# TEST REPORT

| | | |
|---|---|---|
| **Reference No.** | : | WTF23F04088377N |
| **Applicant** | : | Litetech industries LLC Dubai |
| **Address** | : | P.O.Box - 60305 Street no- 13B Ras Al Khor Industrial Area Near Used car show room Al Aweer Dubai, UAE |
| **Manufacturer** | : | Litetech industries LLC Dubai |
| **Address** | : | P.O.Box - 60305 Street no- 13B Ras Al Khor Industrial Area Near Used car show room Al Aweer Dubai, UAE |
| **Product Name** | : | LED BULKHEAD |
| **Model No.** | : | 42-BULKSTAR, 85-BH20 |
| **Test specification** | : | ANSI/IES LM-79-19<br>Approved Method: Optical and Electrical Measurements of Solid-State Lighting Products |
| **Date of Receipt sample** | : | 2023-04-28 |
| **Date of Test** | : | 2023-04-28 to 2023-06-01 |
| **Date of Issue** | : | 2023-06-01 |
| **Test Report Form No.** | : | WPL-LM7919A-01A |
| **Test Result** | : | **See following pages** |

Remarks:
The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.


**Prepared By:**
**Waltek Testing Group (Foshan) Co., Ltd.**
Address: No.13-19, 2/F., 2nd Building, Sunlink International Machinery City,
Chencun, Shunde District, Foshan, Guangdong, China
Tel:+86-757-23811398 Fax:+86-757-23811381 E-mail:info@waltek.com.cn


Tested by: Lillian Chen
Lillian Chen

Approved by: Finn Yu
Finn Yu

Trade Mark:

LITE-TECH

Measurement Point:

N

Characteristic data

(not shown on the marking plate)

N

Purpose of the product

(Description of intended use)

LED Lamp for generally lighting purpose.

Other information refers to photos in end page.

**Possible test case verdicts:**

- test case does not apply to the test object: ……: N(/A) (Not applicable)

- test object does meet the requirement……: P (Pass)

- test object does not meet the requirement: ……: F (Fail)

**General remarks**:

"(See Attachment #)" refers to additional information appended to the report.
“(See remark #)” refers to a remark appended to the report.
"(See appended table)" refers to a table appended to the report.
Throughout this report a comma (point) is used as the decimal separator.

Remark:

1. Measurement was conducted at voltage 240VAC 50Hz.
2. All models are similar except to model name different. Unless otherwise specified, all tests were performed on model 42-BULKSTAR to represent the other similar models.
3. Detail information for models covered in this report as below:

| Item | Model | Ratings | CCT | Driver |
|---|---|---|---|---|
| 1 | 42-BULKSTAR | 220-240VAC, 50/60Hz, 19W | 4000K | --- |
| 2 | 85-BH20 | 220-240VAC, 50/60Hz, 19W | 4000K | --- |

**Test conducted and method:**

Testing is performed in accordance with the procedures outlined in ANSI/IES LM-79-19. The sample(s) is evaluated for optical and electrical characteristics using an integrating sphere system and a goniophotometer system, located in an accredited, temperature and humidity-controlled, draft free optical and electrical laboratory.

**Physical and Environmental Condition**

The Physical and Environmental in which measured at a point not more than 1.5m from the sample(s) and at the same height as the sample(s) are being taken was maintained at ambient temperature 25°C ±1°C, and the airflow at around the sample(s) is less than 0.20 m/s of speed, and the relative humidity was monitored and maintained between 40% and 65%, and no excessive vibration in the laboratory.

**Electrical characteristics**

The voltage of an AC power supply (RMS voltage) and a DC power supply (instantaneous voltage) applied to the device under test are regulated to within ±0.2% under load. The AC power supply have a current crest factor capability greater than required by the device under test. The AC voltage component or ripple factor of

the DC regulated voltage is less than 0.5% (RMS) of the DC regulated voltage.

The AC power supply, while operating the product, there have a sinusoidal voltage wave-shape at the prescribed frequency 50Hz or 60Hz such that the RMS summation of the harmonic components does not exceed 3 percent of the fundamental during operation of the device under test, and the supplied frequency have a tolerance interval of ±2 Hz from the prescribed frequency.

The device under test are operated at the rated RMS AC voltage, rated DC voltage, or rated DC current per the specification of the sample(s) for its normal use. The set value measurement is fall within a tolerance interval of ±0.5% for RMS AC voltage, ±0.2% for DC voltage, and ±0.2% for DC current.

**Seasoning and Stabilization**

No seasoning was performed in accordance with ANSI/IES LM-79-19.

The stabilization time typically ranges from 30 minutes for small integrated LED lamps to two or more hours for large SSL luminaires. Stability was achieved when the variation (maximum-minimum) of at least 3 readings of the light output and electrical power consumption, taken at a maximum of 10-minutes intervals over a period of 20 minutes and divided by the last of these measurements chronologically, is less than 0.5%.

**Integrating Sphere System**

The system includes AC power source, digital power meter, DC power supply, spectrophotometer, and integrating sphere. The system is calibrated by standard light source before measurement. The system and standard light source has been calibrated regularly and traceable to the National Primary Standards.

The 4π geometry was used during measurement. The product was operated in its intended orientation in application and calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780 nm, and was recorded in this report.

