

PHILIPS
Day-Brite
CFI

Recessed

DuaLED 2x2

with SpaceWise
Technology Option



Project: _____
 Location: _____
 Cat.No: _____
 Type: _____
 Lamps: _____ Qty: _____
 Notes: _____

DuaLED Recessed is a highly efficient, visually comfortable, architecturally styled recessed LED luminaire, designed with a minimalistic strategy to achieve sustainable objectives. Its clean, modern design offers a fresh variation on the popular dual chamber theme and provides architectural styling compatible with virtually any area. SpaceWise Technology for selected applications is optional for additional energy savings and control.

Ordering guide

example: 2DLG49L840-2-D-UNV-DIM

Width	Family	Ceiling Type	Lumen Package	Color	Length	Diffusers	Voltage	Driver Type
2	DL	G		-	2	D	-	
2 2'	DL DuaLED	G Grid	21L¹ 2100 nominal delivered lumens 27L 2700 nominal delivered lumens 30L^{1,2} 3000 nominal delivered lumens 34L 3400 nominal delivered lumens 38L 3800 nominal delivered lumens 44L 4400 nominal delivered lumens	840 80 CRI, 4000K 835 80 CRI, 3500K <i>Consult factory for other color temperature options and availability.</i>	2 2'	D Diffuse (Opal)	UNV Universal 120-277v 347 347 volt 24VDC¹ 24 volt DC (EMerge Registered)	DIM 0-10v dimming DALI⁶ DALI dimming SDIM Step dimming to 40% power
Options								

Footnotes:

- ¹ Consult factory for availability.
- ² Only available in 24VDC voltage option.
- ³ OCC option allows individual auto shutoff per luminaire and is not recommended for applications with multiple luminaires.
- ⁴ DAY option requires manual light level calibration.
- ⁵ SWZG2 option provides occupancy sensing suitable for rooms with multiple luminaires, along with daylight harvesting with auto-calibration. See page 2 for more information.
- ⁶ Must order IRT9090 SpaceWise handheld remote with each system order.

- CC** Custom color
- F1** 3/8" Flex, 3 Wire 18 gauge
- F2** 3/8" Flex, 4 Wire 18 gauge
- F1/D** 3/8" Twin Flex, 3 Wire 18 gauge for Dimmable luminaires
- F2/SW** 3/8" Single Flex, 5 Wire 18 gauge for Dimmable luminaires
- GLR** Fusing, Fast Blow
- EMLED⁴** Integral emergency battery pack (requires ballast enclosure on top of luminaire)
- OCC³** Integral sensor, occupancy
- DAY⁴** Integral sensor, daylighting
- SWZG2^{5,6}** SpaceWise automated wireless technology for integrated occupancy and daylight harvesting

Integral sensing options (OCC, DAY, SWZG2) may not be combined. Must order remote separately. See Accessories below.

Accessories (order separately)

- **IRT9090** SpaceWise handheld remote for grouping and configuration
- **LRM1743** External sensor to increase occupancy coverage area of SpaceWise luminaire groups
- **FMA22** 2'x2' "F" mounting frame for NEMA "F" mounting
- **UID8451/10** Wireless Dimmer Switch Selector
- **UID8461/10** Wireless Scene Selector

DuaLED Recessed 2x2 LED

Application

- A highly efficient, visually comfortable, architecturally styled recessed LED luminaire designed with a minimalistic strategy to achieve sustainable objectives.
- Low profile configuration is only 2-11/16" high and is compatible with virtually any plenum.
- Clean, modern design offers a fresh variation on the popular dual chamber theme and provides architectural styling compatible with virtually any area.
- Soft opal diffusers with large luminous area minimize apparent brightness and provide high visual comfort perfect for a wide variety of general lighting applications like offices, schools, retail, or healthcare.
- Multiple lumen packages over a wide range provide significant application flexibility over light levels and/or luminaire spacing.
- A high lumen package can be used in conjunction with wide luminaire spacing to reduce luminaire quantities and overall cost while maintaining good uniformity.
- High efficiency source and luminaire design create significant energy savings over conventional solutions. Recommended light levels can frequently be achieved with lighting power densities of 0.5 to 0.85 Watts per square foot, complying with any known energy code.
- Directs a controlled amount of light to the higher angles in the room to balance the brightness of the surfaces and eliminate "cave effect" while creating the impression of a larger, brighter space without glare.
- Excellent color rendering with a CRI of 80.
- LEDs are an excellent source for use with controls since dimming or frequent switching does not degrade the performance or life of the source. Integral or external sensors are available for use.
- Designed for use with standard Grid (NEMA "G") or Narrow Grid (NEMA "NFG") ceiling T-bars. Drywall or plaster requirements can be accommodated by using an FMA22 "F" mounting frame (sold separately).
- Listed for use in non-insulated ceilings (Type Non-IC).
- Some DuaLED luminaires are DesignLights Consortium® qualified. Please see the DLC QPL list for exact catalog numbers. (www.designlights.org/QPL)
- EMLED and 24VDC are NOT DLC qualified.

