Charging Time to Given Luminance Values

Basics :

According to DIN 67510 Part 2[1] the luminance values at the place of use of the luminescent material should be at least :

- Luminance after 10 minutes discharge : 15 mcd/m²
- Luminance after 60 minutes discharge : 2 mcd/m²

The minimum illuminance is set to 25 lx. The time to reach these values was determined under different light sources.

Product :

EverGlow HI® 150

Characteristic according to DIN 67510 Part 1

Luminance after 10 minutes : 150 mcd/m²
Luminance after 60 minutes : 22,5 mcd/m²
Discharge time to 0,3 mcd/m² : 2100 minutes

Charging time to the given luminance values :

Light source[2]		**15 mcd/m² after 10 minutes discharge at an charging time of approximately**	**2 mcd/m² after 60 minutes discharge at an charging time of approximately**
Type	**Used**		
Fluorescent lamp daylight	Osram L18W/11-860 (6000 K)	4 minutes	2,5 minutes
Fluorescent lamp cool white	Osram L36W/21-840 (4000K)	5 minutes	3,5 minutes
Fluorescent lamp warm white	Osram L18W/41-827 (2700 K)	8 minutes	5,5 minutes
Incandescent lamp	Glühlampe 25W (2700 K)	25 minutes	15 minutes
Metal halide lamp	Sylvania HSL-BW 400W (ca. 4000 K)	4,5 minutes	3 minutes
High-pressure sodium discharge lamp	Osram VIALOX NAV TV 70W (2000K)	130 minutes	50 minutes
Low-pressure sodium discharge lamp	-----	Not suitable	

[1] Other standards, for example the IMO norm, set these values also.
[2] Data was determined from measurement at the given light sources under test conditions. They are only approximate values for real applications.

EverGlow GmbH - Berliner Straße 52-56 – D-42775 Wuppertal

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Discharge Luminance at Different Charging Conditions

Product :

EverGlow HI® 150

Characteristic according to DIN 67510 Part 1

Luminance after 10 minutes discharge : 150 mcd/m²
Luminance after 60 minutes discharge : 22,5 mcd/m²
Discharge time to 0,3 mcd/m² : 2100 minutes

Expected luminances at

Light source[1] : cool white fluorescent lamp
(fluorescent lamp, colour temperature approximately 4000 K)

	Luminance in mcd/m² after charging time					
	15 minutes		**60 minutes**		**constant load**	
E^2 in lx	**10 min discharge**	**60 min discharge**	**10 min discharge**	**60 min discharge**	**10 min discharge**	**60 min discharge**
10	10	3	24	8	36	12
20	26	7	46	12	57	15
25	33	8	54	13	64	16
30	40	9	61	14	71	16
40	52	10	73	15	81	17
50	62	12	82	16	89	18
60	70	13	89	17	96	18
70	77	14	95	17	101	19
80	83	14	100	18	106	19
90	89	15	105	18	110	19
100	93	16	108	19	113	20
110	97	16	112	19	116	20
120	101	16	115	19	118	20
130	104	17	117	19	121	20
140	107	17	119	20	123	20
150	110	17	122	20	125	20
200	120	19	129	20	131	21
250	127	21	135	21	137	21
500	143	21	147	22	148	22
1000	153	22,5	155	23	155	23

[1] Bases for the luminance values are measurements done by charging with Osram L36W/21-840 under test conditions. They are only approximate values for real applications.
[2] To measure the charging illuminance E, the photometer must be set parallel to the surface, on the surface of the luminescent product.

EverGlow GmbH – Dahler Str. 54 – D-42389 Wuppertal

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