

Site - Plan View
Scale: 1 inch = 50 Ft.

Caution: Low Mounting Heights
This design is put forth as an analysis of results due to a request from specifier; This is not a recommended design suggestion.

Existing or customer-required luminaire mounting heights used in this design are below recommended or standard levels. Combine this with a limited selection of used, wide-beam luminaires ensures the effort to achieve the desired illuminance levels and means that luminaires must be aimed / tilted upward at angles that will create noticeable glare for players, spectators and surrounding neighbors from multiple vantage points.

Cooper Lighting recommends that IES RP-6 Guidelines be followed by bringing luminaire mounting heights to an elevation of at least 30 degrees above horizon (taken from the center-line of the lighted field) to the top of poles to meet accepted standards for fixture placement and luminaire aiming tilt angles.
This means recommended pole heights for this design are 100' or higher.
Following the IES RP-6 standards will greatly alleviate glare and neighboring trespass.

This should be considered a formal cautionary statement about the consequences for spill and glare resulting from this design request. Use of this design following this warning waives Cooper Lighting's responsibility for results.

Luminaire Schedule

Scene: Sum	Qty	Tag	Label	Description	LLF	Lum. Lumens	Lum. Watts	Total Watts
4	4	AF-550-4-57	AF-550-4-57	AF-550-4-57	0.950	66354	553	2212
4	4	AF-550-5-57	AF-550-5-57	AF-550-5-57	0.950	64205	553	2212
3	3	F3	AF-750-3-57	AF-750-3-57	0.950	87408	748	26928
13	13	F4	AF-750-4-57	AF-750-4-57	0.950	87642	748	9724
8	8	F5	AF-750-5-57	AF-750-5-57	0.950	84803	748	5984

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LIGHTING DESIGN FOR:
Zeihler Playground and Rec
Philadelphia, PA
Multi-Sport Lighting Analysis
Softball, Football, Basketball
Using Previously used Ephesus
All Field products atop 55' and 30'
poles.

**Overall
Site Plan
Luminaire
Aiming
Schematic**

MH: Varies
Reflectances: None
LLF: 0.95
Calc Grid: 15' x 15'
Notes:

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DRAWN
D Couch

CHECKED
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REVISION

PROJECT
2101147

NOTE:
SEE ORIGINAL COOPER LIGHTING
SUMMARY IN PROJECT
DOCUMENTS.

CLIENT: PHILADELPHIA PARKS & RECREATION

Rebuild PHILADELPHIA

PROJECT NAME & ADDRESS:
ZIEHLER PLAYGROUND & RECREATION CENTER
200-64 E. OLNEY AVENUE
PHILADELPHIA, PA 19120

PROJECT NUMBER:
16640E-01-02

PRIME CONSULTANT / LANDSCAPE ARCHITECTURE:
.\XR-SALT-LOGO.jpg

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DRAWING PHASE:
ISSUE FOR BIDDING

SCALE:

SHEET TITLE:
FIELD LIGHTING - COOPER AIMING DIAGRAM AND CALCULATION SUMMARY

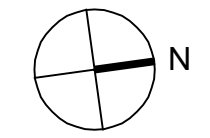
REV	DATE	DESCRIPTION

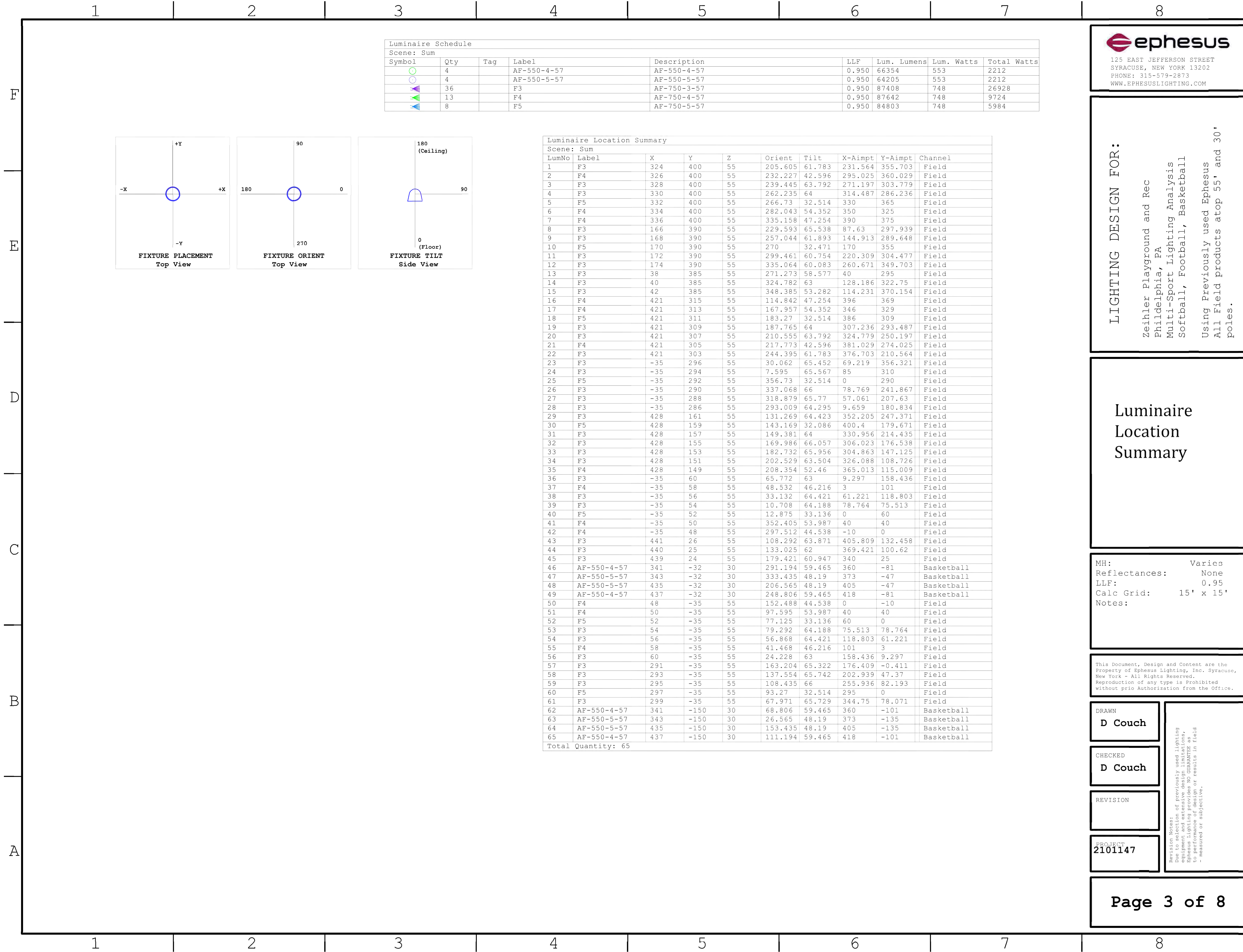
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DATE: 08/15/2022
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SHEET NUMBER:
EL-702