Construction/Finish

- Uncomplicated design is well under 3" in depth and only requires a few parts outside of the electrical system and hardware, creating several benefits:
 - Less material required
 - Less packaging required
 - Reduced weight
 - Less energy required for construction and assembly
 - More luminaires can be shipped per truck to reduce fuel use and emissions
- Luminaire is painted after fabrication with a matte white polyester powder coating for a high quality, durable finish with no unfinished edges to create an installation hazard or potential for corrosion.
- T-bar grid clips are included for easy installation

Electrical

- Integral sensor options for occupancy sensing and/or daylight harvesting are available for additional energy savings with no reduction of life or increase in installation labor.
- Total luminaire efficacy as high as 97 LPW (lumens per Watt) significantly reduces energy usage compared to conventional 2x2 sources.
- Driver and LED boards are easily accessible from below without tools. Multiple LED boards are individually replaceable if needed via plug-in connectors to ensure long service life.
- 0-10V dimming is standard. Emergency options are available to add even more application flexibility. Emergency models require a top mounted driver enclosure or a metal can emergency driver mounted to the housing/top enclosure that increases luminaire depth.
- Five year luminaire limited warranty includes components, LED boards, and driver (emergency driver and batteries have a three year limited warranty in models so equipped.)
- High efficiency LEDs have a minimum 50,000 hour rated life (L70). Predicted L70 lifetime based on LED manufacturer's supplied LM-80 data and in-situ laboratory testing
- ETL listed to UL and CSA standards. Standard DuaLED suitable for damp locations. **SpaceWise is not suitable for damp locations.**

Enclosure

- Dual chamber configuration utilizes two diffusers with large surface area for brightness control.
- Opal diffusers provide soft, comfortable lighting while maintaining high efficiency.

- Diffusers require no frames or fasteners and can be easily removed from below without tools if needed.

SpaceWise Technology (SWZG2)

- Optional SpaceWise automated wireless technology provides integrated occupancy sensing and daylight harvesting for additional control and energy savings.
- Requiring no system re-wiring, SpaceWise technology is appropriate for retrofit or new design and is an ideal replacement system for typical office layouts.
- Occupancy sensors are integral to each luminaire, with embedded automatic dimming behaviors appropriate to multiple office applications. Applications modes are selected using the handheld remote control, including open plan office, private office, conference room, and corridor.
- Daylight sensors are integral to each luminaire, eliminating the need for daylight zoning. Daylight sensing is automatic and re-calibration occurs daily when luminaires turn on.
- Open plan office mode offers occupant friendly granular dimming for maximum energy savings with no compromise to light levels or visual quality. Luminaires in large rooms and open plan areas are grouped together up to a maximum of 50 using a handheld remote, and max light output can be tuned. Granular dimming then provides full light output for occupied workstations, and non-occupied workstations stay at a background level to ensure visual quality. Grouped luminaires will dim to off when no presence is detected in the group.
- SpaceWise remote control must be purchased separately. Other peripherals include code compliant, wireless, batteryless switches and external sensors.
- Visit philips.com/spacewise for more information about SpaceWise technology.

General Notes

- All options factory installed.
- All accessories are field installed.
- Many luminaire components, such as reflectors, refractors, lenses, sockets, lampholders, and LEDs are made from various types of plastics which can be adversely affected by airborne contaminants. If sulfur based chemicals, petroleum based products, cleaning solutions, or other contaminants are expected in the intended area of use, consult factory for compatibility.

