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: P821144

Luminaire Tested: **TT-D3-830-24VDC-CQ-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:	P821144
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2010-017-3)
Test Lab:	INNOVATION CENTER
Issue Date:	12/2/2020
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	McGRAW-EDISON
Catalog Number:	TT-D3-830-24VDC-CQ-HSS
Description:	TOPTIER LED PARKING GARAGE LUMINAIRE
	3000K, 80 CRI LEDS AND CONCENTRATED DISTRIBUTION WITH HOUSE SIDE SHIELD
Light Source:	-
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	4735.1 lumens
Efficiency:	N/A
Efficacy:	102.9 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type IV - Short
BUG Rating:	B2 - U1 - G1

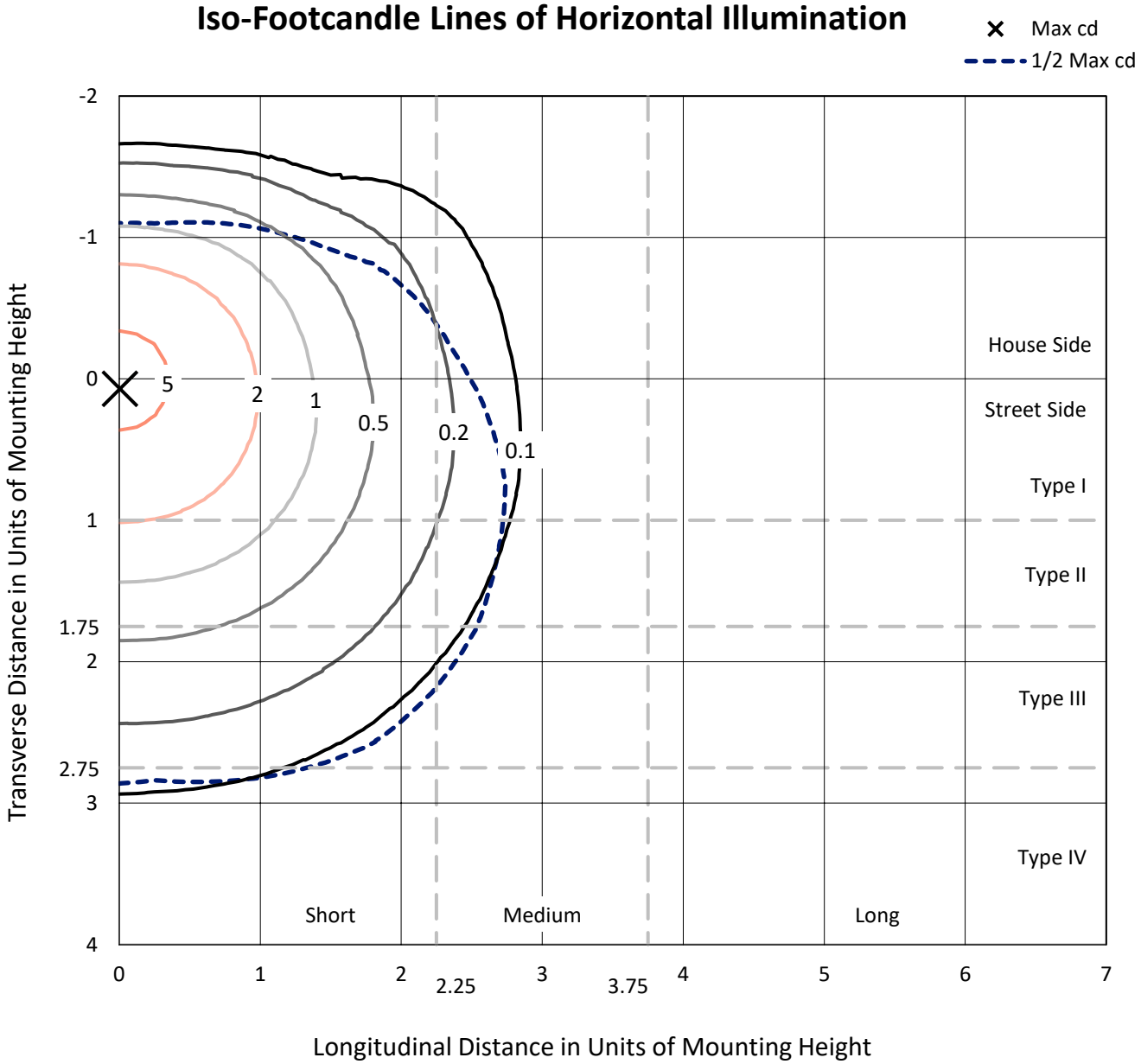
Input Watts (W):	46
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	25 FT

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Iso-Footcandle Lines of Horizontal Illumination



