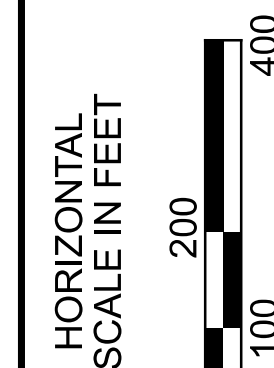


ILLUMINANCE CRITERIA (ODOT TEM TABLE 1197-4)

AVERAGE	MINIMUM	UNIFORMITY (AVG/MIN)
0.9	0.3	3.0:1



SUMMARY OF ROADWAY PHOTOMETRICS
I-90 MAINLINE AND B RAMPS

SEGMENT	AVERAGE	MINIMUM	UNIFORMITY (AVG/MIN)	UNIFORMITY (MAX/MIN)
PR. I-90 E. 9TH TO E. 14TH	1.1	0.4	2.8:1	8.8:1
PR. I-90 E. 14TH TO E. 22ND	0.9	0.3	3.0:1	6.7:1
PR. I-90 UNDER E. 22ND	1.0	0.3	3.3:1	10.3:1
PR. I-90 E. 22ND TO CARNEGIE	1.2	0.5	2.4:1	4.0:1
PR. I-90 UNDER CARNEGIE	1.0	0.4	2.5:1	12.5:1
PR. I-90 CARNEGIE TO PROSPECT	0.9	0.4	2.3:1	5.0:1
PR. RAMP IB5 I-90 EB TO E. 9TH	1.0	0.5	2.0:1	2.8:1
PR. RAMP B6 I-90 EB TO E. 14TH	1.0	0.3	3.3:1	4.7:1
PR. RAMP B6 E. 14TH TO E. 22ND	1.0	0.4	2.5:1	4.0:1
PR. RAMP A1 I-90 GORE TO CARNEGIE	1.0	0.6	1.7:1	2.7:1
PR. RAMP 4	0.9	0.3	3.0:1	5.3:1

LEGEND

- PROPOSED HIGH MAST TOWERS W/ 2, 3 OR 4 LED LUMINAIRES (SYMMETRIC)
- LOW MAST POLE W/ 1 LED LUMINAIRE (SYMMETRIC)
- LOW MAST POLE W/ 1 LED LUMINAIRE (ASYMMETRIC)
- PROPOSED UNDERPASS LED LUMINAIRE
- EXISTING HIGH MAST TOWERS TO REMAIN

LED LIGHT FIXTURES:

HOLOPHANE HMLE4 (FOR FREEWAY/RAMPS)
 PERFORMANCE PACKAGE 3 - 3000K CCT
 IES DISTRIBUTION: AREA WIDE
 SYSTEM WATTAGE: 429 Watts
 LUMENS PER FIXTURE: 63,221
 INPUT OPERATING CURRENT: 0.90 Amps (480V)
 LIGHT LOSS FACTOR: 0.85
 LOW MAST MOUNTING HEIGHT: 50 FT
 HIGH MAST MOUNTING HEIGHT: VARIES

HOLOPHANE WALLPACK LED (FOR BRIDGE UNDERPASSES)
 PERFORMANCE PACKAGE 10C1000 - 3000 SERIES CCT
 IES DISTRIBUTION: TYPE 3 SHORT
 SYSTEM WATTAGE: 28 Watts
 LUMENS PER FIXTURE: 3,206
 INPUT OPERATING CURRENT: 0.06 Amps (480V)
 LIGHT LOSS FACTOR: 0.86
 WALL PACK MOUNTING HEIGHT: VARIES

TYPICAL CONTOUR VALUES

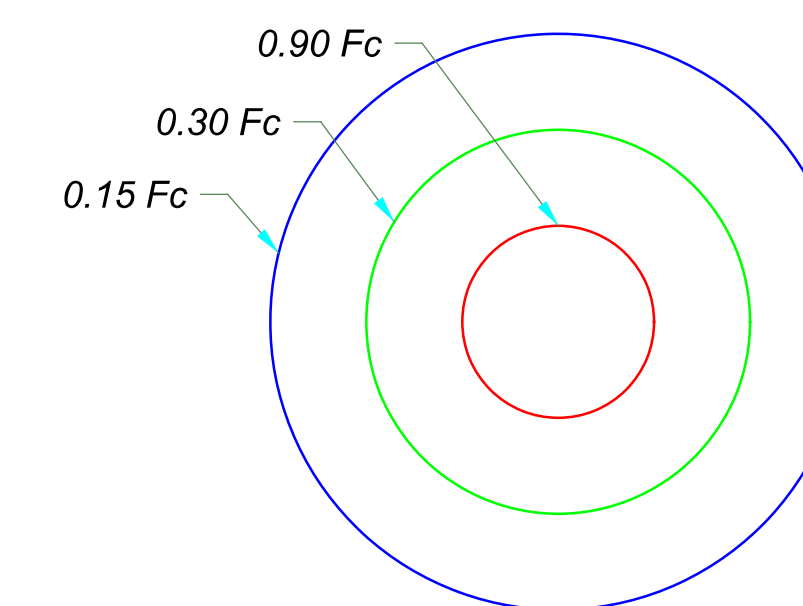


EXHIBIT G: CCG3A PHOTOMETRIC ANALYSIS
I-90 MAINLINE AND B RAMPS (HOLOPHANE)

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER

JLD

REVIEWER

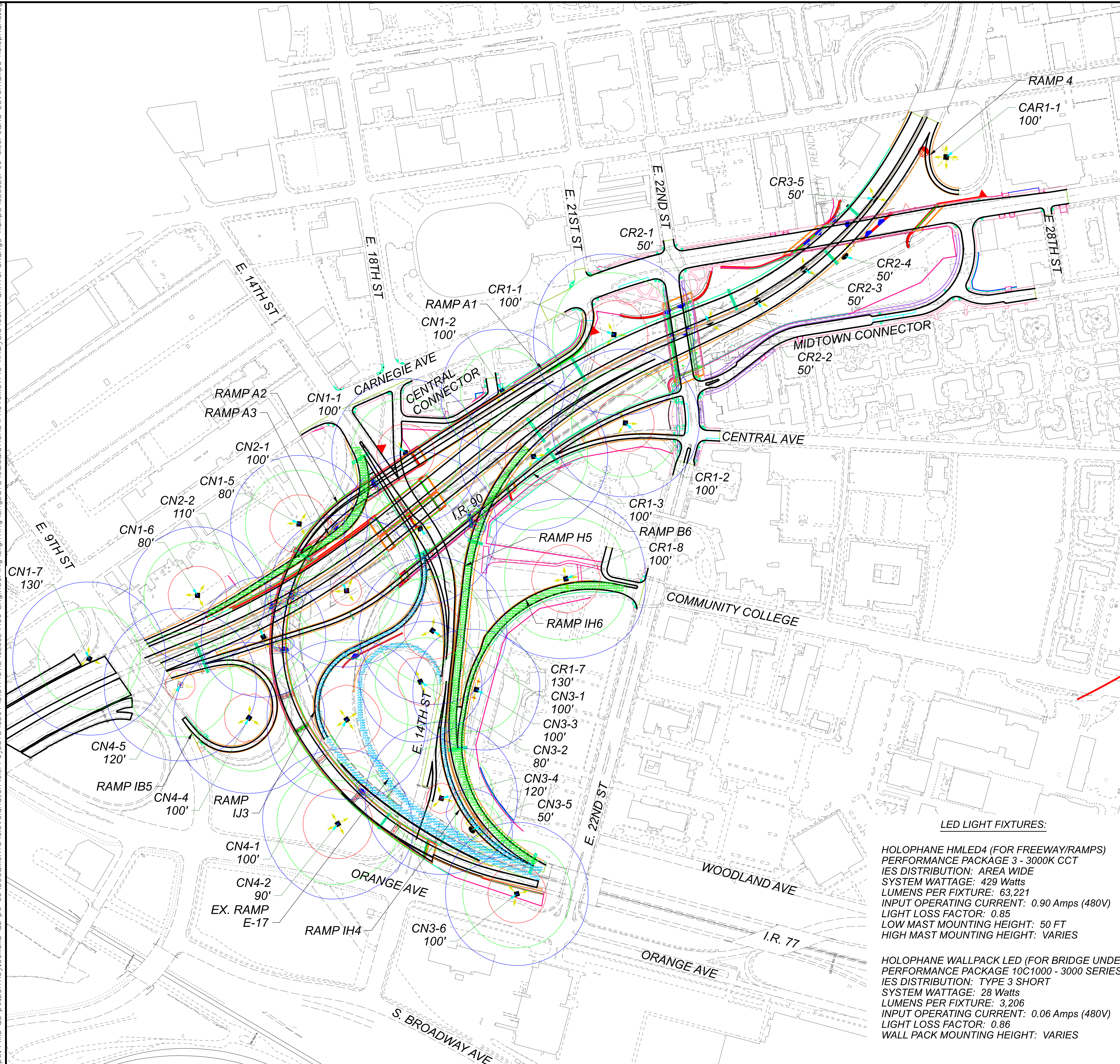
SM 4/24/24

PROJECT ID

82382

SHEET TOTAL

1 10

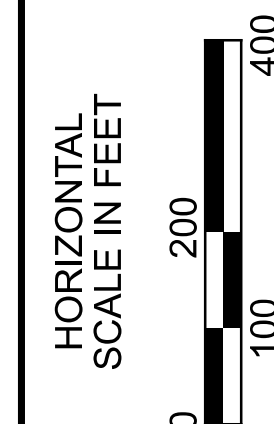
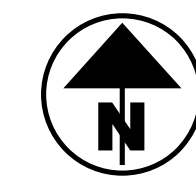


ILLUMINANCE CRITERIA (ODOT TEM TABLE 1197-4)

AVERAGE	MINIMUM	UNIFORMITY (AVG/MIN)
0.9	0.3	3.0:1

SUMMARY OF ROADWAY PHOTOMETRICS
 CENTRAL INTERCHANGE GROUND LEVEL RAMPS

SEGMENT	AVERAGE	MINIMUM	UNIFORMITY (AVG/MIN)	UNIFORMITY (MAX/MIN)
EX. RAMP E-17 I-77 NB TO E. 14TH SB	1.1	0.6	1.8:1	3.5:1
PR. HYBRID RAMP H5 I-77 NB TO I-90 EB	0.9	0.3	3.0:1	6.7:1
PR. RAMP IH4 I-77 NB TO E. 14TH NB	1.1	0.5	2.2:1	4.6:1
PR. RAMP IH6 I-77 NB TO COMMUNITY COLLEGE	1.0	0.4	2.5:1	4.8:1
PR. RAMP IJ3 E. 14TH SB TO I-77 SB	0.9	0.4	2.3:1	4.3:1
PR. RAMP A3 E. 14TH SB TO I-90 WB	0.9	0.3	3.0:1	8.0:1



