

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P834041

Luminaire Tested: **TTN-D3-830-U-MQ-CG-UPL2**

Issue Date: 5/15/2024

Test Information

Test Method: LM-79-08
Report Number: P834041
REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (G3-2308-121-4) AND
Test Lab: INNOVATION CENTER
Issue Date: 5/15/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: TTN-D3-830-U-MQ-CG-UPL2
Description: TOPTIER NANO LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
3000K, 80 CRI LEDS AND MEDIUM DISTRIBUTION WITH CLEAR GLASS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6926.8 lumens
Efficiency: N/A
Efficacy: 108.7 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 0.71' x H: 0.1')
IES Classification: Type V - Short
BUG Rating: B2 - U4 - G1

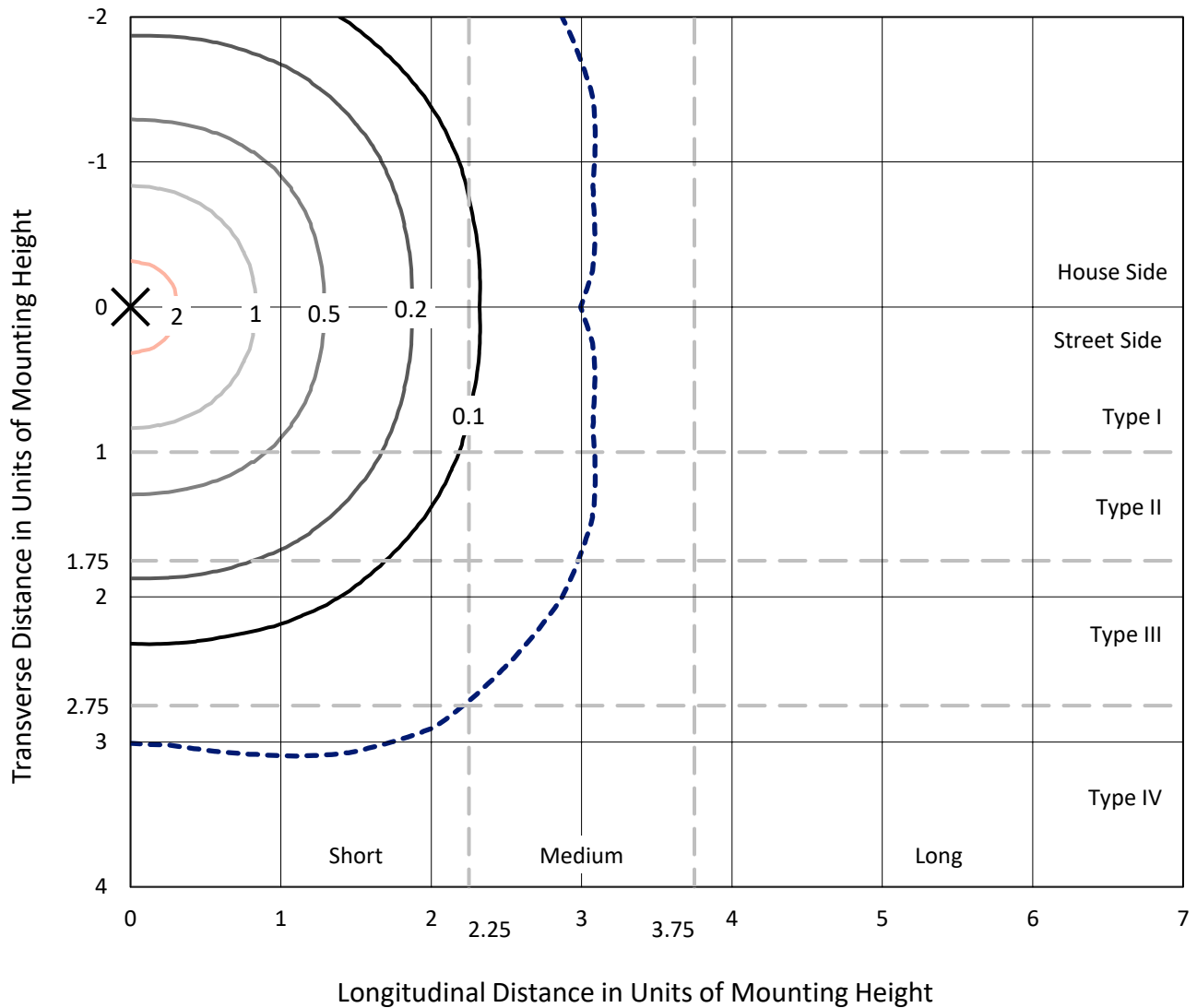
Input Watts (W): 63.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



REPORT NUMBER: P834041
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Iso-Footcandle Lines of Horizontal Illumination

