

# PHILIPS LIGHTOLIER

## Downlighting

### SlimSurface

5", 7" and 10" round aperture  
LED surface mount downlight



Project: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Cat.No: \_\_\_\_\_  
 Type: \_\_\_\_\_  
 Lamps: \_\_\_\_\_ Qty: \_\_\_\_\_  
 Notes: \_\_\_\_\_

SlimSurface is a 5/8" thick LED surface mounted luminaire with the appearance of a recessed downlight. Easy to install into most standard j-boxes, the SlimSurface round apertures are available as a 5" 650lm, 7" 1000lm and 10" 2200lm fixture.



### Ordering guide

example: S5R830K7AL

| Family                               | CRI                                     | CCT  | Lumens                   | Finish  | Dimming  |
|--------------------------------------|---|--|--------------------------|---|--|
| <input type="checkbox"/>             | <input type="checkbox"/>                | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/>   |
| <b>S5R</b> SlimSurface<br>5" Round   | <b>8</b> 80<br><b>9</b> 90 <sup>1</sup> | <b>27K</b> 2700K<br><b>30K</b> 3000K<br><b>35K</b> 3500K<br><b>40K</b> 4000K | <b>7</b> 650lm           | <b>blank</b> White<br><b>AL</b> Aluminum<br><b>BK</b> Black<br><b>W</b> White<br><b>AL</b> Aluminum<br><b>BK</b> Black                    | <b>blank</b> ELV / Triac (120V)<br><b>Z10U</b> 0-10V (120V-277V) |
| <b>S7R</b> SlimSurface<br>7" Round   | <b>8</b> 80<br><b>9</b> 90 <sup>1</sup> | <b>27K</b> 2700K<br><b>30K</b> 3000K<br><b>35K</b> 3500K<br><b>40K</b> 4000K | <b>10</b> 1000lm         | <b>blank</b> White<br><b>AL</b> Aluminum<br><b>BK</b> Black<br><b>W</b> White<br><b>AL</b> Aluminum<br><b>BK</b> Black                    | <b>blank</b> ELV / Triac (120V)<br><b>Z10U</b> 0-10V (120V-277V) |
| <b>S10R</b> SlimSurface<br>10" Round | <b>8</b> 80<br><b>9</b> 90 <sup>1</sup> | <b>27K</b> 2700K<br><b>30K</b> 3000K<br><b>35K</b> 3500K<br><b>40K</b> 4000K | <b>22</b> 2200lm         | <b>blank</b> White<br><b>AL</b> Aluminum<br><b>BK</b> Black<br><b>MT</b> Metal<br><b>W</b> White<br><b>AL</b> Aluminum<br><b>BK</b> Black | <b>blank</b> ELV / Triac (120V)<br><b>Z10U</b> 0-10V (120V-277V) |

1. Configurations using 90 CRI are only available with 2700K & 3000K CCT.

### Features

- Flange:** One piece plastic flange. Injection molded white, applied aluminum or black.
- Lens:** High transmittance lens allowing for smooth, comfortable light pattern.
- Power supply:** Integral class 2 driver. Factory wired electronic LED driver (see Electrical section for specifications)
- LED Strip:** Utilizes Philips LEDs.
- Lifetime:** Expected lifetime 50,000 hours and backed by a 5-year warranty (see Philips.com/warranties for details).
- Compliance:** Non-conductive fixture for shower light application.

### Dimming

Intended for ELV/Triac (120V) or 0-10V dimming (120V-277V) based on the configuration. Min 90°C supply conductors.

### Electrical

**Electronic power supply:** RoHS compliant. Class 2 power unit. Unit tolerates sustained open circuit and short circuit output conditions without damage.

| Electrical specifications | Dimming | Input volts | Input frequency | Input current | Input Power | THD Factor | Power Factor | Minimum Operating Temp. |
|---------------------------|---------|-------------|-----------------|---------------|-------------|------------|--------------|-------------------------|
| Slim 5" 650lm             | Triac   | 120V        | 50/60Hz         | 0.08A         | 9.5W        | <15%       | >0.9         | -20°C                   |
|                           | 0-10V   | 120V        | 50/60Hz         | 0.09A         | 10.1W       | <20%       | >0.9         | -20°C                   |
|                           |         | 277V        | 50/60Hz         | 0.04A         | 10.2W       | <20%       | >0.9         | -20°C                   |
| Slim 7" 1000lm            | Triac   | 120V        | 50/60Hz         | 0.13A         | 14.2W       | <15%       | >0.9         | -20°C                   |
|                           | 0-10V   | 120V        | 50/60Hz         | 0.12A         | 14.4W       | <20%       | >0.9         | -20°C                   |
|                           |         | 277V        | 50/60Hz         | 0.06A         | 14.7W       | <20%       | >0.9         | -20°C                   |
| Slim 10" 2200lm           | Triac   | 120V        | 50/60Hz         | 0.20A         | 23.2W       | <20%       | >0.9         | -20°C                   |
|                           | 0-10V   | 120V        | 50/60Hz         | 0.20A         | 23.2W       | <10%       | >0.95        | -20°C                   |
|                           |         | 277V        | 50/60Hz         | 0.09A         | 24.6W       | <15%       | >0.95        | -20°C                   |

For more details, please see LED-DIM-DL spec sheet.

### Labels

cULus listed. ENERGY STAR® certified.  
 Wall-mounted: damp location only.  
 Ceiling-mounted: wet location.



# S5R, S7R & S10R SlimSurface

5", 7" and 10" round aperture LED surface mount downlight

## Compatibility

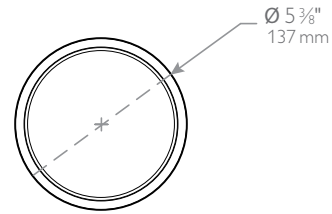
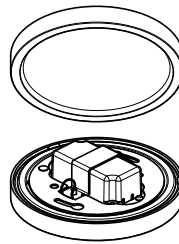
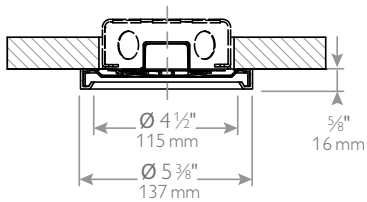
Installs into standard J-box applications for 5" & 7" models (for 10" model fixture install into 4-11/16" J-box):



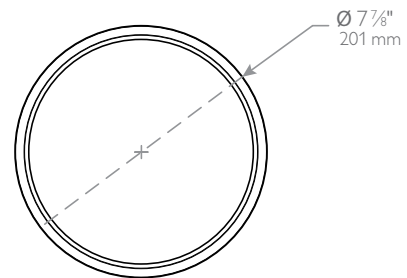
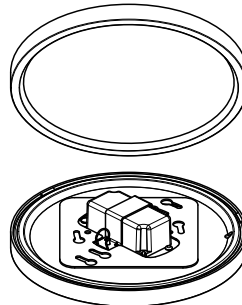
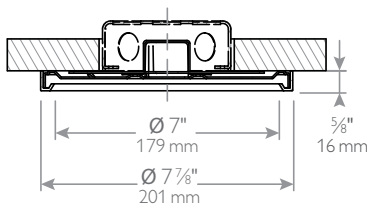
Note: A 2 1/8" deep octagon junction box is recommended for through circuit wiring applications.

