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: P833886

Luminaire Tested: **TTN-D3-735-U-DL-CG-UPL3**

Issue Date: 5/15/2024

Report Generated By 670246001

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Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P833886
	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-D3-735-U-DL-CG-UPL3
Description:	TOPTIER NANO LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
	3500K, 70 CRI LEDS AND DRIVE LANE DISTRIBUTION WITH CLEAR GLASS
Light Source:	-
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	7021.7 lumens
Efficiency:	N/A
Efficacy:	106.1 lumens/watt
Luminous Opening:	Vertical Cylinder (Dia: 0.71' x H: 0.1')
IES Classification:	Type IV - Short
BUG Rating:	B1 - U4 - G2

Input Watts (W):	66.2
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

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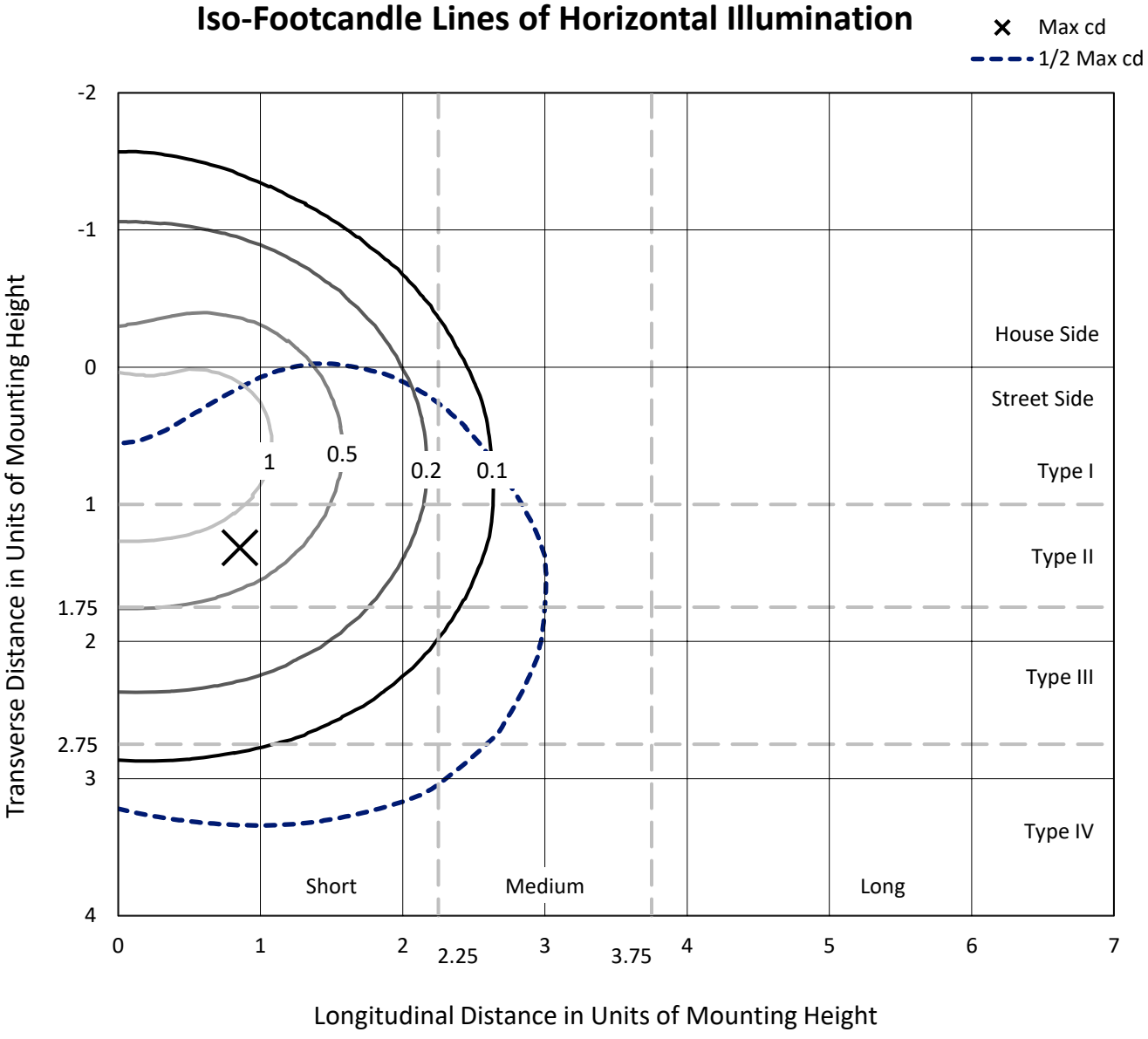
Iso-Footcandle Lines of Horizontal Illumination



Based on 25 foot mounting height. Maximum calculated value = 1.6 fc
Type IV - Short - N/A

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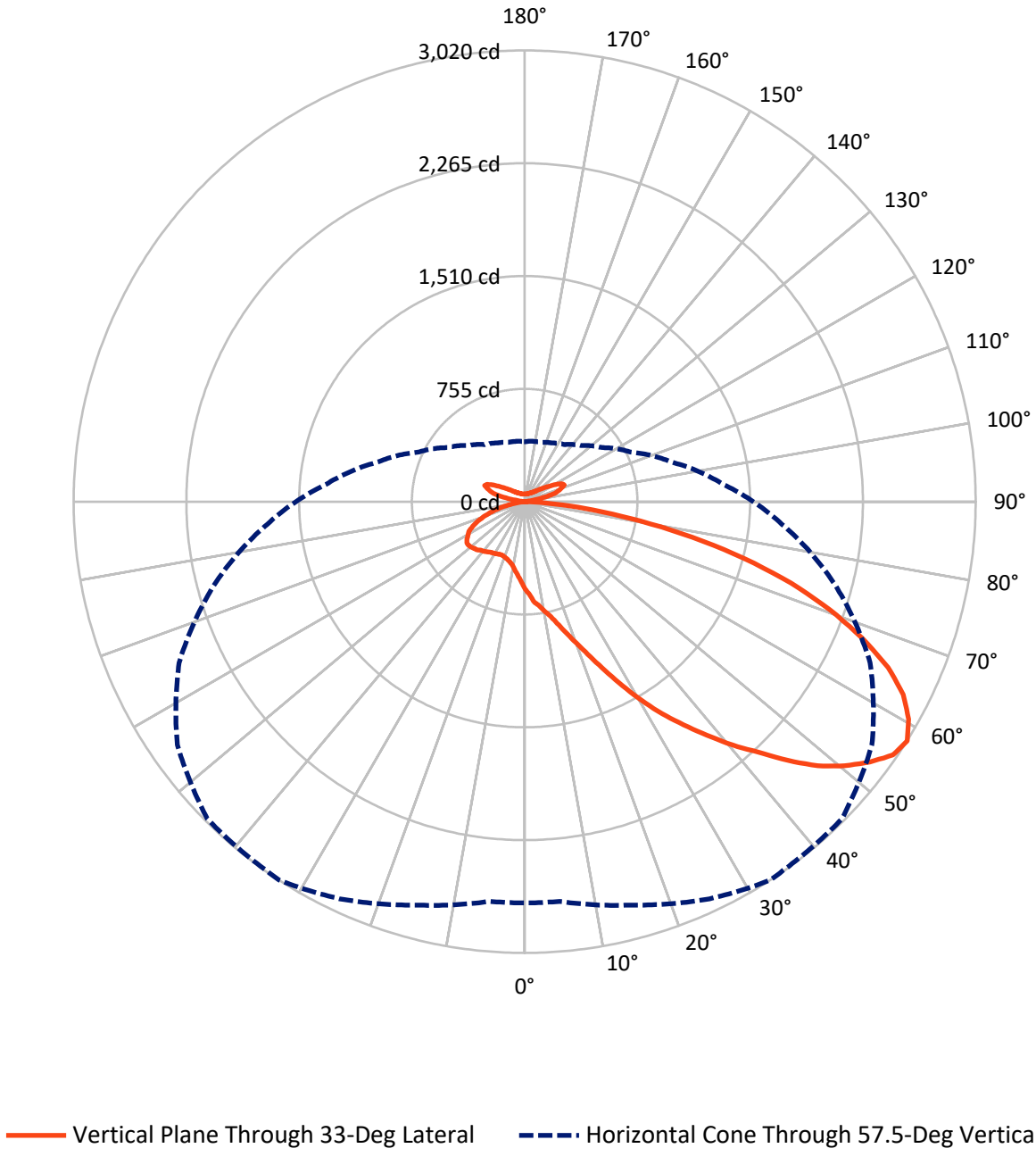
Luminous Intensity Polar Plot



