

Report of Test LL23710

Interglow Lighting Recessed LED Downlight. Product ID: XE36.

White metal fascia and grey finned heatsink body, extents~ 180 mm diameter x 97 mm deep.

Central cavity forms luminous opening of 128 mm diameter. Recessed translucent diffuser.

Semi-specular reflector about LEDs. One 2835-12C6B PCB centred ~ 85 mm above L/O.

One remote Lifud LF-GIF040YA(H)0900H 220-240V~ 50/60Hz electronic driver.

Tested at 230 V 50 Hz.



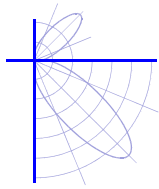
Performance Summary

Luminous Flux	2933 lm
Total Luminaire Power	33.7 W
Luminous Efficacy	86.9 lm / W
SHR Nominal	1.00
SHR Maximum	1.17

Prepared for: Interglo Lighting, 11E Plane Tree Ave., Dingley Village, VIC 3172.

This report shall not be reproduced, except in full, without prior written approval of the issuing laboratory.



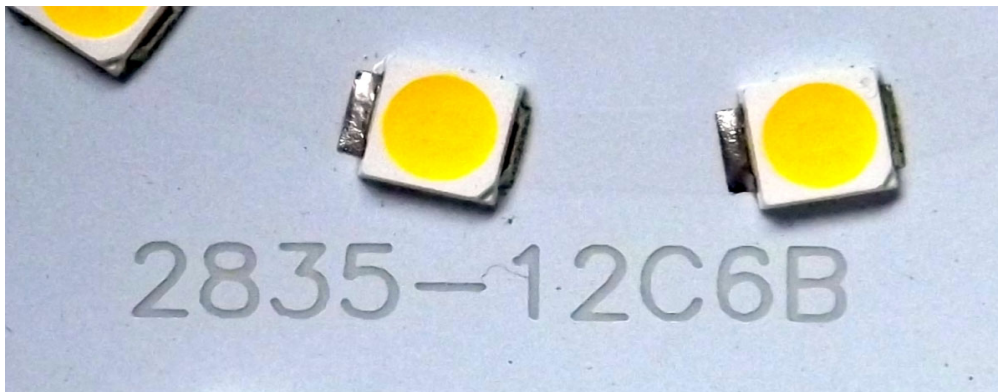


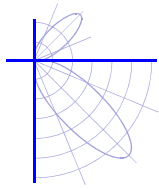
Test Report No. LL23710

Interglow Lighting Recessed LED Downlight. Product ID: XE36.

White metal fascia and grey finned heatsink body, extents~ 180 mm diameter x 97 mm deep. Central cavity forms luminous opening of 128 mm diameter. Recessed translucent diffuser. Semi-specular reflector about LEDs. One 2835-12C6B PCB centred ~ 85 mm above L/O. One remote Lifud LF-GIF040YA(H)0900H 220-240V~ 50/60Hz electronic driver.

Tested at 230 V 50 Hz.





Test Report No. LL23710

Interglow Lighting Recessed LED Downlight. Product ID: XE36.
White metal fascia and grey finned heatsink body, extents~ 180 mm diameter x 97 mm deep.
Central cavity forms luminous opening of 128 mm diameter. Recessed translucent diffuser.
Semi-specular reflector about LEDs. One 2835-12C6B PCB centred ~ 85 mm above L/O.
One remote Lifud LF-GIF040YA(H)0900H 220-240V~ 50/60Hz electronic driver.
Tested at 230 V 50 Hz.

