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Main model under test / *Modello prodotto in test*: L803_2022

Test object / *Scopo del test*: type tests according to LM79-08

Test date / *Data del test*: 2023-01-10

Tested by / *Testato da*: Simone ZOFFOLI Massimo Graziani

Supervised by / *Approvato by*: Simone Zoffoli



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Results

Photometric results are summarized in the following table.

Details of measured data are reported in Annex C.

Light fixture <input checked="" type="checkbox"/> LED Module <input type="checkbox"/>	Model: Light 803 LU80300 32
Input electrical ratings	Voltage: 229.9 V Power: 80.2 W Frequency: 50 Hz PF: 0.97 THD: Voltage 0.08006% Current 9.86500%
Source conditions	Tp:\\ Current: 830 mA
Photometry	Method: sphere <input type="checkbox"/> goniophotometer <input checked="" type="checkbox"/>
Conditions	Ambient temperature (Tq): 25°C ± 1°C Air velocity: < 0.2 m/s Detector distance: 13.14m Stability: 60 min.
Results	Luminous flux: 10540 lm System efficacy: 131.4 lm/W Peak intensity: 7361 cd (C=20°-Gamma=62°) Roadway classification: Type II Short BUG ratings: B2 – U3 – G2
Colorimetry	Method: sphere <input type="checkbox"/> goniophotometer <input checked="" type="checkbox"/>
Conditions	Ambient temperature: 25°C ± 1°C Air velocity: < 0.2 m/s Detector distance: 4.06m Stability: 30 min.
Results	Nominal: 3000K – 70 CRI – 5 SDCM Chromaticity (x-y): x = 0.438; y = 0.409 ; (u'-v'): u' = 0.249; v' = 0.523 CCT: 3030 K; CRI 72: ; Duv: 0.0019 n-step u'v' circle: 5 (≈ 5-step MacAdam ellipse) $\Delta u'v'$ (color over angle): 0.009

Sample description

apparecchio LED – L803_2022 – IEC CL II

LU80300-01 TRA 10500lm 730 Type II D

Model number: LU80300 32

Light source: Neri C0894 3000K CRI 70 – with 2 x (16 series of Lumileds 5050 L150-30705006000S0)

Ballast: Philips Xi FP 110W 0.3-1.0A SNLDAE 230V C133 sXt

Dimensions: L 350 mm x W 350 mm x H 700 mm

Luminous area: L 300 mm x W 300 mm x H 450 mm

Test details

Reference standards

Tests are executed according IES LM-79-08 standard by a mirror goniophotometer with fixed sample position.

Test details

Luminous intensity is determined by measurement of illumination and by quadratic of distance law.

Photometric center position is illustrated in Annex A.

Angular scanning resolution used for the tests:

- photometry 5° C-planes and 2° γ -planes
- colorimetry 22.5° C-planes and 10° γ -planes up to 10% of maximum intensity

Post elaborations

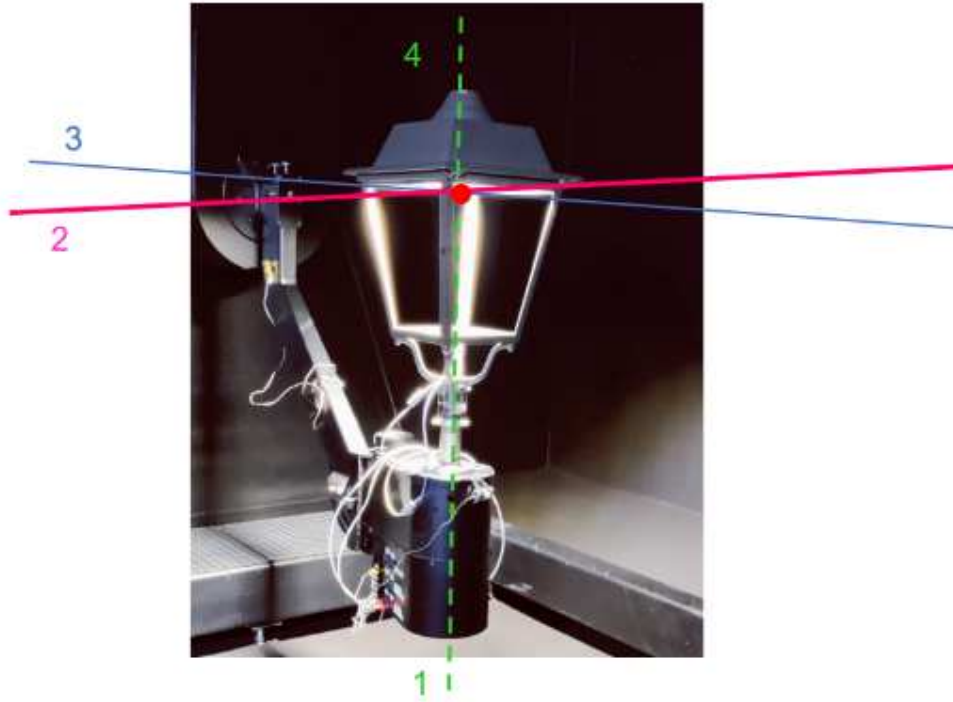
The following elaboration to recorded data was carried out (only the checked ones):

