

Deep Regressed

Recessed-LED Commercial Downlight



LED commercial downlights have been upgraded 4th generation since 2013. Each engine works seamlessly with the all trims, making it truly modular. It is the ideal way to upgrade virtually any existing incandescent, CFL and HID commercial open frame rough-in section to high-performance LED illumination in a matter of minutes. Light engine is mounted directly to aluminum trim providing superior thermal management to ensure long life. Spun aluminum reflector integrated with haze finish and white trim ring with shadow free.

It is available in 6", 8" and 10" with up to 80w which is designed and engineered for recessed applications, which is suitable for commercial and public places, such as shopping mall, hospital, airport, hotel lobby, etc.



Feature

- UL, CUL, Energy Star and Damp Rated
- A smart design that one LED engine fits all trims
- 6", 8" and 10" size, 85lm/w, up to 80W
- CCT and wattage adjustable option
- Twist-Lock Modular design
- New construction housing frame available



PERFORMANCE

Model NO.	Lumen Output			CCT Adjustable	Type
	High	Medium	Low		
CES-40W-TWS	40W, 3500LM	27W, 2300LM	18W, 1500LM	3000K, 3500K, 4000K	IC
CES-80W-XXE	80W, 6800LM	65W, 5500LM	50W, 4200LM	N/A	NON-IC
CES-18W-XXE	18W, 1500LM			3000K, 3500K, 4000K	IC
CES-27W-XXE	27W, 2300LM			3000K, 3500K, 4000K	IC
CES-40W-XXE	40W, 3400LM			3000K, 3500K, 4000K	NON-IC
CES-D54W-XXE	54W, 4500LM			N/A	NON-IC

Remark: 18W, 27W and 40W with 6", 8", 10" trims and 54W with 8", 10" trims are listed on Energy Star. Above are subject to 3500K. All efficacy is ±5% base on different CCT and Trims. Check the IES file to gain the accurate data.

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STRUCTURE

► Optics

Spun aluminum reflector integrated with haze finish and white trim ring with shadow free, deeply regressed diffusing lens conceals the LEDs from direct view.

► Electrical

LED Driver	Powered by Class 2 high efficiency LED driver, with a standard 1-10V dimming which continuous dims to 10% that works with many types of controls. Tested Dimmers: Lutron ® Diva-Dvtv, Leviton ® IP-710-DL.
THD	<20%
Power Factor	>0.9
Input Voltage	Standard electronic drivers are cULus recognized and available for 110-277V AC or 110-347V AC.

► LED System

CRI	Minimum 80 color rendering index
CCT	The choice of 3000K, 3500K, 4000K and 5000K color temperature with a great color consistency, or CCT adjustable from 3000K, 3500K and 4000K.
LED	Life Minimum 50,000h with 87.8% of lumen maintenance in 25°C ambient temperature, in compliance with IES LM-80 testing measurements.
Thermal Management	Aluminum housing acting as the heat sink to maximize life.

► Mounting

It is provided with spring steel friction clips allowing for installation in a variety of commercial recessed open frame rough-in sections.

► Approvals

- cULus listed for damp locations
- Energy Star Listed
- Tested to IESNA LM-79 and LM-80
- 5 years limited warranty

► Optional Function

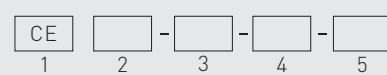
Emergency Option	Optional low voltage emergency LED driver EM-L series can be provided. When AC power fails, it immediately switches to the emergency mode, operating for lighting up to 120 minutes. When AC power is restored, it automatically returns to the charging mode which meets critical life-safety lighting requirements.
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PRODUCT ORDERING GUIDE

Sample

CE 8 - 27W - 40E - 347



1. Base Model

CE

2. Size

- 6 6"
 8 8"
 10 10"

3. Wattage

- 18W 18W
 27W 27W
 40W 40W
 D54W 54W
 80W 80W

4. CCT

- XXE 3000K
 3500K
 4000K
 5000K
 CCT Adjustable 3000K, 3500K, 4000K
(Only for 18w, 27w, 40w)
- TWS Wattage Adjustable 40W, 27W, 18W & CCT Adjustable 3000K, 3500K, 4000K
(Only for 40w)

