



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 LED square apertures are available as a 4" 650lm & 6" 1000lm fixture.

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

### Ordering guide

example: S4S830K7AL

| Series                       | CRI               | CCT       | Lumens      | Finish                 | Dimming                  |
|------------------------------|-------------------|-----------|-------------|------------------------|--------------------------|
| S4S SlimSurface<br>4" Square | 8 80              | 27K 2700K | 7 650lm     | blank White            | blank ELV / Triac (120V) |
|                              | 9 90 <sup>1</sup> | 30K 3000K |             | AL Aluminum            |                          |
|                              |                   | 35K 3500K |             | BK Black               |                          |
| S6S SlimSurface<br>6" Square | 8 80              | 27K 2700K | 10 1000lm   | blank White            | blank ELV / Triac (120V) |
|                              | 9 90 <sup>1</sup> | 30K 3000K |             | AL Aluminum            |                          |
|                              |                   | 35K 3500K |             | BK Black               |                          |
| S6S SlimSurface<br>6" Square | 9 90 <sup>1</sup> | 40K 4000K | W White     | Z10U 0-10V (120V-277V) |                          |
|                              |                   |           | AL Aluminum |                        |                          |
|                              |                   |           | BK Black    |                        |                          |



White



Black



Aluminum

1. Configurations using 90 CRI are only available with 2700K and 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 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.

### Electrical

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

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

| Electrical specifications | Dimming | Input volts | Input frequency | Input current | Input Power | THD Factor | Power Factor | Minimum Operating Temp. |
|---------------------------|---------|-------------|-----------------|---------------|-------------|------------|--------------|-------------------------|
| Slim 4" 650lm             | Triac   | 120V        | 50/60Hz         | 0.08A         | 9.5W        | <15%       | >0.9         | -20°C                   |
|                           | 0-10V   | 120V        | 50/60Hz         | 0.08A         | 10.0W       | <20%       | >0.9         | -20°C                   |
|                           |         | 277V        | 50/60Hz         | 0.04A         | 10.2W       | <20%       | >0.9         | -20°C                   |
| Slim 6" 1000lm            | Triac   | 120V        | 50/60Hz         | 0.13A         | 14.2W       | <15%       | >0.9         | -20°C                   |
|                           | 0-10V   | 120V        | 50/60Hz         | 0.12A         | 14.5W       | <20%       | >0.9         | -20°C                   |
|                           |         | 277V        | 50/60Hz         | 0.06A         | 14.7W       | <20%       | >0.9         | -20°C                   |

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

### Labels

cULus listed.  
 Wall-mounted: damp location only.  
 Ceiling-mounted: wet location.  
 Title 24 (JA8-2016) on 90CRI S6S models.  
 ENERGY STAR® certified.



# S4S & S6S SlimSurface LED

## Square 4" & 6" Apertures

### Compatibility

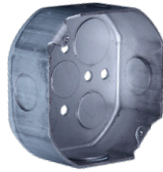
Installs into standard J-box applications:



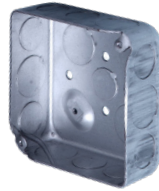
3 1/2" round (plastic)



4" square (plastic)  
Not compatible with S5R



4" octagonal (metal)



4" square (metal)  
Not compatible with S4S

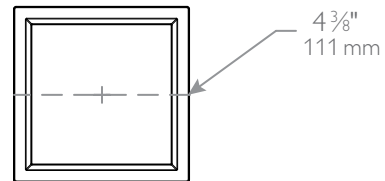
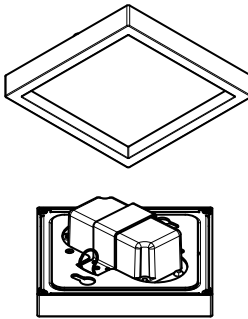
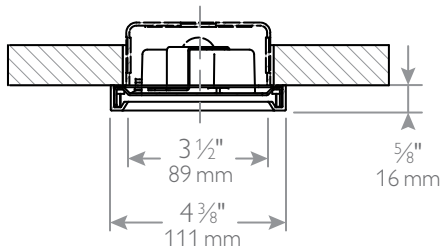


Fire rated J-box  
Fire rated classification is per the ceiling and junction box ratings.

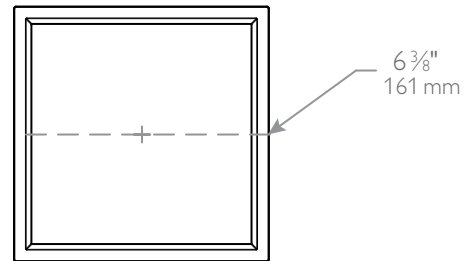
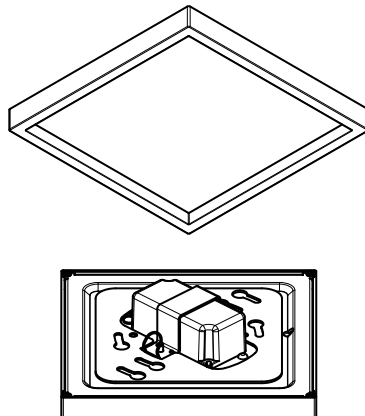
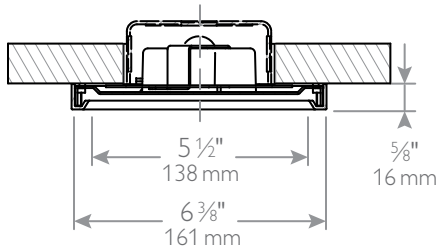
Note: A 2 1/8" deep octagon junction box is recommended for through circuit wiring applications.