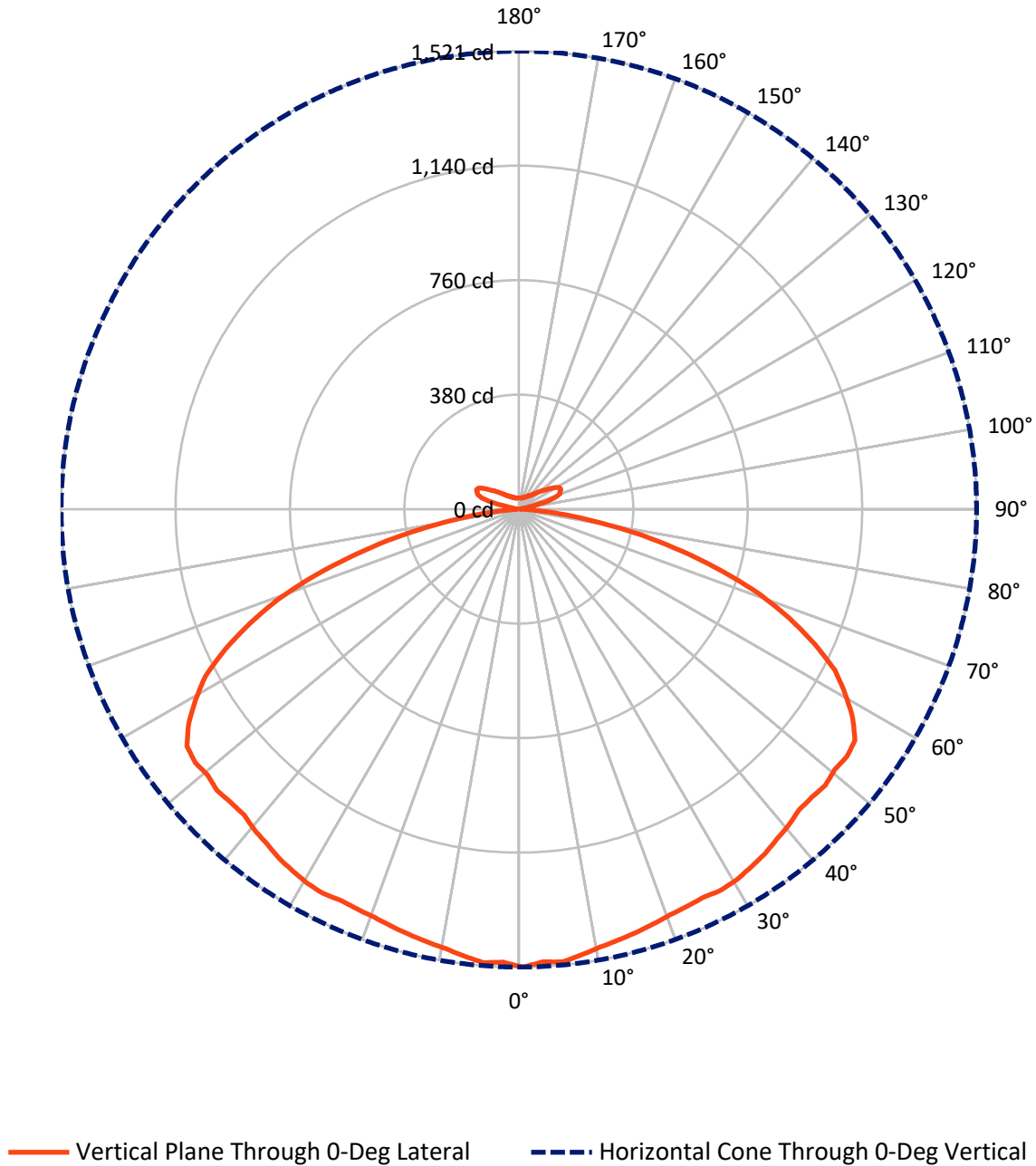
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.4 fc
 Type V - Short - N/A

REPORT NUMBER: P834041
CATALOG NUMBER: TTN-D3-830-U-MQ-CG-UPL2

Luminous Intensity Polar Plot



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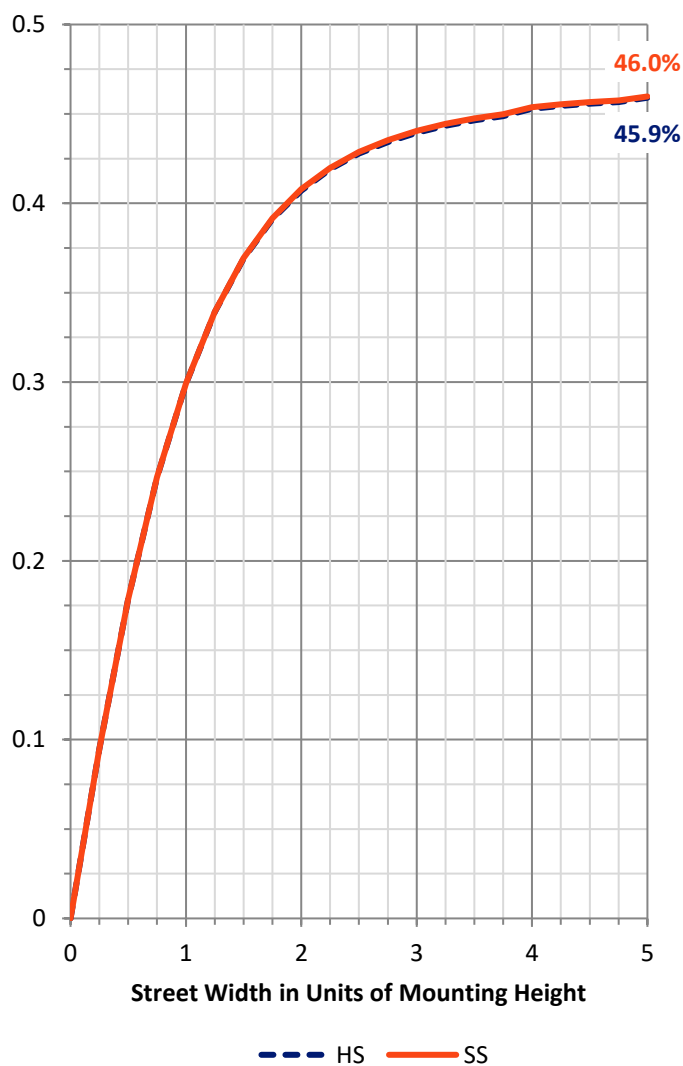
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3196.4	267.0	3463.4
	% Fixture	46.1	3.9	50.0
Street Side	Lumens	3196.4	267.0	3463.4
	% Fixture	46.1	3.9	50.0
Total	Lumens	6392.7	534.0	6926.8
	% Fixture	92.3	7.7	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.8	2.1
10°-20°	413.1	6.0
20°-30°	664.6	9.6
30°-40°	887.8	12.8
40°-50°	1078.6	15.6
50°-60°	1253.3	18.1
60°-70°	1156.3	16.7
70°-80°	676.9	9.8
80°-90°	119.3	1.7
90°-100°	11.9	0.2
100°-110°	121.1	1.7
110°-120°	177.1	2.6
120°-130°	102.8	1.5
130°-140°	54.4	0.8
140°-150°	32.3	0.5
150°-160°	19.9	0.3
160°-170°	10.9	0.2
170°-180°	3.5	0.1
0°-90°	6392.7	92.3
0°-180°	6926.8	100.0

