

DEPARTMENT OF VETERANS AFFAIRS

Justification and Approval

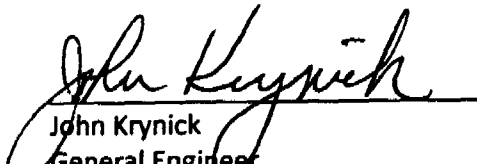
For

Other Than Full and Open Competition

1. **Contracting Activity:** The Department of Veteran Affairs, VISN 4, Pittsburgh, Pennsylvania. The activity for this requirement is the Department of Veteran Affairs Medical Center, located in Wilkes Barre (WB), Pennsylvania. VA24412B1164 "Replace Light Bulbs and Ballasts to T-8" NRM Project #693-11-102.
2. **Nature and/or Description of the Action Being Processed:** The Department of Veterans Affairs Medical Center (VAMC), located in Wilkes-Barre, PA, requires new lighting fixtures to be installed as part of Project #693-11-102 "Replace Light Bulbs and Ballasts to T-8". The performance requirements associated with the lamps and ballast components for the new lighting fixtures must meet the minimum performance requirements provided by the local electric utility in order to qualify for energy efficiency rebates. The anticipated award will be a Firm Fixed Price construction.
3. **Description of Supplies/Services Required to Meet the Agency's Needs:** Contractor to provide T-8, 3500 degree Kelvin fluorescent linear lamps from the list of approved lamp manufacturers required to be utilized by the local electric utility company in order for the federal government to qualify for rebates from the utility. Contractor to provide lighting ballasts based on the performance specifications required to be utilized by the local electric utility company in order for the federal government to qualify for rebates from the utility. The estimated cost for this portion of the project is [REDACTED]
4. **Statutory Authority Permitting Other than Full and Open Competition:**
 - (x) (1) Only One Responsible Source and No Other Supplies or Services Will Satisfy Agency Requirements per FAR 6.302-1;
 - () (2) Unusual and Compelling Urgency per FAR 6.302-2;
 - () (3) Industrial Mobilization, Engineering, Developmental or Research Capability or Expert Services per FAR 6.302-3;
 - () (4) International Agreement per FAR 6.302-4
 - () (5) Authorized or Required by Statute FAR 6.302-5;
 - () (6) National Security per FAR 6.302-6;
 - () (7) Public Interest per FAR 6.302-7;
5. **Demonstration that the Contractor's Unique Qualifications or Nature of the Acquisition Requires the Use of the Authority Cited Above (applicability of authority):** The performance requirement of the T-8 linear lamps and ballasts being specified slightly exceed those performance requirements normally specified in accordance with Federal Energy Management Program requirements. The performance specifications of this equipment will allow the federal government to obtain rebates from the local utility which will offset the cost of construction. The performance specifications do not limit the lighting fixtures specified to one specific manufacturer. The performance specifications limit the lamp and ballast components specified to a group of manufacturers who have been approved by the local utility company to provide such components. The risk of not choosing T-8 linear lamps and ballast components from the manufacturer's approved by the

local utility company will risk the loss of rebates to the federal government after the work is completed by the contractor.

6. **Description of Efforts Made to ensure that offers are solicited from as many potential sources as deemed practicable:** This solicitation does not limit the potential bidders from submitting bids; it limits their lighting fixture supply sources for T-8 linear lamps and ballasts to those approved by the local electric utility whose products meet the performance requirements. Due to the amount of manufacturers listed on the utility company approved list of vendors who can provide the linear lamps and ballasts components competitive pricing is anticipated.
7. **Determination by the Contracting Officer that the Anticipated Cost to the Government will be Fair and Reasonable:** Contracting Officer will use appropriate price analysis techniques to determine price as Fair and Reasonable.
8. **Description of the Market Research Conducted and the Results, or a Statement of the Reasons Market Research Was Not Conducted:** The use of the higher performance requirements for T-8 linear lamps and ballasts as defined by the utility company will result in light levels that will be more comparable to existing levels currently illuminated with T-12 lamps. Since the performance specification requirements and the list of approved lamp manufacturers has already been established by the local electric utility no market research is required to be conducted.
9. **Any Other Facts Supporting the Use of Other than Full and Open Competition:** N/A
10. **Listing of Sources that Expressed, in Writing, an Interest in the Acquisition:** See Section VI above.
11. **A Statement of the Actions, if any, the Agency May Take to Remove or Overcome any Barriers to Competition before Making subsequent acquisitions for the supplies or services required:** No actions planned.
12. **Requirements Certification:** I certify that the requirement outlined in this justification is a Bona Fide Need of the Department of Veterans Affairs and that the supporting data under my cognizance, which are included in the justification, are accurate and complete to the best of my knowledge and belief.


