

# Report of Test LL14079

Harcroft Lighting 2 x 28 W T5 Recessed T-Bar Luminaire. Product ID: TB228.

Folded/welded metal body, 1172 mm x 290 mm x 55 mm deep, with a gloss white finish.

Body sits on a t-bar frame with a A5 (Acacia) diffusing panel forming a luminous opening of 1170 mm x 272 mm.

Two Osram FH 28W/840 HE lamps centred 138 mm apart and 50 mm above the luminous opening.

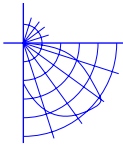
Lamps are separated by a U shaped gear cover. One Tridonic.Atco PC 2/14-21-28-35 T5 PRO Ip 220-240 V 50/60/0 Hz electronic ballast operated at 240 V / 50 Hz. Measured parameters; 256 mA / 59.6 W.



## Performance Summary

Light Output Ratio	77.5 %
Luminaire Power	59.6 W
SHR Nominal	1.50
SHR Maximum	1.50

**PREPARED FOR : Harcroft Lighting Pty. Ltd., Seven Hills, N.S.W, 2147.**



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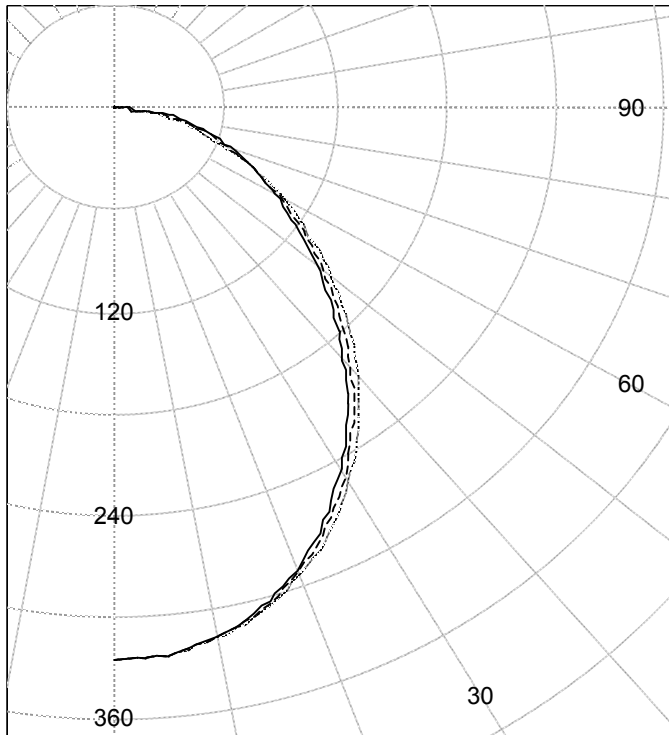
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50/60/0 Hz electronic ballast operated at 240 V / 50 Hz. Measured parameters; 256 mA / 59.6 W.

LEGEND : C0-Solid, C45-Dashed, C90-Grey (cd / klm)



### INTENSITY SUMMARY (cd / klm)

Gamma	C-Plane					Output Lumens
	C0	C22.5	C45	C67.5	C90	
0.0	325	325	325	325	325	
5.0	323	323	323	323	323	31
10.0	316	316	317	317	317	
15.0	305	305	306	307	307	86
20.0	289	290	291	293	293	
25.0	269	270	272	275	275	125
30.0	246	247	250	253	255	
35.0	220	221	226	230	232	141
40.0	193	195	199	204	206	
45.0	168	169	173	178	180	134
50.0	143	144	147	152	154	
55.0	120	121	124	127	129	111
60.0	100	100	102	104	105	
65.0	83	82	82	82	82	82
70.0	66	65	64	62	61	
75.0	51	49	47	45	42	50
80.0	36	34	31	28	25	
85.0	17	16	15	13	11	16
90.0	0	0	0	0	0	

### AVERAGE LUMINANCE (cd / sq.m / klm)

Gamma	C0	C45	C90
45.0	745	768	799
55.0	657	679	707
65.0	614	607	611
75.0	618	576	515
85.0	616	524	391

### ZONAL LUMENS AND PERCENTAGES

Zone	Lumens	% Lamp	% Luminaire
0-30	242	24.2	31.2
0-40	383	38.3	49.4
0-60	628	62.8	81.0
0-90	775	77.5	100.0
40-90	392	39.2	50.6
60-90	147	14.7	19.0
90-180	0	0.0	0.0
0-180	775	77.5	100.0

Light Output Ratio = 77.5 %

SHR-NOM = 1.50

Calculated using the TM5

SHR-MAX = 1.50

fine grid method.

