

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P827158

Luminaire Tested: **OHBL-24SE-NL-UNV-L840-CD-UPL24**

Issue Date: 5/3/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P827158  
REPORT IS A COMBINATION OF REPORTS P826249 AND G3-2310-221-6  
Test Lab: INNOVATION CENTER  
Issue Date: 5/3/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: OHBL-24SE-NL-UNV-L840-CD-UPL24  
Description: 24000 LUMEN OHBL SE LED LUMINAIRE WITH 80CRI, 4000K LEDS AND NO LENS AND 2400 LUMEN UPLIGHT MODULE  
Light Source: -  
Ballast/Driver: -

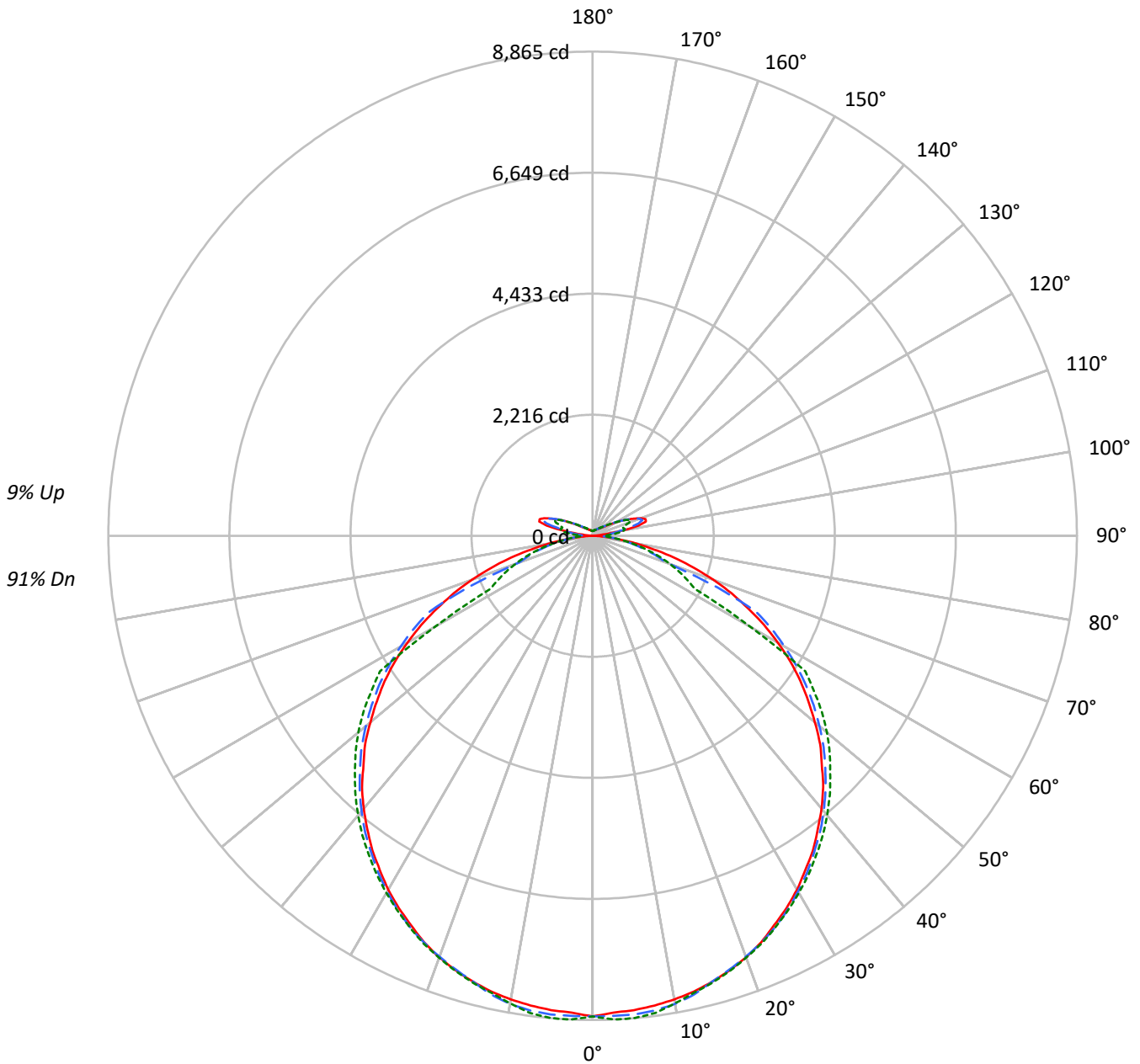
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 27127.3 lumens  
Efficiency: N/A  
Efficacy: 174.6 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 3.78' x L: 1.67' x H: 0.1')  
CIE Type: Direct  
  