- ☐ the dark room stray light correction;
- ☒ symmetrisation on C 90°-270° plane;
- ☐ symmetrisation on C 0°-180° plane;
- ☐ symmetrisation C 90°-270° and C 0°-180° planes.

Stabilization data

Time [min]	Illuminance [cd] C=0°- G=60	Power [W]	Notes:
14:51	3911.95	80.36	
15:06	3911.42	80.22	
15:21	3911.09	80.21	
Variation	0.02%	0.19%	Limit 0.5%

Annex A: photographic documentation



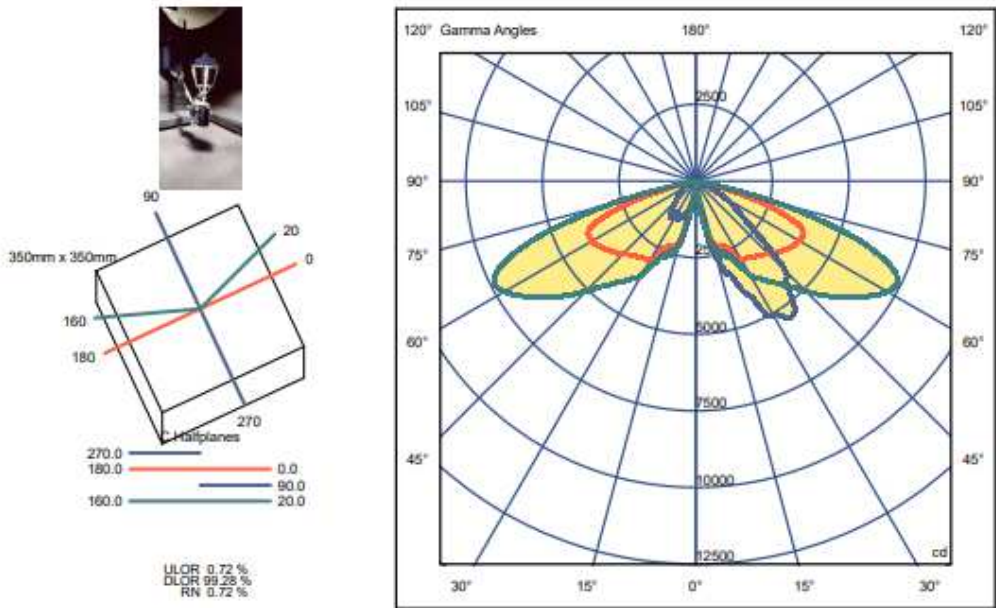
Axis definition: First axis 1 – Second axis 2 – Third axis 3 – Polar axis 4 – • photometric center

