



Commercial Lighting Program

PROGRAM GUIDE



Commercial Lighting Program (CLP)

PROGRAM GUIDE

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This publication is subject to change without notice.
Please visit hydro.mb.ca/your_business for the most current information.



Introduction

Manitoba Hydro's Commercial Lighting Program (CLP) is available to Manitoba Hydro's Electrical General Service Rate customers in the commercial, industrial, and agricultural sectors. The CLP offers financial incentives for installations of eligible energy efficient lighting systems.

If you have questions about the Commercial Lighting Program, contact your Manitoba Hydro account representative or the CLP directly:

Call 204-360-3676 (Winnipeg) or 1-888-624-9376
Email clp@hydro.mb.ca or visit hydro.mb.ca/your_business/lighting.

Renovation projects

The CLP incentives apply to renovation projects.

New buildings & new additions to existing buildings: Interior lighting

The New Buildings Program provides technical guidance and financial incentives for designing, constructing, and operating new, energy efficient buildings in Manitoba.

New commercial construction projects in Manitoba may be eligible for incentives and building designation through the New Buildings Program. For more information, contact the New Buildings Program.

New buildings & new additions to existing buildings: Exterior lighting only

Your new building or addition may qualify for incentives for exterior lighting through the New Buildings Program or the Commercial Lighting Program.



How to participate

All projects require review and written pre-approval by Manitoba Hydro prior to purchasing or installing new lighting or removing any existing lighting in order to be eligible for an incentive. Projects that begin before Manitoba Hydro's written pre-approval are not eligible for incentives.

1. Determine lighting requirements

Consult an electrical contractor, lighting designer, electrical code authority (such as an electrical inspector), or your Manitoba Hydro account representative for assistance.

2. Qualify

You must meet the customer eligibility criteria.

3. Download or contact Manitoba Hydro for a lighting incentive application

The lighting application, incentive calculation sheets, and application appendices, can be downloaded from the **CLP website**. Your Manitoba Hydro account representative can assist you in completing the application and answer any questions you have.

4. Select eligible products

The lighting product(s) you plan to purchase must be eligible for an incentive. LED screw-in lamps are eligible for incentive if the product is on the Eligible Product List (EPL), or if the product is ENERGY STAR® certified and meets the program technical specifications guide.

All other LED products are eligible for incentive if the product is on the Eligible Product List (EPL), or on the DesignLights Consortium (DLC) Qualified Product List and meets the program technical specification guide.

All remaining lighting products must be on the Eligible Product List (EPL). If not, ask your lighting supplier to submit a Product Approval Request to get the product approved, or change to an approved product.

You must meet the Product eligibility criteria.

5. Complete application

Complete the lighting application that applies to your project.

- **Renovation:** A lighting project that upgrades an existing lighting system in a commercially billed facility. Excluding attics, boiler/electrical/mechanical rooms, crawl spaces, apartment suites, new buildings, new additions to an existing building, temporary lighting, and storage spaces.
- **New construction exterior lighting:** A lighting project that installs energy efficient lighting to the exterior or parking area of a new building, or in a new addition to an existing building, or where no previous lighting existed. For new construction exterior lighting complete and attach Appendix F to the application. Incentives for new building exterior lighting will be calculated by Manitoba Hydro based on the Manitoba Energy Code for Buildings (MECB).

Your planned project must meet the project eligibility criteria and the installation requirements.

Ensure you provide all requested information on the application form, sign and date the application, and attach any relevant information and appendices.

Incomplete applications will be declined.

6. Submit application to Manitoba Hydro

This can be done by the customer or the contractor on the customer's behalf. It is the customer's responsibility to ensure that the lighting application is received by Manitoba Hydro. All applications for pre-approval must be submitted and received by Manitoba Hydro within 10 business days of the customer signing the application form. Please keep a copy of your lighting application form for your records. Application forms can be submitted to your Manitoba Hydro account representative or emailed to clp@hydro.mb.ca. Your Manitoba Hydro account representative may conduct a pre-inspection or walk-through of the facility to verify the existing lighting.

7. Make any necessary changes

Contact your Manitoba Hydro account representative to modify the original application. Manitoba Hydro must pre-approve any changes to the application before the existing lighting is removed for any changes to be eligible for incentives.

8. Project pre-approval

Manitoba Hydro issues written pre-approval to the customer for your lighting project. Do not start your project until written pre-approval has been received. If your project has not received written pre-approval within 14 business day of submitting your application to Manitoba Hydro, please contact us in writing at clp@hydro.mb.ca to ensure your application has been received or at 204-360-3676.

9. Lighting purchase and installation

Purchase and install the new lighting within one year (12 months) of pre-approval by Manitoba Hydro.

10. Completion paperwork

After your new lighting is installed and operational, and within one year of pre-approval of your project, send your Manitoba Hydro account representative the following completion paperwork:

- Certificate of Inspection (within Winnipeg) or Certificate of Approval (outside Winnipeg)
- Filled-out, signed, and dated completion **declaration & questionnaire**.
- Itemized invoice(s) detailing:
 - date of purchase (must be after application written pre-approval date from Manitoba Hydro)
 - vendor's name, customer's name, and install address
 - manufacturer name and model number of each product (which must match the model number on the Eligible Product List or the Manitoba Hydro approved products on the DLC Qualified Products List)

- product description
- product quantities
- per unit product costs and total, separate from design, labour, and taxes
- labour (if applicable)

- All completion paperwork must be submitted to Manitoba Hydro within 10 business days of the customer signature.

Customers who don't submit completion paperwork, or who submit incomplete paperwork, will not be eligible for an incentive if written pre-approval was given more than a year ago. If we have questions at pre-approval, or close out during application period you must respond within 14 business days or the application will be canceled.

11. Post-inspection

Your Manitoba Hydro account representative will contact you and will conduct a post-inspection to confirm that all products were installed in accordance with the pre-approved application. The incentive is subject to change based on finalization of your application and all applicable paperwork.

12. Incentive processed

Once all completion paperwork is received by Manitoba Hydro the incentive will be adjusted based on invoicing, inspections, final products installed, product quantities, energy savings, and all applicable paperwork. Manitoba Hydro finalizes and processes your incentive. A cheque or a credit on your Manitoba Hydro bill is issued.



Program guidelines and policies

Customer eligibility

To be eligible for a financial incentive, your company must:

- Be a Manitoba Hydro commercial customer billed at the Electrical General Service Rate;
- Use the lighting system in a commercial, not residential capacity;
- The building must be an existing building that has been continuously occupied and operated for a minimum of two consecutive years immediately prior to the application to this program. New Buildings and additions do not qualify with the exception of exterior lighting;
- Operate the lighting system for a minimum of 2,000 hours per year to be eligible for posted incentives. Lighting operation between 1,000 and 1,999 hours per year may qualify for prorated incentives;
- Own the lighting and be the end user of the lighting (i.e. not a lighting vendor, manufacturer, or installer);
- Keep the lighting installed, as specified on the application, for a minimum of three years after the date of the incentive payment.
- Lighting fixtures must be permanently affixed the building. Temporary lighting does not qualify.
- All existing lighting must be removed and properly recycled.

Note: If your company has received financial assistance, either in whole or in part, for the lighting installation from any federal, provincial, or other Manitoba Hydro energy efficiency funding programs, it may not be eligible under this program. Contact Manitoba Hydro for more details.

If your company fails to comply with these terms and conditions or any other requirement of Manitoba Hydro, then upon notice from Manitoba Hydro, your incentive will be cancelled. If the incentive has already been paid to your company, then you must repay Manitoba Hydro the entire amount of the incentive in a manner as required by Manitoba Hydro, and at Manitoba Hydro's sole discretion (which may include addition of such amount to your company's energy and/or loan account(s) with Manitoba Hydro).

