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: P821447

Luminaire Tested: **TT-D2-830-12VDC-MQ-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:	P821447
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2010-017-1)
Test Lab:	INNOVATION CENTER
Issue Date:	12/2/2020
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	McGRAW-EDISON
Catalog Number:	TT-D2-830-12VDC-MQ-HSS
Description:	TOPTIER LED PARKING GARAGE LUMINAIRE
	3000K, 80 CRI LEDS AND MEDIUM DISTRIBUTION WITH HOUSE SIDE SHIELD
Light Source:	-
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	4177.9 lumens
Efficiency:	N/A
Efficacy:	109.9 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type IV - Short
BUG Rating:	B1 - U1 - G2

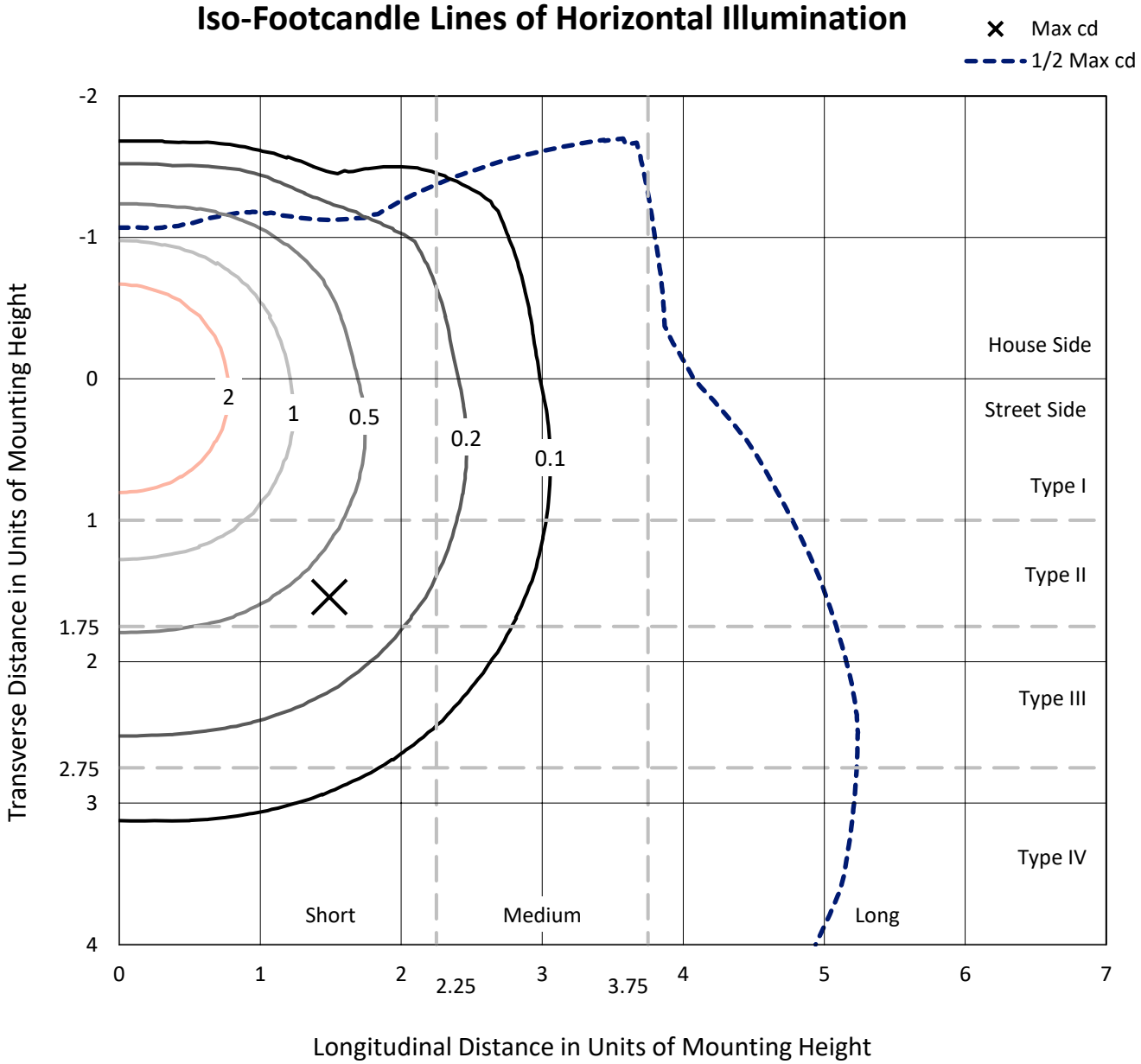
Input Watts (W):	38
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	25 FT

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Iso-Footcandle Lines of Horizontal Illumination



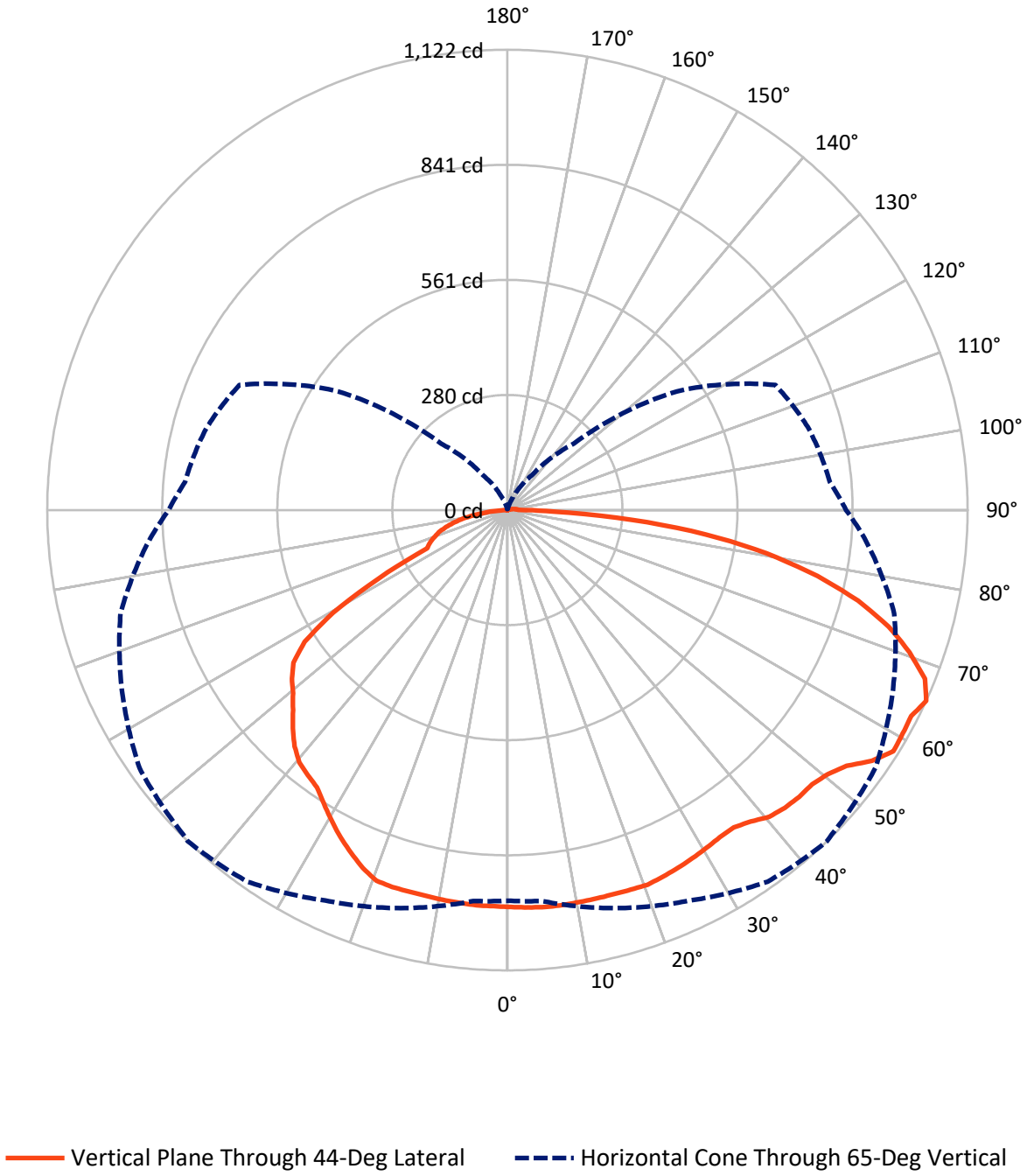
Based on 15 foot mounting height. Maximum calculated value = 4.3 fc
Type IV - Short - N/A

