

PROJECT NAME:

PRODUCT NUMBER:

NOTES:

FIXTURE SCHEDULE:



Architectural LED Retrofit Downlight



DESCRIPTION

The Commercial Downlight LED are suitable for 100~277 VAC Input with fired-rated PT-CDL18W-X-XXX Junction box, which delivers high lumens of exceptional 80+ CRI, Lifetime > 50000H with 3000K, 4000K, 5000K ES color temperatures options. They can replace for most manufacturers incandescent, CFL or H.I.D. fixtures with apertures of 7.72" min.to 8.26" max diameter, Easy conversion method and installation can be performed from below the ceiling without removing existing fixture.

TECHNICAL DATA

- Model No: PT-CDL18W-X-XXX
- Power: 18W
- Input Voltage: AC120-277V, 50/60Hz
- PF: >0.95
- Driver Efficiency: >90%
- Luminous Flux: 1800Lm
- Color Temperature: 2700K/3000K/4000K/5000K/5700K
- CRI: Ra>80
- Lighting Angle: 60°
- Working Life: >35,000 hrs
- Working Temperature: -30 - +45°
- Storage Temperature: -40 -+80°
- Protection Level: Damp

APPLICATION

Widely used in Family, Office, Restaurant, Supermarket, other places where need ceiling lamps.

1. Thermally stable typical lumens ($\pm 10\%$)
2. Rated life is based on 70% lumen maintenance, and engineering testing and probability analysis
3. Equivalency based on the Energy Star® Integral LED Lamp Center Beam Intensity Benchmark Tool
4. Energy Star® is available
5. Varieties of color options to meet your family decoration

CERTIFICATIONS



ORDERING MODEL

PATRIOT TUBE	CATAGORY	WATTAGE	SIZE	CCT(XX)	SERIES/NON-DIM/DRIVER
PT	CDL	18W=18W 27W=27W 40W=40W	6=6inch 8=8inch 10=10inch	30=3000K 40=4000K 50=5000K	CRI(X)
Product Code: example					
PT-CDL18W-X-XXX					

CDL-27W-8-30E

Axis LED Group: 2953 N Honore St. Chicago, IL 60657

Phone: 866.258.0592 Web: www.patriotled.com Web: alg-usa.com

Rvs: 3.08.18
Pg. 1 of 5



Architectural LED Retrofit Downlight

PRODUCT SPECIFICATION

ITEM	SPECIFICATION	
GENERAL PERFORMANCE	Model No.	PT-CDL18W-X-XXX
	Power Consumption	18W
	CRI	Ra>80
	THD	<20%
	CCT Options	3000K,4000K,5000K
	Driver efficiency	>87%
	Damp Rated	Yes
ELECTRICAL	InPut Voltage	100~277 VAC
	PF	> 0.9
	Signal Current	0.88mA
	Mounting	SMT 3030 1.5W philips Led
	Chips	Recessed
	Temperature Rating	Designed to operate in temperatures 45°C and below room side and plenum side.
CERTIFICATION	Certification	UL, Energy Star Listed, LM79 Report, Damp Rated
	Life Span	Designed minimum 50,000 hours
	Warranty	5 Years/10 Years Option

MODEL NO. WITH POWER CONSUMPTION						
Model	Size	Wattage	Efficacy	Delivered light output	Recommended Dimmers	Signal Current
PT-CDL18W-X-XXX	6inch	18W	>89LPW	1606lm (3000K)	DIVA-DVTV(LUTRON),NOVA T NTSTV-DV(LUTRON)	0.88mA
PT-CDL27W-X-XXX	6inch	27W	>89LPW	1606lm (3000K)	DIVA-DVTV(LUTRON),NOVA T NTSTV-DV(LUTRON)	0.88mA
PT-CDL40W-X-XXX	6inch	40W	>89LPW	1606lm (3000K)	DIVA-DVTV(LUTRON),NOVA T NTSTV-DV(LUTRON)	0.88mA
PT-CDL18W-X-XXX	8inch	18W	>90LPW	2390lm (3000K)	DIVA-DVTV(LUTRON),NOVA T NTSTV-DV(LUTRON)	0.95MA
PT-CDL27W-X-XXX	8inch	27W	>90LPW	2390lm (3000K)	DIVA-DVTV(LUTRON),NOVA T NTSTV-DV(LUTRON)	0.95MA
PT-CDL40W-X-XXX	8inch	40W	>90LPW	2390lm (3000K)	DIVA-DVTV(LUTRON),NOVA T NTSTV-DV(LUTRON)	0.95MA
PT-CDL27W-10-XXX	10inch	27W	88LPW	2880lm	DIVA-DVTV(LUTRON), NOVA T NTSTVDV (LUTRON)	0.95mA
PT-CDL40W-10-XXX	10inch	40W	83LPW	3350lm	DIVA-DVTV(LUTRON), NOVA T NTSTVDV(LUTRON)	0.96mA