**Goniophotometer System**

The system includes AC power source, digital power meter, DC power supply and goniophotometer. The system is calibrated by standard light source before measurement. The standard light source has been calibrated regularly and traceable to the National Primary Standards.

Type C goniophotometer was used for measuring total luminous flux, luminous intensity distribution, and angular color uniformity. The photometer distance is 2.5-30m.The product was operated in its intended orientation in application and calculated from the software taken at 0.5° vertical intervals and 22.5° horizontal intervals, and was recorded in this report.

**Uncertainty (Maximum)**

The uncertainty of the light output (luminous flux) & luminous intensity measurements is U=2.3% (K=2), at the 95% confidence level. The uncertainty of the correlated color temperature measurements is U=18K (K=2), at the 95% confidence level. The uncertainty of the CRI is U=1.5(K=2), at the 95% confidence level.

The uncertainty of power meter AC current U=0.022% of rdg, AC Voltage U=0.082% of rdg, Power U=0.022%, Harmonic current U=0.086% (K=2), at the 95% confidence level.

**Decision Rules:**

For the measurement parameters that need to be assessed for compliance, the measurement uncertainty should be fully considered. In order to avoid mis-judgment on whether the measurement results meet the requirements of the standard, the following decision rules should be used:
For measurements results with only the lower limit of tolerance interval:

- When ηm ≥ Tl + U, we directly determine the measurement result as PASS (P).
- When ηm ≤ Tl - U, we directly determine the measurement result as FAIL (F).
- When Tl - U ≤ ηm ≤ Tl + U, we determine the measurement result as UNCERTAIN (UC).

For measurements results with only the upper limit of tolerance interval:

- When ηm ≤ Tu - U, we directly determine the measurement result as PASS (P).
- When ηm ≥ Tu + U, we directly determine the measurement result as FAIL (F).
- When Tu - U ≤ ηm ≤ Tu + U, we determine the measurement result as UNCERTAIN (UC).

For measurements results with the lower and upper limit of tolerance interval:

- When Tl + U ≤ ηm ≤ Tu - U, we directly determine the measurement result as PASS (P).
- When ηm ≤ Tl – U and ηm ≥ Tu + U, we directly determine the measurement result as FAIL (F).

- When Tl - U ≤ ηm ≤ Tl + U and Tu - U ≤ ηm ≤ Tu + U we determine the measurement result as UNCERTAIN (UC).

Here:
ηm: Measurement value
Tl: Lower limit of tolerance interval
Tu: Upper limit of tolerance interval
U: Expanded uncertainty

For parameters in the standard that do not need to be assessed for conformity, the influence of uncertainty on the conformity assessment of measurement results will not be considered.

## Test Result Summary

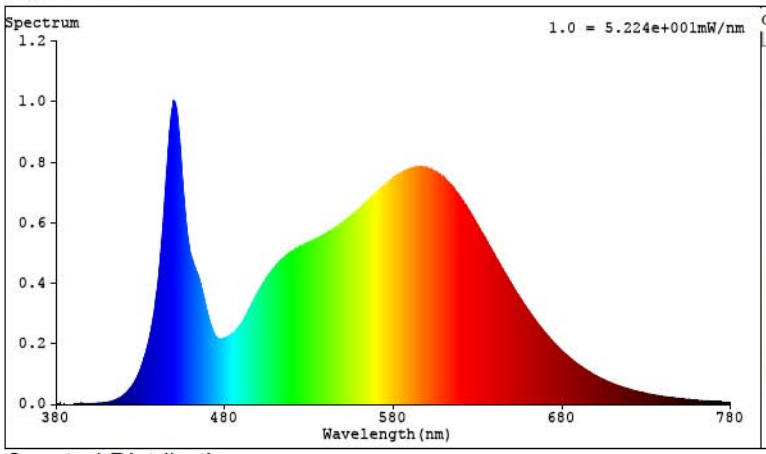
| Model: 42-BULKSTAR, 85-BH20 | | |
|---|---|---|
| **Test item** | **Measured Value** | |
| | **Integrating Sphere** | **Goniophotometer** |
| **Electrical Data** | | |
| Input Voltage (Volts AC) | --- | 240.2 |
| Input Frequency (Hertz) | --- | 50.0 |
| Input Current (Amps) | --- | 0.0828 |
| Input Power (Watts) | --- | 18.274 |
| Power Factor | --- | 0.9590 |
| Total harmonic distortion (THDi) | --- | --- |
| **Optical Data** | | |
| Luminous Efficacy (Lumens/Watt) | --- | 142.33 |
| Total Luminous Flux (Lumens) | --- | 2601.0 |
| Peak Intensity (cd) | --- | 783.9 |
| Angular color uniformity on the CIE 1976 (u'v') | --- | --- |
| Radiant Flux (W) | 7.9825 | --- |
| Correlated Color Temperature (CCT) (K) | 3970 | --- |
| Color Rendering Index (CRI) | 83.9 | --- |
| R9 | 11 | --- |
| Fidelity Index (Rf) (Taken from TM-30) | --- | --- |
| Gamut Index (Rg) (Taken from TM-30) | -- | --- |
| Chromaticity (Chroma x / Chroma y) | 0.3801 / 0.3716 | --- |
| Chromaticity (Chroma u' / Chroma v') | 0.2270 / 0.4993 | --- |
| Duv Value | -2.33e-03 | --- |
| Stabilization Time (Minutes) | 60 | 60 |
| Total Run Time (Minutes) | 90 | 120 |
| **Additional Information** | | |
| Test Geometry Configuration | 4π | Type C |
| Ambient Temperature (°C): | 25.3 | 25.1 |
| Photometer distance (m): | --- | 2.627 |
| ISTMT (In-Situ Temperature Measurement) (°C): | N | |
| Supplementary Information:<br>- Self-absorption correction used for integrating sphere: Yes | | |

