

Holophane LED Guidelines

Product Name: PROTEON

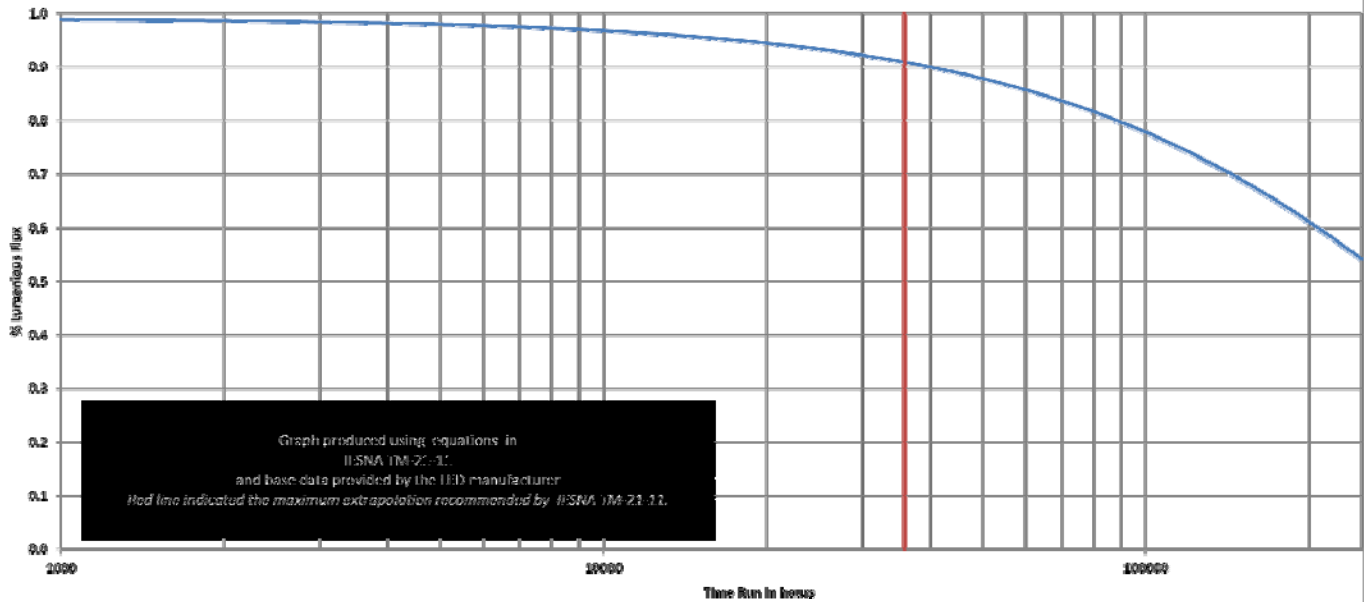


Property of Holophane Europe Limited

10/05/12

Luminaire Maintenance Curve

IESNA TM-21-11 - Nichia NVSL219A-H3, NVSW219A run at a Tj of 85°C



IESNA – Lighting Engineering Society of North America.

LED Manufacturer: NICHIA

Luminaire Ta (°C): 40°C

LED Part Number: NVSL219AT

HEL Package Description: PROTEON (PTN)

Luminaire Characteristics Information

	L064	L124	L184
	54LED @ 350mA	108LED @ 350mA	162LED @ 350mA
Initial Lumen Output (lumens):	6,000*	12,000*	18,000*
Estimated Efficacy (power/module lumen output):	81lm/W	81lm/W	81lm/W
Expected LED Life - L70(hours)	100,000 ⁺		

	25°C		25°C
Driver Current (A)	350mA	CCT (Correlated Colour Temperature)	4000K
Estimated Power Consumed per LED (W)	1.37	(X,Y) Chromaticity co-ordinates (4K)	0.344, 0.355
Estimated Power Consumed per Luminaire (W), includes driver losses	L064: 74W L124: 148W L184: 222W	CRI - Ra 8 (at operating temperature)	67
T Junction (calculated - °C)	Tj = 85°C (350mA) @40°C	Colour	Neutral White
L70:B10 (hours)	100,000 ⁺		

* Circa lumen output dependent on distribution.

⁺ LED life only. Est driver life of 50,000 hrs at 25°C.