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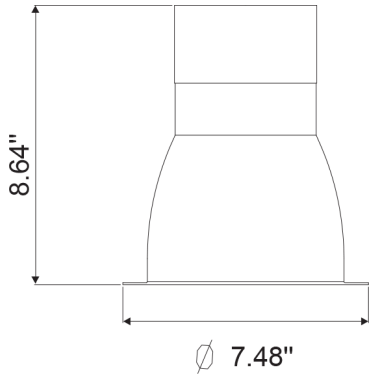
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Rvs: 3.08.18
Pg. 2 of 5

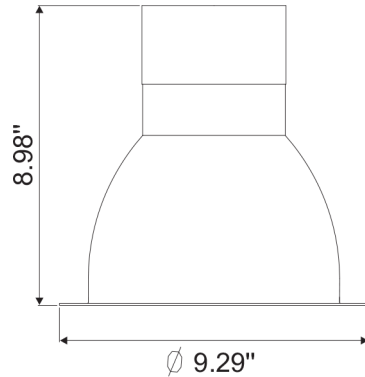


Architectural LED Retrofit Downlight

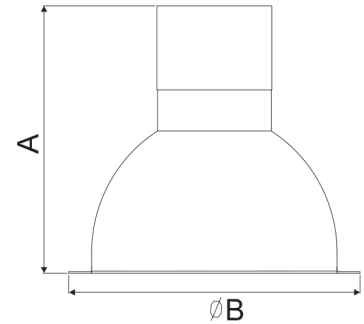
DIMENSION



8 Inch



9 Inch



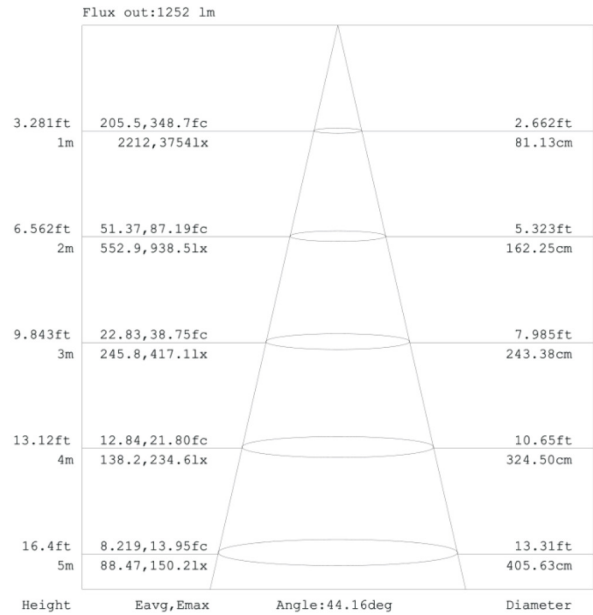
Item NO:	A	B
CDL-27W-10-XXX	9.25"	10.98"
CDL-40W-10-XXX	9.25"	10.98"

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.

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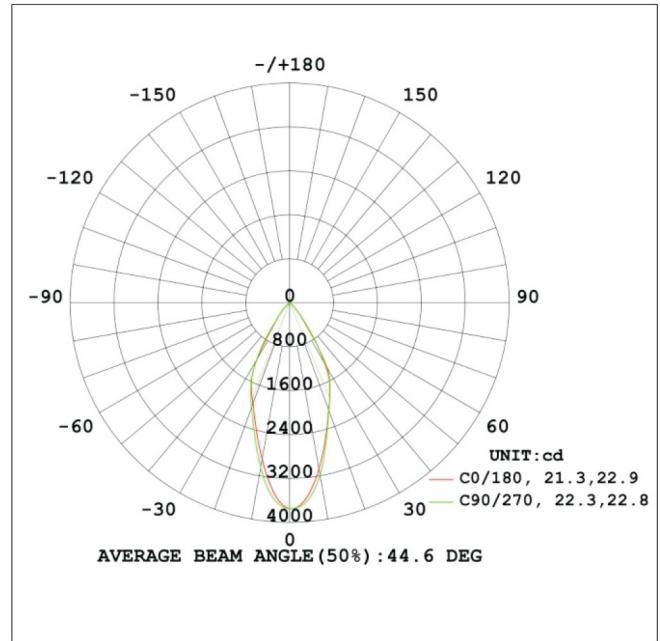
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Rvs: 3.08.18
Pg. 3 of 5



