

**SUMMARY**

**Test Condition: 15V 60Hz for HS27**  
**Setting : 1 (Max Light Output)**

| Criteria                                   | Result  |
|--|---------|
| Total Lumen Output (lm)                    | 141.036 |
| Total Power(W)                             | 3.2494  |
| Lamp Luminaire Efficacy ( lm/W)            | 43.40   |
| Power Factor                               | 0.6832  |
| Field Angle ( ° )                          | 153.8   |
| Correlated Color Temperature (CCT)         | 3070    |
| Color Rendering Index (CRI)                | 98      |
| Color Rendering Index (R <sub>9</sub> )    | 97      |
| Fidelity Index (R <sub>f</sub> )           | 95      |
| Gamut Index (R <sub>g</sub> )              | 101     |
| Chromaticity Coordinate (x)                | 0.4308  |
| Chromaticity Coordinate (y)                | 0.3997  |
| Chromaticity Coordinate (u')               | 0.2485  |
| Chromaticity Coordinate (v')               | 0.5187  |
| In-situ Case Temperature of LED/COB (°C)   | 49.3    |
| Drive Current of LED/COB (mA)              | 460     |
| Projection Life Time, Reported L70 (hours) | >60000  |

**Test Condition: 15V 60Hz for HS27**  
**Setting: 2 (Medium Light Output)**

| Criteria                                | Result  |
|---|---------|
| Total Lumen Output (lm)                 | 74.9788 |
| Total Power(W)                          | 1.6185  |
| Lamp Luminaire Efficacy ( lm/W)         | 46.33   |
| Power Factor                            | 0.6432  |
| Correlated Color Temperature (CCT)      | 3070    |
| Color Rendering Index (CRI)             | 97      |
| Color Rendering Index (R <sub>9</sub> ) | 98      |
| Fidelity Index (R <sub>f</sub> )        | 94      |
| Gamut Index (R <sub>g</sub> )           | 101     |
| Chromaticity Coordinate (x)             | 0.4305  |
| Chromaticity Coordinate (y)             | 0.3990  |
| Chromaticity Coordinate (u')            | 0.2486  |
| Chromaticity Coordinate (v')            | 0.5184  |

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**SUMMARY**

**Test Condition: 15V 60Hz for HS27**

**Setting: 3 (Min Light Output)**

| Criteria                                | Result  |
|---|---------|
| Total Lumen Output (lm)                 | 37.8981 |
| Total Power(W)                          | 0.8542  |
| Lamp Luminaire Efficacy ( lm/W)         | 44.36   |
| Power Factor                            | 0.5839  |
| Correlated Color Temperature (CCT)      | 3061    |
| Color Rendering Index (CRI)             | 97      |
| Color Rendering Index (R <sub>9</sub> ) | 96      |
| Fidelity Index (R <sub>f</sub> )        | 94      |
| Gamut Index (R <sub>g</sub> )           | 101     |
| Chromaticity Coordinate (x)             | 0.4302  |
| Chromaticity Coordinate (y)             | 0.3970  |
| Chromaticity Coordinate (u')            | 0.2491  |
| Chromaticity Coordinate (v')            | 0.5177  |

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## RESULTS OF TESTS

**Test Condition: 15V 60Hz for HS27**  
**Setting : 1 (Max Light Output)**

Total operation burning time: 70 min  
 Stabilization time: 60 min

### Photometric Measurements at 25°C

| Intertek Sample No. | Base Orientation | Correlated Color Temperature (K) | CRI | CIE 31' Chromaticity Coordinate (x) | CIE 31' Chromaticity Coordinate (y) | CIE 76' Chromaticity Coordinate (u') | CIE 76' Chromaticity Coordinate (v') |
|---------------------|------------------|----------------------------------|-----|-------------------------------------|-------------------------------------|--------------------------------------|--------------------------------------|
| HS27                |                  |                                  |     |                                     |                                     |                                      |                                      |
| A240906-22-009      | N/A              | 3070                             | 98  | 0.4308                              | 0.3997                              | 0.2485                               | 0.5187                               |

### Photometric and Electrical Measurements at 25°C

| Intertek Sample No. | Base Orientation | Input Voltage (Vac) | Input Current (A) | Lamp Input Power (Watts) | Input Power Factor | Absolute Luminous Flux (Lumens) | Lumen Efficacy (Lumens Per Watt) |
|---------------------|------------------|---------------------|-------------------|--------------------------|--------------------|---------------------------------|----------------------------------|
| HS27                |                  |                     |                   |                          |                    |                                 |                                  |
| A240906-22-009      | N/A              | 15.0                | 0.3150            | 3.2494                   | 0.6832             | 141.036                         | 43.40                            |

### Zonal Lumen Summary and Percentages at 25°C

| Zone  | Lumens (lm) | % Luminaire (%) |
|-------|-------------|-----------------|
| HS27  |             |                 |
| 0-30  | 16.868      | 11.96           |
| 0-40  | 32.425      | 22.99           |
| 0-60  | 84.546      | 59.95           |
| 0-90  | 140.999     | 99.97           |
| 0-180 | 141.036     | 100.0           |

### Beam Angle

|            | Horizontal Spread (°) | Vertical Spread (°) |
|------------|-----------------------|---------------------|
| HS27       |                       |                     |
| Beam (50%) | 156.3                 | 60.6                |
| Beam Angle | 108.5                 |                     |

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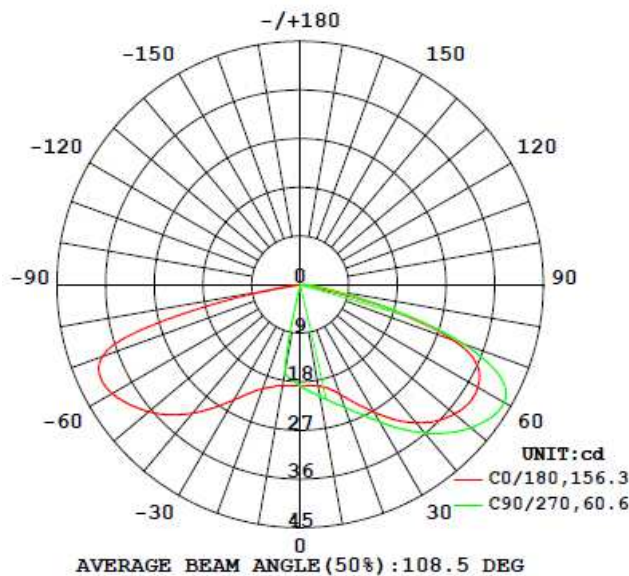
## RESULTS OF TESTS (cont'd)

