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: P821150

Luminaire Tested: **TT-D4-830-24VDC-RW-PM-HSS**

Issue Date: 12/2/2020

Report Generated By 670245763

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

Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P821150
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2010-017-5)
Test Lab:	INNOVATION CENTER
Issue Date:	12/2/2020
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	McGRAW-EDISON
Catalog Number:	TT-D4-830-24VDC-RW-PM-HSS
Description:	TOPTIER LED SITE LUMINAIRE
	3000K, 80 CRI LEDS AND RECTANGULAR DISTRIBUTION WITH HOUSE SIDE SHIELD
Light Source:	-
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	4253.1 lumens
Efficiency:	N/A
Efficacy:	74.6 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type IV - Short
BUG Rating:	B2 - U2 - G3

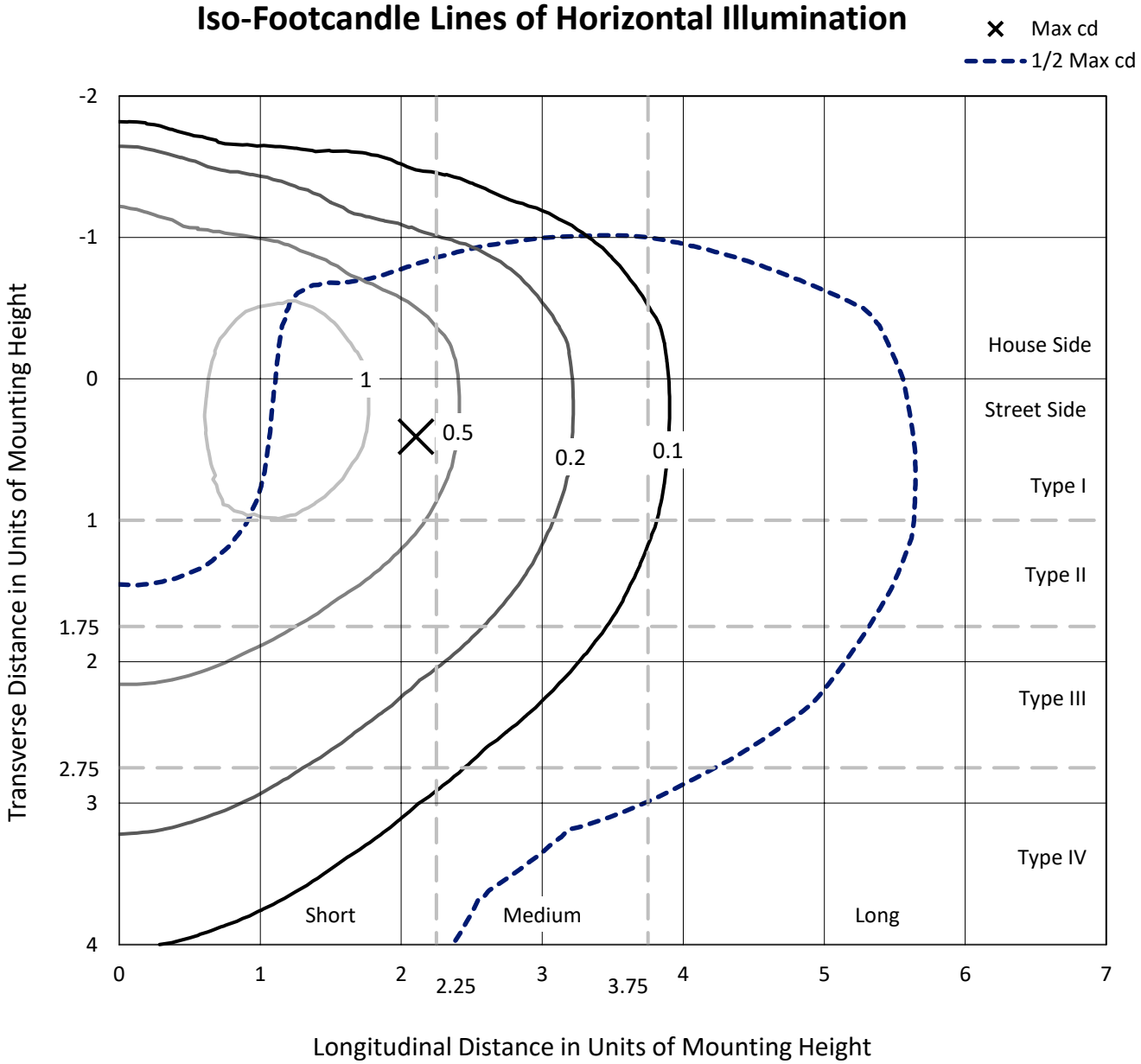
Input Watts (W):	57
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	25 FT

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

Scaled Data Report

REPORT NUMBER: P821150
CATALOG NUMBER: TT-D4-830-24VDC-RW-PM-HSS

Iso-Footcandle Lines of Horizontal Illumination



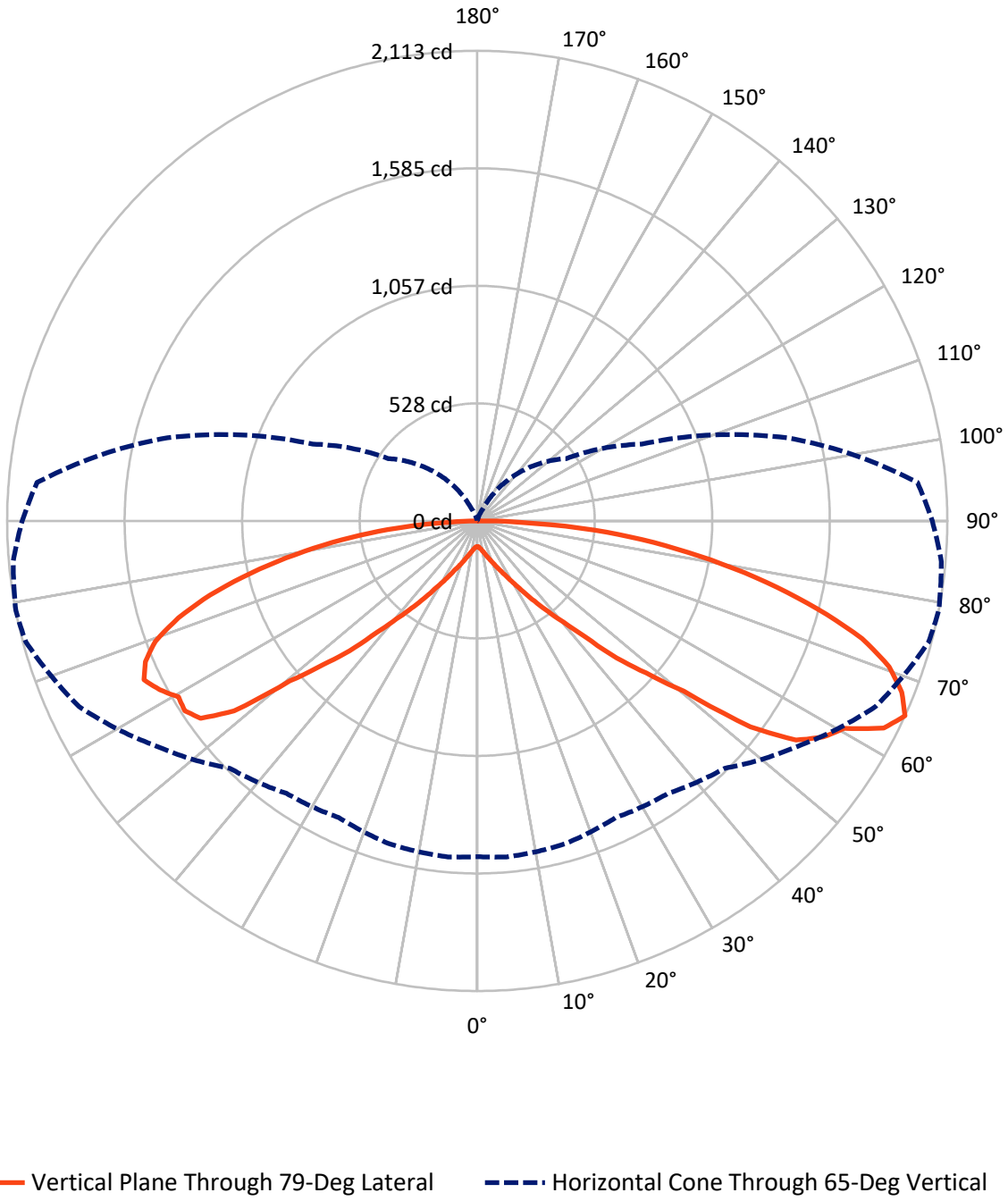
Based on 15 foot mounting height. Maximum calculated value = 1.5 fc
Type IV - Short - N/A

