



Light Emission Distribution Laboratory

Division of Photometry & Electrical Testing Pty. Ltd ABN 11 166 255 134
Unit 4, 140 George St. Hornsby NSW 2077 Australia
Ph: +61 2 9476 3097 E: sales@ledlab.com.au



Accredited for Compliance with ISO/IEC 17025 Accreditation No. 19541

PHOTOMETRIC TEST REPORT No. 210149PH

Date: 1st February 2021

Client: Offspring Profiles Ltd
Address: 55 Cuba Street, Petone, Lower Hutt 5012 New Zealand
Contact: Robin Campbell

Luminaire: Handrail Series

Catalogue No. RICHIE RAIL 17



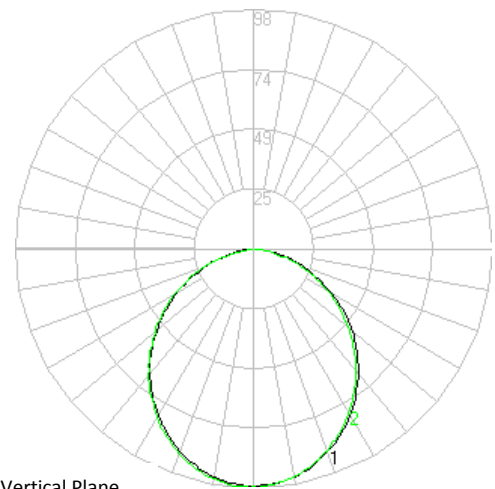
Description: LED Handrail Series (520mm length)

Optical System: Spec Series 24V 4000K LED Strip

Control Gear: Tridonic LCU 96W 24V SR TOP Constant Voltage LED Control Gear

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.

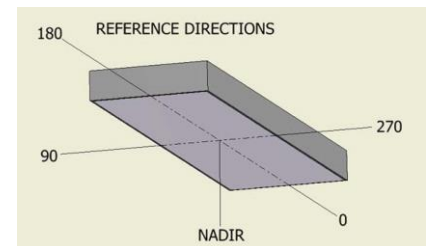


C0-C180° Vertical Plane
C90-C270° Vertical Plane

Results:

When tested at an ambient of 25°C at a supply voltage of 240.1V, 50Hz, the luminaire consumed 0.059A and 9.236W at a Power factor of 0.657. That is, Lamp Circuit Power (LCP), which includes power supply losses, is 9.236W.

The Correlated Colour Temperature was measured as 4031K average. The Total Luminous Flux was measured as 249 Lumens, that is 498 lumens per meter.



Luminous Intensity Distribution (I-TABLE) is given on Page 5.

Tested by: J. King on 1st February 2021

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.
- The supply wires were located on the 0° Horizontal angle, photometric horizontal, in the zero-degree photometric plane.
- In accordance with CIE S 025/E:2015 Clause 5.3.2 the opening of the light aperture 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 9.857m, is referenced to the photometric centre of the luminaire and the photocell.

Due to the Type B mounting arrangement, a 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.

Test Procedures and Equipment

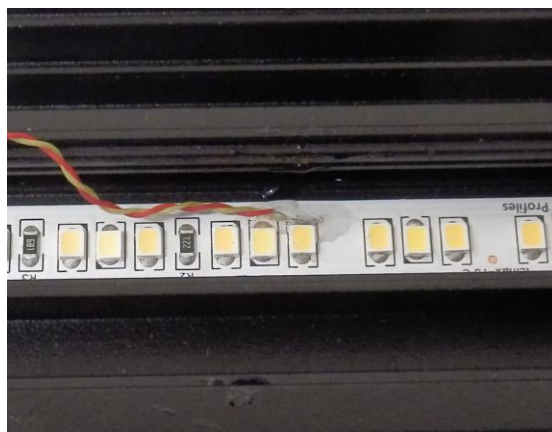
<i>Calibration report:</i>	200627CAL using N.M.I. report RN 181690 on standard lamp M14192
<i>Technical Procedure:</i>	P113 & P118
<i>Angular Resolution:</i>	Test Configuration and issued .ies file C Plane Interval 15 Deg Gamma Angle Interval 1.0 Deg Abbreviated Test Report File (I-Table) C Plane Interval 15 Deg Gamma Angle Interval 5.0 Deg
<i>Software:</i>	Lisun LSG-1800B
<i>Obstructions:</i>	None
<i>Lab. Book Page:</i>	PH4/1771
<i>Primary Orientation Correction:</i>	1.0
<i>Colour correction:</i>	1.028
<i>Goniophotometer:</i>	Lisun Electronics Model LSG-1800B, Serial No. GSGHF070010.
<i>Photocell:</i>	Lisun Electronics Detector Serial No. 330220-1
<i>Lux meter:</i>	Lisun Electronics Model PM 400, Serial No. GSRXK090021
<i>Lux meter integration time (PLC):</i>	5
<i>Power meter:</i>	Lisun Electronics Model RT-200, Serial No. GSXY0100021
<i>Power meter integration time (s):</i>	0.5
<i>Luminaire thermometer:</i>	AMA 1362983 0.1°C Serial No 526,10942
<i>Temperature Data Logger:</i>	Lisun TMP-8 Multiplex Serial No GSJWM010028
<i>Auxiliary Photocell:</i>	Delta Ohm HD 2102.1 & LP471PHOT

