

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: P834046

Luminaire Tested: **TTN-D3-830-U-RW-CG-UPL1**

Issue Date: 5/15/2024

**Test Information**

Test Method: LM-79-08  
Report Number: P834046  
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-RW-CG-UPL1  
Description: TOPTIER NANO LED PARKING GARAGE LUMINAIRE WITH UPLIGHT  
3000K, 80 CRI LEDS AND RECTANGULAR DISTRIBUTION WITH CLEAR GLASS  
Light Source: -  
Ballast/Driver: -

**Summary**

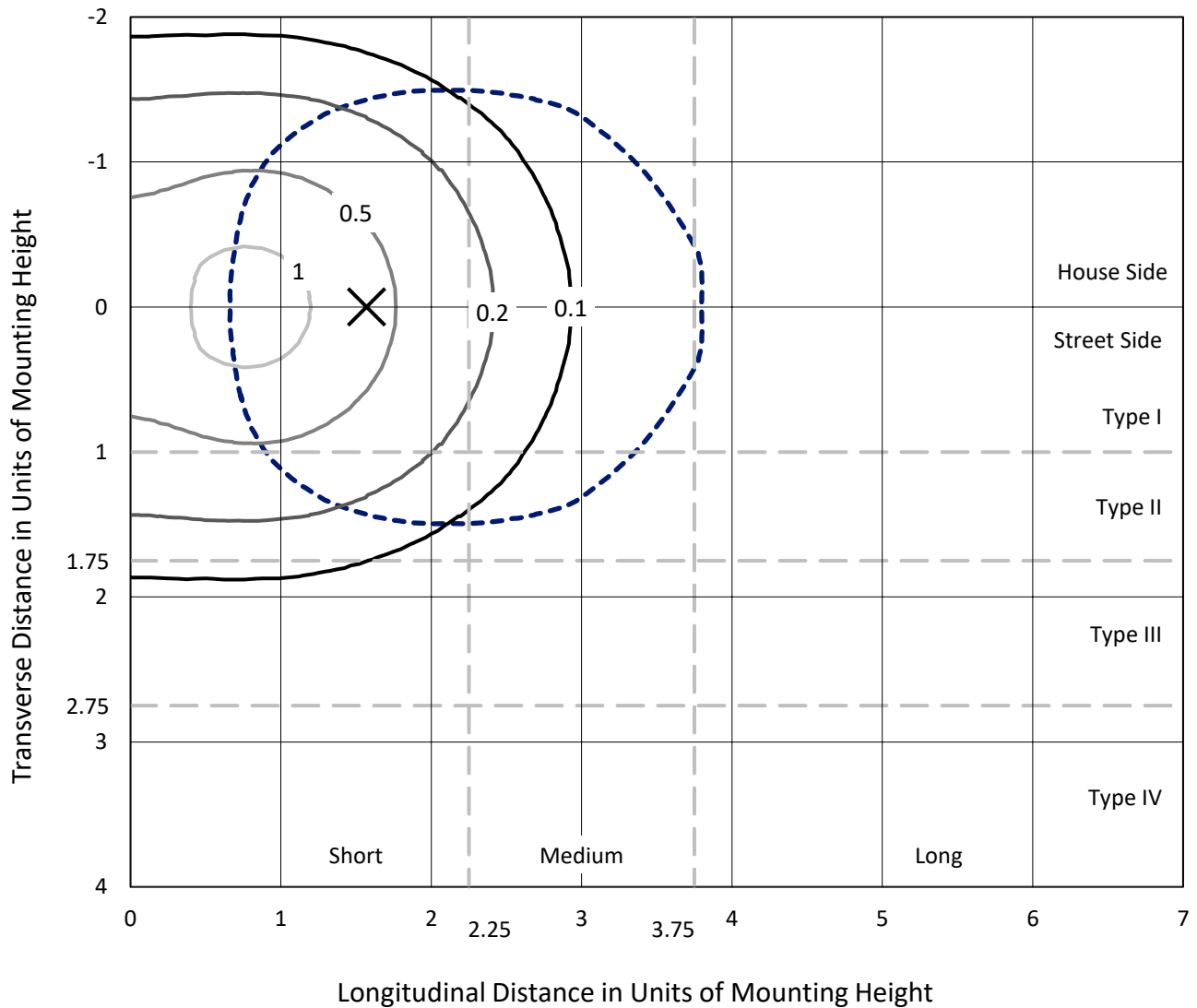
Lumens per Lamp: N/A  
Luminaire Lumens: 6059.9 lumens  
Efficiency: N/A  
Efficacy: 98.1 lumens/watt  
Luminous Opening: Vertical Cylinder (Dia: 0.71' x H: 0.1')  
IES Classification: Type II - Short  
BUG Rating: B3 - U3 - G3  
  
Input Watts (W): 61.8  
Input Voltage (V): NR  
Input Current (Ain): 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: P834046  
 CATALOG NUMBER: TTN-D3-830-U-RW-CG-UPL1

