

# Lighting Design Lab Qualified LED List -- Lamps and Linear Tubes

This list is maintained by the LDL for Puget Sound Energy, Seattle City Light, Snohomish PUD, Tacoma Power, the Energy Trust of Oregon, Bonneville Power Administration, Idaho Power, and Eugene Water and Electric Board.

**NOTE: This is an interim qualifying list while products are being reviewed by ENERGY STAR or DLC.**

Products will be permanently removed 12 months after "Post Date".

If you don't see a product on this list, check the ENERGY STAR or DLC lists.

All products carry a warranty of 3 years or more. For questions, please contact ledlist@lightingdesignlab.com.



Lamp Type	Manufacturer	Model Number	CCT	Input Wattage	Efficacy LPW	Initial Lumen Output	Rated Lumens	R9 Value	Rated CBCP	Dimmable	CRI	Post Date	
<b>2' Linear Replacement</b>	Clear Blue Fit BIXX	ZY-T8-15W-600U-BIXX	4974 K	14.7	127.5	1,879	1,700	7	NA	No	81.4	07/28/16	
<b>3' Linear Replacement</b>	ESL Vision, LLC	ESL-T8-12w-3NFNE-P40	4125 K	12.6	117.3	1,480	1,200	5	NA	No	82.6	10/06/15	
		GE Lighting	LED12ET8/3/830	3073 K	11.1	142.0	1,587	1,400	9	NA	Yes	83.0	11/18/15
		LED12ET8/3/835	3542 K	11.1	138.0	1,535	1,400	17	NA	Yes	85.0	11/17/15	
		LED12ET8/3/840	4096 K	11.3	141.0	1,598	1,400	15	NA	Yes	84.0	11/17/15	
		LED12ET8/3/850	5238 K	11.2	145.0	1,631	1,400	12	NA	Yes	83.0	11/17/15	
	Green Creative	10T8/3F/835/DIR	3494 K	11.2	103.7	1,162	1,100	18.4	NA	Yes	83.6	07/28/16	
	Osram Sylvania	LED12T8/L36/F/830/SUB/G5	2960 K	14.4	106.7	1,536	1,600	3	NA	No	80.9	10/15/15	
		LED12T8/L36/F/835/SUB/G5	3396 K	14.7	104.9	1,537	1,600	8	NA	No	82.3	10/15/15	
		LED12T8/L36/F/850/SUB/G5	5004 K	14.4	105.5	1,518	1,600	13	NA	No	82.6	10/15/15	
	Philips Lighting North America Corporation	9290011183	3022 K	12.5	96.2	2,404	1,100	18.2	NA	No	82.2	05/13/16	
		9290011184	3428 K	12.3	99.6	2,451	1,160	19.1	NA	No	82.5	05/13/16	
		9290011185	3858 K	12.5	101.8	2,545	1,200	21.2	NA	No	82.0	04/01/16	
Standard Products Inc.	63632	4014 K	13.4	104.2	1,389	1,450	24	300.0	Yes	86.4	03/08/16		
<b>4' Linear Replacement</b>	3M	URT835183E-B	3433 K	18.9	106.3	2,064	2,000	15	NA	No	83.6	08/09/16	
		URT835183E-L	3418 K	17.9	115.2	2,056	2,000	11	NA	No	83.5	08/09/16	
	Beyond LED Technology	101311	6606 K	20.7	117.6	2,436	2,530	0	NA	No	83.1	07/28/16	
		101642	6608 K	21.3	118.8	2,541	2,640	1	NA	No	82.6	02/25/16	
	DiVi Energy, LLC	RDM T818 120 1A	4265 K	17.6	106.1	1,868	1,800	9	NA	No	82.1	07/01/15	
		RDM-T810-120	4423 K	10.0	116.5	1,167	1,000	22	NA	No	83.7	07/01/15	
		RDM-T822-120	4163 K	22.0	106.4	2,337	2,200	8	NA	No	82.6	07/01/15	
	ESL Vision, LLC	ESL-T8-15W-4	5173 K	14.8	114.3	1,691	1,700	5	NA	No	83.0	07/29/15	
		ESL-T8BC-16W	4035 K	14.1	125.5	1,766	1,740	9	NA	No	82.8	06/15/16	
	Green Creative	17.5T8/4F/GOLD/BYP	1420 K	17.5	62.5	1,091	1,100	0	NA	No	33.8	07/28/16	
	Intelligent Energy Optimizers LLC	OptieoLED8W	4019 K	7.7	154.2	1,189	1,200	3	417.4	No	81.4	01/14/16	
	James Industry Group	BT814W4FT(3000K)	2946 K	14.2	119.3	1,697	1,860	4	NA	No	81.5	10/06/15	
		BT814W4FT(3500K)	3455 K	14.3	121.0	1,730	1,860	8	NA	No	83.1	10/06/15	
		BT814W4FT(4000K)	4082 K	14.3	122.6	1,756	1,860	2	NA	No	80.9	10/06/15	
		BT814W4FT(5000K)	4962 K	14.3	125.6	1,801	1,860	3	NA	No	81.0	10/06/15	
		BT814W4FT(6500K)	6672 K	14.4	127.4	1,829	1,860	14	NA	No	84.6	10/06/15	
		ZY-T8-18W1200 6000K	6038 K	18.6	106.2	1,976	2,150	9.7	NA	No	82.6	03/16/16	
		ZY-T8-22W1200 BINS	6263 K	20.8	127.8	2,654	2,500	7	NA	No	83.8	09/17/15	
		ZY-T8-22W1200 BINT	6228 K	20.9	117.8	2,461	2,450	2	NA	No	82.0	09/08/15	
	Light Efficient Design	LED-6252-4-4-N-DL	6108 K	66.2	95.6	6,332	6,800	13.3	NA	No	82.0	10/31/12	
	Maxlite	L18T8SE450-10	5211 K	6.7	115.3	2,127	1,950	15.2	NA	No	82.1	07/27/16	
		L31T8SE641 (120v)	4179 K	30.0	109.3	3,275	3,250	8	NA	No	81.6	11/17/15	
		L31T8SE641 (277v)	4179 K	29.6	109.3	3,275	3,250	8	NA	No	81.6	11/17/15	
	Osram Sylvania	LED22T8/L48/F/DIM/1x2HE/835/UNV	3891 K	22.7	118.2	2,688	2,350	21	NA	Yes	85.0	05/03/16	
		LED22T8/L48/F/DIM/1x2HE/835/UNV	3377 K	22.5	109.1	2,454	2,350	13	NA	Yes	83.0	05/03/16	
		LED22T8/L48/F/DIM/1x2HE/850/UNV	5042 K	22.6	111.4	2,519	2,450	16	NA	Yes	84.0	05/03/16	

## Lighting Design Lab Qualified LED List -- Lamps and Linear Tubes

Lamp Type	Manufacturer	Model Number	CCT	Input Wattage	Efficacy LPW	Initial Lumen Output	Rated Lumens	R9 Value	Rated CBCP	Dimmable	CRI	Post Date
4' Linear Replacement	Philips Lighting North America Corporation	12T8/48-3000 IF 10/1	3025 K	9.8	109.1	1,564	1,500	19.9	NA	No	82.7	07/23/15
	Titan	1724-SMD-SE-US	4090 K	18.0	97.4	1,756	1,793	0	NA	No	83.9	08/18/15
4' Linear Replacement (uses existing ballast, No Re-Wiring necessary)	GE Lighting	LED16ET8/4/835	3372 K	16.0	107.6	1,722	1,600	21	NA	No	84.0	03/17/15
		LED16ET8/4/840	4035 K	16.0	97.1	1,787	1,700	24	NA	No	85.0	03/17/15
		LED16ET84850	4946 K	16.0	103.1	1,899	1,700	30	NA	No	86.0	03/17/15
4' Linear Replacement (T5)	Green Creative	15T5HE/4F/830/DIR	2972 K	16.0	106.3	1,702	1,700	15	NA	Yes	83.6	07/28/16
8' Linear Replacement	DiVi Energy, LLC	RDM-T836-240	4149 K	36.4	109.5	3,984	3,600	6	NA	No	82.0	05/13/16
	ESL Vision, LLC	ESL-T8-30W-8NFNE-P40	4092 K	29.6	106.6	3,156	2,940	6	NA	No	82.7	10/06/15
	Keystone Technologies	KT-LED36T8-96P-840-D	4168 K	35.9	109.3	3,928	3,800	19	NA	No	85.3	05/11/16
		KT-LED36T8-96P-850-D	5169 K	36.2	116.4	4,214	4,000	11	NA	No	84.2	05/11/16
Titan LED	17C-8-32-SP-57K	5634 K	33.4	124.0	4,152	4,255	19.4	NA	Yes	85.0	08/15/16	
A	GE Lighting	LED10LS3/5K/96	5223 K	9.2	80.7	743	760	18	NA	No	84.0	07/10/15
		LED10LS3/828	2955 K	9.4	82.3	775	760	2	NA	No	81.0	07/06/15
		LED11DAV3/827W	2778 K	10.0	80.9	806	800	7	NA	Yes	82.0	06/30/15
	Shenzhen Wellking Lighting	WK-BL-D24	6223 K	9.7	89.1	862	862	0	NA	Yes	84.1	02/05/16
A15	Archipelago Lighting, Inc.	LTA15C35027K1	2807 K	3.5	117.8	412	350	16.9	NA	Yes	84.9	02/04/16
	Satco	S9273	2699 K	4.6	112.1	512	470	1.7	NA	Yes	81.1	09/11/15
		S9560	2699 K	4.6	112.1	512	470	1.7	NA	Yes	81.1	05/03/16
A19	3M Company	A19-Y3	2887 K	9.7	86.2	832	800	18.7	NA	Yes	82.6	05/14/15
		A19-Z3	2970 K	7.0	68.1	475	450	20.3	NA	Yes	82.6	05/14/15
		RCA19B3	2950 K	9.7	90.6	880	800	9.5	NA	Yes	82.1	10/15/15
		RCA19B4	3817 K	8.5	100.4	857	800	17.4	NA	Yes	81.9	10/15/15
		RCA19-C3	2888 K	8.1	91.7	740	750	19.3	NA	Yes	82.8	05/14/15
		RCA19-C4	3786 K	8.0	102.1	815	750	16.4	NA	Yes	82.2	05/14/15
	AG Supply Depot	AG-6WA19/850-DIM	5298 K	6.3	83.0	521	510	126	121.0	Yes	90.0	10/15/15
	Archipelago Lighting, Inc.	LVTZ-VC1918022K1	2200 K	2.1	94.2	202	180	11.1	NA	Yes	81.3	02/10/16
	DiVi Energy, LLC	HTAD1206	4593 K	10.6	90.2	952	950	14	NA	Yes	84.3	03/03/15
	ESL Vision, LLC	ESL-A19-9.5W-130	3117 K	9.5	87.0	827	800	19	NA	Yes	83.5	03/13/15
		ESL-A19-9.5W-140	4091 K	9.4	90.7	851	850	18	NA	Yes	84.8	03/13/15
		ESL-A19-9W-D27	2732 K	9.5	86.3	820	800	7	NA	Yes	82.0	03/13/15
		ESL-A21-13W-150	5110 K	12.1	105.8	1,282	1,235	1	NA	Yes	82.6	06/02/15
	GE Lighting	LED11DA19/824	2396 K	10.7	79.4	846	800	27	NA	Yes	83.7	07/10/15
		LED11DAV3/827W	2778 K	10.0	80.9	806	800	7	NA	Yes	82.0	04/15/15
		LED7DA19/824	2494 K	6.8	76.0	515	450	27.9	NA	Yes	83.9	07/10/15
		LED7DAV3/827W	2680 K	7.3	73.5	534	470	13	NA	Yes	81.0	04/15/15
	Green Creative	4.5FA19DIM/824/A	2527 K	4.6	90.1	411	380	0.2	NA	Yes	80.0	07/28/16
		8.5A19DIM/827	2677 K	8.0	108.7	874	800	1.1	NA	Yes	80.8	02/10/16
		8.5A19DIM/830	3007 K	8.1	113.1	912	800	1.2	NA	Yes	81.5	02/10/16
		8.5A19DIM/840	3778 K	7.9	117.2	929	850	5.9	NA	Yes	83.0	02/10/16
		9.5A19DIM/8CCTD	2705 K	9.4	85.8	806	800	3.1	NA	Yes	80.8	05/04/16
	Lighting Science Group	LSPro A19 40WE W27 FIL 120 BX	2697 K	4.4	125.0	554	450	4	NA	Yes	82.0	05/04/16

## Lighting Design Lab Qualified LED List -- Lamps and Linear Tubes

Lamp Type	Manufacturer	Model Number	CCT	Input Wattage	Efficacy LPW	Initial Lumen Output	Rated Lumens	R9 Value	Rated CBCP	Dimmable	CRI	Post Date	
A19	Lighting Science Group	LSPro A19 60WE W27 FIL 120 BX	2641 K	6.4	127.5	812	810	6	NA	Yes	81.7	05/04/16	
	Maxlite	6A19DLED40/G2	3954 K	5.5	96.4	534	470	16	NA	Yes	84.3	11/25/15	
		SB6.5A19DLED27	2760 K	6.8	104.0	706	700	3.3	NA	Yes	81.4	04/07/16	
		V4.5A19DLED22	2173 K	4.5	92.8	416	400	8.1	NA	Yes	81.0	04/07/16	
		L10A19DIM/30K	3035 K	9.9	103.9	1,031	930	7	230.0	Yes	82.0	07/30/15	
	Overdrive Electronics	L10A19DIM50K	5050 K	9.4	107.2	1,009	1,000	5	260.0	Yes	82.4	06/30/15	
		L6A19DIM/30K	3109 K	5.5	94.4	523	520	2	140.0	Yes	80.9	07/01/15	
		L6A19DIM/50K	5050 K	5.3	111.7	590	545	12	145.0	Yes	83.0	07/30/15	
		S9251	2645 K	4.5	109.7	491	470	4.4	NA	Yes	81.6	09/11/15	
	Satco	S9252	2626 K	6.8	113.6	751	810	3.4	NA	Yes	81.1	09/11/15	
		S9561	2645 K	4.5	109.7	491	470	4.4	NA	Yes	81.6	05/03/16	
		S9562	2626 K	6.8	113.6	751	810	3.4	NA	Yes	81.1	05/03/16	
		STH-A19D-09-65	6404 K	9.0	104.8	944	800	14	NA	Yes	83.1	06/16/16	
	Sigh Twenty Hands Inc	SMART ENERGY SOLUTIONS	SES-A60-8W	6849 K	7.6	79.9	608	80	17	NA	No	85.8	03/13/15
	The Home Depot	ECS A19 40WE W27 FIL 120 BL	2697 K	4.4	125.0	554	450	4	NA	Yes	82.0	05/04/16	
		ECS A19 60WE W27 FIL 120 BL	2641 K	6.4	127.5	812	810	6	NA	Yes	81.7	05/04/16	
	Verbatim Americas	A19-L485-C30-B220-D	3028 K	6.6	90.4	597	485	9	NA	Yes	81.4	05/12/15	
		A19-L485-C50-B220-D	5167 K	6.7	96.9	651	485	7.7	NA	Yes	82.7	05/12/15	
		A19-L810-C30-B220-D	3029 K	10.0	94.2	945	810	7.7	NA	Yes	81.3	05/12/15	
		A19-L810-C50-B220-D	5126 K	10.2	97.2	988	810	7.2	NA	Yes	82.8	05/12/15	
	Viribright Lighting Inc.	750015	2658 K	8.0	93.7	748	720	54	NA	Yes	91.1	08/19/15	
		750016	3882 K	7.9	96.5	767	720	83	NA	Yes	94.2	08/19/15	
		750017	6346 K	7.9	93.8	737	720	82	NA	Yes	95.8	08/19/15	
		750024	2701 K	9.4	88.2	825	800	39	NA	Yes	92.5	08/19/15	
		750025	3914 K	9.4	92.6	866	855	74	NA	Yes	95.7	08/19/15	
		750026	6098 K	9.0	89.5	807	800	88	NA	Yes	95.8	08/19/15	
		750027	2701 K	9.4	88.2	825	800	39	NA	Yes	92.5	08/19/15	
		750028	3914 K	9.4	92.6	866	855	74	NA	Yes	95.7	08/19/15	
		750029	6098 K	9.0	89.5	807	800	88	NA	Yes	95.8	08/19/15	
		A05EU2-5 / 750007	2656 K	4.8	100.6	488	450	39	NA	Yes	92.0	03/18/16	
		A05EU4-5 / 750008	3972 K	5.0	108.0	537	450	58	NA	Yes	93.8	03/18/16	
		A05EU6-5 / 750009	5958 K	5.0	106.6	527	450	76	NA	Yes	93.2	03/18/16	
		Viribright Lighting Inc. (Matrix Lighting Limited)	750207 / A09EU2-5	2738 K	8.5	98.7	836	810	35	NA	Yes	90.8	06/01/16
			750208 / A09EU4-5	4065 K	8.8	95.7	846	810	61	NA	Yes	92.9	06/01/16
			750209 / A09EU6-5	6214 K	8.5	98.9	840	810	69	NA	Yes	94.4	06/01/16
	A21	Kobi Electric	LED-2000-AD-30	2984 K	20.4	111.8	2,284	2,250	11	NA	Yes	83.0	04/12/16
			LED-2000-AD-40	4027 K	19.8	116.4	2,305	2,000	24	NA	Yes	85.0	04/12/16
			LED-2000-AD-50	5112 K	20.0	115.5	2,313	2,150	3	NA	Yes	82.0	04/12/16
			LED-2200-AD-27-ND	2671 K	20.9	105.9	2,215	2,200	9	NA	Yes	82.0	04/12/16
			LED-2450-AD-30-ND	3061 K	21.3	115.2	2,456	2,450	7	NA	Yes	82.0	04/12/16
			LED-2550-AD-40-ND	3980 K	21.1	119.2	2,517	2,550	12	NA	Yes	84.0	04/12/16
LED-2550-AD-40-ND			4004 K	21.0	120.1	2,554	2,550	6.4	582.9	Yes	82.7	04/05/16	
LED-2700-AD-50-ND			5008 K	21.1	123.4	2,597	2,700	15	NA	Yes	85.0	04/12/16	
ESL Vision, LLC			ESL-A21-13W-127	2776 K	12.9	100.0	1,290	1,235	10	NA	Yes	82.3	08/01/16
		ESL-A21-13W-130	2948 K	12.8	105.3	1,349	1,300	8	NA	Yes	82.0	08/01/16	
		ESL-A21-13W-140	4229 K	12.8	114.1	1,455	1,430	10	NA	Yes	83.4	08/01/16	
		ESL-A21-13W-150	5023 K	12.7	119.7	1,518	1,495	10	NA	Yes	84.1	08/01/16	