John Krynick
General Engineer
Wilkes-Barre VAMC

8/15/12
Date

13. Approvals in accordance with FAR 6.304

- a. **Contracting Officer's Certification (required):** I certify that the foregoing justification is accurate and complete to the best of my knowledge and belief.

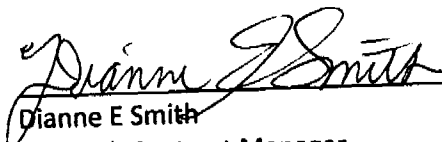


Mark Knorr
Contracting Officer
Wilkes-Barre VAMC

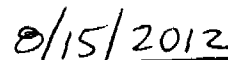


Date

- b. **NCM/PCM (Required \$3K and above):** I certify the justification meets requirements for other than full and open competition.



Dianne E Smith
Network Contract Manager
VISN/NCO 4



Date



HP T8 Lamps
QUALIFYING PRODUCTS
High-Performance 4' T8 Lamps
 Last Updated 8/1/2012

CEE High-Performance Commercial Lighting Systems Initiative

Legend: Red Font is a product no longer manufactured, but existing stock still meets the criteria as qualifying products

Ascent Battery Supply	Worker Lamps	FLO10398	F32T8/835/HL/ENV	Linear	3500	20,000	24,000	3200	3050	82	0.95
		FLO10399	F32T8/841/HL/ENV	Linear	4100	20,000	24,000	3200	3050	82	0.95
		FLO10400	F32T8/850/HL/ENV	Linear	5000	20,000	24,000	3200	3050	82	0.95
Atiss Lighting Products, Inc.		F32T8/841	F32T8/841	Linear	4100	20,000	24,000	3100	2950	82	0.95
		F32T8/850	F32T8/851	Linear	5000	20,000	24,000	3100	2950	82	0.95
Aura Light	Accendo AURA ULTIMATE US Long Life	455338	ULTIMATE US 32W/835	Linear	3500	53,000	60,000	3100	2900	80	0.94
		455334	ULTIMATE US 32W/841	Linear	4100	53,000	60,000	3100	2900	80	0.94
Bulbrite	Energy Wiser	529632	F32T8/835/HL	Linear	3500	24,000	30,000	3300	3135	85	0.95
		529732	F32T8/841/HL	Linear	4100	24,000	30,000	3300	3135	85	0.95
		529832	F32T8/850/HL	Linear	5000	24,000	30,000	3200	3040	85	0.95
Contractor Lighting	BEST LAMP	12-32T8-850	12-32T8-850	Linear	5000	20,000	24,000	3100	3000	85	0.97
CRI Lighting	N/A	n/a	F32T8/830 XP	Linear	3000	24,000	30,000	3100	2950	83	0.94
			F32T8/835 XP	Linear	3500	24,000	30,000	3100	2950	83	0.94
			F32T8/841 XP	Linear	4100	24,000	30,000	3100	2950	83	0.94
			F32T8/850 XP	Linear	5000	24,000	30,000	3100	2950	83	0.94
			F32T8/865 XP	Linear	6500	24,000	30,000	3100	2950	83	0.94