### Iso-Footcandle Lines of Horizontal Illumination

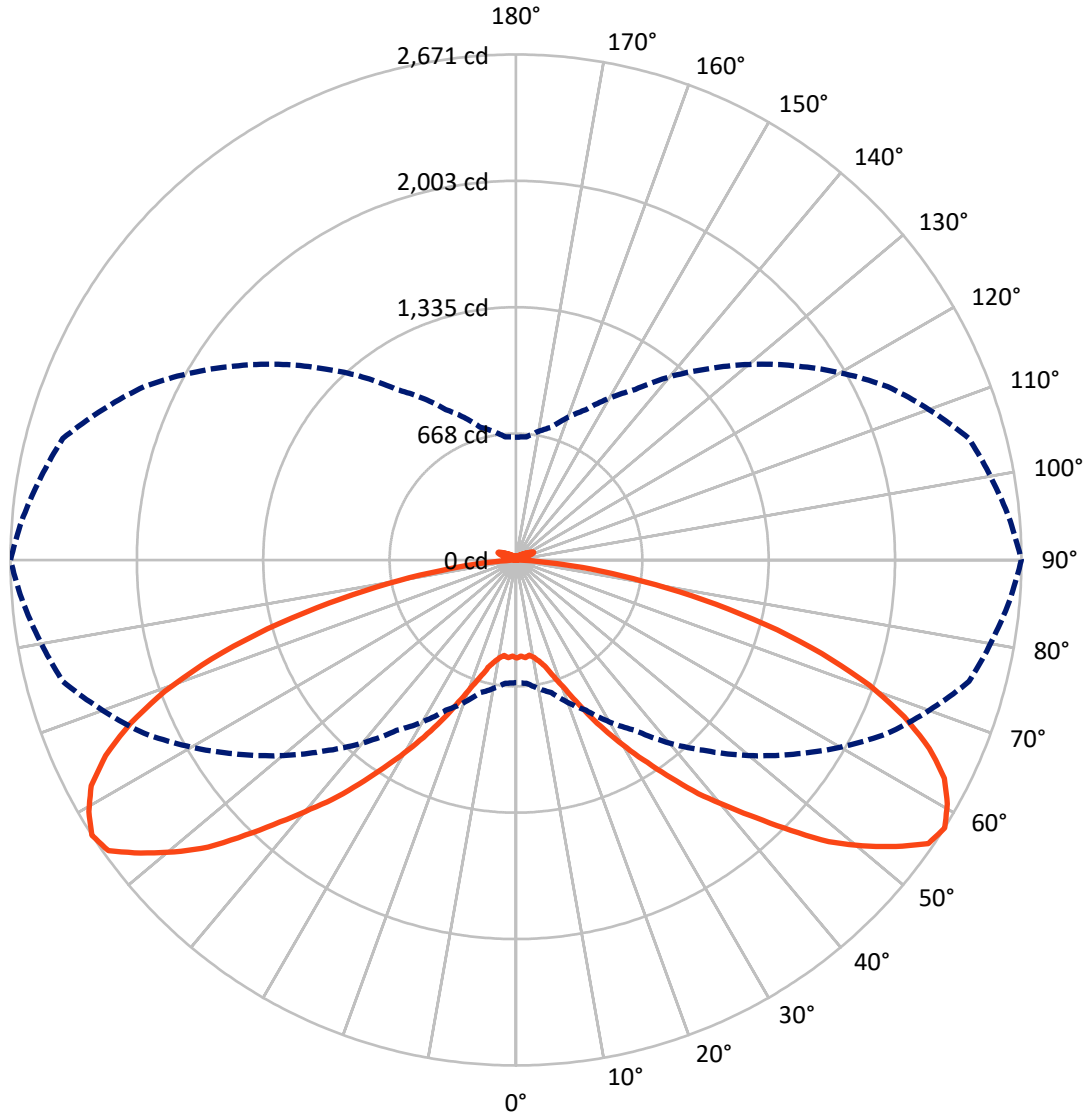
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.3 fc  
 Type II - Short - N/A

REPORT NUMBER: P834046  
CATALOG NUMBER: TTN-D3-830-U-RW-CG-UPL1

### Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral    - - - Horizontal Cone Through 57.5-Deg Vertical

REPORT NUMBER: P834046  
 CATALOG NUMBER: TTN-D3-830-U-RW-CG-UPL1

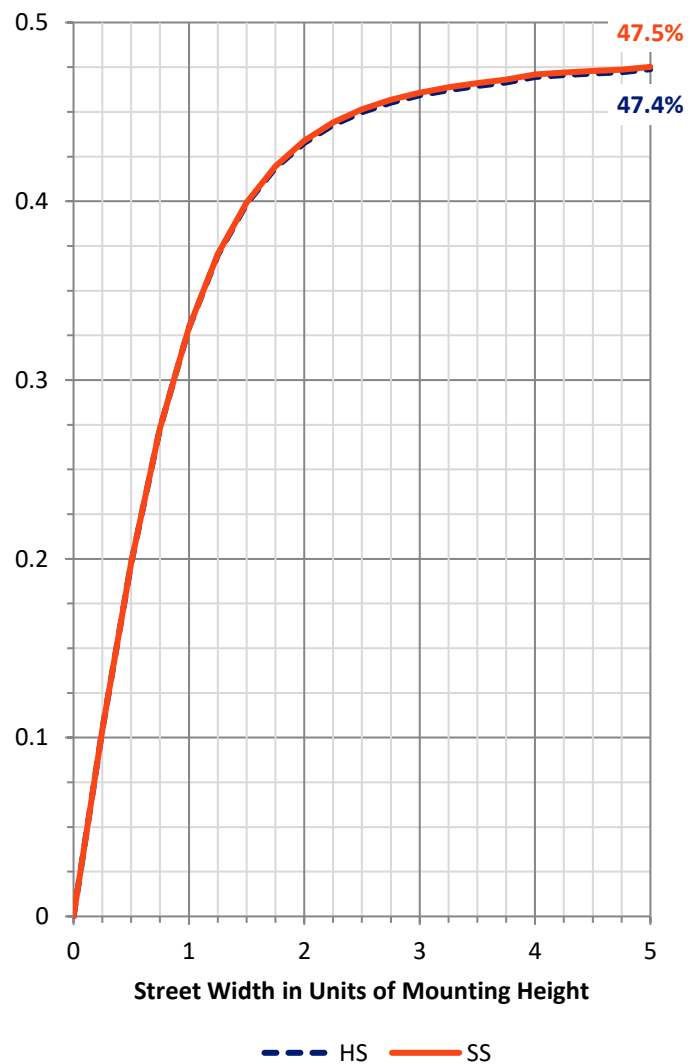
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2882.2	147.7	3029.9
	% Fixture	47.6	2.4	50.0
<b>Street Side</b>	Lumens	2882.2	147.7	3029.9
	% Fixture	47.6	2.4	50.0
<b>Total</b>	Lumens	5764.4	295.5	6059.9
	% Fixture	95.1	4.9	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	49.4	0.8
10°-20°	159.2	2.6
20°-30°	339.0	5.6
30°-40°	624.8	10.3
40°-50°	1005.9	16.6
50°-60°	1361.5	22.5
60°-70°	1323.8	21.8
70°-80°	770.2	12.7
80°-90°	130.6	2.2
90°-100°	6.6	0.1
100°-110°	67.0	1.1
110°-120°	98.0	1.6
120°-130°	56.9	0.9
130°-140°	30.1	0.5
140°-150°	17.9	0.3
150°-160°	11.0	0.2
160°-170°	6.0	0.1
170°-180°	2.0	0.0
0°-90°	5764.4	95.1
0°-180°	6059.9	100.0