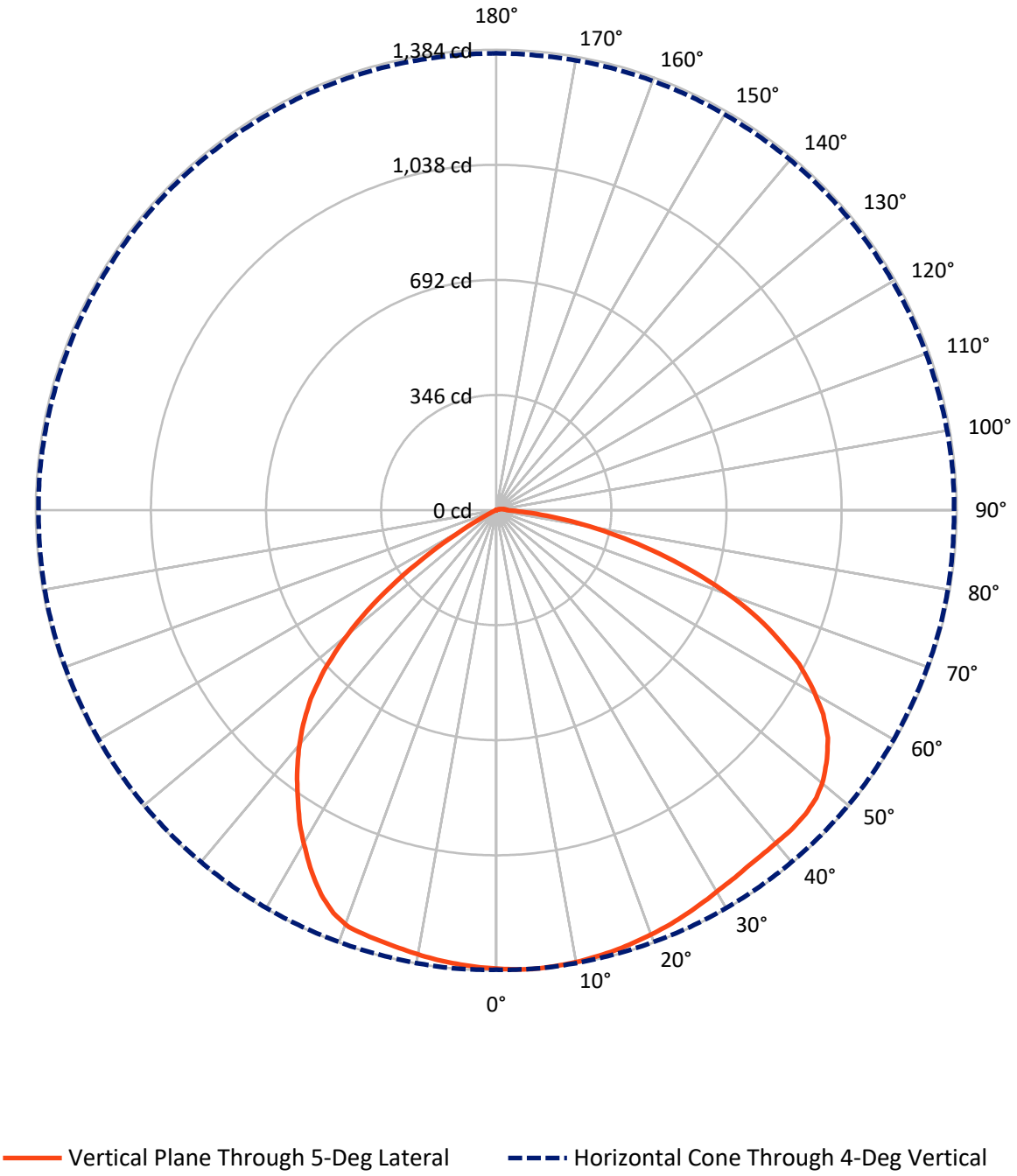
Based on 15 foot mounting height. Maximum calculated value = 6.1 fc
Type IV - Short - N/A

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Luminous Intensity Polar Plot



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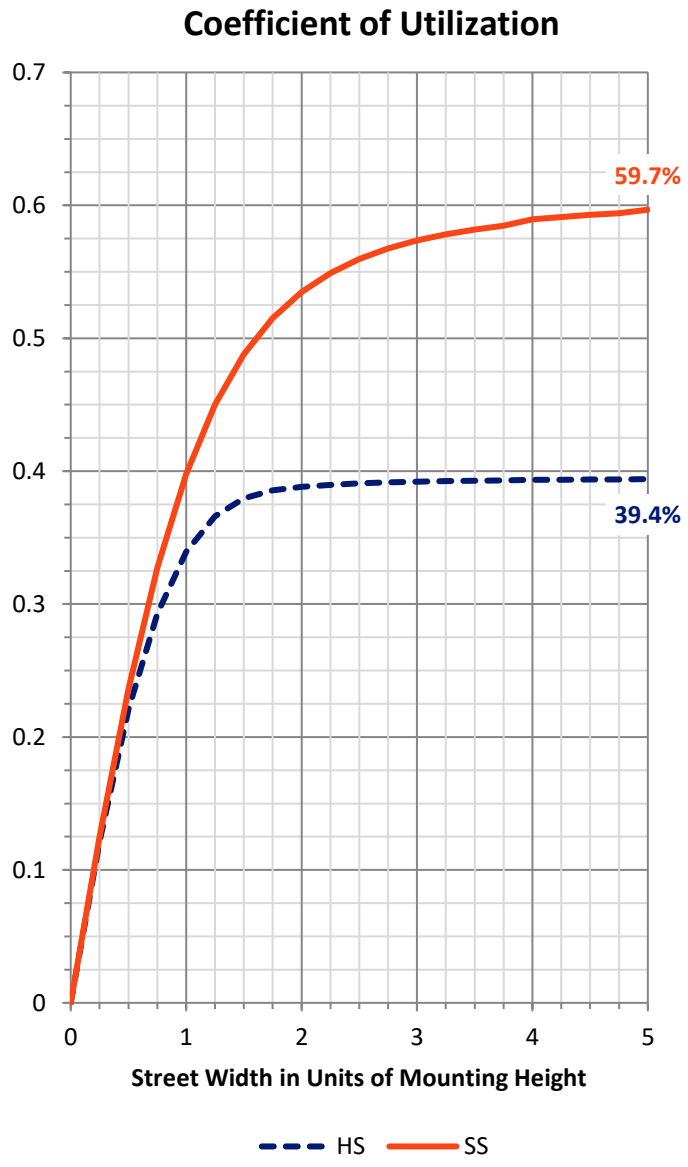
REPORT NUMBER: P821144
CATALOG NUMBER: TT-D3-830-24VDC-CQ-HSS