			F32T8/835TL	Linear	3500	24,000	24,000	3150	2950	85	0.94
DLU Lighting USA	Tri-Lux	FLTHNVX4V	F32T8/835TL	Linear	3500	24,000	24,000	3150	2950	85	0.94
		FLTHNVX5V	F32T8/841TL	Linear	4100	24,000	24,000	3150	2950	85	0.94
		FLTHNVX6V	F32T8/850TL	Linear	5000	24,000	24,000	3150	2950	85	0.94
	T8 800	3284T	F32T8/841	Linear	4100	24,000	24,000	3150	2950	85	0.94
	Tri-Lux/Medistar	FLTHNVXDV	F32T8/859TL	Linear	5900	24,000	24,000	3150	2975	85	0.94
Elko	Elko High Lumen	n/a	F32T8/830K/HL	Linear	3000	24,000	24,000	3100	2915	83	0.94
		n/a	F32T8/835K/HL	Linear	3500	24,000	24,000	3100	2915	83	0.94
		n/a	F32T8/841K/HL	Linear	4100	24,000	24,000	3100	2915	83	0.94
		n/a	F32T8/850K/HL	Linear	5000	24,000	24,000	3000	2820	83	0.94
		n/a	F32T8/865K/HL	Linear	6500	24,000	24,000	3000	2820	83	0.94
		n/a	F32T8/850K/XL	Linear	5000	44,000	44,000	2950	2810	83	0.95
Espan Technology, Inc.	Elite HE	13986	F32T8/827/HE	Linear	2700	24,000	30,000	3100	2915	85	0.94
		13987	F32T8/830/HE	Linear	3000	24,000	30,000	3100	2915	85	0.94
		13988	F32T8/835/HE	Linear	3500	24,000	30,000	3100	2915	85	0.94
		13989	F32T8/841/HE	Linear	4100	24,000	30,000	3100	2915	85	0.94
		13990	F32T8/850/HE	Linear	5000	24,000	30,000	3100	2915	85	0.94
		32865	F32T8/865/HE	Linear	6500	24,000	30,000	2978	2798	85	0.94
		B32841	FB32T8/841/HE	U-Bend	4100	20,000	24,000	3100	2900	85	0.94
		B32850	FB32T8/850/HE	U-Bend	5000	20,000	24,000	2980	2830	85	0.95
	Armor Coat	32841AC	F32T8/841/HE/AC	Linear	4100	24,000	30,000	3100	2915	85	0.94
		32850AC	F32T8/850/HE/AC	Linear	5000	24,000	30,000	3100	2915	85	0.94
Full Spectrum Solutions, Inc.	Maxum 5000 F32T8 Shatterproof	204453SC	F32-T8 48" Shatter Proof 5000K	Linear	5000	34,000	28,000	3300	2950	91	0.95
Fusion Lamps	Fusion HLO Series	FN6C32A2F/HLO	FN6C32A2F/HLO	Linear	4100	20,000	24,000	3200	3000	85	0.94
		FF32/T8/830/HLO	FF32/T8/830/HLO	Linear	3000	20,000	24,000	3200	3000	85	0.94
		FF32/T8/835/HLO	FF32/T8/835/HLO	Linear	3500	20,000	24,000	3200	3000	85	0.94
		FF32/T8/841/HLO	FF32/T8/841/HLO	Linear	4100	20,000	24,000	3200	3000	85	0.94
		FF32/T8/850/HLO	FF32/T8/850/HLO	Linear	5000	20,000	24,000	3100	2915	85	0.94