Project eligibility

1. Obtain written pre-approval from Manitoba Hydro prior to removing existing lighting and ordering, purchasing, or installing new lighting to be eligible for an incentive.
2. Only use products from the Eligible Product List (EPL), DesignLights Consortium (DLC) Qualified Product List, ENERGY STAR®, or those approved by Manitoba Hydro's lighting program engineer. All products must be new and not used.
3. Supply Manitoba Hydro with all the required and requested information, including completing appendices and attaching required documentation. Incomplete applications will not be pre-approved.
4. All incentives are limited to 100 per cent of the actual cost of the lighting equipment paid for by the recipient of the incentives, including taxes (excluding design, labour or other costs).

Lighting equipment means the lighting technology or device itself, such as the fixture, and does not extended to wiring, cables, or other materials related to or used to install the device.

The maximum eligible incentive is \$250,000 for all electrical measures included in your lighting project.

If an incentive is assigned by a customer to the vendor or installer of the lighting, the incentive is limited to the actual cost of the lighting equipment to the vendor or installer (as opposed to the cost of the lighting equipment to the customer).

Manitoba Hydro reserves the right to verify the accuracy of cost information including verification of payment of the lighting equipment, and your company, the vendor, and installer must fully cooperate to Manitoba Hydro's satisfaction, failing which, the incentive may be cancelled.

5. Projects that are not eligible for renovation incentives include newly constructed buildings (interior or exterior); additions to existing buildings; lighting installed in a previously unlit area of an existing building; residentially billed spaces; projects with limited energy savings; projects with rented or temporary lighting; and other projects as determined by the program.
6. In retrofit situations where an appreciable portion of the existing lighting is inoperative, Manitoba Hydro reserves the right to limit lighting power density and incentives to the active portion only.
7. Manitoba Hydro calculates custom incentives using established program baseline technologies which may differ from a customer's existing system. In renovations where the customer is applying for a custom incentive. All incentives are capped at the lesser of energy savings, related prescriptive incentives, or material costs for the related technology. For existing and proposed light levels, the mean lumens of a properly maintained system may be used to determine the appropriate light levels. For mean lumens of each technology, refer to the Lamp Ratings Tables in the Technical Specification Guide.

Light meter measurements of the existing installation will not be used since these levels are largely impacted by the age of the lamps, the regularity of fixture cleaning, etc., which may result in light meter readings that are much lower than that of a properly maintained system.

Customers will not receive incentives for demand reduction that results from reducing light levels beyond those recommended by the Illuminating Engineering Society (IES).

8. Manitoba Hydro reserves the right to:
 - Hire an independent third party to analyze lighting design proposal;
 - Request a lighting project price quote;
 - Request light design drawings of existing and proposed systems.

Product eligibility

1. All eligible products must meet the CLP's technical specifications in the current online CLP Technical Specification Guide here: hydro.mb.ca/your_business/lighting/pdf/technical_spec_guide.pdf

For LED screw-in lamps ENERGY STAR® certified products may be acceptable.

For all other LED products a DLC listing may be acceptable.
2. Lighting must be new, owned by the customer (not rented, leased, etc.) approved by the Canadian Standards Association (CSA), or certified by an accredited independent organization, and must conform to CSA standards for the intended application.
3. It is the responsibility of the customer to ensure the lighting is in compliance with appropriate industry, legal, safety, and other standards, guidelines, or recommendations which apply to the lighting application and use. Consult an electrical contractor or lighting designer to determine application specific lighting requirements such as uniformity, colour temperature, light levels, and environmental aspects such as ingress protection (IP), corrosion, etc. The incentive may be revoked if any of the eligibility criteria has been violated.
4. Products intended for exterior application must be rated for satisfactory operation from -40°C to +40°C (-40°F to +104°F).
5. For eligible technologies and product types, view the current online Incentives sheet here: hydro.mb.ca/your_business/lighting/pdf/incentives.pdf



Installation requirements

1. Lighting must meet the requirements of the Manitoba Electrical Code, all pertinent bylaws, be acceptable to the inspection authorities that have jurisdiction, and have a Certificate of Inspection (within Winnipeg) or Certificate of Approval (outside Winnipeg).
2. The lighting must be installed and operational in the customer's premises within one year of Manitoba Hydro's pre-approval and all paperwork must be received by Manitoba Hydro within 1 year of pre-approval. If all paperwork is not received your application will be canceled and the project will not be eligible for an incentive. If the installation deadline cannot be met, then contact your Manitoba Hydro account representative in writing before pre-approval ends.
3. It is the customer's responsibility to dispose of all hazardous materials (including PCBs) in accordance with all applicable government regulations.
4. Lighting products that are removed from the Manitoba Hydro system will not be resold, except for scrap purposes, nor will they be installed elsewhere.
5. For exterior lighting, luminaires must not be installed and aimed in a manner so as to cause glare onto neighbouring properties, streets, or highways.
6. For T5 & T8 fluorescent lighting systems, Remote Master-Slave wiring is not allowed. Back-to-back tandem wiring of 4' lamps into 8' fixtures is acceptable.

New building lighting incentives

Interior lighting

If you are installing energy efficient interior lighting in a new building or in a new addition to an existing building, you may qualify for incentives from the New Buildings Program.

Contact the New Buildings Program at:

NewBuildings@hydro.mb.ca
New Buildings Program
360 Portage Ave. (7)
Winnipeg MB R3C 0G8.

Exterior lighting

You may qualify for exterior lighting incentives for your new building or addition through the Commercial Lighting Program.

To apply for exterior lighting incentives and find out if your project is eligible:

- Make sure you meet the Commercial Lighting Program requirements.
- Complete the Lighting application and attach Appendix F.

Include the following with your New Construction Lighting application for exterior lighting projects:

- The 'Total Base Case Allowance for Exterior Lighting' excel file from the **CLP website**, and a copy of the building layout with exterior lighting drawings;
- Exterior lighting allowance calculations as required by the MECB (see Section 4.2.3). For help with these calculations, visit the National Research Council Canada's website at nrc-cnrc.gc.ca/eng/publications/codes_centre/2014_user_guide_necb2011.html
- Price quotation with itemized material and labour costs;



- Lighting product specification sheets for your proposed lighting systems. Only products on the Eligible Product List (EPL) or the DesignLights Consortium (DLC) Qualified Product List, are eligible for incentives.

Submit your application and attachments to:

- clp@hydro.mb.ca
- Commercial Lighting Program
360 Portage Ave (7)
Winnipeg MB R3C 0G8.

Manitoba Hydro will determine if your project is eligible for incentives and issue written pre-approval on your project. The estimated incentive will be calculated based on how much the project exceeds the MECB allowances.

How to complete an application

PF2956(2)/1 Rev 18 07



Commercial Lighting Program Renovations Incentive Application

Application no.

Customer information

Business name <i>ABC Commercial Company</i>		Contact name <i>Jane Smith</i>	
Mailing address <i>123 Any Street</i>	City/town <i>AnyCity</i>	Province <i>MB</i>	Postal code <i>A1B 2C3</i>
Phone no. <i>(204) 555-1234</i>	Fax no. <i>(204) 555-1111</i>	Email <i>janesmith@mail.com</i>	

1

Installer information

Company name <i>DEF Electrical Company</i>		Contact name <i>Jack Gold</i>	
Mailing address <i>456 Some Street</i>	City/town <i>AnyTown</i>	Province <i>MB</i>	Postal code <i>D4E 5F6</i>
Phone no. <i>(204) 999-5678</i>	Fax no. <i>(204) 999-9876</i>	Email <i>DEFelectric@mail.com</i>	

2

Project site information

Building use description <i>office and warehouse</i>			GST registration no.		
Building address (if different from Customer mailing address)			City/town	Province	Postal code
EXPECTED START	yyyy mm dd <i>2017 08 01</i>	EXPECTED COMPLETION	yyyy mm dd <i>2017 11 30</i>	Manitoba Hydro account no. <i>7654321 6123456</i>	

Customer acknowledgment (Read cover page of this Application before signing.)

