Task 8 SSL Annex Database update

Carsten Dam-Hansen

25 October 2023, Toulouse

Overview

- Third term plan/status
- Follow up on last plan
- To do next period/term
- Expert input and discussion

Third term plan and status

- Making a common structure and storage for data and file sharing that is as useful for us to save and analyse data

Task 8. SSL Annex Product Database

Task Leader: Carsten Dam-Hansen, Denmark

Objectives	To maintain and expand an internal benchmarking database of SSL products to enal countries to share performance data and test results for LED lamps and LED lumina modules. This database would be used internally by SSL Annex member countries, used in public reports if it is presented as anonymous data (i.e., does not identify bı The database will be populated with test data provided on a voluntary basis from n countries, and/or may also include other sources of data if deemed appropriate by Leader.

FY1 (2019–20)				FY2 (2020–21)				FY3 (2021–22)				FY4 (2022–23)				FY5 (2023–24)			
MAM	JJA	SON	DJF	MAM	JJA	SON	DJF	MAM	JJA	SON	DJF	MAM	JJA	SON	DJF	MAM	JJA	SON	DJF

- Database structure done and documentation available.
- Excel database files with identical structure
- Available at sharepoint drive:

  Lighting facts, DLC, Der LichtPeter TLM
  DTU TLM measurements, **LM-84 and EU endurance,**
  SEA data, 2019, SPD data
  EPREL data

Follow up on last plan

- Have imported DTU data on LM-84 and EU endurance testing (167 measurements on 60 artefacts)

1	P#	labP#	Manufacturer	Model name	Art. No.	EAN Bar code	IL
36	TP0034	P31541	Sengled	Snap	AS01-PAR38EAE27	6955544581314	
37	TP0035	P31542	Nordlux	Smart bulb standard	1506670	5701581495388	
38	TP0036	P31543	Nordlux	Smart bulb standard	1506870	5701581495586	
39	TP0037	P31544	Nordlux	Smart spot GU10	1506770	5701581495487	
40	TP0038	P31545	Nordlux	Smart light bridge	1507070	5701581495784	
41	TP0039	P31546	Philips	Corepro LED spot		8718696730249	
42	TP0040	P31547	LED-TEK	LED-JL1112 T8 Highpower FlickerFree h	LED-JL1112		
43	TP0041	P31548	Philips	Corepro LED spot		8718696721377	
44	TP0042	P31549	Philips	Corepro LED bulb		8718696577776	
45	TP0043	P31550	Philips	TrueForce LED Urban Lamp		8718699638160	

SSL Product Profile | Artefacts | Measurement results | ProductDropDownLists | ...

fx L31886

	C	D	Y	Z	AA	AB	AC	AD	AE	AF
	labM#	labA#	long term switching	Long term ambient temperature	Long term ambient humidity	AccOperation time [h]	Voltage [V]	Current [A]	Power [W]	Power facto	Di t f
	M33185	L31894	EU endurance	21	0	0	230.0000935	0.02506204	4.84923295	0.84125681	
	M33641	L31894	EU endurance	21	0	3000	229.9799367	0.0246546	4.77189894	0.84159584	
	M33186	L31895	EU endurance	21	0	0	229.9993077	0.02534086	4.90634785	0.8418028	
	M33642	L31895	EU endurance	21	0	3000	229.980127	0.02490162	4.82387626	0.84232242	
	M33024	L31866	LM-84 continuos	21	0	0	229.9853462	0.11024776	24.249941	0.95640218	
	M33272	L31866	LM-84 continuos	21	0	1000	229.9914808	0.1111956	24.4828288	0.95733231	
	M33339	L31866	LM-84 continuos	21	0	2000	229.9948346	0.11120667	24.4863551	0.95735975	
	M33444	L31866	LM-84 continuos	21	0	3000	229.9955873	0.11137005	24.4758723	0.95554317	
	M33544	L31866	LM-84 continuos	21	0	4000	229.9886444	0.11135091	24.4784422	0.95583778	
	M33600	L31866	LM-84 continuos	21	0	5000	230.0123238	0.11128532	24.4704795	0.95599048	
	M33666	L31866	LM-84 continuos	21	0	6000	229.983	0.1113472	24.4769831	0.95583475	

Profile | Artefacts | Measurement results | ProductDropDownLists | LaboratoryDropDownLists ...

Follow up on last plan

- DTU data fra smart lighting products, limited data in Caspers excel file

	ID	RATED	CCT (K)	2200				2700				4000				5000				6500 (6123)			
6	L31835		Dimming level	100%	75%	50%	25%	100%	75%	50%	25%	100%	75%	50%	25%	100%	75%	50%	25%	100%	75%	50%	25%
	Nordlux	8.5	Power [W]	8.12	6.16	4.21	2.48	8.213	6.163	4.233	2.475	8.25	6.18	4.24	2.476	8.248	6.17	4.237	2.44	8.2279	6.1655	4.227	2.464
	E27 Smart bulb standard	750	Luminous Flux [lm]	751.6	609.6	426.2	240.8	828.8	643.3	450.5	250.5	897.8	698.5	487.3	269.4	925	719.9	502.7	274.1	935	732.8	514.9	284.8
	2020		CCT [K]	2176	2168	2161	2153.5	2704	2694	2681	2673	4007	3992	3977	3969	5003	4993	4974	4962	6152	6125	6090	6081
	Standby		DUV	2.88E-05	0.00018	0.00011	3.87E-05	6.60E-03	6.60E-03	6.70E-03	6.90E-03	6.70E-03	6.80E-03	6.80E-03	7.00E-03	2.50E-03	2.60E-03	2.50E-03	2.60E-03	2.80E-03	2.90E-03	3.00E-03	3.10E-03
	0.367		CRI [Ra]	81.3	81.72	81.9	82.2	86.2	86.5	86.9	85.9	89.4	89.6	89.9	90.2	87.6	87.8	88.1	88.4	84.7	84.9	85.1	85.4
			Visible flicker [Pst]																				
			Non-visible Stroboscopic [SVM]																				

