

6" LED Retrofit Downlight RLC6ML

2400 & 3000 Lumens
120V-277V
0-10V Dimming

APPLICATIONS:

Retroficient® RLC6ML is a 6" commercial grade Retrofit LED downlight with available outputs between 2400-3000 lumens. The RLC6ML is designed specifically to Retrofit into ceilings with existing recessed downlight fixtures without the need to remove the existing fixture. Rated for a minimum of 50,000 hours life (70% lumen maintenance) with ambient plenum temperatures up to 25°C. Free Air Flow around fixture for optimal life performance.

HOUSING:

All components are made from quality die cast aluminum or galvaneal steel. Pre-wired J-box with snap-on cover for easy access. Snap-in connection from driver compartment allows easy installation of light engine/trim assembly and can be upgraded to accommodate technology improvements. Approved for 8 (4 in/4 out) No. 12 AWG conductors rated for 90°C through wiring.

REFLECTOR:

High purity aluminum, Alzak, iridescence suppressed, semi-diffuse reflector. Self-trim standard. Painted white self-trim (WT) available as option.

LED LIGHT ENGINE:

The RLC6ML uses mid power Nichia LEDs, specifically mixed to provide a minimum of 80 CRI with 3 SDCM color consistency. The use of multiple mid power LEDs allows for optimal thermal management by effectively spreading the heat over a larger area and eliminating hot spots on the LEDs. A diffuse, yet highly transmissive lens obscures the view of the LEDs and creates a smooth, even look from below. The light engine is available in multiple Kelvin temperatures and the system is designed to provide optimal life and lumen maintenance (50,000 hours at 70% lumen maintenance). The reflector/light engine assembly is mechanically retained to the housing.

LED DRIVER:

The RLC6ML utilizes a constant current LED driver that is capable of running both lumen outputs, resulting in a reduction of housing skus and simplified specification. The driver is UL8750, Class II compliant and universal 120V-277V.

DIMMING:

Comes standard with flicker-free 0-10V dimming to 10%. 0-10V to 1% dimming is also available. See list of compatible dimmers on page (4). For the sizing of the control circuit, the dimming circuit may require up to 1.2mA of sink current.

INSTALLATION:

All installation can be performed from below the ceiling without removing existing fixture.

CERTIFICATIONS:

CSA certified to US and Canadian safety standards. Suitable for wet locations (WW damp location). This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction. Materials under Trade Agreements effective 6/10/2020. See [Buy American Solutions](#).

WARRANTY:

5 year warranty. See [www.prescolite.com](#) for details.

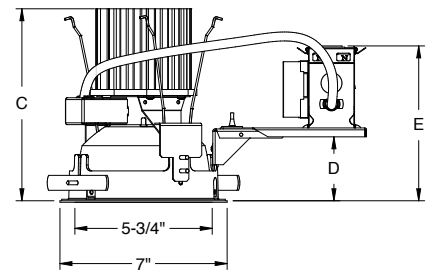
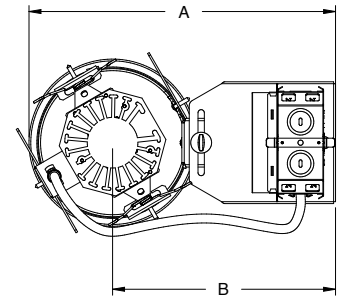
DATE: _____ TYPE: _____

FIRM NAME: _____

PROJECT: _____



Ceiling Cutout: see guide
Maximum Ceiling Thickness 1 1/2"
For conversion to millimeters,
multiply inches by 25.4
Not to Scale



	A	B	C	D	E
RLC6ML	13"-15"	9-3/4" - 11-3/4"	6-1/4"	2-1/2" - 3-3/4"	6-1/4" - 7-1/2"

Order housing, reflector, and accessories separately

CATALOG NUMBER:

EXAMPLE: RLC6ML-6LCML24L30K9WT

HOUSING	DRIVER OPTIONS	HOUSING OPTIONS	TRIM APERTURE	OUTPUT	KELVIN	CRI	REF. FINISH/ COLOR OPTION	REFLECTOR OPTIONS	ACCESSORIES
<input type="checkbox"/> RLC6ML Medium Lumen 0-10V Dimming to 10% 120V-277V	<input type="checkbox"/> Standard 0-10V 10% Dimming <input type="checkbox"/> DM1 0-10V 1% Dimming	<input type="checkbox"/> SD² Small Diameter	<input type="checkbox"/> 6LCML Medium Lumen Clear Alzak Reflector	<input type="checkbox"/> 24L 2400 Lumen <input type="checkbox"/> 30L 3000 Lumen	<input type="checkbox"/> 27K 2700 Kelvin <input type="checkbox"/> 30K 3000 Kelvin <input type="checkbox"/> 35K 3500 Kelvin <input type="checkbox"/> 40K 4000 Kelvin <input type="checkbox"/> 50K 5000 Kelvin	<input type="checkbox"/> 8 80+ CRI <input type="checkbox"/> 9⁺ 90+ CRI	<input type="checkbox"/> Standard Semi-Diffuse Clear Alzak <input type="checkbox"/> WH Painted Matte White Reflector and Flange	<input type="checkbox"/> WT Painted White Flange only <input type="checkbox"/> WF Wide Flange <input type="checkbox"/> WW³ Wall Wash	<input type="checkbox"/> RWD6² Retrofit Wide Diameter Housing kit (6") <input type="checkbox"/> LiteGear¹ Inverter, single phase central lighting, 125VA-250VA <input type="checkbox"/> LPS Series¹ LitePower micro-inverter, 20VA-55VA

¹ See Central Inverter compatibility note and web links on page 4.
² See housing compatibility guide for hole diameter compatibility
³ Damp location only
⁴ Not available in 40K or 50K

PHOTOMETRIC DATA

Retrofient® - 6" RLC6ML Downlight

DRIVER DATA	RLC6ML24Lxxx	RLC6ML30Lxxx
Input Voltage	120-277V	120-277V
Input Frequency	50/60 Hz	50/60 Hz
Input Current	0.271 (120v) 0.117 (277v)	0.346 (120v) 0.150 (277v)
Input Power	32.5W	41.5W
Constant Current Output	675mA	675mA
Power Factor	≥0.90	≥0.90
THD	<20%	<20%
EMI Filtering	FCC 47CFR Part 15, Class A	FCC 47CFR Part 15, Class A
Operating Temperature	-30°C to +35°C	-30°C to +25°C
Dimming	0-10V to 10%	0-10V to 10%
Over-voltage, over-current, short-circuit protected		

Lumen Multiplier Table

Photometrics for the RLC6ML are published below at a nominal 3000 Kelvin temperature. This table may be used to approximate the lumen values at different Kelvin temperatures. Power consumption would stay the same.

5000 Kelvin	1.14
4000 Kelvin	1.03
3500 Kelvin	1.00
3000 Kelvin	1.00
2700 Kelvin	0.91

RLC6ML 6LCML30L30K8

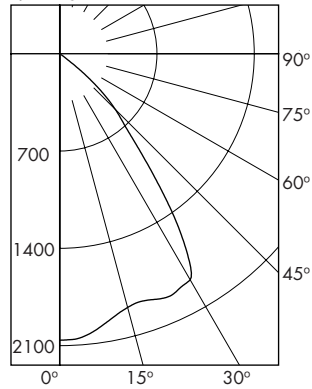
LED Light Engine: 3000K, 80+ CRI
System Wattage: 41.5W
Fixture Delivered Lumens: 2993
Fixture Efficacy: 72.1
Spacing Criteria: 1.1

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LUMINAIRE
0-30	1609	53.7
0-40	2484	83.0
0-60	2983	99.7
0-90	2993	100.0
90-180	0	0.0
0-180	2993	100.0

LUMINANCE DATA IN CANDELA/SQ. METER

Angle in Vertical	AVERAGE
45°	47846
55°	3433
65°	1130
75°	461
85°	0



CANDELA DISTRIBUTION	
DEG	CANDELA
0	2061
5	2040
15	1890
25	1914
35	1444
45	567
55	33
65	8
75	2
85	0
90	0

Test No. 9491

Tested at 25°C Ambient in accordance to IESNA LM-79-2008

COEFFICIENTS OF UTILIZATION Zonal Cavity Method

Room Cavity Ratio	% Effective Ceiling Cavity Reflectance																
	80%			70%			50%			30%			10%				
	70	50	30	70	50	30	70	50	30	70	50	30	70	50	30		
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94
2	106	101	96	93	104	99	95	92	96	93	90	93	90	88	90	88	86
3	100	93	87	83	98	91	86	82	89	84	81	86	83	80	84	81	78
4	94	86	79	75	92	84	79	74	82	77	73	80	76	72	78	75	72
5	88	79	72	68	87	78	72	67	76	71	67	74	70	66	73	69	65
6	83	73	66	61	82	72	66	61	71	65	61	69	64	60	68	63	60
7	78	68	61	56	77	67	61	56	66	60	56	64	59	55	63	59	55
8	74	63	56	51	72	62	56	51	61	55	51	60	55	51	59	54	51
9	69	59	52	47	68	58	52	47	57	51	47	56	51	47	55	50	47
10	66	55	48	44	64	54	48	44	53	48	44	52	47	43	52	47	43

