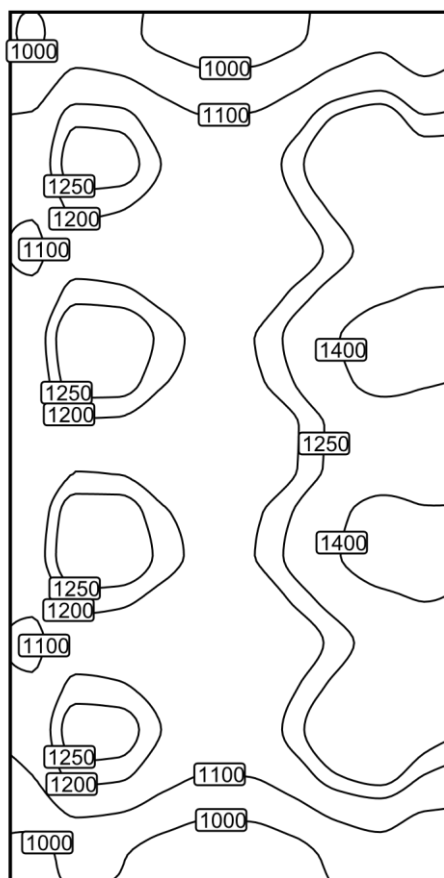
#### QUADRA LATERAL 01: Potência luminosa vertical (Trama)

Cenário de Luz: Cenário de Luz 1

Médio: 1189 lx, Min: 931 lx, Máx: 1465 lx, Mín/Médio: 0.78, Mín/ Máx: 0.64

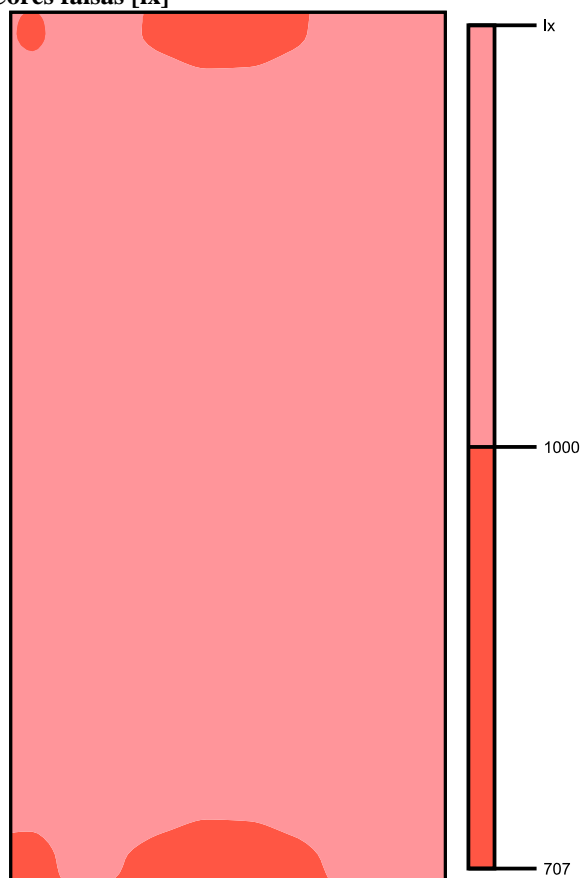
Altura: 0.005 m

Linhas isográficas [lx]



Escala: 1 : 200

**Cores falsas [lx]**



m	-5.175	-4.025	-2.875	-1.725	-0.575	0.575	1.725	2.875	4.025	5.175
<b>10.925</b>	987	1046	1025	976	949	952	983	1040	1070	1022
<b>9.775</b>	1040	1120	1106	1054	1017	1021	1065	1126	1158	1102
<b>8.625</b>	1112	1241	1233	1149	1108	1113	1167	1266	1302	1215
<b>7.475</b>	1141	1283	1281	1197	1144	1153	1225	1332	1371	1300
<b>6.325</b>	1109	1218	1206	1156	1117	1128	1190	1270	1331	1338
<b>5.175</b>	1085	1164	1154	1116	1105	1117	1153	1224	1292	1356
<b>4.025</b>	1120	1231	1221	1173	1135	1149	1213	1298	1378	1407
<b>2.875</b>	1161	1310	1313	1233	1183	1197	1274	1394	<b>1465</b>	1444
<b>1.725</b>	1148	1284	1282	1205	1174	1186	1250	1366	1434	1408
<b>0.575</b>	1104	1194	1192	1148	1119	1132	1191	1273	1333	1353
<b>-0.575</b>	1104	1198	1195	1151	1120	1134	1194	1277	1338	1353
<b>-1.725</b>	1151	1289	1289	1208	1175	1188	1252	1372	1440	1409
<b>-2.875</b>	1163	1308	1312	1231	1183	1196	1272	1392	1463	1444
<b>-4.025</b>	1117	1228	1218	1171	1132	1146	1210	1294	1373	1403
<b>-5.175</b>	1085	1163	1154	1116	1105	1116	1153	1223	1291	1352
<b>-6.325</b>	1110	1219	1208	1158	1119	1130	1191	1271	1331	1335
<b>-7.475</b>	1137	1282	1279	1197	1142	1150	1224	1330	1369	1293
<b>-8.625</b>	1102	1229	1220	1141	1101	1106	1158	1253	1287	1204
<b>-9.775</b>	1027	1102	1090	1041	1006	1010	1050	1111	1138	1087
<b>-10.925</b>	967	1025	1005	955	<b>931</b>	935	964	1019	1049	1002