LM-79 Performance Data

Spectral	CIE 1931 (x, y) ⁽¹⁾	(0.370, 0.365)
	CIE 1976 (u', v') ⁽¹⁾	(0.223, 0.495)
	Correlated Colour Temperature (CCT) ⁽¹⁾	4200 K
	Spatial Δ (u', v') Uniformity ⁽²⁾	8.47E-04
	Colour Rendering Index (Ra) ⁽¹⁾	82.1
	Special CRI 9 (R ₉) ^{(1),(3)}	7.4
	Distance from Planckian Locus (Duv) ^{(1),(3)}	-2.75E-03
	Scotopic/Photopic Ratio ^{(1),(3)}	1.73
Electrical	Voltage	230.0 V
	Frequency	50.0 Hz
	Current	0.153 A
	Power	33.7 W
	Power Factor	0.96
	Current THD	10.2 %

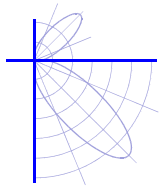
Performance data in accordance with IESNA LM-79-08. Spectral calculations are for a CIE 2° observer

(1) Value is computed from the weighted average of the spatial measurements

(2) Value is the maximum deviation of the spatial u' and v' measurements from the weighted average

(3) Quantity is in addition to the scope of IESNA LM-79-08





Test Report No. LL23710

Interglow Lighting Recessed LED Downlight. Product ID: XE36.

White metal fascia and grey finned heatsink body, extents~ 180 mm diameter x 97 mm deep.

Central cavity forms luminous opening of 128 mm diameter. Recessed translucent diffuser.

Semi-specular reflector about LEDs. One 2835-12C6B PCB centred ~ 85 mm above L/O.

One remote Lifud LF-GIF040YA(H)0900H 220-240V~ 50/60Hz electronic driver.

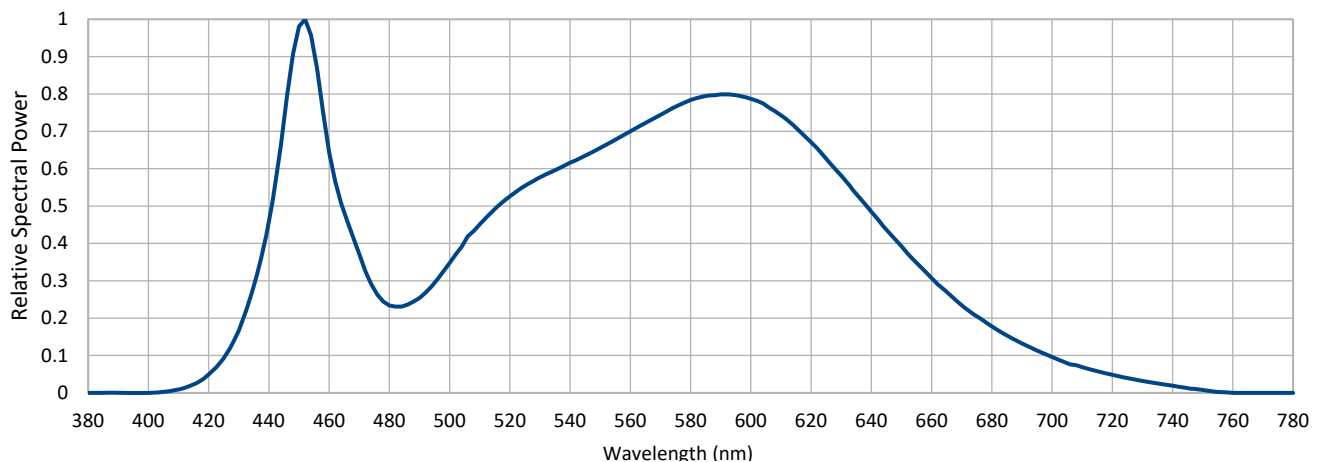
Tested at 230 V 50 Hz.

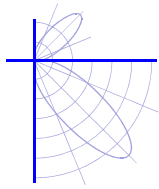
LM-79 Performance Data

Relative spectral power distribution

(Relative to peak = 1, weighted average of spatial measurements)