Input Watts (W): 155.4  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT

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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|---|--|--|--|--|--|--|----|--|--|--|--|--|--|--|--|---|
| RF  | 20  |     |     |     |     |     |     |     |     | 20  |     |    |    |    |    |    |    |    | 20 |    |   |  |  |  |  |  |  | 20 |  |  |  |  |  |  |  |  |   |
| RC  | 80  |     |     |     |     |     |     |     |     | 50  |     |    |    |    |    |    |    |    | 30 |    |   |  |  |  |  |  |  | 10 |  |  |  |  |  |  |  |  | 0 |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 0   | 117 | 117 | 117 | 117 | 113 | 113 | 113 | 113 | 106 | 106 | 106 | 99 | 99 | 99 | 93 | 93 | 93 | 91 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 1   | 107 | 103 | 99  | 95  | 103 | 99  | 96  | 92  | 93  | 91  | 88  | 88 | 86 | 84 | 83 | 81 | 79 | 77 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 98  | 90  | 83  | 78  | 94  | 87  | 81  | 76  | 82  | 77  | 73  | 77 | 73 | 70 | 73 | 70 | 67 | 64 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 89  | 79  | 71  | 65  | 86  | 77  | 69  | 64  | 72  | 66  | 61  | 68 | 63 | 59 | 65 | 61 | 57 | 54 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 82  | 70  | 61  | 55  | 79  | 68  | 60  | 54  | 64  | 58  | 52  | 61 | 55 | 51 | 58 | 53 | 49 | 47 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 75  | 62  | 54  | 47  | 72  | 61  | 53  | 47  | 58  | 51  | 45  | 55 | 49 | 44 | 52 | 47 | 43 | 40 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 69  | 56  | 47  | 41  | 67  | 55  | 47  | 41  | 52  | 45  | 40  | 49 | 43 | 38 | 47 | 42 | 37 | 35 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 64  | 51  | 42  | 36  | 62  | 50  | 42  | 36  | 47  | 40  | 35  | 45 | 39 | 34 | 43 | 37 | 33 | 31 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 60  | 46  | 38  | 32  | 58  | 45  | 37  | 32  | 43  | 36  | 31  | 41 | 35 | 30 | 39 | 34 | 30 | 28 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 56  | 42  | 34  | 29  | 54  | 41  | 34  | 29  | 40  | 33  | 28  | 38 | 32 | 27 | 36 | 31 | 27 | 25 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 52  | 39  | 31  | 26  | 50  | 38  | 31  | 26  | 37  | 30  | 25  | 35 | 29 | 25 | 34 | 28 | 24 | 23 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 15030 | 15030 | 15030 |
| 5°  | 14869 | 15002 | 15161 |
| 10° | 14795 | 14932 | 15005 |
| 15° | 14712 | 14705 | 14874 |
| 20° | 14609 | 14581 | 14800 |
| 25° | 14423 | 14489 | 14732 |
| 30° | 14264 | 14328 | 14668 |
| 35° | 14071 | 14137 | 14610 |
| 40° | 13839 | 13957 | 14567 |
| 45° | 13515 | 13705 | 14477 |
| 50° | 13168 | 13420 | 14419 |
| 55° | 12748 | 13059 | 14174 |
| 60° | 12117 | 12525 | 10950 |
| 65° | 11213 | 11840 | 7293  |
| 70° | 10049 | 6087  | 6973  |
| 75° | 8342  | 5501  | 6501  |
| 80° | 5859  | 4602  | 5692  |
| 85° | 2351  | 3687  | 4925  |



