

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: STREETWORKS

Report Number: P856197

Luminaire Tested: **FFX-CLB-40-722-U-FR-T3-UPLR**

Issue Date: 07/16/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P856197  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 07/16/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: FFX-CLB-40-722-U-FR-T3-UPLR  
Description: FAIRFAX POST TOP FIXTURE w/ FAIRFAX REFRACTOR T3 DISTRIBUTION LENS AND UPLIGHT REFLECTOR  
Light Source: (4) 2200K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

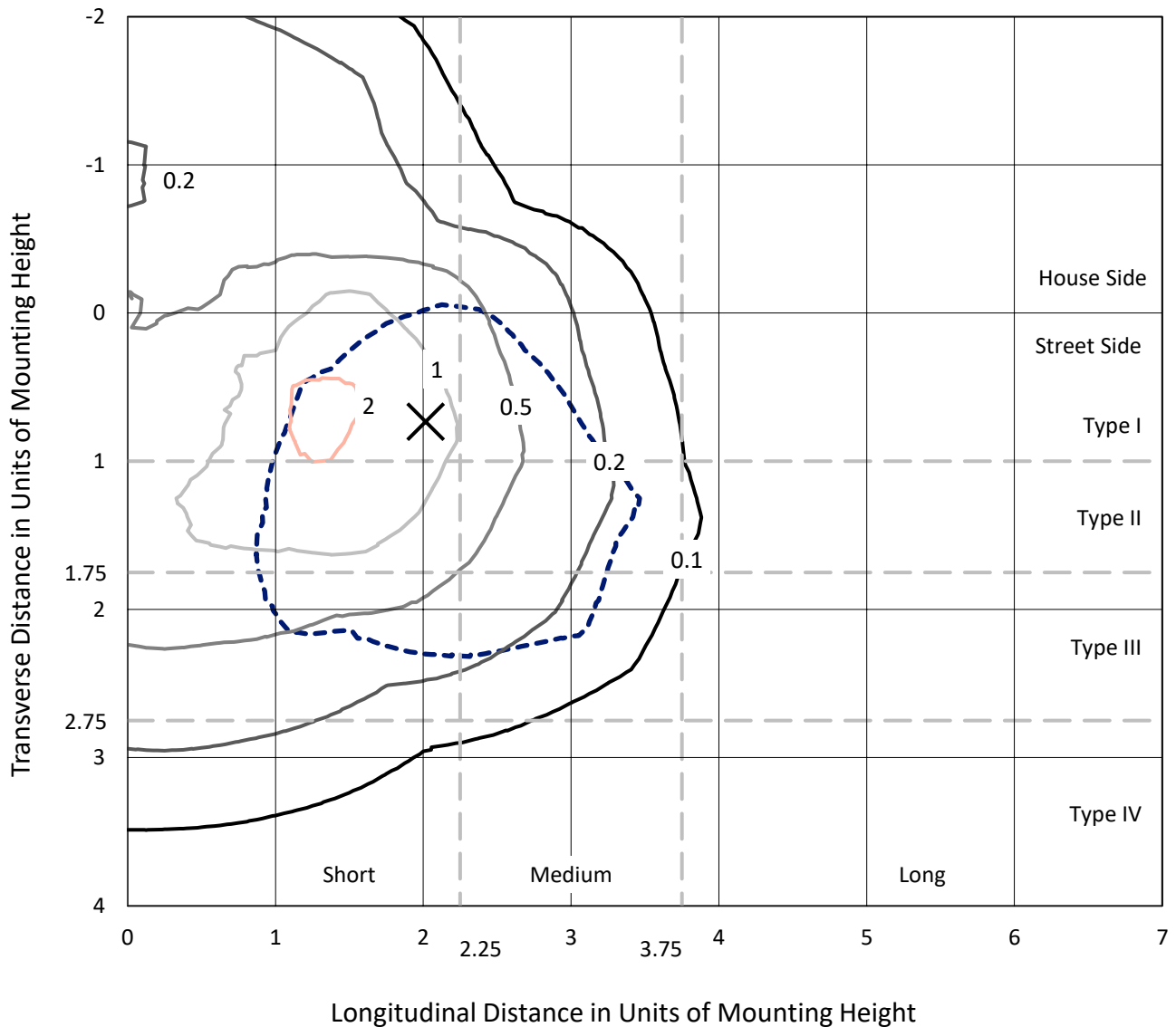
Lumens per Lamp: N/A  
Luminaire Lumens: 5289.1 lumens  
Efficiency: N/A  
Efficacy: 134.6 lumens/watt  
Luminous Opening: Vertical Cylinder (Dia: 1.17' x H: 1.67')  
IES Classification: Type III - Short  
BUG Rating: B2 - U3 - G3

Input Watts (W): 39.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.99  
Total Harmonic Distortion (THDi): 8.2%%  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

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### Iso-Footcandle Lines of Horizontal Illumination

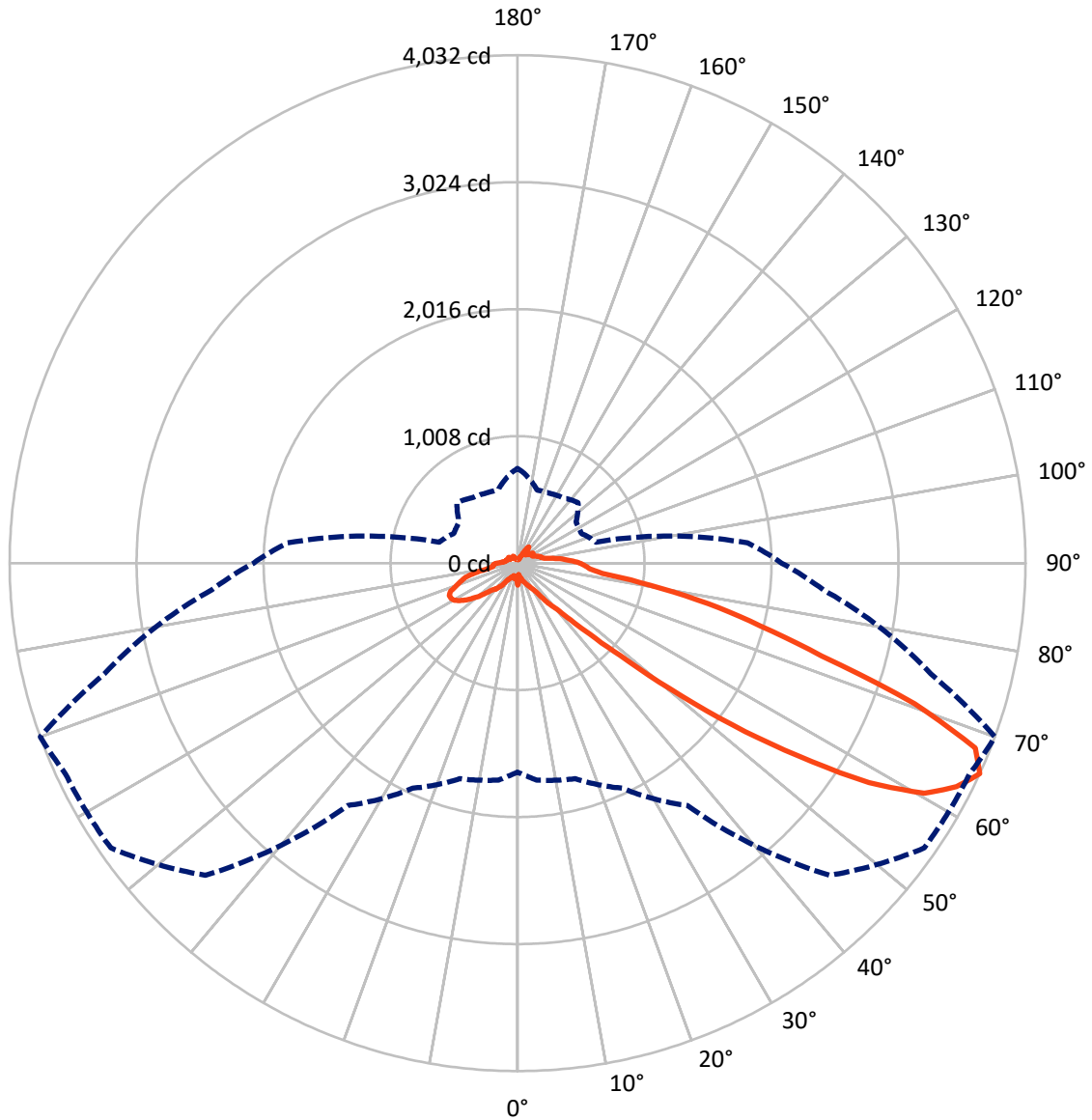
× Max cd  
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 2.3 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 70-Deg Lateral    - - - Horizontal Cone Through 65-Deg Vertical

