

Indoor Environment Quality

IEQ-5 High Frequency Ballasts

Points Available	Points Claimed	CIR Submitted
1	1	N

Credit Criteria

One point is awarded where it is demonstrated that high frequency ballasts are installed in fluorescent luminaires over a minimum of 95% of the tenancy fitout's NLA.

Documents Provided

✓	Information from the sub-contractor that confirms that <i>at least 95% of the tenancy fitout's NLA is served by luminaires which use high frequency ballasts.</i> IEQ-5: 1
✓	A summary calculation sheet from the lighting engineer that shows the total number of fittings required for each floor of the tenancy fitout; Lighting schedule is provided demonstrating 100% compliance as all fittings are high frequency ballast. IEQ-5: 2
✓	As-installed drawings of lighting systems that shows the proportion of the tenancy fitout's NLA that is served by fittings with high frequency ballasts including task lighting. IEQ-5: 3

Discussion

- **Luminaire schedule provided shows the total number of fittings required for (and used in) the fitout. As highlighted on the schedule, all lamps are electronic ballasted. Therefore, 100% of tenancy fitout NLA is served by luminaires with high frequency ballasts.**
- **The as-installed lighting drawings call out the lamp types that are listed on the luminaire schedule. Because 100% of luminaires are compliant, the entire NLA is compliant with the credit.**

14th January, 2009

Kathy Willoughby
Green Building Council of Australia
Level 15, 179 Elizabeth St
Sydney, NSW 2000

Dear Kathy,

This letter confirms that KLM Group has installed separate digital metering for Light circuits and Power circuits. The meters can be accessed and measurements taken at any time as the meters are mounted within the tenancy switchboard cupboard on the northern wall of the central core located at grid reference C2 on drawing number E002. The meters can be direct read but do not allow for a pulse output or connection to a BMS or PC as there is no BMS in the building.

All light fixtures installed within the NLA contain high frequency ballasts. The details of each fitting can be found on the lighting schedule and also the corresponding data sheets located in the Operation and Maintenance manual.

There are no substantive energy uses above 25kVa in the tenancy fitout.

The entire installation was carried out and tested to conform with the Australian Standard AS3000:2000

Please contact the undersigned with any further questions regarding the installation.

Kind regards,








Darren Manoliu
Project Manager
KLM Group

SYD0703900 GBCA -NEW HEAD OFFICE FITOUT

Date: 29/11/2007

Luminaire Schedule

Revision: J







TYPE	IMAGE	DESCRIPTION	MANUFACTURER	CAT NO.	LAMP(s)				DIMENSIONS (approx. only)	FINISH	IP RATING	CONTROL GEAR	MOUNTING DETAILS	QTY
					Number	Wattage per Lamp	Type	Colour Temp						
C1		2x26W PLC surface mounted downlight with matt optic reflector	Zumtobel	Panos-A HM 200 60810727	2	26W	Osram TC-DEL, G24q-2	4000K	230mm Dia. x 200mmH	Matt white	N/A	Electronic	Surface	29
C1D		2x26W PLC surface mounted downlight with matt optic reflector, DSI dimmable	Zumtobel	Panos-A HM 200 62902022.DSI	2	26W	Osram TC-DEL, G24q-2	4000K	230mm Dia. x 200mmH	Matt white	N/A	Electronic DSI dimmable	Surface	9
C5		2/40W TC-L fluorescent direct/indirect suspended diffuser luminaire with plastic seal, DSI dimmable	Zumtobel	Chiaro FTR680 42157266.DSI	2	40W	Osram	4000K	680mm Dia. x 142mmH	TBC	N/A	Electronic DSI dimmable	Suspended	5
F1A		2x1/49W + 3x2/28W T5 fluorescent suspended direct/indirect luminaire, matt bivergent louvre, separately switchable, DALI dimmable, with track adapter	Zumtobel	42913075.77A	2x1/49W up 3x2/14W down	49W/14W	Osram T5 Fluorescent Tri-phosphor	4000K	98mmW x 4700mmL x 62mmH	TBC	N/A	Electronic DALI dimmable	Wire suspended at 1650mm AFFL (confirm height)	9
F1B		1/49W + 2x2/28W T5 fluorescent suspended direct/indirect luminaire, matt bivergent louvre, separately switchable, DALI dimmable, with track adapter	Zumtobel	42913075.77B	1x1/49W up 2x2/14W + down	49W/14W	Osram T5 Fluorescent Tri-phosphor	4000K	98mmW x 2736mmL x 62mmH	TBC	N/A	Electronic DALI dimmable	Wire suspended at 1650mm AFFL (confirm height)	3

