



UL Verification Services Inc.  
7036 Snowdrift Road  
Allentown, PA 18106  
610-774-1300

## Photometric Test Report

Relevant Standards  
IES LM-79-2008, ANSI C82.77-2002

**Prepared For**  
**Auroralight Inc**

2742 Loker Ave W  
#100  
Carlsbad, CA 92010-6619  
United States

**Catalog Number**  
**LWL2-4-WF-30 (4W, 60° OPTIC, 3000K)**

Order Number  
13551695  
Test Number  
13551695.22

Test Date

2021-08-02

Prepared By

Alexa Lambert, Project Handler

Approved By

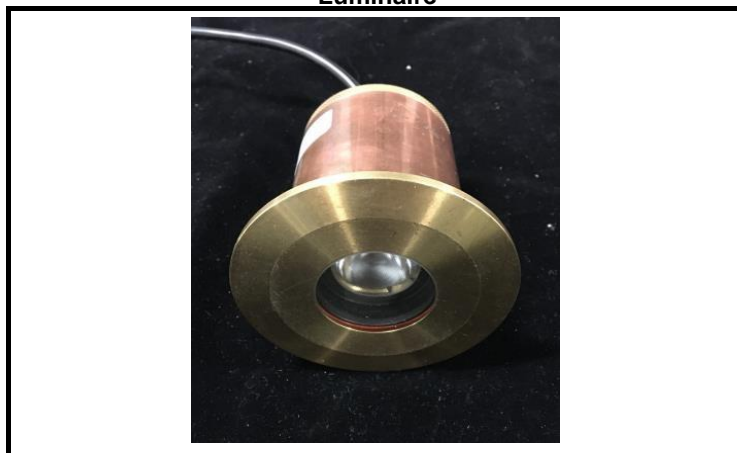
Kevin Rodriguez, Project Handler

The results contained in this report pertain only to the tested sample.  
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**Luminaire Description:** Cylindrical brass housing with circular brass faceplate and clear lens  
**Lamp:** One (1) XHP35 3000K Cree LED  
**Ballast/Driver:** Integrated  
**Note:** Report extrapolated using data from Test Numbers 13551695.21, 13551695.11, and 13551695.12

**Luminaire**



**Luminaire Characteristics**

Luminous Diameter: 1.25 in.

**Summary of Results**

|                         |                   |
|-------------------------|-------------------|
| Roadway Classification: | Type V, Very Long |
| Cutoff Classification:  | Noncutoff         |
| BUG Rating:             | B0 U3 G0          |

**Test Conditions**

|                   |           |
|-------------------|-----------|
| Test Temperature: | 24.8 °C   |
| Voltage:          | 12.04 VAC |
| Current:          | 0.3736 A  |
| Power:            | 4.483 W   |
| Power Factor:     | 0.996     |
| Frequency:        | 60 Hz     |
| Current THD:      | 4.58 %    |

Tested in 30 planes left side, 30 planes right side, left and right averaged  
Vertical test increments are 2.5 degrees  
Test distance exceeds five times the greatest luminous opening of luminaire

Laboratory results may not be representative of field performance  
Ballast factors have not been applied



