

# Laboratory Service PHYSICAL TEST REPORT



R-Tech  
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Member of Schröder Group

**Subject:** VOLTANA-0 / 8 led's / Xitanium 40W FP Driver

Sample n°: P-E16372, P-E16377

**Test purpose:** Thermal test evaluation @ 1.05A following IEC/EN 60598-1 Standard

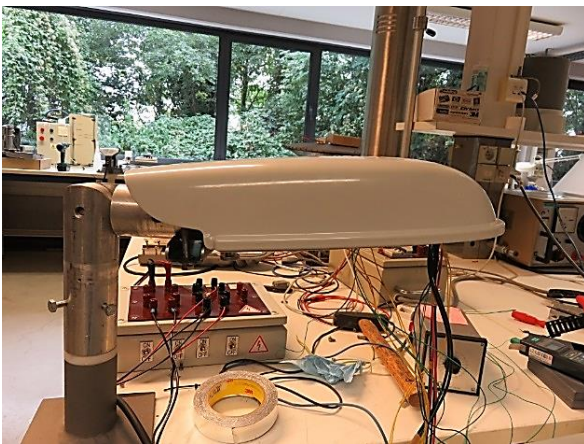
**Remarks:**

Test request n°: P-D16546

Folder n°: P-F16041

**TEST CONDITIONS:**

Operator: CLOSSET Frédérick



Load: 8 Led's

Driver: Xitanium Xi FP 40W 0.31.0A SNLDAE 230V  
S175 sXt  
Set on 1.05A

**Measurement device:**

Yokogawa TX10: thermal measurement

Yokogawa WT 210: primary EM

Fluke 87: Led's EM

**Junction Temperature measurement method**

Junction temperature measurement by base temperature measurement and electrical measurement.

$$T^{\circ}_j = T^{\circ}_b + R_{jb} \times P_{led}$$

**CONCLUSIONS:**

Ta (IEC): 40 limited by Driver + lenses (PMMA)

Tq (IEC): 25 limited by lenses (PMMA)

Tq given for 100 khrs of lifetime

T° given without wind effect to comply with IEC 62722-2-1



Duplicate to: Mr M. Thijs

LAB 03/10/2016

L. Maghe

//P-16CR546









# VOLTANA 0

## 5136

Optic	5136
Protector	Flat glass
Source	8 Samsung LH351C
Matrix	425502

**LENZO  
FLEX™ 2**


### Characteristics

							
416	156	91	2.6	IP 66	IK 08	I EU	0.012
Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Tightness level*	Impact resistance*	Electrical class*	CxS (m <sup>2</sup> )

\* According to IEC-EN60598 and IEC-EN62262

### Features

The ultimate, cost-effective, performing family of luminaires that pays for itself

- Cost-effective and efficient lighting solution for a fast return on investment
- High performance with safety and comfort
- 5 sizes for flexibility
- IP 66 tightness level
- ThermiX® to withstand high temperatures
- Designed to incorporate the Owlet range of control solutions

### Types of application

- Square and park
- Roundabout
- Residential road
- Urban road

### Information for 1000 lm matrix

Efficacy (%)	86.5	G Class (EN 13201-2)	G3	Aperture 90-270°	30 - 13
DLOR (%)	86.5	G* (EN 13201 2015)	G*2	I 70-80-90-95 (cd)	550 - 98 - X - X
ULOR (%)	0.0	I <sub>max</sub> (cd)	554	CIE flux code N 1→5 (%)	50.4 - 79.8 - 97.6 - 100.0 - 86.5
ULR (%)	0.0	Aperture 0-180°	77 - 77		

## Photometrical characteristics

LED count	Colour code	Current (mA)	Luminaire power (W)	Source flux (lm)	Luminaire output flux (lm)	Luminaire efficacy (lm/W)	Peak (cd)	BUG Rating	Voltage (V)
Ambient temp = 25°									
8	NW 740	350	10	1520	1315	132	842	B1 U0 G0	230
8	NW 740	500	14	2096	1814	130	1161	B1 U0 G1	230
8	NW 740	700	19	2810	2432	128	1557	B1 U0 G1	230
8	NW 740	1000	28	3760	3254	116	2084	B1 U0 G1	230
8	NW 740	1050	29	3861	3341	115	2139	B1 U0 G1	230
8	NW 740	1250	37	4362	3775	102	2417	B1 U0 G1	230
8	WW 730	350	10	1440	1246	125	798	B1 U0 G0	230
8	WW 730	500	14	1986	1718	123	1100	B1 U0 G1	230
8	WW 730	700	19	2663	2304	121	1475	B1 U0 G1	230
8	WW 730	1000	28	3563	3083	110	1974	B1 U0 G1	230
8	WW 730	1050	29	3658	3165	109	2027	B1 U0 G1	230
8	WW 730	1250	37	4133	3576	97	2290	B1 U0 G1	230