I, the Customer, have read and understood the Agreement and the Program Eligibility Criteria printed on the cover page of this Application. I agree to the listed terms and conditions and warrant that I fully qualify and have complied with such terms and conditions.

I understand this incentive amount is an **ESTIMATE** only and that this application must be **PRE-APPROVED** by Manitoba Hydro BEFORE ordering/purchasing lighting or starting work on the project.

Signed by (Customer) <i>Jane Smith</i>	yyyy mm dd <i>2017 07 01</i>
Print name <i>Jane Smith</i>	
Print title <i>President</i>	

Personal information is being collected under the authority Program Activity and The Manitoba Hydro Act. The purpose is to provide incentives to commercial customers for upgrading their lighting and to acquire specific related information to calculate energy and demand savings resulting from the program. Other uses and disclosures may be to participating contractors, electronic system for program tracking, Public Utilities Board for statistical reporting, external auditors as part of a sample audit, government entities for reporting purposes and Manitoba Hydro officials on a "need to know" basis. The personal information is protected by the Protection of Privacy provisions of The Freedom of Information and Protection of Privacy Act. If you have any questions about the collection, contact Manitoba Hydro, 360 Portage Ave., Winnipeg, MB R3C 0G8 or telephone 1-204-360-3676.

Cheque payment information (Read cover page of this Application before signing.)

Payee name <i>DEF Electrical Company</i>				TOTAL INCENTIVE PAYABLE (subject to final inspection and submission of invoices)	\$ <i>40,474 68</i>
Cheque mailing address <i>456 Some Street</i>	City/town <i>AnyTown</i>	Province <i>MB</i>	Postal code <i>D4E 5F6</i>		

4

5

Voluntary assignment**

(Do not sign if the Incentive is to be paid to the Customer.)
I, the Customer, do hereby **irrevocably** direct and authorize Manitoba Hydro to pay the Incentive to the vendor or Installer named in the box titled "CHEQUE PAYMENT INFORMATION".

Signed by (Customer) <i>Jane Smith</i>	yyyy mm dd <i>2017 07 01</i>
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**** Note: Manitoba Hydro reserves the right to apply the Incentive first to any outstanding account balances or loans of the Customer and to pay the balance, if any, to the vendor or Installer to whom the Customer has assigned the Incentive.**

6

7

MANITOBA HYDRO USE ONLY		Disbursements				Due date	
STATUS	Pre-inspection (RR)	Receipt (MP)		Cheque no.	Cheque amount	yyyy mm dd	
	Tech review 1 (CES)	Tech review 2 (CES)		\$			
Application verified by (Regional Representative)		yyyy mm dd		Cheque delivery instruction (Refer to P95 for cheque delivery code)			
Payment authorized by (Program Coordinator)		yyyy mm dd		Cheque delivery code	Name		
Approved by (Marketing Programs Manager)		yyyy mm dd		Data entry use only	Payee code		
Approved by (Group Manager Financial Services)		yyyy mm dd		CH			
		Incentive breakdown	Cost element	Order no.	Activity code	Amount	
		Net Amt	720610	230522	0220	\$	
Tax code 1G							

DISTRIBUTION: PINK – Manitoba Hydro BLUE – Customer

The front application page is identical for renovation and new construction (*outdoor lighting measures only*) applications and must be completed in full, including dated by the signatory on the date the application is signed.

- 1.** The installer information is required in case there are questions about the equipment being installed.
- 2.** Enter the address of the building where the installation is taking place. Include the project start and completion dates, even if they are estimates.
- 3.** A hand written signature by the customer is required and the application must be dated at the time of the signature. The customer must check the box above the signature to indicate agreement and understanding of the terms and conditions. Do not sign and date the application until the existing and proposed system information is filled in.
- 4.** The customer can assign the incentive to a vendor or installer. Indicate the name and mailing address of the individual or organization that should receive the cheque only if it's not the customer.
- 5.** The total incentive payable comes from the summary of measure incentives (directly following this page).
- 6.** If the cheque is to be assigned to the vendor or installer, the customer must authorize this with a signature and date in this box.
- 7.** Your Manitoba Hydro account representative will verify the application for completeness and eligibility before forwarding it to the Marketing Programs department.



Commercial Lighting Program Summary of Lighting Incentives

Application no.

8

Instructions: Complete this page last.

1. LED fixtures & retrofit kits

TOTAL LIGHTING INCENTIVES	
1. \$	11,390.00

2. LED lamps

2. \$	2,050.00
-------	----------

3. T5 fluorescent lighting systems

3. \$	350.00
-------	--------

4. T8 & T5 energy efficient lamps

4. \$	66.00
-------	-------

5. Custom option

5. \$	
-------	--

6. Lighting system controls and occupancy sensors *(attach Appendix D)*

6. \$	
-------	--

7. LED backlit signage *(attach Appendix E)*

7. \$	
-------	--

TOTAL INCENTIVE PAYABLE ▶
(carry this total to front of Application)

\$	13,856.00
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9

Available in accessible formats upon request.

The summary of measure incentives page is filled out in the same manner for both renovation and new construction (*outdoor lighting measures only*) applications.

8. The incentive for each measure is summarized on this form. Incentives for each measure are calculated and brought forth from the measure incentive calculations pages.
9. This total is carried forward to the front application sheet.



Commercial Lighting Program LED Fixtures Incentive Calculations

Application no. _____

Page _____ of _____

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1. LED Fixtures & Retrofit Kits

Instructions: Use this page for fixtures with prescriptive incentives. Refer to incentive sheet for incentive amounts. Proposed system must list location number from Existing system table. System incentive is equal to the number of fixtures multiplied by incentive per proposed fixture. If the same product is being installed in different locations, specify annual hours of operation for each location.

The Customer is responsible for ensuring that the LED product being purchased is suitable for the environment in which it is being installed. The CLP will determine if the LED product is suitable for any incentives.

PHOTOCOPY AND RETAIN ONE COPY FOR YOUR RECORDS.

11 Reasons for change
 Illumination: more same less Need for white light Reduce maintenance Reduce lighting bill Building renovation Improve aesthetics Fixtures are at end of life (<2 years usage remaining)

EXISTING SYSTEM									
Location no. ¹	Location	Usage	Fixture/lamp type	Lamp input power (W)	Lamps/fixture	Fixture input power (W)	No. of existing fixtures	Annual hours of operation	
1.	Building Exterior - Entrance	<input type="checkbox"/> Indoor <input checked="" type="checkbox"/> Outdoor	Metal Halide	400 W	1	470 W	2	5840h	
2.	Building Exterior - Walls	<input type="checkbox"/> Indoor <input checked="" type="checkbox"/> Outdoor	HPS	250 W	1	300 W	16	5840h	
3.	Main Warehouse	<input checked="" type="checkbox"/> Indoor <input type="checkbox"/> Outdoor	T12/4 foot	34 W	4	148 W	87	4380h	
4.		<input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor		W		W		h	
5.		<input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor		W		W		h	
6.		<input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor		W		W		h	
7.		<input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor		W		W		h	
8.		<input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor		W		W		h	

16

PROPOSED SYSTEM												
Location no. ¹	Manufacturer	Model no.	Approval EPL	DLC ²	Fixture input power (W)	Fixture initial Lumens (L)	Material cost (\$)	No. of proposed fixtures	No. of incented fixtures ³	Incentive/fixture	System Incentive (\$)	Annual hours of operation
1	AAA Light	LED-38-44	✓		85 W	9000 L	\$ 425	2	2	x \$ 270	\$ 540	5840 h
2	BBB Light	LEDR-Z-B		✓	75 W	6000 L	\$ 375	16	16	x \$ 200	\$ 3,200	5840 h
3	CCC Light	MCF3842	✓		47 W	4700 L	\$ 175	25	25	x \$ 90	\$ 2,250	4380 h
3	CCC Light	FLED-66-99	✓		55 W	5500 L	\$ 200	60	60	x \$ 90	\$ 5,400	4380 h
					W	L	\$			x \$	\$	h
					W	L	\$			x \$	\$	h
					W	L	\$			x \$	\$	h
					W	L	\$			x \$	\$	h
TOTAL INCENTIVE											1.	\$ 11,390

14

15

13

17

¹ List location number from Existing System table above.