### Intensity (Candlepower) Summary at 25°C – Candelas

Test Condition: 15V 60Hz for HS27

Setting : 1 (Max Light Output)

| G \ C(°) | 0     | 22.5  | 45    | 67.5  | 90    |
|----------|-------|-------|-------|-------|-------|
| 0        | 18.80 | 18.80 | 18.80 | 18.80 | 18.80 |
| 5        | 18.86 | 19.15 | 19.45 | 19.69 | 19.80 |
| 10       | 19.12 | 19.51 | 20.16 | 20.74 | 21.01 |
| 15       | 19.88 | 20.33 | 21.36 | 22.19 | 22.45 |
| 20       | 21.66 | 22.09 | 23.19 | 24.03 | 24.20 |
| 25       | 24.21 | 24.76 | 25.61 | 26.35 | 26.43 |
| 30       | 27.24 | 27.88 | 28.62 | 29.27 | 29.28 |
| 35       | 30.49 | 31.18 | 31.82 | 32.45 | 32.59 |
| 40       | 33.42 | 34.13 | 34.70 | 35.59 | 35.86 |
| 45       | 35.67 | 36.43 | 37.14 | 38.38 | 38.83 |
| 50       | 37.25 | 38.03 | 39.06 | 40.67 | 41.21 |
| 55       | 38.15 | 38.82 | 40.47 | 42.41 | 42.97 |
| 60       | 37.97 | 38.78 | 41.13 | 42.93 | 43.57 |
| 65       | 36.29 | 37.30 | 40.01 | 40.65 | 41.01 |
| 70       | 30.30 | 30.95 | 33.78 | 33.98 | 32.11 |
| 75       | 15.43 | 15.52 | 17.64 | 22.30 | 17.32 |
| 80       | 3.70  | 3.68  | 4.47  | 9.86  | 5.96  |
| 85       | 0.23  | 0.22  | 0.30  | 1.86  | 1.27  |
| 90       | 0.02  | 0.03  | 0.03  | 0.03  | 0.03  |



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## RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for HS27

Setting : 1 (Max Light Output)

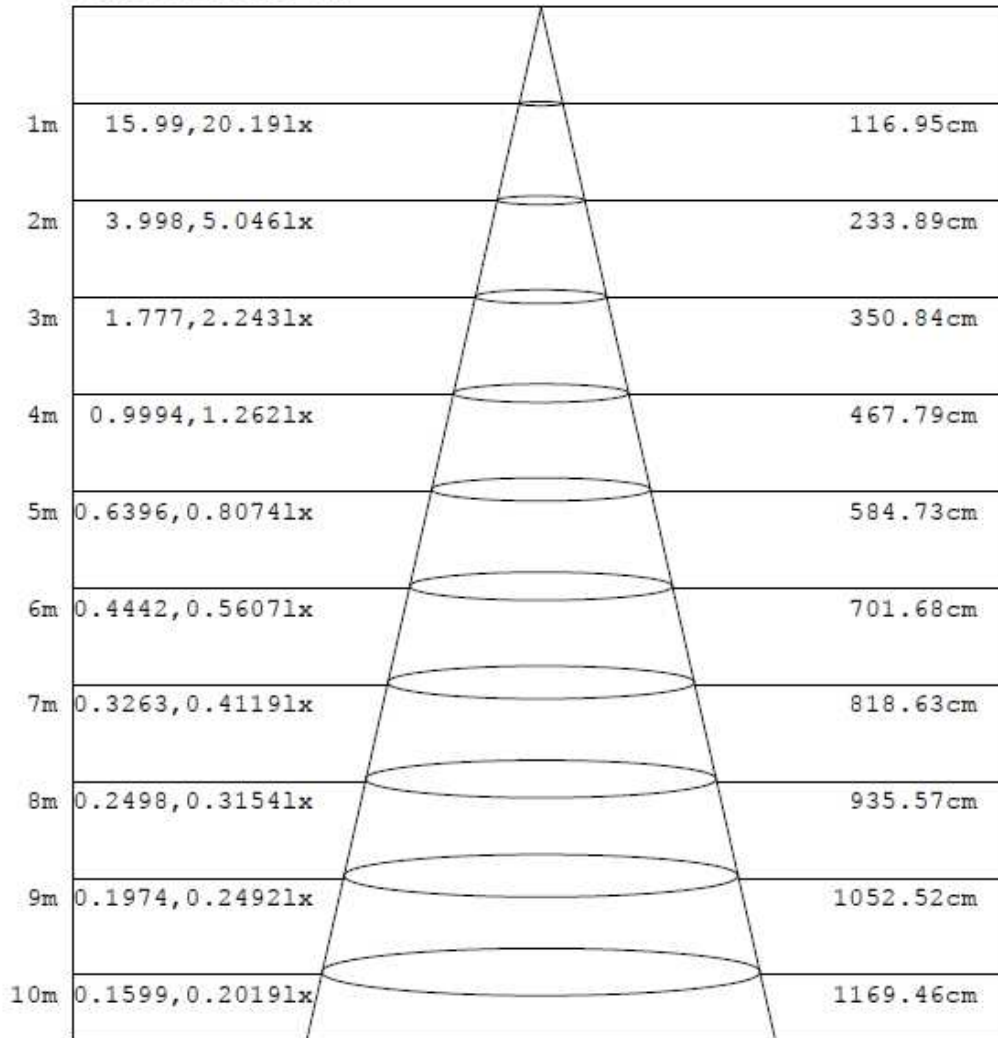
### Illumination Plots

Model No.: HS27

Mount Height: 10 m

### Illuminance - Cone of Light

Flux out: 18.14 lm



Height                      Eavg, Emax                      Angle: 60.63deg                      Diameter