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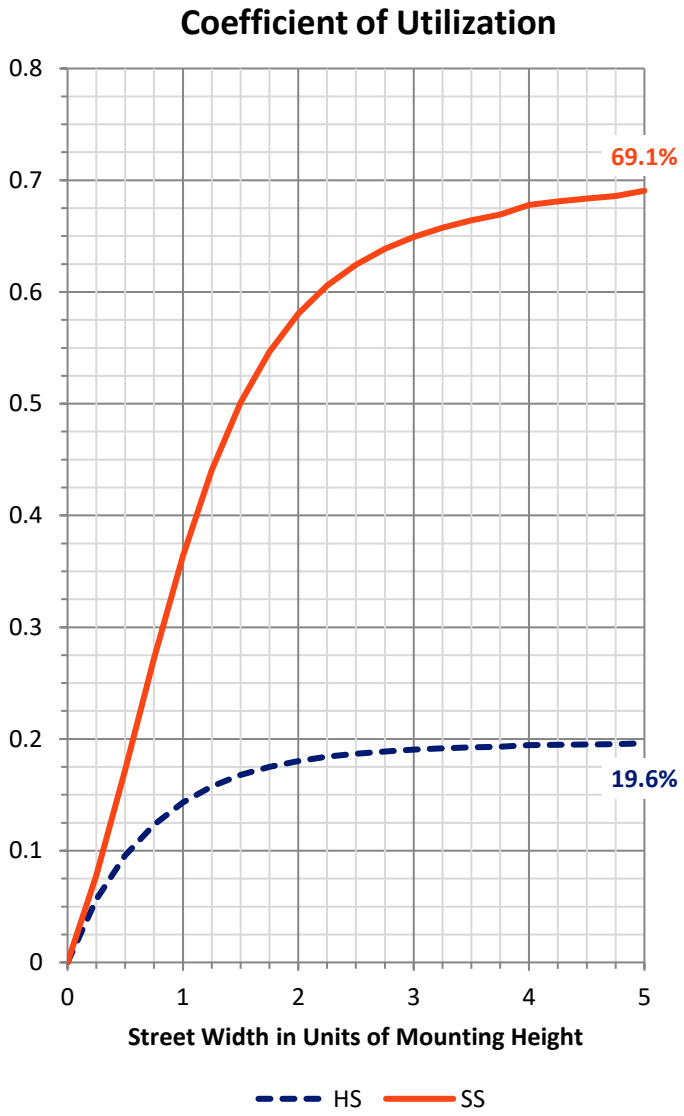
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1383.6	376.3	1759.9
	% Fixture	19.7	5.4	25.1
Street Side	Lumens	4885.4	376.3	5261.7
	% Fixture	69.6	5.4	74.9
Total	Lumens	6269.0	752.7	7021.7
	% Fixture	89.3	10.7	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.2	0.8
10°-20°	182.3	2.6
20°-30°	384.4	5.5
30°-40°	698.0	9.9
40°-50°	1103.0	15.7
50°-60°	1464.8	20.9
60°-70°	1409.8	20.1
70°-80°	827.6	11.8
80°-90°	143.1	2.0
90°-100°	16.8	0.2
100°-110°	170.7	2.4
110°-120°	249.6	3.6
120°-130°	144.9	2.1
130°-140°	76.7	1.1
140°-150°	45.6	0.6
150°-160°	28.1	0.4
160°-170°	15.3	0.2
170°-180°	5.0	0.1
0°-90°	6269.0	89.3
0°-180°	7021.7	100.0



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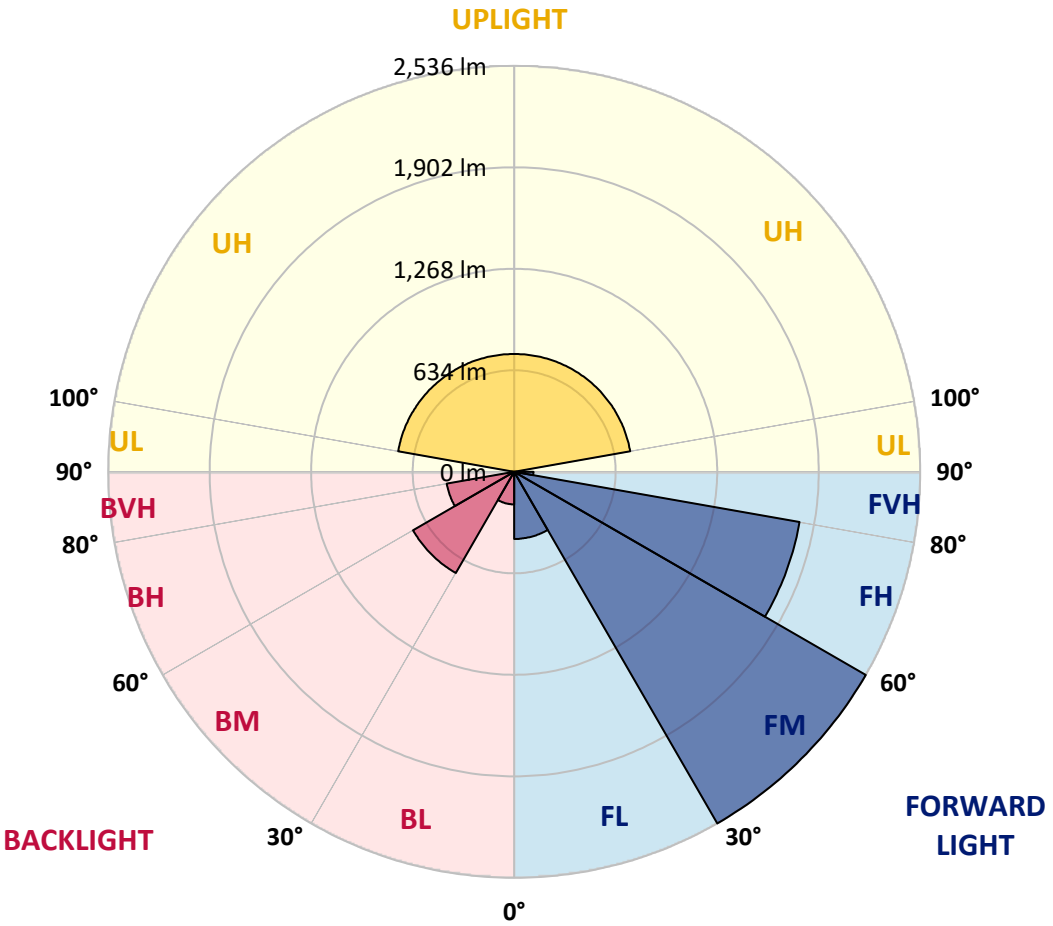
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	419.4	6.0			
FM	(30°-60°)	2535.8	36.1			
FH	(60°-80°)	1809.7	25.8			G2/5000
FVH	(80°-90°)	120.5	1.7			G2/225
BL	(0°-30°)	203.5	2.9	B1/500		
BM	(30°-60°)	729.9	10.4	B1/1000		
BH	(60°-80°)	427.7	6.1	B1/500		G1/500
BVH	(80°-90°)	22.6	0.3			G1/100
UL	(90°-100°)	16.8	0.2		U2/50	
UH	(100°-180°)	735.8	10.5		U4/1000	

