

DATA SHEET: ARCHITECTURAL LED RETROFIT DOWNLIGHT

DESCRIPTION

The COMMERCIAL DOWNLIGHT LED are suitable for 100~277 VAC Input with fired-rated junction box, which delivers high lumens of exceptional 80+ CRI, Lifetime > 100,000H with 3000K, 4000K, 5000K ES color temperature options.

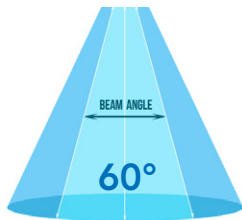
Our PATRIOT ARCHITECTURAL LED RETROFIT DOWNLIGHTS are backed with our industry-leading 100,000-hour rated lamp life and 10-year warranty. See Ordering Model table below for our BAA compliant products. Contact us for pricing or more information.

PRODUCT BENEFITS

- Input Voltage: AC120-277V, 50/60Hz.
- Color Temperature: 3000K, 4000K, 5000K.
- THD: <20%.
- CRI: Ra>80.
- Damp Rated: Yes.
- Temperature Rating: Designed to operate in temperatures 45°C and below room side and plenum side.
- Limited Warranty: 5 year (10yrs optional).
- Long life LEDs lasting up to 100,000 hours.
- Certificate: UL, Energy Star Listed, LM79 Report, Damp Rated

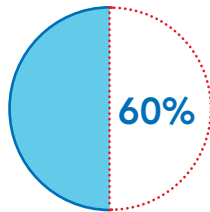


BEAM ANGLE



Patriot LED Light Distribution

CAN DECREASE ENERGY USAGE BY



vs. Similar Fluorescent Lamps

WARRANTY



Our Industry-Leading 10-Year Limited Warranty Guarantees Unsurpassed Quality

APPLICATIONS

- Widely used in Family, Office, Restaurant, Supermarket and other places where need ceiling lamps.
- Thermally stable typical lumens ($\pm 10\%$).
- Rated life is based on 70% lumen maintenance, and engineering testing and probability analysis.
- Equivalency based on the Energy Star® Integral LED Lamp Center Beam Intensity Benchmark Tool.
- Energy Star® is available.
- Varieties of color options to meet your family decoration.



ORDERING MODEL

PATRIOT TUBE	CATAGORY	WATTAGE	SIZE	CCT (XX)	VOLTAGE	CRI (X)
PT	CDL	18W=18W 27W=27W 40W=40W	6=6inch 8=8inch 10=10inch	30=3000K 40=4000K 50=5000K	100~277VAC	E=80 CRI
Product Code: Example						
Example:PT-CDL18W-X-XXX						