λ (nm)	Relative Power	λ (nm)	Relative Power	λ (nm)	Relative Power	λ (nm)	Relative Power	λ (nm)	Relative Power
380	0.000	460	0.644	540	0.616	620	0.671	700	0.096
385	0.000	465	0.483	545	0.635	625	0.626	705	0.079
390	0.000	470	0.372	550	0.656	630	0.581	710	0.069
395	0.000	475	0.276	555	0.678	635	0.533	715	0.058
400	0.000	480	0.234	560	0.700	640	0.485	720	0.048
405	0.003	485	0.234	565	0.723	645	0.437	725	0.040
410	0.009	490	0.254	570	0.744	650	0.393	730	0.032
415	0.022	495	0.294	575	0.766	655	0.348	735	0.025
420	0.049	500	0.348	580	0.784	660	0.307	740	0.019
425	0.094	505	0.405	585	0.794	665	0.270	745	0.012
430	0.167	510	0.451	590	0.799	670	0.234	750	0.007
435	0.287	515	0.492	595	0.797	675	0.205	755	0.003
440	0.458	520	0.526	600	0.787	680	0.178	760	0.000
445	0.730	525	0.554	605	0.769	685	0.154	765	0.000
450	0.981	530	0.577	610	0.743	690	0.132	770	0.000
455	0.912	535	0.596	615	0.710	695	0.113	775	0.000
								780	0.000





Test Report No. LL23710

Interglow Lighting Recessed LED Downlight. Product ID: XE36.

White metal fascia and grey finned heatsink body, extents~ 180 mm diameter x 97 mm deep.

Central cavity forms luminous opening of 128 mm diameter. Recessed translucent diffuser.

Semi-specular reflector about LEDs. One 2835-12C6B PCB centred ~ 85 mm above L/O.

One remote Lifud LF-GIF040YA(H)0900H 220-240V~ 50/60Hz electronic driver.

Tested at 230 V 50 Hz.

LM-79 Performance Data

Spatial measurements

Gamma angle (°)	CIE 1976 (u',v') coordinates	
	C 0.0° plane	C 90.0° plane
0.0	(0.224, 0.494)	(0.224, 0.494)
10.0	(0.224, 0.494)	(0.224, 0.494)
20.0	(0.224, 0.495)	(0.224, 0.495)
30.0	(0.223, 0.495)	(0.223, 0.495)
40.0	(0.223, 0.495)	(0.223, 0.495)
50.0	(0.222, 0.494)	(0.223, 0.494)
-	-	-
-	-	-
-	-	-
-	-	-

Spatial measurements

Gamma angle (°)	CIE 1976 (u',v') coordinates	
	C 0.0° plane	C 90.0° plane
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

Test procedure

All measurements were performed in an environmentally controlled laboratory employing suitable baffling to minimise stray light. The sample was mounted in its normal operating orientation on a rotating mirror goniophotometer and operated from a stabilised supply. The photometric output was monitored and measurements were performed once stability was achieved.

The goniophotometer was used to measure the spatial distribution of both luminous intensity and, in conjunction with a spectroradiometer and spectrally flat reflectance tile, spectral irradiance. The distribution locus comprises points in two or more C planes at no more than 10° gamma intervals. The CIE (x,y) coordinates and other derived metrics (CIE (u', v'), CCT and CRI) are calculated from the weighted sum (weighted for intensity and represented solid angle) of the measured spectral irradiances.

Sample Orientation Ceiling mount Stabilisation & total operation time 1.5 / 2.25 hours

Equipment and uncertainties

C-gamma rotating mirror goniophotometer with a test distance of 8 m.

Luminous Intensity	± 4 %	Temperature	± 1 °C
Luminous Flux	± 4 %	Luminous Efficacy	± 4.5 %
C, Gamma Angles	± 0.5°		

PhotoResearch PR-670 spectroradiometer (grating with 380 - 780 nm range, 2 nm / pixel, 5 nm bandwidth, incandescent/halogen calibration source). Measurements off a spectrally flat reflectance tile attached to goniophotometer arm at a distance from sample deemed >5 times the maximum observed luminous opening dimension.

CIE (x, y) coordinates	± 0.004	CCT	± 150 K
CIE (u', v') coordinates	± 0.0025	CRI (Ra)	± 2
Spatial Δ (u', v') uniformity	± 0.001	Scotopic / Photopic Ratio *	± 0.02
Rel. Spectral Irradiance *	± 2 %	R9 *	± 2
Duv *	± 5E-04		

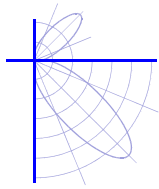
Yokogawa WT210 power meter connected in circuit to the sample electrical supply

Voltage	± 0.5 %	Frequency *	± 0.1 Hz
Current	± 0.5 %	Power	± 0.5 %
Current THD *	± 3 %	Power Factor	± 0.02

Quantities marked with * : NATA accreditation does not cover the performance of this service.

