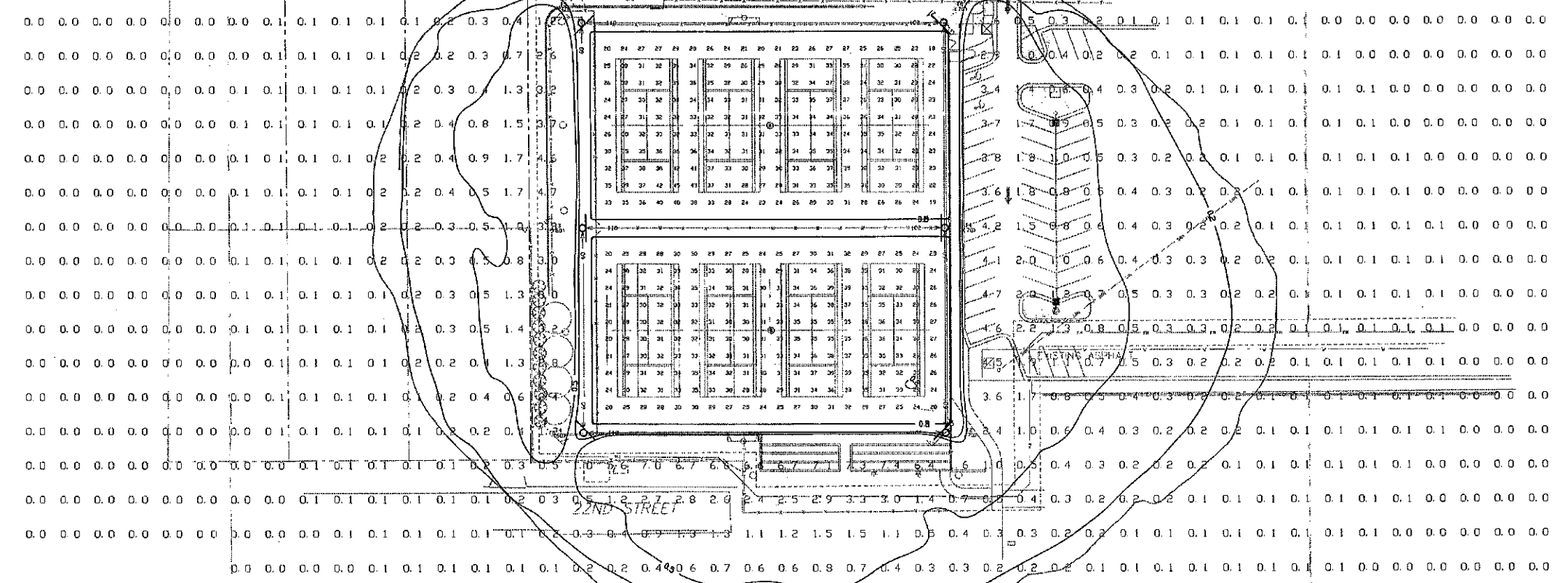


0.1 0.1 0.2 0.2 0.2 0.2 0.3 0.3 0.3 0.4 0.5 0.5 0.6 0.8 0.9 1.1 1.4 1.7 2.9 4.4 4.1 3.9 2.8 3.4 4.0 4.4 3.5 1.6 1.3 1.0 0.8 0.7 0.6 0.6 0.5 0.4 0.4 0.4 0.3 0.3 0.3 0.2 0.2 0.2 0.2 0.2

HORIZONTAL READINGS

0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.1 0.1 0.1 0.1 0.2 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3.0 3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9 4.0 4.1 4.2 4.3 4.4 4.5 4.6 4.7 4.8 4.9 5.0 5.1 5.2 5.3 5.4 5.5 5.6 5.7 5.8 5.9 6.0 6.1 6.2 6.3 6.4 6.5 6.6 6.7 6.8 6.9 7.0 7.1 7.2 7.3 7.4 7.5 7.6 7.7 7.8 7.9 8.0 8.1 8.2 8.3 8.4 8.5 8.6 8.7 8.8 8.9 9.0 9.1 9.2 9.3 9.4 9.5 9.6 9.7 9.8 9.9 10.0

HORIZONTAL READINGS



0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.1 0.1 0.1 0.1 0.2 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3.0 3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9 4.0 4.1 4.2 4.3 4.4 4.5 4.6 4.7 4.8 4.9 5.0 5.1 5.2 5.3 5.4 5.5 5.6 5.7 5.8 5.9 6.0 6.1 6.2 6.3 6.4 6.5 6.6 6.7 6.8 6.9 7.0 7.1 7.2 7.3 7.4 7.5 7.6 7.7 7.8 7.9 8.0 8.1 8.2 8.3 8.4 8.5 8.6 8.7 8.8 8.9 9.0 9.1 9.2 9.3 9.4 9.5 9.6 9.7 9.8 9.9 10.0

