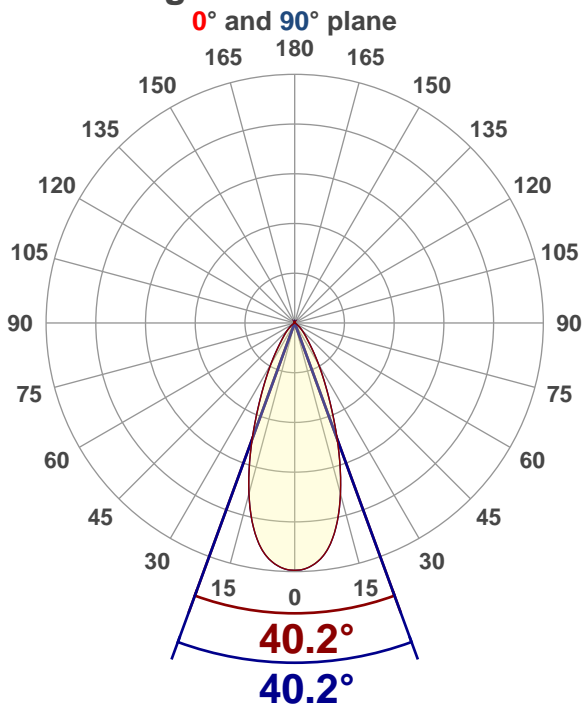


Light efficiency:**71 Lumen/Watt****Color temperature:****3873 K****Light quality:****CRI:97.2, R_g:92.5, R_f:98.9****P: 2 / V: - / F: 2****Output: 823 lm****Peak: 1434 cd****Power: 11.6 W****Voltage: 120 V****Current: 0.098 A****PF: 0.98****THD: 7.8 %****Angular Distribution****Product name:****RA4-12RG-90BK - 4000K****Test Date:****2021-09-03****Beam Angle (50% of the brightness of the centre):****40.2°****Field Angle (10% of the brightness of the centre):****71.8°****Cut Off Angle (2.5% of the brightness of the centre):****99°****Beam Details****measured at centre of beam*

| Mounting Height (feet)/(meter) | Lux* | Footcandles* | Beam width (feet) / (meter) |
|-----------------------------------|--------|--------------|--------------------------------|
| 4 ft / 1.2 m | 965 lx | 90 fc | 2.9 ft / 0.9 m |
| 8 ft / 2.4 m | 241 lx | 22 fc | 5.9 ft / 1.8 m |
| 12 ft / 3.7 m | 107 lx | 10 fc | 8.8 ft / 2.7 m |
| 16 ft / 4.9 m | 60 lx | 6 fc | 11.7 ft / 3.6 m |
| 20 ft / 6.1 m | 39 lx | 4 fc | 14.6 ft / 4.5 m |

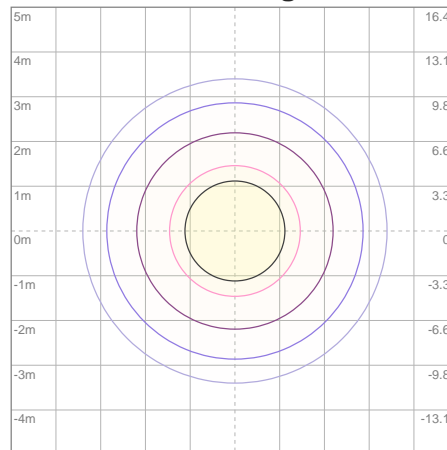
Beam center

Photometric Testing Report

Zonal Lumen Summary

| Zone | Lumen | %Luminaire |
|--------|-------|------------|
| 0-30 | 621 | 75.46% |
| 0-40 | 724 | 87.97% |
| 0-60 | 786 | 95.50% |
| 60-90 | 13.1 | 1.59% |
| 70-100 | 11.5 | 1.40% |
| 90-120 | 11.1 | 1.35% |
| 0-90 | 799 | 97.08% |
| 90-180 | 24.2 | 2.94% |
| 0-180 | 823 | 100.00% |

ISO Lux Diagram



| | |
|----------------|----------|
| Lux at center: | 154 lx |
| 3% | 4.62 lx |
| 5% | 7.70 lx |
| 10% | 15.40 lx |
| 30% | 46.20 lx |
| 50% | 77.00 lx |

Conditions:

Number of planes: 8

Lux distribution on a surface when lamp is mounted at 3.05 meters from the surface.