### Dimensions

#### SlimSurface LED 4" downlight



#### SlimSurface LED 6" downlight

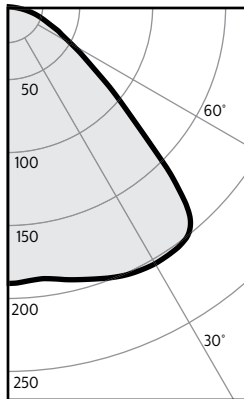


# S4S & S6S SlimSurface LED

## Square 4" & 6" Apertures

### S4S927K7 • 10W LED, 90CRI, 2700K

#### Candela Curves



| Angle | Mean CP | Lumens |
|-------|---------|--------|
| 0     | 189     | 18     |
| 5     | 188     |        |
| 10    | 189     |        |
| 15    | 193     | 55     |
| 20    | 198     |        |
| 25    | 201     | 93     |
| 30    | 203     |        |
| 35    | 202     | 126    |
| 40    | 196     |        |
| 45    | 153     | 116    |
| 50    | 103     |        |
| 55    | 71      | 66     |
| 60    | 51      |        |
| 65    | 39      | 38     |
| 70    | 28      |        |
| 75    | 21      | 21     |
| 80    | 13      |        |
| 85    | 4       | 5      |
| 90    | 0       |        |

#### Single unit data

| Height to Lighted Plane | Initial center beam foot-candles | Beam dia. (ft)* |
|-------------------------|----------------------------------|-----------------|
| 5'                      | 8                                | 7.5'            |
| 6'                      | 5                                | 9.0'            |
| 7'                      | 4                                | 10.5'           |
| 8'                      | 3                                | 12.0'           |
| 9'                      | 2                                | 13.5'           |

\* 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'                | 22.5                             | 0.40             |
| 6'                | 14.7                             | 0.26             |
| 7'                | 10.5                             | 0.19             |
| 8'                | 8.8                              | 0.16             |
| 9'                | 7.0                              | 0.13             |

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

#### Coefficients of utilization

| Ceiling           | 80%   |     |     |     | 70% |     | 50% |     | 30% |     | 0%  |     |
|-------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                   | 70  | 50  | 30  | 10  | 50  | 10  | 50  | 10  | 50  | 10  | 0   |     |
| Wall              | Zonal cavity method - Effective floor reflectance = 20% |     |     |     |     |     |     |     |     |     |     |     |
| RCR               | Zonal cavity method - Effective floor reflectance = 20% |     |     |     |     |     |     |     |     |     |     |     |
| Room Cavity Ratio | 0   | 119 | 119 | 119 | 119 | 116 | 116 | 111 | 111 | 106 | 106 | 100 |
|                   | 1   | 110 | 106 | 102 | 99  | 104 | 97  | 100 | 94  | 96  | 91  | 87  |
|                   | 2   | 101 | 94  | 88  | 83  | 92  | 82  | 89  | 80  | 85  | 78  | 74  |
|                   | 3   | 93  | 84  | 76  | 70  | 82  | 70  | 79  | 68  | 76  | 67  | 64  |
|                   | 4   | 86  | 75  | 67  | 61  | 73  | 60  | 71  | 59  | 69  | 59  | 56  |
|                   | 5   | 79  | 67  | 59  | 53  | 66  | 52  | 64  | 52  | 62  | 51  | 49  |
|                   | 6   | 73  | 61  | 52  | 46  | 60  | 46  | 58  | 46  | 56  | 45  | 43  |
|                   | 7   | 68  | 55  | 47  | 41  | 54  | 41  | 53  | 41  | 52  | 40  | 38  |
|                   | 8   | 63  | 50  | 42  | 37  | 50  | 37  | 48  | 36  | 47  | 36  | 34  |
|                   | 9   | 59  | 46  | 38  | 33  | 46  | 33  | 45  | 33  | 44  | 33  | 31  |
|                   | 10  | 55  | 43  | 35  | 30  | 42  | 30  | 41  | 30  | 40  | 30  | 28  |

#### Report: 943GFR

Output lumens: 539lms  
Spacing Criterion: 1.5  
Beam Angle: 86°  
Input Watts²: 9.1W

Efficacy: 59.3lm/w  
CCT³: 2700K  
CRI: 90min

#### Zonal lumens & percentages

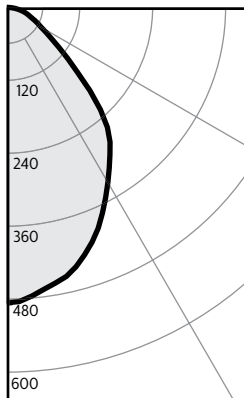
| Zone | Lumens | %Luminaire |
|------|--------|------------|
| 0-30 | 166    | 30.7%      |
| 0-40 | 292    | 54.2%      |
| 0-60 | 474    | 88.0%      |
| 0-90 | 539    | 100.0%     |