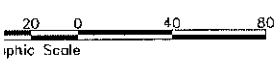
HORIZONTAL READINGS

| ILLUMINANCE SUMMARY | | | | | | | | | | |
|---|----------------|------------|------|------|------|------|-------|------|------|---------------|
| TARGET PLANE: X-Y (HORIZ.) AT Z = 3.00' | | | | | | | | | | |
| ILLUMINANCE: HORIZONTAL FC | GRID NAME | NO. POINTS | AVG | MAX | MIN | A/M | H/W | UG | CV | GRID SIZE X Y |
| | TN S | 500 | 20.7 | 39.3 | 19.9 | 1.54 | 1.98 | 1.40 | 0.14 | 10' x 10' |
| TARGET PLANE: X-Y (HORIZ.) AT Z = 3.00' | | | | | | | | | | |
| ILLUMINANCE: HORIZONTAL FC | TN N | 200 | 31.0 | 45.5 | 18.4 | 1.69 | 2.47 | 1.31 | 0.19 | 10' x 10' |
| TARGET: 150' SPILL GRID AT Z = 3.00' | | | | | | | | | | |
| ILLUMINANCE: HORIZONTAL FC | SPILL-MAX | 44 | 0.7 | 3.5 | 0.0 | +INF | +INF | 3.67 | 1.63 | 20' x 20' |
| ILLUMINANCE: FC, Meter Faces TOWARD luminaires bank providing MAX. ILLUM. | | | | | | | | | | |
| ILLUMINANCE: HORIZONTAL FC | SPILL-MAX | 44 | 1.2 | 4.4 | 0.1 | 9.68 | 37.01 | 2.20 | 1.19 | 20' x 20' |
| TARGET PLANE: X-Y (HORIZ.) AT Z = 0.00' | | | | | | | | | | |
| ILLUMINANCE: HORIZONTAL FC | EXTENDED SPILL | 1188 | 0.3 | 7.4 | 0.0 | +INF | +INF | 5.90 | 2.80 | 20' x 20' |

| LUMINAIRE SUMMARY | | | | | | | |
|------------------------------------|------|----------------|-------------|----------------|------|------|---------|
| GRID | TYPE | CATALOG NUMBER | TEST NUMBER | INITIAL LUMENS | LLF | Q'TY | AVG FTL |
| TN S | B | SLS1000HxWSG | HP-10166A | 107800 | 0.72 | 12 | 1.00 |
| | C | SLS1000HxWSG | HP-10174A | 107800 | 0.72 | 8 | 1.00 |
| Total Luminaires/Combined Avg. FTL | | | | | | | |
| TN N | B | SLS1000HxWSG | HP-10166A | 107800 | 0.72 | 12 | 1.00 |
| | C | SLS1000HxWSG | HP-10174A | 107800 | 0.72 | 8 | 1.00 |
| Total Luminaires/Combined Avg. FTL | | | | | | | |
| SPILL | B | SLS1000HxWSG | HP-10166A | 107800 | 0.72 | 24 | 1.00 |
| | C | SLS1000HxWSG | HP-10174A | 107800 | 0.72 | 16 | 1.00 |
| Total Luminaires/Combined Avg. FTL | | | | | | | |
| EXTENDED SPILL | B | SLS1000HxWSG | HP-10166A | 107800 | 0.72 | 24 | 1.00 |
| | C | SLS1000HxWSG | HP-10174A | 107800 | 0.72 | 16 | 1.00 |
| Total Luminaires/Combined Avg. FTL | | | | | | | |

| MOUNTING LOCATION SUMMARY | | | | | | |
|---------------------------|-----------------|---------------|---------|------|----|----|
| MTG. LOC. LABEL | MTG. HT. (FEET) | Q'TY PER LOC. | LW LGAD | TYPE | | |
| T2 | 70.0 | 5 | 5.40 | A | B | C |
| TN S | - | 5 | 5.40 | - | 3 | 2 |
| SPILL | - | 5 | 5.40 | - | 3 | 2 |
| EXTENDED SPILL | - | 5 | 5.40 | - | 3 | 2 |
| T3 | 60.0 | 10 | 10.80 | - | 6 | 4 |
| TN S | - | 5 | 5.40 | - | 3 | 2 |
| TN N | - | 5 | 5.40 | - | 3 | 2 |
| SPILL | - | 10 | 10.80 | - | 6 | 4 |
| EXTENDED SPILL | - | 10 | 10.80 | - | 6 | 4 |
| T4 | 60.0 | 5 | 5.40 | - | 3 | 2 |
| TN S | - | 5 | 5.40 | - | 3 | 2 |
| TN N | - | 5 | 5.40 | - | 3 | 2 |
| SPILL | - | 10 | 10.80 | - | 6 | 4 |
| EXTENDED SPILL | - | 10 | 10.80 | - | 6 | 4 |
| T5 | 60.0 | 5 | 5.40 | - | 3 | 2 |
| TN N | - | 5 | 5.40 | - | 3 | 2 |
| SPILL | - | 5 | 5.40 | - | 3 | 2 |
| EXTENDED SPILL | - | 5 | 5.40 | - | 3 | 2 |
| T6 | 70.0 | 5 | 5.40 | - | 3 | 2 |
| TN N | - | 5 | 5.40 | - | 3 | 2 |
| SPILL | - | 5 | 5.40 | - | 3 | 2 |
| EXTENDED SPILL | - | 5 | 5.40 | - | 3 | 2 |
| TOTAL | | 40 | 43.20 | - | 24 | 16 |

