

Appendix B.3  
**Original Lighting Report  
(October 2021) – Appendix 2**

# Appendix 2

## Lighting

### Support Technical Documents

GENERAL NOTES

| Date | Description |
|------|-------------|
|------|-------------|

Seal / Signature

NOT FOR  
CONSTRUCTION

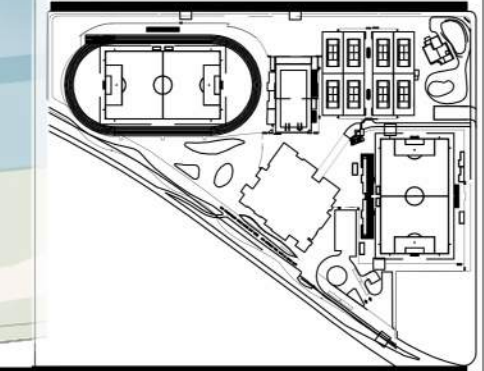
Project Name

Project Number

Description

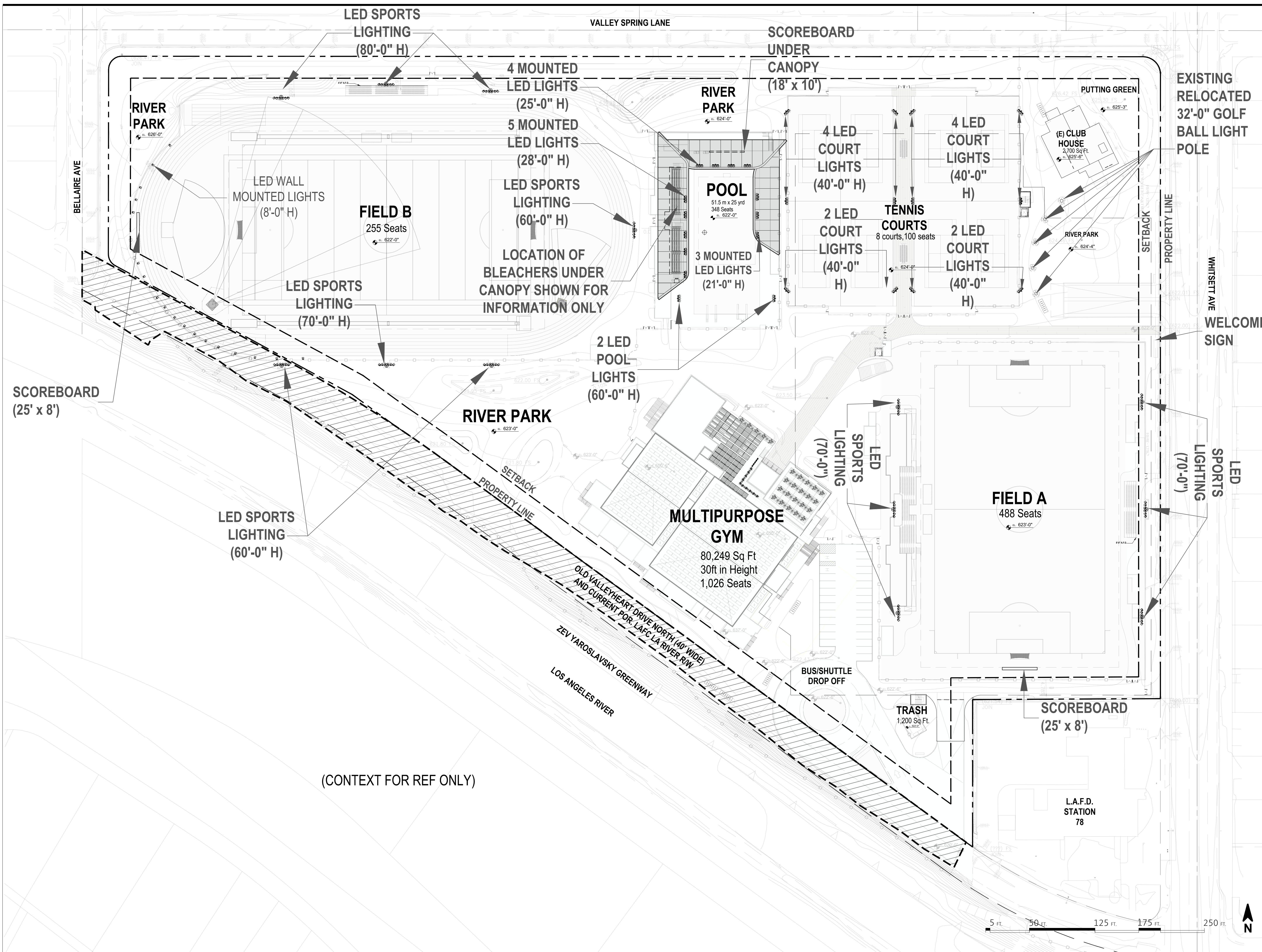
Scale

KEY PLAN



- GATE AND ENTRY LEGEND**
- ① OUTER PEDESTRIAN GATE
  - ② VEHICULAR ENTRY
  - ③ PEDESTRIAN AND FIRE ACCESS GATE
  - ④ INNER PEDESTRIAN GATE
  - ⑤ VEHICULAR GATE

**NOTE:**  
1. ALL PATHWAYS AND EXTERIOR AREAS TO INCLUDE LIGHTING IN COMPLIANCE WITH RIO DISTRICT GUIDELINES AND STANDARDS, SECTION 5.2.3 ,LOS ANGELES RIVER MASTER PLAN LANDSCAPING GUIDELINES RECOMMENDATIONS AND ORDINANCE 183145, SEC. 7.  
2. PRIVACY WALLS TO BE STONE FINISH.  
3. INNER, OUTER AND RIVER FENCES TO BE METAL FINISH (SEE L.O.04).



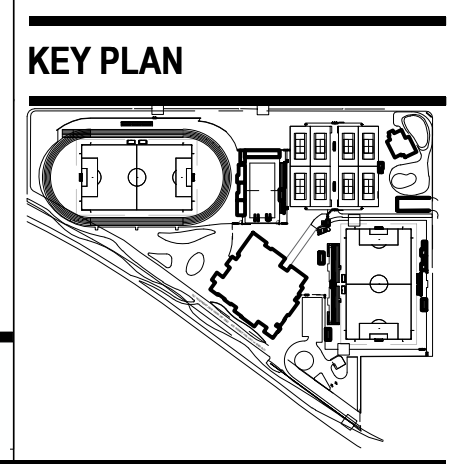
(CONTEXT FOR REF ONLY)



Plan - Lighting & Signage  
SCALE: 1/8" = 1' - 0"

01

| SHEET NOTES   |           |
|---------------|-----------|
| LEGEND        |           |
| SETBACK       | ---       |
| PROPERTY LINE | - - - -   |
| FENCE         | —o—o—o—o— |
| WALL          | =====     |
| GENERAL NOTES |           |



4141 Whitsett Ave  
Studio City, CA 91604

3700 Coldwater Canyon Ave  
Studio City, CA 91604

300 S Figueroa St  
Los Angeles, CA 90071

251 S Mission Rd  
Los Angeles, CA 90033

700 South Flower Street, Suite 2100  
Los Angeles, CA 90017

| Date     | Description |
|----------|-------------|
| 2/4/2021 | ISSUE DATE  |

Seal / Signature

**NOT FOR CONSTRUCTION**

|                |                               |
|----------------|-------------------------------|
| Project Name   | Harvard - Westlake River Park |
| Project Number |                               |
| Description    | Lighting & Signage            |
| Scale          | AS NOTED                      |

**A.0.03**

©2019 Gensler



4141 Whittett Ave  
Studio City, CA 91604



3700 Coldwater Canyon Ave  
Studio City, CA 91604

**Gensler**

500 S Figueroa St  
Los Angeles, CA 90071

**STUDIO-MLA**

251 S Mission Rd  
Los Angeles, CA 90033



700 South Flower Street, Suite 2100  
Los Angeles, CA 90071

△ Date Description

11/12/2020 ISSUE DATE

Seal / Signature

**NOT FOR  
CONSTRUCTION**

Project Name

Harvard - Westlake River Park

Project Number

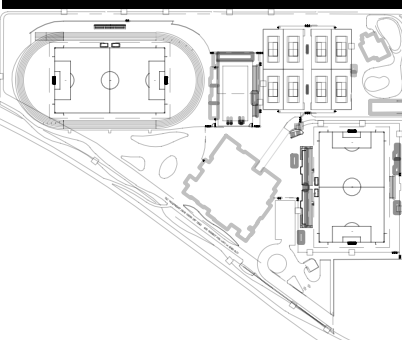
Description

Plot Plan - Below Grade

Scale

AS NOTED

KEY PLAN



Plan - Below Grade  
SCALE: 1/8" = 1' - 0"

01

Lighting System

| Pole / Fixture Summary |             |            |             |                |           |         |
|------------------------|-------------|------------|-------------|----------------|-----------|---------|
| Pole ID                | Pole Height | Mtg Height | Fixture Qty | Luminaire Type | Load      | Circuit |
| F1-F3                  | 80'         | 80'        | 4           | TLC-LED-1500   | 5.72 kW   | A       |
| F4                     | 60'         | 16'        | 1           | TLC-BT-575     | 0.58 kW   | I       |
|                        |             | 60'        | 6           | TLC-LED-900    | 5.34 kW   | A       |
|                        |             | 16'        | 1           | TLC-BT-575     | 0.58 kW   | I       |
| F5                     | 70'         | 70'        | 6           | TLC-LED-900    | 5.34 kW   | A       |
|                        |             | 16'        | 1           | TLC-BT-575     | 0.58 kW   | I       |
|                        |             | 60'        | 3           | TLC-LED-600    | 1.74 kW   | A       |
| F6                     | 60'         | 60'        | 2           | TLC-LED-900    | 1.78 kW   | A       |
|                        |             | 16'        | 1           | TLC-BT-575     | 0.58 kW   | I       |
|                        |             | 28'        | 1           | TLC-LED-400    | 0.40 kW   | G       |
| M1-M5                  | --          | 25'        | 1           | TLC-LED-400    | 0.40 kW   | G       |
| M6-M9                  | --          | 21'        | 1           | TLC-LED-400    | 0.40 kW   | G       |
| M10-M12                | --          | 8'         | 1           | IES            | 0.00 kW   | H       |
| M13-M34                | --          | 60'        | 1           | TLC-LED-600    | 0.58 kW   | G       |
| P3                     | 60'         | 60'        | 2           | TLC-LED-900    | 1.78 kW   | G       |
|                        |             | 60'        | 1           | TLC-LED-600    | 0.58 kW   | G       |
| P4                     | 60'         | 60'        | 3           | TLC-LED-900    | 2.67 kW   | G       |
|                        |             | 70'        | 1           | TLC-LED-1200   | 1.17 kW   | F       |
| S1                     | 70'         | 70'        | 6           | TLC-LED-1500   | 8.58 kW   | F       |
|                        |             | 70'        | 9           | TLC-LED-1500   | 13.08 kW  | F       |
| S2                     | 70'         | 70'        | 1           | TLC-LED-1200   | 1.17 kW   | F       |
|                        |             | 70'        | 6           | TLC-LED-1500   | 8.65 kW   | F       |
| S4                     | 70'         | 70'        | 7           | TLC-LED-1500   | 10.08 kW  | F       |
|                        |             | 70'        | 9           | TLC-LED-1500   | 13.01 kW  | F       |
| S5                     | 70'         | 70'        | 7           | TLC-LED-1500   | 10.01 kW  | F       |
|                        |             | 40'        | 3           | TLC-LED-600    | 1.74 kW   | B       |
| T1, T4                 | 40'         | 40'        | 3           | TLC-LED-600    | 1.74 kW   | C       |
|                        |             | 40'        | 3           | TLC-LED-600    | 1.74 kW   | B       |
| T2                     | 40'         | 40'        | 3           | TLC-LED-600    | 1.74 kW   | C       |
|                        |             | 40'        | 3           | TLC-LED-600    | 1.74 kW   | B       |
| T3, T6                 | 40'         | 40'        | 3           | TLC-LED-600    | 1.74 kW   | C       |
|                        |             | 40'        | 3           | TLC-LED-600    | 1.74 kW   | B       |
| T5                     | 40'         | 40'        | 3           | TLC-LED-600    | 1.74 kW   | C       |
|                        |             | 40'        | 3           | TLC-LED-600    | 1.74 kW   | D       |
| T7, T10                | 40'         | 40'        | 3           | TLC-LED-600    | 1.74 kW   | E       |
|                        |             | 40'        | 3           | TLC-LED-600    | 1.74 kW   | D       |
| T8                     | 40'         | 40'        | 3           | TLC-LED-600    | 1.74 kW   | E       |
|                        |             | 40'        | 3           | TLC-LED-600    | 1.74 kW   | E       |
| T9, T12                | 40'         | 40'        | 3           | TLC-LED-600    | 1.74 kW   | D       |
|                        |             | 40'        | 3           | TLC-LED-600    | 1.74 kW   | E       |
| TR2                    | 60'         | 60'        | 4           | TLC-LED-900    | 3.56 kW   | H       |
|                        |             |            | 174         |                | 142.37 kW |         |

| Circuit Summary |                        |          |          |             |
|-----------------|------------------------|----------|----------|-------------|
| Circuit         | Description            | Avg Load | Max Load | Fixture Qty |
| A               | Track and Field        | 31.36 kW | 31.36 kW | 29          |
| B               | Tennis 1               | 6.96 kW  | 6.96 kW  | 12          |
| C               | Tennis 2               | 6.96 kW  | 6.96 kW  | 12          |
| D               | Tennis 3               | 6.96 kW  | 6.96 kW  | 12          |
| E               | Tennis 4               | 6.96 kW  | 6.96 kW  | 12          |
| F               | Athletic Fields        | 65.75 kW | 65.75 kW | 46          |
| G               | Pool                   | 10.41 kW | 10.41 kW | 19          |
| H               | Track                  | 5.18 kW  | 3.56 kW  | 26          |
| I               | Ball Tracking Fixtures | 3.45 kW  | 3.45 kW  | 6           |

| Fixture Type Summary |                    |         |         |          |          |          |          |
|----------------------|--------------------|---------|---------|----------|----------|----------|----------|
| Type                 | Source             | Wattage | Lumens  | L90      | L80      | L70      | Quantity |
| TLC-LED-1500         | LED 5700K - 75 CRI | 1430W   | 160,000 | >120,000 | >120,000 | >120,000 | 49       |
| C-Lite Wall Pack     |                    | 74W     | 8,917   | --       | --       | --       | 22       |
| TLC-LED-900          | LED 5700K - 75 CRI | 890W    | 89,600  | >120,000 | >120,000 | >120,000 | 23       |
| TLC-LED-600          | LED 5700K - 75 CRI | 580W    | 65,600  | >120,000 | >120,000 | >120,000 | 53       |
| TLC-BT-575           | LED 5700K - 75 CRI | 575W    | 52,000  | >120,000 | >120,000 | >120,000 | 6        |
| TLC-LED-1500         | LED 5700K - 75 CRI | 1500W   | 156,100 | >120,000 | >120,000 | >120,000 | 7        |
| TLC-LED-400          | LED 5700K - 75 CRI | 400W    | 46,500  | >120,000 | >120,000 | >120,000 | 12       |
| TLC-LED-1200         | LED 5700K - 75 CRI | 1170W   | 136,000 | >120,000 | >120,000 | >120,000 | 2        |