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Luminous Intensity Polar Plot



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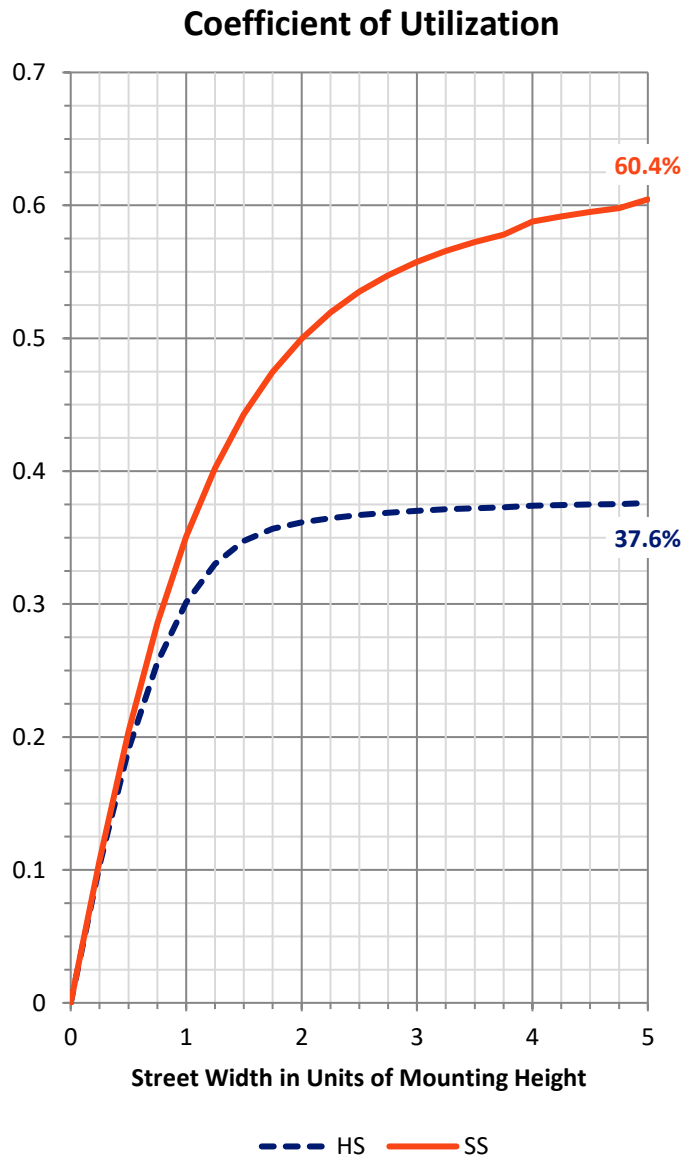
REPORT NUMBER: P821447
CATALOG NUMBER: TT-D2-830-12VDC-MQ-HSS

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1582.0	1.0	1583.0
	% Fixture	37.9	0.0	37.9
Street Side	Lumens	2580.7	14.1	2594.9
	% Fixture	61.8	0.3	62.1
Total	Lumens	4162.7	15.2	4177.9
	% Fixture	99.6	0.4	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.3	2.2
10°-20°	273.4	6.5
20°-30°	435.1	10.4
30°-40°	557.4	13.3
40°-50°	660.4	15.8
50°-60°	723.3	17.3
60°-70°	687.5	16.5
70°-80°	547.4	13.1
80°-90°	185.9	4.5
90°-100°	9.8	0.2
100°-110°	3.2	0.1
110°-120°	0.7	0.0
120°-130°	0.4	0.0
130°-140°	0.3	0.0
140°-150°	0.3	0.0
150°-160°	0.2	0.0
160°-170°	0.2	0.0
170°-180°	0.1	0.0
0°-90°	4162.7	99.6
0°-180°	4177.9	100.0



