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: P821438

Luminaire Tested: **TT-D1-830-12VDC-WQ-HSS**

Issue Date: 12/2/2020

Report Generated By 670245763

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Peachtree City, GA 30269

Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P821438
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2010-017-2)
Test Lab:	INNOVATION CENTER
Issue Date:	12/2/2020
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	McGRAW-EDISON
Catalog Number:	TT-D1-830-12VDC-WQ-HSS
Description:	TOPTIER LED PARKING GARAGE LUMINAIRE
	3000K, 80 CRI LEDS AND WIDE DISTRIBUTION WITH HOUSE SIDE SHIELD
Light Source:	-
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	2777.9 lumens
Efficiency:	N/A
Efficacy:	99.2 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type IV - Short
BUG Rating:	B1 - U1 - G2

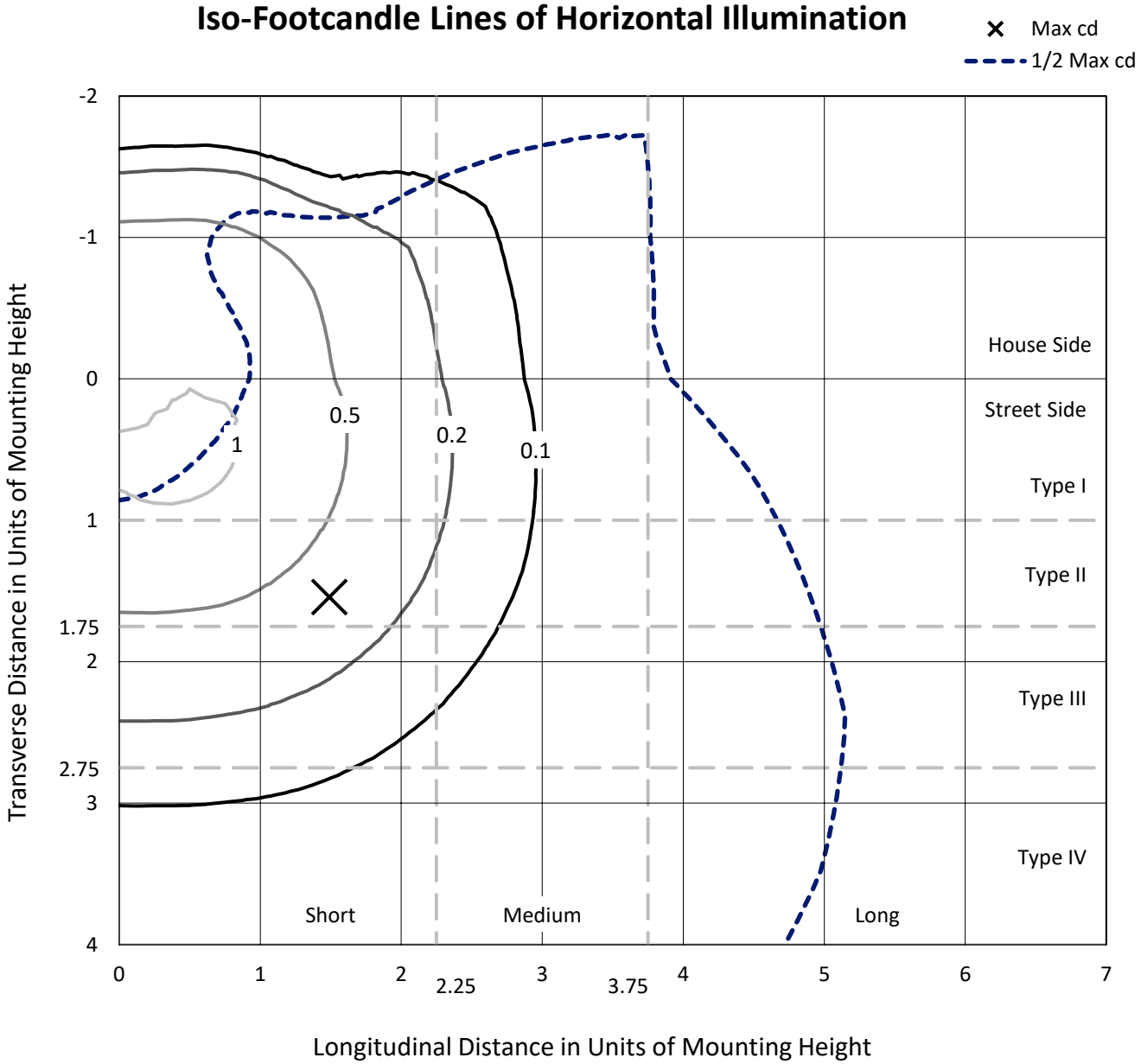
Input Watts (W):	28
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	25 FT

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Iso-Footcandle Lines of Horizontal Illumination



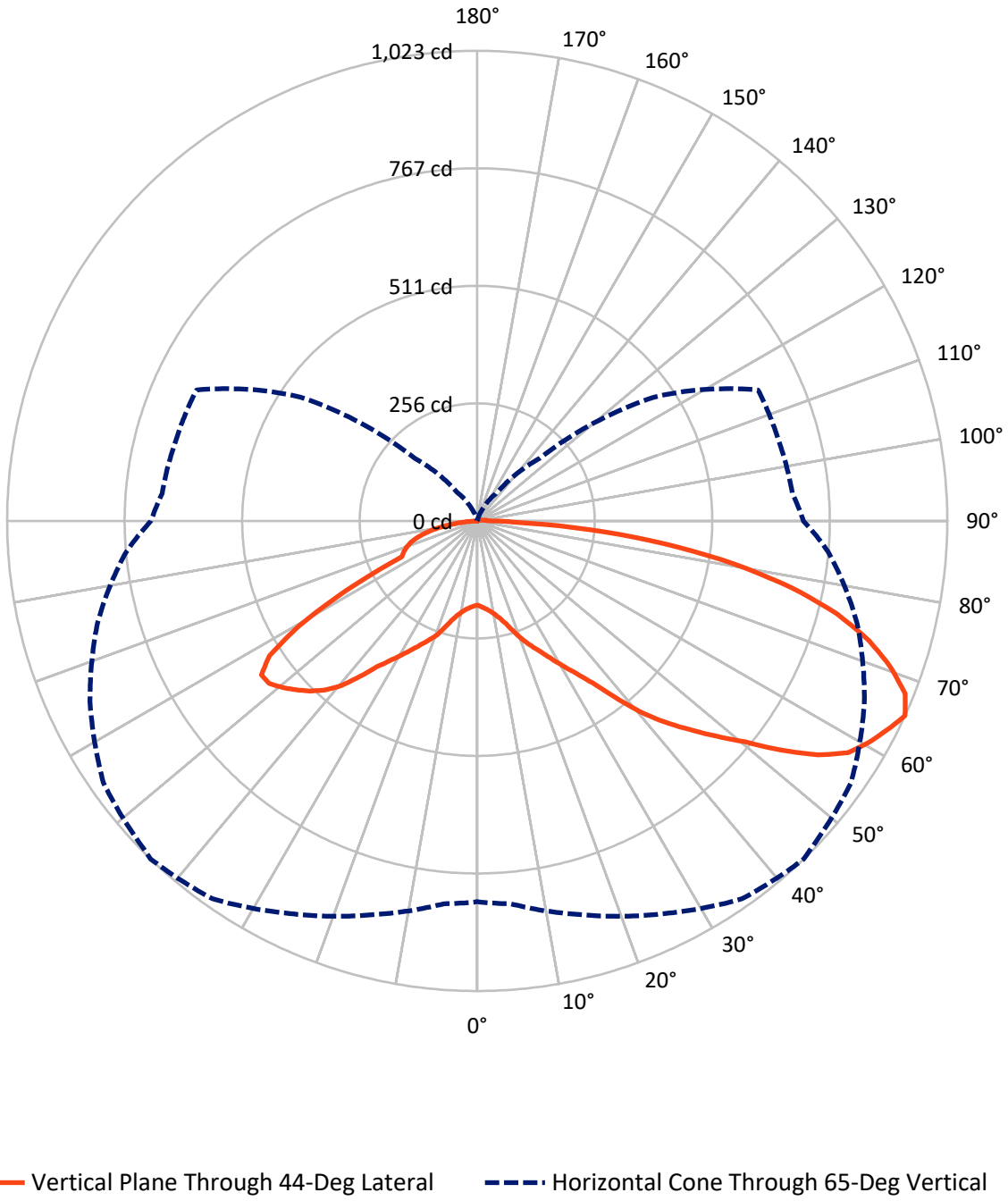
Based on 15 foot mounting height. Maximum calculated value = 1.1 fc
Type IV - Short - N/A