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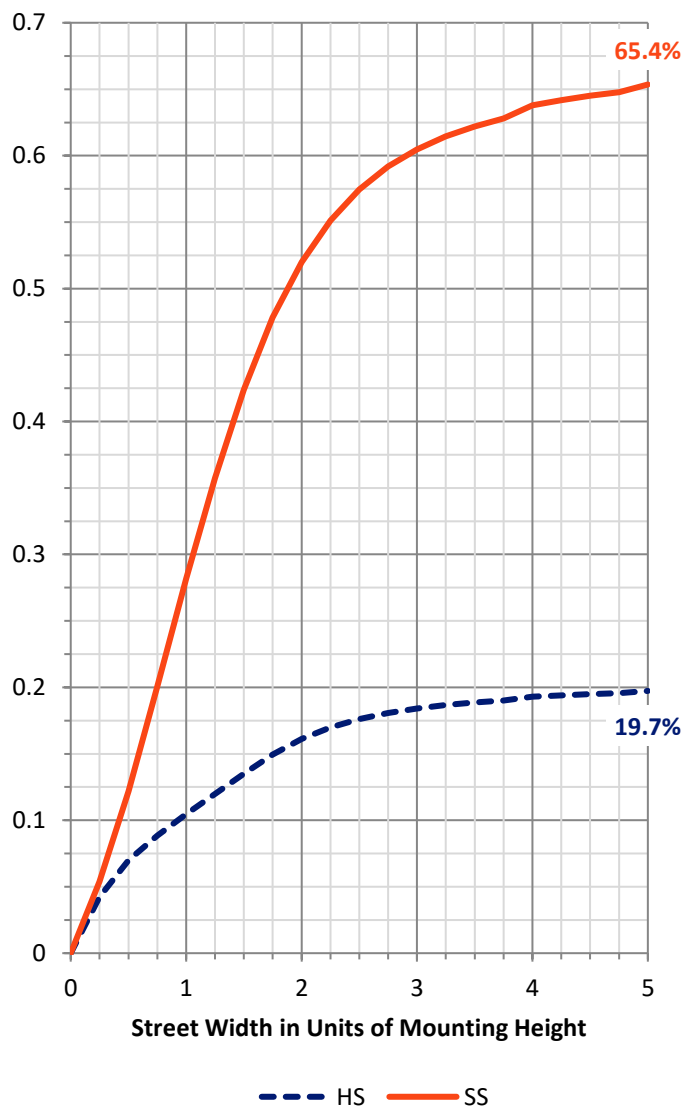
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1084.8	203.2	1288.0
	% Fixture	20.5	3.8	24.4
<b>Street Side</b>	Lumens	3577.1	424.0	4001.1
	% Fixture	67.6	8.0	75.6
<b>Total</b>	Lumens	4661.9	627.2	5289.1
	% Fixture	88.1	11.9	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	11.3	0.2
10°-20°	35.4	0.7
20°-30°	71.4	1.3
30°-40°	151.0	2.9
40°-50°	352.2	6.7
50°-60°	1049.7	19.8
60°-70°	1682.0	31.8
70°-80°	966.2	18.3
80°-90°	342.7	6.5
90°-100°	202.1	3.8
100°-110°	122.1	2.3
110°-120°	91.8	1.7
120°-130°	77.8	1.5
130°-140°	51.6	1.0
140°-150°	48.5	0.9
150°-160°	21.5	0.4
160°-170°	8.9	0.2
170°-180°	2.9	0.1
0°-90°	4661.9	88.1
0°-180°	5289.1	100.0

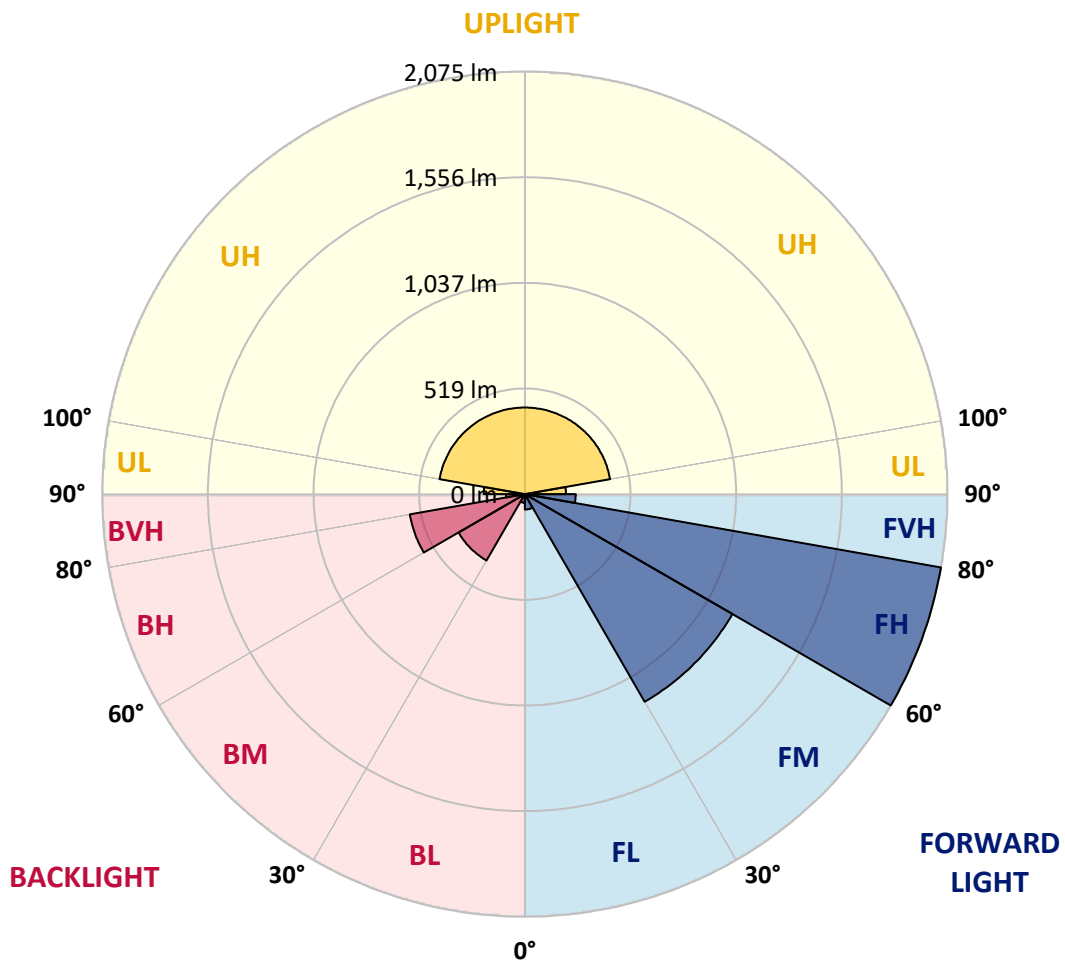


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	75.8	1.4			
FM (30°-60°)	1176.8	22.3			
FH (60°-80°)	2074.8	39.2			G2/5000
FVH (80°-90°)	249.6	4.7			G3/500
BL (0°-30°)	42.3	0.8	B0/110		
BM (30°-60°)	376.1	7.1	B1/1000		
BH (60°-80°)	573.4	10.8	B2/1000		G2/1000
BVH (80°-90°)	93.1	1.8			G1/100
UL (90°-100°)	202.1	3.8		U3/500	
UH (100°-180°)	425.1	8.0		U3/500	