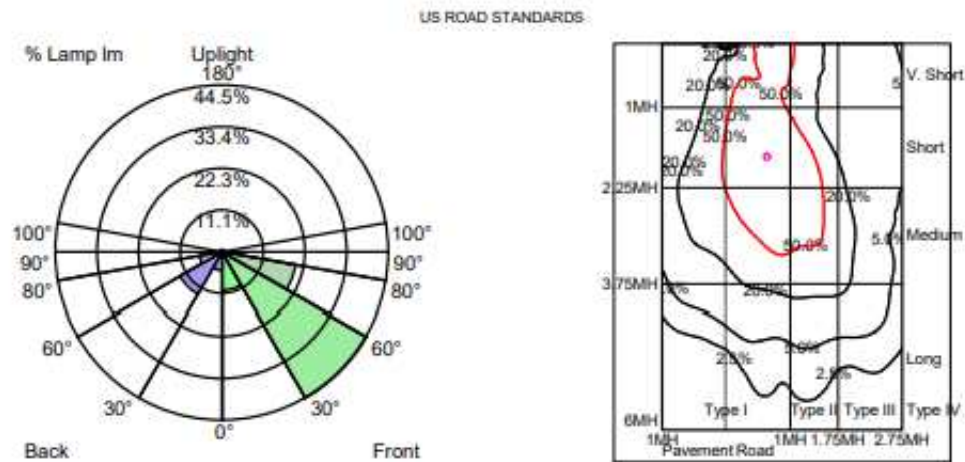
Annex B: list of used equipment

<i>Clause of IES LM-79-08</i>	<i>Measurement / testing</i>	<i>Testing / measuring equipment / material used</i>	<i>Range used</i>	<i>Calibration date</i>
2.1 / 2.2	Air temperature	Delta Ohm DO9847+HP474AC mat.04002004+04006415	20°C ÷ 30°C	2022-09-13
2.1 / 2.3	Air velocity	Delta Ohm DO9847+AP471 S2 mat.04002004+04007760	0÷1 m/s	2022-10-17
3.0	Supply	Elettrotest TPS mat. 109 03/2004	120V-277V 50/60Hz	2021-10-12
8.0 / 11.0	Electrical ratings	N4L PPA2530 WATTMETER mat.156	0-300V 50/60Hz	2022-09-08
9.3 / 10.0	Illuminance	Luxmeter Czibula & Grundnam mat.031205	0÷500 lx	2022-09-20
12	Colorimetric and spectral values	Jeti SpectraVal 1501LAN serial 1500205	mW/(nm λ)	2022-09-26
9.3 / 10.0	Intensity distribution	Goniophotometer T4 WIN Oxytech mat. T4-102-04	Luminaire max 1650mm	2018-04-16