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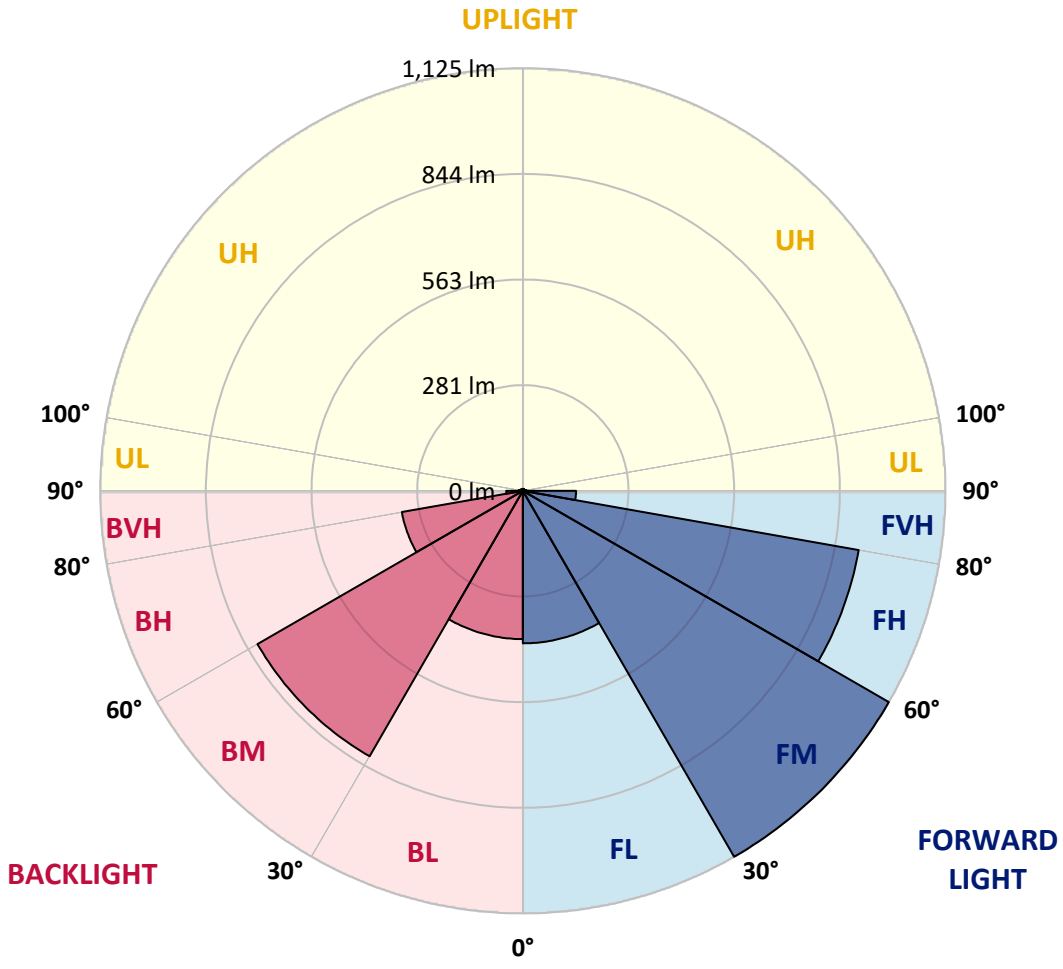
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	406.1	9.7			
FM	(30°-60°)	1125.1	26.9			
FH	(60°-80°)	907.9	21.7			G1/1800
FVH	(80°-90°)	141.6	3.4			G2/225
BL	(0°-30°)	394.8	9.4	B1/500		
BM	(30°-60°)	816.0	19.5	B1/1000		
BH	(60°-80°)	326.9	7.8	B1/500		G1/500
BVH	(80°-90°)	44.3	1.1			G1/100
UL	(90°-100°)	9.8	0.2		U1/10	
UH	(100°-180°)	5.4	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°	967.2	967.2	967.2	967.2	967.2	*967.2*	967.2	967.2	967.2	967.2	967.2
2.5°	970.9	970.1	970.1	970.1	970.1	*969.4*	970.1	968.7	969.4	967.2	967.2
5°	973.1	971.6	972.3	972.3	972.3	*971.6*	972.3	970.1	970.9	967.9	967.2
7.5°	973.8	973.1	973.1	973.1	973.1	*971.6*	972.3	970.9	970.1	967.9	966.4
10°	973.8	973.1	973.1	973.1	972.3	*970.9*	971.6	969.4	969.4	966.4	965.0
12.5°	973.8	973.1	973.8	972.3	972.3	*970.9*	970.9	968.7	968.7	965.0	963.5
15°	973.1	972.3	972.3	973.1	972.3	*970.9*	970.9	968.7	967.9	963.5	962.0
17.5°	972.3	971.6	972.3	973.1	973.8	*972.3*	973.1	969.4	967.9	963.5	961.3
20°	973.1	972.3	973.1	974.6	974.6	*974.6*	974.6	970.9	967.9	963.5	959.8
22.5°	970.9	970.9	970.9	970.9	972.3	*970.1*	970.1	967.9	964.2	960.5	956.8
25°	965.7	965.7	966.4	967.2	967.2	*965.7*	965.0	962.7	959.8	955.4	950.9
27.5°	959.8	959.8	960.5	960.5	962.0	*960.5*	959.8	956.8	953.9	948.7	943.6
30°	953.2	953.2	953.2	954.6	955.4	*955.4*	954.6	950.9	947.2	941.3	934.7
32.5°	945.8	945.8	948.0	949.5	950.2	*950.2*	950.2	945.8	941.3	934.0	924.4
35°	939.9	939.9	942.8	948.0	950.9	*949.5*	948.7	945.8	939.1	931.0	915.5
37.5°	943.6	943.6	950.2	957.6	964.2	*962.7*	962.7	957.6	948.7	935.4	916.2
40°	952.4	953.2	963.5	973.1	981.2	*982.7*	982.7	976.8	963.5	946.5	919.9
42.5°	954.6	956.1	966.4	980.5	987.9	*991.5*	991.5	983.4	969.4	949.5	918.5
45°	954.6	955.4	967.2	981.9	993.8	*996.7*	996.7	987.9	970.1	950.9	913.3
47.5°	954.6	953.9	964.2	984.9	996.7	*998.9*	998.9	989.3	972.3	948.0	905.9
50°	952.4	956.1	971.6	987.9	1008.5	*1011.5*	1010.7	1000.4	976.8	951.7	900.0
52.5°	957.6	956.8	977.5	1010.0	1028.5	*1035.1*	1035.8	1022.6	998.2	962.0	896.3
55°	979.0	979.7	999.7	1037.3	1065.4	*1077.9*	1076.4	1059.5	1024.8	982.7	906.6
57.5°	986.4	993.8	1022.6	1055.0	1097.9	*1108.9*	1108.9	1088.3	1046.2	998.9	914.0
60°	971.6	974.6	1010.0	1065.4	1104.5	*1106.7*	1107.5	1092.7	1048.4	990.1	899.3
62.5°	967.9	973.8	1001.1	1063.2	1088.3	*1104.5*	1103.8	1083.8	1046.2	983.4	894.1
65°	*951.7*	*956.1*	*1004.1*	*1049.9*	*1105.2*	*1121.5*	*1117.8*	*1094.9*	*1036.6*	*976.0*	*877.8*
67.5°	918.5	922.9	967.2	1031.4	1081.6	*1097.1*	1100.8	1074.2	1013.7	941.3	843.1
70°	863.1	869.7	914.8	977.5	1030.7	*1039.5*	1038.1	1021.8	961.3	883.7	792.2
72.5°	785.6	795.9	852.7	912.5	958.3	*971.6*	965.7	947.2	897.8	814.3	722.8
75°	703.6	713.2	758.2	825.4	873.4	*882.3*	877.8	855.7	805.5	723.5	640.8
77.5°	614.3	622.4	660.8	729.4	764.9	*772.3*	774.5	744.9	697.7	623.9	550.0
80°	493.9	497.6	549.3	594.3	625.3	*640.1*	638.6	616.5	569.2	508.0	434.1
82.5°	364.7	367.7	407.5	445.9	474.0	*487.3*	479.9	457.7	420.1	367.7	311.6
85°	223.7	218.5	251.0	279.8	296.8	*305.7*	298.3	285.7	252.5	211.2	172.0
87.5°	80.5	76.0	90.8	95.2	114.4	*111.5*	118.1	95.2	76.8	54.6	38.4
90°	35.4	35.4	34.7	33.2	30.3	*27.3*	26.6	22.1	16.2	10.3	3.7
92.5°	32.5	32.5	31.7	30.3	27.3	*24.4*	24.4	19.9	14.8	9.6	3.7
95°	27.3	27.3	26.6	25.1	22.9	*20.7*	20.7	16.2	12.6	8.1	3.0
97.5°	21.4	21.4	20.7	19.9	17.7	*16.2*	16.2	13.3	9.6	5.9	2.2
100°	16.2	16.2	15.5	14.8	14.0	*12.6*	11.8	9.6	7.4	4.4	1.5
102.5°	11.8	11.8	11.8	11.1	9.6	*8.9*	8.9	7.4	5.2	3.7	1.5
105°	8.1	8.1	8.1	7.4	6.6	*5.9*	5.9	5.2	3.7	2.2	0.7
107.5°	5.2	5.2	5.2	5.2	4.4	*3.7*	3.7	3.0	2.2	1.5	0.7
110°	3.0	2.2	3.0	3.0	3.0	*2.2*	2.2	1.5	1.5	0.7	0.7

