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: P821274

Luminaire Tested: **TT-D1-740-24VDC-WQ-HSS**

Issue Date: 12/2/2020

Report Generated By 670245763

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Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P821274
	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-D1-740-24VDC-WQ-HSS
Description:	TOPTIER LED PARKING GARAGE LUMINAIRE
	4000K, 70 CRI LEDS AND WIDE DISTRIBUTION WITH HOUSE SIDE SHIELD
Light Source:	-
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	3120 lumens
Efficiency:	N/A
Efficacy:	111.4 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type IV - Short
BUG Rating:	B1 - U1 - G2

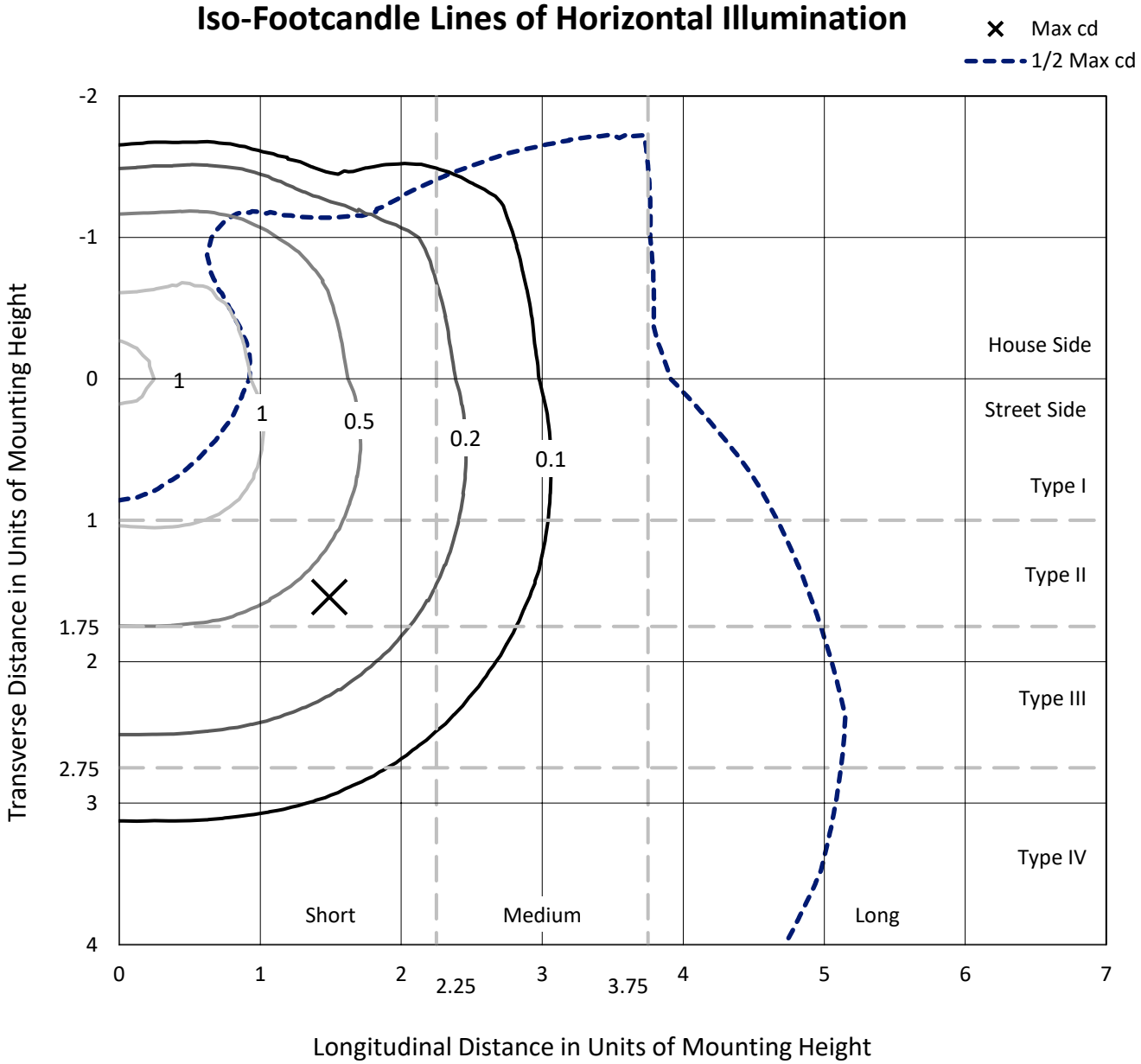
Input Watts (W):	28
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	25 FT

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Iso-Footcandle Lines of Horizontal Illumination



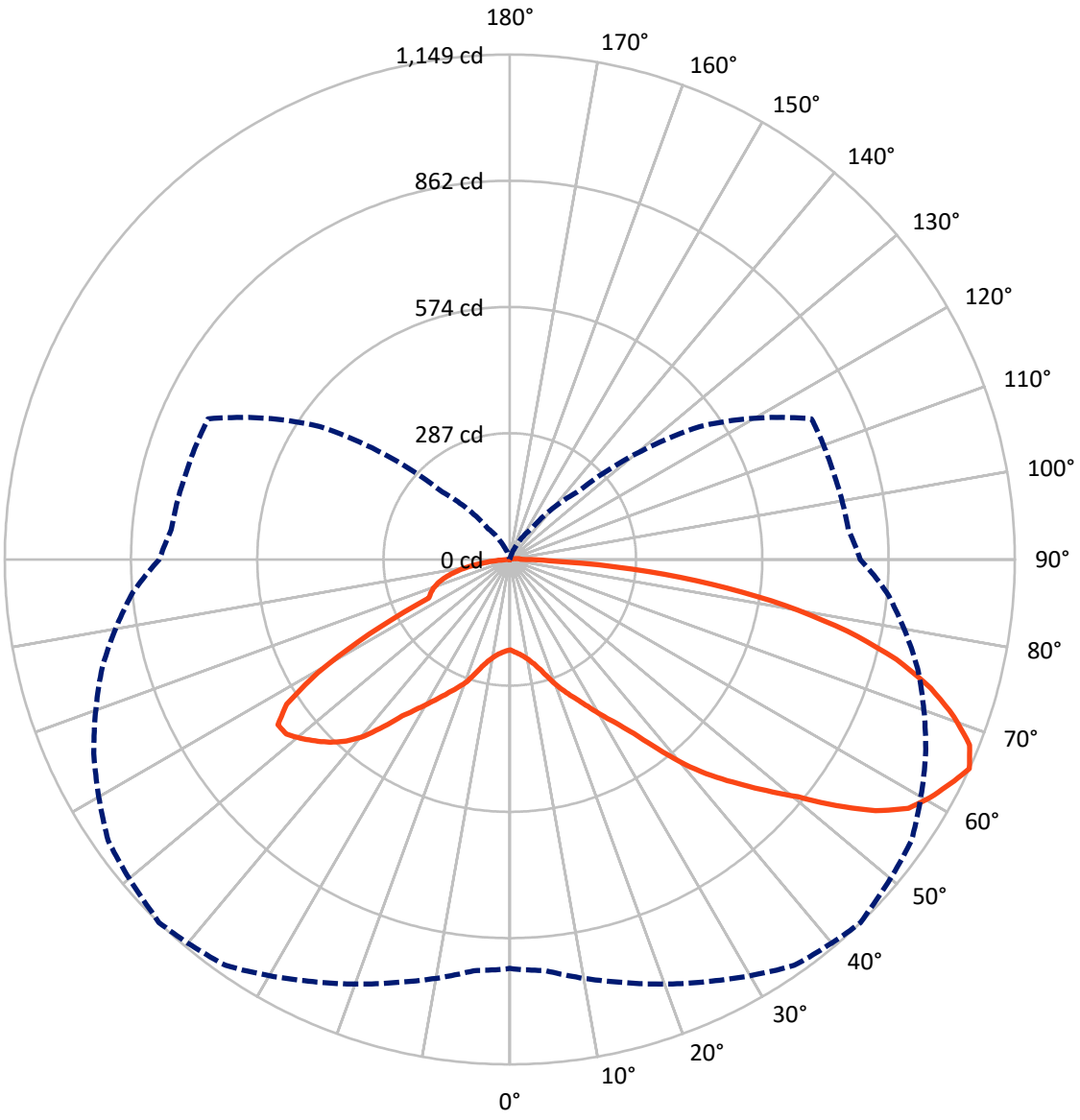
Based on 15 foot mounting height. Maximum calculated value = 1.2 fc
Type IV - Short - N/A