RLC6ML 6LCML30K8

Test No. 9491

RLC6ML 6LCML24L30K8

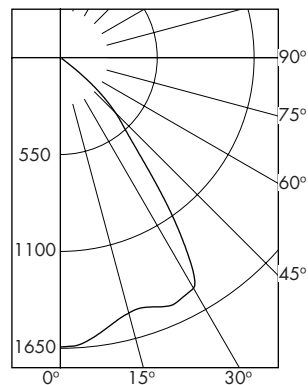
LED Light Engine: 3000K, 80+ CRI
System Wattage: 32.5W
Fixture Delivered Lumens: 2375
Fixture Efficacy: 73.1
Spacing Criteria: 1.1

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LUMINAIRE
0-30	1286	54.2
0-40	1976	83.2
0-60	2367	99.6
0-90	2375	100.0
90-180	0	0.0
0-180	2375	100.0

LUMINANCE DATA IN CANDELA/SQ. METER

Angle in Vertical	AVERAGE
45°	37467
55°	2809
65°	847
75°	461
85°	0



CANDELA DISTRIBUTION	
DEG	CANDELA
0	1642
5	1621
15	1501
25	1540
35	1133
45	444
55	27
65	6
75	2
85	0
90	0

Test No. 14.00035

Tested at 25°C Ambient in accordance to IESNA LM-79-2008

COEFFICIENTS OF UTILIZATION Zonal Cavity Method

Room Cavity Ratio	% Effective Ceiling Cavity Reflectance																
	80%			70%			50%			30%			10%				
	70	50	30	70	50	30	70	50	30	70	50	30	70	50	30		
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94
2	106	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86
3	100	93	87	83	98	92	86	82	89	84	81	86	83	80	84	81	78
4	94	86	79	75	92	84	79	74	82	77	73	80	76	72	78	75	72
5	88	79	72	68	87	78	72	67	76	71	67	74	70	66	73	69	65
6	83	73	66	62	82	72	66	61	71	65	61	69	64	60	68	63	60
7	78	68	61	56	77	67	61	56	66	60	56	64	59	55	63	59	55
8	74	63	56	52	72	62	56	51	61	55	51	60	55	51	59	54	51
9	69	59	52	48	68	58	52	47	57	51	47	56	51	47	55	50	47
10	66	55	48	44	65	54	48	44	53	48	44	52	47	43	52	47	43

RLC6ML 6LCML30L30K8

Test No. 14.00035



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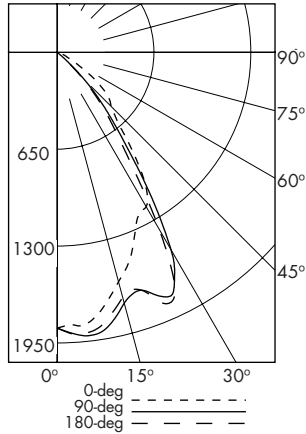


PHOTOMETRIC DATA

Retrofient® - 6" RLC6ML Downlight

RLC6ML 6LCML24L30K8 WW

LED Light Engine: 3000K, 80+ CRI
 System Wattage: 32.4W
 Fixture Delivered Lumens: 2331
 Fixture Efficacy: 71.9



CANDELA DISTRIBUTION				
DEG	0	90	180	
0	1850	1850	1850	
5	1842	1907	1894	
15	1594	1742	1702	
25	1261	1804	1837	
35	994	936	771	
45	514	261	223	
55	290	9	8	
65	72	3	3	
75	12	2	2	
85	1	0	0	
90	0	0	0	

LUMINANCE DATA IN CANDELA/SQ. METER

Angle in Vertical	0 DEG	90 DEG	180 DEG
45°	43374	22024	18818
55°	30169	936	832
65°	10166	424	424
75°	2767	461	461
85°	685	0	0

Test No. 14.00036

Tested at 25°C Ambient in accordance to IESNA LM-79-2008



2.5' DISTANCE FIXTURE MOUNTED OUT FROM WALLS FOOTCANDLE DISTRIBUTION ON WALL SURFACE (Direct Only)