LUMINOUS INTENSITY DISTRIBUTION DIAGRAM

CDL-27W-X-XXX



8IN 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%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	
pfc	20%															
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



9IN COMMERCIAL DOWNLIGHT

ZONAL FLUX DIAGRAM

T	C0	C45	C90	C135	C180	C225	C270	C315
10	3075	3138	3180	3033	2896	2913	3044	3146
20	2080	2099	2088	2016	1958	1958	2027	2072
30	1348	1341	1274	1235	1205	1193	1218	1276
40	300.0	311.3	331.4	309.3	298.5	296.9	317.0	319.6
50	64.22	67.52	72.68	68.11	66.00	66.41	68.83	62.65
60	20.11	21.80	24.54	21.71	21.00	21.90	23.32	20.51
70	8.176	8.924	10.02	8.685	8.283	8.732	9.431	8.279
80	3.040	3.348	3.677	3.250	3.076	3.195	3.406	3.066
90	0.0020	0.0021	0.0021	0.0017	0	0	0	0
DEG	LUMINOUS INTENSITY:cd							

ZONAL LUMEN SUMMARY

T	φ zone	φ total	%lum, lamp
0-10	322.7	322.7	13.5, 13.5
10-20	696.5	1019	42.6, 42.6
20-30	768.7	1788	74.8, 74.8
30-40	423.0	2211	92.5, 92.5
40-50	123.0	2334	97.6, 97.6
50-60	34.63	2369	99.1, 99.1
60-70	13.98	2382	99.7, 99.7
70-80	6.112	2389	99.9, 99.9
80-90	1.376	2390	100, 100
	UNIT: lm		

COEFFICIENTS OF UTILIZATION

ppc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw	20%			20%			20%			20%			20%			0
	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0
pfc	RCR:Room Cavity Ratio			RCR:Room Cavity Ratio			RCR:Room Cavity Ratio			RCR:Room Cavity Ratio			RCR:Room Cavity Ratio			0
	RCR	RCR	RCR	RCR	RCR	RCR	RCR	RCR	RCR	RCR	RCR	RCR	RCR	RCR	RCR	0
0.0	119	119	119	116	116	116	111	111	111	106	106	106	102	102	102	00
1.0	111	108	106	109	107	105	103	103	101	101	00	98	98	96	96	94
2.0	103	99	96	102	98	95	98	96	93	96	93	91	93	91	89	87
3.0	97	92	88	95	91	87	93	89	86	90	87	85	88	85	83	82
4.0	91	85	81	89	85	81	87	83	80	85	82	79	84	80	78	76
5.0	85	80	75	84	79	75	82	78	74	81	77	74	79	76	73	72
6.0	80	74	70	79	74	70	78	73	70	77	72	69	75	72	69	67
7.0	76	70	66	75	70	66	74	69	65	73	68	65	72	68	65	63
8.0	72	66	62	71	66	62	70	65	61	69	65	61	68	64	61	60
9.0	68	62	58	67	62	58	66	62	58	66	61	58	65	61	58	56
10.0	64	59	55	64	59	55	63	58	55	63	58	55	62	58	55	53

9IN 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%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw	20%			20%			20%			20%			20%			0
	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0
pfc	RCR:Room Cavity Ratio			RCR:Room Cavity Ratio			RCR:Room Cavity Ratio			RCR:Room Cavity Ratio			RCR:Room Cavity Ratio			0
	RCR	RCR	RCR	RCR	RCR	RCR	RCR	RCR	RCR	RCR	RCR	RCR	RCR	RCR	RCR	0
0.0	119	119	119	116	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	91
2.0	101	97	94	00	96	92	96	93	90	93	90	88	90	88	86	84
3.0	94	89	85	93	88	84	90	86	82	87	84	81	85	82	79	78
4.0	87	82	77	86	81	77	84	79	75	82	78	74	79	76	73	72
5.0	81	75	71	80	75	70	78	73	70	77	72	69	75	71	68	66
6.0	76	70	65	75	69	65	74	68	64	72	67	64	70	66	63	62
7.0	71	65	61	71	65	60	69	64	60	68	63	59	66	62	59	58
8.0	67	61	56	66	60	56	65	60	56	64	59	56	63	58	55	54
9.0	63	57	53	62	57	53	61	56	52	60	56	52	59	55	52	50
10.0	59	53	49	59	53	49	58	53	49	57	52	49	56	52	49	47

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Pg. 5 of 5

