VEROBOARD®

# 2" Round Regressed Downlight

Name: _____

Quantity: _____

Phone: _____

Email: _____

**Trim Options:** Black* ☐ White ☐

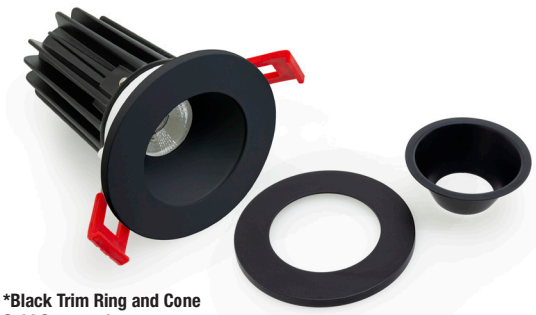
Veroboard 2-inch regressed downlight is specially designed to eliminate the glare when illuminated. It is an IC-rated fixture that comes along with a junction box LED driver. They come in both white and Black reflector trims. It has the option of choosing desired color temperature from 2700K-3000K-3500K-4000K-5000K. Moreover, the fixture comes with an FT6 rated certification cable.

## SPECIFICATIONS

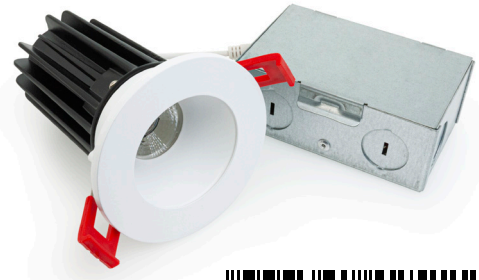
| | |
|---|---|
| **Engine Model No:** | LED-2-S12W-5CCTWH |
| **Voltage:** | 120V AC |
| **Frequency:** | 60Hz |
| **Power Factor (PF):** | 0.9 |
| **Wattage:** | 12W |
| **LED Driver:** | IC Rated |
| **Color Temperature:** | 5CCT Selectable Color Temperature (2700K-3000K-3500K-4000K-5000K) |
| **Dimmable:** | Yes |
| **Dimming:** | 100 - 10% (Triac Dimming) |
| **Dimmers:** | LED/CEL Dimmers |
| **Brightness:** | 800 Lumens |
| **Rendering Index:** | CRI>90 |
| **LED Type:** | Integrated COB LED |
| **Engine Material:** | Die-Cast Aluminum |
| **Trim Material:** | Galvanized Steel |
| **Available Trim Cone Colors:** | White and Black |
| **Available Trim Ring Colors:** | White and Black |
| **Rated Life:** | 50,000 Hours |
| **Installation:** | Recessed/Flush Mount |
| **IP Rating:** | IP20 (Damp Locations) |
| **Outer Dimensions:** | Ø79.3 mm (Ø3.1 in) x 107.64 mm (4.24 in) Depth |
| **LED Driver Dimensions:** | 96.75 x 58.3 x 38.5 mm (3.8 x 2.3 x 1.5 in) |
| **Cut Size:** | 72 mm (2.875 in) |
| **Package Content:** | Light Fixture with IC-Rated LED Driver |
| **Package Dimensions:** | 5.5 x 4.5 x 5.1 in (14 x 11.6 x 13 cm) |
| **Package Weight:** | 0.652 Kg |
| **Certification:** | FCC/ETL/Energy Star/RoHS |

Selectable Color Temperature Switch


**LED Driver Dimensions:**
**Length:** 96.75 mm (3.8 in)
**Width:** 58.3 mm (2.3 in)
**Depth:** 38.5 mm (1.5 in)



*Black Trim Ring and Cone Sold Separately.



## Included Content:

- 2" Regressed Downlight Engine
- White Reflector Cone with Outer Trim Ring
- IC Rated LED Driver with FT6 Rated Cable
- Installation Instruction Manual

## Safety and Warning

The fixture must be wired in accordance with local electrical codes. All the installation must be done by a certified electrician. Do not modify the product, any modification may render the product unsafe and void the warranty.