#### 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%

### S6S927K10 • 14W LED, 90CRI, 2700K

#### Candela Curves



| Angle | Mean CP | Lumens |
|-------|---------|--------|
| 0     | 486     | 45     |
| 5     | 476     |        |
| 10    | 460     |        |
| 15    | 441     | 123    |
| 20    | 410     |        |
| 25    | 373     | 170    |
| 30    | 333     |        |
| 35    | 296     | 184    |
| 40    | 258     |        |
| 45    | 193     | 147    |
| 50    | 131     |        |
| 55    | 90      | 83     |
| 60    | 65      |        |
| 65    | 51      | 50     |
| 70    | 39      |        |
| 75    | 30      | 30     |
| 80    | 20      |        |
| 85    | 9       | 9      |
| 90    | 0       |        |

#### Single unit data

| Height to Lighted Plane | Initial center beam foot-candles | Beam dia. (ft)* |
|-------------------------|----------------------------------|-----------------|
| 5'                      | 19                               | 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                             | 2.80             |
| 6'                | 14.2                             | 1.84             |
| 7'                | 10.2                             | 1.31             |
| 8'                | 8.5                              | 1.09             |
| 9'                | 6.8                              | 0.88             |

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

#### Coefficients of utilization

| Ceiling           | 80%   |     |     |     | 70% |     | 50% |     | 30% |     | 0%  |     |
|-------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                   | 70  | 50  | 30  | 10  | 50  | 10  | 50  | 10  | 50  | 10  | 0   |     |
| Wall              | Zonal cavity method - Effective floor reflectance = 20% |     |     |     |     |     |     |     |     |     |     |     |
| 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  | 93  | 88  |
|                   | 2   | 103 | 96  | 90  | 85  | 94  | 84  | 90  | 82  | 87  | 80  | 77  |
|                   | 3   | 95  | 86  | 79  | 74  | 85  | 73  | 82  | 72  | 79  | 71  | 68  |
|                   | 4   | 88  | 78  | 70  | 65  | 77  | 64  | 74  | 63  | 72  | 63  | 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 | 338    | 40.2%      |
| 0-40 | 522    | 62.1%      |
| 0-60 | 753    | 89.5%      |
| 0-90 | 841    | 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: 957GFR

Output lumens: 841lms  
Spacing Criterion: 1.1  
Beam Angle: 82°  
Input Watts²: 13.3W

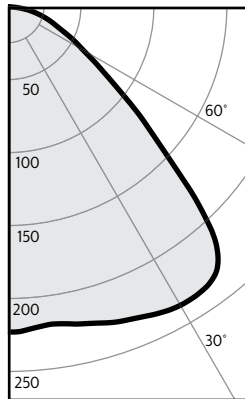
Efficacy: 63.2lm/w  
CCT³: 2700K  
CRI: 90min

# S4S & S6S SlimSurface LED

## Square 4" & 6" Apertures

### S4S827K7 • 10W LED, 80CRI, 2700K

#### Candela Curves



| Angle | Mean CP | Lumens |
|-------|---------|--------|
| 0     | 223     | 21     |
| 5     | 221     |        |
| 10    | 221     |        |
| 15    | 225     | 64     |
| 20    | 229     |        |
| 25    | 233     | 108    |
| 30    | 237     |        |
| 35    | 236     | 146    |
| 40    | 224     |        |
| 45    | 175     | 133    |
| 50    | 121     |        |
| 55    | 83      | 76     |
| 60    | 60      |        |
| 65    | 44      | 44     |
| 70    | 33      |        |
| 75    | 24      | 25     |
| 80    | 15      |        |
| 85    | 5       | 6      |
| 90    | 0       |        |

#### Single unit data

| Height to Lighted Plane | Initial center beam foot-candles | Beam dia. (ft)* |
|-------------------------|----------------------------------|-----------------|
| 5'                      | 9                                | 7.5'            |
| 6'                      | 6                                | 9.0'            |
| 7'                      | 5                                | 10.5'           |
| 8'                      | 3                                | 12.0'           |
| 9'                      | 3                                | 13.5'           |

\* 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'                | 25.9                             | 0.41             |
| 6'                | 17.0                             | 0.27             |
| 7'                | 12.1                             | 0.19             |
| 8'                | 10.1                             | 0.16             |
| 9'                | 8.1                              | 0.13             |

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

#### Coefficients of utilization

| Ceiling           | 80%   |     |     |     | 70% |     | 50% |     | 30% |     | 0%  |     |
|-------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                   | 70  | 50  | 30  | 10  | 50  | 10  | 50  | 10  | 50  | 10  | 0   |     |
| Wall              | Zonal cavity method - Effective floor reflectance = 20% |     |     |     |     |     |     |     |     |     |     |     |
| RCR               | Zonal cavity method - Effective floor reflectance = 20% |     |     |     |     |     |     |     |     |     |     |     |
| Room Cavity Ratio | 0   | 119 | 119 | 119 | 119 | 116 | 116 | 111 | 111 | 106 | 106 | 100 |
|                   | 1   | 110 | 106 | 102 | 99  | 104 | 97  | 100 | 94  | 96  | 91  | 87  |
|                   | 2   | 101 | 94  | 88  | 83  | 92  | 82  | 89  | 80  | 85  | 78  | 74  |
|                   | 3   | 93  | 84  | 76  | 70  | 82  | 70  | 79  | 69  | 77  | 67  | 64  |
|                   | 4   | 86  | 75  | 67  | 61  | 74  | 60  | 71  | 59  | 69  | 59  | 56  |
|                   | 5   | 79  | 67  | 59  | 53  | 66  | 53  | 64  | 52  | 62  | 51  | 49  |
|                   | 6   | 73  | 61  | 52  | 46  | 60  | 46  | 58  | 46  | 57  | 45  | 43  |
|                   | 7   | 68  | 55  | 47  | 41  | 55  | 41  | 53  | 41  | 52  | 41  | 38  |
|                   | 8   | 63  | 51  | 42  | 37  | 50  | 37  | 49  | 37  | 47  | 36  | 34  |
|                   | 9   | 59  | 46  | 38  | 33  | 46  | 33  | 45  | 33  | 44  | 33  | 31  |
|                   | 10  | 55  | 43  | 35  | 30  | 42  | 30  | 41  | 30  | 40  | 30  | 28  |