## Lighting Design Lab Qualified LED List -- Lamps and Linear Tubes

Lamp Type	Manufacturer	Model Number	CCT	Input Wattage	Efficacy LPW	Initial Lumen Output	Rated Lumens	R9 Value	Rated CBCP	Dimmable	CRI	Post Date
A-lamp (enclosed rated)	GE Lighting	LED12DA21FE/830FE	2939 K	11.7	97.1	1,137	1,100	17.4	NA	Yes	82.0	09/21/15
		LED12DA21FE/850FE	4816 K	11.8	110.5	1,304	1,100	3.8	NA	Yes	81.7	09/21/15
B	Lighting Science Group	LSPro B11 25WE W27 FIL E12 120 3PK	2748 K	2.4	108.6	261	250	7	NA	Yes	83.0	05/04/16
		LSPro B11 25WE W27 FIL E26 120 3PK	2748 K	2.4	108.6	261	250	7	NA	Yes	83.0	05/04/16
		LSPro B11 40WE W27 FIL E12 120 3PK	2693 K	4.5	104.6	471	450	7	NA	Yes	82.0	05/04/16
		LSPro B11 40WE W27 FIL E26 120 3PK	2693 K	4.5	104.6	471	450	7	NA	Yes	82.0	05/04/16
	The Home Depot	ECS B11 25WE W27 FIL E12 120 3PK	2748 K	2.4	108.6	261	250	7	NA	Yes	83.0	04/05/16
		ECS B11 25WE W27 FIL E12 120 BL	2748 K	2.4	108.6	261	250	7	NA	Yes	83.0	05/04/16
		ECS B11 25WE W27 FIL E26 120 BL	2748 K	2.4	108.6	261	250	7	NA	Yes	83.0	05/04/16
		ECS B11 40WE W27 FIL E12 120 3PK	2693 K	4.5	104.6	471	470	7	NA	Yes	82.0	04/05/16
		ECS B11 40WE W27 FIL E12 120 BL	2693 K	4.5	104.6	471	450	7	NA	Yes	82.0	05/04/16
	Archipelago Lighting	ECS B11 40WE W27 FIL E26 120 BL	2693 K	4.5	104.6	471	450	7	NA	Yes	82.0	05/04/16
		LTCB12C32524K1	2396 K	3.4	102.1	345	325	15.9	NA	Yes	83.1	08/17/16
		LTCB12C32527K1	2679 K	3.6	90.2	328	325	18.1	NA	Yes	83.3	08/17/16
		LTCB26C32524K1	2396 K	3.4	102.1	345	325	15.9	NA	Yes	83.1	08/17/16
LTCB26C32527K1	2679 K	3.6	90.2	328	325	18.1	NA	Yes	83.3	08/17/16		
B13	Osram Sylvania	LED6B13C/BLUNT/DIM/827/G2	2716 K	5.7	70.8	406	350	10	NA	Yes	82.0	03/03/15
Biax	GE Lighting	LED172G11/830/10	3031 K	14.9	146.9	2,189	2,150	6.4	NA	No	82.6	07/29/16
		LED172G11/835/10	3390 K	16.0	134.4	250	2,150	10	NA	No	84.0	07/29/16
		LED172G11/840/10	3937 K	16.0	139.4	2,230	2,200	10	NA	No	84.0	07/29/16
		LED172G11/850/10	4971 K	16.0	138.4	2,215	2,200	15	NA	No	85.0	07/29/16
BR/R 20	Green Creative	6.5R20G4DIM/824	2465 K	5.8	89.0	515	450	3	NA	Yes	80.7	06/11/15
BR/R 30	ESL Vision, LLC	ESL-BR30-12W-40	4095 K	13.1	71.9	938	900	9	NA	Yes	81.5	03/13/15
	Viribright Lighting Inc.	750114	2845 K	9.3	85.8	802	800	41	304.0	Yes	92.6	03/17/16
		750116	6076 K	9.0	97.3	881	860	75	327.0	Yes	94.4	03/17/16
BR/R 40	Green Creative	9BR40G4DIM/824	2493 K	8.4	85.1	718	650	6	NA	Yes	81.5	06/12/15
	Viribright Lighting Inc.	750270	2836 K	15.0	80.4	1,204	1,200	36	503.0	Yes	91.3	03/17/16
		750271	4058 K	14.4	95.8	1,377	1,350	52	569.0	Yes	93.4	03/17/16
		750272	5843 K	14.2	99.9	1,420	1,350	78	583.0	Yes	94.9	03/17/16
BR30	ESL Vision, LLC	ESL-BR30-13W-D40	4026 K	13.5	90.7	1,226	1,200	6	NA	Yes	82.6	07/27/16
BT	Satco	S9268	2675 K	4.5	115.3	520	470	3.1	NA	Yes	81.4	09/11/15
		S9269	2668 K	6.8	114.1	775	810	3.1	NA	Yes	81.4	09/11/15
		S9575	2675 K	4.5	115.3	520	470	3.1	NA	Yes	81.4	05/03/16
		S9576	2668 K	6.8	114.1	775	810	3.1	NA	Yes	81.4	05/03/16
C	Satco	S9567	2626 K	4.5	109.4	493	470	3.4	NA	Yes	81.0	05/03/16
		S9568	2626 K	4.5	109.4	493	470	3.4	NA	Yes	81.0	05/03/16
		S9569	2626 K	4.5	109.4	493	470	3.4	NA	Yes	81.0	05/03/16
		S9570	2626 K	4.5	109.4	493	470	3.4	NA	Yes	81.0	05/03/16
CA	Archipelago Lighting, Inc.	LTCA12C32527K1	2697 K	3.1	122.6	380	325	0.6	NA	Yes	81.1	09/08/15

## Lighting Design Lab Qualified LED List -- Lamps and Linear Tubes

Lamp Type	Manufacturer	Model Number	CCT	Input Wattage	Efficacy LPW	Initial Lumen Output	Rated Lumens	R9 Value	Rated CBCP	Dimmable	CRI	Post Date	
CA	Archipelago Lighting, Inc.	LTCA26C20027K1	2769 K	1.8	125.5	220	200	21.4	NA	Yes	81.8	08/05/15	
		LTCA26C32527K1	2697 K	3.1	122.6	380	325	0.6	NA	Yes	81.1	09/08/15	
		LVTZ-CA1216022K1	2270 K	2.1	79.7	165	160	15.3	NA	Yes	82.3	02/04/16	
		LVTZ-CA1230022K1	2230 K	3.4	97.5	334	300	11.5	NA	Yes	81.5	02/04/16	
	Satco	S9571	2665 K	4.5	108.6	492	470	1.7	NA	Yes	81.1	05/03/16	
		S9572	2665 K	4.5	108.6	492	470	1.7	NA	Yes	81.1	05/03/16	
		S9573	2665 K	4.5	108.6	492	470	1.7	NA	Yes	81.1	05/03/16	
		S9574	2665 K	4.5	108.6	492	470	1.7	NA	Yes	81.1	05/03/16	
	Archipelago Lighting	LTCA12C32524K1	2382 K	3.3	97.4	322	325	16.5	NA	Yes	83.2	08/17/16	
		LTCA26C32524K1	2382 K	3.3	97.4	322	325	16.5	NA	Yes	83.2	08/17/16	
Candle	Green Creative	5B11DIM/8CCTD	2706 K	4.8	65.9	313	300	5.4	NA	Yes	81.2	05/04/16	
	Viribrigt Lighting Inc.	74552	2693 K	3.0	91.5	271	270	35	NA	Yes	91.5	08/19/15	
		74553	3886 K	3.0	91.5	275	270	78	NA	Yes	93.1	08/19/15	
		74554	5898 K	3.0	91.5	272	270	91	NA	Yes	92.1	08/19/15	
		74555	2693 K	3.0	91.5	271	270	35	NA	Yes	91.5	08/19/15	
		74556	3886 K	3.0	91.5	275	270	78	NA	Yes	93.1	08/19/15	
		74557	5898 K	3.0	91.5	273	270	91	NA	Yes	92.1	08/19/15	
	Archipelago Lighting, Inc.	LTC7C5027K1	2765 K	0.7	89.1	62	50	5.5	NA	Yes	80.6	08/05/15	
	Satco	S9260	2626 K	4.5	109.4	493	470	3.4	NA	Yes	81.0	09/11/15	
		S9261	2660 K	4.4	112.2	493	470	1.5	NA	Yes	81.1	09/11/15	
		S9264	2665 K	4.5	108.6	492	470	1.7	NA	Yes	81.1	09/11/15	
		S9265	2757 K	4.4	114.0	504	470	0.7	NA	Yes	80.8	09/11/15	
	CFL Replacement	EiKO Global	LED13W4PH830DR-G5	3037 K	16.0	62.7	1,004	900	21	NA	Yes	84.8	06/17/15
LED13W4PH835DR-G5			3431 K	16.1	65.3	1,052	900	12	NA	Yes	83.1	06/17/15	
LED13W4PH840DR-G5			4014 K	16.0	67.3	1,074	900	25	NA	Yes	86.1	06/17/15	
LED13W4PVL/827DR-G5			2723 K	13.8	73.8	1,018	900	18	NA	Yes	84.5	06/17/15	
LED13W4PVL/835DR-G5			3439 K	16.1	72.7	1,176	900	12	NA	Yes	83.3	06/17/15	
LED13W4PVL/840DR-G5			4037 K	15.9	77.8	1,241	900	29	NA	Yes	86.9	06/17/15	
LED13W4PVL830DR-G5			3074 K	16.1	70.1	1,126	900	19	NA	Yes	84.5	06/17/15	
LED13WPH827DR-G5			2709 K	13.8	65.9	909	900	16	NA	Yes	83.8	06/17/15	
ESL Vision, LLC			ESL-PL-11W-30	3062 K	10.8	106.0	1,143	1,140	11	NA	No	83.3	03/13/15
			ESL-PL-11W-40	4152 K	10.0	108.0	1,082	1,080	25	NA	No	86.4	06/09/15
		ESL-PL-11W-50	5464 K	10.2	107.0	1,089	1,050	19	NA	No	85.1	06/09/15	
		ESL-PL-6W-30	3116 K	6.0	95.0	569	530	7	NA	No	82.6	02/25/16	
		ESL-PL-6W-40	4132 K	6.0	97.2	581	555	13	NA	No	83.9	02/25/16	
		ESL-PL-7W-30	3046 K	7.0	108.0	754	750	10	NA	No	83.1	03/13/15	
		ESL-PL-7W-40	4170 K	6.2	105.0	651	650	27	NA	No	86.8	06/02/15	
		ESL-PL-7W-50	5300 K	6.1	110.0	673	650	23	NA	No	86.4	06/03/15	
		ESL-PL-9W-30	3039 K	9.0	106.0	963	960	10	NA	No	83.1	03/13/15	
		ESL-PL-9W-40	4183 K	8.0	108.5	867	860	26	NA	No	86.6	06/03/15	
		ESL-PL-9W-50	5304 K	8.2	110.0	904	900	25	NA	No	86.8	06/09/15	
		ESL-VPL-14W-230	3056 K	12.4	83.1	1,033	1,030	14	NA	No	82.4	11/06/15	
		ESL-VPL-14W-240	4127 K	12.6	96.0	1,213	1,030	13	NA	No	83.8	11/06/15	
ESL-VPL-14W-250		5219 K	12.7	96.0	1,216	1,215	16	NA	No	85.1	11/06/15		
ESL-VPL-8W-230		3061 K	8.0	77.8	621	620	9	NA	No	82.5	11/06/15		
ESL-VPL-8W-240	4116 K	8.2	88.5	722	700	11	NA	No	83.6	11/06/15			
ESL-VPL-8W-250	5223 K	8.0	87.3	698	700	15	NA	No	85.0	11/06/15			