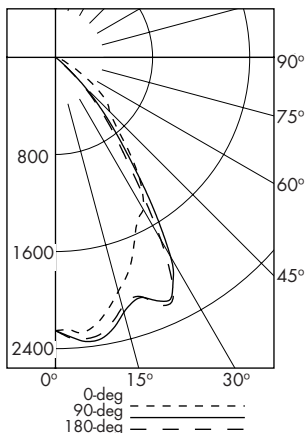
DISTANCE FROM CEILING IN FEET	MULTIPLE UNITS											
	1' 2' 3' 4'				UNITS ON 3' CENTER				UNITS ON 4' CENTER			
1	7	4	1	0	0	7	4	7	7	1	7	
2	30	20	5	1	0	32	21	32	31	9	31	
3	29	21	11	2	0	33	33	33	30	22	30	
4	27	24	13	5	1	38	39	38	30	26	30	
5	18	17	14	7	3	31	37	31	24	29	24	
6	12	12	11	8	4	29	28	29	20	24	20	
7	9	8	8	7	4	26	23	26	18	18	18	
8	7	6	6	6	4	21	20	21	16	14	16	
9	5	5	4	4	4	17	17	17	14	12	14	

RLC6ML 6LCML24L30K8 WW

Test No. 14.00036

RLC6ML 6LCML30L30K8 WW

LED Light Engine: 3000K, 80+ CRI
 System Wattage: 41.4W
 Fixture Delivered Lumens: 2905
 Fixture Efficacy: 70.2



CANDELA DISTRIBUTION				
DEG	0	90	180	
0	2251	2251	2251	
5	2278	2341	2329	
15	1997	2175	2129	
25	1565	2211	2239	
35	1197	1194	1007	
45	630	332	293	
55	354	13	11	
65	92	5	4	
75	15	3	3	
85	1	0	0	
90	0	0	0	

LUMINANCE DATA IN CANDELA/SQ. METER

Angle in Vertical	0 DEG	90 DEG	180 DEG
45°	53162	28016	24725
55°	36827	1352	1144
65°	12989	706	565
75°	3458	692	692
85°	685	0	0



2.5' DISTANCE FIXTURE MOUNTED OUT FROM WALLS FOOTCANDLE DISTRIBUTION ON WALL SURFACE (Direct Only)

DISTANCE FROM CEILING IN FEET	MULTIPLE UNITS											
	1' 2' 3' 4'				UNITS ON 3' CENTER				UNITS ON 4' CENTER			
1	9	5	1	0	0	9	5	9	9	2	9	
2	37	24	6	1	0	39	26	39	37	11	37	
3	36	27	14	3	1	42	41	42	37	27	37	
4	32	29	16	7	2	47	48	47	36	33	36	
5	22	21	17	9	4	39	46	39	29	35	29	
6	15	14	14	10	5	36	35	36	25	29	25	
7	11	11	10	9	5	32	29	32	22	23	22	
8	8	8	7	7	5	26	25	26	20	18	20	
9	6	6	6	5	5	21	22	21	17	15	17	

RLC6ML 6LCML30L30K8 WW

Test No. 9493

Test No. 9493

Tested at 25°C Ambient in accordance to IESNA LM-79-2008



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PHOTOMETRIC DATA

Dimming Compatibility Table

Dimming Ballast	Manufacturer	Web Link
DM/DM1	Lutron DDTV	http://bit.ly/11jSvZg
DM/DM1	Leviton AWRMG-7xx, AWSMG-7xx, AWSMT-7xx	http://bit.ly/1BJn2R9

Central Inverters

For full fixture output in back-up mode, we recommend you visit www.dual-lite.com for your Central Lighting Inverter options. Please contact your local Hubbell representative for any assistance with proper sizing and loading of your inverter selection. Central lighting inverters must be ordered separately.

LiteGear: www.dual-lite.com/products/litegear_lg_series

LPS Series: www.dual-lite.com/products/lps

HOUSING COMPATIBILITY GUIDE		
ORDERING GUIDELINES	6 INCH	
	MIN	MAX
REQUIRES SD HOUSING OPTION	5-15/16	6-1/8
ALL STANDARD HOUSINGS	6-1/8	6-1/2
REQUIRES RWD KIT ACCESSORY & WF REFLECTOR OPTION	6-1/2	6-7/8

Dimensions shown are for the diameter of the frame flange at it's narrowest point