HP T8 Lamps

General Electric Company	Ecolux High Lumen	10327	F32T8/XL/SPX30/HL/ECO	Linear	3000	25,000	36,000	3100	2915	85	0.94
		10328	F32T8/XL/SPX35/HL/ECO	Linear	3500	25,000	36,000	3100	2915	85	0.94
		10322	F32T8/XL/SPX41/HL/ECO	Linear	4100	25,000	36,000	3100	2915	82	0.94
		42556	F32T8/XL/SPX50/HL/ECO	Linear	5000	25,000	40,000	3000	2820	80	0.94
		75318	F32T8/XL/SPX50/HPAL	Linear	5000	25,000	40,000	3000	2820	80	0.94
Halco Lighting Technologies	ProLume	109404	F32T8/850/ECO	Linear	5000	24,000	24,000	3050	2900	86	0.95
		109428	F32T8/865/ECO	Linear	6500	24,000	24,000	3050	2900	86	0.95
		35153	F32T8/850/ECO/IC	Linear	5000	24,000	24,000	3050	2900	85	0.95
		35154	F32T8/865/ECO/IC	Linear	6500	24,000	24,000	3050	2900	85	0.95
		35155	F32T8/830/ECO/HL	Linear	3000	24,000	24,000	3150	2995	86	0.95
		35156	F32T8/835/ECO/HL	Linear	3500	24,000	24,000	3150	2995	86	0.95
		35157	F32T8/841/ECO/HL	Linear	4100	24,000	24,000	3150	2995	86	0.95
		35158	F32T8/850/ECO/HL	Linear	5000	24,000	24,000	3150	2995	86	0.95
		35161	F32T8/850/ECO/XL	Linear	5000	40,000	40,000	2850	2800	85	0.95
	CoverShield	90093	F32T8/850/ECO/IC/CS	Linear	5000	24,000	24,000	3050	2900	86	0.95
H&H Industries, Inc.	POWR-TEK PLUS	HH301	F32T8POWR-TEK PLUS	Linear	5000	36,000	36,000	3150	2992	89	0.95
	VITEK93+	HH9312	F32T8VITEK93+	Linear	6700	36,000	36,000	3010	2880	93	0.95
	VITEK93+ GOLD	HH9350	F32T8VITEK93+GOLD	Linear	6700	40,000	50,000	3010	2880	93	0.95
Howard Industries	High Lumen	01947	F32T8/830/HL/ECO	Linear	3000	24,000	24,000	3100	2950	85	0.95
		01948	F32T8/835/HL/ECO	Linear	3500	24,000	24,000	3100	2950	85	0.95
		01949	F32T8/841/HL/ECO	Linear	4100	24,000	24,000	3100	2950	85	0.95
		02858	F32T8/850/HL/ECO	Linear	5000	24,000	24,000	3100	2950	85	0.95
		03753	F32T8/830/HL/ECO/IC	Linear	3000	24,000	24,000	3100	2950	83	0.95
		03754	F32T8/835/HL/ECO/IC	Linear	3500	24,000	24,000	3100	2950	83	0.95
		03755	F32T8/841/HL/ECO/IC	Linear	4100	24,000	24,000	3100	2950	83	0.95
		03756	F32T8/850/HL/ECO/IC	Linear	5000	24,000	24,000	3100	2950	83	0.95
		04933	F32T8/865/HL/ECO/IC	Linear	6500	24,000	24,000	2950	2800	83	0.95
Hygrade (also NARVA, Hygrade/Narva, and TriPhase)	High Lumen	681	F32T8/HL/830	Linear	3000	24,000	24,000	3100	2950	85	0.95
		682	F32T8/HL/835	Linear	6500	24,000	24,000	3100	2950	85	0.95
		683	F32T8/HL/841	Linear	4100	24,000	24,000	3100	2950	85	0.95
		684	F32T8/HL/850	Linear	5000	24,000	24,000	3100	2950	85	0.95
IMI Lighting	IntegralLight	91613PIL	F32T8IntegralLight	Linear	5000	36,000	36,000	3100	2950	86	0.95
Kumho Electric USA	Earthcare	413830	F29T8/830/EC-HL	Linear	3000	24,000	24,000	3100	2915	82	0.94
		413835	F29T8/835/EC-HL	Linear	3500	24,000	24,000	3100	2915	82	0.94
		413841	F29T8/841/EC-HL	Linear	4100	24,000	24,000	3100	2915	82	0.94
		413850	F29T8/850/EC-HL	Linear	5000	24,000	24,000	3070	2885	82	0.94
	Elemental	403830	F32T8/830	Linear	3000	24,000	36,000	3100	2915	82	0.94
		403835	F32T8/835	Linear	3500	24,000	36,000	3100	2915	82	0.94
		403841	F32T8/841	Linear	4100	24,000	36,000	3100	2915	82	0.94
		403850	F32T8/850	Linear	5000	24,000	36,000	3100	2915	82	0.94
		403865	F32T8/865	Linear	6500	24,000	30,000	3100	2950	82	0.94
	Sequoia	453830	F32T8/830/SQ (HL)	Linear	3000	60,000	70,000	3100	2976	80.5	0.96
		453835	F32T8/835/SQ (HL)	Linear	3500	60,000	70,000	3100	2976	80.5	0.96
		453841	F32T8/841/SQ (HL)	Linear	4100	60,000	70,000	3100	2976	80.5	0.96
		453850	F32T8/850/SQ (HL)	Linear	5000	60,000	70,000	3025	2904	80.5	0.96