## Appendix: Test Data

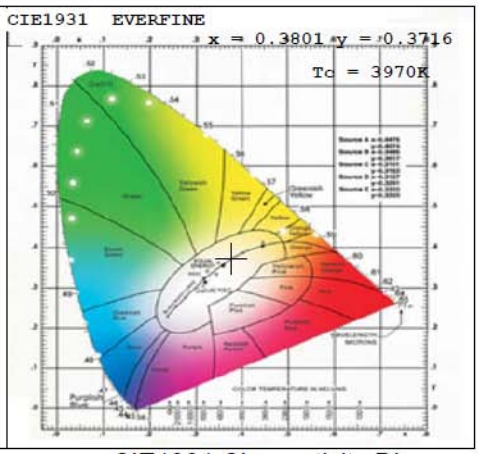
Model: 42-BULKSTAR, 85-BH20

**Integrating Sphere Test Data**

### Spectrum




Spectral Distribution




CIE1931 Chromaticity Diagram

### Colorimetric Quantities

Chromaticity Coordinate: x = 0.3801 y = 0.3716 / u' = 0.2270 v' = 0.4993 (duv=-2.33e-03)

Tc= 3970K Prcp WL: λd=580.6nm Purity=25.6%

Peak WL: λp=450nm Half Width: Δλp=17.6nm Ratio:R=20.3% G=76.4% B=3.3%

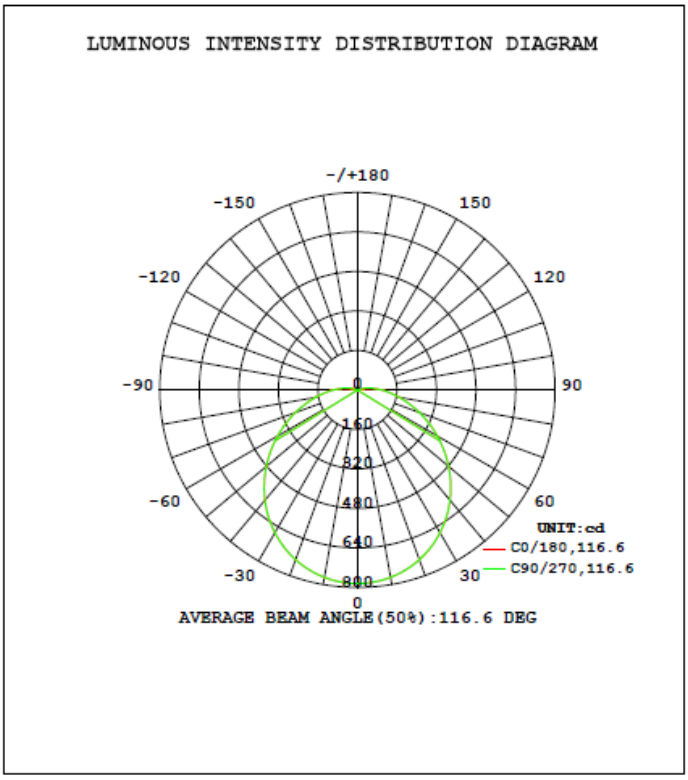
Render Index: Ra = 83.9

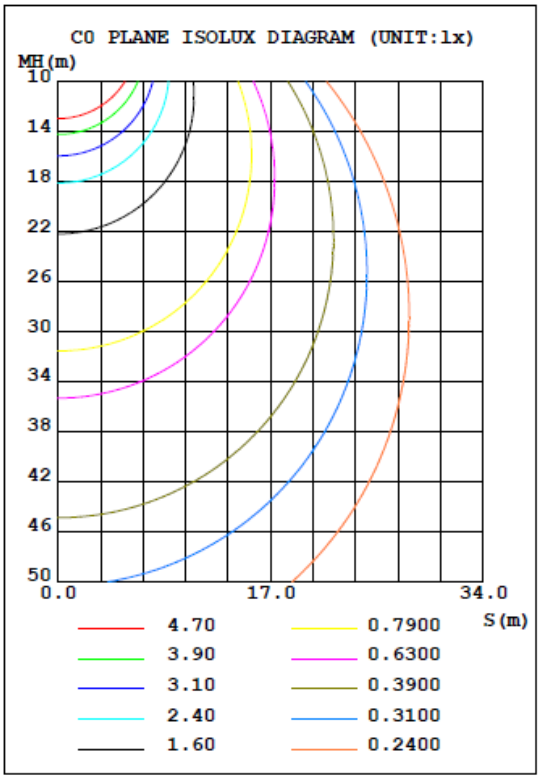
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| R1 =83 | R2 =90 | R3 =95 | R4 =83 | R5 =83 | R6 =86 | R7 =85 | |
| R8 =65 | R9 =11 | R10=77 | R11=83 | R12=65 | R13=85 | R14=98 | R15=77 |