**SKU:** 666561425111

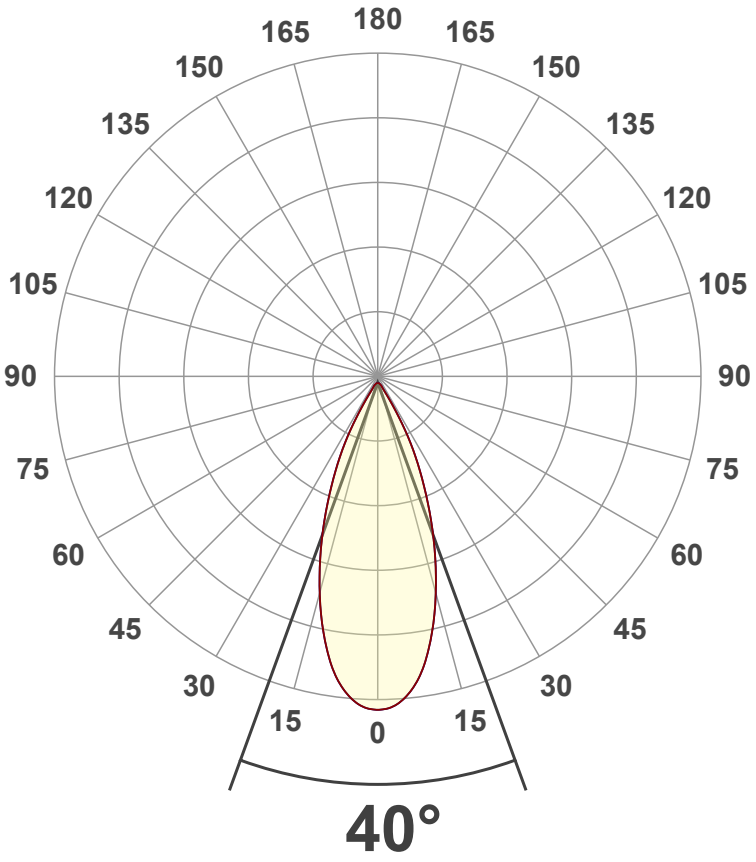
# Light Measurement Report

Print date: 2023-01-06

Measurement date and time: 2023-01-06 3:36:28 PM – Measurement no. VFR-230106-0059-MS

VERO LAB POWERED BY VISO SYSTEMS

**Luminous Intensity diagram** Unit: 0-100% of peak intensity




**Main Values**

| | |
|---|---|
| Output (total Lumen) | 800 lm |
| Lumen Up% / Down% | 0.01% / 99.99% |
| Peak Intensity | 1546 cd |
| Beam Angle (50%) | 40° |
| Beam Angle (90%) | 40.4° |
| Beam Angle (10%) | 40.4° |