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Luminous Intensity Polar Plot



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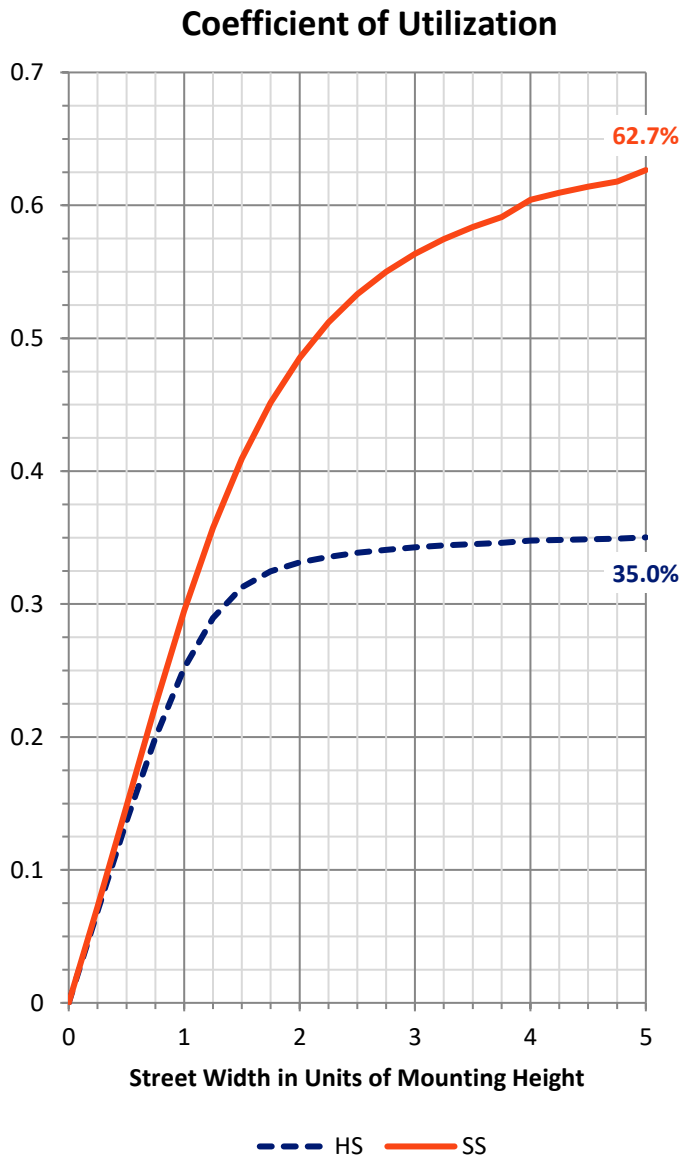
REPORT NUMBER: P821274
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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1098.9	0.7	1099.6
	% Fixture	35.2	0.0	35.2
Street Side	Lumens	2007.7	12.6	2020.3
	% Fixture	64.4	0.4	64.8
Total	Lumens	3106.6	13.3	3120.0
	% Fixture	99.6	0.4	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	20.9	0.7
10°-20°	74.1	2.4
20°-30°	158.8	5.1
30°-40°	287.6	9.2
40°-50°	479.9	15.4
50°-60°	664.7	21.3
60°-70°	688.9	22.1
70°-80°	554.4	17.8
80°-90°	177.3	5.7
90°-100°	9.0	0.3
100°-110°	2.9	0.1
110°-120°	0.6	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°	3106.6	99.6
0°-180°	3120.0	100.0