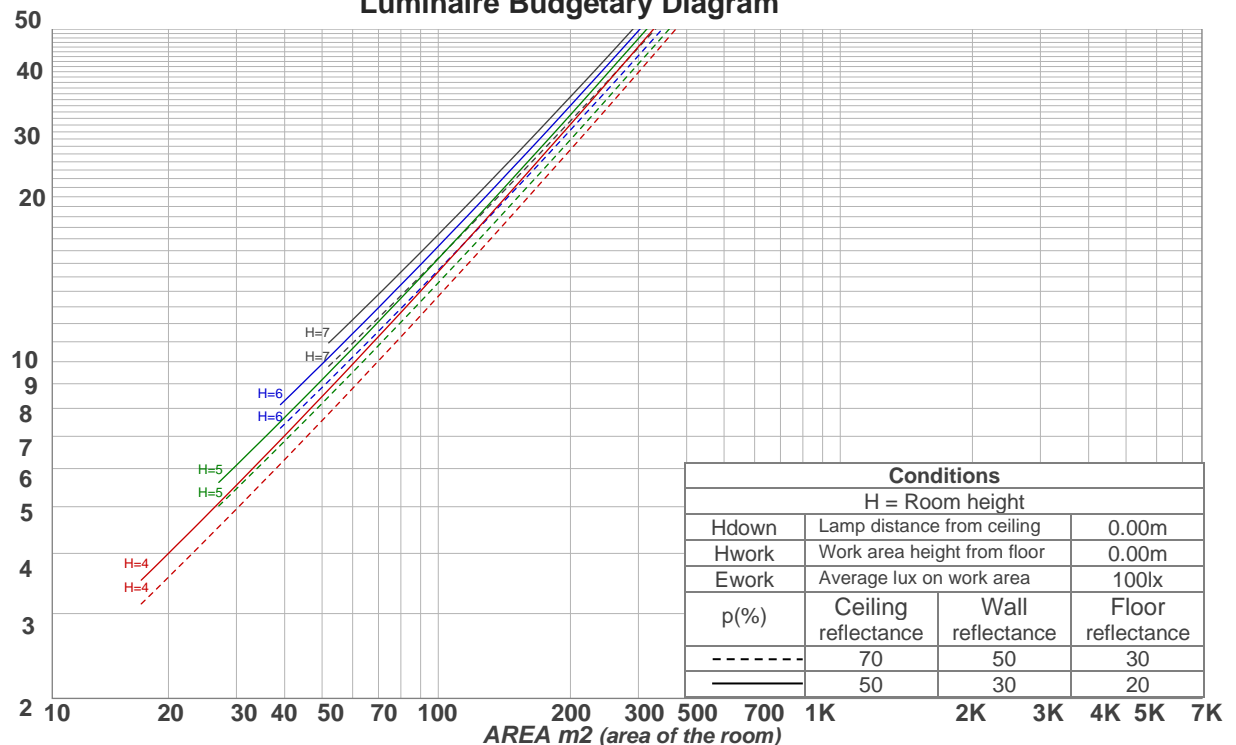
Mounting height: 3.05 meters (10 feet)

Coefficients of Utilization

| Ceiling reflectance | 80 | | | | 70 | | | | 50 | | | 30 | | | 10 | | | 0 |
|---------------------|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|
| Wall reflectance | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| Floor reflectance | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 0 |
| RCR | (RCR: Room Cavity Ratio) Room Values are expressed as percentage of Lumens delivered to the task surface | | | | | | | | | | | | | | | | | |
| 0 | 118 | 118 | 118 | 118 | 115 | 115 | 115 | 115 | 109 | 109 | 109 | 104 | 104 | 104 | 99 | 99 | 99 | 97 |
| 1 | 113 | 110 | 108 | 105 | 110 | 108 | 105 | 103 | 103 | 101 | 100 | 99 | 97 | 96 | 95 | 94 | 93 | 91 |
| 2 | 107 | 103 | 99 | 95 | 105 | 101 | 97 | 94 | 97 | 94 | 92 | 94 | 91 | 89 | 90 | 89 | 87 | 85 |
| 3 | 102 | 96 | 91 | 88 | 100 | 95 | 90 | 87 | 92 | 88 | 85 | 89 | 86 | 83 | 86 | 84 | 82 | 80 |
| 4 | 98 | 90 | 85 | 81 | 96 | 89 | 84 | 80 | 87 | 82 | 79 | 84 | 81 | 78 | 82 | 79 | 77 | 75 |
| 5 | 93 | 85 | 80 | 76 | 91 | 84 | 79 | 75 | 82 | 78 | 74 | 80 | 76 | 73 | 78 | 75 | 72 | 71 |
| 6 | 89 | 81 | 75 | 71 | 87 | 80 | 74 | 70 | 78 | 73 | 70 | 76 | 72 | 69 | 75 | 71 | 68 | 67 |
| 7 | 85 | 76 | 71 | 67 | 84 | 76 | 70 | 66 | 74 | 69 | 66 | 73 | 68 | 65 | 71 | 68 | 65 | 63 |
| 8 | 81 | 72 | 67 | 63 | 80 | 72 | 67 | 63 | 71 | 66 | 62 | 69 | 65 | 62 | 68 | 64 | 62 | 60 |
| 9 | 78 | 69 | 63 | 60 | 77 | 68 | 63 | 60 | 67 | 63 | 59 | 66 | 62 | 59 | 65 | 61 | 59 | 57 |
| 10 | 75 | 66 | 60 | 57 | 74 | 65 | 60 | 57 | 64 | 60 | 56 | 63 | 59 | 56 | 63 | 59 | 56 | 55 |