Light Level Summary

| Calculation Grid Summary |                                      |              |      |        |         |         |                       |             |
|--------------------------|--------------------------------------|--------------|------|--------|---------|---------|-----------------------|-------------|
| Grid Name                | Calculation Metric                   | Illumination |      |        |         |         | Circuits              | Fixture Qty |
|                          |                                      | Ave          | Min  | Max    | Max/Min | Ave/Min |                       |             |
| Athletic Fields          | Horizontal Illuminance               | 70.7         | 60   | 85     | 1.42    | 1.18    | F                     | 46          |
| Blanket Spill Grid       | Horizontal                           | 0.68         | 0    | 24     | 0.00    |         | A,B,C,D,E,<br>F,G,H   | 168         |
| Blanket Spill Grid       | Max Candela (by Fixture)             | 10680        | 0    | 353783 | 0.00    |         | A,B,C,D,E,<br>F,G,H   | 168         |
| Blanket Spill Grid       | Max Vert Illuminance (by Light Bank) | 0.95         | 0    | 30     | 0.00    |         | A,B,C,D,E,<br>F,G,H   | 168         |
| Fire House Spill         | Horizontal                           | 0.56         | 0    | 1      | 2.97    |         | A,B,C,D,E,<br>F,G,H,I | 174         |
| Fire House Spill         | Perpendicular                        | 0.46         | 0    | 1      | 6.00    |         | A,B,C,D,E,<br>F,G,H,I | 174         |
| Lacrosse                 | Horizontal Illuminance               | 30.1         | 19   | 41     | 2.19    | 1.59    | A,I                   | 35          |
| Pool Bleachers           | Horizontal                           | 3.12         | 0    | 22     | 0.00    |         | G                     | 19          |
| Pool Deck                | Horizontal                           | 14.7         | 0    | 61     | 0.00    |         | G                     | 19          |
| Pool                     | Horizontal Illuminance               | 62.2         | 31   | 91     | 2.97    | 2.01    | G                     | 19          |
| Property Line Spill      | Horizontal                           | 0.01         | 0    | 0.05   | 0.00    |         | A,B,C,D,E,<br>F,G,H   | 168         |
| Property Line Spill      | Max Candela (by Fixture)             | 480          | 3.22 | 1788   | 554.54  | 149.21  | A,B,C,D,E,<br>F,G,H   | 168         |
| Property Line Spill      | Max Vertical Illuminance Metric      | 0.02         | 0    | 0.09   | 0.00    |         | A,B,C,D,E,<br>F,G,H   | 168         |
| Rio Spill 15' Offset     | Horizontal Illuminance               | 0            | 0    | 0.01   | 0.00    |         | A,H,B,C,D,<br>E,F,G,I | 174         |
| Rio Spill 15' Offset     | Max Candela Metric                   | 289          | 0    | 923    | 0.00    |         | A,H,B,C,D,<br>E,F,G,I | 174         |
| Rio Spill 15' Offset     | Max Vertical Illuminance Metric      | 0.01         | 0    | 0.02   | 0.00    |         | A,H,B,C,D,<br>E,F,G,I | 174         |
| Rio Spill                | Horizontal Illuminance               | 0.01         | 0    | 0.06   | 0.00    |         | A,H,B,C,D,<br>E,F,G,I | 174         |

From Hometown to Professional



Harvard Westlake Athletic Complex  
Studio City, CA

| Calculation Grid Summary |                                 |              |     |      |         |         |                       |             |
|--------------------------|---------------------------------|--------------|-----|------|---------|---------|-----------------------|-------------|
| Grid Name                | Calculation Metric              | Illumination |     |      |         |         | Circuits              | Fixture Qty |
|                          |                                 | Ave          | Min | Max  | Max/Min | Ave/Min |                       |             |
| Rio Spill                | Max Candela Metric              | 456          | 0   | 3162 | 0.00    |         | A,H,B,C,D,<br>E,F,G,I | 174         |
| Rio Spill                | Max Vertical Illuminance Metric | 0.01         | 0   | 0.07 | 0.00    |         | A,H,B,C,D,<br>E,F,G,I | 174         |
| Soccer                   | Horizontal Illuminance          | 31           | 21  | 40   | 1.89    | 1.48    | A,I                   | 35          |
| Tennis 1                 | Horizontal Illuminance          | 53.8         | 45  | 65   | 1.45    | 1.20    | B                     | 12          |
| Tennis 2                 | Horizontal Illuminance          | 54.6         | 45  | 65   | 1.46    | 1.21    | C                     | 12          |
| Tennis 3                 | Horizontal Illuminance          | 52.9         | 43  | 63   | 1.47    | 1.23    | D                     | 12          |
| Tennis 4                 | Horizontal Illuminance          | 52.4         | 42  | 62   | 1.47    | 1.25    | E                     | 12          |
| Track                    | Horizontal Illuminance          | 16           | 2   | 37   | 22.41   | 8.00    | H,A                   | 55          |

From Hometown to Professional



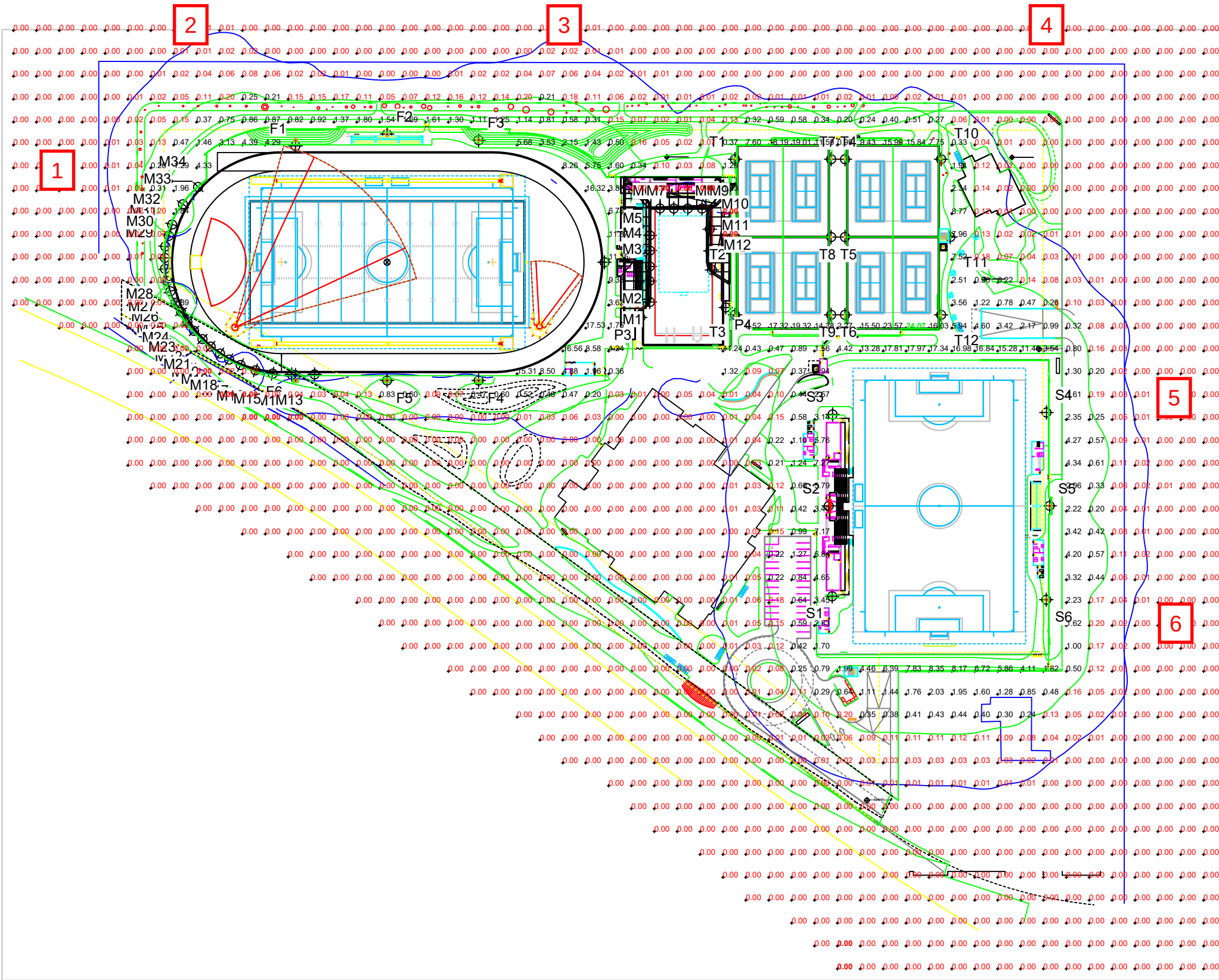
| GRID SUMMARY                      |                        |
|-----------------------------------|------------------------|
| Name:                             | Blanket Spill Grid     |
| Spacing:                          | 30.0' x 30.0'          |
| Height:                           | 3.0' above grade       |
| ILLUMINATION SUMMARY              |                        |
| MAINTAINED HORIZONTAL FOOTCANDLES |                        |
| Entire Grid                       |                        |
| Scan Average:                     | 0.68                   |
| Maximum:                          | 24                     |
| Minimum:                          | 0                      |
| Avg / Min:                        | -                      |
| Max / Min:                        | -                      |
| UG (adjacent pts):                | 1059.30                |
| CU:                               | 0.05                   |
| No. of Points:                    | 1303                   |
| LUMINAIRE INFORMATION             |                        |
| Applied Circuits:                 | A, B, C, D, E, F, G, H |
| No. of Luminaires:                | 168                    |
| Avg Load:                         | 140.54 kW              |
| Max Load:                         | 138.92 kW              |

**Guaranteed Performance:** The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

**Field Measurements:** Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

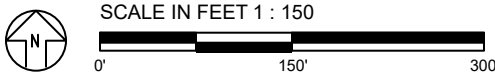
**Electrical System Requirements:** Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

**Installation Requirements:** Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



NOTES: Numbers shown reflect all fixtures being on.

Contours represent .2 & .01 FC



Pole location(s) + dimensions are relative to 0,0 reference point(s) X



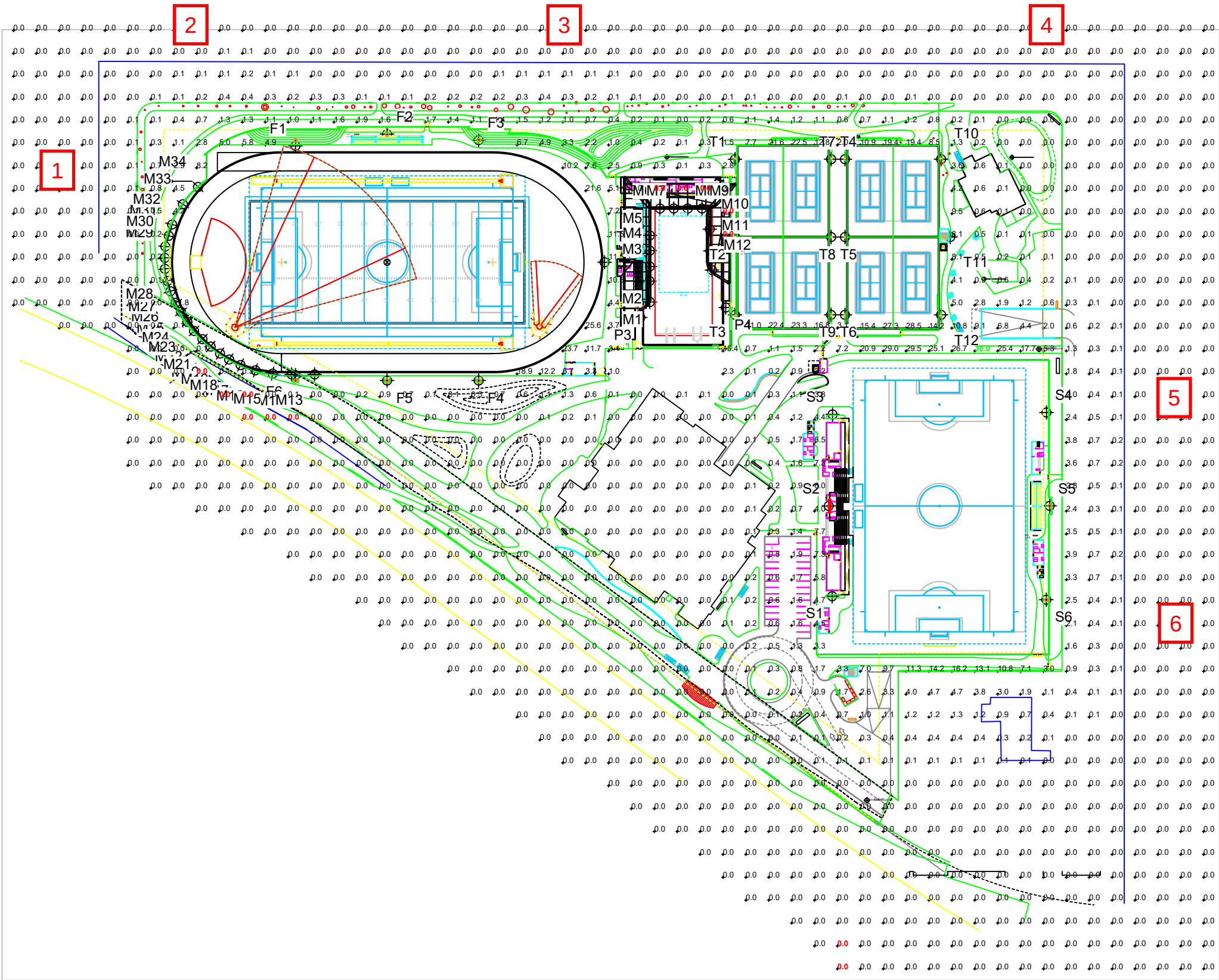
| GRID SUMMARY                        |                        |
|-------------------------------------|------------------------|
| Name:                               | Blanket Spill Grid     |
| Spacing:                            | 30.0' x 30.0'          |
| Height:                             | 3.0' above grade       |
| ILLUMINATION SUMMARY                |                        |
| MAINTAINED MAX VERTICAL FOOTCANDLES |                        |
| Entire Grid                         |                        |
| Scan Average:                       | 0.95                   |
| Maximum:                            | 30                     |
| Minimum:                            | 0                      |
| Avg / Min:                          | -                      |
| Max / Min:                          | -                      |
| UG (adjacent pts):                  | 44559.07               |
| CU:                                 | 0.05                   |
| No. of Points:                      | 1303                   |
| LUMINAIRE INFORMATION               |                        |
| Applied Circuits:                   | A, B, C, D, E, F, G, H |
| No. of Luminaires:                  | 168                    |
| Avg Load:                           | 140.54 kW              |
| Max Load:                           | 138.92 kW              |

**Guaranteed Performance:** The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

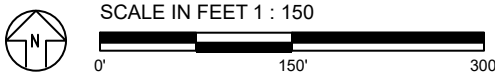
**Field Measurements:** Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

**Electrical System Requirements:** Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

**Installation Requirements:** Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



NOTES: Numbers shown reflect all fixtures being on.



ENGINEERED DESIGN By: Daniel Lohman · File #1957981\_R1 · 29-Jan-21

Pole location(s) + dimensions are relative to 0,0 reference point(s) ⊗



Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981, 2021 Musco Sports Lighting, LLC.