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1876.5	2.4	1878.9
	% Fixture	39.6	0.1	39.7
Street Side	Lumens	2842.9	13.2	2856.2
	% Fixture	60.0	0.3	60.3
Total	Lumens	4719.4	15.7	4735.1
	% Fixture	99.7	0.3	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.1	2.8
10°-20°	383.8	8.1
20°-30°	604.8	12.8
30°-40°	769.7	16.3
40°-50°	889.0	18.8
50°-60°	870.5	18.4
60°-70°	648.3	13.7
70°-80°	351.2	7.4
80°-90°	71.2	1.5
90°-100°	9.0	0.2
100°-110°	3.5	0.1
110°-120°	1.0	0.0
120°-130°	0.7	0.0
130°-140°	0.6	0.0
140°-150°	0.4	0.0
150°-160°	0.2	0.0
160°-170°	0.1	0.0
170°-180°	0.1	0.0
0°-90°	4719.4	99.7
0°-180°	4735.1	100.0



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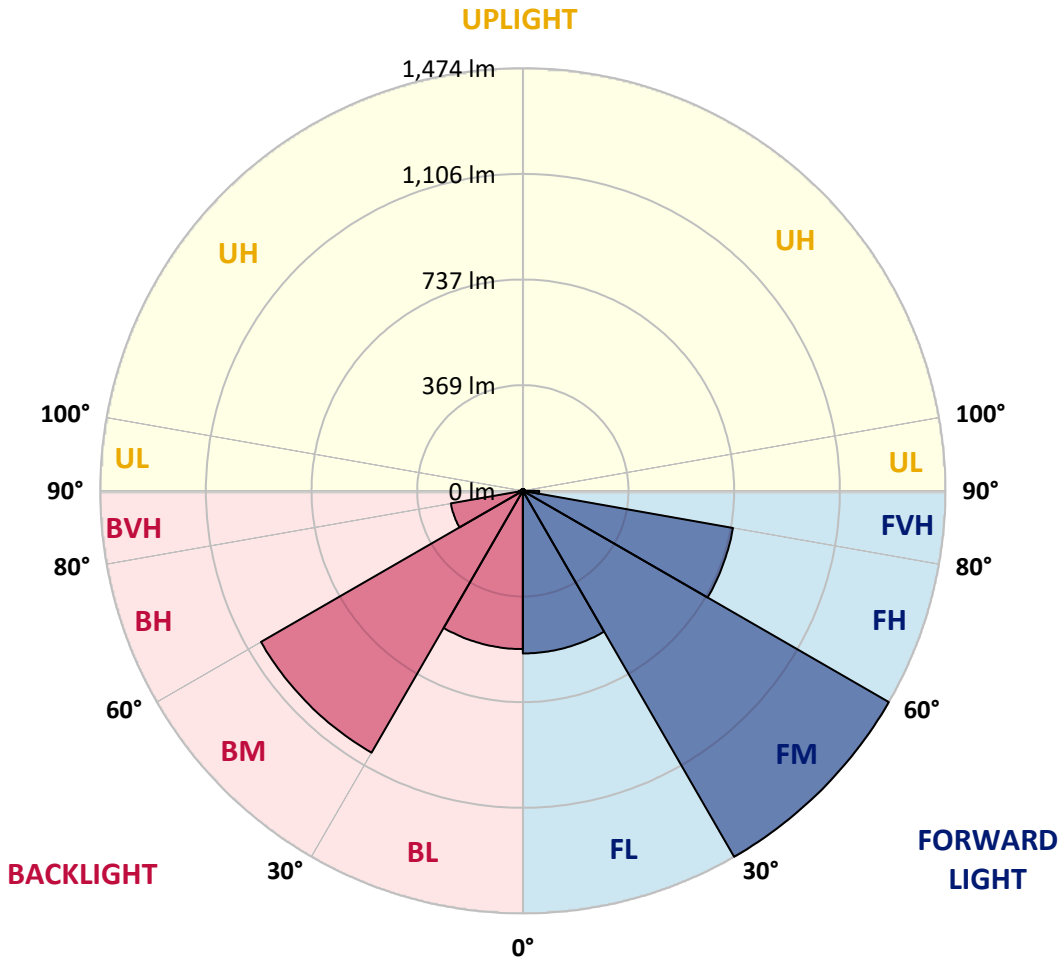
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	567.4	12.0			
FM	(30°-60°)	1474.3	31.1			
FH	(60°-80°)	744.5	15.7			G1/1800
FVH	(80°-90°)	56.8	1.2			G1/100
BL	(0°-30°)	552.3	11.7	B2/1000		
BM	(30°-60°)	1054.8	22.3	B2/2500		
BH	(60°-80°)	255.0	5.4	B1/500		G1/500
BVH	(80°-90°)	14.3	0.3			G1/100
UL	(90°-100°)	9.0	0.2		U1/10	
UH	(100°-180°)	6.6	0.1		U1/10	