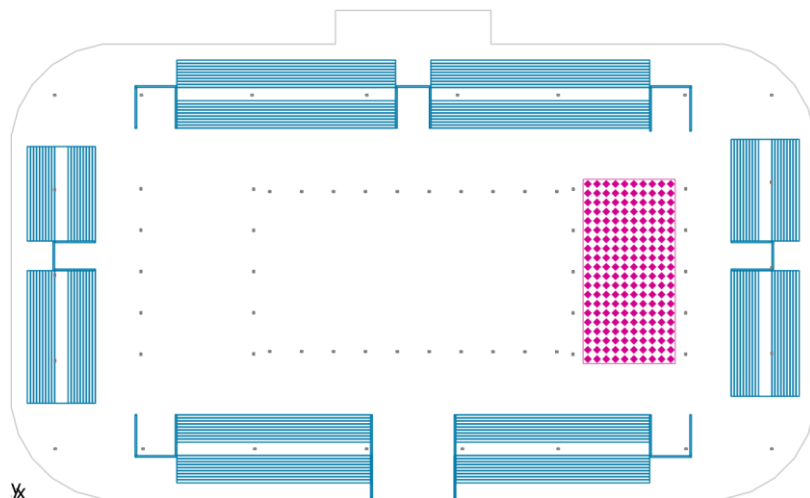
Escala: 1 : 200 **Grelha de valores [lx]**

+987	+1025	+949	+983	+1070
+1040	+1106	+1017	+1065	+1158
+1112	+1233	+1108	+1167	+1302
+1141	+1281	+1144	+1225	+1371
+1109	+1206	+1117	+1190	+1331
+1085	+1154	+1105	+1153	+1292
+1120	+1221	+1135	+1213	+1378
+1161	+1313	+1183	+1274	+1465
+1148	+1282	+1174	+1250	+1434
+1104	+1192	+1119	+1191	+1333
+1104	+1195	+1120	+1194	+1338
+1151	+1289	+1175	+1252	+1440
+1163	+1312	+1183	+1272	+1463
+1117	+1218	+1132	+1210	+1373
+1085	+1154	+1105	+1153	+1291
+1110	+1208	+1119	+1191	+1331
+1137	+1279	+1142	+1224	+1369
+1102	+1220	+1101	+1158	+1287
+1027	+1090	+1006	+1050	+1138
+967	+1005	+931	+964	+1049

Escala: 1 : 200

**Tabela de valores [lx]**

### QUADRA LATERAL 02 / Potência luminosa vertical



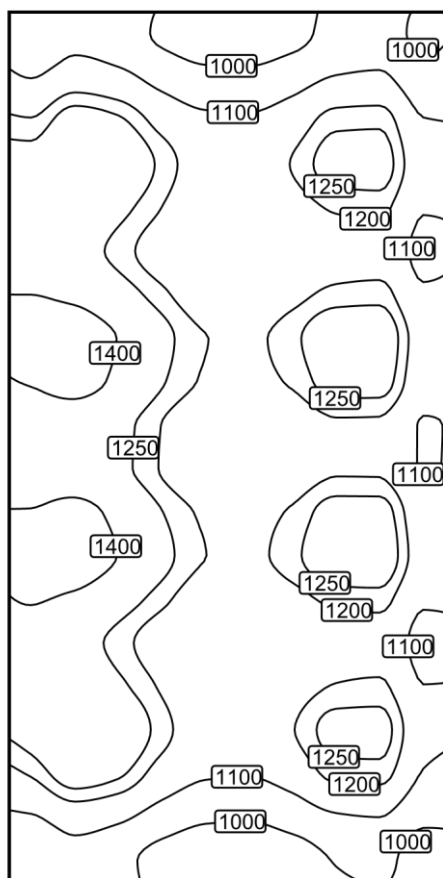
#### QUADRA LATERAL 02: Potência luminosa vertical (Trama)