## Lighting Design Lab Qualified LED List -- Lamps and Linear Tubes

Lamp Type	Manufacturer	Model Number	CCT	Input Wattage	Efficacy LPW	Initial Lumen Output	Rated Lumens	R9 Value	Rated CBCP	Dimmable	CRI	Post Date		
CFL Replacement	GE Lighting	LED12G24q-H/827	2702 K	11.8	72.9	1,045	950	7.5	NA	No	81.7	06/17/15		
		LED12G24q-H/830	3028 K	11.6	76.9	1,090	950	9.7	NA	No	81.9	06/17/15		
		LED12G24q-H/835	3411 K	11.7	77.7	1,110	1,000	11.9	NA	No	82.5	06/17/15		
		LED12G24q-H/840	3955 K	11.6	79.6	1,129	1,000	14	NA	No	83.2	06/17/15		
		LED12G24q-V/827	2726 K	11.7	72.7	1,038	950	9.5	NA	No	82.1	06/17/15		
		LED12G24q-V/830	3051 K	11.7	74.3	1,063	950	10.4	NA	No	82.0	06/17/15		
		LED12G24q-V/835	3396 K	11.7	74.9	1,073	1,000	12.6	NA	No	82.5	06/17/15		
	Green Creative	Green Creative	LED12G24q-V/840	3956 K	11.6	78.9	1,117	1,000	16	NA	No	83.6	06/17/15	
			11PLHG4/827/DIR	2703 K	14.0	63.4	893	850	11	NA	No	82.7	06/12/15	
			11PLHG4/840/DIR	3959 K	14.3	75.0	1,074	1,000	18	NA	No	84.8	06/02/15	
			11PLHG4830DIR	2940 K	14.4	70.5	1,013	920	11	NA	No	82.9	06/12/15	
			11PLHG4835BYP	3339 K	10.6	97.5	1,031	950	1	NA	No	80.4	06/12/15	
			11PLHG4835DIR	3334 K	14.3	72.1	1,028	950	4	NA	No	81.0	06/12/15	
			11PLHG4840BYP	3934 K	10.6	104.9	1,111	1,000	12	NA	No	83.6	06/12/15	
		Green Inova	Green Inova	11PLHG4850BYP	4872 K	10.6	102.8	1,092	1,000	7	NA	No	82.2	06/12/15
				11PLHG4850DIR	4925 K	14.3	75.0	1,074	1,000	20	NA	No	85.3	06/12/15
				11PLHG4930DIR	2976 K	14.3	58.7	838	800	72	NA	No	93.6	06/12/15
				11PLVG4/827/DIR	2672 K	13.2	72.2	951	875	5	NA	No	81.2	07/23/15
				11PLVG4/830/DIR	2932 K	13.3	72.5	962	875	9	NA	No	82.2	07/23/15
				11PLVG4/835/BYP	3376 K	10.6	95.2	1,007	900	5	NA	No	81.7	09/10/15
				11PLVG4/835/DIR	3379 K	14.2	73.5	1,047	900	4	NA	No	81.2	09/10/15
				11PLVG4/840/BYP	4041 K	10.5	97.1	1,023	920	13	NA	No	83.9	02/10/16
				11PLVG4840DIR	4003 K	13.2	79.9	1,054	920	14	NA	No	84.2	07/23/15
				11PLVG4850DIR	5194 K	13.3	82.6	1,095	940	18	NA	No	85.1	07/23/15
				11PLVG4930DIR	2907 K	13.3	61.0	812	730	72	NA	No	92.7	07/23/15
				17PLL/830/DIR	3105 K	21.7	100.8	2,191	2,000	17.3	NA	No	85.0	02/10/16
				17PLL/835/DIR	3572 K	21.5	100.7	2,166	2,050	23	NA	No	86.2	02/10/16
				17PLL/840/DIR	4114 K	17.0	102.9	2,226	2,100	22.6	NA	No	86.6	02/10/16
				3.5PLS/835/BYP/2G7	3525 K	3.3	90.4	301	300	20.6	NA	No	84.3	06/01/16
				3.5PLS/835/HYB/G23	3525 K	3.3	90.4	301	300	20.6	NA	No	84.3	06/01/16
				5.5PLS/827/HYB/GX23	2787 K	5.4	87.4	473	450	7.2	NA	No	81.7	04/06/16
				5.5PLS/830/HYB/GX23	3109 K	5.6	94.8	530	500	24	NA	No	85.4	04/06/16
				5.5PLS/835/BYP/2GX7	3551 K	5.5	94.5	523	500	24	NA	No	85.0	06/01/16
				5.5PLS/835/HYB/GX23	3551 K	5.5	94.5	523	500	24	NA	No	85.0	02/10/16
		5.5PLS/840/HYB/GX23	4231 K	5.6	94.9	529	520	20	NA	No	85.1	04/06/16		
		Green Inova	Green Inova	GI-HCJ-11-PW40-M-G24Q	3970 K	10.3	106.9	1,104	1,104	20	NA	No	85.6	12/10/15
				GI-HCJ-6-PW40-M-G24Q	3960 K	5.8	103.1	597	596	20	NA	No	85.6	12/10/15
				GI-HCJ-8-PW40-M-G24Q	4012 K	7.5	95.0	715	715	19	NA	No	85.5	12/10/15
				GI-SCJ-11-PW40-M-G24Q	3965 K	10.6	107.2	1,134	1,133	15	NA	No	84.6	12/16/15
				GI-SCJ-6-PW40-M-G24Q	3990 K	5.8	109.7	638	637	16	NA	No	84.8	12/16/15
				GI-SCJ-8-PW40-M-G24Q	3994 K	7.8	102.3	800	799	15	NA	No	84.6	12/16/15
		Greenlite Lighting	Greenlite Lighting	11W/LED/PLC/G24Q/40K/277V	4109 K	10.7	105.2	1,122	1,050	31	NA	No	87.0	09/08/15
				12W/LED/PLC/G24Q/40K/277V	4060 K	12.9	101.7	1,311	1,150	14	NA	No	84.2	01/14/16
				13W/LED/PL/BR30/G24Q/40K/277V	4132 K	12.9	95.3	1,224	1,070	12	NA	No	84.2	01/14/16
	9W/LED/PLC/G24Q/40K/277V			4068 K	10.0	94.9	952	950	14	NA	No	84.2	01/14/16	
	Keystone Technologies	Keystone Technologies	KT-LED112P-EV-827-X	2692 K	10.7	88.7	947	1,000	9.8	NA	No	82.2	11/05/15	
			KT-LED112P-EV-840-X	3883 K	10.5	109.1	1,144	1,050	12.2	NA	No	83.8	10/29/15	
			KT-LED112P-H-827-X	2706 K	10.8	89.3	961	1,000	9.5	NA	No	82.1	10/29/15	
			KT-LED112P-H-830-X	2975 K	10.6	102.4	1,085	1,000	11.8	NA	No	82.0	10/29/15	



## Lighting Design Lab Qualified LED List -- Lamps and Linear Tubes

Lamp Type	Manufacturer	Model Number	CCT	Input Wattage	Efficacy LPW	Initial Lumen Output	Rated Lumens	R9 Value	Rated CBCP	Dimmable	CRI	Post Date	
CFL Replacement	Keystone Technologies	KT-LED112P-H-840-X	3907 K	10.5	108.2	132	1,050	17.7	NA	No	84.9	10/29/15	
		KT-LED112P-H-850-X	5291 K	10.7	98.2	1,048	1,050	21.3	NA	No	85.0	11/05/15	
		KT-LED112P-V-827-X	2692 K	10.7	88.7	947	1,000	9.8	NA	No	82.2	11/05/15	
		KT-LED112P-V-830-X	3057 K	10.6	99.0	1,047	1,000	3.2	NA	No	81.2	11/05/15	
		KT-LED112P-V-840-X	3883 K	10.5	109.1	1,144	1,050	12.2	NA	No	83.8	10/29/15	
		KT-LED112P-V-850-X	5046 K	10.7	117.4	1,250	1,050	11.4	NA	No	84.1	01/14/16	
		KT-LED134P-EV-830-S	3048 K	14.5	72.4	1,046	900	20	NA	Yes	84.7	10/15/15	
		KT-LED134P-EV-840-S	4178 K	14.4	78.5	1,132	950	29	NA	Yes	87.0	08/06/15	
		KT-LED134P-EV-850-S	5290 K	14.5	76.2	1,102	950	24	NA	Yes	85.4	03/09/16	
		KT-LED134P-H-827-S	2609 K	13.8	65.9	909	900	16	NA	Yes	83.8	08/06/15	
		KT-LED134P-H-830-S	3005 K	14.4	66.5	954	900	21	NA	Yes	85.0	08/06/15	
		KT-LED134P-H-835-S	3408 K	14.5	72.8	1,056	900	14	NA	Yes	83.8	08/06/15	
		KT-LED134P-H-840-S	4180 K	14.3	72.1	1,033	950	25	NA	Yes	86.3	08/06/15	
		KT-LED134P-V-827-S	2624 K	13.9	65.4	909	900	16	NA	Yes	84.5	08/06/15	
		KT-LED134P-V-830-S	3005 K	14.0	72.7	1,020	900	20	NA	Yes	84.7	08/06/15	
		KT-LED134P-V-840-S	4186 K	14.4	78.3	1,130	950	28	NA	Yes	86.9	08/06/15	
		KT-LED134P-V-850-S	5270 K	14.6	75.9	1,105	950	23	NA	Yes	85.3	03/09/16	
		Light Efficient Design	LED-7302-35A	3473 K	10.0	100.9	1,000	1,043	25	NA	No	85.4	08/06/15
	LED-7302-42A		4213 K	10.1	100.9	1,014	1,013	18	NA	No	84.9	08/06/15	
	LED-7304-35A		3453 K	9.9	93.1	920	920	24	NA	No	85.1	08/06/15	
	LED-7304-42A		4230 K	10.2	101.3	1,033	1,032	19	NA	No	85.1	08/07/15	
	LED-7306-35A		3539 K	11.5	90.7	1,043	1,043	8	NA	No	82.5	08/06/15	
	LED-7306-42A		3980 K	11.8	90.8	1,072	3,980	23	NA	No	84.6	08/06/15	
	LED-7308-35A		3535 K	12.7	85.5	1,085	3,535	8	NA	No	82.4	08/06/15	
	LED-7308-42A	3995 K	11.5	90.3	1,038	1,043	24	NA	No	85.0	08/06/15		
	Lunera	HN-H-G24Q-26W-2700-G3	2714 K	15.0	59.0	892	890	13.2	NA	Yes	83.0	07/21/15	
		HN-H-G24Q-26W-3000-G3	3057 K	15.0	61.0	921	920	13.4	NA	Yes	83.0	07/21/15	
		HN-H-G24Q-26W-3500-G3	3532 K	14.9	63.0	921	940	19.9	NA	Yes	83.0	07/21/15	
		HN-H-G24Q-26W-4000-G3	4063 K	14.9	66.0	976	970	17	NA	Yes	83.0	07/21/15	
		HN-H-UNV-GX23-13W-2700-G3	2690 K	5.5	97.0	529	500	8.33	155.9	Available	82.0	09/09/15	
		HN-H-UNV-GX23-13W-3000-G3	2999 K	5.4	93.0	505	505	23.1	150.0	Available	83.3	09/09/15	
		HN-H-UNV-GX23-13W-3500-G3	3463 K	5.5	104.0	575	570	12.1	169.8	Available	82.0	09/09/15	
		HN-H-UNV-GX23-13W-4000-G3	3994 K	5.5	105.0	578	575	16	170.0	Available	83.4	09/09/15	
		HN-V-G24Q-26W-2700-G3	2706 K	15.6	57.0	881	880	13	NA	Yes	83.0	07/21/15	
		HN-V-G24Q-26W-3000-G3	3046 K	15.7	58.0	912	912	13.1	NA	Yes	83.0	07/21/15	
		HN-V-G24Q-26W-3500-G3	3532 K	15.5	59.0	916	916	20.1	NA	Yes	84.0	07/21/15	
		HN-V-G24Q-26W-4000-G3	4110 K	15.5	62.0	955	950	18	NA	Yes	84.0	07/21/15	
		Lunera Lighting	HN-H-GX23-U-5W-827-G4	2690 K	5.5	97.0	529	500	8.33	155.9	Available	82.0	04/15/16
			HN-H-GX23-U-5W-830-G4	2999 K	5.4	93.0	505	508	23.1	150.0	Available	83.0	04/15/16
			HN-H-GX23-U-5W-835-G4	3463 K	5.5	104.0	575	525	12.1	169.8	Available	82.0	04/15/16
	HN-H-GX23-U-5W-840-G4		3994 K	5.5	105.0	578	535	16	170.0	Available	83.0	04/15/16	
	Maxlite	13PLG24QHLED27	2693 K	13.2	70.0	920	850	0.1	NA	Yes	79.8	05/28/15	
		13PLG24QHLED35	3389 K	13.0	78.1	1,016	900	18.6	NA	Yes	84.7	05/22/15	
		13PLG24QHLED41	3923 K	13.1	82.0	1,073	900	9.1	NA	Yes	82.8	05/22/15	
		13PLG24QVLED27	2700 K	13.1	76.4	1,003	850	5.3	NA	Yes	80.7	05/22/15	
		13PLG24QVLED35	3504 K	13.1	83.6	1,093	900	12.7	NA	Yes	83.4	05/22/15	
		13PLG24QVLED41	3930 K	13.1	93.0	1,220	900	8.1	NA	Yes	82.6	05/22/15	
		6PLE26LED27	2760 K	6.0	82.5	495	500	6.2	NA	No	81.0	08/10/15	
		6PLE26LED30	3164 K	6.0	85.6	510	500	13.5	NA	No	84.2	08/10/15	