Model: 42-BULKSTAR, 85-BH20

**Goniophotometer Test Data**

| DATA OF LAMP | | PHOTOMETRIC DATA Eff: 142.33 lm/W | | | |
|---|---|---|---|---|---|
| MODEL | 42-BULKSTAR | Imax(cd) | 783.9 | S/MH(C0/180) | 1.27 |
| NOMINAL POWER(W) | 18 | LOR(%) | 100.0 | S/MH(C90/270) | 1.27 |
| RATED VOLTAGE(V) | 230 | TOTAL FLUX(lm) | 2601.0 | η UP,DN(C0-180) | 2.1,47.9 |
| NOMINAL FLUX(lm) | 2600.99 | CIE CLASS | DIRECT | η UP,DN(C180-360) | 2.1,47.9 |
| LAMPS INSIDE | 1 | η up(%) | 4.3 | CIBSE SHR NOM | 1.25 |
| TEST VOLTAGE(V) | 230 | η down(%) | 95.7 | CIBSE SHR MAX | 1.35 |



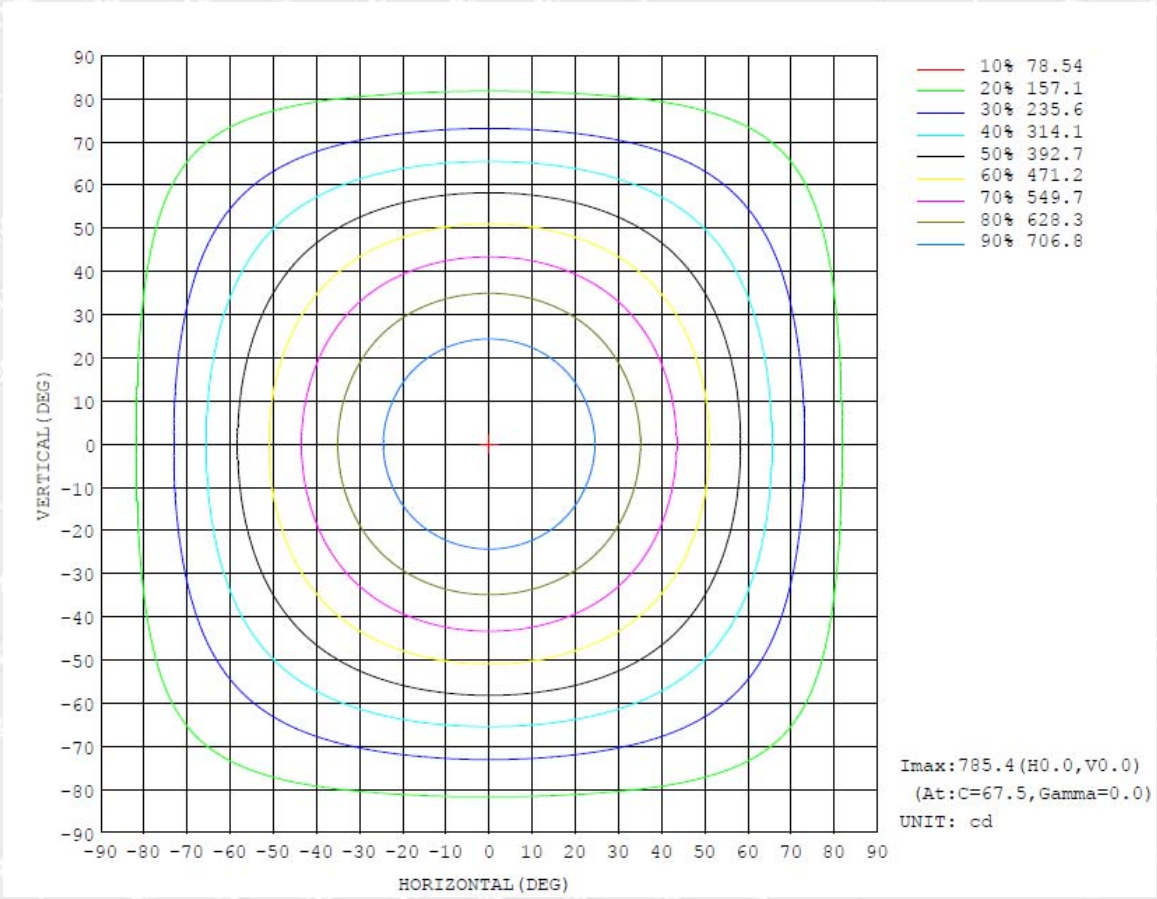
Model: 42-BULKSTAR, 85-BH20

**Zonal Flux Diagram**

| γ | C0 | C45 | C90 | C135 | C180 | C225 | C270 | C315 | γ | Φ zone | Φ total | %lum,lamp |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 770.7 | 770.8 | 770.7 | 770.8 | 770.7 | 770.8 | 770.7 | 770.8 | 0- 10 | 74.20 | 74.20 | 2.85,2.85 |
| 20 | 731.7 | 731.7 | 731.6 | 731.7 | 731.7 | 731.7 | 731.6 | 731.7 | 10- 20 | 212.9 | 287.1 | 11,11 |
| 30 | 668.1 | 668.0 | 668.0 | 668.0 | 668.1 | 668.0 | 668.0 | 668.0 | 20- 30 | 323.9 | 611.1 | 23.5,23.5 |
| 40 | 582.8 | 582.7 | 582.6 | 582.7 | 582.8 | 582.7 | 582.6 | 582.7 | 30- 40 | 392.8 | 1004 | 38.6,38.6 |
| 50 | 481.7 | 481.5 | 481.3 | 481.5 | 481.7 | 481.5 | 481.3 | 481.5 | 40- 50 | 411.7 | 1415 | 54.4,54.4 |
| 60 | 373.6 | 373.4 | 373.2 | 373.4 | 373.6 | 373.4 | 373.2 | 373.4 | 50- 60 | 382.7 | 1798 | 69.1,69.1 |
| 70 | 267.5 | 267.4 | 267.1 | 267.4 | 267.5 | 267.4 | 267.1 | 267.4 | 60- 70 | 316.7 | 2115 | 81.3,81.3 |
| 80 | 171.8 | 172.0 | 171.4 | 172.0 | 171.8 | 172.0 | 171.4 | 172.0 | 70- 80 | 230.2 | 2345 | 90.2,90.2 |
| 90 | 98.74 | 98.44 | 97.92 | 98.44 | 98.74 | 98.44 | 97.92 | 98.44 | 80- 90 | 145.0 | 2490 | 95.7,95.7 |
| 100 | 7.901 | 34.77 | 49.03 | 34.77 | 7.901 | 34.77 | 49.03 | 34.77 | 90-100 | 73.55 | 2564 | 98.6,98.6 |
| 110 | 20.61 | 18.34 | 0.4488 | 18.34 | 20.61 | 18.34 | 0.4488 | 18.34 | 100-110 | 24.35 | 2588 | 99.5,99.5 |
| 120 | 6.149 | 5.439 | 2.939 | 5.439 | 6.149 | 5.439 | 2.939 | 5.439 | 110-120 | 8.436 | 2596 | 99.8,99.8 |
| 130 | 0.9362 | 1.418 | 1.267 | 1.418 | 0.9362 | 1.418 | 1.267 | 1.418 | 120-130 | 2.483 | 2599 | 99.9,99.9 |
| 140 | 0.9075 | 0.8830 | 0.8765 | 0.8830 | 0.9075 | 0.8830 | 0.8765 | 0.8830 | 130-140 | 0.8519 | 2600 | 100,100 |
| 150 | 0.9698 | 0.8950 | 0.8341 | 0.8950 | 0.9698 | 0.8950 | 0.8341 | 0.8950 | 140-150 | 0.5508 | 2600 | 100,100 |
| 160 | 0.9698 | 0.8875 | 0.8454 | 0.8875 | 0.9698 | 0.8875 | 0.8454 | 0.8875 | 150-160 | 0.4100 | 2601 | 100,100 |
| 170 | 0.9287 | 0.8587 | 0.8340 | 0.8587 | 0.9287 | 0.8587 | 0.8340 | 0.8587 | 160-170 | 0.2485 | 2601 | 100,100 |
| 180 | 0.8164 | 0.8196 | 0.8498 | 0.8196 | 0.8164 | 0.8196 | 0.8498 | 0.8196 | 170-180 | 0.0829 | 2601 | 100,100 |
| DEG | LUMINOUS INTENSITY:cd | | | | | | | | | UNIT:lm | | |