ILLUMINATION SUMMARY

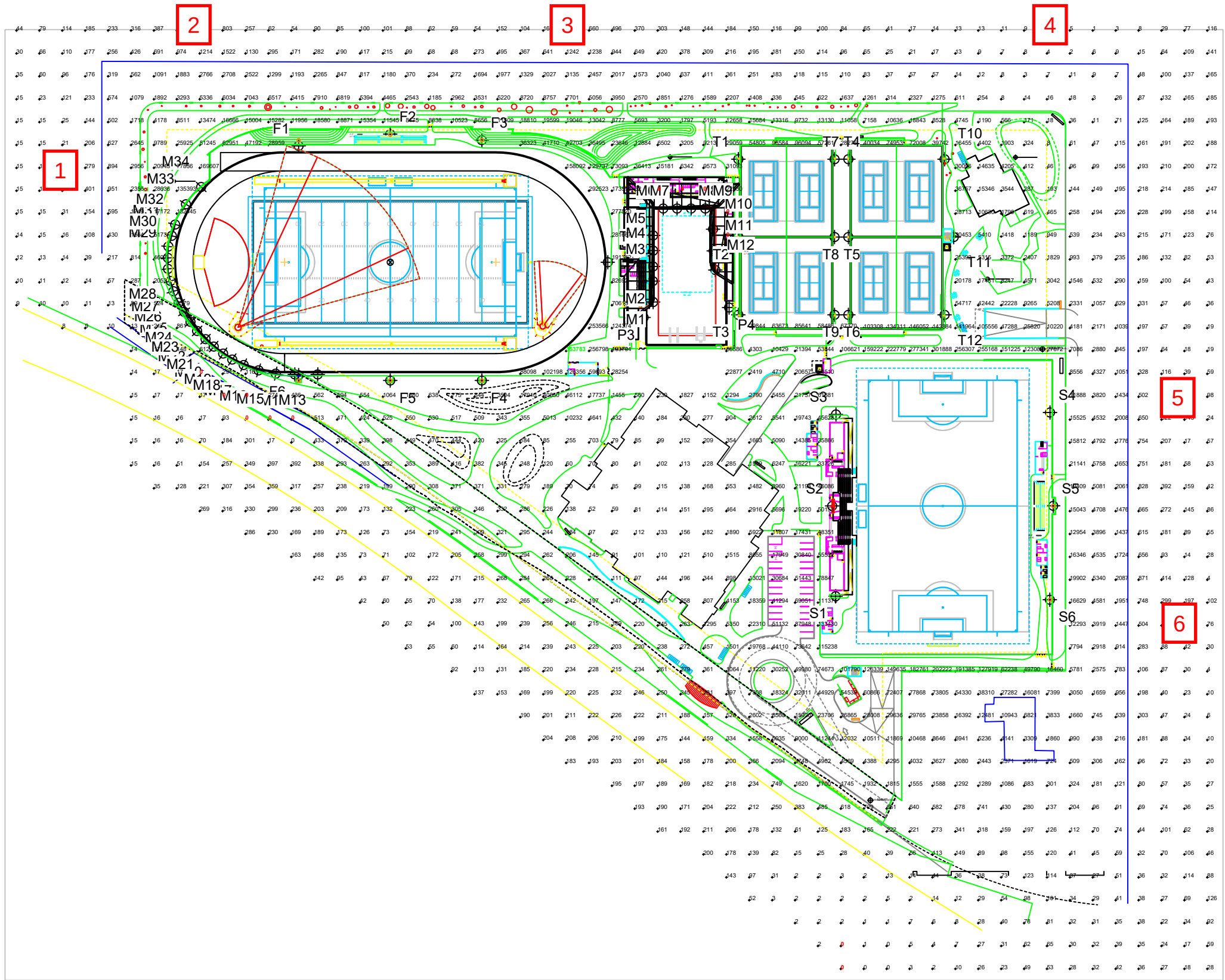
| GRID SUMMARY                     |                        |
|----------------------------------|------------------------|
| Name:                            | Blanket Spill Grid     |
| Spacing:                         | 30.0' x 30.0'          |
| Height:                          | 3.0' above grade       |
| ILLUMINATION SUMMARY             |                        |
| MAINTAINED CANDELA (PER FIXTURE) |                        |
| Entire Grid                      |                        |
| Scan Average:                    | 10680.01               |
| Maximum:                         | 353783                 |
| Minimum:                         | 0                      |
| Avg / Min:                       | -                      |
| Max / Min:                       | -                      |
| UG (adjacent pts):               | 3319.93                |
| CU:                              | 0.05                   |
| No. of Points:                   | 1303                   |
| LUMINAIRE INFORMATION            |                        |
| Applied Circuits:                | A, B, C, D, E, F, G, H |
| No. of Luminaires:               | 168                    |
| Avg Load:                        | 140.54 kW              |
| Max Load:                        | 138.92 kW              |

**Guaranteed Performance:** The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

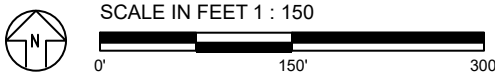
**Field Measurements:** Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

**Electrical System Requirements:** Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

**Installation Requirements:** Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



NOTES: Numbers shown reflect all fixtures being on.



ENGINEERED DESIGN By: Daniel Lohman · File #1957981\_R1 · 29-Jan-21

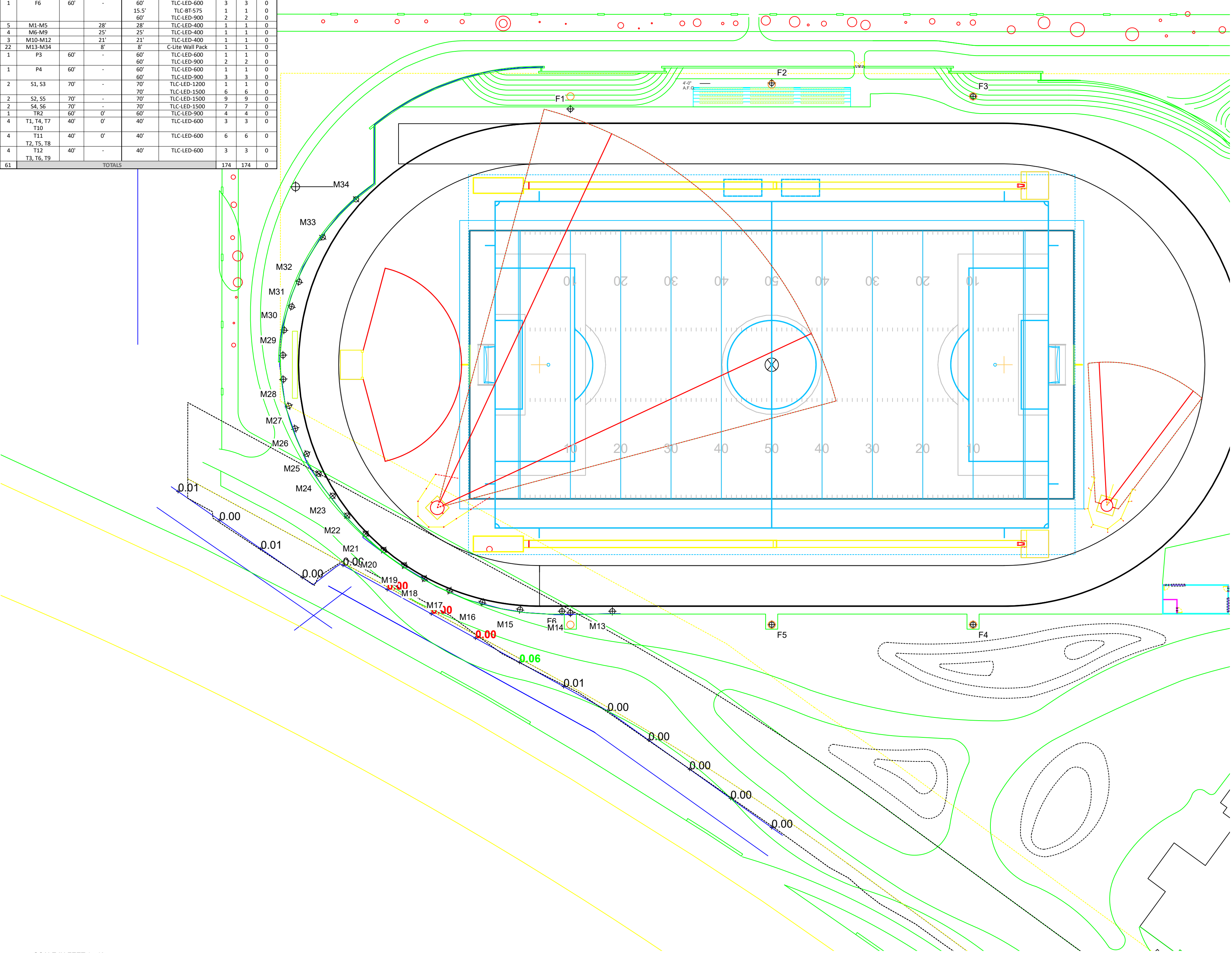
Pole location(s) + dimensions are relative to 0,0 reference point(s) ⊗



Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981, 2021 Musco Sports Lighting, LLC.

ILLUMINATION SUMMARY

| EQUIPMENT LIST FOR AREAS SHOWN |                       |      |                 |                 |                  |            |           |             |   |
|--------------------------------|-----------------------|------|-----------------|-----------------|------------------|------------|-----------|-------------|---|
| Pole                           |                       |      | Luminaires      |                 |                  |            |           |             |   |
| QTY                            | LOCATION              | SIZE | GRADE ELEVATION | MOUNTING HEIGHT | LUMINAIRE TYPE   | QTY / POLE | THIS GRID | OTHER GRIDS |   |
| 2                              | F1, F3                | 80'  | -               | 18.5'           | TLC-BT-575       | 1          | 1         | 1           | 0 |
|                                |                       |      |                 | 83'             | TLC-LED-1500     | 4          | 4         | 4           | 0 |
| 1                              | F2                    | 80'  | -               | 15.5'           | TLC-BT-575       | 1          | 1         | 1           | 0 |
|                                |                       |      |                 | 80'             | TLC-LED-1500     | 4          | 4         | 4           | 0 |
| 1                              | F4                    | 60'  | -               | 15.5'           | TLC-BT-575       | 1          | 1         | 1           | 0 |
|                                |                       |      |                 | 60'             | TLC-LED-900      | 6          | 6         | 6           | 0 |
| 1                              | F5                    | 70'  | -               | 15.5'           | TLC-BT-575       | 1          | 1         | 1           | 0 |
|                                |                       |      |                 | 70'             | TLC-LED-900      | 6          | 6         | 6           | 0 |
| 1                              | F6                    | 60'  | -               | 60'             | TLC-LED-600      | 3          | 3         | 3           | 0 |
|                                |                       |      |                 | 15.5'           | TLC-BT-575       | 1          | 1         | 1           | 0 |
|                                |                       |      |                 | 60'             | TLC-LED-900      | 2          | 2         | 2           | 0 |
| 5                              | M1-M5                 |      | 28'             | 28'             | TLC-LED-400      | 1          | 1         | 1           | 0 |
| 4                              | M6-M9                 |      | 25'             | 25'             | TLC-LED-400      | 1          | 1         | 1           | 0 |
| 3                              | M10-M12               |      | 21'             | 21'             | TLC-LED-400      | 1          | 1         | 1           | 0 |
| 22                             | M13-M34               |      | 8'              | 8'              | C-Lite Wall Pack | 1          | 1         | 1           | 0 |
| 1                              | P3                    | 60'  | -               | 60'             | TLC-LED-600      | 1          | 1         | 1           | 0 |
|                                |                       |      |                 | 60'             | TLC-LED-900      | 2          | 2         | 2           | 0 |
| 1                              | P4                    | 60'  | -               | 60'             | TLC-LED-600      | 1          | 1         | 1           | 0 |
|                                |                       |      |                 | 60'             | TLC-LED-900      | 3          | 3         | 3           | 0 |
| 2                              | S1, S3                | 70'  | -               | 70'             | TLC-LED-1200     | 1          | 1         | 1           | 0 |
|                                |                       |      |                 | 70'             | TLC-LED-1500     | 6          | 6         | 6           | 0 |
| 2                              | S2, S5                | 70'  | -               | 70'             | TLC-LED-1500     | 9          | 9         | 9           | 0 |
| 2                              | S4, S6                | 70'  | -               | 70'             | TLC-LED-1500     | 7          | 7         | 7           | 0 |
| 1                              | T2                    | 60'  | 0'              | 60'             | TLC-LED-900      | 4          | 4         | 4           | 0 |
| 4                              | T1, T4, T7, T10       | 40'  | 0'              | 40'             | TLC-LED-600      | 3          | 3         | 3           | 0 |
| 4                              | T11, T12, T5, T8, T12 | 40'  | 0'              | 40'             | TLC-LED-600      | 6          | 6         | 6           | 0 |
| 4                              | T3, T6, T9            | 40'  | -               | 40'             | TLC-LED-600      | 3          | 3         | 3           | 0 |
| 61                             | TOTALS                |      |                 |                 |                  | 174        | 174       | 0           | 0 |



# Harvard Westlake Athletic Complex

Studio City, CA

| GRID SUMMARY |                    |
|--------------|--------------------|
| Name:        | Rio Spill          |
| Spacing:     | 30.0'              |
| Height:      | -15.0' above grade |

| ILLUMINATION SUMMARY   |                       |
|------------------------|-----------------------|
| HORIZONTAL FOOTCANDLES |                       |
| Scan Average:          | Entire Grid<br>0.0072 |
| Maximum:               | 0.06                  |
| Minimum:               | 0.00                  |
| No. of Points:         | 15                    |

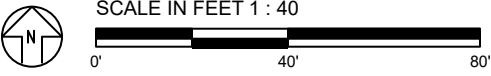
| LUMINAIRE INFORMATION |                           |
|-----------------------|---------------------------|
| Applied Circuits:     | A, B, C, D, E, F, G, H, I |
| No. of Luminaires:    | 174                       |
| Avg Load:             | 143.99 kW                 |
| Max Load:             | 142.37 kW                 |

**Guaranteed Performance:** The ILLUMINATION described above is guaranteed per your Musco Warranty document.

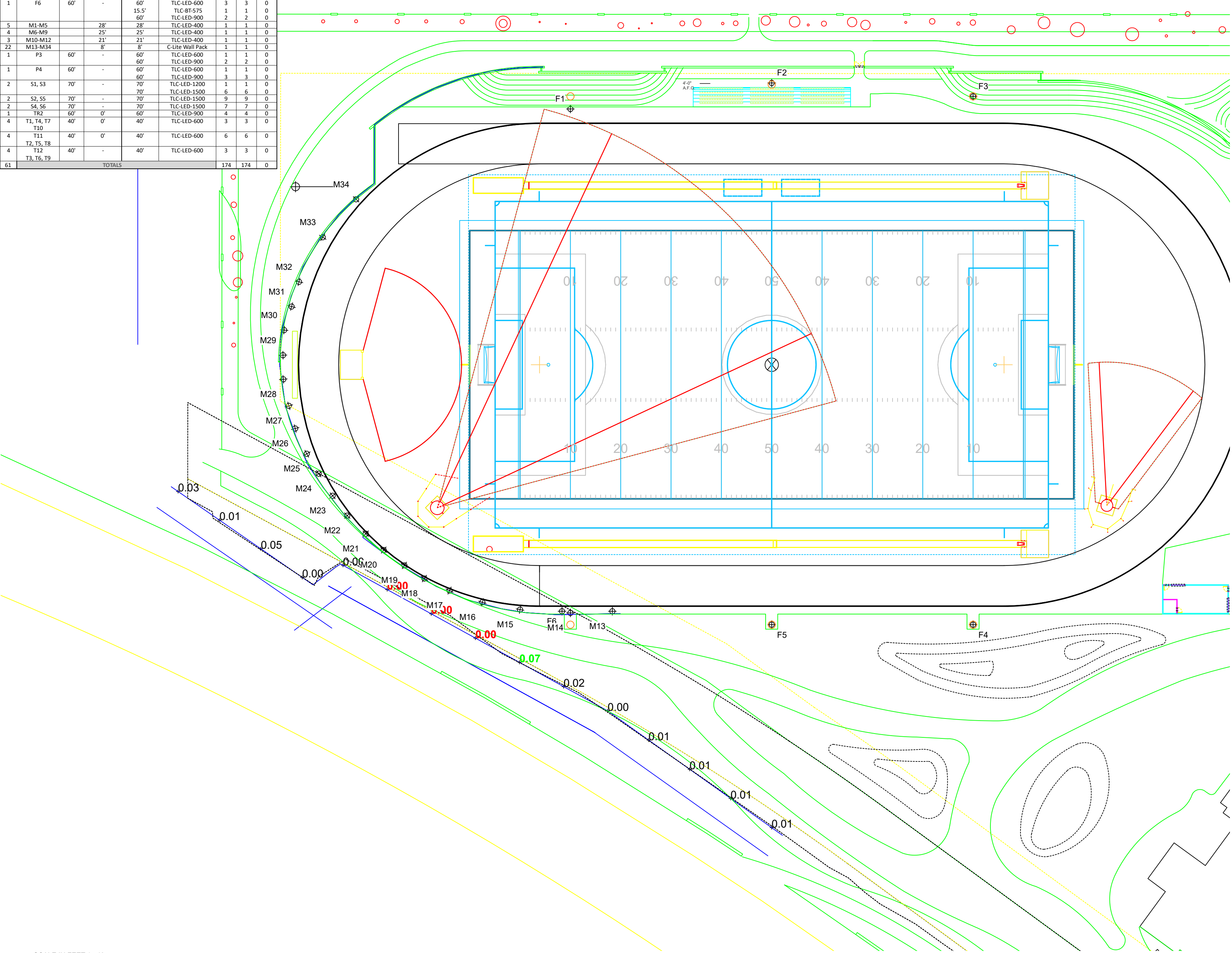
**Field Measurements:** Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