BUG Rating: B1-U4-G2
Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	587.5	587.5	587.5	587.5	*587.5*	587.5	587.5	587.5	587.5	587.5	587.5
2.5°	625.9	631.4	625.9	625.9	*620.4*	620.4	614.9	609.4	603.9	598.4	587.5
5°	697.3	697.3	691.8	680.8	*675.3*	669.8	658.8	642.4	631.4	614.9	598.4
7.5°	730.2	730.2	724.7	713.7	*702.8*	697.3	680.8	658.8	642.4	620.4	598.4
10°	774.1	779.6	768.6	757.7	*746.7*	741.2	719.2	691.8	664.3	636.9	603.9
12.5°	823.5	829.0	823.5	807.1	*790.6*	785.1	763.2	730.2	697.3	658.8	620.4
15°	889.4	900.4	883.9	873.0	*856.5*	851.0	823.5	785.1	746.7	697.3	647.9
17.5°	966.3	971.8	960.8	944.3	*933.4*	927.9	900.4	856.5	801.6	746.7	686.3
20°	1054.1	1059.6	1054.1	1032.2	*1021.2*	1015.7	988.3	938.8	873.0	812.6	735.7
22.5°	1158.5	1169.4	1153.0	1136.5	*1125.5*	1125.5	1092.6	1037.7	960.8	883.9	796.1
25°	1279.2	1295.7	1273.8	1262.8	*1251.8*	1246.3	1218.8	1153.0	1065.1	971.8	862.0
27.5°	1427.5	1438.5	1422.0	1416.5	*1394.5*	1394.5	1350.6	1273.8	1180.4	1070.6	944.3
30°	1559.2	1570.2	1559.2	1559.2	*1542.8*	1537.3	1493.4	1416.5	1301.2	1169.4	1015.7
32.5°	1685.5	1696.5	1691.0	1696.5	*1691.0*	1685.5	1630.6	1548.3	1433.0	1262.8	1087.1
35°	1811.8	1828.3	1822.8	1839.3	*1833.8*	1828.3	1784.4	1685.5	1548.3	1378.1	1163.9
37.5°	1943.6	1960.0	1960.0	1976.5	*1982.0*	1982.0	1932.6	1828.3	1674.5	1482.4	1251.8
40°	2086.3	2102.8	2102.8	2130.2	*2141.2*	2141.2	2086.3	1982.0	1811.8	1597.7	1345.1
42.5°	2223.6	2240.0	2245.5	2273.0	*2289.5*	2295.0	2251.0	2130.2	1932.6	1713.0	1433.0
45°	2355.3	2371.8	2388.3	2443.2	*2470.6*	2465.2	2432.2	2305.9	2086.3	1833.8	1526.3
47.5°	2481.6	2503.6	2531.0	2602.4	*2640.8*	2635.3	2613.4	2470.6	2229.1	1949.1	1608.7
50°	2580.4	2596.9	2651.8	2728.7	*2778.1*	2783.6	2750.6	2613.4	2349.9	2036.9	1669.1
52.5°	2657.3	2679.3	2745.2	2855.0	*2893.4*	2909.9	2871.4	2734.2	2470.6	2113.8	1718.5
55°	2712.2	2712.2	2811.0	2937.3	*2992.2*	3003.2	3003.2	2833.0	2542.0	2163.2	1745.9
57.5°	*2684.8*	*2684.8*	*2794.6*	*2931.8*	*3019.7*	*3014.2*	*3003.2*	*2838.5*	*2553.0*	*2152.2*	*1729.4*
60°	2607.9	2624.4	2728.7	2865.9	*2953.8*	2948.3	2915.4	2767.1	2498.1	2108.3	1696.5
62.5°	2503.6	2531.0	2640.8	2745.2	*2844.0*	2860.5	2816.5	2684.8	2404.8	2042.4	1636.1
65°	2305.9	2344.4	2481.6	2596.9	*2673.8*	2706.7	2651.8	2531.0	2278.5	1916.1	1509.8
67.5°	2086.3	2113.8	2229.1	2393.8	*2437.7*	2470.6	2443.2	2316.9	2102.8	1713.0	1367.1
70°	1833.8	1877.7	1954.6	2119.3	*2168.7*	2201.6	2201.6	2075.3	1872.2	1504.3	1196.9
72.5°	1537.3	1586.7	1680.0	1800.8	*1866.7*	1888.7	1883.2	1778.9	1597.7	1273.8	1010.2
75°	1213.4	1251.8	1361.6	1449.4	*1520.8*	1537.3	1531.8	1444.0	1279.2	1026.7	801.6
77.5°	894.9	933.4	1015.7	1081.6	*1147.5*	1136.5	1136.5	1070.6	966.3	763.2	609.4
80°	587.5	620.4	691.8	713.7	*785.1*	779.6	779.6	730.2	658.8	510.6	406.3
82.5°	323.9	351.4	400.8	422.8	*466.7*	455.7	461.2	428.2	384.3	285.5	230.6
85°	115.3	137.3	164.7	181.2	*203.1*	203.1	203.1	175.7	164.7	109.8	93.3
87.5°	5.5	11.0	22.0	22.0	*32.9*	32.9	32.9	22.0	22.0	5.5	5.5
90°	6.4	6.4	7.7	7.7	*7.7*	7.7	7.7	7.7	7.7	7.7	6.4
92.5°	6.4	6.4	6.4	9.0	*10.0*	10.3	9.0	10.3	7.7	7.7	6.4
95°	7.7	7.7	9.0	11.6	*13.7*	14.2	15.5	15.5	9.0	9.0	7.7
97.5°	10.3	11.6	11.6	14.2	*21.4*	23.2	42.5	25.8	12.9	12.9	11.6
100°	16.7	18.0	18.0	32.2	*61.0*	68.2	91.4	65.7	33.5	24.5	18.0
102.5°	54.1	56.7	69.5	104.3	*144.5*	154.5	140.4	118.5	112.0	77.3	61.8
105°	137.8	136.5	146.8	173.8	*207.8*	216.3	212.5	195.7	177.7	153.2	141.6
107.5°	181.6	181.6	190.6	213.8	*239.5*	245.9	287.1	291.0	230.5	202.2	189.3
110°	204.7	204.7	212.5	231.8	*265.8*	274.3	332.2	329.6	284.6	249.8	233.1