5. 110-347V Option

- 347 110-347V AC input option

OPTIONAL ORDERING GUIDE

Optional Mounting Accessory

- 6" Housing
 8" Housing
 10" Housing

Optional Functions

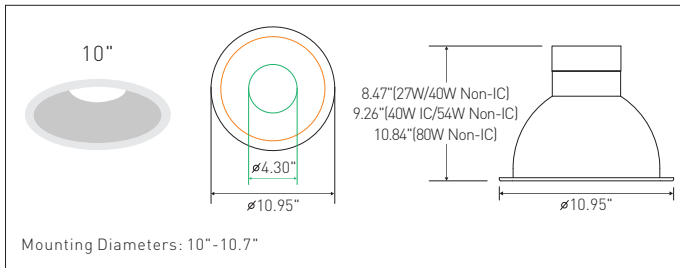
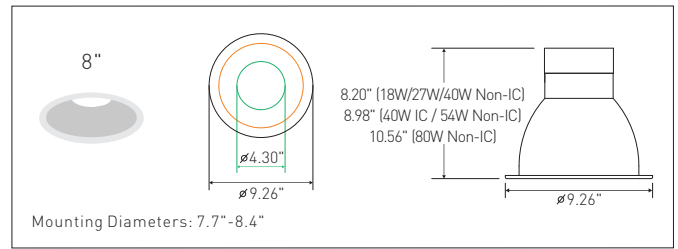
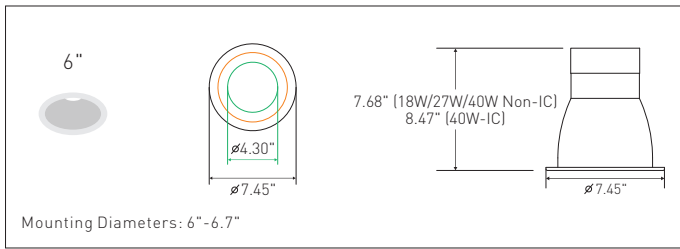
- Emergency

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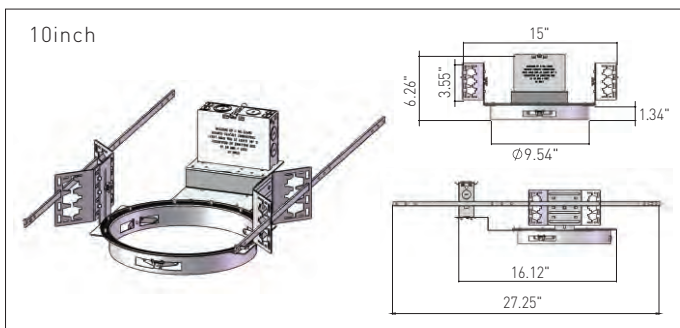
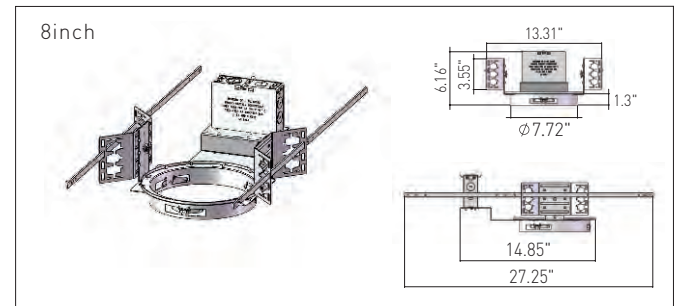
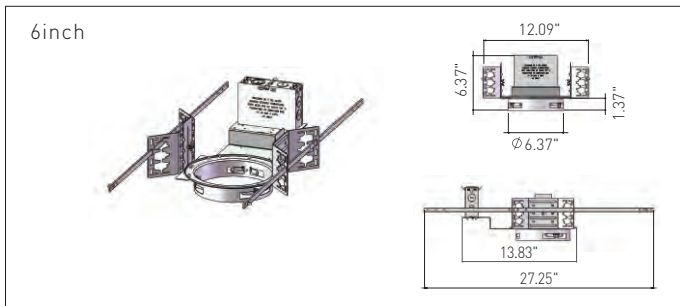
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DIMENSIONS



