

Luminance of Different Grades of Ecoglo Photoluminescent Material (PLM)

The results displayed in Tables 2 and 3 were collected via independent luminance testing carried out on different grades of Ecoglo PLM in September 2018, while the information in Table 1 is from the Photoluminescent Safety Products Association's (PSPA) latest material classification system (with Class A being the minimum requirement).

TABLE 1 PSPA Classification Table showing luminance of different classes of PLM after being exposed to 1000 lux for a period of 5 minutes.

AFTER NUMBER OF MINUTES	LUMINANCE mcd/m2						
	A	B	C	D	E	F	G
2	108	210	690	1100	1800	2300	3000
10	25	50	140	260	400	520	650
30	7	15	45	85	120	155	190
60	3	7	20	35	55	70	80

Note: Class A is minimum requirement with Classes B – G having increasingly superior levels of luminance and decay times.

TABLE 2 Showing luminance of different grades of Ecoglo PLM after exposure to 1000 lux for a period of 5 minutes.

TIME AFTER REMOVAL OF CHARGING SOURCE (Mins)	LUMINANCE mcd/m2				
	S5	S10	S15	S20	S25
2	2179	2559	3505	4284	4861
5	860	1019	1468	1794	2160
10	413	491	714	871	1087
20	192	227	3344	405	517
30	120	142	210	252	327
60	52.4	62.0	93.4	107.5	144.4
120	22.4	25.8	39.8	44.6	61.1
180	13.7	15.5	23.3	26.6	36.5
240	9.1	10.7	16.3	18.8	25.1
300	6.9	8.0	12.2	14.1	18.7
480	3.7	4.3	6.5	7.5	10.3
600	2.7	3.0	4.8	5.7	7.8

Conditions:
 Charging source: 150W Xenon Lamp
 Exposure: 1000 lux for period of 5 minutes

The results show the following:
 Ecoglo S5 Grade PLM easily exceeds PSPA Class D.
 Ecoglo S10 Grade PLM easily exceeds PSPA Class E.
 Ecoglo S15 Grade PLM easily exceeds PSPA Class F.
 Ecoglo S20 and S25 Grade PLM easily exceed PSPA Class G.

TABLE 3 Showing luminance of different grades of Ecoglo PLM after exposure to 5000 lux for a period of 60 minutes.

TIME AFTER REMOVAL OF CHARGING SOURCE (Mins)	LUMINANCE mcd/m2				
	S5	S10	S15	S20	S25
2	2058	2504	3930	4971	6556
5	794	944	1522	2006	2772
10	379	452	725	956	1362
20	178	212	339	453	656
30	114	136	216	289	422
60	52.3	62.2	98.5	132.9	195.3
120	23.0	27.8	43.4	60.0	89.2
180	14.0	17.2	26.5	35.8	55.9
240	9.7	11.6	18.8	25.5	38.7
300	7.3	8.5	14.4	19.5	28.9
480	4.1	5.0	8.3	10.8	15.8
600	3.2	3.8	6.5	8.5	12.1

Conditions:
 Charging source: 20W Fluorescent Lamp
 Exposure: 5000 lux for period of 60 minutes

Note: 5000 lux equates to the least amount of daylight PLM is likely to be exposed to. These luminance results show the minimum performance that can be expected of these Ecoglo materials when installed outdoors, even if covered by a roof overhang of up to 4 metres.