**BUG Rating: B2-U3-G3**  
 Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	70°	75°	85°
0°	175.4	175.4	175.4	175.4	175.4	175.4	175.4	175.4	175.4	175.4	175.4
2.5°	146.3	145.2	148.0	150.2	153.0	149.1	142.4	149.1	151.3	158.1	163.1
5°	124.4	125.0	127.8	134.0	139.6	138.5	121.1	98.7	91.9	89.1	89.7
7.5°	123.3	122.8	121.1	120.5	123.9	136.2	134.5	118.3	105.9	95.3	84.6
10°	130.0	131.7	133.4	133.4	131.2	123.3	122.8	121.6	117.2	112.1	105.4
12.5°	160.9	163.1	164.8	159.2	151.9	144.1	137.9	127.8	123.3	120.5	115.5
15°	194.5	196.7	193.9	183.3	170.4	155.8	150.2	150.8	144.6	137.3	126.7
17.5°	212.4	211.3	199.5	187.2	177.1	165.9	158.1	153.0	150.8	148.0	137.3
20°	201.2	198.4	191.1	186.1	185.0	178.8	173.8	169.3	166.5	160.3	147.4
22.5°	192.8	192.8	191.7	190.6	197.3	194.5	192.3	186.1	182.2	174.3	155.3
25°	203.5	203.5	204.0	202.4	211.3	211.3	211.3	204.6	199.5	188.3	165.4
27.5°	218.6	218.0	219.7	218.6	226.5	228.1	231.5	226.5	219.2	205.7	176.6
30°	234.9	234.9	236.5	237.7	245.5	249.4	253.4	251.1	242.1	225.9	195.6
32.5°	252.2	251.7	256.7	262.3	266.8	274.1	275.8	281.4	272.4	253.4	223.7
35°	277.5	279.1	292.6	304.4	317.3	321.7	329.6	351.5	342.5	316.7	282.5
37.5°	401.3	392.9	389.6	376.1	374.4	400.8	410.3	431.0	413.1	378.4	326.2
40°	425.4	415.4	410.9	398.0	402.5	456.8	447.3	521.9	478.1	422.6	389.0
42.5°	400.8	399.1	451.8	461.9	456.3	542.6	524.1	662.0	615.5	486.5	449.0
45°	483.7	479.3	501.7	519.6	533.6	688.9	677.7	822.9	802.7	592.5	555.5
47.5°	546.0	541.5	567.3	627.2	709.1	877.2	942.8	1162.0	1093.6	815.0	730.9
50°	732.0	729.2	798.8	863.2	998.3	1246.6	1426.5	1663.1	1562.8	1138.4	983.7
52.5°	908.1	917.0	998.3	1122.2	1265.1	1713.5	1970.3	2136.2	2135.0	1482.6	1262.9
55°	1034.2	1064.4	1160.3	1383.9	1582.4	2127.8	2474.2	2596.9	2700.1	1978.1	1538.1
57.5°	1279.1	1331.8	1423.7	1645.1	1901.3	2628.9	3123.3	3103.1	3288.6	2492.1	1837.4
60°	1530.8	1592.5	1623.3	1826.8	2163.1	3111.5	3569.4	3522.4	3709.0	2939.4	2152.4
62.5°	1609.3	1669.8	1700.1	1921.5	2352.0	3385.0	3775.2	3793.7	3909.7	3258.3	2339.1
65°	1658.6	1728.1	1771.8	1971.4	2348.1	3504.4	3941.6	3959.0	4031.9	3395.7	2435.5
67.5°	1649.6	1727.5	1783.6	1962.4	2218.0	3405.2	3900.2	3821.7	3919.2	3297.6	2334.0
70°	1471.4	1539.2	1595.3	1733.2	1851.4	2868.8	3374.4	3244.9	3345.8	2755.0	1927.1
72.5°	1202.3	1230.4	1279.1	1344.1	1403.0	2128.3	2573.9	2463.0	2521.3	2066.7	1443.9
75°	987.6	982.0	1025.8	1072.8	1054.4	1554.9	2036.4	1934.9	1989.3	1569.5	1151.9
77.5°	732.0	729.2	792.6	788.7	760.6	1076.8	1614.3	1540.9	1548.2	1159.2	862.7
80°	440.0	448.4	510.1	522.4	489.3	675.4	1152.4	1117.7	1065.6	792.0	604.8
82.5°	308.9	321.7	354.3	367.7	351.5	493.3	763.4	739.3	677.7	574.5	426.0
85°	315.0	317.3	321.2	322.3	315.0	442.8	592.5	579.0	575.1	481.5	351.5
87.5°	315.0	320.1	323.4	322.9	310.0	414.8	546.5	525.2	530.3	450.1	339.7
90°	282.5	291.5	290.9	292.6	281.9	375.0	495.5	478.1	484.9	405.8	308.9
92.5°	230.9	237.1	243.3	255.0	239.3	318.9	418.7	402.5	410.9	345.3	262.9
95°	214.7	220.3	224.2	230.4	214.7	283.6	370.5	350.9	354.3	293.2	222.5
97.5°	173.8	177.1	181.6	182.7	171.5	218.0	281.9	265.1	267.4	227.6	174.9
100°	145.7	148.5	152.5	152.5	145.2	180.5	223.1	214.1	213.0	186.1	148.0
102.5°	137.9	139.0	145.2	144.1	136.8	166.5	201.8	196.2	196.7	172.6	139.0
105°	135.6	135.6	141.8	139.0	132.8	158.6	188.9	187.2	186.7	164.2	133.4
107.5°	133.4	133.4	139.6	136.8	131.7	149.7	177.7	172.1	171.5	156.4	126.1
110°	124.4	126.1	132.8	129.5	125.6	141.3	163.1	159.2	159.2	147.4	120.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	70°	75°	85°
112.5°	110.4	111.5	117.7	114.9	112.1	125.6	144.6	139.6	140.1	132.3	112.7
115°	103.1	104.8	111.0	107.1	104.8	117.2	134.0	130.6	131.7	124.4	106.5
117.5°	103.7	104.3	108.7	109.3	104.8	114.9	123.9	125.0	126.7	122.2	108.2
120°	126.1	123.3	125.6	122.8	120.5	132.3	142.9	144.1	143.5	135.1	107.6
122.5°	127.2	121.6	127.8	123.9	121.6	134.5	146.3	149.1	146.3	139.0	109.9
125°	101.5	103.1	103.7	104.8	107.1	121.1	127.2	127.8	128.4	126.1	106.5
127.5°	89.1	88.6	85.8	86.3	91.4	103.7	108.2	111.5	109.3	108.2	95.9
130°	85.2	86.3	85.8	85.8	88.6	98.1	101.5	106.5	104.8	102.6	87.4
132.5°	78.5	79.6	84.6	90.8	89.7	93.0	94.2	99.2	99.8	99.8	88.0
135°	74.6	75.7	79.6	87.4	85.2	86.9	86.3	90.8	91.4	91.9	83.0
137.5°	76.2	76.8	74.6	75.7	77.4	84.6	86.9	91.4	91.4	89.1	77.4
140°	80.2	80.2	75.1	73.4	76.8	88.0	92.5	99.8	98.7	94.7	80.2
142.5°	74.0	75.1	77.9	81.3	88.6	119.4	119.4	133.4	137.9	139.0	97.0
145°	96.4	97.0	98.1	99.8	113.8	156.4	142.4	152.5	156.4	160.3	116.6
147.5°	111.0	112.1	111.0	106.5	119.4	134.0	127.2	131.7	136.2	137.3	117.2
150°	86.9	85.8	85.2	84.6	98.7	103.1	97.5	97.0	100.3	103.1	90.8
152.5°	63.3	62.8	62.2	61.7	74.0	71.2	67.3	67.3	68.4	68.9	63.9
155°	56.1	55.5	54.4	54.9	62.8	60.0	56.6	55.5	56.6	56.1	53.3
157.5°	46.0	44.8	44.8	47.1	51.0	47.6	45.4	43.7	44.3	43.7	44.3
160°	38.1	37.6	38.1	40.9	43.2	40.4	38.1	37.0	37.0	38.1	40.4
162.5°	34.2	33.6	34.2	35.3	36.4	33.6	32.0	32.0	32.5	34.8	39.2
165°	29.7	29.7	30.3	30.8	31.4	29.7	29.1	29.1	30.3	33.6	38.7
167.5°	28.6	28.6	28.6	28.6	28.6	28.0	27.5	29.1	30.3	32.0	35.3
170°	28.0	27.5	28.0	28.0	28.0	28.0	28.0	29.7	29.7	30.3	32.0
172.5°	28.6	28.6	28.6	29.1	30.3	30.8	30.3	31.4	30.8	30.8	30.8
175°	29.1	29.1	29.7	30.3	30.8	31.4	32.0	32.0	32.0	32.5	32.5
177.5°	29.1	29.1	29.7	30.3	30.8	29.7	28.6	28.0	27.5	27.5	27.5
180°	25.8	25.8	25.8	25.8	25.8	25.8	25.8	25.8	25.8	25.8	25.8





