Light Emission Distribution Laboratory
Division of Photometry & Electrical Testing Pty. Ltd ABN 11 166 255 134
Unit 23, 9 Hoyle Avenue, Castle Hill NSW 2154 Australia
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PHOTOMETRIC TEST REPORT No. 141004PH *Date: 16 October 2014*

Client: LCL Manufacturing P/L
Address: 23-25 Foundry Road, Seven Hills, NSW 2147
Contact: **Chris Bird**

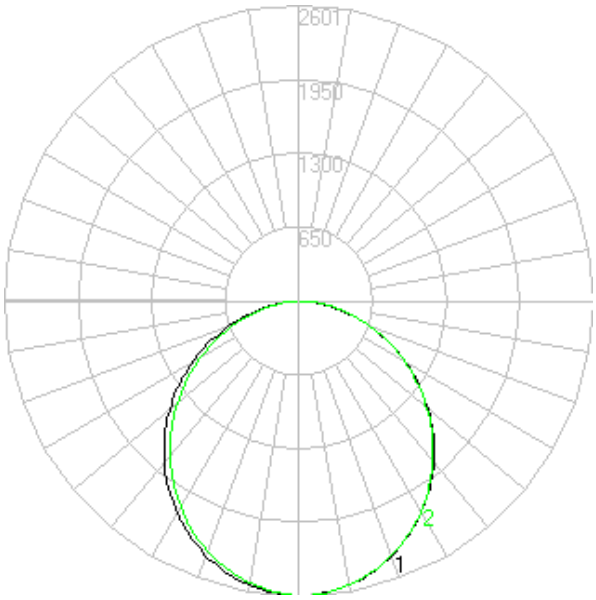
Luminaire: AUS160 Greenstar LED Beam

Catalogue No. **AUS160 Greenstar LED Beam, 2 Rows, 4 x 12W**

Description: Indoor Surface Mounted/Suspended Luminaire with Flat Opal Diffuser.

Optical System: Two rows of four Tridonic STARK LLE G3 24-280-1250-840-CLA LED Boards

Control Gear: Two Tridonic TALEX LCI 070/0300 1010 300mA Constant current LED Converter, 220-240 V, 50/60 Hz.



Test Specification:

The luminaire was tested generally in accordance with the procedures given in IES LM79-08, "Electrical and Photometric Measurements of Solid-State Lighting Products" using the **absolute** method. This report does not cover colour properties.

Results:

When tested at an ambient of 25ºC at a supply voltage of 240 V, 50 Hz, the luminaire consumed 0.295 Amps and 69.5 Watts at a Power factor of 0.98.
That is, Lamp Circuit Power (LCP), which includes power supply losses, is 69.5 Watts.
The Total Luminous Flux was measured as 7073 Lumens

Luminous Intensity Distribution (I-TABLE) is given on Page 4

Tested by: J.King on 13 October 2014 **Authorised Signatory:** _____

D.Ford

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Test Configuration

The luminaire was photometered in IESNA Horizontal – Vertical Reference angles such that:

- The luminaire was mounted with photometric centre aligned with photometric zero (in the direction of nadir), and centred on the light emitting area.
- The supply wires were located on the 0° Horizontal angle, photometric horizontal, in the zero-degree photometric plane.
- In accordance with IES LM46-04 the centre of light emitting area was co-incident with centre of the goniophotometer. .
- The long dimension of the optical opening in the direction of the H= 0° - 180° Plane.
- The photometric test distance of 9m, is referenced to the photometric centre of the luminaire and the photocell.

Both sides of the luminaire were photometered.

Due to the Type B mounting arrangement, a correction factor to achieve correct orientation was determined but not applied as it was less than 1%, and accounted for in the Uncertainty Budget.

Test Procedures and Equipment

Calibration report:	140801CA
Technical Procedure:	P113
Angular Resolution:	*Test Configuration and issued .ies file* C Plane Interval 15 Deg Gamma Angle Interval 1.0 Deg *Abbreviated Test Report File (I-Table)* C Plane Interval 15 Deg Gamma Angle Interval 5.0 Deg
Software:	Lisun LSG-1800B
Obstructions:	None
Lab. Book Page:	PH1/11
Primary Orientation Correction:	1
Colour correction:	1
Goniophotometer:	Lisun Electronics Model LSG-1800B, Serial No. GSGHF070010. The photometric test distance of the Type B goniometer was 9.0m.
Photocell:	Lisun Electronics Detector Serial No. 330220-1
Lux meter:	Lisun Electronics Model PM 400, Serial No. GSRXK090021
Lux meter integration time (PLC):	5
Power meter:	Lisun Electronics Model RT-200, Serial No. GSXY0100021
Power meter integration time (s):	0.5
Luminaire thermometer:	AMA 1362983 0.1°C Serial No 526,10942
Temperature Data Logger:	Lisun TMP-8 Multiplex Serial No GSJWM010028
Auxiliary Photocell:	Delta Ohm HD 2102.1 & LP471PHOT
Equipment validated against:	Sylvania Lighting Australasia Test Report 212161dated 23/7/2012