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Scaled Data Report

REPORT NUMBER: P833886
CATALOG NUMBER: TTN-D3-735-U-DL-CG-UPL3

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
112.5°	209.9	211.2	221.5	251.1	*288.2*	297.5	323.2	311.6	293.6	278.1	265.3
115°	217.6	217.6	229.2	257.5	*278.1*	283.3	293.6	280.7	266.5	256.2	251.1
117.5°	215.0	218.9	221.5	236.9	*250.3*	253.7	261.4	255.0	235.6	227.9	225.3
120°	199.6	199.6	202.2	209.9	*217.1*	218.9	222.8	220.2	207.3	200.9	199.6
122.5°	177.7	179.0	177.7	181.6	*186.7*	188.0	191.9	189.3	179.0	176.4	176.4
125°	155.8	155.8	154.5	157.1	*160.2*	161.0	159.7	161.0	155.8	154.5	154.5
127.5°	140.4	139.1	136.5	137.8	*138.8*	139.1	139.1	140.4	135.2	136.5	137.8
130°	124.9	124.9	122.3	122.3	*122.3*	122.3	119.8	122.3	119.8	121.0	122.3
132.5°	110.7	110.7	106.9	105.6	*105.6*	105.6	105.6	106.9	105.6	108.2	110.7
135°	99.2	99.2	95.3	96.6	*96.6*	96.6	95.3	96.6	95.3	97.9	99.2
137.5°	90.1	90.1	87.6	87.6	*87.6*	87.6	86.3	87.6	87.6	88.8	91.4
140°	82.4	82.4	81.1	81.1	*80.1*	79.8	81.1	81.1	81.1	82.4	83.7
142.5°	78.5	77.3	76.0	74.7	*75.7*	76.0	76.0	76.0	74.7	76.0	78.5
145°	72.1	72.1	70.8	70.8	*70.8*	70.8	72.1	70.8	70.8	72.1	72.1
147.5°	68.2	68.2	67.0	68.2	*68.2*	68.2	68.2	68.2	67.0	68.2	68.2
150°	67.0	65.7	64.4	65.7	*65.7*	65.7	64.4	64.4	64.4	64.4	65.7
152.5°	63.1	63.1	61.8	63.1	*62.1*	61.8	61.8	61.8	61.8	61.8	63.1
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	57.9	59.2
160°	56.7	56.7	56.7	56.7	*55.7*	55.4	55.4	55.4	56.7	56.7	56.7
162.5°	55.4	55.4	55.4	55.4	*54.4*	54.1	54.1	54.1	54.1	55.4	55.4
165°	55.4	54.1	54.1	54.1	*53.1*	52.8	52.8	52.8	52.8	54.1	55.4
167.5°	52.8	52.8	52.8	52.8	*52.8*	52.8	51.5	51.5	52.8	52.8	52.8
170°	52.8	52.8	51.5	51.5	*51.5*	51.5	51.5	51.5	51.5	51.5	51.5
172.5°	52.8	52.8	52.8	52.8	*51.8*	51.5	51.5	51.5	51.5	51.5	52.8
175°	52.8	52.8	52.8	52.8	*51.8*	51.5	51.5	51.5	52.8	52.8	52.8
177.5°	52.8	52.8	52.8	52.8	*51.8*	51.5	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

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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	587.5	587.5	587.5	587.5	587.5	587.5	587.5	587.5	587.5	587.5	587.5
2.5°	582.0	576.5	571.0	560.0	554.5	549.0	543.5	538.1	538.1	538.1	538.1
5°	587.5	582.0	565.5	549.0	532.6	516.1	505.1	499.6	494.1	488.6	488.6
7.5°	587.5	576.5	554.5	532.6	516.1	494.1	477.7	461.2	450.2	444.7	444.7
10°	593.0	576.5	549.0	527.1	499.6	472.2	450.2	428.2	417.3	406.3	406.3
12.5°	603.9	587.5	549.0	521.6	488.6	455.7	428.2	406.3	389.8	378.8	378.8
15°	625.9	603.9	560.0	521.6	483.1	444.7	417.3	389.8	373.3	362.4	362.4
17.5°	658.8	631.4	576.5	521.6	477.7	439.2	406.3	378.8	356.9	345.9	345.9
20°	697.3	664.3	598.4	532.6	477.7	433.7	400.8	367.9	345.9	334.9	334.9
22.5°	752.2	702.8	625.9	549.0	488.6	439.2	395.3	362.4	340.4	329.4	329.4
25°	812.6	757.7	658.8	571.0	499.6	439.2	395.3	362.4	340.4	329.4	323.9
27.5°	878.4	818.1	697.3	593.0	510.6	450.2	400.8	362.4	340.4	329.4	329.4
30°	938.8	867.5	735.7	620.4	527.1	455.7	406.3	367.9	340.4	329.4	329.4
32.5°	1004.7	922.4	774.1	647.9	543.5	466.7	411.8	373.3	345.9	334.9	329.4
35°	1070.6	977.3	812.6	669.8	560.0	477.7	417.3	378.8	351.4	340.4	340.4
37.5°	1142.0	1037.7	851.0	697.3	576.5	488.6	428.2	384.3	356.9	345.9	345.9
40°	1218.8	1098.1	889.4	719.2	593.0	499.6	439.2	395.3	367.9	356.9	356.9
42.5°	1295.7	1163.9	933.4	746.7	609.4	510.6	444.7	406.3	378.8	367.9	367.9
45°	1372.6	1218.8	971.8	774.1	625.9	527.1	461.2	417.3	389.8	378.8	378.8
47.5°	1444.0	1279.2	1004.7	790.6	642.4	538.1	466.7	428.2	400.8	395.3	389.8
50°	1493.4	1317.7	1026.7	807.1	647.9	543.5	477.7	433.7	411.8	400.8	400.8
52.5°	1531.8	1356.1	1043.2	818.1	653.3	549.0	483.1	444.7	422.8	411.8	406.3
55°	1553.8	1361.6	1043.2	807.1	647.9	549.0	483.1	444.7	422.8	411.8	411.8
57.5°	*1531.8*	*1334.1*	*1021.2*	*785.1*	*631.4*	*532.6*	*466.7*	*433.7*	*411.8*	*406.3*	*400.8*
60°	1487.9	1290.2	977.3	752.2	603.9	505.1	444.7	417.3	400.8	395.3	389.8
62.5°	1427.5	1235.3	933.4	708.3	565.5	472.2	428.2	395.3	384.3	378.8	373.3
65°	1306.7	1131.0	862.0	653.3	516.1	433.7	389.8	367.9	356.9	345.9	340.4
67.5°	1174.9	1015.7	763.2	587.5	455.7	389.8	351.4	329.4	312.9	312.9	307.5
70°	1032.2	894.9	658.8	499.6	395.3	340.4	302.0	285.5	274.5	274.5	269.0
72.5°	862.0	752.2	549.0	406.3	323.9	280.0	252.6	236.1	230.6	230.6	225.1
75°	691.8	593.0	433.7	318.4	252.6	219.6	197.7	186.7	181.2	181.2	175.7
77.5°	510.6	433.7	312.9	230.6	181.2	159.2	142.7	137.3	131.8	131.8	126.3
80°	340.4	285.5	203.1	148.2	109.8	98.8	87.8	87.8	82.4	87.8	82.4
82.5°	186.7	153.7	109.8	76.9	54.9	49.4	43.9	43.9	49.4	49.4	43.9
85°	71.4	54.9	38.4	22.0	16.5	16.5	16.5	16.5	16.5	16.5	11.0
87.5°	5.5	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	7.7	7.7	10.3	9.0	10.3	9.0	6.4	6.4	6.4
95°	7.7	7.7	9.0	9.0	15.5	15.5	14.2	11.6	9.0	7.7	7.7
97.5°	10.3	11.6	12.9	12.9	25.8	42.5	23.2	14.2	11.6	11.6	10.3
100°	18.0	18.0	24.5	33.5	65.7	91.4	68.2	32.2	18.0	18.0	16.7
102.5°	59.2	61.8	77.3	112.0	118.5	140.4	154.5	104.3	69.5	56.7	54.1
105°	141.6	141.6	153.2	177.7	195.7	212.5	216.3	173.8	146.8	136.5	137.8
107.5°	188.0	189.3	202.2	230.5	291.0	287.1	245.9	213.8	190.6	181.6	181.6
110°	230.5	233.1	249.8	284.6	329.6	332.2	274.3	231.8	212.5	204.7	204.7

