

Photometric Test Report

Photometric testing and evaluation in accordance with DIN EN 13032

Report prepared for:	Industrial Lighting Ltd Kremikovosko shose Str. 15 1839 Sofia / Bulgaria
Report number:	PTR-20191107-1011297 / 01

Sample tested:	Hydra 220W 242-230
Date of test:	2019-11-07
Manufacturer:	Industrial Lighting Ltd

Testing laboratory:	ILEXA GbR Werner-von-Siemens-Strasse 4a 98693 Ilmenau / Germany Tel.: (+49) 3677 / 466 33 0 Fax: (+49) 3677 / 466 33 14 Internet: www.ilexa.de
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Testing location:	Technische Universität Ilmenau Fachgebiet Lichttechnik Professor-Schmidt-Strasse 26 98693 Ilmenau / Germany
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1. Scope of testing

Analysis of luminous flux and light distribution (far field light intensity distribution, LID) in accordance with DIN EN 13032.

Date of test: 2019-11-07
Report and test prepared by: Kranhold / ILEXA GbR

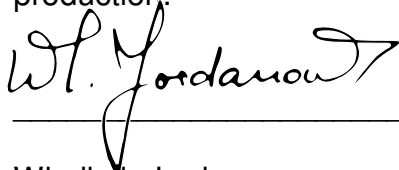
2. Test method

Measurement with near-field-goniophotometer (goniophotometer type 4) according to DIN EN 13032. The testing location is a temperature - controlled, draft free photometric laboratory

General information

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Wladimir Jordanow
ILEXA GbR president

3. Description of test sample

3.1. General information

Sample received:	2019-10-29
Manufacturer:	Industrial Lighting Ltd Kremikovosko shose Str. 15 1839 Sofia / Bulgaria
Product type:	Luminaire
Sample tested:	Hydra 220W 242-230
Model number:	DC/SN 2419/0016
Driver:	intern
Fitted with:	LED module

Dimension of luminaire [mm]:

Length	500	Diameter	-/-
Width	500	Height	140

Dimension of luminous area [mm]:

Length	373	Height C0	0
Width	373	Height C90	0
Diameter	-/-	Height C180	0
		Height C270	0

3.2. Manufacturer specifications

Rated power [W]:	220.0
Rated voltage [V]:	220-240 AC
Rated current [A]:	-/-
Rated frequency [Hz]:	50.0