LEGEND

- PROPOSED HIGH MAST TOWERS W/ 2, 3 OR 4 LED LUMINAIRES (SYMMETRIC)
- LOW MAST POLE W/ 1 LED LUMINAIRE (SYMMETRIC)
- LOW MAST POLE W/ 1 LED LUMINAIRE (ASYMMETRIC)
- PROPOSED UNDERPASS LED LUMINAIRE
- EXISTING HIGH MAST TOWERS TO REMAIN

LED LIGHT FIXTURES:

HOLOPHANE HMLE4 (FOR FREEWAY/RAMPS)
 PERFORMANCE PACKAGE 3 - 3000K CCT
 IES DISTRIBUTION: AREA WIDE
 SYSTEM WATTAGE: 429 Watts
 LUMENS PER FIXTURE: 63,221
 INPUT OPERATING CURRENT: 0.90 Amps (480V)
 LIGHT LOSS FACTOR: 0.85
 LOW MAST MOUNTING HEIGHT: 50 FT
 HIGH MAST MOUNTING HEIGHT: VARIES

HOLOPHANE WALLPACK LED (FOR BRIDGE UNDERPASSES)
 PERFORMANCE PACKAGE 10C1000 - 3000 SERIES CCT
 IES DISTRIBUTION: TYPE 3 SHORT
 SYSTEM WATTAGE: 28 Watts
 LUMENS PER FIXTURE: 3,206
 INPUT OPERATING CURRENT: 0.06 Amps (480V)
 LIGHT LOSS FACTOR: 0.86
 WALL PACK MOUNTING HEIGHT: VARIES

TYPICAL CONTOUR VALUES

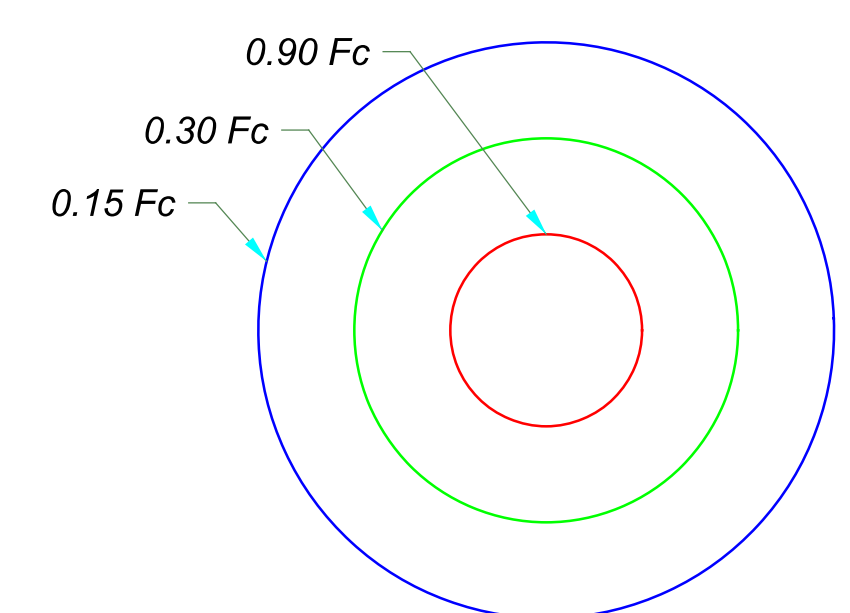
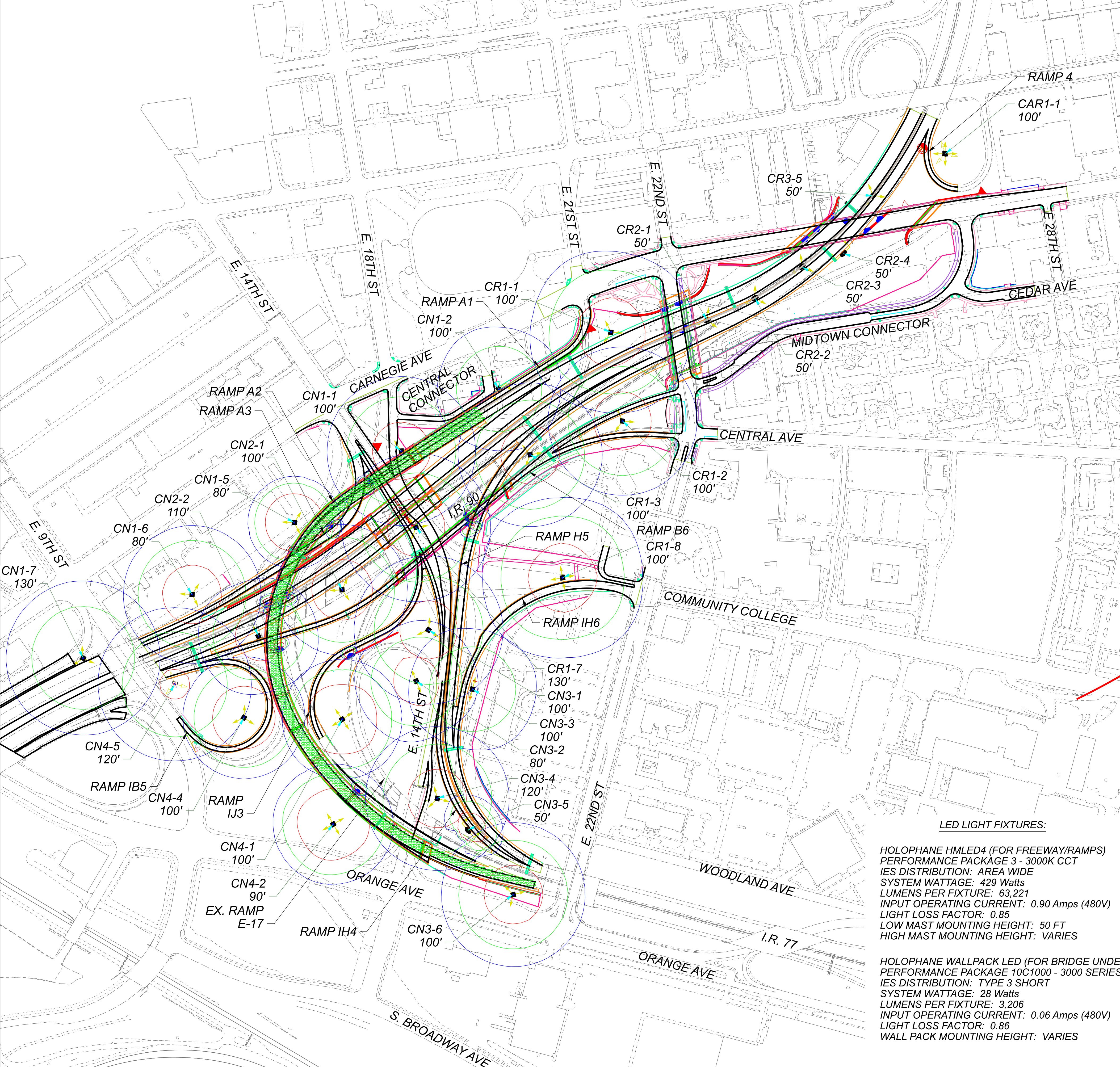


EXHIBIT G: CCG3A PHOTOMETRIC ANALYSIS
 I-90 / I-77 INTERCHANGE - GROUND LEVEL RAMPS (HOLOPHANE)

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	JLD
REVIEWER	SM 4/24/24
PROJECT ID	82382
SHEET	TOTAL 2 10

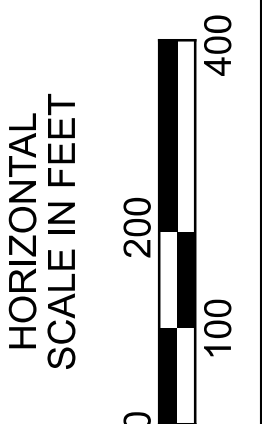
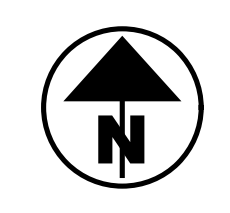


ILLUMINANCE CRITERIA (ODOT TEM TABLE 1197-4)

AVERAGE	MINIMUM	UNIFORMITY (AVG/MIN)
0.9	0.3	3.0:1

SUMMARY OF ROADWAY PHOTOMETRICS
 CENTRAL INTERCHANGE OVERPASS RAMP A2

SEGMENT	AVERAGE	MINIMUM	UNIFORMITY (AVG/MIN)	UNIFORMITY (MAX/MIN)
PR. RAMP A2 I-90 WB TO I-77 SB	0.9	0.3	3.0:1	13.0:1



- LEGEND**
- PROPOSED HIGH MAST TOWERS W/ 2, 3 OR 4 LED LUMINAIRES (SYMMETRIC)
 - LOW MAST POLE W/ 1 LED LUMINAIRE (SYMMETRIC)
 - LOW MAST POLE W/ 1 LED LUMINAIRE (ASYMMETRIC)
 - PROPOSED UNDERPASS LED LUMINAIRE
 - EXISTING HIGH MAST TOWERS TO REMAIN

LED LIGHT FIXTURES:

HOLOPHANE HMLE4 (FOR FREEWAY/RAMPS)
 PERFORMANCE PACKAGE 3 - 3000K CCT
 IES DISTRIBUTION: AREA WIDE
 SYSTEM WATTAGE: 429 Watts
 LUMENS PER FIXTURE: 63,221
 INPUT OPERATING CURRENT: 0.90 Amps (480V)
 LIGHT LOSS FACTOR: 0.85
 LOW MAST MOUNTING HEIGHT: 50 FT
 HIGH MAST MOUNTING HEIGHT: VARIES

HOLOPHANE WALLPACK LED (FOR BRIDGE UNDERPASSES)
 PERFORMANCE PACKAGE 10C1000 - 3000 SERIES CCT
 IES DISTRIBUTION: TYPE 3 SHORT
 SYSTEM WATTAGE: 28 Watts
 LUMENS PER FIXTURE: 3,206
 INPUT OPERATING CURRENT: 0.06 Amps (480V)
 LIGHT LOSS FACTOR: 0.86
 WALL PACK MOUNTING HEIGHT: VARIES