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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
112.5°	1.5	1.5	1.5	1.5	1.5	*1.5*	1.5	0.7	0.7	0.7	0.7
115°	0.7	0.7	0.7	1.5	1.5	*0.7*	0.7	0.7	0.7	0.7	0.7
117.5°	0.0	0.7	0.7	0.7	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7
120°	0.0	0.0	0.7	0.7	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7
122.5°	0.0	0.0	0.0	0.7	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7
125°	0.0	0.0	0.0	0.7	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7
127.5°	0.0	0.0	0.0	0.7	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7
130°	0.0	0.0	0.0	0.7	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7
132.5°	0.0	0.0	0.0	0.7	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7
135°	0.0	0.0	0.0	0.0	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7
137.5°	0.0	0.0	0.0	0.0	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7
140°	0.0	0.7	0.7	0.0	0.0	*0.7*	0.7	0.7	0.7	0.7	0.7
142.5°	0.7	0.7	0.7	0.7	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7
145°	0.7	0.7	0.7	0.7	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7
147.5°	0.7	0.7	0.0	0.0	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7
150°	0.7	0.7	0.7	0.0	0.0	*0.7*	0.7	0.7	0.7	0.7	0.7
152.5°	0.7	0.7	0.7	0.7	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7
155°	0.7	0.7	0.7	0.7	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7
157.5°	0.7	0.7	0.7	0.0	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7
160°	0.7	0.7	0.7	0.7	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7
162.5°	0.7	0.7	0.7	0.7	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7
165°	0.7	0.7	0.7	0.7	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7
167.5°	0.7	0.7	0.7	0.7	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7
170°	0.7	0.7	0.7	0.7	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7
172.5°	0.7	0.7	0.7	0.7	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7
175°	0.7	0.7	0.7	0.7	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7
177.5°	0.7	0.7	0.7	0.7	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7
180°	0.7	0.7	0.7	0.7	0.7	*0.7*	0.7	0.7	0.7	0.7	0.7

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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	967.2	967.2	967.2	967.2	967.2	967.2	967.2	967.2	967.2	967.2	967.2
2.5°	967.2	966.4	965.7	966.4	965.7	965.7	965.0	965.0	964.2	964.2	963.5
5°	967.2	966.4	965.7	966.4	965.0	965.7	965.7	965.0	964.2	963.5	962.7
7.5°	966.4	966.4	965.0	965.7	964.2	964.2	963.5	963.5	962.7	962.7	962.0
10°	965.0	964.2	964.2	964.2	962.7	962.7	962.0	961.3	961.3	960.5	959.8
12.5°	963.5	962.7	962.0	962.0	961.3	960.5	959.8	959.8	959.1	958.3	957.6
15°	961.3	960.5	960.5	960.5	959.8	959.8	959.1	958.3	956.8	956.1	955.4
17.5°	960.5	959.8	960.5	960.5	959.8	960.5	959.1	957.6	956.1	955.4	954.6
20°	959.8	959.8	959.8	959.1	958.3	957.6	956.8	956.1	955.4	954.6	953.9
22.5°	956.1	955.4	953.9	949.5	944.3	940.6	939.9	941.3	941.3	941.3	939.1
25°	949.5	947.2	941.3	933.2	924.4	918.5	914.8	914.8	914.0	912.5	911.8
27.5°	941.3	936.9	926.6	916.2	903.7	896.3	887.4	882.3	880.1	879.3	877.8
30°	930.3	923.6	910.3	897.0	881.5	871.2	857.2	848.3	843.1	840.9	839.5
32.5°	917.0	910.3	894.8	878.6	860.1	845.4	827.6	813.6	804.0	799.6	797.4
35°	908.1	898.5	880.8	861.6	843.1	821.7	800.3	781.1	766.4	761.2	758.2
37.5°	904.4	895.6	876.4	857.2	836.5	810.7	785.6	758.2	738.3	729.4	726.5
40°	906.6	895.6	874.2	853.5	829.1	800.3	767.1	733.1	707.3	694.7	691.8
42.5°	901.5	888.9	863.8	841.7	811.4	778.9	738.3	699.2	664.5	654.1	649.7
45°	892.6	877.1	849.8	821.7	790.0	750.1	708.0	657.8	616.5	603.9	600.2
47.5°	883.7	862.3	829.9	804.0	765.6	719.1	669.6	613.5	561.8	549.3	547.1
50°	870.5	850.5	815.8	785.6	746.4	692.5	636.4	566.3	508.0	486.5	480.6
52.5°	864.6	838.7	805.5	781.9	734.6	673.3	602.5	527.1	443.0	416.4	410.5
55°	870.5	838.0	802.5	779.6	725.0	649.0	561.8	465.9	368.4	340.4	332.2
57.5°	860.1	832.1	796.6	770.8	699.9	598.8	502.8	379.5	278.3	242.2	239.2
60°	846.8	807.0	773.7	750.1	647.5	504.3	391.3	270.2	167.6	136.6	130.7
62.5°	841.7	800.3	761.9	733.1	577.4	370.6	238.5	136.6	69.4	48.7	44.3
65°	*825.4*	*788.5*	*761.2*	*720.6*	*504.3*	*228.9*	*102.6*	*40.6*	*3.0*	*2.2*	*2.2*
67.5°	794.4	756.8	738.3	714.7	496.9	218.5	93.0	36.9	1.5	0.0	0.0
70°	741.3	711.7	699.2	686.6	475.5	202.3	84.9	33.2	0.7	0.0	0.0
72.5°	671.1	651.2	649.0	647.5	444.5	186.8	76.0	29.5	0.7	0.0	0.0
75°	601.0	576.6	580.3	589.2	406.1	165.4	65.7	25.8	0.7	0.0	0.0
77.5°	512.4	494.7	503.5	518.3	355.9	140.3	53.9	20.7	0.7	0.0	0.0
80°	403.1	391.3	411.2	424.5	290.9	111.5	40.6	14.8	0.0	0.0	0.0
82.5°	286.5	279.8	298.3	315.3	216.3	79.0	28.1	9.6	0.0	0.0	0.0
85°	154.3	150.6	168.3	186.8	129.9	45.0	14.0	4.4	0.0	0.0	0.0
87.5°	38.4	35.4	36.2	43.6	31.7	9.6	2.2	0.7	0.0	0.0	0.0
90°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
102.5°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
110°	0.7	0.7	0.7	0.7	0.7	0.7	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: P821447
CATALOG NUMBER: TT-D2-830-12VDC-MQ-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
115°	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
117.5°	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
122.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
125°	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
127.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
130°	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
135°	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
147.5°	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
162.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
165°	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
167.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
170°	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
172.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
175°	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
177.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
180°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