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

Scaled Data Report

REPORT NUMBER: P833886
CATALOG NUMBER: TTN-D3-735-U-DL-CG-UPL3

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	262.7	265.3	278.1	293.6	311.6	323.2	297.5	251.1	221.5	211.2	209.9
115°	253.7	251.1	256.2	266.5	280.7	293.6	283.3	257.5	229.2	217.6	217.6
117.5°	221.5	225.3	227.9	235.6	255.0	261.4	253.7	236.9	221.5	218.9	215.0
120°	197.0	199.6	200.9	207.3	220.2	222.8	218.9	209.9	202.2	199.6	199.6
122.5°	173.8	176.4	176.4	179.0	189.3	191.9	188.0	181.6	177.7	179.0	177.7
125°	153.2	154.5	154.5	155.8	161.0	159.7	161.0	157.1	154.5	155.8	155.8
127.5°	136.5	137.8	136.5	135.2	140.4	139.1	139.1	137.8	136.5	139.1	140.4
130°	123.6	122.3	121.0	119.8	122.3	119.8	122.3	122.3	122.3	124.9	124.9
132.5°	110.7	110.7	108.2	105.6	106.9	105.6	105.6	105.6	106.9	110.7	110.7
135°	99.2	99.2	97.9	95.3	96.6	95.3	96.6	96.6	95.3	99.2	99.2
137.5°	92.7	91.4	88.8	87.6	87.6	86.3	87.6	87.6	87.6	90.1	90.1
140°	83.7	83.7	82.4	81.1	81.1	81.1	79.8	81.1	81.1	82.4	82.4
142.5°	78.5	78.5	76.0	74.7	76.0	76.0	76.0	74.7	76.0	77.3	78.5
145°	73.4	72.1	72.1	70.8	70.8	72.1	70.8	70.8	70.8	72.1	72.1
147.5°	69.5	68.2	68.2	67.0	68.2	68.2	68.2	68.2	67.0	68.2	68.2
150°	65.7	65.7	64.4	64.4	64.4	64.4	65.7	65.7	64.4	65.7	67.0
152.5°	64.4	63.1	61.8	61.8	61.8	61.8	61.8	63.1	61.8	63.1	63.1
155°	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5	59.2	60.5	60.5
157.5°	59.2	59.2	57.9	57.9	57.9	57.9	57.9	57.9	57.9	59.2	57.9
160°	57.9	56.7	56.7	56.7	55.4	55.4	55.4	56.7	56.7	56.7	56.7
162.5°	56.7	55.4	55.4	54.1	54.1	54.1	54.1	55.4	55.4	55.4	55.4
165°	54.1	55.4	54.1	52.8	52.8	52.8	52.8	54.1	54.1	54.1	55.4
167.5°	54.1	52.8	52.8	52.8	51.5	51.5	52.8	52.8	52.8	52.8	52.8
170°	52.8	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	52.8	52.8
172.5°	52.8	52.8	51.5	51.5	51.5	51.5	51.5	52.8	52.8	52.8	52.8
175°	51.5	52.8	52.8	52.8	51.5	51.5	51.5	52.8	52.8	52.8	52.8
177.5°	52.8	52.8	52.8	52.8	52.8	52.8	51.5	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

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

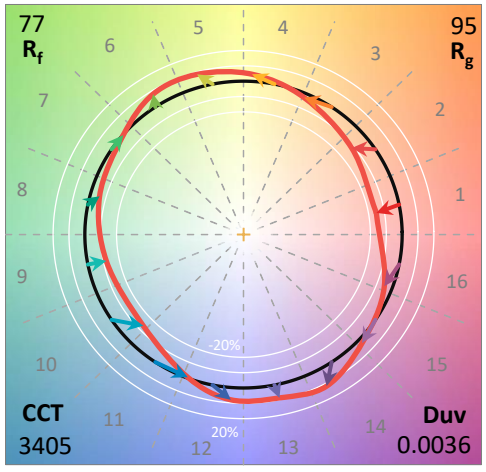
Test Information

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

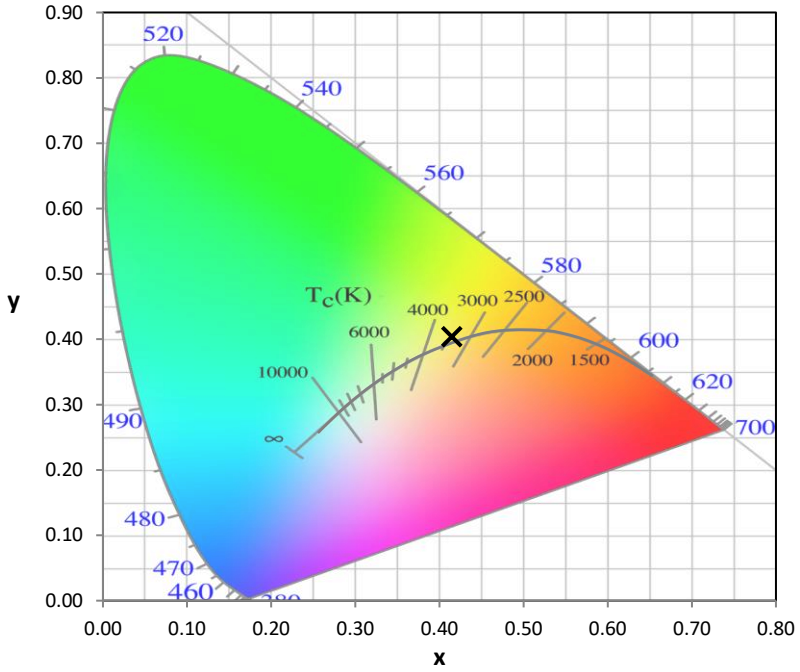
Stabilization Time:	38M
Operation Time:	1H 38M
Sphere Temperature (°C):	24.9

REPORT NUMBER: SP1-2411-284-1

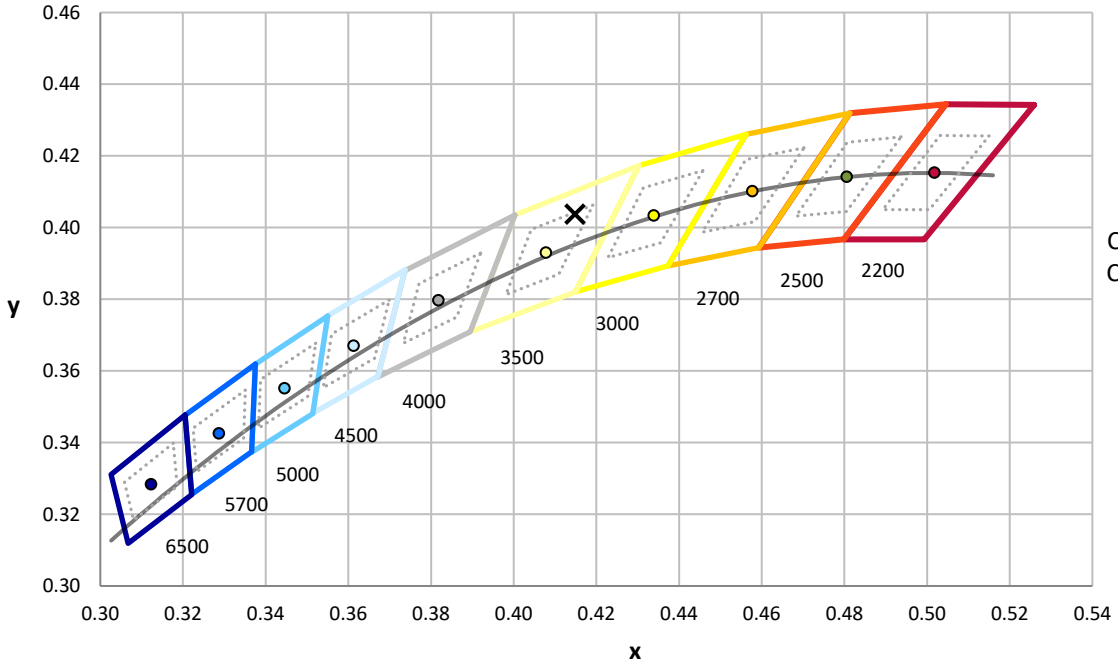
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/22/2024	10/22/2025
DC Power Source	IN0208	10/22/2024	10/22/2025
Sphere Thermometer	IN0085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