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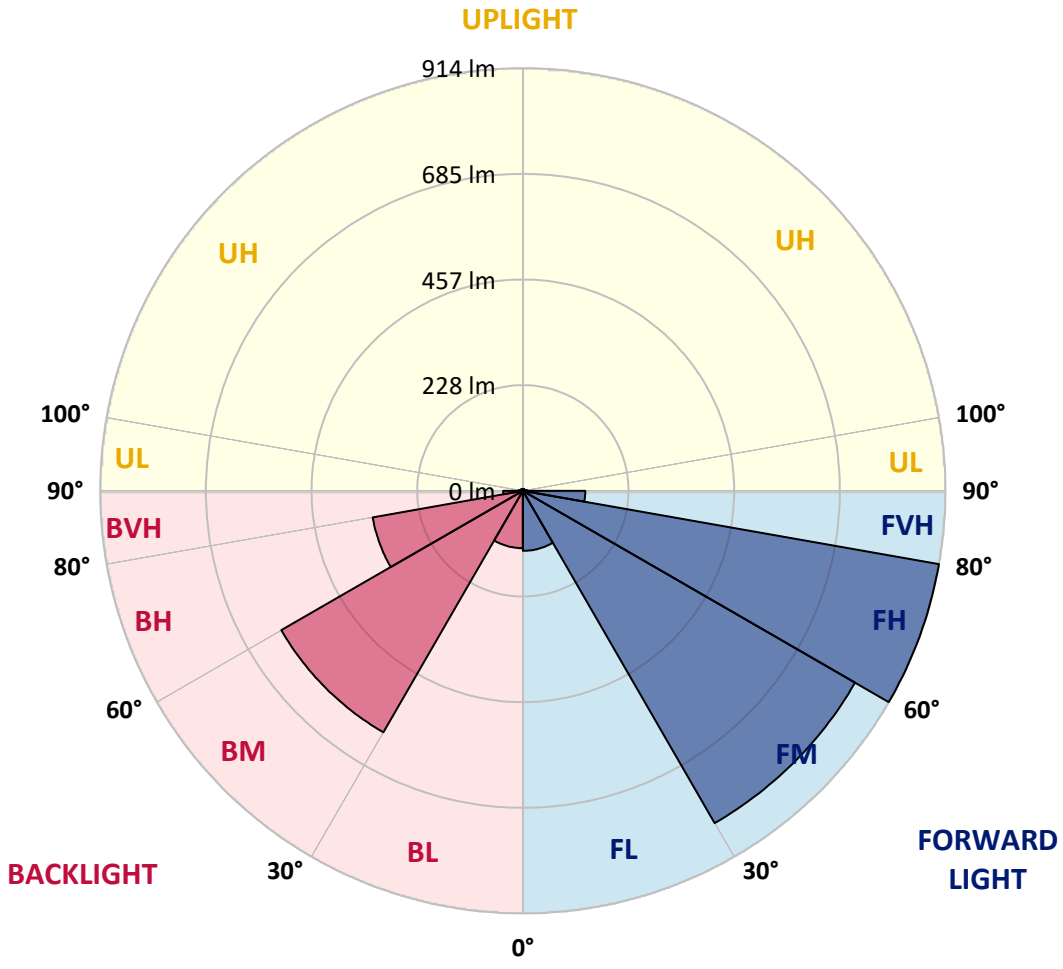
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	129.7	4.2			
FM	(30°-60°)	829.5	26.6			
FH	(60°-80°)	913.6	29.3			G1/1800
FVH	(80°-90°)	134.9	4.3			G2/225
BL	(0°-30°)	124.1	4.0	B1/500		
BM	(30°-60°)	602.8	19.3	B1/1000		
BH	(60°-80°)	329.7	10.6	B1/500		G1/500
BVH	(80°-90°)	42.4	1.4			G1/100
UL	(90°-100°)	9.0	0.3		U1/10	
UH	(100°-180°)	4.4	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°	205.9	205.9	205.9	205.9	205.9	205.9	205.9	205.9	205.9	205.9	205.9
2.5°	212.0	211.4	211.4	210.8	210.8	210.8	210.8	210.8	210.1	209.5	208.9
5°	217.5	217.5	216.8	216.8	216.2	215.6	216.2	215.6	215.0	214.4	213.8
7.5°	224.8	224.2	224.2	222.9	222.9	222.3	222.3	222.3	221.7	220.5	219.9
10°	235.1	233.9	233.9	232.7	232.1	231.5	231.5	230.2	230.2	229.6	229.0
12.5°	246.7	245.5	246.7	246.1	244.9	243.6	243.6	242.4	241.8	241.2	238.8
15°	261.9	260.1	261.3	261.3	260.7	260.1	260.1	257.7	256.4	255.2	252.8
17.5°	280.2	279.0	279.6	280.2	282.0	282.0	282.6	279.6	277.1	272.9	271.1
20°	303.3	302.7	304.6	304.6	306.4	306.4	307.0	303.9	299.7	296.6	293.0
22.5°	325.9	325.9	328.3	328.3	330.1	328.9	328.9	327.7	322.8	319.2	315.5
25°	349.0	348.4	350.8	352.7	355.1	352.1	353.3	351.5	346.6	341.7	336.8
27.5°	374.6	373.4	374.6	377.0	381.3	378.9	380.1	377.0	372.2	365.5	361.2
30°	402.6	400.8	402.6	406.3	409.3	410.5	409.9	405.7	401.4	391.7	388.6
32.5°	430.0	430.0	434.3	441.0	444.6	444.0	444.6	441.0	434.9	422.7	415.4
35°	463.5	466.0	471.4	481.2	489.1	486.1	486.1	484.8	474.5	459.9	450.1
37.5°	508.0	510.4	521.4	533.0	547.6	546.4	547.0	543.3	523.2	508.0	494.0
40°	559.8	562.2	578.7	595.1	609.1	613.4	614.0	606.1	584.1	562.2	540.3
42.5°	607.3	610.3	627.4	650.5	665.8	672.5	673.7	660.9	637.7	612.8	585.4
45°	654.8	658.4	677.9	702.3	724.2	727.3	727.9	716.9	691.3	662.7	627.4
47.5°	703.5	706.6	726.7	755.9	779.7	785.7	786.4	776.0	744.9	710.2	668.8
50°	748.0	754.1	781.5	812.5	844.2	849.1	849.7	838.1	801.6	762.6	707.8
52.5°	800.4	803.4	832.6	884.4	911.2	930.1	930.7	908.2	869.2	816.8	746.2
55°	861.3	866.8	896.6	948.4	996.5	1009.3	1012.9	986.1	934.4	877.7	794.9
57.5°	896.6	907.0	950.8	1000.2	1060.5	1069.0	1070.8	1042.8	985.5	923.4	831.4
60°	915.5	921.6	967.9	1044.6	1091.5	1099.4	1098.8	1077.5	1020.3	944.7	848.5
62.5°	936.8	947.2	986.1	1064.1	1104.9	1124.4	1121.4	1099.4	1041.0	958.1	864.9
65°	930.7	939.2	996.5	1059.8	1127.5	1148.8	1144.5	1115.3	1044.0	960.6	860.7
67.5°	906.3	913.0	969.7	1048.3	1112.8	1128.1	1135.4	1106.7	1027.0	934.4	833.9
70°	856.4	866.8	921.6	1002.0	1061.1	1072.0	1073.2	1055.6	983.7	886.2	789.4
72.5°	787.6	796.1	855.8	937.4	988.6	1001.4	1002.6	975.8	921.6	820.5	725.4
75°	705.3	713.3	759.6	844.8	895.4	908.2	907.0	882.0	824.7	729.1	640.8
77.5°	603.6	618.2	659.1	729.1	778.4	785.1	786.4	758.9	712.7	629.8	543.9
80°	476.3	490.3	536.6	589.0	630.4	635.9	637.7	614.6	572.6	499.5	426.4
82.5°	338.7	350.8	387.4	430.0	464.7	464.7	466.0	447.1	414.8	352.1	294.8
85°	193.1	202.2	226.6	257.0	282.0	279.0	279.6	262.5	241.2	192.5	155.9
87.5°	63.3	67.6	73.1	84.7	96.2	88.9	92.6	76.7	69.4	51.8	40.2
90°	33.5	33.5	32.3	31.1	28.6	25.0	25.0	20.1	15.2	9.7	3.7
92.5°	30.5	30.5	29.2	28.0	25.6	22.5	22.5	18.3	13.4	8.5	3.0
95°	25.0	25.0	24.4	23.1	21.3	18.9	18.3	15.2	11.6	6.7	2.4
97.5°	19.5	19.5	18.9	18.3	16.4	14.6	14.6	11.6	8.5	5.5	1.8
100°	14.6	14.6	14.6	13.4	12.8	11.0	11.0	9.1	6.7	4.3	1.2
102.5°	10.4	11.0	10.4	9.7	9.1	7.9	7.9	6.7	4.9	3.0	1.2
105°	7.3	7.3	6.7	6.7	6.1	5.5	5.5	4.3	3.0	1.8	0.6
107.5°	4.3	4.3	4.3	4.3	3.7	3.7	3.7	3.0	1.8	1.2	0.6
110°	2.4	2.4	2.4	2.4	1.8	1.8	1.8	1.2	1.2	0.6	0.6