* MOUNTING HEIGHTS MEASURED FROM PLAYING SURFACE



NOTES: 1. DIMENSIONS ARE IN FEET & DECIMALS FROM EACH FIELD'S 0.00
2. MOUNTING HEIGHT IS ABOVE PLAYING SURFACE

1. THIS LIGHTING DESIGN IS BASED ON LIMITED INFORMATION SUPPLIED BY OTHERS TO HUBBELL LIGHTING. SITE DETAILS PROVIDED HEREIN ARE REPRODUCED ONLY AS A VISUALIZATION AND FIELD DEVIATIONS MAY SIGNIFICANTLY AFFECT PREDICTED PERFORMANCE. PRIOR TO INSTALLATION, CRITICAL SITE INFORMATION (POLE LOCATIONS, OBSTRUCTIONS, MOUNTING HEIGHTS, ETC.) SHOULD BE CORROBORATED WITH THE CONTRACTOR AND/OR SPECIFIER RESPONSIBLE FOR THE PROJECT.
2. LUMINAIRE DATA IS TESTED TO INDUSTRIAL STANDARDS UNDER LABORATORY CONDITIONS. OPERATING VOLTAGE AND NORMAL MANUFACTURING TOLERANCES OF LAMP, BALLAST, AND LUMINAIRE MAY AFFECT FIELD READINGS.
3. CONFORMANCE TO FACILITY CODE AND OTHER LOCAL REQUIREMENTS IS THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.