BUG Rating: B2-U1-G1
Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1379.1	1379.1	1379.1	1379.1	1379.1	1379.1	1379.1	1379.1	1379.1	1379.1	1379.1
2.5°	1380.9	1382.7	1381.8	1381.8	1380.0	1380.9	1380.0	1380.0	1379.1	1378.2	1378.2
4°	1381.8	1383.6	1381.8	1381.8	1380.9	1380.9	1380.0	1378.2	1379.1	1376.4	1375.5
5°	1382.7	1383.6	1382.7	1382.7	1380.9	1380.0	1378.2	1378.2	1377.3	1375.5	1375.5
7.5°	1380.9	1381.8	1381.8	1380.9	1379.1	1377.3	1376.4	1375.5	1374.7	1372.0	1372.0
10°	1377.3	1379.1	1377.3	1377.3	1376.4	1374.7	1372.0	1371.1	1368.4	1366.6	1365.7
12.5°	1373.8	1374.7	1373.8	1373.8	1372.0	1369.3	1368.4	1366.6	1363.1	1360.4	1360.4
15°	1368.4	1370.2	1369.3	1368.4	1367.5	1364.9	1362.2	1359.5	1356.8	1354.2	1354.2
17.5°	1362.2	1363.1	1364.0	1363.1	1361.3	1359.5	1356.8	1353.3	1350.6	1347.9	1347.1
20°	1355.1	1356.8	1356.8	1356.8	1355.1	1353.3	1349.7	1346.2	1344.4	1340.8	1339.9
22.5°	1347.9	1349.7	1348.8	1349.7	1348.8	1346.2	1342.6	1339.0	1335.5	1332.8	1331.0
25°	1340.8	1340.8	1340.8	1340.8	1340.8	1337.3	1333.7	1329.2	1325.7	1321.2	1321.2
27.5°	1331.9	1331.9	1332.8	1332.8	1331.9	1329.2	1324.8	1319.5	1314.1	1309.7	1307.9
30°	1323.9	1323.0	1324.8	1326.6	1325.7	1323.0	1317.7	1311.4	1303.4	1297.2	1291.9
32.5°	1314.1	1316.8	1318.6	1322.1	1323.0	1319.5	1313.2	1305.2	1297.2	1285.6	1275.8
35°	1310.5	1310.5	1315.0	1320.3	1322.1	1320.3	1311.4	1302.5	1291.0	1274.0	1262.5
37.5°	1307.0	1307.9	1315.0	1323.0	1325.7	1325.7	1315.9	1304.3	1288.3	1264.3	1250.0
40°	1305.2	1307.0	1315.9	1327.5	1334.6	1333.7	1322.1	1307.9	1288.3	1257.1	1239.3
42.5°	1303.4	1307.0	1316.8	1332.8	1343.5	1342.6	1330.1	1311.4	1286.5	1248.2	1227.7
45°	1300.8	1303.4	1316.8	1337.3	1351.5	1354.2	1339.9	1315.9	1286.5	1240.2	1213.5
47.5°	1292.7	1293.6	1311.4	1335.5	1356.8	1360.4	1346.2	1317.7	1282.9	1226.9	1195.7
50°	1271.4	1274.0	1294.5	1326.6	1351.5	1356.8	1344.4	1313.2	1274.0	1204.6	1167.2
52.5°	1243.8	1243.8	1268.7	1304.3	1334.6	1343.5	1331.9	1297.2	1251.8	1171.7	1128.9
55°	1202.8	1209.1	1234.9	1272.3	1305.2	1317.7	1301.6	1267.8	1215.3	1129.8	1082.6
57.5°	1156.5	1158.3	1185.0	1229.5	1263.4	1271.4	1258.0	1218.0	1167.2	1080.0	1023.9
60°	1089.7	1093.3	1127.1	1166.3	1202.8	1213.5	1196.6	1156.5	1103.1	1015.9	958.9
62.5°	1015.9	1021.2	1051.5	1091.5	1126.3	1143.2	1122.7	1080.8	1028.3	939.3	889.4
65°	926.8	928.6	961.5	1006.9	1041.7	1047.9	1030.1	989.1	936.6	851.1	806.6
67.5°	824.4	833.3	865.4	899.2	929.5	936.6	924.1	877.0	835.1	759.4	715.8
70°	725.6	721.2	747.9	781.7	809.3	815.5	801.3	757.7	718.5	647.3	613.4
72.5°	606.3	602.7	631.2	657.1	683.8	680.2	666.0	631.2	597.4	536.9	505.7
75°	486.1	482.6	504.8	527.1	540.4	542.2	532.4	506.6	470.1	422.9	398.9
77.5°	368.6	372.2	381.9	400.6	413.1	418.4	401.5	375.7	352.6	316.1	298.3
80°	262.6	263.5	267.1	280.5	289.4	289.4	281.3	260.9	235.0	209.2	200.3
82.5°	165.6	169.2	169.2	182.5	182.5	175.4	171.8	158.5	145.1	124.6	112.2
85°	90.8	89.0	94.4	95.3	94.4	89.0	83.7	75.7	66.8	52.5	47.2
87.5°	40.1	39.2	39.2	39.2	38.3	34.7	29.4	23.1	16.0	9.8	7.1
90°	31.2	31.2	30.3	28.5	25.8	23.1	18.7	14.2	8.9	3.6	1.8
92.5°	28.5	28.5	27.6	26.7	24.0	21.4	16.9	12.5	8.0	3.6	1.8
95°	24.9	24.0	24.0	22.3	20.5	17.8	15.1	10.7	7.1	2.7	1.8
97.5°	20.5	19.6	19.6	18.7	16.9	14.2	12.5	8.9	6.2	2.7	1.8
100°	15.1	16.0	15.1	14.2	13.4	11.6	9.8	7.1	4.5	1.8	1.8
102.5°	11.6	11.6	10.7	10.7	9.8	8.9	7.1	5.3	3.6	1.8	0.9
105°	8.0	8.0	8.0	7.1	7.1	6.2	5.3	3.6	2.7	1.8	0.9
107.5°	4.5	4.5	4.5	4.5	4.5	4.5	3.6	2.7	1.8	0.9	0.9