*Tolerance on flux +- 7% - Tolerance on power +- 5%*

## Summary

### CONCEPT

Family of 6 road LED luminaires

Recommended installation height: between 4.00 and 12.00m

For optimal heat dissipation, the driver and LED engine are in separate compartments and juxtaposed in a horizontal section

### HOUSING & FINISH

- Housing in high-pressure, die-cast aluminium, polyester powder coated
- Colour: RAL 7038

### INSTALLATION

- Luminaire can be fixed by side-entry with a clamp, suitable for 42-60mm diameter
- Built-in inclination steps: -10°, -5°, 0°, 5°
- Post-top adapter diameter 48-60mm or 76mm, tightened with 2 stainless steel screws
- Direct access to the driver compartment with screws for easy maintenance on-site

### OPTICAL UNIT

- Protected against lens degradation by 5mm thick extra-clear hardened glass
- Flatbed PCB with acrylic lens overlay principle
- Various photometric distributions: from narrow road to motorway, medium and large area
- CRI > 70
- ULOR: 0%

### LED lumen depreciation

- Lifetime residual flux @ Tq=25°C @ 100.000 hrs: 350mA & 500mA; 90%; 700mA: 80%; 1A: 70%

### ELECTRICAL

- Class I or Class II
- Input voltage: 120-277V - 50-60Hz
- Power factor > 90% at full load
- Surge protection: 4kV minimum (10kV + 10kA optional)
- Thermal protection on LED PCBA (see Thermix concept)

### STANDARDS & CERTIFICATIONS

- CE
- ENEC
- LM79-80
- ROHS
- Certified for 3G vibration
- All measurements in ISO17025 accredited laboratory