**Electrical System Requirements:** Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

**Installation Requirements:** Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



| EQUIPMENT LIST FOR AREAS SHOWN |                      |      |                 |                 |                  |            |           |             |  |
|--------------------------------|----------------------|------|-----------------|-----------------|------------------|------------|-----------|-------------|--|
| Pole                           |                      |      | Luminaires      |                 |                  |            |           |             |  |
| QTY                            | LOCATION             | SIZE | GRADE ELEVATION | MOUNTING HEIGHT | LUMINAIRE TYPE   | QTY / POLE | THIS GRID | OTHER GRIDS |  |
| 2                              | F1, F3               | 80'  | -               | 18.5'           | TLC-BT-575       | 1          | 1         | 0           |  |
|                                |                      |      |                 | 83'             | TLC-LED-1500     | 4          | 4         | 0           |  |
| 1                              | F2                   | 80'  | -               | 15.5'           | TLC-BT-575       | 1          | 1         | 0           |  |
|                                |                      |      |                 | 80'             | TLC-LED-1500     | 4          | 4         | 0           |  |
| 1                              | F4                   | 60'  | -               | 15.5'           | TLC-BT-575       | 1          | 1         | 0           |  |
|                                |                      |      |                 | 60'             | TLC-LED-900      | 6          | 6         | 0           |  |
| 1                              | F5                   | 70'  | -               | 15.5'           | TLC-BT-575       | 1          | 1         | 0           |  |
|                                |                      |      |                 | 70'             | TLC-LED-900      | 6          | 6         | 0           |  |
| 1                              | F6                   | 60'  | -               | 60'             | TLC-LED-600      | 3          | 3         | 0           |  |
|                                |                      |      |                 | 15.5'           | TLC-BT-575       | 1          | 1         | 0           |  |
|                                |                      |      |                 | 60'             | TLC-LED-900      | 2          | 2         | 0           |  |
| 5                              | M1-M5                |      | 28'             | 28'             | TLC-LED-400      | 1          | 1         | 0           |  |
| 4                              | M6-M9                |      | 25'             | 25'             | TLC-LED-400      | 1          | 1         | 0           |  |
| 3                              | M10-M12              |      | 21'             | 21'             | TLC-LED-400      | 1          | 1         | 0           |  |
| 22                             | M13-M34              |      | 8'              | 8'              | C-Lite Wall Pack | 1          | 1         | 0           |  |
| 1                              | P3                   | 60'  | -               | 60'             | TLC-LED-600      | 1          | 1         | 0           |  |
|                                |                      |      |                 | 60'             | TLC-LED-900      | 2          | 2         | 0           |  |
| 1                              | P4                   | 60'  | -               | 60'             | TLC-LED-600      | 1          | 1         | 0           |  |
|                                |                      |      |                 | 60'             | TLC-LED-900      | 3          | 3         | 0           |  |
| 2                              | S1, S3               | 70'  | -               | 70'             | TLC-LED-1200     | 1          | 1         | 0           |  |
|                                |                      |      |                 | 70'             | TLC-LED-1500     | 6          | 6         | 0           |  |
| 2                              | S2, S5               | 70'  | -               | 70'             | TLC-LED-1500     | 9          | 9         | 0           |  |
| 2                              | S4, S6               | 70'  | -               | 70'             | TLC-LED-1500     | 7          | 7         | 0           |  |
| 1                              | T2                   | 60'  | 0'              | 60'             | TLC-LED-900      | 4          | 4         | 0           |  |
| 4                              | T1, T4, T7, T10      | 40'  | 0'              | 40'             | TLC-LED-600      | 3          | 3         | 0           |  |
| 4                              | T11, T2, T5, T8, T12 | 40'  | 0'              | 40'             | TLC-LED-600      | 6          | 6         | 0           |  |
| 4                              | T3, T6, T9           | 40'  | -               | 40'             | TLC-LED-600      | 3          | 3         | 0           |  |
| 61                             | TOTALS               |      |                 |                 |                  | 174        | 174       | 0           |  |



Harvard Westlake Athletic Complex  
Studio City, CA

| GRID SUMMARY |                    |
|--------------|--------------------|
| Name:        | Rio Spill          |
| Spacing:     | 30.0'              |
| Height:      | -15.0' above grade |

| ILLUMINATION SUMMARY     |                       |
|--------------------------|-----------------------|
| MAX VERTICAL FOOTCANDLES |                       |
| Scan Average:            | Entire Grid<br>0.0136 |
| Maximum:                 | 0.07                  |
| Minimum:                 | 0.00                  |
| No. of Points:           | 15                    |

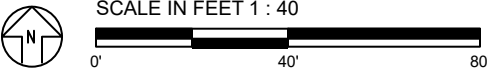
|                       |                           |
|-----------------------|---------------------------|
| LUMINAIRE INFORMATION |                           |
| Applied Circuits:     | A, B, C, D, E, F, G, H, I |
| No. of Luminaires:    | 174                       |
| Avg Load:             | 143.99 kW                 |
| Max Load:             | 142.37 kW                 |

**Guaranteed Performance:** The ILLUMINATION described above is guaranteed per your Musco Warranty document.

**Field Measurements:** Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

**Electrical System Requirements:** Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

**Installation Requirements:** Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



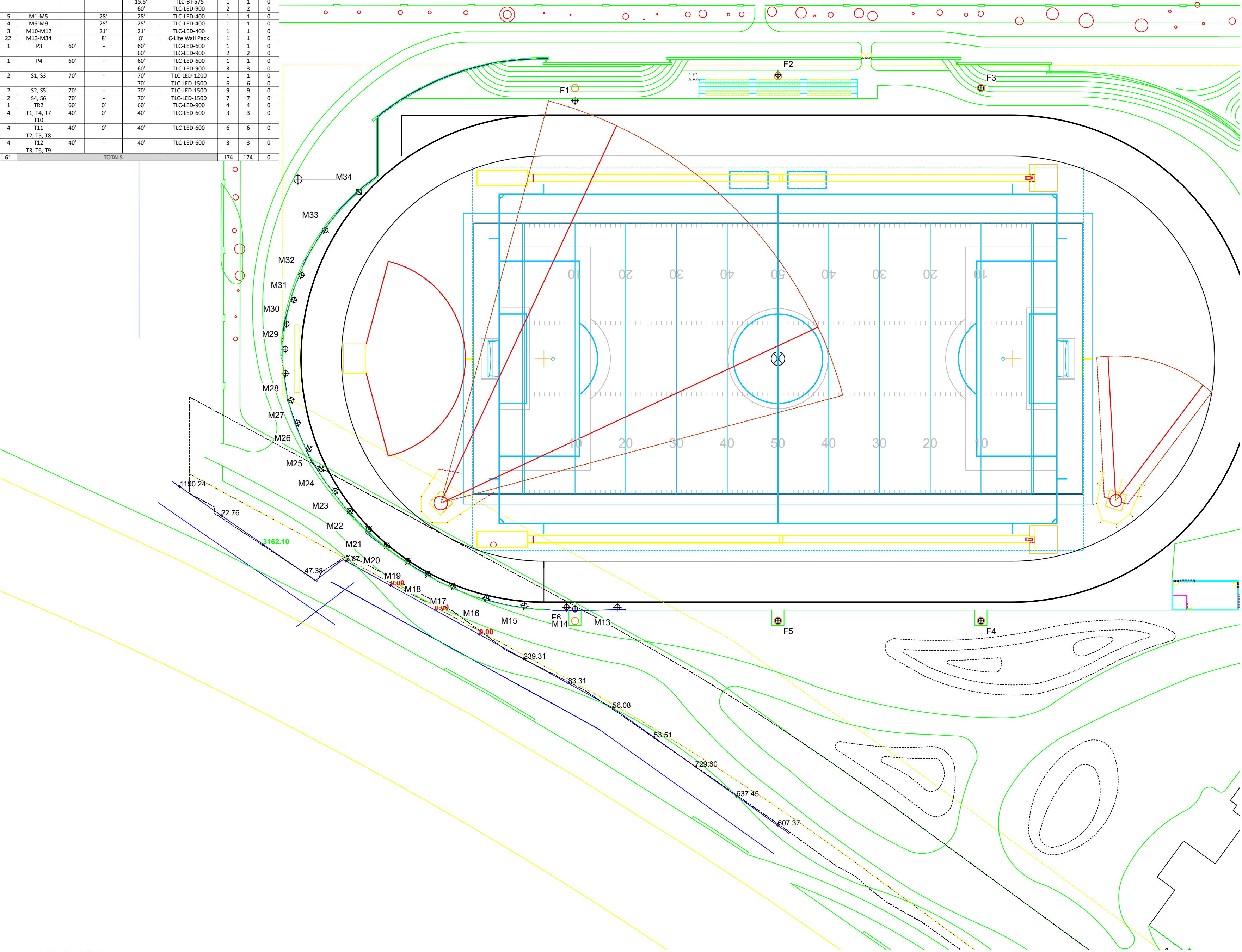
Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗



Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981, 2021 Musco Sports Lighting, LLC.

ILLUMINATION SUMMARY

| EQUIPMENT LIST FOR AREAS SHOWN |                      |      |                 |                 |                  |            |           |             |  |
|--------------------------------|----------------------|------|-----------------|-----------------|------------------|------------|-----------|-------------|--|
| Pole                           |                      |      | Luminaires      |                 |                  |            |           |             |  |
| QTY                            | LOCATION             | SIZE | GRADE ELEVATION | MOUNTING HEIGHT | LUMINAIRE TYPE   | QTY / POLE | THIS GRID | OTHER GRIDS |  |
| 2                              | F1, F3               | 80'  | 80'             | 18.5'           | TLC-BT-575       | 1          | 1         | 0           |  |
|                                |                      |      |                 | 83'             | TLC-LED-1500     | 4          | 4         | 0           |  |
| 1                              | F2                   | 80'  | -               | 15.5'           | TLC-BT-575       | 1          | 1         | 0           |  |
|                                |                      |      |                 | 80'             | TLC-LED-1500     | 4          | 4         | 0           |  |
| 1                              | F4                   | 60'  | -               | 15.5'           | TLC-BT-575       | 1          | 1         | 0           |  |
|                                |                      |      |                 | 60'             | TLC-LED-900      | 6          | 6         | 0           |  |
| 1                              | F5                   | 70'  | -               | 15.5'           | TLC-BT-575       | 1          | 1         | 0           |  |
|                                |                      |      |                 | 70'             | TLC-LED-900      | 6          | 6         | 0           |  |
| 1                              | F6                   | 60'  | -               | 60'             | TLC-LED-600      | 3          | 3         | 0           |  |
|                                |                      |      |                 | 15.5'           | TLC-BT-575       | 1          | 1         | 0           |  |
|                                |                      |      |                 | 60'             | TLC-LED-900      | 2          | 2         | 0           |  |
| 5                              | M1-M5                |      | 28'             | 28'             | TLC-LED-400      | 1          | 1         | 0           |  |
| 4                              | M6-M9                |      | 25'             | 25'             | TLC-LED-400      | 1          | 1         | 0           |  |
| 3                              | M10-M12              |      | 21'             | 21'             | TLC-LED-400      | 1          | 1         | 0           |  |
| 22                             | M13-M34              |      | 8'              | 8'              | C-Lite Wall Pack | 1          | 1         | 0           |  |
| 1                              | P3                   | 60'  | -               | 60'             | TLC-LED-600      | 1          | 1         | 0           |  |
|                                |                      |      |                 | 60'             | TLC-LED-900      | 2          | 2         | 0           |  |
| 1                              | P4                   | 60'  | -               | 60'             | TLC-LED-600      | 1          | 1         | 0           |  |
|                                |                      |      |                 | 60'             | TLC-LED-900      | 3          | 3         | 0           |  |
| 2                              | S1, S3               | 70'  | -               | 70'             | TLC-LED-1200     | 1          | 1         | 0           |  |
|                                |                      |      |                 | 70'             | TLC-LED-1500     | 6          | 6         | 0           |  |
| 2                              | S2, S5               | 70'  | -               | 70'             | TLC-LED-1500     | 9          | 9         | 0           |  |
| 2                              | S4, S6               | 70'  | -               | 70'             | TLC-LED-1500     | 7          | 7         | 0           |  |
| 1                              | T1, T2               | 60'  | 0'              | 60'             | TLC-LED-900      | 4          | 4         | 0           |  |
| 4                              | T1, T4, T7, T10      | 40'  | 0'              | 40'             | TLC-LED-600      | 3          | 3         | 0           |  |
| 4                              | T11, T2, T5, T8, T12 | 40'  | 0'              | 40'             | TLC-LED-600      | 6          | 6         | 0           |  |
| 4                              | T3, T6, T9           | 40'  | -               | 40'             | TLC-LED-600      | 3          | 3         | 0           |  |
| 61                             | TOTALS               |      |                 |                 |                  | 174        | 174       | 0           |  |



Harvard Westlake Athletic Complex  
Studio City, CA

| GRID SUMMARY |                    |
|--------------|--------------------|
| Name:        | Rio Spill          |
| Spacing:     | 30.0'              |
| Height:      | -15.0' above grade |

| ILLUMINATION SUMMARY  |                         |
|-----------------------|-------------------------|
| CANDELA (PER FIXTURE) |                         |
| Scan Average:         | Entire Grid<br>455.5123 |
| Maximum:              | 3162.10                 |
| Minimum:              | 0.00                    |
| No. of Points:        | 15                      |

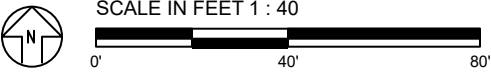
|                       |                           |
|-----------------------|---------------------------|
| LUMINAIRE INFORMATION |                           |
| Applied Circuits:     | A, B, C, D, E, F, G, H, I |
| No. of Luminaires:    | 174                       |
| Avg Load:             | 143.99 kW                 |
| Max Load:             | 142.37 kW                 |