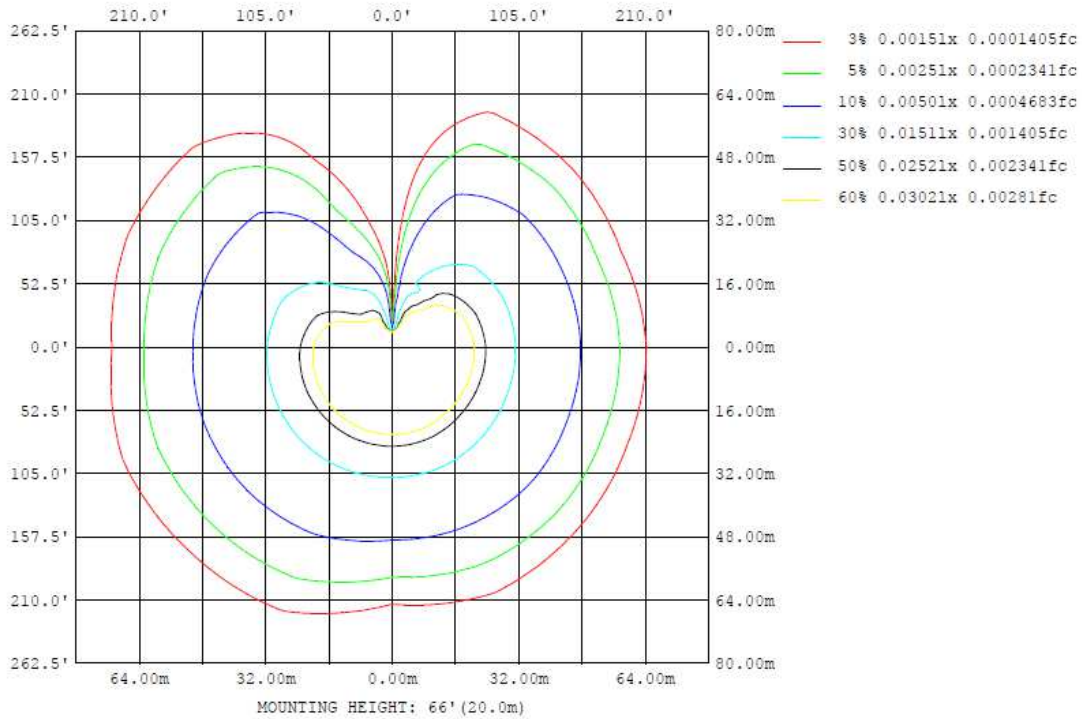
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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## RESULTS OF TESTS (cont'd)

**Test Condition: 15V 60Hz for HS27**  
**Setting : 1 (Max Light Output)**

Model No.: HS27  
Mount Height: 20 m  
Isoillumination Plot

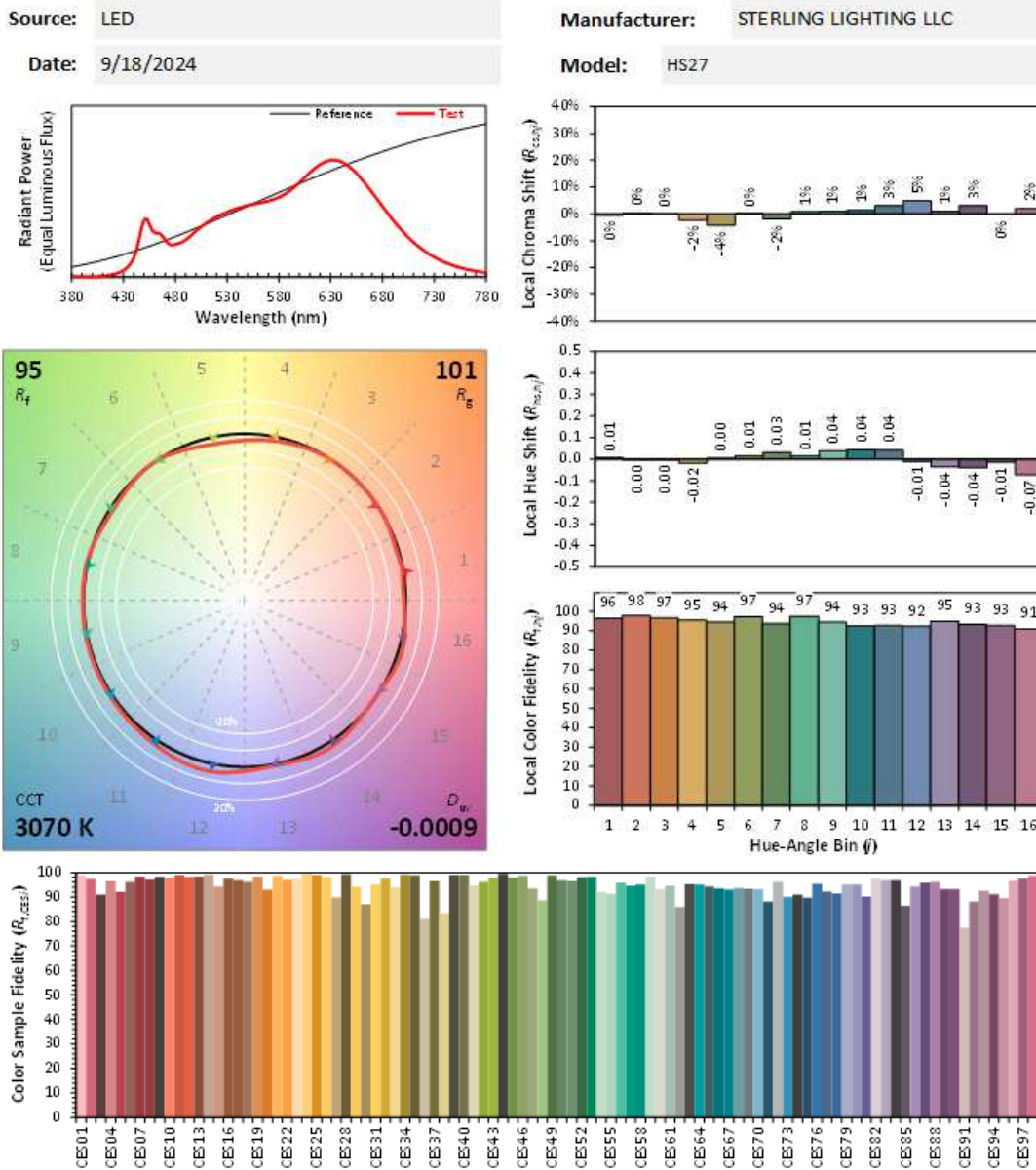


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## RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for HS27  
Setting : 1 (Max Light Output)

### ANSI/IES TM-30-18 Color Rendition Report



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.4308  
y 0.3997  
u' 0.2485  
v' 0.5187

|                     |    |
|---------------------|----|
| CIE 13.3-1995 (CRI) |    |
| $R_a$               | 98 |
| $R_g$               | 97 |

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## RESULTS OF TESTS(cont'd)

