

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: P833523

Luminaire Tested: **TTN-D2-735-U-CQ-UPL3**

Issue Date: 5/15/2024

**Test Information**

Test Method: LM-79-08  
Report Number: P833523  
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-D2-735-U-CQ-UPL3  
Description: TOPTIER NANO LED PARKING GARAGE LUMINAIRE WITH UPLIGHT  
3500K, 70 CRI LEDS AND CONCENTRATED DISTRIBUTION  
Light Source: -  
Ballast/Driver: -

**Summary**

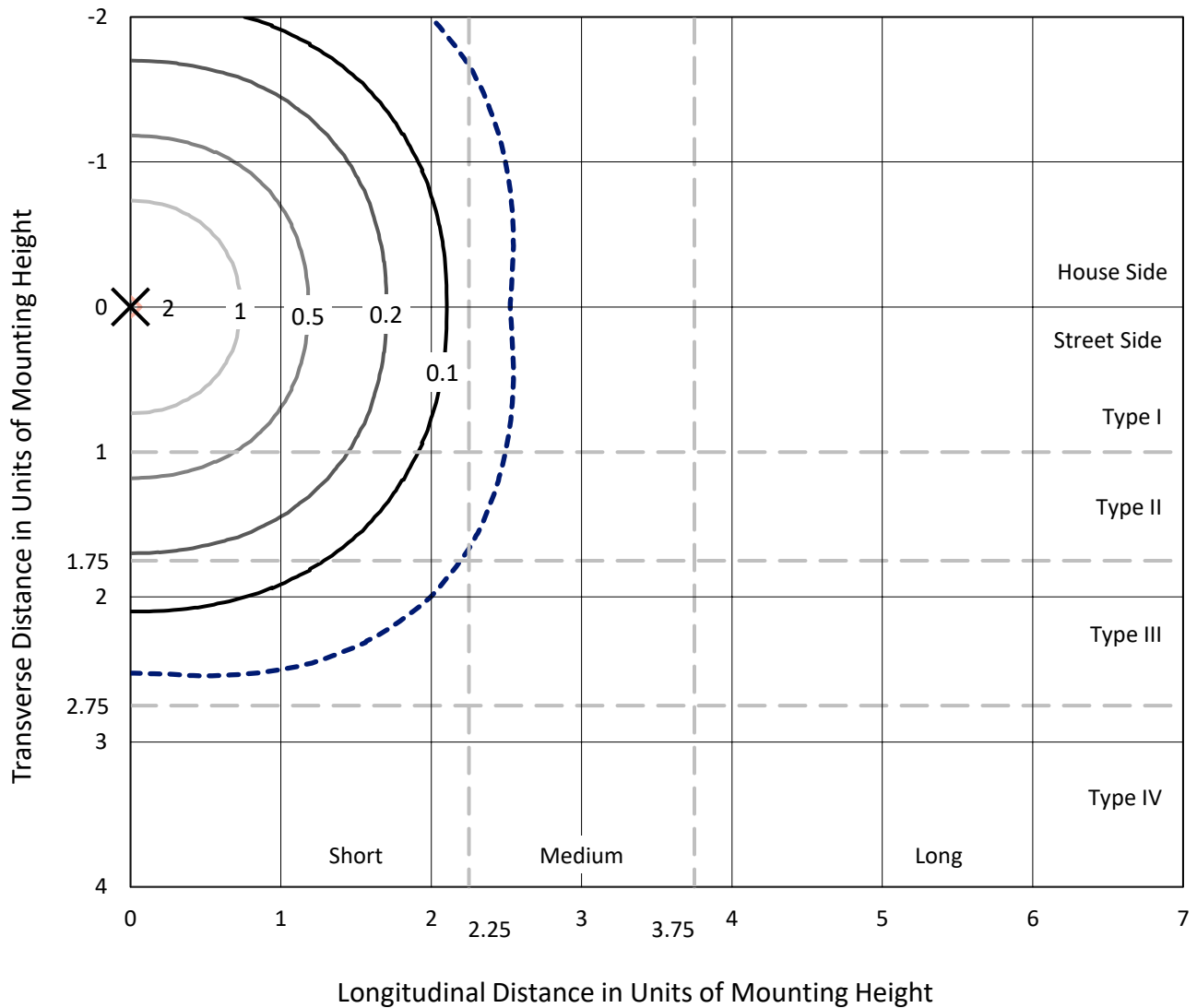
Lumens per Lamp: N/A  
Luminaire Lumens: 5793.7 lumens  
Efficiency: N/A  
Efficacy: 117.0 lumens/watt  
Luminous Opening: Vertical Cylinder (Dia: 0.71' x H: 0.1')  
IES Classification: Type V - Short  
BUG Rating: B2 - U4 - G1  
  
Input Watts (W): 49.5  
Input Voltage (V): NR  
Input Current (Ain): 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: P833523  
 CATALOG NUMBER: TTN-D2-735-U-CQ-UPL3