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

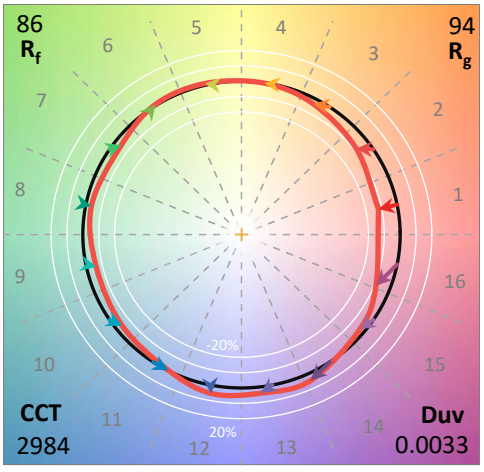
Test Information

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

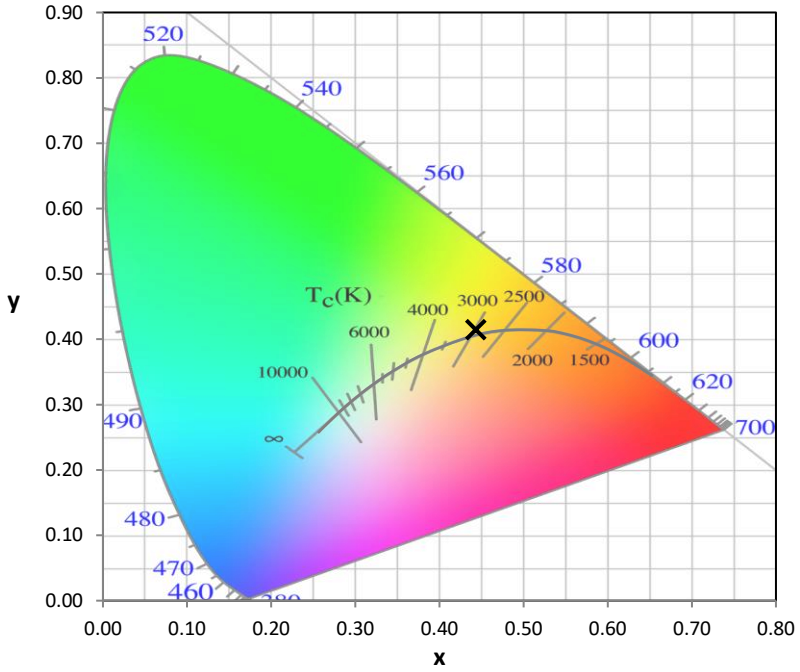
Stabilization Time:	29M
Operation Time:	1H 29M
Sphere Temperature (°C):	25.2

REPORT NUMBER: SP1-2407-176-7

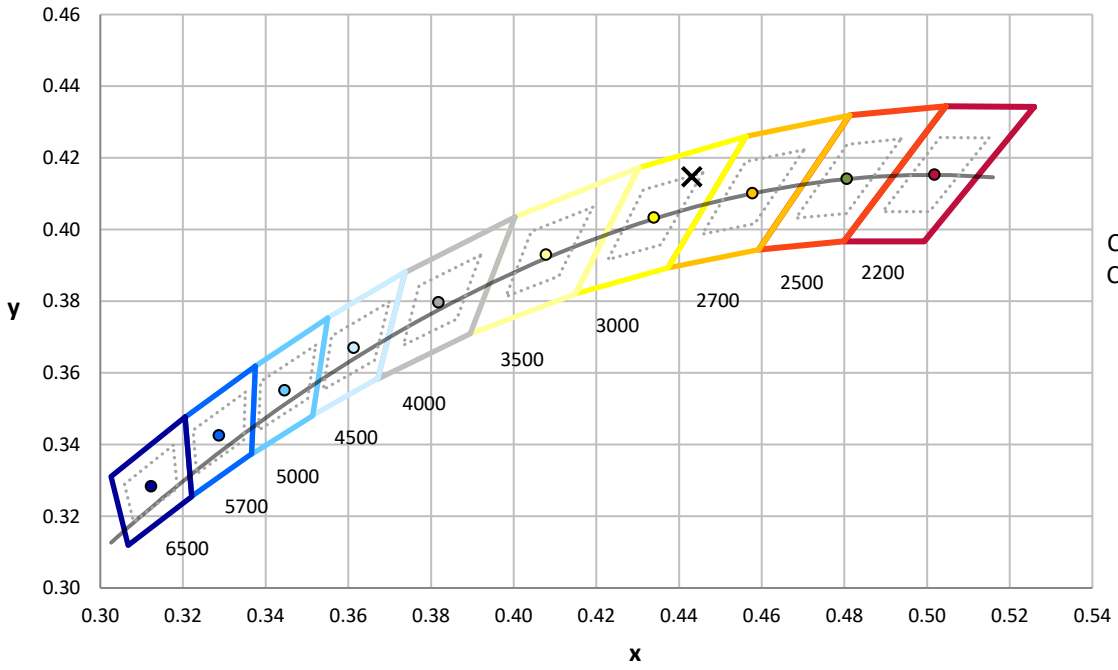
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