Annex C: plots and tables

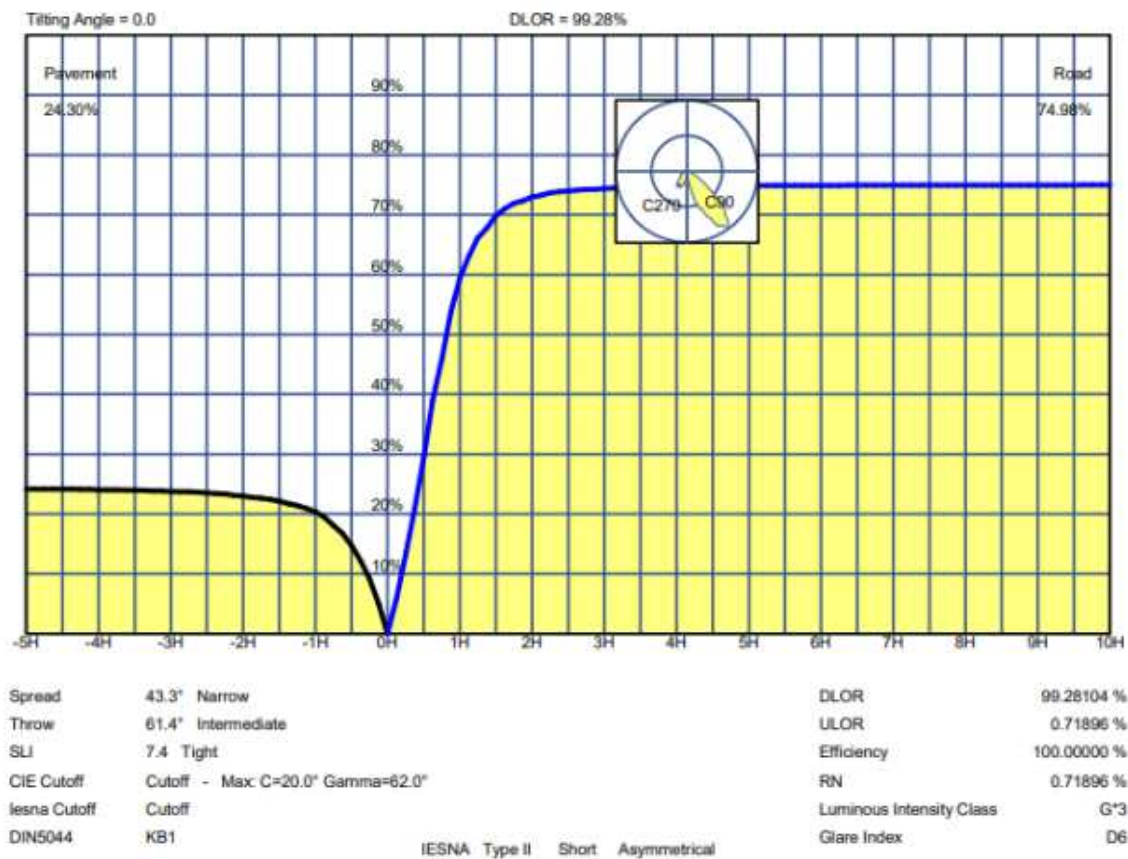
Luminaire						
Code	LUB0300-01 TRA 10500lm 730 Type II D LM79 830mA					
Name	LUB0300-01 TRA 10500lm 730 Type II D LM79 830mA					
Line	OXL					
Measurement						
Code	LUB0300-01 TRA 10500lm 730 Type II D LM79 830mA					
Name	LUB0300-01 TRA 10500lm 730 Type II D LM79 830mA					
Source Data						
Code	Led	Correlated Color Temperature (CCT)		3030K	Qty	1
Name	Led	Color rendering index (CRI)		71		
Line						
Measurement Data						
Coordinate system	CG	Symmetry Type	Sym. on planes 270-90			
Date	10-01-2023	Maximum Gamma Angle	180°			
Measurement Distance	0.00m	Measurement Flux	10539.9 lm			
Maximum	698.42 cd/klm	Position	C=20.0° G=62.0°			
Electrical Parameters						
Channel 1		Channel 2				
Voltage	229.98 V	Voltage	0.00 V			
Current	0.36 A	Current	0.00 A			
Power	80.20 W	Power	0.00 W			
Frequency	50 Hz	Frequency	0 Hz			
Power Factor	0.97	Power Factor	0.00			
Environmental Parameters						
Temperature	24.6 °C	Air Speed	0.0 m/s			
Humidity	31.4 %					
Luminaire Dimensions						
Rectangular Luminaire	Length	350 mm	Width	350 mm	Height	700 mm
Rectangular Luminous Area	Length	300 mm	Width	300 mm	Height	450 mm
Horizontal Luminous Area	0.090000 m2	Emitting area on Plane 180°			0.135000 m2	
Emitting area on Plane 0°	0.135000 m2	Emitting area on Plane 270°			0.135000 m2	
Emitting area on Plane 90°	0.135000 m2	Glare area at 75°			0.152763 m2	
Photometric Assessment						
Luminaire Flux	10539.9 lm	Source Flux	10539.9 lm			
Efficacy	131.420 lm/W	Efficiency	100.0 %			
CIE Flux Codes	35 73 97 99 100	D DIN 5040	A21			
F UTE	0.99 G + 0.01 T	B NBN	BZ 6 / 1.25 / BZ 5			