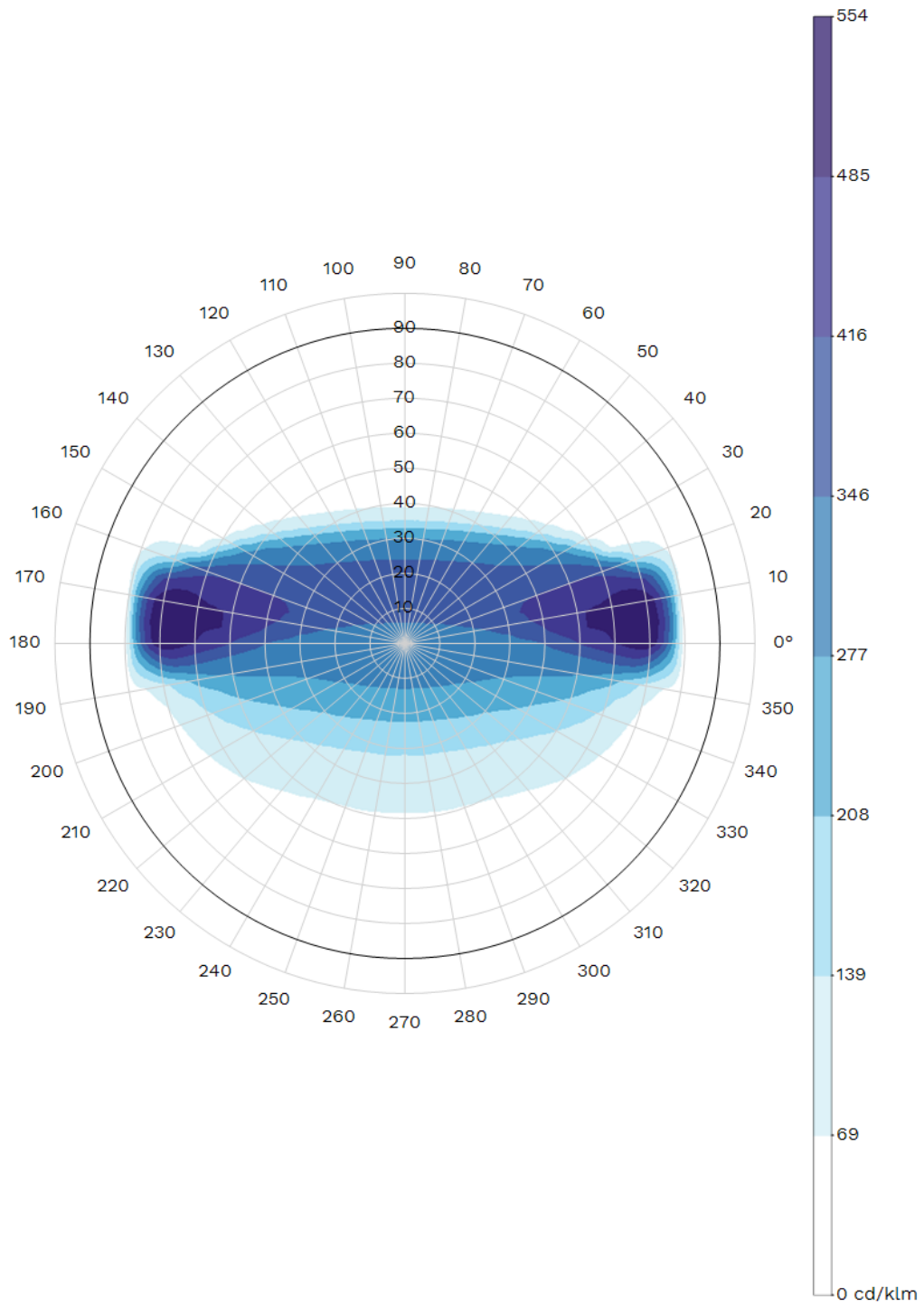
### OPTIONS

- Other RAL or AKZO colours
- Back Light control system
- OWLET remote management
- Custom dimming profile

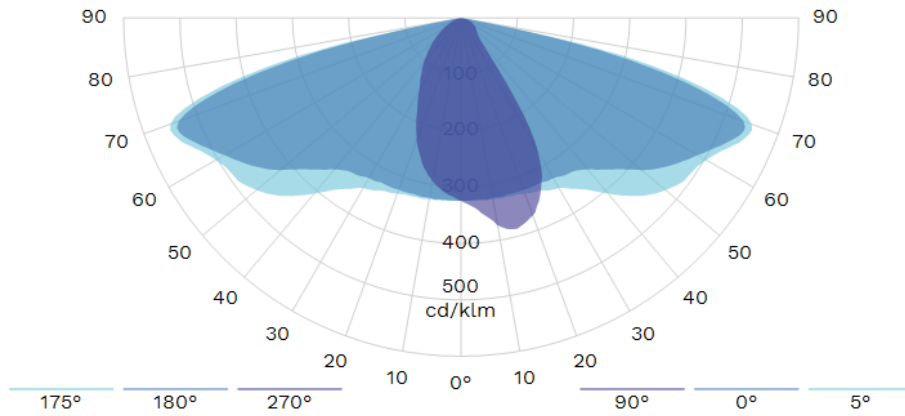
VOLTANA 0 - 5136 - 8 Samsung LH351C - Flat glass - 425502