TEST REPORT and IES file archive

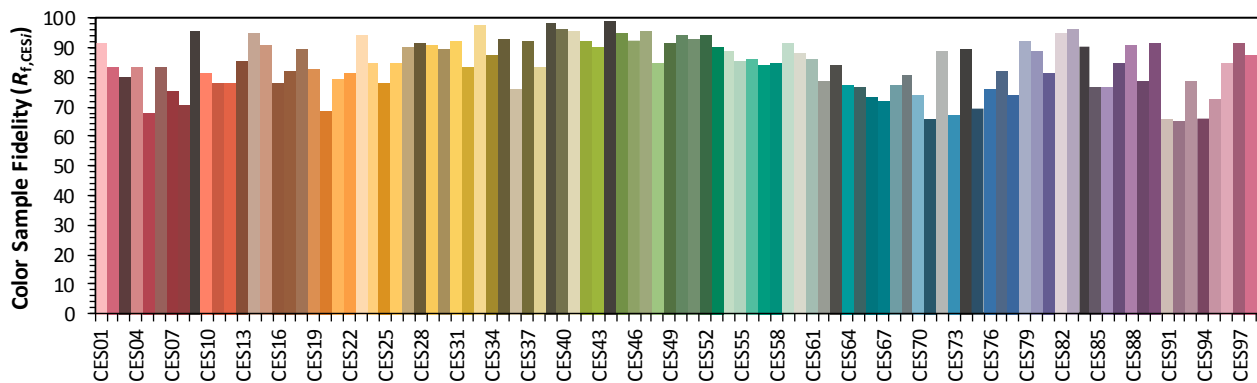
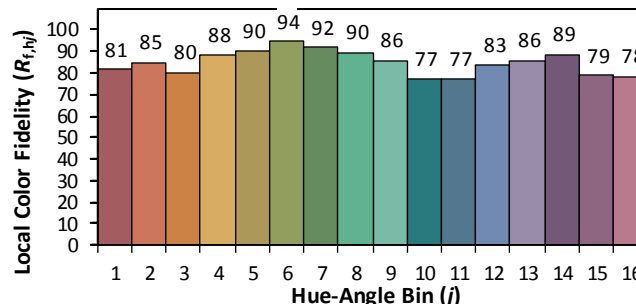
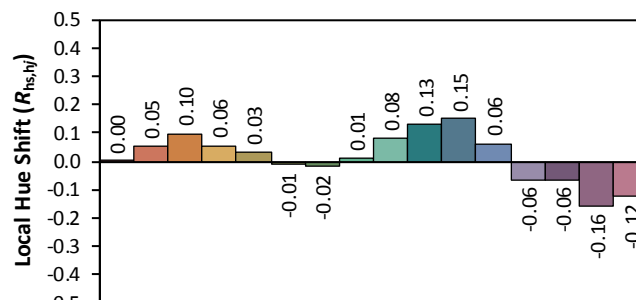
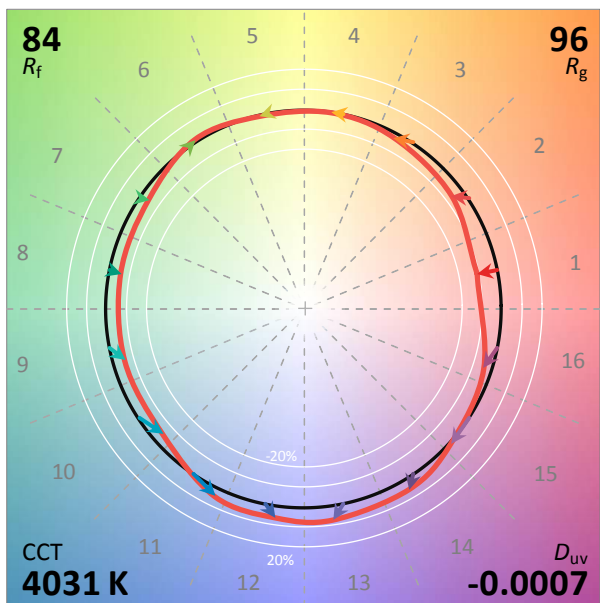
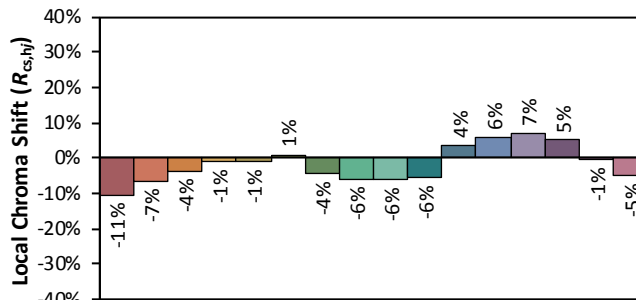
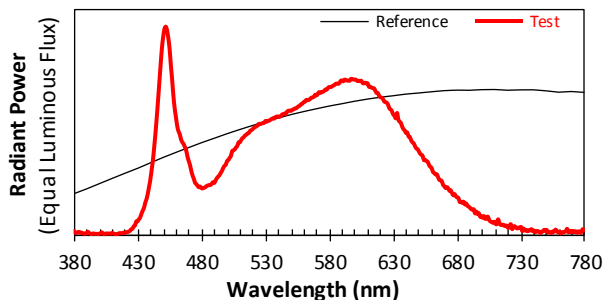
The data files for this report are contained in the *archive file: 210149PH.zip*