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Luminous Intensity Polar Plot



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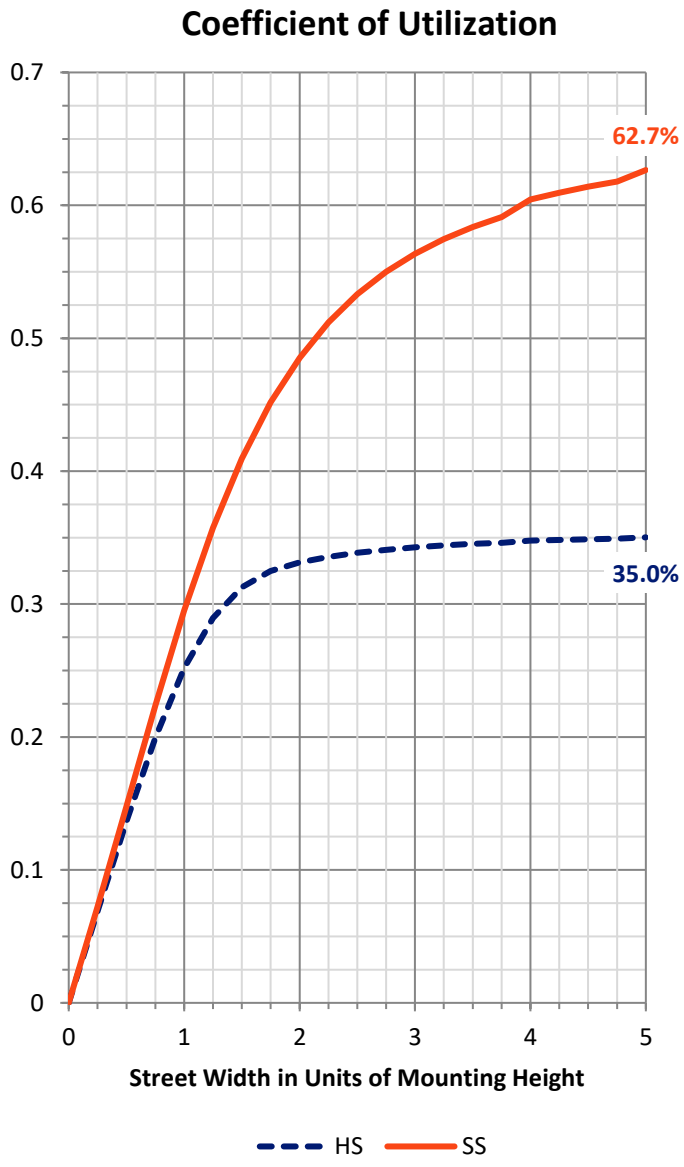
REPORT NUMBER: P821438
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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	978.5	0.6	979.1
	% Fixture	35.2	0.0	35.2
Street Side	Lumens	1787.6	11.2	1798.8
	% Fixture	64.4	0.4	64.8
Total	Lumens	2766.1	11.8	2777.9
	% Fixture	99.6	0.4	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	18.6	0.7
10°-20°	66.0	2.4
20°-30°	141.4	5.1
30°-40°	256.1	9.2
40°-50°	427.3	15.4
50°-60°	591.9	21.3
60°-70°	613.4	22.1
70°-80°	493.6	17.8
80°-90°	157.9	5.7
90°-100°	8.0	0.3
100°-110°	2.5	0.1
110°-120°	0.5	0.0
120°-130°	0.3	0.0
130°-140°	0.2	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°	2766.1	99.6
0°-180°	2777.9	100.0



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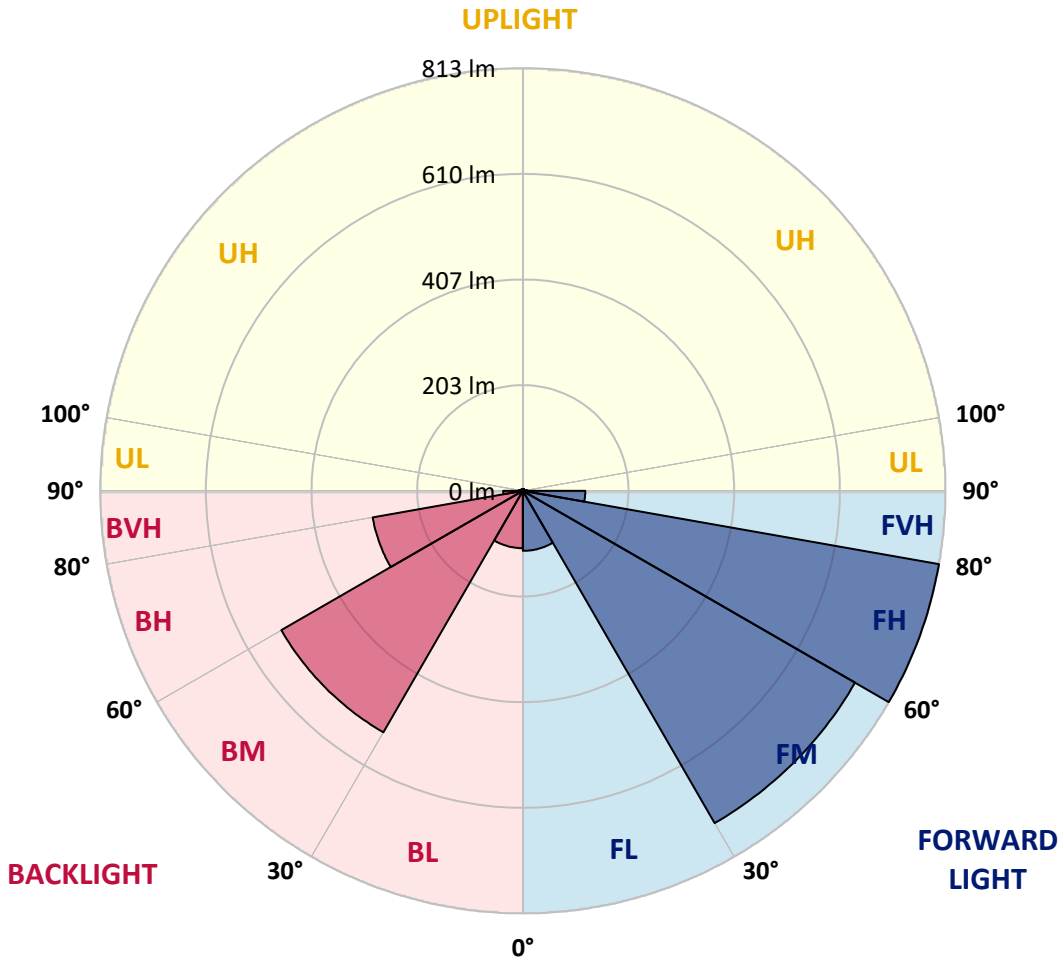
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	115.5	4.2			
FM	(30°-60°)	738.5	26.6			
FH	(60°-80°)	813.4	29.3			G1/1800
FVH	(80°-90°)	120.1	4.3			G2/225
BL	(0°-30°)	110.5	4.0	B1/500		
BM	(30°-60°)	536.7	19.3	B1/1000		
BH	(60°-80°)	293.5	10.6	B1/500		G1/500
BVH	(80°-90°)	37.8	1.4			G1/100
UL	(90°-100°)	8.0	0.3		U1/10	
UH	(100°-180°)	3.8	0.1		U1/10	