Coefficient of Utilization



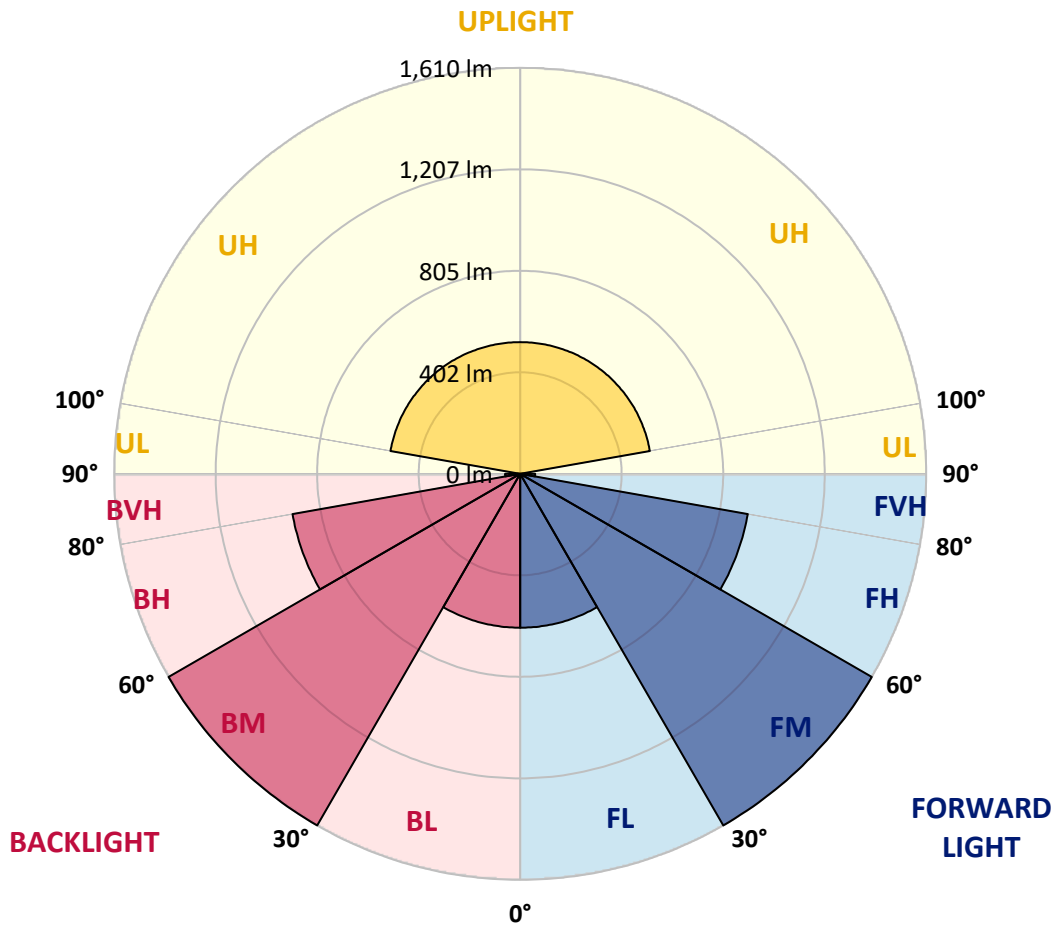
REPORT NUMBER: P834041
 CATALOG NUMBER: TTN-D3-830-U-MQ-CG-UPL2

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	610.3	8.8			
FM (30°-60°)	1609.9	23.2			
FH (60°-80°)	916.6	13.2			G1/1800
FVH (80°-90°)	59.7	0.9			G1/100
BL (0°-30°)	610.3	8.8	B2/1000		
BM (30°-60°)	1609.9	23.2	B2/2500		
BH (60°-80°)	916.6	13.2	B2/1000		G1/1800
BVH (80°-90°)	59.7	0.9			G1/100
UL (90°-100°)	11.9	0.2		U2/50	
UH (100°-180°)	522.1	7.5		U4/1000	