Energy Data

Standard DuaLED				DuaLED with SpaceWise Technology (SWZ option)								
Model	Initial Delivered Lumens at 25°C Ambient ⁹	Input Power	Lumens Per Watt ⁹	High Power Setting		Medium Power Setting ¹⁰		Low Power Setting		Minimum Power Setting		
				Initial Delivered Lumens at 25°C Ambient ⁹	Input Power Max Output 277V/120V	Approx. Initial Delivered Lumens at 25°C Ambient	Input Power Max Output 277V/120V	Approx. Initial Delivered Lumens at 25°C Ambient	Input Power Max Output 277V/120V	Approx. Initial Delivered Lumens at 25°C Ambient	Input Power Max Output 277V/120V	Input Power Background Output
2DLG27L840-2-D	2,563	26W	97LPW	2,563	26W/26W	2,253	25W/25W	1,971	22W/22W	1,690	20W/19W	10W
2DLG34L840-2-D	3,423	35W	97LPW	3,423	35W/35W	3,009	33W/32W	2,633	29W/28W	2,257	25W/24W	12W
2DLG38L840-2-D	3,731	39W	97LPW	3,731	39W/39W	3,280	36W/35W	2,870	31W/31W	2,460	27W/27W	13W
2DLG44L840-2-D	4,229	45W	94LPW	4,229	45W/45W	3,717	41W/41W	3,252	36W/36W	2,788	31W/31W	15W

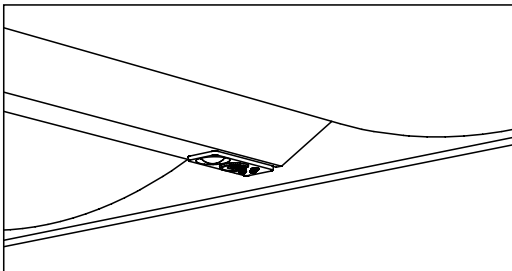
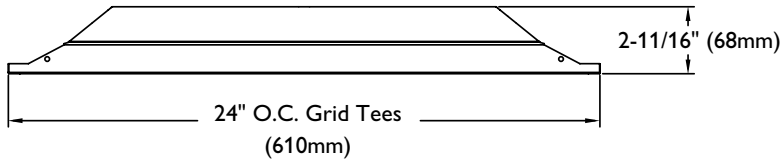
⁹DuaLED equivalent will provide similar delivered lumens and light levels. Analysis to determine appropriate light levels for the space is highly recommended.

¹⁰Medium power is the default setting. Users can change to high or low power using remote control when luminaires are grouped.

DuaLED Recessed 2x2 LED

with SpaceWise technology option

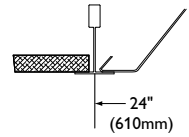
Dimensions



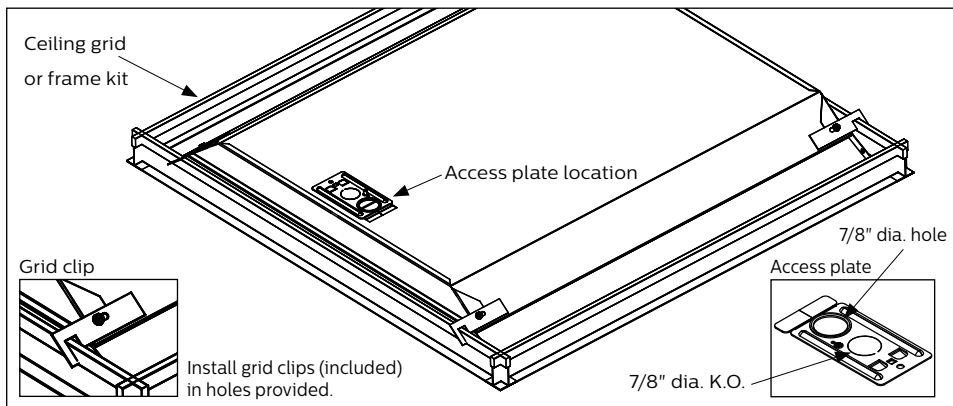
SpaceWise (SWZ) automated wireless technology is available for integrated occupancy and daylight harvesting. Individual options for dimming, occupancy detection, and daylight harvesting are also available if SpaceWise option is not selected.

Ceiling Configuration

2 DL G 34L840 SIDE
Ceiling type
G = Grid (NEMA G)



(NEMA Type G)
Lay-in acoustical ceilings using exposed gridsuspension, with tees for luminaires on 24" x 24" spacing.