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**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 836.0   | 3.1       |
| 10°-20°   | 2393.8  | 8.8       |
| 20°-30°   | 3642.3  | 13.4      |
| 30°-40°   | 4428.6  | 16.3      |
| 40°-50°   | 4656.4  | 17.2      |
| 50°-60°   | 4251.9  | 15.7      |
| 60°-70°   | 2725.7  | 10.0      |
| 70°-80°   | 1287.6  | 4.7       |
| 80°-90°   | 363.2   | 1.3       |
| 90°-100°  | 326.4   | 1.2       |
| 100°-110° | 830.8   | 3.1       |
| 110°-120° | 697.6   | 2.6       |
| 120°-130° | 331.2   | 1.2       |
| 130°-140° | 165.7   | 0.6       |
| 140°-150° | 96.1    | 0.4       |
| 150°-160° | 56.0    | 0.2       |
| 160°-170° | 29.0    | 0.1       |
| 170°-180° | 8.8     | 0.0       |
| 0°-30°    | 6872.2  | 25.3      |
| 0°-40°    | 11300.8 | 41.7      |
| 0°-60°    | 20209.1 | 74.5      |
| 0°-90°    | 24585.5 | 90.6      |
| 90°-120°  | 1854.9  | 6.8       |
| 90°-150°  | 2447.9  | 9.0       |
| 90°-180°  | 2542.0  | 9.4       |
| 0°-180°   | 27127.3 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 8800 | 8800  | 8800 | 8800  | 8800 |      |
| 5°   | 8718 | 8752  | 8797 | 8845  | 8863 | 829  |
| 15°  | 8454 | 8517  | 8453 | 8465  | 8471 | 2387 |
| 25°  | 7867 | 7880  | 7907 | 7920  | 7914 | 3630 |
| 35°  | 7032 | 6990  | 7070 | 7157  | 7137 | 4395 |
| 45°  | 5931 | 5920  | 6020 | 6163  | 6152 | 4584 |
| 55°  | 4648 | 4612  | 4768 | 4927  | 4940 | 4145 |
| 65°  | 3132 | 3132  | 3314 | 1901  | 1907 | 3105 |
| 75°  | 1547 | 1577  | 1024 | 1078  | 1082 | 1631 |
| 85°  | 202  | 256   | 320  | 346   | 327  | 299  |
| 90°  | 5    | 120   | 189  | 230   | 234  | 13   |
| 95°  | 58   | 156   | 274  | 366   | 396  | 167  |
| 105° | 1011 | 1009  | 869  | 626   | 575  | 959  |
| 115° | 700  | 710   | 714  | 708   | 692  | 703  |
| 125° | 338  | 356   | 363  | 362   | 359  | 317  |
| 135° | 200  | 204   | 211  | 213   | 215  | 158  |
| 145° | 145  | 149   | 152  | 153   | 154  | 92   |
| 155° | 116  | 118   | 120  | 121   | 121  | 54   |
| 165° | 100  | 101   | 102  | 102   | 102  | 29   |
| 175° | 90   | 91    | 91   | 92    | 92   | 9    |
| 180° | 90   | 90    | 90   | 90    | 90   |      |