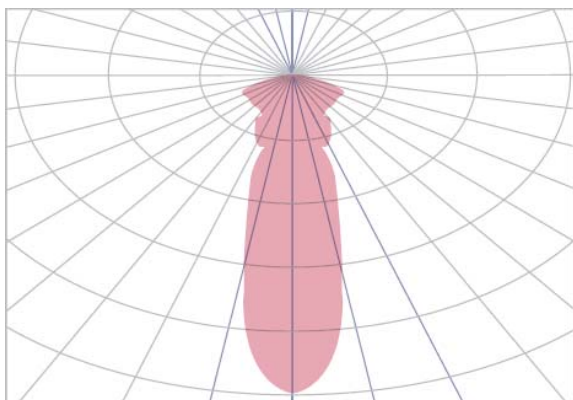
For further information contact:

01908 649 292 or visit www.holophane.co.uk

Photometric Information

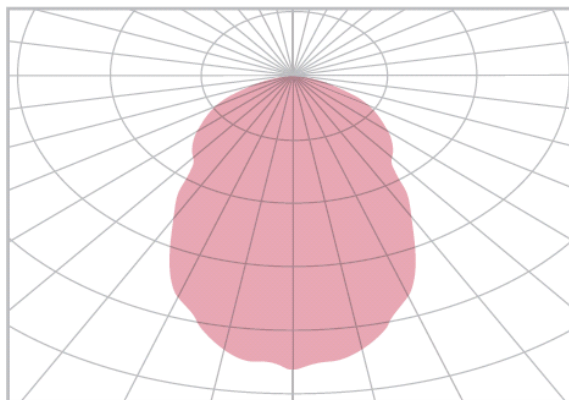
Focus

Luminaire DLOR	100.0%
Luminaire ULOR	0.0%



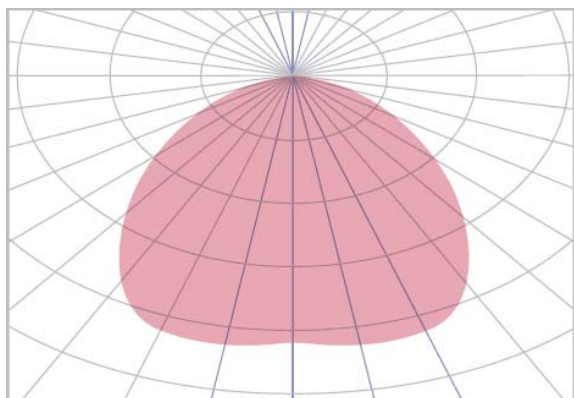
Intensive

Luminaire DLOR	100.0%
Luminaire ULOR	0.0%



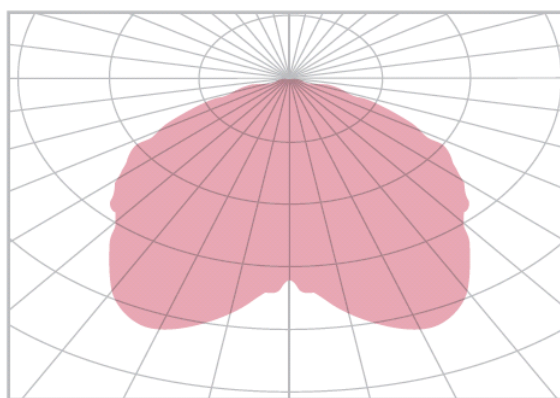
Broad

Luminaire DLOR	100.0%
Luminaire ULOR	0.0%



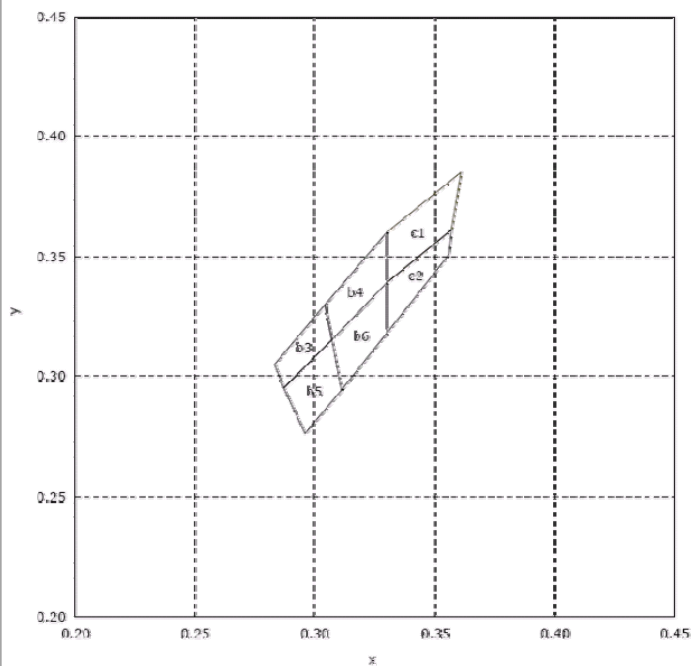
Open

Luminaire DLOR	100.0%
Luminaire ULOR	0.0%



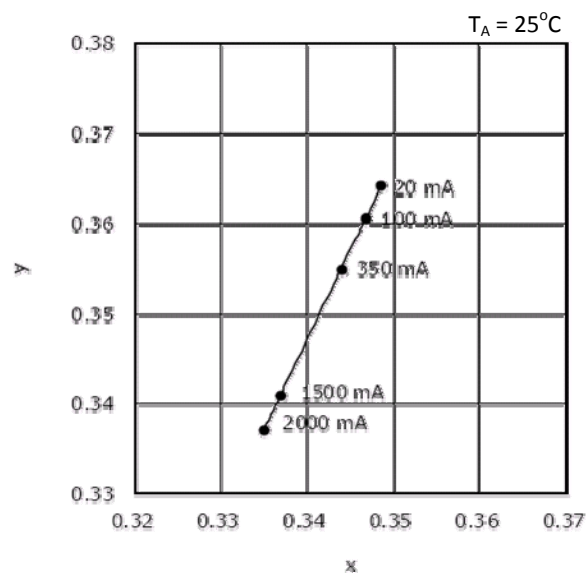
Graph 2 – Chromaticity Co-ordinates.

Chromaticity Diagram



Data taken from NICHIA Specification document STS-DA7-0185.

Forward Current vs Chromaticity Coordinates



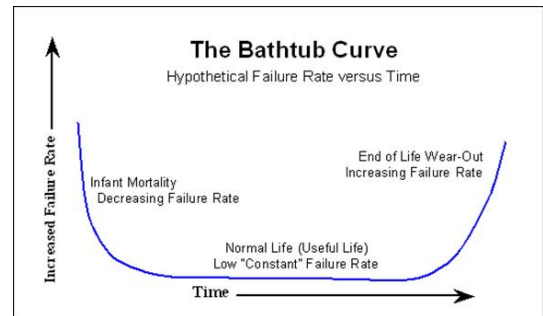
Requires as part of 'Guidelines for Specification of LED Lighting Products'.

Soak Testing

All Holophane LED light engines are 100% "Soak Tested" to eliminate early failures "infant mortality". But what is Soak Testing and why do we do it?

Introduction

This is a quality procedure designed to identify early failures of our LED light engines. All electronic devices, have a common failure profile. This profile predicts very early failures, known as "infant" failures, the failure rate quickly decreases over a short time frame (hours), this is followed by a long period of stable and very low failure rates (years), which finally increases again with the approach of end of design life (Months). This profile is commonly known as the "Bath Tub" curve.



Holophane have made a policy decision to drive every LED light engine through a stringent pre determined power and ambient temperature test profile to reduce the probability of early failure light engines reaching the customer.

Testing Specification

The LED Light Engine is "soak tested" at the maximum declared ambient temperature of any product that it is assembled into. The test orientation is "worst case" of any product that it is assembled into.

The Holophane 'soak test' is conducted over a 47 hour period as follows:

- Powered at Maximum supply voltage 11 hours (254v 50Hz)
- 1 hour off
- Powered at Minimum supply voltage 11 hours (207v 50Hz)
- 1 hour off
- Powered at Maximum supply voltage 11 hours (254v 50Hz)
- 1 hour off
- Powered at Minimum supply voltage 11 hours (207v 50Hz)

A light engine failure is deemed to be:

- One or more LEDs having failed
- A failure of a PCB (failed track)
- A light engine lumen output below a pre set minimum.
- A visual difference of colour appearance of individual LED's.

For further information contact: 01908 649 292 or visit www.holophane.co.uk