## Lighting Design Lab Qualified LED List -- Lamps and Linear Tubes

Lamp Type	Manufacturer	Model Number	CCT	Input Wattage	Efficacy LPW	Initial Lumen Output	Rated Lumens	R9 Value	Rated CBCP	Dimmable	CRI	Post Date
CFL Replacement	Maxlite	6PLE26LED35	3562 K	6.0	90.9	545	525	18	NA	No	85.2	08/10/15
		6PLE26LED40	4110 K	5.9	88.0	521	525	22.2	NA	No	86.4	08/10/15
		6PLG24QLED27	2760 K	6.0	82.5	495	500	6.2	NA	No	81.0	08/10/15
		6PLG24QLED30	3164 K	6.0	85.6	510	500	13.5	NA	No	84.2	08/10/15
		6PLG24QLED35	3562 K	6.0	90.9	545	525	18	NA	No	85.2	08/10/15
		6PLG24QLED40	4110 K	5.9	88.0	521	525	22.2	NA	No	86.4	08/10/15
		6PLGU24LED27	2760 K	6.0	82.5	495	500	6.2	NA	No	81.0	08/10/15
		6PLGU24LED30	3164 K	6.0	85.6	510	500	13.5	NA	No	84.2	08/10/15
		6PLGU24LED35	3562 K	6.0	90.9	545	525	18	NA	No	85.2	08/10/15
		6PLGU24LED40	4110 K	5.9	88.0	521	525	22.2	NA	No	86.4	08/10/15
		6PLGX23LED27	2760 K	6.0	82.5	495	500	6.2	NA	No	81.0	08/10/15
		6PLGX23LED30	3164 K	6.0	85.6	510	500	13.5	NA	No	84.2	08/10/15
		6PLGX23LED35	3562 K	6.0	90.9	545	525	18	NA	No	85.2	08/10/15
		6PLGX23LED40	4110 K	5.9	88.0	521	525	22.2	NA	No	86.4	08/10/15
		8PLE26LED27	2779 K	7.0	97.2	683	675	6.9	NA	No	82.3	08/10/15
		8PLE26LED30	3095 K	7.0	106.3	740	675	15.1	NA	No	84.6	08/10/15
		8PLE26LED35	3498 K	7.0	101.5	708	725	22.1	NA	No	84.4	08/10/15
		8PLE26LED40	4067 K	7.2	106.2	764	725	20.1	NA	No	85.4	08/10/15
		8PLE26LED50	5232 K	7.1	107.1	759	725	18	NA	No	85.2	08/10/15
		8PLG24QLED27	2779 K	7.0	97.2	683	675	6.9	NA	No	82.3	08/10/15
		8PLG24QLED30	3095 K	7.0	106.3	740	675	15.1	NA	No	84.6	08/10/15
		8PLG24QLED35	3498 K	7.0	101.5	708	725	22.1	NA	No	84.4	08/10/15
		8PLG24QLED40	4067 K	7.2	106.2	764	725	20.1	NA	No	85.4	08/10/15
		8PLG24QLED50	5232 K	7.1	107.1	759	725	18	NA	No	85.2	08/10/15
		8PLGU24LED27	2779 K	7.0	97.2	683	675	6.9	NA	No	82.3	08/10/15
		8PLGU24LED30	3095 K	7.0	106.3	740	675	15.1	NA	No	84.6	08/10/15
		8PLGU24LED35	3498 K	7.0	101.5	708	725	22.1	NA	No	84.4	08/10/15
		8PLGU24LED40	4067 K	7.2	106.2	764	725	20.1	NA	No	85.4	08/10/15
		8PLGU24LED50	5232 K	7.1	107.1	759	725	18	NA	No	85.2	08/10/15
		8PLGX23LED27	2779 K	7.0	97.2	683	675	6.9	NA	No	82.3	08/10/15
		8PLGX23LED30	3095 K	7.0	106.3	740	675	15.1	NA	No	84.6	08/10/15
		8PLGX23LED35	3498 K	7.0	101.5	708	725	22.1	NA	No	84.4	08/10/15
		8PLGX23LED40	4067 K	7.2	106.2	764	725	20.1	NA	No	85.4	08/10/15
		8PLGX23LED50	5232 K	7.1	107.1	759	725	18	NA	No	85.2	08/10/15
		Philips Lighting North America Corporation	10.5PL-C/T LED/26V-2700 IF 4P	2653 K	14.5	83.6	1,210	1,200	7.4	NA	No	81.5
		10.5PL-C/T LED/26V-3000 IF 4P	3103 K	14.5	86.4	1,247	1,200	16	NA	No	83.5	10/29/15
		10.5PL-C/T LED/26V-3500 IF 4P	3429 K	14.5	91.6	1,330	1,200	8.2	NA	No	82.8	10/29/15
		10.5PL-C/T LED/26V-400 IF 4P	3949 K	14.4	96.7	1,391	1,200	3.8	NA	No	82.5	10/29/15
		16.5PL-LED/24-3000 IF 10/1	2956 K	16.5	104.1	2,095	1,900	8.1	NA	No	82.4	07/23/15
		16.5PL-LED/24-3500 IF 10/1	3476 K	16.5	107.4	2,139	2,000	14.5	NA	No	84.2	07/23/15
		16.5PL-LED/24-4000 IF 10/1	3853 K	16.5	111.1	2,262	2,100	7.5	NA	No	83.1	07/23/15
		8.5PL-C/T LED/26H-2700 IF 4P	2710 K	10.6	86.8	916	900	2.2	NA	No	80.7	10/29/15
		8.5PL-C/T LED/26H-3000 IF 4P	2962 K	10.4	88.7	920	900	6.6	NA	No	81.8	10/29/15
		8.5PL-C/T LED/26H-3500 IF 4P	3434 K	10.3	92.3	950	900	9.4	NA	No	83.2	10/29/15
		8.5PL-C/T LED/26H-4000 IF 4P	3956 K	10.3	95.0	978	900	10.2	NA	No	83.8	10/29/15
	RemPhos	RPT-LEDBIAX-1500LM-3000K	2971 K	13.9	94.1	1,308	1,500	0	NA	No	83.6	04/13/16
		RPT-LEDBIAX-1500LM-4000K	4215 K	14.0	95.4	1,340	1,500	23	NA	No	85.2	04/13/16
		RPT-LEDBIAX-2000LM-3000K	2981 K	20.8	88.5	1,837	1,500	10	NA	No	83.4	04/13/16
		RPT-LEDBIAX-2000LM-4000K	4100 K	21.1	89.7	1,889	2,000	22	NA	No	85.0	04/13/16



## Lighting Design Lab Qualified LED List -- Lamps and Linear Tubes

Lamp Type	Manufacturer	Model Number	CCT	Input Wattage	Efficacy LPW	Initial Lumen Output	Rated Lumens	R9 Value	Rated CBCP	Dimmable	CRI	Post Date
CFL Replacement	Satco	S9300	2609 K	13.0	65.4	909	900	16	NA	Yes	84.5	08/18/15
		S9301	3408 K	13.0	72.8	1,056	900	14	NA	Yes	83.8	08/18/15
		S9302	4186 K	13.0	78.3	1,130	925	28	NA	Yes	86.9	08/18/15
		S9303	5270 K	13.0	75.9	1,105	950	23	NA	Yes	85.3	08/18/15
		S9304	2623 K	13.0	73.8	1,018	900	23	NA	Yes	84.5	08/18/15
		S9305	3408 K	13.0	75.1	1,090	900	13	NA	Yes	83.5	08/18/15
		S9306	4178 K	13.0	78.5	1,132	925	29	NA	Yes	87.0	08/18/15
		S9307	5290 K	13.0	76.2	1,102	950	24	NA	Yes	85.4	08/18/15
		S9308	2609 K	13.0	65.9	909	900	16	NA	Yes	83.8	08/18/15
		S9309	3388 K	13.0	71.1	1,027	900	12	NA	Yes	83.2	08/18/15
	S9310	4180 K	13.0	72.1	1,033	925	25	NA	Yes	86.3	08/18/15	
	Viribright Lighting Inc.	750156	2624 K	8.0	87.4	700	680	32	NA	No	90.0	08/19/15
		750157	3764 K	8.0	92.7	744	680	55	NA	No	93.7	08/19/15
		750158	5756 K	8.1	87.1	707	680	87	NA	No	95.7	08/19/15
		750159	2624 K	8.0	87.4	700	680	32	NA	No	90.0	08/19/15
		750160	3764 K	8.0	92.7	744	680	55	NA	No	93.7	08/19/15
		750161	5756 K	8.1	87.1	707	680	87	NA	No	95.7	08/19/15
		750162	2624 K	8.0	87.4	700	680	32	NA	No	90.0	08/19/15
		750163	3764 K	8.0	92.7	744	680	55	NA	No	93.7	08/19/15
		750164	5756 K	8.1	87.1	707	680	87	NA	No	95.7	08/19/15
750168		2624 K	8.0	87.4	700	680	32	NA	No	90.0	08/19/15	
750169	3764 K	8.0	92.7	744	680	55	NA	No	93.7	08/19/15		
750170	5756 K	8.1	87.1	707	680	87	NA	No	95.7	08/19/15		
CFL Replacement	CH Lighting	CH1158-02-6W 835-3	3570 K	6.1	87.9	533	535	22	NA	No	84.0	04/22/16
	EiKO Global	LED9W4PH/830DR-G6	2941 K	11.3	79.4	899	850	23	NA	No	84.8	08/17/16
		LED9W4PH/835DR-G6	3444 K	11.6	83.9	976	850	16	NA	No	83.2	08/17/16
		LED9W4PH/840DR-G6	4087 K	11.6	83.7	967	900	16	NA	No	84.4	08/17/16
		LED9W4PV/830DR-G6	2998 K	11.8	79.5	937	850	7	NA	No	82.0	08/17/16
		LED9W4PV/835DR-G6	3474 K	11.7	83.1	976	850	11	NA	No	83.4	08/17/16
		LED9W4PV/840DR-G6	3874 K	11.9	87.2	1,034	900	13	NA	No	84.0	08/17/16
	ESL Vision, LLC	ESL-PL-7W-30	2983 K	6.5	104.8	678	650	5	NA	No	82.0	05/13/16
	Green Creative	10.5PLH/827/BYP	2790 K	10.4	89.6	930	870	3	NA	No	81.0	08/03/16
		10.5PLH/830/BYP	2969 K	10.4	90.3	943	920	14.6	NA	No	83.2	08/03/16
		10.5PLH/835/BYP	3597 K	10.3	98.4	1,015	920	13.7	NA	No	83.9	08/03/16
		10.5PLH/840/BYP	4120 K	10.6	101.2	1,071	935	13.9	NA	No	84.1	08/03/16
		10PLV/835/DIR	3522 K	14.1	74.4	1,050	1,000	22	NA	Yes	84.3	08/09/16
		10PLV/840/DIR	4142 K	14.1	78.3	1,105	1,000	20	NA	Yes	85.2	08/09/16
		11.5PLV/827/BYP	2730 K	11.4	85.1	968	950	4	NA	No	80.7	08/03/16
		11.5PLV/830/BYP	3001 K	11.7	89.5	1,044	1,000	1	NA	No	80.7	08/03/16
		11.5PLV/835/BYP	3571 K	11.7	88.5	1,040	1,000	15	NA	No	82.7	08/03/16
		14.5PLL/835/DIR	3548 K	18.6	86.4	1,609	1,550	28	NA	Yes	86.4	07/28/16
		3.5PLS/835/BYP/2G7	3525 K	3.3	90.4	301	300	20.6	NA	No	84.3	05/04/16
		5.5PLS/835/HYB/2GX7	3551 K	5.5	94.5	523	500	24	NA	No	85.0	05/04/16
6PLH/835/BYP		3615 K	6.1	104.2	639	550	15	NA	No	84.4	08/03/16	
6PLH/835/BYP/E26		3615 K	6.1	104.2	639	550	15	NA	No	84.4	08/03/16	
6PLH/835/BYP/GU24	3615 K	6.1	104.2	939	550	15	NA	No	84.4	08/03/16		
6PLH/840/BYP	4129 K	6.3	103.8	656	560	17	NA	No	84.7	08/03/16		
6PLH/840/BYP/E26	4129 K	6.3	103.8	656	560	17	NA	No	84.7	08/03/16		

# Lighting Design Lab Qualified LED List -- Lamps and Linear Tubes

Lamp Type	Manufacturer	Model Number	CCT	Input Wattage	Efficacy LPW	Initial Lumen Output	Rated Lumens	R9 Value	Rated CBCP	Dimmable	CRI	Post Date	
CFL Replacement	Green Creative	6PLH/840/BYP/GU24	4129 K	6.3	103.8	656	560	17	NA	No	84.7	08/03/16	
		6PLS/827/HYB/GX23	2744 K	6.1	95.3	580	520	3	NA	No	80.7	08/15/16	
		6PLS/830/HYB/GX23	2969 K	6.0	98.8	596	550	22	NA	No	84.6	08/15/16	
		6PLS/840/HYB/GX23	4126 K	6.1	108.1	661	560	19	NA	No	85.0	08/15/16	
		9.5PLH/830/DIR	3015 K	13.0	72.8	950	920	13	NA	Yes	83.0	08/09/16	
		9.5PLH/835/DIR	3559 K	13.4	72.7	970	920	24	NA	Yes	84.5	08/09/16	
		9.5PLH/840/DIR	4199 K	13.1	78.9	1,034	935	2	NA	Yes	85.7	08/09/16	
		Greenlite Lighting	6W/LED/PLC/GX23/35K	3570 K	6.1	87.9	533	520	22	NA	No	84.0	05/13/16
	Halco Lighting Technologies	PL13H/827/4P/LED	2711 K	13.8	69.2	958	1,000	9.1	311.0	Yes	82.1	08/04/16	
		PL13H/830/4P/LED	3065 K	13.4	76.8	1,027	1,000	3.1	337.0	Yes	81.1	08/04/16	
		PL13H/841/4P/LED	3898 K	13.6	85.7	1,162	1,000	16.7	383.0	Yes	84.7	08/04/16	
		PL13H/850/4P/LED	5268 K	13.6	77.3	105	1,000	21.2	352.0	Yes	84.9	08/04/16	
		PL13V/827/4P/LED	2676 K	13.4	74.3	997	1,000	5.2	318.0	Yes	81.3	08/04/16	
		PL13V/830/4P/LED	3046 K	13.6	76.6	1,043	1,000	3.1	338.0	Yes	81.2	08/04/16	
		PL13V/850/4P/LED	5075 K	13.7	91.9	125	1,000	13.2	388.0	Yes	84.4	08/04/16	
	Hylite LED	HL-G24-13W	4197 K	12.2	125.3	1,522	1,365	27	566.5	No	86.6	08/17/16	
		HL-G24-15W	4193 K	13.8	124.3	1,709	1,575	27	639.5	No	86.7	08/17/16	
		HL-G24-7W	4208 K	6.9	120.6	829	725	28	312.8	No	86.8	08/17/16	
		HL-G24-9W	4193 K	9.0	121.4	1,103	945	25	411.5	No	86.5	08/17/16	
		HL-Gx23-5W	4193 K	5.0	117.9	586	525	26	NA	No	86.6	08/17/16	
	Keystone Technologies	KT-LED114P-EV-830-S	3046 K	13.6	76.6	1,043	1,050	3.1	NA	No	81.2	08/01/16	
		KT-LED114P-EV-850-S	5075 K	13.7	91.9	1,255	1,050	13	NA	No	84.4	08/01/16	
		KT-LED114P-H-840-S	3898 K	13.6	85.7	1,162	1,050	16.7	NA	No	84.7	07/27/16	
		KT-LED114P-V-830-S	3046 K	13.6	76.6	1,043	1,000	3.1	NA	No	81.2	08/17/16	
		KT-LED114P-V-830-S					1,050	3.1	NA	No	81.2	08/01/16	
		KT-LED114P-V-840-S	3852 K	13.5	86.2	1,166	1,050	11.6	NA	No	83.6	07/27/16	
		KT-LED114P-V-850-S	5075 K	13.7	91.9	1,255	1,050	13.2	NA	No	84.4	08/01/16	
	Keystone Technology	KT-LED114P-EV-840-S	3852 K	13.5	86.2	1,166	1,050	11.6	NA	No	93.6	07/29/16	
	Keystone Technology	KT-LED114P-H-830-S	3065 K	13.4	76.8	1,027	1,000	3.1	NA	No	81.1	07/29/16	
	Lunera	HN-H-G24D-26W-2700-G2	2710 K	14.0	60.8	850	883	17.2	293.7	No	82.1	08/15/16	
		HN-H-G24D-26W-3000-G2	3034 K	13.8	61.0	845	883	21.5	293.7	No	83.1	08/15/16	
		HN-H-G24D-26W-3500-G2	3500 K	13.9	66.3	920	883	24.7	293.7	No	84.1	08/15/16	
		HN-H-G24D-26W-4000-G2	3970 K	14.0	79.7	1,113	883	10.7	293.7	No	82.2	08/15/16	
		HN-H-G24Q-26W-2700-G2	2737 K	14.0	64.4	940	883	11.1	293.7	Yes	82.3	08/02/16	
		HN-H-G24Q-26W-3000-G2	3055 K	14.5	61.4	889	899	20	293.7	Yes	82.7	08/02/16	
		HN-H-G24Q-26W-3000-G2								Available	82.7	08/01/16	
		HN-H-G24Q-26W-3500-G2	3466 K	14.5	70.6	1,023	930	13.6	293.7	Yes	82.3	08/02/16	
		HN-H-G24Q-26W-4000-G2	4065 K	14.5	71.3	1,035	954	15.7	293.7	Yes	83.2	08/02/16	
		HN-V-G24D-26W-2700-G2	2663 K	14.0	69.7	973	920	16.7	293.9	No	81.9	08/15/16	
		HN-V-G24D-26W-3000-G2	3033 K	14.0	71.4	1,002	920	22.8	293.9	No	83.2	08/15/16	
		HN-V-G24D-26W-3500-G2	3517 K	14.0	79.2	1,111	920	16.5	293.9	No	82.8	08/15/16	
		HN-V-G24D-26W-4000-G2	4023 K	14.0	75.4	1,055	920	26.1	293.9	No	84.0	08/15/16	
		HN-VL-G24Q-26W-2700-G2	2725 K	14.3	67.1	961	920	12.9	266.6	Yes	82.6	08/02/16	
		HN-VL-G24Q-26W-3000-G2	3046 K	14.3	68.3	976	937	12.3	266.6	Yes	82.5	08/02/16	
		HN-VL-G24Q-26W-3500-G2	3460 K	14.3	72.5	1,039	969	16.1	266.6	Yes	82.8	08/02/16	
		HN-VL-G24Q-26W-4000-G2	4000 K	14.3	71.2	1,015	994	16.2	266.6	Yes	83.4	08/02/16	
		Optimal LED	GQR04NX1010VV50JPW	5223 K	9.9	83.3	820	900	15	NA	No	84.2	08/17/16
		RemPhos	RPT-LEDBIAX-1500LM-3000K	2971 K	13.9	94.1	1,308	1,500	0	NA	No	83.6	04/13/16
			RPT-LEDBIAX-1500LM-4000K	4215 K	14.0	95.4	1,340	1,500	23	NA	No	85.2	04/13/16