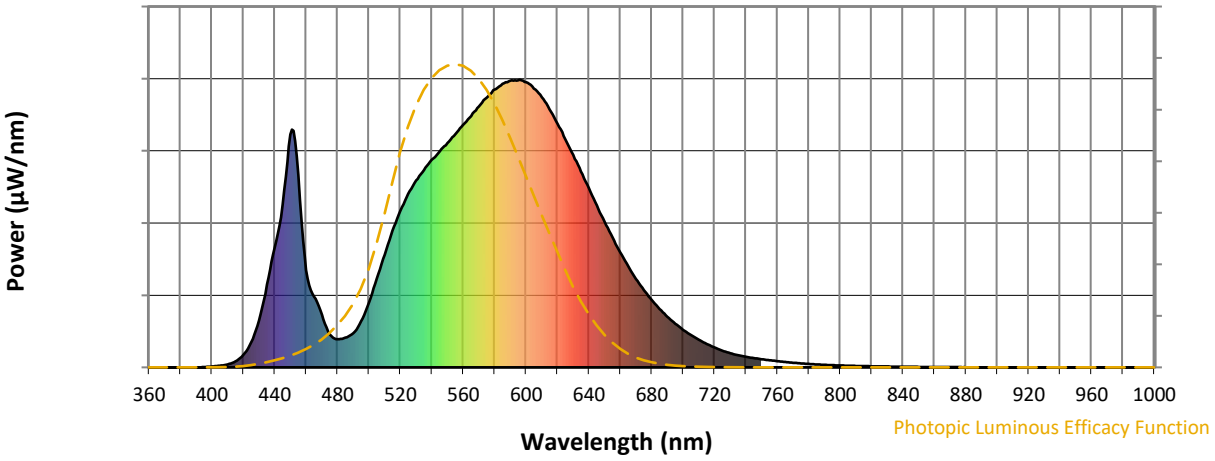


CCT = 3405K
CIE x = 0.4148
CIE y = 0.4038
Duv = 0.0036

Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP1-2411-284-1

Photopic Flux vs. Wavelength

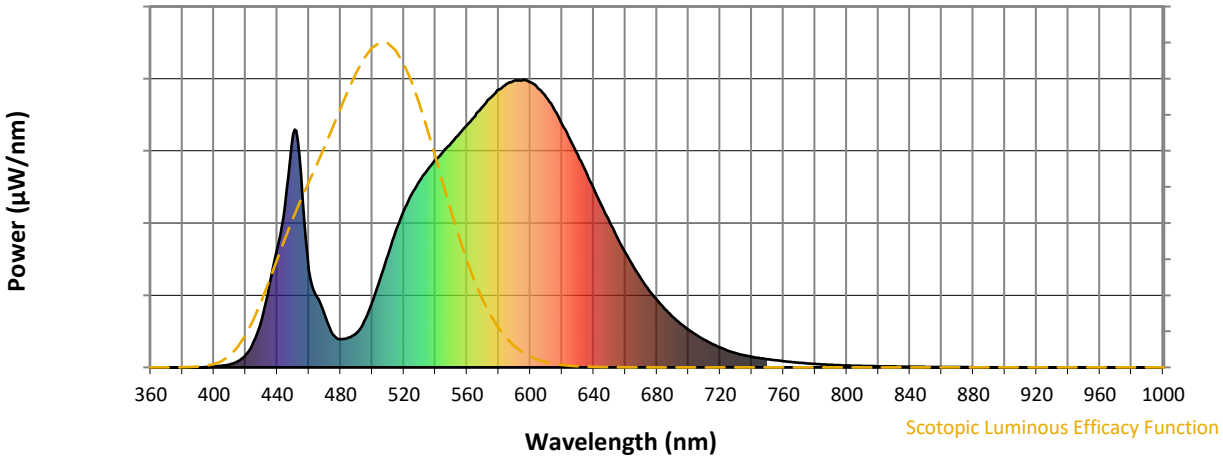


Photopic Lumens: NR

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	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

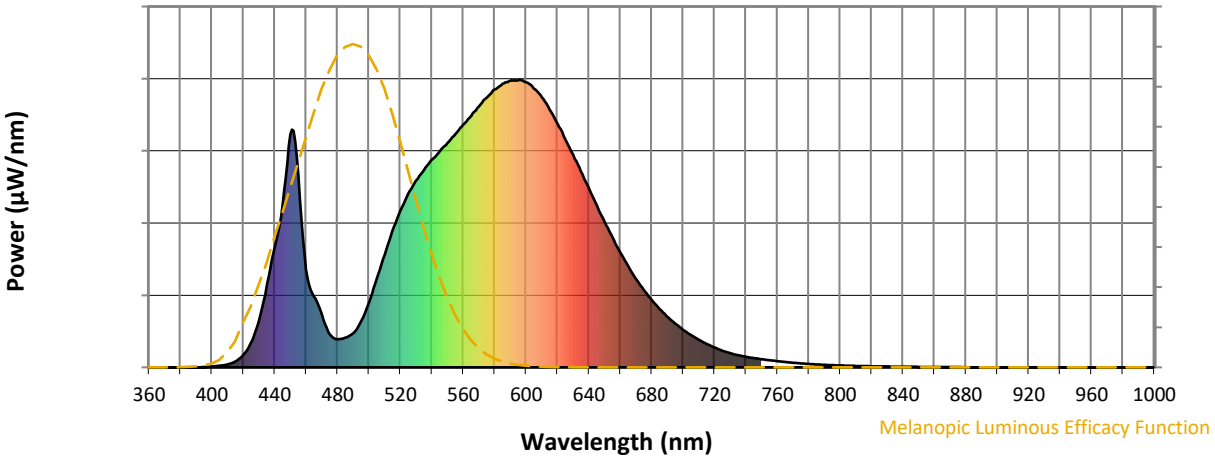


Scotopic Lumens: NR **S/P: 1.33**

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	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^/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	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			