3.3. Pictures test sample

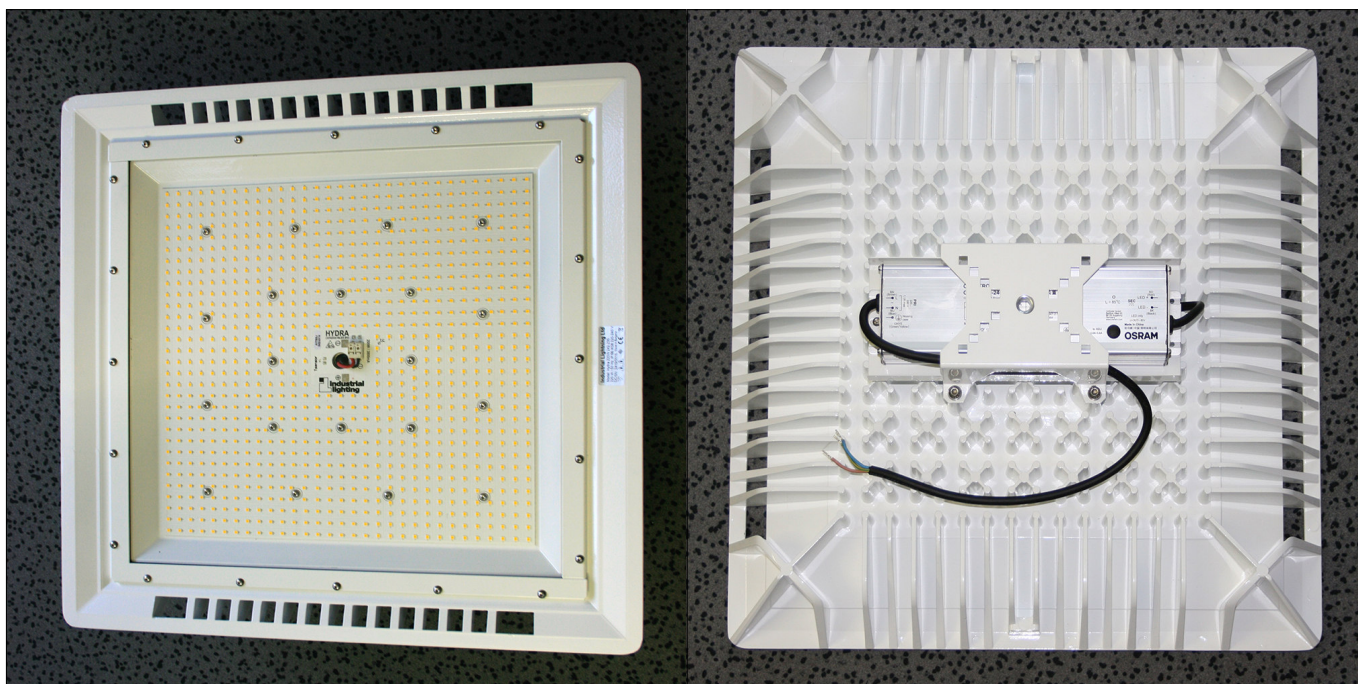


Figure 3.1: Luminaire (left: front view / right: rear view)



Figure 3.2: Luminaire ID

4. Measurement results

The results were obtained after stabilization of the sample in accordance with the requirements.

	Goniophotometer	Spectroradiometer
Total luminous flux [lm]	33724.7	-/-
Flux in lower hemisphere [%]	100.0	-/-
Flux in upper hemisphere [%]	-/-	-/-
Luminous efficacy [lm/W]	158.1	-/-
Correlated color temperature (CCT) [K]	-/-	3877
Color rendering index (CRI - R _a)	-/-	83.4
Chromaticity (x / y)	-/-	0.3871 / 0.3839

Table 4.1: Photometric results

Input power [W]	213.3
Input voltage [V]	229.7 AC
Input current [A]	0.9450
Input frequency [Hz]	-/-

Table 4.2: Electrical parameters

Orientation (burning position) during test	horizontal
Stabilization time [minutes]	49
Ambient temperature [°C]	25 ± 1