**Guaranteed Performance:** The ILLUMINATION described above is guaranteed per your Musco Warranty document.

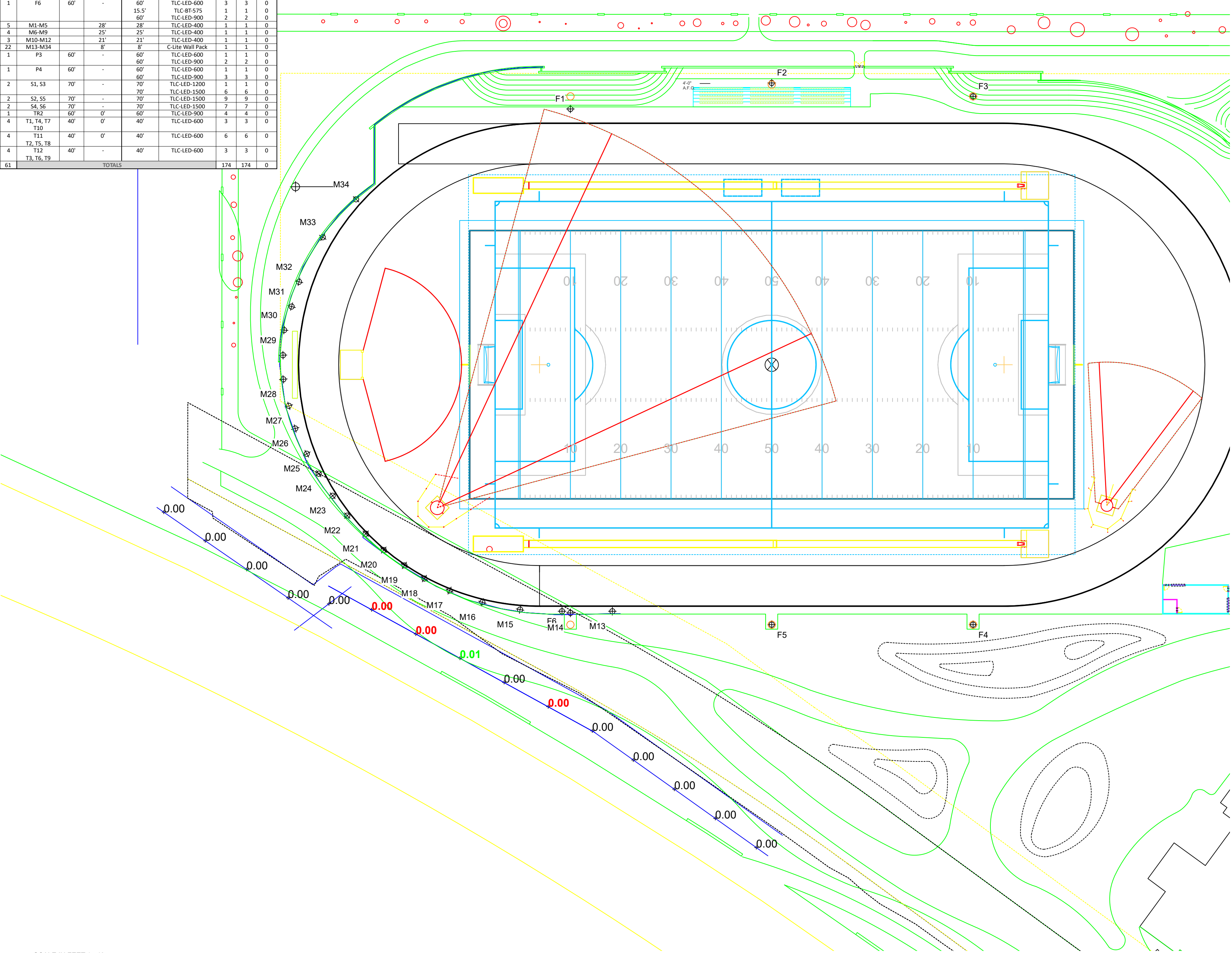
**Field Measurements:** Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

**Electrical System Requirements:** Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

**Installation Requirements:** Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



| EQUIPMENT LIST FOR AREAS SHOWN |                      |      |                 |                 |                  |            |           |             |   |
|--------------------------------|----------------------|------|-----------------|-----------------|------------------|------------|-----------|-------------|---|
| Pole                           |                      |      | Luminaires      |                 |                  |            |           |             |   |
| QTY                            | LOCATION             | SIZE | GRADE ELEVATION | MOUNTING HEIGHT | LUMINAIRE TYPE   | QTY / POLE | THIS GRID | OTHER GRIDS |   |
| 2                              | F1, F3               | 80'  | -               | 18.5'           | TLC-BT-575       | 1          | 1         | 1           | 0 |
|                                |                      |      |                 | 83'             | TLC-LED-1500     | 4          | 4         | 4           | 0 |
| 1                              | F2                   | 80'  | -               | 15.5'           | TLC-BT-575       | 1          | 1         | 1           | 0 |
|                                |                      |      |                 | 80"             | TLC-LED-1500     | 4          | 4         | 4           | 0 |
| 1                              | F4                   | 60'  | -               | 15.5'           | TLC-BT-575       | 1          | 1         | 1           | 0 |
|                                |                      |      |                 | 60"             | TLC-LED-900      | 6          | 6         | 6           | 0 |
| 1                              | F5                   | 70'  | -               | 15.5'           | TLC-BT-575       | 1          | 1         | 1           | 0 |
|                                |                      |      |                 | 70"             | TLC-LED-900      | 6          | 6         | 6           | 0 |
| 1                              | F6                   | 60'  | -               | 60'             | TLC-LED-600      | 3          | 3         | 3           | 0 |
|                                |                      |      |                 | 15.5'           | TLC-BT-575       | 1          | 1         | 1           | 0 |
|                                |                      |      |                 | 60"             | TLC-LED-900      | 2          | 2         | 2           | 0 |
| 5                              | M1-M5                |      | 28'             | 28'             | TLC-LED-400      | 1          | 1         | 1           | 0 |
| 4                              | M6-M9                |      | 25'             | 25'             | TLC-LED-400      | 1          | 1         | 1           | 0 |
| 3                              | M10-M12              |      | 21'             | 21'             | TLC-LED-400      | 1          | 1         | 1           | 0 |
| 22                             | M13-M34              |      | 8'              | 8'              | C-Lite Wall Pack | 1          | 1         | 1           | 0 |
| 1                              | P3                   | 60'  | -               | 60'             | TLC-LED-600      | 1          | 1         | 1           | 0 |
|                                |                      |      |                 | 60"             | TLC-LED-900      | 2          | 2         | 2           | 0 |
| 1                              | P4                   | 60'  | -               | 60'             | TLC-LED-600      | 1          | 1         | 1           | 0 |
|                                |                      |      |                 | 60"             | TLC-LED-900      | 3          | 3         | 3           | 0 |
| 2                              | S1, S3               | 70'  | -               | 70'             | TLC-LED-1200     | 1          | 1         | 1           | 0 |
|                                |                      |      |                 | 70"             | TLC-LED-1500     | 6          | 6         | 6           | 0 |
| 2                              | S2, S5               | 70'  | -               | 70'             | TLC-LED-1500     | 9          | 9         | 9           | 0 |
| 2                              | S4, S6               | 70'  | -               | 70'             | TLC-LED-1500     | 7          | 7         | 7           | 0 |
| 1                              | T2                   | 60'  | 0'              | 60'             | TLC-LED-900      | 4          | 4         | 4           | 0 |
| 4                              | T1, T4, T7, T10      | 40'  | 0'              | 40'             | TLC-LED-600      | 3          | 3         | 3           | 0 |
| 4                              | T11, T2, T5, T8, T12 | 40'  | 0'              | 40'             | TLC-LED-600      | 6          | 6         | 6           | 0 |
| 4                              | T3, T6, T9           | 40'  | -               | 40'             | TLC-LED-600      | 3          | 3         | 3           | 0 |
| 61                             | TOTALS               |      |                 |                 |                  | 174        | 174       | 0           | 0 |



Harvard Westlake Athletic Complex  
Studio City, CA

| GRID SUMMARY |                      |
|--------------|----------------------|
| Name:        | Rio Spill 15' Offset |
| Spacing:     | 30.0'                |
| Height:      | -15.0' above grade   |

| ILLUMINATION SUMMARY   |                       |
|------------------------|-----------------------|
| HORIZONTAL FOOTCANDLES |                       |
| Scan Average:          | Entire Grid<br>0.0027 |
| Maximum:               | 0.01                  |
| Minimum:               | 0.00                  |
| No. of Points:         | 15                    |

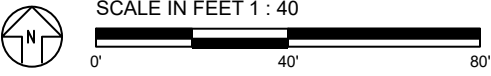
| LUMINAIRE INFORMATION |                           |
|-----------------------|---------------------------|
| Applied Circuits:     | A, B, C, D, E, F, G, H, I |
| No. of Luminaires:    | 174                       |
| Avg Load:             | 143.99 kW                 |
| Max Load:             | 142.37 kW                 |

**Guaranteed Performance:** The ILLUMINATION described above is guaranteed per your Musco Warranty document.

**Field Measurements:** Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

**Electrical System Requirements:** Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

**Installation Requirements:** Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.





**Guaranteed Performance:** The ILLUMINATION described above is guaranteed per your Musco Warranty document.

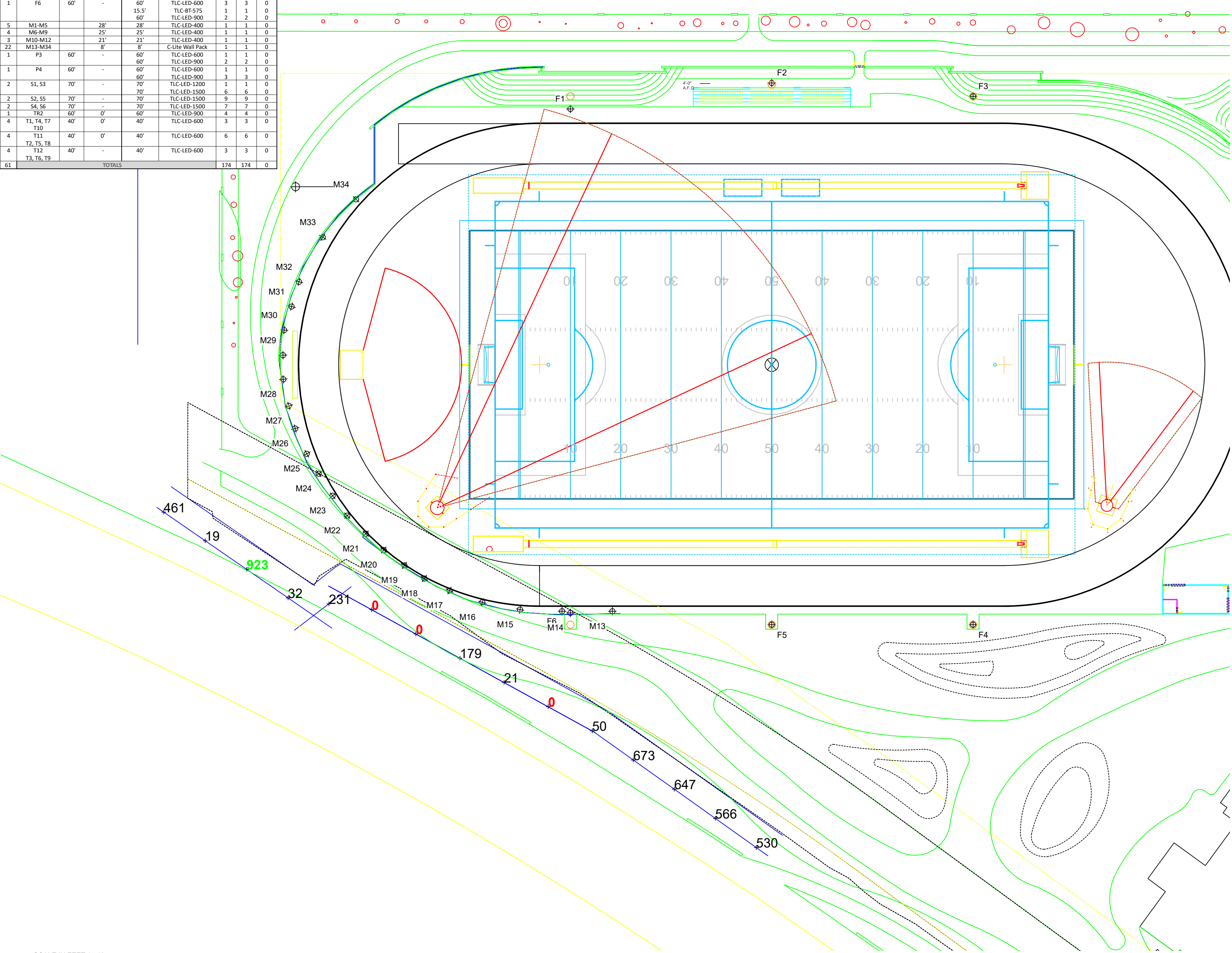
**Field Measurements:** Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

**Electrical System Requirements:** Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

**Installation Requirements:** Results assume  $\pm$  3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



| EQUIPMENT LIST FOR AREAS SHOWN |                      |      |                 |                 |                  |            |           |             |  |
|--------------------------------|----------------------|------|-----------------|-----------------|------------------|------------|-----------|-------------|--|
| Pole                           |                      |      | Luminaires      |                 |                  |            |           |             |  |
| QTY                            | LOCATION             | SIZE | GRADE ELEVATION | MOUNTING HEIGHT | LUMINAIRE TYPE   | QTY / POLE | THIS GRID | OTHER GRIDS |  |
| 2                              | F1, F3               | 80'  | -               | 18.5'           | TLC-BT-575       | 1          | 1         | 0           |  |
|                                |                      |      |                 | 83'             | TLC-LED-1500     | 4          | 4         | 0           |  |
| 1                              | F2                   | 80'  | -               | 15.5'           | TLC-BT-575       | 1          | 1         | 0           |  |
|                                |                      |      |                 | 80'             | TLC-LED-1500     | 4          | 4         | 0           |  |
| 1                              | F4                   | 60'  | -               | 15.5'           | TLC-BT-575       | 1          | 1         | 0           |  |
|                                |                      |      |                 | 60'             | TLC-LED-900      | 6          | 6         | 0           |  |
| 1                              | F5                   | 70'  | -               | 15.5'           | TLC-BT-575       | 1          | 1         | 0           |  |
|                                |                      |      |                 | 70'             | TLC-LED-900      | 6          | 6         | 0           |  |
| 1                              | F6                   | 60'  | -               | 60'             | TLC-LED-600      | 3          | 3         | 0           |  |
|                                |                      |      |                 | 15.5'           | TLC-BT-575       | 1          | 1         | 0           |  |
|                                |                      |      |                 | 60'             | TLC-LED-900      | 2          | 2         | 0           |  |
| 5                              | M1-M5                |      | 28'             | 28'             | TLC-LED-400      | 1          | 1         | 0           |  |
| 4                              | M6-M9                |      | 25'             | 25'             | TLC-LED-400      | 1          | 1         | 0           |  |
| 3                              | M10-M12              |      | 21'             | 21'             | TLC-LED-400      | 1          | 1         | 0           |  |
| 22                             | M13-M34              |      | 8'              | 8'              | C-Lite Wall Pack | 1          | 1         | 0           |  |
| 1                              | P3                   | 60'  | -               | 60'             | TLC-LED-600      | 1          | 1         | 0           |  |
|                                |                      |      |                 | 60'             | TLC-LED-900      | 2          | 2         | 0           |  |
| 1                              | P4                   | 60'  | -               | 60'             | TLC-LED-600      | 1          | 1         | 0           |  |
|                                |                      |      |                 | 60'             | TLC-LED-900      | 3          | 3         | 0           |  |
| 2                              | S1, S3               | 70'  | -               | 70'             | TLC-LED-1200     | 1          | 1         | 0           |  |
|                                |                      |      |                 | 70'             | TLC-LED-1500     | 6          | 6         | 0           |  |
| 2                              | S2, S5               | 70'  | -               | 70'             | TLC-LED-1500     | 9          | 9         | 0           |  |
| 2                              | S4, S6               | 70'  | -               | 70'             | TLC-LED-1500     | 7          | 7         | 0           |  |
| 1                              | T1, T2               | 60'  | 0'              | 60'             | TLC-LED-900      | 4          | 4         | 0           |  |
| 4                              | T1, T4, T7, T10      | 40'  | 0'              | 40'             | TLC-LED-600      | 3          | 3         | 0           |  |
| 4                              | T11, T2, T5, T8, T12 | 40'  | 0'              | 40'             | TLC-LED-600      | 6          | 6         | 0           |  |
| 4                              | T3, T6, T9           | 40'  | -               | 40'             | TLC-LED-600      | 3          | 3         | 0           |  |
| 61                             | TOTALS               |      |                 |                 |                  | 174        | 174       | 0           |  |