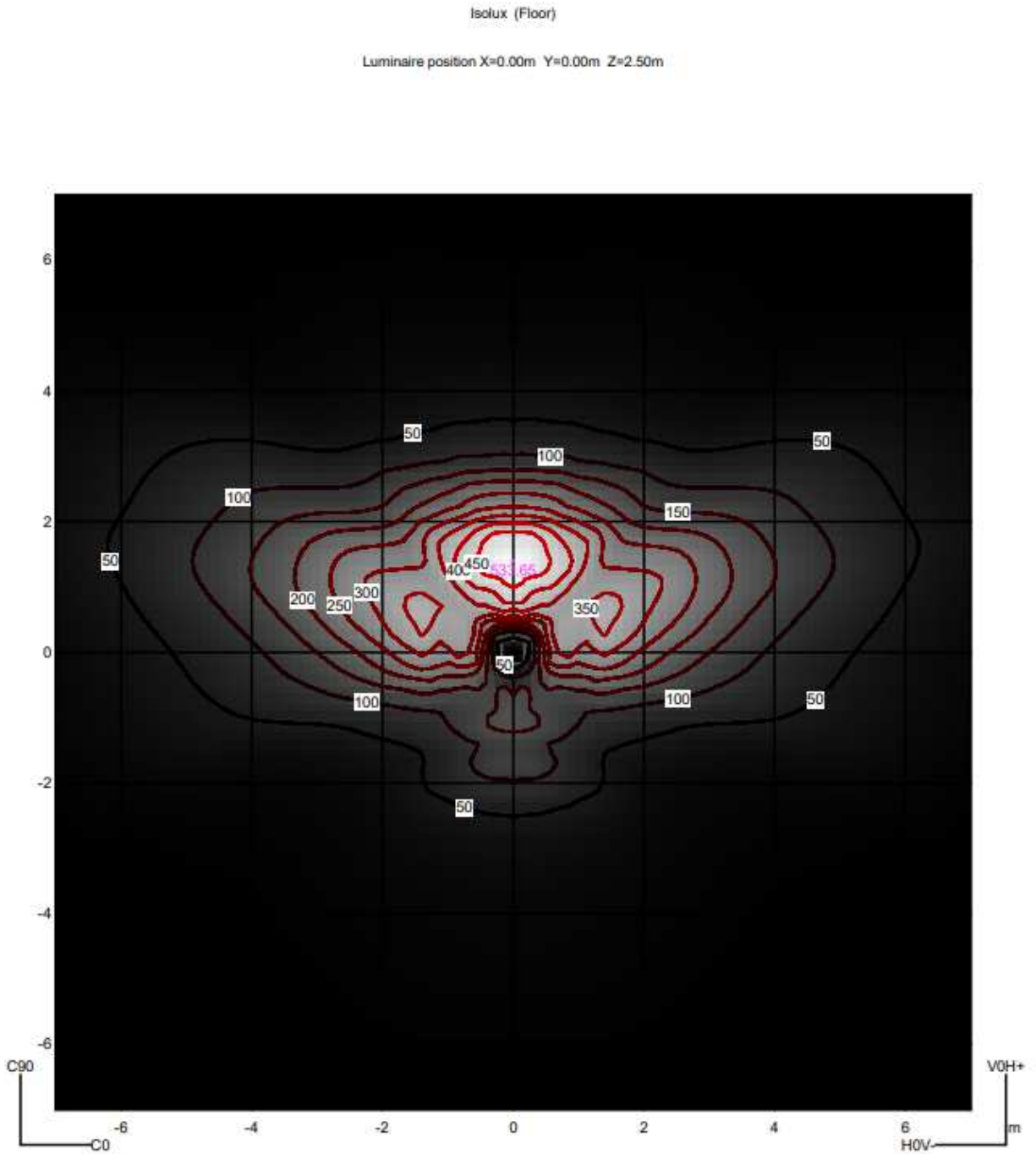




Luminaire Classification System (LCS)				
LCS Zone		Lumens	%Lamp	%Lum
FL	0° – 30°	1079.7 lm	10.2 %	10.2 %
FM	30° – 60°	4694.6 lm	44.5 %	44.5 %
FH	60° – 80°	2104.3 lm	20.0 %	20.0 %
FVH	80° – 90°	24.0 lm	0.2 %	0.2 %
BL	0° – 30°	524.2 lm	5.0 %	5.0 %
BM	30° – 60°	1370.8 lm	13.0 %	13.0 %
BH	60° – 80°	650.4 lm	6.2 %	6.2 %
BVH	80° – 90°	16.3 lm	0.2 %	0.2 %
UL	90° – 100°	10.8 lm	0.1 %	0.1 %
UH	100° – 180°	65.0 lm	0.6 %	0.6 %
TOTALS		10539.9 lm	100.0 %	100.0 %
BUG B2 U3 G2 Type II Short Asymmetrical				

Pavement			Road		
Angle	0	0.00%	Angle	0	0.00%
Angle	-5	3.70%	Angle	5	4.13%
Angle	-10	6.93%	Angle	10	8.91%
Angle	-15	9.73%	Angle	15	14.49%
Angle	-20	12.17%	Angle	20	20.82%
Angle	-25	14.33%	Angle	25	27.86%
Angle	-30	16.15%	Angle	30	35.73%
Angle	-35	17.74%	Angle	35	44.06%
Angle	-40	19.19%	Angle	40	52.23%
Angle	-45	20.36%	Angle	45	59.35%
Angle	-50	21.27%	Angle	50	65.18%
Angle	-55	22.01%	Angle	55	69.24%
Angle	-60	22.65%	Angle	60	71.92%
Angle	-65	23.22%	Angle	65	73.47%
Angle	-70	23.71%	Angle	70	74.24%
Angle	-75	24.04%	Angle	75	74.67%
Angle	-80	24.23%	Angle	80	74.90%
Angle	-85	24.29%	Angle	85	74.96%
Angle	-90	24.30%	Angle	90	74.98%





