[1] # TYPE EXAMINATION CERTIFICATE

[2] **Equipment or Protective System intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU**

[3] Type Examination Certificate Number: **DEMKO 18 ATEX 2122X Rev. 2**

[4] Product: **Models HLS27 Series LED Luminaires**

[5] Manufacturer: **Banner Engineering Corporation**

[6] Address: **9714 10th Ave. North, Minneapolis, MN 55441 USA**

[7] This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] UL International Demko A/S certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014.

The examination and test results are recorded in confidential report no. **4789090623.3.1**

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018 **EN 60079-7:2015+A1:2018** **EN 60079-31:2014**

except in respect of those requirements listed at item 18 of the Schedule.

[10] If the sign "**X**" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

[11] This Type examination certificate relates only to the design of the specified product, and not to specific items of product subsequently manufactured.

[12] The marking of the product shall include the following:

II 3 G Ex ec IIC T4 Gc

II 3 D Ex tc IIIC T85°C Dc

Certification Manager
Jan-Erik Storgaard

This is to certify that the sample(s) of the Product described herein ("Certified Product") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the ATEX Product Certification Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured product. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product to all applicable Standards, specifications, requirements or Directives. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

Date of issue: 2018-12-21

Re-issued: 2020-02-24

Certification Body UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark
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BANNER P/N
2081 REV. B

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[15] Description of Product

Luminaire models HLS27 Series are linear LED luminaires intended for adjustable wall or ceiling mounting. The luminaires are provided in different lengths and different LED colors. Mounting brackets are provided for proper installation
The luminaires are powered by a Class 2 power supply.

Nomenclature:

HLS27 – Single Color Luminaires

I.	Series Designation: HLS27 – Basic series designation for single color luminaires
II.	Protection D = Enhanced Protection
III.	LED Color W = Cool White WW = Warm White DW = Daylight White R = Red G = Green B = Blue Y = Yellow I = Infrared UV365 = UV with 365mm Wavelength UV395 = UV with 395mm Wavelength
IV.	Luminaire Length 0145 = 145mm 0285 = 285mm 0430 = 430mm 0570 = 570mm 0710 = 710mm 0850 = 850mm 0990 = 990mm 1130 = 1130mm
V.	Window C = Clear
VI.	Control Blank = Hi/Low/Off PWM = Pulse Width Modulation
VII.	Construction Blank = 2m ITC-ER 3 wire cable with unterminated tinned leads W/xx – xx are numeric digits denoting the length of cable provided up to 40ft. QP – Mini style QD QPXX – Mini style QD provided with cable length of 30 ft max.

HLS27 - Dual Color Luminaires

I.	Series Designation: HLS27 – Basic series designation for dual color luminaires
II.	Protection D = Enhanced Protection
III.	LED Color 1 W = Daylight White WW = Warm White R = Red G = Green B = Blue Y = Yellow
IV.	Density D1 Blank = 100% 2 = 50% 3 = 33%

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V.	LED Color 2 W = Daylight White WW = Warm White R = Red G = Green B = Blue Y = Yellow
VI.	Density D2 Blank = 100% 2 = 50% 3 = 33%
VII.	Luminaire Length 0145 = 145mm 0285 = 285mm 0430 = 430mm 0570 = 570mm 0710 = 710mm 0850 = 850mm 0990 = 990mm 1130 = 1130mm
VIII.	Window C = Clear
IX.	Construction Blank = 2m ITC-ER 3 wire cable with unterminated tinned leads W/xx – xx are numeric digits denoting the length of cable provided up to 40ft. QP – Mini style QD QPXX – Mini style QD provided with cable length of 30 ft max.

HLS27 – Segmented Color Luminaires

I.	Series Designation: HLS27 – Basic series designation for segmented luminaires
II.	Protection D = Enhanced Protection
III	LED Color 1 W = Daylight White R = Red G = Green Y = Yellow B = Blue
V	LED Color 2 W = Daylight White R = Red G = Green Y = Yellow B = Blue
IV	LED Color 3 W = Daylight White R = Red G = Green Y = Yellow B = Blue X = no LED
VI	2s = 2 segment 3s = 3 segment
VII	Luminaire Length 285 = 285mm 430 = 430mm 570 = 570mm 850 = 850mm
VIII.	Window C = Clear

IX.	Voltage 24 = 24vdc
X.	Construction Blank = 2m ITC-ER 4 wire cable with unterminated tinned leads W/xx – xx are numeric digits denoting the length of cable provided up to 40ft.