HP T8 Lamps

LITETRONICS, INT.	Color Brite T8	L-359	F32T8 CB50	Linear	5000	30,000	30,000	3200	3025	90	0.94
	ENERGY-LITE	L-334	F32 T8 830	Linear	3000	30,000	30,000	3100	2925	85	0.94
		L-335	F32 T8 835	Linear	3500	30,000	30,000	3100	2925	85	0.94
		L-336	F32 T8 841	Linear	4100	30,000	30,000	3100	2925	85	0.94
		L-337	F32 T8 850	Linear	5000	30,000	30,000	3100	2925	85	0.94
		L-385	F32 T8 835 U	U-Bend	3500	30,000	30,000	3100	2925	85	0.94
		L-386	F32 T8 841 U	U-Bend	4100	30,000	30,000	3100	2925	85	0.94
		L-387	F32 T8 850 U	U-Bend	5000	30,000	30,000	3100	2925	85	0.94
Maintenance Engineering	Premira Fluorescent	PMX135	F32T8/AWX8550/TC	Linear	5000	24,000	30,000	3050	2898	85	0.95
		PMX139	F32T8/VLX9155/TC	Linear	5500	24,000	30,000	3100	2950	91	0.95
	-	P1X135	F32T8/AWX8550	Linear	5000	24,000	30,000	3050	2898	85	0.95
		P1X139	F32T8/VLX9155	Linear	5500	24,000	30,000	3100	2950	91	0.95
Maxlite	Premium T8	51048	F32T8/830	Linear	3000	24,000	24,000	3100	2900	85	0.94
		51045	F32T8/835	Linear	3500	24,000	24,000	3100	2900	85	0.94
		51046	F32T8/841	Linear	4100	24,000	24,000	3100	2900	85	0.94
		51047	F32T8/850	Linear	5000	24,000	24,000	3100	2900	85	0.94
		51053	F32T8/865	Linear	6500	24,000	24,000	3100	2900	85	0.94
		51058	F32T8/835XL	Linear	3500	24,000	24,000	3200	3020	85	0.94
	T8 XL	51050	F32T8/841XL	Linear	4100	24,000	24,000	3200	3020	85	0.94
		51049	F32T8/850XL	Linear	5000	24,000	24,000	3200	3020	85	0.94
		51080	F32T8/865XL	Linear	6500	24,000	24,000	3200	3020	85	0.94
Midwest Industrial Lighting	F32T8-850HL	45728	FE32-850HL	Linear	5000	24,000	30,000	3150	2995	86	0.95
Optiklens	-	4187	FL32T8/835/HO/ECO	Linear	3500	20,000	24,000	3200	3050	82	0.95
		4188	FL32T8/841/HO/ECO	Linear	4100	20,000	24,000	3200	3050	82	0.95
		4189	FL32T8/850/HO/ECO	Linear	5000	20,000	24,000	3200	3050	82	0.95
		4182	FL32T8/850/ECO	Linear	5000	20,000	24,000	3000	2850	82	0.95
Orion Energy Systems	ArmorLite	10322AL	T8 ARMORLITE 841 HL LAMP	Linear	4100	25,000	36,000	3100	2915	82	0.94
		42556AL	T8 ARMORLITE 850 HL LAMP	Linear	5000	25,000	36,000	3100	2915	82	0.94
	ECO-LUMEN	18041	ORION F32 T8 / 841	Linear	4100	36,000	36,000	3100	2915	82	0.94
		18050	ORION F32 T8 / 850	Linear	5000	36,000	36,000	3100	2915	85	0.94