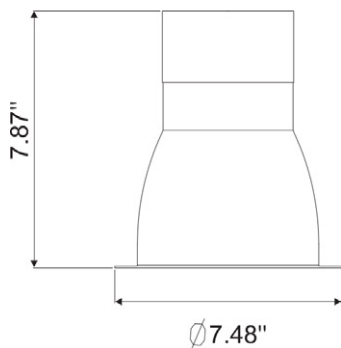
PRODUCT SPECIFICATION

Product No.	BAA/TAA Option*	Rated Lamp Wattage	Input Voltage	Color Temp (K)	Rated Lumens	Rated Efficacy	CRI	Rated Life (Hours)	Signal Current	Power Factor	THD
6 INCH ARCHITECTURAL LED RETROFIT DOWNLIGHT											
PT-CDL18W-X-XXX	Yes	18W	100~277VAC	3000K/4000K/5000K	2,250	>89LPW	Ra>80	100,000	0.88mA	> 0.9	<20%
PT-CDL27W-X-XXX	Yes	27W	100~277VAC	3000K/4000K/5000K	3,375	>89LPW	Ra>80	100,000	0.88mA	> 0.9	<20%
PT-CDL40W-X-XXX	Yes	40W	100~277VAC	3000K/4000K/5000K	5,000	>89LPW	Ra>80	100,000	0.88mA	> 0.9	<20%
8 INCH ARCHITECTURAL LED RETROFIT DOWNLIGHT											
PT-CDL18W-X-XXX	Yes	18W	100~277VAC	3000K/4000K/5000K	2,250	>90LPW	Ra>80	100,000	0.95mA	> 0.9	<20%
PT-CDL27W-X-XXX	Yes	27W	100~277VAC	3000K/4000K/5000K	3,375	>90LPW	Ra>80	100,000	0.95mA	> 0.9	<20%
PT-CDL40W-X-XXX	Yes	40W	100~277VAC	3000K/4000K/5000K	5,000	>90LPW	Ra>80	100,000	0.95mA	> 0.9	<20%
10 INCH ARCHITECTURAL LED RETROFIT DOWNLIGHT											
PT-CDL27W-X-XXX	Yes	27W	100~277VAC	3000K/4000K/5000K	3,375	88LPW	Ra>80	100,000	0.95mA	> 0.9	<20%
PT-CDL40W-X-XXX	Yes	40W	100~277VAC	3000K/4000K/5000K	5,000	83LPW	Ra>80	100,000	0.96mA	> 0.9	<20%

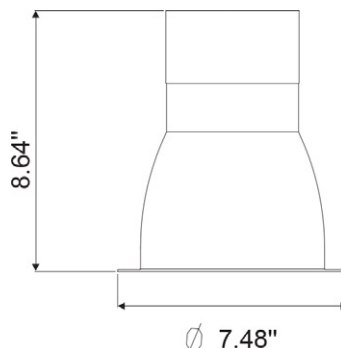
PHYSICAL DATA

Product No.	Temperature Rating	Mounting	Driver Efficiency	Recommended Dimmers	Certification
6 INCH ARCHITECTURAL LED RETROFIT DOWNLIGHT					
PT-CDL18W-X-XXX	temperatures 45°C and below room side and plenum side.	SMT 3030 1.5W philips Led	>87%	DIVA-DVTV(LUTRON), NOVA T NTSTV-DV(LUTRON)	UL, Energy Star Listed, LM79 Report, Damp Rated
PT-CDL27W-X-XXX	temperatures 45°C and below room side and plenum side.	SMT 3030 1.5W philips Led	>87%	DIVA-DVTV(LUTRON), NOVA T NTSTV-DV(LUTRON)	UL, Energy Star Listed, LM79 Report, Damp Rated
PT-CDL40W-X-XXX	temperatures 45°C and below room side and plenum side.	SMT 3030 1.5W philips Led	>87%	DIVA-DVTV(LUTRON), NOVA T NTSTV-DV(LUTRON)	UL, Energy Star Listed, LM79 Report, Damp Rated
8 INCH ARCHITECTURAL LED RETROFIT DOWNLIGHT					
PT-CDL18W-X-XXX	temperatures 45°C and below room side and plenum side.	SMT 3030 1.5W philips Led	>87%	DIVA-DVTV(LUTRON), NOVA T NTSTV-DV(LUTRON)	UL, Energy Star Listed, LM79 Report, Damp Rated
PT-CDL27W-X-XXX	temperatures 45°C and below room side and plenum side.	SMT 3030 1.5W philips Led	>87%	DIVA-DVTV(LUTRON), NOVA T NTSTV-DV(LUTRON)	UL, Energy Star Listed, LM79 Report, Damp Rated
PT-CDL40W-X-XXX	temperatures 45°C and below room side and plenum side.	SMT 3030 1.5W philips Led	>87%	DIVA-DVTV(LUTRON), NOVA T NTSTV-DV(LUTRON)	UL, Energy Star Listed, LM79 Report, Damp Rated
10 INCH ARCHITECTURAL LED RETROFIT DOWNLIGHT					
PT-T8ILT6-30W X	temperatures 45°C and below room side and plenum side.	SMT 3030 1.5W philips Led	>87%	DIVA-DVTV(LUTRON), NOVA T NTSTV-DV(LUTRON)	UL, Energy Star Listed, LM79 Report, Damp Rated
PT-T8ILT8-40W X	temperatures 45°C and below room side and plenum side.	SMT 3030 1.5W philips Led	>87%	DIVA-DVTV(LUTRON), NOVA T NTSTV-DV(LUTRON)	UL, Energy Star Listed, LM79 Report, Damp Rated