# Lighting Design Lab Qualified LED List -- Lamps and Linear Tubes

Lamp Type	Manufacturer	Model Number	CCT	Input Wattage	Efficacy LPW	Initial Lumen Output	Rated Lumens	R9 Value	Rated CBCP	Dimmable	CRI	Post Date
CFL Replacement	Verbatim Americas	PL4-L1000-C27-DIR	2701 K	11.6	88.8	1,029	1,100	12	NA	No	83.0	08/11/16
		PL4-L1100-C30-DIR	2994 K	11.5	91.3	1,053	1,100	19	NA	No	85.0	08/11/16
		PL4-L1100-C35-DIR	3462 K	11.6	94.7	1,098	1,100	17	NA	No	85.0	08/11/16
		PL4-L1100-C40-DIR	3976 K	11.6	95.6	1,108	1,100	18	NA	No	85.0	08/11/16
		PL4-L800-C27-DIR	2695 K	8.3	86.4	715	800	10	NA	No	83.0	08/11/16
		PL4-L800-C30-DIR	3045 K	8.2	92.0	749	800	18	NA	No	85.0	08/11/16
		PL4-L800-C35-DIR	3408 K	8.1	96.0	789	800	14	NA	No	84.0	08/11/16
		PL4-L800-C40-DIR	3979 K	8.2	97.0	795	800	13	NA	No	84.0	08/11/16
CFL Replacement (uses line voltage)	Kobi Electric	LED-1000-PL-G24-5.5-27-MV-NB	2680 K	11.0	93.7	1,027	1,000	11	NA	No	81.5	05/14/15
		LED-1000-PL-G24-5.5-41-MV-NB	3989 K	11.1	110.9	1,121	1,000	19.4	NA	No	84.0	05/14/15
		LED-1000-PL-G24-5.5-50-MV-NB	5075 K	10.8	108.2	1,168	1,000	13.1	NA	No	84.4	05/14/15
		LED-1400-PL-G24-6.5-41-MV-NB	3869 K	14.2	91.1	1,294	1,400	25.4	NA	No	84.3	05/14/15
		LED-1400-PL-G24-6.5-50-MV-NB	5047 K	14.2	107.2	1,517	1,400	14.4	NA	No	84.6	05/14/15
		LED-700-PL-G24-5.5-41-MV-NB	3917 K	7.7	110.8	849	700	17	NA	No	83.5	05/14/15
		LED-700-PL-G24-5.5-50-MV-NB	4972 K	7.7	117.2	906	700	13.7	NA	No	84.0	05/14/15
Globe	Lighting Science Group	LSPRO G25 40WE W27 FIL 120 BX	2675 K	4.5	112.9	508	470	5	NA	Yes	82.0	05/04/16
	The Home Depot	ECS G25 40WE W27 FIL 120 BL	2675 K	4.5	112.9	508	470	5	NA	Yes	82.0	05/04/16
	Viribright Lighting Inc.	74565	3887 K	2.0	92.0	182	180	86	NA	No	92.3	08/19/15
		74566	6236 K	1.9	95.8	186	180	94	NA	No	93.7	08/19/15
		74567	2673 K	2.0	91.2	181	180	42	NA	No	92.4	08/19/15
		74568	3887 K	2.0	92.0	182	180	86	NA	No	92.3	08/19/15
		74569	6236 K	1.9	95.8	186	180	94	NA	No	93.7	08/19/15
		Archipelago Lighting, Inc.	LTG16526C32527K1	2729 K	3.1	114.4	355	325	20	NA	Yes	81.6
	Maxlite	LVTS-G2518022K1	2294 K	2.1	102.1	212	180	14.3	NA	Yes	82.4	02/04/16
		LVTS-G2530022K1	2244 K	3.1	102.8	320	300	6.5	NA	Yes	80.8	09/08/15
		V6.5G30DLED22	2175 K	6.7	98.0	654	620	16.9	NA	Yes	83.6	04/07/16
	HID Replacements (screw-in)	Amati International LLC.	AM-30W35K4E39	4095 K	33.8	127.6	4,311	4,700	-23.5	NA	No	72.6
AM-40W35K4E39			4084 K	43.6	133.2	5,802	6,050	-24	NA	No	72.5	09/18/15
AM-80W35K4E39			4093 K	84.3	127.7	10,760	11,000	-23.7	NA	No	72.5	09/18/15
ARVA, LLC		HL-AC-20W-E26-50K	5247 K	18.5	116.1	2,152	2,150	21	626.9	No	83.9	04/15/15
		HL-AC-50-E39-50K	5270 K	48.4	116.3	5,629	5,630	21	1641.0	No	84.2	04/15/15
Bbier Manufacturing Co.,ltd		BB-HJD-003	5717 K	37.8	134.3	5,069	5,000	10	NA	No	83.0	04/15/15
		BB-HJD-052	5301 K	38.9	123.5	4,802	4,800	8	NA	No	83.6	04/13/15
		BB-HYD-004	5671 K	39.7	116.0	4,601	4,800	10	NA	No	83.6	03/11/15
		BB-HYD-006	4080 K	51.9	129.5	6,720	6,720	0	NA	No	81.3	03/08/16
CAO Lighting, Inc.		802-27W-40K	4032 K	26.5	116.9	3,102	2,800	13.8	NA	No	83.1	07/14/15
		802-36W-40K	4031 K	34.9	113.8	3,966	3,800	17.5	NA	No	84.7	07/14/15
		802-36W-50K	5290 K	36.5	118.8	4,340	3,800	5.9	NA	No	82.4	07/14/15
		802-45W-40K	4043 K	45.8	115.6	5,291	4,700	17.1	NA	No	84.6	07/14/15
		802-45W-50K	5296 K	46.6	124.7	5,661	5,661	16.6	NA	No	83.9	08/05/15
		802-54W-40K	4017 K	53.8	125.8	6,761	5700 +/-	9.8	NA	No	82.6	09/04/15
		802-54W-50K	5339 K	53.2	124.0	6,599	5,980	18.4	NA	No	84.2	09/11/15
		803-080W-40K	4124 K	78.0	110.9	8,652	8,400	17.1	NA	No	84.8	07/14/15
		803-100W-40K	4182 K	96.9	112.5	10,900	10,500	20	NA	No	85.4	07/14/15
		803-120W-40K	4119 K	116.7	111.0	12,959	12,600	17.8	NA	No	84.6	04/06/16

# Lighting Design Lab Qualified LED List -- Lamps and Linear Tubes

Lamp Type	Manufacturer	Model Number	CCT	Input Wattage	Efficacy LPW	Initial Lumen Output	Rated Lumens	R9 Value	Rated CBCP	Dimmable	CRI	Post Date	
(screw-in)	CAO Lighting, Inc.	803-120W-40K	4170 K	116.8	117.0	13,680	13,680	16.8	NA	No	84.6	03/03/15	
	Differential Energy Global Ltd.	DEG-070120	4487 K	18.6	106.6	1,982	1,982	-17.2	0.8	Yes	74.5	07/30/15	
		DEG-070120-G2 (120v)	4517 K	15.9	91.7	1,444	1,444	-14.7	4.7	Yes	74.7	08/18/15	
		DEG-070120-G2 (277v)	4517 K	16.6	91.7	1,444	1,444	-14.7	4.7	Yes	74.7	08/18/15	
		DEG-100225-3.5K CLiK (120v)	3360 K	56.0	73.7	4,126	4,126	17.5	14.3	Yes	83.1	07/30/15	
		DEG-100225-3.5K CLiK (277v)	3360 K	57.1	73.7	4,126	4,126	17.5	11.9	Yes	83.1	08/18/15	
		DEG-100225-3K CLiK (120v)	2928 K	56.9	80.0	4,548	4,548	10.8	13.3	Yes	82.5	07/30/15	
		DEG-100225-3K CLiK (277v)	2928 K	58.3	80.0	4,548	4,548	10.8	13.3	Yes	82.5	08/18/15	
		DEG-100225-4K CLiK (120v)	3828 K	57.2	86.1	4,924	4,924	17.9	14.3	Yes	83.2	07/30/15	
		DEG-100225-4K CLiK (277v)	3828 K	58.8	86.1	4,924	4,924	17.9	14.3	Yes	83.2	08/18/15	
		DEG-150175	4422 K	58.1	81.7	4,370	4,370	-6.7	6.9	Yes	74.9	04/15/16	
		DEG-150175		53.5	81.7	4,370	4,370	-6.7	6.9	Yes	74.9	04/15/16	
		DEG-250400	4395 K	110.7	80.7	8,938	8,938	-10.3	32.1	Yes	74.8	12/07/15	
		DEG-325400	4639 K	103.1	78.1	8,203	8,203	-18.7	31.6	Yes	72.9	04/19/16	
		DEG-325400		105.1	78.1	8,203	8,203	-18.7	31.6	Yes	72.9	04/19/16	
		DEG-450550	4632 K	169.8	79.1	13,437	13,437	-23	55.9	Yes	71.6	04/15/16	
		DEG-450550		163.7	79.1	13,437	13,437	-23	55.9	Yes	71.6	04/15/16	
		DEG-600750	4655 K	314.0	71.0	22,303	22,303	10.5	91.5	Yes	76.4	12/07/15	
		DiVi Energy, LLC	BB HJD 025	4210 K	25.4	117.0	2,975	2,750	0	NA	No	83.6	10/16/15
			BB-HJD-014	4346 K	10.9	109.9	1,193	1,100	17	NA	No	84.1	02/05/16
	E26 S12NE		4089 K	11.0	99.6	1,099	1,100	0	NA	No	72.6	10/16/15	
	G90-C60		3963 K	59.9	108.4	6,495	6,000	0	NA	No	73.6	07/01/15	
	HG S302 28W		4593 K	26.6	82.7	2,205	2,300	0	NA	No	76.2	09/09/15	
	HG S302 36W		4553 K	36.0	95.0	3,416	3,600	0	NA	No	75.4	10/16/15	
	Ecomax lighting	SUN09-36W(E26,E39)	5114 K	33.7	122.8	4,141	4,320	19	NA	No	84.4	02/10/16	
		SUN09-45W(E26,E39)	4914 K	43.2	121.3	5,233	5,400	30	NA	No	85.7	02/10/16	
		SUN23-50W(E26,E39)	4952 K	46.6	122.2	5,688	6,250	27	NA	No	85.2	02/10/16	
		SUN-CBRHD-40W 5000(E26,E39)	4929 K	39.3	130.7	5,132	5,600	22	NA	No	84.8	02/10/16	
		SUN-CBRHD-40W 6000(E26,E39)	5944 K	39.3	133.5	5,247	5,600	12	NA	No	83.4	02/10/16	
	EiKO Global	C0820-PT-25W-23K-N61-E26-DN-W	2363 K	24.4	77.0	1,887	1,900	7	NA	No	79.0	02/27/15	
		C0820-PT-25W-23K-N61-E39-DN-W	2363 K	24.4	77.0	1,887	1,900	7	NA	No	79.0	02/27/15	
		C0820-PT-25W-40K-N61-E26-DN-W	3952 K	24.6	112.0	2,759	2,600	0	NA	No	73.0	02/27/15	
		C0820-PT-25W-40K-N61-E39-DN-W	3952 K	24.6	112.0	2,759	2,600	0	NA	No	73.0	02/27/15	
		C0820-PT-40W-40K-N61-E26-DN-W	4022 K	38.7	108.5	4,199	4,200	0	NA	No	74.6	02/27/15	
		C0820-PT-40W-40K-N61-E39-DN-W	4022 K	38.7	108.5	4,199	4,200	0	NA	No	74.6	02/27/15	
		LED100WPT40KMOG-G5	4104 K	104.0	129.6	13,475	12,500	22	NA	No	85.7	09/22/15	
		LED20WPT40KMED-G6	4157 K	19.1	115.0	2,190	2,100	15	NA	No	84.5	08/17/16	
		LED20WPT50KMED-G6	5044 K	18.2	127.6	2,326	2,100	-1	NA	No	81.5	08/17/16	
		LED27WPT50KMED-G5	5018 K	26.9	126.7	3,401	3,240	2	NA	No	81.7	09/22/15	
		LED27WPT50KMOG-G5	5018 K	26.9	126.7	3,401	3,240	2	NA	No	81.7	09/22/15	
		LED36WPT50KMED-G5	5015 K	35.1	123.0	4,325	4,325	0	NA	No	85.0	09/04/15	
		LED36WPT50KMOG-G5	5015 K	35.1	123.0	4,325	4,325	0	NA	No	85.0	09/04/15	
		LED45WPT40KMED-G5	4233 K	44.1	114.0	5,128	5,100	17	NA	No	84.3	03/07/16	
		LED45WPT50KMED-G5	5025 K	44.3	122.0	5,409	5,400	0	NA	No	84.6	09/04/15	
		LED45WPT50KMOG-G5	5025 K	44.3	122.0	5,409	5,400	0	NA	No	84.6	09/04/15	
		LED54WPT40KMED-G5	4129 K	53.6	109.9	5,895	5,800	27	NA	No	85.8	03/07/16	
		LED54WPT50KMED-G5	5087 K	51.3	128.0	6,579	6,480	0	NA	No	82.3	09/04/15	
		LED54WPT50K-MOG-G5	5087 K	51.3	128.0	6,579	6,480	0	NA	No	82.3	09/04/15	
		ESL Vision, LLC	ESL-CL-120W-230	3110 K	116.5	120.5	14,042	13,680	12	NA	No	83.5	12/28/15