SALT DESIGN STUDIO FILE NO.:
2003





Luminaire Schedule								
Scene: Sum								
Symbol	Qty	Tag	Label	Description	LLF	Lum. Lumens	Lum. Watts	Total Watts
○	4		AF-550-4-57	AF-550-4-57	0.950	66354	553	2212
○	4		AF-550-5-57	AF-550-5-57	0.950	64205	553	2212
○	36		F3	AF-750-3-57	0.950	87408	748	26928
○	13		F4	AF-750-4-57	0.950	87642	748	9724
○	8		F5	AF-750-5-57	0.950	84803	748	5984

Luminaire Location Summary										
Scene: Sum										
LumNo	Label	X	Y	Z	Orient	Tilt	X-Aimpt	Y-Aimpt	Channel	
1	F3	324	400	55	205.605	61.783	231.564	355.703	Field	
2	F4	326	400	55	232.227	42.596	295.025	360.029	Field	
3	F3	328	400	55	239.445	63.792	271.197	303.779	Field	
4	F3	330	400	55	262.235	64	314.487	286.236	Field	
5	F5	332	400	55	266.73	32.514	330	365	Field	
6	F4	334	400	55	282.043	54.352	350	325	Field	
7	F4	336	400	55	335.158	47.254	390	375	Field	
8	F3	166	390	55	229.593	65.538	87.63	297.939	Field	
9	F3	168	390	55	257.044	61.893	144.913	289.648	Field	
10	F5	170	390	55	32.471	170	270	355	Field	
11	F3	172	390	55	299.461	60.754	220.309	304.477	Field	
12	F3	174	390	55	335.064	60.083	260.671	349.703	Field	
13	F3	38	385	55	271.273	58.577	40	295	Field	
14	F3	40	385	55	324.782	63	128.186	322.75	Field	
15	F3	42	385	55	348.385	53.282	114.231	370.154	Field	
16	F4	421	315	55	114.842	47.254	396	369	Field	
17	F4	421	313	55	167.957	54.352	346	329	Field	
18	F5	421	311	55	183.27	32.514	386	309	Field	
19	F3	421	309	55	187.765	64	307.236	293.487	Field	
20	F3	421	307	55	210.555	63.792	324.779	250.197	Field	
21	F4	421	305	55	217.773	42.596	381.029	274.025	Field	
22	F3	421	303	55	244.395	61.783	376.703	210.564	Field	
23	F3	-35	296	55	30.062	65.452	69.219	356.321	Field	
24	F3	-35	294	55	7.595	65.567	85	310	Field	
25	F5	-35	292	55	356.73	32.514	0	290	Field	
26	F3	-35	290	55	337.068	66	78.769	241.867	Field	
27	F3	-35	288	55	318.879	65.77	57.061	207.63	Field	
28	F3	-35	286	55	293.009	64.295	9.659	180.834	Field	
29	F3	428	161	55	131.269	64.423	352.205	247.371	Field	
30	F5	428	159	55	143.169	32.086	400.4	179.671	Field	
31	F3	428	157	55	149.381	64	330.956	214.435	Field	
32	F3	428	155	55	169.986	66.057	306.023	176.538	Field	
33	F3	428	153	55	182.732	65.956	304.863	147.125	Field	
34	F3	428	151	55	202.529	63.504	326.088	108.726	Field	
35	F4	428	149	55	208.354	52.46	365.013	115.009	Field	
36	F3	-35	60	55	65.772	63	9.297	158.436	Field	
37	F4	-35	58	55	48.532	46.216	3	101	Field	
38	F3	-35	56	55	33.132	64.421	61.221	118.803	Field	
39	F3	-35	54	55	10.708	64.188	78.764	75.513	Field	
40	F5	-35	52	55	12.875	33.136	0	60	Field	
41	F4	-35	50	55	352.405	53.987	40	40	Field	
42	F4	-35	48	55	297.512	44.538	-10	0	Field	
43	F3	441	26	55	108.292	63.871	405.809	132.458	Field	
44	F3	440	25	55	133.025	62	369.421	100.62	Field	
45	F3	439	24	55	179.421	60.947	340	25	Field	
46	AF-550-4-57	341	-32	30	291.194	59.465	360	-81	Basketball	
47	AF-550-5-57	343	-32	30	333.435	48.19	373	-47	Basketball	
48	AF-550-5-57	435	-32	30	206.565	48.19	405	-47	Basketball	
49	AF-550-4-57	437	-32	30	248.806	59.465	418	-81	Basketball	
50	F4	48	-35	55	152.488	44.538	0	-10	Field	
51	F4	50	-35	55	97.595	53.987	40	40	Field	
52	F5	52	-35	55	77.125	33.136	60	0	Field	
53	F3	54	-35	55	79.292	64.188	75.513	78.764	Field	
54	F3	56	-35	55	56.868	64.421	118.803	61.221	Field	
55	F4	58	-35	55	41.468	46.216	101	3	Field	
56	F3	60	-35	55	24.228	63	158.436	9.297	Field	
57	F3	291	-35	55	163.204	65.322	176.409	-0.411	Field	
58	F3	293	-35	55	137.554	65.742	202.939	47.37	Field	
59	F3	295	-35	55	108.435	66	255.936	82.193	Field	
60	F5	297	-35	55	93.27	32.514	295	0	Field	
61	F3	299	-35	55	67.971	65.729	344.75	78.071	Field	
62	AF-550-4-57	341	-150	30	68.806	59.465	360	-101	Basketball	
63	AF-550-5-57	343	-150	30	26.565	48.19	373	-135	Basketball	
64	AF-550-5-57	435	-150	30	153.435	48.19	405	-135	Basketball	
65	AF-550-4-57	437	-150	30	111.194	59.465	418	-101	Basketball	
Total Quantity: 65										