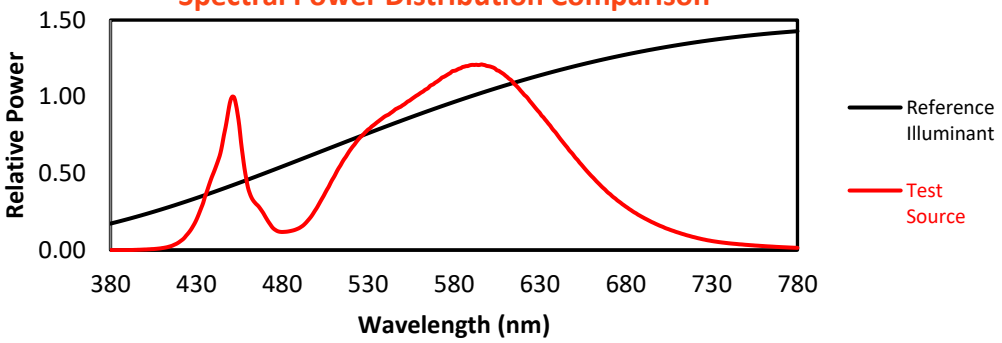
REPORT NUMBER: SP1-2411-284-1

TM-30-18

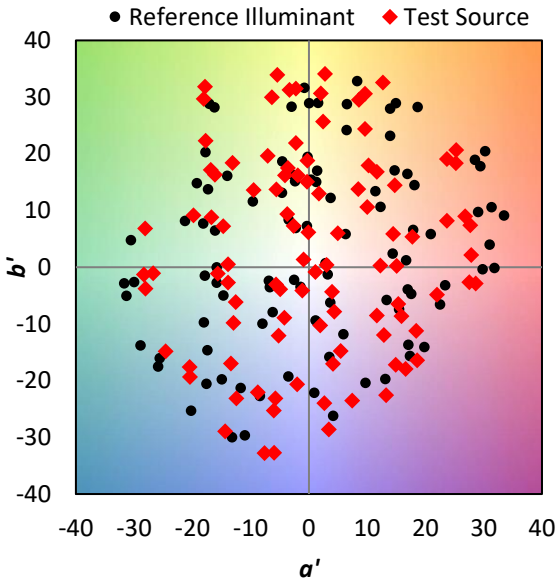
Summary

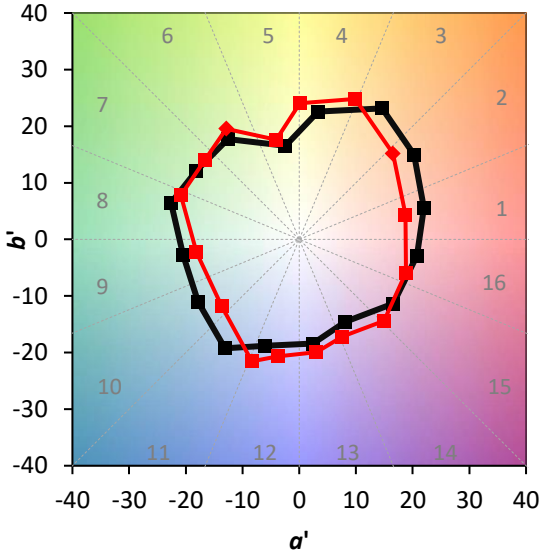
R_f = 76.6
R_g = 95.4
CIE R_a = 73.9
R_9 = -18.0