**Cut-off Angle**

| | |
|---|---|
| Average 2,5% | 84.1° |

**Field Angle**

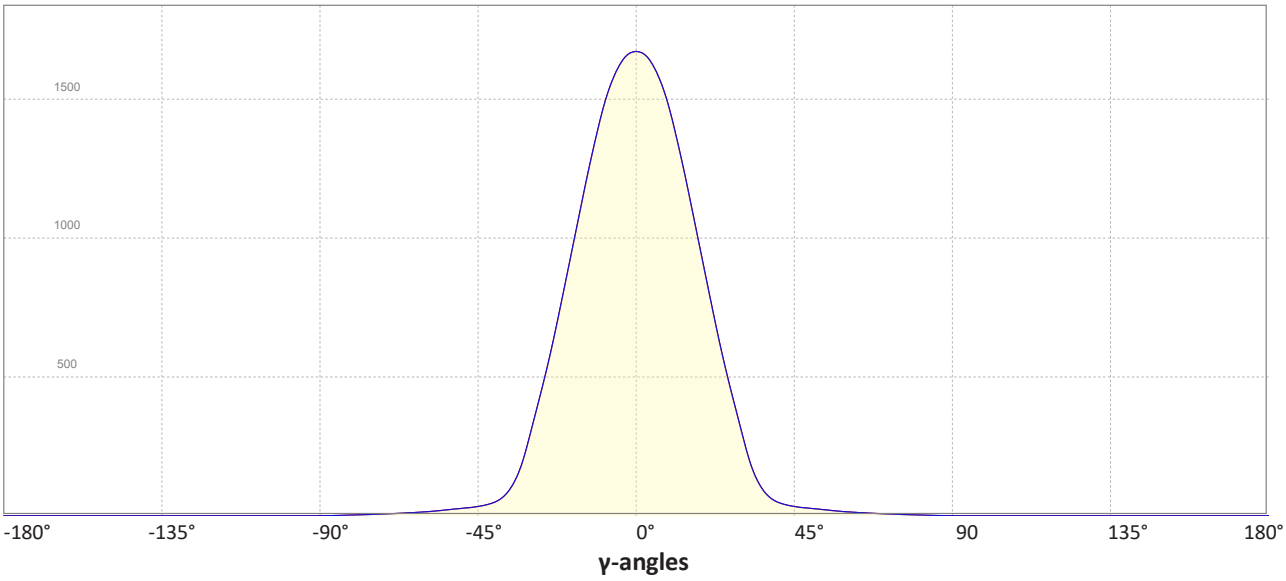
| | |
|---|---|
| Average 10% | 66.3° |

**Intensity Ratio**

| | |
|---|---|
| In 120° cone | 97.9% |
| In 90° cone | 94.4% |

**C000-C180**
**C090-C270**

**Linear distribution diagram** - Intensity (candela) vs γ-angle



# Light Measurement Report

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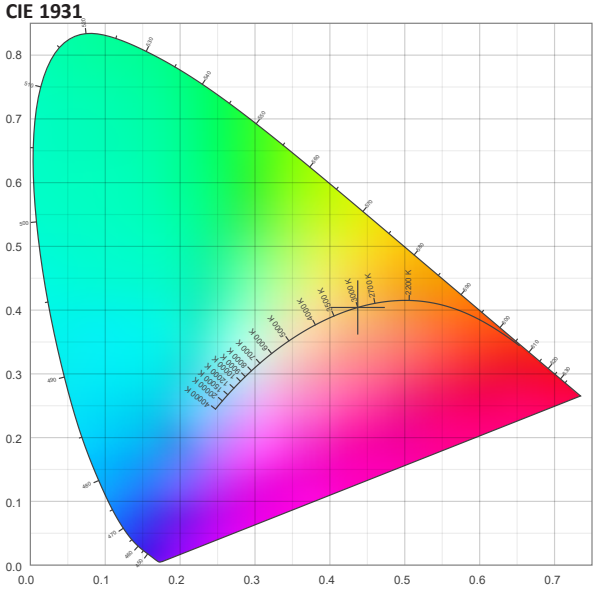
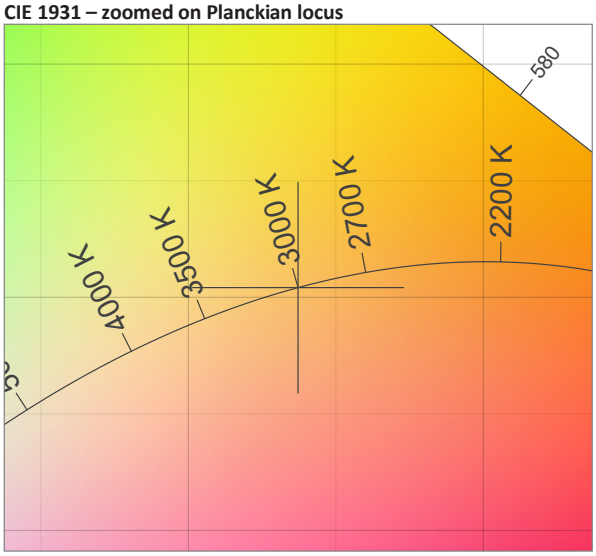
## Color details

