



# SQUARE MINI LED DOWNLIGHT

## MDSL2 RECESSED HOUSING AND TRIM LOW VOLTAGE

Project: \_\_\_\_\_

Fixture Type: \_\_\_\_\_

Location: \_\_\_\_\_

Contact/Phone: \_\_\_\_\_

### PRODUCT DESCRIPTION

The square mini LED recessed downlight is IC rated for insulated or non-insulated applications • Sleek, compact form factor provides direct accent lighting with low glare optic system that approximates the light output and distribution of 20W halogen lamps • Ideal for both residential and commercial limited space applications including niches, bookshelves, displays and cabinets • Remote mount Class 2 120V to 12V AC electronic or magnetic transformer required • Designed to provide 50,000 hours of life • 5 year limited warranty on LED components.

### ENVIRONMENTALLY FRIENDLY, ENERGY EFFICIENT

- No harmful ultraviolet or infrared wavelengths
- No lead or mercury
- Comparable light output to 20W MR11 halogen lamps while consuming 5W

### PRODUCT SPECIFICATIONS

**LED Light Engine** High performance, low power LEDs provide outstanding reliability, performance and color quality/consistency • 2700K, 3000K, 3500K or 4100K color temperatures available • 80 or 90 CRI minimum.

**Optical System** Fixtures are offered with a choice of spot, narrow flood or flood beam patterns • LED source concealed with lensed optic is deeply regressed into an internal reflector to produce a low glare system • Reflectors finished to match trim ring color for uniform appearance • Field replacement of optical lenses is NOT recommended.

**Transformer** Requires remote mount Class 2, 120V to 12V AC electronic or magnetic transformer for operation • Juno [TL602E](#) electronic transformer and [TL576](#) magnetic transformer are designed specifically for use with these fixtures.

**Dimming** May be dimmed with dimmers tested and qualified by Juno for use with [TL602E](#) and [TL576](#) – see transformer specifications for compatible dimmers • Color temperature remains constant over dimming range • Consult factory for additional information.

**Life** Rated for 50,000 hours at 70% lumen maintenance.

**Labels** UL Listed for indoor damp locations and daisy chaining • Union made • UL and cUL listed • RoHS compliant.

**Testing** All reports are based on published industry procedures; field performance may differ from laboratory performance.

Product specifications subject to change without notice.

### HOUSING FEATURES

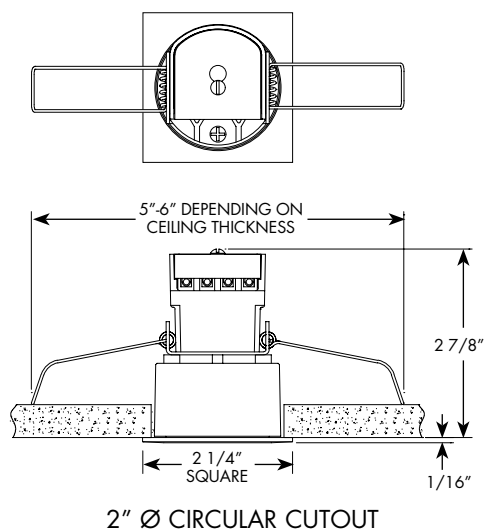
**Housing** Designed for use in IC (insulated ceiling) or non-IC construction • Die cast aluminum housing.

**Wiring Compartment** Provided with removable access plate • Four pole terminal block allows for quick, secure connection • UL /cUL listed for daisy chaining • Easy to wire with commonly available low voltage cable (Type CL2 or NEC equivalent, 18-12 AWG). Consult local codes for compliant wiring methods.

**Mounting** Tempered spring steel torsion clips are provided fully assembled to housing • Springs allow for fast, secure installation or removal in mounting surfaces from 1/8" to 1" thick material • 2" Cutout dimension corresponds to common hole saw size.



### DIMENSIONS



### ELECTRICAL DATA

Input Voltage	<b>12VAC</b>
Input Power	4.8W
Input Current	0.42A
Frequency	Varies with Transformer

### ORDERING INFORMATION:

Example: **MDSL2-27K-FL-WH**

#### Fixture

Catalog No.	Color Temp./CRI	Optic	Finish
<b>MDSL2</b>	<b>27K</b> 2700K-80CRI <b>3K</b> 3000K-80CRI <b>35K</b> 3500K-80CRI <b>41K</b> 4100K-80CRI <b>927</b> 2700K-90CRI <b>930</b> 3000K-90CRI <b>935</b> 3500K-90CRI <b>940</b> 4000K-90CRI	<b>SP</b> Spot <b>NFL</b> Narrow Flood <b>FL</b> Flood	<b>WH</b> White <b>BL</b> Black <b>SN</b> Satin Nickel <b>BZ</b> Bronze

#### Transformers

Catalog Number	Finish	Description
<b>TL602E-10-WH</b>	White	10W 12V AC Electronic Driver/Transformer
<b>TL602E-25-WH</b>	White	25W 12V AC Electronic Driver/Transformer
<b>TL602E-60-WH</b>	White	60W 12V AC Electronic Driver/Transformer
<b>TL576-10-BL</b>	Black	10W 12V AC Magnetic Driver/Transformer
<b>TL576-25-BL</b>	Black	25W 12V AC Magnetic Driver/Transformer
<b>TL576-60-BL</b>	Black	60W 12V AC Magnetic Driver/Transformer