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**CANDELA DISTRIBUTION (FULL):**

|        | 0°            | 22.5°         | 45°           | 67.5°         | 90°           |
|--------|---------------|---------------|---------------|---------------|---------------|
| 0°     | 8800.0        | 8800.0        | 8800.0        | 8800.0        | <i>8800.0</i> |
| 2.5°   | <i>8738.2</i> | <i>8767.6</i> | <i>8800.0</i> | <i>8841.7</i> | <i>8864.7</i> |
| 5°     | 8718.1        | 8752.1        | 8796.9        | 8844.8        | <i>8863.3</i> |
| 7.5°   | 8674.9        | 8722.7        | 8766.0        | 8800.0        | <i>8810.8</i> |
| 10°    | 8620.8        | 8678.0        | 8702.7        | 8699.6        | <i>8691.9</i> |
| 12.5°  | 8548.2        | 8608.6        | 8600.9        | 8565.2        | <i>8571.5</i> |
| 15°    | 8454.1        | 8517.3        | 8452.6        | 8464.9        | <i>8471.1</i> |
| 17.5°  | 8342.9        | 8404.7        | 8329.0        | 8353.7        | <i>8355.3</i> |
| 20°    | 8213.3        | 8259.5        | 8200.8        | 8220.9        | <i>8220.9</i> |
| 22.5°  | 8057.3        | 8089.7        | 8065.0        | 8078.9        | <i>8082.0</i> |
| 25°    | 7867.3        | 7879.6        | 7907.4        | 7919.8        | <i>7913.6</i> |
| 27.5°  | 7685.2        | 7669.7        | 7723.8        | 7753.1        | <i>7737.5</i> |
| 30°    | 7482.8        | 7458.1        | 7521.4        | 7569.3        | <i>7550.8</i> |
| 32.5°  | 7251.2        | 7235.8        | 7308.4        | 7365.5        | <i>7354.7</i> |
| 35°    | 7032.0        | 6990.3        | 7070.5        | 7157.0        | <i>7136.9</i> |
| 37.5°  | 6772.5        | 6747.8        | 6838.9        | 6930.1        | <i>6919.3</i> |
| 40°    | 6519.3        | 6477.6        | 6581.1        | 6689.1        | <i>6678.3</i> |
| 42.5°  | 6247.6        | 6198.0        | 6310.8        | 6440.6        | <i>6428.2</i> |
| 45°    | 5930.9        | 5920.1        | 6020.5        | 6162.6        | <i>6151.8</i> |
| 47.5°  | 5650.1        | 5595.9        | 5736.4        | 5873.9        | <i>5886.3</i> |
| 50°    | 5310.2        | 5290.2        | 5418.4        | 5585.2        | <i>5597.4</i> |
| 52.5°  | 4978.3        | 4964.4        | 5098.6        | 5267.0        | <i>5288.6</i> |
| 55°    | 4647.8        | 4612.3        | 4768.2        | 4927.3        | <i>4939.7</i> |
| 57.5°  | 4294.3        | 4257.2        | 4416.3        | 4589.2        | <i>4615.4</i> |
| 60°    | 3915.9        | 3880.4        | 4054.8        | 4215.5        | <i>3352.3</i> |
| 62.5°  | 3537.6        | 3512.9        | 3695.2        | 2617.3        | <i>2109.4</i> |
| 65°    | 3131.5        | 3131.5        | 3313.6        | 1900.8        | <i>1907.0</i> |
| 67.5°  | 2751.7        | 2727.0        | 2470.7        | 1707.7        | <i>1707.7</i> |
| 70°    | 2344.0        | 2353.3        | 1423.6        | 1496.3        | <i>1497.8</i> |
| 72.5°  | 1934.8        | 1968.8        | 1229.2        | 1287.7        | <i>1290.8</i> |
