

COEFICIENTES DE UTILIZAÇÃO

Luminária	Teto	Índice do local	75 %			50 %			Descrição	
			Parades			Parades				
			50 %	30 %	10 %	50 %	30 %	10 %		
			Coeficientes de utilização							
1		↑ 0 85 ↓	J I H G F E D C B A	36 45 52 58 63 69 73 78 80 83	29 38 45 51 56 59 64 68 71 76 80	25 33 40 47 52 58 64 72 78 82	36 44 51 58 62 68 72 75 79 82	29 37 44 51 56 63 67 71 76 79	25 33 40 46 52 58 63 67 71 76 77	Refletor industrial para lâmpadas incandescentes e Lucalox. Espaçamento máximo entre aparelhos = altura de montagem x 0,9.
2		↑ 0 70 ↓	J I H G F E D C B A	40 47 52 56 59 63 67 69 70	35 43 48 52 56 60 63 65 67 69	32 40 45 50 53 58 61 65 67 67	34 46 51 55 58 62 64 66 67 69	35 42 47 52 55 59 62 64 65 67	32 40 45 50 53 57 60 62 65 66	Refletor industrial para lâmpadas de vapor de mercúrio e luz mista. Espaçamento máximo entre aparelhos = altura de montagem x 0,9.
3		↑ 0 85 ↓	J I H G F E D C B A	52 61 66 71 74 78 81 83 85 86	47 55 61 67 70 75 78 80 82 84	43 52 58 63 67 72 76 79 81 82	51 60 65 70 73 77 81 83 84	47 55 61 66 70 74 77 79 81 83	43 52 58 63 68 72 75 77 80 81	Aparelho de embutir para lâmpada refletora. Espaçamento máximo entre aparelhos = altura de montagem x 0,6.
4		↑ 0 35 ↓	J I H G F E D C B A	27 29 31 32 33 34 35 36 36	25 26 28 30 31 32 33 34 35	24 27 29 30 31 32 33 34 35	27 29 30 32 32 34 35 35 36	25 28 29 30 31 32 33 34 35	24 27 28 30 31 32 33 34 35	Aparelho de embutir para lâmpada refletora. Espaçamento máximo entre aparelhos = altura de montagem x 0,5.
5		↑ 0 50 ↓	J I H G F E D C B A	27 32 36 40 42 44 46 48 49 50	24 29 33 36 39 42 44 46 48 49	21 26 30 34 37 40 43 44 46 48	27 32 36 39 41 44 45 47 48 49	24 29 32 36 39 42 44 45 47 48	21 26 30 34 36 38 40 42 44 47	Aparelho de embutir para lâmpadas incandescentes. Espaçamento máximo entre aparelhos = altura de montagem x 0,5.
6		↑ 35 45 ↓	J I H G F E D C B A	23 29 33 37 40 44 48 51 55 57	19 24 28 32 35 40 43 46 50 53	16 22 25 28 32 36 39 42 46 49	21 26 29 32 35 39 42 44 48 50	17 22 26 28 31 35 38 40 44 46	15 19 23 26 28 32 35 37 41 43	Globos de vidro, fechados. Para lâmpadas incandescentes. Espaçamento máximo entre aparelhos = altura de montagem x 1,0.
7		↑ 85 0 ↓	J I H G F E D C B A	17 21 25 28 31 35 39 41 46 48	13 17 21 24 27 31 34 37 42 44	11 15 18 21 23 26 29 31 39 42	11 14 16 20 21 24 27 30 32	09 12 14 18 18 20 23 25 28 30	08 10 12 14 16 18 19 21 23 26	Aparelho incandescente para iluminação indireta. Espaçamento máximo entre aparelhos = altura de montagem x 1,1.
8		↑ 0 75 ↓	J I H G F E D C B A	09 13 16 20 21 25 28 31 32 35	07 10 13 16 19 22 26 28 30 34	06 08 10 14 17 20 24 26 28 32	07 09 10 13 15 17 20 21 22 24	05 07 09 11 13 15 17 19 20 22	04 06 07 09 11 13 14 17 19 20 23	Sanca com lâmpadas fluorescentes. A distância da sanca para o teto deve ser de 30 a 50 cm.
9		↑ 0 75 ↓	J I H G F E D C B A	35 43 49 56 60 66 69 72 76 78	28 36 43 49 54 61 65 68 72 76	24 32 38 45 50 56 61 65 70 73	33 41 47 53 57 63 66 69 73 75	28 35 42 48 53 59 63 65 70 73	24 31 38 43 49 55 59 63 65 70 71	Luminária industrial do tipo Miller. Espaçamento máximo entre aparelhos = altura de montagem x 1,0.
10		↑ 35 45 ↓	J I H G F E D C B A	29 36 41 46 50 55 59 62 65 66	24 30 36 41 46 51 55 58 62 64	20 26 32 37 44 47 52 55 59 61	26 34 40 45 48 53 56 59 61 63	23 30 35 40 44 49 53 56 58 61	19 26 31 36 40 46 51 54 56 58	Luminária comercial. Espaçamento máximo entre aparelhos = altura de montagem x 1,0.