### Iso-Footcandle Lines of Horizontal Illumination

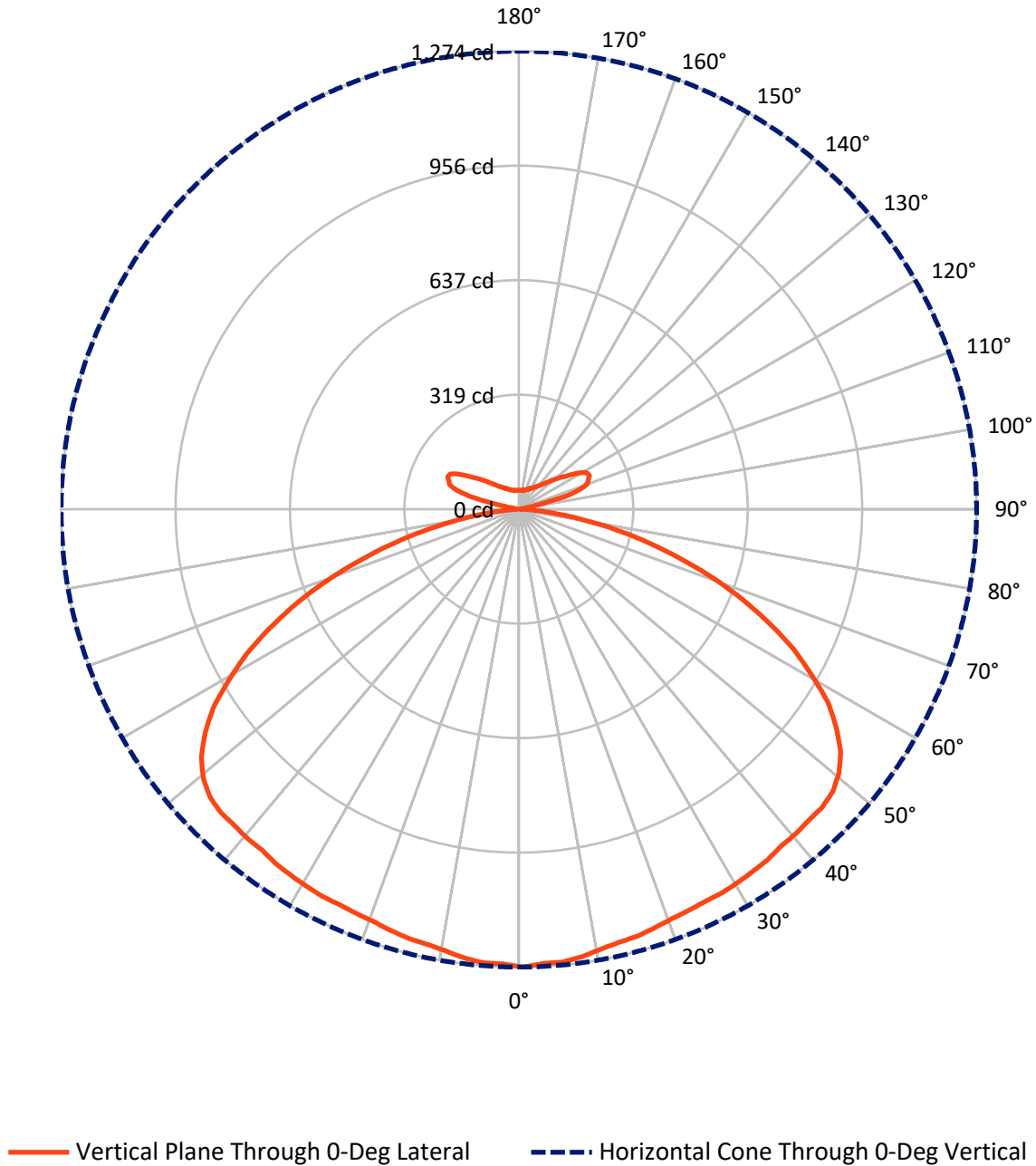
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2 fc  
 Type V - Short - N/A

REPORT NUMBER: P833523  
CATALOG NUMBER: TTN-D2-735-U-CQ-UPL3

### Luminous Intensity Polar Plot



REPORT NUMBER: P833523  
 CATALOG NUMBER: TTN-D2-735-U-CQ-UPL3

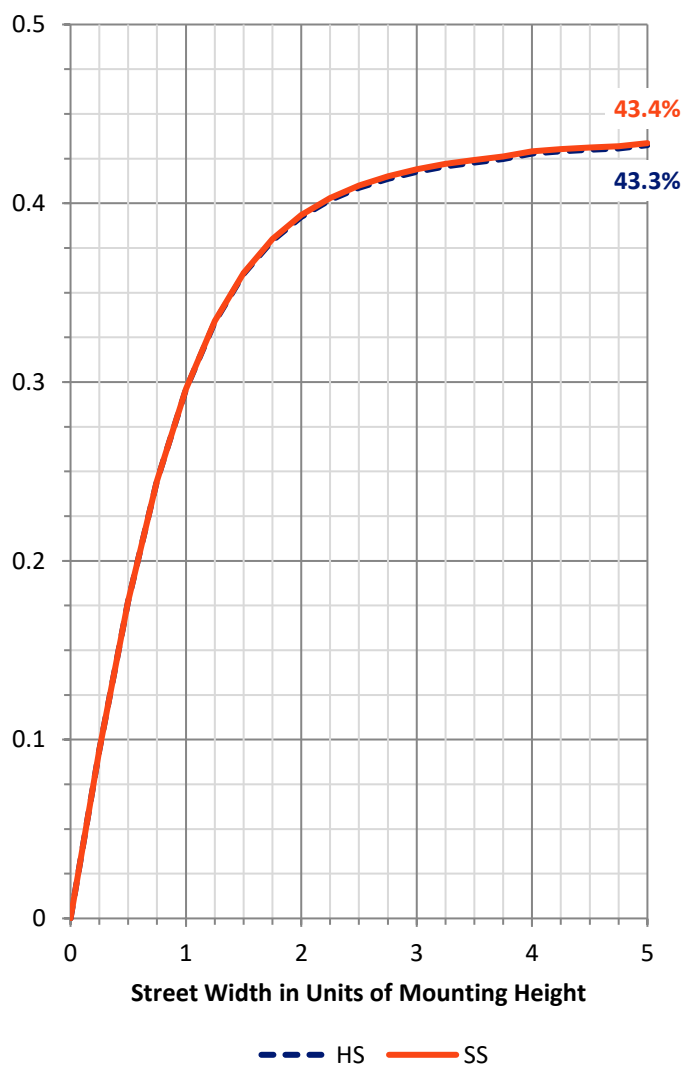
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2520.5	376.3	2896.8
	% Fixture	43.5	6.5	50.0
<b>Street Side</b>	Lumens	2520.5	376.3	2896.8
	% Fixture	43.5	6.5	50.0
<b>Total</b>	Lumens	5041.0	752.7	5793.7
	% Fixture	87.0	13.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	120.2	2.1
10°-20°	348.9	6.0
20°-30°	561.9	9.7
30°-40°	755.7	13.0
40°-50°	932.4	16.1
50°-60°	1000.3	17.3
60°-70°	811.2	14.0
70°-80°	429.9	7.4
80°-90°	80.5	1.4
90°-100°	16.8	0.3
100°-110°	170.7	2.9
110°-120°	249.6	4.3
120°-130°	144.9	2.5
130°-140°	76.7	1.3
140°-150°	45.6	0.8
150°-160°	28.1	0.5
160°-170°	15.3	0.3
170°-180°	5.0	0.1
0°-90°	5041.0	87.0
0°-180°	5793.7	100.0