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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
112.5°	1.2	1.2	1.2	1.2	1.2	*1.2*	1.2	0.6	0.6	0.6	0.6
115°	0.6	0.6	0.6	1.2	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
117.5°	0.6	0.6	0.6	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
120°	0.0	0.0	0.6	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
122.5°	0.0	0.0	0.6	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
125°	0.0	0.0	0.6	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
127.5°	0.0	0.0	0.0	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
130°	0.0	0.0	0.0	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
132.5°	0.0	0.0	0.0	0.6	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
135°	0.0	0.0	0.0	0.0	0.6	*0.6*	0.6	0.6	0.6	0.6	0.6
137.5°	0.0	0.0	0.0	0.0	0.0	*0.0*	0.6	0.6	0.6	0.6	0.6
140°	0.6	0.6	0.0	0.0	0.0	*0.0*	0.6	0.6	0.6	0.6	0.6
142.5°	0.6	0.6	0.6	0.0	0.0	*0.6*	0.6	0.6	0.6	0.6	0.6
145°	0.6	0.6	0.0	0.0	0.0	*0.0*	0.0	0.6	0.6	0.6	0.6
147.5°	0.6	0.6	0.6	0.0	0.0	*0.6*	0.6	0.6	0.6	0.6	0.6
150°	0.6	0.6	0.0	0.0	0.0	*0.0*	0.6	0.6	0.6	0.6	0.6
152.5°	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0	0.6	0.6	0.6	0.6
155°	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0	0.0	0.6	0.6	0.6
157.5°	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0	0.6	0.6	0.6	0.6
160°	0.6	0.0	0.0	0.0	0.0	*0.0*	0.0	0.6	0.6	0.6	0.6
162.5°	0.6	0.6	0.0	0.0	0.0	*0.0*	0.0	0.6	0.6	0.6	0.6
165°	0.6	0.0	0.0	0.0	0.0	*0.0*	0.6	0.6	0.6	0.6	0.6
167.5°	0.6	0.6	0.0	0.0	0.0	*0.0*	0.6	0.6	0.6	0.6	0.6
170°	0.6	0.0	0.0	0.0	0.0	*0.6*	0.0	0.6	0.6	0.6	0.6
172.5°	0.6	0.6	0.0	0.0	0.0	*0.0*	0.6	0.6	0.6	0.6	0.6
175°	0.6	0.6	0.6	0.0	0.0	*0.0*	0.6	0.6	0.6	0.6	0.6
177.5°	0.0	0.6	0.0	0.0	0.0	*0.0*	0.0	0.6	0.6	0.6	0.6
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°	205.9	205.9	205.9	205.9	205.9	205.9	205.9	205.9	205.9	205.9	205.9
2.5°	208.9	208.9	208.3	207.7	207.7	207.7	207.1	207.1	207.1	206.5	206.5
5°	213.8	213.2	213.2	212.6	212.6	212.0	212.0	211.4	210.8	210.8	210.1
7.5°	220.5	219.9	218.7	219.3	218.1	217.5	216.8	216.8	216.8	216.2	216.2
10°	228.4	228.4	227.2	227.2	226.0	225.4	224.8	224.8	225.4	225.4	224.8
12.5°	238.8	238.2	238.2	237.6	236.9	236.3	236.9	236.9	236.3	235.7	235.1
15°	251.6	251.6	251.6	252.2	251.6	251.6	251.6	251.0	249.7	248.5	248.5
17.5°	271.1	270.4	269.2	269.8	271.1	272.9	271.1	269.2	267.4	267.4	266.8
20°	291.2	291.8	291.8	292.4	294.2	296.0	293.6	292.4	291.2	289.9	288.7
22.5°	313.1	313.7	313.7	313.1	314.3	313.7	312.5	311.3	310.0	308.2	307.0
25°	334.4	335.0	334.4	333.8	334.4	332.6	330.7	328.9	325.9	322.8	322.8
27.5°	358.2	357.5	355.1	355.7	354.5	353.3	349.6	345.4	341.1	338.1	338.1
30°	383.1	383.1	378.3	380.7	378.3	377.6	369.7	364.2	358.2	353.9	353.3
32.5°	410.5	409.3	405.7	408.1	405.7	403.2	393.5	386.2	375.8	369.7	369.1
35°	443.4	440.4	437.3	439.8	439.8	433.1	423.3	409.9	395.3	388.0	387.4
37.5°	483.6	481.8	478.1	481.2	483.6	476.9	462.3	442.8	422.1	411.1	410.5
40°	528.1	525.7	523.8	528.1	529.9	523.2	503.7	476.3	448.3	432.5	430.0
42.5°	570.1	564.6	561.6	567.7	565.9	558.6	531.7	500.1	461.7	443.4	440.4
45°	607.9	601.8	597.5	603.0	600.6	586.0	556.1	513.5	467.2	444.6	441.0
47.5°	645.0	635.9	629.2	636.5	631.6	609.1	572.6	520.2	461.1	434.3	428.2
50°	676.7	665.8	661.5	670.0	662.7	631.0	584.1	517.1	445.9	406.9	397.1
52.5°	714.5	698.0	693.8	710.2	693.8	651.7	586.6	509.8	411.1	364.2	355.1
55°	752.9	734.6	727.9	743.1	718.1	656.0	574.4	467.8	358.8	308.8	295.4
57.5°	773.0	755.9	749.8	760.8	714.5	614.6	520.2	389.8	280.2	224.2	209.5
60°	791.2	761.4	753.5	768.1	676.7	518.3	402.6	279.6	169.3	127.3	116.3
62.5°	804.0	775.4	758.9	765.6	607.3	377.0	231.5	134.6	64.0	44.5	43.9
65°	*797.3*	*773.0*	*762.0*	*757.1*	*527.5*	*216.8*	*85.3*	*34.1*	*1.8*	*1.8*	*1.2*
67.5°	776.6	749.8	746.8	751.0	522.0	208.3	79.2	31.1	0.0	0.0	0.0
70°	730.9	712.0	712.0	726.7	498.2	197.4	73.7	28.6	0.0	0.0	0.0
72.5°	669.4	654.8	663.3	685.2	462.9	182.1	66.4	25.6	0.0	0.0	0.0
75°	595.7	580.5	591.4	615.8	419.1	162.6	57.9	21.9	0.0	0.0	0.0
77.5°	501.9	491.5	508.6	531.1	360.6	137.0	47.5	17.7	0.0	0.0	0.0
80°	391.0	385.6	408.1	428.2	291.2	107.8	35.9	12.8	0.0	0.0	0.0
82.5°	269.8	267.4	289.3	310.0	208.3	75.5	24.4	8.5	0.0	0.0	0.0
85°	141.3	141.3	158.4	177.2	116.3	40.8	12.2	3.7	0.0	0.0	0.0
87.5°	31.1	29.8	32.3	41.4	23.1	7.9	1.8	0.6	0.0	0.0	0.0
90°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
105°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.6	0.6	0.6	0.6	0.6	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: P821274
CATALOG NUMBER: TT-D1-740-24VDC-WQ-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
117.5°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
122.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
125°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.6	0.6	0.6	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: SP1-2407-176-5

Test Date: 09/24/2024

Luminaire Tested: MEM2-HTN-VA-30-740-U-WQ

Data in this report applies to families of products including MEM2-HTN-VA-30-740-U-WQ

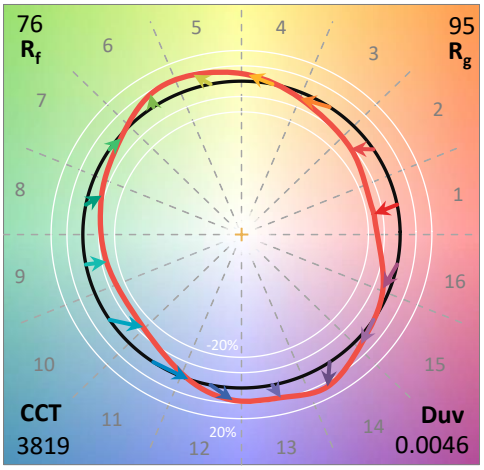
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Version: v7.04

Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2407-176-5
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-30-740-U-WQ**
Description:	EPIC MODERN VISUAL COMFORT 30W WAVESTREAM WIDE

Spectral Parameters

CCT (K):	3819	CRI (Ra):	72.9		
CIE u':	0.2261	R1:	70.1	R9:	-21.5
CIE v':	0.5108	R2:	78.4	R10:	48.5
Duv:	0.0046	R3:	85.0	R11:	68.4
CIE x:	0.3926	R4:	72.9	R12:	39.0
CIE y:	0.3942	R5:	69.1	R13:	71.1
CIE z:	0.2132	R6:	69.2	R14:	91.3
Peak Wavelength (nm):	450	R7:	82.8	R15:	63.2
Dominant Wavelength (nm):	577	R8:	55.4		
Purity:	36.15483				
Rf:	75.6				
Rg:	94.8				



Test Conditions

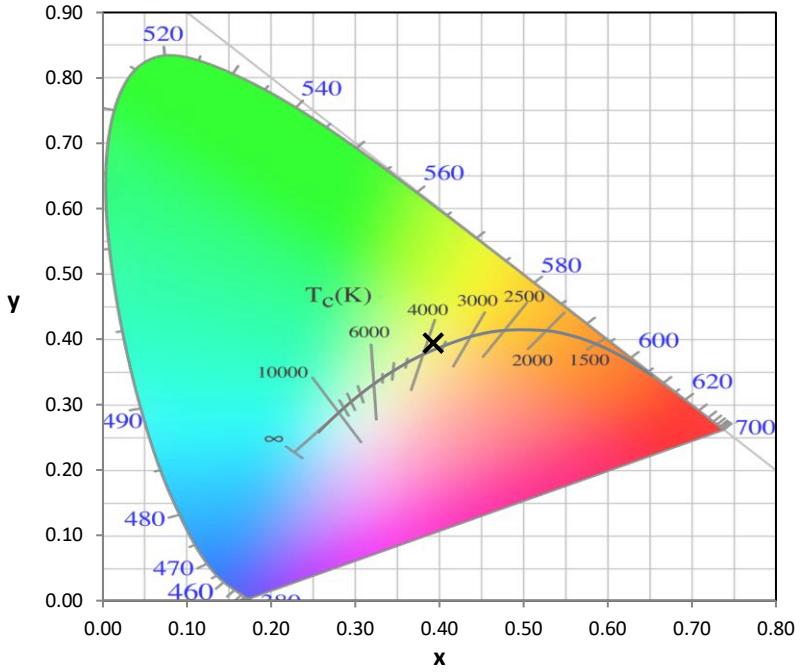
Stabilization Time:	30M
Operation Time:	1H 30M
Sphere Temperature (°C):	25.2