Table 4.3: Additional parameters

5. Results goniophotometer

5.1. Candela plots

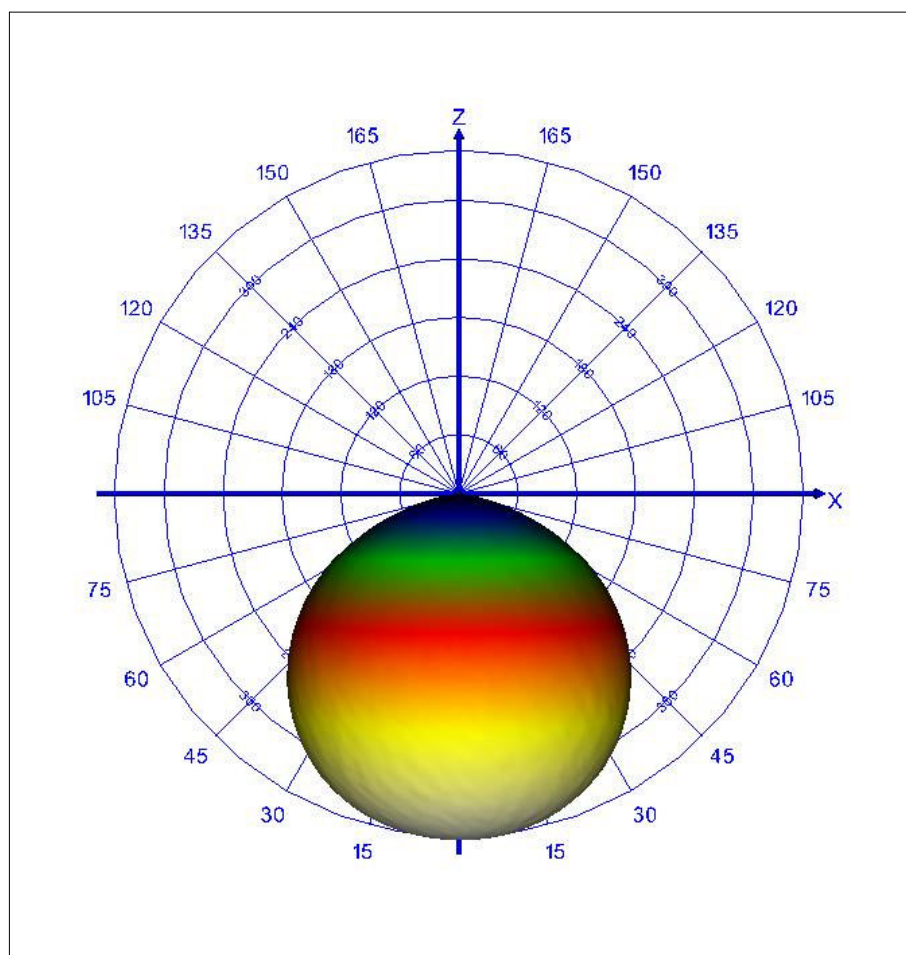


Figure 5.1: 3D - luminous intensity distribution

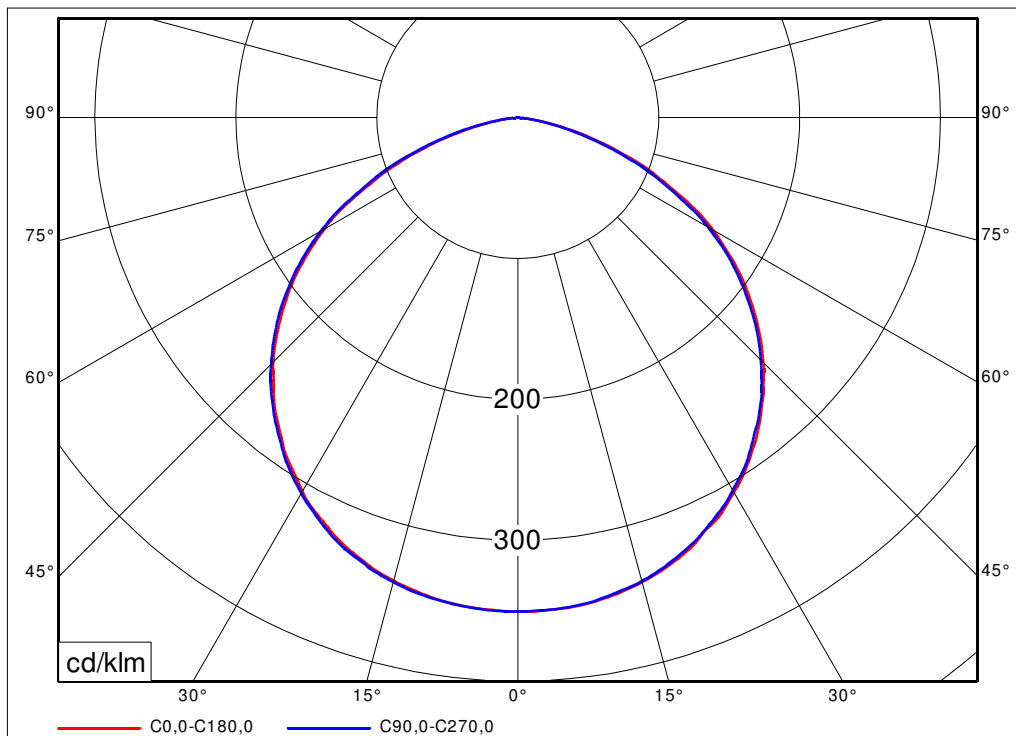


Figure 5.2: Polar candela distribution

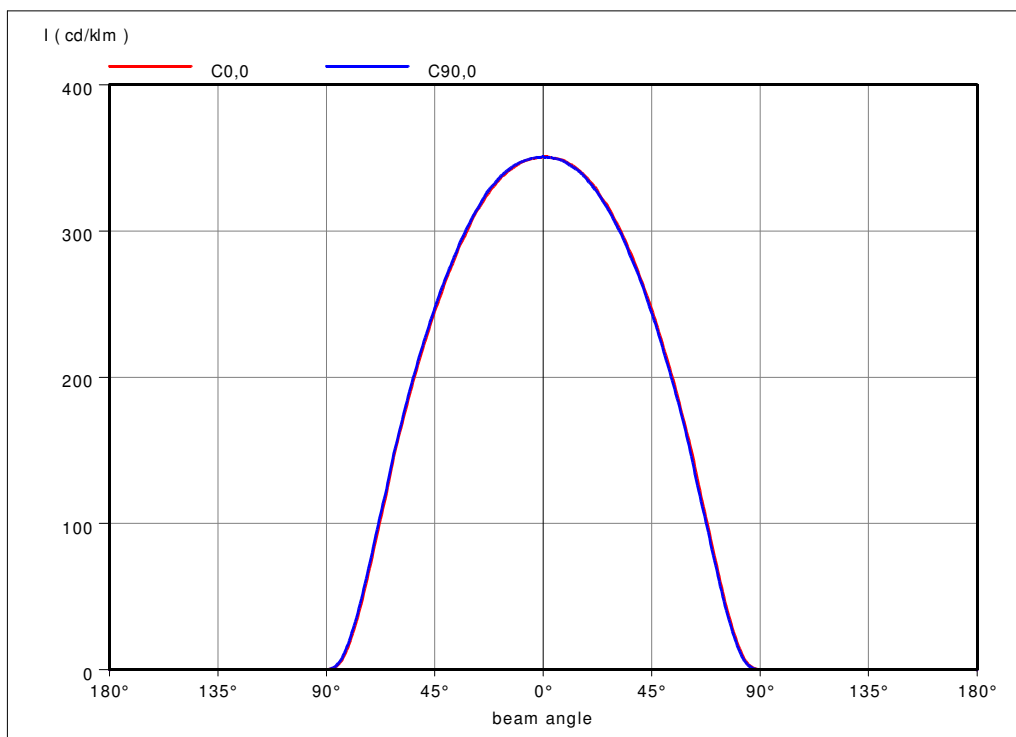