## Distribution - Goniophotometer

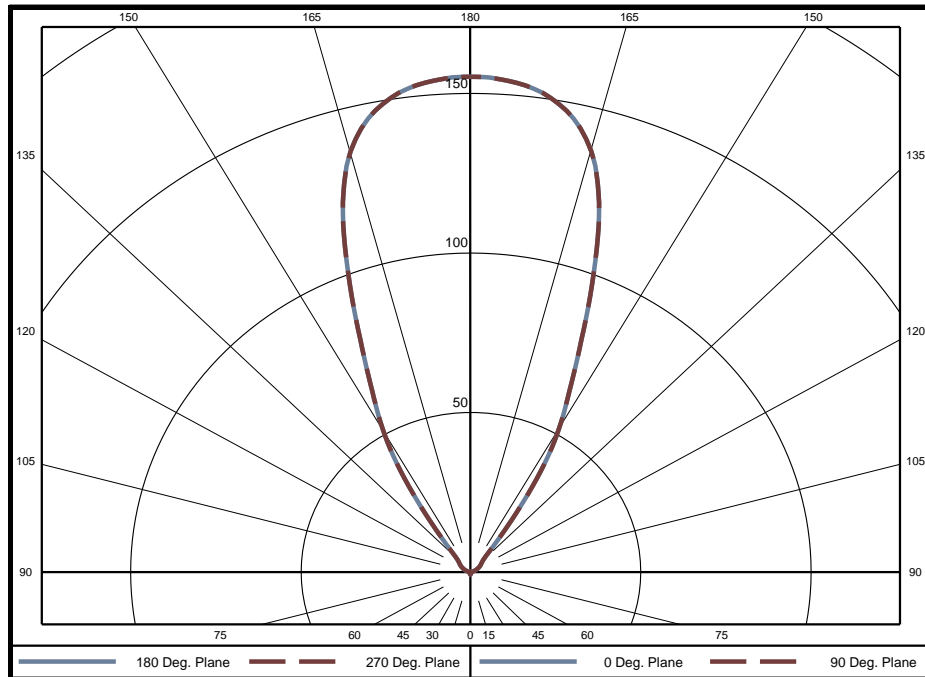
### Distribution Test Conditions

| Temperature | Voltage   | Current  | Power   | Power Factor | Frequency | Current THD |
|-------------|-----------|----------|---------|--------------|-----------|-------------|
| 24.8 °C     | 12.04 VAC | 0.3736 A | 4.483 W | 0.996        | 60 Hz     | 4.58 %      |

### Summary of Results

|                     |              |
|---------------------|--------------|
| Total Lumen Output: | 243.4 Lumens |
| Luminaire Efficacy: | 54.3 lm/w    |
| Maximum Candela:    | 330 Candela  |

### Polar Plot



### Zonal Lumen Summary

| Zone  | Lumens | % of Luminaire | Zone    | Lumens | % of Luminaire | Zone    | Lumens | % of Luminaire |
|-------|--------|----------------|---------|--------|----------------|---------|--------|----------------|
| 0-5   | 0      | 0.0%           | 60-65   | 0      | 0.0%           | 120-125 | 3.13   | 1.3%           |
| 5-10  | 0      | 0.0%           | 65-70   | 0      | 0.0%           | 125-130 | 3.56   | 1.5%           |
| 10-15 | 0      | 0.0%           | 70-75   | 0      | 0.0%           | 130-135 | 4.01   | 1.6%           |
| 15-20 | 0      | 0.0%           | 75-80   | 0      | 0.0%           | 135-140 | 5.38   | 2.2%           |
| 20-25 | 0      | 0.0%           | 80-85   | 0      | 0.0%           | 140-145 | 12.03  | 4.9%           |
| 25-30 | 0      | 0.0%           | 85-90   | 0      | 0.0%           | 145-150 | 24.86  | 10.2%          |
| 30-35 | 0      | 0.0%           | 90-95   | 0.07   | 0.0%           | 150-155 | 33.20  | 13.6%          |
| 35-40 | 0      | 0.0%           | 95-100  | 0.37   | 0.2%           | 155-160 | 39.93  | 16.4%          |
| 40-45 | 0      | 0.0%           | 100-105 | 0.88   | 0.4%           | 160-165 | 43.08  | 17.7%          |
| 45-50 | 0      | 0.0%           | 105-110 | 1.42   | 0.6%           | 165-170 | 36.07  | 14.8%          |
| 50-55 | 0      | 0.0%           | 110-115 | 1.98   | 0.8%           | 170-175 | 23.03  | 9.5%           |
| 55-60 | 0      | 0.0%           | 115-120 | 2.57   | 1.1%           | 175-180 | 7.85   | 3.2%           |

| Zone   | Lumens | % of Luminaire |
|--------|--------|----------------|
| 0-40   | 0      | 0.0%           |
| 0-60   | 0      | 0.0%           |
| 0-90   | 0      | 0.0%           |
| 90-180 | 243    | 100.0%         |