REVISED FROM DRAWING NUMBER: 1257622

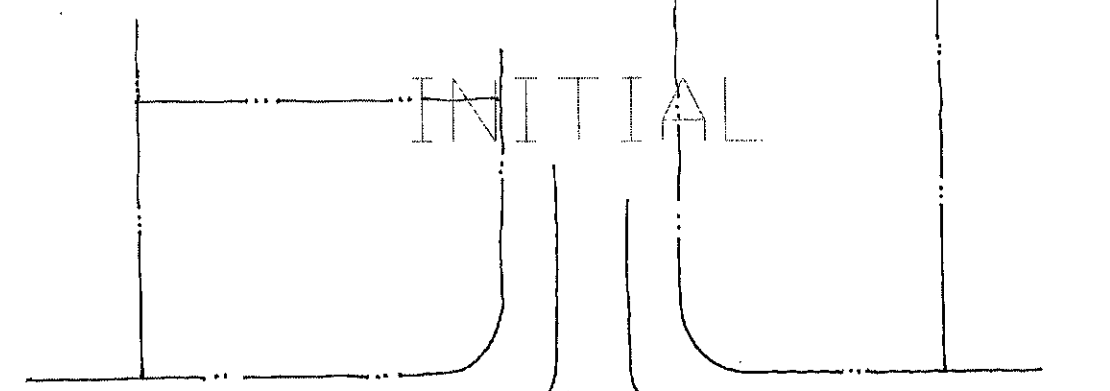
LAWRENCE VIRTUAL SCHOOL
TENNIS COURTS
30 FC
1500 WATT SG GLARE CONTROL

SCALE: 1"=40'
DATE: 01-19-12
DRAWN BY: JAP
1257644B

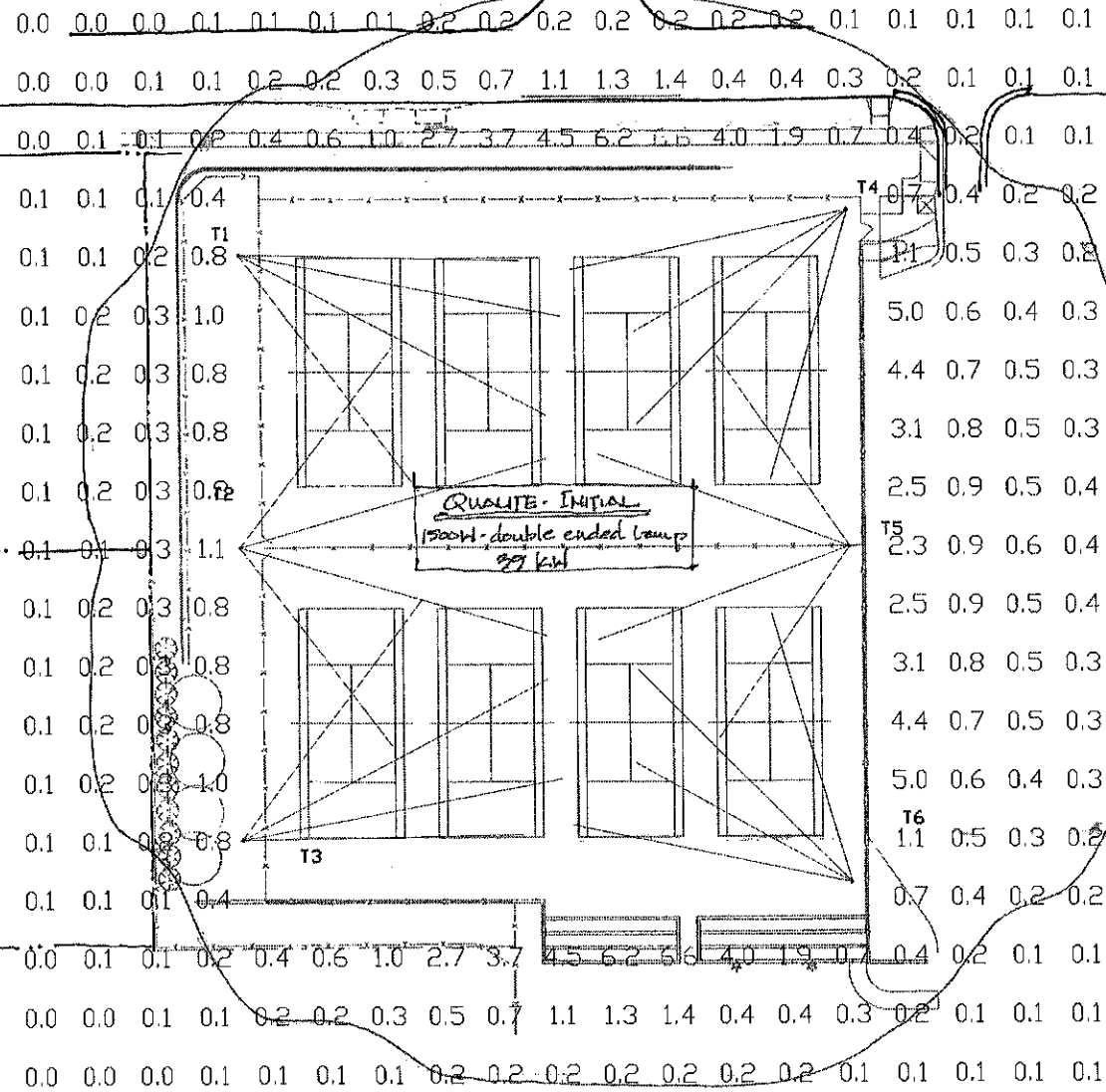
HUBBELL
Hubbell LLC
701 MILLEN
GREENVILLE
29607

Hubbell 1500W Magent Lamp or 3000W Lamp etc.
60' FT to 20' JAP TA TEL-ATA

THIS DESIGN WAS DONE IN ACCORDANCE WITH ILLUMINATING SOCIETY OF NORTH AMERICA STANDARDS



| Pole | x-loc | y-loc | height | 4X3V | 4X4V | 4X4X | Total | kw | EPA |
|-------|-------|-------|--------|------|------|------|-------|------|-------|
| T1 | -110 | 100 | 50ft | 1 | 1 | 2 | 4 | 6.5 | 13.35 |
| T2 | -110 | 0 | 50ft | 2 | | 2 | 4 | 6.5 | 12.71 |
| T3 | -110 | -100 | 50ft | 1 | 1 | 2 | 4 | 6.5 | 13.35 |
| T4 | 100 | 115 | 70ft | | 1 | 3 | 4 | 6.5 | 12.18 |
| T5 | 100 | 0 | 70ft | | 2 | 2 | 4 | 6.5 | 11.83 |
| T6 | 100 | -115 | 70ft | | 1 | 3 | 4 | 6.5 | 12.18 |
| Total | | | | 4 | 6 | 14 | 24 | 39.0 | |



4X4X
INTERNATIONAL 1500W
Initial Lumens per lamp = 150000
Maintenance Factor = 1.000
Watts per luminaire = 1625
Candela file name: ITL51144.IES