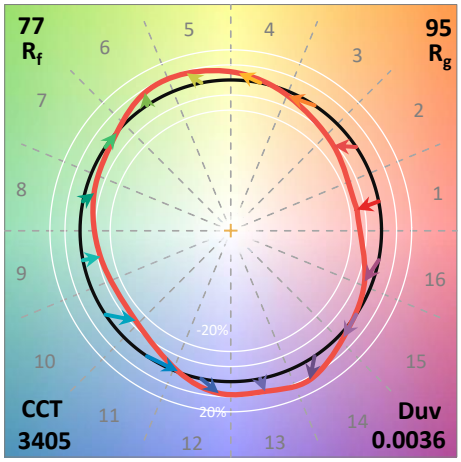
Spectral Power Distribution Comparison

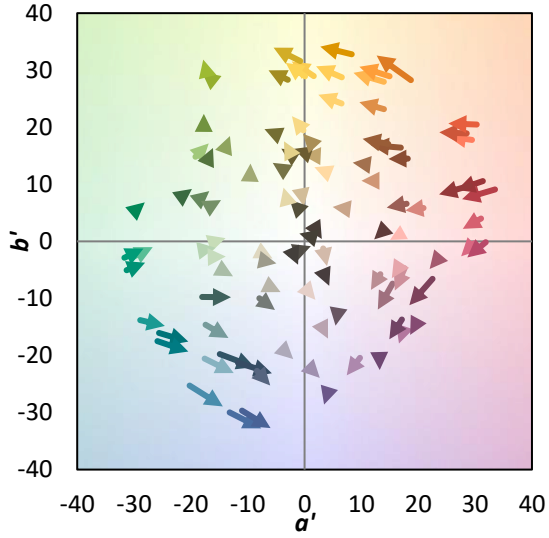


Color Vector Graphics







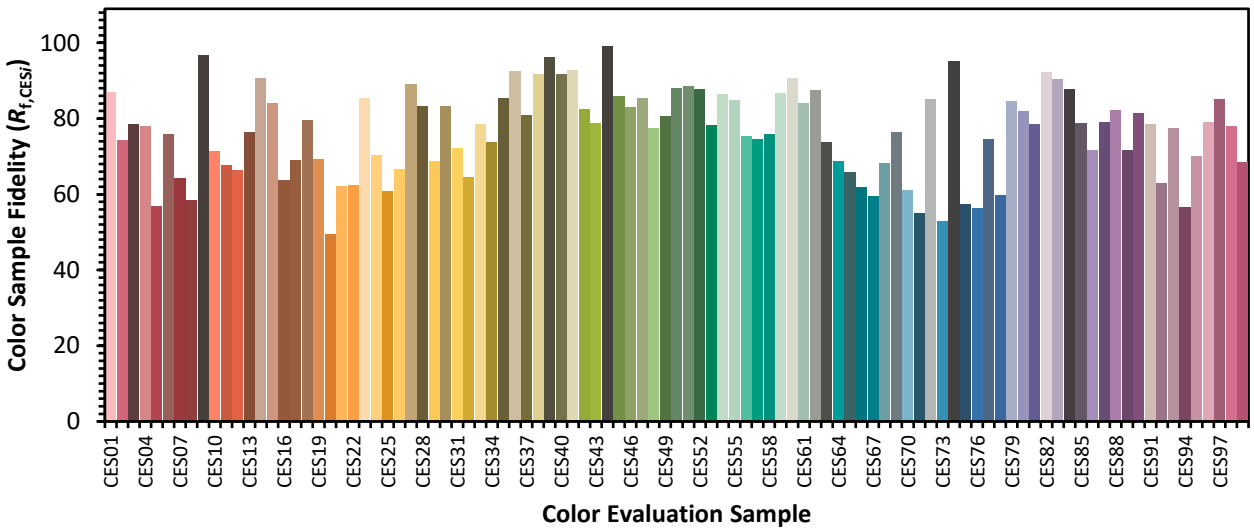


REPORT NUMBER: SP1-2411-284-1

TM-30-18

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	



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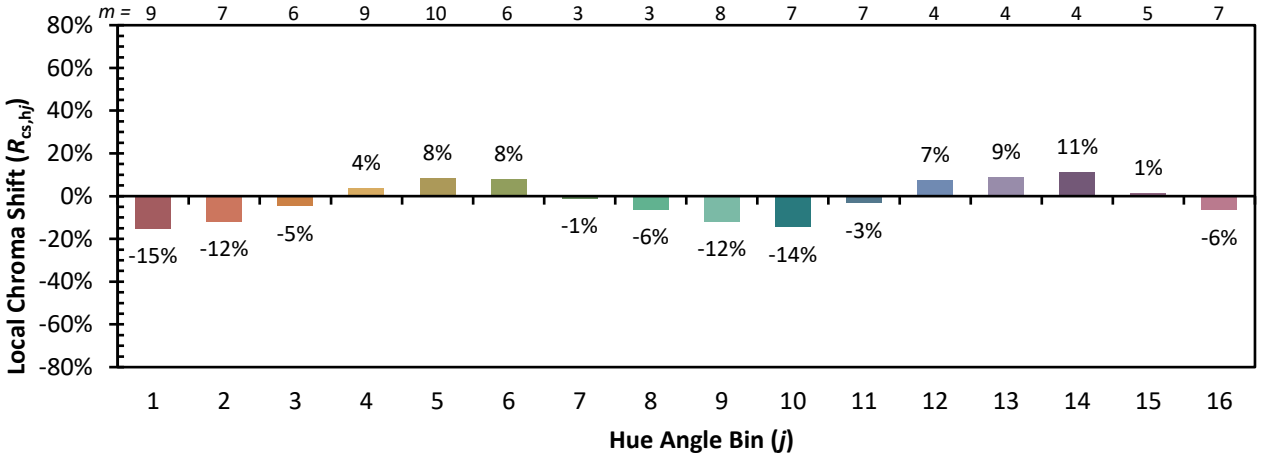
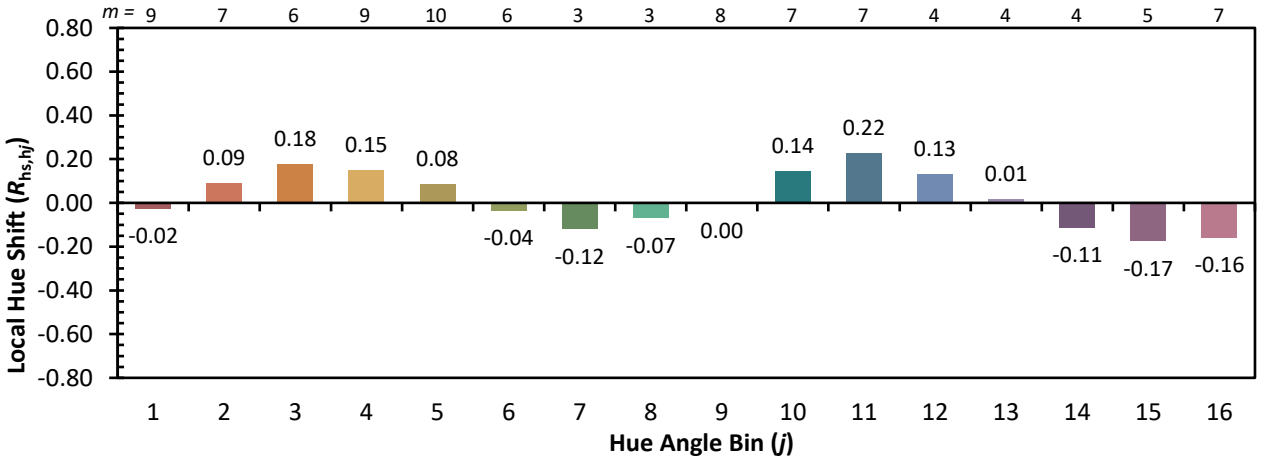
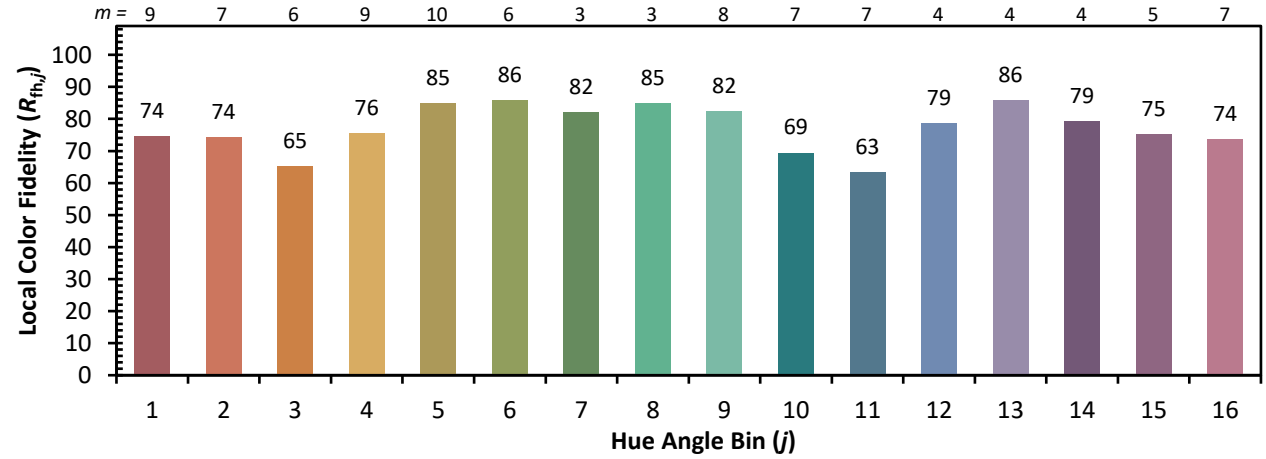
Color Rendition by Hue-Angle Bin







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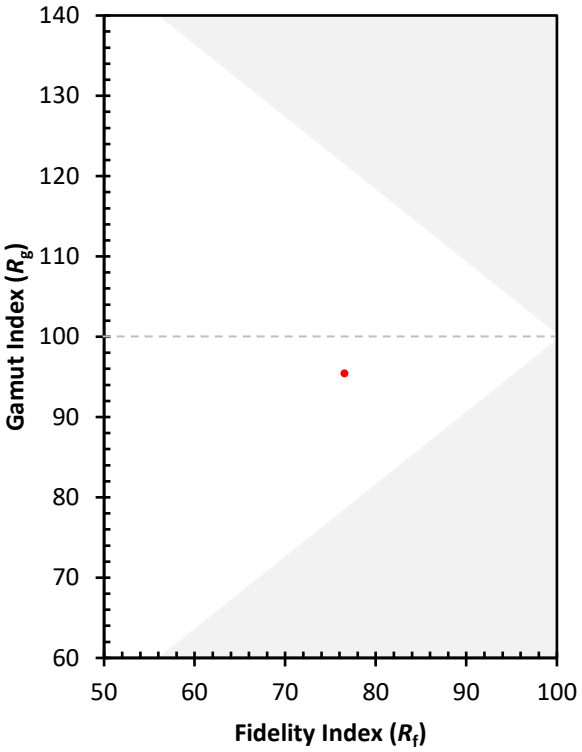
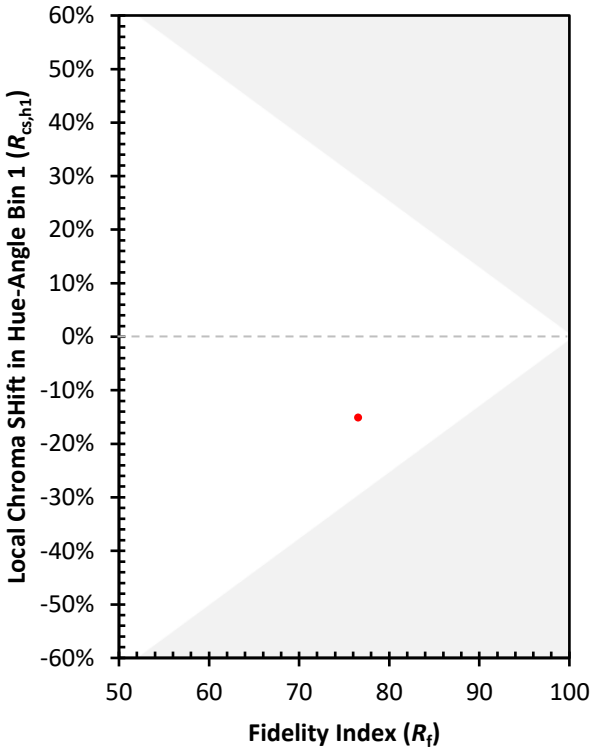
Measure Comparisons





(END OF REPORT)