² Required documents for DLC products:

- Attach a specification sheet (indicating electrical characteristics, DLC listing, warranty, and temperature rating).
- Outdoor use LED fixtures must meet -40°C temperature requirements.

³ The lesser of the quantity of existing fixtures or proposed fixtures.

Available in accessible formats upon request.

- 10.** If you need more than one page, number them here. Blank copies are available on the CLP website.
 - 11.** Indicate reason for lighting change. This doesn't affect the incentive amount.
 - 12.** Provide room name or brief description of the area, for example: hallway, stairs, front office, and etc.
 - 13.** Write in the location number from the above Existing System table. If there is more than one Proposed fixture type/model replacing the same Existing fixture, in the same location, reuse the Location number to indicate this (as illustrated with Location number 3).
 - 14.** Ensure the manufacturer name and model number of the LED lamp match with the product listing on the Eligible Product List (EPL), DesignLights Consortium (DLC) Qualified Product List.
 - 15.** Product must either be on the Eligible Product List (EPL) or the DesignLights Consortium (DLC) Qualified Product List.
 - 16.** Enter the hours of operation for each location and area.
 - 17.** The total measure incentive is carried forward to the summary of measure incentives page.
Fixture incentives will be capped at the lesser of the prescriptive fixture incentive or the fixture material cost.
- Note** that pre-approval will not be issued unless all information is listed under the existing system and proposed system. Attaching a spreadsheet in place of filling out the incentive calculation form will not be accepted.



Commercial Lighting Program LED Lamps Incentive Calculations

Application no.

2. LED Lamps including line voltage, specialty, and low voltage

Instructions: Use this page for LED lamps with prescriptive incentives. Refer to incentive sheet for incentive amounts. Proposed system must list location number from Existing system table. If the same product is being installed in different locations, specify annual hours of operation for each location.

The Customer is responsible for ensuring that the LED product being purchased is suitable for the environment in which it is being installed. The CLP will determine if the LED product is suitable for any incentives.

EXISTING SYSTEM						
Location no.	Location description	Usage	Lamp type <small>(INC, HAL, CFL, T8, MH, HPS)</small>	Watts	Quantity	Annual hours of operation
1.	hallways	<input checked="" type="checkbox"/> Indoor <input type="checkbox"/> Outdoor	Halogen	60 W	27	5840 h
2.	stairwells - north side	<input checked="" type="checkbox"/> Indoor <input type="checkbox"/> Outdoor	Halogen	75 W	42	8760 h
3.	stairwells - south side	<input checked="" type="checkbox"/> Indoor <input type="checkbox"/> Outdoor	Incandescent	100 W	20	8760 h
4.	back room - warehouse	<input checked="" type="checkbox"/> Indoor <input type="checkbox"/> Outdoor	T8 fluorescent	32 W	24	4380 h
5.	lobby	<input checked="" type="checkbox"/> Indoor <input type="checkbox"/> Outdoor	Metal halide	400 W	5	8760 h
6.		<input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor		W		h
7.		<input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor		W		h
8.	18	<input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor		W		h
9.		<input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor		W		h
10.		<input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor		W		h
11.		<input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor		W		h
12.		<input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor		W		h
13.		<input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor		W		h

PROPOSED SYSTEM											
Location no. ¹	Manufacturer	Model no.	Approval			Watts	Rated lamp hours	Quantity	Incentive		Annual hours of operation
			EPL	DLC ²	ENERGY STAR [®]				Incentive/lamp	Total	
1	DDD Light	SV1-42-LX1	✓			10W	25,000	27	x \$ 8	= \$ 216	5840 h
2	EEE Light	D3-21-ST	✓			16W	25,000	42	x \$ 14	= \$ 588	8760 h
3	EEE Light	D3-21-ST	✓			16W	25,000	20	x \$ 14	= \$ 280	8760 h
4	FFF Light	RFG-112-T8-5K	✓			18W	50,000	18	x \$ 9	= \$ 162	4380 h
4	FFF Light	RFM-184-T8-3K	✓			12W	50,000	6	x \$ 9	= \$ 54	4380 h
5	GGG Light	M3-R4-31	✓			146W	50,000	5	x \$ 150	= \$ 750	8760 h
						W			x \$	= \$	h
						W			x \$	= \$	h
						W			x \$	= \$	h
						W			x \$	= \$	h
						W			x \$	= \$	h
						W			x \$	= \$	h
						W			x \$	= \$	h
						W			x \$	= \$	h
						W			x \$	= \$	h
TOTAL INCENTIVE									▶ 2.	\$ 2,050	

¹ List location number from Existing System table above.

² Required documents for DLC products:

- Attach a specification sheet (indicating electrical characteristics, DLC listing, warranty, and temperature rating).
- Outdoor use LED fixtures must meet -40°C temperature requirements.

22

Available in accessible formats upon request.

- 18.** Provide room name or brief description of the area.
- 19.** Write in the location number from the above Existing System table. If there is more than one Proposed LED lamp type/model replacing the same Existing lamp, in the same location, reuse the Location number to indicate this (as illustrated with Location number 4).
- 20.** Ensure the manufacturer name and model number of the LED lamp match with the product listing on the Eligible Product List (EPL), DesignLights Consortium (DLC) Qualified Product List, or the ENERGY STAR® certified bulb list.
- 21.** LED lamps must be on the Eligible Product List (EPL), DesignLights Consortium (DLC) Qualified Product List, or ENERGY STAR® certified.
- 22.** The total measure incentive is carried forward to the summary of measure incentives page.
The lamp incentives will be capped at the lesser of the prescriptive lamp incentive or the lamp material cost.



Commercial Lighting Program T5 Fluorescent Lighting Systems Incentive Calculations T8 & T5 Energy Efficient Lamp Incentive Calculations

Application no.

3. T5 fluorescent lighting systems

EXISTING SYSTEM					
	Location	Lamps/ fixture	Type	Watts/fixture (including lamps)	Fixture quantity
4 FOOT T12 SYSTEM		2		74 W	
		4		148 W	
				W	
8 FOOT T12 SYSTEM		2	Slimline	135 W	
		2	HO	205 W	
				W	
HID TYPE	<i>Warehouse</i>		Probe Start MH	<i>470 W</i>	<i>5</i>
	23		Pulse Start MH	W	
				W	
INCANDESCENT or other, specify:	28			W	
				W	

PROPOSED T5 SYSTEM												
Ballasts				Lamps			Fixture		Incentive		Annual hours of operation	
Manufacturer	Model no.	Category ² (LH or SH)	Voltage	Input power	No./ fixture	Length	Ballasts/ fixture	Fixture quantity	Incentive /fixture	Total		
<i>JLL Light</i>	<i>T5FL-LH-28</i>	<i>LH</i>	<i>120V</i>	<i>360 W</i>	<i>6</i>	<i>4 ft.</i>	<i>2</i>	<i>5</i>	<i>x \$ 70</i>	<i>= \$ 350</i>	<i>4380 h</i>	
			V	W		ft.			x \$	= \$	h	
			V	W		ft.			x \$	= \$	h	
			V	W		ft.			x \$	= \$	h	

² Category: Low Harmonics (LH) or Standard Harmonics (SH).