LAMPS (number of lamps)

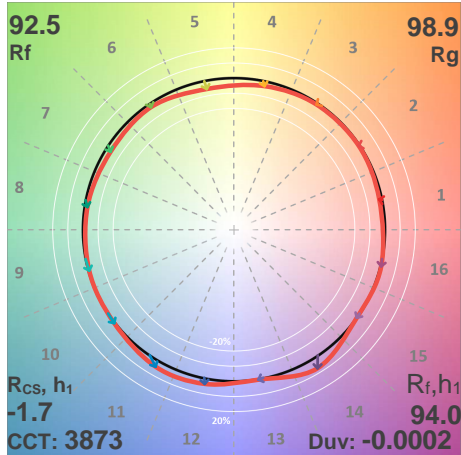
Luminaire Budgetary Diagram



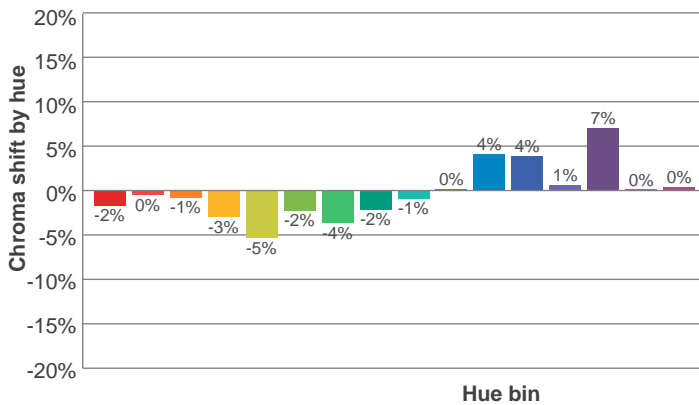
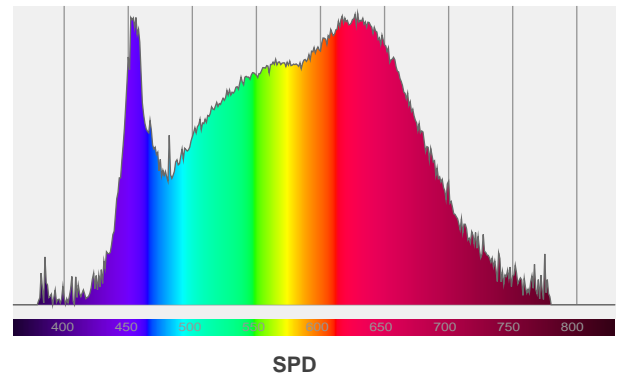
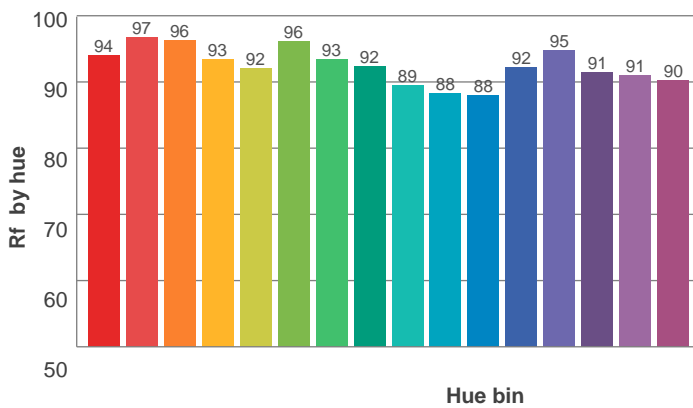
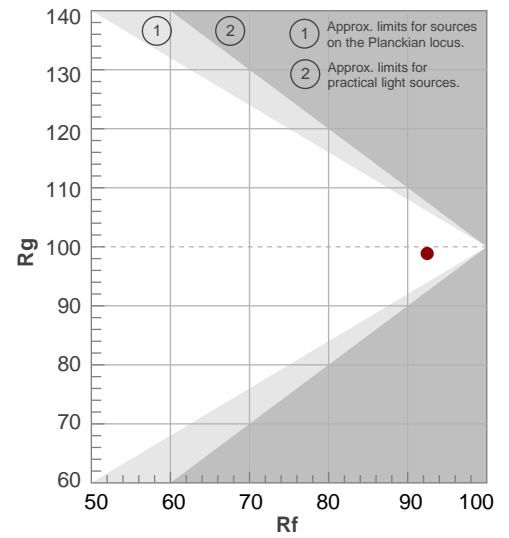
Photometric Testing Report