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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	175.4	175.4	175.4	175.4	175.4	175.4	175.4	175.4	175.4	175.4	175.4
2.5°	158.6	144.6	125.0	133.4	159.2	154.1	128.4	112.7	113.8	125.0	126.1
5°	92.5	95.3	108.2	135.1	140.1	116.0	93.6	90.2	108.7	134.5	139.6
7.5°	83.5	83.5	94.2	131.2	147.4	121.1	91.4	82.4	96.4	117.7	121.1
10°	100.9	97.5	98.7	112.1	118.3	97.0	81.8	77.9	85.8	88.6	87.4
12.5°	113.8	116.0	126.7	123.9	97.0	79.0	74.0	73.4	77.9	80.7	80.2
15°	122.2	118.3	110.4	101.5	92.5	82.4	75.1	70.6	65.6	63.3	63.3
17.5°	130.0	122.2	108.2	99.8	90.8	83.5	76.8	70.1	67.8	68.4	68.4
20°	139.6	130.0	117.2	107.6	97.0	86.9	78.5	71.2	69.5	70.1	69.5
22.5°	146.9	138.5	125.0	112.7	101.5	90.2	81.8	74.6	72.3	71.7	71.7
25°	155.8	148.5	134.5	119.4	105.9	95.3	88.0	79.6	75.7	74.6	74.6
27.5°	167.6	161.4	145.7	129.5	113.8	101.5	93.6	84.6	79.0	76.8	76.2
30°	185.5	177.1	159.8	139.6	123.3	110.4	100.9	89.7	83.0	79.0	78.5
32.5°	212.4	201.8	178.8	153.6	134.0	120.5	108.7	94.7	86.3	81.8	81.3
35°	269.6	257.8	228.7	193.4	164.8	137.3	118.8	100.3	89.7	84.1	83.5
37.5°	305.5	284.2	248.9	216.9	182.2	165.9	142.4	117.7	94.2	86.9	85.8
40°	357.6	330.2	285.9	242.7	181.6	181.1	165.4	143.5	111.0	91.9	90.2
42.5°	396.3	361.0	305.5	257.3	183.3	188.3	174.9	155.8	131.7	107.1	104.3
45°	475.3	430.5	342.5	270.2	185.5	196.7	183.3	163.1	141.8	124.4	122.8
47.5°	623.3	561.1	414.2	294.8	210.8	224.8	200.7	177.1	156.4	139.0	135.1
50°	830.1	755.6	501.1	316.7	253.9	285.9	246.6	210.8	186.1	172.6	168.7
52.5°	1072.8	989.3	555.5	350.9	306.0	361.0	317.8	275.8	243.3	245.5	243.3
55°	1343.6	1244.9	603.1	402.5	372.8	444.5	397.4	361.0	343.6	392.4	395.2
57.5°	1604.8	1499.4	632.8	456.8	447.3	540.9	486.0	460.2	466.9	609.9	643.5
60°	1854.2	1687.7	655.8	507.8	510.1	616.6	574.5	569.5	590.2	773.5	824.5
62.5°	1998.3	1784.2	654.7	540.9	549.3	663.1	626.1	628.9	644.6	800.4	843.0
65°	2096.4	1832.9	643.5	557.7	566.1	679.9	632.3	610.4	600.3	706.8	752.2
67.5°	2037.5	1738.8	616.6	543.2	554.4	653.0	593.6	538.7	521.3	579.0	605.9
70°	1722.5	1452.9	549.3	493.8	501.1	551.0	500.6	440.6	423.2	453.5	465.8
72.5°	1301.5	1115.4	492.7	456.3	438.9	455.7	406.4	343.6	339.7	355.9	358.2
75°	1039.8	875.5	449.0	411.4	364.9	382.3	322.9	255.6	250.6	251.7	246.1
77.5°	783.6	651.3	377.8	324.0	276.3	304.9	239.9	176.6	168.2	164.8	158.6
80°	536.4	452.3	256.7	216.9	196.2	223.7	171.0	129.5	128.9	127.8	121.1
82.5°	380.6	349.2	209.6	184.4	166.5	176.0	148.5	121.1	118.3	118.8	111.5
85°	333.0	316.1	202.4	186.7	169.3	168.7	141.8	113.2	112.1	112.7	105.9
87.5°	318.4	299.9	197.9	178.2	161.4	153.0	125.0	99.8	102.6	104.3	98.1
90°	285.3	266.3	179.4	159.2	142.9	128.4	105.9	90.2	94.7	95.9	90.2
92.5°	240.5	220.8	139.6	127.8	120.0	117.7	99.2	85.8	89.1	89.7	85.2
95°	203.5	185.5	121.6	112.7	107.1	106.5	89.7	77.9	79.6	79.0	75.1
97.5°	163.7	150.8	106.5	98.1	91.9	88.6	76.8	67.8	70.1	71.2	68.4
100°	139.6	132.3	99.2	91.9	84.6	80.2	70.1	62.8	65.0	67.3	65.0
102.5°	131.2	125.6	97.5	89.7	81.8	76.2	66.7	58.9	60.0	62.8	61.1
105°	124.4	119.4	94.7	86.3	79.0	72.9	65.0	55.5	54.9	57.7	57.2
107.5°	117.2	112.7	93.0	83.0	75.1	69.5	62.2	53.3	51.0	52.7	52.1
110°	113.2	108.7	89.7	79.0	70.6	65.6	58.9	51.6	48.8	49.3	49.3



REPORT NUMBER: P856197  
 CATALOG NUMBER: FFX-CLB-40-722-U-FR-T3-UPLR

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	105.4	100.3	82.4	72.3	65.6	61.1	54.4	49.3	46.0	47.1	47.6
115°	100.3	93.6	75.7	68.4	61.1	57.2	53.3	48.8	44.8	44.8	45.4
117.5°	103.7	90.8	70.6	65.0	61.1	60.0	58.9	52.1	44.3	43.7	43.7
120°	99.2	91.4	76.8	75.1	71.2	67.8	60.5	51.6	43.2	42.0	42.0
122.5°	97.0	95.3	86.9	81.3	74.0	67.3	56.6	47.1	41.5	40.4	40.4
125°	95.9	94.2	84.1	73.4	63.9	57.2	50.4	44.3	40.9	39.2	39.2
127.5°	88.0	80.2	67.8	61.7	55.5	52.7	47.1	43.2	39.2	37.0	37.0
130°	81.3	74.0	63.3	56.6	51.6	49.3	45.4	41.5	37.6	35.3	34.8
132.5°	80.2	72.9	61.7	53.3	48.8	46.5	44.3	39.8	35.3	33.1	32.5
135°	74.6	66.1	54.9	50.4	47.6	46.0	44.3	38.7	34.2	32.0	32.0
137.5°	68.9	60.5	52.1	49.9	47.6	46.0	40.9	35.3	32.0	30.3	30.3
140°	69.5	60.0	53.3	51.6	48.2	43.2	38.7	34.8	32.0	29.7	29.1
142.5°	74.0	62.2	53.8	48.8	46.5	43.7	42.0	37.6	32.0	28.0	26.9
145°	81.3	67.3	60.5	58.3	54.4	49.3	43.2	34.8	29.1	25.8	25.2
147.5°	89.7	75.7	67.8	61.7	53.8	45.4	37.0	30.3	25.8	24.7	24.1
150°	77.9	64.5	58.3	49.9	43.2	36.4	30.3	26.9	24.7	24.1	24.1
152.5°	58.9	48.2	43.2	39.2	35.3	32.0	28.6	26.3	24.7	23.5	23.5
155°	51.0	45.4	40.4	36.4	32.5	29.1	26.3	25.2	23.5	23.5	23.0
157.5°	44.8	42.0	35.3	32.0	29.1	27.5	26.3	24.7	24.1	23.5	23.5
160°	40.9	39.2	32.5	29.7	28.0	26.9	26.9	25.8	24.1	23.5	23.5
162.5°	39.8	38.1	31.4	28.6	26.9	27.5	28.6	28.0	25.8	24.7	24.7
165°	39.2	38.1	32.0	28.0	26.9	27.5	30.3	30.8	28.0	26.3	25.8
167.5°	35.9	35.3	33.6	30.8	29.1	29.1	30.8	31.4	30.3	30.3	29.7
170°	32.5	32.5	33.1	33.6	32.5	30.8	29.7	29.7	31.4	33.1	33.6
172.5°	31.4	32.0	33.1	34.8	34.8	32.5	30.8	30.3	32.0	34.2	34.8
175°	33.1	33.6	34.2	34.2	33.1	32.5	32.0	31.4	32.5	34.8	35.3
177.5°	27.5	27.5	28.0	28.0	27.5	28.0	27.5	26.3	26.3	26.3	26.3
180°	25.8	25.8	25.8	25.8	25.8	25.8	25.8	25.8	25.8	25.8	25.8

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

Streetworks

Report Number: SP1-2406-133-2

Test Date: 07/11/2024

Luminaire Tested: FFX-CLB-100-722-U-FR-T5

Data in this report applies to families of products including FFX-CLB-100-722-U-FR-T5.

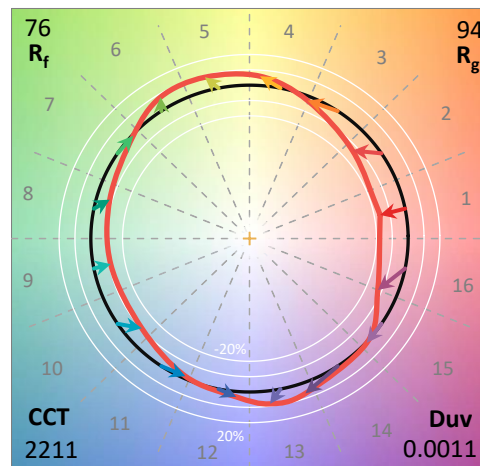
**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2406-133-2  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 07/12/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: Streetworks  
 Catalog Number: **FFX-CLB-100-722-U-FR-T5**  
 Description: FAIRFAX ACORN W/ FAIRFAX REFRACTOR 100W T5

**Spectral Parameters**

CCT (K): 2211  
 CIE u': 0.2892  
 CIE v': 0.5376  
 Duv: 0.0011  
 CIE x: 0.5069  
 CIE y: 0.4188  
 CIE z: 0.0743  
 Peak Wavelength (nm): 606  
 Dominant Wavelength (nm): 586  
 Purity: 77.8805  
 Rf: 76.1  
 Rg: 94.3

