Test Report – LM80-08

Qualification

STARK-CLE-220-1500-8x0-CLA

according to LM80-08

Report No.	U1204002-10
Date	26.04.2013
Company	LG Innotek

Introduction

This document provides the results of IES LM-80-2008 (“LM-80”) testing by referring to the used LED components. Tridonic is providing this data so that the public can verify the reliability of LEDs used for the product as part of a complete LED lighting system.
Note that this document only provides the end results of the LM-80 tests. This document is subject to change without notice, so please do not link to a local copy.
This report must not be used to claim product certification, approval or any agency of the federal government.

LED Type:	STARK-CLE-220-1500-8x0-CLA-EM, STARK-CLE-220-1500-8x0-CLA-EM-SO,
Manufacturer:	Tridonic

Picture:	

Test Place:	KILT, Daewoo Technopark A-403, Bucheon-city, Gyeonggido, Korea 420-130
Measuring devices:	Temperature controlling chamber (water controlled heat sink for constant case temperature), Integrating sphere and constant current source

Impressum:
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Rechtsform der Gesellschaft: GmbH & Co KG | Sitz der Gesellschaft: Dornbirn | Firmenbuchnummer: FN 218728 i |
Firmenbuchgericht: Feldkirch | UID-Nr.: AT U53 377 108

1. Test Description

1.1. Number of light sources for test: Based on SMD package data (25 packages tested per test condition)

1.2. Description of light sources:
STARK-CLE-220-1500-8x0-CLA-EM: hexagonal shaped Ø220mm LED module with 34 SMD packages
STARK-CLE-220-1500-8x0-CLA-EM-SO: hexagonal shaped Ø220mm LED module with 34 SMD packages with cut out for the HF sensor

1.3. Auxiliary Equipment: Active cooling system: board with water cooled heat sink to control case temperature

1.4. Operating Cycle: constant direct current

1.5. Ambient Conditions: Air temperature is controlled to 25℃ +/-2℃; Relat ive humidity: <65% R.H.

1.6. Case temperatures: 55℃, 75℃ and 85℃

1.7. Drive current: 390mA (130mA per package)

1.8. Initial Performance: see test results

1.9. Light source monitoring interval: 0, 500, 1000, 2000, 3000,4000, 5000 and 6000h

1.10. Photometric Measurement uncertainty: equipment is calibrated monthly and the calibration data ensures +/-2% uncertainity of measurement

2. Test Results:

Conditions:
T_s : 55℃
Drive current: 390mA (130mA per package)

Lumen maintenance:

	Initial measurement	Lumen maintenance [%]								TM21 calculated L70	TM21 reported L70
	Φ [lm]	0h	500h	1000h	2000h	3000h	4000h	5000h	6000h		
Average	640.2	100.0	99.9	100.7	102.1	102.5	101.8	102.1	97.8	88,000h	>36,000h
Min.	635.8	100.0	98.9	100.2	101.8	102.3	101.6	101.8	97.4		
Max.	644.6	100.0	100.7	101.0	102.4	102.7	102.1	102.4	98.2		

Chromaticity shift:

	Δu'v'							
	0h	500h	1000h	2000h	3000h	4000h	5000h	6000h
Average	0.0000	0.0005	0.0003	0.0008	0.0015	0.0017	0.0019	0.0020
Min.	0.0000	0.0001	0.0002	0.0006	0.0013	0.0015	0.0018	0.0018
Max.	0.0000	0.0029	0.0005	0.0010	0.0016	0.0019	0.0021	0.0021

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Conditions:

T_s : 75℃
Drive current: 390mA (130mA per package)

Lumen maintenance:

	Initial measurement	Lumen maintenance [%]								TM21 calculated L70	TM21 reported L70
	Φ [lm]	0h	500h	1000h	2000h	3000h	4000h	5000h	6000h		
Average	642.4	100.0	100.0	100.5	102.0	102.0	100.9	100.0	97.0	54,000h	>36,000h
Min.	635.8	100.0	99.7	100.3	101.6	101.6	100.5	99.7	96.7		
Max.	646.8	100.0	100.7	101.3	102.5	102.7	101.4	100.8	97.4		

Chromaticity shift:

	Δu'v'							
	0h	500h	1000h	2000h	3000h	4000h	5000h	6000h
Average	0.0000	0.0002	0.0003	0.0007	0.0015	0.0017	0.0019	0.0022
Min.	0.0000	0.0000	0.0000	0.0006	0.0013	0.0015	0.0017	0.0021
Max.	0.0000	0.0005	0.0005	0.0009	0.0016	0.0019	0.0020	0.0023

Conditions:

T_s : 85℃
Drive current: 390mA (130mA per package)

Lumen maintenance:

	Initial measurement	Lumen maintenance [%]								TM21 calculated L70	TM21 reported L70
	Φ [lm]	0h	500h	1000h	2000h	3000h	4000h	5000h	6000h		
Average	642.4	100.00	99.8	99.7	100.9	101.2	100.2	98.8	95.9	49,000h	>36,000h
Min.	638.0	100.00	99.4	98.9	100.3	100.4	99.4	97.9	95.1		
Max.	646.8	100.00	100.0	101.9	101.5	101.7	100.8	100.1	96.7		

Chromaticity shift:

	Δu'v'							
	0h	500h	1000h	2000h	3000h	4000h	5000h	6000h
Average	0.0000	0.0001	0.0002	0.0008	0.0015	0.0017	0.0017	0.0020
Min.	0.0000	0.0000	0.0000	0.0007	0.0013	0.0015	0.0015	0.0018
Max.	0.0000	0.0003	0.0004	0.0010	0.0017	0.0019	0.0020	0.0022

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