Calculator / report version 1.0.10 / 5.9 (14th Dec 2017)





Test Report No. LL23710

Interglow Lighting Recessed LED Downlight. Product ID: XE36.

White metal fascia and grey finned heatsink body, extents~ 180 mm diameter x 97 mm deep.

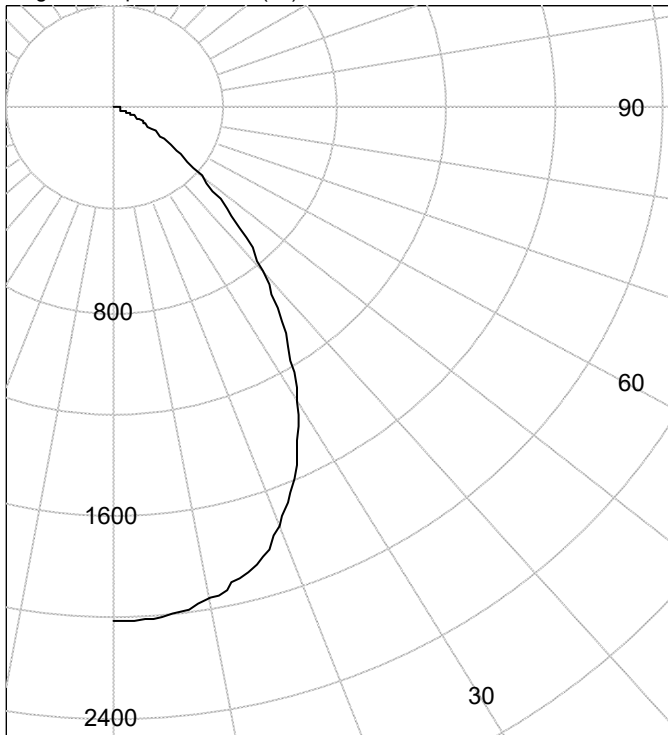
Central cavity forms luminous opening of 128 mm diameter. Recessed translucent diffuser.

Semi-specular reflector about LEDs. One 2835-12C6B PCB centred ~ 85 mm above L/O.

One remote Lifud LF-GIF040YA(H)0900H 220-240V~ 50/60Hz electronic driver.

Tested at 230 V 50 Hz.

Legend: All planes - Solid (cd)



(Rotational symmetry)

C0 aligned by LightLab

Average luminance (cd / sq.m)

Gamma	C0
45.0	66980
55.0	33430
65.0	16180
75.0	9472
85.0	8294

Luminous intensity summary (cd)

Gamma (°)	All C Planes	Flux (lm)	Gamma (°)	C0	Flux (lm)
0	2020		90	0.0	
5	2006	190.1	95	0.0	0.0
10	1961		100	0.0	
15	1886	528.6	105	0.0	0.0
20	1751		110	0.0	
25	1555	711.0	115	0.0	0.0
30	1326		120	0.0	
35	1080	672.8	125	0.0	0.0
40	834.5		130	0.0	
45	609.5	469.3	135	0.0	0.0
50	407.6		140	0.0	
55	246.7	226.8	145	0.0	0.0
60	140.3		150	0.0	
65	88.0	89.6	155	0.0	0.0
70	53.2		160	0.0	
75	31.5	34.7	165	0.0	0.0
80	17.8		170	0.0	
85	9.3	10.2	175	0.0	0.0
90	0.0		180	0.0	

Zonal flux

Zone (°)	Flux (lm)	% Lamp	% Luminaire
0-30	1430	N / A	48.7
0-40	2103	N / A	71.7
0-60	2799	N / A	95.4
0-90	2933	N / A	100.0
40-90	830.6	N / A	28.3
60-90	134.5	N / A	4.6
90-180	0.0	N / A	0.0
0-180	2933	N / A	100.0

Total luminous flux = 2933 lm

SHR-NOM = 1.00

Calculated using the TM5

SHR-MAX = 1.17

fine grid method.