06/07/2019

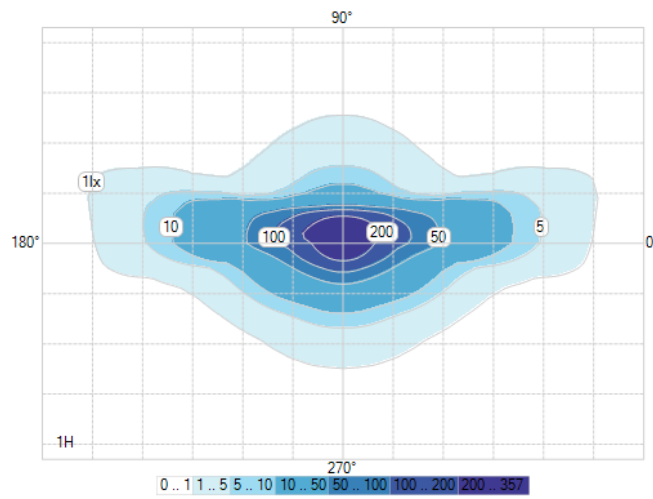
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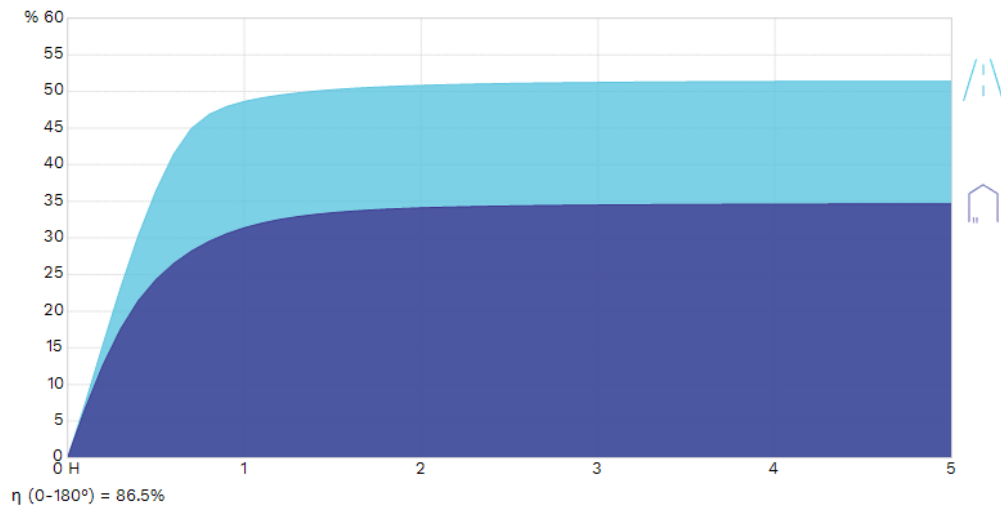
Polar/Cartesian diagram