## Lighting Design Lab Qualified LED List -- Lamps and Linear Tubes

Lamp Type	Manufacturer	Model Number	CCT	Input Wattage	Efficacy LPW	Initial Lumen Output	Rated Lumens	R9 Value	Rated CBCP	Dimmable	CRI	Post Date
(screw-in)	ESL Vision, LLC	ESL-CL-120W-240	4102 K	119.6	123.7	14,791	14,280	16	NA	No	83.8	12/28/15
		ESL-CL-120W-250	5231 K	119.8	121.2	14,516	14,500	15	NA	No	84.6	12/28/15
		ESL-CL-15W-230	3095 K	13.0	120.3	1,561	1,550	12	NA	No	83.6	10/06/15
		ESL-CL-15W-240	4089 K	14.3	120.6	1,727	1,725	15	NA	No	83.5	10/06/15
		ESL-CL-15W-250	5247 K	14.5	122.6	1,780	1,725	4	NA	No	81.6	10/06/15
		ESL-CL-23W-250	5236 K	22.2	129.0	2,875	2,875	4	NA	No	81.6	06/01/16
		ESL-CL-25W-55	5233 K	26.2	126.6	3,312	3,300	8	NA	No	82.9	10/07/15
		ESL-CL-28W-230	3110 K	25.4	120.0	3,045	3,020	12	NA	No	83.6	10/06/15
		ESL-CL-28W-240	4089 K	26.0	123.0	3,198	3,200	16	NA	No	83.7	10/06/15
		ESL-CL-28W-250	5235 K	27.1	127.0	3,443	3,440	4	NA	No	81.6	10/06/15
		ESL-CL-36W-230	3103 K	32.8	127.7	4,181	4,180	12	NA	No	83.6	10/06/15
		ESL-CL-36W-240	4089 K	35.2	126.0	4,431	4,430	15	NA	No	83.6	10/06/15
		ESL-CL-36w-250	5219 K	36.0	131.2	4,721	4,680	5	NA	No	81.8	10/06/15
		ESL-CL-46W-230	3103 K	42.2	120.3	5,076	5,075	12	NA	No	83.6	11/06/15
		ESL-CL-46w-240	4082 K	45.8	120.0	5,509	5,500	15	NA	No	83.6	11/06/15
		ESL-CL-46W-250	5247 K	45.2	127.0	5,809	5,750	4	NA	No	81.6	11/06/15
		ESL-CL-55W-230	3097 K	51.1	121.0	6,185	5,185	12	NA	No	83.5	11/06/15
		ESL-CL-55W-240	4095 K	54.6	129.0	7,062	6,700	16	NA	No	83.7	11/06/15
		ESL-CL-55W-250	5248 K	52.7	128.0	6,770	6,770	4	NA	No	81.6	11/06/15
		ESL-CL-80W-230	3096 K	75.3	121.0	9,106	8,800	12	NA	No	83.5	12/24/15
		ESL-CL-80W-240	4089 K	79.8	122.6	9,783	9,600	16	NA	No	83.7	12/24/15
		ESL-CL-80w-250	5234 K	79.2	125.9	9,964	10,000	5	NA	No	82.0	12/24/15
		ESL-CL-9W-230	3100 K	8.1	123.2	1,000	945	12	NA	No	83.6	10/06/15
		ESL-CL-9W-240	4098 K	8.9	121.6	1,077	990	16	NA	No	83.7	10/06/15
	ESL-CL-9W-250	5247 K	8.4	117.3	981	990	4	NA	No	81.6	10/06/15	
	ESL-PAR38F-45W-40	4071 K	42.9	99.5	4,264	4,050	0	NA	No	72.6	07/08/15	
	Foreverlamp Inc	GS-400C/VHO	4029 K	267.3	93.0	24,871	24,000	0	NA	No	82.0	01/14/16
		GS-400D-HO-840	4197 K	190.0	101.2	19,230	20,000	0	NA	No	84.0	08/12/16
		GS-400U-VHO-840	4029 K	267.3	93.0	24,871	24,000	0	NA	No	82.0	01/14/16
		PS-400D-HO-840	3985 K	200.0	112.0	22,422	20,000	0	NA	No	83.0	08/12/16
	Halco Lighting Technologies	HID36/850/MV/LED	4965 K	33.6	133.0	4,488	4,500	0	NA	No	82.4	09/21/15
		HID45/850/MV/LED	4970 K	43.2	131.0	5,662	5,400	0	NA	No	82.4	09/21/15
		HID54/850/MV/LED	5087 K	51.3	128.3	6,580	6,200	0	NA	No	82.3	07/30/15
	Hyperikon	501160412	5236 K	22.2	129.7	2,875	2,750	5	NA	No	81.6	07/08/15
		501160502	5043 K	78.4	129.8	10,171	10,400	5	NA	No	82.3	07/08/15
		501160504	5060 K	128.1	128.1	15,366	14,100	5	NA	No	82.4	07/08/15
		501160508	5040 K	52.9	131.2	6,937	7,020	5	NA	No	82.3	05/28/15
	Icepipe Lighting	OBB60W-5700K	5568 K	62.3	88.9	5,540	5,580	9	NA	No	82.6	12/07/15
		OBB80W-5700K	5519 K	73.8	104.9	7,743	8,000	-16	NA	No	78.6	12/07/15
	Intelligent Energy Optimizers LLC	OptieoLED14WCorn	3095 K	13.0	120.3	1,561	1,680	12	170.6	No	83.6	03/15/16
		OptieoLED18WCorn-801B	5220 K	17.3	126.9	2,197	2,100	23	234.0	No	85.0	01/06/16
		OptieoLED8WCorn	3100 K	8.1	123.2	1,000	960	12	124.1	No	83.6	03/15/16
	Kobi Electric	EC-18-27-MV-E26	2680 K	17.4	108.1	1,879	1,850	10	NA	No	83.0	04/12/16
		EC-18-50-MV-E26	5220 K	17.3	126.9	2,197	2,150	23	NA	No	85.0	04/12/16
		EC-36-50-MV-E26	5230 K	34.0	125.3	4,259	4,250	23	NA	No	85.0	04/12/16
	LED Trail	2770	7004 K	15.0	104.3	1,342	2,100	-20	NA	No	73.2	03/12/15
		2771	4309 K	19.3	100.2	1,934	2,100	-16	NA	No	73.5	03/12/15
		2772	4322 K	30.0	95.1	2,745	2,100	8	NA	No	78.7	03/12/15
		2773	7303 K	40.0	94.8	3,695	2,100	-4	NA	No	75.5	03/12/15

# Lighting Design Lab Qualified LED List -- Lamps and Linear Tubes

Lamp Type	Manufacturer	Model Number	CCT	Input Wattage	Efficacy LPW	Initial Lumen Output	Rated Lumens	R9 Value	Rated CBCP	Dimmable	CRI	Post Date
(screw-in)	LED Trail	2775	5538 K	60.0	103.1	6,137	2,100	-10	NA	No	75.6	03/12/15
		2776	6896 K	80.0	101.4	8,175	2,100	-14	NA	No	73.1	03/12/15
		2777	4309 K	100.0	99.5	10,209	2,100	-7	NA	No	73.5	03/12/15
		2778	6656 K	120.0	104.1	12,801	2,100	-16	NA	No	73.1	03/12/15
		YL-C040G2 5000K	5184 K	43.5	130.4	5,672	4,800	14	NA	No	83.8	09/18/15
	LED Global Supply	YL-C040G2 5700K	5750 K	43.9	131.4	5,762	4,800	12	NA	No	83.4	09/18/15
		YL-C060G2 5000K	5182 K	62.8	126.6	7,953	7,200	12	NA	No	83.5	09/18/15
		YL-C060G2 5700K	5754 K	62.8	128.6	8,067	7,200	11	NA	No	83.1	09/18/15
		YL-C080G2 5000K	5250 K	81.1	125.3	10,161	9,600	12	NA	No	83.4	09/18/15
		YL-C080G2 5700K	5786 K	81.1	126.6	10,267	9,600	10	NA	No	82.9	09/18/15
		YL-C100G2 5000K	5138 K	100.9	127.3	12,843	12,000	13	NA	No	83.4	09/18/15
		YL-C100G2 5700K	5790 K	101.4	127.5	12,926	12,000	9	NA	No	82.7	09/18/15
		YL-C120G3 5000K	5150 K	117.2	131.3	15,392	14,400	9	NA	No	82.8	09/18/15
		YL-C120G3 5700K	5714 K	117.3	132.1	15,493	14,400	6	NA	No	82.5	09/18/15
		YL-C150G3 5000K	5264 K	147.3	130.6	19,240	18,000	8	NA	No	82.8	09/18/15
		YL-C150G3 5700K	5680 K	147.0	132.0	19,401	18,000	23	NA	No	86.2	09/18/15
		YL-C200G3 5000K	5098 K	197.0	131.2	25,832	24,000	0	NA	No	81.6	09/18/15
		YL-C200G3 5700K	5788 K	197.6	131.5	25,986	24,000	10	NA	No	83.0	09/18/15
		YL-C250G3 5000K	5238 K	246.7	131.8	32,505	30,000	17.4	NA	No	83.0	09/18/15
		YL-C250G3 5700K	5850 K	246.6	132.3	32,615	30,000	11	NA	No	83.1	09/18/15
	Ledreit Manufacturing	HYD-60W8S	5264 K	59.0	121.1	7,141	7,200	8	991.8	No	82.7	01/06/16
	Light Efficient Design	LED-8024E30	3005 K	45.2	118.3	5,346	5,346	9	NA	No	82.7	12/08/15
		LED-8024E42	3972 K	44.4	125.5	5,577	5,577	17	NA	No	84.3	12/08/15
		LED-8024E57	5453 K	46.0	130.7	6,014	6,014	25	NA	No	85.6	12/08/15
		LED-8024M30	3013 K	44.6	118.6	5,295	5,295	8	NA	No	82.5	12/08/15
		LED-8024M42	3967 K	45.4	125.0	5,678	5,678	17	NA	No	84.1	12/08/15
		LED-8024M57	5471 K	46.0	132.0	6,076	6,076	26	NA	No	85.7	12/08/15
		LED-8025E42	3963 K	51.0	107.9	5,498	5,498	19	NA	No	84.2	12/08/15
		LED-8025E57	5435 K	52.2	110.6	5,774	5,774	27	NA	No	85.6	12/08/15
		LED-8027M30	3010 K	100.2	114.8	11,500	11,500	8	NA	No	82.3	12/08/15
		LED-8027M42	3987 K	101.8	114.4	11,642	11,642	17	NA	No	84.0	12/08/15
		LED-8027M57	5528 K	104.1	117.3	12,209	12,209	27	NA	No	86.0	12/08/15
		LED-8029E30	3023 K	24.3	97.7	2,370	2,370	8	NA	No	82.3	12/08/15
		LED-8029E30-A	2965 K	23.2	101.7	2,362	2,362	8	NA	No	82.6	08/08/16
		LED-8029E40-A	4026 K	22.4	118.4	2,656	2,656	15	NA	No	84.4	08/08/16
		LED-8029E42	3996 K	24.5	102.2	2,502	2,502	18	NA	No	84.4	12/08/15
		LED-8029E57	5518 K	24.8	102.9	2,550	2,550	26	NA	No	85.8	12/08/15
		LED-8029E57-A	5772 K	22.1	120.5	2,667	2,667	16	NA	No	85.2	08/08/16
		LED-8029M30	3036 K	24.2	96.6	2,336	2,336	8	NA	No	82.4	05/03/16
		LED-8029M42	3989 K	24.5	100.8	2,472	2,472	16	NA	No	83.6	05/03/16
		LED-8029M57	5518 K	25.1	105.9	2,660	2,660	26	NA	No	85.7	05/03/16
		LED-8030M42	3981 K	154.1	110.2	16,976	6,080	20	NA	No	84.7	12/08/15
		LED-8030M57	5498 K	153.0	111.9	17,116	17,116	29	NA	No	86.0	12/08/15
		LED-8032M40-A	4051 K	144.4	113.6	16,407	16,407	13	NA	No	84.3	08/02/16
		LED-8032M42	4191 K	148.1	101.4	15,020	15,020	16	NA	No	84.3	04/03/15
		LED-8032M57	5402 K	148.8	95.1	14,149	14,149	34	NA	No	86.3	04/03/15
		LED-8032M57-A	5393 K	144.2	115.2	16,605	16,605	12	NA	No	84.7	08/02/16
LED-8033E42		3972 K	38.6	123.4	4,761	4,761	17	NA	No	84.1	12/08/15	
LED-8033E57		5514 K	38.0	125.7	4,782	4,782	27	NA	No	86.0	12/08/15	



## Lighting Design Lab Qualified LED List -- Lamps and Linear Tubes

Lamp Type	Manufacturer	Model Number	CCT	Input Wattage	Efficacy LPW	Initial Lumen Output	Rated Lumens	R9 Value	Rated CBCP	Dimmable	CRI	Post Date		
(screw-in)	Light Efficient Design	LED-8035E42	3971 K	62.9	106.2	6,684	6,684	19	NA	No	84.4	12/08/15		
		LED-8035E57	5460 K	64.8	109.0	7,062	7,062	27	NA	No	85.7	12/08/15		
		LED-8036M42	3988 K	101.9	114.6	11,675	11,675	20	NA	No	84.8	12/08/15		
		LED-8036M57	5487 K	103.6	114.9	11,953	11,953	28	NA	No	86.0	12/08/15		
		LED-8039E30	3017 K	21.5	100.5	2,166	2,166	7	NA	No	82.2	12/08/15		
		LED-8039E30-A	2958 K	18.2	112.8	2,056	2,055	7	NA	No	82.4	08/08/16		
		LED-8039E40-A	4087 K	18.0	127.8	2,297	229	17	NA	No	84.7	08/08/16		
		LED-8039E42	4007 K	21.3	99.5	2,119	2,119	16	NA	No	84.1	12/08/15		
		LED-8039E57	5541 K	23.1	102.9	2,379	2,379	26	NA	No	85.8	12/08/15		
		LED-8039E57-A	5552 K	18.0	124.4	2,243	2,243	15	NA	No	85.1	08/08/16		
		LED-8045M42	4129 K	51.8	90.3	4,678	4,678	12	NA	No	82.5	12/08/15		
		LED-8045M50	5132 K	52.7	88.9	4,685	4,685	20	NA	No	83.9	12/08/15		
		LED-8046M42	4014 K	65.7	96.7	6,349	6,349	10	NA	No	82.2	04/13/15		
		LED-8046M57	6084 K	65.0	100.0	6,496	6,496	-7	NA	No	80.8	04/03/15		
		LED-8055E27	2783 K	30.2	83.9	2,537	2,537	9	NA	No	82.2	08/08/16		
		LED-8055E42	4105 K	32.3	88.0	2,842	2,842	29	NA	No	88.0	12/08/15		
		LED-8055E57	5958 K	32.2	89.7	2,886	2,886	37	NA	No	88.3	12/08/15		
		LED-8055M27	2783 K	30.2	83.9	2,537	2,537	9	NA	No	82.2	08/08/16		
		LED-8055M57	5958 K	32.2	89.6	2,886	2,886	37	NA	No	88.3	08/08/16		
		LED-8081E40	3942 K	31.8	110.4	3,509	3,509	11	NA	No	83.5	08/09/16		
		LED-8081E57	5794 K	31.3	113.9	3,567	3,567	1	NA	No	81.2	08/09/16		
		LED-8082M40	3933 K	41.6	120.4	5,010	5,010	13	NA	No	83.8	08/09/16		
		LED-8082M57	5775 K	42.8	122.2	5,230	5,229	1	NA	No	81.2	08/09/16		
		LED-8083E30	2929 K	13.1	117.6	3,662	3,661	6	NA	No	81.9	08/08/16		
		LED-8083E40	4041 K	30.7	127.9	3,920	3,919	12	NA	No	83.8	08/08/16		
		LED-8083E57	5606 K	30.7	128.8	3,956	3,955	9	NA	No	84.4	08/08/16		
		LED-8084M30	3136 K	43.5	93.4	4,062	4,062	18	NA	Yes	84.4	05/28/15		
		LED-8084M42	4085 K	44.1	96.9	4,273	4,273	27	NA	Yes	85.8	05/28/15		
		LED-8084M57	5782 K	43.9	102.7	4,509	4,509	11	NA	Yes	84.2	05/28/15		
		LED-8085M30	3139 K	56.6	94.1	5,326	5,326	18	NA	Yes	84.0	05/28/15		
		LED-8085M42	4102 K	57.2	101.5	5,807	5,807	29	NA	Yes	86.2	05/28/15		
		LED-8085M57	5841 K	57.1	107.4	6,301	6,130	14	NA	Yes	84.7	05/28/15		
		LED-8087E40-A	4041 K	32.9	127.0	4,172	4,171	11	NA	No	83.5	08/08/16		
		LED-8087E57-A	5636 K	32.8	128.9	4,225	4,225	9	NA	No	84.4	08/08/16		
		LED-8088E40	4046 K	52.1	116.0	6,080	6,080	0	NA	No	81.3	10/29/15		
		LED-8088E57	5703 K	53.5	116.3	6,216	6,215	9	NA	No	84.1	11/17/15		
		LED-8088M40	4046 K	52.1	116.0	6,080	6,080	0	NA	No	81.3	10/29/15		
		LED-8088M57	5703 K	53.5	116.3	6,216	6,215	9	NA	No	84.1	11/17/15		
		LED-8089M40	3988 K	80.6	85.8	6,910	6,910	0	NA	Yes	72.5	05/28/15		
		LED-8089M50	5482 K	80.2	82.3	7,403	7,403	0	NA	Yes	69.5	05/28/15		
		LED-8090M40	4144 K	117.7	81.5	9,561	9,561	18	NA	No	84.6	04/03/15		
		LED-8090M40-A	3835 K	114.9	101.0	11,605	11,605	0	NA	No	73.4	08/02/16		
		LED-8090M4T3	4045 K	118.3	81.1	9,584	9,561	16	NA	Yes	84.0	05/28/15		
		LED-8090M4T4	4068 K	116.8	72.6	8,483	9,561	18	NA	Yes	84.1	05/28/15		
		LED-8090M50	4981 K	113.5	91.9	10,434	10,434	0	NA	No	77.0	04/03/15		
		LED-8090M50-A	4915 K	114.5	102.7	11,760	11,760	0	NA	No	73.8	08/02/16		
		LED-8090M5T3	4868 K	115.3	91.7	10,566	10,434	-12	NA	Yes	76.4	05/28/15		
		LED-8090M5T4	4934 K	117.3	86.7	10,165	10,434	-8	NA	Yes	76.8	05/28/15		
		Lunera		SN-360-E26-L-5Klm-835-G3	3355 K	53.4	98.1	5,237	5,400	14.9	NA	Available	82.6	08/01/16