#### Report: 944GFR

|                            |         |                    |           |
|----------------------------|---------|--------------------|-----------|
| Output lumens:             | 622 lms | Efficacy:          | 67.6 lm/w |
| Spacing Criterion:         | 1.5     | CCT <sup>3</sup> : | 2700K     |
| Beam Angle:                | 101°    | CRI:               | 80 min    |
| Input Watts <sup>2</sup> : | 9.2W    |                    |           |

#### Zonal lumens & percentages

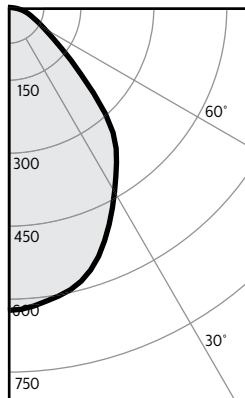
| Zone | Lumens | %Luminaire |
|------|--------|------------|
| 0-30 | 192    | 30.9%      |
| 0-40 | 338    | 54.4%      |
| 0-60 | 547    | 88.0%      |
| 0-90 | 622    | 100.0%     |

#### 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% |

### S6S827K10 • 14W LED, 80CRI, 2700K

#### Candela Curves



| Angle | Mean CP | Lumens |
|-------|---------|--------|
| 0     | 625     | 59     |
| 5     | 618     |        |
| 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       |        |

#### Single unit data

| 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.

#### Multiple unit data - RCR 2

| 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

#### Coefficients of utilization

| Ceiling           | 80%   |     |     |     | 70% |     | 50% |     | 30% |     | 0%  |     |
|-------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                   | 70  | 50  | 30  | 10  | 50  | 10  | 50  | 10  | 50  | 10  | 0   |     |
| Wall              | Zonal cavity method - Effective floor reflectance = 20% |     |     |     |     |     |     |     |     |     |     |     |
| 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  | 93  | 88  |
|                   | 2   | 103 | 96  | 90  | 85  | 94  | 84  | 90  | 82  | 87  | 80  | 77  |
|                   | 3   | 95  | 86  | 79  | 74  | 85  | 73  | 82  | 72  | 79  | 71  | 68  |
|                   | 4   | 88  | 78  | 70  | 65  | 77  | 64  | 74  | 63  | 72  | 63  | 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 | 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% |

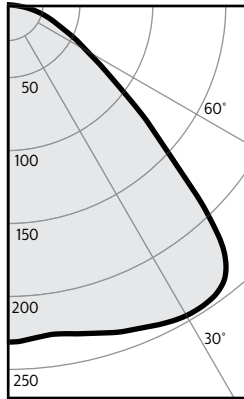
1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.
2. Wattage: controlled to within 5%
3. Correlated Color Temperature: within specs as defined in ANSI\_NEMA\_ANSI C78.377-2008: Specifications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

# S4S & S6S SlimSurface LED

## Square 4" & 6" Apertures

### S4S830K7 • 10W LED, 80 CRI, 3000K

#### Candela Curves



| Angle | Mean CP | Lumens |
|-------|---------|--------|
| 0     | 231     | 22     |
| 5     | 229     |        |
| 10    | 230     |        |
| 15    | 236     | 67     |
| 20    | 241     |        |
| 25    | 246     | 113    |
| 30    | 248     |        |
| 35    | 247     | 153    |
| 40    | 237     |        |
| 45    | 185     | 139    |
| 50    | 125     |        |
| 55    | 87      | 80     |
| 60    | 63      |        |
| 65    | 47      | 47     |
| 70    | 34      |        |
| 75    | 25      | 26     |
| 80    | 15      |        |
| 85    | 5       | 6      |
| 90    | 0       |        |

#### Single unit data

| Height to Lighted Plane | Initial center beam foot-candles | Beam dia. (ft)* |
|-------------------------|----------------------------------|-----------------|
| 5'                      | 9                                | 7.5'            |
| 6'                      | 6                                | 9.0'            |
| 7'                      | 5                                | 10.5'           |
| 8'                      | 4                                | 12.0'           |
| 9'                      | 3                                | 13.5'           |

\* 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'                | 27.2                             | 0.40             |
| 6'                | 17.9                             | 0.26             |
| 7'                | 12.8                             | 0.19             |
| 8'                | 10.6                             | 0.16             |
| 9'                | 8.5                              | 0.13             |