OSRAM SYLVANIA	Octron XPS	21880	FO32/850XPS/ECO3	Linear	5000	24,000	40,000	3100	2914	81	0.94
		21880	FO32/830XPS/ECO3	Linear	3000	24,000	40,000	3100	2914	85	0.94
		21659	FO32/865XPS/ECO3	Linear	6500	24,000	40,000	3000	2820	81	0.94
		21897	FO32/835XPS/ECO3	Linear	3500	24,000	40,000	3100	2914	85	0.94
		21681	FO32/841XPS/ECO3	Linear	4100	24,000	40,000	3100	2914	85	0.94
		22168	FBO32/850XPS/ECO	U-Bend	5000	18,000	24,000	2980	2830	85	0.94
	Octron	22143	FO32/850/ECO	Linear	5000	24,000	30,000	2950	2773	80	0.94
		22026	FO32/850/XP/ECO3	Linear	5000	24,000	40,000	3000	2820	85	0.94
		22002	FO32/850/XP/XL/ECO3	Linear	5000	36,000	60,000	2950	2830	81	0.96
Phillips Lighting	Alto Advantage	13987-3	F32T8/ADV830/ALTO	Linear	3000	24,000	30,000	3100	2950	85	0.97
		13988-1	F32T8/ADV835/ALTO	Linear	3500	24,000	30,000	3100	2950	85	0.97
		13989-9	F32T8/ADV841/ALTO	Linear	4100	24,000	30,000	3100	2950	85	0.97
		13990-7	F32T8/ADV850/ALTO	Linear	5000	24,000	30,000	3100	2935	82	0.97
P.Q.L., Inc.	SuperiorLife - HiLum	91610	F32T8/835 - Hi Lumen	Linear	3500	30,000	36,000	3100	2950	85	0.95
		91611	F32T8/841/Hi Lumen - Superior Life	Linear	4100	30,000	36,000	3100	2950	85	0.95
		91612	F32T8/Sky-Brite Plus Hi Lumen	Linear	5000	30,000	36,000	3100	2950	85	0.95
		91613	F32T8/Sky-Brite Plus® Hi Lumen	Linear	5000	30,000	36,000	3100	2950	85	0.95
		91613-HL	F32T8/850 Hi Lumen	Linear	5000	24,000	24,000	3100	2950	85	0.95
		91607-HL	F32T8/841 Hi Lumen	Linear	4100	24,000	24,000	3100	2950	85	0.95
		91601-HL	F32T8/835 Hi Lumen	Linear	3500	24,000	24,000	3100	2950	85	0.95
		91603-HL	F32T8/830 Hi Lumen	Linear	3000	24,000	24,000	3100	2950	85	0.95
		72614	F32T8/865	Linear	6500	24,000	24,000	3100	2950	85	0.95
		91615	F32T8/VITA-BRITE	Linear	5400	24,000	24,000	3100	2950	86	0.95
		82614	F32T8/865 - Superior Life	Linear	6500	24,000	36,000	3100	2950	85	0.95
		72607	F32T8/841	Linear	4100	24,000	36,000	3100	2950	86	0.95
		72613	F32T8/850	Linear	5000	24,000	36,000	3100	2950	85	0.95
Satco Products, Inc	Satco Hygrade	S8428	F32T8/830/HL/ENV	Linear	3000	24,000	24,000	3200	3050	85	0.95
		S8427	F32T8/835/HL/ENV	Linear	3500	24,000	24,000	3200	3050	85	0.95
		S8428	F32T8/841/HL/ENV	Linear	4100	24,000	24,000	3200	3050	85	0.95
		S8429	F32T8/850/HL/ENV	Linear	5000	24,000	24,000	3200	3050	85	0.95