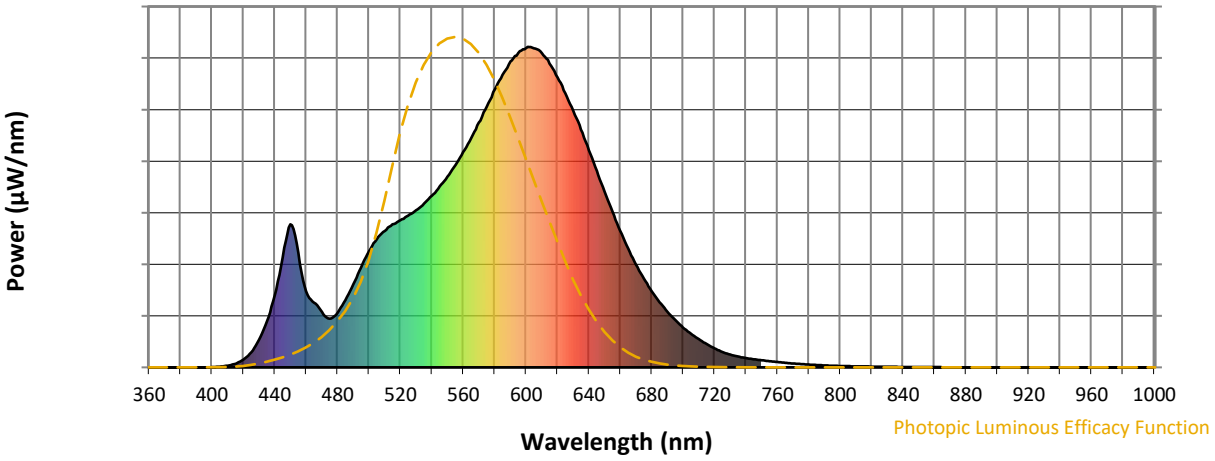


CCT = 2984K
CIE x = 0.4431
CIE y = 0.4147
Duv = 0.0033

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2407-176-7

Photopic Flux vs. Wavelength

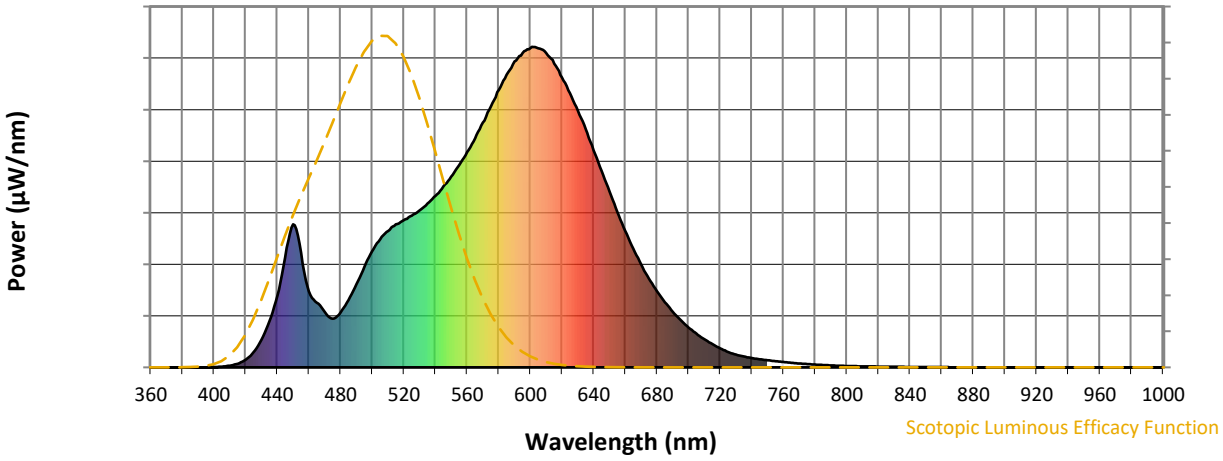


Photopic Lumens: NR

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

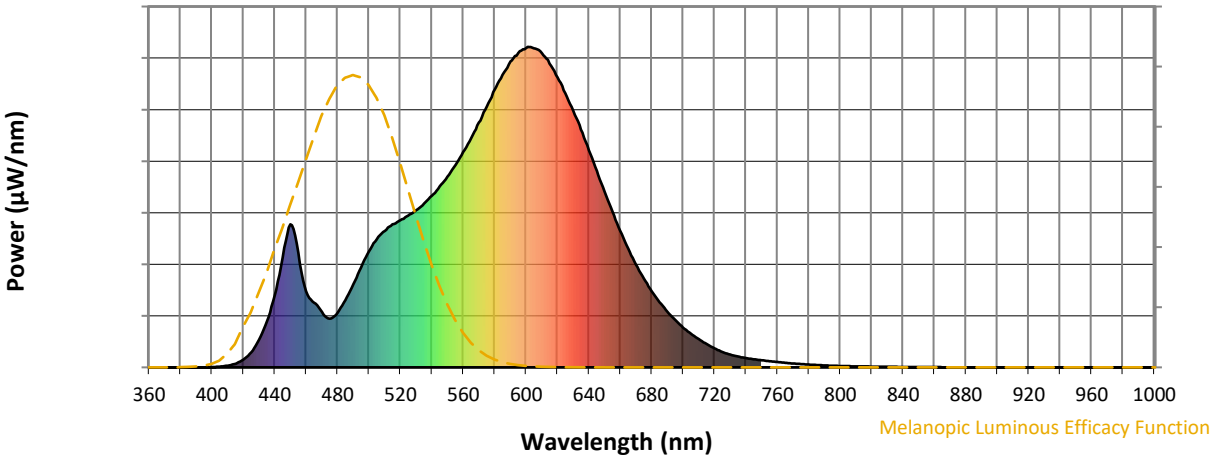


Scotopic Lumens: NR **S/P: 1.32**

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			

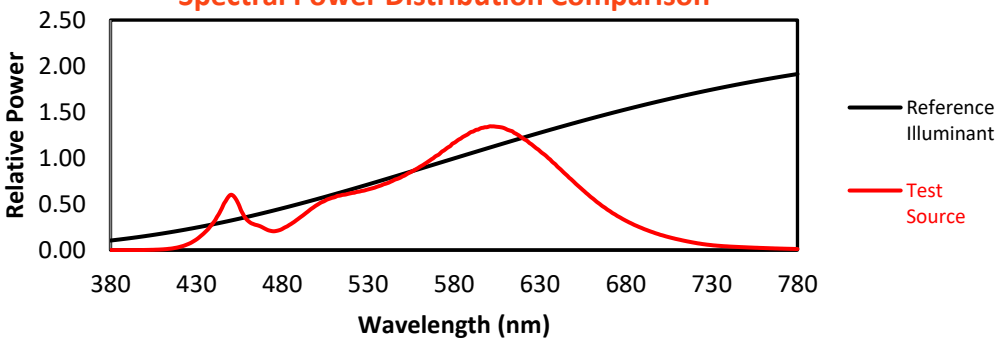
REPORT NUMBER: SP1-2407-176-7

TM-30-18

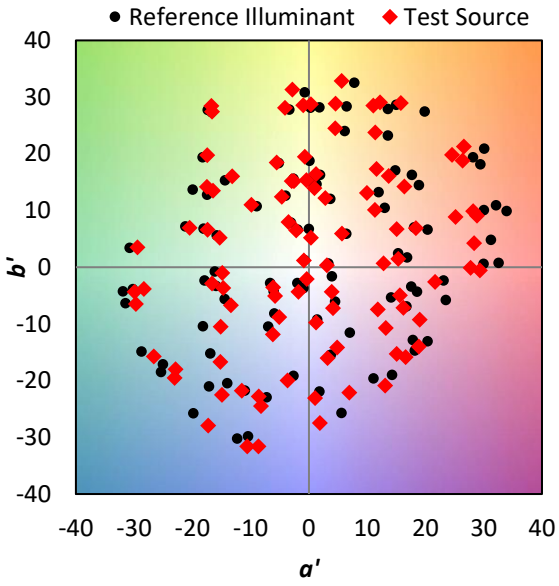
Summary

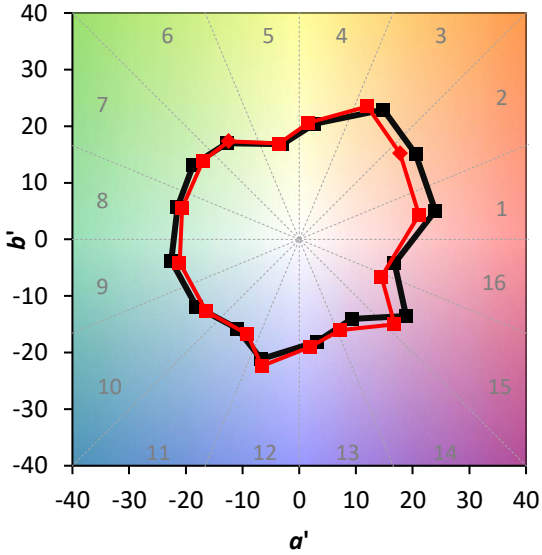
R_f = 85.8
R_g = 94.1
CIE R_a = 81.8
R_9 = -1.1