CRI (Ra):	71.4		
R1:	68.2	R9:	-29.2
R2:	85.0	R10:	67.8
R3:	94.0	R11:	60.7
R4:	65.1	R12:	59.0
R5:	66.6	R13:	71.3
R6:	81.8	R14:	97.6
R7:	73.4	R15:	58.9
R8:	37.3		



**Test Conditions**

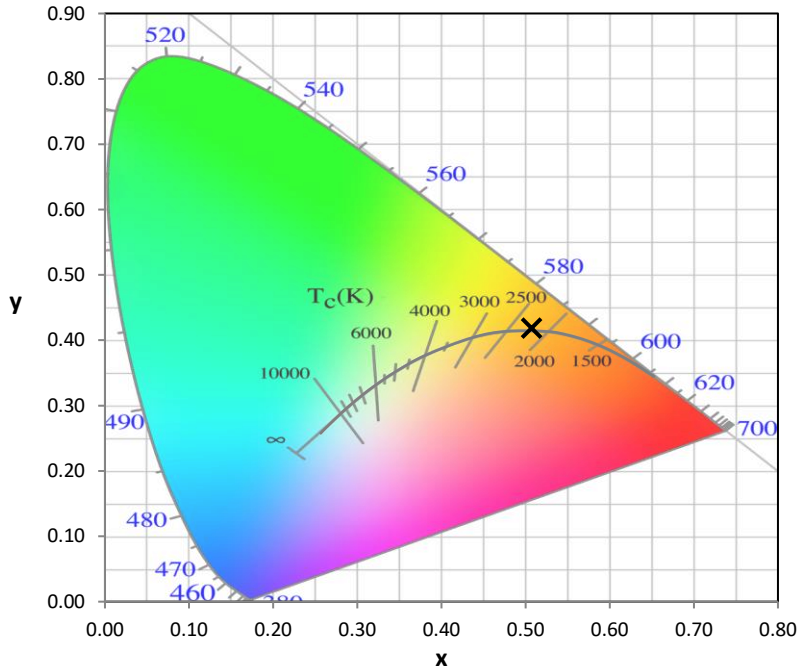
Stabilization Time: 0.813563M  
 Operation Time: 1H  
 Sphere Temperature (°C): 24.7

REPORT NUMBER: SP1-2406-133-2

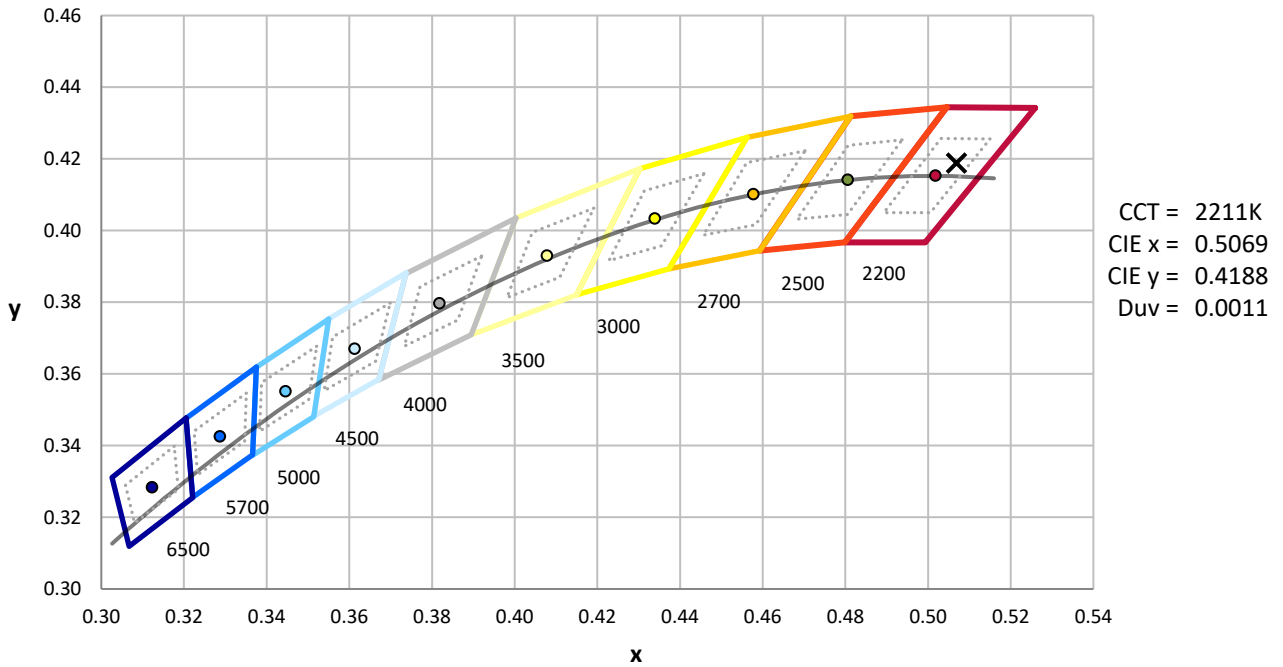
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085	10/24/2023	10/24/2024
Room Thermometer	IN0046	10/24/2023	10/24/2024

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CIE 1931 Chromaticity Diagram



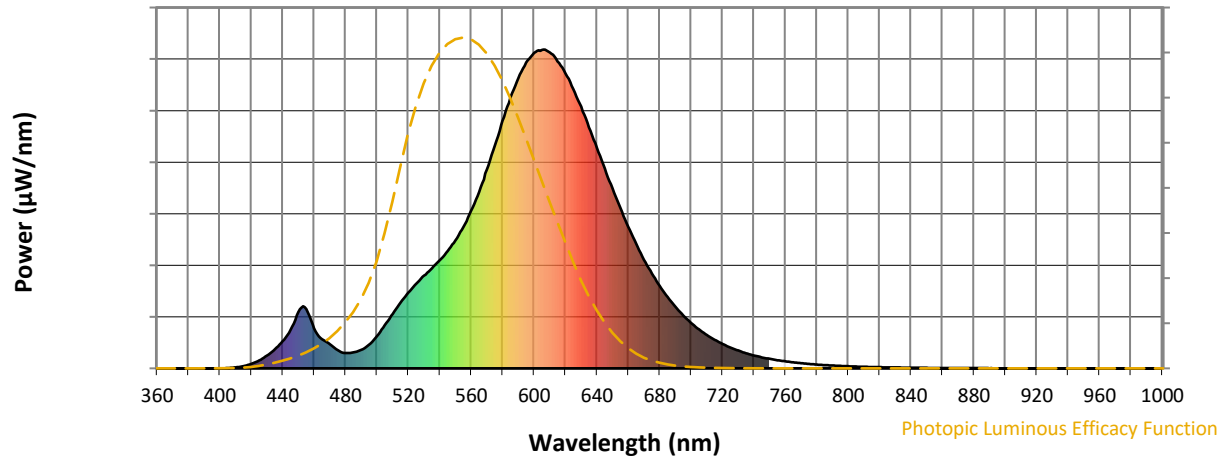
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 2200K 4-step quadrangle

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**Photopic Flux vs. Wavelength**