**Test Condition: 15V 60Hz for HS27**  
**Setting : 2 (Medium Light Output)**

Total operation burning time: 70 min  
 Stabilization time: 60 min

### Photometric Measurements at 25°C

| Intertek Sample No. | Base Orientation | Correlated Color Temperature (K) | CRI | CIE 31' Chromaticity Coordinate (x) | CIE 31' Chromaticity Coordinate (y) | CIE 76' Chromaticity Coordinate (u') | CIE 76' Chromaticity Coordinate (v') |
|---------------------|------------------|----------------------------------|-----|-------------------------------------|-------------------------------------|--------------------------------------|--------------------------------------|
| HS27                |                  |                                  |     |                                     |                                     |                                      |                                      |
| A240906-22-009      | N/A              | 3070                             | 97  | 0.4305                              | 0.3990                              | 0.2486                               | 0.5184                               |

### Photometric and Electrical Measurements at 25°C

| Intertek Sample No. | Base Orientation | Input Voltage (Vac) | Input Current (A) | Lamp Input Power (Watts) | Input Power Factor | Absolute Luminous Flux (Lumens) | Lumen Efficacy (Lumens Per Watt) |
|---------------------|------------------|---------------------|-------------------|--------------------------|--------------------|---------------------------------|----------------------------------|
| HS27                |                  |                     |                   |                          |                    |                                 |                                  |
| A240906-22-009      | N/A              | 15.0                | 0.1675            | 1.6185                   | 0.6432             | 74.9788                         | 46.33                            |

### Zonal Lumen Summary and Percentages at 25°C

| Zone  | Lumens (lm) | % Luminaire (%) |
|-------|-------------|-----------------|
| HS27  |             |                 |
| 0-30  | 9.062       | 12.09           |
| 0-40  | 17.466      | 23.29           |
| 0-60  | 45.073      | 60.11           |
| 0-90  | 74.949      | 99.96           |
| 0-180 | 74.9788     | 100.0           |

### Beam Angle

|            | Horizontal Spread (°) | Vertical Spread (°) |
|------------|-----------------------|---------------------|
| HS27       |                       |                     |
| Beam (50%) | 156.3                 | 61.4                |
| Beam Angle | 108.9                 |                     |

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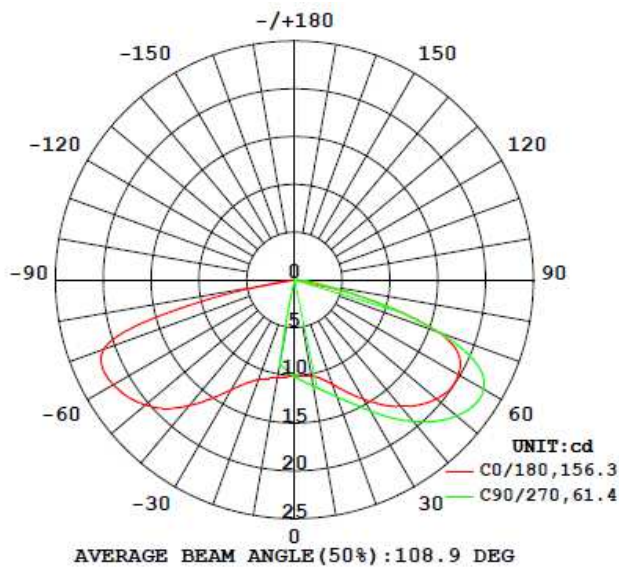
## RESULTS OF TESTS (cont'd)

### Intensity (Candlepower) Summary at 25°C – Candelas

Test Condition: 15V 60Hz for HS27

Setting : 2 (Medium Light Output)

| G \ C(°) | 0     | 22.5  | 45    | 67.5  | 90    |
|----------|-------|-------|-------|-------|-------|
| 0        | 10.10 | 10.10 | 10.10 | 10.10 | 10.10 |
| 5        | 10.09 | 10.25 | 10.41 | 10.55 | 10.64 |
| 10       | 10.24 | 10.41 | 10.72 | 11.06 | 11.27 |
| 15       | 10.69 | 10.82 | 11.28 | 11.79 | 12.04 |
| 20       | 11.64 | 11.76 | 12.27 | 12.79 | 13.02 |
| 25       | 12.95 | 13.17 | 13.63 | 14.08 | 14.26 |
| 30       | 14.41 | 14.90 | 15.25 | 15.67 | 15.82 |
| 35       | 15.93 | 16.71 | 16.96 | 17.39 | 17.59 |
| 40       | 17.32 | 18.28 | 18.49 | 19.02 | 19.35 |
| 45       | 18.50 | 19.46 | 19.70 | 20.41 | 20.92 |
| 50       | 19.37 | 20.25 | 20.64 | 21.55 | 22.13 |
| 55       | 19.88 | 20.64 | 21.30 | 22.42 | 22.90 |
| 60       | 19.80 | 20.50 | 21.50 | 22.77 | 22.85 |
| 65       | 19.02 | 19.40 | 20.72 | 21.83 | 21.13 |
| 70       | 16.08 | 15.80 | 17.18 | 18.58 | 16.21 |
| 75       | 8.43  | 7.93  | 8.79  | 11.89 | 8.49  |
| 80       | 2.17  | 2.02  | 2.38  | 5.05  | 2.92  |
| 85       | 0.14  | 0.15  | 0.17  | 0.74  | 0.61  |
| 90       | 0.01  | 0.01  | 0.01  | 0.02  | 0.02  |



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## RESULTS OF TESTS (cont'd)