BUG Rating: B2-U4-G1

Type V Short





REPORT NUMBER: P834041

CATALOG NUMBER: TTN-D3-830-U-MQ-CG-UPL2

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1520.6	1520.6	1520.6	1520.6	1520.6	1520.6	1520.6	1520.6	1520.6	1520.6	1520.6
2.5°	1505.1	1510.3	1505.1	1505.1	1505.1	1505.1	1505.1	1505.1	1505.1	1505.1	1510.3
5°	1510.3	1510.3	1510.3	1510.3	1505.1	1505.1	1505.1	1505.1	1505.1	1510.3	1510.3
7.5°	1494.7	1494.7	1494.7	1494.7	1494.7	1489.5	1494.7	1494.7	1494.7	1494.7	1494.7
10°	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1
12.5°	1468.7	1468.7	1468.7	1468.7	1468.7	1468.7	1468.7	1468.7	1468.7	1463.6	1463.6
15°	1458.4	1458.4	1458.4	1458.4	1463.6	1463.6	1458.4	1458.4	1458.4	1458.4	1458.4
17.5°	1448.0	1448.0	1448.0	1448.0	1453.2	1453.2	1453.2	1448.0	1448.0	1448.0	1448.0
20°	1437.6	1437.6	1437.6	1437.6	1442.8	1442.8	1442.8	1442.8	1442.8	1437.6	1437.6
22.5°	1432.4	1432.4	1432.4	1432.4	1437.6	1437.6	1437.6	1437.6	1432.4	1432.4	1432.4
25°	1427.2	1432.4	1432.4	1432.4	1437.6	1442.8	1442.8	1437.6	1432.4	1427.2	1427.2
27.5°	1432.4	1432.4	1432.4	1437.6	1437.6	1442.8	1442.8	1437.6	1432.4	1432.4	1432.4
30°	1427.2	1427.2	1427.2	1432.4	1437.6	1442.8	1437.6	1437.6	1432.4	1427.2	1427.2
32.5°	1416.8	1416.8	1422.0	1427.2	1432.4	1432.4	1432.4	1427.2	1422.0	1416.8	1416.8
35°	1406.5	1406.5	1406.5	1411.7	1422.0	1422.0	1422.0	1416.8	1411.7	1406.5	1401.3
37.5°	1390.9	1396.1	1396.1	1406.5	1411.7	1416.8	1411.7	1406.5	1396.1	1390.9	1390.9
40°	1380.5	1380.5	1385.7	1396.1	1406.5	1406.5	1401.3	1396.1	1385.7	1380.5	1380.5
42.5°	1364.9	1364.9	1375.3	1385.7	1401.3	1401.3	1396.1	1385.7	1375.3	1364.9	1364.9
45°	1364.9	1364.9	1375.3	1396.1	1406.5	1416.8	1406.5	1396.1	1375.3	1364.9	1359.8
47.5°	1370.1	1370.1	1380.5	1406.5	1427.2	1437.6	1422.0	1401.3	1380.5	1370.1	1364.9
50°	1359.8	1364.9	1385.7	1411.7	1437.6	1442.8	1437.6	1406.5	1385.7	1359.8	1359.8
52.5°	1364.9	1364.9	1390.9	1432.4	1458.4	1468.7	1458.4	1432.4	1385.7	1359.8	1359.8
55°	1354.6	1349.4	1385.7	1432.4	1473.9	1494.7	1473.9	1432.4	1380.5	1349.4	1344.2
57.5°	1307.9	1307.9	1354.6	1401.3	1453.2	1463.6	1448.0	1401.3	1349.4	1307.9	1297.5
60°	1245.6	1250.8	1297.5	1349.4	1396.1	1401.3	1390.9	1349.4	1297.5	1250.8	1235.2
62.5°	1178.1	1188.5	1235.2	1287.1	1344.2	1354.6	1339.0	1287.1	1224.8	1193.7	1167.7
65°	1079.5	1095.1	1147.0	1204.1	1266.3	1261.1	1261.1	1198.9	1152.2	1100.3	1074.3
67.5°	970.5	986.1	1022.4	1100.3	1152.2	1147.0	1141.8	1100.3	1022.4	986.1	970.5
70°	851.1	861.5	897.9	975.7	1022.4	1027.6	1012.0	970.5	897.9	871.9	846.0
72.5°	711.0	716.2	768.1	830.4	877.1	871.9	866.7	830.4	762.9	737.0	705.8
75°	560.5	565.7	612.4	669.5	705.8	700.6	695.4	669.5	612.4	581.3	555.3
77.5°	420.4	415.2	461.9	503.4	524.2	529.4	519.0	498.2	456.7	430.8	415.2
80°	275.1	269.9	311.4	342.5	358.1	358.1	352.9	337.3	306.2	285.4	275.1
82.5°	155.7	150.5	176.5	197.2	212.8	207.6	202.4	192.0	176.5	160.9	150.5
85°	57.1	57.1	72.7	83.0	93.4	93.4	88.2	83.0	67.5	62.3	57.1
87.5°	5.2	5.2	10.4	15.6	15.6	15.6	10.4	10.4	5.2	5.2	5.2
90°	4.6	4.6	5.5	5.5	5.5	5.5	5.5	5.5	5.5	4.6	4.6
92.5°	4.6	4.6	4.6	6.4	7.3	6.4	7.3	5.5	5.5	4.6	4.6
95°	5.5	5.5	6.4	8.2	10.1	11.0	11.0	6.4	6.4	5.5	5.5
97.5°	7.3	8.2	8.2	10.1	16.4	30.2	18.3	9.1	9.1	8.2	7.3
100°	11.9	12.8	12.8	22.8	48.4	64.9	46.6	23.8	17.4	12.8	12.8
102.5°	38.4	40.2	49.3	74.0	109.6	99.6	84.1	79.5	54.8	43.9	42.0
105°	97.8	96.8	104.2	123.3	153.5	150.8	138.9	126.1	108.7	100.5	100.5
107.5°	128.8	128.8	135.2	151.7	174.5	203.7	206.5	163.5	143.4	134.3	133.4
110°	145.3	145.3	150.8	164.5	194.6	235.7	233.9	201.9	177.3	165.4	163.5



REPORT NUMBER: P834041

CATALOG NUMBER: TTN-D3-830-U-MQ-CG-UPL2

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	148.9	149.8	157.1	178.2	211.1	229.3	221.1	208.3	197.4	188.2	186.4
115°	154.4	154.4	162.6	182.7	201.0	208.3	199.2	189.1	181.8	178.2	180.0
117.5°	152.6	155.3	157.1	168.1	180.0	185.5	180.9	167.2	161.7	159.9	157.1
120°	141.6	141.6	143.4	148.9	155.3	158.1	156.2	147.1	142.5	141.6	139.8
122.5°	126.1	127.0	126.1	128.8	133.4	136.1	134.3	127.0	125.2	125.2	123.3
125°	110.6	110.6	109.6	111.5	114.2	113.3	114.2	110.6	109.6	109.6	108.7
127.5°	99.6	98.7	96.8	97.8	98.7	98.7	99.6	95.9	96.8	97.8	96.8
130°	88.6	88.6	86.8	86.8	86.8	85.0	86.8	85.0	85.9	86.8	87.7
132.5°	78.6	78.6	75.8	74.9	74.9	74.9	75.8	74.9	76.7	78.6	78.6
135°	70.4	70.4	67.6	68.5	68.5	67.6	68.5	67.6	69.4	70.4	70.4
137.5°	64.0	64.0	62.1	62.1	62.1	61.2	62.1	62.1	63.0	64.9	65.8
140°	58.5	58.5	57.6	57.6	56.6	57.6	57.6	57.6	58.5	59.4	59.4
142.5°	55.7	54.8	53.9	53.0	53.9	53.9	53.9	53.0	53.9	55.7	55.7
145°	51.2	51.2	50.3	50.3	50.3	51.2	50.3	50.3	51.2	51.2	52.1
147.5°	48.4	48.4	47.5	48.4	48.4	48.4	48.4	47.5	48.4	48.4	49.3
150°	47.5	46.6	45.7	46.6	46.6	45.7	45.7	45.7	45.7	46.6	46.6
152.5°	44.8	44.8	43.9	44.8	43.9	43.9	43.9	43.9	43.9	44.8	45.7
155°	42.9	42.9	42.0	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9
157.5°	41.1	42.0	41.1	41.1	41.1	41.1	41.1	41.1	41.1	42.0	42.0
160°	40.2	40.2	40.2	40.2	39.3	39.3	39.3	40.2	40.2	40.2	41.1
162.5°	39.3	39.3	39.3	39.3	38.4	38.4	38.4	38.4	39.3	39.3	40.2
165°	39.3	38.4	38.4	38.4	37.5	37.5	37.5	37.5	38.4	39.3	38.4
167.5°	37.5	37.5	37.5	37.5	37.5	36.5	36.5	37.5	37.5	37.5	38.4
170°	37.5	37.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	37.5
172.5°	37.5	37.5	37.5	37.5	36.5	36.5	36.5	36.5	36.5	37.5	37.5
175°	37.5	37.5	37.5	37.5	36.5	36.5	36.5	37.5	37.5	37.5	36.5
177.5°	37.5	37.5	37.5	37.5	36.5	37.5	37.5	37.5	37.5	37.5	37.5
180°	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

