



**PHOTOMETRIC TEST REPORT No. 230905PH**

**Date: 7<sup>th</sup> September 2023**

**Client:** Signify Australia Limited  
**Address:** 65 Epping Road, North Ryde NSW 2113  
**Contact:** Jonas Olander

**Luminaire:** 104W Highlight

**Catalogue No.:** TC HB B 190S/840 PSU WH401LC-CTC AU (sample tested), TC HB BS 190S/840 PSU WH401LC-CTC AU (sample with sensor)

**Description:** 104W 4000K LED Highbay with 435mm diameter, 180mm deep, open clear plastic prismatic reflector

**Optical System:** LED module (marked RD-D193-UHBah-200W-27C22B-2835-A0) with 5x concentric rings of 594x 4000K LEDs

**Control Gear:** LiFud LED Driver model number LF-FHB200YAIV 5

**Test Specification:**

The luminaire was tested in accordance with the procedures given in IES LM79-19, “Optical and electrical measurements of Solid-State Lighting Products” using the **absolute** method.

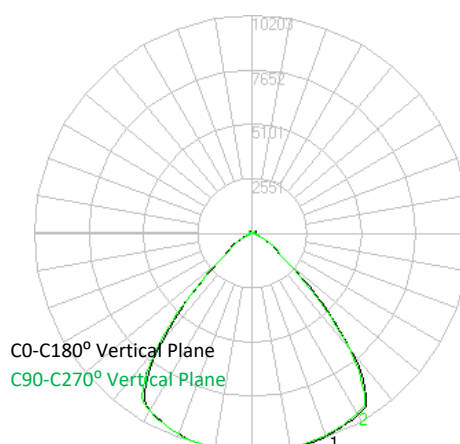
**Results:**

When tested at an ambient of 25°C at a supply voltage of 240.1V, 50Hz, the luminaire consumed 0.479A and 105.8W at a Power factor of 0.924. That is, Lamp Circuit Power (LCP), which includes power supply losses, is 105.8W.

The Total Luminous Flux was measured as 19544 Lumens.

The Correlated Colour Temperature was measured as 3910K average.

**Luminous Intensity Distribution (I-TABLE) is given on Page 6.**



**Tested by:** J. King/D. Orwin on 4<sup>th</sup> September 2023

**Authorised Signatory:** \_\_\_\_\_

A. Yetendje

## ***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), centred on the light emitting area.
- In accordance with CIE S 025/E:2015 Clause 5.3.2 the centre of the prismatic reflector was co-incident with centre of the goniophotometer.
- The photometric test distance of 10.03m, is referenced to the photometric centre of the luminaire and the photocell.

Due to the Type B mounting arrangement, a primary correction factor to achieve correct orientation was determined but not applied as it was less than 0.5% and accounted for in the Uncertainty Budget. Should these Uncertainties be required contact LEDLab. Secondary corrections to the horizontal were applied.

## ***Test Procedures and Equipment***

<b>Calibration report:</b>	220855CAL using N.M.I. report RN 181690 on standard lamp 13478
<b>Technical Procedure:</b>	P113 & P118
<b>Angular Resolution:</b>	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
<b>Software:</b>	Lisun LSG-1800B
<b>Obstructions:</b>	None
<b>Lab. Book Page:</b>	PH6/1928
<b>Primary Orientation Correction:</b>	1.0
<b>Colour correction:</b>	1.028
<b>Goniophotometer:</b>	Lisun Electronics Model LSG-1800B, Serial No. GSGHF070010.
<b>Photocell:</b>	Lisun Electronics Detector Serial No. 330220-1
<b>Lux meter:</b>	Lisun Electronics Model PM 400, Serial No. GSRXK090021
<b>Lux meter integration time (PLC):</b>	5
<b>Power meter:</b>	Lisun Electronics Model RT-200, Serial No. GSXY0100021
<b>Power meter integration time (s):</b>	0.5
<b>Luminaire thermometer:</b>	AMA 1362983 0.1°C Serial No 526,10942
<b>Temperature Data Logger:</b>	Lisun TMP-8 Multiplex Serial No GSJWM010028
<b>Auxiliary Photocell:</b>	Delta Ohm HD 2102.1 & LP471PHOT
<b>Spectroradiometer:</b>	Lisun LMS 9000A spectroradiometer Serial No GSXYE090207