| | |
|---|---|
| Correlated Color Temperature, Target | CCT = 3000 K |
| Correlated Color Temperature, Measured | CCT = 2939 K |
| Color Rendering Index | CRI 93.3 |
| Color Rendering Index, R9 (red component) | R9 = 57.2 |
| Color Rendering TM30-18 | $R_f$ 90.3 – $R_g$ 95.2 |
| Color Quality Scale | CQS = 90.7 |
| MacAdam Steps | SDCM = 4.5 |
| Color coordinates CIE 1931 | (x;y) = (0.437;0.404) |
| Color coordinate CIEs 1960 | (u;v) = (0.251;0.348) |
| Color deviation from BBL | Duv = 0.0033 |
| Color coordinate CIEs 1976 (CIELUV) | (u';v') = (0.251;0.251) |

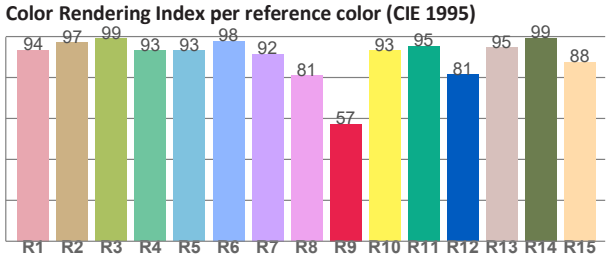
**CIE 1931**



**CIE 1931 – zoomed on Planckian locus**



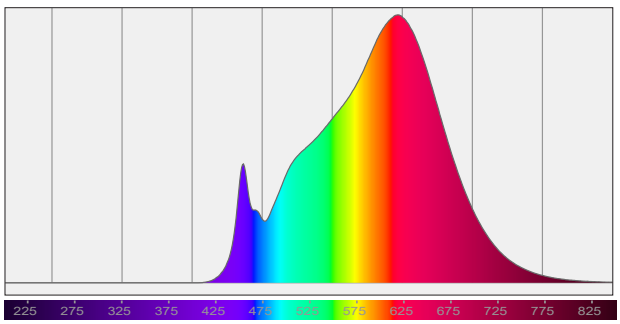

**Color Rendering Index per reference color (CIE 1995)**



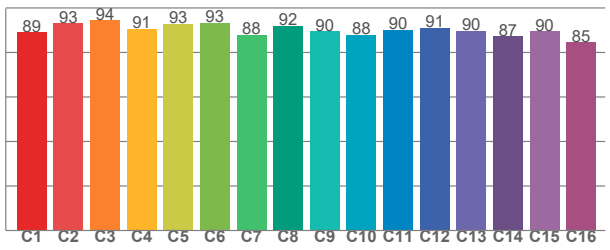

CRI R values, only R1-R8 are used to calculate final CRI value

| R1 | R2 | R3 | R4 | R5 | R6 | R7 | R8 | R9 | R10 | R11 | R12 | R13 | R14 | R15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 93.5 | 97.2 | 99.0 | 93.2 | 93.2 | 97.8 | 91.6 | 81.0 | 57.2 | 93.3 | 95.5 | 81.5 | 94.6 | 99.4 | 87.6 |

**Spectral power distribution (SPD) / W/nm – 0-100%**



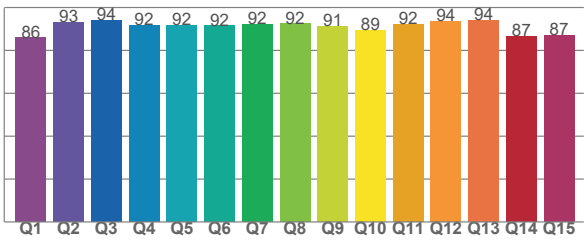

**TM30-18 Rf-values per hue bin**




TM30 C values, 16 binned values out of total of 99 C values

| C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 | C11 | C12 | C13 | C14 | C15 | C16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 89.1 | 93.0 | 94.4 | 90.6 | 92.8 | 93.3 | 87.8 | 92.1 | 89.5 | 87.9 | 90.2 | 91.0 | 89.8 | 87.3 | 89.6 | 84.6 |