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HP T8 Lamps

Sunpark Electronics Corp.	True Lumen	84132	F32T8/841/SP/32W	Linear	4100	24,000	30,000	3100	2915	84	0.94
		85032	F32T8/850/SP/32W	Linear	5000	24,000	30,000	3100	2915	84	0.94
Super Eco Products, LLC	Super Eco T-8 Plus	32830	F32T8/830/SuperEco	Linear	3000	24,000	30,000	3200	3040	86	0.95
		32840	F32T8/840/SuperEco	Linear	4200	24,000	30,000	3200	3040	86	0.95
		32850	F32T8/850/SuperEco	Linear	5000	24,000	30,000	3200	3040	86	0.95
Superior Lamp, Inc.		H1X145	F32T8/FWX8550	Linear	5000	24,000	30,000	3050	2898	85	0.95
		H1X149	F32T8/VLX9155	Linear	5500	24,000	30,000	3100	2950	91	0.95
	Heavy Duty Fluorescent	HDX145	F32T8/FWX8550/TC	Linear	5000	24,000	30,000	3050	2898	85	0.95
		HDX149	F32T8/VLX9155/TC	Linear	5500	24,000	30,000	3100	2950	91	0.95
Technical Consumer Products, Inc.	TCP High Lumen	31032850HL	F32T8/850/HL	Linear	5000	24,000	24,000	3100	2915	86	0.94
		31032830HL	F32T8/830/HL	Linear	3000	24,000	24,000	3100	2915	85	0.94
		31032835HL	F32T8/835/HL	Linear	3500	24,000	24,000	3100	2915	85	0.94
		31032841HL	F32T8/841/HL	Linear	4100	24,000	24,000	3100	2915	85	0.94
		31032865HL	F32T8/865/HL	Linear	6500	24,000	24,000	3100	2915	85	0.94
		31032850	F32T8/850	Linear	5000	24,000	24,000	2950	2800	85	0.95
Topaz Lighting	TOPAZ/CXL	FO32/830/XL-40	32W 48" T8 3,000K Fluorescent	Linear	3000	24,000	30,000	3100	2900	85	0.94
		FO32/835/XL-40	32W 48" T8 3,500K Fluorescent	Linear	3500	24,000	30,000	3100	2900	85	0.94
		FO32/841/XL-40	32W 48" T8 4,100K Fluorescent	Linear	4100	24,000	30,000	3100	2900	85	0.94
		FO32/850/XL-40	32W 48" T8 5,000K Fluorescent	Linear	5000	24,000	30,000	3100	2900	85	0.94
Universal Lighting Technologies	Universal 800HL	25898	F32T8/835HL	Linear	3500	24,000	24,000	3100	2915	84	0.94
		25899	F32T8/841HL	Linear	4100	24,000	24,000	3100	2915	84	0.94
		25900	F32T8/850HL	Linear	5000	24,000	24,000	3000	2820	82	0.94
USHIO America, Inc.	ULTRA 8 High Lumen	3000480	F32T8/841/HL	Linear	4100	24,000	30,000	3150	2990	86	0.95
		3000524	F32T8/850/HL	Linear	5000	24,000	30,000	3150	2990	86	0.95
Westinghouse Lighting Corporation	XL	07027	F32T8/830/XL/ECOMAX	Linear	3000	24,000	30,000	3100	2950	86	0.95
		07028	F32T8/835/XL/ECOMAX	Linear	3500	24,000	30,000	3100	2950	86	0.95
		07029	F32T8/841/XL/ECOMAX	Linear	4100	24,000	30,000	3100	2950	86	0.95
	Triten 50 Ultra	80766	F32T8/Triten50/ULTRA/ENV	Linear	5000	24,000	24,000	3100	2950	86	0.95

¹ Life based on 3-hr. duty cycle

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