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

#### Coefficients of utilization

| Ceiling           | 80%   |     |     |     | 70% |     | 50% |     | 30% |     | 0%  |     |
|-------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                   | 70  | 50  | 30  | 10  | 50  | 10  | 50  | 10  | 50  | 10  | 0   |     |
| Wall              | Zonal cavity method - Effective floor reflectance = 20% |     |     |     |     |     |     |     |     |     |     |     |
| RCR               | Zonal cavity method - Effective floor reflectance = 20% |     |     |     |     |     |     |     |     |     |     |     |
| Room Cavity Ratio | 0   | 119 | 119 | 119 | 119 | 116 | 116 | 111 | 111 | 106 | 106 | 100 |
|                   | 1   | 110 | 106 | 102 | 99  | 104 | 97  | 100 | 94  | 96  | 91  | 87  |
|                   | 2   | 101 | 94  | 88  | 83  | 92  | 82  | 89  | 80  | 85  | 78  | 74  |
|                   | 3   | 93  | 84  | 76  | 70  | 82  | 70  | 79  | 69  | 77  | 67  | 64  |
|                   | 4   | 86  | 75  | 67  | 61  | 74  | 60  | 71  | 59  | 69  | 59  | 56  |
|                   | 5   | 79  | 67  | 59  | 53  | 66  | 52  | 64  | 52  | 62  | 51  | 49  |
|                   | 6   | 73  | 61  | 52  | 46  | 60  | 46  | 58  | 46  | 57  | 45  | 43  |
|                   | 7   | 68  | 55  | 47  | 41  | 55  | 41  | 53  | 41  | 52  | 40  | 38  |
|                   | 8   | 63  | 51  | 42  | 37  | 50  | 37  | 49  | 36  | 47  | 36  | 34  |
|                   | 9   | 59  | 46  | 38  | 33  | 46  | 33  | 45  | 33  | 44  | 33  | 31  |
|                   | 10  | 55  | 43  | 35  | 30  | 42  | 30  | 41  | 30  | 40  | 30  | 28  |

#### Report: 945GFR

|                            |         |                    |           |
|----------------------------|---------|--------------------|-----------|
| Output lumens:             | 653 lms | Efficacy:          | 71.8 lm/w |
| Spacing Criterion:         | 1.5     | CCT <sup>3</sup> : | 3000K     |
| Beam Angle:                | 86°     | CRI:               | 80 min    |
| Input Watts <sup>2</sup> : | 9.1W    |                    |           |

#### Zonal lumens & percentages

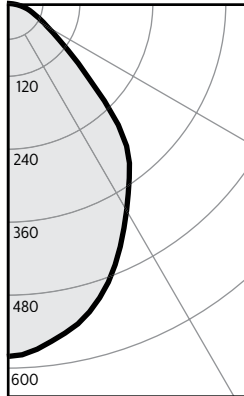
| Zone | Lumens | %Luminaire |
|------|--------|------------|
| 0-30 | 202    | 30.9%      |
| 0-40 | 355    | 54.3%      |
| 0-60 | 574    | 87.9%      |
| 0-90 | 653    | 100.0%     |

#### 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% |

### S6S830K10 • 14W LED, 80 CRI, 3000K

#### Candela Curves



| Angle | Mean CP | Lumens |
|-------|---------|--------|
| 0     | 582     |        |
| 5     | 572     | 54     |
| 10    | 551     |        |
| 15    | 526     | 148    |
| 20    | 489     |        |
| 25    | 442     | 203    |
| 30    | 394     |        |
| 35    | 351     | 220    |
| 40    | 307     |        |
| 45    | 227     | 176    |
| 50    | 153     |        |
| 55    | 106     | 99     |
| 60    | 77      |        |
| 65    | 59      | 60     |
| 70    | 45      |        |
| 75    | 34      | 36     |
| 80    | 22      |        |
| 85    | 10      | 10     |
| 90    | 0       |        |

#### Single unit data

| Height to Lighted Plane | Initial center beam foot-candles | Beam dia. (ft)* |
|-------------------------|----------------------------------|-----------------|
| 5'                      | 23                               | 5.5'            |
| 6'                      | 16                               | 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                             | 3.33             |
| 6'                | 17.1                             | 2.18             |
| 7'                | 12.2                             | 1.56             |
| 8'                | 10.2                             | 1.30             |
| 9'                | 8.1                              | 1.04             |

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

#### Coefficients of utilization

| Ceiling           | 80%   |     |     |     | 70% |     | 50% |     | 30% |     | 0%  |     |
|-------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                   | 70  | 50  | 30  | 10  | 50  | 10  | 50  | 10  | 50  | 10  | 0   |     |
| Wall              | Zonal cavity method - Effective floor reflectance = 20% |     |     |     |     |     |     |     |     |     |     |     |
| 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  | 93  | 88  |
|                   | 2   | 103 | 96  | 90  | 85  | 94  | 84  | 90  | 82  | 87  | 80  | 77  |
|                   | 3   | 95  | 86  | 79  | 74  | 85  | 73  | 82  | 72  | 79  | 71  | 68  |
|                   | 4   | 88  | 78  | 70  | 65  | 77  | 64  | 74  | 63  | 72  | 63  | 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 | 405    | 40.2%      |
| 0-40 | 625    | 62.1%      |
| 0-60 | 900    | 89.5%      |
| 0-90 | 1006   | 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% |

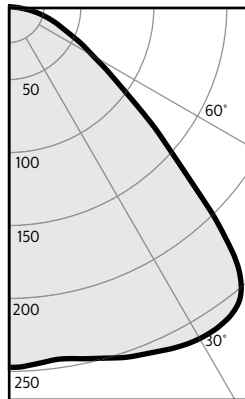
1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.
2. Wattage: controlled to within 5%
3. Correlated Color Temperature: within specs as defined in ANSI\_NEMA\_ANSI C78.377-2008: Specifications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