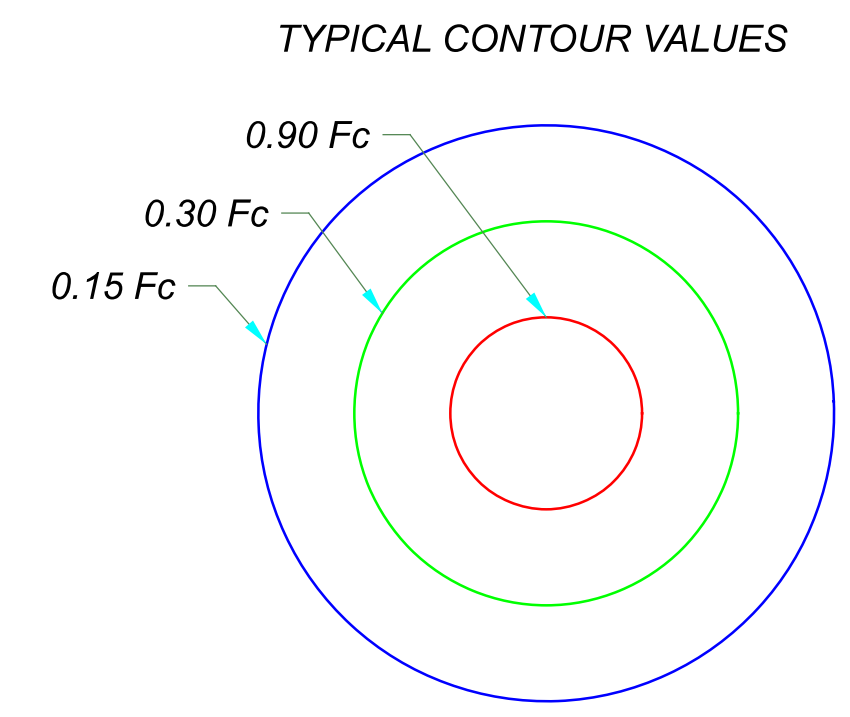
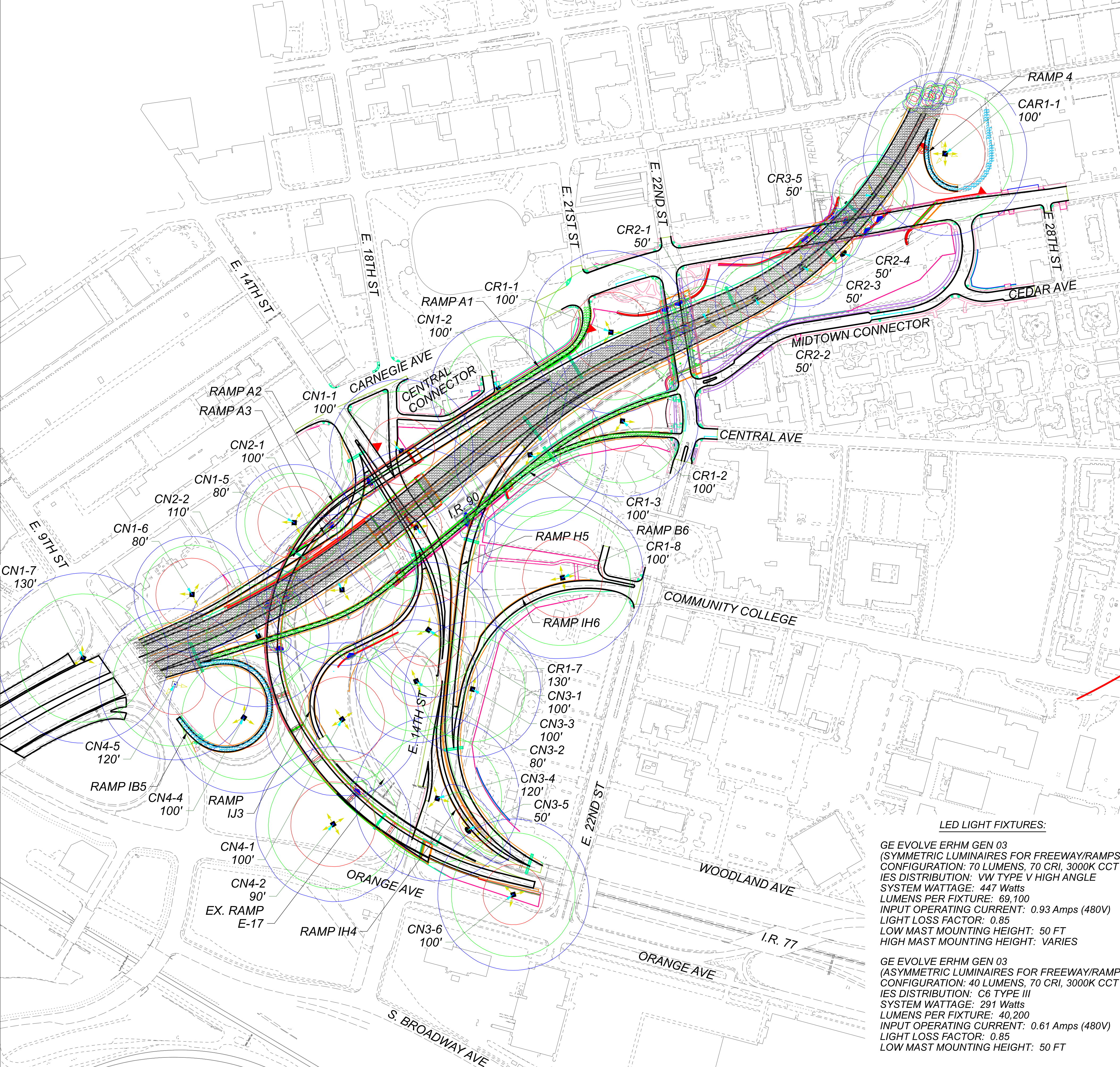


EXHIBIT G: CCG3A PHOTOMETRIC ANALYSIS
 I-90 / I-77 INTERCHANGE - OVERPASS RAMP A2 (HOLOPHANE)

DESIGN AGENCY	Michael Baker International
DESIGNER	JLD
REVIEWER	SM 4/24/24
PROJECT ID	82382
SHEET	TOTAL
3	10



ILLUMINANCE CRITERIA (ODOT TEM TABLE 1197-4)

AVERAGE	MINIMUM	UNIFORMITY (AVG/MIN)
0.9	0.3	3.0:1

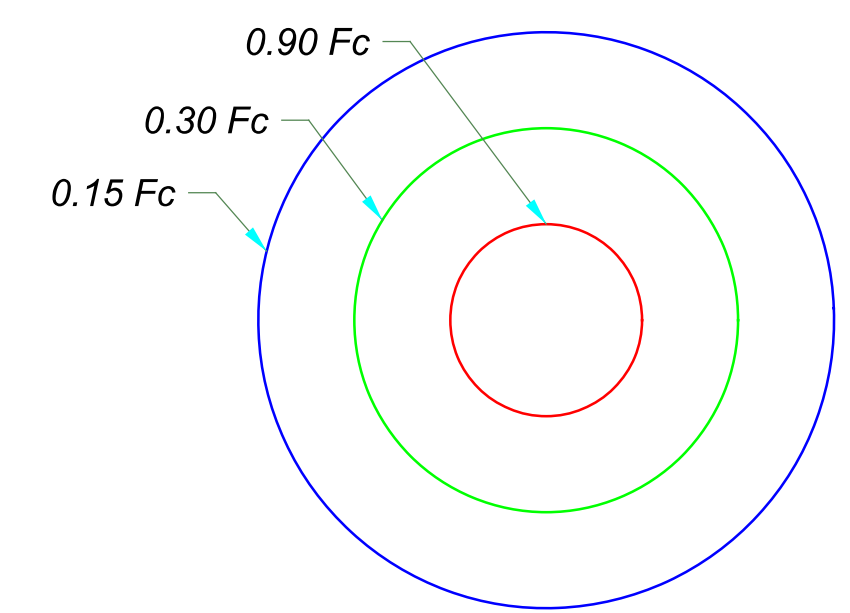
SUMMARY OF ROADWAY PHOTOMETRICS
I-90 MAINLINE AND B RAMPS

SEGMENT	AVERAGE	MINIMUM	UNIFORMITY (AVG/MIN)	UNIFORMITY (MAX/MIN)
PR. I-90 E. 9TH TO E. 14TH	1.2	0.5	2.4:1	6.0:1
PR. I-90 E. 14TH TO E. 22ND	1.1	0.3	3.7:1	6.3:1
PR. I-90 UNDER E. 22ND	1.3	0.4	3.3:1	8.5:1
PR. I-90 E. 22ND TO CARNEGIE	1.4	0.7	2.0:1	3.6:1
PR. I-90 UNDER CARNEGIE	1.1	0.6	1.8:1	3.0:1
PR. I-90 CARNEGIE TO PROSPECT	1.1	0.6	1.8:1	3.2:1
PR. RAMP IB5 I-90 EB TO E. 9TH	1.1	0.6	1.8:1	2.3:1
PR. RAMP B6 I-90 EB TO E. 14TH	1.0	0.4	2.5:1	3.5:1
PR. RAMP B6 E. 14TH TO E. 22ND	1.1	0.5	2.2:1	3.0:1
PR. RAMP A1 I-90 GORE TO CARNEGIE	1.0	0.6	1.7:1	2.5:1
PR. RAMP 4	1.0	0.4	2.5:1	4.3:1

LEGEND

- PROPOSED HIGH MAST TOWERS W/ 2, 3 OR 4 LED LUMINAIRES (SYMMETRIC)
- LOW MAST POLE W/ 1 LED LUMINAIRE (SYMMETRIC)
- LOW MAST POLE W/ 1 LED LUMINAIRE (ASYMMETRIC)
- PROPOSED UNDERPASS LED LUMINAIRE
- EXISTING HIGH MAST TOWERS TO REMAIN

TYPICAL CONTOUR VALUES



LED LIGHT FIXTURES:

GE EVOLVE ERHM GEN 03 (SYMMETRIC LUMINAIRES FOR FREEWAY/RAMPS)
 CONFIGURATION: 70 LUMENS, 70 CRI, 3000K CCT
 IES DISTRIBUTION: VW TYPE V HIGH ANGLE
 SYSTEM WATTAGE: 447 Watts
 LUMENS PER FIXTURE: 69,100
 INPUT OPERATING CURRENT: 0.93 Amps (480V)
 LIGHT LOSS FACTOR: 0.85
 LOW MAST MOUNTING HEIGHT: 50 FT
 HIGH MAST MOUNTING HEIGHT: VARIES

GE EVOLVE ERHM GEN 03 (ASYMMETRIC LUMINAIRES FOR FREEWAY/RAMPS)
 CONFIGURATION: 40 LUMENS, 70 CRI, 3000K CCT
 IES DISTRIBUTION: C6 TYPE III
 SYSTEM WATTAGE: 291 Watts
 LUMENS PER FIXTURE: 40,200
 INPUT OPERATING CURRENT: 0.61 Amps (480V)
 LIGHT LOSS FACTOR: 0.85
 LOW MAST MOUNTING HEIGHT: 50 FT

LED LIGHT FIXTURES (CONTINUED):

GE EVOLVE EWAS A SERIES LED WALL PACK (FOR BRIDGE UNDERPASSES)
 CONFIGURATION: B3, 70 CRI, 3000K CCT
 IES DISTRIBUTION: TYPE 3
 SYSTEM WATTAGE: 38 Watts
 LUMENS PER FIXTURE: 4,900
 INPUT OPERATING CURRENT: 0.08 Amps (480V)
 LIGHT LOSS FACTOR: 0.85
 WALL PACK MOUNTING HEIGHT: VARIES