HLS27 – 3 or 5 Color Luminaires

I.	Series Designation: HLS27 – Basic series designation for 3 and 5 color luminaires
II.	Protection D = Enhanced Protection
III	LED Color 1 W = Daylight White R = Red G = Green Y = Yellow B = Blue X = no LED
V	LED Color 2 W = Daylight White R = Red G = Green Y = Yellow B = Blue X = no LED
IV	LED Color 3 W = Daylight White R = Red G = Green Y = Yellow B = Blue X = no LED
VI	LED Color 4 W = Daylight White R = Red G = Green Y = Yellow B = Blue X = no LED
VII	LED Color 5 W = Daylight White R = Red G = Green Y = Yellow B = Blue X = no LED
VIII.	3 = 3 color 5 = 5 color
IX.	Luminaire Length -145 = 145mm -285 = 285mm -430 = 430mm -570 = 570mm -710 = 710mm -850 = 850mm -990 = 990mm -1130 = 1130mm
X.	Window C = Clear
XI.	Voltage 24 = 24vdc

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XII.	Construction Blank = 2m ITC-ER 4 wire cable with unterminated tinned leads W/xx – xx are numeric digits denoting the length of cable provided up to 40ft.

Electrical Ratings

Light Length mm	Voltage					
	12 Vdc		24 Vdc		30 Vdc	
	Current, A	Watt, W	Current, A	Watt, W	Current, A	Watt, W
145	0.4	4.8	0.2	4.8	0.16	4.8
285	0.8	9.6	0.4	9.6	0.3	9.6
430	1.2	14.4	0.6	14.4	0.5	14.4
570	1.6	19.2	0.8	19.2	0.6	19.2
710	2	24	1	24	0.8	24
850	2.4	28.8	1.2	28.8	0.9	28.8
990	2.8	33.6	1.4	33.6	1.1	33.6
1130	3.2	38.4	1.6	38.4	1.2	38.4

Segmented Color Models		
Light Length (mm)	Rated Voltage (V dc)	Maximum Rated Current (A)
285	24Vdc (+20%/-10%)	0.4 A
430		0.6 A
570		0.8 A
850		1.2 A

3 or 5 Color Models 24Vdc (+20%/-10%)		
Light Length (mm)	Max Current (A)	Max Watts (W)
145	0.2	5.76
285	0.4	11.52
430	0.6	17.28
570	0.8	23.04
710	1.0	28.8
850	1.2	34.56
990	1.4	40.32
1130	1.6	46.08

Performance testing
The optical radiation output of the product with respect to explosion protection, according to Annex II clause 1.3.1 of the Directive 2014/34/EU is covered in this certificate based on Exception 2) to the scope of EN 60079-28:2015.

Temperature range
The relation between ambient temperature and the assigned temperature class is as follows:

Ambient temperature range	**Temperature Class**
-40 °C ≤ Ta ≤ +50 °C (for II 3G)	T4
-40 °C ≤ Ta ≤ +50 °C (for II 3D)	T85°C

Ambient temperature range (Segmented/ 3 or 5 color)	**Temperature Class**
-35 °C ≤ Ta ≤ +50 °C (for Gases)	T4
-35 °C ≤ Ta ≤ +50 °C (for Dusts)	T85°C

Routine tests
Dielectric Test according to Clause 6.1 of EN 60079-7.
500Vac applied between the input terminals and the luminaire housing.

[16] Descriptive Documents
The scheduled drawings are listed in the report no. provided under item no. [8] on page 1 of this EU-Type Examination Certificate.

[17] Specific conditions of use:
- Clean the equipment with only a damp cloth.

[18] Essential Health and Safety Requirements
The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9.

[13] **Schedule**

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Additional information
The HLS27 Luminaires have in addition passed the tests for Ingress Protection to IP66/IP67 in accordance with EN60529:1991+A1:2000+A2:2013.

The trade name BANNER will be used as the company identifier on the marking label.