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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
110°	2.7	2.7	2.7	2.7	2.7	2.7	1.8	1.8	0.9	0.9	0.9
112.5°	0.9	0.9	1.8	1.8	1.8	1.8	1.8	0.9	0.9	0.9	0.9
115°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
117.5°	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
120°	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
122.5°	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
125°	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
127.5°	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
130°	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
132.5°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9
135°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9
137.5°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9
140°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9
142.5°	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9
145°	0.9	0.9	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9
147.5°	0.9	0.9	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9
150°	0.9	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9
152.5°	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9
155°	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9
157.5°	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9
160°	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9
162.5°	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9
165°	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9
167.5°	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9
170°	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9
172.5°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9
175°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9
177.5°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9
180°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1379.1	1379.1	1379.1	1379.1	1379.1	1379.1	1379.1	1379.1	1379.1	1379.1
2.5°	1377.3	1374.7	1376.4	1375.5	1376.4	1374.7	1374.7	1374.7	1375.5	1373.8
4°	*1376.4*	*1374.7*	*1374.7*	*1374.7*	*1374.7*	*1372.9*	*1372.9*	*1372.9*	*1372.0*	*1372.9*
5°	1374.7	1373.8	1372.9	1372.0	1372.9	1371.1	1370.2	1370.2	1370.2	1371.1
7.5°	1371.1	1368.4	1368.4	1365.7	1366.6	1365.7	1364.9	1365.7	1364.9	1364.9
10°	1364.9	1363.1	1362.2	1360.4	1360.4	1358.6	1357.7	1357.7	1357.7	1356.8
12.5°	1358.6	1356.8	1356.0	1354.2	1353.3	1351.5	1350.6	1351.5	1349.7	1349.7
15°	1351.5	1349.7	1348.8	1348.8	1347.1	1345.3	1344.4	1342.6	1342.6	1342.6
17.5°	1345.3	1343.5	1344.4	1342.6	1341.7	1339.9	1339.9	1336.4	1336.4	1335.5
20°	1339.0	1337.3	1337.3	1336.4	1336.4	1334.6	1331.9	1330.1	1329.2	1329.2
22.5°	1331.0	1328.4	1323.9	1317.7	1314.1	1311.4	1310.5	1307.9	1307.0	1305.2
25°	1318.6	1311.4	1301.6	1291.0	1280.3	1274.9	1273.2	1269.6	1269.6	1269.6
27.5°	1303.4	1290.1	1276.7	1260.7	1244.7	1234.0	1226.9	1223.3	1221.5	1221.5
30°	1283.8	1266.9	1248.2	1227.7	1209.9	1190.4	1177.9	1170.8	1167.2	1168.1
32.5°	1266.0	1244.7	1223.3	1197.5	1173.4	1150.3	1128.9	1118.2	1113.8	1112.0
35°	1248.2	1224.2	1198.4	1170.8	1139.6	1105.8	1077.3	1061.3	1052.4	1053.2
37.5°	1234.9	1206.4	1177.9	1144.1	1108.4	1067.5	1031.0	1005.2	994.5	996.3
40°	1220.6	1188.6	1157.4	1118.2	1076.4	1027.4	980.2	945.5	933.1	930.4
42.5°	1207.3	1169.9	1134.3	1092.4	1039.9	984.7	926.8	885.9	867.2	864.5
45°	1190.4	1148.5	1110.2	1062.1	1004.3	935.7	868.1	814.6	795.1	787.0
47.5°	1168.1	1121.8	1079.1	1023.9	960.7	883.2	798.6	732.7	707.8	701.6
50°	1135.2	1081.7	1038.1	975.8	899.2	813.8	719.4	638.4	605.4	601.0
52.5°	1091.5	1037.2	988.3	917.0	823.5	722.9	616.1	532.4	494.1	491.5
55°	1039.0	980.2	926.8	846.7	737.2	620.6	509.3	403.3	365.9	361.5
57.5°	977.6	917.0	859.2	760.3	633.9	503.9	374.8	273.3	237.7	228.8
60°	909.9	847.6	782.6	662.4	495.0	357.0	227.0	145.1	118.4	109.5
62.5°	844.0	776.4	707.8	545.8	339.2	203.9	103.3	41.8	26.7	25.8
65°	766.6	702.5	632.1	439.8	214.6	91.7	30.3	0.9	0.0	0.0
67.5°	676.6	622.3	560.0	393.5	189.6	80.1	25.8	0.9	0.0	0.0
70°	580.5	537.8	482.6	338.3	162.9	67.7	22.3	0.0	0.0	0.0
72.5°	479.0	442.5	401.5	281.3	135.3	56.1	17.8	0.0	0.0	0.0
75°	375.7	352.6	316.1	222.6	105.1	42.7	13.4	0.0	0.0	0.0
77.5°	278.7	260.0	233.3	163.8	79.2	31.2	9.8	0.0	0.0	0.0
80°	187.9	173.6	158.5	111.3	53.4	20.5	6.2	0.0	0.0	0.0
82.5°	109.5	98.8	89.0	63.2	29.4	11.6	2.7	0.0	0.0	0.0
85°	44.5	41.0	39.2	26.7	11.6	3.6	0.9	0.0	0.0	0.0
87.5°	5.3	4.5	4.5	2.7	0.9	0.0	0.0	0.0	0.0	0.0
90°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
95°	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0
97.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.0
100°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
102.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
105°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
107.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