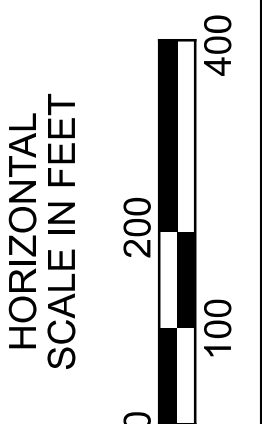
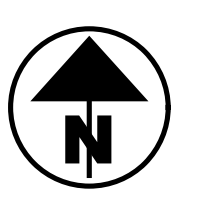


EXHIBIT G: CCG3A PHOTOMETRIC ANALYSIS
I-90 MAINLINE AND B RAMPS (GE EVOLVE)

DESIGN AGENCY

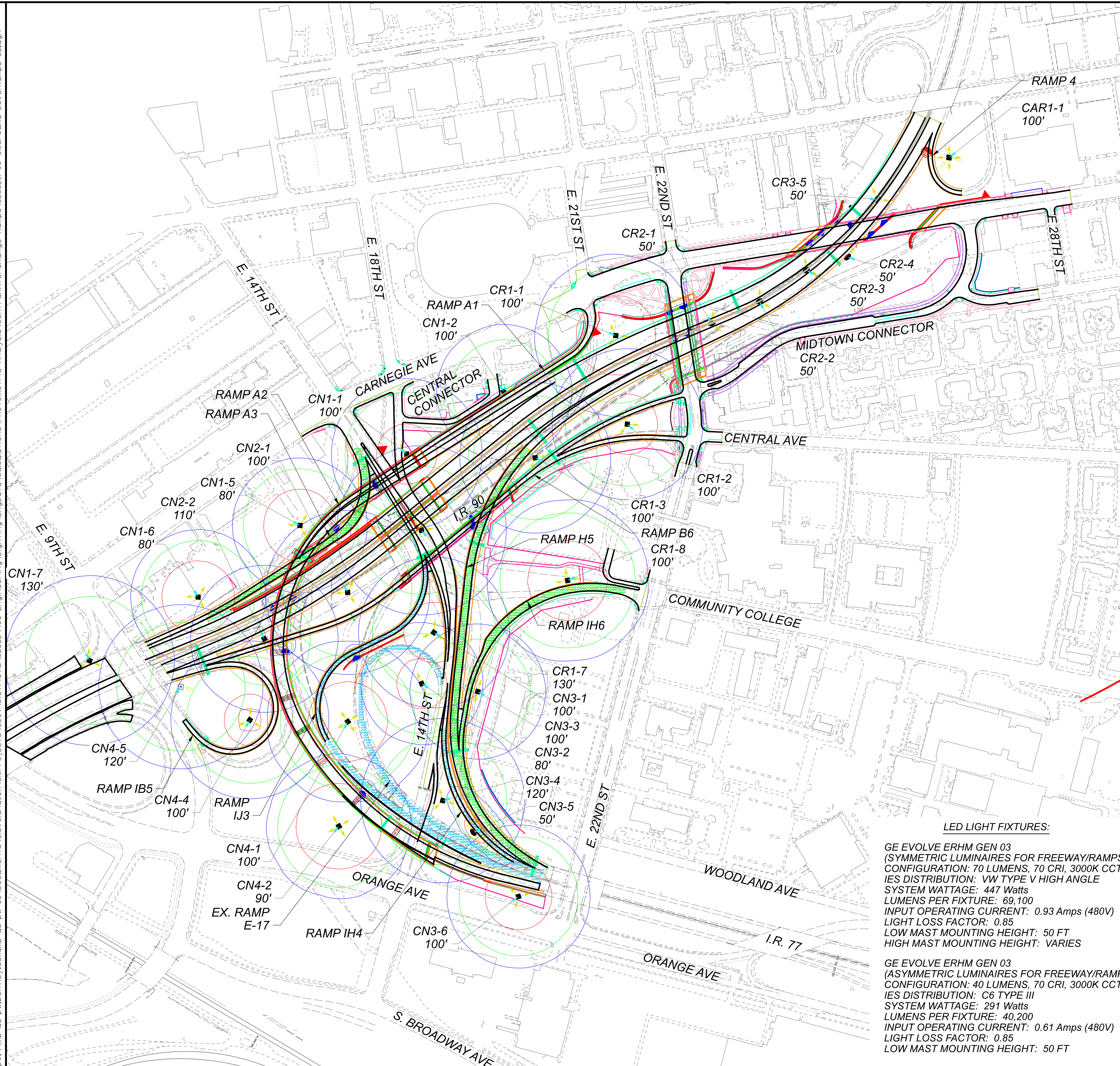
Michael Baker INTERNATIONAL

DESIGNER JLD

REVIEWER SM 4/24/24

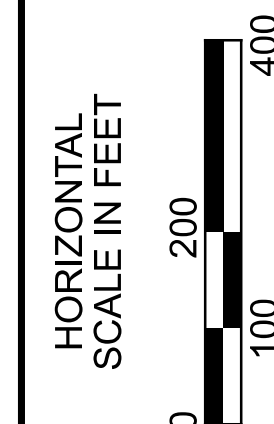
PROJECT ID 82382

SHEET TOTAL 4 10



ILLUMINANCE CRITERIA (ODOT TEM TABLE 1197-4)

AVERAGE	MINIMUM	UNIFORMITY (AVG/MIN)
0.9	0.3	3.0:1



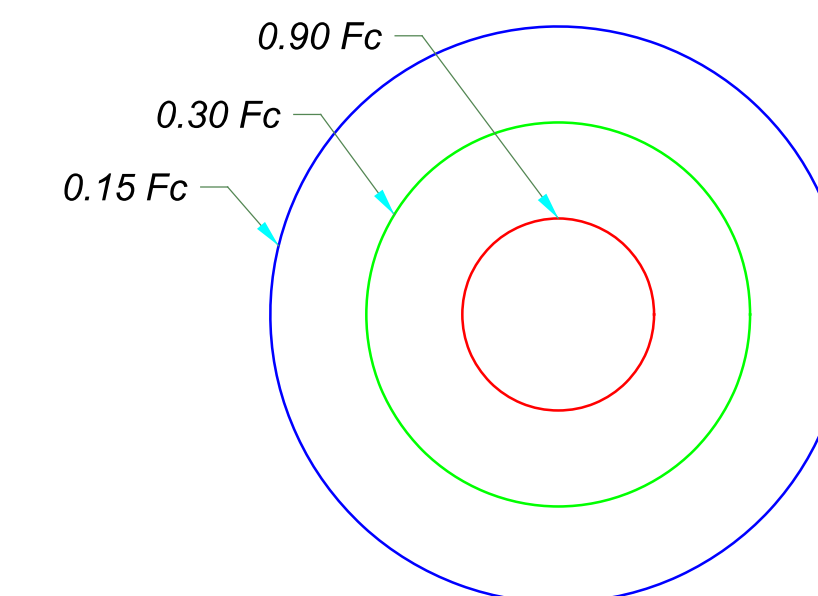
SUMMARY OF ROADWAY PHOTOMETRICS
CENTRAL INTERCHANGE GROUND LEVEL RAMPS

SEGMENT	AVERAGE	MINIMUM	UNIFORMITY (AVG/MIN)	UNIFORMITY (MAX/MIN)
EX. RAMP E-17 I-77 NB TO E. 14TH SB	1.2	0.6	2.0:1	4.0:1
PR. HYBRID RAMP H5 I-77 NB TO I-90 EB	1.1	0.4	2.8:1	5.0:1
PR. RAMP IH4 I-77 NB TO E. 14TH NB	1.3	0.6	2.2:1	5.5:1
PR. RAMP IH6 I-77 NB TO COMMUNITY COLLEGE	1.1	0.5	2.2:1	3.4:1
PR. RAMP IJ3 E. 14TH SB TO I-77 SB	1.0	0.4	2.5:1	4.3:1
PR. RAMP A3 E. 14TH SB TO I-90 WB	1.1	0.4	2.8:1	7.0:1

LEGEND

- PROPOSED HIGH MAST TOWERS W/ 2, 3 OR 4 LED LUMINAIRES (SYMMETRIC)
- LOW MAST POLE W/ 1 LED LUMINAIRE (SYMMETRIC)
- LOW MAST POLE W/ 1 LED LUMINAIRE (ASYMMETRIC)
- PROPOSED UNDERPASS LED LUMINAIRE
- EXISTING HIGH MAST TOWERS TO REMAIN

TYPICAL CONTOUR VALUES



LED LIGHT FIXTURES:

GE EVOLVE ERHM GEN 03
(SYMMETRIC LUMINAIRES FOR FREEWAY/RAMPS)
CONFIGURATION: 70 LUMENS, 70 CRI, 3000K CCT
IES DISTRIBUTION: VW TYPE V HIGH ANGLE
SYSTEM WATTAGE: 447 Watts
LUMENS PER FIXTURE: 69,100
INPUT OPERATING CURRENT: 0.93 Amps (480V)
LIGHT LOSS FACTOR: 0.85
LOW MAST MOUNTING HEIGHT: 50 FT
HIGH MAST MOUNTING HEIGHT: VARIES

GE EVOLVE ERHM GEN 03
(ASYMMETRIC LUMINAIRES FOR FREEWAY/RAMPS)
CONFIGURATION: 40 LUMENS, 70 CRI, 3000K CCT
IES DISTRIBUTION: C6 TYPE III
SYSTEM WATTAGE: 291 Watts
LUMENS PER FIXTURE: 40,200
INPUT OPERATING CURRENT: 0.61 Amps (480V)
LIGHT LOSS FACTOR: 0.85
LOW MAST MOUNTING HEIGHT: 50 FT

LED LIGHT FIXTURES (CONTINUED):

GE EVOLVE EWAS A SERIES LED WALL PACK
(FOR BRIDGE UNDERPASSES)
CONFIGURATION: B3, 70 CRI, 3000K CCT
IES DISTRIBUTION: TYPE 3
SYSTEM WATTAGE: 38 Watts
LUMENS PER FIXTURE: 4,900
INPUT OPERATING CURRENT: 0.08 Amps (480V)
LIGHT LOSS FACTOR: 0.85
WALL PACK MOUNTING HEIGHT: VARIES

EXHIBIT G: CCG3A PHOTOMETRIC ANALYSLS
I-90 / I-77 INTERCHANGE - GROUND LEVEL RAMPS (GE EVOLVE)