MCGRAW EDISON

Report Number: SP1-2411-284-4

Test Date: 11/22/2024

Luminaire Tested: TTN-D0-830-U-WQ

Data in this report applies to TT and TTN families of products

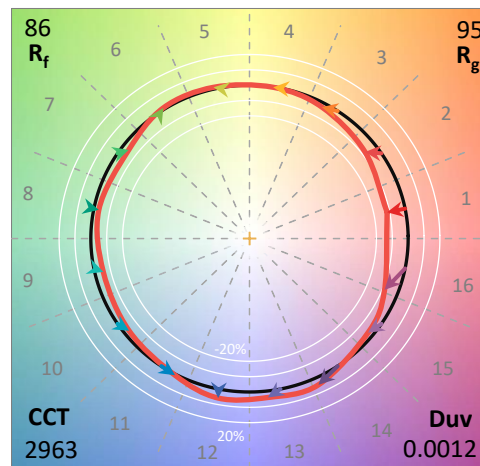
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2411-284-4
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 11/22/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: MCGRAW EDISON
 Catalog Number: **TTN-D0-830-U-WQ**
 Description: TOPTIER NANO LED PARKING GARAGE LUMINAIRE. 3000K, 80 CRI LEDS AND WIDE DISTRIBUTION

Spectral Parameters

CCT (K): 2963
 CIE u': 0.2515
 CIE v': 0.5238
 Duv: 0.0012
 CIE x: 0.4414
 CIE y: 0.4086
 CIE z: 0.1501
 Peak Wavelength (nm): 603
 Dominant Wavelength (nm): 582
 Purity: 55.12798
 Rf: 86.1
 Rg: 94.9

CRI (Ra):	82.9		
R1:	81.4	R9:	3.9
R2:	91.9	R10:	82.5
R3:	95.2	R11:	82.3
R4:	81.6	R12:	76.5
R5:	82.3	R13:	83.9
R6:	91.4	R14:	97.8
R7:	82.0	R15:	72.6
R8:	57.2		



Test Conditions

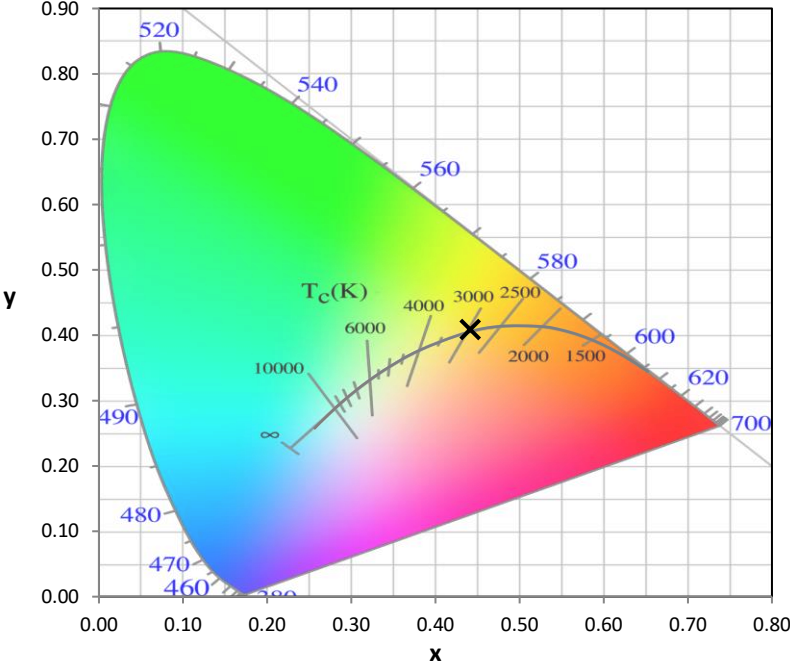
Stabilization Time: 37M
 Operation Time: 1H 37M
 Sphere Temperature (°C): 25.0

REPORT NUMBER: SP1-2411-284-4

Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/22/2024	10/22/2025
DC Power Source	IN0208	10/22/2024	10/22/2025
Sphere Thermometer	IN0085	10/22/2024	10/22/2025
Room Thermometer	IN0046	10/22/2024	10/22/2025

REPORT NUMBER: SP1-2411-284-4

CIE 1931 Chromaticity Diagram



CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2411-284-4

Photopic Flux vs. Wavelength



Photopic Lumens: NR

λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	267	NR	620	915	NR	750	23	NR	880	0	NR
365	0	NR	495	315	NR	625	866	NR	755	20	NR	885	0	NR
370	0	NR	500	360	NR	630	811	NR	760	17	NR	890	0	NR
375	0	NR	505	396	NR	635	750	NR	765	14	NR	895	0	NR
380	0	NR	510	418	NR	640	686	NR	770	12	NR	900	0	NR
385	0	NR	515	435	NR	645	619	NR	775	10	NR	905	0	NR
390	0	NR	520	448	NR	650	554	NR	780	9	NR	910	0	NR
395	0	NR	525	462	NR	655	491	NR	785	7	NR	915	0	NR
400	1	NR	530	476	NR	660	431	NR	790	6	NR	920	0	NR
405	2	NR	535	495	NR	665	376	NR	795	5	NR	925	0	NR
410	5	NR	540	520	NR	670	325	NR	800	4	NR	930	0	NR
415	10	NR	545	547	NR	675	280	NR	805	4	NR	935	0	NR
420	21	NR	550	576	NR	680	241	NR	810	3	NR	940	0	NR
425	42	NR	555	612	NR	685	207	NR	815	3	NR	945	0	NR
430	77	NR	560	651	NR	690	176	NR	820	2	NR	950	0	NR
435	135	NR	565	693	NR	695	149	NR	825	2	NR	955	0	NR
440	215	NR	570	741	NR	700	127	NR	830	2	NR	960	0	NR
445	321	NR	575	793	NR	705	107	NR	835	2	NR	965	0	NR
450	479	NR	580	847	NR	710	89	NR	840	1	NR	970	0	NR
455	432	NR	585	897	NR	715	75	NR	845	1	NR	975	0	NR
460	265	NR	590	940	NR	720	62	NR	850	1	NR	980	0	NR
465	231	NR	595	971	NR	725	51	NR	855	1	NR	985	0	NR
470	204	NR	600	993	NR	730	43	NR	860	1	NR	990	0	NR
475	168	NR	605	996	NR	735	36	NR	865	1	NR	995	0	NR
480	183	NR	610	986	NR	740	31	NR	870	1	NR	1000	0	NR
485	223	NR	615	957	NR	745	26	NR	875	0	NR			