REPORT NUMBER: SP1-2407-176-5

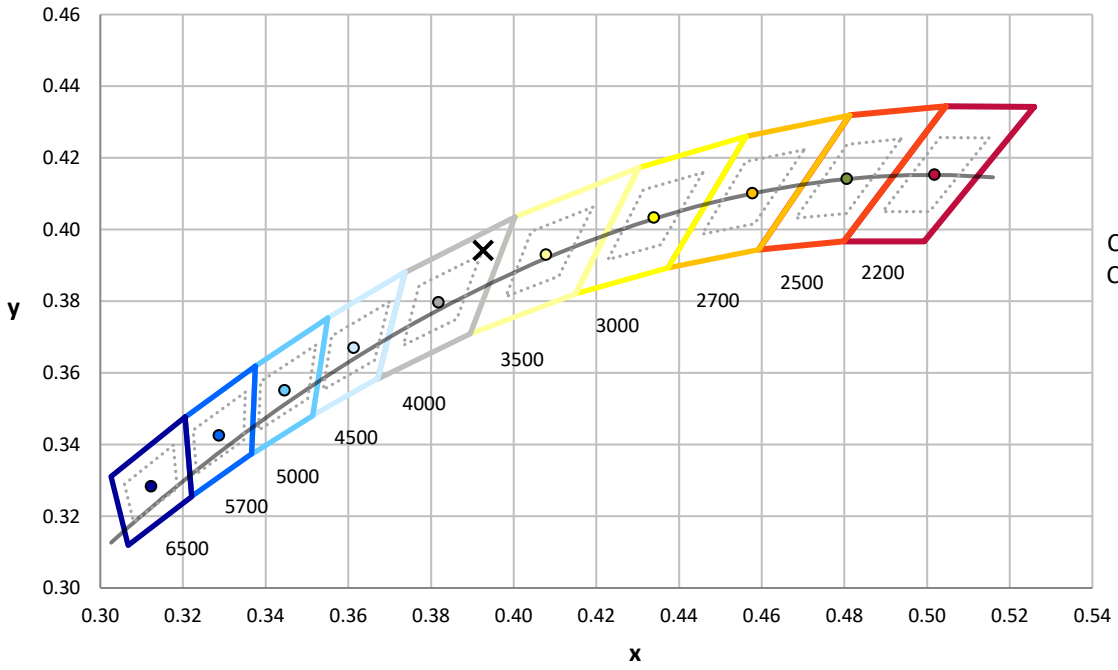
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2407-176-5

CIE 1931 Chromaticity Diagram



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

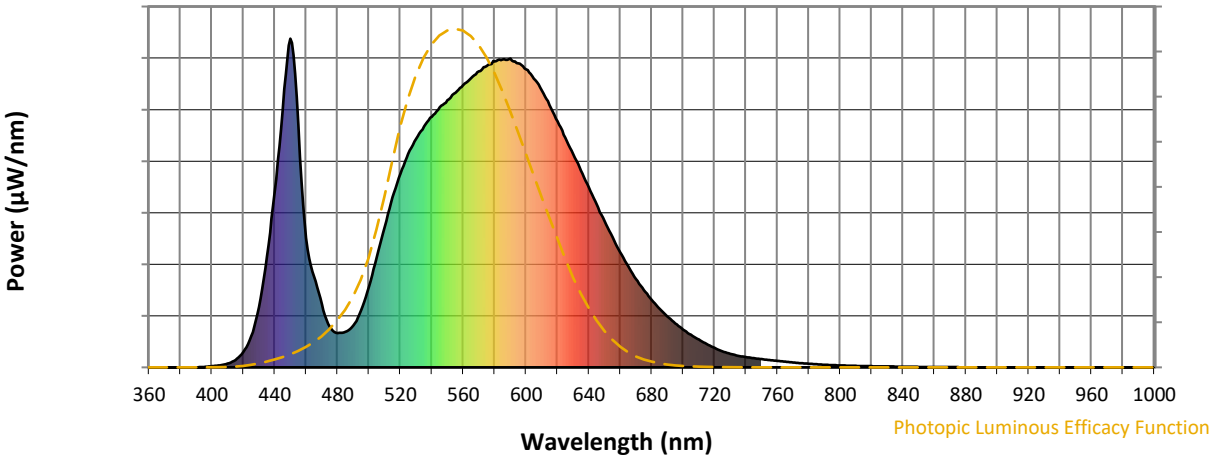


CCT = 3819K
CIE x = 0.3926
CIE y = 0.3942
Duv = 0.0046

Point lies inside the ANSI 4000K 7-step quadrangle

REPORT NUMBER: SP1-2407-176-5

Photopic Flux vs. Wavelength

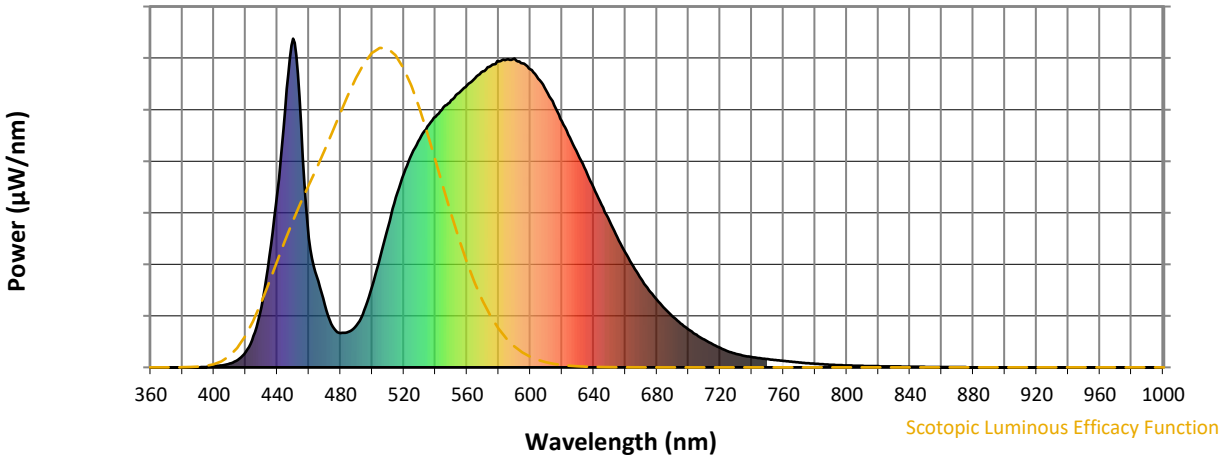


Photopic Lumens: NR

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	127	NR	620	748	NR	750	25	NR	880	0	NR
365	0	NR	495	173	NR	625	699	NR	755	22	NR	885	0	NR
370	0	NR	500	246	NR	630	648	NR	760	20	NR	890	0	NR
375	0	NR	505	335	NR	635	599	NR	765	17	NR	895	0	NR
380	0	NR	510	427	NR	640	547	NR	770	15	NR	900	0	NR
385	0	NR	515	517	NR	645	495	NR	775	13	NR	905	0	NR
390	0	NR	520	589	NR	650	445	NR	780	11	NR	910	0	NR
395	1	NR	525	649	NR	655	396	NR	785	9	NR	915	0	NR
400	4	NR	530	695	NR	660	349	NR	790	8	NR	920	0	NR
405	6	NR	535	733	NR	665	308	NR	795	7	NR	925	0	NR
410	11	NR	540	763	NR	670	269	NR	800	6	NR	930	0	NR
415	23	NR	545	792	NR	675	235	NR	805	5	NR	935	0	NR
420	46	NR	550	813	NR	680	205	NR	810	5	NR	940	0	NR
425	95	NR	555	835	NR	685	178	NR	815	4	NR	945	0	NR
430	183	NR	560	859	NR	690	155	NR	820	3	NR	950	0	NR
435	338	NR	565	880	NR	695	134	NR	825	3	NR	955	0	NR
440	534	NR	570	900	NR	700	115	NR	830	3	NR	960	0	NR
445	782	NR	575	918	NR	705	99	NR	835	2	NR	965	0	NR
450	1000	NR	580	931	NR	710	84	NR	840	2	NR	970	0	NR
455	739	NR	585	937	NR	715	71	NR	845	2	NR	975	0	NR
460	393	NR	590	939	NR	720	59	NR	850	1	NR	980	0	NR
465	276	NR	595	925	NR	725	49	NR	855	1	NR	985	0	NR
470	190	NR	600	907	NR	730	41	NR	860	1	NR	990	0	NR
475	123	NR	605	878	NR	735	35	NR	865	1	NR	995	0	NR
480	105	NR	610	842	NR	740	31	NR	870	1	NR	1000	0	NR
485	108	NR	615	797	NR	745	28	NR	875	1	NR			