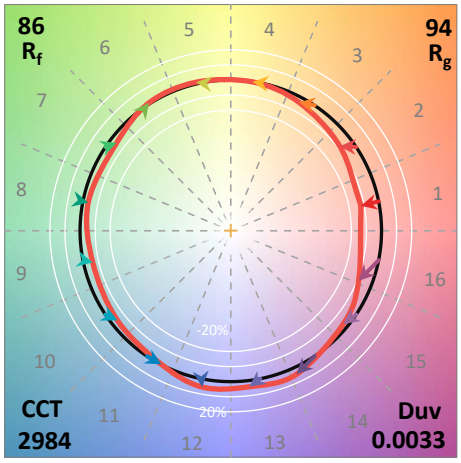
Spectral Power Distribution Comparison

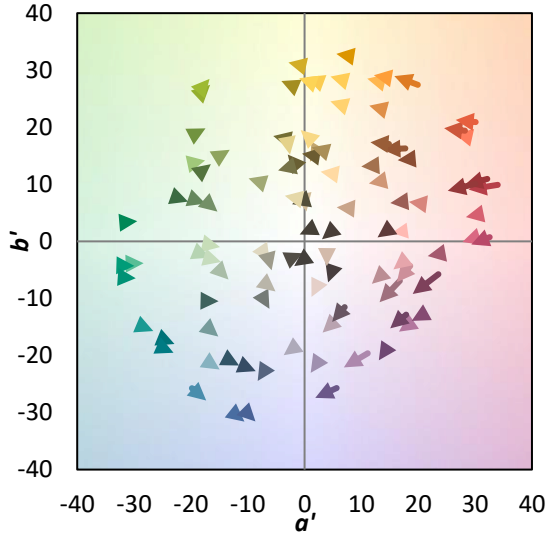


Color Vector Graphics







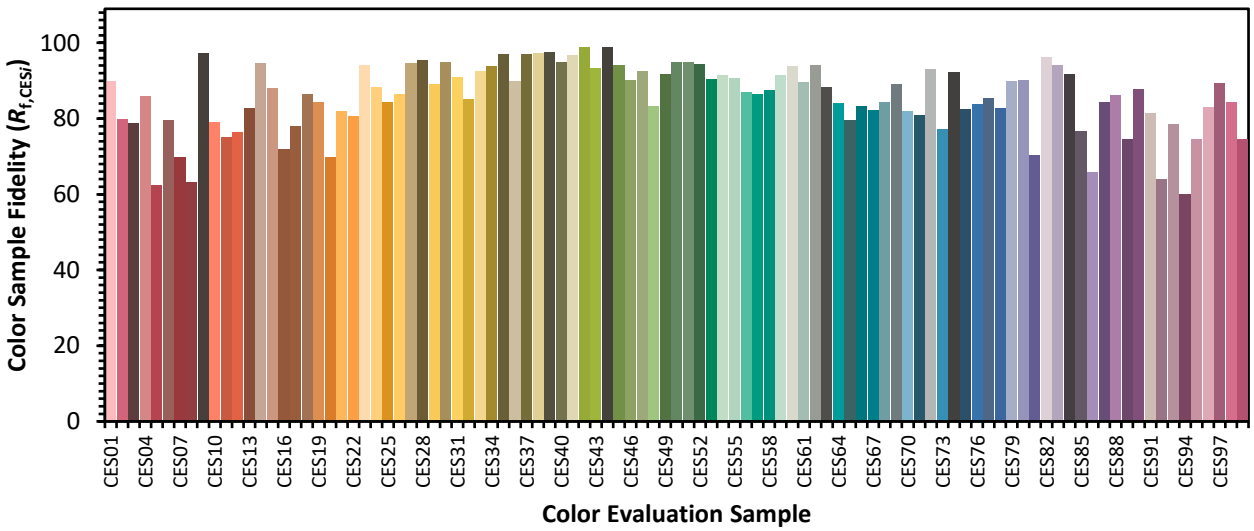


REPORT NUMBER: SP1-2407-176-7

TM-30-18

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

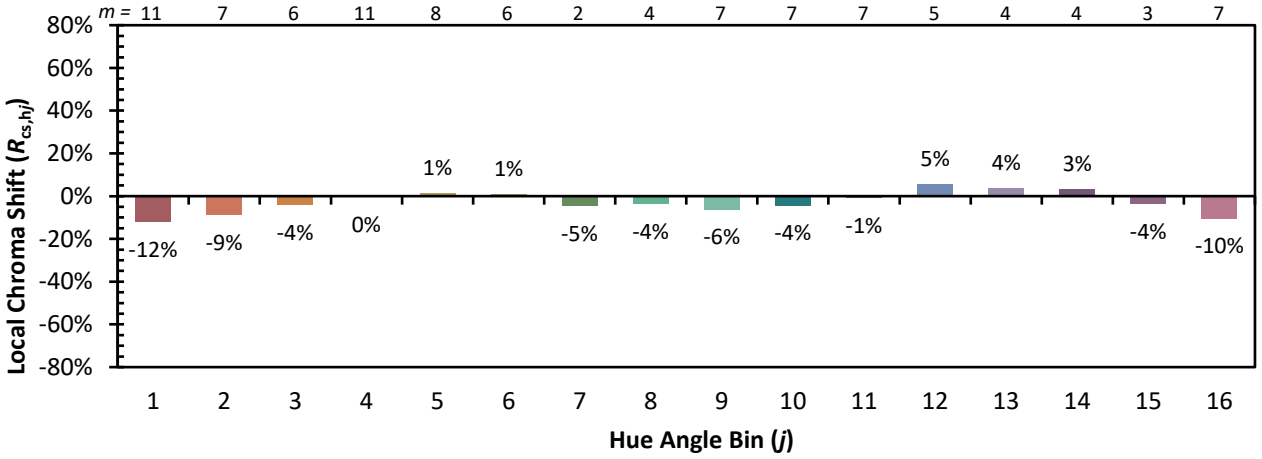
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CES02 = 63	CES27 = 95	CES52 = 94	CES77 = 86
CES03 = 31	CES28 = 95	CES53 = 90	CES78 = 83
CES04 = 70	CES29 = 89	CES54 = 91	CES79 = 90
CES05 = 50	CES30 = 95	CES55 = 91	CES80 = 90
CES06 = 51	CES31 = 91	CES56 = 87	CES81 = 70
CES07 = 42	CES32 = 85	CES57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