Harvard Westlake Athletic Complex  
Studio City, CA

| GRID SUMMARY |                      |
|--------------|----------------------|
| Name:        | Rio Spill 15' Offset |
| Spacing:     | 30.0'                |
| Height:      | -15.0' above grade   |

| ILLUMINATION SUMMARY  |          |
|-----------------------|----------|
| CANDELA (PER FIXTURE) |          |
| Entire Grid           |          |
| Scan Average:         | 288.7762 |
| Maximum:              | 923.49   |
| Minimum:              | 0.00     |
| No. of Points:        | 15       |

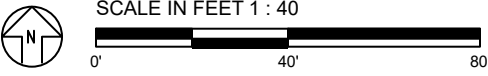
|                       |                           |
|-----------------------|---------------------------|
| LUMINAIRE INFORMATION |                           |
| Applied Circuits:     | A, B, C, D, E, F, G, H, I |
| No. of Luminaires:    | 174                       |
| Avg Load:             | 143.99 kW                 |
| Max Load:             | 142.37 kW                 |

**Guaranteed Performance:** The ILLUMINATION described above is guaranteed per your Musco Warranty document.

**Field Measurements:** Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

**Electrical System Requirements:** Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

**Installation Requirements:** Results assume  $\pm 3\%$  nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



| GRID SUMMARY |                     |
|--------------|---------------------|
| Name:        | Property Line Spill |
| Spacing:     | 30.0'               |
| Height:      | 3.0' above grade    |

| ILLUMINATION SUMMARY   |        |
|------------------------|--------|
| HORIZONTAL FOOTCANDLES |        |
| Entire Grid            |        |
| Scan Average:          | 0.0072 |
| Maximum:               | 0.05   |
| Minimum:               | 0.00   |
| No. of Points:         | 90     |

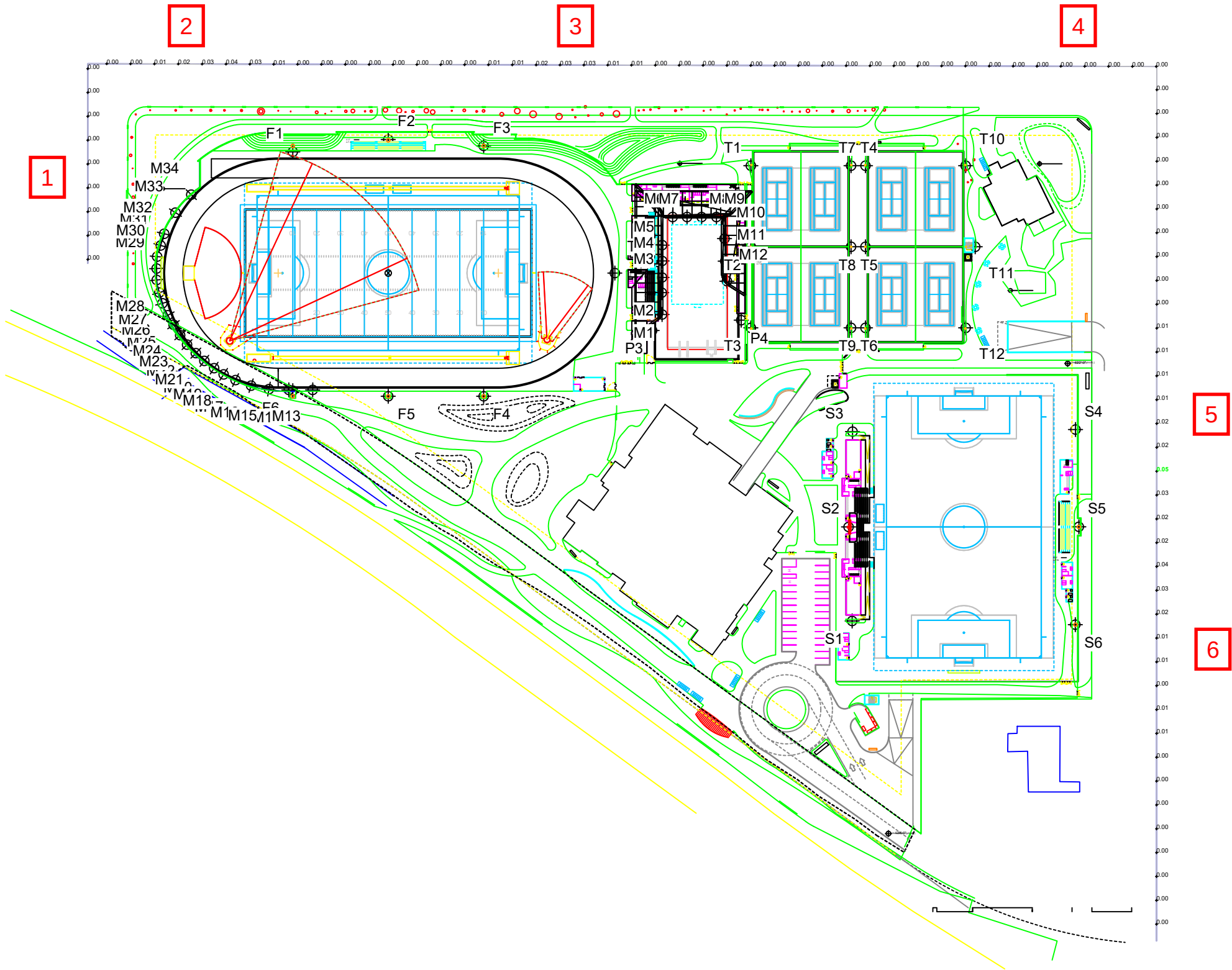
|                       |                        |
|-----------------------|------------------------|
| LUMINAIRE INFORMATION |                        |
| Applied Circuits:     | A, B, C, D, E, F, G, H |
| No. of Luminaires:    | 168                    |
| Avg Load:             | 140.54 kW              |
| Max Load:             | 138.92 kW              |

**Guaranteed Performance:** The ILLUMINATION described above is guaranteed per your Musco Warranty document.

**Field Measurements:** Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

**Electrical System Requirements:** Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

**Installation Requirements:** Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



| GRID SUMMARY |                     |
|--------------|---------------------|
| Name:        | Property Line Spill |
| Spacing:     | 30.0'               |
| Height:      | 3.0' above grade    |

| ILLUMINATION SUMMARY     |        |
|--------------------------|--------|
| MAX VERTICAL FOOTCANDLES |        |
| Entire Grid              |        |
| Scan Average:            | 0.0175 |
| Maximum:                 | 0.09   |
| Minimum:                 | 0.00   |
| No. of Points:           | 90     |

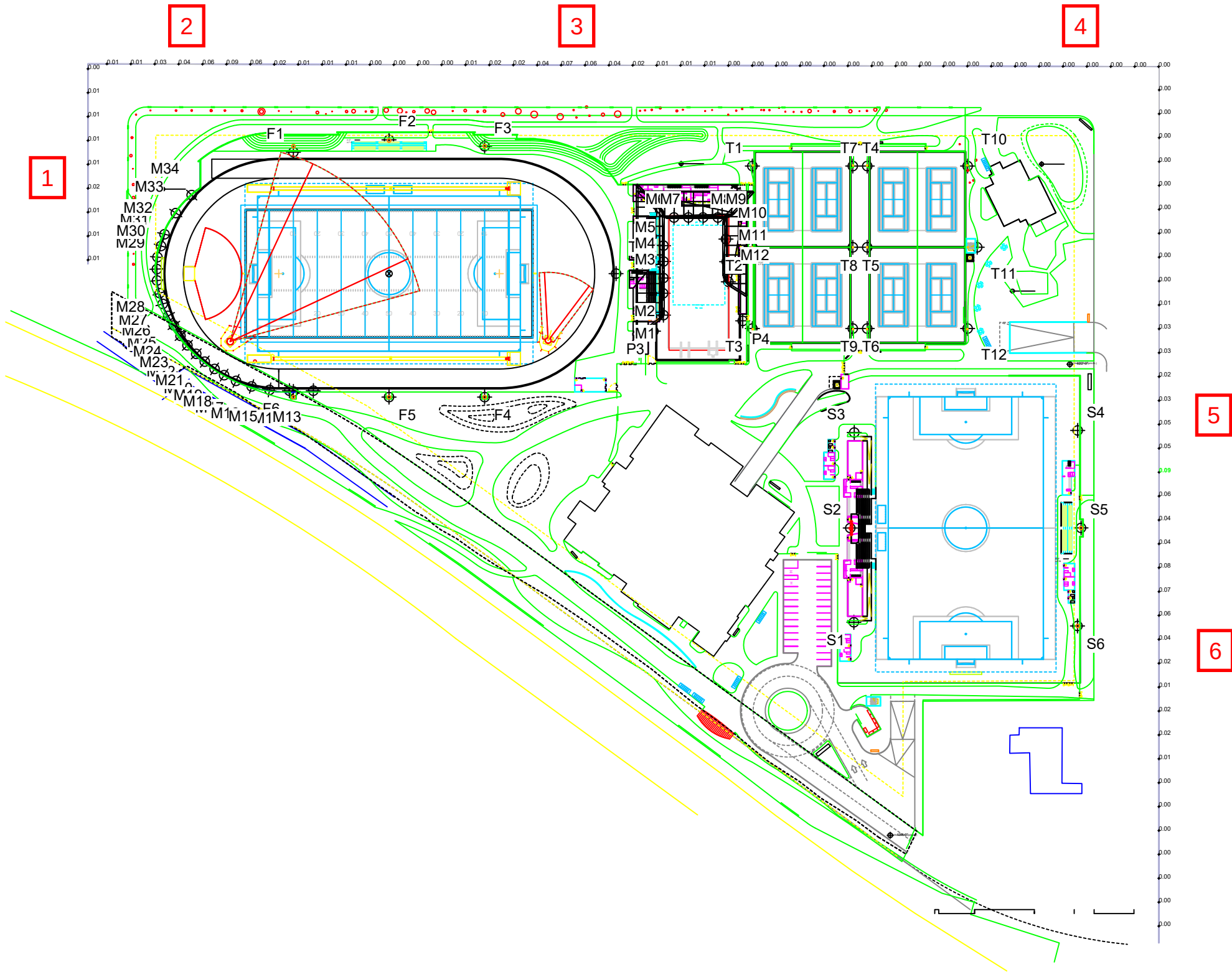
| LUMINAIRE INFORMATION |                        |
|-----------------------|------------------------|
| Applied Circuits:     | A, B, C, D, E, F, G, H |
| No. of Luminaires:    | 168                    |
| Avg Load:             | 140.54 kW              |
| Max Load:             | 138.92 kW              |

**Guaranteed Performance:** The ILLUMINATION described above is guaranteed per your Musco Warranty document.

**Field Measurements:** Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

**Electrical System Requirements:** Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

**Installation Requirements:** Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



| GRID SUMMARY |                     |
|--------------|---------------------|
| Name:        | Property Line Spill |
| Spacing:     | 30.0'               |
| Height:      | 3.0' above grade    |

| ILLUMINATION SUMMARY  |                         |
|-----------------------|-------------------------|
| CANDELA (PER FIXTURE) |                         |
| Scan Average:         | Entire Grid<br>480.4432 |
| Maximum:              | 1788.05                 |
| Minimum:              | 3.22                    |
| No. of Points:        | 90                      |

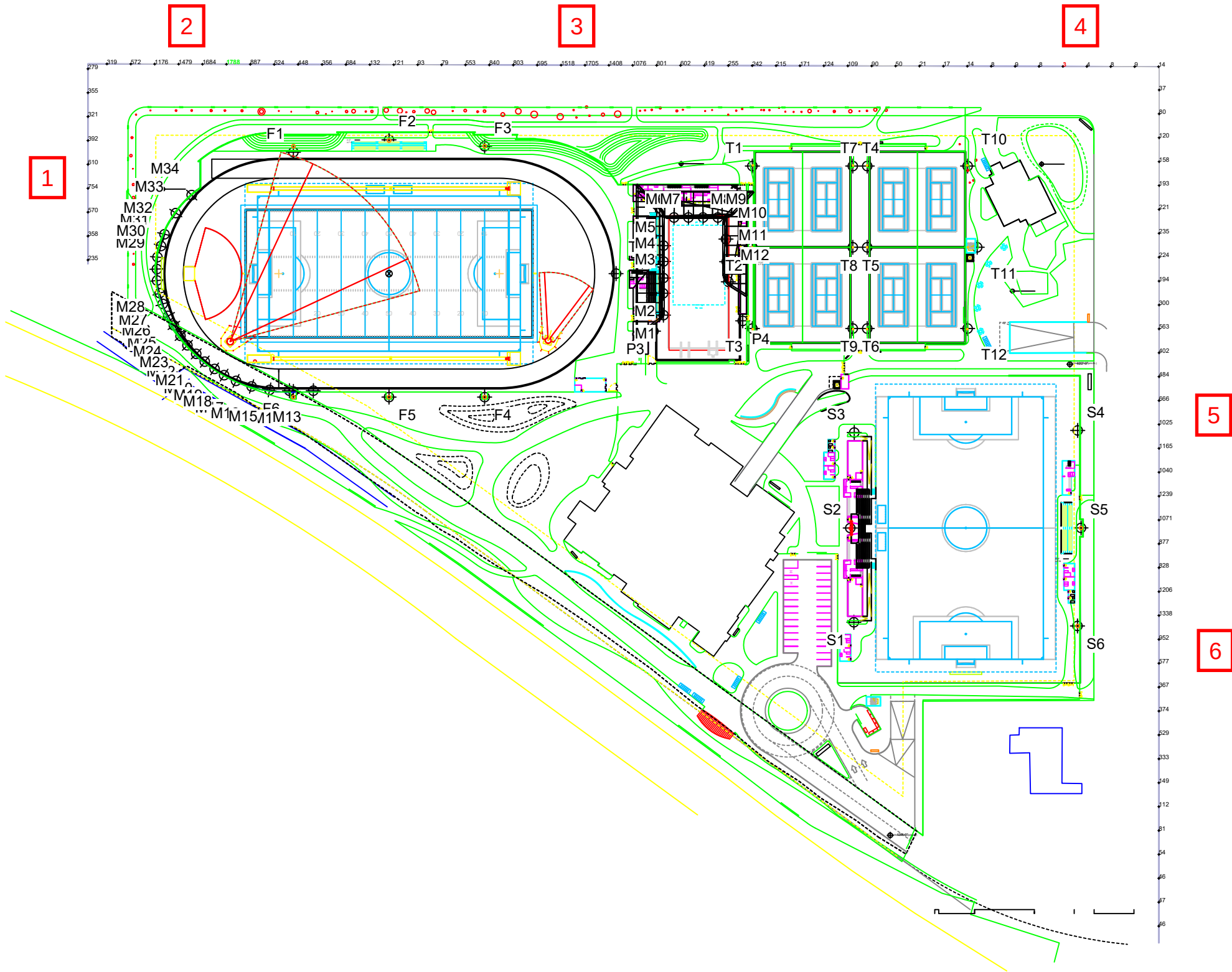
| LUMINAIRE INFORMATION |                        |
|-----------------------|------------------------|
| Applied Circuits:     | A, B, C, D, E, F, G, H |
| No. of Luminaires:    | 168                    |
| Avg Load:             | 140.54 kW              |
| Max Load:             | 138.92 kW              |