**Coefficient of Utilization**



REPORT NUMBER: P833523

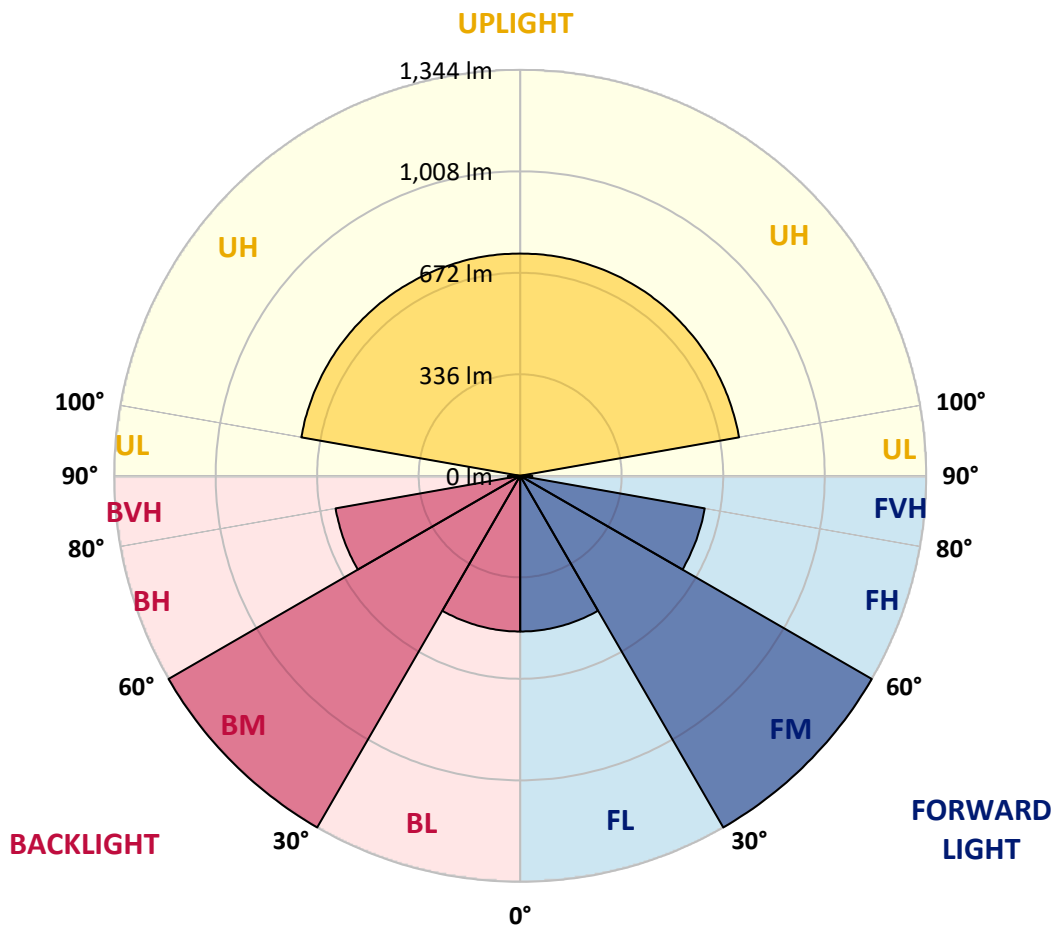
CATALOG NUMBER: TTN-D2-735-U-CQ-UPL3

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	515.5	8.9			
FM (30°-60°)	1344.2	23.2			
FH (60°-80°)	620.6	10.7			G0/660
FVH (80°-90°)	40.3	0.7			G1/100
BL (0°-30°)	515.5	8.9	B2/1000		
BM (30°-60°)	1344.2	23.2	B2/2500		
BH (60°-80°)	620.6	10.7	B2/1000		G0/660
BVH (80°-90°)	40.3	0.7			G1/100
UL (90°-100°)	16.8	0.3		U2/50	
UH (100°-180°)	735.8	12.7		U4/1000	