TOTAL INCENTIVE ▶ **3.** \$ *350*

25

4. T8 & T5 energy efficient lamps

PROPOSED SYSTEM										
Location	Existing lamp wattage	Lamps					Incentive		Annual hours of operation	
		T8 or T5	Manufacturer	Model no.	Input power	Quantity	Incentive/amp	Total		
<i>Back assembly</i>	<i>32 W</i>	<i>T8</i>	<i>LLL Light</i>	<i>T8EEL-R-25</i>	<i>25 W</i>	<i>12</i>	<i>1.50</i>	<i>= \$ 18</i>	<i>4380 h</i>	
<i>Front assembly</i>	<i>54 W</i>	<i>T5</i>	<i>MMM Light</i>	<i>T5EEL-K-44</i>	<i>44 W</i>	<i>16</i>	<i>x \$ 3</i>	<i>= \$ 48</i>	<i>4380 h</i>	
	W				W		x \$	= \$	h	
	W				W		x \$	= \$	h	
	W				W		x \$	= \$	h	
	W				W		x \$	= \$	h	

TOTAL INCENTIVE ▶ **4.** \$ *66*

29

Available in accessible formats upon request.

- 23.** Provide room name or brief description of the area.
- 24.** Although the incentive is paid on a per fixture basis, ensure the manufacturer name and model number of the T5 ballasts are on the Eligible Product List and recorded.
- 25.** The total measure incentive is carried forward to the summary of measure incentives page.
- 26.** Provide room name or brief description of the area.
- 27.** Ensure you clearly indicate T8 or T5 lamps.
- 28.** Ensure that the manufacturer name and model number of the lamps are on the Eligible Product List (EPL) and recorded.
- 29.** The total measure incentive is carried forward to the summary of measure incentives page.



Commercial Lighting Program Custom Option Incentive Calculations

Application no. _____

Page **30** of _____

The Customer is responsible for ensuring that the LED product being purchased is suitable for the environment in which it is being installed. The CLP will determine if the LED product is suitable for any incentives.

Instructions: Complete this form to describe your existing and proposed lighting system where no prescriptive incentives exist. If additional space is required, make copies of this page and attach the completed pages to the application. If the project has any type of lighting controls, complete Appendix D: Lighting Control Systems and Occupancy Sensors. If the project has LED backlight signage complete Appendix E: LED Backlit Signage.

This option may also be used for **innovative equipment and designs** where no prescriptive incentives exist. Customized proposals submitted by qualified lighting designers that can demonstrate demand reductions will be evaluated upon request.

Required information:

- Copy of the price quote detailing material costs for each proposed lighting product.
- Existing System and Proposed System information **must** be filled out in the tables below.

Reasons for change

31 Illumination: more same less Need for white light Reduce maintenance Reduce lighting bill Building renovation Improve aesthetics Fixtures are at end of life (<2 years usage remaining)

32 Description of proposed lighting system

EXISTING SYSTEM										
Location no. ¹	Manufacturer	Model no.	Usage		Fixture/lamp type	Lamp input power (W)	Lamps/fixture	Fixture input power (W)	No. of fixtures	Annual hours of operation
			Indoor	Outdoor						
1.	Office		<input checked="" type="checkbox"/>	<input type="checkbox"/>	T12/4 ft.	34 W	4	148 W	82	5840 h
2.	Private office		<input checked="" type="checkbox"/>	<input type="checkbox"/>	T8/2 ft.	17 W	2	33 W	9	5840 h
3.			<input type="checkbox"/>	<input type="checkbox"/>						
4.			<input type="checkbox"/>	<input type="checkbox"/>						
5.			<input type="checkbox"/>	<input type="checkbox"/>						
6.			<input type="checkbox"/>	<input type="checkbox"/>						

PROPOSED SYSTEM										
Location no. ¹	Manufacturer	Model no.	Approval		Fixture/lamp type	Fixture input power (W)	Fixture initial Lumens (L)	No. of fixtures	Material cost (\$)	Annual hours of operation
			EPL	DLC ²						
1	NNN Light	LED6-RS-22	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LED troffer	43 W	4400 L	97	\$ 12,610	5840 h
1	SSS Light	LED8-5K-120-ST	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LED troffer	22 W	1900 L	6	\$ 300	2080 h
2	OOO Light	LEDMR-FG-4G	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LED speciality	11 W	1000 L	9	\$ 288	5840 h
			<input type="checkbox"/>	<input type="checkbox"/>						
			<input type="checkbox"/>	<input type="checkbox"/>						
			<input type="checkbox"/>	<input type="checkbox"/>						
TOTAL MATERIAL COST									\$ 13,198	

¹ List location number from Existing System table above.

² Required documents for DLC products:

- Attach a specification sheet (indicating electrical characteristics, DLC listing, warranty, and temperature rating).
- Outdoor use LED fixtures must meet -40°C temperature requirements.

Available in accessible formats upon request.

Manitoba Hydro use only: TOTAL INCENTIVE **5.** \$

- 30.** If you need more than one page, number them here. Blank copies are available on the CLP website.
- 31.** Indicate reason for lighting change. This doesn't affect the incentive amount.
- 32.** Include details about the proposed lighting system.
- 33.** Provide room name or a brief description of the area.
- 34.** Write the location number from the above Existing System table. If there is more than one Proposed fixture type/model replacing the same Existing fixture, in the same location, reuse the Location number to indicate this (as illustrated with Location number 1).
- 35.** Ensure the manufacturer name and model number of the LED lamp match with the product listing on the Eligible Product List (EPL), DesignLights Consortium (DLC) Qualified Product List.
- 36.** Product must either be on the Eligible Product List (EPL) or the DesignLights Consortium (DLC) Qualified Product List.
- 37.** If your lighting upgrade is eligible and approved by Manitoba Hydro for an incentive, the incentive will be calculated by Manitoba Hydro at up to \$1,000 per kW saved and capped at the lighting product cost including taxes but excluding labour, design, or other associated equipment. The calculations use Manitoba Hydro base case technologies. Leave this box blank.



Commercial Lighting Program Hotel/Motel Individual Suite Lighting Verification – Appendix C

Application no. 123456
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Instructions: Complete this form when you apply for a Commercial Lighting Program (CLP) incentive for hotel and motel individual suites. Information on common area and hallway lighting can be provided on the respective CLP application page.

Complete this form and attach it to your CLP application. CLP will determine if the lighting technology is suitable for any incentives. For further assistance, contact your local Energy Services Advisor or Sales Representative or call 1-204-360-3676 or 1-888-624-9376.

Hotel information

No. of rooms 248	Winter occupancy rate 60 %	Summer occupancy rate 85 %
--	--	--

Lighting system information

LED lamps

EXISTING SYSTEM					
Location <i>(washroom, table lamp, entrance)</i>	Lamp type <i>(INC, HAL, CFL)</i>	System 1		System 2	
		Watts	Quantity	Watts	Quantity
<i>entrance</i>	<i>incandescent</i>	<i>60 W</i>	<i>248</i>	<i>W</i>	
<i>table lamp</i>	<i>incandescent</i>	<i>60 W</i>	<i>248</i>	<i>W</i>	
<i>main room wall sconce</i>	<i>halogen</i>	<i>75 W</i>	<i>248</i>	<i>W</i>	
		<i>W</i>		<i>W</i>	

PROPOSED SYSTEM								
Night light quantity	Location	Lamps					Incentive	
		Manufacturer	Model no.	Watts	Rated lamp hours	Quantity	Incentive**/lamp	Total
	<i>entrance</i>	<i>RRR Light</i>	<i>PS28</i>	<i>10 W</i>	<i>25,000</i>	<i>248</i>	<i>x \$ 4</i>	<i>= \$ 992</i>
	<i>table lamp</i>	<i>RRR Light</i>	<i>PS28</i>	<i>10 W</i>	<i>25,000</i>	<i>248</i>	<i>x \$ 4</i>	<i>= \$ 992</i>
	<i>main room wall sconce</i>	<i>TTT Light</i>	<i>MK4572</i>	<i>16 W</i>	<i>25,000</i>	<i>248</i>	<i>x \$ 7</i>	<i>= \$ 1,732</i>
				<i>W</i>			<i>x \$</i>	<i>= \$</i>
TOTAL MEASURE INCENTIVE ▶								\$ 3,702