# S4S & S6S SlimSurface LED

## Square 4" & 6" Apertures

### S4S835K7 • 10W LED, 80CRI, 3500K

#### Candela Curves



| Angle | Mean CP | Lumens |
|-------|---------|--------|
| 0     | 247     | 23     |
| 5     | 245     |        |
| 10    | 245     |        |
| 15    | 249     | 71     |
| 20    | 255     |        |
| 25    | 259     | 121    |
| 30    | 263     |        |
| 35    | 262     | 163    |
| 40    | 249     |        |
| 45    | 194     | 149    |
| 50    | 135     |        |
| 55    | 93      | 86     |
| 60    | 67      |        |
| 65    | 50      | 50     |
| 70    | 37      |        |
| 75    | 27      | 28     |
| 80    | 17      |        |
| 85    | 6       | 7      |
| 90    | 0       |        |

#### Single unit data

| Height to Lighted Plane | Initial center beam foot-candles | Beam dia. (ft)* |
|-------------------------|----------------------------------|-----------------|
| 5'                      | 10                               | 7.5'            |
| 6'                      | 7                                | 9.0'            |
| 7'                      | 5                                | 10.5'           |
| 8'                      | 4                                | 12.0'           |
| 9'                      | 3                                | 13.5'           |

\* 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'                | 29.1                             | 0.40             |
| 6'                | 19.1                             | 0.26             |
| 7'                | 13.6                             | 0.19             |
| 8'                | 11.4                             | 0.16             |
| 9'                | 9.1                              | 0.13             |

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

#### Coefficients of utilization

| Ceiling           | 80%   |     |     |     | 70% |     | 50% |     | 30% |     | 0%  |     |
|-------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                   | 70  | 50  | 30  | 10  | 50  | 10  | 50  | 10  | 50  | 10  | 0   |     |
| Wall              | Zonal cavity method - Effective floor reflectance = 20% |     |     |     |     |     |     |     |     |     |     |     |
| RCR               | Zonal cavity method - Effective floor reflectance = 20% |     |     |     |     |     |     |     |     |     |     |     |
| Room Cavity Ratio | 0   | 119 | 119 | 119 | 119 | 116 | 116 | 111 | 111 | 106 | 106 | 100 |
|                   | 1   | 110 | 106 | 102 | 99  | 104 | 97  | 100 | 94  | 96  | 91  | 87  |
|                   | 2   | 101 | 94  | 88  | 83  | 92  | 82  | 89  | 80  | 85  | 78  | 74  |
|                   | 3   | 93  | 84  | 76  | 70  | 82  | 70  | 79  | 69  | 77  | 67  | 64  |
|                   | 4   | 86  | 75  | 67  | 61  | 74  | 60  | 71  | 59  | 69  | 59  | 56  |
|                   | 5   | 79  | 67  | 59  | 53  | 66  | 53  | 64  | 52  | 62  | 51  | 49  |
|                   | 6   | 73  | 61  | 52  | 46  | 60  | 46  | 58  | 46  | 57  | 45  | 43  |
|                   | 7   | 68  | 55  | 47  | 41  | 55  | 41  | 53  | 41  | 52  | 40  | 38  |
|                   | 8   | 63  | 51  | 42  | 37  | 50  | 37  | 49  | 36  | 47  | 36  | 34  |
|                   | 9   | 59  | 46  | 38  | 33  | 46  | 33  | 45  | 33  | 44  | 33  | 31  |
|                   | 10  | 56  | 43  | 35  | 30  | 42  | 30  | 41  | 30  | 40  | 30  | 28  |

#### Zonal lumens & percentages

| Zone | Lumens | %Luminaire |
|------|--------|------------|
| 0-30 | 216    | 30.9%      |
| 0-40 | 379    | 54.3%      |
| 0-60 | 614    | 87.9%      |
| 0-90 | 698    | 100.0%     |

#### CRI and CCT adjustment factors

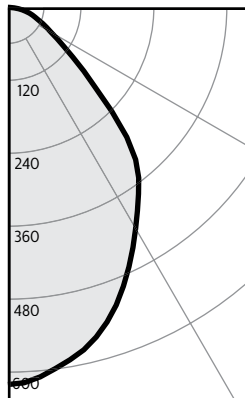
|                     |
|---------------------|
| 90 CRI 2700K = 84%  |
| 80 CRI 2700K = 100% |
| 80 CRI 3000K = 100% |
| 80 CRI 3500K = 105% |
| 80 CRI 4000K = 109% |

#### Report: 946GFR

|                            |        |                    |          |
|----------------------------|--------|--------------------|----------|
| Output lumens:             | 698lms | Efficacy:          | 76.7lm/w |
| Spacing Criterion:         | 1.5    | CCT <sup>3</sup> : | 3500K    |
| Beam Angle:                | 99°    | CRI:               | 80min    |
| Input Watts <sup>2</sup> : | 9.1W   |                    |          |

### S6S835K10 • 14W LED, 80CRI, 3500K

#### Candela Curves



| Angle | Mean CP | Lumens |
|-------|---------|--------|
| 0     | 620     | 58     |
| 5     | 610     |        |
| 10    | 589     |        |
| 15    | 561     | 157    |
| 20    | 521     |        |
| 25    | 471     | 217    |
| 30    | 420     |        |
| 35    | 375     | 235    |
| 40    | 327     |        |
| 45    | 242     | 188    |
| 50    | 163     |        |
| 55    | 113     | 106    |
| 60    | 82      |        |
| 65    | 63      | 64     |
| 70    | 48      |        |
| 75    | 37      | 38     |
| 80    | 24      |        |
| 85    | 11      | 11     |
| 90    | 0       |        |

#### Single unit data

| 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.