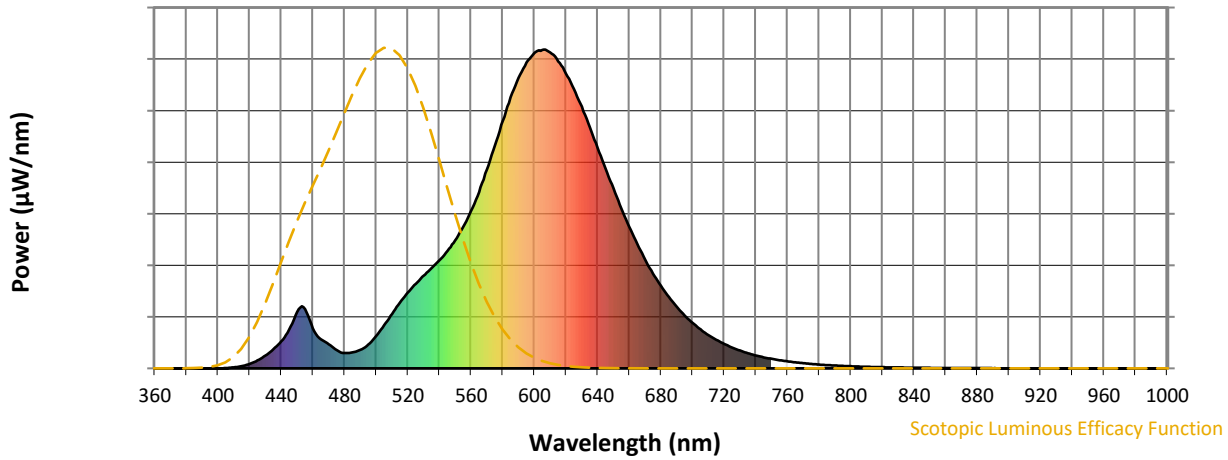


**Photopic Lumens: NR**

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	58	NR	620	925	NR	750	30	NR	880	1	NR
365	0	NR	495	75	NR	625	877	NR	755	26	NR	885	1	NR
370	0	NR	500	101	NR	630	821	NR	760	22	NR	890	1	NR
375	0	NR	505	135	NR	635	756	NR	765	19	NR	895	0	NR
380	0	NR	510	171	NR	640	692	NR	770	16	NR	900	0	NR
385	0	NR	515	206	NR	645	626	NR	775	14	NR	905	0	NR
390	0	NR	520	238	NR	650	564	NR	780	12	NR	910	0	NR
395	0	NR	525	265	NR	655	502	NR	785	10	NR	915	0	NR
400	0	NR	530	291	NR	660	444	NR	790	9	NR	920	0	NR
405	1	NR	535	314	NR	665	390	NR	795	8	NR	925	0	NR
410	3	NR	540	339	NR	670	341	NR	800	7	NR	930	0	NR
415	7	NR	545	368	NR	675	298	NR	805	6	NR	935	0	NR
420	14	NR	550	401	NR	680	259	NR	810	5	NR	940	0	NR
425	25	NR	555	444	NR	685	224	NR	815	4	NR	945	0	NR
430	40	NR	560	495	NR	690	194	NR	820	4	NR	950	0	NR
435	60	NR	565	553	NR	695	166	NR	825	3	NR	955	0	NR
440	85	NR	570	623	NR	700	142	NR	830	3	NR	960	0	NR
445	121	NR	575	699	NR	705	122	NR	835	2	NR	965	0	NR
450	177	NR	580	777	NR	710	105	NR	840	2	NR	970	0	NR
455	186	NR	585	850	NR	715	90	NR	845	2	NR	975	0	NR
460	126	NR	590	912	NR	720	77	NR	850	2	NR	980	0	NR
465	92	NR	595	960	NR	725	65	NR	855	1	NR	985	0	NR
470	76	NR	600	990	NR	730	56	NR	860	1	NR	990	0	NR
475	57	NR	605	998	NR	735	48	NR	865	1	NR	995	0	NR
480	48	NR	610	991	NR	740	40	NR	870	1	NR	1000	0	NR
485	50	NR	615	963	NR	745	35	NR	875	1	NR			

REPORT NUMBER: SP1-2406-133-2

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

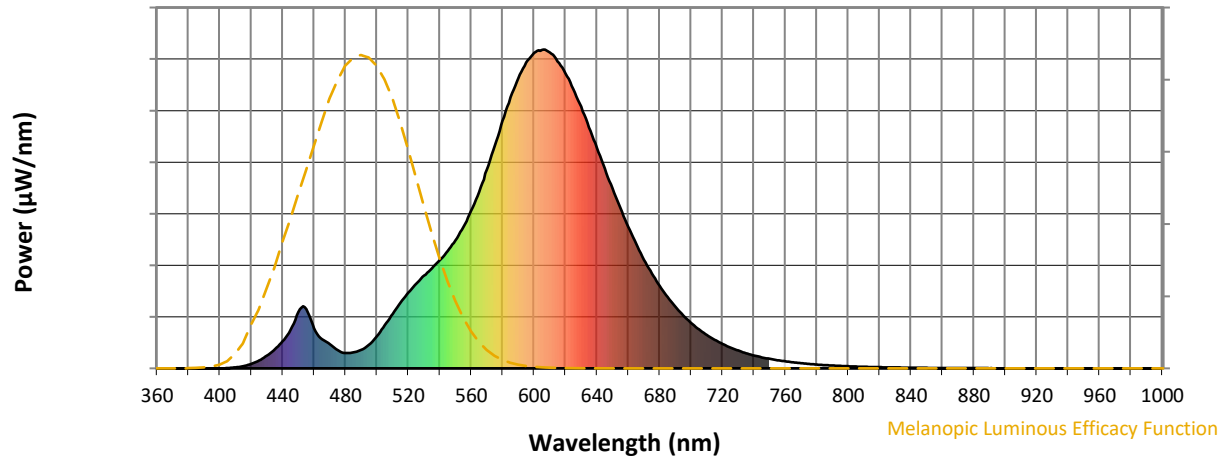
S/P: 0.87

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	58	NR	620	925	NR	750	30	NR	880	1	NR
365	0	NR	495	75	NR	625	877	NR	755	26	NR	885	1	NR
370	0	NR	500	101	NR	630	821	NR	760	22	NR	890	1	NR
375	0	NR	505	135	NR	635	756	NR	765	19	NR	895	0	NR
380	0	NR	510	171	NR	640	692	NR	770	16	NR	900	0	NR
385	0	NR	515	206	NR	645	626	NR	775	14	NR	905	0	NR
390	0	NR	520	238	NR	650	564	NR	780	12	NR	910	0	NR
395	0	NR	525	265	NR	655	502	NR	785	10	NR	915	0	NR
400	0	NR	530	291	NR	660	444	NR	790	9	NR	920	0	NR
405	1	NR	535	314	NR	665	390	NR	795	8	NR	925	0	NR
410	3	NR	540	339	NR	670	341	NR	800	7	NR	930	0	NR
415	7	NR	545	368	NR	675	298	NR	805	6	NR	935	0	NR
420	14	NR	550	401	NR	680	259	NR	810	5	NR	940	0	NR
425	25	NR	555	444	NR	685	224	NR	815	4	NR	945	0	NR
430	40	NR	560	495	NR	690	194	NR	820	4	NR	950	0	NR
435	60	NR	565	553	NR	695	166	NR	825	3	NR	955	0	NR
440	85	NR	570	623	NR	700	142	NR	830	3	NR	960	0	NR
445	121	NR	575	699	NR	705	122	NR	835	2	NR	965	0	NR
450	177	NR	580	777	NR	710	105	NR	840	2	NR	970	0	NR
455	186	NR	585	850	NR	715	90	NR	845	2	NR	975	0	NR
460	126	NR	590	912	NR	720	77	NR	850	2	NR	980	0	NR
465	92	NR	595	960	NR	725	65	NR	855	1	NR	985	0	NR
470	76	NR	600	990	NR	730	56	NR	860	1	NR	990	0	NR
475	57	NR	605	998	NR	735	48	NR	865	1	NR	995	0	NR
480	48	NR	610	991	NR	740	40	NR	870	1	NR	1000	0	NR
485	50	NR	615	963	NR	745	35	NR	875	1	NR			



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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 1.42

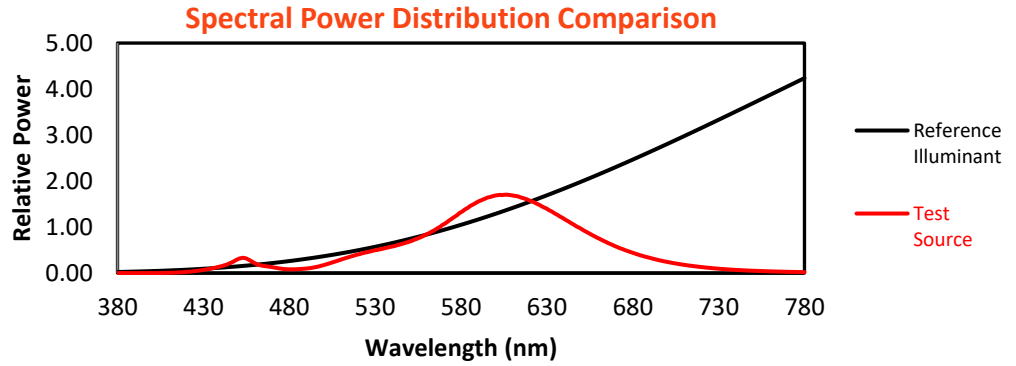
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	58	NR	620	925	NR	750	30	NR	880	1	NR
365	0	NR	495	75	NR	625	877	NR	755	26	NR	885	1	NR
370	0	NR	500	101	NR	630	821	NR	760	22	NR	890	1	NR
375	0	NR	505	135	NR	635	756	NR	765	19	NR	895	0	NR
380	0	NR	510	171	NR	640	692	NR	770	16	NR	900	0	NR
385	0	NR	515	206	NR	645	626	NR	775	14	NR	905	0	NR
390	0	NR	520	238	NR	650	564	NR	780	12	NR	910	0	NR
395	0	NR	525	265	NR	655	502	NR	785	10	NR	915	0	NR
400	0	NR	530	291	NR	660	444	NR	790	9	NR	920	0	NR
405	1	NR	535	314	NR	665	390	NR	795	8	NR	925	0	NR
410	3	NR	540	339	NR	670	341	NR	800	7	NR	930	0	NR
415	7	NR	545	368	NR	675	298	NR	805	6	NR	935	0	NR
420	14	NR	550	401	NR	680	259	NR	810	5	NR	940	0	NR
425	25	NR	555	444	NR	685	224	NR	815	4	NR	945	0	NR
430	40	NR	560	495	NR	690	194	NR	820	4	NR	950	0	NR
435	60	NR	565	553	NR	695	166	NR	825	3	NR	955	0	NR
440	85	NR	570	623	NR	700	142	NR	830	3	NR	960	0	NR
445	121	NR	575	699	NR	705	122	NR	835	2	NR	965	0	NR
450	177	NR	580	777	NR	710	105	NR	840	2	NR	970	0	NR
455	186	NR	585	850	NR	715	90	NR	845	2	NR	975	0	NR
460	126	NR	590	912	NR	720	77	NR	850	2	NR	980	0	NR
465	92	NR	595	960	NR	725	65	NR	855	1	NR	985	0	NR
470	76	NR	600	990	NR	730	56	NR	860	1	NR	990	0	NR
475	57	NR	605	998	NR	735	48	NR	865	1	NR	995	0	NR
480	48	NR	610	991	NR	740	40	NR	870	1	NR	1000	0	NR
485	50	NR	615	963	NR	745	35	NR	875	1	NR			