Number luminaires used = 14
kw these luminaires = 22.8

4X4V
INTERNATIONAL 1500W
Initial Lumens per lamp = 150000
Maintenance Factor = 1.000
Watts per luminaire = 1625
Candela file name: ITL45729.IES
Number luminaires used = 6
kw these luminaires = 9.8

4X3V
INTERNATIONAL 1500W
Initial Lumens per lamp = 150000
Maintenance Factor = 1.000
Watts per luminaire = 1625
Candela file name: ITL45726.IES
Number luminaires used = 4
kw these luminaires = 6.5

Spill Scan
218 points at z=3, sp 20ft by 20ft
HORIZONTAL FOOTCANDLES
Average 0.7
Maximum 6.6
Minimum 0.0

T1, T2 + T3 50'
T4, T5 + T6 70' 39 kw

THIS INFORMATION IS CONFIDENTIAL AND PROPRIETARY TO QUALITE SPORTS LIGHTING, LLC AND IS NOT TO BE REVEALED OR DISTRIBUTED TO OTHERS WITHOUT THE PERMISSION OF QUALITE SPORTS LIGHTING, LLC OR USED IN ANY MANNER DETRIMENTAL TO THE INTEREST OF QUALITE SPORTS LIGHTING, LLC

GUARANTEE IS BASED ON PROPER INSTALLATION, MINIMUM INPUT VOLTAGES, MOUNTING HEIGHT +/- 3 FEET, AND POLES PLACED WITHIN 4 FEET OF SPECIFIED LOCATIONS. POLES TO COMPLY WITH CURRENT AASHTO STANDARDS

THIS PRINT IS FOR PROPOSAL USE ONLY AND IS NOT TO BE USED FOR PRODUCTION.