## Dimensions

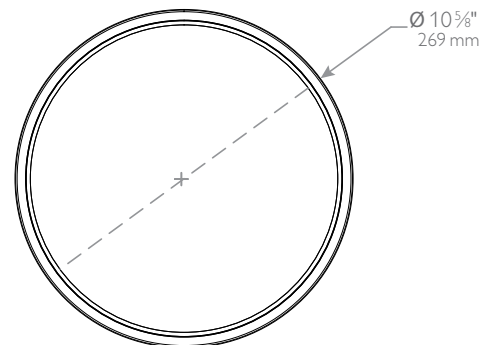
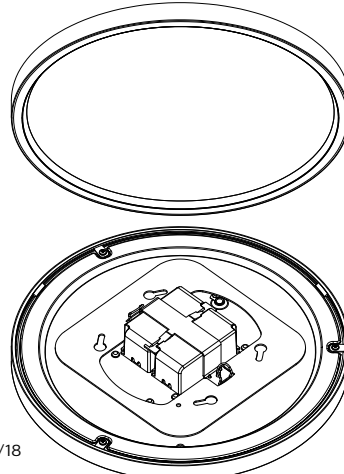
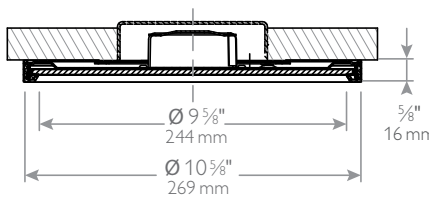
### SlimSurface LED 5" downlight



### SlimSurface LED 7" downlight



### SlimSurface LED 10" downlight

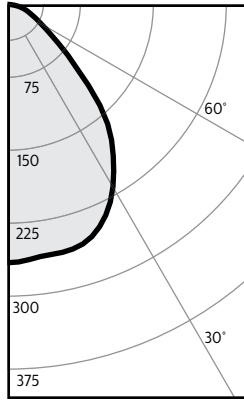


# S5R, S7R & S10R SlimSurface

5", 7" and 10" round aperture LED surface mount downlight

## S5R927K7 • 10 W LED, 90CRI, 2700K

Candela Curves



| Angle | Mean CP | Lumens |
|-------|---------|--------|
| 0     | 266     |        |
| 5     | 263     | 25     |
| 10    | 261     |        |
| 15    | 260     | 736    |
| 20    | 254     |        |
| 25    | 239     | 110    |
| 30    | 217     |        |
| 35    | 190     | 118    |
| 40    | 160     |        |
| 45    | 118     | 91     |
| 50    | 81      |        |
| 55    | 55      | 51     |
| 60    | 40      |        |
| 65    | 30      | 31     |
| 70    | 23      |        |
| 75    | 18      | 18     |
| 80    | 11      |        |
| 85    | 4       | 5      |
| 90    | 0       |        |

Single unit data

| Height to Lighted Plane | Initial center beam foot-candles | Beam dia. (ft)* |
|-------------------------|----------------------------------|-----------------|
| 5'                      | 11                               | 6.0'            |
| 6'                      | 7                                | 7.2'            |
| 7'                      | 5                                | 8.4'            |
| 8'                      | 4                                | 9.6'            |
| 9'                      | 3                                | 10.8'           |

\* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

| Spacing on center | Initial center beam foot-candles | Watts per sq.ft. |
|-------------------|----------------------------------|------------------|
| 5'                | 21.8                             | 0.40             |
| 6'                | 14.2                             | 0.26             |
| 7'                | 10.2                             | 0.19             |
| 8'                | 8.5                              | 0.16             |
| 9'                | 6.8                              | 0.13             |

Coefficients of utilization

| Ceiling | 80%   |    |    |    | 70% |    | 50% |    | 30% |    | 0% |
|---------|---|----|----|----|-----|----|-----|----|-----|----|----|
|         | 70  | 50 | 30 | 10 | 50  | 10 | 50  | 10 | 50  | 10 | 0  |
| Wall    | 70  | 50 | 30 | 10 | 50  | 10 | 50  | 10 | 50  | 10 | 0  |
| RCR     | Zonal cavity method - Effective floor reflectance = 20% |    |    |    |     |    |     |    |     |    |    |

| Room Cavity Ratio | 80% |     |     |     | 70% |     | 50% |     | 30% |     | 0%  |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                   | 70  | 50  | 30  | 10  | 50  | 10  | 50  | 10  | 50  | 10  | 0   |
| 0                 | 119 | 119 | 119 | 119 | 116 | 116 | 111 | 111 | 106 | 106 | 100 |
| 1                 | 111 | 107 | 103 | 100 | 105 | 98  | 100 | 95  | 97  | 92  | 88  |
| 2                 | 102 | 96  | 90  | 85  | 94  | 84  | 90  | 82  | 87  | 80  | 77  |
| 3                 | 95  | 86  | 79  | 73  | 84  | 73  | 82  | 72  | 79  | 70  | 67  |
| 4                 | 88  | 78  | 70  | 64  | 76  | 64  | 74  | 63  | 72  | 62  | 60  |
| 5                 | 82  | 71  | 63  | 57  | 70  | 57  | 68  | 56  | 66  | 56  | 53  |
| 6                 | 76  | 64  | 57  | 51  | 64  | 51  | 62  | 50  | 60  | 50  | 48  |
| 7                 | 71  | 59  | 51  | 46  | 58  | 46  | 57  | 45  | 56  | 45  | 43  |
| 8                 | 67  | 54  | 47  | 42  | 54  | 41  | 53  | 41  | 51  | 41  | 39  |
| 9                 | 63  | 50  | 43  | 38  | 50  | 38  | 49  | 38  | 48  | 37  | 36  |
| 10                | 59  | 47  | 40  | 35  | 46  | 35  | 45  | 34  | 44  | 34  | 33  |

Zonal lumens & percentages

| Zone | Lumens | %Luminaire |
|------|--------|------------|
| 0-30 | 208    | 39.8%      |
| 0-40 | 326    | 62.5%      |
| 0-60 | 469    | 89.7%      |
| 0-90 | 522    | 100.0%     |

CRI and CCT adjustment factors

|                     |
|---------------------|
| 90 CRI 2700K = 84%  |
| 80 CRI 2700K = 100% |
| 80 CRI 3000K = 100% |
| 80 CRI 3500K = 105% |
| 80 CRI 4000K = 109% |

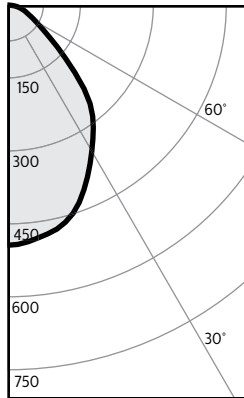
Report: 1053GFR

|                            |        |                    |          |
|----------------------------|--------|--------------------|----------|
| Output lumens:             | 523lms | Efficacy:          | 57.4lm/w |
| Spacing Criterion:         | 1.2    | CCT <sup>3</sup> : | 2700K    |
| Beam Angle:                | 87°    | CRI:               | 90min    |
| Input Watts <sup>2</sup> : | 9.1W   |                    |          |

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

## S7R927K7 • 14 W LED, 90CRI, 2700K

Candela Curves



| Angle | Mean CP | Lumens |
|-------|---------|--------|
| 0     | 496     |        |
| 5     | 490     | 46     |
| 10    | 479     |        |
| 15    | 464     | 130    |
| 20    | 433     |        |
| 25    | 391     | 180    |
| 30    | 348     |        |
| 35    | 309     | 193    |
| 40    | 265     |        |
| 45    | 197     | 152    |
| 50    | 135     |        |
| 55    | 92      | 85     |
| 60    | 68      |        |
| 65    | 51      | 52     |
| 70    | 40      |        |
| 75    | 30      | 32     |
| 80    | 21      |        |
| 85    | 9       | 10     |
| 90    | 0       |        |

Single unit data

| Height to Lighted Plane | Initial center beam foot-candles | Beam dia. (ft)* |
|-------------------------|----------------------------------|-----------------|
| 5'                      | 20                               | 5.5'            |
| 6'                      | 14                               | 6.6'            |
| 7'                      | 10                               | 7.7'            |
| 8'                      | 8                                | 8.8'            |
| 9'                      | 6                                | 9.9'            |

\* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

| Spacing on center | Initial center beam foot-candles | Watts per sq.ft. |
|-------------------|----------------------------------|------------------|
| 5'                | 21.8                             | 2.89             |
| 6'                | 14.2                             | 1.90             |
| 7'                | 10.2                             | 1.35             |
| 8'                | 8.5                              | 1.13             |
| 9'                | 6.8                              | 0.90             |