| 75°    | 1547.2        | 1576.6        | 1023.7        | 1077.8        | <i>1082.4</i> |
| 77.5°  | 1136.5        | 874.0         | 823.0         | 864.8         | <i>866.3</i>  |
| 80°    | 798.3         | 551.3         | 630.1         | 670.1         | <i>665.5</i>  |
| 82.5°  | 466.2         | 386.0         | 461.7         | 491.1         | <i>489.5</i>  |
| 85°    | 202.2         | 256.3         | 319.6         | 345.9         | <i>327.3</i>  |
| 87.5°  | 64.7          | 159.1         | 199.1         | 214.7         | <i>213.0</i>  |
| 90°    | 5.0           | 120.5         | 189.1         | 230.2         | <i>234.3</i>  |
| 92.5°  | 17.0          | 112.8         | 195.6         | 256.5         | <i>271.0</i>  |
| 95°    | 57.6          | 155.8         | 274.0         | 365.5         | <i>395.5</i>  |
| 97.5°  | 272.1         | 323.4         | 385.6         | 487.1         | <i>523.2</i>  |
| 100°   | 555.1         | 612.2         | 520.9         | 577.2         | <i>587.8</i>  |
| 102.5° | 860.7         | 869.6         | 647.3         | 603.4         | <i>597.0</i>  |
| 105°   | 1010.7        | 1009.0        | 868.7         | 625.7         | <i>575.2</i>  |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 817.3 | 832.4 | 821.0 | 793.4 | 750.5 |
| 115°   | 699.7 | 709.8 | 714.4 | 707.8 | 692.5 |
| 117.5° | 592.0 | 593.0 | 597.0 | 596.0 | 597.0 |
| 120°   | 490.0 | 501.0 | 510.0 | 505.0 | 499.0 |
| 122.5° | 411.0 | 423.0 | 429.0 | 427.0 | 421.0 |
| 125°   | 338.0 | 356.0 | 363.0 | 362.0 | 359.0 |
| 127.5° | 286.0 | 299.0 | 309.0 | 310.0 | 309.0 |
| 130°   | 249.0 | 257.0 | 267.0 | 268.0 | 269.0 |
| 132.5° | 221.0 | 228.0 | 235.0 | 239.0 | 238.0 |
| 135°   | 200.0 | 204.0 | 211.0 | 213.0 | 215.0 |
| 137.5° | 183.0 | 186.0 | 192.0 | 195.0 | 195.0 |
| 140°   | 168.0 | 172.0 | 177.0 | 179.0 | 180.0 |
| 142.5° | 155.0 | 159.0 | 163.0 | 165.0 | 165.0 |
| 145°   | 145.0 | 149.0 | 152.0 | 153.0 | 154.0 |
| 147.5° | 136.0 | 140.0 | 142.0 | 144.0 | 144.0 |
| 150°   | 129.0 | 131.0 | 134.0 | 135.0 | 136.0 |
| 152.5° | 122.0 | 124.0 | 127.0 | 128.0 | 128.0 |
| 155°   | 116.0 | 118.0 | 120.0 | 121.0 | 121.0 |
| 157.5° | 111.0 | 113.0 | 115.0 | 116.0 | 116.0 |
| 160°   | 107.0 | 108.0 | 110.0 | 111.0 | 111.0 |
| 162.5° | 103.0 | 104.0 | 105.0 | 106.0 | 106.0 |
| 165°   | 100.0 | 101.0 | 102.0 | 102.0 | 102.0 |
| 167.5° | 97.0  | 97.0  | 98.0  | 99.0  | 99.0  |
| 170°   | 94.0  | 95.0  | 95.0  | 96.0  | 96.0  |
| 172.5° | 92.0  | 93.0  | 93.0  | 93.0  | 94.0  |
| 175°   | 90.0  | 91.0  | 91.0  | 92.0  | 92.0  |
| 177.5° | 90.0  | 90.0  | 90.0  | 90.0  | 90.0  |
| 180°   | 90.0  | 90.0  | 90.0  | 90.0  | 90.0  |



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— 0°-180°    - - 45°-225°    - - - - 90°-270°







|        |        |        |       |       |       |
|--------|--------|--------|-------|-------|-------|
| 107.5° | 1014.7 | 1026.4 | 954.6 | 742.9 | 611.6 |
| 110°   | 938.3  | 951.9  | 911.5 | 828.4 | 719.5 |



(END OF REPORT)