**BUG Rating: B2-U4-G1**

Type V Short





REPORT NUMBER: P833523  
 CATALOG NUMBER: TTN-D2-735-U-CQ-UPL3

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1274.4	1274.4	1274.4	1274.4	1274.4	1274.4	1274.4	1274.4	1274.4	1274.4	1274.4
2.5°	1266.2	1266.2	1266.2	1266.2	1266.2	1266.2	1266.2	1266.2	1266.2	1266.2	1270.3
5°	1266.2	1266.2	1266.2	1266.2	1262.1	1266.2	1266.2	1266.2	1266.2	1266.2	1266.2
7.5°	1257.9	1257.9	1257.9	1257.9	1257.9	1257.9	1257.9	1257.9	1257.9	1257.9	1257.9
10°	1245.6	1245.6	1245.6	1245.6	1245.6	1245.6	1245.6	1245.6	1245.6	1245.6	1245.6
12.5°	1237.3	1237.3	1237.3	1237.3	1237.3	1237.3	1237.3	1237.3	1237.3	1237.3	1237.3
15°	1233.2	1233.2	1233.2	1233.2	1233.2	1233.2	1233.2	1233.2	1233.2	1229.1	1229.1
17.5°	1224.9	1224.9	1224.9	1224.9	1229.1	1229.1	1229.1	1224.9	1224.9	1224.9	1224.9
20°	1216.7	1216.7	1216.7	1220.8	1220.8	1220.8	1220.8	1220.8	1216.7	1216.7	1216.7
22.5°	1212.6	1212.6	1212.6	1212.6	1216.7	1216.7	1216.7	1216.7	1212.6	1212.6	1212.6
25°	1208.4	1208.4	1212.6	1212.6	1216.7	1216.7	1216.7	1212.6	1212.6	1208.4	1208.4
27.5°	1208.4	1208.4	1212.6	1212.6	1216.7	1216.7	1216.7	1216.7	1212.6	1208.4	1208.4
30°	1204.3	1208.4	1208.4	1212.6	1216.7	1216.7	1216.7	1212.6	1208.4	1204.3	1204.3
32.5°	1200.2	1200.2	1204.3	1208.4	1212.6	1212.6	1212.6	1208.4	1204.3	1200.2	1196.1
35°	1196.1	1196.1	1196.1	1204.3	1208.4	1208.4	1208.4	1204.3	1196.1	1191.9	1191.9
37.5°	1187.8	1191.9	1196.1	1200.2	1208.4	1208.4	1208.4	1200.2	1191.9	1187.8	1183.7
40°	1187.8	1187.8	1196.1	1200.2	1212.6	1212.6	1208.4	1200.2	1191.9	1183.7	1179.6
42.5°	1183.7	1187.8	1196.1	1208.4	1220.8	1220.8	1216.7	1204.3	1191.9	1183.7	1179.6
45°	1183.7	1183.7	1196.1	1212.6	1229.1	1233.2	1224.9	1212.6	1196.1	1179.6	1179.6
47.5°	1175.5	1175.5	1191.9	1212.6	1233.2	1237.3	1233.2	1212.6	1191.9	1179.6	1175.5
50°	1154.8	1154.8	1175.5	1200.2	1224.9	1233.2	1224.9	1208.4	1179.6	1163.1	1159.0
52.5°	1121.8	1121.8	1142.5	1175.5	1200.2	1212.6	1204.3	1183.7	1154.8	1130.1	1126.0
55°	1072.3	1076.5	1097.1	1134.2	1163.1	1175.5	1167.2	1142.5	1109.5	1084.7	1076.5
57.5°	1014.6	1014.6	1043.5	1080.6	1109.5	1121.8	1113.6	1088.8	1051.7	1027.0	1018.7
60°	936.2	940.4	965.1	1014.6	1043.5	1055.8	1047.6	1018.7	977.5	948.6	940.4
62.5°	857.9	862.0	886.7	928.0	961.0	969.2	961.0	932.1	895.0	866.1	857.9
65°	767.1	771.3	800.1	837.3	862.0	874.4	862.0	837.3	804.3	775.4	771.3
67.5°	672.3	676.4	705.3	738.3	763.0	771.3	758.9	738.3	705.3	680.5	672.3
70°	573.3	577.4	602.2	631.0	651.7	659.9	651.7	626.9	602.2	577.4	573.3
72.5°	470.2	474.3	499.1	523.8	540.3	548.5	536.2	519.7	494.9	474.3	470.2
75°	371.2	371.2	391.8	412.4	428.9	433.1	424.8	412.4	391.8	375.3	367.1
77.5°	276.3	276.3	297.0	309.3	317.6	325.8	317.6	305.2	292.8	276.3	276.3
80°	185.6	185.6	202.1	210.3	218.6	222.7	218.6	210.3	202.1	189.7	185.6
82.5°	111.4	111.4	119.6	127.9	127.9	132.0	132.0	127.9	119.6	111.4	111.4
85°	49.5	45.4	53.6	57.7	57.7	61.9	61.9	57.7	53.6	49.5	49.5
87.5°	4.1	8.2	8.2	12.4	12.4	12.4	12.4	12.4	8.2	8.2	8.2
90°	6.4	6.4	7.7	7.7	7.7	7.7	7.7	7.7	7.7	6.4	6.4
92.5°	6.4	6.4	6.4	9.0	10.3	9.0	10.3	7.7	7.7	6.4	6.4
95°	7.7	7.7	9.0	11.6	14.2	15.5	15.5	9.0	9.0	7.7	7.7
97.5°	10.3	11.6	11.6	14.2	23.2	42.5	25.8	12.9	12.9	11.6	10.3
100°	16.7	18.0	18.0	32.2	68.2	91.4	65.7	33.5	24.5	18.0	18.0
102.5°	54.1	56.7	69.5	104.3	154.5	140.4	118.5	112.0	77.3	61.8	59.2
105°	137.8	136.5	146.8	173.8	216.3	212.5	195.7	177.7	153.2	141.6	141.6
107.5°	181.6	181.6	190.6	213.8	245.9	287.1	291.0	230.5	202.2	189.3	188.0
110°	204.7	204.7	212.5	231.8	274.3	332.2	329.6	284.6	249.8	233.1	230.5



REPORT NUMBER: P833523  
 CATALOG NUMBER: TTN-D2-735-U-CQ-UPL3

**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	209.9	211.2	221.5	251.1	297.5	323.2	311.6	293.6	278.1	265.3	262.7
115°	217.6	217.6	229.2	257.5	283.3	293.6	280.7	266.5	256.2	251.1	253.7
117.5°	215.0	218.9	221.5	236.9	253.7	261.4	255.0	235.6	227.9	225.3	221.5
120°	199.6	199.6	202.2	209.9	218.9	222.8	220.2	207.3	200.9	199.6	197.0
122.5°	177.7	179.0	177.7	181.6	188.0	191.9	189.3	179.0	176.4	176.4	173.8
125°	155.8	155.8	154.5	157.1	161.0	159.7	161.0	155.8	154.5	154.5	153.2
127.5°	140.4	139.1	136.5	137.8	139.1	139.1	140.4	135.2	136.5	137.8	136.5
130°	124.9	124.9	122.3	122.3	122.3	119.8	122.3	119.8	121.0	122.3	123.6
132.5°	110.7	110.7	106.9	105.6	105.6	105.6	106.9	105.6	108.2	110.7	110.7
135°	99.2	99.2	95.3	96.6	96.6	95.3	96.6	95.3	97.9	99.2	99.2
137.5°	90.1	90.1	87.6	87.6	87.6	86.3	87.6	87.6	88.8	91.4	92.7
140°	82.4	82.4	81.1	81.1	79.8	81.1	81.1	81.1	82.4	83.7	83.7
142.5°	78.5	77.3	76.0	74.7	76.0	76.0	76.0	74.7	76.0	78.5	78.5
145°	72.1	72.1	70.8	70.8	70.8	72.1	70.8	70.8	72.1	72.1	73.4
147.5°	68.2	68.2	67.0	68.2	68.2	68.2	68.2	67.0	68.2	68.2	69.5
150°	67.0	65.7	64.4	65.7	65.7	64.4	64.4	64.4	64.4	65.7	65.7
152.5°	63.1	63.1	61.8	63.1	61.8	61.8	61.8	61.8	61.8	63.1	64.4
155°	60.5	60.5	59.2	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5
157.5°	57.9	59.2	57.9	57.9	57.9	57.9	57.9	57.9	57.9	59.2	59.2
160°	56.7	56.7	56.7	56.7	55.4	55.4	55.4	56.7	56.7	56.7	57.9
162.5°	55.4	55.4	55.4	55.4	54.1	54.1	54.1	54.1	55.4	55.4	56.7
165°	55.4	54.1	54.1	54.1	52.8	52.8	52.8	52.8	54.1	55.4	54.1
167.5°	52.8	52.8	52.8	52.8	52.8	51.5	51.5	52.8	52.8	52.8	54.1
170°	52.8	52.8	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	52.8
172.5°	52.8	52.8	52.8	52.8	51.5	51.5	51.5	51.5	51.5	52.8	52.8
175°	52.8	52.8	52.8	52.8	51.5	51.5	51.5	52.8	52.8	52.8	51.5
177.5°	52.8	52.8	52.8	52.8	51.5	52.8	52.8	52.8	52.8	52.8	52.8
180°	52.8	52.8	52.8	52.8	52.8	52.8	52.8	52.8	52.8	52.8	52.8