Coefficients of utilization

| Ceiling | 80%   |    |    |    | 70% |    | 50% |    | 30% |    | 0% |
|---------|---|----|----|----|-----|----|-----|----|-----|----|----|
|         | 70  | 50 | 30 | 10 | 50  | 10 | 50  | 10 | 50  | 10 | 0  |
| Wall    | 70  | 50 | 30 | 10 | 50  | 10 | 50  | 10 | 50  | 10 | 0  |
| RCR     | Zonal cavity method - Effective floor reflectance = 20% |    |    |    |     |    |     |    |     |    |    |

| Room Cavity Ratio | 80% |     |     |     | 70% |     | 50% |     | 30% |     | 0%  |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                   | 70  | 50  | 30  | 10  | 50  | 10  | 50  | 10  | 50  | 10  | 0   |
| 0                 | 119 | 119 | 119 | 119 | 116 | 116 | 111 | 111 | 106 | 106 | 100 |
| 1                 | 111 | 107 | 103 | 100 | 104 | 98  | 100 | 95  | 96  | 92  | 88  |
| 2                 | 102 | 96  | 90  | 85  | 94  | 84  | 90  | 82  | 87  | 80  | 77  |
| 3                 | 95  | 86  | 79  | 74  | 85  | 73  | 82  | 72  | 79  | 71  | 67  |
| 4                 | 88  | 78  | 70  | 65  | 77  | 64  | 74  | 63  | 72  | 62  | 60  |
| 5                 | 82  | 71  | 63  | 57  | 70  | 57  | 68  | 56  | 66  | 56  | 53  |
| 6                 | 76  | 65  | 57  | 51  | 64  | 51  | 62  | 51  | 61  | 50  | 48  |
| 7                 | 71  | 59  | 52  | 46  | 59  | 46  | 57  | 46  | 56  | 45  | 43  |
| 8                 | 67  | 55  | 47  | 42  | 54  | 42  | 53  | 42  | 52  | 41  | 39  |
| 9                 | 63  | 51  | 43  | 38  | 50  | 38  | 49  | 38  | 48  | 38  | 36  |
| 10                | 59  | 47  | 40  | 35  | 47  | 35  | 46  | 35  | 45  | 35  | 33  |

Zonal lumens & percentages

| Zone | Lumens | %Luminaire |
|------|--------|------------|
| 0-30 | 356    | 40.5%      |
| 0-40 | 549    | 62.4%      |
| 0-60 | 786    | 89.3%      |
| 0-90 | 880    | 100.0%     |

CRI and CCT adjustment factors

|                     |
|---------------------|
| 90 CRI 2700K = 84%  |
| 80 CRI 2700K = 100% |
| 80 CRI 3000K = 100% |
| 80 CRI 3500K = 105% |
| 80 CRI 4000K = 109% |

Report: 962GFR

|                            |        |                    |          |
|----------------------------|--------|--------------------|----------|
| Output lumens:             | 880lms | Efficacy:          | 65.2lm/w |
| Spacing Criterion:         | 1.1    | CCT <sup>3</sup> : | 2700K    |
| Beam Angle:                | 83°    | CRI:               | 90min    |
| Input Watts <sup>2</sup> : | 13.5W  |                    |          |

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.  
 2. Wattage: controlled to within 5%  
 3. Correlated Color Temperature: within specs as defined in ANSI\_NEMA\_ANSI C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

# S5R, S7R & S10R SlimSurface

5", 7" and 10" round aperture LED surface mount downlight

## S5R827K7 • 10 W LED, 80 CRI, 2700 K

| Angle | Mean CP | Lumens |
|-------|---------|--------|
| 0     | 294     |        |
| 5     | 291     | 28     |
| 10    | 289     |        |
| 15    | 288     | 81     |
| 20    | 281     |        |
| 25    | 265     | 121    |
| 30    | 241     |        |
| 35    | 211     | 131    |
| 40    | 178     |        |
| 45    | 131     | 102    |
| 50    | 91      |        |
| 55    | 62      | 57     |
| 60    | 45      |        |
| 65    | 34      | 34     |
| 70    | 26      |        |
| 75    | 20      | 21     |
| 80    | 13      |        |
| 85    | 4       | 5      |
| 90    | 0       |        |

| Height to Lighted Plane | Initial center beam foot-candles | Beam dia. (ft)* |
|-------------------------|----------------------------------|-----------------|
| 5'                      | 12                               | 6.0'            |
| 6'                      | 8                                | 7.2'            |
| 7'                      | 6                                | 8.4'            |
| 8'                      | 5                                | 9.6'            |
| 9'                      | 4                                | 10.8'           |

\* Beam diameter is where foot-candles drop to 50% of maximum.

| Spacing on center | Initial center beam foot-candles | Watts per sq.ft. |
|-------------------|----------------------------------|------------------|
| 5'                | 24.2                             | 2.77             |
| 6'                | 15.8                             | 1.82             |
| 7'                | 11.3                             | 1.30             |
| 8'                | 9.5                              | 1.08             |
| 9'                | 7.5                              | 0.87             |

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

| Ceiling | 80% |    |    |    |    | 70% |    | 50% |    | 30% |   | 0% |
|---------|-----|----|----|----|----|-----|----|-----|----|-----|---|----|
|         | 70  | 50 | 30 | 10 | 50 | 10  | 50 | 10  | 50 | 10  | 0 |    |

| Room Cavity Ratio | 0   | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0                 | 119 | 119 | 119 | 119 | 116 | 116 | 111 | 111 | 106 | 106 | 100 |
| 1                 | 111 | 107 | 103 | 100 | 105 | 105 | 100 | 95  | 97  | 92  | 88  |
| 2                 | 102 | 96  | 90  | 85  | 94  | 94  | 90  | 82  | 87  | 80  | 77  |
| 3                 | 95  | 86  | 79  | 73  | 84  | 84  | 82  | 72  | 79  | 70  | 67  |
| 4                 | 88  | 78  | 70  | 64  | 76  | 76  | 74  | 63  | 72  | 62  | 60  |
| 5                 | 82  | 71  | 63  | 57  | 70  | 70  | 68  | 56  | 66  | 56  | 53  |
| 6                 | 76  | 64  | 57  | 51  | 64  | 64  | 62  | 50  | 60  | 50  | 48  |
| 7                 | 71  | 59  | 51  | 46  | 58  | 58  | 57  | 45  | 56  | 45  | 43  |
| 8                 | 67  | 54  | 47  | 42  | 54  | 54  | 53  | 41  | 51  | 41  | 39  |
| 9                 | 63  | 50  | 43  | 38  | 50  | 50  | 49  | 38  | 48  | 37  | 36  |
| 10                | 59  | 47  | 40  | 35  | 46  | 46  | 45  | 34  | 44  | 34  | 33  |

| Zone | Lumens | %Luminaire |
|------|--------|------------|
| 0-30 | 231    | 39.7%      |
| 0-40 | 362    | 62.3%      |
| 0-60 | 521    | 89.6%      |
| 0-90 | 581    | 100.0%     |

| CRI and CCT adjustment factors |
|--------------------------------|
| 90 CRI 2700K = 84%             |
| 80 CRI 2700K = 100%            |
| 80 CRI 3000K = 100%            |
| 80 CRI 3500K = 105%            |
| 80 CRI 4000K = 109%            |

Report: 1054GFR

|                            |        |                    |          |
|----------------------------|--------|--------------------|----------|
| Output lumens:             | 581lms | Efficacy:          | 62.5lm/w |
| Spacing Criterion:         | 1.2    | CCT <sup>3</sup> : | 2700K    |
| Beam Angle:                | 87°    | CRI:               | 80 min   |
| Input Watts <sup>2</sup> : | 9.3W   |                    |          |