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

Scaled Data Report

REPORT NUMBER: P821150
CATALOG NUMBER: TT-D4-830-24VDC-RW-PM-HSS

Luminous Intensity Polar Plot



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

Scaled Data Report

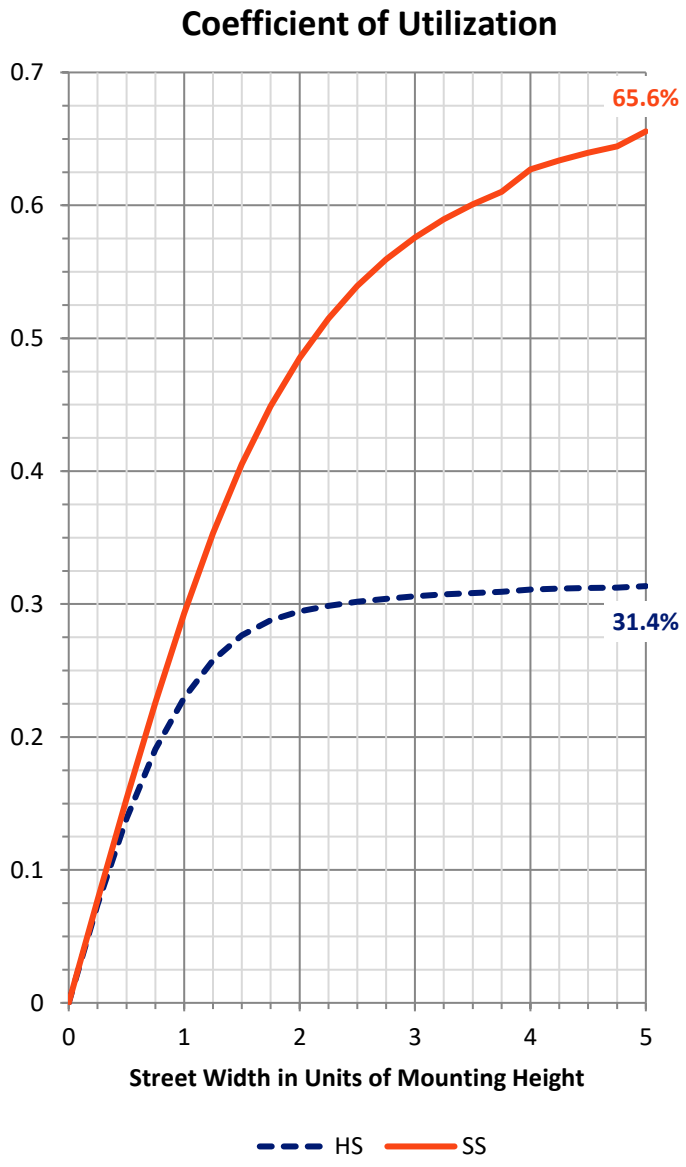
REPORT NUMBER: P821150
CATALOG NUMBER: TT-D4-830-24VDC-RW-PM-HSS

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1343.0	1.8	1344.8
	% Fixture	31.6	0.0	31.6
Street Side	Lumens	2889.5	18.8	2908.3
	% Fixture	67.9	0.4	68.4
Total	Lumens	4232.6	20.6	4253.1
	% Fixture	99.5	0.5	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	12.1	0.3
10°-20°	45.8	1.1
20°-30°	105.7	2.5
30°-40°	226.4	5.3
40°-50°	484.9	11.4
50°-60°	915.8	21.5
60°-70°	1138.1	26.8
70°-80°	974.3	22.9
80°-90°	329.6	7.7
90°-100°	14.3	0.3
100°-110°	4.1	0.1
110°-120°	0.9	0.0
120°-130°	0.5	0.0
130°-140°	0.3	0.0
140°-150°	0.2	0.0
150°-160°	0.1	0.0
160°-170°	0.1	0.0
170°-180°	0.0	0.0
0°-90°	4232.6	99.5
0°-180°	4253.1	100.0



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

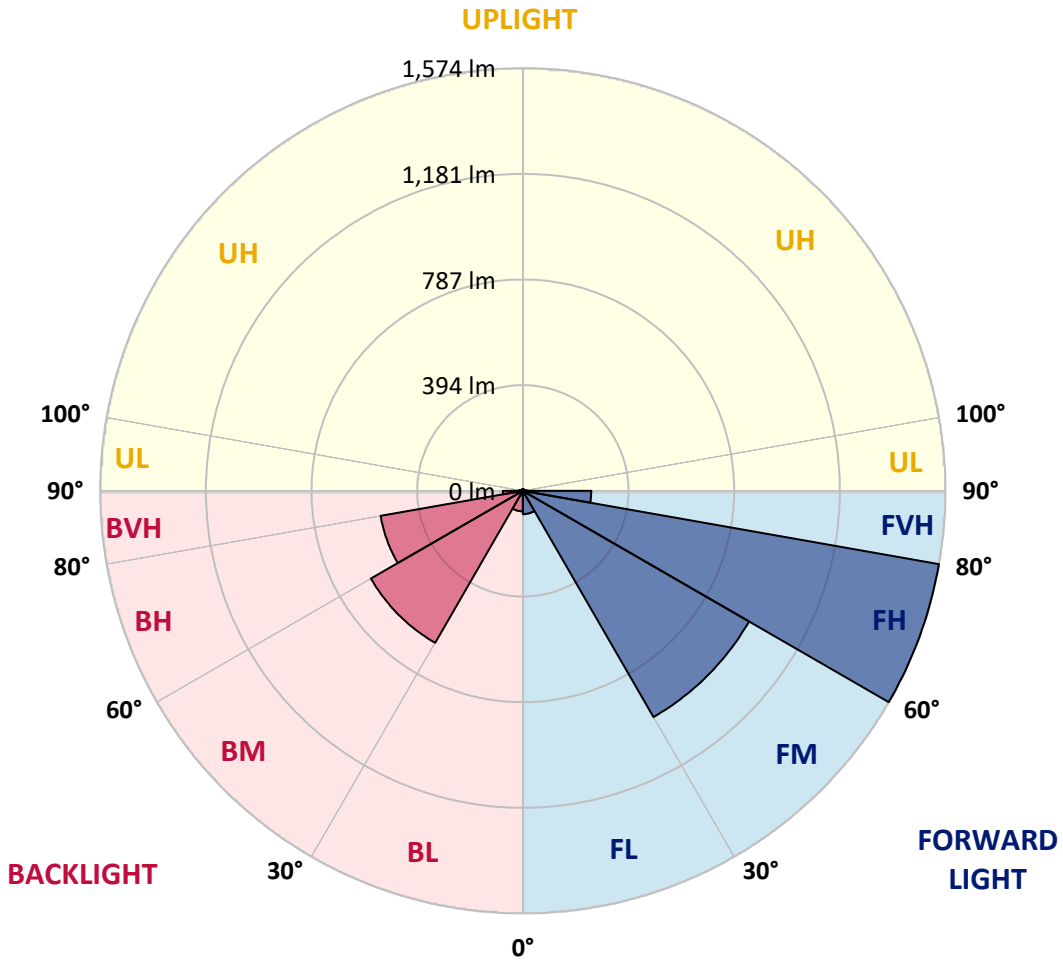
Scaled Data Report

REPORT NUMBER: P821150
CATALOG NUMBER: TT-D4-830-24VDC-RW-PM-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	87.0	2.0			
FM	(30°-60°)	973.3	22.9			
FH	(60°-80°)	1574.3	37.0			G1/1800
FVH	(80°-90°)	255.0	6.0			G3/500
BL	(0°-30°)	76.6	1.8	B0/110		
BM	(30°-60°)	653.7	15.4	B1/1000		
BH	(60°-80°)	538.1	12.7	B2/1000		G2/1000
BVH	(80°-90°)	74.6	1.8			G1/100
UL	(90°-100°)	14.3	0.3		U2/50	
UH	(100°-180°)	6.3	0.1		U1/10	