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: SP1-2411-284-1

Test Date: 11/15/2024

Luminaire Tested: TTN-D0-735-U-WQ

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

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2411-284-1  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 11/15/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: MCGRAW EDISON  
 Catalog Number: **TTN-D0-735-U-WQ**  
 Description: TOPTIER NANO LED PARKING GARAGE LUMINAIRE. 3500K, 70 CRI LEDS AND WIDE DISTRIBUTION

**Spectral Parameters**

CCT (K): 3405  
 CIE u': 0.2365  
 CIE v': 0.5180  
 Duv: 0.0036  
 CIE x: 0.4148  
 CIE y: 0.4038  
 CIE z: 0.1814  
 Peak Wavelength (nm): 596  
 Dominant Wavelength (nm): 579  
 Purity: 45.70672  
 Rf: 76.6  
 Rg: 95.4

CRI (Ra):	73.9		
R1:	71.3	R9:	-18.0
R2:	80.3	R10:	53.1
R3:	87.8	R11:	68.6
R4:	73.2	R12:	42.6
R5:	69.8	R13:	72.5
R6:	71.8	R14:	92.7
R7:	82.8	R15:	64.3
R8:	54.1		



**Test Conditions**

Stabilization Time: 38M  
 Operation Time: 1H 38M  
 Sphere Temperature (°C): 24.9

REPORT NUMBER: SP1-2411-284-1

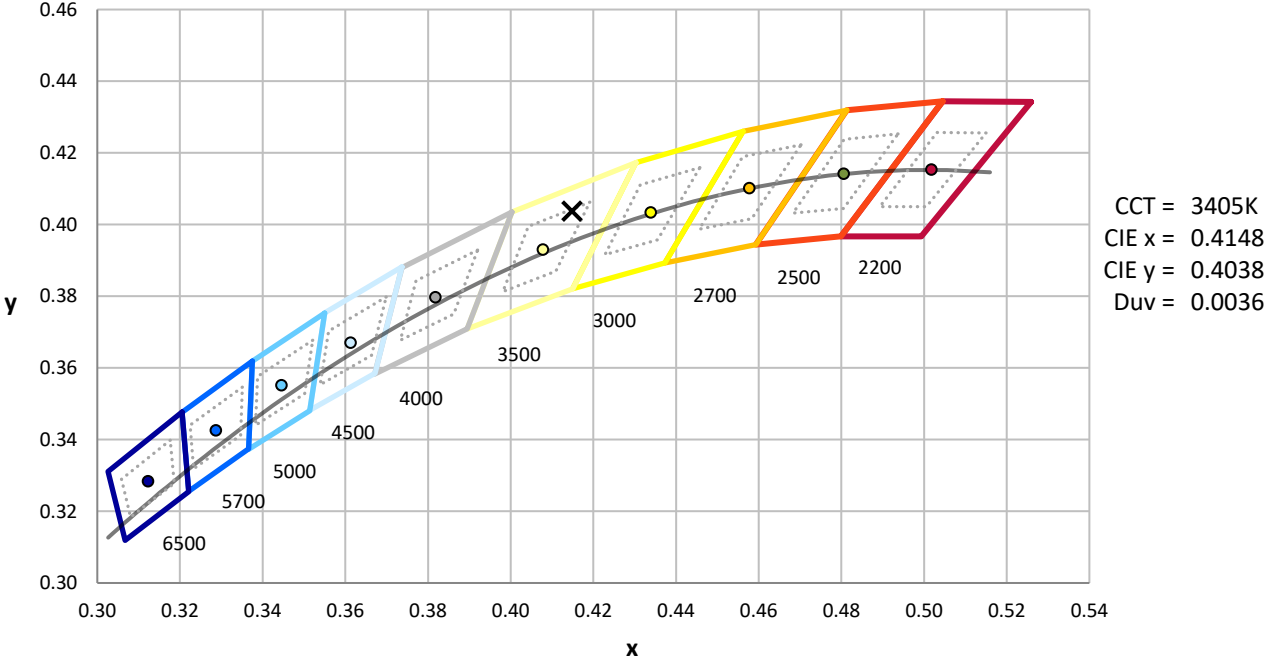
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/22/2024	10/22/2025
DC Power Source	IN0208	10/22/2024	10/22/2025
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2411-284-1