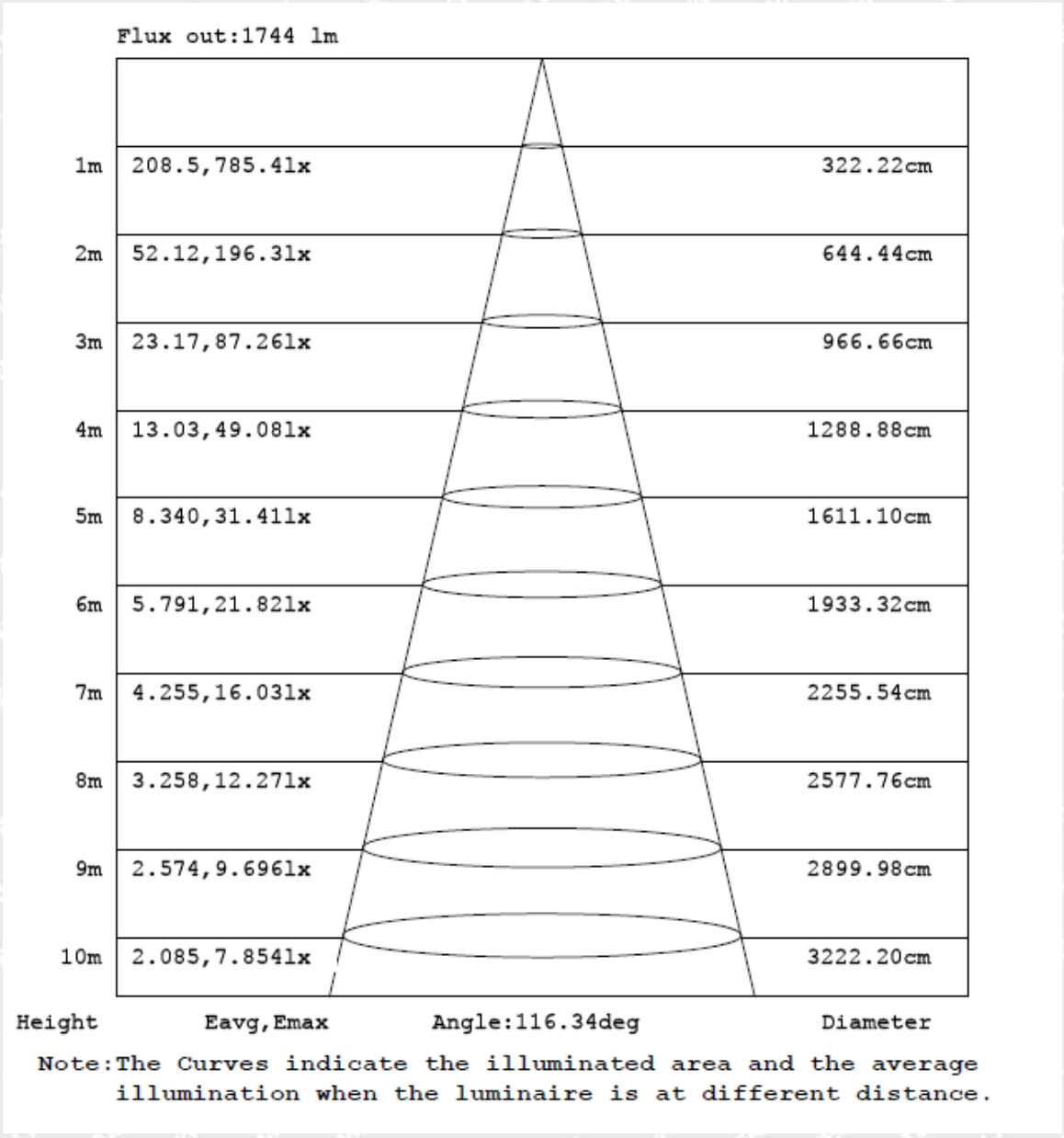
Model: 42-BULKSTAR, 85-BH20

**ISO-Candela Diagram**



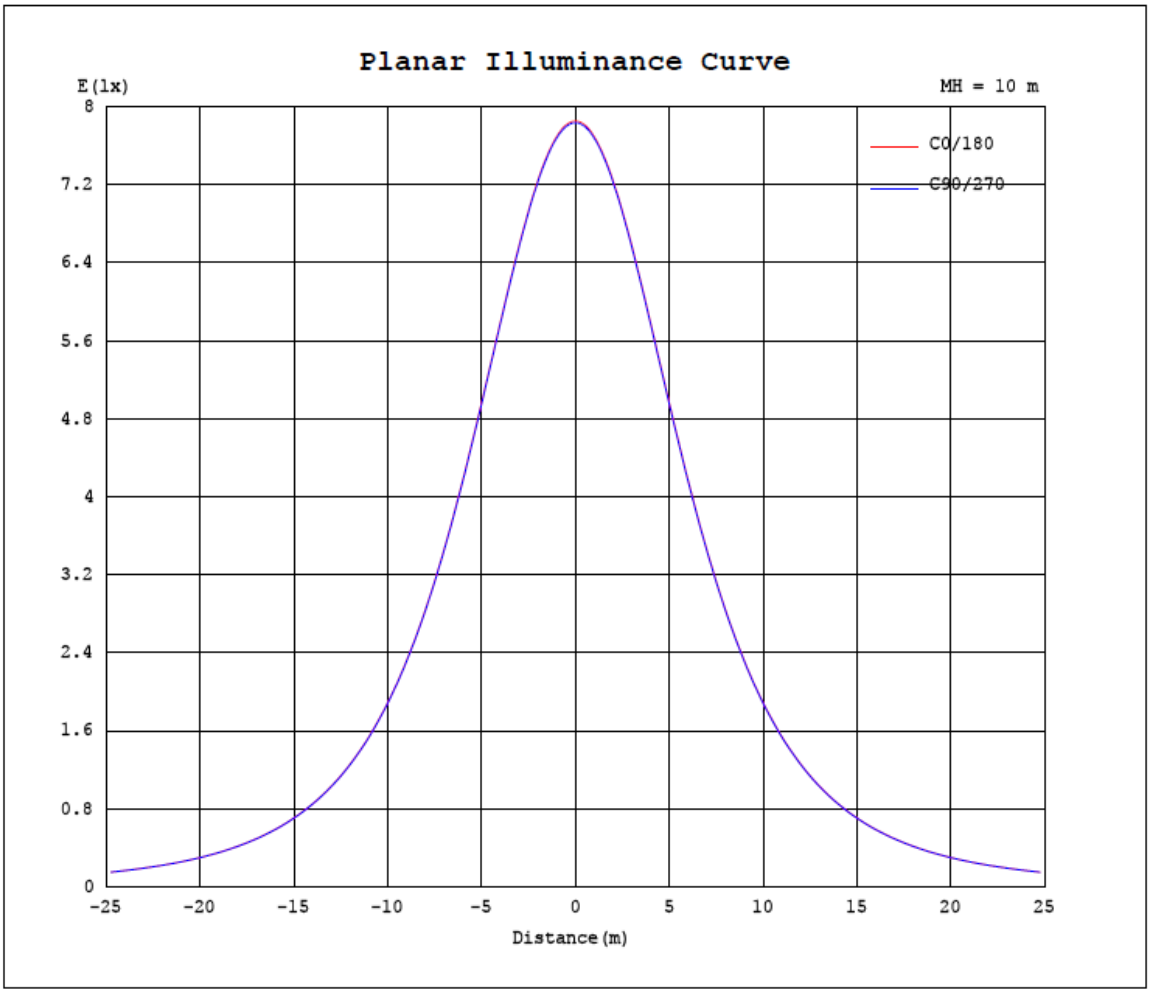
Model: 42-BULKSTAR, 85-BH20

**AAI Figure**



Model: 42-BULKSTAR, 85-BH20

**Planar Illuminance Curve**



Model: 42-BULKSTAR, 85-BH20

**Luminous Distribution Intensity Data**

Table--1 UNIT: cd

| C (DEG) / γ (DEG) | 0 | 22.5 | 45 | 67.5 | 90 | 112.5 | 135 | 157.5 | 180 | 202.5 | 225 | 247.5 | 270 | 292.5 | 315 | 337.5 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 784 | 784 | 784 | 784 | 784 | 784 | 784 | 784 | 784 | 784 | 784 | 784 | 784 | 784 | 784 | 784 | | | |
| 5 | 781 | 781 | 781 | 781 | 781 | 781 | 781 | 781 | 781 | 781 | 781 | 781 | 781 | 781 | 781 | 781 | | | |
| 10 | 771 | 771 | 771 | 771 | 771 | 771 | 771 | 771 | 771 | 771 | 771 | 771 | 771 | 771 | 771 | 771 | | | |
| 15 | 754 | 754 | 754 | 754 | 754 | 754 | 754 | 754 | 754 | 754 | 754 | 754 | 754 | 754 | 754 | 754 | | | |
| 20 | 732 | 732 | 732 | 732 | 732 | 732 | 732 | 732 | 732 | 732 | 732 | 732 | 732 | 732 | 732 | 732 | | | |
| 25 | 703 | 703 | 703 | 703 | 703 | 703 | 703 | 703 | 703 | 703 | 703 | 703 | 703 | 703 | 703 | 703 | | | |
| 30 | 668 | 668 | 668 | 668 | 668 | 668 | 668 | 668 | 668 | 668 | 668 | 668 | 668 | 668 | 668 | 668 | | | |
| 35 | 628 | 628 | 628 | 628 | 628 | 628 | 628 | 628 | 628 | 628 | 628 | 628 | 628 | 628 | 628 | 628 | | | |
| 40 | 583 | 583 | 583 | 583 | 583 | 583 | 583 | 583 | 583 | 583 | 583 | 583 | 583 | 583 | 583 | 583 | | | |
| 45 | 534 | 534 | 534 | 533 | 534 | 533 | 534 | 534 | 534 | 534 | 534 | 533 | 534 | 533 | 534 | 534 | | | |