REPORT NUMBER: SP1-2407-176-5

Scotopic Flux vs. Wavelength

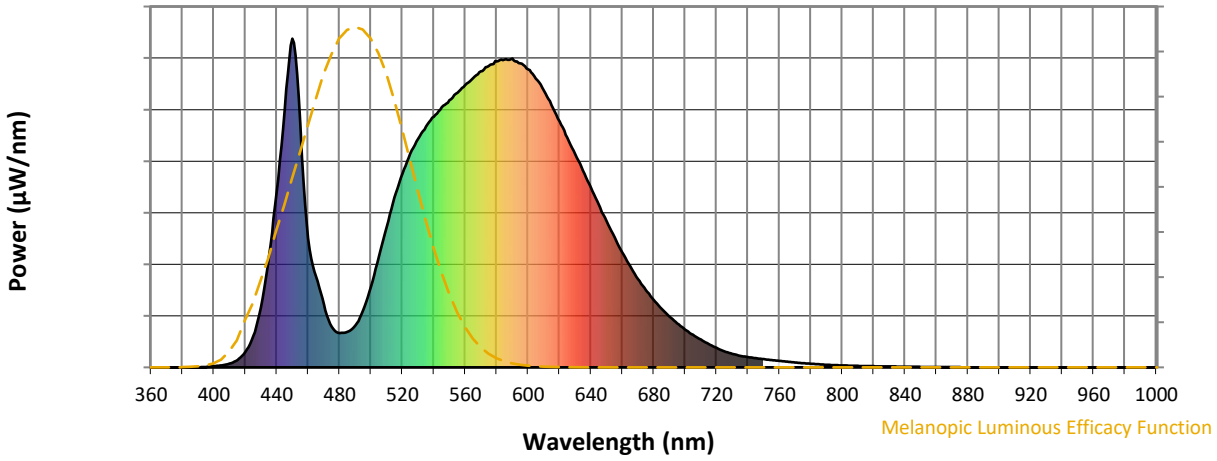


Scotopic Lumens: NR **S/P: 1.45**

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	127	NR	620	748	NR	750	25	NR	880	0	NR
365	0	NR	495	173	NR	625	699	NR	755	22	NR	885	0	NR
370	0	NR	500	246	NR	630	648	NR	760	20	NR	890	0	NR
375	0	NR	505	335	NR	635	599	NR	765	17	NR	895	0	NR
380	0	NR	510	427	NR	640	547	NR	770	15	NR	900	0	NR
385	0	NR	515	517	NR	645	495	NR	775	13	NR	905	0	NR
390	0	NR	520	589	NR	650	445	NR	780	11	NR	910	0	NR
395	1	NR	525	649	NR	655	396	NR	785	9	NR	915	0	NR
400	4	NR	530	695	NR	660	349	NR	790	8	NR	920	0	NR
405	6	NR	535	733	NR	665	308	NR	795	7	NR	925	0	NR
410	11	NR	540	763	NR	670	269	NR	800	6	NR	930	0	NR
415	23	NR	545	792	NR	675	235	NR	805	5	NR	935	0	NR
420	46	NR	550	813	NR	680	205	NR	810	5	NR	940	0	NR
425	95	NR	555	835	NR	685	178	NR	815	4	NR	945	0	NR
430	183	NR	560	859	NR	690	155	NR	820	3	NR	950	0	NR
435	338	NR	565	880	NR	695	134	NR	825	3	NR	955	0	NR
440	534	NR	570	900	NR	700	115	NR	830	3	NR	960	0	NR
445	782	NR	575	918	NR	705	99	NR	835	2	NR	965	0	NR
450	1000	NR	580	931	NR	710	84	NR	840	2	NR	970	0	NR
455	739	NR	585	937	NR	715	71	NR	845	2	NR	975	0	NR
460	393	NR	590	939	NR	720	59	NR	850	1	NR	980	0	NR
465	276	NR	595	925	NR	725	49	NR	855	1	NR	985	0	NR
470	190	NR	600	907	NR	730	41	NR	860	1	NR	990	0	NR
475	123	NR	605	878	NR	735	35	NR	865	1	NR	995	0	NR
480	105	NR	610	842	NR	740	31	NR	870	1	NR	1000	0	NR
485	108	NR	615	797	NR	745	28	NR	875	1	NR			

REPORT NUMBER: SP1-2407-176-5

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.76**

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	127	NR	620	748	NR	750	25	NR	880	0	NR
365	0	NR	495	173	NR	625	699	NR	755	22	NR	885	0	NR
370	0	NR	500	246	NR	630	648	NR	760	20	NR	890	0	NR
375	0	NR	505	335	NR	635	599	NR	765	17	NR	895	0	NR
380	0	NR	510	427	NR	640	547	NR	770	15	NR	900	0	NR
385	0	NR	515	517	NR	645	495	NR	775	13	NR	905	0	NR
390	0	NR	520	589	NR	650	445	NR	780	11	NR	910	0	NR
395	1	NR	525	649	NR	655	396	NR	785	9	NR	915	0	NR
400	4	NR	530	695	NR	660	349	NR	790	8	NR	920	0	NR
405	6	NR	535	733	NR	665	308	NR	795	7	NR	925	0	NR
410	11	NR	540	763	NR	670	269	NR	800	6	NR	930	0	NR
415	23	NR	545	792	NR	675	235	NR	805	5	NR	935	0	NR
420	46	NR	550	813	NR	680	205	NR	810	5	NR	940	0	NR
425	95	NR	555	835	NR	685	178	NR	815	4	NR	945	0	NR
430	183	NR	560	859	NR	690	155	NR	820	3	NR	950	0	NR
435	338	NR	565	880	NR	695	134	NR	825	3	NR	955	0	NR
440	534	NR	570	900	NR	700	115	NR	830	3	NR	960	0	NR
445	782	NR	575	918	NR	705	99	NR	835	2	NR	965	0	NR
450	1000	NR	580	931	NR	710	84	NR	840	2	NR	970	0	NR
455	739	NR	585	937	NR	715	71	NR	845	2	NR	975	0	NR
460	393	NR	590	939	NR	720	59	NR	850	1	NR	980	0	NR
465	276	NR	595	925	NR	725	49	NR	855	1	NR	985	0	NR
470	190	NR	600	907	NR	730	41	NR	860	1	NR	990	0	NR
475	123	NR	605	878	NR	735	35	NR	865	1	NR	995	0	NR
480	105	NR	610	842	NR	740	31	NR	870	1	NR	1000	0	NR
485	108	NR	615	797	NR	745	28	NR	875	1	NR			