# SQUARE MINI LED DOWNLIGHT

## MDSL2 RECESSED HOUSING AND TRIM

### LOW VOLTAGE

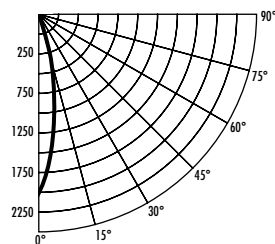
#### PHOTOMETRIC REPORT

Test Report #: PTO2140501R

Catalog No: MDSL2-35K-SP-WH

Luminaire Spacing Criterion: 0.34

Luminaire LPW: 67



#### CANDLEPOWER DISTRIBUTION (Candelas)

Degrees Vertical	0°
0	2061
5	1701
15	437
25	67
35	13
45	5
55	2
65	1
75	0
85	0
90	0

Multiplier: 80CRI 90CRI  
 27K - 0.91 927 - 0.67  
 3K - 0.95 930 - 0.72  
 35K - 1.00 935 - 0.77  
 41K - 1.01 940 - 0.80

#### AVERAGE INITIAL FOOTCANDLES Multiple Units (Square Array, 60' x 60' room)

Ceiling 80%, Wall 50%, Floor 20%

Spacing	RCR1	RCR4	RCR8
4'	23	21	19
5'	15	13	12
6'	10	9	9
7'	8	8	7
8'	7	6	6
9'	5	5	4
10'	4	3	3

#### INITIAL FOOTCANDLES

One Unit, 5W, 19.6° Beam

Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4	128.8	1.4'
6	57.3	2.1'
8	32.2	2.8'
10	20.6	3.5'

#### LUMINANCE (Average cd/m<sup>2</sup>)

Degrees	Average 0° Luminance
45	11169
55	7031
65	5169
75	4544
85	1928

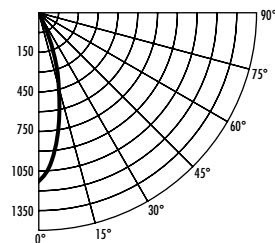
#### PHOTOMETRIC REPORT

Test Report #: PTO2140502R

Catalog No: MDSL2-35K-NFL-WH

Luminaire Spacing Criterion: 0.44

Luminaire LPW: 63



#### CANDLEPOWER DISTRIBUTION (Candelas)

Degrees Vertical	0°
0	1128
5	999
15	441
25	122
35	29
45	8
55	4
65	2
75	1
85	0
90	0

Multiplier: 80CRI 90CRI  
 27K - 0.91 927 - 0.67  
 3K - 0.95 930 - 0.72  
 35K - 1.00 935 - 0.77  
 41K - 1.01 940 - 0.80

#### AVERAGE INITIAL FOOTCANDLES Multiple Units (Square Array, 60' x 60' room)

Ceiling 80%, Wall 50%, Floor 20%

Spacing	RCR1	RCR4	RCR8
4'	23	20	18
5'	14	13	12
6'	10	9	8
7'	8	7	7
8'	6	6	5
9'	5	4	4
10'	4	3	3

#### INITIAL FOOTCANDLES

One Unit, 5W, 24.9° Beam

Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4	70.5	1.8'
6	31.3	2.6'
8	17.6	3.5'
10	11.3	4.4'

#### LUMINANCE (Average cd/m<sup>2</sup>)

Degrees	Average 0° Luminance
45	19723
55	12304
65	9542
75	8440
85	1928

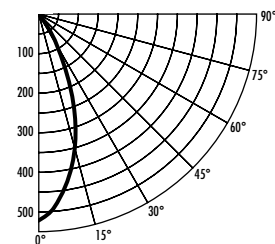
#### PHOTOMETRIC REPORT

Test Report #: PTO2140503R

Catalog No: MDSL2-35K-FL-WH

Luminaire Spacing Criterion: 0.62

Luminaire LPW: 55



#### CANDLEPOWER DISTRIBUTION (Candelas)

Degrees Vertical	0°
0	533
5	519
15	355
25	135
35	39
45	13
55	7
65	4
75	2
85	0
90	0

Multiplier: 80CRI 90CRI  
 27K - 0.91 927 - 0.67  
 3K - 0.95 930 - 0.72  
 35K - 1.00 935 - 0.77  
 41K - 1.01 940 - 0.80

#### AVERAGE INITIAL FOOTCANDLES Multiple Units (Square Array, 60' x 60' room)

Ceiling 80%, Wall 50%, Floor 20%

Spacing	RCR1	RCR4	RCR8
4'	18	16	14
5'	12	10	9
6'	8	7	6
7'	7	6	5
8'	5	5	4
9'	4	4	3
10'	3	3	2

#### INITIAL FOOTCANDLES

One Unit, 5W, 37.1° Beam

Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4	33.3	2.7'
6	14.8	4.0'
8	8.3	5.4'
10	5.3	6.7'

#### LUMINANCE (Average cd/m<sup>2</sup>)

Degrees	Average 0° Luminance
45	31367
55	21678
65	17096
75	12984
85	3856

Fixtures tested to IES recommended standard for solid state lighting per LM-79-08. Photometric performance on a single unit at 12VAC in a 25°C ambient represents a baseline of performance for the fixture. Results may vary in the field and when multiple fixtures are used in a system.



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