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Tabela 5.3 (cont.)

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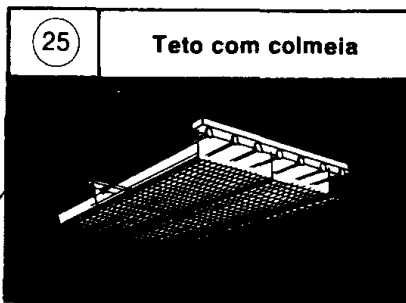
Luminária	Teto	Paredes	Índice do local	75 %			50 %			Descrição
				50 %	30 %	10 %	50 %	30 %	10 %	
				Coeficientes de utilização						
11		↑ 0 50 ↓	J I H G F E D C B A	.27 .32 .36 .42 .44 .46 .47 .49 .50	.23 .29 .33 .36 .37 .44 .46 .48 .49	.21 .26 .30 .34 .37 .40 .44 .46 .48	.27 .32 .35 .38 .41 .44 .45 .48 .49	.23 .28 .32 .36 .38 .44 .45 .47 .48	.21 .26 .30 .34 .36 .42 .44 .46 .47	Refletor parabólico duplo para 2 lâmpadas fluorescentes. Espaçamento máximo entre aparelhos = altura de montagem x 0,9.
12		↑ 0 55 ↓	J I H G F E D C B A	.29 .35 .39 .43 .46 .49 .51 .52 .54 .55	.24 .31 .35 .39 .42 .46 .48 .50 .52 .54	.21 .27 .32 .36 .39 .43 .46 .48 .51 .52	.28 .34 .38 .42 .45 .48 .50 .52 .54 .55	.24 .30 .35 .39 .42 .46 .48 .50 .52 .53	.21 .27 .32 .36 .39 .43 .46 .48 .50 .52	Refletor com difusor de plástico. Espaçamento máximo entre aparelhos = altura de montagem x 0,9.
13		↑ 0 55 ↓	J I H G F E D C B A	.25 .31 .36 .40 .43 .46 .49 .51 .53 .54	.21 .27 .31 .36 .43 .46 .48 .51 .53 .54	.18 .24 .28 .33 .36 .40 .43 .46 .49 .51	.25 .31 .35 .39 .42 .46 .48 .50 .52 .54	.21 .27 .31 .36 .39 .42 .46 .48 .50 .52	.18 .24 .28 .33 .36 .40 .43 .46 .49 .51	Aparelho para embutir, com colmeia. Espaçamento máximo entre aparelhos = altura de montagem x 1,0.
14		↑ 0 45 ↓	J I H G F E D C B A	.20 .25 .28 .32 .34 .37 .39 .42 .43	.16 .21 .24 .26 .30 .34 .36 .40 .42	.13 .18 .22 .25 .28 .32 .36 .39 .41	.20 .24 .27 .31 .33 .36 .39 .41 .43	.16 .20 .24 .27 .30 .33 .37 .40 .41	.13 .18 .21 .25 .28 .31 .36 .38 .40	Aparelho para embutir, com difusor de plástico. Espaçamento máximo entre aparelhos = altura de montagem x 1,0.
15		↑ 10 80 ↓	J I H G F E D C B A	.32 .40 .47 .53 .58 .64 .68 .72 .76 .79	.25 .32 .39 .46 .51 .58 .62 .66 .71 .75	.20 .27 .34 .40 .45 .52 .58 .62 .67 .72	.30 .38 .44 .50 .55 .61 .65 .68 .72 .76	.24 .31 .38 .44 .49 .56 .60 .64 .69 .72	.20 .26 .32 .39 .44 .51 .56 .60 .66 .70	Calha chanfrada. Espaçamento máximo entre aparelhos = altura de montagem x 1,0.
16		↑ 10 55 ↓	J I H G F E D C B A	.27 .33 .38 .43 .46 .50 .53 .55 .57 .59	.23 .29 .34 .38 .41 .47 .50 .52 .55 .57	.20 .26 .30 .35 .39 .44 .48 .50 .53 .55	.26 .32 .37 .41 .44 .48 .50 .52 .54 .56	.22 .28 .33 .37 .41 .45 .48 .50 .53 .55	.20 .25 .30 .35 .37 .42 .46 .48 .51 .53	Aparelho com difusor de plástico. Espaçamento máximo entre aparelhos = altura de montagem x 1,0.
17		↑ 10 55 ↓	J I H G F E D C B A	.25 .31 .36 .40 .44 .48 .51 .53 .56 .58	.20 .26 .31 .36 .40 .44 .48 .50 .53 .56	.17 .23 .28 .32 .36 .41 .45 .47 .51 .54	.24 .29 .34 .39 .42 .46 .48 .51 .53 .55	.20 .25 .30 .35 .38 .42 .46 .48 .51 .53	.17 .22 .27 .32 .35 .40 .43 .46 .48 .50	Aparelho para ser usado com colmeia ou plástico. Espaçamento máximo entre aparelhos = altura de montagem x 1,1.
18		↑ 10 50 ↓	J I H G F E D C B A	.22 .27 .32 .36 .39 .43 .46 .48 .50 .52	.17 .22 .27 .31 .34 .39 .42 .45 .48 .49	.14 .19 .23 .28 .31 .36 .39 .42 .46 .48	.21 .26 .30 .34 .37 .41 .43 .45 .48 .50	.16 .22 .26 .30 .33 .37 .40 .43 .46 .48	.14 .19 .23 .27 .30 .35 .38 .42 .45 .46	Aparelho com difusor de plástico. Espaçamento máximo entre aparelhos = altura de montagem x 1,1.
19		↑ 10 55 ↓	J I H G F E D C B A	.26 .32 .37 .42 .45 .49 .52 .54 .56 .58	.21 .27 .31 .37 .41 .46 .48 .51 .54 .56	.18 .24 .29 .34 .37 .42 .46 .48 .52 .54	.25 .31 .35 .40 .43 .47 .49 .51 .54 .56	.21 .27 .31 .36 .39 .44 .47 .49 .52 .54	.18 .24 .29 .33 .37 .41 .44 .47 .50 .53	Aparelho com colmeia e plásticos ou vidros laterais. Espaçamento máximo entre aparelhos = altura de montagem x 1,1.
20		↑ 30 35 ↓	J I H G F E D C B A	.22 .28 .32 .36 .39 .43 .45 .47 .49 .51	.18 .24 .28 .32 .35 .40 .42 .44 .47 .49	.16 .21 .25 .29 .32 .37 .40 .42 .44 .47	.20 .25 .29 .32 .35 .38 .40 .42 .44 .45	.17 .22 .25 .29 .32 .36 .38 .40 .42 .44	.15 .19 .23 .27 .30 .34 .36 .38 .40 .42	Luminária ampla, usada na maioria das vezes em linhas contínuas. Espaçamento máximo entre aparelhos = altura de montagem x 1,1.