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Luminaire Schedule

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					Number	Wattage per Lamp	Type	Colour Temp						
F2		2x24W T5 fluorescent downlight with microprismatic optic, DSI dimmable	Zumtobel	Mellowlight IV EM 42174798	2	24W	Osram T5 Fluorescent Tri-phosphor	4000K	598mmW x 598mmL x 102mmH	TBC	N/A	Electronic DSI dimmable	Recessed	4
F3		4x14W T5 fluorescent downlight with micro-pyramidal structure, DSI dimmable	Zumtobel	Light Fields E 42157312	4x4/14W	14W	Osram T5 Fluorescent Tri-phosphor	4000K	1198mmW x 1198mmL x 63mmH	TBC	N/A	Electronic DSI dimmable	Recessed	2
F4A		3x1/28W T5 fluorescent recessed continuous extrusion with PMMA diffuser	Zumtobel	Slotlight 3-length 42160016	3	28W	Osram T5 Fluorescent Tri-phosphor	4000K	68mmW x 3362mmL x 100mmH	TBC	N/A	Electronic	Recessed	2
F4B		2x1/28W T5 fluorescent recessed continuous extrusion with PMMA diffuser, DSI dimmable	Zumtobel	Slotlight 2-length 42160030	2	28W	Osram T5 Fluorescent Tri-phosphor	4000K	68mmW x 2268mmL x 100mmH	TBC	N/A	Electronic DSI dimmable	Recessed	4
F5		1/40W T5 fluorescent direct/indirect suspended diffuser luminaire, DSI dimmable	Zumtobel	Chiaro FTR390 42157260.DSI	1	40W	Osram T5 Fluorescent Tri-phosphor	4000K	390mm Dia. x 125mmH	TBC	N/A	Electronic DSI dimmable	Suspended	3
F7		3x14W T5 fluorescent recessed downlight, prismatic diffuser			3	14W	Osram T5 Fluorescent Tri-phosphor	4000K	590mmW x 590mmL x 95mmH	TBC	N/A	Electronic	Recessed	6

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TYPE	IMAGE	DESCRIPTION	MANUFACTURER	CAT NO.	LAMP(s)				DIMENSIONS (approx. only)	FINISH	IP RATING	CONTROL GEAR	MOUNTING DETAILS	QTY
					Number	Wattage per Lamp	Type	Colour Temp						
F8		4/14W T5 fluorescent suspended direct/indirect luminaire with micro-pyramidal structure	Zumtobel	Light Fields A-ID 42174314	4	14W	Osram T5 Fluorescent Tri-phosphor	4000K	623mmW x 623mmL x 61mmH	TBC	N/A	Electronic	Suspended	2
F9		1/80W T5 fluorescent direct/indirect surface mounted wall light, graphite finish	Zumtobel	Bega 4413	1	80W	Osram T5 Fluorescent Tri-phosphor	4000K	105mmW x 1515mmL x 120mmH	TBC	N/A	Electronic	Surface mounted	1
H1		35W track mounted ceramic metal halide adjustable spotlight with flood distribution, electronic control gear	Zumtobel	Vivo M	1	35W	Osram HCI-TC-CE G8.5	4000K		TBC	N/A	Electronic	Track mounted	10
L1		3/1W LED recessed adjustable downlight, 30° beam angle	Zumtobel	Panos S LED 60811837	3	1W	Osram	3000K	113mm dia. x 102mmH	TBC	N/A	Electronic	Recessed	14
T1		3-phase DALI surface mounted track, live feed, dead end	Zumtobel	3-phase DALI track 60280045	N/A	N/A	N/A	N/A	Length to suit	White	N/A	N/A	Surface	40m
T2		3-circuit surface mounted track, live feed, dead end	Zumtobel	3-circuit track 2801270	N/A	N/A	N/A	N/A	Length to suit	White	N/A	N/A	Surface	19m

DATE	REV	AMENDMENT	BY	CHKD
19.10.07	A	TENDER	MPB	ASD
12.11.07	B	CONSTRUCTION ISSUE	MPB	ASD
27.02.08	C	AS INSTALLED ISSUE	TC	