## ***TEST REPORT and IES file archive***

The data files for this report are contained in the *archive file: 230905PH.zip*

*IES file : 230905PH.IES*

*Document file : 230905PH.pdf*

## ***Uncertainties***

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

As per NATA electrotechnical ruling and LEDLab terms and Conditions as agreed by the client, LEDLab Uncertainties in measurement will be considered but will not be applied when assessing the Pass / Fail conclusion. In borderline cases, the measured value, its uncertainty and the limit are reported.

***Angular direction:***  $\pm 0.4^\circ$

***Luminous Intensity:***  $\pm 4\% + 0.5\text{cd}$

***Total Luminous Flux:***  $\pm 4.1\% + 0.05\text{lm}$

***Supply Voltage (AC):***  $\pm 0.15\%$

***Supply Current (AC):***  $\pm 0.2\%$

***Supply Power (AC):***  $\pm 0.25\%$

***Ambient Temperature:***  $\pm 1^\circ\text{C}$

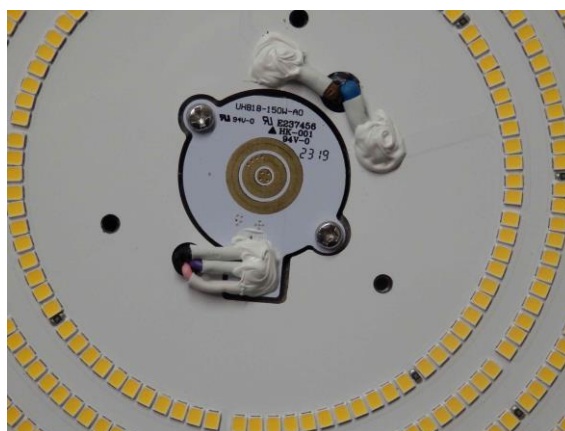
***Luminous Opening:***  $\pm 3\text{mm}$

***CCT:***  $\pm 100\text{K}$

***Duv:***  $\pm 0.001$

***CRI:***  $\pm 4$

## Photos



**Highlight (HB Series)**  
**PHILIPS**  
 TC HB B 190S/840 PSU WH401LC-CTC AU  
 ~220...240V 50/60Hz 104W PF:0.9 IP65 IK02 Ta40°C  
 912500108454 2023090623  
 Made in Australia