BUG Rating: B1-U1-G2
Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	183.3	183.3	183.3	183.3	183.3	*183.3*	183.3	183.3	183.3	183.3	183.3
2.5°	188.7	188.2	188.2	187.6	187.6	*187.6*	187.6	187.6	187.1	186.6	186.0
5°	193.6	193.6	193.1	193.1	192.5	*192.0*	192.5	192.0	191.4	190.9	190.4
7.5°	200.1	199.6	199.6	198.5	198.5	*198.0*	198.0	198.0	197.4	196.3	195.8
10°	209.3	208.3	208.3	207.2	206.6	*206.1*	206.1	205.0	205.0	204.5	203.9
12.5°	219.6	218.6	219.6	219.1	218.0	*216.9*	216.9	215.9	215.3	214.8	212.6
15°	233.2	231.6	232.7	232.7	232.1	*231.6*	231.6	229.4	228.3	227.2	225.1
17.5°	249.5	248.4	248.9	249.5	251.1	*251.1*	251.6	248.9	246.8	243.0	241.3
20°	270.1	269.5	271.2	271.2	272.8	*272.8*	273.3	270.6	266.8	264.1	260.9
22.5°	290.2	290.2	292.3	292.3	293.9	*292.9*	292.9	291.8	287.4	284.2	280.9
25°	310.8	310.2	312.4	314.0	316.2	*313.5*	314.6	312.9	308.6	304.3	299.9
27.5°	333.5	332.5	333.5	335.7	339.5	*337.3*	338.4	335.7	331.4	325.4	321.6
30°	358.5	356.9	358.5	361.7	364.5	*365.5*	365.0	361.2	357.4	348.7	346.0
32.5°	382.9	382.9	386.7	392.7	395.9	*395.4*	395.9	392.7	387.2	376.4	369.9
35°	412.7	414.9	419.8	428.4	435.5	*432.8*	432.8	431.7	422.5	409.5	400.8
37.5°	452.3	454.5	464.2	474.5	487.6	*486.5*	487.0	483.8	465.9	452.3	439.8
40°	498.4	500.6	515.2	529.9	542.3	*546.1*	546.7	539.6	520.1	500.6	481.1
42.5°	540.7	543.4	558.6	579.2	592.8	*598.7*	599.8	588.4	567.8	545.6	521.2
45°	583.0	586.3	603.6	625.3	644.8	*647.6*	648.1	638.3	615.6	590.1	558.6
47.5°	626.4	629.1	647.0	673.0	694.2	*699.6*	700.2	690.9	663.3	632.4	595.5
50°	666.0	671.4	695.8	723.5	751.7	*756.0*	756.6	746.3	713.7	679.0	630.2
52.5°	712.6	715.3	741.4	787.5	811.3	*828.2*	828.7	808.6	773.9	727.3	664.4
55°	766.9	771.7	798.3	844.4	887.3	*898.7*	901.9	878.0	831.9	781.5	707.8
57.5°	798.3	807.5	846.6	890.5	944.2	*951.8*	953.4	928.5	877.5	822.2	740.3
60°	815.1	820.6	861.8	930.1	971.9	*978.9*	978.4	959.4	908.4	841.2	755.5
62.5°	834.1	843.3	878.0	947.5	983.8	*1001.2*	998.4	978.9	926.9	853.1	770.1
65°	*828.7*	*836.3*	*887.3*	*943.7*	*1003.9*	*1022.9*	*1019.1*	*993.0*	*929.6*	*855.3*	*766.3*
67.5°	807.0	813.0	863.4	933.4	990.9	*1004.4*	1010.9	985.4	914.4	831.9	742.5
70°	762.5	771.7	820.6	892.1	944.8	*954.5*	955.6	939.9	875.9	789.1	702.9
72.5°	701.2	708.8	762.0	834.7	880.2	*891.6*	892.7	868.8	820.6	730.5	645.9
75°	628.0	635.1	676.3	752.2	797.2	*808.6*	807.5	785.3	734.3	649.2	570.5
77.5°	537.5	550.5	586.8	649.2	693.1	*699.1*	700.2	675.8	634.5	560.8	484.3
80°	424.1	436.6	477.8	524.4	561.3	*566.2*	567.8	547.2	509.8	444.7	379.6
82.5°	301.5	312.4	344.9	382.9	413.8	*413.8*	414.9	398.1	369.3	313.5	262.5
85°	171.9	180.1	201.7	228.9	251.1	*248.4*	248.9	233.7	214.8	171.4	138.8
87.5°	56.4	60.2	65.1	75.4	85.7	*79.2*	82.4	68.3	61.8	46.1	35.8
90°	29.8	29.8	28.7	27.7	25.5	*22.2*	22.2	17.9	13.6	8.7	3.3
92.5°	27.1	27.1	26.0	24.9	22.8	*20.1*	20.1	16.3	11.9	7.6	2.7
95°	22.2	22.2	21.7	20.6	19.0	*16.8*	16.3	13.6	10.3	6.0	2.2
97.5°	17.4	17.4	16.8	16.3	14.6	*13.0*	13.0	10.3	7.6	4.9	1.6
100°	13.0	13.0	13.0	11.9	11.4	*9.8*	9.8	8.1	6.0	3.8	1.1
102.5°	9.2	9.8	9.2	8.7	8.1	*7.1*	7.1	6.0	4.3	2.7	1.1
105°	6.5	6.5	6.0	6.0	5.4	*4.9*	4.9	3.8	2.7	1.6	0.5
107.5°	3.8	3.8	3.8	3.8	3.3	*3.3*	3.3	2.7	1.6	1.1	0.5
110°	2.2	2.2	2.2	2.2	1.6	*1.6*	1.6	1.1	1.1	0.5	0.5