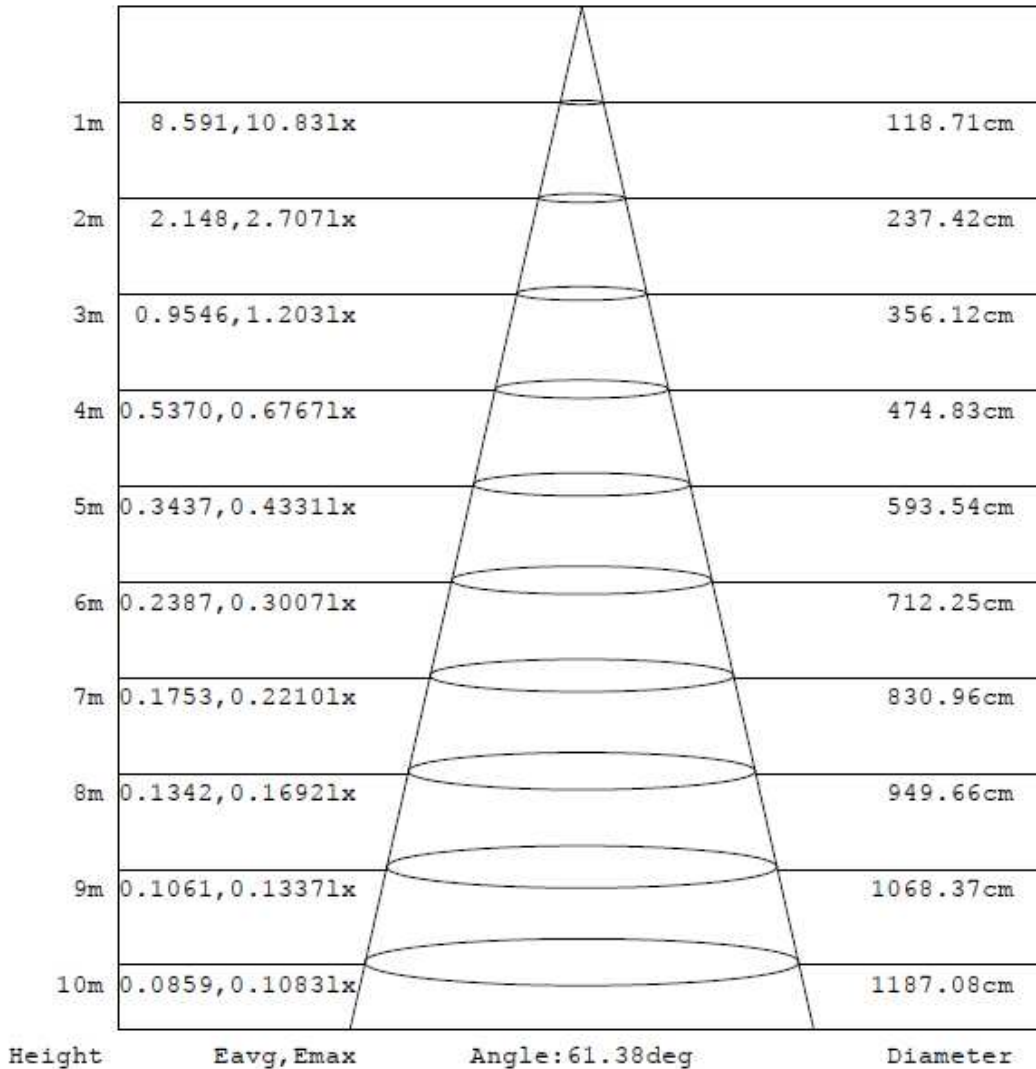
**Test Condition: 15V 60Hz for HS27**  
**Setting : 2 (Medium Light Output)**

### Illumination Plots

Model No.: HS27  
 Mount Height: 10 m

#### Illuminance - Cone of Light

Flux out: 9.745 lm



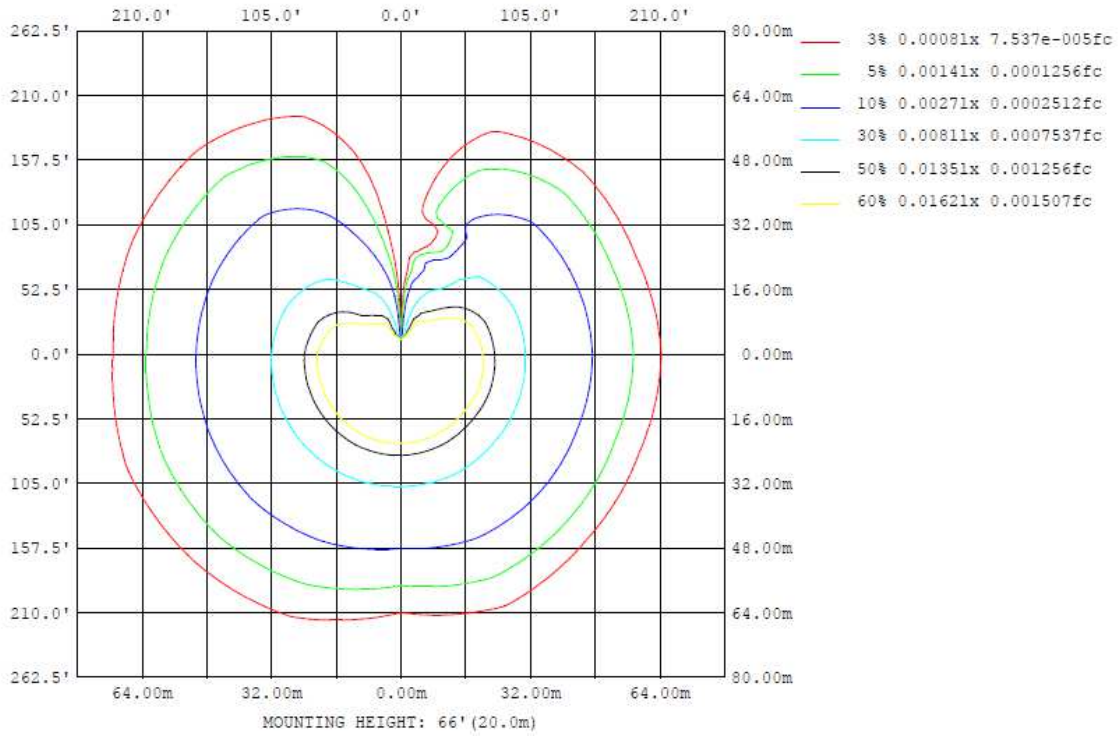
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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## RESULTS OF TESTS (cont'd)