QUALITE SPORTS LIGHTING, LLC
 250 INDUSTRIAL DRIVE HILLSDALE, MI 49242
 PHONE: 517-743-9150 FAX: 517-743-1194
 P.O. BOX 765 800-935-9741
 WWW.QUALITE.COM

REVISED (01-18-12) QL-14257D7A-IC

TENNIS COURT LIGHTING 1500W Double Ended Lamp.

LAWRENCE VIRTUAL HIGH SCHOOL, LAWRENCE, KS

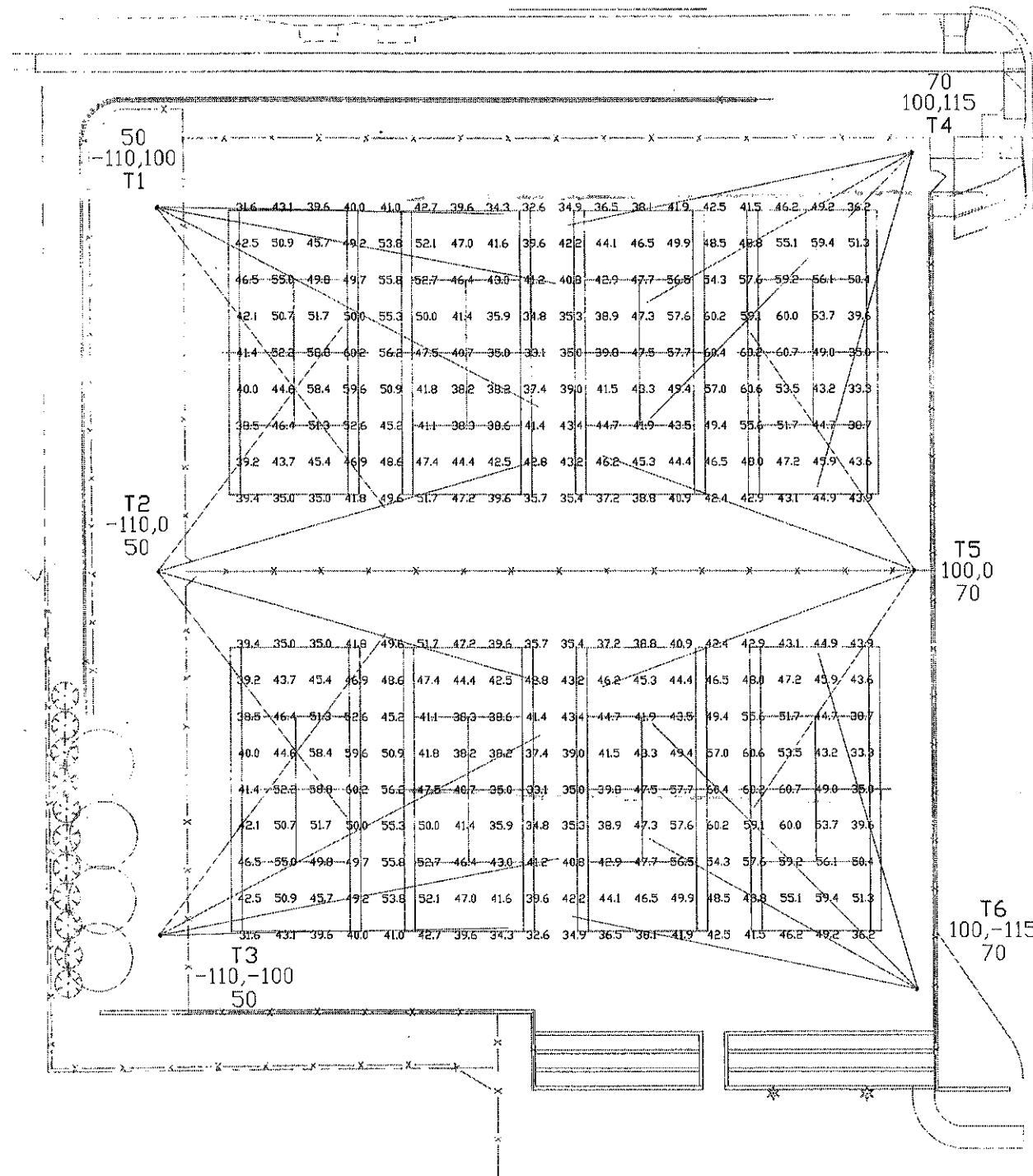
TT SCALE=1 01-25-12 1 OF 1

SPILL

THIS DESIGN WAS DONE IN ACCORDANCE WITH ILLUMINATING SOCIETY OF NORTH AMERICA STANDARDS

INITIAL

| Pole | x-loc | y-loc | height | 4X3V | 4X4V | 4X4X | Total | kw | EPA |
|-------|-------|-------|--------|------|------|------|-------|------|-------|
| T1 | -110 | 100 | 50ft | 1 | 1 | 2 | 4 | 6.5 | 13.35 |
| T2 | -110 | 0 | 50ft | 2 | | 2 | 4 | 6.5 | 12.71 |
| T3 | -110 | -100 | 50ft | 1 | 1 | 2 | 4 | 6.5 | 13.35 |
| T4 | 100 | 115 | 70ft | | 1 | 3 | 4 | 6.5 | 12.18 |
| T5 | 100 | 0 | 70ft | | 2 | 2 | 4 | 6.5 | 11.83 |
| T6 | 100 | -115 | 70ft | | 1 | 3 | 4 | 6.5 | 12.18 |
| Total | | | | 4 | 6 | 14 | 24 | 39.0 | |



Tennis
162 points at z=3, sp 10ft by 10ft
HORIZONTAL FOOTCANDLES
Average 45.8
Maximum 60.7
Minimum 31.6
Avg:Min 1.45
Max:Min 1.92
Coef Var 0.16
UnifGrad 1.42

Tennis
162 points at z=3, sp 10ft by 10ft
HORIZONTAL FOOTCANDLES
Average 45.8
Maximum 60.7
Minimum 31.6
Avg:Min 1.45
Max:Min 1.92
Coef Var 0.16
UnifGrad 1.42

4X4X
INTERNATIONAL 1500W
Initial Lumens per lamp = 150000
Maintenance Factor = 1.000
Watts per luminaire = 1625
Candela file name: ITL51144.IES
Number luminaires used = 14
kw these luminaires = 22.8

4X4V
INTERNATIONAL 1500W
Initial Lumens per lamp = 150000
Maintenance Factor = 1.000
Watts per luminaire = 1625
Candela file name: ITL45729.IES
Number luminaires used = 6
kw these luminaires = 9.8

4X3V
INTERNATIONAL 1500W
Initial Lumens per lamp = 150000
Maintenance Factor = 1.000
Watts per luminaire = 1625
Candela file name: ITL45726.IES
Number luminaires used = 4
kw these luminaires = 6.5

T1, T2, T3 50'
T4, T5, T6 70' 39kw

QUALITE SPORTS LIGHTING, LLC
250 INDUSTRIAL DRIVE HILLSDALE, MI 49242 P.O. BOX 765
PHONE: 517/439-1581 FAX: 517/439-1194 800/953-9741 WWW.QUALITE.COM

REVISED (LAST DATE) QL-14257D9-.IC

TENNIS COURT LIGHTING 1500 ft Double ended Lamp.