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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
112.5°	1.1	1.1	1.1	1.1	1.1	*1.1*	1.1	0.5	0.5	0.5	0.5
115°	0.5	0.5	0.5	1.1	0.5	*0.5*	0.5	0.5	0.5	0.5	0.5
117.5°	0.5	0.5	0.5	0.5	0.5	*0.5*	0.5	0.5	0.5	0.5	0.5
120°	0.0	0.0	0.5	0.5	0.5	*0.5*	0.5	0.5	0.5	0.5	0.5
122.5°	0.0	0.0	0.5	0.5	0.5	*0.5*	0.5	0.5	0.5	0.5	0.5
125°	0.0	0.0	0.5	0.5	0.5	*0.5*	0.5	0.5	0.5	0.5	0.5
127.5°	0.0	0.0	0.0	0.5	0.5	*0.5*	0.5	0.5	0.5	0.5	0.5
130°	0.0	0.0	0.0	0.5	0.5	*0.5*	0.5	0.5	0.5	0.5	0.5
132.5°	0.0	0.0	0.0	0.5	0.5	*0.5*	0.5	0.5	0.5	0.5	0.5
135°	0.0	0.0	0.0	0.0	0.5	*0.5*	0.5	0.5	0.5	0.5	0.5
137.5°	0.0	0.0	0.0	0.0	0.0	*0.0*	0.5	0.5	0.5	0.5	0.5
140°	0.5	0.5	0.0	0.0	0.0	*0.0*	0.5	0.5	0.5	0.5	0.5
142.5°	0.5	0.5	0.5	0.0	0.0	*0.5*	0.5	0.5	0.5	0.5	0.5
145°	0.5	0.5	0.0	0.0	0.0	*0.0*	0.0	0.5	0.5	0.5	0.5
147.5°	0.5	0.5	0.5	0.0	0.0	*0.5*	0.5	0.5	0.5	0.5	0.5
150°	0.5	0.5	0.0	0.0	0.0	*0.0*	0.5	0.5	0.5	0.5	0.5
152.5°	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0	0.5	0.5	0.5	0.5
155°	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0	0.0	0.5	0.5	0.5
157.5°	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0	0.5	0.5	0.5	0.5
160°	0.5	0.0	0.0	0.0	0.0	*0.0*	0.0	0.5	0.5	0.5	0.5
162.5°	0.5	0.5	0.0	0.0	0.0	*0.0*	0.0	0.5	0.5	0.5	0.5
165°	0.5	0.0	0.0	0.0	0.0	*0.0*	0.5	0.5	0.5	0.5	0.5
167.5°	0.5	0.5	0.0	0.0	0.0	*0.0*	0.5	0.5	0.5	0.5	0.5
170°	0.5	0.0	0.0	0.0	0.0	*0.5*	0.0	0.5	0.5	0.5	0.5
172.5°	0.5	0.5	0.0	0.0	0.0	*0.0*	0.5	0.5	0.5	0.5	0.5
175°	0.5	0.5	0.5	0.0	0.0	*0.0*	0.5	0.5	0.5	0.5	0.5
177.5°	0.0	0.5	0.0	0.0	0.0	*0.0*	0.0	0.5	0.5	0.5	0.5
180°	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0	0.0	0.0	0.0	0.0

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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	183.3	183.3	183.3	183.3	183.3	183.3	183.3	183.3	183.3	183.3	183.3
2.5°	186.0	186.0	185.5	184.9	184.9	184.9	184.4	184.4	184.4	183.9	183.9
5°	190.4	189.8	189.8	189.3	189.3	188.7	188.7	188.2	187.6	187.6	187.1
7.5°	196.3	195.8	194.7	195.2	194.2	193.6	193.1	193.1	193.1	192.5	192.5
10°	203.4	203.4	202.3	202.3	201.2	200.7	200.1	200.1	200.7	200.7	200.1
12.5°	212.6	212.1	212.1	211.5	211.0	210.4	211.0	211.0	210.4	209.9	209.3
15°	224.0	224.0	224.0	224.5	224.0	224.0	224.0	223.4	222.4	221.3	221.3
17.5°	241.3	240.8	239.7	240.3	241.3	243.0	241.3	239.7	238.1	238.1	237.5
20°	259.2	259.8	259.8	260.3	261.9	263.6	261.4	260.3	259.2	258.2	257.1
22.5°	278.8	279.3	279.3	278.8	279.8	279.3	278.2	277.1	276.1	274.4	273.3
25°	297.7	298.3	297.7	297.2	297.7	296.1	294.5	292.9	290.2	287.4	287.4
27.5°	318.9	318.4	316.2	316.7	315.6	314.6	311.3	307.5	303.7	301.0	301.0
30°	341.1	341.1	336.8	339.0	336.8	336.2	329.2	324.3	318.9	315.1	314.6
32.5°	365.5	364.5	361.2	363.4	361.2	359.0	350.4	343.8	334.6	329.2	328.7
35°	394.8	392.1	389.4	391.6	391.6	385.6	376.9	365.0	352.0	345.5	344.9
37.5°	430.6	429.0	425.7	428.4	430.6	424.7	411.6	394.3	375.8	366.1	365.5
40°	470.2	468.0	466.4	470.2	471.8	465.9	448.5	424.1	399.2	385.1	382.9
42.5°	507.6	502.7	500.0	505.5	503.8	497.3	473.5	445.3	411.1	394.8	392.1
45°	541.3	535.8	532.0	536.9	534.7	521.7	495.2	457.2	416.0	395.9	392.7
47.5°	574.3	566.2	560.2	566.7	562.4	542.3	509.8	463.2	410.6	386.7	381.3
50°	602.5	592.8	589.0	596.6	590.1	561.9	520.1	460.4	397.0	362.3	353.6
52.5°	636.2	621.5	617.7	632.4	617.7	580.3	522.3	453.9	366.1	324.3	316.2
55°	670.3	654.1	648.1	661.7	639.4	584.1	511.4	416.5	319.4	275.0	263.0
57.5°	688.2	673.0	667.6	677.4	636.2	547.2	463.2	347.1	249.5	199.6	186.6
60°	704.5	677.9	670.9	683.9	602.5	461.5	358.5	248.9	150.8	113.3	103.6
62.5°	715.9	690.4	675.8	681.7	540.7	335.7	206.1	119.9	56.9	39.6	39.0
65°	*709.9*	*688.2*	*678.5*	*674.1*	*469.7*	*193.1*	*75.9*	*30.4*	*1.6*	*1.6*	*1.1*
67.5°	691.5	667.6	664.9	668.7	464.8	185.5	70.5	27.7	0.0	0.0	0.0
70°	650.8	634.0	634.0	647.0	443.6	175.7	65.6	25.5	0.0	0.0	0.0
72.5°	596.0	583.0	590.6	610.1	412.2	162.2	59.1	22.8	0.0	0.0	0.0
75°	530.4	516.8	526.6	548.3	373.1	144.8	51.5	19.5	0.0	0.0	0.0
77.5°	446.9	437.7	452.9	472.9	321.1	122.0	42.3	15.7	0.0	0.0	0.0
80°	348.2	343.3	363.4	381.3	259.2	96.0	32.0	11.4	0.0	0.0	0.0
82.5°	240.3	238.1	257.6	276.1	185.5	67.2	21.7	7.6	0.0	0.0	0.0
85°	125.8	125.8	141.0	157.8	103.6	36.3	10.8	3.3	0.0	0.0	0.0
87.5°	27.7	26.6	28.7	36.9	20.6	7.1	1.6	0.5	0.0	0.0	0.0
90°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0
105°	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.5	0.5	0.5	0.5	0.5	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: P821438
CATALOG NUMBER: TT-D1-830-12VDC-WQ-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0
117.5°	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0
122.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0
125°	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.5	0.5	0.5	0.0	0.0	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