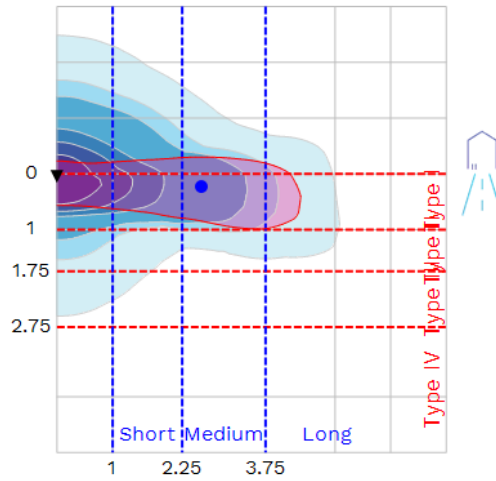
Isolux



K-Curve

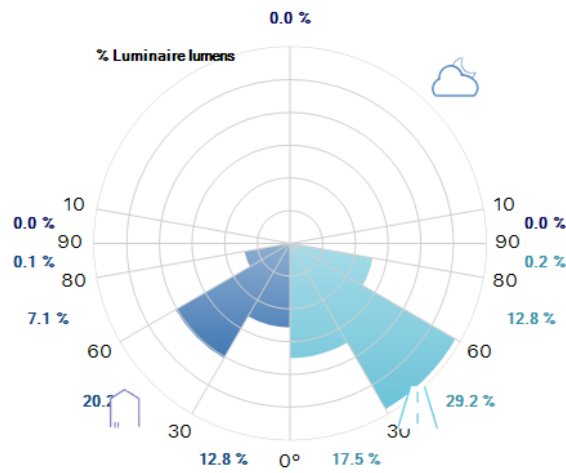


IES Roadway Classification / Nema Classification

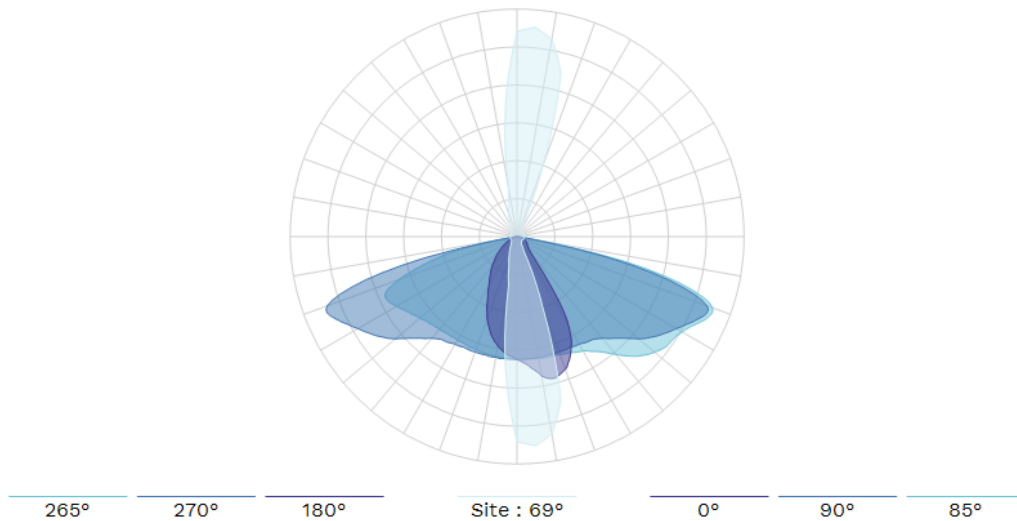


I - Medium

Luminaire classification system (LCS)



Intensity diagram in max Cone and in CPlane



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# VOLTANA 2

## 5163

Optic	5163
Protector	Flat glass
Source	16 LG Innotek 3535 G4L
Matrix	389102



## Characteristics

518	240	109	4.6	IP 66	IK 08	I EU, II EU	0.019
Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Tightness level*	Impact resistance*	Electrical class*	CxS (m <sup>2</sup> )

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## Types of application

- Square and park
- Bridge
- Park
- Roundabout
- Car park
- Road and highway
- Residential road
- Bike path
- Urban road

## Information for 1000 lm matrix

Efficacy (%)	83.0	G Class (EN 13201-2)	G1	Aperture 90-270°	3 - X
DLOR (%)	83.0	G* (EN 13201 2015)	G*1	I 70-80-90-95 (cd)	466 - 161 - X - X
ULOR (%)	0.0	Imax (cd)	477	CIE flux code N 1→5 (%)	42.6 - 74.7 - 96.4 - 100.0 - 83.0
ULR (%)	0.0	Aperture 0-180°	30 - 30		

## Photometrical characteristics

LED count	Colour code	Current (mA)	Luminaire power (W)	Source flux (lm)	Luminaire output flux (lm)	Luminaire efficacy (lm/W)	Peak (cd)	BUG Rating	Voltage (V)
Ambient temp = 25°									
16	NW 740	350	19	2864	2377	125	1366	B1 U0 G1	230
16	NW 740	500	27	3981	3304	122	1899	B1 U0 G1	230
16	NW 740	700	38	5356	4445	117	2555	B1 U0 G1	230
16	NW 740	1000	54	7246	6013	111	3457	B2 U0 G1	230
16	WW 830	350	19	2512	2085	110	1199	B1 U0 G1	230
16	WW 830	500	27	3492	2898	107	1666	B1 U0 G1	230
16	WW 830	700	38	4697	3898	103	2241	B1 U0 G1	230
16	WW 830	1000	54	6355	5274	98	3032	B2 U0 G1	230

*Tolerance on flux +- 7% - Tolerance on power +- 5%*

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- CE
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### OPTIONS