## S7R827K7 • 14 W LED, 80 CRI, 2700 K

| Angle | Mean CP | Lumens |
|-------|---------|--------|
| 0     | 625     |        |
| 5     | 618     | 59     |
| 10    | 604     |        |
| 15    | 584     | 164    |
| 20    | 546     |        |
| 25    | 494     | 227    |
| 30    | 440     |        |
| 35    | 390     | 244    |
| 40    | 337     |        |
| 45    | 250     | 193    |
| 50    | 170     |        |
| 55    | 117     | 108    |
| 60    | 85      |        |
| 65    | 65      | 65     |
| 70    | 51      |        |
| 75    | 39      | 41     |
| 80    | 27      |        |
| 85    | 12      | 13     |
| 90    | 0       |        |

| Height to Lighted Plane | Initial center beam foot-candles | Beam dia. (ft)* |
|-------------------------|----------------------------------|-----------------|
| 5'                      | 25                               | 5.5'            |
| 6'                      | 17                               | 6.6'            |
| 7'                      | 13                               | 7.7'            |
| 8'                      | 10                               | 8.8'            |
| 9'                      | 8                                | 9.9'            |

\* Beam diameter is where foot-candles drop to 50% of maximum.

| Spacing on center | Initial center beam foot-candles | Watts per sq.ft. |
|-------------------|----------------------------------|------------------|
| 5'                | 24.2                             | 3.68             |
| 6'                | 15.8                             | 2.42             |
| 7'                | 11.3                             | 1.73             |
| 8'                | 9.5                              | 1.44             |
| 9'                | 7.5                              | 1.15             |

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

| Ceiling | 80% |    |    |    |    | 70% |    | 50% |    | 30% |   | 0% |
|---------|-----|----|----|----|----|-----|----|-----|----|-----|---|----|
|         | 70  | 50 | 30 | 10 | 50 | 10  | 50 | 10  | 50 | 10  | 0 |    |

| Room Cavity Ratio | 0   | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0                 | 119 | 119 | 119 | 119 | 116 | 116 | 111 | 111 | 106 | 106 | 100 |
| 1                 | 111 | 107 | 103 | 100 | 104 | 98  | 100 | 95  | 96  | 92  | 88  |
| 2                 | 102 | 96  | 90  | 85  | 94  | 84  | 90  | 82  | 87  | 80  | 77  |
| 3                 | 95  | 86  | 79  | 74  | 85  | 73  | 82  | 72  | 79  | 71  | 67  |
| 4                 | 88  | 78  | 70  | 65  | 77  | 64  | 74  | 63  | 72  | 62  | 60  |
| 5                 | 82  | 71  | 63  | 57  | 70  | 57  | 68  | 56  | 66  | 56  | 53  |
| 6                 | 76  | 65  | 57  | 51  | 64  | 51  | 62  | 51  | 61  | 50  | 48  |
| 7                 | 71  | 59  | 52  | 46  | 59  | 46  | 57  | 46  | 56  | 45  | 43  |
| 8                 | 67  | 55  | 47  | 42  | 54  | 42  | 53  | 42  | 52  | 41  | 39  |
| 9                 | 63  | 51  | 43  | 38  | 50  | 38  | 49  | 38  | 48  | 38  | 36  |
| 10                | 59  | 47  | 40  | 35  | 47  | 35  | 46  | 35  | 45  | 35  | 33  |

| Zone | Lumens | %Luminaire |
|------|--------|------------|
| 0-30 | 449    | 40.4%      |
| 0-40 | 693    | 62.3%      |
| 0-60 | 994    | 89.3%      |
| 0-90 | 1113   | 100.0%     |

| CRI and CCT adjustment factors |
|--------------------------------|
| 90 CRI 2700K = 84%             |
| 80 CRI 2700K = 100%            |
| 80 CRI 3000K = 100%            |
| 80 CRI 3500K = 105%            |
| 80 CRI 4000K = 109%            |

Report: 964GFR

|                            |         |                    |          |
|----------------------------|---------|--------------------|----------|
| Output lumens:             | 1113lms | Efficacy:          | 83.1lm/w |
| Spacing Criterion:         | 1.1     | CCT <sup>3</sup> : | 2700K    |
| Beam Angle:                | 83°     | CRI:               | 80 min   |
| Input Watts <sup>2</sup> : | 13.4W   |                    |          |

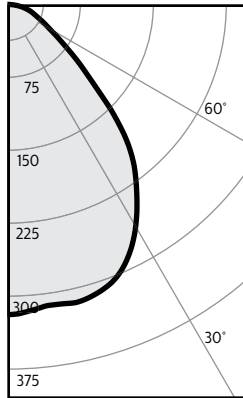
1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.  
 2. Wattage: controlled to within 5%  
 3. Correlated Color Temperature: within specs as defined in ANSI\_NEMA\_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

# S5R, S7R & S10R SlimSurface

5", 7" and 10" round aperture LED surface mount downlight

## S5R830K7 • 10 W LED, 80 CRI, 3000 K

Candela Curves



| Angle | Mean CP | Lumens |
|-------|---------|--------|
| 0     | 319     |        |
| 5     | 315     | 30     |
| 10    | 313     |        |
| 15    | 313     | 88     |
| 20    | 306     |        |
| 25    | 290     | 131    |
| 30    | 264     |        |
| 35    | 231     | 142    |
| 40    | 197     |        |
| 45    | 146     | 109    |
| 50    | 100     |        |
| 55    | 69      | 62     |
| 60    | 50      |        |
| 65    | 38      | 37     |
| 70    | 29      |        |
| 75    | 22      | 22     |
| 80    | 15      |        |
| 85    | 6       | 6      |
| 90    | 0       |        |

Single unit data

| Height to Lighted Plane | Initial center beam foot-candles | Beam dia. (ft)* |
|-------------------------|----------------------------------|-----------------|
| 5'                      | 13                               | 6.0'            |
| 6'                      | 9                                | 7.2'            |
| 7'                      | 7                                | 8.4'            |
| 8'                      | 5                                | 9.6'            |
| 9'                      | 4                                | 10.8'           |

\* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

| Spacing on center | Initial center beam foot-candles | Watts per sq.ft. |
|-------------------|----------------------------------|------------------|
| 5'                | 26.2                             | 3.06             |
| 6'                | 17.1                             | 2.01             |
| 7'                | 12.2                             | 1.43             |
| 8'                | 10.2                             | 1.19             |
| 9'                | 8.1                              | 0.96             |

Coefficients of utilization

| Ceiling           | 80%   |     |     |     |     | 70% |     | 50% |     | 30% |     | 0%  |
|-------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                   | 70  | 50  | 30  | 10  | 50  | 10  | 50  | 10  | 50  | 10  | 0   |     |
| Wall              | 70  | 50  | 30  | 10  | 50  | 10  | 50  | 10  | 50  | 10  | 0   |     |
| RCR               | Zonal cavity method - Effective floor reflectance = 20% |     |     |     |     |     |     |     |     |     |     |     |
| Room Cavity Ratio | 0   | 119 | 119 | 119 | 119 | 116 | 116 | 111 | 111 | 106 | 106 | 100 |
|                   | 1   | 111 | 107 | 103 | 100 | 105 | 98  | 100 | 95  | 97  | 92  | 88  |
|                   | 2   | 102 | 96  | 90  | 85  | 94  | 84  | 90  | 82  | 87  | 80  | 77  |
|                   | 3   | 95  | 86  | 79  | 73  | 84  | 73  | 82  | 72  | 79  | 70  | 67  |
|                   | 4   | 88  | 78  | 70  | 64  | 76  | 64  | 74  | 63  | 72  | 62  | 60  |
|                   | 5   | 82  | 71  | 63  | 57  | 70  | 57  | 68  | 56  | 66  | 56  | 53  |
|                   | 6   | 76  | 64  | 57  | 51  | 64  | 51  | 62  | 50  | 60  | 50  | 48  |
|                   | 7   | 71  | 59  | 51  | 46  | 58  | 46  | 57  | 45  | 56  | 45  | 43  |
|                   | 8   | 67  | 54  | 47  | 42  | 54  | 41  | 53  | 41  | 51  | 41  | 39  |
|                   | 9   | 63  | 50  | 43  | 38  | 50  | 38  | 49  | 38  | 48  | 37  | 36  |
|                   | 10  | 59  | 47  | 40  | 35  | 46  | 35  | 45  | 34  | 44  | 34  | 33  |