**Test Condition: 15V 60Hz for HS27**  
**Setting : 2 (Medium Light Output)**

Model No.: HS27  
Mount Height: 20 m  
Isoillumination Plot



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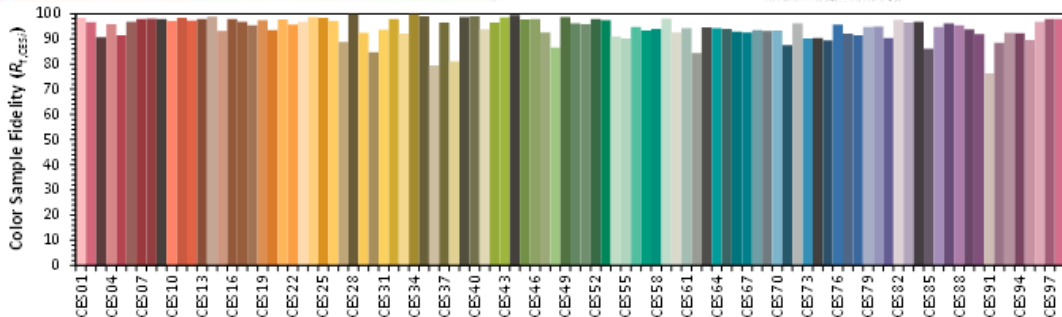
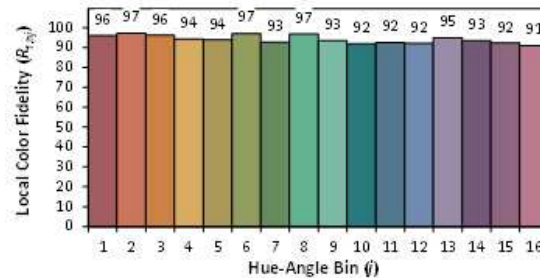
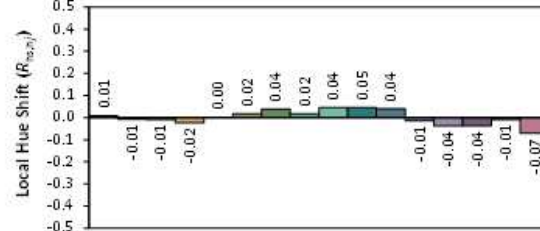
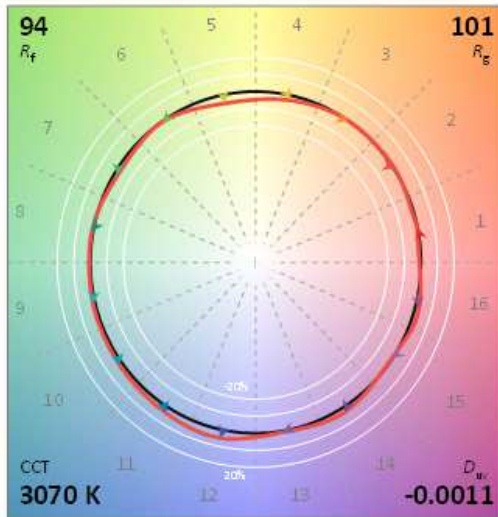
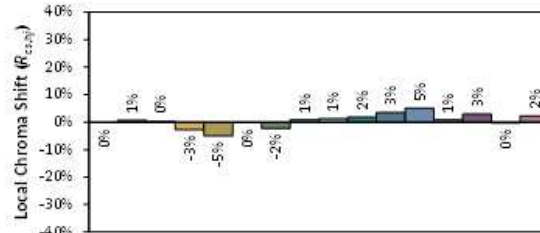
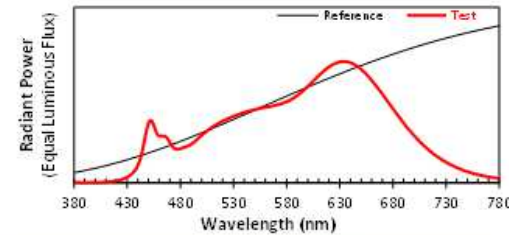
## RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for HS27  
Setting : 2 (Medium Light Output)

### ANSI/IES TM-30-18 Color Rendition Report

Source: LED  
Date: 9/18/2024

Manufacturer: STERLING LIGHTING LLC  
Model: HS27



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.4305  
y 0.3990  
u' 0.2486  
v' 0.5184

CIE 13.3-1995  
(CRI)  
Ra 97  
R9 98

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## RESULTS OF TESTS (cont'd)

**Test Condition: 15V 60Hz for HS27**  
**Setting : 3 (Min Light Output)**

Total operation burning time: 70 min  
 Stabilization time: 60 min

### Photometric Measurements at 25°C

| Intertek Sample No. | Base Orientation | Correlated Color Temperature (K) | CRI | CIE 31' Chromaticity Coordinate (x) | CIE 31' Chromaticity Coordinate (y) | CIE 76' Chromaticity Coordinate (u') | CIE 76' Chromaticity Coordinate (v') |
|---------------------|------------------|----------------------------------|-----|-------------------------------------|-------------------------------------|--------------------------------------|--------------------------------------|
| HS27                |                  |                                  |     |                                     |                                     |                                      |                                      |
| A240906-22-009      | N/A              | 3061                             | 97  | 0.4302                              | 0.3973                              | 0.2491                               | 0.5177                               |

### Photometric and Electrical Measurements at 25°C

| Intertek Sample No. | Base Orientation | Input Voltage (Vac) | Input Current (A) | Lamp Input Power (Watts) | Input Power Factor | Absolute Luminous Flux (Lumens) | Lumen Efficacy (Lumens Per Watt) |
|---------------------|------------------|---------------------|-------------------|--------------------------|--------------------|---------------------------------|----------------------------------|
| HS27                |                  |                     |                   |                          |                    |                                 |                                  |
| A240906-22-009      | N/A              | 15.0                | 0.0973            | 0.8542                   | 0.5839             | 37.8981                         | 44.36                            |

### Zonal Lumen Summary and Percentages at 25°C

| Zone  | Lumens (lm) | % Luminaire (%) |
|-------|-------------|-----------------|
| HS27  |             |                 |
| 0-30  | 4.591       | 12.11           |
| 0-40  | 8.838       | 23.32           |
| 0-60  | 22.738      | 60.00           |
| 0-90  | 37.873      | 99.93           |
| 0-180 | 37.898      | 100.0           |

### Beam Angle

|            | Horizontal Spread (°) | Vertical Spread (°) |
|------------|-----------------------|---------------------|
| HS27       |                       |                     |
| Beam (50%) | 157.8                 | 63.8                |
| Beam Angle | 110.8                 |                     |

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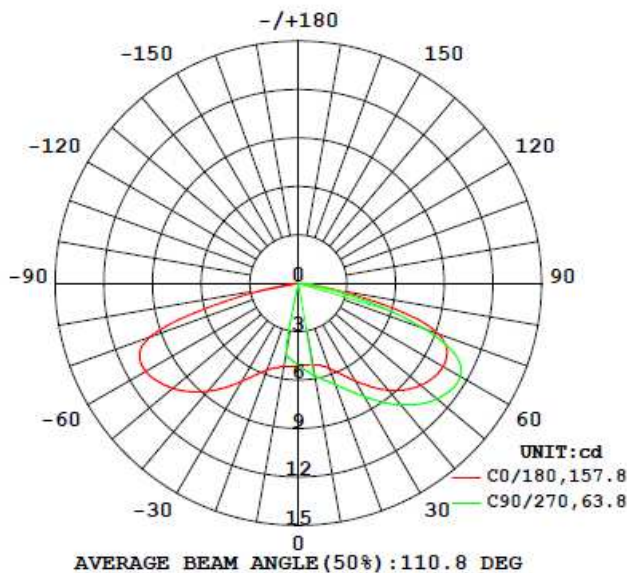
## RESULTS OF TESTS (cont'd)