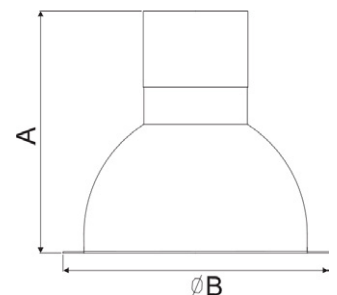
DIMENSION



6 INCH



8 INCH



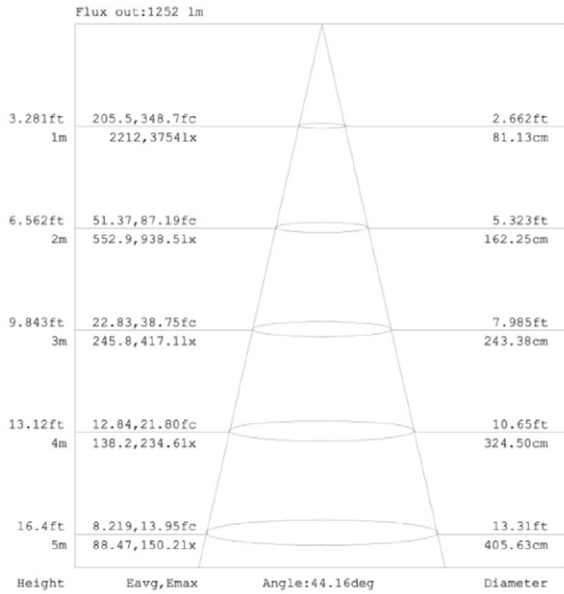
Item NO:	A	B
CDL-27W-10-XXX	9.25"	10.98"
CDL-40W-10-XXX	9.25"	10.98"

10 INCH

PHOTOMETRY

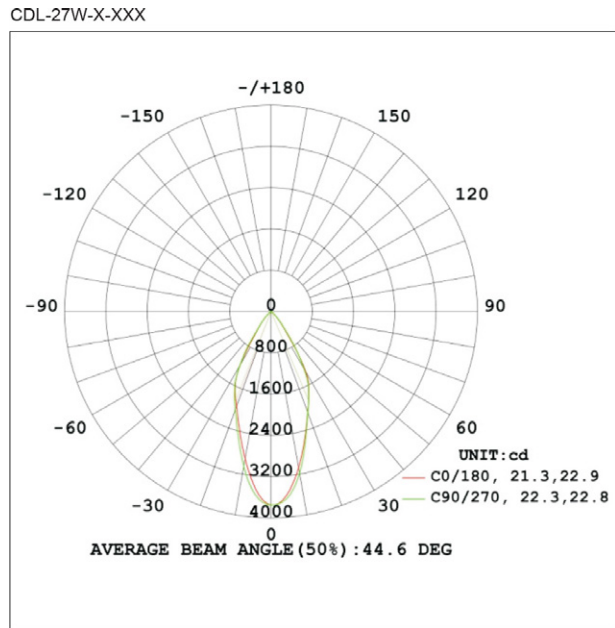
Fixture photometry has been conducted accredited testing laboratory in accordance with IESNA LM-79-08. IESNA LM-79-08 specifies the entire luminaire as the source resulting in a fixture efficiency of 100%. Result may vary per actual order.