Figure 5.3: Cartesian candela distribution

5.2. Illuminance plots

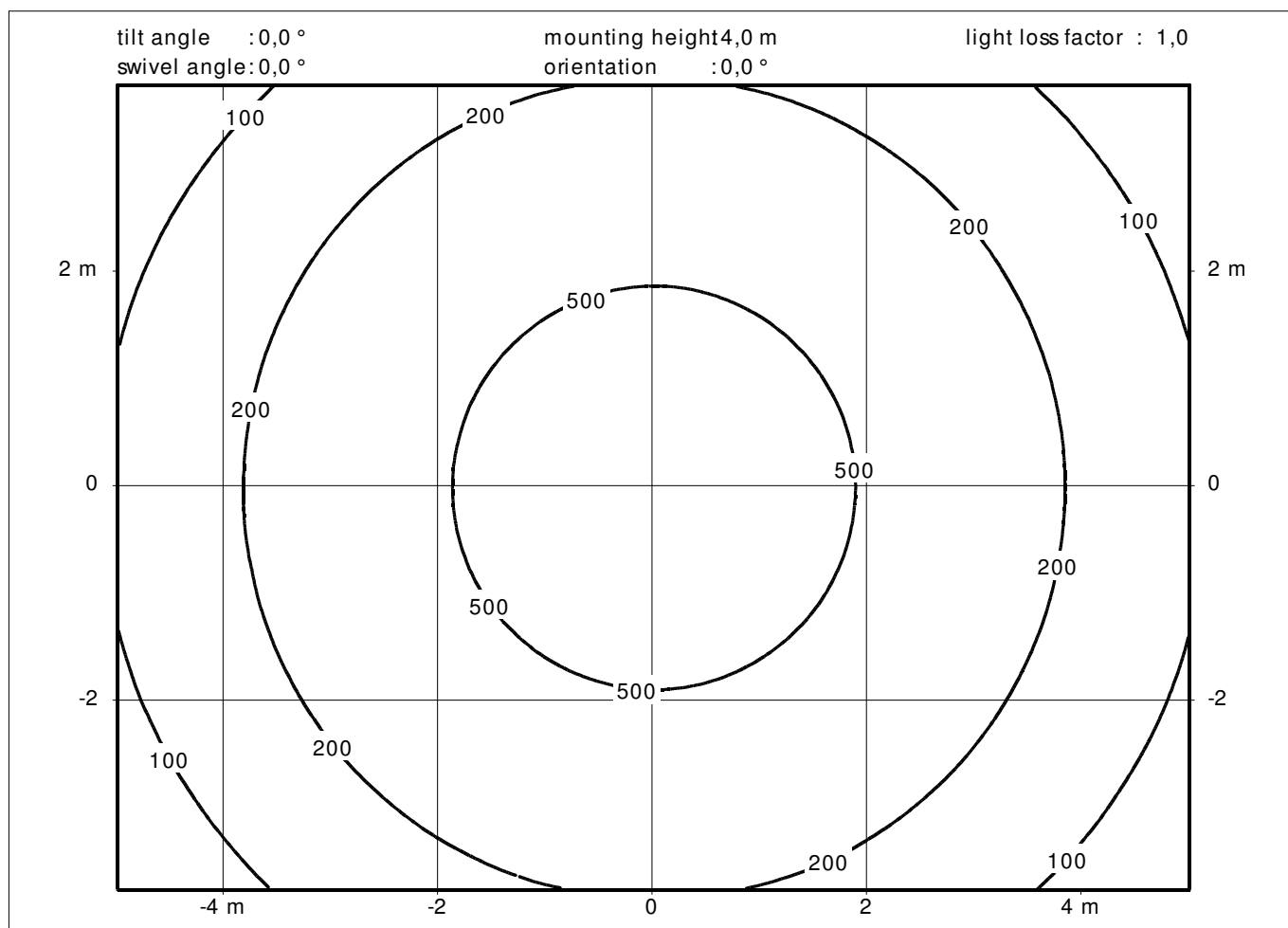


Figure 5.4: Isolux diagram

6. Results spectroradiometer

6.1. Relative spectral distribution

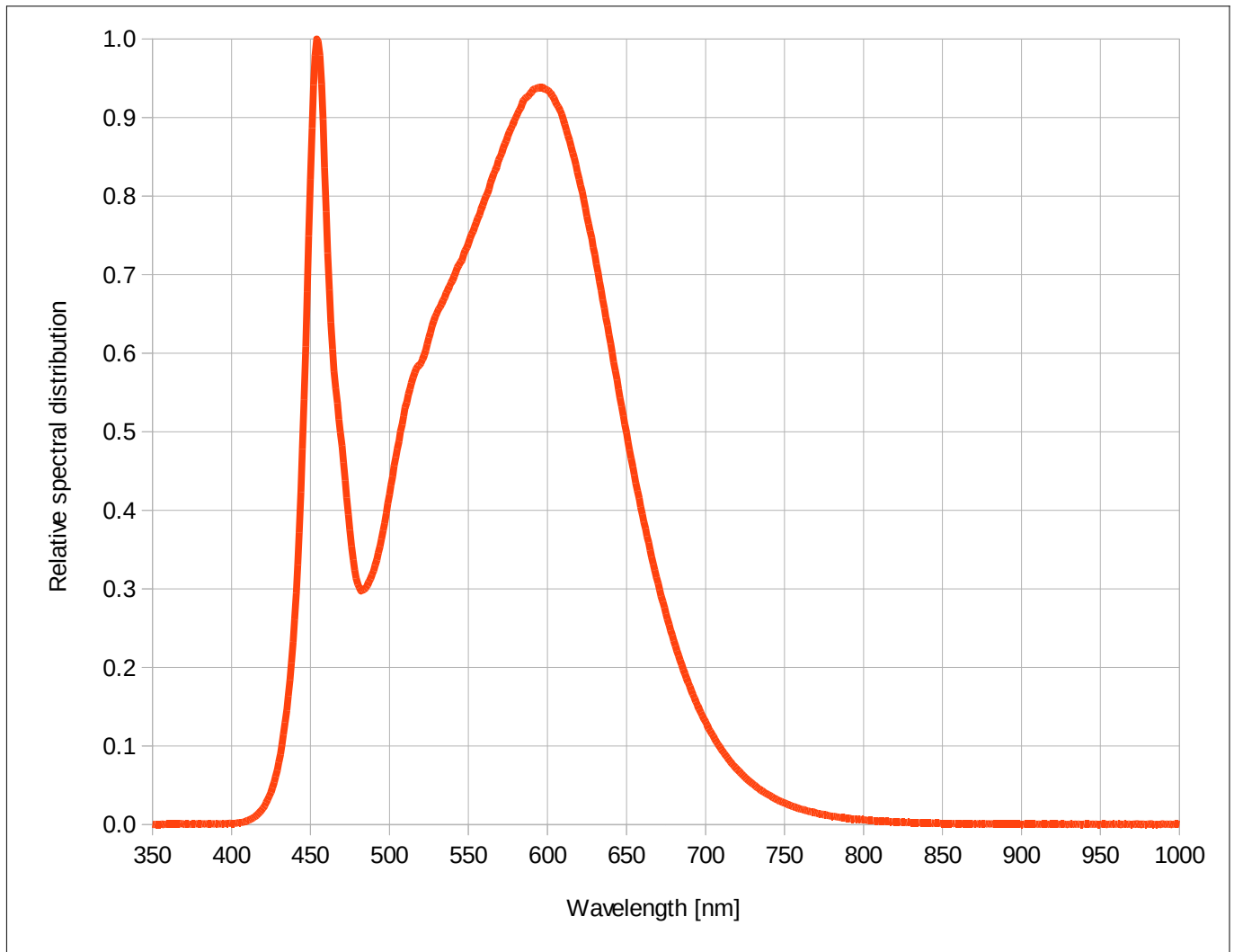


Diagram 1: Relative spectral distribution

7. List of testing equipments

Item	Manufacturer	Model	Calibration due
Goniophotometer	TechnoTeam	RiGo801	yearly
Power supply	Statron	Typ 1201	N/A
Power supply	Statron AG	BE2/01H-IP-R20-B	N/A
Power supply	Elgar	CW801	N/A
Power supply	TDK-Lambda	GEN60-12.5	N/A
Power supply	Delta Elektronika	ES 075-2	N/A
Digital power meter	Yokogawa	WT110	N/A
Digital power meter	Yokogawa	WT210	N/A
Digital multimeter	Fluke	8845A	N/A
Spectroradiometer	JETI	specbos 1211	yearly
Spectroradiometer	Optronic Laboratories	OL 750	yearly
Spectroradiometer	UPRtek	MK350S Premium	yearly

Table 7.1: Test instrumentation