Report: 1055GFR

Output lumens: 628lm  
Spacing Criterion: 1.2  
Beam Angle: 87°  
Input Watts: 9.1W

Efficacy: 69.0lm/w  
CCT: 3000K  
CRI: 80min

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Zonal lumens & percentages

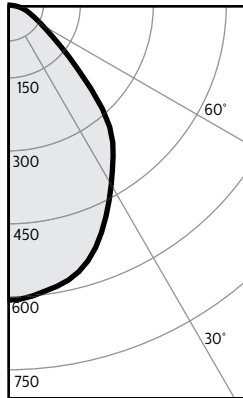
| Zone | Lumens | %Luminaire |
|------|--------|------------|
| 0-30 | 249    | 39.7%      |
| 0-40 | 391    | 62.3%      |
| 0-60 | 562    | 89.6%      |
| 0-90 | 628    | 100.0%     |

CRI and CCT adjustment factors

|                     |
|---------------------|
| 90 CRI 2700K = 84%  |
| 80 CRI 2700K = 100% |
| 80 CRI 3000K = 100% |
| 80 CRI 3500K = 105% |
| 80 CRI 4000K = 109% |

## S7R830K7 • 14 W LED, 80 CRI, 3000 K

Candela Curves



| Angle | Mean CP | Lumens |
|-------|---------|--------|
| 0     | 607     |        |
| 5     | 601     | 57     |
| 10    | 588     |        |
| 15    | 568     | 159    |
| 20    | 531     |        |
| 25    | 480     | 221    |
| 30    | 427     |        |
| 35    | 379     | 237    |
| 40    | 328     |        |
| 45    | 243     | 187    |
| 50    | 165     |        |
| 55    | 113     | 105    |
| 60    | 83      |        |
| 65    | 63      | 63     |
| 70    | 49      |        |
| 75    | 37      | 39     |
| 80    | 26      |        |
| 85    | 12      | 13     |
| 90    | 0       |        |

Single unit data

| Height to Lighted Plane | Initial center beam foot-candles | Beam dia. (ft)* |
|-------------------------|----------------------------------|-----------------|
| 5'                      | 24                               | 5.5'            |
| 6'                      | 17                               | 6.6'            |
| 7'                      | 12                               | 7.7'            |
| 8'                      | 9                                | 8.8'            |
| 9'                      | 7                                | 9.9'            |

\* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

| Spacing on center | Initial center beam foot-candles | Watts per sq.ft. |
|-------------------|----------------------------------|------------------|
| 5'                | 26.2                             | 3.55             |
| 6'                | 17.1                             | 2.33             |
| 7'                | 12.2                             | 1.66             |
| 8'                | 10.2                             | 1.39             |
| 9'                | 8.1                              | 1.11             |

Coefficients of utilization

| Ceiling           | 80%   |     |     |     |     | 70% |     | 50% |     | 30% |     | 0%  |
|-------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                   | 70  | 50  | 30  | 10  | 50  | 10  | 50  | 10  | 50  | 10  | 0   |     |
| Wall              | 70  | 50  | 30  | 10  | 50  | 10  | 50  | 10  | 50  | 10  | 0   |     |
| RCR               | Zonal cavity method - Effective floor reflectance = 20% |     |     |     |     |     |     |     |     |     |     |     |
| Room Cavity Ratio | 0   | 119 | 119 | 119 | 119 | 116 | 116 | 111 | 111 | 106 | 106 | 100 |
|                   | 1   | 111 | 107 | 103 | 100 | 104 | 98  | 100 | 95  | 96  | 92  | 88  |
|                   | 2   | 102 | 96  | 90  | 85  | 94  | 84  | 90  | 82  | 87  | 80  | 77  |
|                   | 3   | 95  | 86  | 79  | 74  | 85  | 73  | 82  | 72  | 79  | 71  | 67  |
|                   | 4   | 88  | 78  | 70  | 65  | 77  | 64  | 74  | 63  | 72  | 62  | 60  |
|                   | 5   | 82  | 71  | 63  | 57  | 70  | 57  | 68  | 56  | 66  | 56  | 53  |
|                   | 6   | 76  | 65  | 57  | 51  | 64  | 51  | 62  | 51  | 61  | 50  | 48  |
|                   | 7   | 71  | 59  | 52  | 46  | 59  | 46  | 57  | 46  | 56  | 45  | 43  |
|                   | 8   | 67  | 55  | 47  | 42  | 54  | 42  | 53  | 42  | 52  | 41  | 39  |
|                   | 9   | 63  | 51  | 43  | 38  | 50  | 38  | 49  | 38  | 48  | 38  | 36  |
|                   | 10  | 59  | 47  | 40  | 35  | 47  | 35  | 46  | 35  | 45  | 35  | 33  |

Report: 961GFR

Output lumens: 1081lm  
Spacing Criterion: 1.1  
Beam Angle: 83°  
Input Watts: 13.5W

Efficacy: 80.0lm/w  
CCT: 3000K  
CRI: 80min

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Zonal lumens & percentages

| Zone | Lumens | %Luminaire |
|------|--------|------------|
| 0-30 | 437    | 40.4%      |
| 0-40 | 674    | 62.3%      |
| 0-60 | 966    | 89.4%      |
| 0-90 | 1081   | 100.0%     |

CRI and CCT adjustment factors

|                     |
|---------------------|
| 90 CRI 2700K = 84%  |
| 80 CRI 2700K = 100% |
| 80 CRI 3000K = 100% |
| 80 CRI 3500K = 105% |
| 80 CRI 4000K = 109% |

1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.  
2. Wattage: controlled to within 5%  
3. Correlated Color Temperature: within specs as defined in ANSI\_NEMA\_ANSI C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