OPTIONAL HOUSING



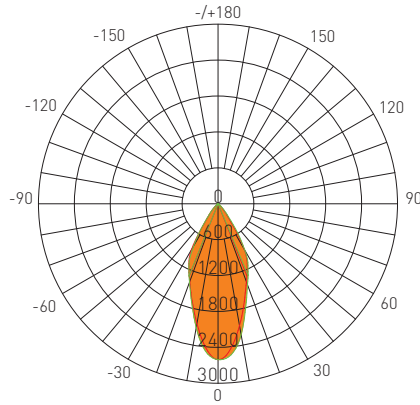
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DISTRIBUTION DIAGRAM

8" - 18W



AVERAGE BEAM ANGLE(50%): 44.1°

Test Number: CE8-18W-30E UNIT: cd
 Lumens: 1646.2 Lm — C0/180,21.7,21.9
 Watts: 18 W — C90/270,21.9,22.7
 LPW: 91.46 Lm/W
 CCT: 3000K

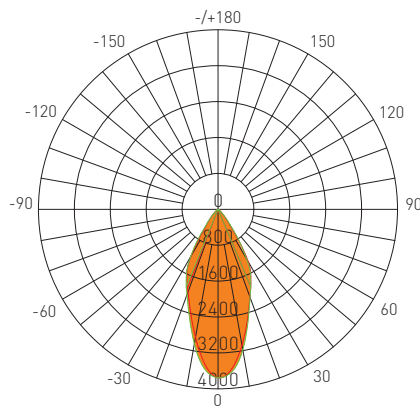
Zonal Flux Diagram

τ	C0	C45	C90	C135	C180
10	2070	2133	2220	2134	2034
20	1387	1414	1441	1413	1383
30	877.5	895.9	890.6	886.3	891.3
40	193.5	209.9	238.0	226.1	219.1
50	39.22	43.94	52.91	49.93	48.69
60	13.01	14.78	17.95	15.89	15.62
70	5.343	6.119	7.261	6.352	6.104
80	1.969	2.286	2.690	2.434	2.309
90	0.0002	0.0009	0.0032	0.0074	0.0041
100	0	0	0	0	0
110	0	0	0	0	0.0017
120	0.0036	0.0028	0.0039	0.0017	0.0056
130	0.0105	0.0119	0.0081	0.0119	0.0120
140	0.0380	0.0361	0.0314	0.0366	0.0331
150	0.0719	0.0600	0.0508	0.0697	0.0651
160	0.0897	0.0889	0.0890	0.1046	0.0995
170	0.0698	0.0901	0.0932	0.1061	0.0947
180	0.0436	0.0475	0.0462	0.0353	0.0439
DEG	LUMINOUS INTENSITY:cd				

Zonal Lumens

τ	φ total
0-10	223.3
10-20	702.9
20-30	1232
30-40	1522
40-50	1607
50-60	1631
60-70	1641
70-80	1645
80-90	1646
90-100	1646
100-110	1646
110-120	1646
120-130	1646
130-140	1646
140-150	1646
150-160	1646
160-170	1646
170-180	1646
	UNIT: lm

8" - 27W



AVERAGE BEAM ANGLE(50%): 44.6°

Test Number: CE8-27W-30E UNIT: cd
 Lumens: 2390.2 Lm — C0/180,21.3,22.9
 Watts: 27 W — C90/270,22.3,22.8
 LPW: 88.53 Lm/W
 CCT: 3000K

Zonal Flux Diagram

τ	C0	C45	C90	C135	C180
10	3075	3138	3180	3033	2896
20	2080	2099	2088	2016	1958
30	1348	1341	1274	1235	1205
40	300.0	311.3	331.4	309.3	298.5
50	64.22	67.52	72.68	68.11	66.00
60	20.11	21.80	24.54	21.71	21.00
70	8.176	8.924	10.02	8.685	8.283
80	3.040	3.348	3.677	3.250	3.076
90	0.0020	0.0021	0.0021	0.0017	0
100	0.0003	0	0	0	0.0011
110	0.0014	0.0006	0.0014	0.0006	0.0042
120	0.0056	0.0058	0.0086	0.0058	0.0089
130	0.0167	0.0191	0.0147	0.0206	0.0198
140	0.0543	0.0563	0.0480	0.0594	0.0523
150	0.1041	0.0975	0.0699	0.1072	0.0995
160	0.1317	0.1292	0.1192	0.1557	0.1507
170	0.0989	0.1256	0.1283	0.1554	0.1425
180	0.0732	0.0713	0.0689	0.0561	0.0706
DEG	LUMINOUS INTENSITY:cd				