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Luminária			Teto	75 %		50 %		30 %		Descrição
			Paredes	50 %	30 %	50 %	30 %	30 %	10 %	
			Índice do local	Coeficientes de utilização						
21		↑ 30 60 ↓	J	.25	.21	.23	.21	.21	.19	Luminária comercial para lâmpadas high output, provida de colmeia. Espaçamento máximo entre aparelhos = altura de montagem x 0,9.
			I	.31	.27	.29	.26	.25	.23	
			H	.35	.32	.33	.30	.28	.27	
			G	.40	.36	.37	.34	.30	.31	
			F	.43	.39	.39	.37	.35	.32	
			E	.47	.44	.43	.40	.37	.35	
			D	.49	.47	.45	.43	.39	.38	
			C	.51	.49	.47	.45	.41	.40	
			B	.54	.52	.49	.47	.43	.42	
			A	.56	.54	.50	.49	.45	.44	
22		↑ 25 65 ↓	J	.29	.24	.28	.24	.23	.20	Luminária industrial para lâmpadas high output, provida de colmeia. Espaçamento máximo entre aparelhos = altura de montagem x 1,0.
			I	.37	.32	.36	.31	.30	.29	
			H	.44	.39	.41	.38	.36	.33	
			G	.50	.45	.47	.43	.41	.39	
			F	.54	.50	.51	.47	.45	.42	
			E	.61	.56	.57	.52	.50	.48	
			D	.64	.60	.61	.56	.53	.51	
			C	.67	.63	.63	.59	.55	.54	
			B	.70	.67	.65	.63	.59	.57	
			A	.73	.70	.68	.65	.61	.60	
23		↑ 20 65 ↓	J	.29	.25	.28	.24	.23	.21	Luminária industrial para lâmpadas high output. Espaçamento máximo entre aparelhos = altura de montagem x 1,0.
			I	.38	.33	.36	.32	.31	.29	
			H	.45	.40	.42	.38	.37	.35	
			G	.51	.45	.48	.43	.41	.40	
			F	.55	.50	.52	.48	.46	.43	
			E	.63	.58	.59	.55	.52	.49	
			D	.67	.62	.62	.59	.55	.53	
			C	.70	.66	.65	.62	.58	.56	
			B	.73	.70	.68	.65	.61	.59	
			A	.76	.73	.70	.68	.63	.62	
24		↑ 45 40 ↓	J	.25	.20	.24	.20	.22	.19	Luminária comercial para lâmpadas high output, provida de colmeia. Espaçamento máximo entre aparelhos = altura de montagem x 1,1.
			I	.32	.27	.31	.26	.29	.23	
			H	.37	.32	.35	.31	.32	.28	
			G	.44	.38	.42	.36	.38	.33	
			F	.49	.42	.46	.40	.40	.37	
			E	.55	.49	.52	.47	.45	.42	
			D	.57	.54	.54	.51	.49	.45	
			C	.62	.57	.58	.54	.51	.48	
			B	.66	.62	.62	.58	.53	.51	
			A	.69	.65	.64	.61	.55	.53	