REPORT NUMBER: SP1-2411-284-4

Scotopic Flux vs. Wavelength



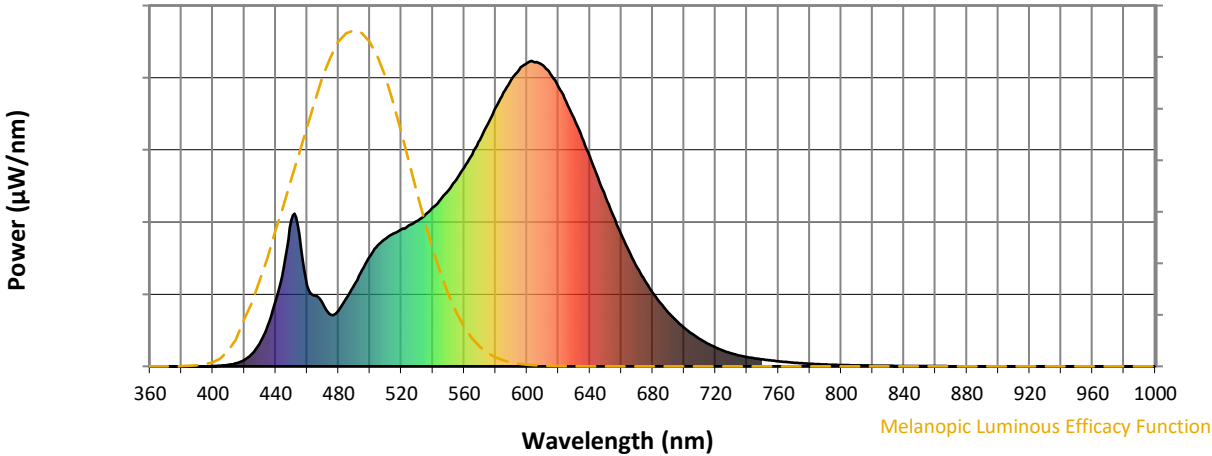
Scotopic Lumens: NR

S/P: 1.34

λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	267	NR	620	915	NR	750	23	NR	880	0	NR
365	0	NR	495	315	NR	625	866	NR	755	20	NR	885	0	NR
370	0	NR	500	360	NR	630	811	NR	760	17	NR	890	0	NR
375	0	NR	505	396	NR	635	750	NR	765	14	NR	895	0	NR
380	0	NR	510	418	NR	640	686	NR	770	12	NR	900	0	NR
385	0	NR	515	435	NR	645	619	NR	775	10	NR	905	0	NR
390	0	NR	520	448	NR	650	554	NR	780	9	NR	910	0	NR
395	0	NR	525	462	NR	655	491	NR	785	7	NR	915	0	NR
400	1	NR	530	476	NR	660	431	NR	790	6	NR	920	0	NR
405	2	NR	535	495	NR	665	376	NR	795	5	NR	925	0	NR
410	5	NR	540	520	NR	670	325	NR	800	4	NR	930	0	NR
415	10	NR	545	547	NR	675	280	NR	805	4	NR	935	0	NR
420	21	NR	550	576	NR	680	241	NR	810	3	NR	940	0	NR
425	42	NR	555	612	NR	685	207	NR	815	3	NR	945	0	NR
430	77	NR	560	651	NR	690	176	NR	820	2	NR	950	0	NR
435	135	NR	565	693	NR	695	149	NR	825	2	NR	955	0	NR
440	215	NR	570	741	NR	700	127	NR	830	2	NR	960	0	NR
445	321	NR	575	793	NR	705	107	NR	835	2	NR	965	0	NR
450	479	NR	580	847	NR	710	89	NR	840	1	NR	970	0	NR
455	432	NR	585	897	NR	715	75	NR	845	1	NR	975	0	NR
460	265	NR	590	940	NR	720	62	NR	850	1	NR	980	0	NR
465	231	NR	595	971	NR	725	51	NR	855	1	NR	985	0	NR
470	204	NR	600	993	NR	730	43	NR	860	1	NR	990	0	NR
475	168	NR	605	996	NR	735	36	NR	865	1	NR	995	0	NR
480	183	NR	610	986	NR	740	31	NR	870	1	NR	1000	0	NR
485	223	NR	615	957	NR	745	26	NR	875	0	NR			

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Melanopic Flux vs. Wavelength