CIE 1931 Chromaticity Diagram



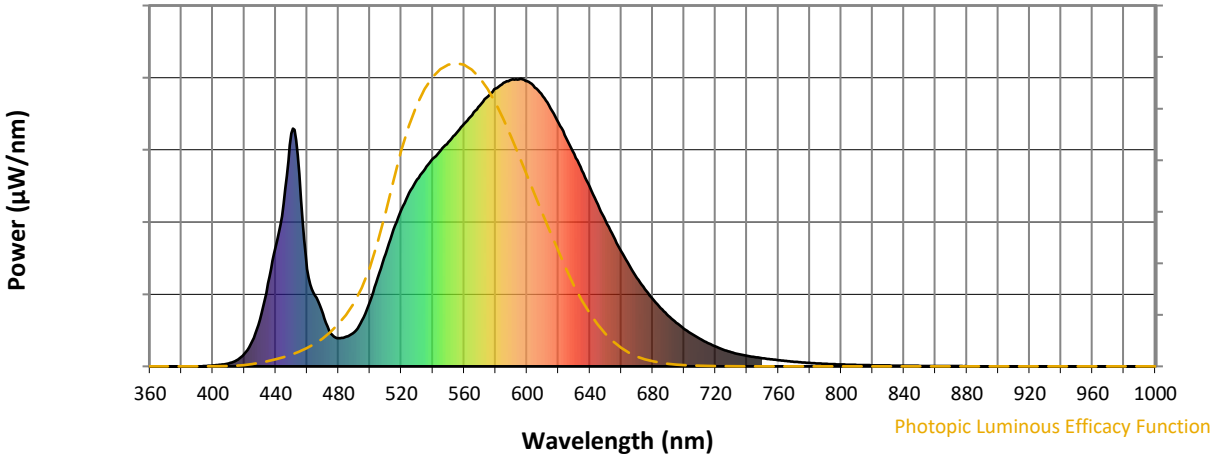
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP1-2411-284-1

**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	119	NR	620	846	NR	750	28	NR	880	1	NR
365	0	NR	495	160	NR	625	793	NR	755	25	NR	885	0	NR
370	0	NR	500	225	NR	630	739	NR	760	22	NR	890	0	NR
375	0	NR	505	308	NR	635	681	NR	765	19	NR	895	0	NR
380	0	NR	510	392	NR	640	623	NR	770	16	NR	900	0	NR
385	0	NR	515	474	NR	645	563	NR	775	14	NR	905	0	NR
390	0	NR	520	545	NR	650	506	NR	780	12	NR	910	0	NR
395	1	NR	525	603	NR	655	451	NR	785	10	NR	915	0	NR
400	3	NR	530	649	NR	660	399	NR	790	9	NR	920	0	NR
405	5	NR	535	687	NR	665	352	NR	795	8	NR	925	0	NR
410	11	NR	540	721	NR	670	307	NR	800	6	NR	930	0	NR
415	21	NR	545	751	NR	675	268	NR	805	6	NR	935	0	NR
420	43	NR	550	779	NR	680	234	NR	810	5	NR	940	0	NR
425	88	NR	555	811	NR	685	203	NR	815	4	NR	945	0	NR
430	163	NR	560	843	NR	690	176	NR	820	4	NR	950	0	NR
435	288	NR	565	873	NR	695	152	NR	825	3	NR	955	0	NR
440	416	NR	570	907	NR	700	131	NR	830	3	NR	960	0	NR
445	566	NR	575	938	NR	705	112	NR	835	3	NR	965	0	NR
450	810	NR	580	965	NR	710	96	NR	840	2	NR	970	0	NR
455	669	NR	585	986	NR	715	81	NR	845	2	NR	975	0	NR
460	338	NR	590	997	NR	720	69	NR	850	2	NR	980	0	NR
465	246	NR	595	997	NR	725	58	NR	855	1	NR	985	0	NR
470	182	NR	600	991	NR	730	49	NR	860	1	NR	990	0	NR
475	115	NR	605	968	NR	735	42	NR	865	1	NR	995	0	NR
480	97	NR	610	939	NR	740	37	NR	870	1	NR	1000	0	NR
485	103	NR	615	896	NR	745	32	NR	875	1	NR			

REPORT NUMBER: SP1-2411-284-1

**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.33**

$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )
360	0	NR	490	119	NR	620	846	NR	750	28	NR	880	1	NR
365	0	NR	495	160	NR	625	793	NR	755	25	NR	885	0	NR
370	0	NR	500	225	NR	630	739	NR	760	22	NR	890	0	NR
375	0	NR	505	308	NR	635	681	NR	765	19	NR	895	0	NR
380	0	NR	510	392	NR	640	623	NR	770	16	NR	900	0	NR
385	0	NR	515	474	NR	645	563	NR	775	14	NR	905	0	NR
390	0	NR	520	545	NR	650	506	NR	780	12	NR	910	0	NR
395	1	NR	525	603	NR	655	451	NR	785	10	NR	915	0	NR
400	3	NR	530	649	NR	660	399	NR	790	9	NR	920	0	NR
405	5	NR	535	687	NR	665	352	NR	795	8	NR	925	0	NR
410	11	NR	540	721	NR	670	307	NR	800	6	NR	930	0	NR
415	21	NR	545	751	NR	675	268	NR	805	6	NR	935	0	NR
420	43	NR	550	779	NR	680	234	NR	810	5	NR	940	0	NR
425	88	NR	555	811	NR	685	203	NR	815	4	NR	945	0	NR
430	163	NR	560	843	NR	690	176	NR	820	4	NR	950	0	NR
435	288	NR	565	873	NR	695	152	NR	825	3	NR	955	0	NR
440	416	NR	570	907	NR	700	131	NR	830	3	NR	960	0	NR
445	566	NR	575	938	NR	705	112	NR	835	3	NR	965	0	NR
450	810	NR	580	965	NR	710	96	NR	840	2	NR	970	0	NR
455	669	NR	585	986	NR	715	81	NR	845	2	NR	975	0	NR
460	338	NR	590	997	NR	720	69	NR	850	2	NR	980	0	NR
465	246	NR	595	997	NR	725	58	NR	855	1	NR	985	0	NR
470	182	NR	600	991	NR	730	49	NR	860	1	NR	990	0	NR
475	115	NR	605	968	NR	735	42	NR	865	1	NR	995	0	NR
480	97	NR	610	939	NR	740	37	NR	870	1	NR	1000	0	NR
485	103	NR	615	896	NR	745	32	NR	875	1	NR			