ANSI/IES TM-30-18

P: 2 / V: - / F: 2



| Hue Bin | R _f | Shifts (%) | |
|---------|----------------|------------|-----|
| | | Chroma | Hue |
| 1 | 94 | -2% | 1% |
| 2 | 97 | 0% | 0% |
| 3 | 96 | -1% | 0% |
| 4 | 93 | -3% | -1% |
| 5 | 92 | -5% | -1% |
| 6 | 96 | -2% | 1% |
| 7 | 93 | -4% | 2% |
| 8 | 92 | -2% | 4% |
| 9 | 89 | -1% | 8% |
| 10 | 88 | 0% | 8% |
| 11 | 88 | 4% | 7% |
| 12 | 92 | 4% | 1% |
| 13 | 95 | 1% | -3% |
| 14 | 91 | 7% | -5% |
| 15 | 91 | 0% | -3% |
| 16 | 90 | 0% | -5% |



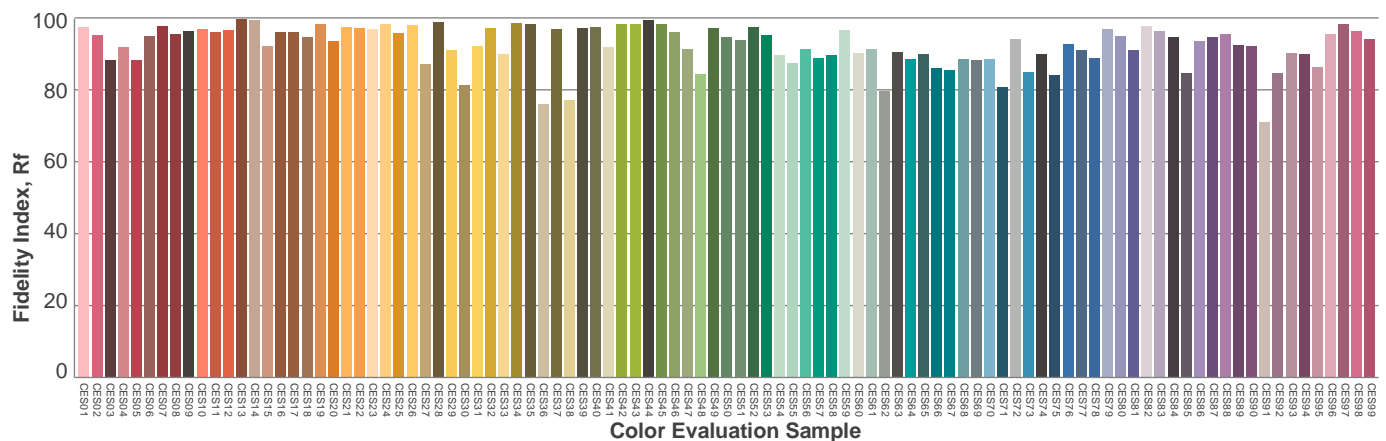
Red: 34.1%, Power=8.5mW

Blue: 13.6%, Power=7.6mW

Green: 26.4%, Power=10.8mW

UVA: 0.4%, Power=0.0mW

Dominant Wavelength: 582nm

1st Peak Wavelength: 629nm2nd Peak Wavelength: 456nm

Glare Evaluation According to UGR

| | | | | | | | | | | | |
|---|-----|---|------|------|------|------|---|------|------|------|------|
| p Ceiling | | 70 | 70 | 50 | 50 | 30 | 70 | 70 | 50 | 50 | 30 |
| p Walls | | 50 | 30 | 50 | 30 | 30 | 50 | 30 | 50 | 30 | 30 |
| p Floor | | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Room size X Y | | Viewing direction at right angles to lamp axis | | | | | Viewing direction parallel to lamp axis | | | | |
| 2H | 2H | 17.6 | 18.2 | 17.7 | 18.4 | 18.7 | 17.6 | 18.2 | 17.7 | 18.4 | 18.7 |
| | 3H | 17.4 | 18.1 | 17.8 | 18.4 | 18.6 | 17.4 | 18.1 | 17.8 | 18.4 | 18.6 |
| | 4H | 17.4 | 18.1 | 17.9 | 18.4 | 18.7 | 17.4 | 18.1 | 17.9 | 18.4 | 18.7 |
| | 6H | 17.6 | 18.2 | 17.9 | 18.5 | 18.9 | 17.6 | 18.2 | 17.9 | 18.5 | 18.9 |
| | 8H | 17.7 | 18.2 | 18.0 | 18.6 | 19.0 | 17.7 | 18.2 | 18.0 | 18.6 | 19.0 |