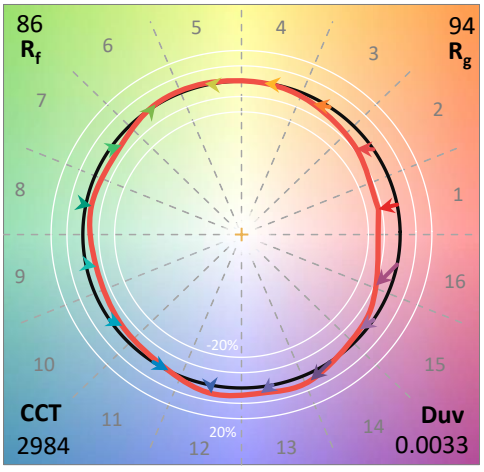
Test Information

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

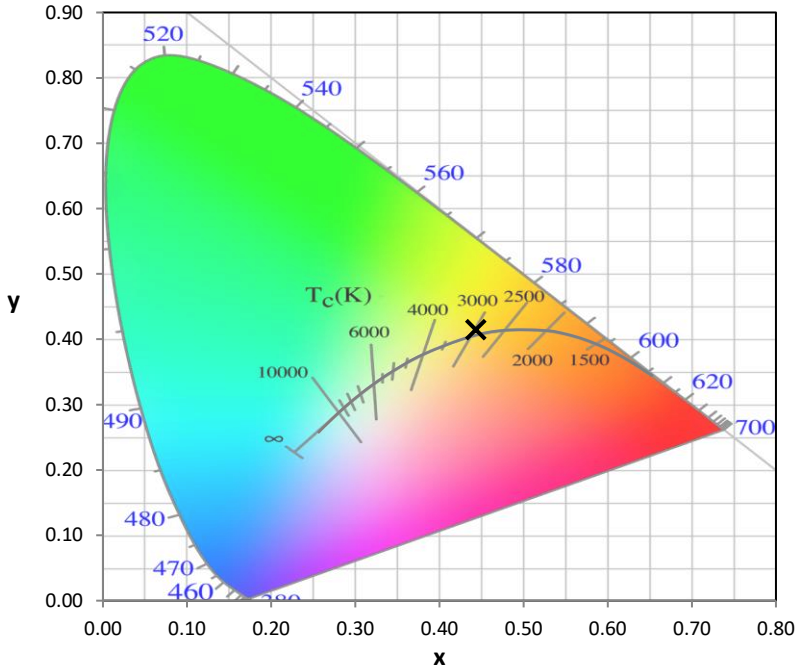
Stabilization Time:	29M
Operation Time:	1H 29M
Sphere Temperature (°C):	25.2

REPORT NUMBER: SP1-2407-176-7

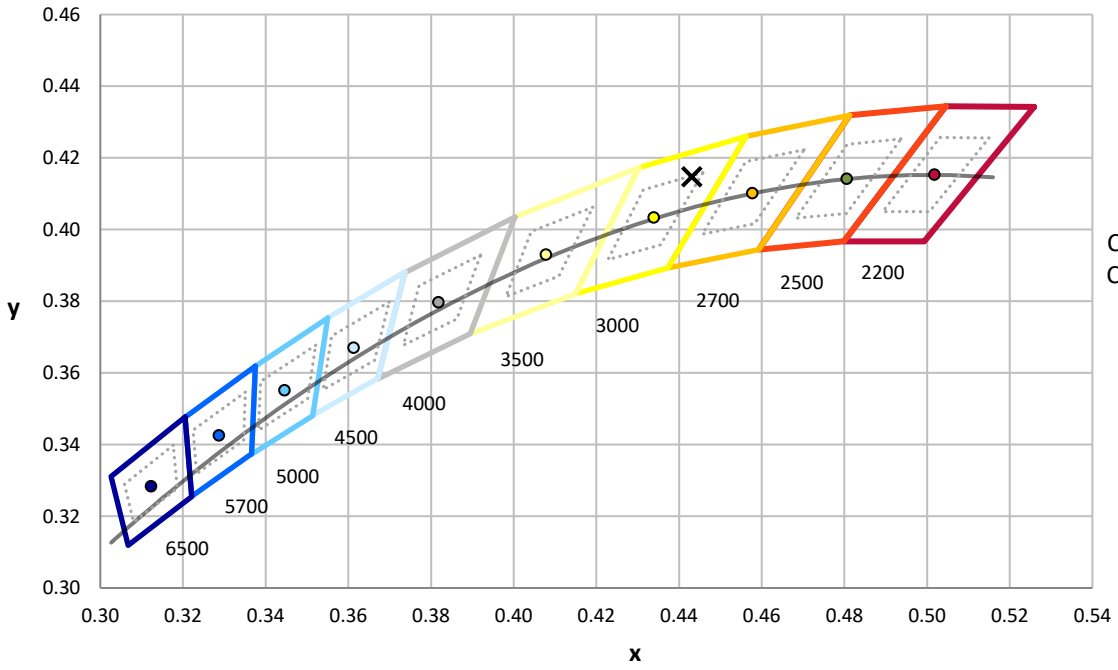
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

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CIE 1931 Chromaticity Diagram