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LIGHTING DESIGN FOR:
 Zeihler Playground and Rec
 Philadelphia, PA
 Multi-Sport Lighting Analysis
 Softball, Football, Basketball
 Using Previously used Ephesus
 All Field products atop 55' and 30'
 poles.

Luminaire Location Summary

MH: Varies
 Reflectances: None
 LLF: 0.95
 Calc Grid: 15' x 15'
 Notes:

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PROJECT
 2101147

WARNING: Due to selection of previously used lighting equipment and extensive design limitations, Ephesus Lighting, Inc. cannot guarantee performance, life span, or results in field - measured or subjective.

Page 3 of 8

NOTE:
 SEE ORIGINAL COOPER LIGHTING SUMMARY IN PROJECT DOCUMENTS.

PHILADELPHIA PARKS & RECREATION
Rebuild PHILADELPHIA

PROJECT NAME & ADDRESS
ZIEHLER PLAYGROUND & RECREATION CENTER
 200-64 E. OLNEY AVENUE
 PHILADELPHIA, PA 19120

PROJECT NUMBER
16640E-01-02

FORM CONSULTANT (LANDSCAPE ARCHITECTURE)
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DRAWING PHASE
ISSUE FOR BIDDING

SEAL

SHEET TITLE
FIELD LIGHTING - COOPER AIMING DIAGRAM AND CALCULATION SUMMARY

REV	DATE	DESCRIPTION

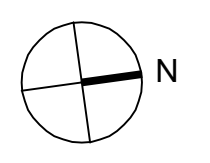
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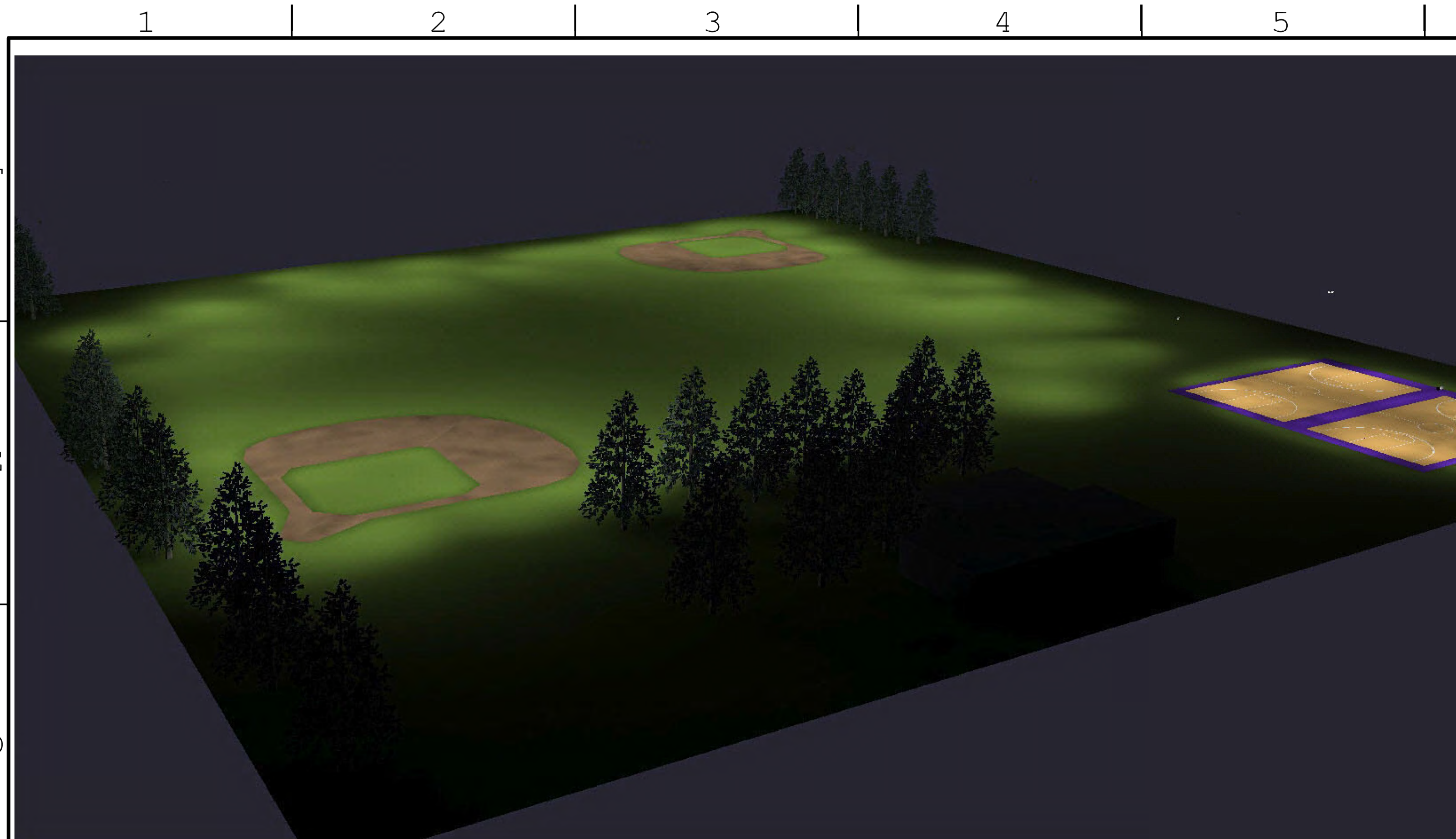
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SHEET NUMBER