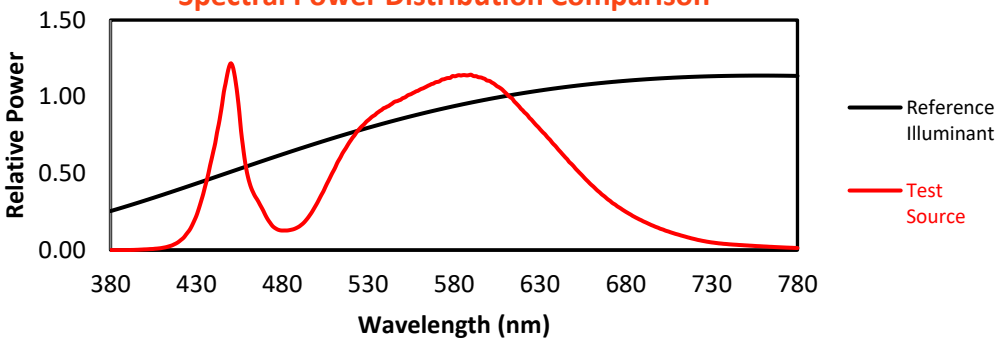
REPORT NUMBER: SP1-2407-176-5

TM-30-18

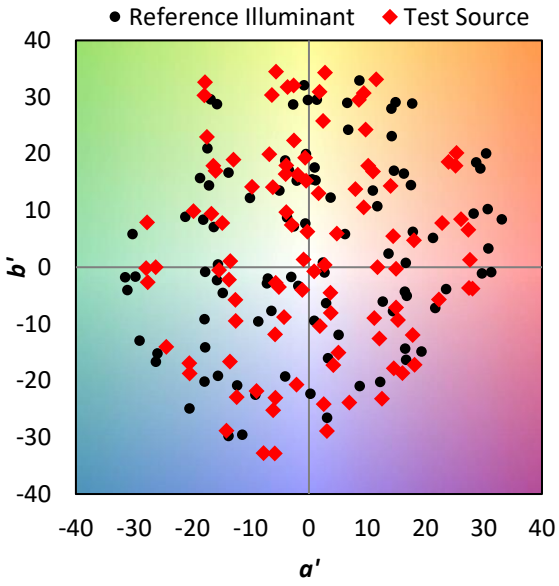
Summary

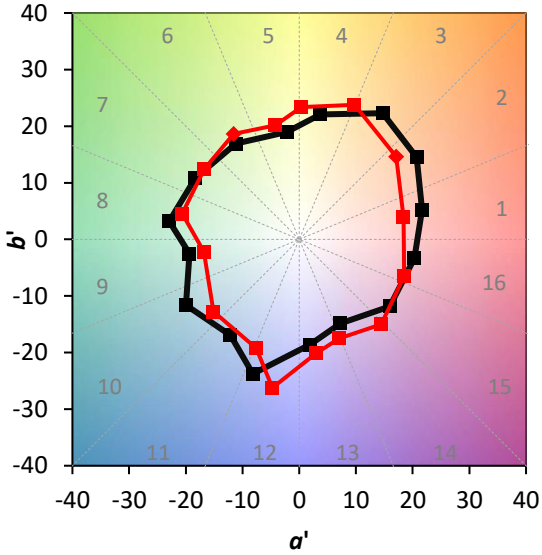
R_f = 75.6
R_g = 94.8
CIE R_a = 72.9
R_9 = -21.5

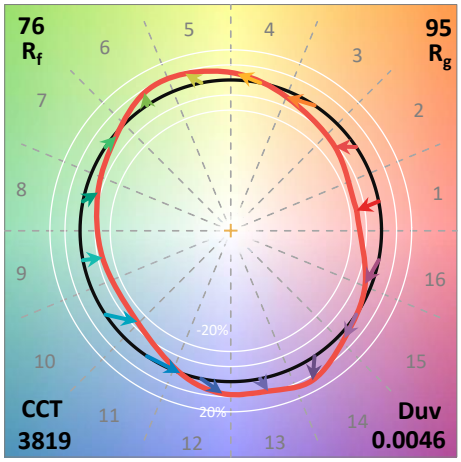
Spectral Power Distribution Comparison

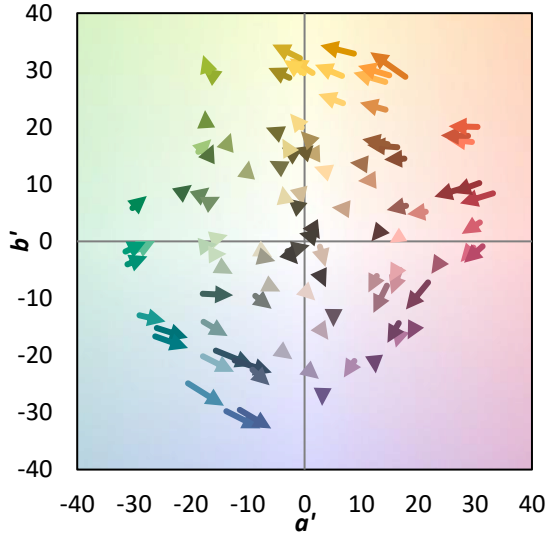


Color Vector Graphics







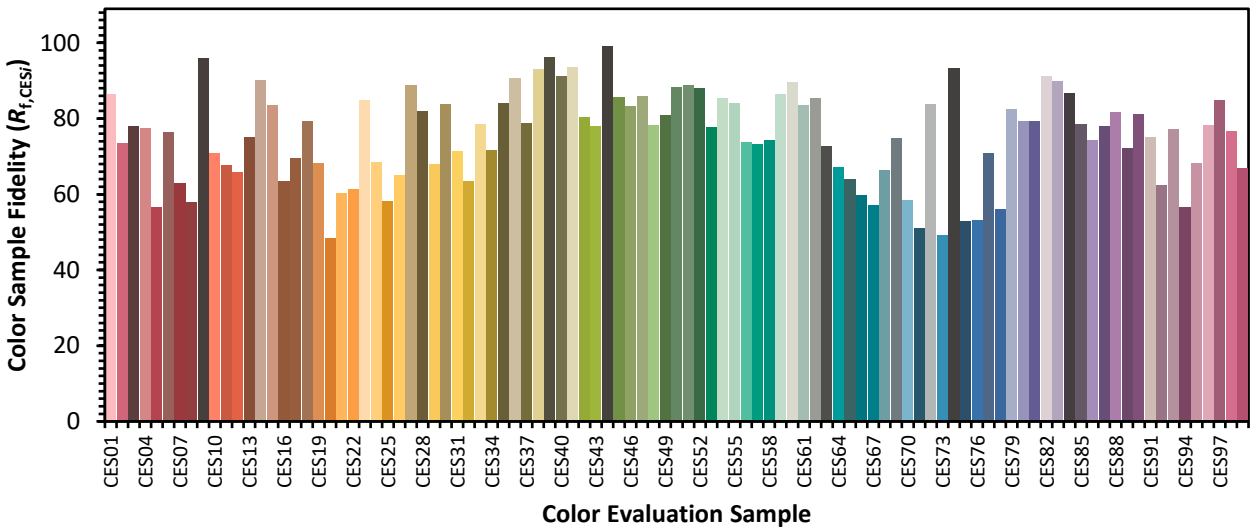


REPORT NUMBER: SP1-2407-176-5

TM-30-18

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

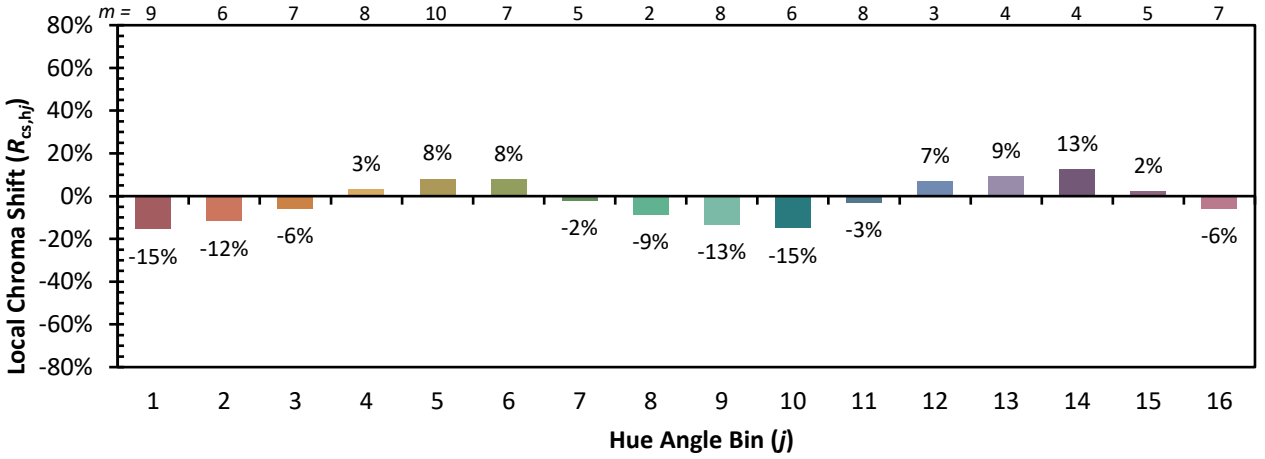
CES01 = 85	CES26 = 65	CES51 = 89	CES76 = 53
CES02 = 61	CES27 = 89	CES52 = 88	CES77 = 71
CES03 = 30	CES28 = 82	CES53 = 78	CES78 = 56
CES04 = 70	CES29 = 68	CES54 = 85	CES79 = 83
CES05 = 48	CES30 = 84	CES55 = 84	CES80 = 79
CES06 = 50	CES31 = 71	CES56 = 74	CES81 = 79
CES07 = 40	CES32 = 63	CES57 = 73	CES82 = 91
CES08 = 39	CES33 = 79	CES58 = 74	CES83 = 90
CES09 = 29	CES34 = 72	CES59 = 86	CES84 = 87
CES10 = 74	CES35 = 84	CES60 = 90	CES85 = 78
CES11 = 57	CES36 = 91	CES61 = 84	CES86 = 74
CES12 = 63	CES37 = 79	CES62 = 85	CES87 = 78
CES13 = 42	CES38 = 93	CES63 = 73	CES88 = 82
CES14 = 74	CES39 = 96	CES64 = 67	CES89 = 72
CES15 = 71	CES40 = 91	CES65 = 64	CES90 = 81
CES16 = 47	CES41 = 93	CES66 = 60	CES91 = 75
CES17 = 49	CES42 = 80	CES67 = 57	CES92 = 62
CES18 = 56	CES43 = 78	CES68 = 66	CES93 = 77
CES19 = 72	CES44 = 99	CES69 = 75	CES94 = 57
CES20 = 65	CES45 = 86	CES70 = 58	CES95 = 68
CES21 = 86	CES46 = 83	CES71 = 51	CES96 = 78
CES22 = 78	CES47 = 86	CES72 = 84	CES97 = 85
CES23 = 92	CES48 = 78	CES73 = 49	CES98 = 77
CES24 = 91	CES49 = 81	CES74 = 93	CES99 = 67
CES25 = 72	CES50 = 88	CES75 = 53	