BUG Rating: B2-U2-G3
Type IV Short



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

Scaled Data Report

REPORT NUMBER: P821150
CATALOG NUMBER: TT-D4-830-24VDC-RW-PM-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	115.5	115.5	115.5	115.5	115.5	115.5	115.5	115.5	115.5	115.5	115.5
2.5°	121.9	121.9	121.9	120.8	120.8	120.8	119.8	118.7	117.6	117.6	117.6
5°	128.2	128.2	128.2	128.2	127.2	126.1	125.1	124.0	122.9	122.9	121.9
7.5°	136.7	135.7	136.7	135.7	135.7	134.6	133.5	132.5	130.4	130.4	129.3
10°	145.2	145.2	145.2	145.2	145.2	144.1	143.1	142.0	140.9	139.9	138.8
12.5°	155.8	155.8	155.8	154.7	155.8	154.7	153.7	153.7	152.6	150.5	150.5
15°	166.4	166.4	166.4	166.4	167.4	167.4	167.4	166.4	166.4	165.3	164.3
17.5°	179.1	178.0	179.1	179.1	180.2	181.2	182.3	183.3	183.3	182.3	182.3
20°	192.9	191.8	192.9	192.9	195.0	197.1	200.3	202.4	203.5	201.4	201.4
22.5°	207.7	206.7	208.8	208.8	212.0	215.1	220.4	222.6	225.7	224.7	224.7
25°	225.7	224.7	225.7	226.8	231.0	236.3	242.7	248.0	251.2	251.2	252.2
27.5°	245.9	245.9	246.9	248.0	252.2	260.7	270.2	279.8	287.2	286.1	287.2
30°	273.4	273.4	275.5	276.6	281.9	291.4	304.2	316.9	327.5	327.5	329.6
32.5°	304.2	303.1	306.3	307.3	312.6	325.3	343.4	363.5	377.3	377.3	379.4
35°	341.2	340.2	343.4	343.4	349.7	367.7	391.1	418.6	441.9	443.0	446.2
37.5°	387.9	385.8	385.8	388.9	396.4	419.7	451.5	489.6	514.0	516.1	521.4
40°	443.0	441.9	444.0	443.0	452.5	481.1	521.4	565.9	594.5	599.8	606.2
42.5°	510.8	512.9	509.7	509.7	521.4	554.3	601.9	653.9	705.8	712.2	715.3
45°	593.5	597.7	593.5	592.4	603.0	641.2	706.9	798.0	858.4	879.6	886.0
47.5°	693.1	695.2	689.9	687.8	699.4	748.2	833.0	934.7	1005.7	1021.6	1038.6
50°	804.4	801.2	796.9	793.8	816.0	876.4	975.0	1079.9	1201.8	1203.9	1210.3
52.5°	918.8	909.3	910.3	909.3	940.0	1005.7	1137.1	1315.2	1500.6	1538.8	1543.0
55°	1033.3	1021.6	1020.6	1031.2	1074.6	1168.9	1334.2	1565.3	1715.8	1739.1	1735.9
57.5°	1147.7	1142.4	1140.3	1149.8	1213.4	1325.8	1512.3	1707.3	1835.5	1833.4	1811.1
60°	1266.4	1270.7	1263.2	1281.3	1347.0	1459.3	1595.0	1784.7	1903.3	1893.8	1871.6
62.5°	1388.3	1398.9	1391.5	1393.6	1436.0	1518.6	1652.2	1872.6	2036.9	2050.7	2025.2
65°	1509.1	1516.5	1504.9	1472.0	1495.3	1572.7	1763.5	1975.4	2100.5	2113.2	2094.1
67.5°	1610.8	1618.3	1578.0	1526.1	1529.2	1585.4	1752.9	1955.3	2066.5	2058.1	2027.3
70°	1697.7	1684.0	1618.3	1529.2	1492.2	1518.6	1676.6	1855.7	1969.1	1964.8	1928.8
72.5°	1726.4	1708.3	1597.1	1459.3	1386.2	1395.7	1549.4	1709.4	1801.6	1809.0	1765.6
75°	1680.8	1650.1	1497.5	1324.7	1230.4	1236.7	1368.2	1515.5	1589.7	1581.2	1547.3
77.5°	1516.5	1485.8	1320.5	1136.1	1043.9	1053.4	1157.3	1272.8	1334.2	1331.1	1307.8
80°	1259.0	1231.5	1086.3	914.6	830.9	836.2	915.6	1006.8	1054.5	1065.1	1052.4
82.5°	930.5	911.4	808.6	669.8	601.9	600.9	661.3	731.2	777.9	800.1	791.6
85°	575.5	565.9	508.7	418.6	370.9	369.9	405.9	457.8	500.2	529.9	510.8
87.5°	228.9	225.7	208.8	168.5	147.3	139.9	131.4	164.3	167.4	198.2	197.1
90°	56.2	55.1	54.0	50.9	45.6	39.2	31.8	23.3	14.8	11.7	6.4
92.5°	49.8	49.8	48.7	45.6	41.3	35.0	28.6	21.2	13.8	10.6	5.3
95°	40.3	40.3	39.2	37.1	32.9	28.6	22.3	17.0	10.6	8.5	4.2
97.5°	30.7	29.7	29.7	27.6	25.4	21.2	17.0	12.7	8.5	6.4	3.2
100°	22.3	22.3	21.2	20.1	18.0	15.9	12.7	9.5	5.3	4.2	2.1
102.5°	15.9	14.8	14.8	14.8	12.7	10.6	8.5	6.4	4.2	3.2	1.1
105°	10.6	9.5	9.5	9.5	8.5	7.4	5.3	4.2	2.1	2.1	1.1
107.5°	6.4	6.4	6.4	6.4	5.3	4.2	3.2	2.1	1.1	1.1	1.1
110°	3.2	3.2	3.2	4.2	3.2	3.2	2.1	1.1	1.1	1.1	1.1

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

Scaled Data Report

REPORT NUMBER: P821150
CATALOG NUMBER: TT-D4-830-24VDC-RW-PM-HSS

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
112.5°	2.1	2.1	2.1	2.1	2.1	2.1	1.1	1.1	1.1	*1.1*	1.1
115°	1.1	1.1	1.1	2.1	2.1	1.1	1.1	0.0	0.0	*1.1*	1.1
117.5°	0.0	0.0	1.1	1.1	1.1	1.1	0.0	0.0	0.0	*0.0*	1.1
120°	0.0	0.0	1.1	1.1	1.1	1.1	0.0	0.0	0.0	*0.0*	1.1
122.5°	0.0	0.0	1.1	1.1	1.1	1.1	0.0	0.0	0.0	*0.0*	1.1
125°	0.0	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	*0.0*	1.1
127.5°	0.0	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	*0.0*	1.1
130°	0.0	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	*0.0*	1.1
132.5°	0.0	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	*0.0*	1.1
135°	0.0	0.0	0.0	1.1	1.1	0.0	0.0	0.0	0.0	*0.0*	0.0
137.5°	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	*0.0*	0.0
140°	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	*0.0*	0.0
142.5°	0.0	0.0	0.0	0.0	1.1	1.1	0.0	0.0	0.0	*0.0*	0.0
145°	0.0	0.0	0.0	1.1	1.1	1.1	1.1	0.0	0.0	*0.0*	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	*0.0*	0.0
150°	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	*0.0*	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0
157.5°	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	*0.0*	0.0
160°	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	*0.0*	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0
177.5°	0.0	0.0	0.0	1.1	0.0	1.1	0.0	0.0	0.0	*0.0*	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0