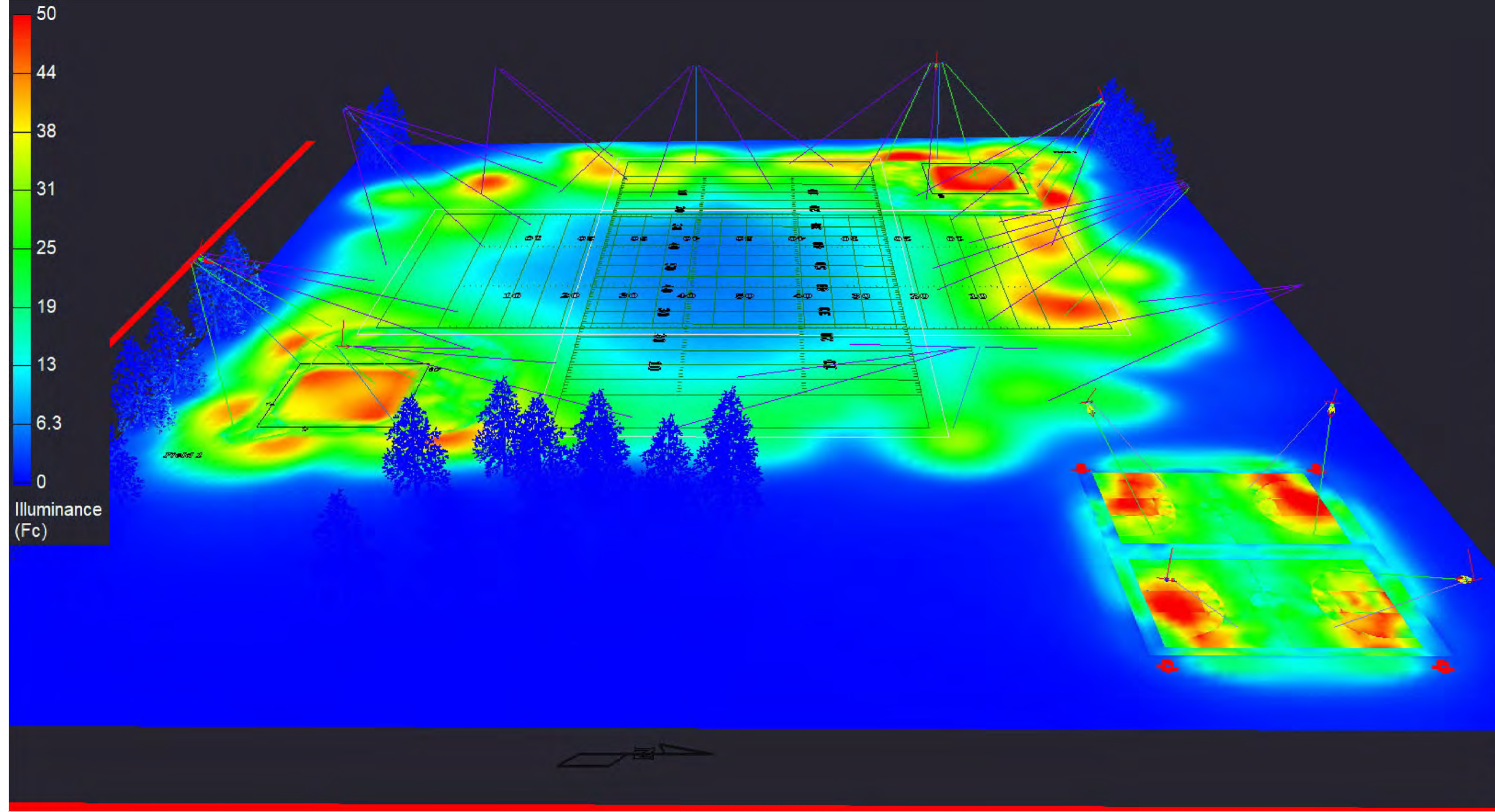
EL-703

SALT DESIGN STUDIO FILE NO.
 2003





Render Image - View Name : RenderViewpoint_1



Render Image - View Name : RenderViewpoint_3

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 Philadelphia, PA
 Multi-Sport Lighting Analysis
 Softball, Football, Basketball
 Using Previously used Ephesus
 All Field products atop 55' and 30'
 poles.

Renderings

MH: Varies
 Reflectances: None
 LLF: 0.95
 Calc Grid: 15' x 15'
 Notes:

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D Couch	
CHECKED	
D Couch	
REVISION	
SUBJECT	
2101147	