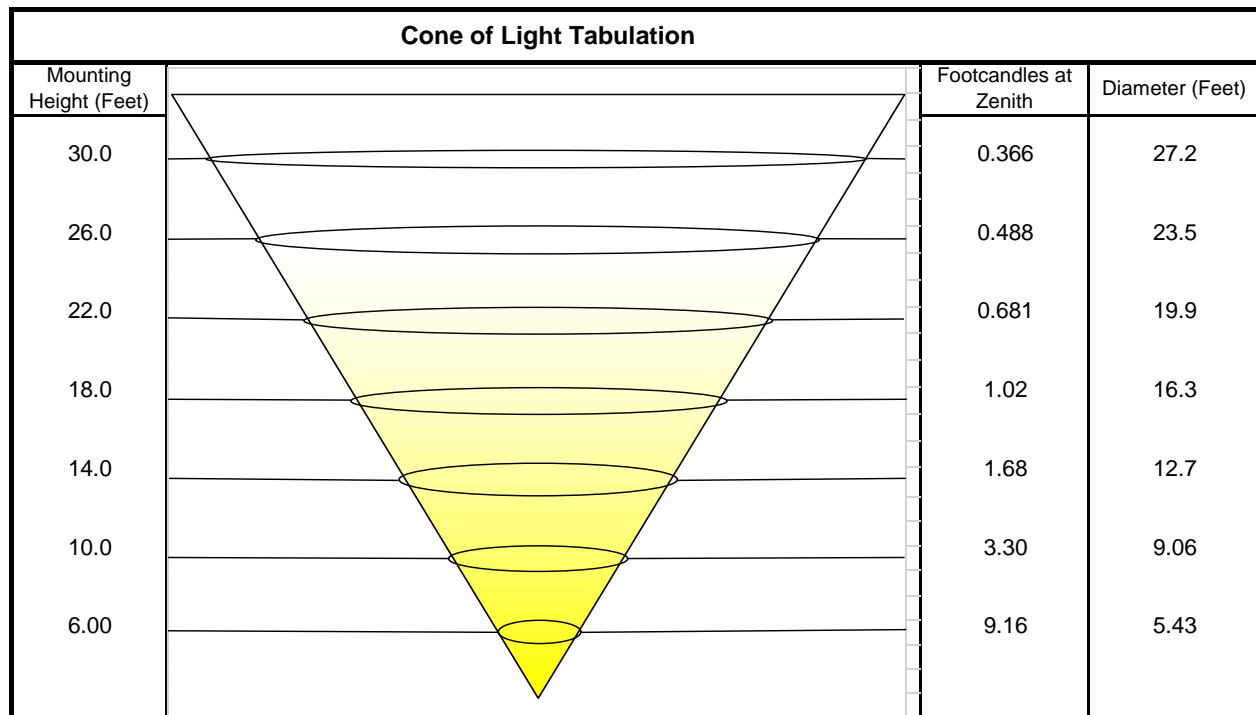
**Candela Tabulation**  
Horizontal Angle (Degrees)