### Intensity (Candlepower) Summary at 25°C – Candelas

Test Condition: 15V 60Hz for HS27

Setting : 3 (Min Light Output)

| G \ C(°) | 0     | 22.5  | 45    | 67.5  | 90    |
|----------|-------|-------|-------|-------|-------|
| 0        | 5.13  | 5.13  | 5.13  | 5.13  | 5.13  |
| 5        | 5.11  | 5.21  | 5.31  | 5.39  | 5.43  |
| 10       | 5.15  | 5.30  | 5.50  | 5.75  | 5.83  |
| 15       | 5.28  | 5.46  | 5.79  | 6.10  | 6.21  |
| 20       | 5.62  | 5.83  | 6.20  | 6.57  | 6.69  |
| 25       | 6.22  | 6.45  | 6.77  | 7.16  | 7.32  |
| 30       | 6.97  | 7.21  | 7.52  | 7.94  | 8.10  |
| 35       | 7.82  | 8.04  | 8.37  | 8.78  | 8.98  |
| 40       | 8.65  | 8.83  | 9.15  | 9.61  | 9.84  |
| 45       | 9.34  | 9.49  | 9.83  | 10.33 | 10.58 |
| 50       | 9.83  | 9.98  | 10.32 | 10.91 | 11.14 |
| 55       | 10.17 | 10.30 | 10.66 | 11.31 | 11.50 |
| 60       | 10.30 | 10.43 | 10.86 | 11.42 | 11.54 |
| 65       | 10.12 | 10.26 | 10.73 | 10.84 | 10.75 |
| 70       | 9.18  | 9.26  | 9.67  | 9.11  | 8.32  |
| 75       | 6.16  | 5.95  | 6.09  | 6.11  | 4.44  |
| 80       | 2.15  | 2.03  | 2.08  | 2.88  | 1.60  |
| 85       | 0.26  | 0.21  | 0.23  | 0.63  | 0.36  |
| 90       | 0.01  | 0.01  | 0.02  | 0.02  | 0.02  |



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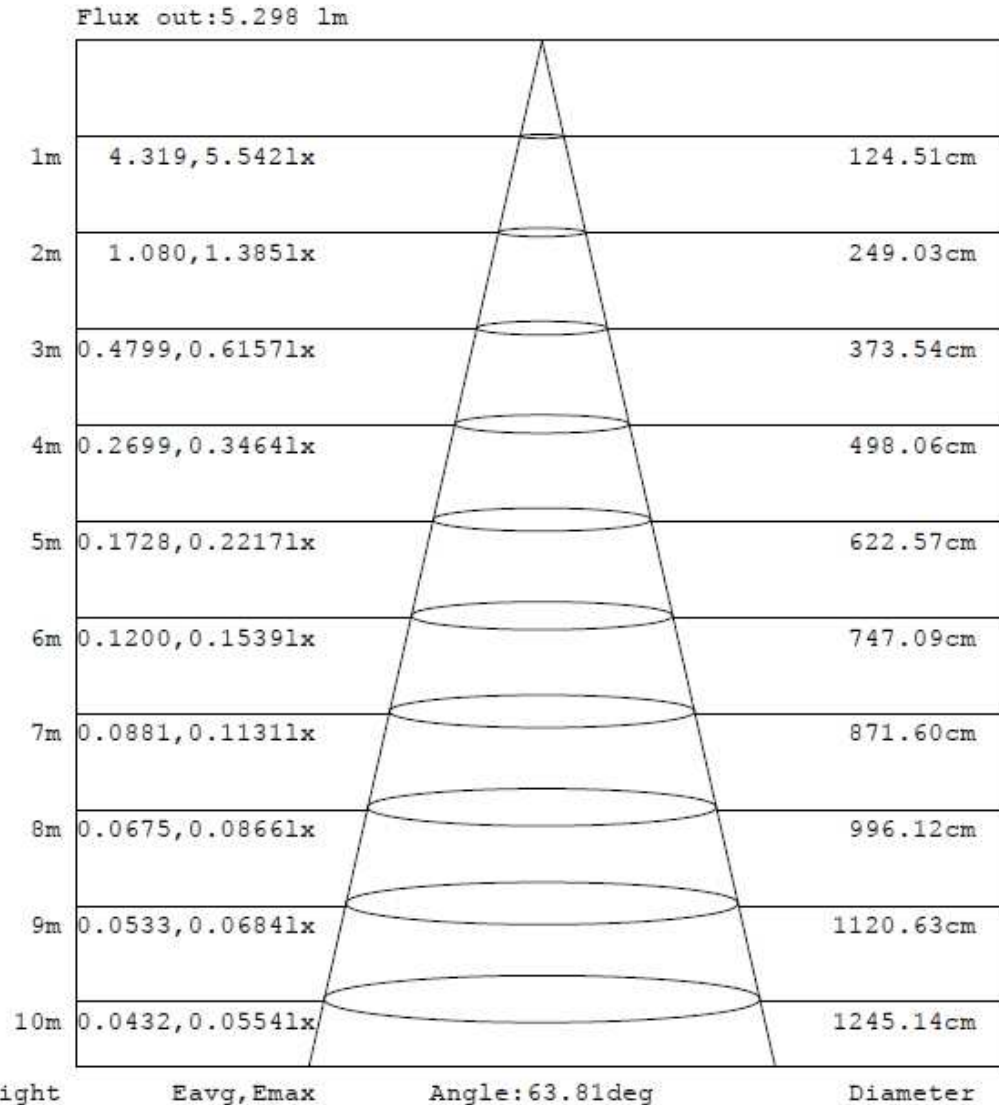
RESULTS OF TESTS (cont'd)