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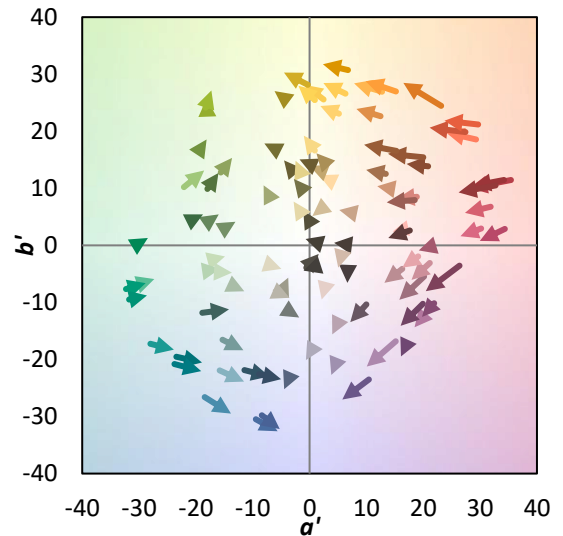
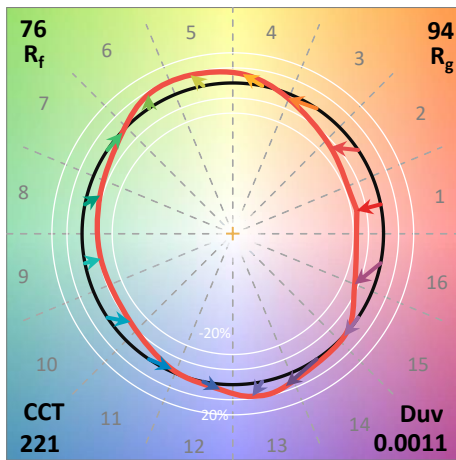
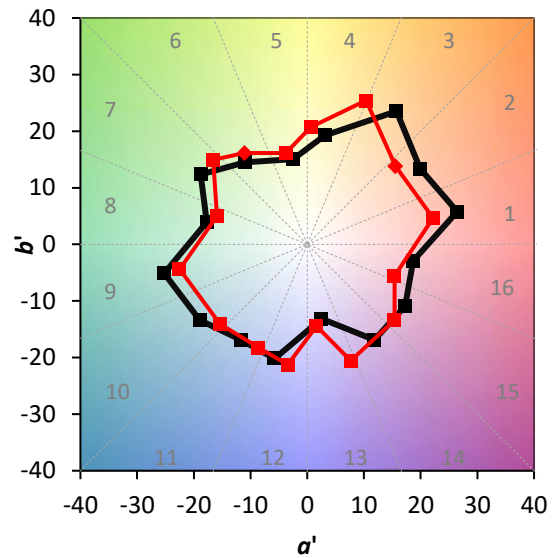
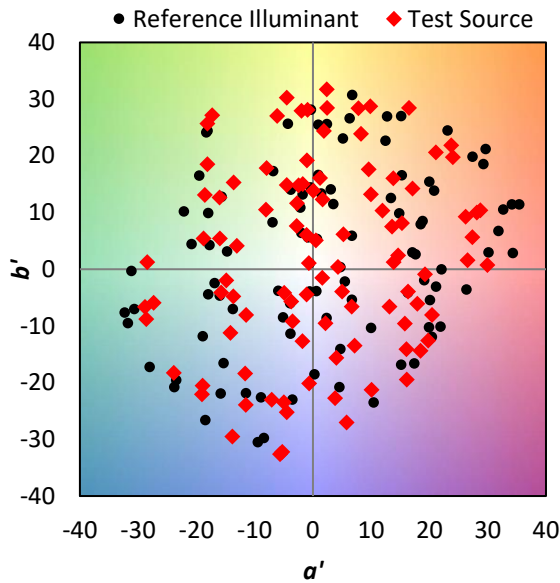
TM-30-18

**Summary**

$R_f = 76.1$   
 $R_g = 94.3$   
 CIE  $R_a = 71.4$   
 $R_9 = -29.2$



**Color Vector Graphics**

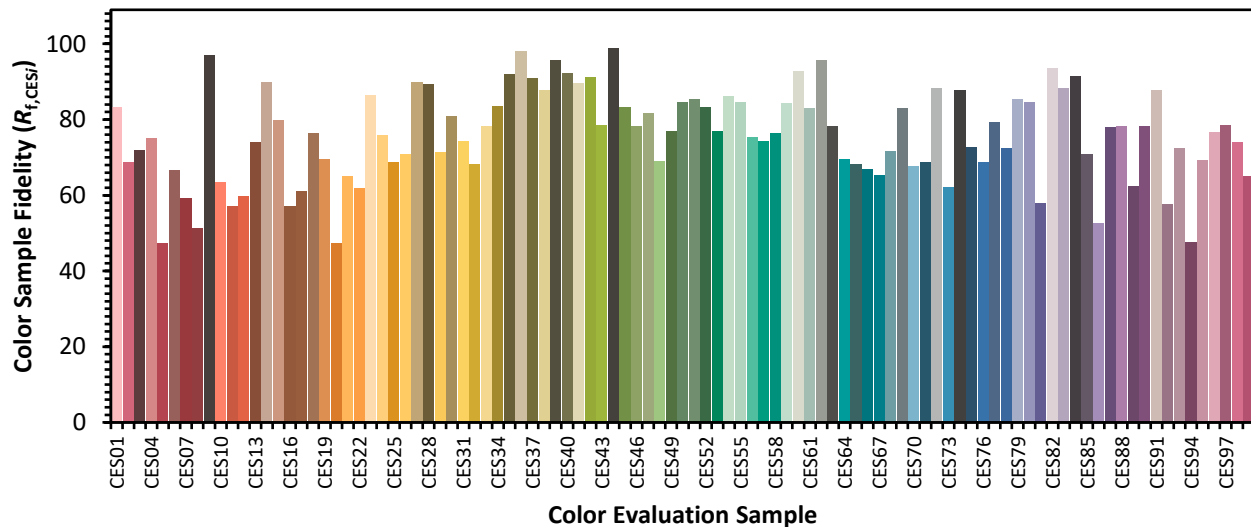


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**Individual Sample Fidelity Index ( $R_{f,i}$ )**