**Color Quality Scale by reference color**




CQS Q values

| Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 86.0 | 93.2 | 94.1 | 91.7 | 91.6 | 91.6 | 92.2 | 92.4 | 91.2 | 89.3 | 92.3 | 93.7 | 93.9 | 86.5 | 87.1 |

# Light Measurement Report

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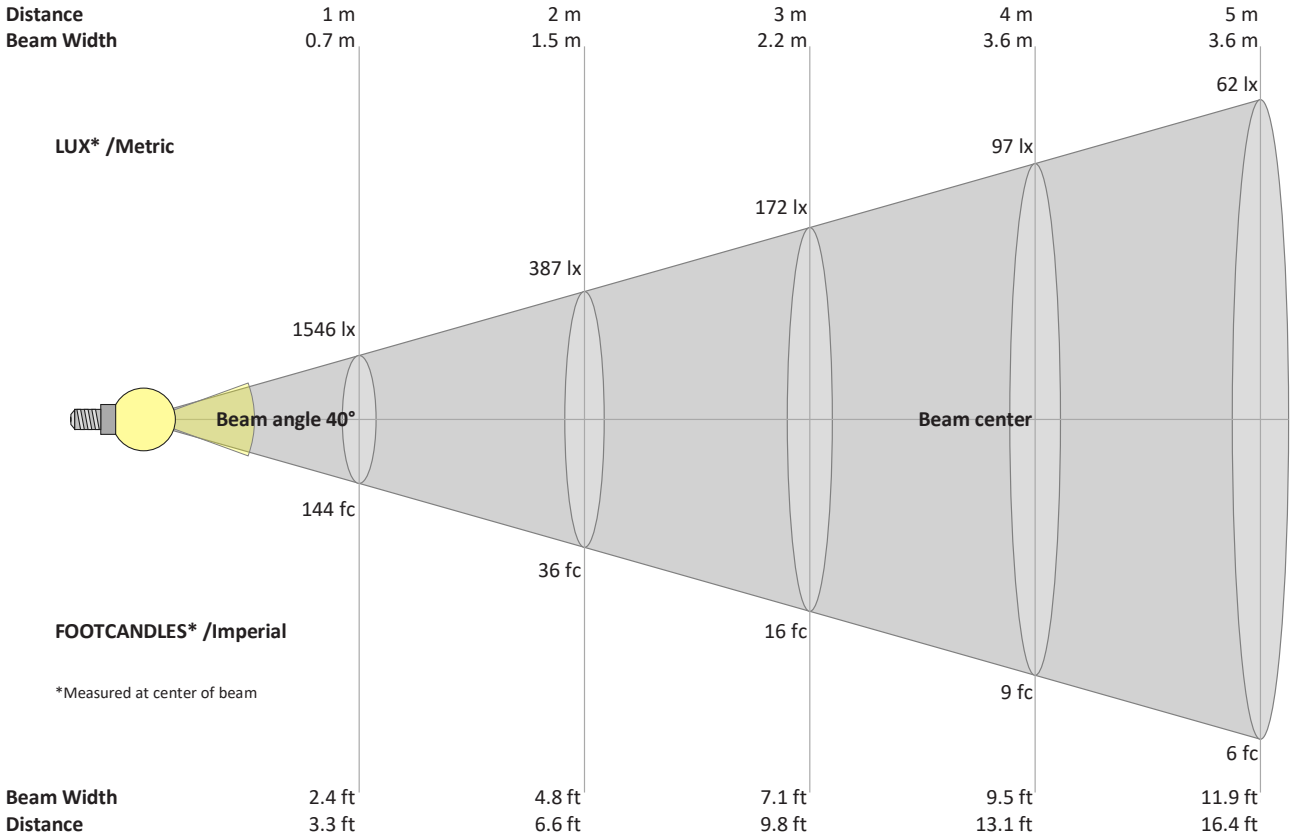
## Beam Details