#### Multiple unit data - RCR 2

| Spacing on center | Initial center beam foot-candles | Watts per sq.ft. |
|-------------------|----------------------------------|------------------|
| 5'                | 28.6                             | 3.58             |
| 6'                | 18.7                             | 2.35             |
| 7'                | 13.3                             | 1.68             |
| 8'                | 11.2                             | 1.40             |
| 9'                | 8.9                              | 1.12             |

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

#### Coefficients of utilization

| Ceiling           | 80%   |     |     |     | 70% |     | 50% |     | 30% |     | 0%  |     |
|-------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                   | 70  | 50  | 30  | 10  | 50  | 10  | 50  | 10  | 50  | 10  | 0   |     |
| Wall              | Zonal cavity method - Effective floor reflectance = 20% |     |     |     |     |     |     |     |     |     |     |     |
| 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  | 93  | 88  |
|                   | 2   | 103 | 96  | 90  | 85  | 94  | 84  | 90  | 82  | 87  | 80  | 77  |
|                   | 3   | 95  | 86  | 79  | 74  | 85  | 73  | 82  | 72  | 79  | 71  | 68  |
|                   | 4   | 88  | 78  | 70  | 65  | 77  | 64  | 74  | 63  | 72  | 63  | 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 | 432    | 40.2%      |
| 0-40 | 667    | 62.1%      |
| 0-60 | 961    | 89.5%      |
| 0-90 | 1074   | 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: 959GFR

|                            |         |                    |          |
|----------------------------|---------|--------------------|----------|
| Output lumens:             | 1074lms | Efficacy:          | 80.8lm/w |
| Spacing Criterion:         | 1.1     | CCT <sup>3</sup> : | 3500K    |
| Beam Angle:                | 82°     | CRI:               | 80min    |
| Input Watts <sup>2</sup> : | 13.3W   |                    |          |

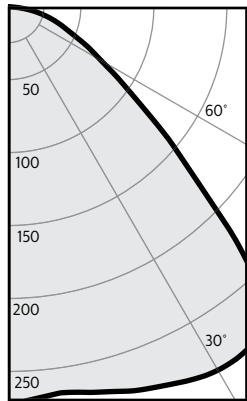
1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.
2. Wattage: controlled to within 5%
3. Correlated Color Temperature: within specs as defined in ANSI\_NEMA\_ANSI C78.377-2008: Specifications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

# S4S & S6S SlimSurface LED

## Square 4" & 6" Apertures

### S4S840K7 • 10W LED, 80 CRI, 4000K

#### Candela Curves



| Angle | Mean CP | Lumens |
|-------|---------|--------|
| 0     | 271     | 26     |
| 5     | 269     |        |
| 10    | 269     |        |
| 15    | 273     | 78     |
| 20    | 279     |        |
| 25    | 284     | 133    |
| 30    | 288     |        |
| 35    | 287     | 179    |
| 40    | 272     |        |
| 45    | 212     | 163    |
| 50    | 148     |        |
| 55    | 103     | 94     |
| 60    | 74      |        |
| 65    | 55      | 55     |
| 70    | 41      |        |
| 75    | 30      | 30     |
| 80    | 19      |        |
| 85    | 6       | 8      |
| 90    | 0       |        |

#### Single unit data

| Height to Lighted Plane | Initial center beam foot-candles | Beam dia. (ft)* |
|-------------------------|----------------------------------|-----------------|
| 5'                      | 11                               | 7.5'            |
| 6'                      | 8                                | 9.0'            |
| 7'                      | 6                                | 10.5'           |
| 8'                      | 4                                | 12.0'           |
| 9'                      | 3                                | 13.5'           |

\* 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'                | 31.9                             | 0.40             |
| 6'                | 20.9                             | 0.26             |
| 7'                | 15.0                             | 0.19             |
| 8'                | 12.5                             | 0.16             |
| 9'                | 10.0                             | 0.13             |