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

Scaled Data Report

REPORT NUMBER: P821144
CATALOG NUMBER: TT-D3-830-24VDC-CQ-HSS

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
110°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
112.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
115°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
117.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
120°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
122.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
125°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
127.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
130°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
132.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
135°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
137.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0.0
140°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0.0
142.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0
145°	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0
147.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.9
150°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
152.5°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
155°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
157.5°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
160°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
162.5°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
165°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
167.5°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
170°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
172.5°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
175°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
177.5°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
180°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

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

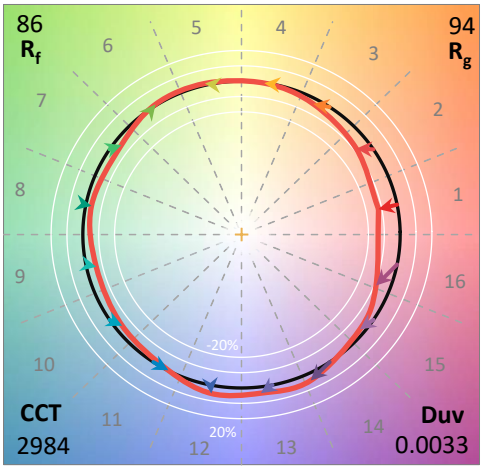
Test Information

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

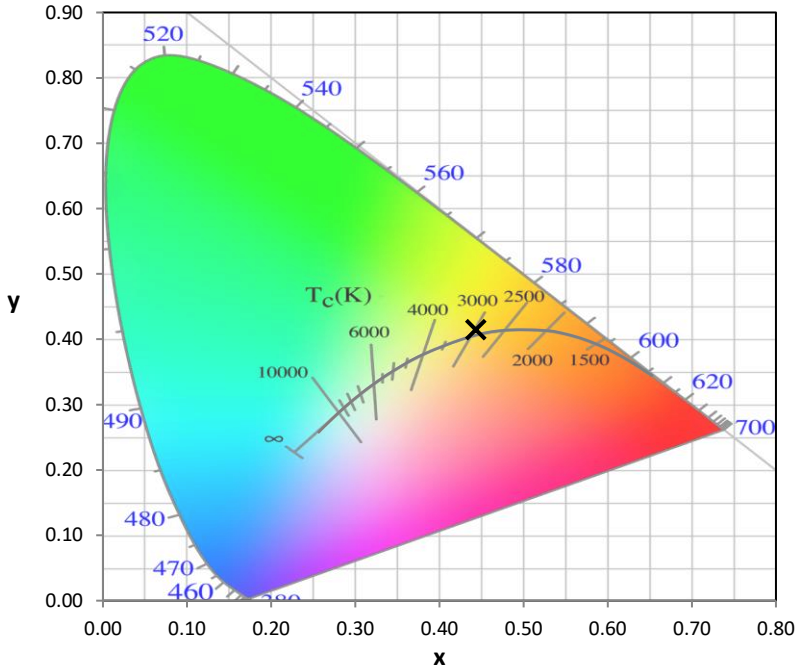
Stabilization Time:	29M
Operation Time:	1H 29M
Sphere Temperature (°C):	25.2

REPORT NUMBER: SP1-2407-176-7

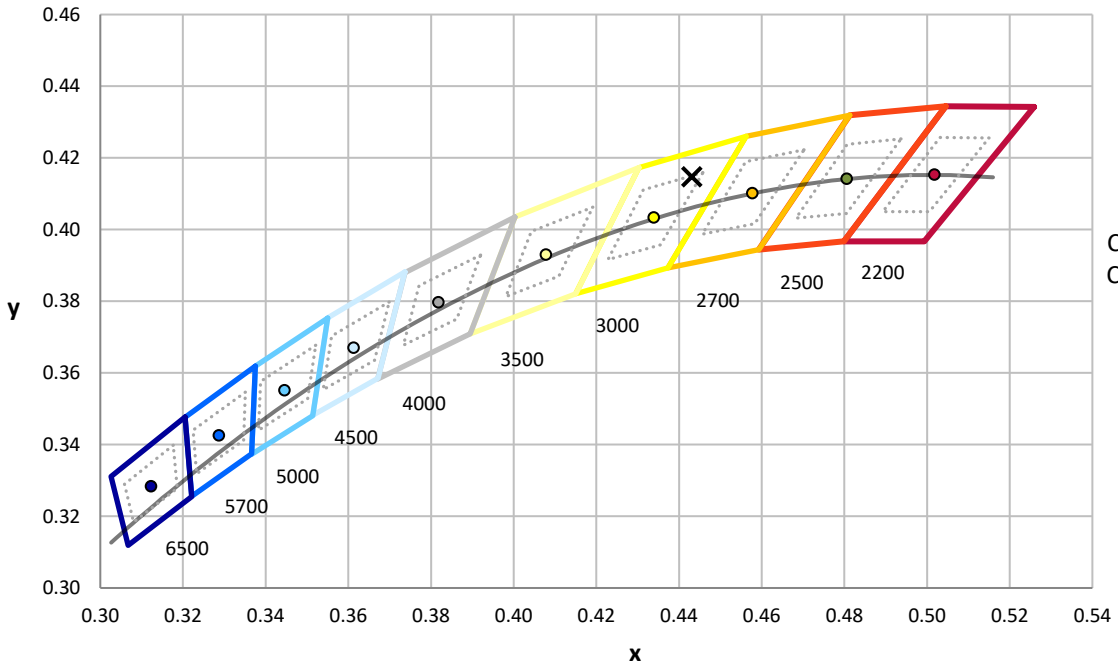
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