Signify, I.B.R.S. 10461, 5600 VB, NL

TEST.2023090623.0000 09/2023

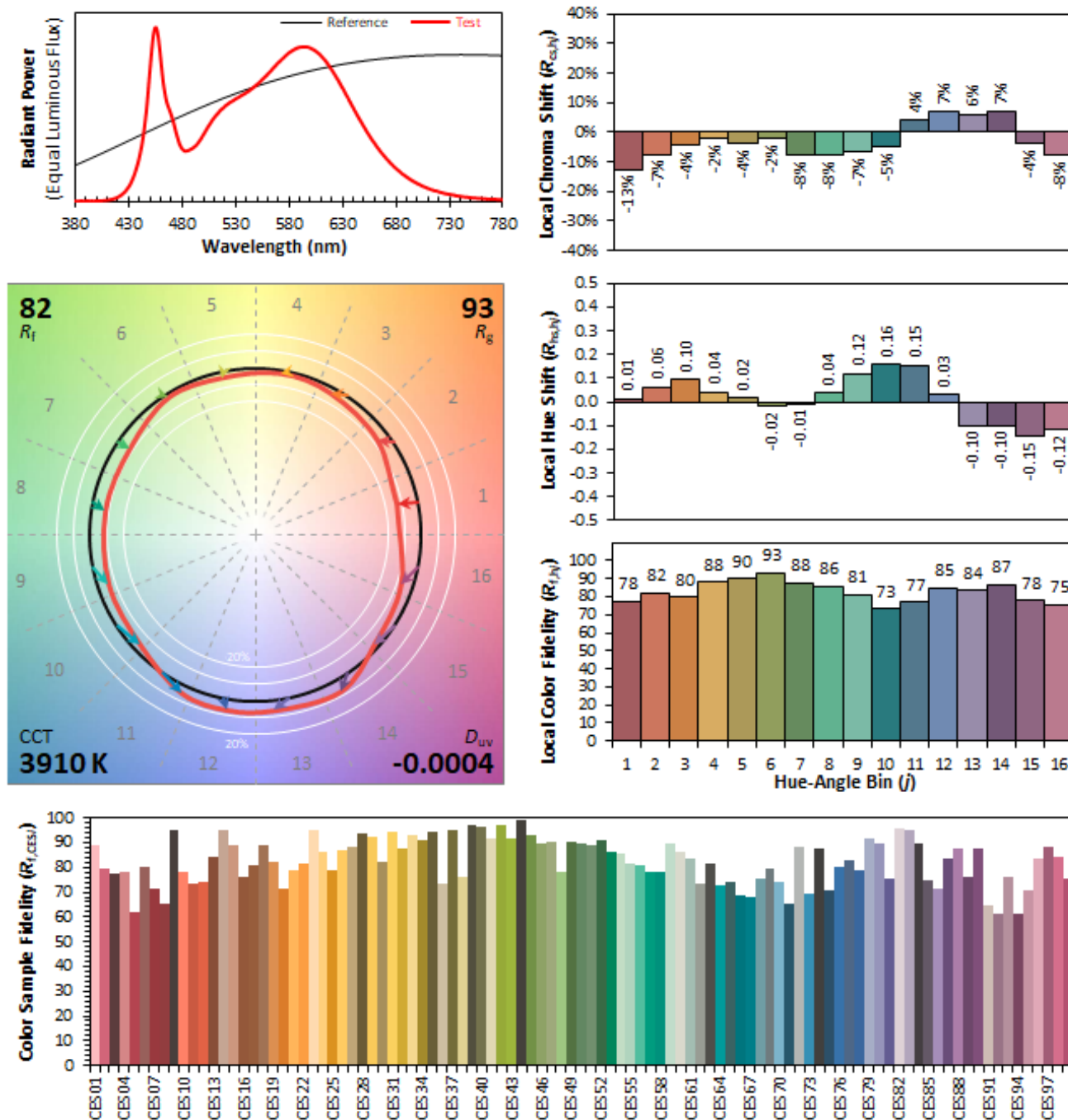
**Highlight (HB Series)**  
**PHILIPS**  
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 ~220...240V 50/60Hz 104W PF:0.9 IP65 IK02 Ta40°C  
 912500108457 2023090621  
 Made in Australia



Signify, I.B.R.S. 10461, 5600 VB, NL

TEST.2023090621.0000 09/2023

## ANSI/IES TM-30-18 COLOR RENDITION REPORT



Notes:

$x$  0.3842  
 $y$  0.3781  
 $u'$  0.2270  
 $v'$  0.5027

CIE 13.3-1995  
 (CRI)  
 $R_a$  83





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LUMINOUS INTENSITY DISTRIBUTION (I-Table) - cd																									
Vertical Angle (V) Degrees	Horizontal Angle (H 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	10143	10143	10143	10143	10143	10143	10143	10143	10143	10143	10143	10143	10143	10143	10143	10143	10143	10143	10143	10143	10143	10143	10143	10143	10143
5	10147	10147	10150	10150	10149	10147	10147	10146	10144	10145	10143	10142	10140	10141	10141	10140	10139	10141	10138	10137	10138	10140	10142	10145	10147
10	10178	10182	10186	10185	10184	10183	10174	10171	10170	10174	10174	10175	10173	10170	10169	10165	10162	10164	10164	10162	10162	10165	10167	10174	10178
15	10197	10199	10203	10200	10194	10189	10179	10172	10172	10175	10173	10166	10165	10156	10151	10153	10155	10161	10166	10169	10172	10177	10183	10197	10197
20	10129	10128	10134	10123	10114	10096	10086	10080	10075	10064	10053	10042	10036	10027	10023	10026	10031	10034	10053	10061	10078	10090	10105	10129	10129
25	10012	10016	10027	10003	9984	9960	9950	9943	9928	9896	9879	9862	9848	9830	9828	9825	9833	9834	9863	9887	9915	9935	9973	9997	10012
30	9864	9875	9881	9856	9819	9787	9778	9764	9736	9693	9658	9633	9600	9568	9536	9534	9555	9574	9622	9650	9705	9756	9800	9842	9864
35	9288	9319	9289	9260	9223	9165	9137	9081	8955	8843	8750	8684	8709	8686	8643	8717	8796	8857	8932	9018	9097	9213	9250	9278	9288
40	7312	7343	7267	7234	7179	7088	7036	6928	6781	6734	6629	6497	6478	6426	6414	6522	6599	6688	6789	6894	7026	7164	7271	7318	7312
45	4590	4604	4589	4535	4426	4368	4269	4235	4202	4108	4035	3985	3942	3946	3997	4027	4047	4059	4144	4192	4307	4378	4465	4604	4590
50	2218	2231	2224	2233	2198	2165	2075	1981	1886	1887	1805	1824	1801	1829	1821	1788	1802	1802	1894	1958	2017	2105	2217	2210	2218
55	1404	1374	1446	1508	1542	1513	1455	1418	1330	1366	1320	1391	1390	1418	1333	1300	1247	1217	1231	1262	1310	1338	1420	1369	1404
60	815	805	898	972	1050	989	951	876	804	817	767	838	838	850	779	760	729	723	737	766	794	823	828	782	815
65	367	382	440	460	470	453	420	398	371	362	347	369	361	361	333	325	320	315	325	345	355	371	362	356	367
70	200	207	228	230	226	222	208	202	193	189	183	187	185	184	179	178	175	170	175	181	190	194	198	195	200
75	139	139	150	147	142	137	131	132	128	127	125	126	124	126	124	128	124	122	124	127	133	134	139	136	139
80	114	113	117	110	106	103	103	106	104	105	104	105	105	107	106	107	106	104	105	106	109	110	113	110	114
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95	79	79	76	71	67	68	69	71	72	73	73	74	74	75	77	76	74	73	73	72	75	75	80	81	79
100	86	85	83	76	70	71	73	75	76	78	79	79	79	80	82	81	79	78	78	77	80	80	85	89	86
105	95	92	88	84	79	78	78	80	82	83	82	83	86	86	87	86	85	83	82	82	85	87	90	94	95
110	131	126	112	109	99	92	89	96	102	100	102	103	105	109	106	109	111	109	105	107	110	115	120	121	131
115	196	195	175	163	150	143	138	139	152	156	153	148	149	160	161	166	166	160	161	162	169	175	188	190	196
120	143	143	150	155	148	144	142	137	135	132	129	131	133	130	130	130	124	122	124	125	125	130	133	136	143
125	89	89	93	95	93	92	91	89	88	85	83	83	83	84	84	84	82	81	80	80	82	84	85	87	89
130	60	60	62	64	63	62	62	61	60	56	55	55	56	57	58	59	59	58	57	57	58	58	59	60	60
135	44	44	45	46	45	44	44	43	42	39	39	39	40	42	44	45	44	44	44	44	45	45	45	46	44
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155	39	40	39	38	38	36	35	34	35	34	34	33	34	34	33	34	34	34	35	37	38	39	40	40	39
160	35	37	36	37	36	36	35	34	34	33	33	32	32	32	32	33	33	33	34	34	35	35	36	36	35
165	32	32	32	33	33	33	32	32	31	29	29	30	30	29	29	30	30	31	32	32	32	32	32	32	32
170	27	27	27	28	28	28	28	27	26	24	24	24	25	25	25	25	26	28	28	27	28	27	27	28	27
175	23	24	23	24	23	23	23	22	23	21	21	20	21	20	21	22	23	23	23	22	23	23	23	23	23
180	21	22	21	21	22	21	20	21	22	21	21	21	21	22	22	22	22	21	20	21	22	21	21	20	21