**Coefficient of Utilization**

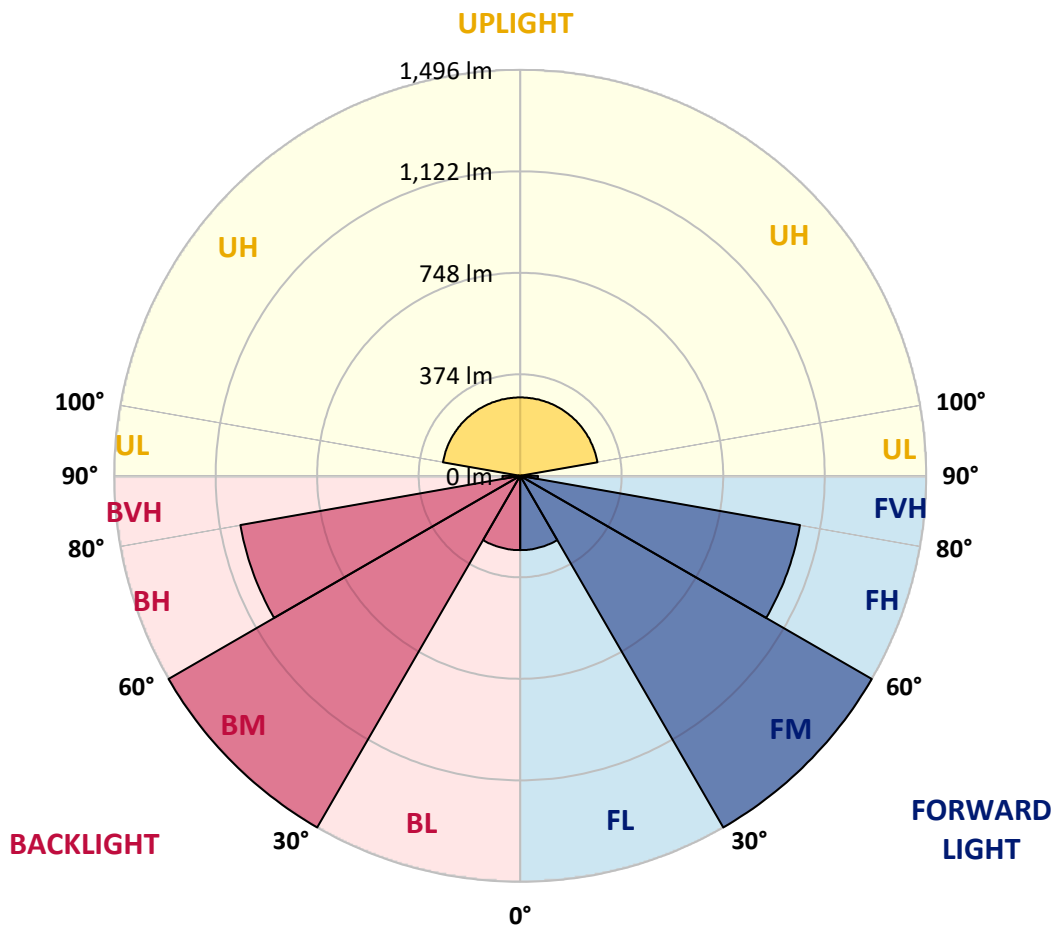


REPORT NUMBER: P834046  
 CATALOG NUMBER: TTN-D3-830-U-RW-CG-UPL1

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	273.8	4.5			
FM (30°-60°)	1496.1	24.7			
FH (60°-80°)	1047.0	17.3			G1/1800
FVH (80°-90°)	65.3	1.1			G1/100
BL (0°-30°)	273.8	4.5	B1/500		
BM (30°-60°)	1496.1	24.7	B2/2500		
BH (60°-80°)	1047.0	17.3	B3/2500		G3/2500
BVH (80°-90°)	65.3	1.1			G1/100
UL (90°-100°)	6.6	0.1		U1/10	
UH (100°-180°)	288.9	4.8		U3/500	