LED fixtures**

Design information	EXISTING SYSTEM		PROPOSED SYSTEM			
	System 1	System 2	System 1		System 2	
Lamp type and wattage <i>(INC, MV, MH, HPS, etc.)</i>	<i>CFL 26W</i>					
Fixture type, manufacturer and model no.	<i>CFL</i>		<i>LED, UUU Light R2156</i>			
Fixture location in room	<i>Washroom</i>		<i>Washroom</i>			
No. of fixtures	<i>248</i>		<i>248</i>			
Watts per fixture including ballast	<i>52 W</i>	<i>W</i>	<i>30W</i>		<i>W</i>	<i>W</i>
Estimated cost of proposed system	<i>N/A</i>		<i>\$50</i>			
Total kilowatt lighting load (MH USE ONLY)	<i>kW</i>	<i>kW</i>	3 <i>kW</i>		<i>kW</i>	<i>kW</i>

** Incentive amounts can be found on the Hotel & Motel Individual Suite Lighting Incentives sheet.
All custom options must be approved by Manitoba Hydro's Lighting Engineer before installation begins. Incentive amount will be available once pre-approval is received.

Customer statement

I, the Customer, declare that the above information is true and understand and acknowledge that this Verification will form part of my Application.

Signed by (Customer) Jane Smith	4 yyyy mm dd 2017 10 31
---	---

PHOTOCOPY AND RETAIN ONE COPY FOR YOUR RECORDS.

1. Ensure location of proposed system matches with the existing system above.

2. The measure incentive is carried forward to the summary of measure incentive page in the #6. Custom option box.

3. This incentive will be calculated by Manitoba Hydro.

4. The customer (not the supplier or contractor) must sign this.



**Commercial Lighting Program
Lighting Control Systems and Occupancy Sensors – Appendix D**

Application no.
123456

Instructions: Complete this form when you apply for a Commercial Lighting Program (CLP) incentive for any type of lighting control system or occupancy sensor. Indicate page number(s) on all copies.

Attach required documentation:

- Technical specifications of proposed system, including a product specification sheet.
- Estimated material cost for the new system (system hardware only).

Attach completed form and all documentation to your CLP application. **The CLP will determine if the lighting technology is suitable for any incentives and advise you in writing if your project has been pre-approved and work can begin.** For further assistance, contact your local Energy Services Advisor or Sales Representative or call 1-204-360-3676 or 1-888-624-9376.

Page **1** of **1**
PHOTOCOPY AND RETAIN ONE COPY FOR YOUR RECORDS.

1

Dimming control system information

Description of proposed lighting system
dimming system with programmable controller. Dimming schedule indicated be-

Do you turn off your lights after business hours? Yes No

Location	Manufacturer	Model no.	Fixture power	No. of fixtures	Total power	Power level	Annual hours of lighting operation	Material cost
Main floor – left wing	VV Dimming System	LOW6400	50	10	500	100%	1000 h	\$ 1,000
						50%	2000 h	
						10%	1000 h	
						%	h	
						%	h	
TOTAL							\$ 1,000	

Occupancy sensors and switching control system information

Description of proposed lighting system
fixture mounted sensors on office fixtures – see attached Excel sheet listing fixture wattages

Do you turn off your lights after business hours? Yes No

Location	Manufacturer	Model no.	No. of sensors	Sensor type ¹	Total system power	Annual hours of lighting operation (before)	For controls only Annual hours (after)	Material cost
office	XXX sensor	9009XL	60	1	10,842	4380 h	2890 h	\$ 2,040
						W	5 h	
						W	h	
						W	h	
						W	h	
TOTAL							\$ 2,040	

¹ Type 1 – wall switch replacement and fixture-mount sensors. Type 2 – all other sensors.

MANITOBA HYDRO USE ONLY	No. of sensors	x Incentive amount \$	= Total Incentive \$	6	Dimming control system total incentive = \$
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Available in accessible formats upon request.

1. Check boxes once required documents are attached.
2. Total Power = Fixture power x No. of fixtures.
3. Total system power = No. of sensors x sensor wattage controlled.
4. Current annual hours of lighting operation.
5. Expected annual hours of lighting operation with new control system.
6. Manitoba Hydro will calculate the incentive.



Commercial Lighting Program LED Backlit Signage – Appendix E

Application no.
123456

Instructions: Complete this form when you apply for a Commercial Lighting Program (CLP) incentive for upgrading to LED backlit signage.

Attach the technical specifications of the Proposed System, including the LEDs and the driver.

Attach a sign drawing that also includes:

- the dimensions;
- whether the sign is single-sided or double-sided;
- the location where the LEDs are to be installed inside the sign.

Attach the completed form and all documentation to your CLP application and submit to Manitoba Hydro for pre-approval.

The CLP will determine if the lighting technology is suitable for any incentives and advise you once your project has been pre-approved. Once pre-approved you can order, purchase, and install your lighting. For further assistance, contact your local Energy Services Advisor or Sales Representative or call 204-360-3676 or 1-888-624-9376.

EXISTING SYSTEM: T12 HO			
Location	Lighting technology	No. of lamps	Lamp type and length
Exterior signage	T12 HO	120	F72 (6')

PROPOSED SYSTEM							
LED					Total input power	Incentive total	Annual hours of operation
Colour	Manufacturer	Model no.	Length	Watts/foot			
white	QQQ Light	MLF-LED-S2-R	720 ft.	2 W	1440 W = \$	1	8736 h
			ft.	W	W = \$		h
			ft.	W	W = \$		h
			ft.	W	W = \$		h

TOTAL INCENTIVE ► \$

1. Manitoba Hydro will calculate the incentive.

Available in accessible formats upon request.

- 1.** Provide the MECB exterior application type, as per the MECB tables in section 4.3.2.1.
- 2.** Write in the application type number from the above Proposed System table.
- 3.** Ensure the manufacturer name and model number of the fixture match with the product listing on the Eligible Product List (EPL) or the DesignLights Consortium (DLC) Qualified Product List. If not, contact your Manitoba Hydro account representative.
- 4.** Product must either be on the Eligible Product List (EPL) or the DesignLights Consortium (DLC) Qualified Product List.
- 5.** Enter the hours of operation for each application type.
- 6.** Provide the total base case allowance, as per the application type.
- 7.** The total measure incentive is carried forward to the summary of measure incentives page. Fixture incentives will be capped at the lesser of the prescriptive fixture incentive or the fixture material cost.
- 8.** All of these documents must be attached to the Lighting application.

Sample invoice

DEF Electrical Company
 456 Some Street
 AnyTown, MB D4E 5F6
 Phone: 204-999-5678
 Email: DEFelectric@mail.com

2

Invoice Example

1

Date	Invoice #
11/20/2017	12345

Invoice To
ABC Commercial Company 123 Any Street AnyCity, MB A1B 2C3

2

Ship To
ABC Commercial Company 123 Any Street AnyCity, MB A1B 2C3

2

P.O. No.	Terms	Rep	Ship Via	Order Date	Project
123				11/20/2017	PSL#123456

Item #	Product Description	Quantity	Unit Price	U/M	Ext. Price
1	85 Watt LED fixture Manufacturer: AAA Light Model #: LED-85W-44-5KIR7-R7-PC4U	2	425.00	ea	850.00
2	75 Watt LED wallpack Manufacturer: BBB Light Model #: LEDR-75W-Z-B4-TY-RT8-R5	16	375.00	ea	6000.00
3	10 Watt LED lamp Manufacturer: DDD Light Model #: SV10W-42-LX1-4K-R5-BV-W	27	8.00	ea	216.00
4	Labour	1	3000.00		3000.00
5	Electrical Permit	1	150.00		150.00

3

4

5

6

Subtotal	\$10,216.00
GST	\$510.80
PST	\$817.28
Total	\$11,544.08
Payments/Credits	11,544.08
Balance owing	\$0.00

6

1. Date of purchase (must be after application written pre-approval date from MH).
2. Vendor's name, customer's name and install address.
3. Manufacturer name and model number of each product (which must match the model number on the Eligible Product List (EPL), DesignLights Consortium (DLC) Qualified Product List, or the ENERGY STAR® certified bulb list).
4. Product description.
5. Product quantities.
6. Per unit product costs and total separate from design, labour and taxes.