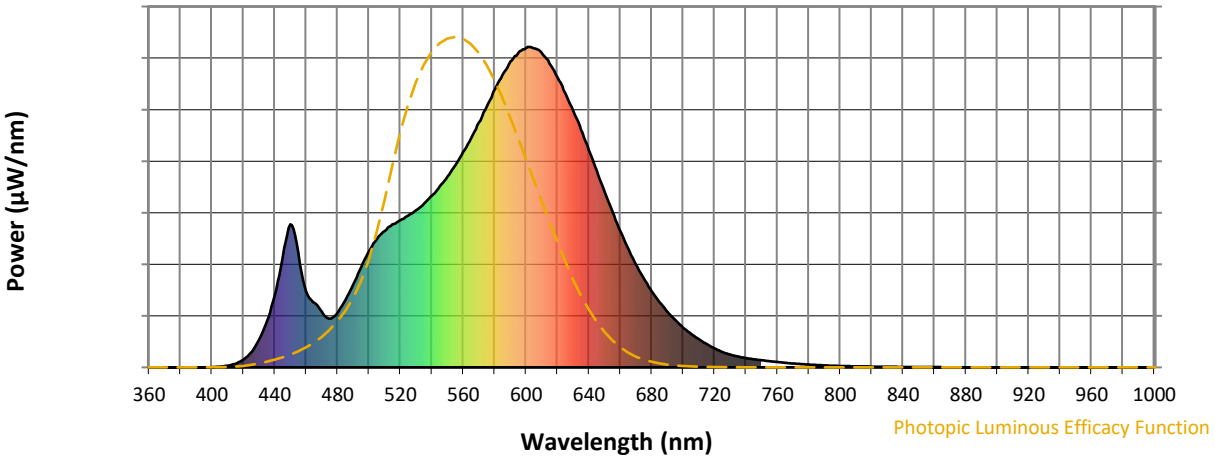


CCT = 2984K
CIE x = 0.4431
CIE y = 0.4147
Duv = 0.0033

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2407-176-7

Photopic Flux vs. Wavelength

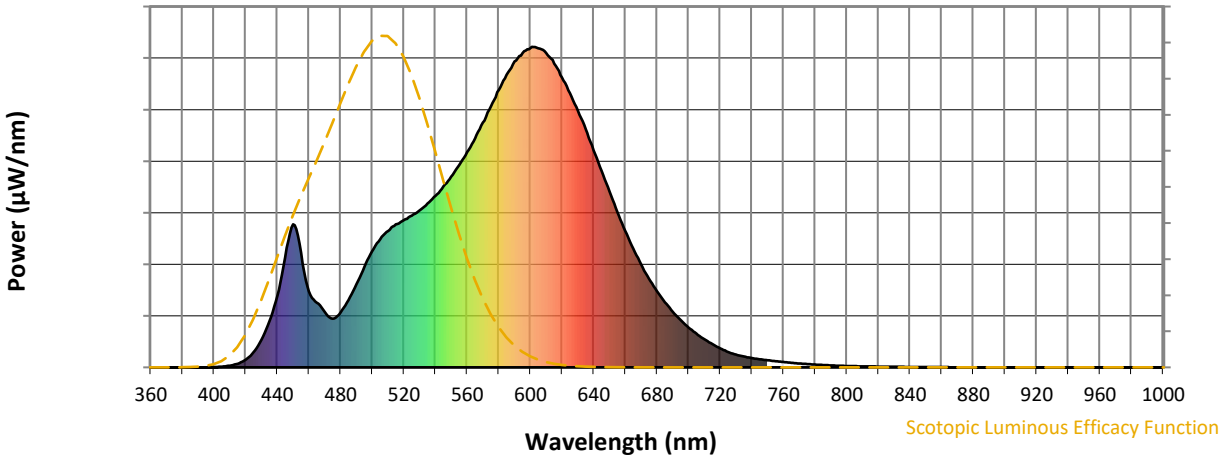


Photopic Lumens: NR

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

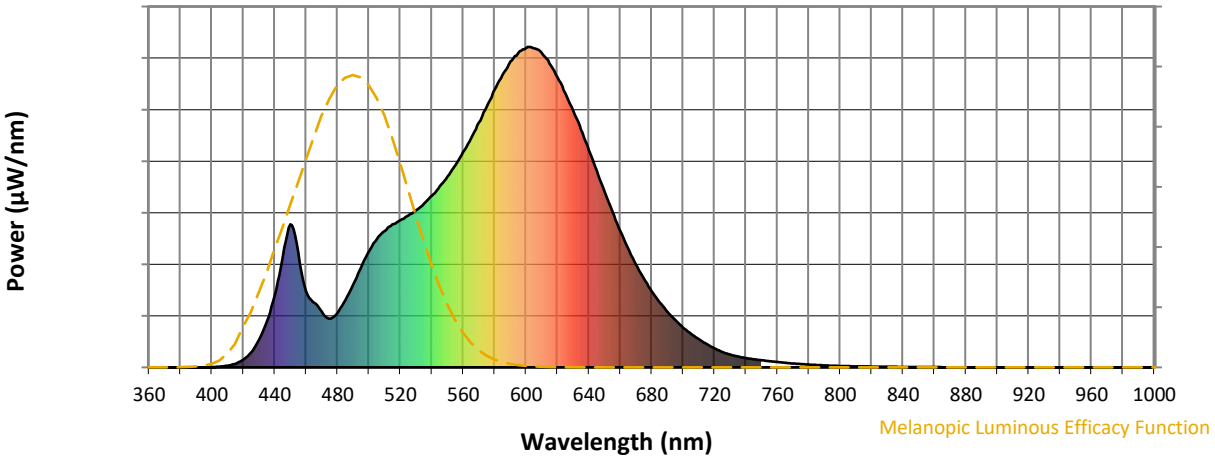


Scotopic Lumens: NR **S/P: 1.32**