| 50 | 482 | 482 | 481 | 481 | 481 | 481 | 481 | 482 | 482 | 482 | 481 | 481 | 481 | 481 | 481 | 482 | | | |
| 55 | 428 | 428 | 428 | 428 | 428 | 428 | 428 | 428 | 428 | 428 | 428 | 428 | 428 | 428 | 428 | 428 | | | |
| 60 | 374 | 373 | 373 | 373 | 373 | 373 | 373 | 373 | 374 | 373 | 373 | 373 | 373 | 373 | 373 | 373 | | | |
| 65 | 320 | 320 | 319 | 319 | 319 | 319 | 319 | 320 | 320 | 320 | 319 | 319 | 319 | 319 | 319 | 320 | | | |
| 70 | 268 | 267 | 267 | 267 | 267 | 267 | 267 | 267 | 268 | 267 | 267 | 267 | 267 | 267 | 267 | 267 | | | |
| 75 | 217 | 217 | 217 | 217 | 216 | 217 | 217 | 217 | 217 | 217 | 217 | 217 | 216 | 217 | 217 | 217 | | | |
| 80 | 172 | 172 | 172 | 171 | 171 | 171 | 172 | 172 | 172 | 172 | 172 | 171 | 171 | 171 | 172 | 172 | | | |
| 85 | 132 | 132 | 132 | 132 | 131 | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 131 | 132 | 132 | 132 | | | |
| 90 | 98.7 | 98.7 | 98.4 | 98.2 | 97.9 | 98.2 | 98.4 | 98.7 | 98.7 | 98.7 | 98.4 | 98.2 | 97.9 | 98.2 | 98.4 | 98.7 | | | |
| 95 | 71.3 | 71.2 | 71.1 | 70.8 | 70.8 | 70.8 | 71.1 | 71.2 | 71.3 | 71.2 | 71.1 | 70.8 | 70.8 | 70.8 | 71.1 | 71.2 | | | |
| 100 | 7.90 | 19.1 | 34.8 | 49.1 | 49.0 | 49.1 | 34.8 | 19.1 | 7.90 | 19.1 | 34.8 | 49.1 | 49.0 | 49.1 | 34.8 | 19.1 | | | |
| 105 | 33.2 | 32.1 | 8.25 | 17.7 | 27.7 | 17.7 | 8.25 | 32.1 | 33.2 | 32.1 | 8.25 | 17.7 | 27.7 | 17.7 | 8.25 | 32.1 | | | |
| 110 | 20.6 | 19.9 | 18.3 | 2.11 | 0.45 | 2.11 | 18.3 | 19.9 | 20.6 | 19.9 | 18.3 | 2.11 | 0.45 | 2.11 | 18.3 | 19.9 | | | |
| 115 | 11.8 | 11.4 | 10.9 | 4.24 | 0.84 | 4.24 | 10.9 | 11.4 | 11.8 | 11.4 | 10.9 | 4.24 | 0.84 | 4.24 | 10.9 | 11.4 | | | |