CERTIFIED BY: *E Southgate*

Eric Southgate  
Authorised Signatory

Date of test

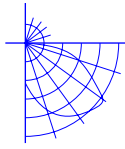
18-Oct-2010

Date of report

20-Oct-2010

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**Certified Test Report No. LL14079**

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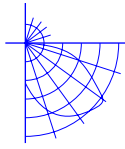
Two Osram FH 28W/840 HE lamps centred 138 mm apart and 50 mm above the luminous opening.

Lamps are separated by a U shaped gear cover. One Tridonic.Atco PC 2/14-21-28-35 T5 PRO Ip 220-240 V 50/60/0 Hz electronic ballast operated at 240 V / 50 Hz. Measured parameters; 256 mA / 59.6 W.

**INTENSITY DATA (cd / klm)**

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
0.0	325	325	325	325	325
2.5	325	325	325	325	325
5.0	323	323	323	323	323
7.5	320	320	321	321	321
10.0	316	316	317	317	317
12.5	311	311	312	313	313
15.0	305	305	306	307	307
17.5	298	298	299	300	301
20.0	289	290	291	293	293
22.5	280	280	282	284	285
25.0	269	270	272	275	275
27.5	257	259	262	265	266
30.0	246	247	250	253	255
32.5	233	234	238	242	243
35.0	220	221	226	230	232
37.5	207	208	212	217	219
40.0	193	195	199	204	206
42.5	181	182	186	190	193
45.0	168	169	173	178	180
47.5	155	157	160	165	167
50.0	143	144	147	152	154
52.5	131	133	135	140	142
55.0	120	121	124	127	129
57.5	110	111	113	115	117
60.0	100	100	102	104	105
62.5	91	91	92	93	94
65.0	83	82	82	82	82
67.5	75	74	73	72	72
70.0	66	65	64	62	61
72.5	59	57	55	53	52
75.0	51	49	47	45	42
77.5	43	42	39	36	34
80.0	36	34	31	28	25
82.5	27	25	23	20	18
85.0	17	16	15	13	11
87.5	7	7	6	6	5
90.0	0	0	0	0	0





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**Utilization factors UF(F)**