# S5R, S7R & S10R SlimSurface

5", 7" and 10" round aperture LED surface mount downlight

## S5R835K7 • 10W LED, 80CRI, 3500K

| Candela Curves             |        | Angle              | Mean CP  | Lumens | Single unit data  |                                  |                  | Coefficients of utilization  |        |                     |                     |     |     |     |     |     |     |     |     |     |
|----------------------------|--------|--------------------|----------|--------|---|----------------------------------|------------------|--|--------|---------------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                            |        | 0                  | 347      |        | Height to Lighted Plane                                       | Initial center beam foot-candles | Beam dia. (ft)*  | Ceiling  | 80%    |                     |                     |     | 70% |     | 50% |     | 30% |     | 0%  |     |
|                            |        | 5                  | 344      | 33     | 5'  | 14                               | 6.0'             | Wall   | 70     | 50                  | 30                  | 10  | 50  | 10  | 50  | 10  | 50  | 10  | 0   |     |
|                            |        | 10                 | 341      |        | 6'  | 10                               | 7.2'             | RCR Zonal cavity method - Effective floor reflectance = 20%          |        |                     |                     |     |     |     |     |     |     |     |     |     |
|                            |        | 15                 | 340      | 96     | 7'  | 7                                | 8.4'             | Room Cavity Ratio  | 0      | 119                 | 119                 | 119 | 119 | 116 | 116 | 111 | 111 | 111 | 106 | 100 |
|                            |        | 20                 | 332      |        | 8'  | 5                                | 9.6'             |  | 1      | 111                 | 107                 | 103 | 100 | 105 | 98  | 100 | 95  | 95  | 92  | 88  |
|                            |        | 25                 | 312      | 143    | 9'  | 4                                | 10.8'            |  | 2      | 102                 | 96                  | 90  | 85  | 94  | 84  | 90  | 82  | 82  | 80  | 77  |
|                            |        | 30                 | 283      |        | * Beam diameter is where foot-candles drop to 50% of maximum. |                                  |                  |  | 3      | 95                  | 86                  | 79  | 73  | 84  | 73  | 82  | 72  | 72  | 70  | 67  |
|                            |        | 35                 | 248      | 155    | Multiple unit data - RCR 2                                    |                                  |                  |  | 4      | 88                  | 78                  | 70  | 64  | 76  | 64  | 74  | 63  | 63  | 62  | 60  |
|                            |        | 40                 | 209      |        | Spacing on center   | Initial center beam foot-candles | Watts per sq.ft. | 5  | 82     | 71                  | 63                  | 57  | 70  | 57  | 68  | 56  | 56  | 56  | 53  |     |
|                            |        | 45                 | 154      | 119    | 5'  | 28.6                             | 3.34             | 6  | 76     | 64                  | 57                  | 51  | 64  | 51  | 62  | 50  | 50  | 50  | 48  |     |
|                            |        | 50                 | 107      |        | 6'  | 18.7                             | 2.19             | 7  | 71     | 59                  | 51                  | 46  | 58  | 46  | 57  | 45  | 45  | 45  | 43  |     |
|                            |        | 55                 | 74       | 68     | 7'  | 13.3                             | 1.56             | 8  | 67     | 54                  | 47                  | 42  | 54  | 41  | 53  | 41  | 41  | 41  | 39  |     |
|                            |        | 60                 | 53       |        | 8'  | 11.2                             | 1.30             | 9  | 63     | 50                  | 43                  | 38  | 50  | 38  | 49  | 38  | 38  | 37  | 36  |     |
|                            |        | 65                 | 41       | 41     | 9'  | 8.9                              | 1.04             | 10   | 59     | 47                  | 40                  | 35  | 46  | 35  | 45  | 34  | 34  | 34  | 33  |     |
|                            |        | 70                 | 31       |        | Zonal lumens & percentages                                    |                                  |                  | CRI and CCT adjustment factors                                       |        |                     |                     |     |     |     |     |     |     |     |     |     |
|                            |        | 75                 | 23       | 25     | Zone  | Lumens                           | %Luminaire       | 0-30   | 272    | 39.6%               | 90 CRI 2700K = 84%  |     |     |     |     |     |     |     |     |     |
|                            |        | 80                 | 15       |        | 0-40  | 426                              | 62.2%            | 0-40   | 426    | 62.2%               | 80 CRI 2700K = 100% |     |     |     |     |     |     |     |     |     |
|                            | 85     | 5                  | 7        | 0-60   | 613   | 89.5%                            | 0-60             | 613  | 89.5%  | 80 CRI 3000K = 100% |                     |     |     |     |     |     |     |     |     |     |
|                            | 90     | 0                  |          | 0-90   | 685   | 100.0%                           | 0-90             | 685  | 100.0% | 80 CRI 3500K = 105% |                     |     |     |     |     |     |     |     |     |     |
| Report: 1056GFR            |        |                    |          |        |   |                                  |                  | 38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances |        |                     |                     |     |     |     |     |     |     |     |     |     |
| Output lumens:             | 685lms | Efficacy:          | 75.3lm/w |        |   |                                  |                  |  |        |                     |                     |     |     |     |     |     |     |     |     |     |
| Spacing Criterion:         | 1.2    | CCT <sup>3</sup> : | 3500K    |        |   |                                  |                  |  |        |                     |                     |     |     |     |     |     |     |     |     |     |
| Beam Angle:                | 87°    | CRI:               | 80min    |        |   |                                  |                  |  |        |                     |                     |     |     |     |     |     |     |     |     |     |
| Input Watts <sup>2</sup> : | 9.1W   |                    |          |        |   |                                  |                  |  |        |                     |                     |     |     |     |     |     |     |     |     |     |

## S7R835K7 • 14W LED, 80CRI, 3500K

| Candela Curves             |         | Angle              | Mean CP  | Lumens | Single unit data  |                                  |                  | Coefficients of utilization  |        |                     |                     |     |     |     |     |     |     |     |     |     |
|----------------------------|---------|--------------------|----------|--------|---|----------------------------------|------------------|--|--------|---------------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                            |         | 0                  | 639      |        | Height to Lighted Plane                                       | Initial center beam foot-candles | Beam dia. (ft)*  | Ceiling  | 80%    |                     |                     |     | 70% |     | 50% |     | 30% |     | 0%  |     |
|                            |         | 5                  | 632      | 60     | 5'  | 26                               | 5.5'             | Wall   | 70     | 50                  | 30                  | 10  | 50  | 10  | 50  | 10  | 50  | 10  | 0   |     |
|                            |         | 10                 | 618      |        | 6'  | 18                               | 6.6'             | RCR Zonal cavity method - Effective floor reflectance = 20%          |        |                     |                     |     |     |     |     |     |     |     |     |     |
|                            |         | 15                 | 597      | 167    | 7'  | 13                               | 7.7'             | Room Cavity Ratio  | 0      | 119                 | 119                 | 119 | 119 | 116 | 116 | 111 | 111 | 106 | 106 | 100 |
|                            |         | 20                 | 558      |        | 8'  | 10                               | 8.8'             |  | 1      | 111                 | 107                 | 103 | 100 | 104 | 98  | 100 | 95  | 96  | 92  | 88  |
|                            |         | 25                 | 505      | 232    | 9'  | 8                                | 9.9'             |  | 2      | 102                 | 96                  | 90  | 85  | 94  | 84  | 90  | 82  | 87  | 80  | 77  |
|                            |         | 30                 | 449      |        | * Beam diameter is where foot-candles drop to 50% of maximum. |                                  |                  |  | 3      | 95                  | 86                  | 79  | 74  | 85  | 73  | 82  | 72  | 79  | 71  | 67  |
|                            |         | 35                 | 399      | 249    | Multiple unit data - RCR 2                                    |                                  |                  |  | 4      | 88                  | 78                  | 70  | 65  | 77  | 64  | 74  | 63  | 72  | 62  | 60  |
|                            |         | 40                 | 345      |        | Spacing on center   | Initial center beam foot-candles | Watts per sq.ft. | 5  | 82     | 71                  | 63                  | 57  | 70  | 57  | 68  | 56  | 66  | 56  | 53  |     |
|                            |         | 45                 | 255      | 197    | 5'  | 28.6                             | 3.74             | 6  | 76     | 65                  | 57                  | 51  | 64  | 51  | 62  | 51  | 61  | 50  | 48  |     |
|                            |         | 50                 | 174      |        | 6'  | 18.7                             | 2.45             | 7  | 71     | 59                  | 52                  | 46  | 59  | 46  | 57  | 46  | 56  | 45  | 43  |     |
|                            |         | 55                 | 120      | 111    | 7'  | 13.3                             | 1.75             | 8  | 67     | 55                  | 47                  | 42  | 54  | 42  | 53  | 42  | 52  | 41  | 39  |     |
|                            |         | 60                 | 88       |        | 8'  | 11.2                             | 1.46             | 9  | 63     | 51                  | 43                  | 38  | 50  | 38  | 49  | 38  | 48  | 38  | 36  |     |
|                            |         | 65                 | 67       | 67     | 9'  | 8.9                              | 1.17             | 10   | 59     | 47                  | 40                  | 35  | 47  | 35  | 46  | 35  | 45  | 35  | 33  |     |
|                            |         | 70                 | 52       |        | Zonal lumens & percentages                                    |                                  |                  | CRI and CCT adjustment factors                                       |        |                     |                     |     |     |     |     |     |     |     |     |     |
|                            |         | 75                 | 40       | 42     | Zone  | Lumens                           | %Luminaire       | 0-30   | 459    | 40.3%               | 90 CRI 2700K = 84%  |     |     |     |     |     |     |     |     |     |
|                            |         | 80                 | 28       |        | 0-40  | 708                              | 62.2%            | 0-40   | 708    | 62.2%               | 80 CRI 2700K = 100% |     |     |     |     |     |     |     |     |     |
|                            | 85      | 12                 | 13       | 0-60   | 1016  | 89.2%                            | 0-60             | 1016   | 89.2%  | 80 CRI 3000K = 100% |                     |     |     |     |     |     |     |     |     |     |
|                            | 90      | 0                  |          | 0-90   | 1139  | 100.0%                           | 0-90             | 1139   | 100.0% | 80 CRI 3500K = 105% |                     |     |     |     |     |     |     |     |     |     |
| Report: 965GFR             |         |                    |          |        |   |                                  |                  | 38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances |        |                     |                     |     |     |     |     |     |     |     |     |     |
| Output lumens:             | 1139lms | Efficacy:          | 84.4lm/w |        |   |                                  |                  |  |        |                     |                     |     |     |     |     |     |     |     |     |     |
| Spacing Criterion:         | 1.1     | CCT <sup>3</sup> : | 3500K    |        |   |                                  |                  |  |        |                     |                     |     |     |     |     |     |     |     |     |     |
| Beam Angle:                | 83°     | CRI:               | 80min    |        |   |                                  |                  |  |        |                     |                     |     |     |     |     |     |     |     |     |     |
| Input Watts <sup>2</sup> : | 13.5W   |                    |          |        |   |                                  |                  |  |        |                     |                     |     |     |     |     |     |     |     |     |     |