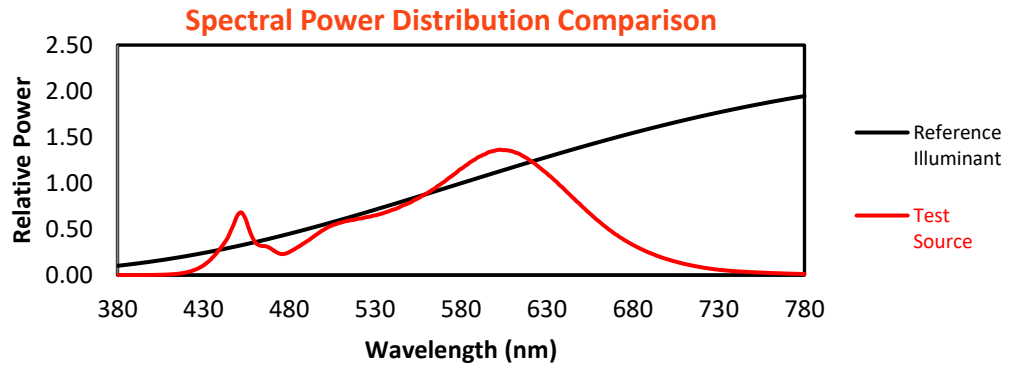
Melanopic Lumens: NR

M/P: 2.58

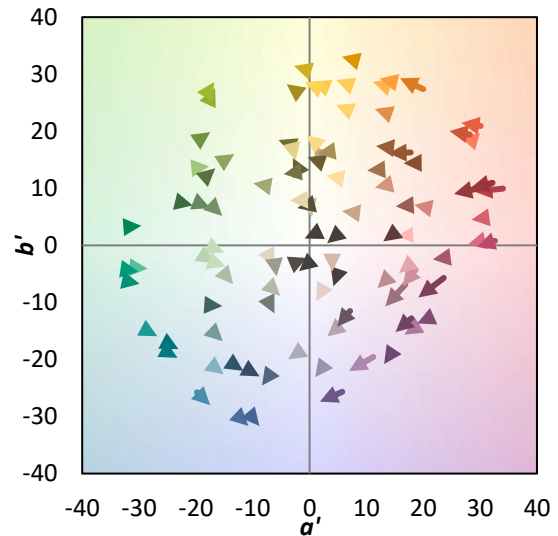
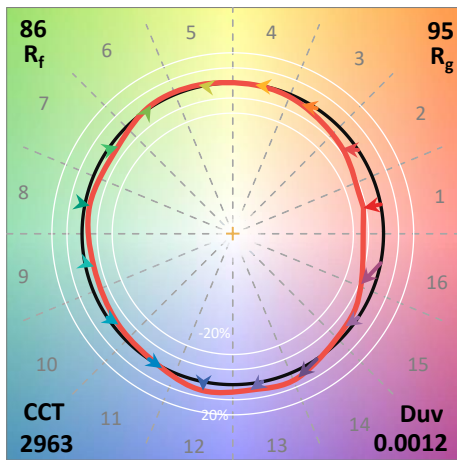
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	267	NR	620	915	NR	750	23	NR	880	0	NR
365	0	NR	495	315	NR	625	866	NR	755	20	NR	885	0	NR
370	0	NR	500	360	NR	630	811	NR	760	17	NR	890	0	NR
375	0	NR	505	396	NR	635	750	NR	765	14	NR	895	0	NR
380	0	NR	510	418	NR	640	686	NR	770	12	NR	900	0	NR
385	0	NR	515	435	NR	645	619	NR	775	10	NR	905	0	NR
390	0	NR	520	448	NR	650	554	NR	780	9	NR	910	0	NR
395	0	NR	525	462	NR	655	491	NR	785	7	NR	915	0	NR
400	1	NR	530	476	NR	660	431	NR	790	6	NR	920	0	NR
405	2	NR	535	495	NR	665	376	NR	795	5	NR	925	0	NR
410	5	NR	540	520	NR	670	325	NR	800	4	NR	930	0	NR
415	10	NR	545	547	NR	675	280	NR	805	4	NR	935	0	NR
420	21	NR	550	576	NR	680	241	NR	810	3	NR	940	0	NR
425	42	NR	555	612	NR	685	207	NR	815	3	NR	945	0	NR
430	77	NR	560	651	NR	690	176	NR	820	2	NR	950	0	NR
435	135	NR	565	693	NR	695	149	NR	825	2	NR	955	0	NR
440	215	NR	570	741	NR	700	127	NR	830	2	NR	960	0	NR
445	321	NR	575	793	NR	705	107	NR	835	2	NR	965	0	NR
450	479	NR	580	847	NR	710	89	NR	840	1	NR	970	0	NR
455	432	NR	585	897	NR	715	75	NR	845	1	NR	975	0	NR
460	265	NR	590	940	NR	720	62	NR	850	1	NR	980	0	NR
465	231	NR	595	971	NR	725	51	NR	855	1	NR	985	0	NR
470	204	NR	600	993	NR	730	43	NR	860	1	NR	990	0	NR
475	168	NR	605	996	NR	735	36	NR	865	1	NR	995	0	NR
480	183	NR	610	986	NR	740	31	NR	870	1	NR	1000	0	NR
485	223	NR	615	957	NR	745	26	NR	875	0	NR			