**BUG Rating: B3-U3-G3**  
 Type II Short





REPORT NUMBER: P834046

CATALOG NUMBER: TTN-D3-830-U-RW-CG-UPL1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	518.6	518.6	518.6	518.6	518.6	518.6	518.6	518.6	518.6	518.6	518.6
2.5°	518.6	518.6	518.6	518.6	513.4	513.4	513.4	508.2	508.2	508.2	508.2
5°	518.6	518.6	518.6	523.8	523.8	523.8	518.6	518.6	518.6	518.6	518.6
7.5°	518.6	523.8	523.8	518.6	518.6	513.4	513.4	513.4	508.2	508.2	508.2
10°	518.6	518.6	518.6	518.6	513.4	513.4	518.6	518.6	523.8	523.8	523.8
12.5°	513.4	513.4	518.6	518.6	518.6	523.8	534.2	539.4	544.5	549.7	549.7
15°	518.6	518.6	523.8	529.0	534.2	544.5	560.1	575.7	586.0	591.2	586.0
17.5°	518.6	523.8	529.0	539.4	554.9	570.5	596.4	617.1	637.9	643.1	648.3
20°	529.0	529.0	534.2	554.9	580.8	606.8	643.1	679.4	705.3	715.7	715.7
22.5°	534.2	539.4	544.5	570.5	612.0	653.5	705.3	746.8	783.1	803.8	809.0
25°	549.7	549.7	560.1	596.4	648.3	710.5	777.9	840.2	886.8	912.8	917.9
27.5°	560.1	565.3	580.8	627.5	694.9	772.7	866.1	938.7	995.7	1026.9	1032.0
30°	570.5	575.7	606.8	658.6	741.6	835.0	943.9	1037.2	1109.8	1146.1	1151.3
32.5°	586.0	591.2	627.5	684.6	783.1	897.2	1021.7	1135.8	1239.5	1270.6	1275.8
35°	601.6	606.8	648.3	715.7	829.8	959.4	1104.6	1239.5	1363.9	1405.4	1415.8
37.5°	617.1	622.3	663.8	746.8	876.5	1026.9	1198.0	1358.8	1493.6	1550.7	1566.2
40°	632.7	637.9	684.6	777.9	923.1	1099.5	1296.5	1472.9	1628.4	1695.9	1706.2
42.5°	643.1	648.3	700.1	803.8	969.8	1166.9	1400.3	1597.3	1763.3	1851.4	1861.8
45°	658.6	663.8	720.9	840.2	1011.3	1244.7	1498.8	1737.4	1929.2	2027.8	2038.1
47.5°	669.0	674.2	736.4	860.9	1058.0	1317.3	1602.5	1861.8	2090.0	2193.7	2224.8
50°	674.2	679.4	746.8	881.6	1089.1	1369.1	1685.5	1986.3	2230.0	2359.7	2375.2
52.5°	674.2	684.6	752.0	897.2	1109.8	1415.8	1752.9	2090.0	2364.9	2510.1	2515.3
55°	669.0	674.2	746.8	892.0	1120.2	1436.6	1799.6	2152.2	2458.2	2598.2	2644.9
57.5°	648.3	653.5	726.1	876.5	1099.5	1426.2	1789.2	2167.8	2479.0	2613.8	2670.9
60°	617.1	627.5	694.9	840.2	1068.3	1389.9	1758.1	2136.7	2447.8	2613.8	2619.0
62.5°	580.8	586.0	653.5	793.5	1021.7	1332.8	1701.0	2074.4	2375.2	2546.4	2541.2
65°	529.0	534.2	591.2	736.4	938.7	1223.9	1587.0	1975.9	2235.2	2416.7	2401.2
67.5°	471.9	477.1	529.0	658.6	840.2	1104.6	1431.4	1810.0	2038.1	2224.8	2214.5
70°	409.7	409.7	456.4	565.3	736.4	969.8	1260.2	1592.1	1820.3	1975.9	1981.1
72.5°	337.1	337.1	378.6	471.9	617.1	814.2	1063.2	1358.8	1545.5	1680.3	1690.7
75°	264.5	259.3	295.6	373.4	487.5	648.3	840.2	1094.3	1239.5	1369.1	1363.9
77.5°	186.7	186.7	207.4	269.7	352.7	482.3	622.3	824.6	923.1	1032.0	1011.3
80°	119.3	119.3	129.7	176.3	233.4	321.5	409.7	560.1	627.5	710.5	684.6
82.5°	62.2	57.0	67.4	93.4	124.5	176.3	228.2	326.7	357.8	420.1	399.3
85°	20.7	20.7	20.7	31.1	46.7	67.4	88.2	140.0	145.2	186.7	171.1
87.5°	5.2	0.0	0.0	5.2	5.2	5.2	5.2	15.6	15.6	31.1	20.7
90°	2.5	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.5	2.5
92.5°	2.5	2.5	2.5	3.5	4.0	3.5	4.0	3.0	3.0	2.5	2.5
95°	3.0	3.0	3.5	4.5	5.6	6.1	6.1	3.5	3.5	3.0	3.0
97.5°	4.0	4.5	4.5	5.6	9.1	16.7	10.1	5.1	5.1	4.5	4.0
100°	6.6	7.1	7.1	12.6	26.8	35.9	25.8	13.1	9.6	7.1	7.1
102.5°	21.2	22.2	27.3	40.9	60.7	55.1	46.5	44.0	30.3	24.3	23.3
105°	54.1	53.6	57.6	68.2	84.9	83.4	76.8	69.8	60.2	55.6	55.6
107.5°	71.3	71.3	74.8	83.9	96.6	112.7	114.2	90.5	79.4	74.3	73.8
110°	80.4	80.4	83.4	91.0	107.7	130.4	129.4	111.7	98.1	91.5	90.5