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

#### Coefficients of utilization

| Ceiling           | 80%   |     |     |     | 70% |     | 50% |     | 30% |     | 0%  |     |
|-------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                   | 70  | 50  | 30  | 10  | 50  | 10  | 50  | 10  | 50  | 10  | 0   |     |
| Wall              | Zonal cavity method - Effective floor reflectance = 20% |     |     |     |     |     |     |     |     |     |     |     |
| RCR               | Zonal cavity method - Effective floor reflectance = 20% |     |     |     |     |     |     |     |     |     |     |     |
| Room Cavity Ratio | 0   | 119 | 119 | 119 | 119 | 116 | 116 | 111 | 111 | 106 | 106 | 100 |
|                   | 1   | 110 | 106 | 102 | 99  | 104 | 97  | 100 | 94  | 96  | 91  | 87  |
|                   | 2   | 101 | 94  | 88  | 83  | 92  | 82  | 89  | 80  | 85  | 78  | 74  |
|                   | 3   | 93  | 84  | 76  | 70  | 82  | 70  | 79  | 68  | 76  | 67  | 64  |
|                   | 4   | 86  | 75  | 67  | 60  | 73  | 60  | 71  | 59  | 69  | 58  | 56  |
|                   | 5   | 79  | 67  | 59  | 53  | 66  | 52  | 64  | 52  | 62  | 51  | 49  |
|                   | 6   | 73  | 61  | 52  | 46  | 60  | 46  | 58  | 46  | 56  | 45  | 43  |
|                   | 7   | 68  | 55  | 47  | 41  | 54  | 41  | 53  | 41  | 51  | 40  | 38  |
|                   | 8   | 63  | 50  | 42  | 37  | 50  | 37  | 48  | 36  | 47  | 36  | 34  |
|                   | 9   | 59  | 46  | 38  | 33  | 46  | 33  | 45  | 33  | 43  | 33  | 31  |
|                   | 10  | 55  | 43  | 35  | 30  | 42  | 30  | 41  | 30  | 40  | 30  | 28  |

#### Zonal lumens & percentages

| Zone | Lumens | %Luminaire |
|------|--------|------------|
| 0-30 | 237    | 30.9%      |
| 0-40 | 416    | 54.3%      |
| 0-60 | 674    | 87.9%      |
| 0-90 | 766    | 100.0%     |

#### CRI and CCT adjustment factors

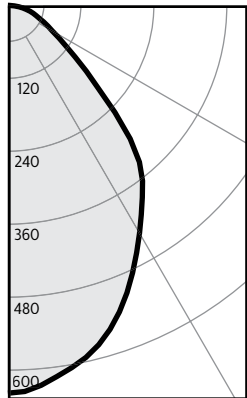
|                     |
|---------------------|
| 90 CRI 2700K = 84%  |
| 80 CRI 2700K = 100% |
| 80 CRI 3000K = 100% |
| 80 CRI 3500K = 105% |
| 80 CRI 4000K = 109% |

#### Report: 947GFR

|                            |         |                    |           |
|----------------------------|---------|--------------------|-----------|
| Output lumens:             | 766 lms | Efficacy:          | 84.2 lm/w |
| Spacing Criterion:         | 1.5     | CCT <sup>3</sup> : | 4000K     |
| Beam Angle:                | 99°     | CRI:               | 80 min    |
| Input Watts <sup>2</sup> : | 9.1W    |                    |           |

### S6S840K10 • 14W LED, 80 CRI, 4000K

#### Candela Curves



| Angle | Mean CP | Lumens |
|-------|---------|--------|
| 0     | 637     | 59     |
| 5     | 626     |        |
| 10    | 604     |        |
| 15    | 577     | 162    |
| 20    | 535     |        |
| 25    | 484     | 223    |
| 30    | 432     |        |
| 35    | 385     | 241    |
| 40    | 336     |        |
| 45    | 249     | 193    |
| 50    | 168     |        |
| 55    | 116     | 109    |
| 60    | 84      |        |
| 65    | 65      | 66     |
| 70    | 49      |        |
| 75    | 38      | 39     |
| 80    | 25      |        |
| 85    | 11      | 12     |
| 90    | 0       |        |

#### Single unit data

| Height to Lighted Plane | Initial center beam foot-candles | Beam dia. (ft)* |
|-------------------------|----------------------------------|-----------------|
| 5'                      | 25                               | 5.5'            |
| 6'                      | 18                               | 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.

#### Multiple unit data - RCR 2

| Spacing on center | Initial center beam foot-candles | Watts per sq.ft. |
|-------------------|----------------------------------|------------------|
| 5'                | 30.3                             | 3.68             |
| 6'                | 19.8                             | 2.41             |
| 7'                | 14.1                             | 1.72             |
| 8'                | 11.8                             | 1.44             |
| 9'                | 9.4                              | 1.15             |

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

#### Coefficients of utilization

| Ceiling           | 80%   |     |     |     | 70% |     | 50% |     | 30% |     | 0%  |     |
|-------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                   | 70  | 50  | 30  | 10  | 50  | 10  | 50  | 10  | 50  | 10  | 0   |     |
| Wall              | Zonal cavity method - Effective floor reflectance = 20% |     |     |     |     |     |     |     |     |     |     |     |
| 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  | 93  | 88  |
|                   | 2   | 103 | 96  | 90  | 85  | 94  | 84  | 90  | 82  | 87  | 80  | 77  |
|                   | 3   | 95  | 86  | 79  | 74  | 85  | 73  | 82  | 72  | 79  | 71  | 68  |
|                   | 4   | 88  | 78  | 70  | 65  | 77  | 64  | 74  | 63  | 72  | 63  | 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 | 443    | 40.2%      |
| 0-40 | 685    | 62.1%      |
| 0-60 | 987    | 89.5%      |
| 0-90 | 1103   | 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: 960GFR

|                            |          |                    |           |
|----------------------------|----------|--------------------|-----------|
| Output lumens:             | 1103 lms | Efficacy:          | 82.9 lm/w |
| Spacing Criterion:         | 1.1      | CCT <sup>3</sup> : | 4000K     |
| Beam Angle:                | 82°      | CRI:               | 80 min    |
| Input Watts <sup>2</sup> : | 13.3W    |                    |           |

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.