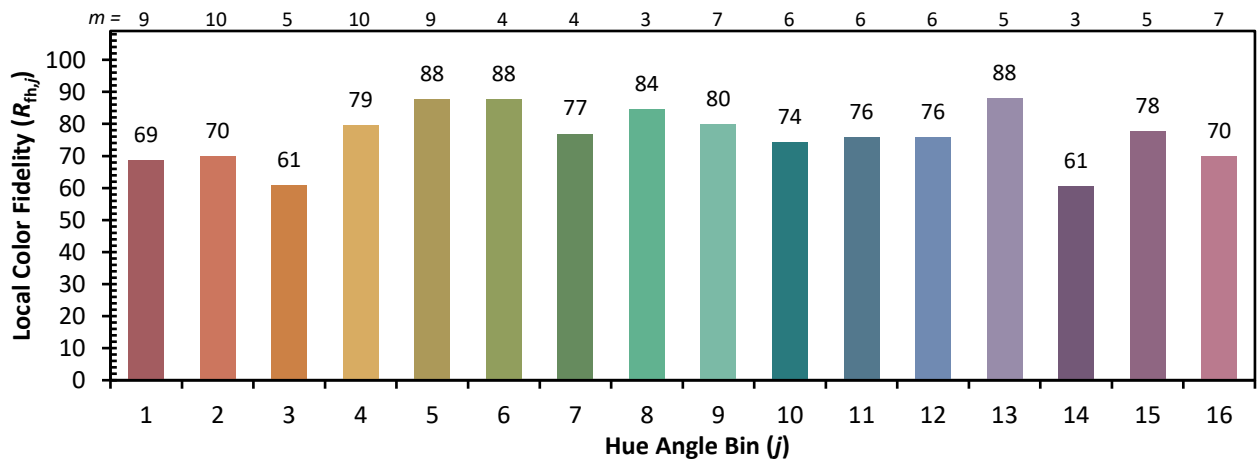
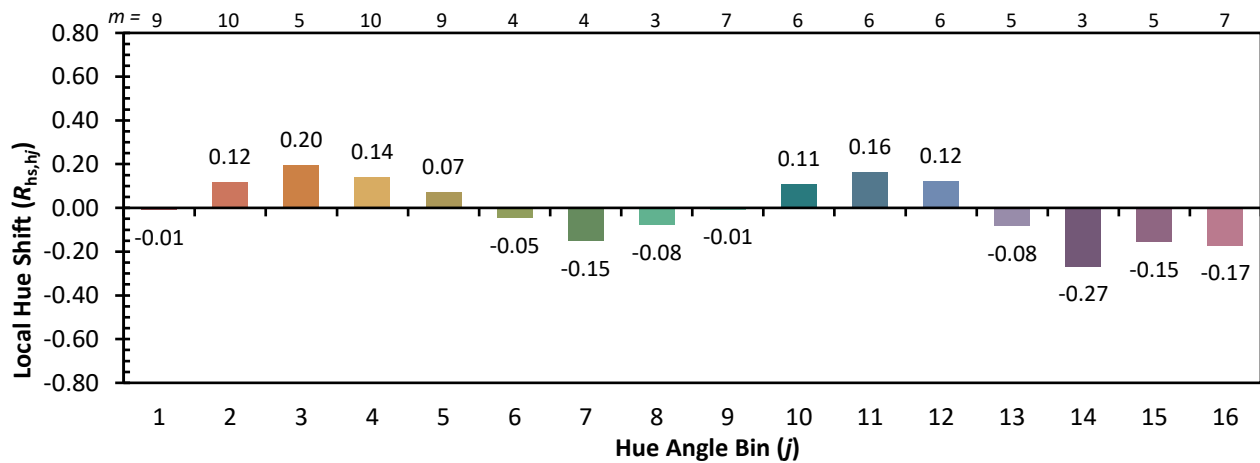
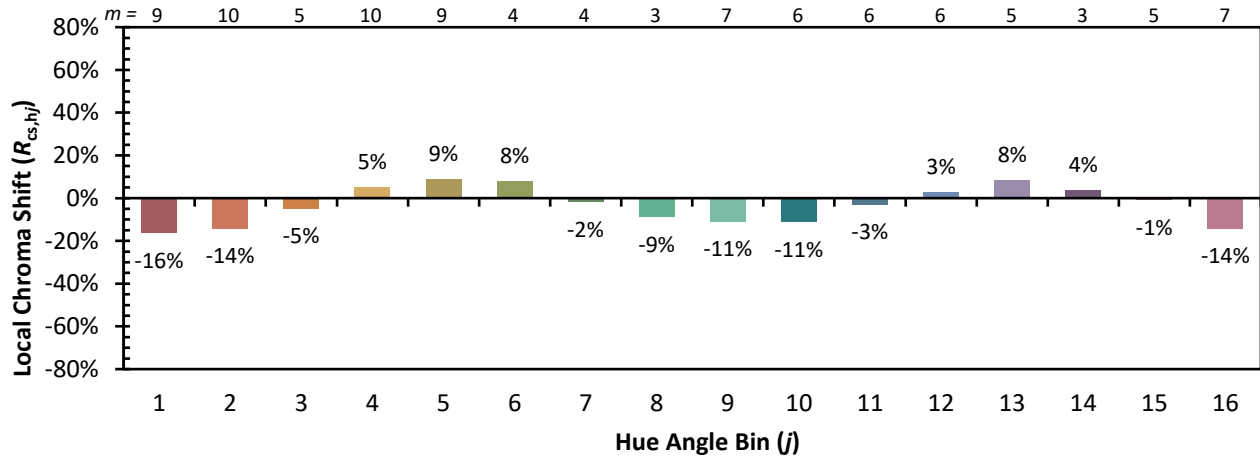
CES01 = 87	CES26 = 71	CES51 = 85	CES76 = 69
CES02 = 65	CES27 = 90	CES52 = 83	CES77 = 79
CES03 = 32	CES28 = 89	CES53 = 77	CES78 = 72
CES04 = 72	CES29 = 71	CES54 = 86	CES79 = 86
CES05 = 52	CES30 = 81	CES55 = 85	CES80 = 85
CES06 = 52	CES31 = 74	CES56 = 75	CES81 = 58
CES07 = 44	CES32 = 68	CES57 = 74	CES82 = 93
CES08 = 42	CES33 = 78	CES58 = 76	CES83 = 88
CES09 = 29	CES34 = 84	CES59 = 84	CES84 = 92
CES10 = 79	CES35 = 92	CES60 = 93	CES85 = 71
CES11 = 62	CES36 = 98	CES61 = 83	CES86 = 53
CES12 = 68	CES37 = 91	CES62 = 96	CES87 = 78
CES13 = 45	CES38 = 88	CES63 = 78	CES88 = 78
CES14 = 75	CES39 = 96	CES64 = 69	CES89 = 63
CES15 = 72	CES40 = 92	CES65 = 68	CES90 = 78
CES16 = 49	CES41 = 90	CES66 = 67	CES91 = 88
CES17 = 51	CES42 = 91	CES67 = 65	CES92 = 58
CES18 = 57	CES43 = 79	CES68 = 72	CES93 = 72
CES19 = 74	CES44 = 99	CES69 = 83	CES94 = 48
CES20 = 68	CES45 = 83	CES70 = 68	CES95 = 69
CES21 = 88	CES46 = 78	CES71 = 69	CES96 = 77
CES22 = 81	CES47 = 82	CES72 = 88	CES97 = 79
CES23 = 92	CES48 = 69	CES73 = 62	CES98 = 74
CES24 = 92	CES49 = 77	CES74 = 88	CES99 = 65
CES25 = 74	CES50 = 85	CES75 = 73	



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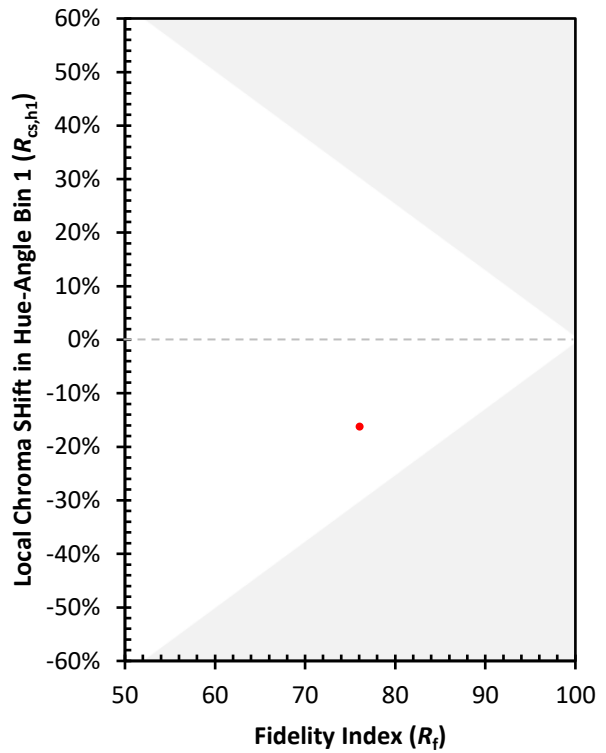
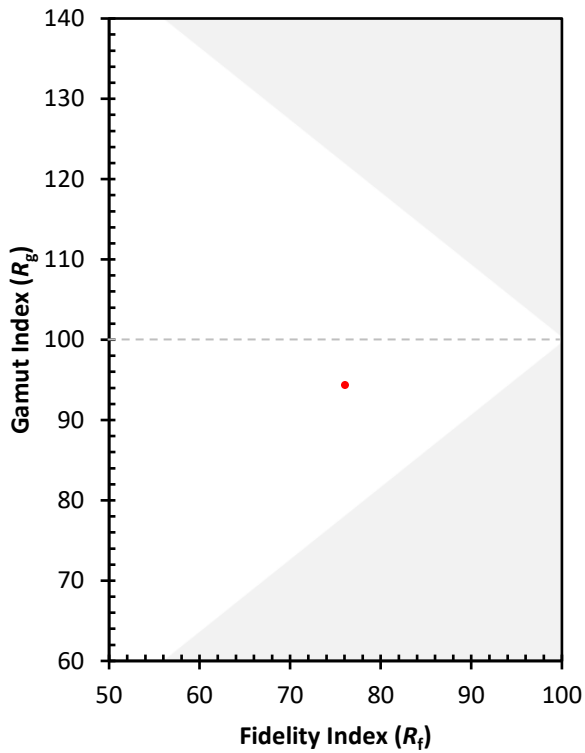
Color Rendition by Hue-Angle Bin



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TM-30-18

Measure Comparisons



(END OF REPORT)