# Lighting Design Lab Qualified LED List -- Lamps and Linear Tubes

Lamp Type	Manufacturer	Model Number	CCT	Input Wattage	Efficacy LPW	Initial Lumen Output	Rated Lumens	R9 Value	Rated CBCP	Dimmable	CRI	Post Date			
(screw-in)	Lunera	SN-360-E26-L-5Klm-840-G3	3954 K	53.5	107.6	5,763	5,400	15.2	NA	Available	83.4	08/01/16			
		SN-360-E26-L-5Klm-850-G3	4886 K	52.9	103.6	5,481	5,400	14	NA	Available	83.7	08/01/16			
		SN-360-E26-L-8Klm-835-G3	3539 K	89.5	94.0	8,413	8,400	10.7	NA	Available	81.7	08/01/16			
		SN-360-E26-L-8Klm-840-G3	4056 K	85.7	100.4	8,602	8,400	14.1	NA	Available	83.0	08/01/16			
		SN-360-E26-L-8Klm-850-G3	4855 K	87.3	97.9	8,553	8,400	8.9	NA	Available	82.8	08/01/16			
		SN-V-E26-L-4.5Klm-840-G3	3883 K	58.6	81.9	4,800	4,500	10.4	NA	Available	81.9	08/15/16			
		SN-V-E26-L-4.5Klm-850-G3	4729 K	58.8	83.6	4,911	4,500	7.5	NA	Available	82.5	08/15/16			
		SN-V-E26-L-9Klm-840-G3	3899 K	106.1	82.9	8,794	9,000	14.8	NA	Available	83.1	08/15/16			
		SN-V-E26-L-9Klm-850-G3	4982 K	109.4	83.9	9,170	9,000	14.8	NA	Available	84.1	08/15/16			
		SN-VS-E26-L-4.5Klm-840-G3	3877 K	59.1	83.4	4,926	4,500	11	NA	Available	82.1	08/15/16			
		SN-VS-E26-L-4.5Klm-850-G3	4711 K	57.9	83.6	4,843	4,500	7.8	NA	Available	82.5	08/15/16			
		SN-VS-E26-L-9Klm-840-G3	3911 K	108.2	83.1	8,990	9,000	7.8	NA	Available	83.1	08/15/16			
		SN-VS-E26-L-9Klm-850-G3	4971 K	107.5	85.1	9,144	9,000	14.6	NA	Available	84.1	08/15/16			
	Maxlite		13P30LNLED240FL	3986 K	13.1	99.0	1,291	1,200	4.1	2100.0	No	79.4	05/22/15		
			BLHR43UN50B	5000 K	43.5	95.6	4,160	4,100	0	NA	No	86.7	08/17/16		
			SKPT12LEDU30E26	2949 K	11.7	109.2	1,280	1,100	3	NA	No	81.5	04/01/16		
			SKPT20LEDU30E26 (277v)	3119 K	19.1	105.2	1,951	1,800	6	NA	No	82.5	04/01/16		
			SKPT20LEDU30E26(120v)	3119 K	18.5	105.2	1,951	1,800	6	NA	No	82.5	04/01/16		
			SKPT20LEDU50E26 (120v)	5105 K	18.2	123.6	2,254	1,800	5	NA	No	83.4	04/01/16		
			SKPT20LEDU50E26 (120v)	5023 K	11.9	117.9	1,403	1,100	2	NA	No	83.1	04/01/16		
			SKPT20LEDU50E26 (277v)	5105 K	18.9	123.6	2,254	1,800	5	NA	No	83.4	04/01/16		
			SKPT50LEDU50E39 (277v)	5067 K	47.7	122.8	5,726	5,600	10	NA	No	82.7	04/01/16		
			SKPT50LEDU50E39(120v)	5067 K	46.6	122.8	5,726	5,600	10	NA	No	82.7	04/01/16		
	Optimal LED		CBU05NX2710W40E39JCW	4241 K	26.6	110.2	2,931	2,970	29	NA	No	85.7	04/16/15		
			CBU05NX3610W40E39JCW	4168 K	36.1	116.6	4,209	3,960	13	NA	No	83.4	04/16/15		
	Osram Sylvania		LED/HIDR/1500/830	2937 K	14.8	108.4	1,604	1,500	9	NA	No	81.9	12/24/15		
			LED/HIDR/1500/840	4050 K	14.5	121.9	1,768	1,500	26	NA	No	85.8	12/24/15		
			LED/HIDR/5000/830	3099 K	48.8	111.7	5,452	5,000	0	NA	No	82.0	10/15/15		
			LED/HIDR/5000/850	5217 K	48.8	123.5	6,024	5,000	0	NA	No	87.0	11/06/15		
	PacLights		BX500NW	5173 K	106.1	86.4	9,168	9,168	0	NA	No	83.0	08/17/15		
	Satco		S9350	5272 K	17.4	128.6	2,237	2,160	4	NA	No	81.6	08/05/15		
			S9351	5236 K	22.2	129.7	2,875	2,640	4	NA	No	81.6	08/05/15		
			S9352	5279 K	36.0	131.2	4,721	4,320	5	NA	No	81.8	08/05/15		
			S9353	5247 K	45.5	127.6	5,809	5,400	4	NA	No	81.6	08/05/15		
			S9354	5252 K	52.7	128.5	6,771	6,480	4	NA	No	81.6	08/05/15		
			S9355	5270 K	100.1	124.8	12,489	12,000	4	NA	No	81.6	08/05/15		
			S9390	5220 K	18.0	126.9	2,197	2,160	23	18.0	No	85.0	11/20/15		
			S9391	5216 K	21.6	126.9	2,740	2,640	23	NA	No	85.1	11/20/15		
			S9392	5220 K	36.0	125.3	4,259	4,320	23	NA	No	85.1	11/20/15		
			S9393	5203 K	43.2	128.4	5,541	5,400	22	NA	No	84.8	11/20/15		
			S9394	5240 K	51.1	124.7	6,365	6,480	24	NA	No	85.2	11/20/15		
			S9395	5267 K	75.4	123.3	9,301	9,600	25	NA	No	85.5	11/20/15		
			S9396	5213 K	99.1	120.6	11,950	12,000	25	NA	No	85.6	11/20/15		
			S9397	5212 K	117.5	122.3	14,368	14,400	25	NA	No	85.7	11/20/15		
			Shenzhen Bestwon Technology		BWRL-100W-5K	5343 K	98.2	129.0	12,660	12,660	5.9	NA	No	82.6	10/19/15
					BWRL-10W-5K	5243 K	9.6	122.7	1,180	1,180	3.7	NA	No	81.9	10/19/15
	BWRL-120W-5K	5336 K			113.6	132.2	15,020	15,020	5.8	NA	No	82.7	10/19/15		
	BWRL-14W-5K	5298 K			14.2	120.2	1,708	1,700	6.9	NA	No	82.8	10/19/15		
	BWRL-18W-5K	5273 K			17.8	130.1	2,321	2,320	4.2	NA	No	82.2	10/19/15		

# Lighting Design Lab Qualified LED List -- Lamps and Linear Tubes

Lamp Type	Manufacturer	Model Number	CCT	Input Wattage	Efficacy LPW	Initial Lumen Output	Rated Lumens	R9 Value	Rated CBCP	Dimmable	CRI	Post Date	
(screw-in)	Shenzhen Bestwon Technology	BWRL-22W-5K	5328 K	21.2	126.2	2,681	2,680	7.1	NA	No	83.0	10/19/15	
		BWRL-27W-5K	5296 K	27.1	128.6	3,488	2,680	4.1	NA	No	82.0	10/19/15	
		BWRL-36W-5K	5312 K	35.7	125.9	4,495	4,490	9.5	NA	No	83.4	10/19/15	
		BWRL-45W-5K	5351 K	45.0	128.3	5,786	5,780	6.8	NA	No	82.5	10/19/15	
		BWRL-54W-5K	5295 K	51.9	132.2	6,855	6,850	4.7	NA	No	82.4	10/19/15	
		BWRL-80W-5K	5391 K	79.1	128.0	10,130	10,130	7	NA	No	82.8	10/19/15	
	Shenzhen Guanke Technologies	GKS10-12W E26	5296 K	11.8	103.9	1,221	1,150	-19	NA	No	72.7	12/15/15	
		GKS10-16W E26	5164 K	14.9	100.5	1,501	1,650	-22	NA	No	73.0	12/15/15	
		GKS10-20W E26	5048 K	19.7	105.8	2,081	2,100	-26	NA	No	71.4	12/15/15	
		GKS10-24W E26	5174 K	22.3	103.8	2,311	2,400	-23	NA	No	73.1	12/15/15	
		GKS13-40W(E26,E39)	4876 K	39.5	145.5	5,748	5,625	10	NA	No	83.4	10/21/15	
		GKS21-100W(E39)	4104 K	104.0	129.6	13,475	14,000	22	NA	No	85.7	02/05/16	
		GKS21-125W(E39)	4954 K	127.9	126.8	16,225	17,000	8	NA	No	82.9	03/08/16	
		GKS21-80W(E39)	4920 K	81.5	128.7	10,491	11,000	7	NA	No	82.8	02/05/16	
		GKS23-40W(E26,E39)	4973 K	40.4	117.0	4,726	5,000	10	NA	No	83.3	12/15/15	
		GKS23-50W(E26,E39)	4978 K	51.2	117.5	6,017	6,250	10	NA	No	83.3	12/15/15	
		GKS30-100W(E39)	4854 K	99.1	117.7	11,666	12,000	3	NA	No	81.1	02/05/16	
		GKS30-100W(EX39)	4854 K	99.1	117.7	166	12,000	3	NA	No	81.1	02/05/16	
		Shenzhen Guanke Technologies(Quantum Flow Technologies)	GKS09-27W (E26; E39)	4241 K	26.6	110.2	2,931	2,944	29	NA	No	85.7	07/30/15
			GKS09-36W (E26; E39)	4168 K	36.1	116.6	4,209	4,209	13	NA	No	83.4	07/30/15
	GKS09-45W (E26; E39)		4233 K	44.1	114.0	5,128	5,200	17	NA	No	84.3	07/30/15	
	GKS09-54W (E26; E39)		4129 K	53.6	109.9	5,895	5,895	27	NA	No	85.8	07/30/15	
	Shenzhen youlumi Co.,Ltd	YL-C040G2 4000K	4191 K	43.7	126.6	5,531	4,800	11	NA	No	83.1	09/02/15	
		YL-C060G2 4000K	4184 K	62.3	125.9	7,847	7,200	10	NA	No	82.9	09/02/15	
		YL-C080G2 4000K	4220 K	81.1	123.5	10,021	9,600	10	NA	No	82.9	09/02/15	
		YL-C100G2 4000K	4238 K	100.6	126.9	12,759	12,000	10	NA	No	82.8	09/02/15	
		YL-C120G3 4000K	4225 K	117.7	129.3	15,221	14,400	9	NA	No	82.7	09/02/15	
		YL-C150G3 4000K	4168 K	147.7	128.2	18,938	18,000	16	NA	No	83.8	09/02/15	
		YL-C200G3 4000K	4254 K	197.9	129.9	25,706	24,000	17	NA	No	84.3	09/02/15	
		YL-C250G3 4000K	4112 K	248.5	130.1	32,332	30,000	9	NA	No	83.3	09/02/15	
	SNC Opto Electronic Co, Ltd.	SNC12-100w-01	6419 K	100.9	106.1	10,697	11,000	0	NA	No	72.3	07/21/15	
		SNC-CL-20W	4309 K	19.3	100.2	1,934	1,934	-16	NA	No	73.5	04/13/15	
		SNC-CL-40W	7303 K	40.0	94.8	3,695	4,100	-4	NA	No	75.5	04/13/15	
		SNC-CL-60W	5538 K	60.0	103.1	6,137	4,100	-10	NA	No	75.6	04/14/15	
		SNC-CL-80W	6896 K	80.0	101.4	8,175	4,100	-14	NA	No	73.1	04/13/15	
	Topaz Lighting	LPT16/830/INT/E26-74 (120v)	2955 K	16.6	100.2	1,662	1,680	0	NA	No	82.7	11/20/15	
		LPT16/830/INT/E26-74 (277v)	2955 K	16.4	100.2	1,662	1,680	0	NA	No	82.7	11/20/15	
		LPT16/850/INT/E26-74 (120v)	4942 K	16.9	110.4	1,876	1,680	0	NA	No	86.5	11/20/15	
		LPT16/850/INT/E26-74 (277v)	4942 K	16.8	110.4	1,876	1,680	0	NA	No	86.5	11/20/15	
		LPT27/830/INT/E26-74 (120v)	3100 K	26.7	105.1	2,771	2,900	0	NA	No	83.0	11/20/15	
		LPT27/830/INT/E26-74 (277v)	3100 K	28.3	105.1	2,771	2,900	0	NA	No	83.0	11/20/15	
		LPT27/850/INT/E26-74 (120v)	5110 K	26.3	113.8	3,023	2,900	0	NA	No	84.2	11/20/15	
		LPT27/850/INT/E26-74 (120v)	5250 K	26.0	121.0	3,098	2,900	4	NA	No	82.0	06/17/15	
		LPT27/850/INT/E26-74 (277v)	5110 K	28.1	113.8	3,023	2,900	0	NA	No	84.2	11/20/15	
		LPT36/830/INT/E26-74 (120v)	3078 K	32.0	117.0	3,689	3,780	10	NA	No	83.0	11/20/15	
		LPT36/830/INT/E26-74 (277v)	3078 K	39.0	117.0	3,689	3,780	10	NA	No	83.0	11/20/15	
		LPT36/850/INT/E26-74 (120V)	5002 K	32.0	133.0	4,247	3,780	10	NA	No	84.0	08/13/15	
		LPT36/850/INT/E26-74 (277V)	5002 K	38.0	133.0	4,247	3,780	10	NA	No	84.0	08/13/15	