Tetos luminosos



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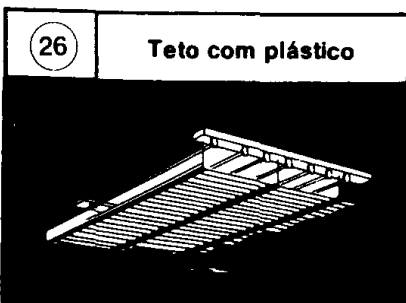
Teto com colmeia

Colmeia plástica

Cavidade	85 %			75 %		
	50%	30%	10%	50%	30%	10%
Índice do local	Coeficientes de utilização					
J	.25	.21	.19	.20	.16	.16
I	.30	.25	.24	.23	.20	.19
H	.34	.29	.27	.26	.23	.22
G	.37	.33	.31	.28	.26	.24
F	.40	.36	.34	.30	.27	.26
E	.44	.39	.38	.32	.30	.29
D	.46	.42	.41	.34	.32	.31
C	.48	.44	.43	.35	.33	.32
B	.50	.47	.46	.37	.34	.34
A	.51	.48	.48	.37	.36	.35

Colmeia de metal (branco)

Cavidade	85 %			75 %		
	50%	30%	10%	50%	30%	10%
Índice do local	Coeficientes de utilização					
J	.20	.16	.16	.17	.15	.14
I	.23	.20	.19	.21	.18	.17
H	.26	.23	.22	.23	.20	.19
G	.28	.26	.24	.25	.23	.22
F	.30	.27	.26	.27	.24	.23
E	.32	.30	.29	.29	.27	.26
D	.34	.32	.31	.30	.28	.27
C	.35	.33	.32	.31	.29	.29
B	.37	.34	.34	.32	.31	.30
A	.37	.36	.35	.33	.32	.31



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Teto com plástico

Plástico acrílico

Cavidade	85 %			75 %		
	50%	30%	10%	50%	30%	10%
Índice do local	Coeficientes de utilização					
J	.24	.21	.17	.20	.16	.13
I	.32	.28	.24	.27	.23	.20
H	.37	.33	.29	.32	.28	.25
G	.42	.38	.34	.37	.33	.30
F	.46	.42	.39	.40	.36	.33
E	.52	.48	.45	.45	.42	.39
D	.56	.53	.49	.48	.46	.43
C	.58	.56	.52	.51	.49	.46
B	.62	.60	.56	.54	.52	.50
A	.64	.62	.60	.57	.55	.53

OBSERVAÇÃO

O FATOR DE DEPRECIAÇÃO DEVE SER ESTIMADO DA SEGUINTE MANEIRA:

- a) manutenção deficiente (d = 0.45 = tipo c/plástico)
 (d = 0.55 = tipo c/colmeia)
 b) manutenção boa (d = 0.65 = tipo c/plástico)
 (d = 0.70 = tipo c/colmeia)

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