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TEST REPORT and IES file archive

The data files for this report are contained in the archive file 141004PH.zip

IES file: 141004PH.ies

Uncertainties

At a Confidence Level of 95% with a Coverage Factor of 2

Angular direction: ± 0.4°
Luminous Intensity: ± 4% + 0.5cd
Total Luminous Flux: ± 4.1% + 0.05lm
Supply Voltage (AC): ± 0.15%
Supply Current(AC): ±0.2%
Supply Power(AC): ±0.25%
Ambient Temperature: ± 1°C
Luminous Opening: ± 3mm

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LUMINOUS INTENSITY DISTRIBUTION (I-Table) - cd

Vertical Angle (Gamma) Degrees	Azimuth Angle (C Plane) - Degrees																								
	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	360
0	2597	2597	2597	2597	2597	2597	2597	2597	2597	2597	2597	2597	2597	2597	2597	2597	2597	2597	2597	2597	2597	2597	2597	2597	2597
5	2584	2587	2588	2590	2587	2586	2586	2585	2584	2583	2582	2582	2584	2581	2577	2577	2569	2572	2574	2575	2578	2581	2584	2585	2584
10	2545	2550	2551	2552	2548	2545	2543	2541	2540	2538	2539	2541	2546	2539	2530	2528	2521	2520	2522	2525	2531	2536	2542	2548	2545
15	2481	2487	2488	2486	2483	2479	2477	2474	2471	2470	2470	2474	2482	2470	2458	2453	2445	2444	2447	2451	2459	2467	2476	2484	2481
20	2394	2400	2399	2398	2394	2392	2390	2385	2381	2378	2379	2383	2395	2380	2366	2357	2352	2348	2351	2357	2366	2375	2387	2397	2394
25	2284	2291	2289	2290	2287	2285	2280	2275	2271	2267	2265	2270	2285	2267	2251	2241	2233	2229	2233	2240	2251	2263	2275	2286	2284
30	2156	2162	2162	2165	2161	2155	2150	2145	2141	2138	2136	2139	2158	2138	2120	2108	2096	2091	2094	2103	2117	2133	2146	2159	2156
35	2011	2017	2018	2021	2012	2008	2001	1995	1992	1991	1988	1991	2011	1989	1971	1956	1941	1937	1940	1950	1966	1983	2000	2012	2011
40	1851	1858	1862	1862	1853	1847	1838	1833	1830	1828	1830	1830	1852	1827	1808	1790	1774	1770	1772	1783	1800	1820	1840	1853	1851
45	1679	1685	1690	1687	1679	1672	1664	1658	1655	1653	1656	1655	1677	1652	1632	1612	1597	1590	1593	1604	1623	1644	1666	1682	1679
50	1494	1501	1507	1503	1495	1488	1479	1473	1469	1467	1470	1471	1492	1468	1444	1423	1408	1401	1404	1416	1436	1458	1482	1497	1494
55	1301	1309	1314	1311	1302	1294	1286	1279	1275	1274	1276	1278	1299	1274	1249	1227	1211	1205	1208	1221	1240	1264	1288	1305	1301
60	1098	1110	1111	1109	1100	1093	1085	1078	1074	1071	1072	1076	1095	1070	1044	1023	1008	1002	1006	1018	1038	1060	1084	1103	1098
65	889	901	905	904	897	890	881	874	869	865	864	867	886	861	835	815	801	797	800	813	831	853	876	895	889
70	675	688	693	694	689	682	674	666	659	654	652	654	672	647	622	605	593	589	593	605	622	643	663	681	675
75	464	477	484	486	483	479	472	465	456	450	445	445	461	437	417	402	393	391	395	406	421	439	455	471	464
80	265	277	286	291	290	287	281	274	266	258	250	247	260	241	226	216	210	208	213	222	234	248	260	271	265
85	96	108	117	122	124	122	118	112	104	96	89	85	93	80	71	65	62	62	65	72	80	88	97	103	96
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0