IES file: 210149PH.IES

Document File: 210149PH.pdf



ANSI/IES TM-30-18 COLOR RENDITION REPORT



Notes:

x 0.3786
y 0.3741
u' 0.2250
v' 0.5001

CIE 13.3-1995	
(CRI)	
R_a	85
R_g	19

The photometric data includes all the requirements of the report section of IESNA LM-79-19 or CIE S 025/E.

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Date: 1st February 2021

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	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	
5	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	98	98	97	97	97	97	97	97	
10	95	95	95	95	95	95	95	95	95	95	95	95	95	96	96	96	96	96	96	96	96	96	96	96	95	95
15	92	92	92	92	92	92	92	92	92	93	93	93	92	93	93	93	93	94	93	93	93	94	93	93	92	92
20	89	89	89	88	88	88	88	88	89	89	89	89	89	90	90	90	89	90	90	90	89	89	90	89	89	
25	84	84	84	83	83	83	83	84	84	84	84	84	84	85	85	86	85	86	85	86	85	85	85	84	84	
30	79	79	79	78	78	78	78	78	78	79	79	79	79	80	80	80	80	80	80	80	79	80	79	79	79	
35	73	73	73	72	72	72	72	72	73	72	73	74	73	74	74	74	74	74	74	74	74	74	74	74	73	
40	67	67	66	66	66	65	65	65	66	66	67	67	67	68	67	68	67	68	68	68	67	67	67	67	67	
45	60	59	60	59	59	58	59	59	59	59	60	60	60	61	61	61	60	61	60	61	60	61	60	60	60	
50	53	53	53	52	51	51	51	51	52	52	53	53	52	53	53	53	53	54	53	54	53	53	53	53	53	
55	46	45	45	44	44	43	43	44	44	44	45	45	45	46	46	46	46	46	46	46	46	46	46	45	46	
60	38	37	37	36	36	35	35	36	36	36	37	37	37	38	38	38	38	38	38	38	38	38	38	38	38	
65	30	29	29	28	28	28	28	28	28	28	29	29	29	30	30	30	29	30	30	31	30	30	29	30	30	
70	21	21	21	20	20	19	19	20	20	20	21	21	21	21	22	22	22	22	22	23	22	22	21	21	21	
75	14	13	13	12	12	12	12	13	12	12	13	13	13	13	14	14	14	14	12	14	14	14	13	13	14	
80	6	5	6	5	3	0	0	1	3	4	5	5	5	6	6	5	1	1	0	1	2	5	6	6	6	
85	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	
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	

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