REPORT NUMBER: P834046  
 CATALOG NUMBER: TTN-D3-830-U-RW-CG-UPL1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	82.4	82.9	86.9	98.6	116.8	126.9	122.3	115.3	109.2	104.1	103.1
115°	85.4	85.4	90.0	101.1	111.2	115.3	110.2	104.6	100.6	98.6	99.6
117.5°	84.4	85.9	86.9	93.0	99.6	102.6	100.1	92.5	89.5	88.5	86.9
120°	78.4	78.4	79.4	82.4	85.9	87.5	86.4	81.4	78.9	78.4	77.3
122.5°	69.8	70.3	69.8	71.3	73.8	75.3	74.3	70.3	69.3	69.3	68.2
125°	61.2	61.2	60.7	61.7	63.2	62.7	63.2	61.2	60.7	60.7	60.2
127.5°	55.1	54.6	53.6	54.1	54.6	54.6	55.1	53.1	53.6	54.1	53.6
130°	49.0	49.0	48.0	48.0	48.0	47.0	48.0	47.0	47.5	48.0	48.5
132.5°	43.5	43.5	42.0	41.5	41.5	41.5	42.0	41.5	42.5	43.5	43.5
135°	38.9	38.9	37.4	37.9	37.9	37.4	37.9	37.4	38.4	38.9	38.9
137.5°	35.4	35.4	34.4	34.4	34.4	33.9	34.4	34.4	34.9	35.9	36.4
140°	32.4	32.4	31.8	31.8	31.3	31.8	31.8	31.8	32.4	32.9	32.9
142.5°	30.8	30.3	29.8	29.3	29.8	29.8	29.8	29.3	29.8	30.8	30.8
145°	28.3	28.3	27.8	27.8	27.8	28.3	27.8	27.8	28.3	28.3	28.8
147.5°	26.8	26.8	26.3	26.8	26.8	26.8	26.8	26.3	26.8	26.8	27.3
150°	26.3	25.8	25.3	25.8	25.8	25.3	25.3	25.3	25.3	25.8	25.8
152.5°	24.8	24.8	24.3	24.8	24.3	24.3	24.3	24.3	24.3	24.8	25.3
155°	23.8	23.8	23.3	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
157.5°	22.7	23.3	22.7	22.7	22.7	22.7	22.7	22.7	22.7	23.3	23.3
160°	22.2	22.2	22.2	22.2	21.7	21.7	21.7	22.2	22.2	22.2	22.7
162.5°	21.7	21.7	21.7	21.7	21.2	21.2	21.2	21.2	21.7	21.7	22.2
165°	21.7	21.2	21.2	21.2	20.7	20.7	20.7	20.7	21.2	21.7	21.2
167.5°	20.7	20.7	20.7	20.7	20.7	20.2	20.2	20.7	20.7	20.7	21.2
170°	20.7	20.7	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.7
172.5°	20.7	20.7	20.7	20.7	20.2	20.2	20.2	20.2	20.2	20.7	20.7
175°	20.7	20.7	20.7	20.7	20.2	20.2	20.2	20.7	20.7	20.7	20.2
177.5°	20.7	20.7	20.7	20.7	20.2	20.7	20.7	20.7	20.7	20.7	20.7
180°	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7



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

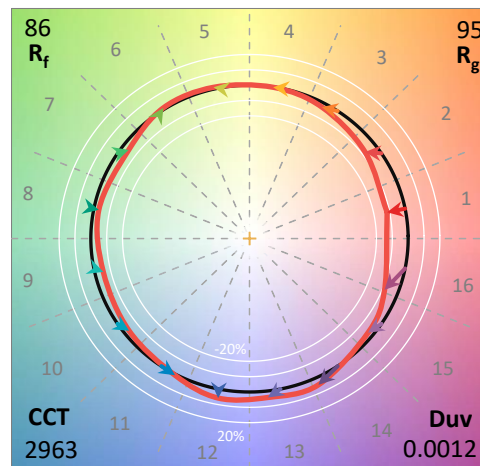
**Test Information**

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**

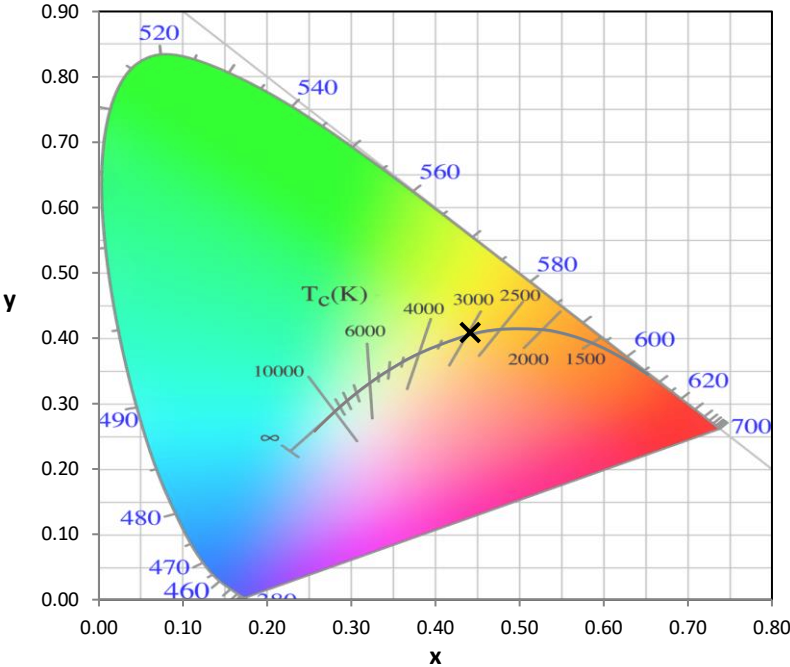
Stabilization Time: 37M  
 Operation Time: 1H 37M  
 Sphere Temperature (°C): 25.0