| Vertical Angle (Degrees) | 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   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
|                          | 5   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
|                          | 10  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
|                          | 15  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
|                          | 20  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
|                          | 25  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
|                          | 30  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
|                          | 35  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
|                          | 40  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
|                          | 45  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
|                          | 50  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
|                          | 55  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
|                          | 60  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
|                          | 65  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
|                          | 70  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
|                          | 75  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
|                          | 80  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
|                          | 85  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
|                          | 90  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
|                          | 95  | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   |
|                          | 100 | 1.1   | 1.1   | 1.1   | 1.1   | 1.1   | 1.1   | 1.1   | 1.1   | 1.1   | 1.1   | 1.1   | 1.1   | 1.1   | 1.1   | 1.1   |
|                          | 105 | 2.2   | 2.2   | 2.2   | 2.2   | 2.2   | 2.2   | 2.2   | 2.2   | 2.2   | 2.2   | 2.2   | 2.2   | 2.2   | 2.2   | 2.2   |
|                          | 110 | 3.3   | 3.3   | 3.3   | 3.3   | 3.3   | 3.3   | 3.3   | 3.3   | 3.3   | 3.3   | 3.3   | 3.3   | 3.3   | 3.3   | 3.3   |
|                          | 115 | 4.6   | 4.6   | 4.6   | 4.6   | 4.6   | 4.6   | 4.6   | 4.6   | 4.6   | 4.6   | 4.6   | 4.6   | 4.6   | 4.6   | 4.6   |
|                          | 120 | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   |
|                          | 125 | 7.5   | 7.5   | 7.5   | 7.5   | 7.5   | 7.5   | 7.5   | 7.5   | 7.5   | 7.5   | 7.5   | 7.5   | 7.5   | 7.5   | 7.5   |
|                          | 130 | 8.9   | 8.9   | 8.9   | 8.9   | 8.9   | 8.9   | 8.9   | 8.9   | 8.9   | 8.9   | 8.9   | 8.9   | 8.9   | 8.9   | 8.9   |
|                          | 135 | 11.2  | 11.2  | 11.2  | 11.2  | 11.2  | 11.2  | 11.2  | 11.2  | 11.2  | 11.2  | 11.2  | 11.2  | 11.2  | 11.2  | 11.2  |
|                          | 140 | 20.6  | 20.6  | 20.6  | 20.6  | 20.6  | 20.6  | 20.6  | 20.6  | 20.6  | 20.6  | 20.6  | 20.6  | 20.6  | 20.6  | 20.6  |
|                          | 145 | 58.0  | 58.0  | 58.0  | 58.0  | 58.0  | 58.0  | 58.0  | 58.0  | 58.0  | 58.0  | 58.0  | 58.0  | 58.0  | 58.0  | 58.0  |
|                          | 150 | 109.5 | 109.5 | 109.5 | 109.5 | 109.5 | 109.5 | 109.5 | 109.5 | 109.5 | 109.5 | 109.5 | 109.5 | 109.5 | 109.5 | 109.5 |
|                          | 155 | 157.1 | 157.1 | 157.1 | 157.1 | 157.1 | 157.1 | 157.1 | 157.1 | 157.1 | 157.1 | 157.1 | 157.1 | 157.1 | 157.1 | 157.1 |
|                          | 160 | 229.1 | 229.1 | 229.1 | 229.1 | 229.1 | 229.1 | 229.1 | 229.1 | 229.1 | 229.1 | 229.1 | 229.1 | 229.1 | 229.1 | 229.1 |
|                          | 165 | 289.8 | 289.8 | 289.8 | 289.8 | 289.8 | 289.8 | 289.8 | 289.8 | 289.8 | 289.8 | 289.8 | 289.8 | 289.8 | 289.8 | 289.8 |
|                          | 170 | 316.2 | 316.2 | 316.2 | 316.2 | 316.2 | 316.2 | 316.2 | 316.2 | 316.2 | 316.2 | 316.2 | 316.2 | 316.2 | 316.2 | 316.2 |
|                          | 175 | 326.9 | 326.9 | 326.9 | 326.9 | 326.9 | 326.9 | 326.9 | 326.9 | 326.9 | 326.9 | 326.9 | 326.9 | 326.9 | 326.9 | 326.9 |
|                          | 180 | 329.6 | 329.6 | 329.6 | 329.6 | 329.6 | 329.6 | 329.6 | 329.6 | 329.6 | 329.6 | 329.6 | 329.6 | 329.6 | 329.6 | 329.6 |