AVERAGE ILLUMINANCE CURVE



Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



6 INCH ARCHITECTURAL COMMERCIAL DOWNLIGHT

ZONAL FLUX DIAGRAM

T	C0	C45	C90	C135	C180	C225	C270	C315
10	2044	1944	1841	1903	2053	2055	1895	1969
20	1495	1467	1441	1499	1589	1572	1495	1481
30	666.5	672.9	671.4	749.3	821.0	755.0	650.5	622.2
40	204.2	224.5	243.4	254.3	259.7	245.0	217.8	206.8
50	53.58	62.97	69.56	72.38	71.63	67.57	59.53	53.89
60	16.63	19.03	20.48	21.02	21.72	21.82	19.54	17.38
70	6.546	7.421	7.810	8.003	8.449	8.727	7.786	6.767
80	2.006	2.297	2.559	2.724	2.910	2.824	2.412	2.078
90	0	0.0000	0.0006	0.0076	0.0106	0	0	0
DEG	LUMINOUS INTENSITY:cd							

ZONAL LUMEN SUMMARY

T	φ zone	φ total	%lum. lamp
0-10	195.0	195.0	12.1, 12.1
10-20	490.7	685.6	42.7, 42.7
20-30	516.2	1202	74.8, 74.8
30-40	253.0	1455	90.6, 90.6
40-50	100.3	1555	96.8, 96.8
50-60	32.32	1588	98.8, 98.8
60-70	12.47	1600	99.6, 99.6
70-80	5.093	1605	99.9, 99.9
80-90	0.9520	1606	100, 100
	UNIT: lm		

COEFFICIENTS OF UTILIZATION

ppc	80%				70%				50%				30%				0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
pfc	20%				20%				20%				20%				0
RCR	RCR: Room Cavity Ratio (CU)																
0.0	119	119	119	116	116	116	111	111	111	106	106	106	102	102	102	00	
1.0	111	108	106	109	106	104	105	103	101	101	99	98	97	96	95	94	
2.0	103	99	96	101	98	95	98	95	93	95	93	91	92	91	89	87	
3.0	96	91	87	95	90	87	92	89	85	90	87	84	88	85	83	81	
4.0	90	85	81	89	84	80	87	83	79	85	81	78	83	80	77	76	
5.0	85	79	75	84	78	74	82	77	74	80	76	73	79	75	72	71	
6.0	80	74	70	79	73	69	77	72	69	76	72	68	75	71	68	67	
7.0	75	69	65	74	69	65	73	68	65	72	68	64	71	67	64	63	
8.0	71	65	61	70	65	61	69	64	61	68	64	60	67	63	60	59	
9.0	67	61	58	67	61	57	66	61	57	65	60	57	64	60	57	56	
10.0	64	58	54	63	58	54	63	58	54	62	57	54	61	57	54	53	

8 INCH ARCHITECTURAL COMMERCIAL DOWNLIGHT

ZONAL FLUX DIAGRAM

T	C0	C45	C90	C135	C180	C225	C270	C315
10	2044	1944	1841	1903	2053	2055	1895	1969
20	1495	1467	1441	1499	1589	1572	1495	1481
30	666.5	672.9	671.4	749.3	821.0	755.0	650.5	622.2
40	204.2	224.5	243.4	254.3	269.7	245.0	217.8	206.8
50	53.58	62.97	69.56	72.38	71.63	67.57	59.53	53.89
60	16.63	19.03	20.48	21.02	21.72	21.82	19.54	17.38
70	6.546	7.421	7.810	8.003	8.449	8.727	7.786	6.767
80	2.006	2.297	2.559	2.724	2.910	2.824	2.412	2.078
90	0	0.0000	0.0006	0.0076	0.0106	0	0	0
DEG	LUMINOUS INTENSITY:cd							

ZONAL LUMEN SUMMARY

T	φ _{zone}	φ _{total}	%lum. lamp
0-10	195.0	195.0	12.1,12.1
10-20	490.7	685.6	42.7,42.7
20-30	516.2	1202	74.8,74.8
30-40	253.0	1455	90.6,90.6
40-50	100.3	1555	96.8,96.8
50-60	32.32	1588	98.8,98.8
60-70	12.47	1600	99.6,99.6
70-80	5.093	1605	99.9,99.9
80-90	0.9520	1606	100,100
	UNIT: lm		