PAID
 12/02/17

Appointment of representative form

PF2960 Rev 18 07



Commercial Lighting Program Appointment of Representative

IMPORTANT NOTICE: To participate in the Program, you do **not** need to appoint anyone to be your Representative (including your Contractor).

1. ABC Commercial Company full legal name of customer company (the "Customer") hereby authorizes and appoints Jack Gold from DEF Electrical Company full legal name of representative (the "Representative") 456 Some Street, Anytown, MB D4E 5F6 full address of Representative as the Customer's representative to act on its behalf in connection with the completion and submission of the:
- Application for the Program and materials relating to demonstration of eligibility, but the Customer is still responsible for signing the Application; and
 - Certificate of Inspection (within Winnipeg) or Certificate of Approval (outside Winnipeg); Completion Declaration and Completion Questionnaire for the Program; and materials relating to demonstration of satisfactory completion of measure(s) and work including itemized invoicing detailing product costs (separate from design, labour, and taxes), product model details, date of purchase, and vendor's name requested for issuance of Program incentive.

Note: If the Customer does not want the Representative to act on its behalf for both Part (a) and Part (b) above, do not complete this APPOINTMENT OF REPRESENTATIVE.

2. The Customer hereby acknowledges and confirms that the Customer has reviewed all of the foregoing Program forms (including all terms and conditions, and Program requirements) and the Customer understands and accepts the full legal and practical effects and risks of the present appointment and of having the Representative to act on its behalf.
- NOTE:** For instance, the Representative may decide at its discretion that the retrofit measures have been complete to the Customer's satisfaction, regardless of whether the Customer is actually satisfied or not.
3. Notwithstanding anything to the contrary, the Customer hereby authorizes Manitoba Hydro and its officers, directors, employees, contractors, agents, and Program partners, to release to the Representative any information about the Customer (whether information provided to Manitoba Hydro or already in Manitoba Hydro's possession or control) that Manitoba Hydro may deem necessary relating to the Customer's application to or participation in the Program, or the assessment or issuance of any Program incentive.
4. The Customer understands and agrees that: (a) its appointment of the Representative does not relieve any of the Customer's obligations as the applicant and participant under the Program, including, without limitation, the Customer's obligation to comply with all requirements of Manitoba Hydro at all times; and (b) any and all decisions, actions, and inactions, of the Representative will be deemed conclusively to be those of the Customer, and the Customer is and will be fully responsible for the decisions, actions, and inactions, of the Representative in all respects in connection with the Program at all times.
5. The Customer shall, and shall also cause the Representative to, defend, indemnify, and save harmless, Manitoba Hydro and its officers, directors, employees, contractors, agents, Program partners, successors, assigns, from and against any and all manners of action, causes of action, losses, costs, damages, expenses, suits, claims, liabilities, debts, and demands which any of the foregoing persons or entities may suffer or be put to, or which may be brought or made against any of the foregoing persons or entities, arising out of any action or inaction of the Customer and/or the Representative, or any of their respective directors, officers, employees, affiliates, contractors, subcontractors (through every tier), representatives, or agents, or any breach of any Program requirement, or the negligence or misconduct of the Customer and/or the Representative or their respective directors, officers, employees, affiliates, contractors, subcontractors (through every tier), representatives, or agents.
6. This appointment shall remain in force until the time when: (i) the Representative completes to Hydro's satisfaction the appointed acts selected by the Customer pursuant to Section 1 above); or (ii) when Manitoba Hydro provides written acknowledgement to the Customer confirming Manitoba Hydro's receipt and acceptance of written notice from the Customer requesting revocation of the Customer's appointment of the Representative hereunder; whichever is earlier.
7. This Appointment shall be binding on and inure to the benefit of the Customer's successors, heirs, executors, administrators, and representatives.

IN WITNESS WHEREOF the Customer hereto has executed this Appointment as at the date below to ratify and confirm the powers of the Representative by virtue of this appointment.

Customer company name <u>ABC Commercial Company</u>	Application no. <u>123456</u>
---	-------------------------------

Jane Smith

Per: _____
Signature of Authorized Signing Officer

Jane Smith

Name _____

President

Position _____

July 1, 2017

Date _____

Per: _____
Signature of Authorized Signing Officer

Name _____

Position _____

Date _____

DISTRIBUTION: WHITE – Manitoba Hydro YELLOW – Customer PINK – Contractor

Available in accessible formats upon request.

System wattage tables

Nominal wattages for T12 fluorescent lighting systems

Lamp length <i>Units</i>	Number of lamps	Fixture power <i>(W)</i>	Rated life ² <i>(hrs)</i>	Initial lumens <i>(lm)</i>	Mean lumens <i>(lm)</i>	Mean efficacy <i>(lm/W)</i>	Lamp loss depreciation
2-foot systems (20W)	1	26	9,000	875	790	30	0.903
	2	54		1,750	1,580	29	
	3	N/A		N/A	N/A	N/A	
	4	108 ¹		3,500	3,160	29	
3-foot systems (25W)	1	37	18,000	1,650	1,350	36	0.818
	2	61		3,300	2,700	44	
	3	N/A		N/A	N/A	N/A	
	4	122 ¹		6,600	5,400	44	
4-foot systems (34W)	1	41	20,000	2,180	1,810	44	0.830
	2	74		4,360	3,620	49	
	3	115		6,540	5,430	47	
	4	148 ¹		8,720	7,240	49	
8-foot slimline (60W)	1	75	12,000	4,600	4,050	54	0.880
	2	135		9,200	8,100	60	
	3	N/A		N/A	N/A	N/A	
	4	270		18,400	16,200	60	
8-foot HO (95W)	1	107	12,000	7,800	6,750	63	0.865
	2	205		15,600	13,500	66	
	3	N/A		N/A	N/A	N/A	
	4	410 ¹		31,200	27,000	66	
8-foot VHO (195W)	1	230	10,000	12,000	9,100	40	0.758
	2	420		24,000	18,200	43	
	3	N/A		N/A	N/A	N/A	
	4	840 ¹		48,000	36,400	43	

¹ Indicates use of two-lamp ballasts.

² Rated life at three hours per start.

Nominal wattages for T8 fluorescent lighting systems

Lamp length <i>Units</i>	Number of lamps	Fixture power with normal ballast factor		Rated life ⁴ <i>(hrs)</i>	Initial lumens <i>(lm)</i>	Mean lumens <i>(lm)</i>	Mean efficacy <i>(lm/W)</i>
		Magnetic ballast <i>(W)</i>	Electronic ballast <i>(W)</i>				
2-foot systems (17W)	1	25	18	28,500	1,383	1,308	74
	2	44	33		2,767	2,617	87
	3	N/A	48		4,150	3,925	82
	4	88 ³	59		5,533	5,233	89
3-foot systems (25W)	1	33	23	31,500	2,167	2,050	88
	2	60	44		4,333	4,100	94
	3	80	65		6,500	6,150	94
	4	100	86		8,667	8,200	96
4-foot systems (32W)	1	37	30	30,000	3,044	2,896	98
	2	71	56		6,088	5,793	102
	3	108	84		9,131	8,689	103
	4	142 ³	110		12,175	11,585	105
8-foot slimline (59W)	1	N/A	60	21,000	5,900	5,450	91
	2	N/A	106		11,800	10,900	103
	3	N/A	N/A		N/A	N/A	N/A
	4	N/A	212 ³		23,600	21,800	103
8-foot HO (86W)	1	N/A	N/A	21,000	N/A	N/A	N/A
	2	N/A	182		16,400	15,426	85
	3	N/A	N/A		N/A	N/A	N/A
	4	N/A	364 ³		32,800	30,852	85

³ Indicates use of two-lamp ballasts.