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

Scaled Data Report

REPORT NUMBER: P821150
CATALOG NUMBER: TT-D4-830-24VDC-RW-PM-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	115.5	115.5	115.5	115.5	115.5	115.5	115.5	115.5	115.5	115.5	115.5
2.5°	116.6	116.6	116.6	115.5	115.5	115.5	114.5	114.5	113.4	113.4	113.4
5°	120.8	120.8	119.8	119.8	118.7	117.6	117.6	116.6	116.6	115.5	115.5
7.5°	128.2	128.2	127.2	126.1	124.0	122.9	121.9	120.8	120.8	119.8	119.8
10°	137.8	137.8	135.7	133.5	131.4	129.3	128.2	126.1	125.1	125.1	125.1
12.5°	149.4	148.4	146.2	143.1	140.9	137.8	135.7	133.5	131.4	131.4	131.4
15°	163.2	163.2	159.0	155.8	151.5	147.3	144.1	140.9	138.8	137.8	137.8
17.5°	180.2	180.2	174.9	169.6	164.3	159.0	154.7	150.5	148.4	147.3	147.3
20°	199.2	199.2	193.9	187.6	180.2	172.7	166.4	161.1	157.9	156.8	156.8
22.5°	222.6	222.6	215.1	206.7	197.1	186.5	178.0	171.7	168.5	166.4	166.4
25°	249.0	246.9	239.5	228.9	215.1	202.4	190.8	184.4	180.2	177.0	178.0
27.5°	285.1	281.9	272.4	254.3	237.4	220.4	206.7	198.2	192.9	190.8	191.8
30°	326.4	323.2	309.5	289.3	263.9	241.6	224.7	215.1	209.8	206.7	207.7
32.5°	376.2	372.0	355.0	327.5	297.8	266.0	244.8	233.1	227.9	224.7	223.6
35°	441.9	436.6	415.4	377.3	335.9	297.8	268.1	253.3	248.0	244.8	245.9
37.5°	516.1	508.7	480.1	433.4	381.5	332.8	298.9	279.8	273.4	268.1	268.1
40°	600.9	592.4	555.3	493.9	431.3	370.9	327.5	306.3	298.9	298.9	298.9
42.5°	706.9	698.4	656.0	565.9	483.3	412.2	360.3	335.9	328.5	330.6	330.6
45°	871.1	859.5	791.6	673.0	551.1	454.6	394.2	366.7	361.4	366.7	366.7
47.5°	1021.6	1006.8	907.2	772.6	617.8	497.0	428.1	396.4	394.2	405.9	405.9
50°	1190.1	1171.0	1066.1	853.1	671.9	543.7	458.9	420.7	421.8	438.7	444.0
52.5°	1516.5	1496.4	1315.2	999.4	730.2	560.6	471.6	426.0	426.0	445.1	452.5
55°	1710.5	1669.1	1432.8	1094.7	754.6	580.8	466.3	404.8	402.7	423.9	430.3
57.5°	1774.1	1731.7	1457.2	1067.2	738.7	555.3	435.6	347.6	343.4	370.9	368.8
60°	1826.0	1769.8	1418.0	975.0	648.6	501.3	376.2	258.6	240.6	264.9	263.9
62.5°	1972.2	1911.8	1420.1	866.9	542.6	418.6	283.0	145.2	108.1	127.2	118.7
65°	*2045.4*	*1986.0*	*1442.3*	*816.0*	*488.6*	*346.5*	*202.4*	*59.3*	*4.2*	*4.2*	*2.1*
67.5°	1982.8	1929.8	1413.7	803.3	481.1	344.4	205.6	58.3	0.0	0.0	0.0
70°	1891.7	1840.8	1348.0	758.8	456.8	331.7	201.4	58.3	0.0	0.0	0.0
72.5°	1731.7	1679.7	1234.6	695.2	419.7	304.2	186.5	55.1	0.0	0.0	0.0
75°	1520.8	1481.6	1090.5	612.5	369.9	268.1	165.3	48.7	0.0	0.0	0.0
77.5°	1287.6	1241.0	914.6	509.7	309.5	222.6	139.9	40.3	0.0	0.0	0.0
80°	1033.3	999.4	720.6	399.5	239.5	173.8	109.2	30.7	0.0	0.0	0.0
82.5°	768.3	739.7	533.1	286.1	170.6	120.8	75.2	20.1	0.0	0.0	0.0
85°	504.4	497.0	342.3	173.8	101.7	66.8	40.3	9.5	0.0	0.0	0.0
87.5°	182.3	188.6	125.1	49.8	27.6	11.7	5.3	1.1	0.0	0.0	0.0
90°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
92.5°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
95°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
97.5°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
100°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
102.5°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
105°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
107.5°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
110°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0

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

Scaled Data Report

REPORT NUMBER: P821150
CATALOG NUMBER: TT-D4-830-24VDC-RW-PM-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
115°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
117.5°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
120°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
122.5°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
125°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
127.5°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
130°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
132.5°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
135°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
145°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
150°	0.0	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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: SP1-2407-176-7

Test Date: 09/27/2024

Luminaire Tested: MEM2-HTN-VA-30-830-U-WQ

Data in this report applies to families of products including MEM2-HTN-VA-30-830-U-WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

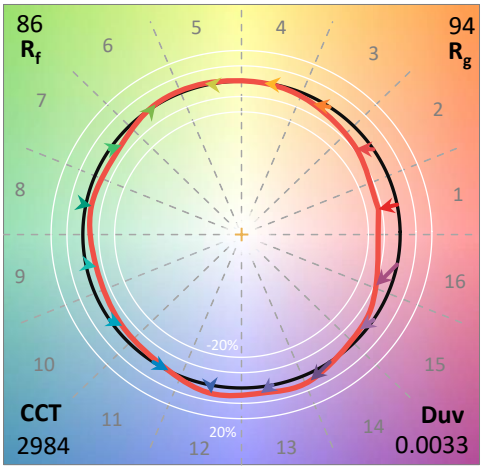
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2407-176-7
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1 - 76IN SPHERE
Measurement Geometry:	4π
Issue Date:	09/27/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	Streetworks
Catalog Number:	**MEM2-HTN-VA-30-830-U-WQ**
Description:	EPIC MODERN VISUAL COMFORT 30W WAVESTREAM WIDE

Spectral Parameters

CCT (K):	2984	CRI (Ra):	81.8		
CIE u':	0.2500	R1:	79.4	R9:	-1.1
CIE v':	0.5264	R2:	89.9	R10:	78.4
Duv:	0.0033	R3:	96.6	R11:	80.8
CIE x:	0.4431	R4:	80.6	R12:	72.8
CIE y:	0.4147	R5:	80.1	R13:	81.7
CIE z:	0.1422	R6:	88.9	R14:	98.5
Peak Wavelength (nm):	601	R7:	82.6	R15:	70.2
Dominant Wavelength (nm):	581	R8:	56.0		
Purity:	57.4798				

Rf:	85.8
Rg:	94.1



Test Conditions

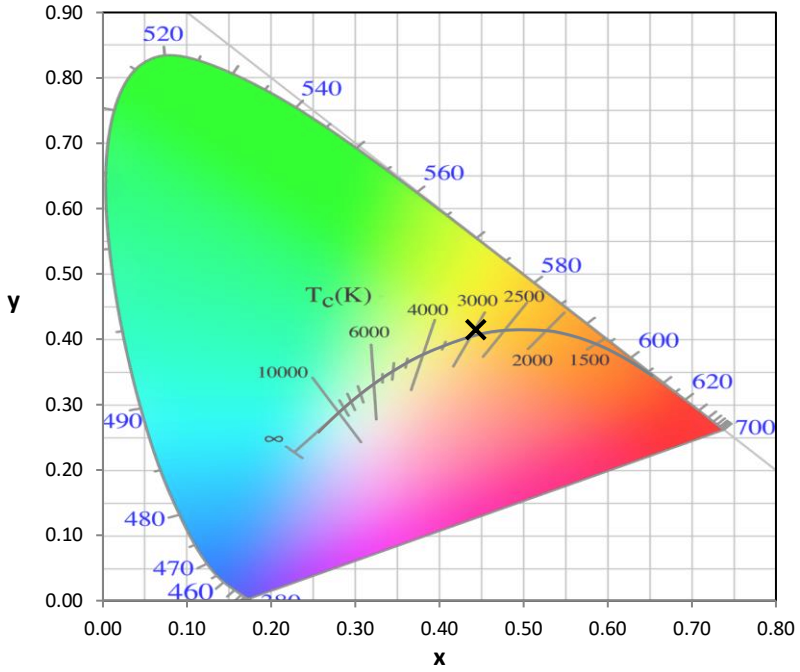
Stabilization Time:	29M
Operation Time:	1H 29M
Sphere Temperature (°C):	25.2