REPORT NUMBER: SP1-2411-284-1

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.47

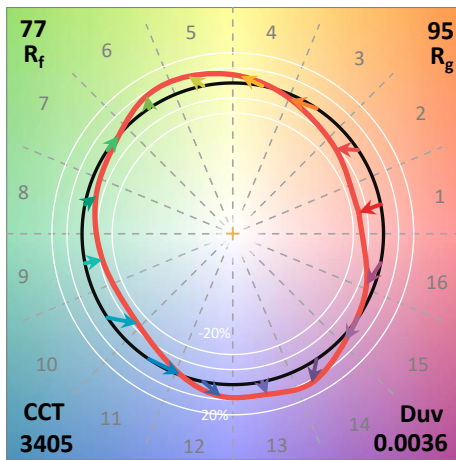
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	119	NR	620	846	NR	750	28	NR	880	1	NR
365	0	NR	495	160	NR	625	793	NR	755	25	NR	885	0	NR
370	0	NR	500	225	NR	630	739	NR	760	22	NR	890	0	NR
375	0	NR	505	308	NR	635	681	NR	765	19	NR	895	0	NR
380	0	NR	510	392	NR	640	623	NR	770	16	NR	900	0	NR
385	0	NR	515	474	NR	645	563	NR	775	14	NR	905	0	NR
390	0	NR	520	545	NR	650	506	NR	780	12	NR	910	0	NR
395	1	NR	525	603	NR	655	451	NR	785	10	NR	915	0	NR
400	3	NR	530	649	NR	660	399	NR	790	9	NR	920	0	NR
405	5	NR	535	687	NR	665	352	NR	795	8	NR	925	0	NR
410	11	NR	540	721	NR	670	307	NR	800	6	NR	930	0	NR
415	21	NR	545	751	NR	675	268	NR	805	6	NR	935	0	NR
420	43	NR	550	779	NR	680	234	NR	810	5	NR	940	0	NR
425	88	NR	555	811	NR	685	203	NR	815	4	NR	945	0	NR
430	163	NR	560	843	NR	690	176	NR	820	4	NR	950	0	NR
435	288	NR	565	873	NR	695	152	NR	825	3	NR	955	0	NR
440	416	NR	570	907	NR	700	131	NR	830	3	NR	960	0	NR
445	566	NR	575	938	NR	705	112	NR	835	3	NR	965	0	NR
450	810	NR	580	965	NR	710	96	NR	840	2	NR	970	0	NR
455	669	NR	585	986	NR	715	81	NR	845	2	NR	975	0	NR
460	338	NR	590	997	NR	720	69	NR	850	2	NR	980	0	NR
465	246	NR	595	997	NR	725	58	NR	855	1	NR	985	0	NR
470	182	NR	600	991	NR	730	49	NR	860	1	NR	990	0	NR
475	115	NR	605	968	NR	735	42	NR	865	1	NR	995	0	NR
480	97	NR	610	939	NR	740	37	NR	870	1	NR	1000	0	NR
485	103	NR	615	896	NR	745	32	NR	875	1	NR			