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER

JLD

REVIEWER

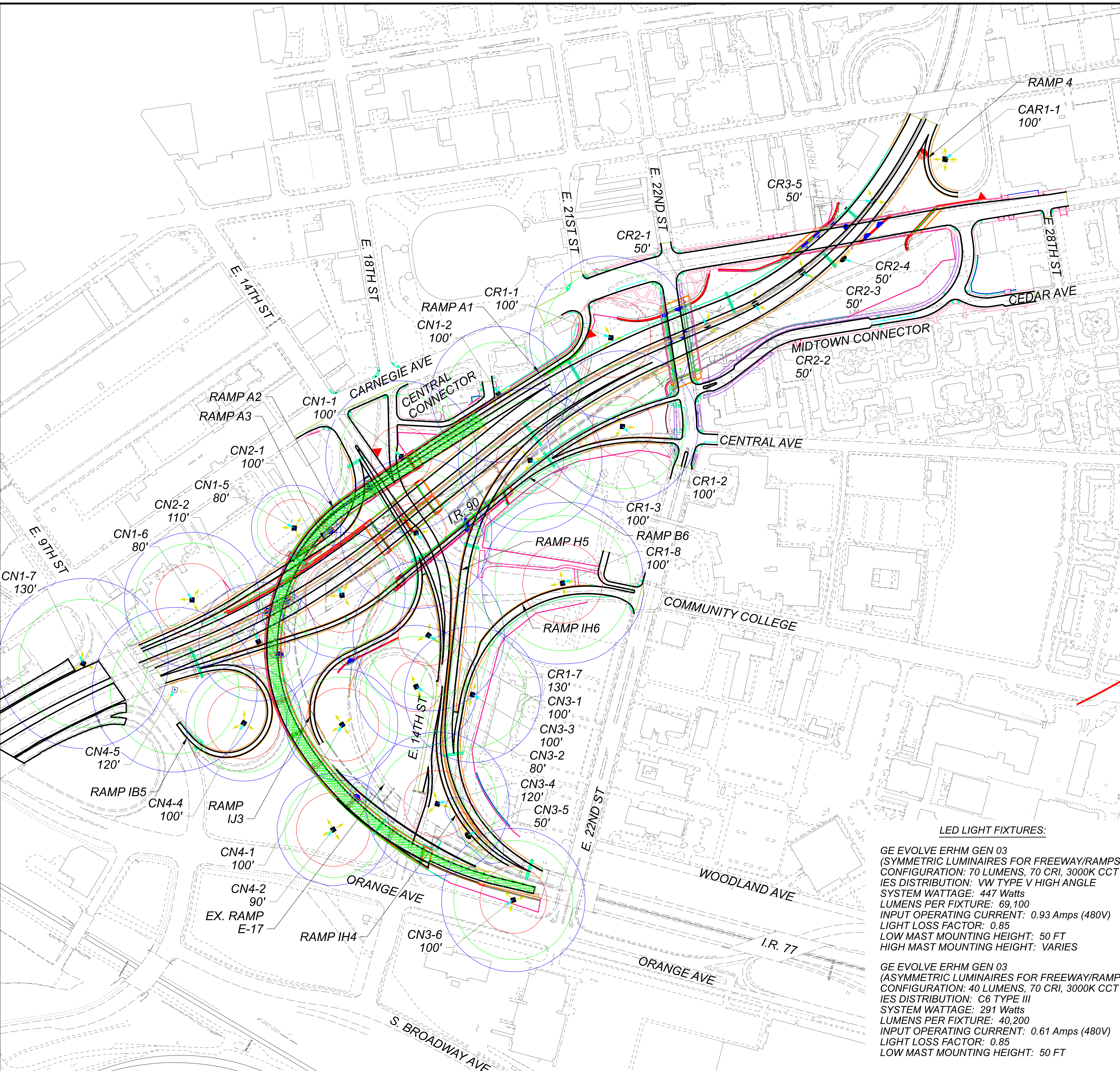
SM 4/24/24

PROJECT ID

82382

SHEET TOTAL

5 10

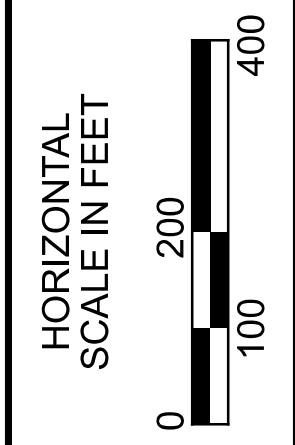
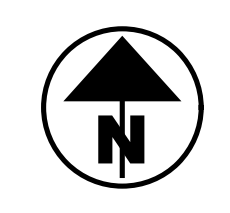


ILLUMINANCE CRITERIA (ODOT TEM TABLE 1197-4)

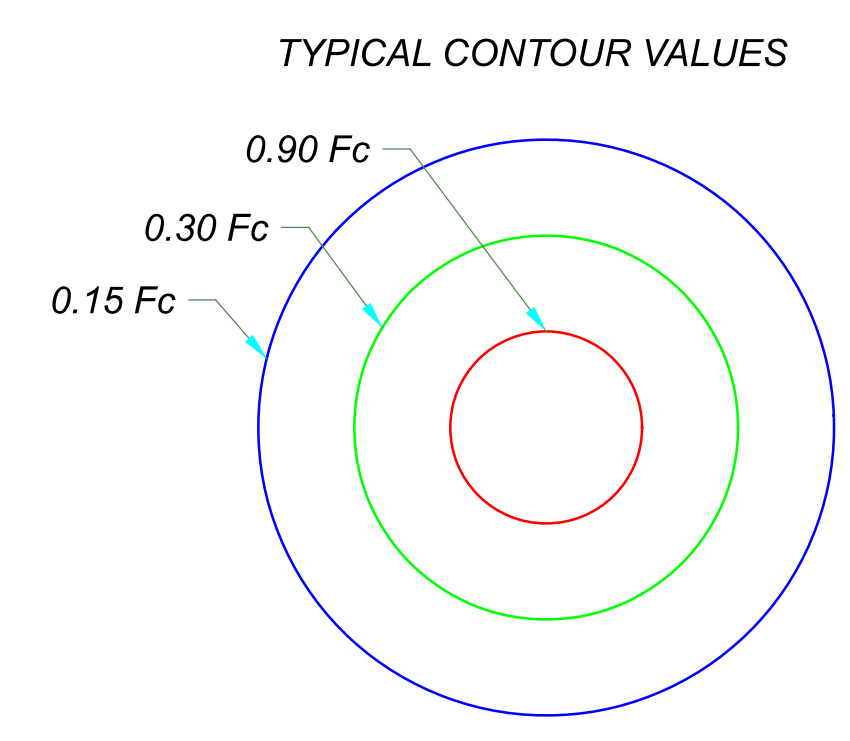
AVERAGE	MINIMUM	UNIFORMITY (AVG/MIN)
0.9	0.3	3.0:1

SUMMARY OF ROADWAY PHOTOMETRICS
CENTRAL INTERCHANGE OVERPASS RAMP A2

SEGMENT	AVERAGE	MINIMUM	UNIFORMITY (AVG/MIN)	UNIFORMITY (MAX/MIN)
PR. RAMP A2 I-90 WB TO I-77 SB	1.0	0.3	3.3:1	17.3:1



- LEGEND**
- PROPOSED HIGH MAST TOWERS W/ 2, 3 OR 4 LED LUMINAIRES (SYMMETRIC)
 - LOW MAST POLE W/ 1 LED LUMINAIRE (SYMMETRIC)
 - LOW MAST POLE W/ 1 LED LUMINAIRE (ASYMMETRIC)
 - PROPOSED UNDERPASS LED LUMINAIRE
 - EXISTING HIGH MAST TOWERS TO REMAIN



LED LIGHT FIXTURES:

GE EVOLVE ERHM GEN 03 (SYMMETRIC LUMINAIRES FOR FREEWAY/RAMPS)
 CONFIGURATION: 70 LUMENS, 70 CRI, 3000K CCT
 IES DISTRIBUTION: VW TYPE V HIGH ANGLE
 SYSTEM WATTAGE: 447 Watts
 LUMENS PER FIXTURE: 69,100
 INPUT OPERATING CURRENT: 0.93 Amps (480V)
 LIGHT LOSS FACTOR: 0.85
 LOW MAST MOUNTING HEIGHT: 50 FT
 HIGH MAST MOUNTING HEIGHT: VARIES

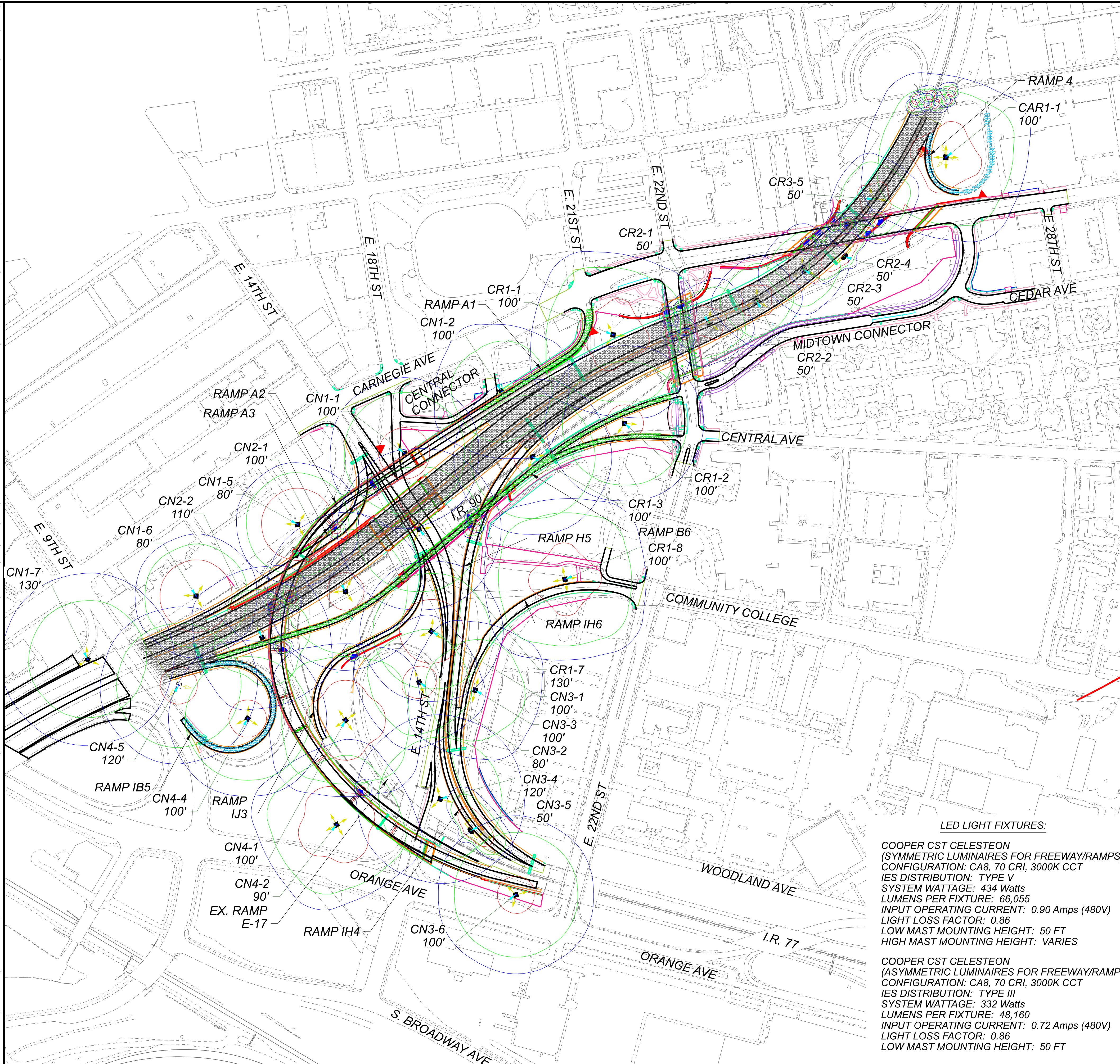
GE EVOLVE ERHM GEN 03 (ASYMMETRIC LUMINAIRES FOR FREEWAY/RAMPS)
 CONFIGURATION: 40 LUMENS, 70 CRI, 3000K CCT
 IES DISTRIBUTION: C6 TYPE III
 SYSTEM WATTAGE: 291 Watts
 LUMENS PER FIXTURE: 40,200
 INPUT OPERATING CURRENT: 0.61 Amps (480V)
 LIGHT LOSS FACTOR: 0.85
 LOW MAST MOUNTING HEIGHT: 50 FT