NOTES

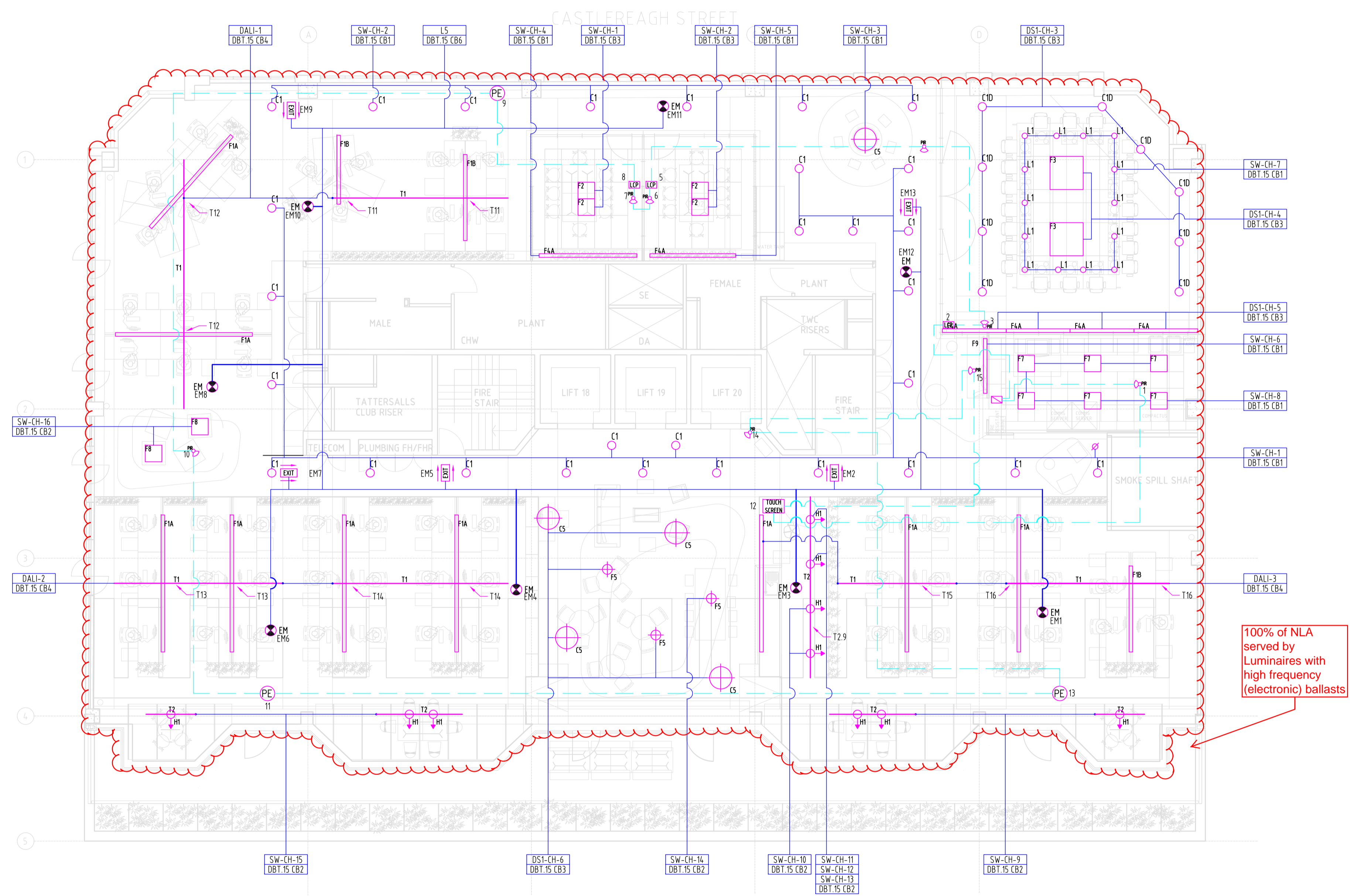
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2.

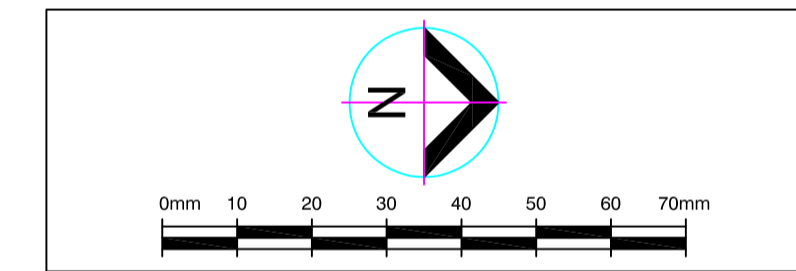
COMPONENT	SERIAL NO.
1	430746
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3	424664
4	430678
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6	424663
7	419157
8	426488
9	428148
10	430745
11	430745
12	
13	428147
14	430679
15	424665

2.

CIRCUIT	CHANNEL	...
DBT.15 CB1	L1	8.8A	SW-CH-1	4.76A
			SW-CH-2	15A
			SW-CH-3	0.3A
			SW-CH-4	0.35A
			SW-CH-5	0.35A
			SW-CH-6	0.3A
			SW-CH-7	0.175A
			SW-CH-8	1.05A
DBT.15 CB2	L2	2.08A	SW-CH-9	0.43A
			SW-CH-10	0.3A
			SW-CH-11	0.10A
			SW-CH-12	0.10A
			SW-CH-13	0.10A
			SW-CH-14	0.15A
			SW-CH-15	0.43A
			SW-CH-16	0.46A
DBT.15 CB3	L3	9.8A	DS1-CH-1	1A
			DS1-CH-2	1A
			DS1-CH-3	3A
			DS1-CH-4	2A
			DS1-CH-5	1A
DBT.15 CB4	L4	12A	DS1-CH-6	1.6A
			DALL-1	4A
			DALL-2	4A
DBT.15 CB6	L5		DALL-3	4A



100% of NLA served by Luminaires with high frequency (electronic) ballasts



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PROJECT
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CLIENT
GBCA

DATE	04.10.07	DRAWN	EWM
SCALE	1:100	CHECKED	
SHEET SIZE	A1	APPROVED	
CAD FILE			

TITLE
ELECTRICAL SERVICES
LIGHTING LAYOUT

PROJECT NO. **SYD 0703900** DRAWING NO. **E001** REVISION **C**