DuaLED Recessed 2x2 LED

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Photometry

2x2 DuaLED, 2700 nominal delivered lumens

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Catalog No. 2DLG27L840-2-D-UNV-DIM Test No. 32077 S/MH 1.3 Lamp Type 26WLED Lumens/Lamp 2563 Input Watts 26.4 Comparative yearly lighting energy cost per 1000 lumens – \$2.47 based on 3000 hrs. and 5.08 pwr KWH. The photometric results were obtained in the Philips Day-Brite laboratory which is NVLAP accredited by the National Institute of Standards and Technology. Photometric values based on test performed in compliance with LM-79.	Candlepower				Light Distribution			Average Luminance					
	Angle	End	45	Cross	Degrees	Lumens	% Luminaire	Angle	End	45°	Cross		
	0	937	937	937	0-30	727	28.4	45	3092	3156	3238		
	5	934	932	935	0-40	1188	46.4	55	2861	2970	3064		
	10	919	920	921	0-60	2080	81.2	65	2490	2646	2707		
	15	897	898	902	0-90	2562	100.0	75	1824	2006	2071		
	20	867	871	876				85	788	958	1088		
	25	831	834	841	Coefficients of Utilization								
	30	784	789	798	EFFECTIVE FLOOR CAVITY REFLECTANCE 20 PER (pfc=0.20)								
	35	729	736	748	pcc	80			70			50	
	40	669	679	693	pw	70	50	30	70	50	30	50	30
	45	602	615	631	RCR								
	50	530	545	561	0	118	118	118	115	115	115	111	111
	55	452	469	484	1	109	105	101	107	102	98	97	94
	60	372	390	402	2	100	91	84	96	90	83	85	81
	65	290	308	315	3	91	80	71	88	79	71	76	69
	70	207	224	227	4	82	70	63	81	69	61	68	60
	75	130	143	148	5	77	64	55	73	63	54	60	53
	80	63	73	79	6	70	56	48	68	56	47	55	46
	85	19	23	26	7	66	52	42	64	51	42	50	41
				8	60	47	39	58	46	39	46	38	
				9	56	44	34	56	42	34	41	34	
				10	53	40	32	52	40	32	39	32	

2x2 DuaLED, 3400 nominal delivered lumens

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Catalog No. 2DLG34L840-2-D-UNV-DIM Test No. 32073 S/MH 1.3 Lamp Type 35WLED Lumens/Lamp 3423 Input Watts 35.4 Comparative yearly lighting energy cost per 1000 lumens – \$2.47 based on 3000 hrs. and 5.08 pwr KWH. The photometric results were obtained in the Philips Day-Brite laboratory which is NVLAP accredited by the National Institute of Standards and Technology. Photometric values based on test performed in compliance with LM-79.	Candlepower				Light Distribution			Average Luminance					
	Angle	End	45	Cross	Degrees	Lumens	% Luminaire	Angle	End	45°	Cross		
	0	1249	1249	1249	0-30	969	28.3	45	4127	4214	4321		
	5	1244	1243	1246	0-40	1585	46.3	55	3815	3968	4089		
	10	1225	1226	1227	0-60	2777	81.1	65	3326	3538	3613		
	15	1196	1198	1203	0-90	3422	100.0	75	2444	2688	2768		
	20	1156	1161	1169				85	1063	1308	1471		
	25	1107	1112	1122	Coefficients of Utilization								
	30	1045	1052	1064	EFFECTIVE FLOOR CAVITY REFLECTANCE 20 PER (pfc=0.20)								
	35	972	981	998	pcc	80			70			50	
	40	891	905	924	pw	70	50	30	70	50	30	50	30
	45	804	821	841	RCR								
	50	706	728	749	0	118	118	118	115	115	115	111	111
	55	603	627	646	1	109	105	101	107	102	98	97	94
	60	496	522	536	2	98	91	84	96	90	82	85	81
	65	387	412	421	3	91	80	71	88	79	70	76	69
	70	277	300	304	4	82	70	63	81	69	61	68	59
	75	174	192	197	5	77	64	55	73	63	54	60	53
	80	85	99	106	6	70	56	48	68	56	47	55	46
	85	26	31	35	7	66	52	42	64	51	42	50	41
				8	60	47	39	58	46	39	46	38	
				9	56	44	34	56	42	34	41	34	
				10	53	40	32	52	40	32	39	32	