	ID	RATED	CCT (K)	2200				2700				4000				5000				6500			
7	CK02 - L31941		Dimming level	100%	75%	50%	25%	100%	75%	50%	25%	100%	75%	50%	25%	100%	75%	50%	25%	100%	75%	50%	25%
	Philips	8.5	Power [W]	4.495	2.7534	1.65	0.985	6.4622	3.908	2.1555	1.1655	8.07	4.81	2.542	1.194	6.52	4.0123	2.177	1.126	5.0527	3.267	1.8367	1.0539
	E27 HUE White tunable	808	Luminous Flux [lm]	352.1	196.7	89.1	21.7	597.7	334.2	151.5	39.1	821.9	465.1	208.8	50.8	641.9	371.4	165.9	42.36	469.8	282	124.2	32.27
	2020		CCT [K]	2226	2221	2219	2214	2717	2714	2713	2708	4016	4012	4009	4010	5002	4989	4981	4980	6557	6532	6514	6486
	Standby		DUV	1.30E-03	9.10E-04	8.20E-04	7.10E-04	2.70E-05	6.00E-05	5.10E-05	1.10E-04	7.70E-04	8.40E-04	8.90E-04	9.70E-04	1.60E-03	1.80E-03	1.90E-03	2.00E-03	3.30E-03	3.70E-03	4.20E-03	4.40E-03
	0.38		CRI [Ra]	82.3	81.4	81.7	81.9	84.1	84.4	84.7	84.9	84.4	84.4	84.4	84.4	83.8	83.6	83.5	83.4	83.1	82.7	82.3	82.1
			Visible flicker [Pst]																				
	Gateway 1,321 W		Non-visible Stroboscopic [SVM]	0.84	1.62	2.19	2.4	0.53	1.32	2.08	2.38	0.75	1.53	2.16	2.4	0.52	1.13	1.9	2.37	0.044	1.09	1.88	2.37

	ID	RATED	CCT (K)	2200				2700				4000				5000				6500			
8	CK03		Dimming level	100%	75%	50%	25%	100%	75%	50%	25%	100%	75%	50%	25%	100%	75%	50%	25%	100%	75%	50%	25%
	Philips	9	Power [W]	4.97	3.673	2.57	1.216	7.35	4.205	2.314	1.279	9.01	6.655	4.641	2.2525	8.054	5.975	4.092	1.964	7.152	5.144	3.5416	1.785
	E27 HUE Colour tunable	806	Luminous Flux [lm]	313.9	224.3	136.6	22.5	579.7	329.4	145.5	36.06	809.4	594.4	393.5	132.7	680.2	489.6	310.8	100.4	555.6	381.9	239.6	77.25
	2020		CCT [K]	2046	2055	2060	2060	2753	2726	2728	2724	4000	3995	3984	3973	5042	5036	5033	5031	6599	6606	6617	6621
	Standby		DUV	8.80E-04	1.00E-03	1.10E-03	1.10E-03	3.90E-04	1.80E-04	1.60E-05	4.90E-05	8.70E-04	8.10E-04	9.10E-04	1.00E-03	1.80E-03	2.10E-03	2.30E-03	2.60E-03	2.50E-03	3.20E-03	3.70E-03	4.30E-03
	0.37		CRI [Ra]	83	83.2	83.3	83.3	93.9	86.9	87	86.1	83.7	81.6	81.7	81.8	83.8	83.9	84	84.1	85.3	85.4	85.5	85.6
			Visible flicker [Pst]	0.01455	0.01512	0.01628	0.03454	0.01738	0.01482	0.02751	0.09871	0.01651	0.01147	0.01249	0.02018	0.0205	0.01589	0.01595	0.03696	0.01116	0.01258	0.01483	0.02892

34 DUTs with product data, 5 (CCT settings) x 4 (dimming settings) = 34 x 20 = 680 measurement entries in the DB structure, with SPD and TLM files

Follow up on last plan

- Find new storage for the data (sharepoint and excel may not be a good solution as it grows)

  Possible to setup SQL database using Microsoft access, using the defined structure, initiated but time consuming

  Or keep the excel file structure and store data I smaller files from each source or grouped on main/available parameters

  Casper was afraid it becomes too difficult to get data out

- Follow the development of new photometric data format (xml)

  Ongoing, proposed using data from Viso Light inspector setups possible form australia

Plan for coming period

- SEA data, 2019, SPD data
- SEA 2020, EU endurance
- SEA measurements in general
  - Visit SEA lab in winter 2023/24 for setting up basis for exchange of data
- EPREL data
- Australia, TLM, EU endurance
- Set up meetings with Gillian and exchange/work on datafiles
- Reports on TLM parameters looking at PstLM and SVM,

Going to SSLC platform

- Collaboration with Gillian,
- Setting the timeline, tasks and deliverables

lighting control systems

- DLC
- Korean Energy Agency (help from JS)
- More…