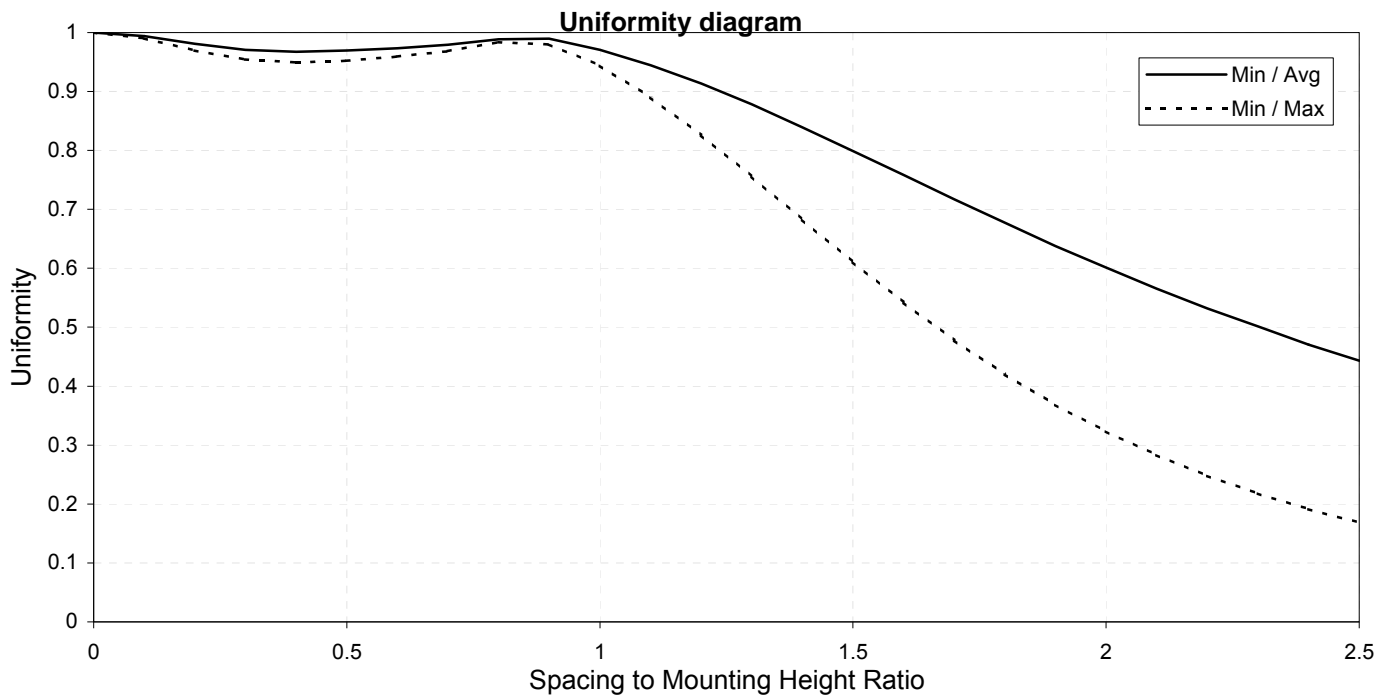
SHR NOM = 1.50											
Room Reflectance.			Room Index								
C	W	F	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
0.70	0.50	0.20	0.49	0.55	0.61	0.65	0.70	0.73	0.75	0.79	0.81
	0.30		0.44	0.50	0.56	0.60	0.65	0.69	0.72	0.76	0.78
	0.10		0.40	0.46	0.52	0.56	0.62	0.66	0.69	0.73	0.76
0.50	0.50	0.20	0.48	0.54	0.59	0.62	0.67	0.70	0.73	0.76	0.78
	0.30		0.43	0.49	0.54	0.58	0.64	0.67	0.70	0.73	0.75
	0.10		0.40	0.45	0.51	0.55	0.60	0.64	0.67	0.71	0.74
0.30	0.50	0.20	0.47	0.53	0.57	0.61	0.65	0.68	0.70	0.73	0.75
	0.30		0.43	0.48	0.53	0.57	0.62	0.65	0.68	0.71	0.73
	0.10		0.40	0.45	0.50	0.54	0.59	0.63	0.65	0.69	0.71
0.00	0.00	0.00	0.38	0.43	0.48	0.52	0.57	0.60	0.62	0.66	0.68

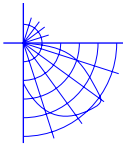
Rating : Photometrically tested without ceiling board.

Multiply values by service correction factors.

Calculated in accordance with CIBS Technical Memorandum No. 5 1980 using the fine grid method.

Luminaire discretisation employed. Ceiling/Wall/Floor reflectances not used in calculations.





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**Test Distance:** 8.0 metres  
**Test Temperature:** 24.8 degrees Celsius

**Significance:** This laboratory has no control over the selection of samples to be tested. All testing is performed on the understanding that the significance of the report is limited to the extent that the test sample is representative of production units.

**Special Notes:** The Intensity values contained in this report are based on the lamp(s) delivering 1000.0 lumens. When using these values in calculations the appropriate Manufacturer's rated lumens MUST be taken into account.  
It should also be noted that prorating the lumen output for the use of other lamp/ballast combinations, or for use in different environmental conditions, than that tested may produce erroneous results.  
The generic term "LOR" is used in this report, it denotes the "Light Output Ratio Working" as defined in Australian Standard AS1680, Part 3, 1991, Section 1.3.9.  
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.

**Uncertainties:** At the 95% confidence interval with a factor  $k = 2$ , the uncertainties for this report are :-

Temperature	+/- 1 degree Celsius
Light Output Ratio	+/- 4%
Luminous Intensity	+/- 4%
Angular displacement	+/- 0.25 degrees.

**Testing Procedure:** Tested in accordance with the applicable sections of CIE Publication Number 24 and Australian Standard AS1680, Part 3, 1991.