**Guaranteed Performance:** The ILLUMINATION described above is guaranteed per your Musco Warranty document.

**Field Measurements:** Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

**Electrical System Requirements:** Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

**Installation Requirements:** Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



EQUIPMENT LAYOUT

INCLUDES:

- Athletic Fields
- Lacrosse
- Pool
- Soccer
- Tennis 1
- Tennis 2
- Tennis 3
- Tennis 4
- Track

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

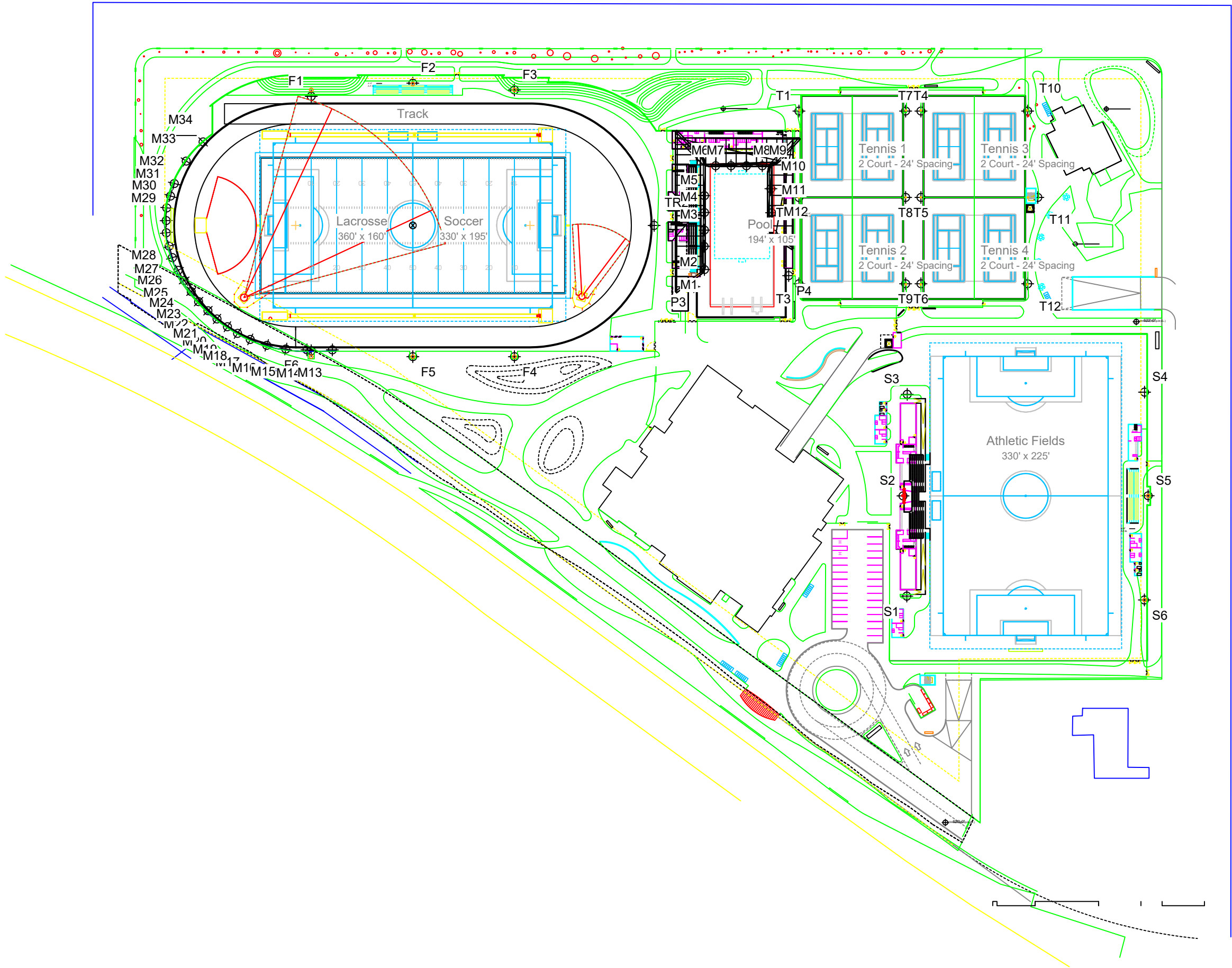
Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

EQUIPMENT LIST FOR AREAS SHOWN

| Pole |                                     |      | Luminaires      |                  |            |
|------|-------------------------------------|------|-----------------|------------------|------------|
| QTY  | LOCATION                            | SIZE | MOUNTING HEIGHT | LUMINAIRE TYPE   | QTY / POLE |
| 2    | F1, F3                              | 80'  | 18.5'           | TLC-BT-575       | 1          |
|      |                                     |      | 83'             | TLC-LED-1500     | 4          |
| 1    | F2                                  | 80'  | 15.5'           | TLC-BT-575       | 1          |
|      |                                     |      | 80'             | TLC-LED-1500     | 4          |
| 1    | F4                                  | 60'  | 15.5'           | TLC-BT-575       | 1          |
|      |                                     |      | 60'             | TLC-LED-900      | 6          |
| 1    | F5                                  | 70'  | 15.5'           | TLC-BT-575       | 1          |
|      |                                     |      | 70'             | TLC-LED-900      | 6          |
| 1    | F6                                  | 60'  | 15.5'           | TLC-BT-575       | 3          |
|      |                                     |      | 60'             | TLC-LED-600      | 1          |
|      |                                     |      | 60'             | TLC-LED-900      | 2          |
| 5    | M1-M5                               |      | 28'             | TLC-LED-400      | 1          |
| 4    | M6-M9                               |      | 25'             | TLC-LED-400      | 1          |
| 3    | M10-M12                             |      | 21'             | TLC-LED-400      | 1          |
| 22   | M13-M34                             |      | 8'              | C-Lite Wall Pack | 1          |
| 1    | P3                                  | 60'  | 60'             | TLC-LED-600      | 1          |
|      |                                     |      | 60'             | TLC-LED-900      | 2          |
| 1    | P4                                  | 60'  | 60'             | TLC-LED-600      | 1          |
|      |                                     |      | 60'             | TLC-LED-900      | 3          |
| 2    | S1, S3                              | 70'  | 70'             | TLC-LED-1200     | 1          |
|      |                                     |      | 70'             | TLC-LED-1500     | 6          |
| 2    | S2, S5                              | 70'  | 70'             | TLC-LED-1500     | 9          |
| 2    | S4, S6                              | 70'  | 70'             | TLC-LED-1500     | 7          |
| 1    | TR2                                 | 60'  | 0'              | TLC-LED-900      | 4          |
| 8    | T1, T3-T4<br>T12<br>T6-T7<br>T9-T10 | 40'  | 40'             | TLC-LED-600      | 3          |
| 4    | T2, T5<br>T8, T11                   | 40'  | 40'             | TLC-LED-600      | 6          |
| 61   | TOTALS                              |      |                 |                  | 174        |

SINGLE LUMINAIRE AMPERAGE DRAW CHART

| Ballast Specifications<br>(.90 min power factor) | Line Amperage Per Luminaire<br>(max draw) |             |             |             |             |             |             |
|--------------------------------------------------|-------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                                                  | 208<br>(60)                               | 220<br>(60) | 240<br>(60) | 277<br>(60) | 347<br>(60) | 380<br>(60) | 480<br>(60) |
| Single Phase Voltage                             | 208<br>(60)                               | 220<br>(60) | 240<br>(60) | 277<br>(60) | 347<br>(60) | 380<br>(60) | 480<br>(60) |
| TLC-LED-1500                                     | 8.5                                       | 8.1         | 7.4         | 6.4         | 5.1         | 4.7         | 3.7         |
| Other                                            | -                                         | -           | -           | -           | -           | -           | -           |
| TLC-LED-900                                      | 5.3                                       | 5.0         | 4.6         | 4.0         | 3.2         | 2.9         | 2.3         |
| TLC-LED-600                                      | 3.4                                       | 3.2         | 3.0         | 2.6         | 2.0         | 1.9         | 1.5         |
| TLC-BT-575                                       | 3.4                                       | 3.2         | 2.9         | 2.5         | 2.0         | 1.8         | 1.5         |
| TLC-LED-400                                      | 2.3                                       | 2.2         | 2.0         | 1.7         | 1.4         | 1.3         | 1.0         |
| TLC-LED-1200                                     | 7.0                                       | 6.6         | 6.1         | 5.2         | 4.2         | 4.0         | 3.0         |



*Superior light control and long term reliability*

## Alignment

## Thermal Management

## LED Optic

## Housing Internal Environment

## Heat Sink

- Unique convective air cooling design
- High thermal conductivity, corrosion resistant construction
- Machined mounting surface for maximum heat transfer of the diode assembly
- Maintains low LED junction temperature during high wattage operation

## Lens

- Permanently sealed to keep optics away from harmful environmental elements
- Vented and filtered to adapt to environment
- Impact-resistant, tempered glass for strength

## Diode Assembly

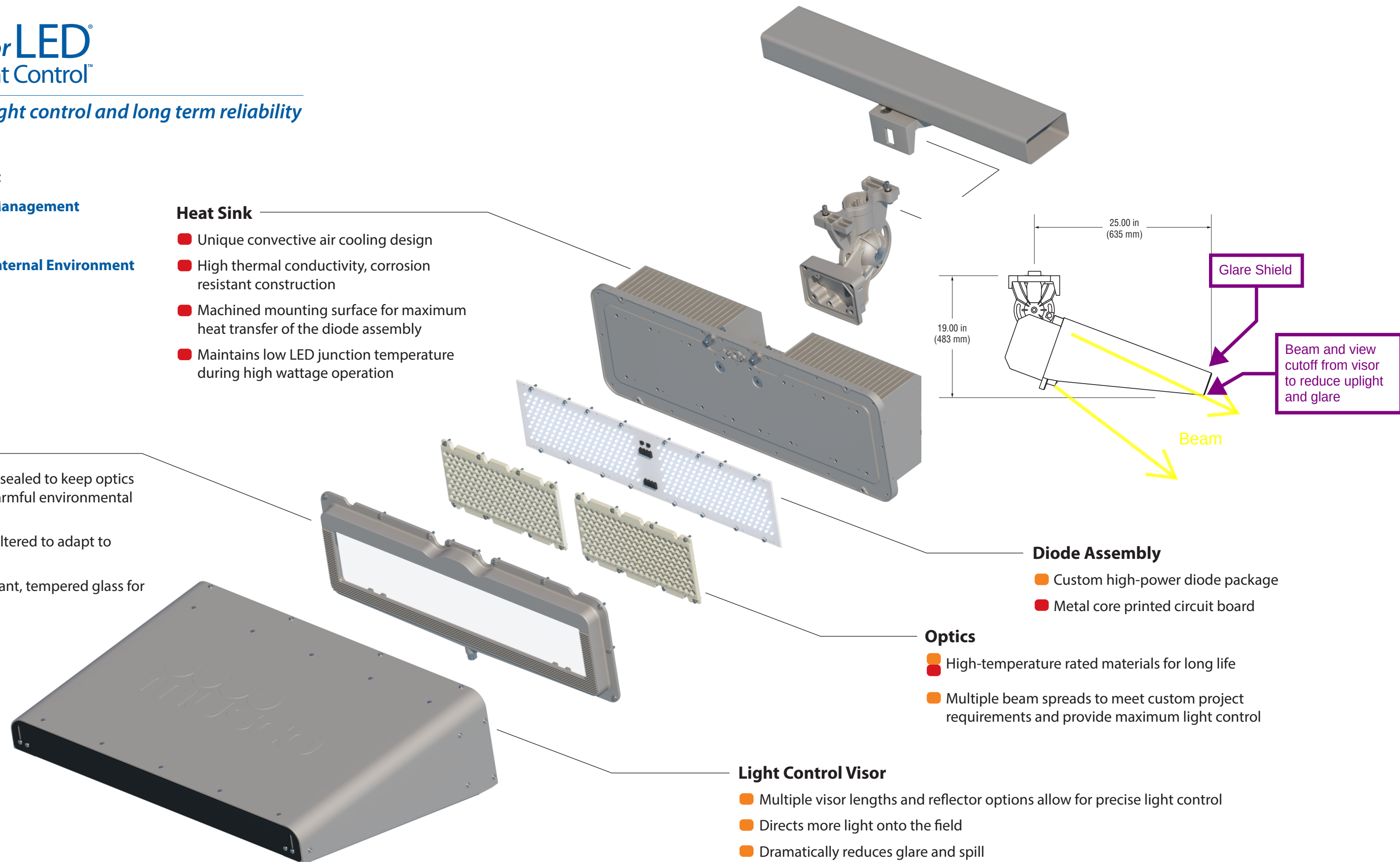
- Custom high-power diode package
- Metal core printed circuit board

## Optics

- High-temperature rated materials for long life
- Multiple beam spreads to meet custom project requirements and provide maximum light control