REPORT NUMBER: SP1-2407-176-7

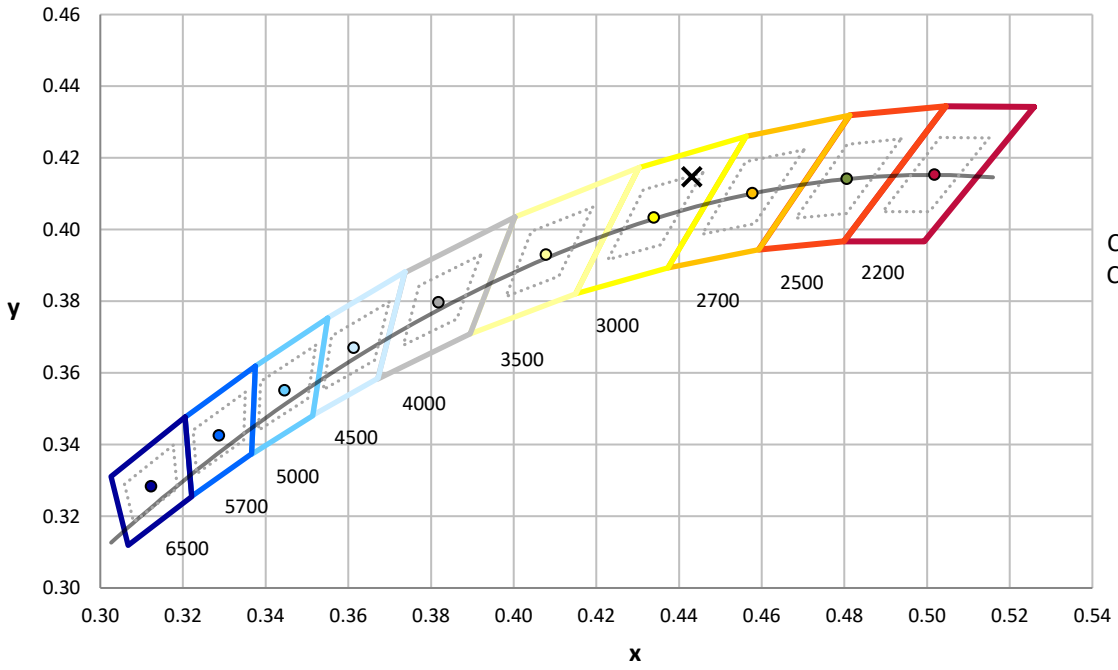
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2407-176-7

CIE 1931 Chromaticity Diagram



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

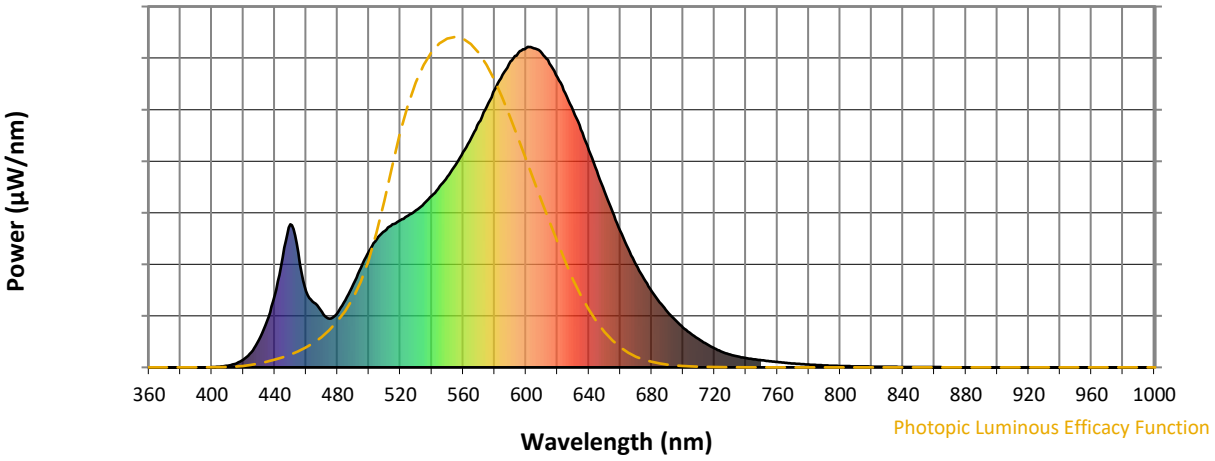


CCT = 2984K
CIE x = 0.4431
CIE y = 0.4147
Duv = 0.0033

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2407-176-7

Photopic Flux vs. Wavelength

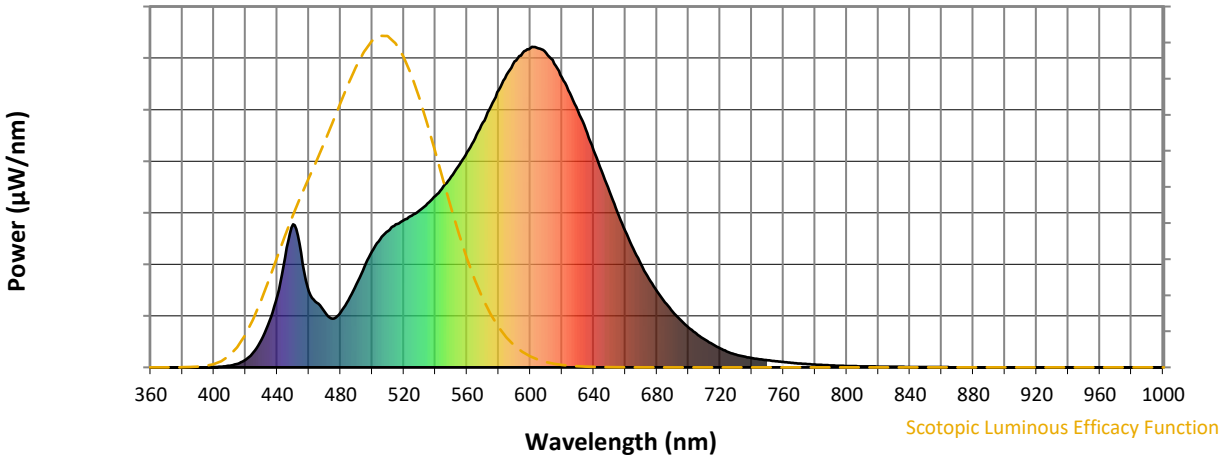


Photopic Lumens: NR

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	260	NR	620	905	NR	750	22	NR	880	0	NR
365	0	NR	495	312	NR	625	856	NR	755	19	NR	885	0	NR
370	0	NR	500	362	NR	630	801	NR	760	17	NR	890	0	NR
375	0	NR	505	399	NR	635	742	NR	765	14	NR	895	0	NR
380	0	NR	510	425	NR	640	677	NR	770	12	NR	900	0	NR
385	0	NR	515	446	NR	645	613	NR	775	10	NR	905	0	NR
390	0	NR	520	459	NR	650	549	NR	780	9	NR	910	0	NR
395	0	NR	525	473	NR	655	485	NR	785	7	NR	915	0	NR
400	1	NR	530	490	NR	660	425	NR	790	6	NR	920	0	NR
405	2	NR	535	511	NR	665	371	NR	795	5	NR	925	0	NR
410	5	NR	540	535	NR	670	321	NR	800	4	NR	930	0	NR
415	11	NR	545	565	NR	675	276	NR	805	4	NR	935	0	NR
420	24	NR	550	595	NR	680	238	NR	810	3	NR	940	0	NR
425	47	NR	555	631	NR	685	203	NR	815	3	NR	945	0	NR
430	86	NR	560	672	NR	690	174	NR	820	2	NR	950	0	NR
435	144	NR	565	715	NR	695	148	NR	825	2	NR	955	0	NR
440	224	NR	570	763	NR	700	124	NR	830	2	NR	960	0	NR
445	342	NR	575	814	NR	705	105	NR	835	2	NR	965	0	NR
450	446	NR	580	866	NR	710	88	NR	840	1	NR	970	0	NR
455	357	NR	585	912	NR	715	73	NR	845	1	NR	975	0	NR
460	237	NR	590	954	NR	720	59	NR	850	1	NR	980	0	NR
465	202	NR	595	981	NR	725	48	NR	855	1	NR	985	0	NR
470	172	NR	600	996	NR	730	40	NR	860	1	NR	990	0	NR
475	152	NR	605	996	NR	735	34	NR	865	1	NR	995	0	NR
480	171	NR	610	980	NR	740	29	NR	870	0	NR	1000	0	NR
485	210	NR	615	947	NR	745	25	NR	875	0	NR			