Page 4 of 8

CLIENT: PHILADELPHIA PARKS & RECREATION
Rebuild PHILADELPHIA
 PROJECT NAME & ADDRESS:
ZIEHLER PLAYGROUND & RECREATION CENTER
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 PHILADELPHIA, PA 19120
 PROJECT NUMBER:
16640E-01-02
 PRIME CONSULTANT / LANDSCAPE ARCHITECTURE:
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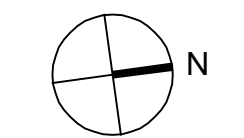
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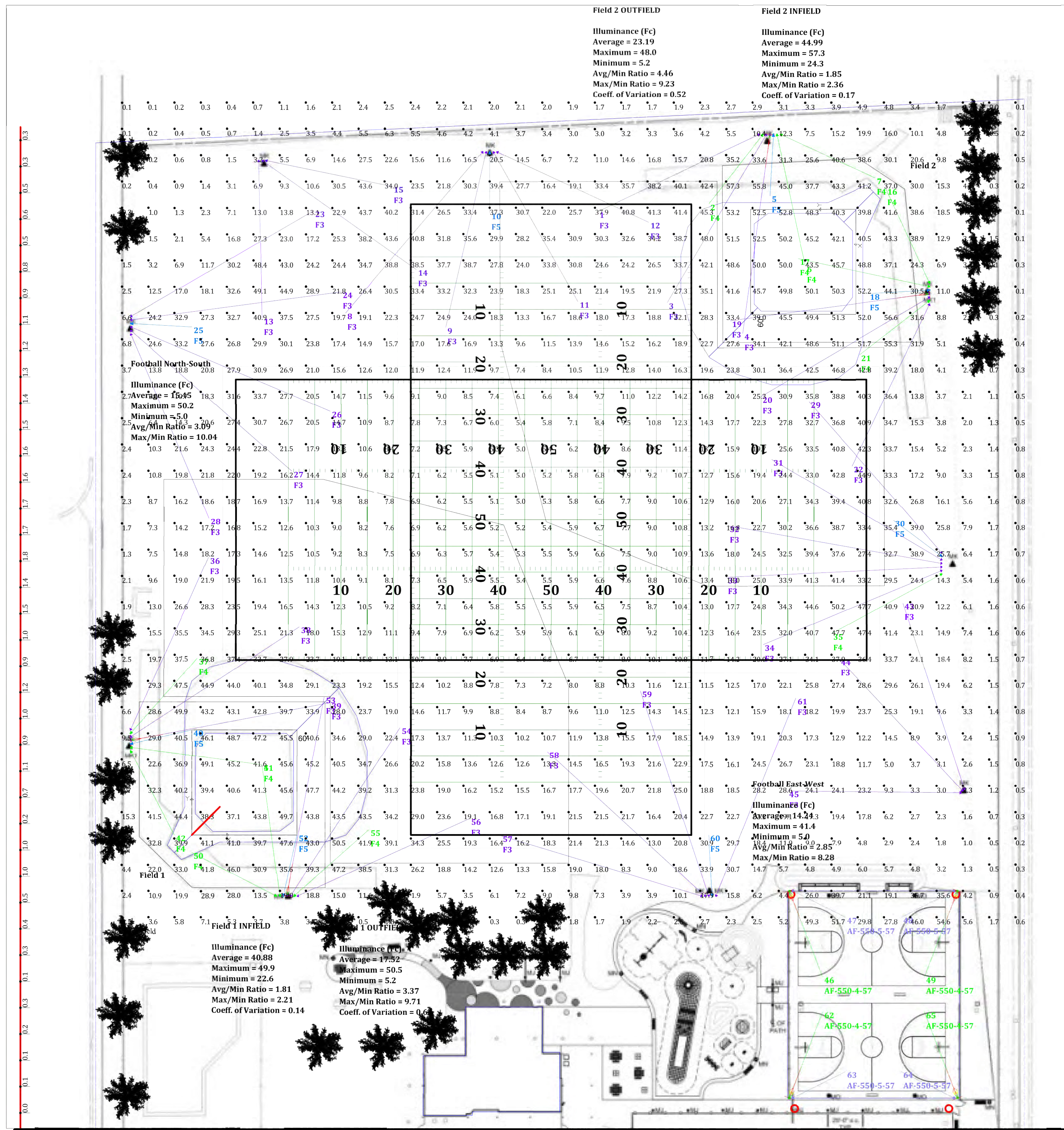
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FIELD LIGHTING - COOPER AIMING DIAGRAM AND CALCULATION SUMMARY

REV	DATE	DESCRIPTION

SCALE:
AS NOTED
 DATE: 08/15/2022
 DRAWN BY:
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SHEET NUMBER:
EL-704





Horizontal Illuminance Levels at 3' APP
 Scale: 1 inch= 50 Ft.

Scene/Channel Summary

Channel	Switched	Dimming	# Lums
Basketball	On	1.00	8
Field	On	1.00	57

Calculation Summary

Label	Units	Avg	Max	Min	Avg/Min	Max/Min	PtSp/Lr	PtSp/Tb	Meter Type
Project: Field Calcs									
Scene: Sum									
Open Field	Fc	18.17	57.3	0.0	N.A.	N.A.			Horizontal
Field 1 INFIELD	Fc	40.88	49.9	22.6	1.81	2.21			
Field 1 OUTFIELD	Fc	17.52	50.5	5.2	3.37	9.71			
Field 2 INFIELD	Fc	44.99	57.3	24.3	1.85	2.36			
Field 2 OUTFIELD	Fc	23.19	48.0	5.2	4.46	9.23			
Football East-West	Fc	14.24	41.4	5.0	2.85	8.28			
Football North-South	Fc	15.45	50.2	5.0	3.09	10.04			

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Illuminance Summary
Field Lighting

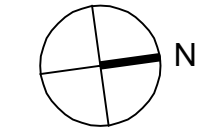
MH: Varies
 Reflectances: None
 LLF: 0.95
 Calc Grid: 15' x 15'
 Notes:

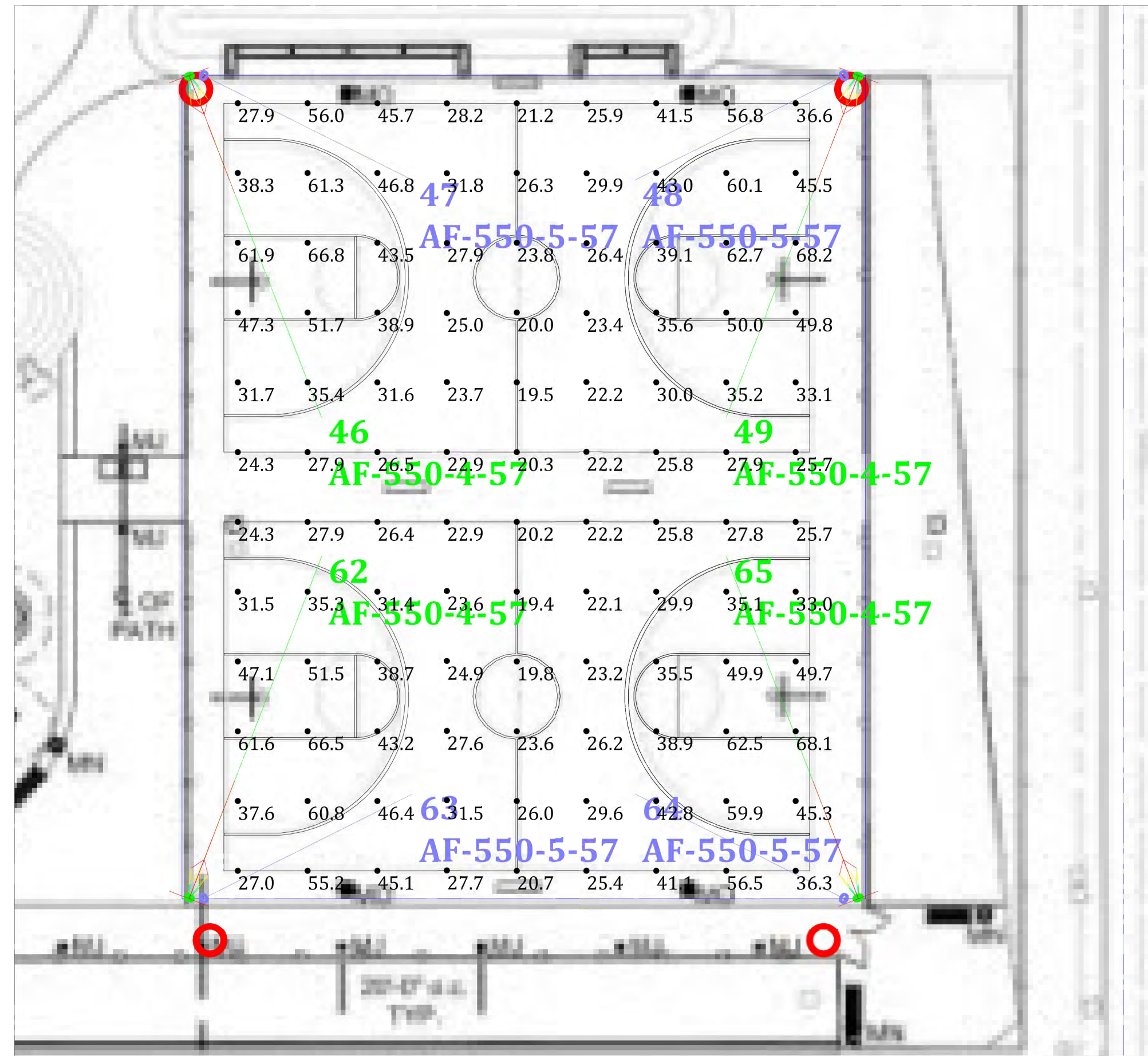
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PROJECT	2101147

Revision Notes:
 Due to selection of previously used lighting equipment and extensive design limitations, to performance of design or results in field - measured or subjective.

NOTE:
 SEE ORIGINAL COOPER LIGHTING SUMMARY IN PROJECT DOCUMENTS.





Horizontal Illuminance Levels at 3' APF
Scale: 1 inch= 20 Ft.

Calculation Summary									
Project: Basketball									
Scene: Sum									
Label	Units	Avg	Max	Min	Avg/Min	Max/Min	PtSpLr	PtSpTb	Meter Type
BASKETBALL	Fc	36.38	68.2	19.4	1.88	3.52	10	10	Horizontal

Scene/Channel Summary			
Scene: Sum			
Channel	Switched	Dimming	# Lums
Basketball	On	1.00	8
Field	On	1.00	57

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**Illuminance
Summary

Basketball**

MH: Varies
Reflectances: None
LLF: 0.95
Calc Grid: 15' x 15'
Notes:

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CHECKED
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REVISION

PROJECT
2101147

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Page 6 of 8

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FRM CONSULTANT (LANDSCAPE ARCHITECTURE):
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DRAWING PHASE:
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STATUS:

SHEET TITLE:
FIELD LIGHTING - COOPER AIMING DIAGRAM AND CALCULATION SUMMARY

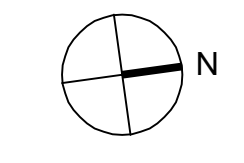
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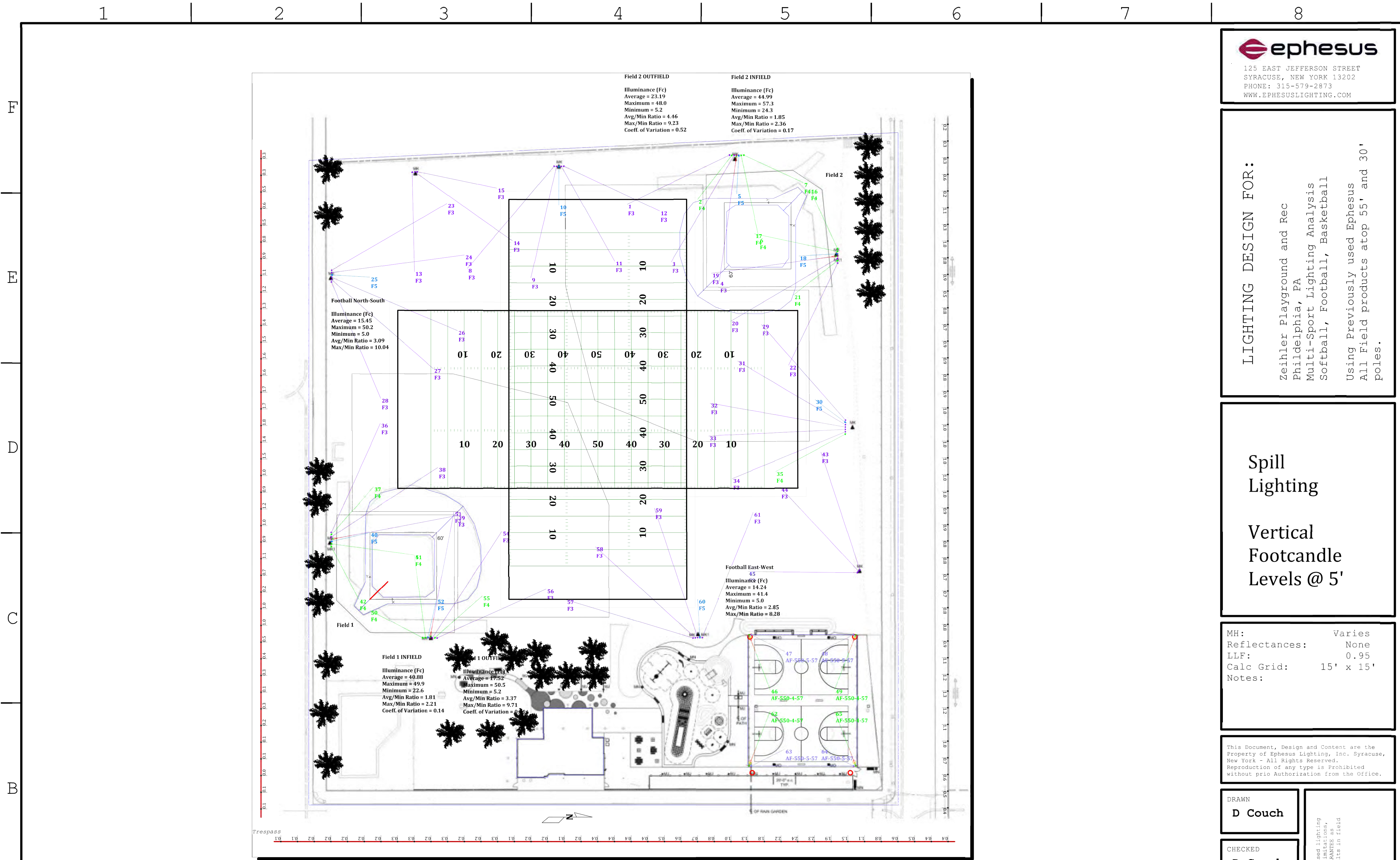
SCALE:
AS NOTED