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**

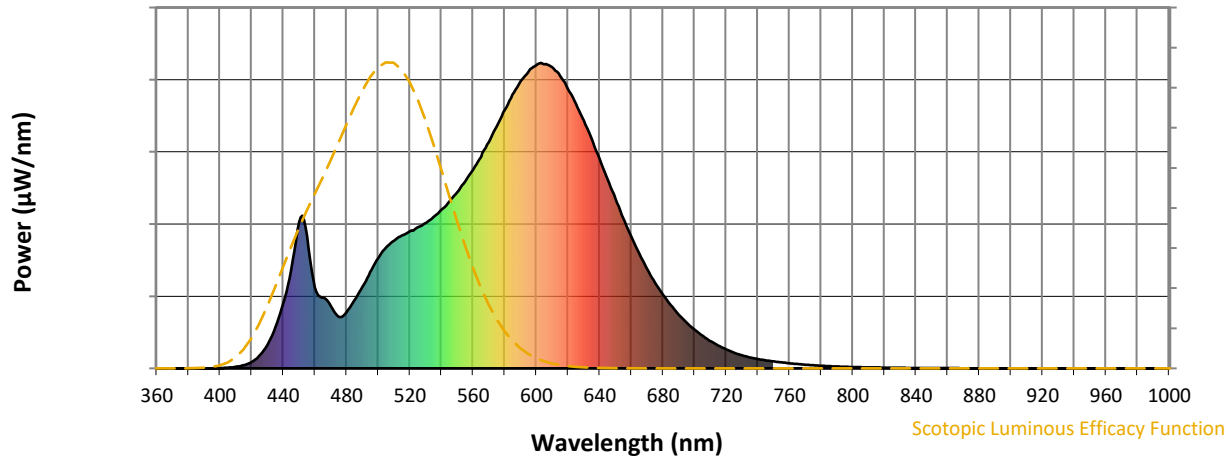


**Photopic Lumens: NR**

$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /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**



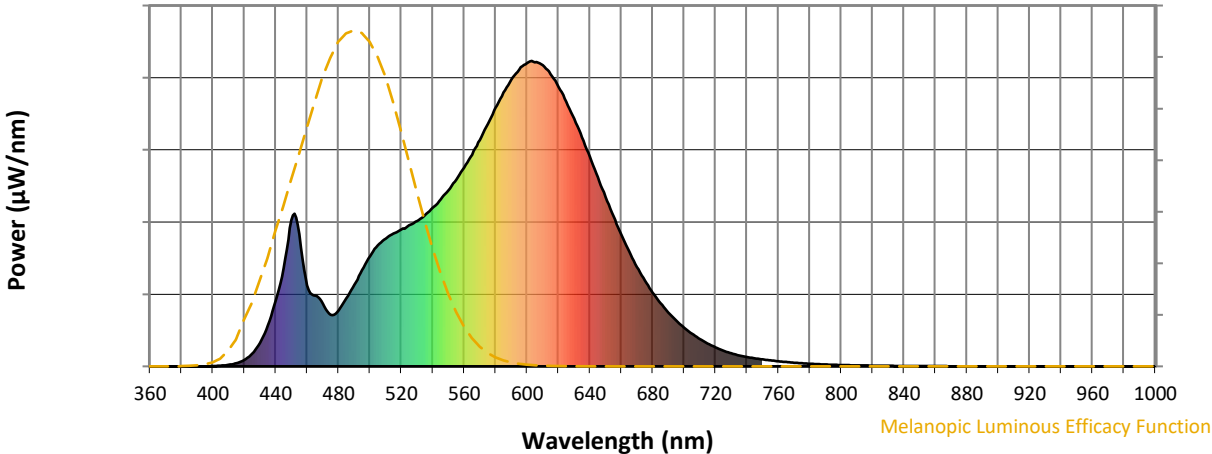
**Scotopic Lumens: NR**

**S/P: 1.34**

λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /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

Melanopic Flux vs. Wavelength

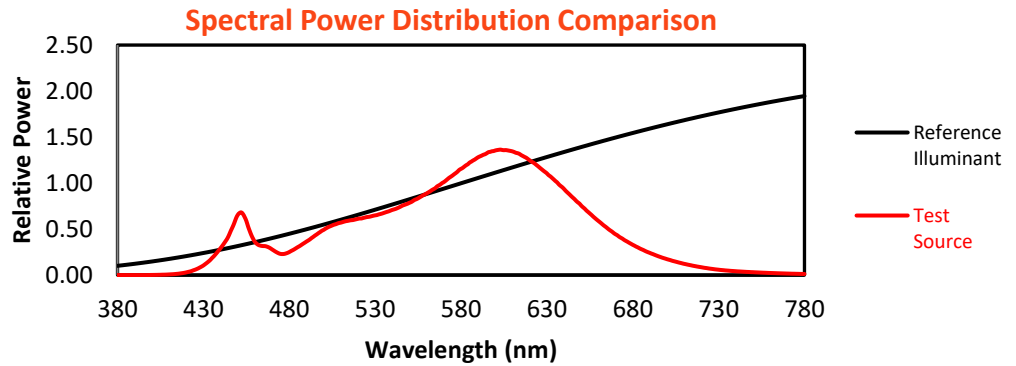


Melanopic Lumens: NR M/P: 2.58

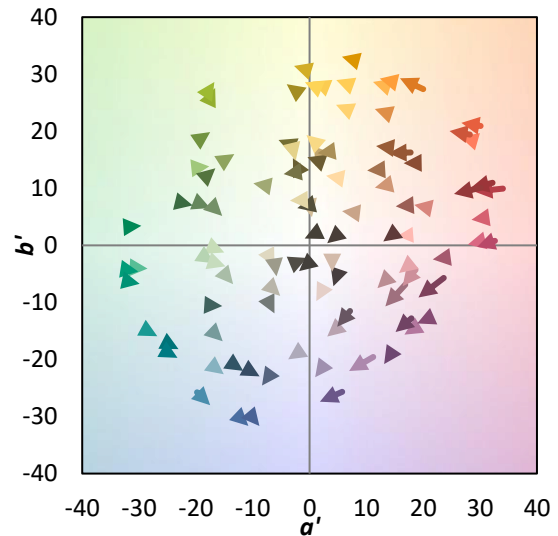
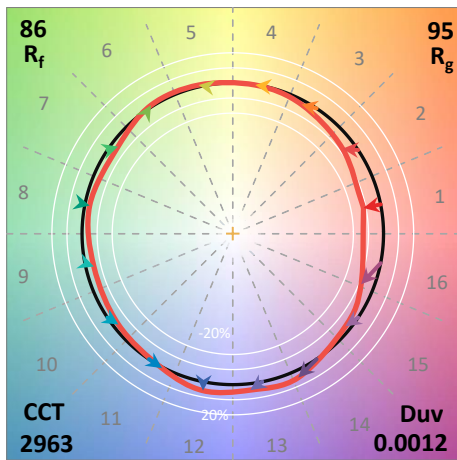
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	267	NR	620	915	NR	750	23	NR	880	0	NR
365	0	NR	495	315	NR	625	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  $R_a = 82.9$   
 $R_9 = 3.9$