Zonal Lumens

τ	φ total
0-10	322.7
10-20	1019
20-30	1788
30-40	2211
40-50	2334
50-60	2369
60-70	2382
70-80	2389
80-90	2390
90-100	2390
100-110	2390
110-120	2390
120-130	2390
130-140	2390
140-150	2390
150-160	2390
160-170	2390
170-180	2390
	UNIT: lm

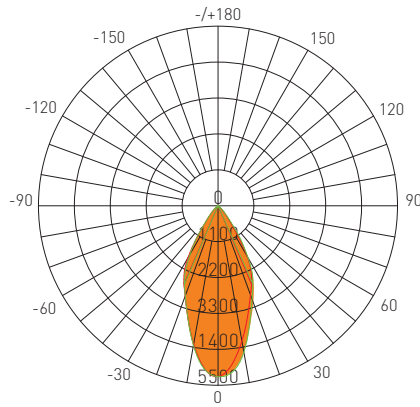
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DISTRIBUTION DIAGRAM

8" -40W



AVERAGE BEAM ANGLE(50%): 46.9°

Test Number: CE8-40W-30E UNIT: cd
 Lumens: 3454.8 Lm C0/180,23.6,23.1
 Watts: 40 W C90/270,23.2,24.0
 LPW: 86.37 Lm/W
 CCT: 3000K

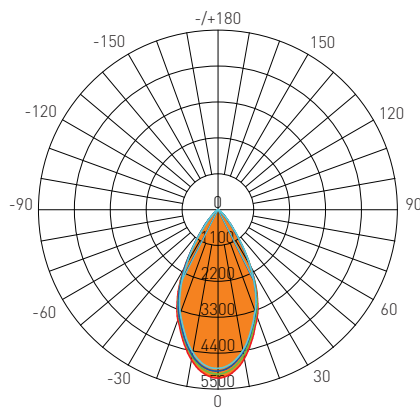
Zonal Flux Diagram

τ	C0	C45	C90	C135	C180
10	4207	4415	4558	4486	4303
20	2908	2989	3048	3017	2951
30	1783	1845	1841	1886	1860
40	404.4	449.3	484.6	473.0	456.1
50	86.32	93.34	102.6	97.79	98.80
60	28.65	31.97	35.80	31.96	31.76
70	11.68	13.27	14.63	12.86	12.69
80	4.325	4.949	5.424	4.908	4.774
90	0.0042	0.0048	0.0057	0.0085	0.0064
100	0.0030	0.0028	0.0022	0.0028	0.0042
110	0.0069	0.0047	0.0056	0.0044	0.0083
120	0.0130	0.0125	0.0130	0.0125	0.0155
130	0.0296	0.0321	0.0255	0.0322	0.0305
140	0.0873	0.0858	0.0741	0.0856	0.0737
150	0.1587	0.1440	0.1159	0.1539	0.1406
160	0.1934	0.2072	0.1962	0.2238	0.2125
170	0.1596	0.2089	0.2004	0.2279	0.2055
180	0.1087	0.1105	0.1023	0.0966	0.1065
DEG	LUMINOUS INTENSITY:cd				

Zonal Lumens

τ	φ total
0-10	456.9
10-20	1464
20-30	2576
30-40	3195
40-50	3372
50-60	3423
60-70	3443
70-80	3452
80-90	3454
90-100	3454
100-110	3454
110-120	3455
120-130	3455
130-140	3455
140-150	3455
150-160	3455
160-170	3455
170-180	3455
	UNIT: lm

8" -54W



AVERAGE BEAM ANGLE(50%): 54.0°

Test Number: CE8-54W-30E UNIT: cd
 Lumens: 3933.8 Lm C0/180,53.9°
 Watts: 54 W C30/210,54.1°
 LPW: 72.85 Lm/W C60/240,54.1°
 CCT: 3000K C90/270,53.9°