DATE: 08/15/2022 DRAWN BY: CHECKED BY:

SHEET NUMBER:
EL-706

SALT DESIGN STUDIO FILE NO:
2003





Vertical Illuminance Levels at 3' APF
Scale: 1 inch= 60 Ft.

Scene/Channel Summary			
Scene: Sum			
Channel	Switched	Dimming	# Lums
Basketball	On	1.00	8
Field	On	1.00	57

Calculation Summary									
Project: Spill									
Scene: Sum									
Label	Units	Avg	Max	Min	Avg/Min	Max/Min	PSpcLr	PSpcTb	Meter Type
ObtrusiveLight_B Street_Cd_Seg	N.A.	26537	41355	7869	3.37	5.26	15	10	Vert-PerpCW
ObtrusiveLight_B Street_III_Seg	Fc	0.64	2.4	0.1	6.40	24.00	15	10	Vert-PerpCCW
ObtrusiveLight_Clarkson_Cd_Seg	N.A.	50668	92203	11562	4.38	7.97	15	10	Vert-PerpCW
ObtrusiveLight_Clarkson_III_Seg	Fc	0.82	1.8	0.0	N.A.	N.A.	15	10	Vert-PerpCCW
ObtrusiveLight_Olney_Cd_Seg1	N.A.	41230	58742	16228	2.54	3.62	15	10	Vert-PerpCW
ObtrusiveLight_Olney_III_Seg1	Fc	0.80	1.3	0.2	4.00	6.50	15	10	Vert-PerpCCW

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Philadelphia, PA
Multi-Sport Lighting Analysis
Softball, Football, Basketball
Using Previously used Ephesus
All Field products atop 55' and 30'
poles.

**Spill
Lighting**

**Vertical
Footcandle
Levels @ 5'**

MH: Varies
Reflectances: None
LLF: 0.95
Calc Grid: 15' x 15'
Notes:

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without prior Authorization from the Office.

DRAWN
D Couch

CHECKED
D Couch

REVISION

PROJECT
2101147

Revision Notes: If previously used lighting
equipment and extensive design limitations,
Ephesus Lighting provides NO GUARANTEE as
to performance or results in field
- measured or unmeasured.

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NOTE:
SEE ORIGINAL COOPER LIGHTING
SUMMARY IN PROJECT
DOCUMENTS.

CLIENT: PHILADELPHIA PARKS & RECREATION
Rebuild PHILADELPHIA

PROJECT NAME & ADDRESS:
ZIEHLER PLAYGROUND & RECREATION CENTER
200-64 E. OLNEY AVENUE
PHILADELPHIA, PA 19120

PROJECT NUMBER:
16640E-01-02

PRIME CONSULTANT / LANDSCAPE ARCHITECTURE:
SALT DESIGN
.\XR-SALT-LOGO.jpg

161 LEVERINGTON AVE, SUITE 1005
PHILADELPHIA, PA 19127
www.saltdesignstudio.com

CIVIL ENGINEERING:
MELIORA DESIGN
259 MORGAN STREET
PHOENIXVILLE, PA 19460
www.melioradesign.com

ARCHITECTURE:
IAN SMITH DESIGN GROUP
322 E. THOMPSON STREET
PHILADELPHIA, PA 19125
www.is-dg.com

LIGHTING DESIGN:
MILLER DESIGN GROUP
www.millerdesigngrouplighting.com

MEP DESIGN:
MARK ULTRICK ENGINEERS, INC.
822 COOPER STREET, #200
CAMDEN, NJ 08102
www.markultrick.com

STRUCTURAL ENGINEERING:
D'HUY ENGINEERING, INC.
1 EAST BROAD STREET, SUITE 310
BETHLEHEM, PA 18018
www.dhuy.com

DRAWING PHASE:
ISSUE FOR BIDDING

SCALE:
AS NOTED

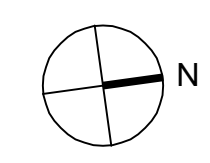
SHEET TITLE:
FIELD LIGHTING - COOPER AIMING DIAGRAM AND CALCULATION SUMMARY

REV	DATE	DESCRIPTION

DATE: 08/15/2022
DRAWN BY: []
CHECKED BY: []

SHEET NUMBER:
EL-707

SALT DESIGN STUDIO FILE NO:
2003



REV	DATE	DESCRIPTION

ephesus
 125 EAST JEFFERSON STREET
 SYRACUSE, NEW YORK 13202
 PHONE: 315-579-2873
 WWW.EPHESUSLIGHTING.COM

LIGHTING DESIGN FOR:
 Zeihler Playground and Rec
 Philadelphia, PA
 Multi-Sport Lighting Analysis
 Softball, Football, Basketball
 Using Previously used Ephesus
 All Field products atop 55' and 30'
 poles.