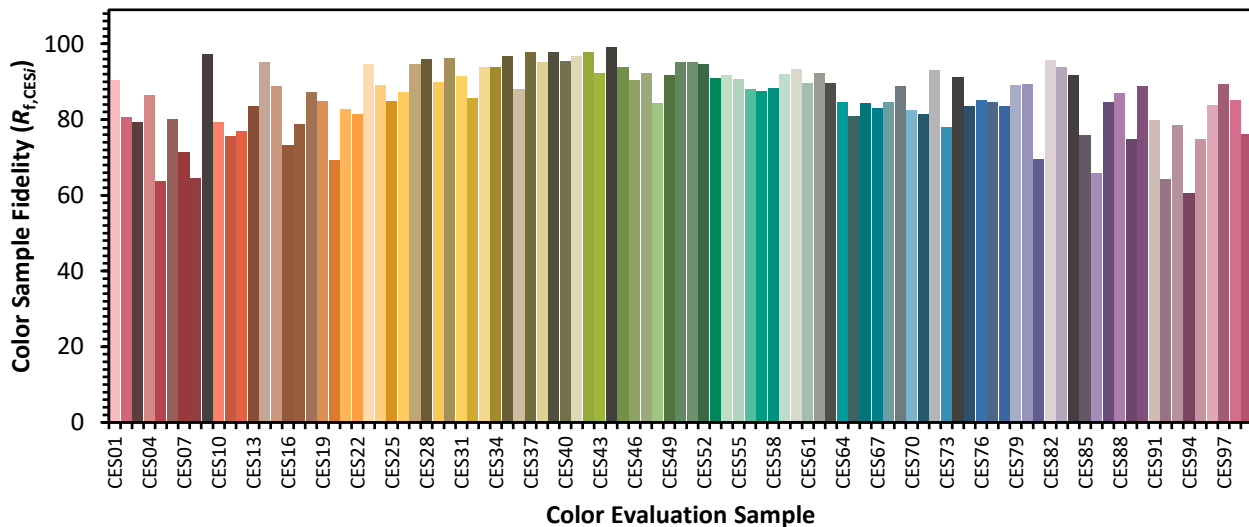
**Color Vector Graphics**



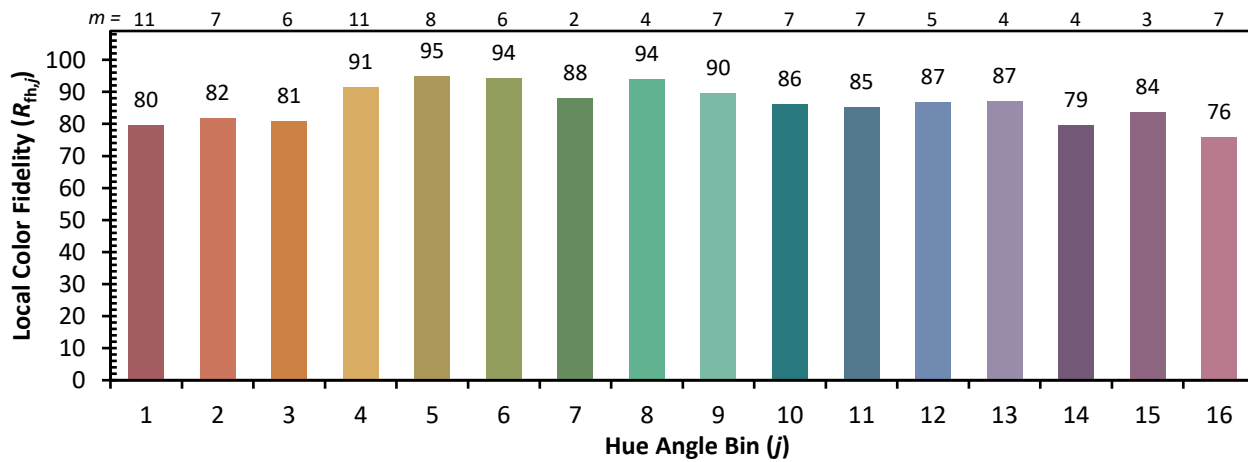
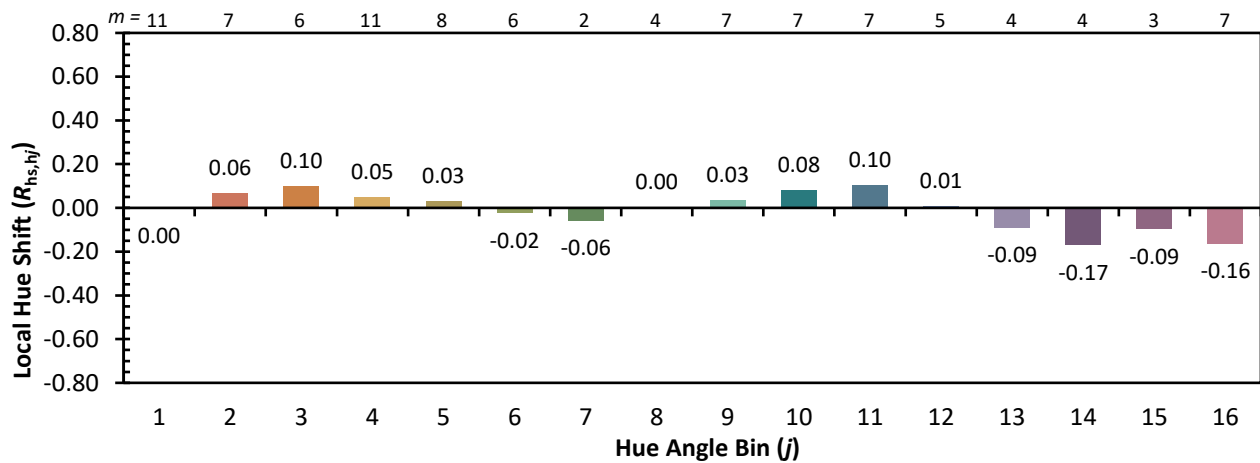
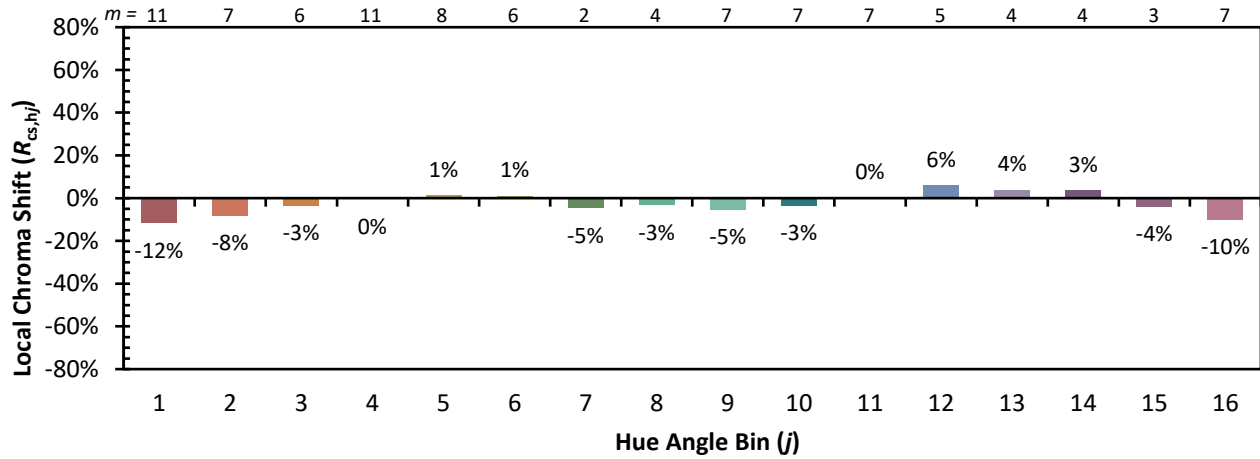