Summary

$R_f = 86.1$
 $R_g = 94.9$
 CIE $R_a = 82.9$
 $R_9 = 3.9$

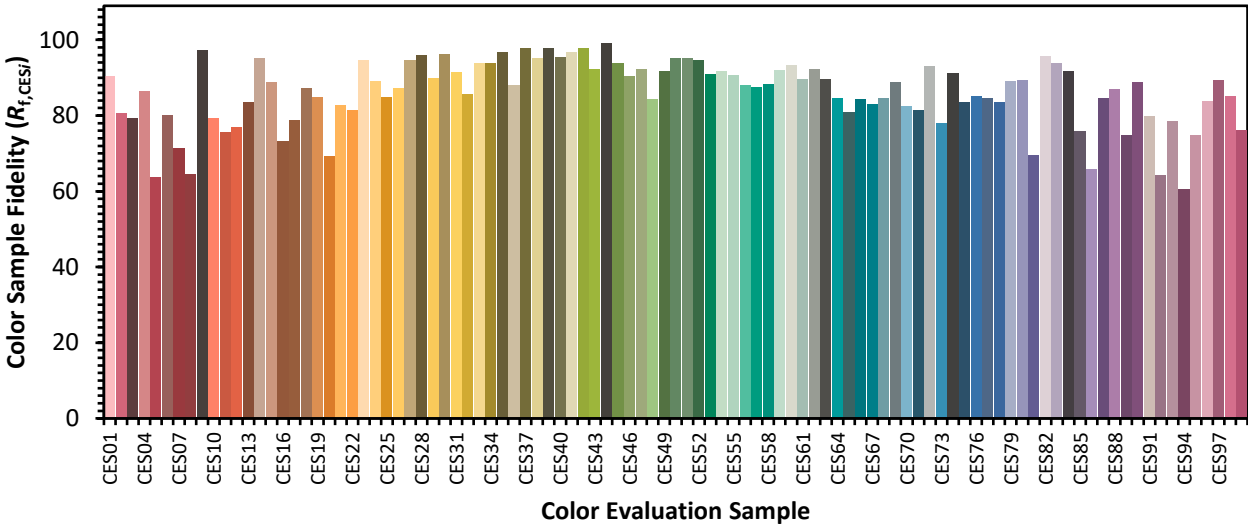


Color Vector Graphics

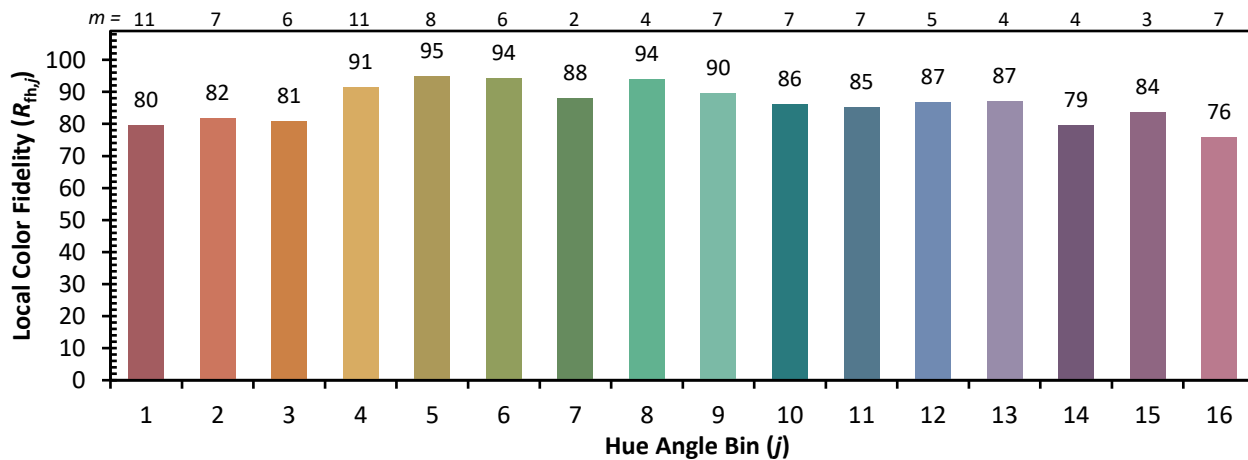
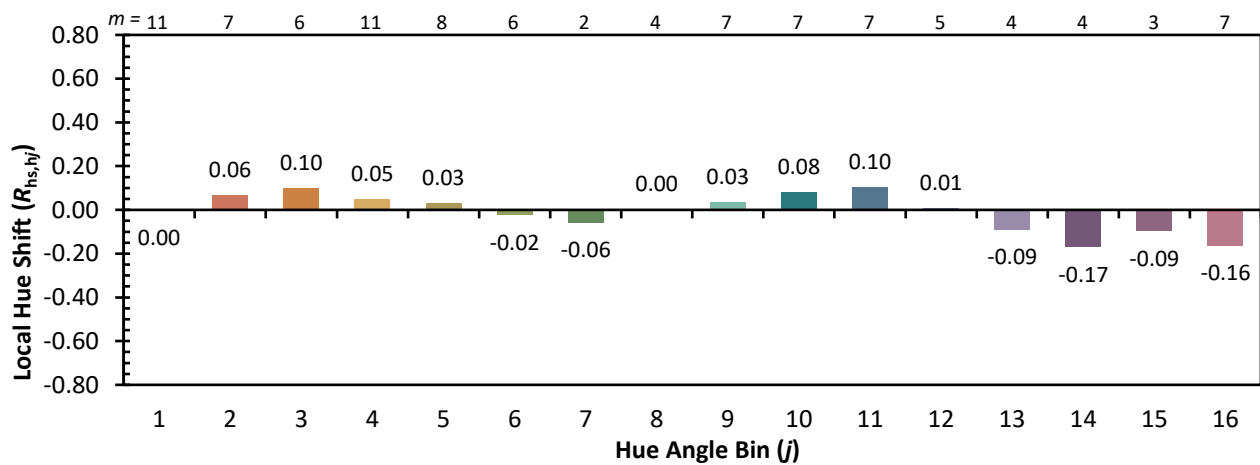


Individual Sample Fidelity Index ($R_{f,i}$)

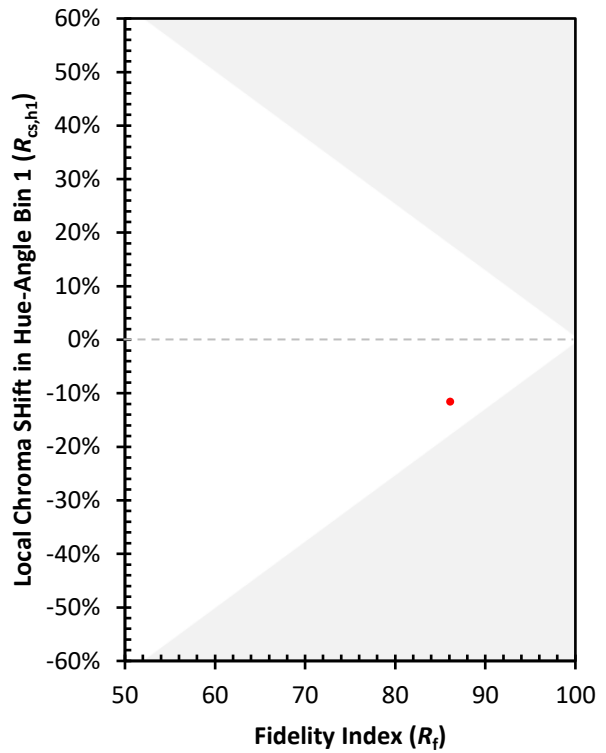
CES01 = 86	CES26 = 87	CES51 = 95	CES76 = 85
CES02 = 63	CES27 = 95	CES52 = 95	CES77 = 85
CES03 = 31	CES28 = 96	CES53 = 91	CES78 = 83
CES04 = 70	CES29 = 90	CES54 = 92	CES79 = 89
CES05 = 50	CES30 = 96	CES55 = 91	CES80 = 89
CES06 = 51	CES31 = 92	CES56 = 88	CES81 = 70
CES07 = 42	CES32 = 86	CES57 = 87	CES82 = 96
CES08 = 41	CES33 = 94	CES58 = 88	CES83 = 94
CES09 = 29	CES34 = 94	CES59 = 92	CES84 = 92
CES10 = 76	CES35 = 97	CES60 = 93	CES85 = 76
CES11 = 59	CES36 = 88	CES61 = 90	CES86 = 66
CES12 = 65	CES37 = 98	CES62 = 92	CES87 = 85
CES13 = 44	CES38 = 95	CES63 = 90	CES88 = 87
CES14 = 74	CES39 = 98	CES64 = 85	CES89 = 75
CES15 = 72	CES40 = 96	CES65 = 81	CES90 = 89
CES16 = 48	CES41 = 97	CES66 = 84	CES91 = 80
CES17 = 50	CES42 = 98	CES67 = 83	CES92 = 64
CES18 = 57	CES43 = 92	CES68 = 85	CES93 = 79
CES19 = 72	CES44 = 99	CES69 = 89	CES94 = 61
CES20 = 67	CES45 = 94	CES70 = 83	CES95 = 75
CES21 = 87	CES46 = 91	CES71 = 81	CES96 = 84
CES22 = 79	CES47 = 92	CES72 = 93	CES97 = 89
CES23 = 92	CES48 = 84	CES73 = 78	CES98 = 85
CES24 = 91	CES49 = 92	CES74 = 91	CES99 = 76
CES25 = 72	CES50 = 95	CES75 = 84	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)