LAWRENCE VIRTUAL HIGH SCHOOL, LAWRENCE, KS

TT SCALE: 1/8"=1'-0" 0-18-12 5 OF 3

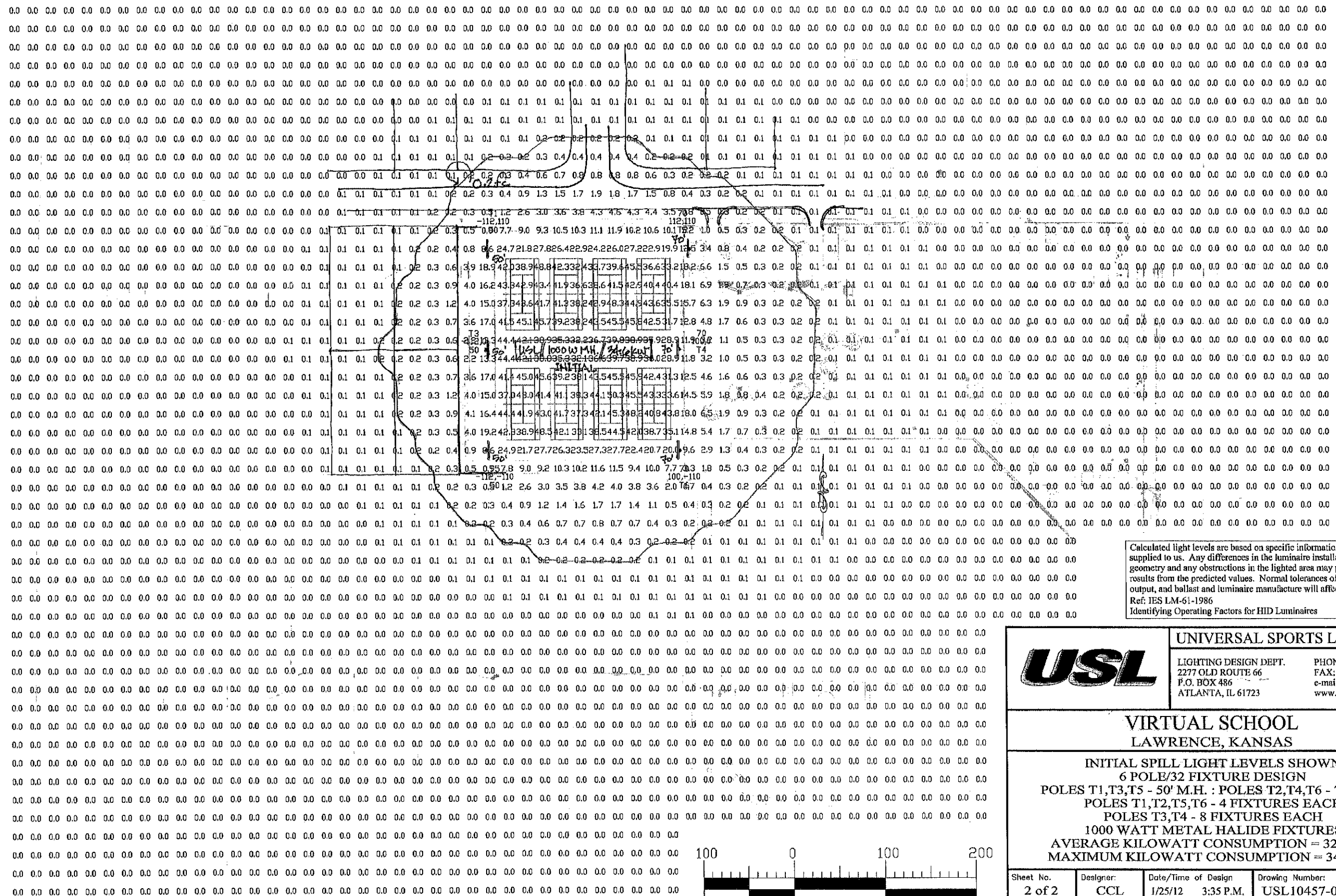
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GUARANTEE IS BASED ON PROPER INSTALLATION, MINIMUM INPUT VOLTAGES, MOUNTING HEIGHT +/- 3 FEET, AND POLES PLACED WITHIN 4 FEET OF SPECIFIED LOCATIONS. POLES TO COMPLY WITH CURRENT IASHTO STANDARDS


THIS PRINT IS FOR PROPOSAL USE ONLY AND IS NOT TO BE USED FOR PRODUCTION.

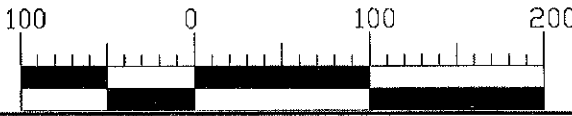
Colupis

DESIGN IN COMPLIANCE WITH IESNA RP-6-01



Calculated light levels are based on specific information that has been supplied to us. Any differences in the luminaire installation, lighted area geometry and any obstructions in the lighted area may produce different results from the predicted values. Normal tolerances of voltage, lamp output, and ballast and luminaire manufacture will affect results.
 Ref: IES LM-61-1986
 Identifying Operating Factors for HID Luminaires

| | | |
|--|---|--|
|  | UNIVERSAL SPORTS LIGHTING | |
| | LIGHTING DESIGN DEPT. 2277 OLD ROUTE 66 P.O. BOX 486 ATLANTA, IL 61723 | PHONE: (217) 648-5201 FAX: (217) 648-5209 e-mail: eng@usl.net www.usl.net.com |
| VIRTUAL SCHOOL LAWRENCE, KANSAS | | |
| INITIAL SPILL LIGHT LEVELS SHOWN 6 POLE/32 FIXTURE DESIGN POLES T1,T3,T5 - 50' M.H. : POLES T2,T4,T6 - 70' M.H. POLES T1,T2,T5,T6 - 4 FIXTURES EACH POLES T3,T4 - 8 FIXTURES EACH 1000 WATT METAL HALIDE FIXTURES AVERAGE KILOWATT CONSUMPTION = 32.1 KW MAXIMUM KILOWATT CONSUMPTION = 34.6 KW | | |
| Sheet No. 2 of 2 | Designer: CCL | Date/Time of Design 1/25/12 3:35 P.M. |
| Drawing Number: USL10457-04B | | Rev: 00 |



USL

DESIGN IN COMPLIANCE WITH IESNA RP-6-01

T1
-112,110
50

70
112,110
T2

| Pole | x-loc | y-loc | height | CE-MS | CE-WS | Total | kw |
|-------|-------|-------|--------|-------|-------|-------|------|
| T1 | -112 | 110 | 50ft | 2 | 2 | 4 | 4.3 |
| T2 | 112 | 110 | 70ft | 2 | 2 | 4 | 4.3 |
| T3 | -112 | 0 | 50ft | 2 | 6 | 8 | 8.6 |
| T4 | 100 | 0 | 70ft | 2 | 6 | 8 | 8.6 |
| T5 | -112 | -110 | 50ft | 2 | 2 | 4 | 4.3 |
| T6 | 100 | -110 | 70ft | 2 | 2 | 4 | 4.3 |
| Total | | | | 12 | 20 | 32 | 34.6 |