DuaLED Recessed 2x2 LED

with SpaceWise technology option

2x2 DuaLED, 3800 nominal delivered lumens

LER – 97

Catalog No. 2DLG38L840-2-D-UNV-DIM Test No. 32011 S/MH 1.3 Lamp Type 39WLED Lumens/Lamp 3731 Input Watts 38.6 Comparative yearly lighting energy cost per 1000 lumens – \$2.47 based on 3000 hrs. and \$.08 pwr KWH. The photometric results were obtained in the Philips Day-Brite laboratory which is NVLAP accredited by the National Institute of Standards and Technology. Photometric values based on test performed in compliance with LM-79.	Candlepower				Light Distribution			Average Luminance				
	Angle	End	45	Cross	Degrees	Lumens	% Luminaire	Angle	End	45°	Cross	
0	1364	1364	1364	0-30	1058	28.4	45	4497	4587	4714		
5	1359	1358	1360	0-40	1729	46.4	55	4161	4314	4456		
10	1337	1340	1340	0-60	3027	81.2	65	3626	3845	3943		
15	1305	1308	1314	0-90	3730	100.0	75	2662	2927	3057		
20	1262	1267	1276				85	1179	1425	1696		
25	1208	1214	1224	Coefficients of Utilization								
30	1140	1147	1161	EFFECTIVE FLOOR CAVITY REFLECTANCE 20 PER (pfc=0.20)								
35	1060	1070	1089	pcc	80			70			50	
40	972	987	1009	pw	70	50	30	70	50	30	50	30
45	876	893	918	RCR								
50	770	792	816	0	118	118	118	115	115	115	111	111
55	657	681	704	1	109	105	101	107	102	98	97	94
60	541	567	585	2	100	91	84	96	90	82	85	81
65	422	448	459	3	91	80	71	88	79	70	76	69
70	302	326	332	4	82	70	63	81	69	61	68	60
75	190	209	218	5	77	64	55	73	63	54	60	53
80	93	108	118	6	70	56	48	68	56	47	55	46
85	28	34	41	7	66	52	42	64	51	42	50	41
				8	60	47	39	58	46	39	46	38
				9	56	44	34	56	42	34	41	34
				10	53	40	32	52	40	32	39	32

2x2 DuaLED, 4400 nominal delivered lumens

LER – 94

Catalog No. 2DLG44L840-2-D-UNV-DIM Test No. 32076 S/MH 1.3 Lamp Type 45WLED Lumens/Lamp 4229 Input Watts 45.2 Comparative yearly lighting energy cost per 1000 lumens – \$2.55 based on 3000 hrs. and \$.08 pwr KWH. The photometric results were obtained in the Philips Day-Brite laboratory which is NVLAP accredited by the National Institute of Standards and Technology. Photometric values based on test performed in compliance with LM-79.	Candlepower				Light Distribution			Average Luminance				
	Angle	End	45	Cross	Degrees	Lumens	% Luminaire	Angle	End	45°	Cross	
0	1545	1545	1545	0-30	1199	28.4	45	5102	5203	5342		
5	1539	1538	1541	0-40	1960	46.4	55	4721	4896	5052		
10	1515	1517	1518	0-60	3432	81.2	65	4112	4364	4464		
15	1480	1481	1488	0-90	4227	100.0	75	3020	3320	3417		
20	1430	1437	1446				85	1317	1596	1800		
25	1369	1376	1387	Coefficients of Utilization								
30	1292	1300	1316	EFFECTIVE FLOOR CAVITY REFLECTANCE 20 PER (pfc=0.20)								
35	1201	1213	1234	pcc	80			70			50	
40	1101	1118	1143	pw	70	50	30	70	50	30	50	30
45	993	1013	1040	RCR								
50	874	899	926	0	118	118	118	115	115	115	111	111
55	746	773	798	1	109	105	101	107	102	98	97	94
60	613	643	662	2	100	91	84	96	90	83	85	81
65	479	508	520	3	91	80	71	88	79	70	76	69
70	342	370	374	4	82	70	63	81	69	61	68	60
75	215	237	244	5	77	64	55	73	63	54	60	53
80	105	121	130	6	70	56	48	68	56	47	55	46
85	32	38	43	7	66	52	42	64	51	42	50	41
				8	60	47	39	58	46	39	46	38
				9	56	44	34	56	42	34	41	34
				10	53	40	32	52	40	32	39	32



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