Spectral Data

Std.: No import standard

CIE1931 $x=0.437516$ $y=0.409040$
CIE1960 $u=0.248820$ $v=0.348938$
CIE1976 $u'=0.248820$ $v'=0.523408$
D(u,v) 0.00189

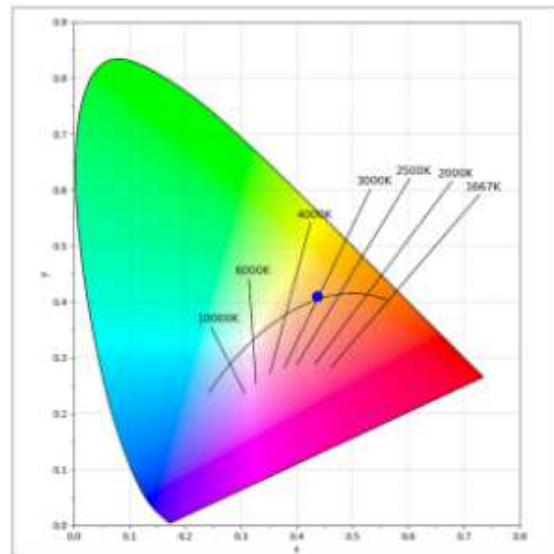
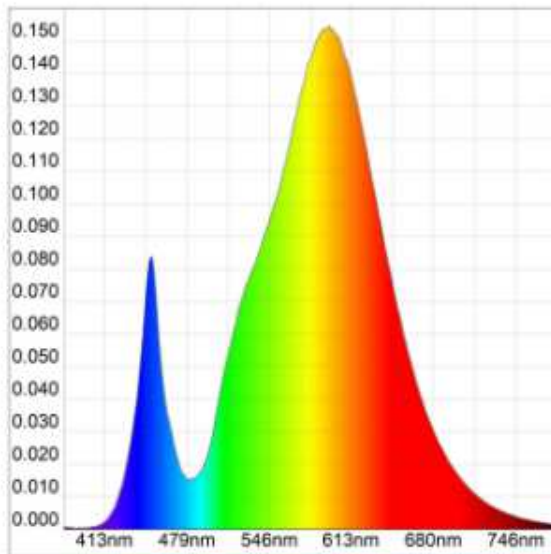
Color rendering index (CRI)
Color Rendering Components

CCT = [3030 K]*

CR18(Ra) [71.6]* CR15(Rav) [62.1]*
R 1: 67.8 R 2: 81.4 R 3: 93.3 R 4: 67.9 R 5: 66.8
R 6: 74.1 R 7: 78.3 R 8: 43.6 R 9: -34.4 R 10: 57.1
R 11: 62.6 R 12: 46.5 R 13: 70.2 R 14: 96.2 R 15: 59.5

Spectral Distribution

λ (nm)	Radiant Power	λ (nm)	Radiant Power	λ (nm)	Radiant Power
380.0	0.000868	386.0	0.000564	392.0	0.000392
398.0	0.000454	404.0	0.000853	410.0	0.001577
416.0	0.003488	422.0	0.007565	428.0	0.014716
434.0	0.026404	440.0	0.042728	446.0	0.069578
452.0	0.082992	458.0	0.054568	464.0	0.035349
470.0	0.025167	476.0	0.017396	482.0	0.015320
488.0	0.016274	494.0	0.019974	500.0	0.027941
506.0	0.040491	512.0	0.051743	518.0	0.061160
524.0	0.070166	530.0	0.076524	536.0	0.082346
542.0	0.089332	548.0	0.096414	554.0	0.103538
560.0	0.112736	566.0	0.123259	572.0	0.132974
578.0	0.142385	584.0	0.148771	590.0	0.153357
596.0	0.154026	602.0	0.151486	608.0	0.144986
614.0	0.137614	620.0	0.127327	626.0	0.115984
632.0	0.103957	638.0	0.092289	644.0	0.080431
650.0	0.069408	656.0	0.059497	662.0	0.050900
668.0	0.042883	674.0	0.035998	680.0	0.030398
686.0	0.025447	692.0	0.021089	698.0	0.017762
704.0	0.014773	710.0	0.012255	716.0	0.010167
722.0	0.008435	728.0	0.007008	734.0	0.005880
740.0	0.004867	746.0	0.004084	752.0	0.003306
758.0	0.002865	764.0	0.002402	770.0	0.002021

Spectrum Graph

END OF TEST REPORT