REPORT NUMBER: SP1-2407-176-7

Scotopic Flux vs. Wavelength

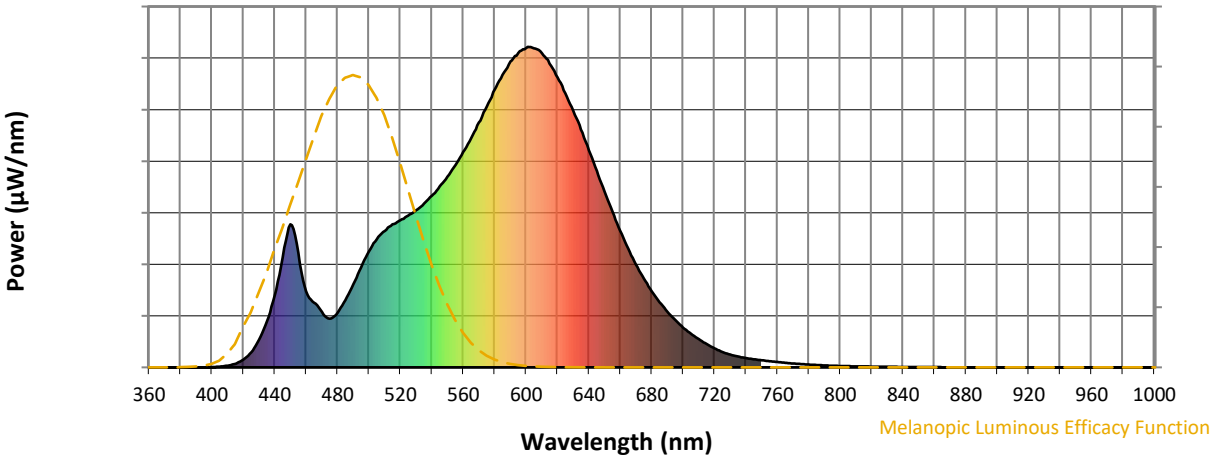


Scotopic Lumens: NR **S/P: 1.32**

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	260	NR	620	905	NR	750	22	NR	880	0	NR
365	0	NR	495	312	NR	625	856	NR	755	19	NR	885	0	NR
370	0	NR	500	362	NR	630	801	NR	760	17	NR	890	0	NR
375	0	NR	505	399	NR	635	742	NR	765	14	NR	895	0	NR
380	0	NR	510	425	NR	640	677	NR	770	12	NR	900	0	NR
385	0	NR	515	446	NR	645	613	NR	775	10	NR	905	0	NR
390	0	NR	520	459	NR	650	549	NR	780	9	NR	910	0	NR
395	0	NR	525	473	NR	655	485	NR	785	7	NR	915	0	NR
400	1	NR	530	490	NR	660	425	NR	790	6	NR	920	0	NR
405	2	NR	535	511	NR	665	371	NR	795	5	NR	925	0	NR
410	5	NR	540	535	NR	670	321	NR	800	4	NR	930	0	NR
415	11	NR	545	565	NR	675	276	NR	805	4	NR	935	0	NR
420	24	NR	550	595	NR	680	238	NR	810	3	NR	940	0	NR
425	47	NR	555	631	NR	685	203	NR	815	3	NR	945	0	NR
430	86	NR	560	672	NR	690	174	NR	820	2	NR	950	0	NR
435	144	NR	565	715	NR	695	148	NR	825	2	NR	955	0	NR
440	224	NR	570	763	NR	700	124	NR	830	2	NR	960	0	NR
445	342	NR	575	814	NR	705	105	NR	835	2	NR	965	0	NR
450	446	NR	580	866	NR	710	88	NR	840	1	NR	970	0	NR
455	357	NR	585	912	NR	715	73	NR	845	1	NR	975	0	NR
460	237	NR	590	954	NR	720	59	NR	850	1	NR	980	0	NR
465	202	NR	595	981	NR	725	48	NR	855	1	NR	985	0	NR
470	172	NR	600	996	NR	730	40	NR	860	1	NR	990	0	NR
475	152	NR	605	996	NR	735	34	NR	865	1	NR	995	0	NR
480	171	NR	610	980	NR	740	29	NR	870	0	NR	1000	0	NR
485	210	NR	615	947	NR	745	25	NR	875	0	NR			

REPORT NUMBER: SP1-2407-176-7

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.51**

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	260	NR	620	905	NR	750	22	NR	880	0	NR
365	0	NR	495	312	NR	625	856	NR	755	19	NR	885	0	NR
370	0	NR	500	362	NR	630	801	NR	760	17	NR	890	0	NR
375	0	NR	505	399	NR	635	742	NR	765	14	NR	895	0	NR
380	0	NR	510	425	NR	640	677	NR	770	12	NR	900	0	NR
385	0	NR	515	446	NR	645	613	NR	775	10	NR	905	0	NR
390	0	NR	520	459	NR	650	549	NR	780	9	NR	910	0	NR
395	0	NR	525	473	NR	655	485	NR	785	7	NR	915	0	NR
400	1	NR	530	490	NR	660	425	NR	790	6	NR	920	0	NR
405	2	NR	535	511	NR	665	371	NR	795	5	NR	925	0	NR
410	5	NR	540	535	NR	670	321	NR	800	4	NR	930	0	NR
415	11	NR	545	565	NR	675	276	NR	805	4	NR	935	0	NR
420	24	NR	550	595	NR	680	238	NR	810	3	NR	940	0	NR
425	47	NR	555	631	NR	685	203	NR	815	3	NR	945	0	NR
430	86	NR	560	672	NR	690	174	NR	820	2	NR	950	0	NR
435	144	NR	565	715	NR	695	148	NR	825	2	NR	955	0	NR
440	224	NR	570	763	NR	700	124	NR	830	2	NR	960	0	NR
445	342	NR	575	814	NR	705	105	NR	835	2	NR	965	0	NR
450	446	NR	580	866	NR	710	88	NR	840	1	NR	970	0	NR
455	357	NR	585	912	NR	715	73	NR	845	1	NR	975	0	NR
460	237	NR	590	954	NR	720	59	NR	850	1	NR	980	0	NR
465	202	NR	595	981	NR	725	48	NR	855	1	NR	985	0	NR
470	172	NR	600	996	NR	730	40	NR	860	1	NR	990	0	NR
475	152	NR	605	996	NR	735	34	NR	865	1	NR	995	0	NR
480	171	NR	610	980	NR	740	29	NR	870	0	NR	1000	0	NR
485	210	NR	615	947	NR	745	25	NR	875	0	NR			