| 120 | 6.15 | 5.90 | 5.44 | 3.88 | 2.94 | 3.88 | 5.44 | 5.90 | 6.15 | 5.90 | 5.44 | 3.88 | 2.94 | 3.88 | 5.44 | 5.90 | | | |
| 125 | 3.00 | 2.85 | 2.54 | 2.14 | 2.33 | 2.14 | 2.54 | 2.85 | 3.00 | 2.85 | 2.54 | 2.14 | 2.33 | 2.14 | 2.54 | 2.85 | | | |
| 130 | 0.94 | 1.50 | 1.42 | 1.24 | 1.27 | 1.24 | 1.42 | 1.50 | 0.94 | 1.50 | 1.42 | 1.24 | 1.27 | 1.24 | 1.42 | 1.50 | | | |
| 135 | 1.11 | 1.17 | 1.16 | 1.00 | 0.94 | 1.00 | 1.16 | 1.17 | 1.11 | 1.17 | 1.16 | 1.00 | 0.94 | 1.00 | 1.16 | 1.17 | | | |
| 140 | 0.91 | 0.92 | 0.88 | 0.90 | 0.88 | 0.90 | 0.88 | 0.92 | 0.91 | 0.92 | 0.88 | 0.90 | 0.88 | 0.90 | 0.88 | 0.92 | | | |
| 145 | 0.91 | 0.86 | 0.87 | 0.86 | 0.90 | 0.86 | 0.87 | 0.86 | 0.91 | 0.86 | 0.87 | 0.86 | 0.90 | 0.86 | 0.87 | 0.86 | | | |
| 150 | 0.97 | 0.85 | 0.89 | 0.86 | 0.83 | 0.86 | 0.89 | 0.85 | 0.97 | 0.85 | 0.89 | 0.86 | 0.83 | 0.86 | 0.89 | 0.85 | | | |
| 155 | 0.95 | 0.84 | 0.92 | 0.87 | 0.89 | 0.87 | 0.92 | 0.84 | 0.95 | 0.84 | 0.92 | 0.87 | 0.89 | 0.87 | 0.92 | 0.84 | | | |
| 160 | 0.97 | 0.89 | 0.89 | 0.89 | 0.85 | 0.89 | 0.89 | 0.89 | 0.97 | 0.89 | 0.89 | 0.89 | 0.85 | 0.89 | 0.89 | 0.89 | | | |
| 165 | 0.94 | 0.93 | 0.85 | 0.82 | 0.83 | 0.82 | 0.85 | 0.93 | 0.94 | 0.93 | 0.85 | 0.82 | 0.83 | 0.82 | 0.85 | 0.93 | | | |
| 170 | 0.93 | 0.92 | 0.86 | 0.81 | 0.83 | 0.81 | 0.86 | 0.92 | 0.93 | 0.92 | 0.86 | 0.81 | 0.83 | 0.81 | 0.86 | 0.92 | | | |
| 175 | 0.94 | 0.93 | 0.91 | 0.87 | 0.88 | 0.87 | 0.91 | 0.93 | 0.94 | 0.93 | 0.91 | 0.87 | 0.88 | 0.87 | 0.91 | 0.93 | | | |
| 180 | 0.82 | 0.81 | 0.82 | 0.83 | 0.85 | 0.83 | 0.82 | 0.81 | 0.82 | 0.81 | 0.82 | 0.83 | 0.85 | 0.83 | 0.82 | 0.81 | | | |