LED LIGHT FIXTURES (CONTINUED):

GE EVOLVE EWAS A SERIES LED WALL PACK (FOR BRIDGE UNDERPASSES)
 CONFIGURATION: B3, 70 CRI, 3000K CCT
 IES DISTRIBUTION: TYPE 3
 SYSTEM WATTAGE: 38 Watts
 LUMENS PER FIXTURE: 4,900
 INPUT OPERATING CURRENT: 0.08 Amps (480V)
 LIGHT LOSS FACTOR: 0.85
 WALL PACK MOUNTING HEIGHT: VARIES

EXHIBIT G: CCG3A PHOTOMETRIC ANALYSIS
I-90 / I-77 INTERCHANGE - OVERPASS RAMP A2 (GE EVOLVE)

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	JLD
REVIEWER	SM 4/24/24
PROJECT ID	82382
SHEET	TOTAL
6	10



ILLUMINANCE CRITERIA (ODOT TEM TABLE 1197-4)

AVERAGE	MINIMUM	UNIFORMITY (AVG/MIN)
0.9	0.3	3.0:1

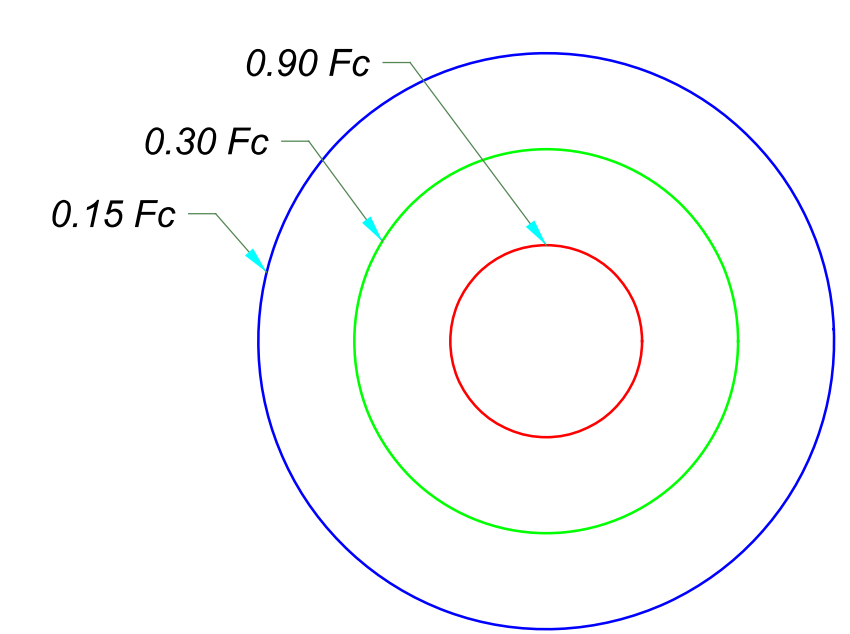
SUMMARY OF ROADWAY PHOTOMETRICS
I-90 MAINLINE AND B RAMPS

SEGMENT	AVERAGE	MINIMUM	UNIFORMITY (AVG/MIN)	UNIFORMITY (MAX/MIN)
PR. I-90 E. 9TH TO E. 14TH	1.1	0.5	2.2:1	13.0:1
PR. I-90 E. 14TH TO E. 22ND	1.0	0.4	2.5:1	4.0:1
PR. I-90 UNDER E. 22ND	1.4	0.4	3.5:1	17.8:1
PR. I-90 E. 22ND TO CARNEGIE	1.2	0.6	2.0:1	5.2:1
PR. I-90 UNDER CARNEGIE	1.4	0.6	2.3:1	9.0:1
PR. I-90 CARNEGIE TO PROSPECT	1.0	0.6	1.7:1	3.2:1
PR. RAMP IB5 I-90 EB TO E. 9TH	1.0	0.6	1.7:1	2.2:1
PR. RAMP B6 I-90 EB TO E. 14TH	1.0	0.5	2.0:1	2.4:1
PR. RAMP B6 E. 14TH TO E. 22ND	0.9	0.6	1.5:1	2.0:1
PR. RAMP A1 I-90 GORE TO CARNEGIE	0.9	0.7	1.3:1	1.7:1
PR. RAMP 4	0.9	0.5	1.8:1	2.6:1

LEGEND

- PROPOSED HIGH MAST TOWERS W/ 2, 3 OR 4 LED LUMINAIRES (SYMMETRIC)
- LOW MAST POLE W/ 1 LED LUMINAIRE (SYMMETRIC)
- LOW MAST POLE W/ 1 LED LUMINAIRE (ASYMMETRIC)
- PROPOSED UNDERPASS LED LUMINAIRE
- EXISTING HIGH MAST TOWERS TO REMAIN

TYPICAL CONTOUR VALUES



LED LIGHT FIXTURES:

COOPER CST CELESTEON
 (SYMMETRIC LUMINAIRES FOR FREEWAY/RAMPS)
 CONFIGURATION: CA8, 70 CRI, 3000K CCT
 IES DISTRIBUTION: TYPE V
 SYSTEM WATTAGE: 434 Watts
 LUMENS PER FIXTURE: 66,055
 INPUT OPERATING CURRENT: 0.90 Amps (480V)
 LIGHT LOSS FACTOR: 0.86
 LOW MAST MOUNTING HEIGHT: 50 FT
 HIGH MAST MOUNTING HEIGHT: VARIES

COOPER CST CELESTEON
 (ASYMMETRIC LUMINAIRES FOR FREEWAY/RAMPS)
 CONFIGURATION: CA8, 70 CRI, 3000K CCT
 IES DISTRIBUTION: TYPE III
 SYSTEM WATTAGE: 332 Watts
 LUMENS PER FIXTURE: 48,160
 INPUT OPERATING CURRENT: 0.72 Amps (480V)
 LIGHT LOSS FACTOR: 0.86
 LOW MAST MOUNTING HEIGHT: 50 FT

LED LIGHT FIXTURES (CONTINUED):

COOPER WKP WAL-PAK (FOR BRIDGE UNDERPASSES)
 CONFIGURATION: 6B, 70 CRI, 3000K CCT
 IES DISTRIBUTION: ASYMMETRIC
 SYSTEM WATTAGE: 46 Watts
 LUMENS PER FIXTURE: 5,883
 INPUT OPERATING CURRENT: 0.14 Amps (480V)
 LIGHT LOSS FACTOR: 0.85
 WALL PACK MOUNTING HEIGHT: VARIES

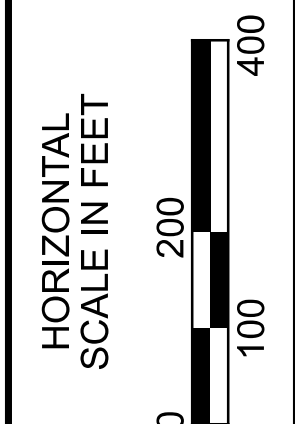
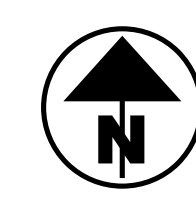


EXHIBIT G: CCG3A PHOTOMETRIC ANALYSIS
I-90 MAINLINE AND B RAMPS (COOPER)