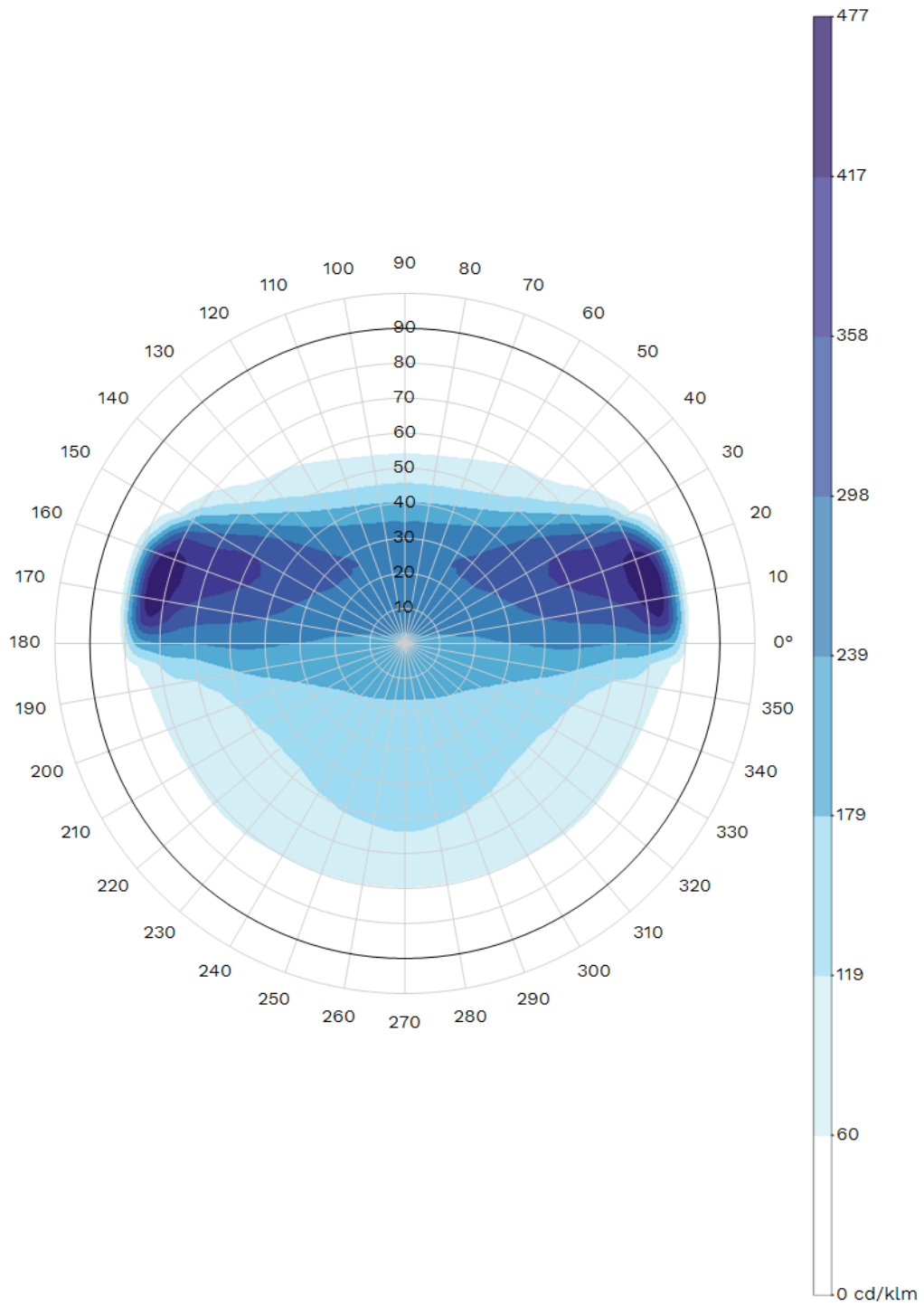
- Other RAL or AKZO colours
- Back Light control system
- OWLET remote management
- Custom dimming profile

VOLTANA 2 - 5163 - 16 LG Innotek 3535 G4L - Flat glass - 389102

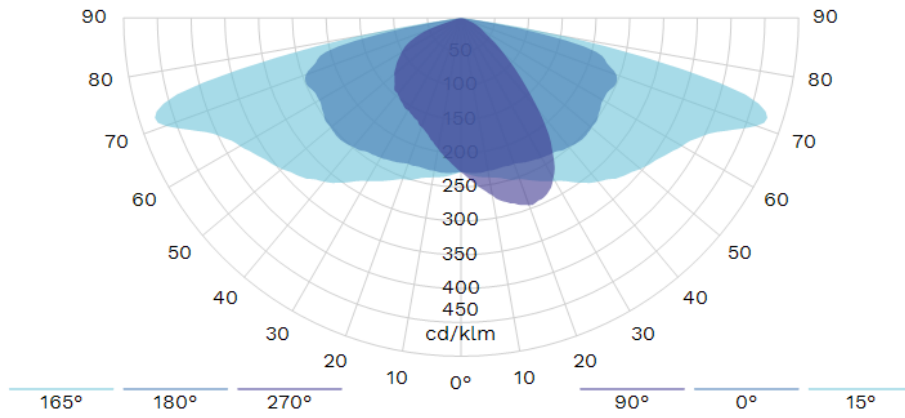
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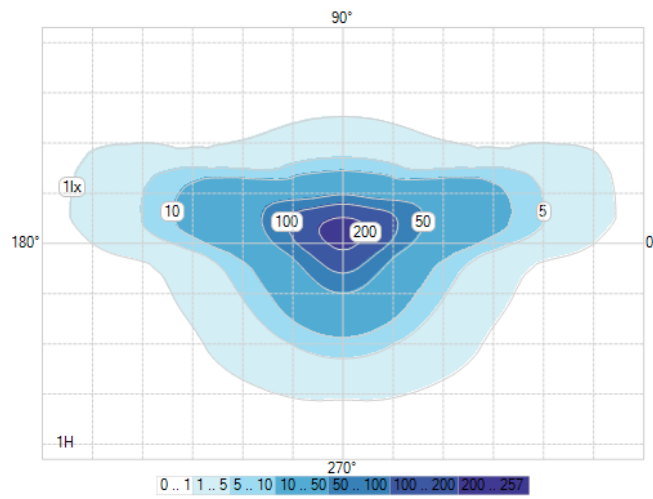
• Photocell