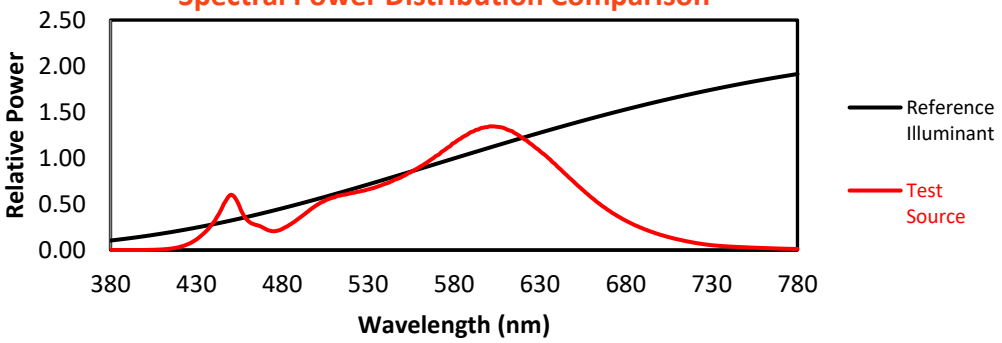
REPORT NUMBER: SP1-2407-176-7

TM-30-18

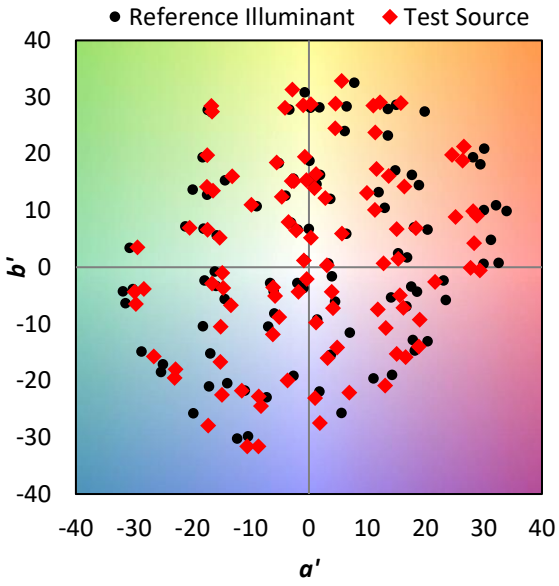
Summary

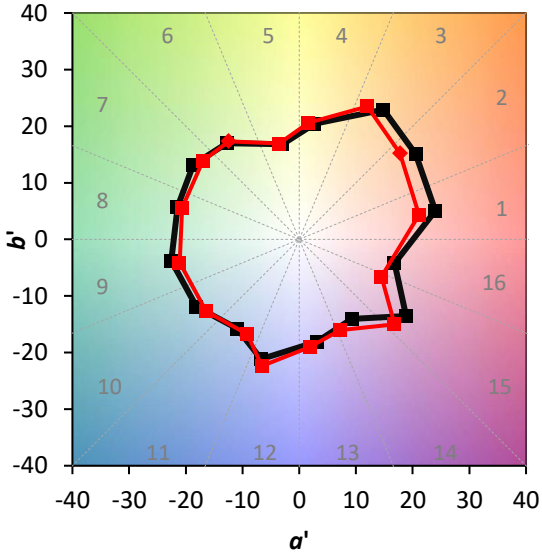
R_f = 85.8
R_g = 94.1
CIE R_a = 81.8
R_9 = -1.1

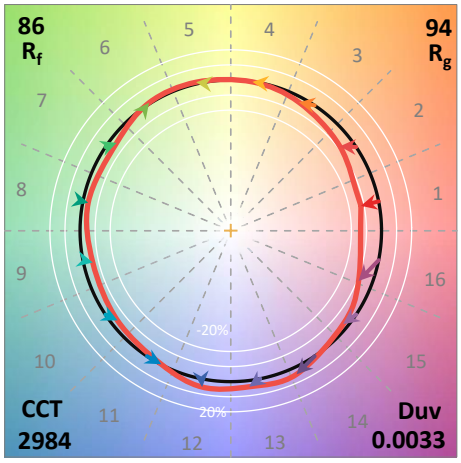
Spectral Power Distribution Comparison

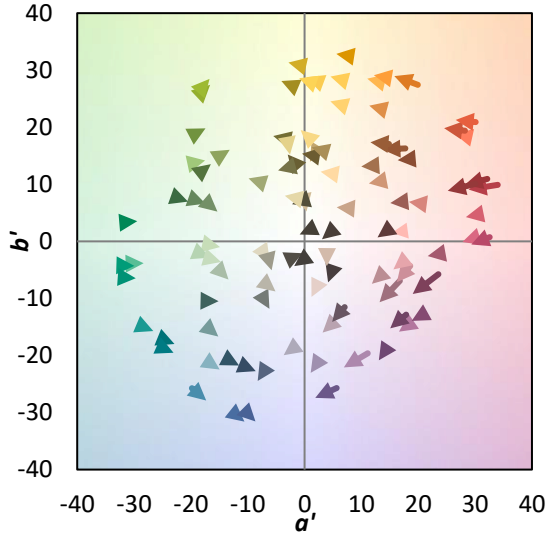


Color Vector Graphics







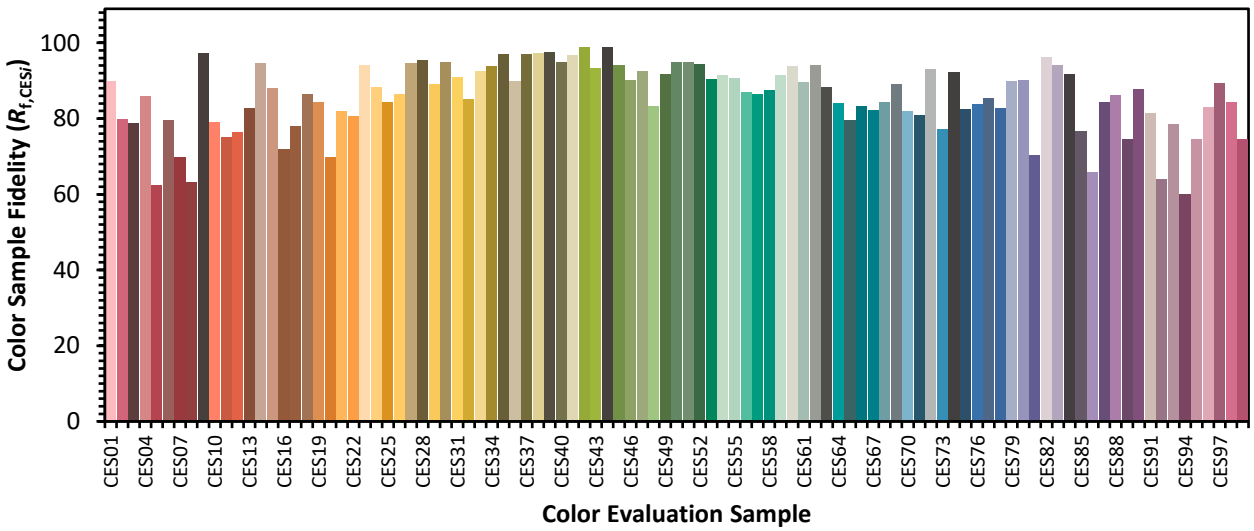


REPORT NUMBER: SP1-2407-176-7

TM-30-18

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

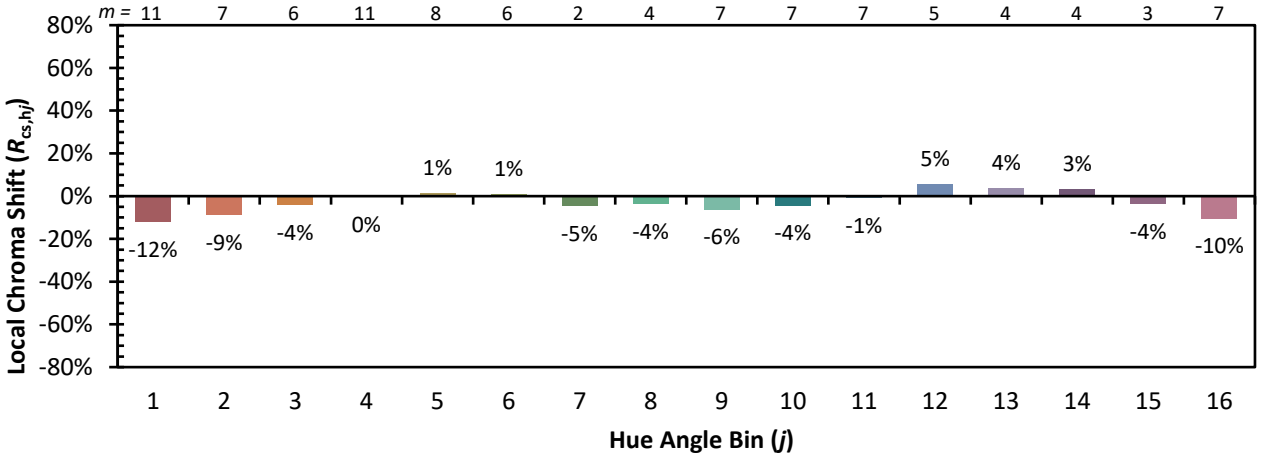
CES01 = 86	CES26 = 86	CES51 = 95	CES76 = 84
CES02 = 63	CES27 = 95	CES52 = 94	CES77 = 86
CES03 = 31	CES28 = 95	CES53 = 90	CES78 = 83
CES04 = 70	CES29 = 89	CES54 = 91	CES79 = 90
CES05 = 50	CES30 = 95	CES55 = 91	CES80 = 90
CES06 = 51	CES31 = 91	CES56 = 87	CES81 = 70
CES07 = 42	CES32 = 85	CES57 = 86	CES82 = 96
CES08 = 41	CES33 = 93	CES58 = 87	CES83 = 94
CES09 = 29	CES34 = 94	CES59 = 92	CES84 = 92
CES10 = 76	CES35 = 97	CES60 = 94	CES85 = 77
CES11 = 59	CES36 = 90	CES61 = 90	CES86 = 66
CES12 = 65	CES37 = 97	CES62 = 94	CES87 = 84
CES13 = 43	CES38 = 97	CES63 = 88	CES88 = 86
CES14 = 74	CES39 = 98	CES64 = 84	CES89 = 75
CES15 = 72	CES40 = 95	CES65 = 80	CES90 = 88
CES16 = 47	CES41 = 97	CES66 = 83	CES91 = 81
CES17 = 50	CES42 = 99	CES67 = 82	CES92 = 64
CES18 = 56	CES43 = 93	CES68 = 84	CES93 = 79
CES19 = 72	CES44 = 99	CES69 = 89	CES94 = 60
CES20 = 67	CES45 = 94	CES70 = 82	CES95 = 74
CES21 = 87	CES46 = 90	CES71 = 81	CES96 = 83
CES22 = 79	CES47 = 93	CES72 = 93	CES97 = 89
CES23 = 92	CES48 = 83	CES73 = 77	CES98 = 84
CES24 = 91	CES49 = 92	CES74 = 92	CES99 = 75
CES25 = 72	CES50 = 95	CES75 = 83	