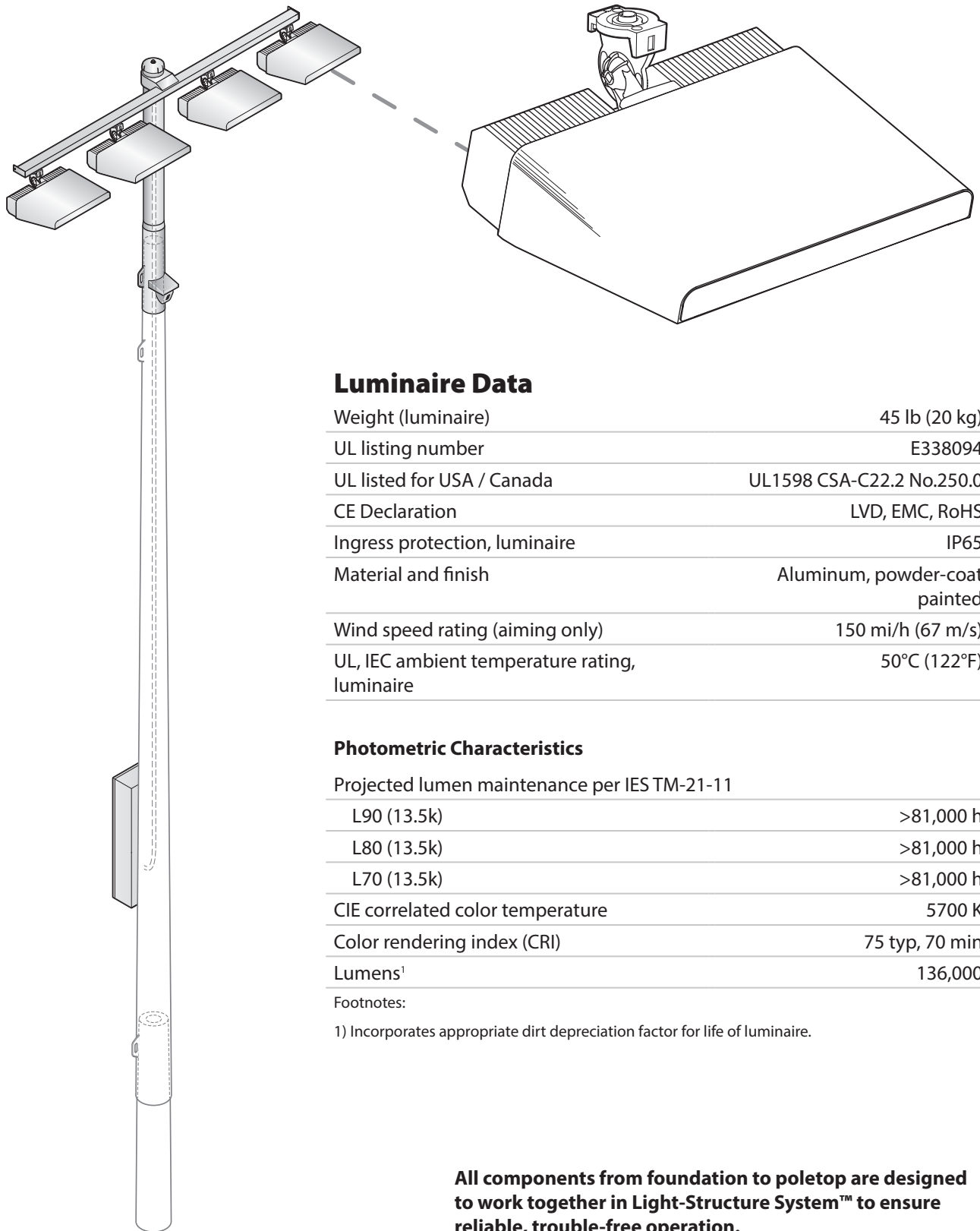
## Light Control Visor

- Multiple visor lengths and reflector options allow for precise light control
- Directs more light onto the field
- Dramatically reduces glare and spill
- Enhances on-field playability



**TLC-LED-1200**

## Luminaire and Driver – TLC-LED-1200



### Luminaire Data

|                                               |                               |
|-----------------------------------------------|-------------------------------|
| Weight (luminaire)                            | 45 lb (20 kg)                 |
| UL listing number                             | E338094                       |
| UL listed for USA / Canada                    | UL1598 CSA-C22.2 No.250.0     |
| CE Declaration                                | LVD, EMC, RoHS                |
| Ingress protection, luminaire                 | IP65                          |
| Material and finish                           | Aluminum, powder-coat painted |
| Wind speed rating (aiming only)               | 150 mi/h (67 m/s)             |
| UL, IEC ambient temperature rating, luminaire | 50°C (122°F)                  |

### Photometric Characteristics

Projected lumen maintenance per IES TM-21-11

|                                  |                |
|----------------------------------|----------------|
| L90 (13.5k)                      | >81,000 h      |
| L80 (13.5k)                      | >81,000 h      |
| L70 (13.5k)                      | >81,000 h      |
| CIE correlated color temperature | 5700 K         |
| Color rendering index (CRI)      | 75 typ, 70 min |
| Lumens <sup>1</sup>              | 136,000        |

Footnotes:

1) Incorporates appropriate dirt depreciation factor for life of luminaire.

**All components from foundation to poletop are designed to work together in Light-Structure System™ to ensure reliable, trouble-free operation.**

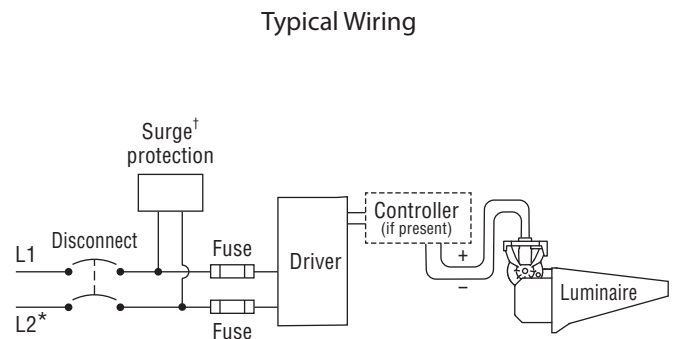
## Luminaire and Driver – TLC-LED-1200

### Driver Data

#### Electrical Data

Rated wattage<sup>1</sup>

|                                                                     |                    |
|---------------------------------------------------------------------|--------------------|
| Per driver                                                          | 1170 W             |
| Per luminaire                                                       | 1170 W             |
| Number of luminaires per driver                                     | 1                  |
| Starting (inrush) current                                           | <40 A, 256 $\mu$ s |
| Fuse rating                                                         | 15 A               |
| UL, IEC ambient temperature rating, electrical components enclosure | 50°C (122°F)       |
| Ingress protection, electrical components enclosure                 | IP54               |
| Efficiency                                                          | 95%                |
| Dimming mode                                                        | optional           |
| Range, energy consumption                                           | 14 – 100%          |
| Range, light output                                                 | 19 – 100%          |



\* If L2 (com) is neutral then not switched or fused.

† Not present if indoor installation.

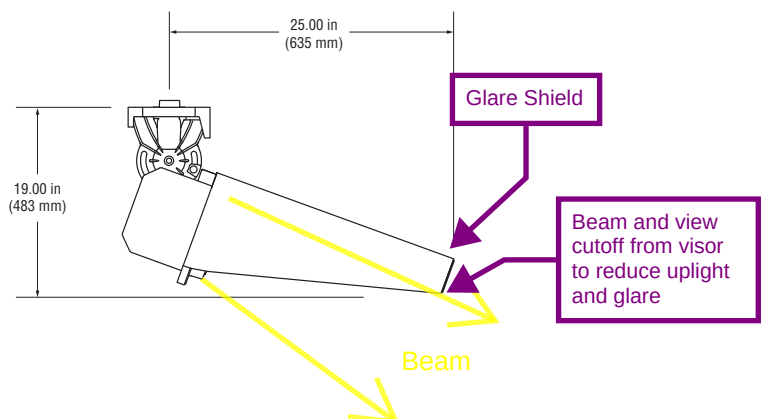
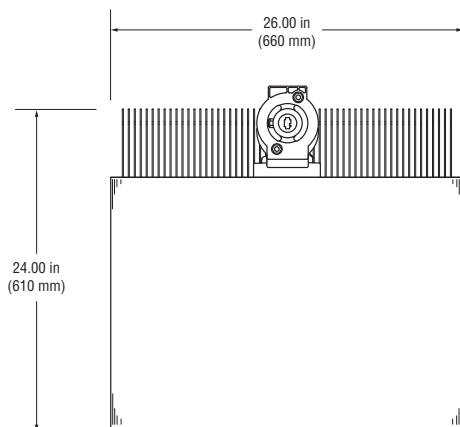
|                                                  | 200 Vac<br>50/60 Hz | 208 Vac<br>60 Hz | 220 Vac<br>50/60 Hz | 230 Vac<br>50 Hz | 240 Vac<br>50/60 Hz | 277 Vac<br>60 Hz | 347 Vac<br>60 Hz | 380 Vac<br>50/60 Hz | 400 Vac<br>50 Hz | 415 Vac<br>50 Hz | 480 Vac<br>60 Hz |
|--------------------------------------------------|---------------------|------------------|---------------------|------------------|---------------------|------------------|------------------|---------------------|------------------|------------------|------------------|
| Max operating current per luminaire <sup>2</sup> | 7.26 A              | 6.98 A           | 6.60 A              | 6.31 A           | 6.05 A              | 5.24 A           | 4.18 A           | 3.82 A              | 3.63 A           | 3.50 A           | 3.03 A           |

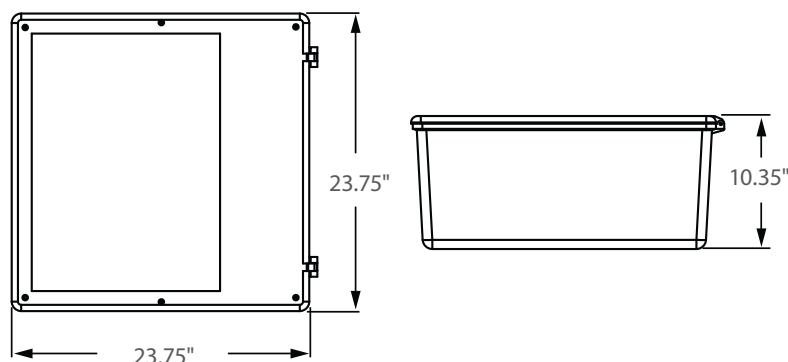
#### Footnotes:

- 1) Rated wattage is the power consumption, including driver efficiency losses, at stabilized operation in 25°C ambient temperature environment.
- 2) Operating current includes allowance for 0.90 minimum power factor, operating temperature, and LED light source manufacturing tolerances.

#### Notes

1. Use thermal magnetic HID-rated or D-curve circuit breakers.
2. See *Musco Control System Summary* for circuit information.





Incredible **100,000 hrs**

## GENERAL DESCRIPTION

Neptun's 23" Induction flood fixture combines classic form and versatility to make it an excellent choice for new construction or retrofit applications. The 39 series flood fixture is offered in a variety of wattages and mounting options to provide maximum flexibility in all types of applications. It can replace existing HID & HPS fixtures up to 1000W.

## APPLICATION

- Parking Lot Lighting
- Car Lot Lighting
- Area & Storage Lighting
- Street Lighting
- Walkway Lighting
- Building Accent Lighting
- Sign / Monument Lighting

## STRUCTURE, MATERIALS, & FEATURES

- Heavy-gauge, die-cast aluminum housing.
- Custom designed anodized aluminum reflectors for superior illuminance.
- Heat and impact resistant tempered flat glass lens. (IESNA full-cutoff)
- Integral structural support plate for mounting arm ensures strength.
- Corrosion resistant electrocoat dark bronze finish (custom colors available).
- Hinged aluminum door frame incorporates stainless steel hardware.
- Continuous silicone gasketing surrounds lens for weather - tight seal.
- Inductively coupled circular induction bulb.
- High power factor, low THD electronic ballast with surge protection.
- Instant-On flicker-free Cold Start and Hot Re-Start.
- High quality glare-free light with high CRI above (83).
- Bright white light (5000°K) for greater visibility and safety.
- Advance phosphors for high lumen output and high lumen maintenance.
- Up to 20 year maintenance free operation with 10 Year Warranty.

## ORDERING INFORMATION

Sample Number: 39250-UNV-SF-850-MD-FSGS-BRZ  
Custom options and accessories available. Please consult factory

| Series         | Wattage                                                                 | Voltage                                                 | Mounting                              | Color Temp                                                   | Accessories                                                                                    | Color                                             |
|----------------|-------------------------------------------------------------------------|---------------------------------------------------------|---------------------------------------|--------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------------------------------------------------|
| 39 = 23" Flood | 200 = 200 W<br>250 = 250 W<br>300 = 300 W<br>400 = 400 W<br>500 = 500 W | UNV = 120-277 VAC<br>347 V = 347 VAC<br>480 V = 480 VAC | SF = Slip Fitter<br>YK = Yoke Bracket | 830 = 3000°K<br>841 = 4100°K<br>850 = 5000°K *<br>* Standard | LD = Light Detector/Photocell<br>MD = Motion Sensor Detector<br>FSGS = Front Side Glare Shield | BRZ = Dark Bronze<br>* Custom Colors<br>Available |



**lightinnovations@work™**

### PRODUCT INFORMATION

| Model No.  | Description       | Rated Watts | Input Watts | Initial Lumens | Universal Line Voltage (VAC) | Max Line Current (Amp) @ 120 - 277 | THD  | Power Factor | Weight |
|------------|-------------------|-------------|-------------|----------------|------------------------------|------------------------------------|------|--------------|--------|
| 39200-UNV  | 23" FLOOD Fixture | 200         | 210         | 16,000         | 120-277                      | 1.75-0.75                          | <10% | 0.98         | 55 lbs |
| 39250-UNV  | 23" FLOOD Fixture | 250         | 262         | 20,000         | 120-277                      | 2.18-0.94                          | <10% | 0.98         | 55 lbs |
| 39300-UNV* | 23" FLOOD Fixture | 300         | 315         | 24,000         | 120-277                      | 2.62-1.13                          | <10% | 0.98         | 60 lbs |
| 39400-UNV* | 23" FLOOD Fixture | 400         | 420         | 32,000         | 120-277                      | 3.50-1.51                          | <10% | 0.98         | 60 lbs |
| 39500-UNV* | 23" FLOOD Fixture | 500         | 525         | 40,000         | 120-277                      | 4.37-1.89                          | <10% | 0.98         | 60 lbs |

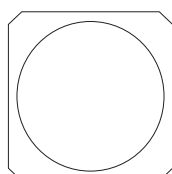
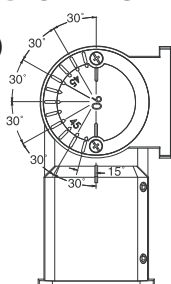
\* Features dual bulbs & ballasts

### SPECIFICATIONS

- Ballast Type ..... Electronic
- Start Method ..... InstantON
- Hot Re-start ..... InstantON
- Universal Input Line Voltage ..... 120-277 VAC
- Input Line Frequency ..... 50/60 Hz
- Lamp Operating Frequency ..... 250 kHz
- Ballast Off-State Draw ..... 0 Watts
- Sound Rating ..... Class A
- ANSI Surge Protection ..... Class A
- Lamp / Ballast System Life ..... 100,000 Hrs.
- Lumen Maintenance @75,000Hrs ..... > 70%
- Color Temperature ..... 5000°K
- Color Rendering Index (CRI) ..... > 83
- Minimum Starting Temperature ..... -20°F
- Maximum Starting Temperature ..... 160°F
- Initial Lumens per Watt ..... 80
- Shock / Vibration Resistant ..... Yes
- Power Factor ..... > 0.98
- Total Harmonic Distortion ..... < 10%
- Inrush Current Peak ..... < 10 Amp
- ETL Listed / UL Standard 1598 ..... Yes
- FCC Compliance ..... Part 18, Subp. C
- EPA Rating ..... 1.77
- IP Rating ..... IP65
- Warranty ..... 10 Year

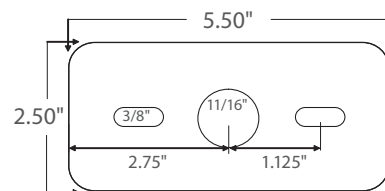
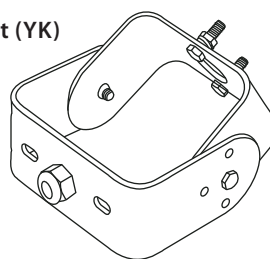
### MOUNTING OPTIONS

Slip Fitter (SF)

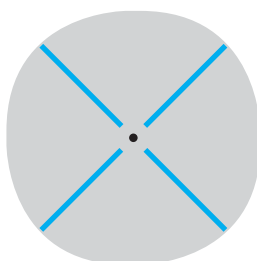


2-1/2" I.D.  
Accepts up to 2-3/8"  
Tenon or Pipe

Yoke Bracket (YK)



### PHOTOMETRICS (See Complete IES File)



Type V Distribution

Neptun Light, Inc.  
13950 Business Center Drive  
Lake Forest, IL 60045  
Fax: 847.735.8004

Neptun Light, Inc. reserves the right to change materials or modify the design of its product without notification as part of the company's continuing product improvement program.  
©2002-2016 Neptun Light, Inc. All rights reserved. Spec. Rev. 4-2016