Signatory

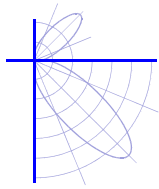
Toby Southgate
Authorised Signatory

Date of test 20-Oct-2021

Date of report 8-Dec-2021

Page 6 of 9





Test Report No. LL23710

Interglow Lighting Recessed LED Downlight. Product ID: XE36.

White metal fascia and grey finned heatsink body, extents~ 180 mm diameter x 97 mm deep.

Central cavity forms luminous opening of 128 mm diameter. Recessed translucent diffuser.

Semi-specular reflector about LEDs. One 2835-12C6B PCB centred ~ 85 mm above L/O.

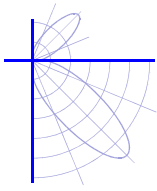
One remote Lifud LF-GIF040YA(H)0900H 220-240V~ 50/60Hz electronic driver.

Tested at 230 V 50 Hz.

Luminous intensity (cd) and luminous flux (lm) data

Gamma (°)	Intensity	Flux	Gamma (°)	Intensity	Flux
0.0	2020		90.0	0.0	
2.5	2017		92.5	0.0	
5.0	2006	190	95.0	0.0	
7.5	1987		97.5	0.0	0.0
10.0	1961		100.0	0.0	
12.5	1925		102.5	0.0	
15.0	1886	529	105.0	0.0	
17.5	1829		107.5	0.0	0.0
20.0	1751		110.0	0.0	
22.5	1659		112.5	0.0	
25.0	1555	711	115.0	0.0	
27.5	1446		117.5	0.0	0.0
30.0	1326		120.0	0.0	
32.5	1206		122.5	0.0	
35.0	1080	673	125.0	0.0	
37.5	957.2		127.5	0.0	0.0
40.0	834.5		130.0	0.0	
42.5	719.1		132.5	0.0	
45.0	609.5	469	135.0	0.0	
47.5	503.8		137.5	0.0	0.0
50.0	407.6		140.0	0.0	
52.5	320.4		142.5	0.0	
55.0	246.7	227	145.0	0.0	
57.5	184.6		147.5	0.0	0.0
60.0	140.3		150.0	0.0	
62.5	111.2		152.5	0.0	
65.0	88.0	89.6	155.0	0.0	
67.5	69.0		157.5	0.0	0.0
70.0	53.2		160.0	0.0	
72.5	41.2		162.5	0.0	
75.0	31.5	34.7	165.0	0.0	
77.5	24.1		167.5	0.0	0.0
80.0	17.8		170.0	0.0	
82.5	13.3		172.5	0.0	
85.0	9.3	10.2	175.0	0.0	
87.5	6.2		177.5	0.0	0.0
90.0	0.0		180.0	0.0	





Test Report No. LL23710

Interglow Lighting Recessed LED Downlight. Product ID: XE36.