Zonal Flux Diagram

τ	C0	C45	C90	C135	C180
10	4639	4477	4383	4347	4685
20	3521	3396	3333	3321	3604
30	1980	1970	1951	1951	2104
40	618.2	649.6	662.6	655.8	657.7
50	142.0	169.3	174.7	156.0	149.6
60	41.85	57.96	62.30	49.63	43.71
70	15.21	20.34	21.43	16.99	15.84
80	4.713	5.922	6.360	5.225	5.127
90	0.0993	0.0856	0.072	0.0902	0.0809
100	0.0989	0.0967	0.1034	0.0922	0.1035
110	0.1439	0.1507	0.1664	0.1417	0.1710
120	0.3457	0.3507	0.3511	0.3059	0.3512
130	1.024	1.023	1.004	0.9332	1.004
140	2.687	2.626	2.543	2.426	2.625
150	5.075	4.943	4.774	4.628	4.946
160	7.657	7.466	7.185	7.034	7.483
170	9.794	9.479	9.208	9.031	9.725
180	10.55	10.28	9.994	9.915	10.62
DEG	LUMINOUS INTENSITY:cd				

Zonal Lumens

τ	φ total
0-10	446.7
10-20	1545
20-30	2790
30-40	3542
40-50	3803
50-60	3882
60-70	3910
70-80	3921
80-90	3923
90-100	3923
100-110	3923
110-120	3924
120-130	3924
130-140	3925
140-150	3928
150-160	3930
160-170	3933
170-180	3934
	UNIT: lm

Luminance cd/(m2)

G(DEG)	C0/180	C90/270
85	593	1188
80	1357	1831
75	1773	2380
70	2224	3133
65	2931	4334
60	4185	6230
55	6540	9219
50	11043	13592
45	21031	24527

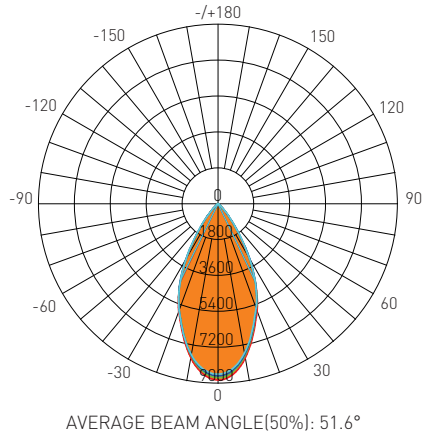
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DISTRIBUTION DIAGRAM

8" -80W



Test Number: CE8-80W-30E
 Lumens: 6288.5 Lm
 Watts: 80 W
 LPW: 78.61Lm/W
 CCT: 3000K

UNIT: cd
 C0/180, 51.0°
 C30/210, 51.4°
 C60/240, 51.9°
 C90/270, 52.0°

Zonal Flux Diagram

τ	C0	C45	C90	C135	C180
10	7872	7743	7625	7552	7858
20	5741	5648	5579	5538	5777
30	3072	3196	3154	3133	3168
40	863.6	934.3	953.4	979.2	923.3
50	154.7	156.7	165.2	184.7	180.9
60	31.91	32.07	35.00	42.64	40.87
70	11.69	11.21	11.99	13.96	13.43
80	4.327	4.261	4.534	4.810	4.632
90	0.1629	0.1966	0.1448	0.1684	0.1504
100	0.1616	0.1471	0.1497	0.1443	0.1623
110	0.2522	0.2166	0.2029	0.2166	0.2211
120	0.5132	0.4694	0.4464	0.4604	0.4604
130	1.495	1.490	1.513	1.454	1.427
140	4.095	4.071	4.131	3.953	4.054
150	8.045	7.940	7.982	7.733	7.987
160	12.49	12.36	12.22	11.98	12.40
170	16.29	16.02	15.74	15.54	16.30
180	17.76	17.60	17.17	17.10	17.83
DEG	LUMINOUS INTENSITY:cd				

Zonal Lumens

τ	φ total
0-10	775.2
10-20	2630
20-30	4656
30-40	5823
40-50	6169
50-60	6241
60-70	6261
70-80	6269
80-90	6271
90-100	6271
100-110	6272
110-120	6272
120-130	6273
130-140	6275
140-150	6278
150-160	6283
160-170	6287
170-180	6288
DEG	UNIT: lm

Luminance cd/(m2)

G(DEG)	C0/180	C90/270
85	466	681
80	880	923
75	1033	1049
70	1207	1239
65	1530	1617
60	2255	2474
55	4114	4540
50	8505	9079
45	18529	21493