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<b>TEST REPORT</b> <b>IEC 60598-2-2</b> <b>Luminaires</b> <b>Part 2: Particular requirements:</b> <b>Section Two – Recessed luminaires</b>	
<b>Report Reference No</b> .....	220130
Date of issue.....	2012-09-13
Total number of pages .....	6
<b>CB/CCA Testing Laboratory Name:</b>	<b>Nemko A/S</b> Phone: (+47) 22 96 03 30
Address .....	<b>P.O. Box 73 Blindern, N-0314 Oslo, Norway</b>
<b>Applicant's name</b> .....	Nordtronic ApS
Address .....	Aalborgvej 86, DK-9300 Sæby, Denmark
<b>Test specification:</b>	
Standard .....	IEC 60598-2-2:1996+A1:1997 used in conjunction with IEC 60598-1:2008
Test procedure .....	Nemko
Non-standard test method.....	N/A
<b>Test item description</b> .....	
Trade Mark .....	Nordtronic ApS
Manufacturer .....	Nordtronic ApS
Model/Type reference .....	See page 3
Ratings .....	See page 3

<b>Testing procedure and testing location:</b>	
<input checked="" type="checkbox"/> <b>CB Testing Laboratory:</b> Testing location/ address .....:	Nemko AS Gaustadalléen 30, N-0373 Oslo Norway
<input type="checkbox"/> <b>Associated CB Laboratory:</b> Testing location/ address .....:	
Tested by (name + signature) .....: Victor He Approved by (+ signature).....: Tore Ledaal	 
<input type="checkbox"/> Testing procedure: TMP Tested by (name + signature) .....: Approved by (+ signature).....: Testing location/ address .....:	
<input type="checkbox"/> Testing procedure: WMT Tested by (name + signature) .....: Witnessed by (+ signature) .....: Approved by (+ signature).....: Testing location/ address .....:	
<input type="checkbox"/> Testing procedure: SMT Tested by (name + signature) .....: Approved by (+ signature).....: Supervised by (+ signature) .....: Testing location/ address .....:	
<input type="checkbox"/> Testing procedure: RMT Tested by (name + signature) .....: Approved by (+ signature).....: Supervised by (+ signature) .....: Testing location/ address .....:	

**Summary of testing:****Tests performed (name of test and test clause):**

Heating test according Cl.12

The 1<sup>st</sup> Revision report no.220130 which correct the mounting position on page 5 with bold letter, added in page 6 for new mounting position test result.

The 2<sup>nd</sup> Revision report no. 220130 which modified the limit values based on manufacturers updated information. The modifications are in bold letter.

**Testing location:**

**Nemko AS  
Gaustadalleen 30  
0373 Oslo**

**Copy of marking plate:**

<b>Test item particulars</b> .....	
Classification of installation and use .....	Recessed, normal use
Supply Connection .....	Screwless terminal
.....	
.....	
<b>Possible test case verdicts:</b>	
- test case does not apply to the test object.....	N/A
- test object does meet the requirement.....	P (Pass)
- test object does not meet the requirement.....	F (Fail)
<b>Testing</b> .....	
Date of receipt of test item .....	2012-09-11
Date (s) of performance of tests.....	2012-09-12, <b>2012-09-16</b>

**General remarks:**

The test results presented in this report relate only to the object tested.  
 This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

"(See Enclosure #)" refers to additional information appended to the report.

"(See appended table)" refers to a table appended to the report.

Throughout this report a comma (point) is used as the decimal separator.

Clause numbers between brackets refer to clauses in IEC 60598-1

**General product information:**


IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict

<b>ANNEX 2: temperature measurements, thermal tests of Section 12</b>			
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Type reference .....	Nordtronic Low Profile LED Spot	—
Lamp used.....	Integral LED module	—
Lamp control gear used .....	Nordtronic Low Profile LED Spot	—
Mounting position of luminaire .....	Recessed in ceiling <b>wooden case</b> covered with 200mm <b>thermal insulating material.</b>	—
Supply wattage (W).....	7,3W @ 243,8V; 7,1W @ 230V	—
Supply current (A) .....	36mA@ 243,8V; 35mA@ 230V	—
Calculated power factor .....	0,83 / 0,88	—
Table: measured temperatures corrected for $t_a = 25\text{ }^\circ\text{C}$ :		P
- abnormal operating mode .....	Short-circuit output of CG, no hazard	—
- test 1: rated voltage .....		—
- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....	1,06 x 230V = 243,8V	—
- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage .....		—
- test 4: 1,1 times rated voltage or 1,05 times rated wattage.....		—
Through wiring or looping-in wiring loaded by a current of A during the test .....		—

temperature ( $^\circ\text{C}$ ) of part	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	Test 4	limit
Wooden box over lamp		56		90		
Wooden box ring of hole		48		90		
Wooden support under CG		61		90		
Plastic enclosure of lamp		66		<b>120</b>		
Enclosure of CG (tc mark)		68		<b>80</b>		
Lampholder		80		$\geq 200$ *)		
Wiring to lampholder		69		200		
Main transformer in CG		90		<b>110</b>		
Supply terminal in CG		42		$\geq 85$ *)		

\*) depend on the component cert. temperature rating. The figure is normal temperature rating for such parts.

Revision page, ver.#2 2012-09-19 Victor He *Victor He*

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict

<b>ANNEX 2: temperature measurements, thermal tests of Section 12</b>			
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Type reference .....	Nordtronic Low Profile LED Spot	—
Lamp used.....	Integral LED module	—
Lamp control gear used .....	Nordtronic Low Profile LED Spot	—
Mounting position of luminaire .....	Recessed in ceiling direct covered with 200mm thermal insulating material.	—
Supply wattage (W).....	7,3W @ 243,8V; 7,1W @ 230V	—
Supply current (A) .....	36mA@ 243,8V; 35mA@ 230V	—
Calculated power factor .....	0,83 / 0,88	—
Table: measured temperatures corrected for ta = 25 °C:		P
- abnormal operating mode .....	Short-circuit output of CG, no hazard	—
- test 1: rated voltage .....		—
- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....	1,06 x 230V = 243,8V	—
- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage .....		—
- test 4: 1,1 times rated voltage or 1,05 times rated wattage.....		—
Through wiring or looping-in wiring loaded by a current of A during the test .....		—

temperature (°C) of part	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	Test 4	limit
Lamp top surface		71		90		
Ring of wooden hole		52		90		
Wooden support under CG		75		90		
Plastic enclosure of lamp		73		<b>120</b>		
Enclosure of CG (tc mark)		<b>78</b>		<b>80</b>		
Lampholder		84		≥ 200 *)		
Wiring to lampholder		75		200		
Main transformer in CG		<b>102</b>		<b>110</b>		
Supply terminal in CG		48		≥ 85 *)		

\*) depend on the component cert. temperature rating. The figure is normal temperature rating for such parts.