COEFFICIENTS OF UTILIZATION

ppc	80%			70%			50%			30%			0		
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	10%	0	
pfc	20%			20%			20%			20%			0		
RCR	RCR:Room Cavity Ratio (CU)														
0.0	119	119	119	116	116	111	111	111	106	106	106	102	102	102	00
1.0	111	108	106	109	106	104	105	103	101	101	99	98	97	96	95
2.0	103	99	96	101	98	95	98	95	93	95	93	91	92	91	89
3.0	96	91	87	95	90	87	92	89	85	90	87	84	88	85	83
4.0	90	85	81	89	84	80	87	83	79	85	81	78	83	80	77
5.0	85	79	75	84	78	74	82	77	74	80	76	73	79	75	72
6.0	80	74	70	79	73	69	77	72	69	76	72	68	75	71	68
7.0	75	69	65	74	69	65	73	68	65	72	68	64	71	67	64
8.0	71	65	61	70	65	61	69	64	61	68	64	60	67	63	60
9.0	67	61	58	67	61	57	66	61	57	65	60	57	64	60	57
10.0	64	58	54	63	58	54	63	58	54	62	57	54	61	57	54

10 INCH ARCHITECTURAL COMMERCIAL DOWNLIGHT

ZONAL FLUX DIAGRAM

T	C0	C45	C90	C135	C180	C225	C270	C315
10	5142	5011	5029	5025	5201	5100	5154	5110
20	3887	3797	3813	3792	3941	3881	3881	3851
30	2952	2875	2866	2848	3022	2980	2989	2955
40	819.7	772.4	814.3	833.6	869.5	858.4	939.6	909.7
50	223.8	219.6	209.4	201.1	228.4	232.4	220.5	220.1
60	103.3	105.4	91.21	87.78	101.6	103.8	92.19	92.33
70	49.52	51.30	42.49	40.50	48.25	49.04	41.75	42.39
80	19.93	19.98	16.03	15.60	19.72	19.05	10.89	16.97
90	0.4552	0.8568	0.4832	0.4460	0.6995	0.7034	0.6282	0.6610
DEG	LUMINOUS INTENSITY:cd							

ZONAL LUMEN SUMMARY

T	φ _{zone}	φ _{total}	%lum. lamp
0-10	524.2	524.2	10.2,10.2
10-20	1231	1755	34.2,34.2
20-30	1564	3319	64.7,64.7
30-40	1141	4460	86.9,86.9
40-50	356.5	4816	93.9,93.9
50-60	129.6	4946	96.4,96.4
60-70	67.16	5013	97.7,97.7
70-80	31.88	5045	98.3,98.3
80-90	7.673	5053	98.5,98.5
	UNIT: lm		

COEFFICIENTS OF UTILIZATION

ppc	80%			70%			50%			30%			0		
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	10%	0	
pfc	20%			20%			20%			20%			0		
RCR	RCR:Room Cavity Ratio (CU)														
0.0	119	119	119	116	116	110	110	110	105	105	105	101	101	101	98
1.0	110	107	105	107	105	103	103	101	99	99	98	96	95	94	93
2.0	101	97	94	100	96	92	96	93	90	93	90	88	90	88	86
3.0	94	89	85	93	88	84	90	86	82	87	84	81	85	82	79
4.0	87	82	77	86	81	77	84	79	75	82	78	74	79	76	73
5.0	81	75	71	80	75	70	78	73	70	77	72	69	75	71	68
6.0	76	70	65	75	69	65	74	68	64	72	67	64	70	66	63
7.0	71	65	61	71	65	60	69	64	60	68	63	59	66	62	59
8.0	67	61	56	66	60	56	65	60	56	64	59	56	63	58	55
9.0	63	57	53	62	57	53	61	56	52	60	56	52	59	55	52
10.0	59	53	49	59	53	49	58	53	49	57	52	49	56	52	49