| | 12H | 17.8 | 18.4 | 18.2 | 18.8 | 19.2 | 17.8 | 18.4 | 18.2 | 18.8 | 19.2 |
| 4H | 2H | 17.3 | 18.0 | 17.7 | 18.2 | 18.5 | 17.3 | 18.0 | 17.7 | 18.2 | 18.5 |
| | 3H | 17.4 | 17.9 | 17.8 | 18.3 | 18.8 | 17.4 | 17.9 | 17.8 | 18.3 | 18.8 |
| | 4H | 17.4 | 17.9 | 17.8 | 18.4 | 18.9 | 17.4 | 17.9 | 17.8 | 18.4 | 18.9 |
| | 6H | 17.6 | 18.1 | 18.1 | 18.5 | 18.9 | 17.6 | 18.1 | 18.1 | 18.5 | 18.9 |
| | 8H | 17.8 | 18.2 | 18.3 | 18.6 | 19.1 | 17.8 | 18.2 | 18.3 | 18.6 | 19.1 |
| | 12H | 18.1 | 18.4 | 18.6 | 18.9 | 19.4 | 18.1 | 18.4 | 18.6 | 18.9 | 19.4 |
| 8H | 4H | 17.4 | 17.8 | 17.9 | 18.2 | 18.6 | 17.4 | 17.8 | 17.9 | 18.2 | 18.6 |
| | 6H | 17.7 | 18.0 | 18.2 | 18.5 | 19.1 | 17.7 | 18.0 | 18.2 | 18.5 | 19.1 |
| | 8H | 18.0 | 18.3 | 18.6 | 18.9 | 19.5 | 18.0 | 18.3 | 18.6 | 18.9 | 19.5 |
| | 12H | 18.5 | 18.8 | 19.2 | 19.3 | 20.0 | 18.5 | 18.8 | 19.2 | 19.3 | 20.0 |
| 12H | 4H | 17.3 | 17.7 | 17.9 | 18.2 | 18.7 | 17.3 | 17.7 | 17.9 | 18.2 | 18.7 |
| | 6H | 17.8 | 18.0 | 18.3 | 18.6 | 19.3 | 17.8 | 18.0 | 18.3 | 18.6 | 19.3 |
| | 8H | 18.1 | 18.4 | 18.8 | 18.9 | 19.5 | 18.1 | 18.4 | 18.8 | 18.9 | 19.5 |
| Variation of the observer position for the luminaire distance S | | | | | | | | | | | |
| S = 1.0H | | 2.1 / -1.7 | | | | | 2.1 / -1.7 | | | | |
| S = 1.5H | | 4.1 / -2.1 | | | | | 4.1 / -2.1 | | | | |
| S = 2.0H | | 5.8 / -2.4 | | | | | 5.8 / -2.4 | | | | |
| Standard table | | n/a | | | | | n/a | | | | |
| Correction summand | | n/a | | | | | n/a | | | | |
| Corrected glare indices referring to 823 lm total luminous flux | | | | | | | | | | | |