**Summary**

$R_f = 76.6$   
 $R_g = 95.4$   
 $CIE R_a = 73.9$   
 $R_g = -18.0$



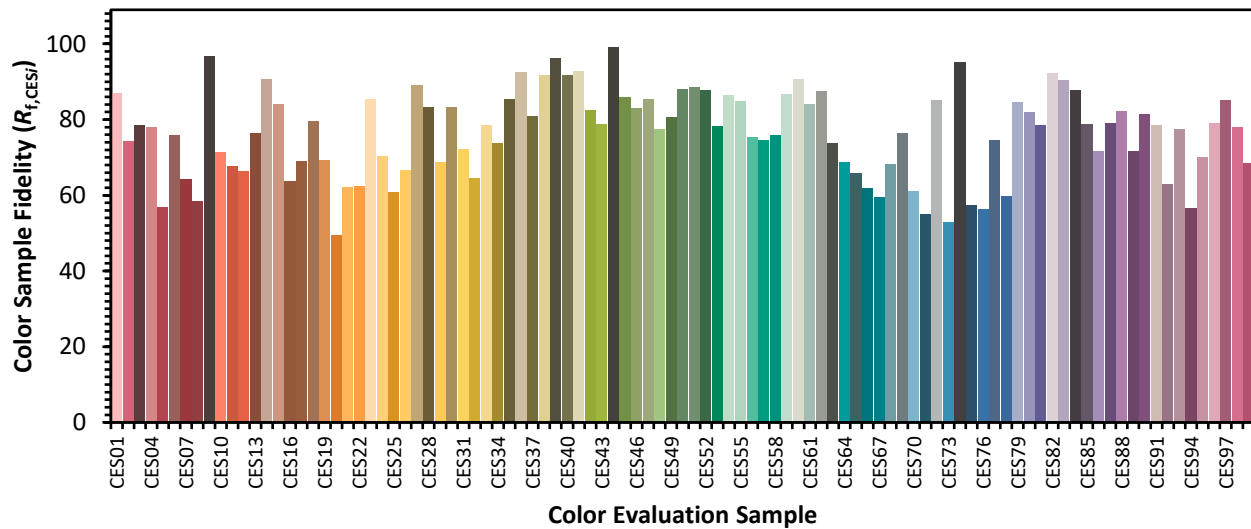
**Color Vector Graphics**



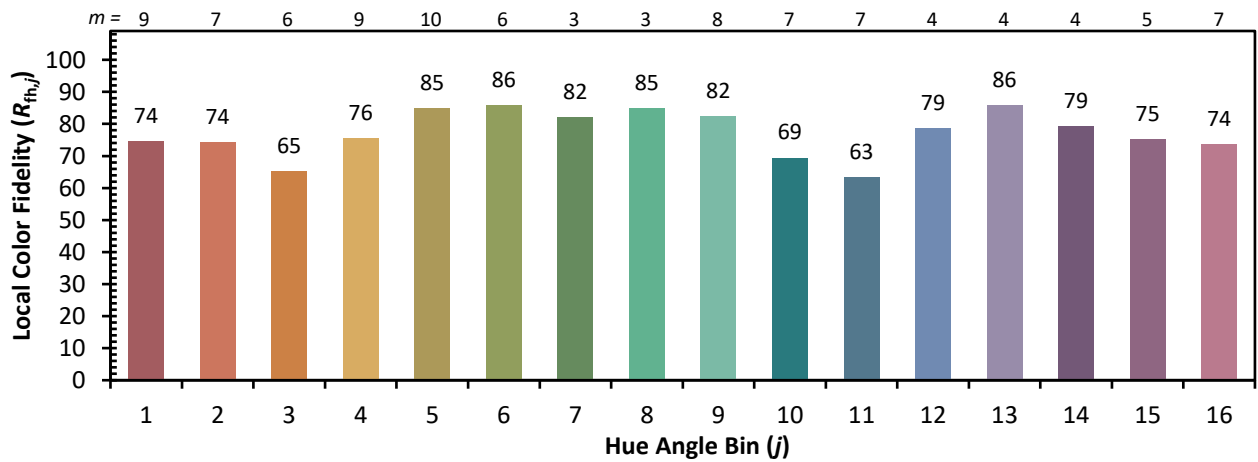


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

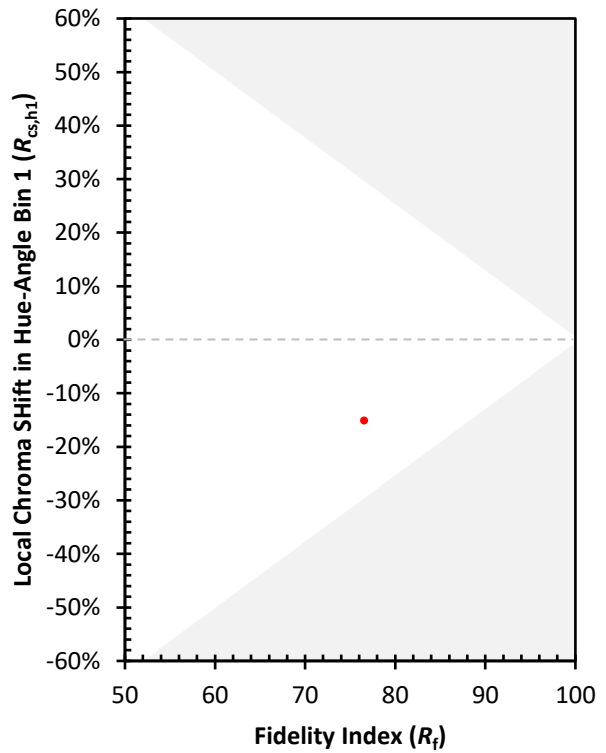
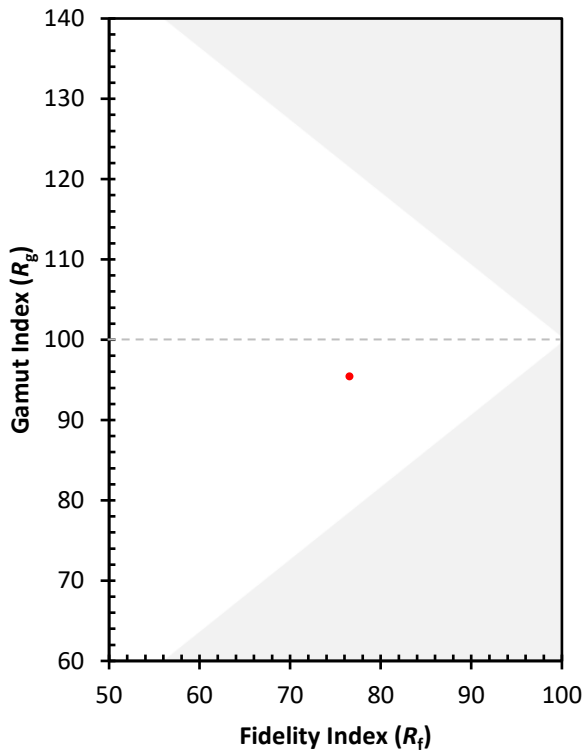
CES01 = 86	CES26 = 67	CES51 = 88	CES76 = 56
CES02 = 62	CES27 = 89	CES52 = 88	CES77 = 75
CES03 = 31	CES28 = 83	CES53 = 78	CES78 = 60
CES04 = 70	CES29 = 69	CES54 = 86	CES79 = 85
CES05 = 48	CES30 = 83	CES55 = 85	CES80 = 82
CES06 = 51	CES31 = 72	CES56 = 75	CES81 = 78
CES07 = 41	CES32 = 65	CES57 = 75	CES82 = 92
CES08 = 40	CES33 = 78	CES58 = 76	CES83 = 90
CES09 = 29	CES34 = 74	CES59 = 87	CES84 = 88
CES10 = 75	CES35 = 86	CES60 = 91	CES85 = 79
CES11 = 58	CES36 = 93	CES61 = 84	CES86 = 72
CES12 = 64	CES37 = 81	CES62 = 88	CES87 = 79
CES13 = 43	CES38 = 92	CES63 = 74	CES88 = 82
CES14 = 74	CES39 = 96	CES64 = 69	CES89 = 72
CES15 = 71	CES40 = 92	CES65 = 66	CES90 = 82
CES16 = 47	CES41 = 93	CES66 = 62	CES91 = 79
CES17 = 50	CES42 = 83	CES67 = 60	CES92 = 63
CES18 = 56	CES43 = 79	CES68 = 68	CES93 = 77
CES19 = 72	CES44 = 99	CES69 = 76	CES94 = 56
CES20 = 65	CES45 = 86	CES70 = 61	CES95 = 70
CES21 = 86	CES46 = 83	CES71 = 55	CES96 = 79
CES22 = 79	CES47 = 85	CES72 = 85	CES97 = 85
CES23 = 92	CES48 = 78	CES73 = 53	CES98 = 78
CES24 = 91	CES49 = 81	CES74 = 95	CES99 = 68
CES25 = 72	CES50 = 88	CES75 = 57	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)