Individual Sample Fidelity Index ( $R_{f,i}$ )

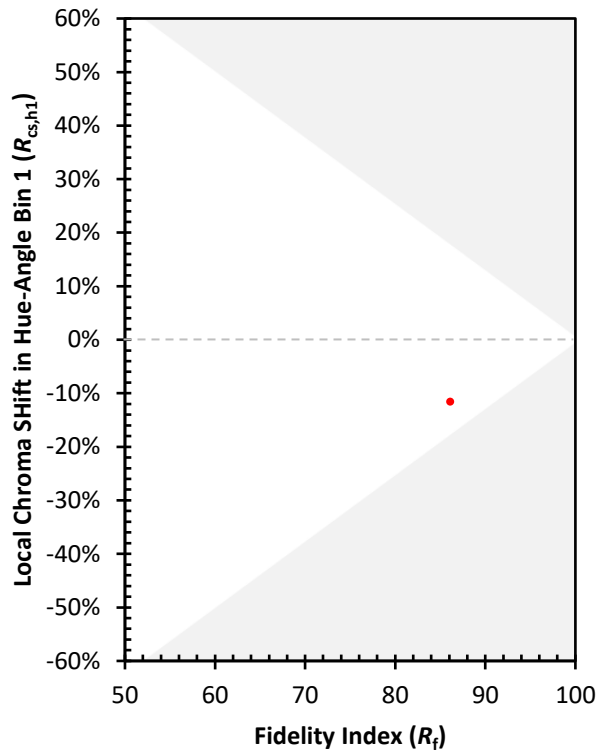
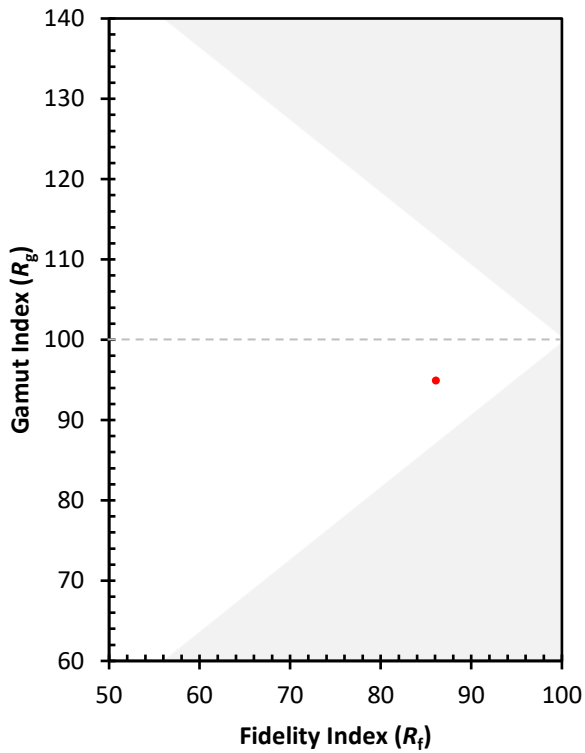
CES01 = 86	CES26 = 87	CES51 = 95	CES76 = 85
CES02 = 63	CES27 = 95	CES52 = 95	CES77 = 85
CES03 = 31	CES28 = 96	CES53 = 91	CES78 = 83
CES04 = 70	CES29 = 90	CES54 = 92	CES79 = 89
CES05 = 50	CES30 = 96	CES55 = 91	CES80 = 89
CES06 = 51	CES31 = 92	CES56 = 88	CES81 = 70
CES07 = 42	CES32 = 86	CES57 = 87	CES82 = 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)