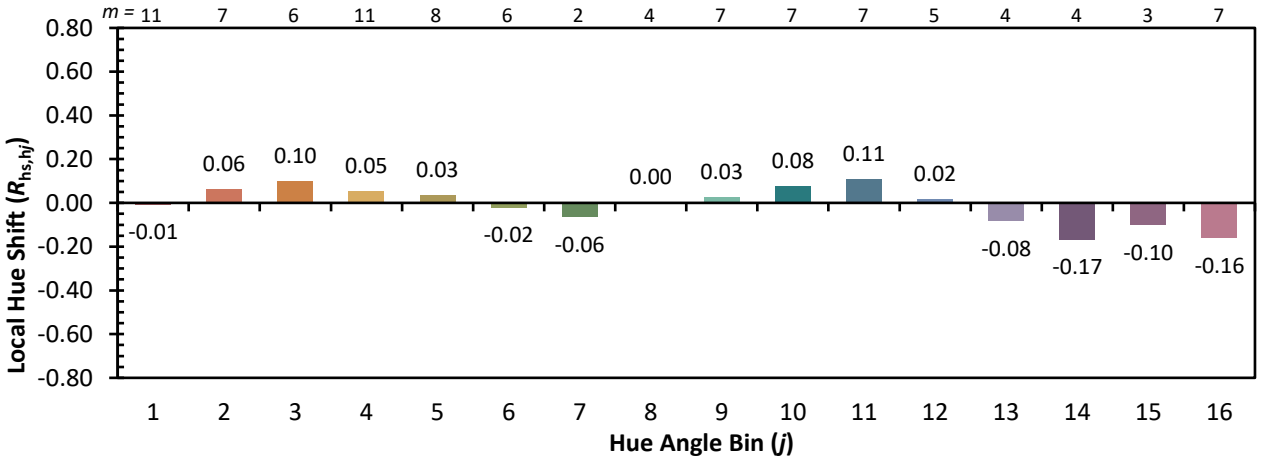


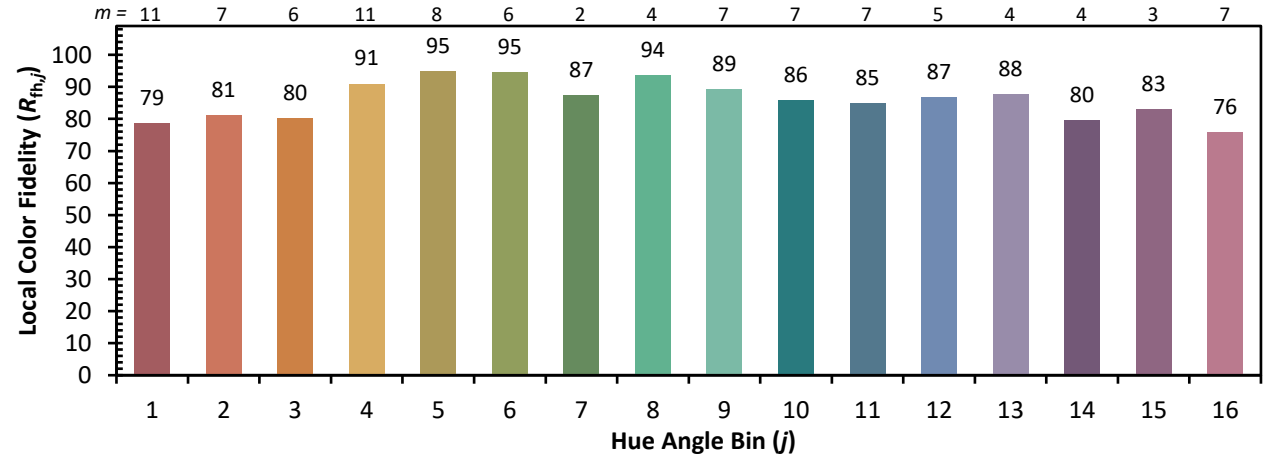
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Color Rendition by Hue-Angle Bin



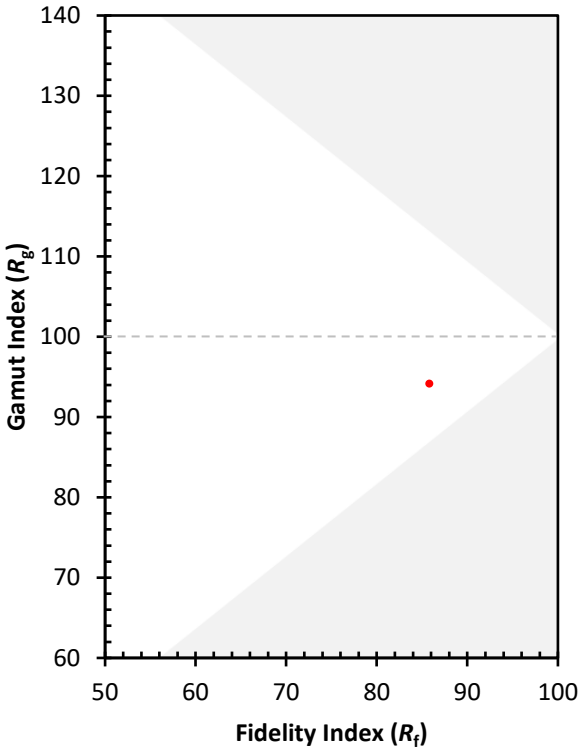


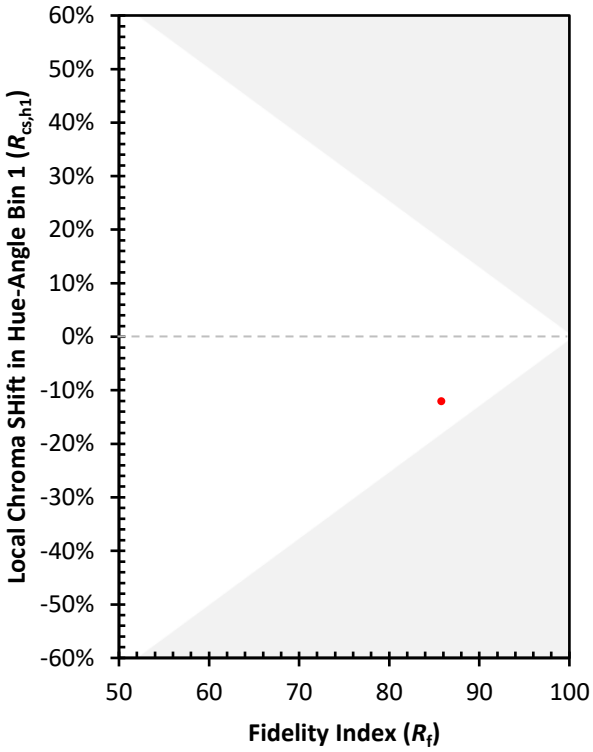


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Measure Comparisons





(END OF REPORT)