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

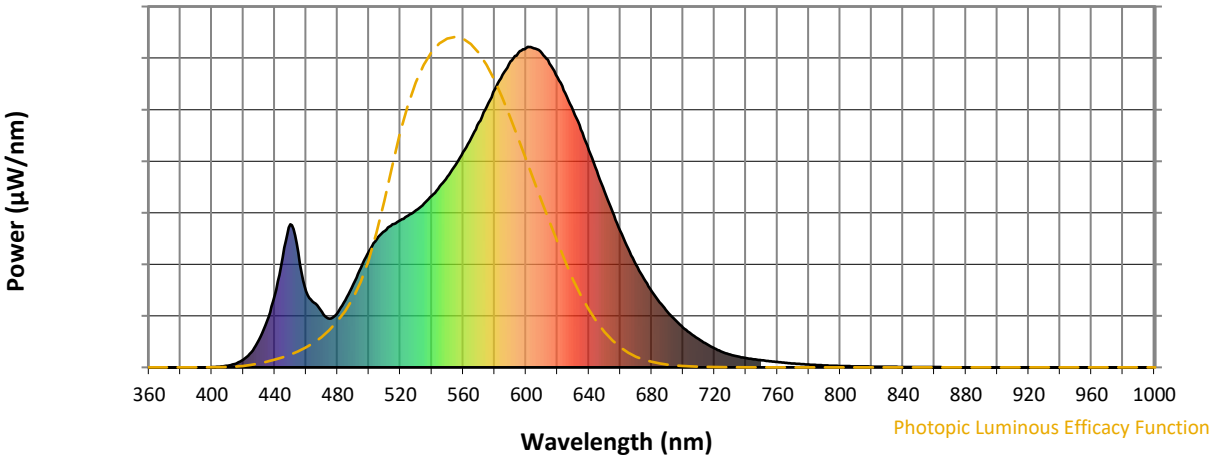


CCT = 2984K
CIE x = 0.4431
CIE y = 0.4147
Duv = 0.0033

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2407-176-7

Photopic Flux vs. Wavelength

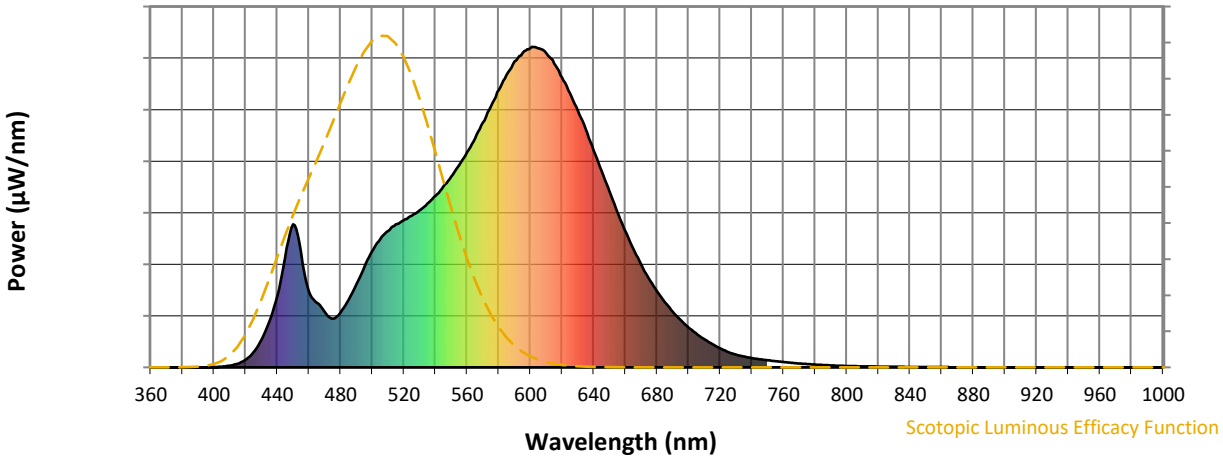


Photopic Lumens: NR

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

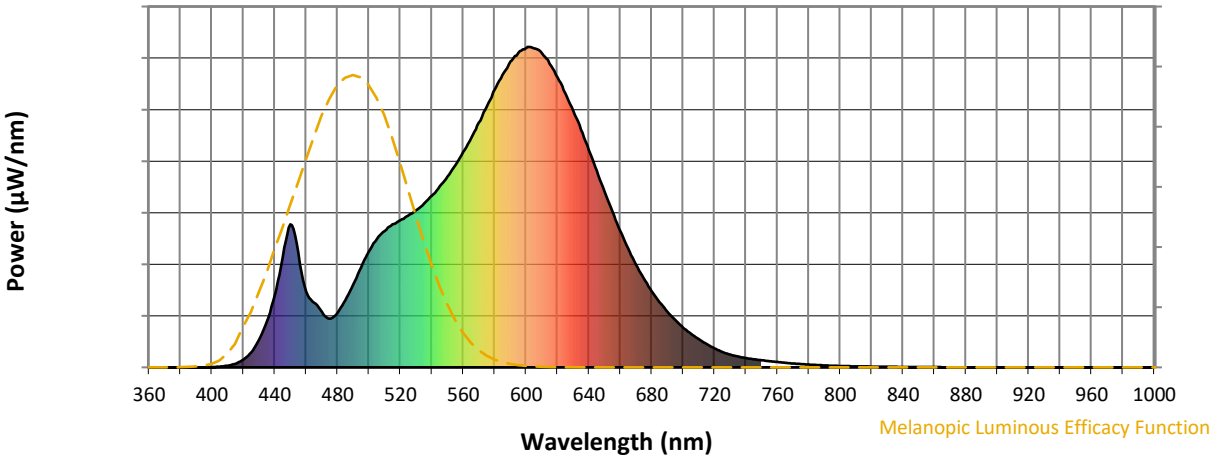


Scotopic Lumens: NR **S/P: 1.32**

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			

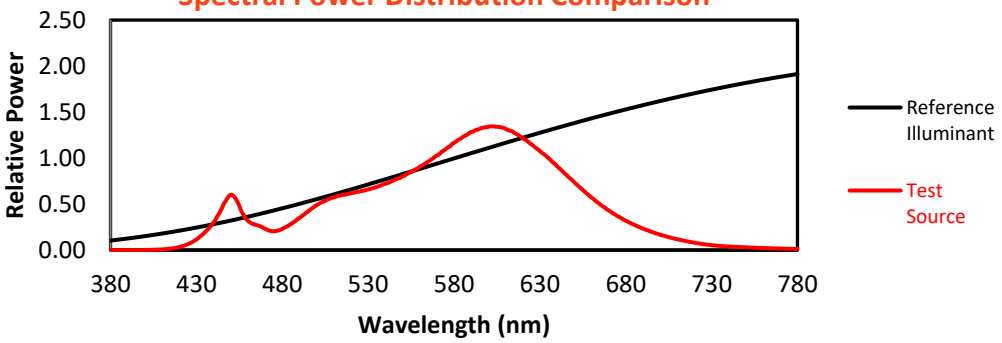
REPORT NUMBER: SP1-2407-176-7

TM-30-18

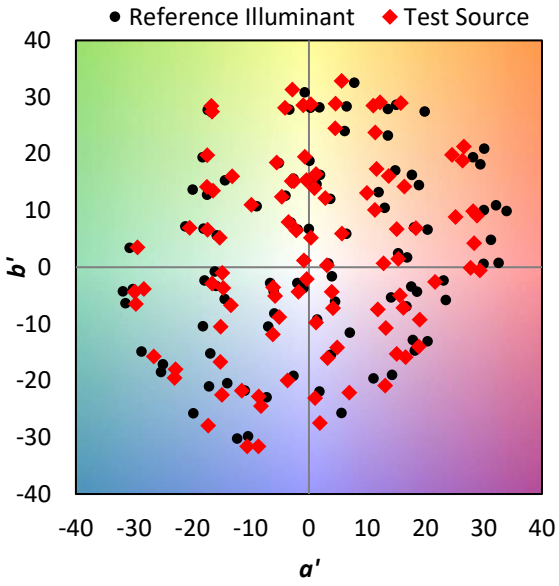
Summary

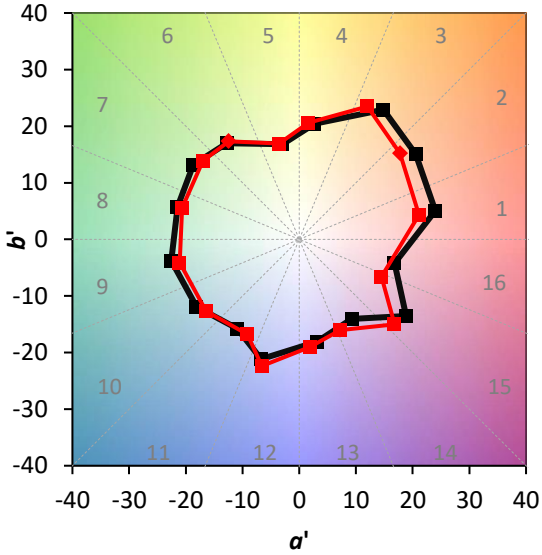
R_f = 85.8
R_g = 94.1
CIE R_a = 81.8
R_9 = -1.1