## Lighting Design Lab Qualified LED List -- Lamps and Linear Tubes

Lamp Type	Manufacturer	Model Number	CCT	Input Wattage	Efficacy LPW	Initial Lumen Output	Rated Lumens	R9 Value	Rated CBCP	Dimmable	CRI	Post Date	
(screw-in)	Topaz Lighting	LPT45/830/INT/E26-74 (120v)	3101 K	40.3	110.7	4,490	4,725	0	NA	No	83.1	11/20/15	
		LPT45/830/INT/E26-74 (277v)	3101 K	45.1	110.7	4,490	4,725	0	NA	No	83.1	11/20/15	
		LPT45/850/INT/E26-74 (120v)	5089 K	40.1	118.8	4,748	4,725	14	NA	No	84.1	11/24/15	
		LPT45/850/INT/E26-74 (277v)	5089 K	44.2	118.8	4,748	4,725	14	NA	No	84.1	11/24/15	
		LPT54/830/INT/E39-74 (120v)	3110 K	48.9	109.3	5,385	5,670	0	NA	No	83.1	11/20/15	
		LPT54/830/INT/E39-74 (277v)	3110 K	53.9	109.3	5,385	5,670	0	NA	No	83.1	11/20/15	
		LPT54/850/INT/E39-74 (120v)	5137 K	48.7	118.3	5,841	5,670	0	NA	No	84.4	11/20/15	
		LPT54/850/INT/E39-74 (277v)	5137 K	53.7	118.3	5,841	5,670	0	NA	No	84.4	11/20/15	
		LPT75/850/INT/E39-74 (277V)	5290 K	71.0	121.0	7,681	7,875	7	NA	No	82.0	06/17/15	
	LPT75/850/INT/E39-74v (120V)	5290 K	64.0	121.0	7,681	7,875	7	NA	No	82.0	06/17/15		
	Truly Green Solutions	310771	5296 K	11.8	103.0	1,221	1,150	0	NA	No	72.7	12/07/15	
		310772	4166 K	12.1	106.1	1,284	1,150	15	NA	No	84.6	08/13/15	
		310791	5044 K	18.2	127.0	2,326	2,100	-1	NA	No	81.1	11/18/15	
		310801	5174 K	22.3	103.0	2,311	2,400	0	NA	No	73.1	12/07/15	
		310802	4125 K	21.5	110.2	2,374	2,400	0	NA	No	84.1	03/15/16	
		310811	5224 K	26.6	109.0	2,895	2,700	19.3	NA	No	85.0	06/16/15	
		310812	4136 K	26.8	103.0	2,763	2,800	20.2	NA	No	84.0	06/16/15	
		310813	3085 K	26.9	99.0	2,674	2,800	12.8	NA	No	82.0	06/16/15	
		310822	3931 K	35.9	122.3	4,385	4,320	0	NA	No	83.9	02/10/16	
		310822	4168 K	36.1	116.6	4,209	3,800	13	NA	No	83.4	02/27/15	
		310831	5192 K	43.1	104.4	4,501	5,400	2	NA	No	81.1	09/22/15	
		310832	3944 K	46.3	124.4	5,762	5,400	0	NA	No	83.6	02/10/16	
		310832	4233 K	44.1	114.0	5,128	4,700	17	NA	No	84.3	02/27/15	
		310841	5226 K	51.1	107.0	5,465	5,400	24.7	NA	No	86.0	06/16/15	
		310842	4224 K	51.0	114.0	5,823	5,400	29.9	NA	No	86.0	06/16/15	
		310843	3094 K	51.4	117.8	6,050	5,400	13	NA	No	83.8	07/30/15	
		320821	5224 K	30.1	129.6	3,900	3,400	0	NA	No	83.6	01/14/16	
		310821-G4	4929 K	35.0	139.1	4,868	5,220	15	NA	No	84.1	06/03/15	
		310822-G4	3910 K	36.0	139.9	5,037	5,040	9	NA	No	83.2	06/03/15	
		310832-G4	3921 K	45.1	142.9	6,443	6,300	9	NA	No	83.4	06/03/15	
		310841-G4	5080 K	51.3	136.9	7,021	7,830	0	NA	No	83.9	02/10/16	
		310842-G4	3897 K	53.3	142.9	7,619	7,560	9	NA	No	83.3	06/03/15	
		Truly Green Solutions	310792	4157 K	19.1	109.7	2,090	2,100	0	NA	No	84.5	03/15/16
			310812	4123 K	28.0	115.6	3,233	3,200	0	NA	No	84.8	03/15/16
		Venture Lighting International	VL1-OR045-40E26-AE00	4048 K	45.0	122.0	5,486	5,400	16	NA	No	84.1	09/08/15
			VL1-OR045-40E39-AE00	4048 K	44.9	125.1	5,610	5,400	16	NA	No	83.9	09/08/15
			VL1-OR054-40E26-AE00	4107 K	53.2	120.5	6,406	6,500	16	NA	No	84.0	09/08/15
			VL1-OR054-40E39-AE00	4098 K	52.9	120.4	6,372	6,500	16	NA	No	84.0	09/08/15
	Light Efficient Design		LED-8055M42	4105 K	32.3	88.0	2,842	2,886	29	NA	No	88.0	08/08/16
	MR16	GE Lighting	39438	3059 K	5.5	87.7	485	460	10	1200.0	Yes	82.0	11/04/15
			39468	2739 K	5.6	78.3	437	430	18	1150.0	Yes	82.0	11/04/15
			39472	4131 K	5.5	92.6	513	500	17	1300.0	Yes	83.0	11/04/15
39473			3042 K	7.0	81.7	568	550	20	2400.0	Yes	83.0	11/04/15	
39483			3081 K	6.8	89.0	603	550	9	1400.0	Yes	82.0	11/04/15	
39542			2733 K	6.8	78.4	535	530	17	2400.0	Yes	82.0	11/04/15	
39567			2751 K	6.7	81.0	544	530	18	1400.0	Yes	82.0	11/04/15	
Green Creative		7MR16G4DIM/824FL36	2502 K	7.8	60.9	478	475	32	1180.0	Yes	84.8	06/11/15	
Maxlite		SKMR1607DLED27FI	2664 K	6.8	72.7	494	450	8.4	NA	Yes	82.2	06/02/15	

# Lighting Design Lab Qualified LED List -- Lamps and Linear Tubes

Lamp Type	Manufacturer	Model Number	CCT	Input Wattage	Efficacy LPW	Initial Lumen Output	Rated Lumens	R9 Value	Rated CBCP	Dimmable	CRI	Post Date	
MR16	Maxlite	SKMR1607DLED30FL	3069 K	6.8	73.6	501	450	16.2	NA	Yes	84.1	06/02/15	
	Osram Sylvania	LED7MR16/DIM/827/FL36	2718 K	7.1	64.4	456	500	17	1190.0	Yes	81.7	04/06/16	
	Overdrive Electronics	L5MR16/BG/NFL/30K	3058 K	4.3	62.5	270	270	0	1025.0	No	84.3	11/26/12	
		L5MR16/SW/NFL/30K	3009 K	4.2	52.8	224	225	0	440.0	No	83.1	11/26/12	
	Philips Lighting North America Corporation	7MR16/END/F36 2700	2741 K	7.3	48.1	349	335	32.4	820.0	Yes	85.1	10/31/12	
	Soraa	SM16-07-25D-827-03	2696 K	7.8	64.3	501	500	6	2760.0	Yes	82.9	03/03/15	
		SM16-07-25D-830-03	2970 K	7.9	64.1	508	525	16	2900.0	Yes	85.7	03/03/15	
		SM16-07-25D-927-03	2681 K	7.7	54.3	417	410	95	2260.0	Yes	96.0	03/03/15	
		SM16-07-25D-930-03	2988 K	7.8	53.8	420	435	98	2400.0	Yes	95.9	03/03/15	
		SM16-07-36D-830-03	2943 K	7.9	66.3	521	525	15	1370.0	Yes	85.3	03/03/15	
		SM16-07-36D-927-03	2705 K	7.8	52.4	407	410	92	1070.0	Yes	96.4	03/03/15	
		SM16-07-36D-940-03	4048 K	8.1	57.5	464	455	97	1190.0	Yes	82.9	03/03/15	
		SM16-09-25D-830-03	2997 K	9.7	62.4	604	590	9	3260.0	Yes	84.3	03/03/15	
		SM16-09-25D-930-03	3018 K	9.3	53.7	497	490	97	2700.0	Yes	94.9	03/03/15	
		SM16-09-36D-927-03	2705 K	9.5	49.2	466	465	98	1210.0	Yes	95.4	03/03/15	
		Viribright Lighting Inc.	P42ML2-5 / 750138	2720 K	4.2	79.0	330	318	38	124.0	Yes	92.3	03/16/16
			P42ML4-5 / 750139	3860 K	4.1	85.0	346	318	58	130.0	Yes	94.4	03/16/16
			P42ML6-5 / 750138	6046 K	4.0	80.1	319	318	82	120.0	Yes	94.2	03/16/16
	S42HU2-5 / 750045		2662 K	4.1	91.2	371	370	40	168.0	Yes	92.5	03/16/16	
	S42HU4-5 / 750046		4005 K	4.1	101.6	421	380	61	196.0	Yes	84.2	03/16/16	
	S42HU6-5 / 750047		5653 K	4.0	100.4	402	380	71	184.0	Yes	93.9	03/16/16	
	S42ML2-5 / 750135		2743 K	4.1	83.7	341	318	43	158.0	Yes	93.4	03/16/16	
	S42ML4-5 / 750135		4019 K	4.1	91.7	379	318	65	177.0	Yes	95.1	03/16/16	
	Sengled-Sigalux	MR16-6M-WH-DIM-A-36°-3000K	3031 K	6.3	81.5	511	350	7	850.0	Yes	81.5	08/09/16	
	Verbatim Americas	M16-L300-C30-B25-ENC	2986 K	3.7	85.9	316	300	12	1620.0	Yes	81.2	06/16/16	
		M16-L300-C30-B36-ENC	2990 K	3.7	88.8	329	300	11	900.0	Yes	81.0	06/16/16	
		M16-L430-C30-B25-ENC	3052 K	5.8	80.0	460	430	14	2405.0	Yes	82.0	06/16/16	
		M16-L430-C30-B36-ENC	3013 K	5.9	78.0	457	430	10	1260.0	Yes	80.8	06/16/16	
		M16-L500-C27-B13-97-ENC	2725 K	8.5	66.4	552	500	78	6475.0	Yes	96.3	06/16/16	
		M16-L500-C27-B25-97-ENC	2718 K	8.3	59.6	482	500	77.5	2690.0	Yes	96.2	06/16/16	
		M16-L500-C27-B36-97-ENC	2733 K	8.1	60.2	485	500	77.6	1400.0	Yes	96.3	06/16/16	
		M16-L525-C30-B13-97-ENC	2986 K	8.5	67.0	568	525	80.5	6500.0	Yes	96.4	06/16/16	
		M16-L525-C30-B25-97-ENC	2979 K	8.3	62.2	516	525	85.3	2715.0	Yes	96.5	06/16/16	
	M16-L525-C30-B36-97-ENC	3013 K	8.2	63.6	522	525	86	1430.0	Yes	96.7	06/16/16		
	Outdoor Pole-Mounted Area and Roadway Retrofit Kits	Harris Lighting Products	DL140-5000-1	5039 K	137.5	94.3	12,903	12,900	0	NA	Yes	84.3	05/11/15
			DL70-5000-1	5052 K	67.4	94.3	6,357	6,300	0	NA	Yes	84.4	05/11/15
			FL113-5000	5139 K	113.0	107.3	12,124	12,124	0	NA	Yes	82.7	06/01/16
			FL56-5000	5110 K	56.7	114.9	6,518	6,518	0	NA	Yes	82.6	06/01/16
		Viribright Lighting Inc. (Matrix Lighting Limited)	P15EU6-5 / 750077	5720 K	14.9	93.9	1,402	1,350	74	612.0	Yes	94.4	06/01/16
			P42EU2-5 / 750096	2641 K	4.2	91.5	383	380	38	143.0	Yes	92.2	06/01/16
S42EU4-5 / 750049			4005 K	4.1	101.6	421	380	61	196.0	Yes	94.2	06/01/16	
S42EU6-5 / 750050			5653 K	4.0	100.4	402	380	71	184.0	Yes	93.9	06/01/16	
Outdoor Wall/Ground-Mounted Retrofit Kits	Harris Lighting Products	FL21-5000	4902 K	21.5	113.2	2,435	2,400	0	NA	Yes	82.7	04/11/16	
		FL37-5000	4915 K	37.2	109.6	4,083	4,000	0	NA	Yes	78.8	04/07/16	

## Lighting Design Lab Qualified LED List -- Lamps and Linear Tubes

Lamp Type	Manufacturer	Model Number	CCT	Input Wattage	Efficacy LPW	Initial Lumen Output	Rated Lumens	R9 Value	Rated CBCP	Dimmable	CRI	Post Date
Outdoor Wall/Ground-	Viribright Lighting Inc. (Matrix Lighting Lim	P15EU2-5 / 750075	2741 K	14.9	82.6	1,232	1,200	37	545.0	Yes	91.9	06/01/16
		P15EU4-5 / 750076	4028 K	15.0	93.7	1,405	1,350	55	621.0	Yes	94.0	06/01/16
		P42EU4-5 / 750097	3998 K	4.1	100.1	413	380	60	157.0	Yes	94.1	06/01/16
		S42EU2-5 / 750048	2662 K	4.1	91.2	371	370	40	168.0	Yes	92.5	06/01/16
PAR16	Viribright Lighting Inc.	P42HU2-5 / 750099	2641 K	4.2	91.5	383	380	38	143.0	Yes	92.2	03/16/16
		P42HU4-5 / 750100	3998 K	4.1	100.1	413	380	60	157.0	Yes	94.1	03/16/16
		P42HU6-5 / 750101	5568 K	4.1	94.4	390	380	69	147.0	Yes	93.7	03/16/16
PAR30	ESL Vision, LLC	ESL-Par30-13W-D40	4060 K	13.1	74.0	978	950	6	NA	Yes	80.7	03/13/15
	Maxlite	13P30LNLED240FL	3986 K	13.1	99.0	1,291	1,200	4.1	2100.0	No	79.4	05/11/15
	Sengled	Pulse BR-30	2730 K	9.7	66.7	646	600	10	105.0	Yes	82.5	11/18/15
	Soraa	SP30L-18-25D-830-03	2932 K	18.5	72.3	1,335	1,280	18	6900.0	Yes	85.5	03/03/15
		SP30L-18-25D-927-03	2708 K	18.5	55.9	1,033	930	93	5020.0	Yes	96.6	03/03/15
		SP30L-18-25D-930-03	3024 K	18.6	58.2	1,084	1,000	98	5400.0	Yes	95.4	03/03/15
		SP30L-18-25D-950-03	5026 K	18.6	63.8	1,188	1,050	89	5660.0	Yes	93.3	03/03/15
		SP30L-18-36D-827-03	2663 K	18.9	74.1	1,400	1,190	7	2960.0	Yes	82.9	03/03/15
		SP30L-18-36D-830-03	2983 K	18.7	71.4	1,336	1,280	17	3200.0	Yes	85.7	03/03/15
		SP30L-18-36D-927-03	2665 K	18.4	58.3	1,071	930	96	2320.0	Yes	95.5	03/03/15
	SP30S-18-09D-930-03	2943 K	18.5	57.4	1,059	1,000	97	24100.0	Yes	95.8	11/05/15	
	Toshiba	LDRB1640WE6USDL	4158 K	16.0	49.8	798	4,000	0	3800.0	Yes	86.4	11/02/12
	Viribright Lighting Inc.	P95EU2-5 / 750081	2721 K	9.1	85.2	774	760	42	397.0	Yes	91.7	03/16/16
P95EU4-5 / 750082		4173 K	9.4	87.5	820	820	66	426.0	Yes	95.2	03/17/16	
P95EU6-5 / 750083		5975 K	9.0	94.6	853	820	75	443.0	Yes	94.3	03/17/16	
PAR30L	MSi Lighting Inc.	ZPAR30L272512T3N	2694 K	12.1	87.7	1,059	950	14.8	4750.0	No	82.6	02/24/15
		ZPAR30L301512T3N	3072 K	12.1	89.6	1,115	1,000	18.7	11500.0	No	83.9	03/20/15