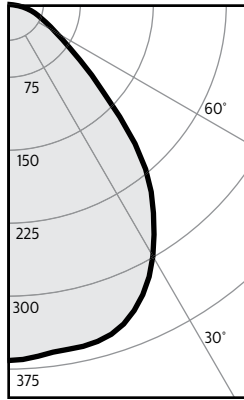
1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.  
 2. Wattage: controlled to within 5%  
 3. Correlated Color Temperature: within specs as defined in ANSI\_NEMA\_ANSI C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

# S5R, S7R & S10R SlimSurface

5", 7" and 10" round aperture LED surface mount downlight

## S5R840K7 • 10 W LED, 80 CRI, 4000 K

Candela Curves



| Angle | Mean CP | Lumens |
|-------|---------|--------|
| 0     | 366     |        |
| 5     | 363     | 35     |
| 10    | 360     |        |
| 15    | 359     | 101    |
| 20    | 350     |        |
| 25    | 329     | 151    |
| 30    | 299     |        |
| 35    | 262     | 163    |
| 40    | 221     |        |
| 45    | 163     | 126    |
| 50    | 113     |        |
| 55    | 79      | 72     |
| 60    | 57      |        |
| 65    | 44      | 44     |
| 70    | 34      |        |
| 75    | 25      | 27     |
| 80    | 16      |        |
| 85    | 6       | 7      |
| 90    | 0       |        |

Single unit data

| Height to Lighted Plane | Initial center beam foot-candles | Beam dia. (ft)* |
|-------------------------|----------------------------------|-----------------|
| 5'                      | 15                               | 6.0'            |
| 6'                      | 10                               | 7.2'            |
| 7'                      | 7                                | 8.4'            |
| 8'                      | 6                                | 9.6'            |
| 9'                      | 5                                | 10.8'           |

\* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

| Spacing on center | Initial center beam foot-candles | Watts per sq.ft. |
|-------------------|----------------------------------|------------------|
| 5'                | 30.3                             | 3.54             |
| 6'                | 19.8                             | 2.32             |
| 7'                | 14.1                             | 1.66             |
| 8'                | 11.8                             | 1.38             |
| 9'                | 9.4                              | 1.10             |

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

|                   | 80%   |     |     |     |     | 70% |     | 50% |     | 30% |     | 0%  |
|-------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                   | 70  | 50  | 30  | 10  | 50  | 10  | 50  | 10  | 50  | 10  | 0   |     |
| Ceiling           |   |     |     |     |     |     |     |     |     |     |     |     |
| Wall              |   |     |     |     |     |     |     |     |     |     |     |     |
| RCR               | Zonal cavity method - Effective floor reflectance = 20% |     |     |     |     |     |     |     |     |     |     |     |
| Room Cavity Ratio | 0   | 119 | 119 | 119 | 119 | 116 | 116 | 111 | 111 | 106 | 106 | 100 |
|                   | 1   | 111 | 107 | 103 | 100 | 105 | 98  | 100 | 95  | 97  | 92  | 88  |
|                   | 2   | 102 | 96  | 90  | 85  | 94  | 84  | 90  | 82  | 87  | 80  | 77  |
|                   | 3   | 95  | 86  | 79  | 73  | 84  | 73  | 82  | 72  | 79  | 70  | 67  |
|                   | 4   | 88  | 78  | 70  | 64  | 76  | 64  | 74  | 63  | 72  | 62  | 60  |
|                   | 5   | 82  | 71  | 63  | 57  | 70  | 57  | 68  | 56  | 66  | 56  | 53  |
|                   | 6   | 76  | 64  | 57  | 51  | 64  | 51  | 62  | 50  | 60  | 50  | 48  |
|                   | 7   | 71  | 59  | 51  | 46  | 58  | 46  | 57  | 45  | 56  | 45  | 43  |
|                   | 8   | 67  | 54  | 47  | 42  | 54  | 41  | 53  | 41  | 51  | 41  | 39  |
|                   | 9   | 63  | 50  | 43  | 38  | 50  | 38  | 49  | 38  | 48  | 37  | 36  |
|                   | 10  | 59  | 47  | 40  | 35  | 46  | 35  | 45  | 34  | 44  | 34  | 33  |

Zonal lumens & percentages

| Zone | Lumens | %Luminaire |
|------|--------|------------|
| 0-30 | 286    | 39.5%      |
| 0-40 | 450    | 62.0%      |
| 0-60 | 648    | 89.3%      |
| 0-90 | 726    | 100.0%     |

CRI and CCT adjustment factors

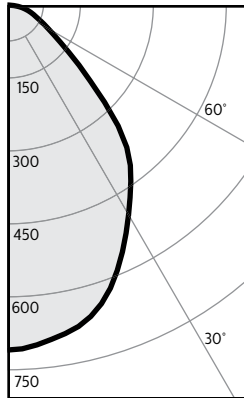
|                     |
|---------------------|
| 90 CRI 2700K = 84%  |
| 80 CRI 2700K = 100% |
| 80 CRI 3000K = 100% |
| 80 CRI 3500K = 105% |
| 80 CRI 4000K = 109% |

Report: 1057GFR

|                            |        |                    |          |
|----------------------------|--------|--------------------|----------|
| Output lumens:             | 726lms | Efficacy:          | 79.8lm/w |
| Spacing Criterion:         | 1.2    | CCT <sup>3</sup> : | 4000K    |
| Beam Angle:                | 87°    | CRI:               | 80min    |
| Input Watts <sup>2</sup> : | 9.1W   |                    |          |

## S7R840K7 • 14 W LED, 90 CRI, 2700 K

Candela Curves



| Angle | Mean CP | Lumens |
|-------|---------|--------|
| 0     | 710     |        |
| 5     | 702     | 66     |
| 10    | 686     |        |
| 15    | 663     | 186    |
| 20    | 620     |        |
| 25    | 560     | 258    |
| 30    | 499     |        |
| 35    | 443     | 276    |
| 40    | 382     |        |
| 45    | 283     | 218    |
| 50    | 193     |        |
| 55    | 133     | 122    |
| 60    | 97      |        |
| 65    | 74      | 74     |
| 70    | 57      |        |
| 75    | 44      | 46     |
| 80    | 30      |        |
| 85    | 14      | 15     |
| 90    | 0       |        |

Single unit data

| Height to Lighted Plane | Initial center beam foot-candles | Beam dia. (ft)* |
|-------------------------|----------------------------------|-----------------|
| 5'                      | 28                               | 5.5'            |
| 6'                      | 20                               | 6.6'            |
| 7'                      | 14                               | 7.7'            |
| 8'                      | 11                               | 8.8'            |
| 9'                      | 9                                | 9.9'            |

\* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

| Spacing on center | Initial center beam foot-candles | Watts per sq.ft. |
|-------------------|----------------------------------|------------------|
| 5'                | 30.3                             | 4.17             |
| 6'                | 19.8                             | 2.74             |
| 7'                | 14.1                             | 1.96             |
| 8'                | 11.8                             | 1.63             |
| 9'                | 9.4                              | 1.30             |