Cenário de Luz: Cenário de Luz 1

Médio: 1189 lx, Min: 937 lx, Máx: 1466 lx, Mín/Médio: 0,79, Mín/ Máx: 0,64

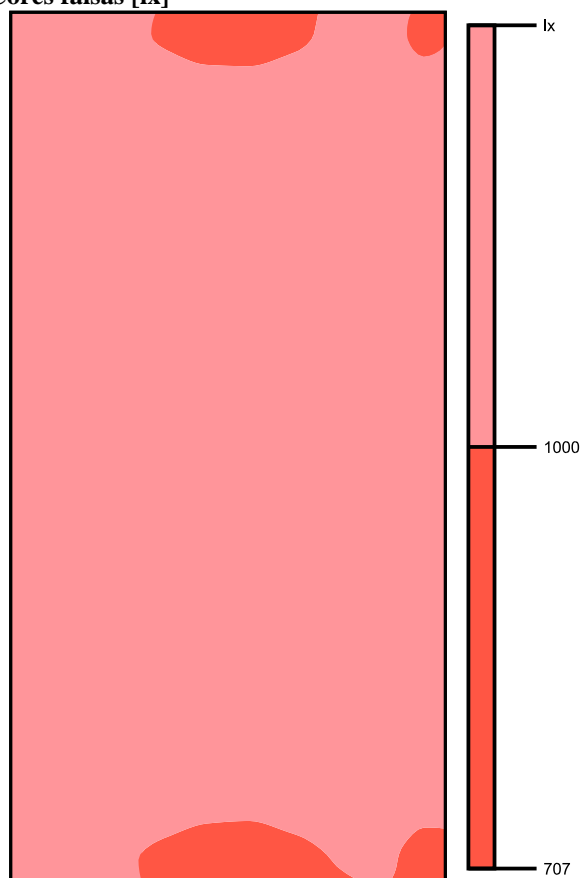
Altura: 0,005 m

Linhas isográficas [lx]



Escala: 1 : 200

**Cores falsas [lx]**



m	-5.175	-4.025	-2.875	-1.725	-0.575	0.575	1.725	2.875	4.025	5.175
<b>10.925</b>	1017	1068	1042	987	958	953	976	1025	1042	980
<b>9.775</b>	1098	1152	1127	1066	1025	1023	1057	1105	1115	1033
<b>8.625</b>	1208	1296	1264	1171	1119	1113	1153	1232	1237	1104
<b>7.475</b>	1290	1371	1337	1234	1159	1150	1204	1284	1284	1136
<b>6.325</b>	1334	1334	1276	1199	1136	1125	1162	1209	1219	1105
<b>5.175</b>	1353	1293	1229	1158	1122	1109	1121	1156	1162	1080
<b>4.025</b>	1400	1376	1298	1216	1151	1138	1175	1220	1228	1112
<b>2.875</b>	1438	1462	1397	1278	1202	1188	1234	1312	1307	1155
<b>1.725</b>	1406	1439	1375	1258	1193	1179	1209	1286	1284	1140
<b>0.575</b>	1353	1339	1281	1199	1139	1123	1152	1193	1191	1095
<b>-0.575</b>	1352	1333	1276	1194	1135	1123	1152	1193	1192	1095
<b>-1.725</b>	1405	1434	1367	1252	1190	1176	1209	1285	1283	1140
<b>-2.875</b>	1440	<b>1466</b>	1397	1278	1201	1185	1233	1311	1305	1154
<b>-4.025</b>	1406	1380	1301	1218	1152	1137	1172	1218	1226	1110
<b>-5.175</b>	1356	1294	1227	1156	1119	1106	1117	1153	1160	1076
<b>-6.325</b>	1335	1329	1268	1190	1128	1119	1157	1205	1214	1101
<b>-7.475</b>	1293	1367	1330	1224	1152	1143	1196	1277	1277	1130
<b>-8.625</b>	1209	1298	1264	1164	1111	1105	1142	1223	1227	1095
<b>-9.775</b>	1093	1149	1120	1058	1015	1009	1043	1090	1101	1019
<b>-10.925</b>	1006	1054	1024	969	940	<b>937</b>	958	1004	1022	960

Escala: 1 : 200 Grelha de valores [lx]

+1017	+1042	+958	+976	+1042
+1098	+1127	+1025	+1057	+1115
+1208	+1264	+1119	+1153	+1237
+1290	+1337	+1159	+1204	+1284
+1334	+1276	+1136	+1162	+1219
+1353	+1229	+1122	+1121	+1162
+1400	+1298	+1151	+1175	+1228
+1438	+1397	+1202	+1234	+1307
+1406	+1375	+1193	+1209	+1284
+1353	+1281	+1139	+1152	+1191
+1352	+1276	+1135	+1152	+1192
+1405	+1367	+1190	+1209	+1283
+1440	+1397	+1201	+1233	+1305
+1406	+1301	+1152	+1172	+1226
+1356	+1227	+1119	+1117	+1160
+1335	+1268	+1128	+1157	+1214
+1293	+1330	+1152	+1196	+1277
+1209	+1264	+1111	+1142	+1227
+1093	+1120	+1015	+1043	+1101
+1006	+1024	+940	+958	+1022

Escala: 1 : 200

**Tabela de valores [lx]**