⁴ Rated life at three hours per start.

Nominal wattages for T5 fluorescent lighting systems

Lamp length <i>Units</i>	Lamp power <i>(W)</i>	Number of lamps	Fixture power (including ballast) <i>(W)</i>	Rated life ⁵ <i>(hrs)</i>	Initial lumens <i>(lm)</i>	Mean lumens <i>(lm)</i>	Mean efficacy <i>(lm/W)</i>
2-foot systems	14	1	18	24,667	1,350	1,242	69
		2	34		2,700	2,484	73
3-foot systems	21	1	25	24,667	2,100	1,925	77
		2	50		4,200	3,850	77
4-foot systems	28	1	32	24,667	2,900	2,680	84
		2	64		5,800	5,360	84
5-foot systems	35	1	40	24,667	3,650	3,382	85
		2	80		7,300	6,764	85
2-foot HO	24	1	27	24,667	1,983	1,800	67
		2	51		3,966	3,600	71
3-foot HO	39	1	43	24,667	3,500	3,192	74
		2	81		7,000	6,384	79
4-foot HO	54	1	62	31,667	5,000	4,567	74
		2	116		10,000	9,134	79
		3	179		15,000	13,701	77
		4	234		20,000	18,268	78
5-foot HO	80	1	91	30,000	7,000	6,440	71
		2	176		14,000	12,880	73

⁵ Rated life at three hours per start.

Nominal wattages for hard wired compact fluorescent lighting systems

Lamp power (W)	Number of lamps	Fixture power (W)	Rated life (hrs)	Initial lumens (lm)	Mean lumens (lm)	Mean efficacy (lm/W)	Equivalent incandescent (W)
13	1	17	13,000	939	767	45	60
	2	32	13,000	1,878	1,534	48	100
18	1	21	13,000	1,193	1,042	50	75
	2	38	13,000	2,386	2,084	55	100-150
26	1	28	13,000	1,752	1,526	55	100
	2	55	13,000	3,504	3,052	55	200
32	1	34	13,000	2,601	2,268	67	150
42	1	46	13,000	3,120	2,831	62	150

Nominal wattages for screw-in compact fluorescent lighting systems

Lamp power (W)	Number of lamps	Fixture power (W)	Rated life (hrs)	Initial lumens (lm)	Mean lumens (lm)	Mean efficacy (lm/W)	Equivalent incandescent (W)
11	1	11	8,500	586	450	41	60
15	1	15	9,600	879	708	47	100
20	1	20	9,000	1,210	979	49	75
23	1	23	9,250	1,494	1,133	49	100-150
27	1	27	9,000	1,738	1,377	51	100
42	1	42	12,000	2,700	2,275	54	200

Nominal wattages for incandescent lamps

Lamp wattage (W)	Rated life (hours)	Mean lumens (lm)	Mean efficacy (lm/W)
60	1,000	833	14
75	750	1,140	15
100	750	1,644	16
150	750	2,674	18
200	750	3,658	18
300	750	5,686	19
500	1,000	9,189	18
750	1,000	16,188	22
1,000	1,000	22,553	23

Nominal wattages for halogen PAR (spotlight) lamps

Lamp wattage (W)	Rated life (hours)	Mean lumens (lm)	Mean efficacy (lm/W)	CBCP (cd)
45	2,667	516	11	7,933
60	3,000	776	13	13,947
75	2,500	1,017	14	17,067
90	2,500	1,257	14	17,833
100	2,250	1,425	14	22,000
120	2,750	1,758	15	20,250
250	4,350	3,420	14	43,250
500	4,000	7,980	16	87,500
1,000	4,000	18,430	18	178,333

Nominal wattages for halogen double-ended lamps

Lamp wattage (W)	Rated life (hours)	Mean lumens (lm)	Mean efficacy (lm/W)
100	1,833	1,536	15
150	1,833	2,280	15
300	2,000	5,415	18
500	2,000	9,120	18
1,000	2,333	20,266	20
1,500	2,000	31,999	21

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Nominal wattages for High Intensity Discharge lighting systems

System type <i>Units</i>	Number of lamps	Lamp power (W)	Fixture power (including ballast) (W)	Rated life (hrs)	Mean lumens (lm)	Mean efficacy (lm/W)	CRI
MV coated lamps (clear in rackets)	1	50	65	24,000	1,260	19	45
	1	75	95	24,000	2,025	21	45
	1	100	125	24,000	3,225 (3,038)	26 (24)	45 (21)
	1	175	215	24,000	7,080 (7,127)	33 (33)	45 (19)
	2	175	430	24,000	14,160 (14,254)	33 (33)	45 (19)
	1	250	295	24,000	10,015 (9,788)	34 (33)	45 (21)
	2	250	570	24,000	20,030 (19,576)	35 (34)	45 (21)
	1	400	455	24,000	17,225 (16,950)	38 (37)	45 (21)
	2	400	890	24,000	34,450 (33,900)	39 (38)	45 (21)
	1	1,000	1,065	24,000	44,050 (43,325)	41 (41)	45 (21)
	2	1,000	2,130	24,000	88,100 (86,650)	41 (41)	45 (21)
Probe start (quartz) MH	1	100	140	15,000	5,800	41	75
	1	150	190	12,500	8,300	44	70
	1	175	220	10,000	9,200	42	65
	1	250	300	10,000	14,375	48	65
	1	400	470	20,000	23,600	50	65
	1	1,000	1,100	14,000	81,800	74	65
	1	1,500	1,600	3,000	140,000	88	67
Pulse start (quartz) MH (MHPS)	1	50	70	13,333	1,900	27	68
	1	70	95	14,000	3,433	36	70
	1	100	135	15,000	5,742	43	70
	1	150	190	15,000	9,533	50	70
	1	175	210	15,000	12,733	61	67
	1	250	290	16,250	18,156	63	65
	1	320	370	20,000	21,800	59	64
	1	350	400	20,000	26,350	66	64
	1	400	455	20,000	31,380	69	64
	1	750	825	16,000	60,000	73	65
1	1,000	1,080	13,500	92,075	85	65	
Pulse start (ceramic) MH (CMH)	1	50	70	10,000	2,750	39	85
	1	70	100	14,500	4,462	45	84
	1	100	135	15,000	6,975	52	84
	1	150	190	11,000	10,750	57	87
	1	250	300	15,000	19,200	64	94

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System type <i>Units</i>	Number of lamps	Lamp power (W)	Fixture power (including ballast) (W)	Rated life (hrs)	Mean lumens (lm)	Mean efficacy (lm/W)	CRI
Pulse start (ceramic) CMH-HPS rated	1	250	300	15,000	19,125	64	85
	1	400	475	15,000	28,900	61	85
HPS	1	35	45	20,000	2,031	45	22
	1	50	70	24,000	3,600	51	22
	1	70	97	24,000	5,512	57	22
	1	100	135	24,000	8,413	62	22
	1	150	190	24,000	14,050	74	22
	1	200	240	24,000	19,665	82	22
	1	250	300	24,000	25,750	86	22
	1	400	470	24,000	45,000	96	22
	1	600	675	24,000	81,000	120	22
	1	1,000	1,080	24,000	122,000	113	22

Notes:

HPS High Pressure Sodium

MH Metal Halide

MV Mercury Vapour

MHPS Metal Halide Pulse Start

CMH Ceramic Metal Halide

For more information, contact your Manitoba Hydro account representative or:

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