DESIGN AGENCY

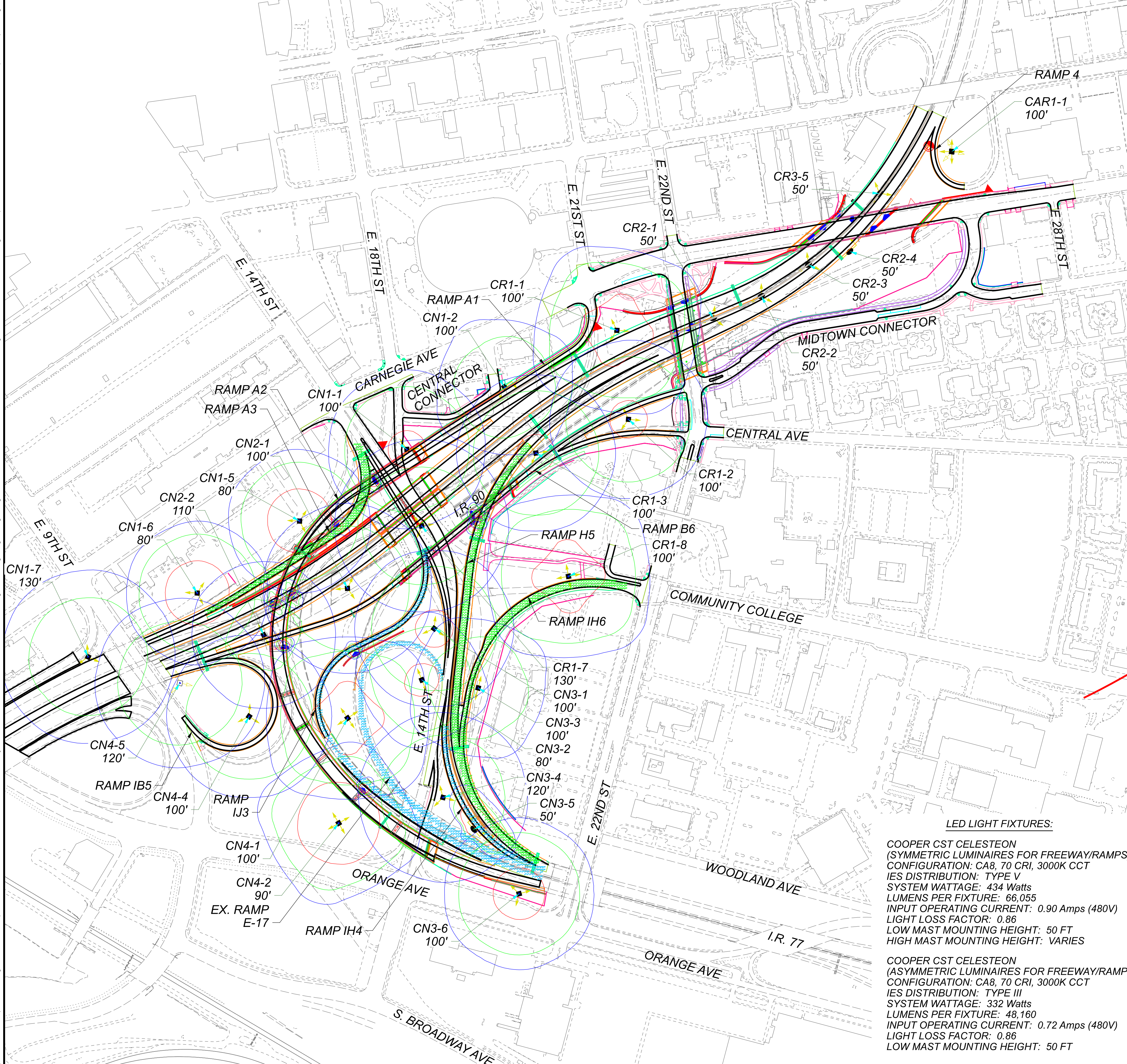
Michael Baker INTERNATIONAL

DESIGNER JLD

REVIEWER SM 4/24/24

PROJECT ID 82382

SHEET 7 TOTAL 10



ILLUMINANCE CRITERIA (ODOT TEM TABLE 1197-4)

AVERAGE	MINIMUM	UNIFORMITY (AVG/MIN)
0.9	0.3	3.0:1

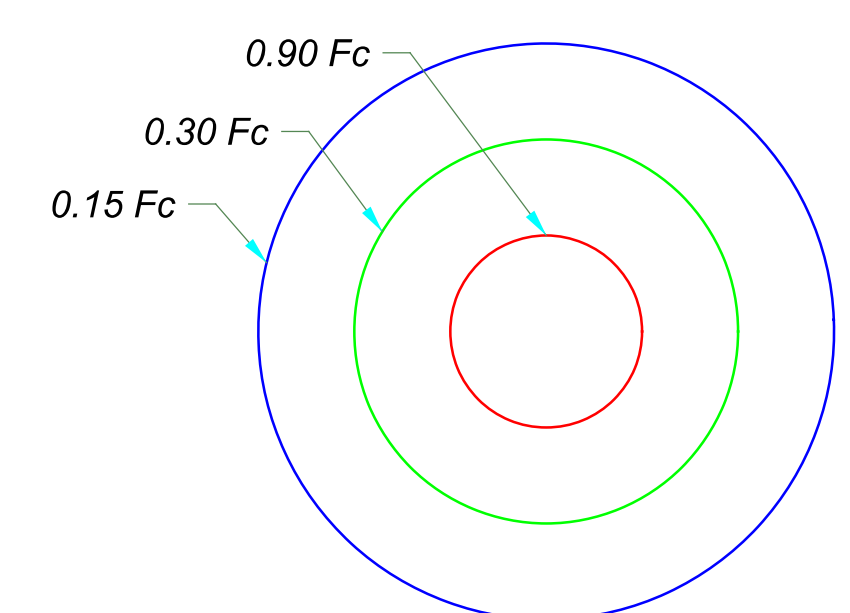
SUMMARY OF ROADWAY PHOTOMETRICS
CENTRAL INTERCHANGE GROUND LEVEL RAMPS

SEGMENT	AVERAGE	MINIMUM	UNIFORMITY (AVG/MIN)	UNIFORMITY (MAX/MIN)
EX. RAMP E-17 I-77 NB TO E. 14TH SB	1.1	0.7	1.6:1	2.9:1
PR. HYBRID RAMP H5 I-77 NB TO I-90 EB	1.0	0.4	2.5:1	5.3:1
PR. RAMP IH4 I-77 NB TO E. 14TH NB	1.4	0.6	2.3:1	5.7:1
PR. RAMP IH6 I-77 NB TO COMMUNITY COLLEGE	1.0	0.5	2.0:1	2.8:1
PR. RAMP IJ3 E. 14TH SB TO I-77 SB	0.9	0.4	2.3:1	5.3:1
PR. RAMP A3 E. 14TH SB TO I-90 WB	1.0	0.5	2.0:1	5.2:1

LEGEND

- PROPOSED HIGH MAST TOWERS W/ 2, 3 OR 4 LED LUMINAIRES (SYMMETRIC)
- LOW MAST POLE W/ 1 LED LUMINAIRE (SYMMETRIC)
- LOW MAST POLE W/ 1 LED LUMINAIRE (ASYMMETRIC)
- PROPOSED UNDERPASS LED LUMINAIRE
- EXISTING HIGH MAST TOWERS TO REMAIN

TYPICAL CONTOUR VALUES



LED LIGHT FIXTURES:

COOPER CST CELESTEON
(SYMMETRIC LUMINAIRES FOR FREEWAY/RAMPS)
CONFIGURATION: CA8, 70 CRI, 3000K CCT
IES DISTRIBUTION: TYPE V
SYSTEM WATTAGE: 434 Watts
LUMENS PER FIXTURE: 66,055
INPUT OPERATING CURRENT: 0.90 Amps (480V)
LIGHT LOSS FACTOR: 0.86
LOW MAST MOUNTING HEIGHT: 50 FT
HIGH MAST MOUNTING HEIGHT: VARIES

COOPER CST CELESTEON
(ASYMMETRIC LUMINAIRES FOR FREEWAY/RAMPS)
CONFIGURATION: CA8, 70 CRI, 3000K CCT
IES DISTRIBUTION: TYPE III
SYSTEM WATTAGE: 332 Watts
LUMENS PER FIXTURE: 48,160
INPUT OPERATING CURRENT: 0.72 Amps (480V)
LIGHT LOSS FACTOR: 0.86
LOW MAST MOUNTING HEIGHT: 50 FT

LED LIGHT FIXTURES (CONTINUED):

COOPER WKP WAL-PAK (FOR BRIDGE UNDERPASSES)
CONFIGURATION: 6B, 70 CRI, 3000K CCT
IES DISTRIBUTION: ASYMMETRIC
SYSTEM WATTAGE: 46 Watts
LUMENS PER FIXTURE: 5,883
INPUT OPERATING CURRENT: 0.14 Amps (480V)
LIGHT LOSS FACTOR: 0.85
WALL PACK MOUNTING HEIGHT: VARIES

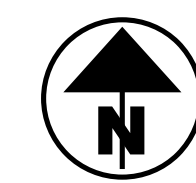
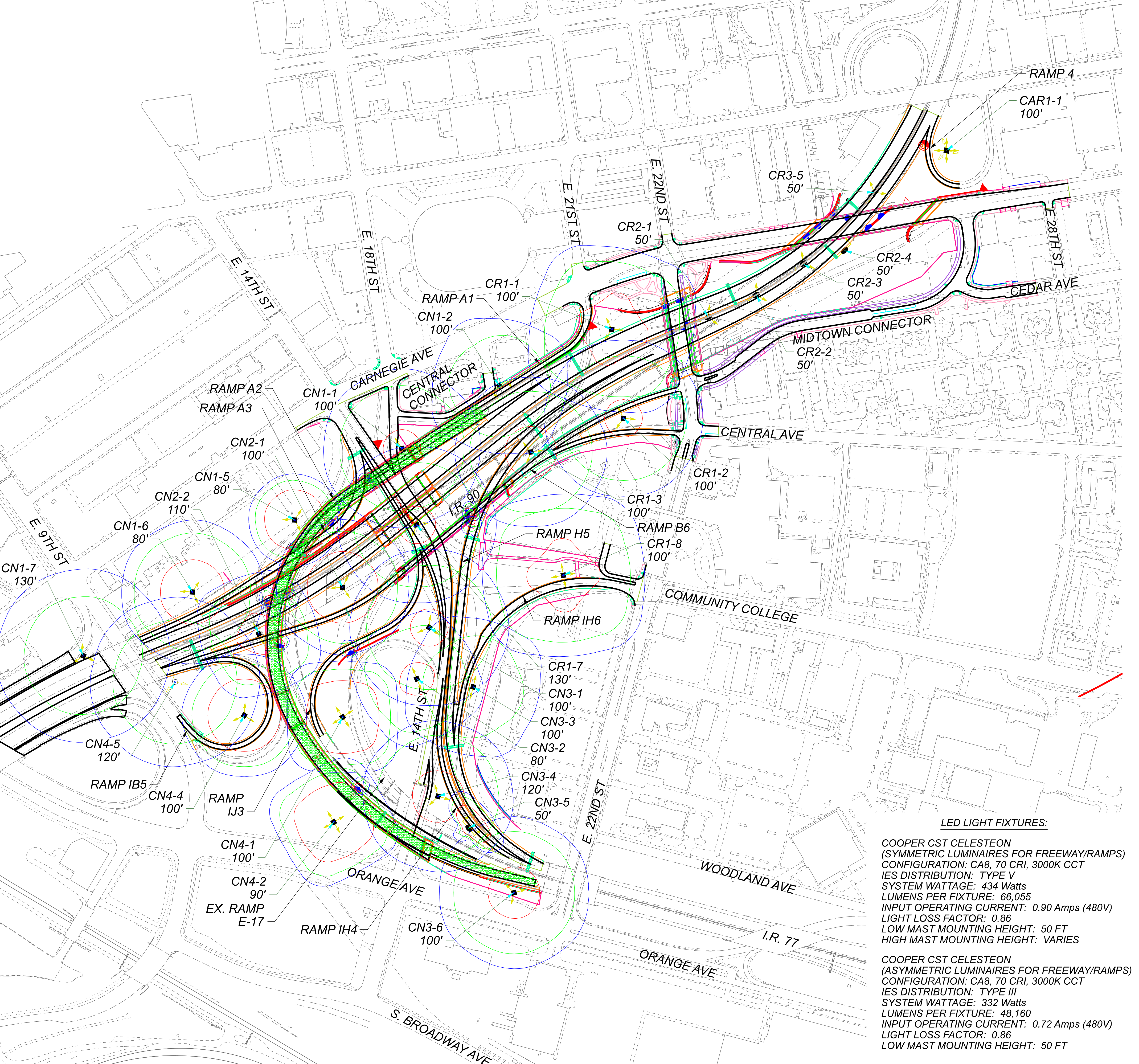


EXHIBIT G: CCG3A PHOTOMETRIC ANALYSIS
I-90 / I-77 INTERCHANGE - GROUND LEVEL RAMPS (COOPER)