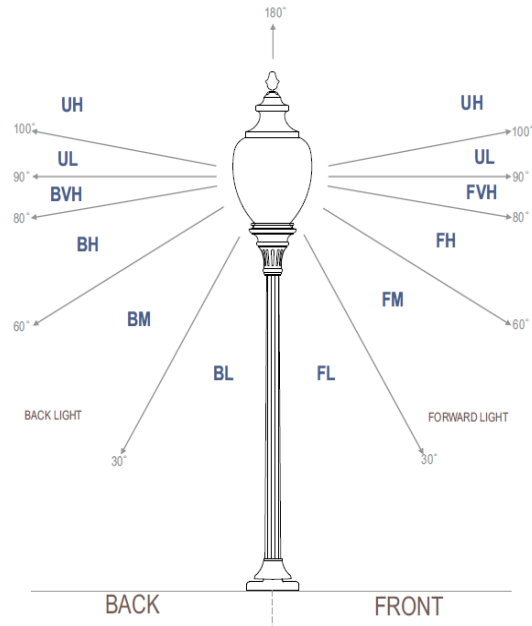
### Utilization of Lumens - Zonal Cavity Method

| Effective Floor Cavity Reflectance 20% |  |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |   |
|--|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|---|
| Ceiling Cavity 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 |
| Room Cavity Ratio (RCR)                | ** Values are expressed as Lumens delivered to the task surface ** |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |   |
| 0                                      | 232  | 232 | 232 | 232 | 198 | 198 | 198 | 198 | 135 | 135 | 135 | 78 | 78 | 78 | 25 | 25 | 25 | 0 |
| 1                                      | 211  | 201 | 192 | 184 | 180 | 172 | 165 | 159 | 118 | 114 | 110 | 68 | 66 | 64 | 22 | 21 | 21 | 0 |
| 2                                      | 192  | 175 | 162 | 150 | 163 | 150 | 139 | 130 | 103 | 96  | 91  | 59 | 56 | 53 | 19 | 18 | 17 | 0 |
| 3                                      | 175  | 154 | 138 | 125 | 149 | 132 | 119 | 108 | 90  | 82  | 76  | 52 | 48 | 45 | 17 | 16 | 15 | 0 |
| 4                                      | 159  | 135 | 118 | 105 | 135 | 116 | 102 | 91  | 80  | 71  | 64  | 46 | 42 | 38 | 15 | 14 | 12 | 0 |
| 5                                      | 146  | 120 | 102 | 89  | 124 | 103 | 88  | 77  | 71  | 62  | 54  | 41 | 36 | 32 | 13 | 12 | 11 | 0 |
| 6                                      | 133  | 107 | 89  | 76  | 113 | 92  | 77  | 66  | 63  | 54  | 47  | 37 | 32 | 28 | 12 | 10 | 9  | 0 |
| 7                                      | 123  | 95  | 78  | 65  | 104 | 82  | 67  | 57  | 57  | 47  | 40  | 33 | 28 | 24 | 11 | 9  | 8  | 0 |
| 8                                      | 113  | 86  | 69  | 57  | 96  | 74  | 60  | 50  | 51  | 42  | 35  | 30 | 25 | 21 | 10 | 8  | 7  | 0 |
| 9                                      | 105  | 78  | 61  | 50  | 89  | 67  | 53  | 43  | 46  | 37  | 31  | 27 | 22 | 18 | 9  | 7  | 6  | 0 |
| 10                                     | 97   | 70  | 54  | 44  | 83  | 61  | 47  | 38  | 42  | 33  | 27  | 25 | 20 | 16 | 8  | 6  | 5  | 0 |





**IES "BUG" Rating**  
(Back Light, Uplight, Glare)  
Per IES TM-15-11



Luminaire Classification System (LCS)

| LCS               | Zone            | Lumens | Luminaire % |
|-------------------|-----------------|--------|-------------|
| FL                | (0-30)          | 0.0    | 0.0%        |
| FM                | (30-60)         | 0.0    | 0.0%        |
| FH                | (60-80)         | 0.0    | 0.0%        |
| FVH               | (80-90)         | 0.0    | 0.0%        |
| BL                | (0-30)          | 0.0    | 0.0%        |
| BM                | (30-60)         | 0.0    | 0.0%        |
| BH                | (60-80)         | 0.0    | 0.0%        |
| BVH               | (80-90)         | 0.0    | 0.0%        |
| UL                | (90-100)        | 0.2    | 0.2%        |
| UH                | (100-180)       | 114.5  | 99.8%       |
| Total             |                 | 114.7  | 100.0%      |
| <b>BUG Rating</b> | <b>B0 U3 G0</b> |        |             |