**Test Condition: 15V 60Hz for HS27**  
**Setting : 3 (Min Light Output)**

Illumination Plots

Model No.: HS27  
 Mount Height: 10 m

Illuminance - Cone of Light



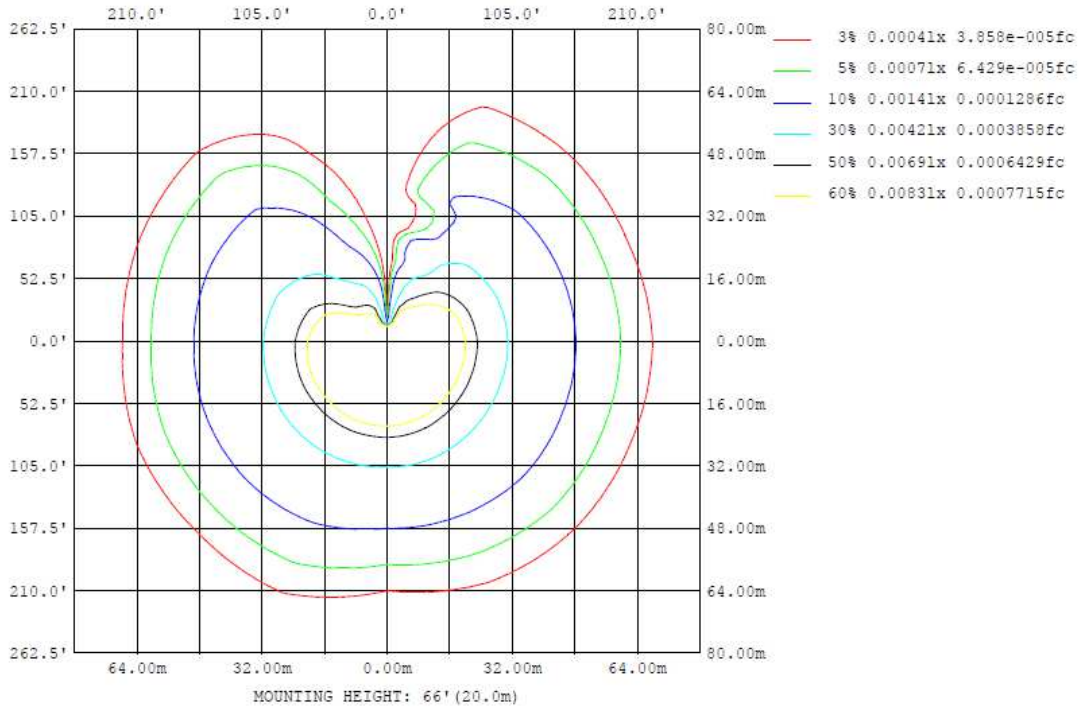
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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## RESULTS OF TESTS (cont'd)

**Test Condition: 15V 60Hz for HS27**  
**Setting : 3 (Min Light Output)**

Model No.: HS27  
Mount Height: 20 m  
Isoillumination Plot



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## RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for HS27  
Setting : 3 (Min Light Output)

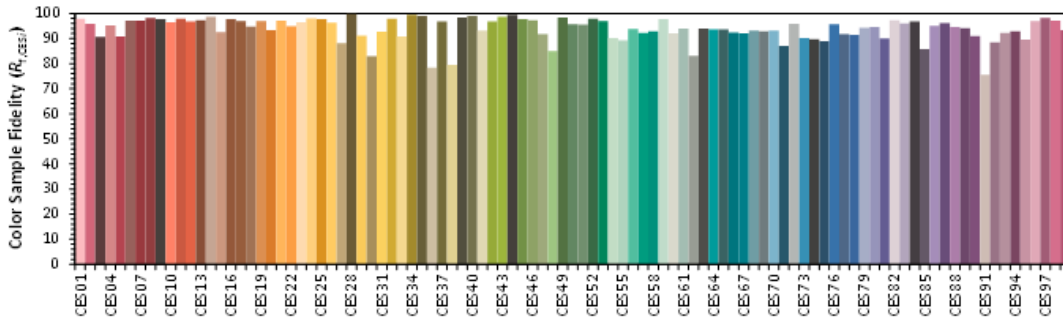
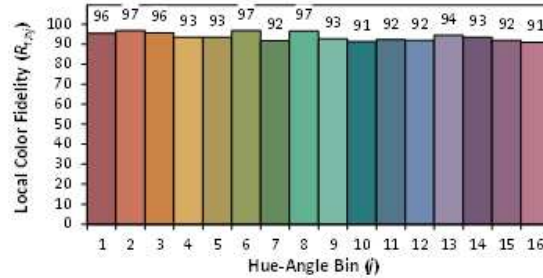
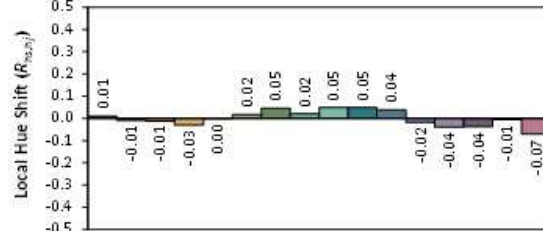
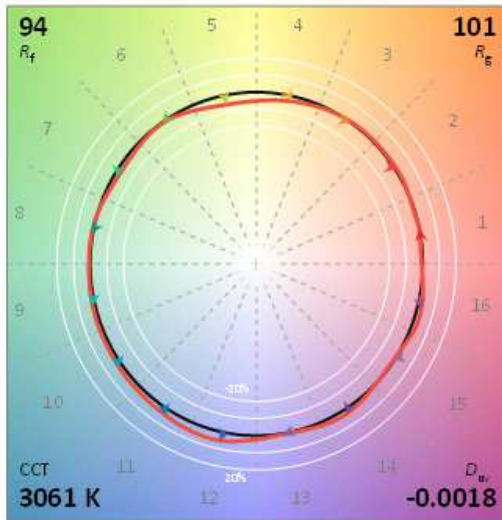
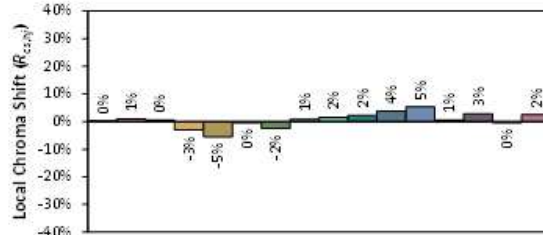
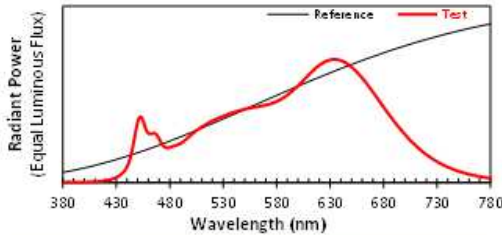
### ANSI/IES TM-30-18 Color Rendition Report

Source: LED

Manufacturer: STERLING LIGHTING LLC

Date: 9/18/2024

Model: HS27



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.4302  
y 0.3973  
u' 0.2491  
v' 0.5177

|                     |    |
|---------------------|----|
| CIE 13.3-1995 (CRI) |    |
| R <sub>a</sub>      | 97 |
| R <sub>s</sub>      | 96 |

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