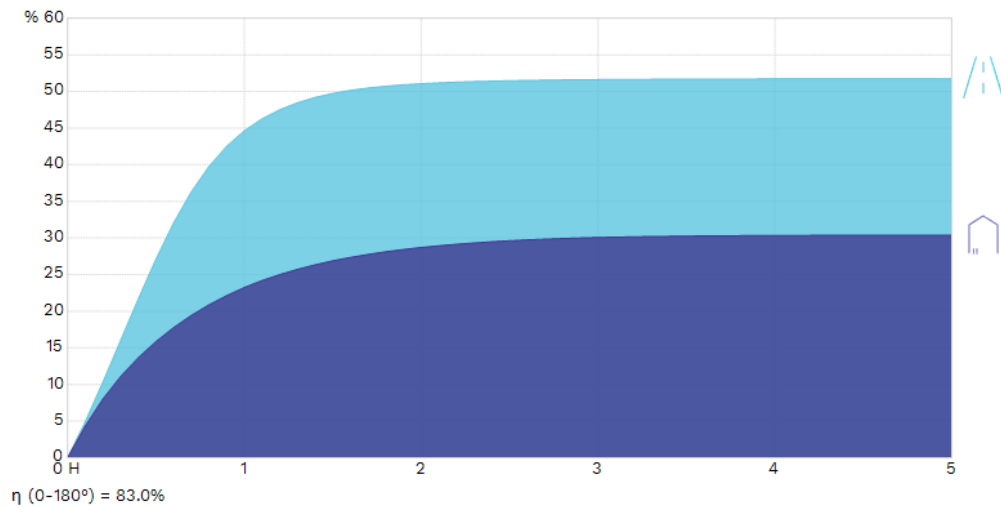
Polar/Cartesian diagram



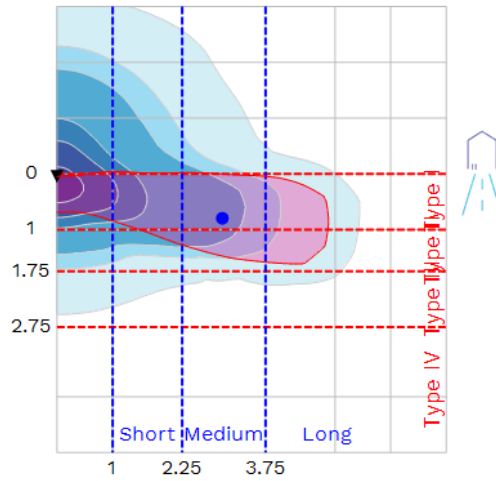
Isolux



K-Curve

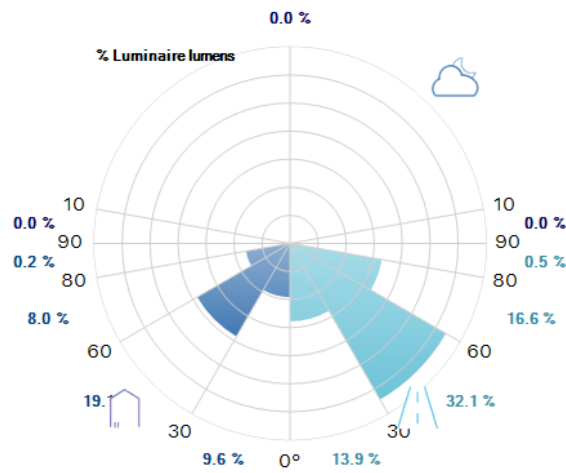


IES Roadway Classification / Nema Classification

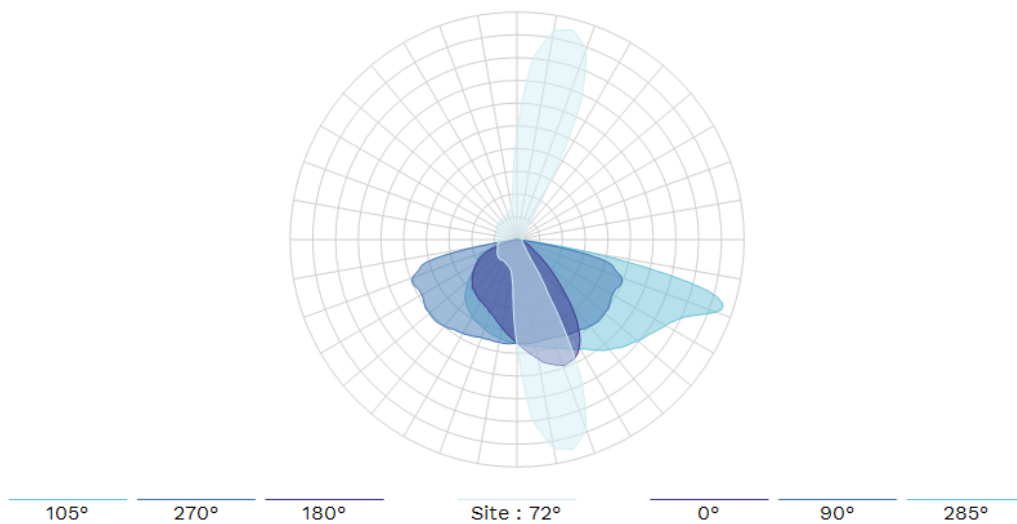


II - Medium

Luminaire classification system (LCS)



Intensity diagram in max Cone and in CPlane



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# Laboratory Service PHYSICAL TEST REPORT



R-Tech  
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Tel.: +32 4 224 71 40 – Fax: +32 4 224 25 90  
Member of Schröder Group

**Subject:** VOLTANA-2 16 Led's

Sample n°: P-E14361

**Test purpose:** Thermal test evaluation @ 1A

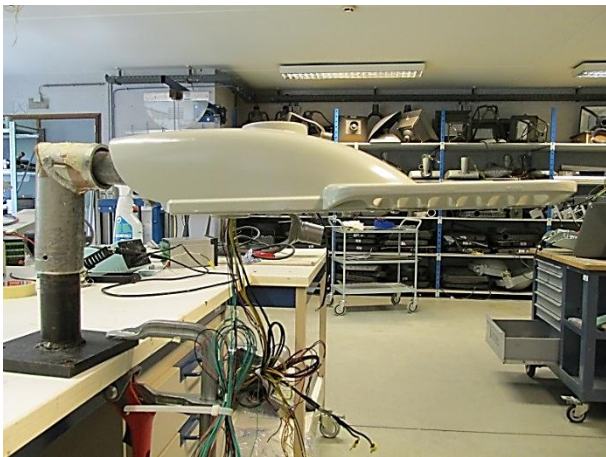
**Remarks:**

Test request n°: P-D14697

Folder n°: P-F14058

## TEST CONDITIONS:

Operator: CLOSSET Frédéric



Load: 16 led's

Driver: LG Innotek LLP 55 W 1,0 A  
PISE-A055A  
Tc 80 °C

## Measurement device:

Yokogawa TX10: thermal measurement

Yokogawa WT 210: primary EM

Fluke 87: secondary and led's EM

## Junction Temperature measurement method

Junction temperature measurement by base temperature measurement and electrical measurement.

$$T^{\circ}_j = T^{\circ}_b + R_{jb} \times P_{led}$$

## CONCLUSIONS:

According to "Led's Lumen Maintenance Criterion" LM80 extrapolation 6.000 hrs, we can state VOLTANA-2 16 led's driven @ 1A by LG Innotek driver LLP 55 W PISE-A055A driver satisfies:

Tq (CEI): 35 °C for led's with L80 – 100 Khrs target

Tq (CEI): 35 °C for lenses in Diakon material

Tq (CEI): 35 °C for driver PISE-A055A

Ta (CEI): 55 °C

100000 часов при 80% от  
исходного потока

Duplicate to: Mr M. Thijs

LAB 23/09/2014

J.P. Harchies

//P-14E697