29 28 27 30 33 31 30 29 27 25 26 28 29 29 32 32 27 27 25 22
 35 35 36 37 44 43 39 35 32 30 30 33 35 37 41 41 35 33 35 30
 43 43 43 44 48 48 46 41 35 33 34 36 40 42 46 46 41 40 41 33
 41 50 45 44 45 44 43 40 37 36 36 39 41 41 42 44 41 43 45 38
 38 47 42 39 42 43 42 40 37 37 38 41 43 43 43 43 39 40 43 37
 35 43 42 39 41 43 42 40 38 38 40 43 46 48 46 43 40 42 41 35
 36 46 46 42 43 43 42 40 39 39 42 45 47 49 49 45 43 45 42 32
 38 46 46 45 46 43 40 39 39 40 42 45 46 47 49 45 42 43 37 30
 41 46 46 46 46 42 40 38 37 37 40 44 45 46 47 44 41 41 38 30
 40 44 43 43 42 41 39 36 34 34 37 40 43 43 41 40 38 36 33 28

CE-MS _____ USL Medium w/Glare Control Initial Lumens per lamp = 110000
 Light Loss Factor = 1.000
 Watts per luminaire = 1080
 Candela file name: CE-MS.ies
 Number luminaires used = 12
 kw these luminaires = 13.0

CE-WS _____ USL Wide w/Glare Control Initial Lumens per lamp = 110000
 Light Loss Factor = 1.000
 Watts per luminaire = 1080
 Candela file name: CE-WS.ies
 Number luminaires used = 20
 kw these luminaires = 21.6

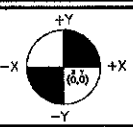
T3
-112,0
50

70
100,0
T4

Tennis
 400 points at z=3, sp 2ft by 10ft
 HORIZONTAL FOOTCANDLES
 Average 40
 Maximum 51
 Minimum 22
 AvgMin 1.81
 MaxiMin 2.32
 Coef Var 0.15
 UnifGrad 1.45

40 44 43 43 42 41 39 36 34 34 37 40 43 43 41 40 38 36 33 28
 41 46 45 46 46 42 40 38 37 37 40 44 45 46 47 44 41 41 38 30
 38 46 46 45 46 43 40 39 39 40 42 45 46 47 49 46 42 43 37 30
 36 46 46 42 43 43 42 39 39 40 42 46 48 50 49 46 43 45 41 31
 34 42 41 38 40 42 42 40 38 38 41 45 48 51 48 44 41 41 39 33
 38 46 41 38 42 43 42 40 38 38 40 44 47 47 47 46 40 39 41 38
 43 51 45 43 44 44 43 40 37 37 39 43 45 45 48 48 42 45 49 43
 43 44 43 43 48 48 46 40 35 35 37 42 46 48 49 45 40 43 44 37
 36 36 36 37 43 43 39 35 32 31 34 38 39 40 41 35 32 35 34 32
 29 28 27 29 33 31 30 29 27 27 29 32 31 31 31 26 25 25 24 22

NOTE:
 ALL POLE LOCATIONS ARE REFERENCED FROM-x
 ORIGIN (0,0) AT CENTER OF TENNIS AREA



Calculated light levels are based on specific information that has been supplied to us. Any differences in the luminaire installation, lighted area geometry and any obstructions in the lighted area may produce different results from the predicted values. Normal tolerances of voltage, lamp output, and ballast and luminaire manufacture will affect results.
 Ref: IES LM-61-1986
 Identifying Operating Factors for HID Luminaires

T5
-112,-110
50

70
100,-110
T6

| | | |
|--|---|--|
| USL | UNIVERSAL SPORTS LIGHTING | |
| | LIGHTING DESIGN DEPT. 2277 OLD ROUTE 66 P.O. BOX 486 ATLANTA, IL 61723 | PHONE: (217) 648-5201 FAX: (217) 648-5209 e-mail: cng@usl.net.com www.usl.net.com |
| VIRTUAL SCHOOL LAWRENCE, KANSAS | | |
| 40 INITIAL FOOTCANDLES 6 POLE/32 FIXTURE DESIGN POLES T1,T3,T5 - 50' M.H. ; POLES T2,T4,T6 - 70' M.H. POLES T1,T2,T5,T6 - 4 FIXTURES EACH POLES T3,T4 - 8 FIXTURES EACH 1000 WATT METAL HALIDE FIXTURES AVERAGE KILOWATT CONSUMPTION = 32.1 KW MAXIMUM KILOWATT CONSUMPTION = 34.6 KW | | |
| Sheet No. 1 of 2 | Designer: CCL | Date/Time of Design 1/25/12 3:35 P.M. |
| Drawing Number: USL10457-04B | | Rev: 00 |