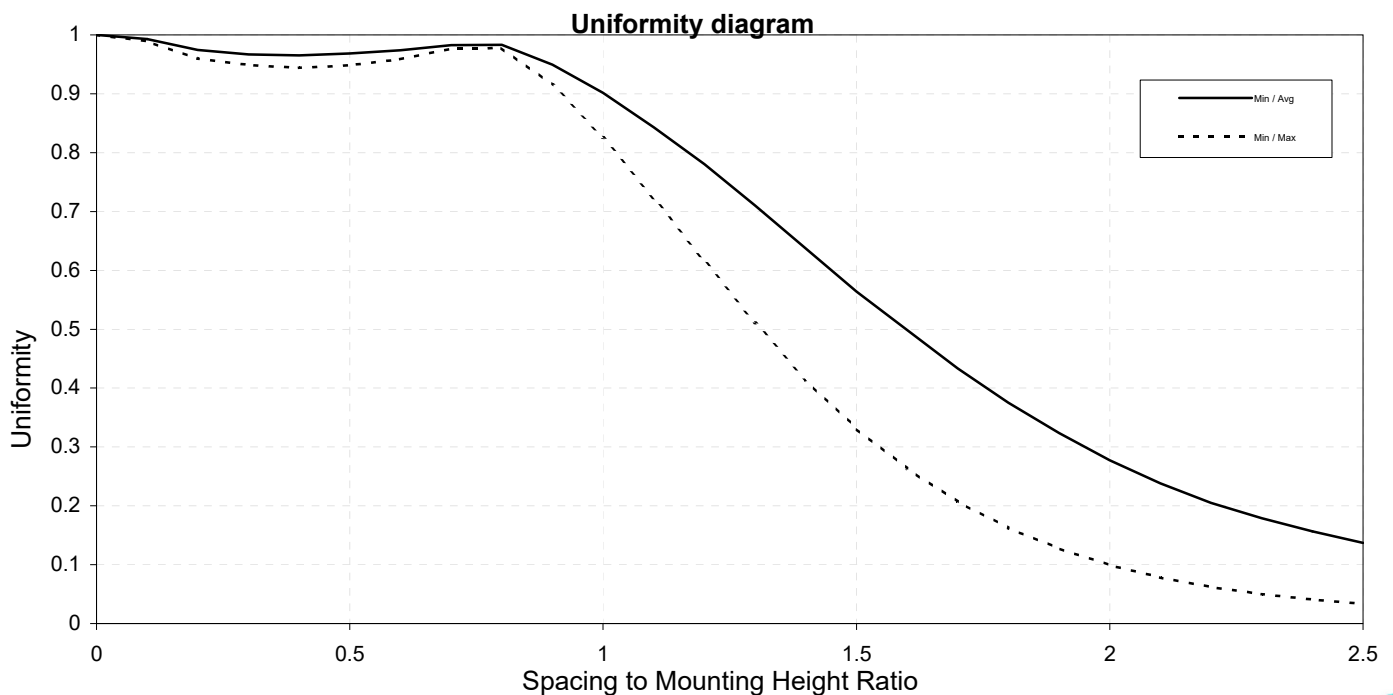
White metal fascia and grey finned heatsink body, extents~ 180 mm diameter x 97 mm deep.

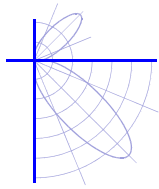
Central cavity forms luminous opening of 128 mm diameter. Recessed translucent diffuser.

Semi-specular reflector about LEDs. One 2835-12C6B PCB centred ~ 85 mm above L/O.

One remote Lifud LF-GIF040YA(H)0900H 220-240V~ 50/60Hz electronic driver.

Tested at 230 V 50 Hz.





Test Report No. LL23710

Interglow Lighting Recessed LED Downlight. Product ID: XE36.

White metal fascia and grey finned heatsink body, extents~ 180 mm diameter x 97 mm deep.

Central cavity forms luminous opening of 128 mm diameter. Recessed translucent diffuser.

Semi-specular reflector about LEDs. One 2835-12C6B PCB centred ~ 85 mm above L/O.

One remote Lifud LF-GIF040YA(H)0900H 220-240V~ 50/60Hz electronic driver.

Tested at 230 V 50 Hz.

Environment	Photometric distance	8.0 m
	Ambient temperature	25.1 °C

Notes Sampling was not performed. This report is applicable only to the sample that was tested.

The significance of the report is limited to the extent that the sample is representative of the population.

Testing was performed in a laboratory with suitable control of environmental conditions, stray light, electrical supply and stabilisation. The sample was maintained in a fixed orientation for the duration of testing.

The photometric values contained in this report are absolute, they have not been scaled by the luminous flux emitted by the light source .

Prorating values for the use of other light source/driver combinations, or for use in different environmental conditions, may yield inaccurate results.

This report is free of erasures and corrections.

Photometric intensity values are reported using the CIE Cgamma coordinate system as described in CIE Publication number 121.

The term "Total luminaire power" may appear in this report, it represents the total electrical power consumption of the device tested.

Procedure LightLab Procedure Test-B3131. Tested in accordance with the applicable sections of IESNA LM-79.

Measurement uncertainties Measurement uncertainties are available on request.