**Spill
 Lighting
 Summary**

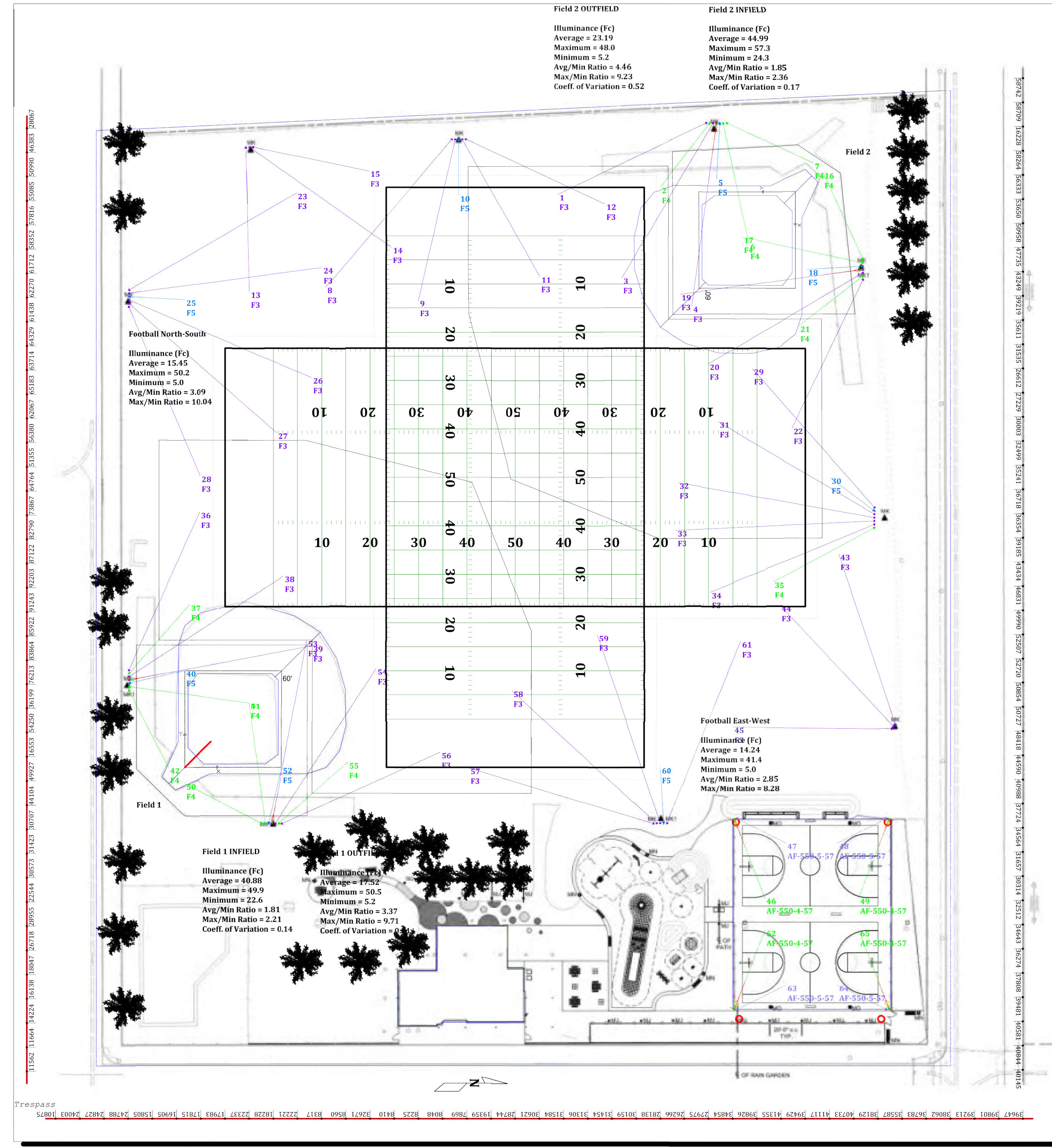
**Candela
 (Brightness)
 Values @ 5'**

MH: Varies
 Reflectances: None
 LLF: 0.95
 Calc Grid: 15' x 15'
 Notes:

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DRAWN D Couch	Revision: Notation of previously used lighting equipment and extensive design limitations. Ephesus Lighting provides NO GUARANTEE as to the accuracy of the lighting design as measured or subjective.
CHECKED D Couch	
REVISION	
PROJECT 2101147	

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Vertical Illuminance Levels at 3' APF
 Scale: 1 inch = 60 Ft.

Scene/Channel Summary

Channel	Switched	Dimming	# Lums
Basketball	On	1.00	8
Field	On	1.00	57

Calculation Summary

Label	Units	Avg	Max	Min	Avg/Min	Max/Min	PtSp/Lr	PtSp/Tb	Meter Type
ObtrusiveLight_B Street_Cd_Seg	N.A.	26537	41355	7869	3.37	5.26	15	10	Vert-PerpCW
ObtrusiveLight_B Street_III_Se	Fc	0.64	2.4	0.1	6.40	24.00	15	10	Vert-PerpCCW
ObtrusiveLight_Clarkson_Cd_Seg	N.A.	50668	92203	11562	4.38	7.97	15	10	Vert-PerpCW
ObtrusiveLight_Clarkson_III_Se	Fc	0.82	1.8	0.0	N.A.	N.A.	15	10	Vert-PerpCCW
ObtrusiveLight_Olney_Cd_Seg1	N.A.	41230	58742	16228	2.54	3.62	15	10	Vert-PerpCW
ObtrusiveLight_Olney_III_Seg1	Fc	0.80	1.3	0.2	4.00	6.50	15	10	Vert-PerpCCW

F
E
D
C
B
A

1 2 3 4 5 6 7 8

1 2 3 4 5 6 7 8