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

|                   | 80%   |     |     |     |     | 70% |     | 50% |     | 30% |     | 0%  |
|-------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                   | 70  | 50  | 30  | 10  | 50  | 10  | 50  | 10  | 50  | 10  | 0   |     |
| Ceiling           |   |     |     |     |     |     |     |     |     |     |     |     |
| Wall              |   |     |     |     |     |     |     |     |     |     |     |     |
| RCR               | Zonal cavity method - Effective floor reflectance = 20% |     |     |     |     |     |     |     |     |     |     |     |
| Room Cavity Ratio | 0   | 119 | 119 | 119 | 119 | 116 | 116 | 111 | 111 | 106 | 106 | 100 |
|                   | 1   | 111 | 107 | 103 | 100 | 104 | 98  | 100 | 95  | 96  | 92  | 88  |
|                   | 2   | 102 | 96  | 90  | 85  | 94  | 84  | 90  | 82  | 87  | 80  | 77  |
|                   | 3   | 95  | 86  | 79  | 74  | 85  | 73  | 82  | 72  | 79  | 71  | 67  |
|                   | 4   | 88  | 78  | 70  | 65  | 77  | 64  | 74  | 63  | 72  | 62  | 60  |
|                   | 5   | 82  | 71  | 63  | 57  | 70  | 57  | 68  | 56  | 66  | 56  | 53  |
|                   | 6   | 76  | 65  | 57  | 51  | 64  | 51  | 62  | 51  | 61  | 50  | 48  |
|                   | 7   | 71  | 59  | 52  | 46  | 59  | 46  | 57  | 46  | 56  | 45  | 43  |
|                   | 8   | 67  | 55  | 47  | 42  | 54  | 42  | 53  | 42  | 52  | 41  | 39  |
|                   | 9   | 63  | 51  | 43  | 38  | 50  | 38  | 49  | 38  | 48  | 38  | 36  |
|                   | 10  | 59  | 47  | 40  | 35  | 47  | 35  | 46  | 35  | 45  | 35  | 33  |

Zonal lumens & percentages

| Zone | Lumens | %Luminaire |
|------|--------|------------|
| 0-30 | 510    | 40.4%      |
| 0-40 | 786    | 62.3%      |
| 0-60 | 1127   | 89.3%      |
| 0-90 | 1262   | 100.0%     |

CRI and CCT adjustment factors

|                     |
|---------------------|
| 90 CRI 2700K = 84%  |
| 80 CRI 2700K = 100% |
| 80 CRI 3000K = 100% |
| 80 CRI 3500K = 105% |
| 80 CRI 4000K = 109% |

Report: 963GFR

|                            |         |                    |          |
|----------------------------|---------|--------------------|----------|
| Output lumens:             | 1262lms | Efficacy:          | 94.2lm/w |
| Spacing Criterion:         | 1.1     | CCT <sup>3</sup> : | 4000K    |
| Beam Angle:                | 83°     | CRI:               | 80min    |
| Input Watts <sup>2</sup> : | 13.4W   |                    |          |

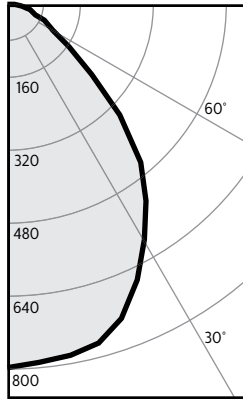
1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.  
 2. Wattage: controlled to within 5%  
 3. Correlated Color Temperature: within specs as defined in ANSI\_NEMA\_ANSI C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

# S5R, S7R & S10R SlimSurface

5", 7" and 10" round aperture LED surface mount downlight

## S10R927K22BK • 23 W LED, 90 CRI, 2700 K

### Candela Curves



| Angle | Mean CP | Lumens |
|-------|---------|--------|
| 0     | 794     |        |
| 5     | 788     | 75     |
| 10    | 781     |        |
| 15    | 769     | 216    |
| 20    | 732     |        |
| 25    | 669     | 307    |
| 30    | 595     |        |
| 35    | 525     | 328    |
| 40    | 453     |        |
| 45    | 344     | 265    |
| 50    | 238     |        |
| 55    | 162     | 149    |
| 60    | 116     |        |
| 65    | 87      | 87     |
| 70    | 66      |        |
| 75    | 49      | 52     |
| 80    | 32      |        |
| 85    | 13      | 15     |
| 90    | 0       |        |

### Single unit data

| Height to Lighted Plane | Initial center beam foot-candles | Beam dia. (ft)* |
|-------------------------|----------------------------------|-----------------|
| 5'                      | 32                               | 5.5'            |
| 6'                      | 22                               | 6.6'            |
| 7'                      | 16                               | 7.7'            |
| 8'                      | 12                               | 8.8'            |
| 9'                      | 10                               | 9.9'            |

\* Beam diameter is where foot-candles drop to 50% of maximum.

### Multiple unit data - RCR 2

| Spacing on center | Initial center beam foot-candles | Watts per sq.ft. |
|-------------------|----------------------------------|------------------|
| 5'                | 63.3                             | 1.01             |
| 6'                | 41.5                             | 0.66             |
| 7'                | 29.7                             | 0.47             |
| 8'                | 24.7                             | 0.39             |
| 9'                | 19.8                             | 0.32             |

### Coefficients of utilization

| Ceiling           | 80%   |     |     |     | 70% |     | 50% |     | 30% |     | 0%  |
|-------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Wall              | 70  | 50  | 30  | 10  | 50  | 10  | 50  | 10  | 50  | 10  | 0   |
| RCR               | Zonal cavity method - Effective floor reflectance = 20% |     |     |     |     |     |     |     |     |     |     |
| Room Cavity Ratio | 0   | 119 | 119 | 119 | 116 | 116 | 111 | 111 | 106 | 106 | 100 |
|                   | 1   | 111 | 107 | 103 | 100 | 105 | 98  | 100 | 95  | 97  | 88  |
|                   | 2   | 103 | 96  | 90  | 85  | 94  | 84  | 90  | 82  | 87  | 77  |
|                   | 3   | 95  | 86  | 79  | 74  | 85  | 73  | 82  | 72  | 79  | 67  |
|                   | 4   | 88  | 78  | 70  | 64  | 77  | 64  | 74  | 63  | 72  | 60  |
|                   | 5   | 82  | 71  | 63  | 57  | 70  | 57  | 68  | 56  | 66  | 53  |
|                   | 6   | 76  | 65  | 57  | 51  | 64  | 51  | 62  | 50  | 60  | 48  |
|                   | 7   | 71  | 59  | 51  | 46  | 58  | 46  | 57  | 45  | 56  | 43  |
|                   | 8   | 67  | 55  | 47  | 42  | 54  | 42  | 53  | 41  | 52  | 39  |
|                   | 9   | 63  | 51  | 43  | 38  | 50  | 38  | 49  | 38  | 48  | 36  |
|                   | 10  | 59  | 47  | 40  | 35  | 46  | 35  | 46  | 35  | 45  | 33  |

### Zonal lumens & percentages

| Zone | Lumens | %Luminaire |
|------|--------|------------|
| 0-30 | 598    | 40.0%      |
| 0-40 | 925    | 62.0%      |
| 0-60 | 1339   | 89.7%      |
| 0-90 | 1493   | 100.0%     |

### Report: S10R927K22BK

|                            |        |                    |          |
|----------------------------|--------|--------------------|----------|
| Output lumens:             | 1493lm | Efficacy:          | 65.5lm/w |
| Spacing Criterion:         | 1.1    | CCT <sup>2</sup> : | 2700K    |
| Beam Angle:                | 86°    | CRI:               | 90min    |
| Input Watts <sup>2</sup> : | 22.8W  |                    |          |

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.
2. Wattage: controlled to within 5%
3. Correlated Color Temperature: within specs as defined in ANSI\_NEMA\_ANSI C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

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