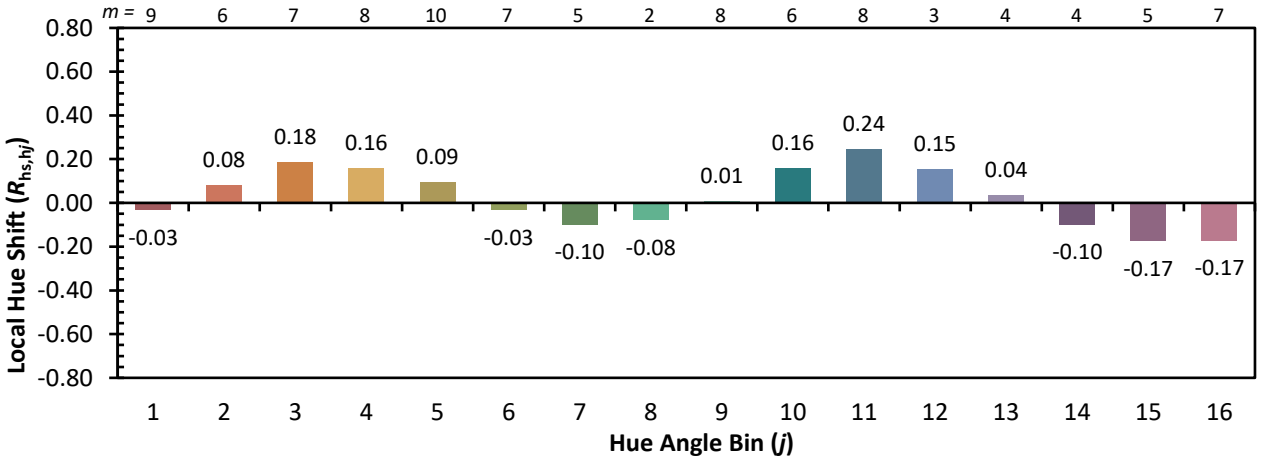


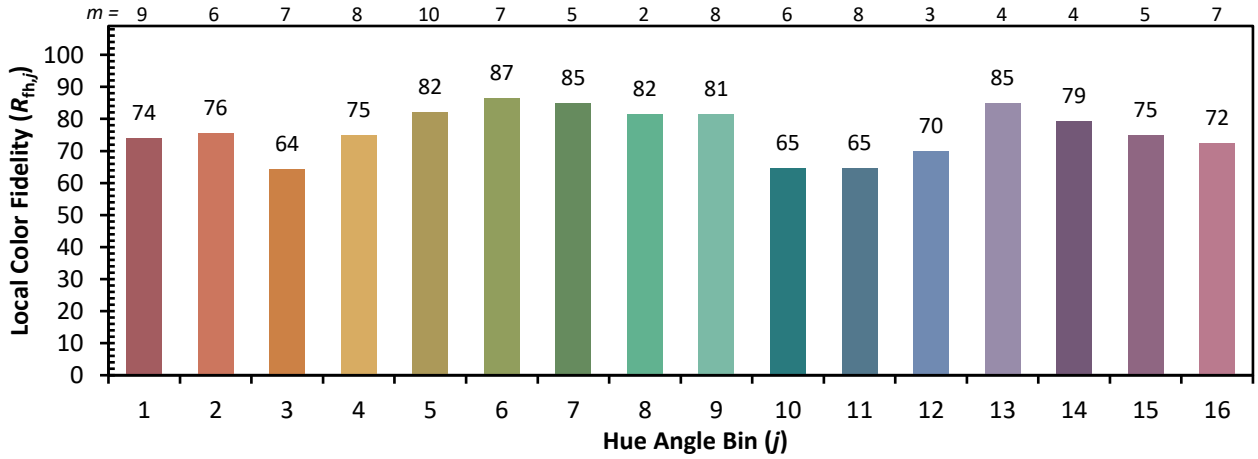
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Color Rendition by Hue-Angle Bin



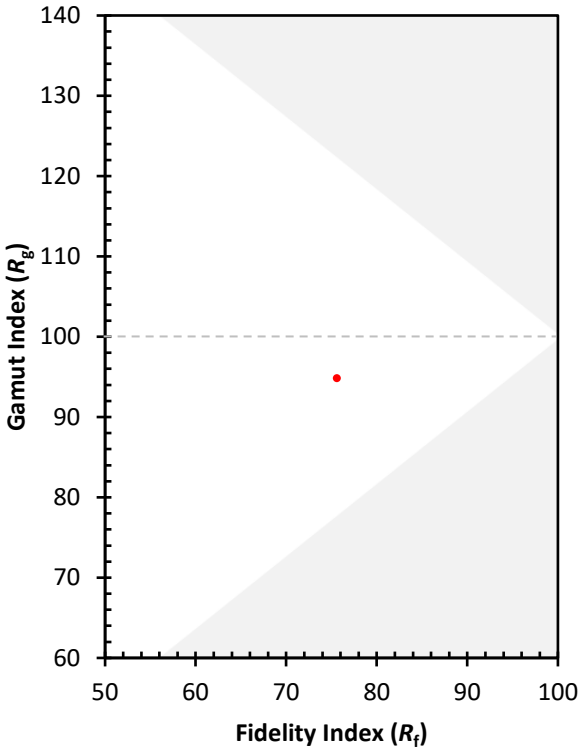


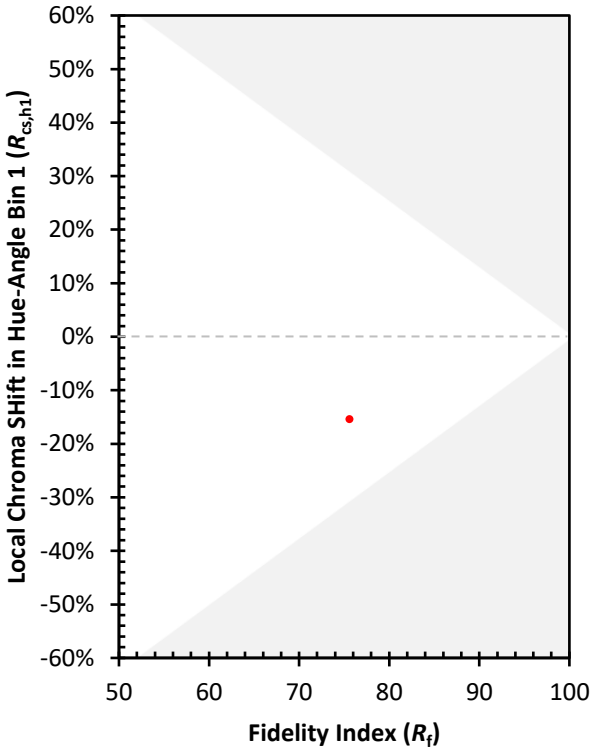


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Measure Comparisons





(END OF REPORT)