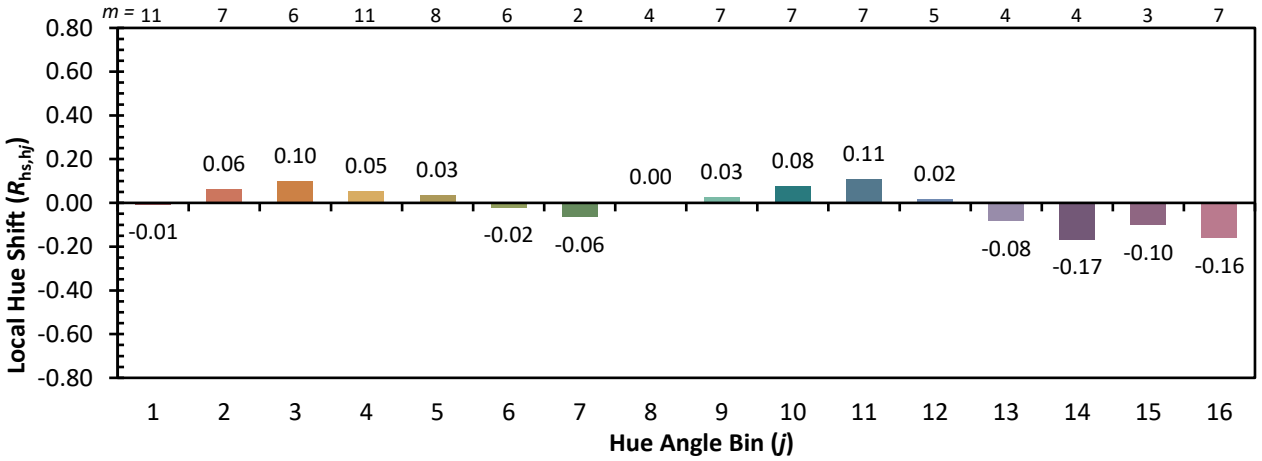


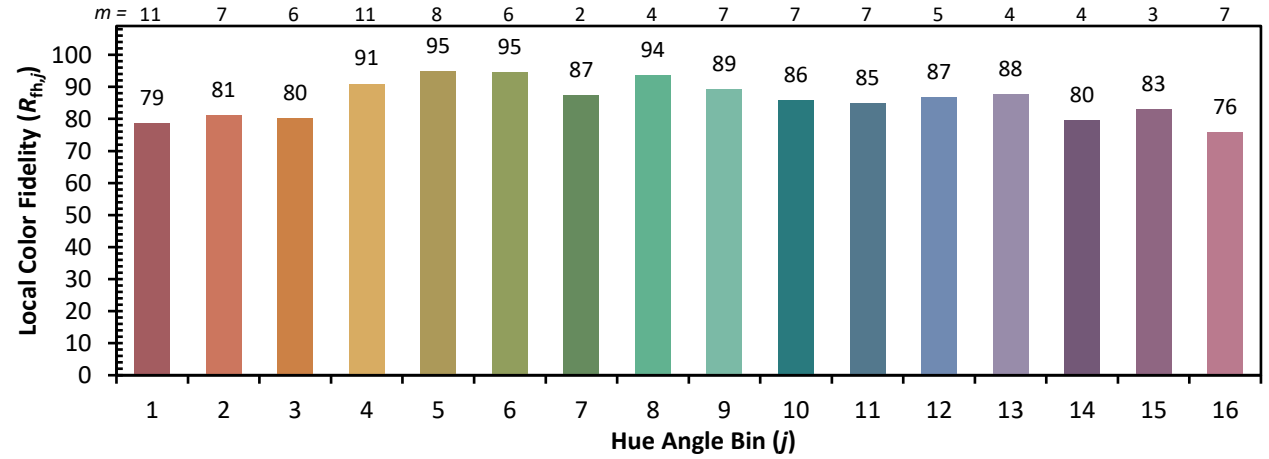
REPORT NUMBER: SP1-2407-176-7

TM-30-18

Color Rendition by Hue-Angle Bin



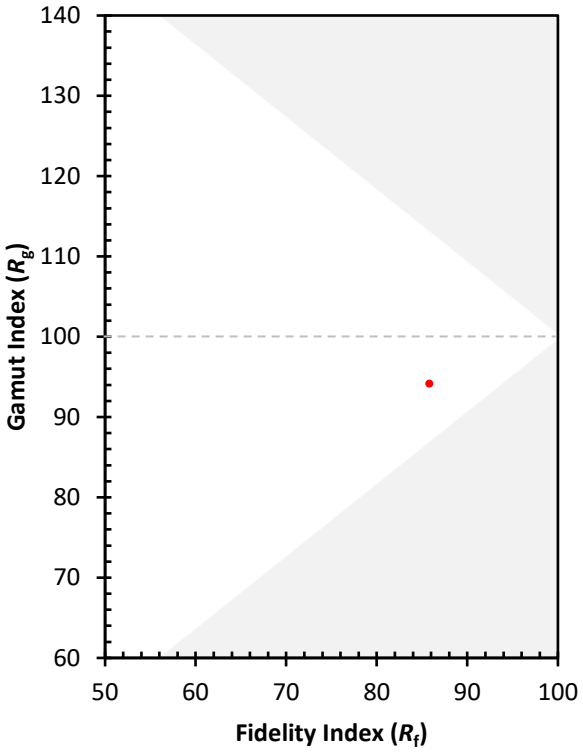


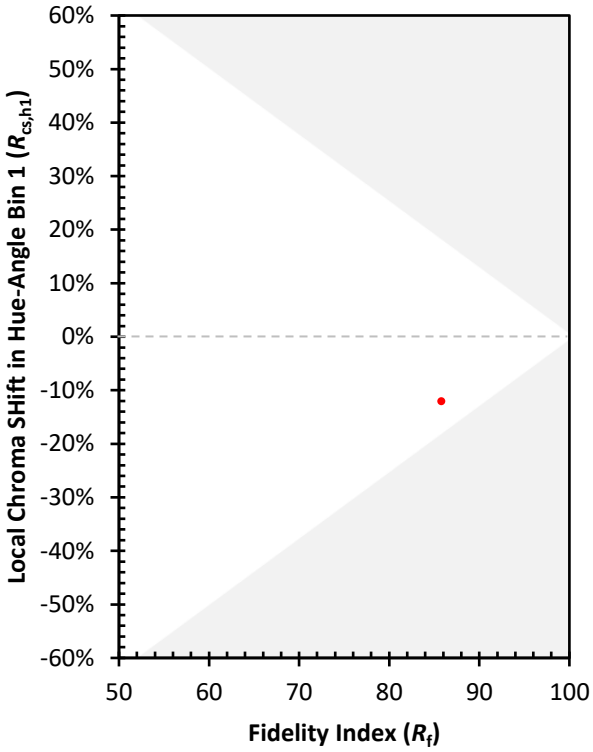


REPORT NUMBER: SP1-2407-176-7

TM-30-18

Measure Comparisons





(END OF REPORT)