**Attachment 1: Equipment List**

| Equipment | Model/Type | Cal. Due. Date |
|---|---|---|
| AC power supply | ApC AFC-110104F | 2024-01-05 |
| DC power supply | EVERFINE WY305-V1 | 2024-01-05 |
| Digital Power Meter | EVERFINE PF2010A-V1 | 2024-01-05 |
| High accuracy array spectroradio meter | EVERFINE HAAS-2000 | 2024-01-05 |
| Integrating Sphere | EVERFINE R98&R80 | 2024-01-05 |
| Standard light source | EVERFINE D204 | 2024-01-05 |
| Temperature & Humidity Datalogger | Testo 608-H1 | 2024-01-05 |
| AC power supply | EVERFINE DPS 1060 | 2024-01-05 |
| DC power supply | EVERFINE WY12010 | 2024-01-05 |
| Digital Power Meter | EVERFINE PF2010A-V1-CAN | 2024-01-05 |
| Goniophotometer | EVERFINE GO R5000-2M2D | 2024-01-05 |
| Standard lamp | EVERFINE 28V/10A/500cd | 2024-01-05 |
| Standard lamp | EVERFINE D908 | 2024-01-05 |
| Digital power meter | YOKOGAWA WT310E | 2024-01-05 |

**Attachment 2: Photo document**

**Model:** 42-BULKSTAR, 85-BH20

Photo 1


Photo 2


Photo 3

====== End of Report ======