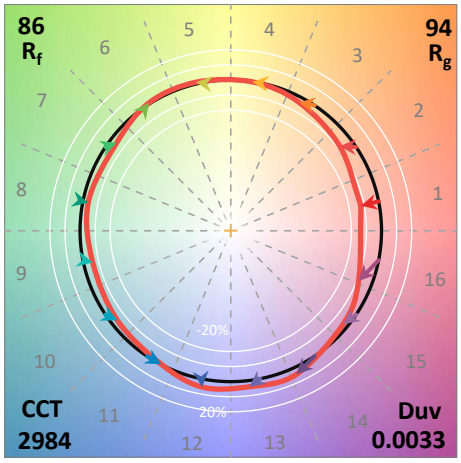
Spectral Power Distribution Comparison

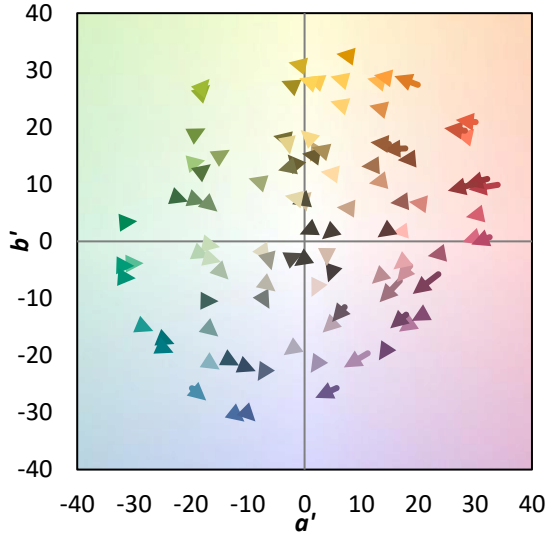


Color Vector Graphics







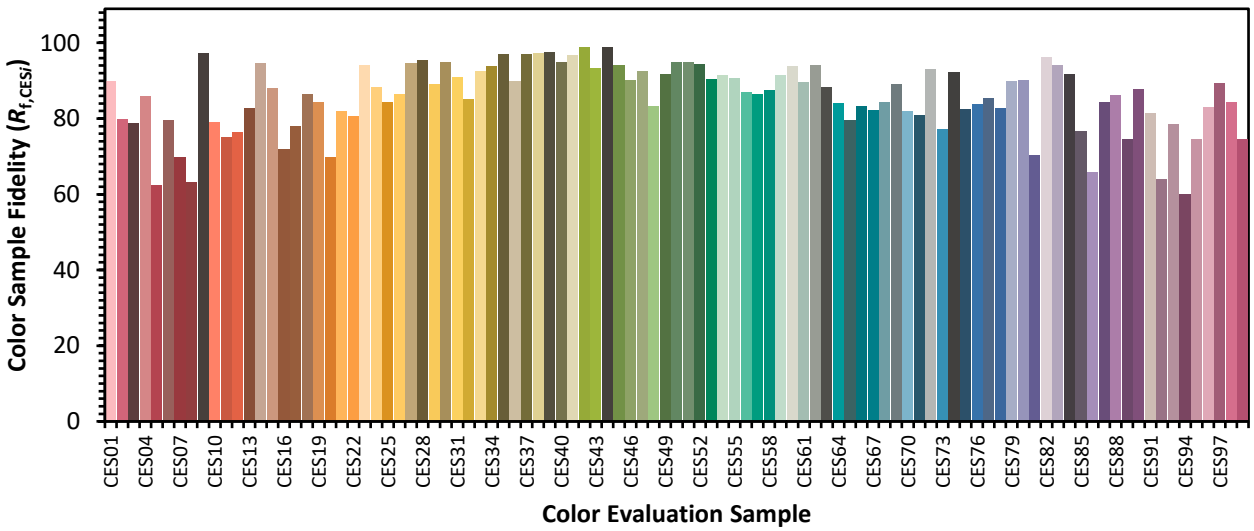


REPORT NUMBER: SP1-2407-176-7

TM-30-18

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

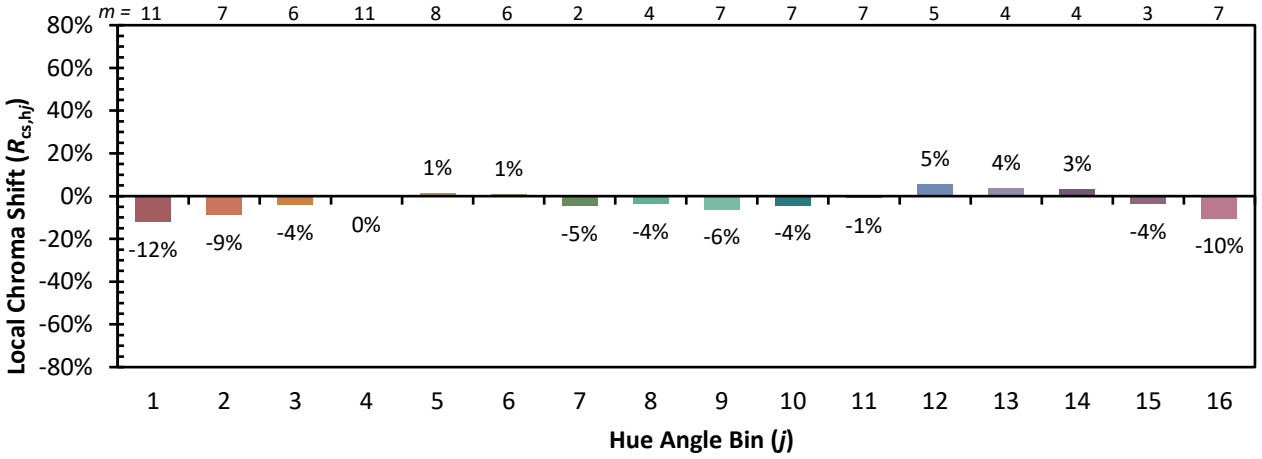
CES01 = 86	CES26 = 86	CES51 = 95	CES76 = 84
CES02 = 63	CES27 = 95	CES52 = 94	CES77 = 86
CES03 = 31	CES28 = 95	CES53 = 90	CES78 = 83
CES04 = 70	CES29 = 89	CES54 = 91	CES79 = 90
CES05 = 50	CES30 = 95	CES55 = 91	CES80 = 90
CES06 = 51	CES31 = 91	CES56 = 87	CES81 = 70
CES07 = 42	CES32 = 85	CES57 = 86	CES82 = 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	