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	JLD
REVIEWER	SM 4/24/24
PROJECT ID	82382
SHEET	TOTAL
8	10

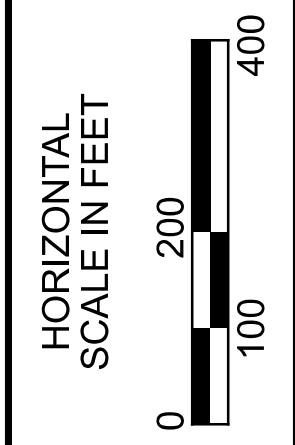
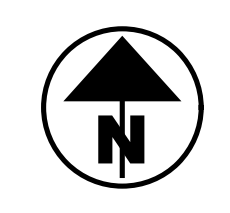


ILLUMINANCE CRITERIA (ODOT TEM TABLE 1197-4)

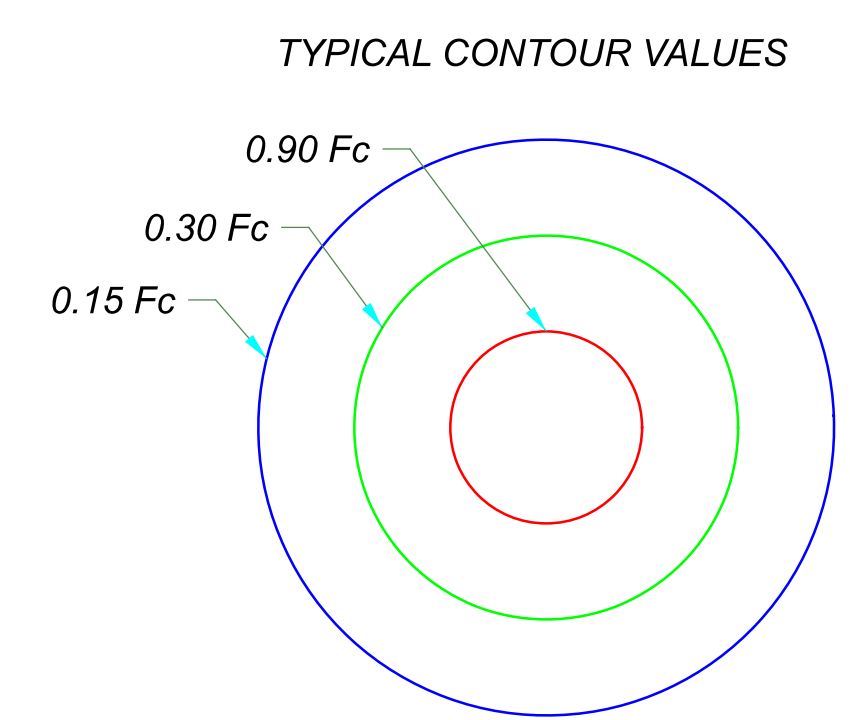
AVERAGE	MINIMUM	UNIFORMITY (AVG/MIN)
0.9	0.3	3.0:1

SUMMARY OF ROADWAY PHOTOMETRICS
 CENTRAL INTERCHANGE OVERPASS RAMP A2

SEGMENT	AVERAGE	MINIMUM	UNIFORMITY (AVG/MIN)	UNIFORMITY (MAX/MIN)
PR. RAMP A2 I-90 WB TO I-77 SB	1.0	0.4	2.5:1	11.5:1



- LEGEND**
- PROPOSED HIGH MAST TOWERS W/ 2, 3 OR 4 LED LUMINAIRES (SYMMETRIC)
 - LOW MAST POLE W/ 1 LED LUMINAIRE (SYMMETRIC)
 - LOW MAST POLE W/ 1 LED LUMINAIRE (ASYMMETRIC)
 - PROPOSED UNDERPASS LED LUMINAIRE
 - EXISTING HIGH MAST TOWERS TO REMAIN



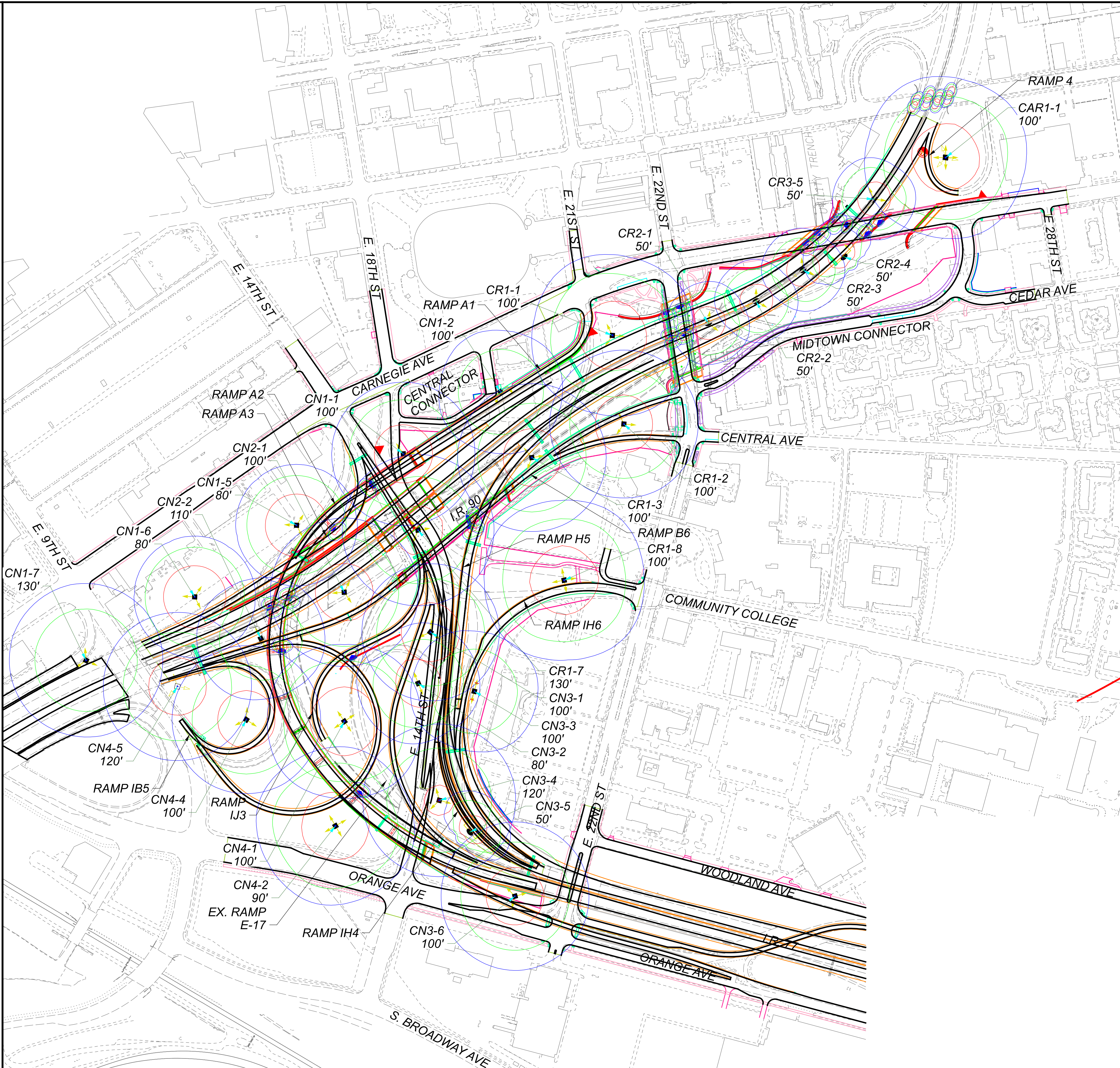
LED LIGHT FIXTURES:
 COOPER CST CELESTEON
 (SYMMETRIC LUMINAIRES FOR FREEWAY/RAMPS)
 CONFIGURATION: CA8, 70 CRI, 3000K CCT
 IES DISTRIBUTION: TYPE V
 SYSTEM WATTAGE: 434 Watts
 LUMENS PER FIXTURE: 66,055
 INPUT OPERATING CURRENT: 0.90 Amps (480V)
 LIGHT LOSS FACTOR: 0.86
 LOW MAST MOUNTING HEIGHT: 50 FT
 HIGH MAST MOUNTING HEIGHT: VARIES

COOPER CST CELESTEON
 (ASYMMETRIC LUMINAIRES FOR FREEWAY/RAMPS)
 CONFIGURATION: CA8, 70 CRI, 3000K CCT
 IES DISTRIBUTION: TYPE III
 SYSTEM WATTAGE: 332 Watts
 LUMENS PER FIXTURE: 48,160
 INPUT OPERATING CURRENT: 0.72 Amps (480V)
 LIGHT LOSS FACTOR: 0.86
 LOW MAST MOUNTING HEIGHT: 50 FT

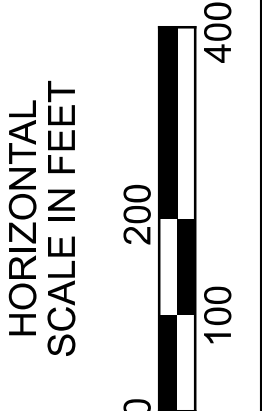
LED LIGHT FIXTURES (CONTINUED):
 COOPER WKP WAL-PAK (FOR BRIDGE UNDERPASSES)
 CONFIGURATION: 6B, 70 CRI, 3000K CCT
 IES DISTRIBUTION: ASYMMETRIC
 SYSTEM WATTAGE: 46 Watts
 LUMENS PER FIXTURE: 5,883
 INPUT OPERATING CURRENT: 0.14 Amps (480V)
 LIGHT LOSS FACTOR: 0.85
 WALL PACK MOUNTING HEIGHT: VARIES

EXHIBIT G: CCG3A PHOTOMETRIC ANALYSIS
 I-90 / I-77 INTERCHANGE - OVERPASS RAMP A2 (COOPER)

DESIGN AGENCY	Michael Baker International
DESIGNER	JLD
REVIEWER	SM
DATE	4/24/24
PROJECT ID	82382
SHEET	9
TOTAL	10



- LEGEND**
- PROPOSED HIGH MAST TOWERS
W/ 2, 3 OR 4 LED LUMINAIRES
(SYMMETRIC)
 - LOW MAST POLE
W/ 1 LED LUMINAIRE
(SYMMETRIC)
 - LOW MAST POLE
W/ 1 LED LUMINAIRE
(ASYMMETRIC)
 - PROPOSED UNDERPASS LED
LUMINAIRE
 - EXISTING HIGH MAST TOWERS
TO REMAIN



**EXHIBIT G: CCG3A PHOTOMETRIC ANALYSIS
CCG3B CONFLICT CHECK**

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	JLD
REVIEWER	SM 4/24/24
PROJECT ID	82382
SHEET	TOTAL
10	10