### Beam intensities from 1 – 20 m

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | m |
| 3.3 | 6.6 | 9.8 | 13.1 | 16.4 | 19.7 | 23 | 26.2 | 29.5 | 32.8 | 36.1 | 39.4 | 42.7 | 45.9 | 49.2 | 52.5 | 55.8 | 59.1 | 62.3 | 65.6 | ft |
| 1546 | 387 | 172 | 97 | 62 | 43 | 32 | 24 | 19 | 15 | 13 | 11 | 9 | 8 | 7 | 6 | 5 | 5 | 4 | 4 | lux |
| 143.6 | 35.9 | 16 | 9 | 5.7 | 4 | 2.9 | 2.2 | 1.8 | 1.4 | 1.2 | 1 | 0.8 | 0.7 | 0.6 | 0.6 | 0.5 | 0.4 | 0.4 | 0.4 | fc |

### Intensities in 0° c-plane

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 2° | 4° | 6° | 8° | 10° | 12° | 14° | 16° | 18° | 20° | 22° | 24° | 26° | 28° | 30° | 32° | 34° | 36° | 38° | γ |
| 1546 | 1540 | 1514 | 1471 | 1412 | 1330 | 1233 | 1128 | 1015 | 900 | 786 | 673 | 563 | 463 | 371 | 280 | 194 | 131 | 89 | 62 | cd |
| 100% | 100% | 98% | 95% | 91% | 86% | 80% | 73% | 66% | 58% | 51% | 43% | 36% | 30% | 24% | 18% | 13% | 8% | 6% | 4% | of 0°val |

### Intensities in 90° c-plane

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 2° | 4° | 6° | 8° | 10° | 12° | 14° | 16° | 18° | 20° | 22° | 24° | 26° | 28° | 30° | 32° | 34° | 36° | 38° | γ |
| 1546 | 1540 | 1514 | 1471 | 1412 | 1330 | 1233 | 1128 | 1015 | 900 | 786 | 673 | 563 | 463 | 371 | 280 | 194 | 131 | 89 | 62 | cd |
| 100% | 100% | 98% | 95% | 91% | 86% | 80% | 73% | 66% | 58% | 51% | 43% | 36% | 30% | 24% | 18% | 13% | 8% | 6% | 4% | of 0°val |

### Intensities in 180° c-plane

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 2° | 4° | 6° | 8° | 10° | 12° | 14° | 16° | 18° | 20° | 22° | 24° | 26° | 28° | 30° | 32° | 34° | 36° | 38° | γ |
| 1546 | 1540 | 1514 | 1471 | 1412 | 1330 | 1233 | 1128 | 1015 | 900 | 786 | 673 | 563 | 463 | 371 | 280 | 194 | 131 | 89 | 62 | cd |
| 100% | 100% | 98% | 95% | 91% | 86% | 80% | 73% | 66% | 58% | 51% | 43% | 36% | 30% | 24% | 18% | 13% | 8% | 6% | 4% | of 0°val |

### Intensities in 270° c-plane

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 2° | 4° | 6° | 8° | 10° | 12° | 14° | 16° | 18° | 20° | 22° | 24° | 26° | 28° | 30° | 32° | 34° | 36° | 38° | γ |
| 1546 | 1540 | 1514 | 1471 | 1412 | 1330 | 1233 | 1128 | 1015 | 900 | 786 | 673 | 563 | 463 | 371 | 280 | 194 | 131 | 89 | 62 | cd |
| 100% | 100% | 98% | 95% | 91% | 86% | 80% | 73% | 66% | 58% | 51% | 43% | 36% | 30% | 24% | 18% | 13% | 8% | 6% | 4% | of 0°val |