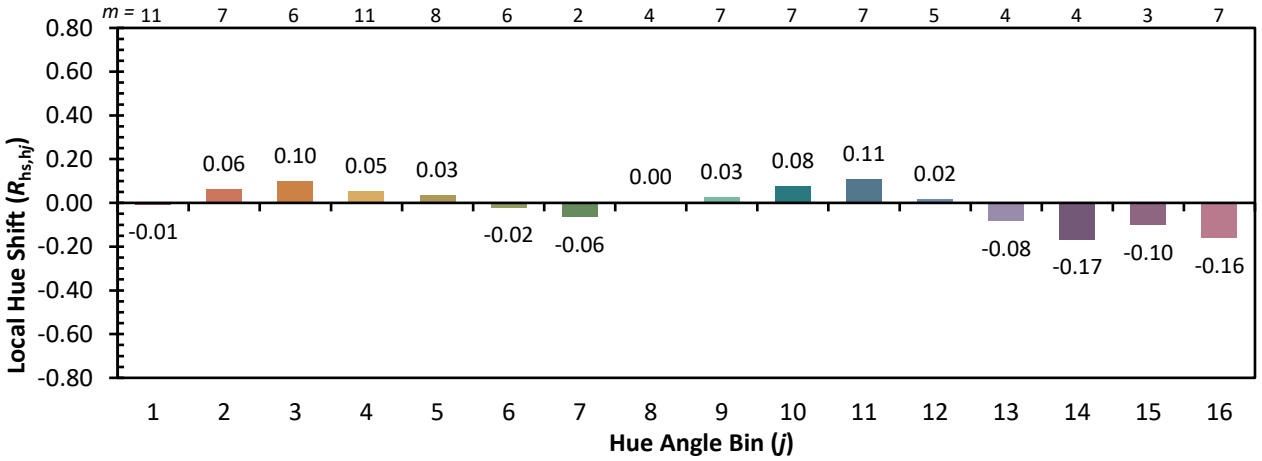


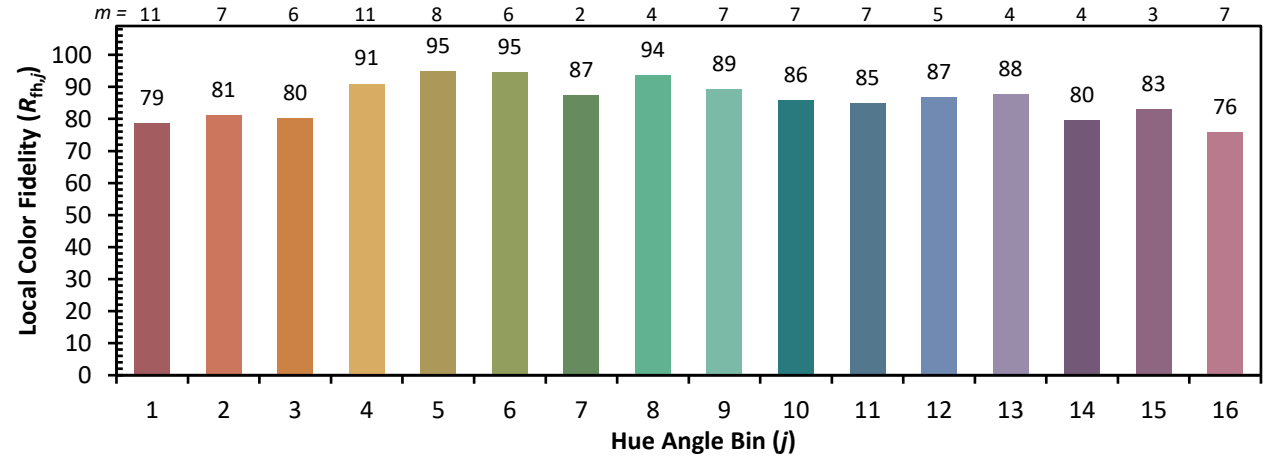
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Color Rendition by Hue-Angle Bin



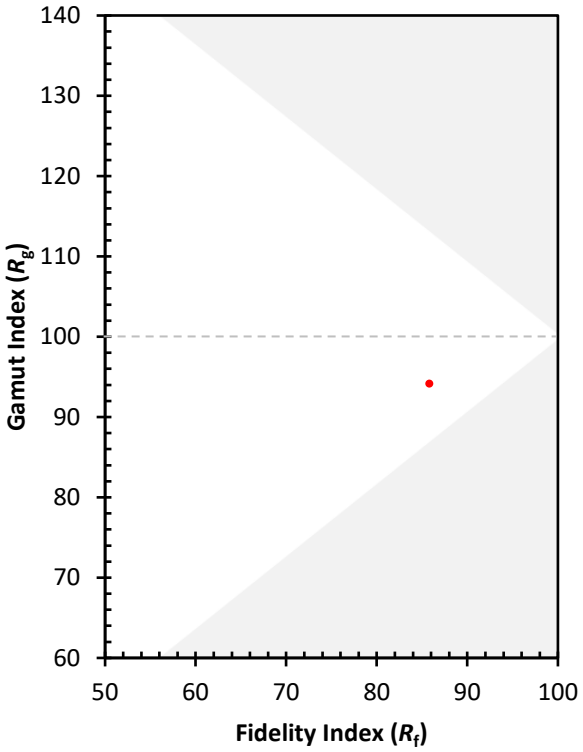


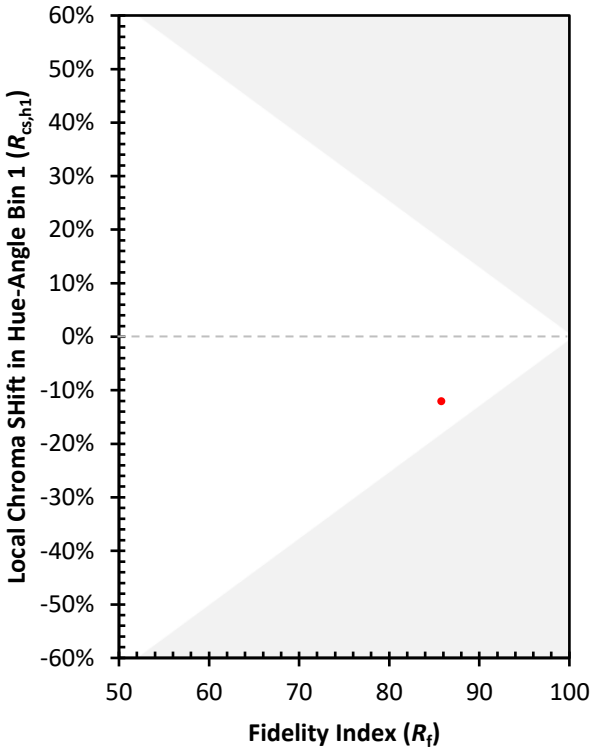


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Measure Comparisons





(END OF REPORT)