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			

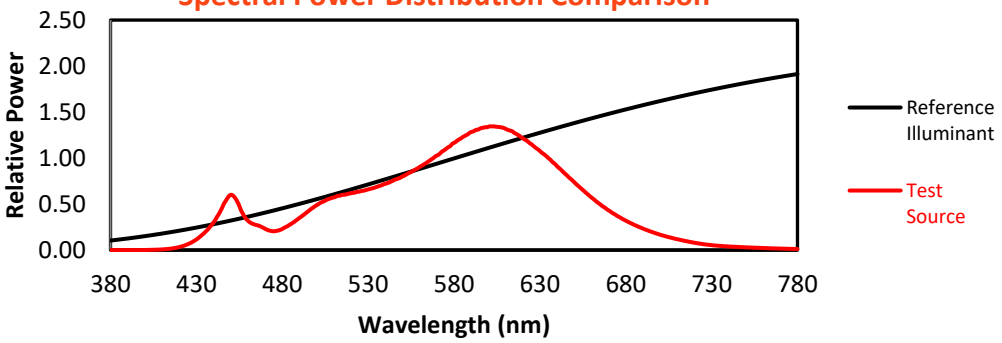
REPORT NUMBER: SP1-2407-176-7

TM-30-18

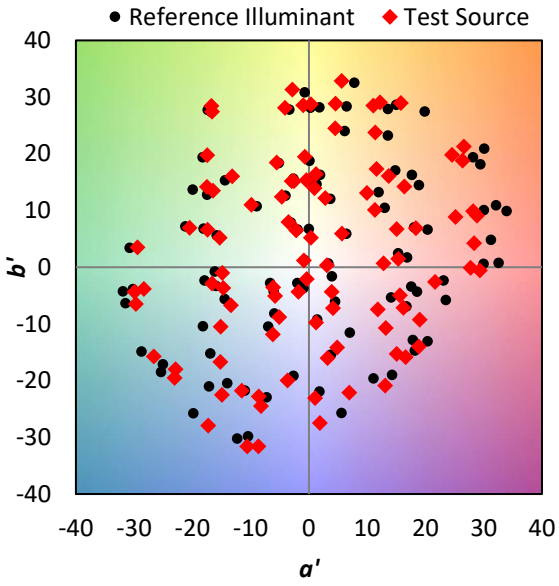
Summary

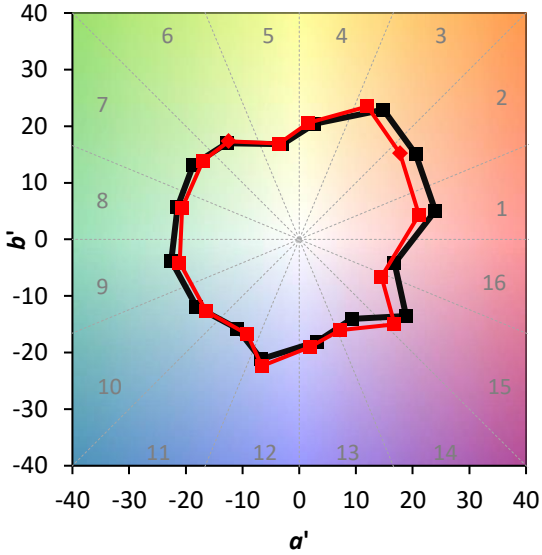
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R_g = 94.1
CIE R_a = 81.8
R_9 = -1.1

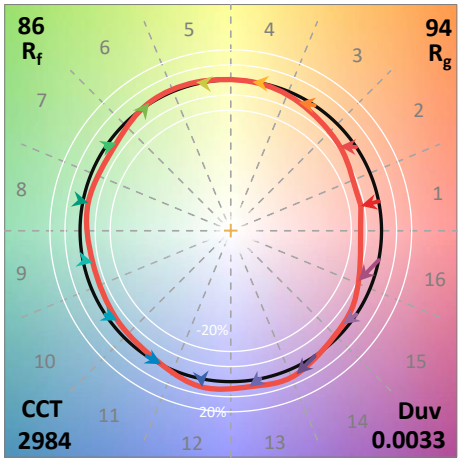
Spectral Power Distribution Comparison

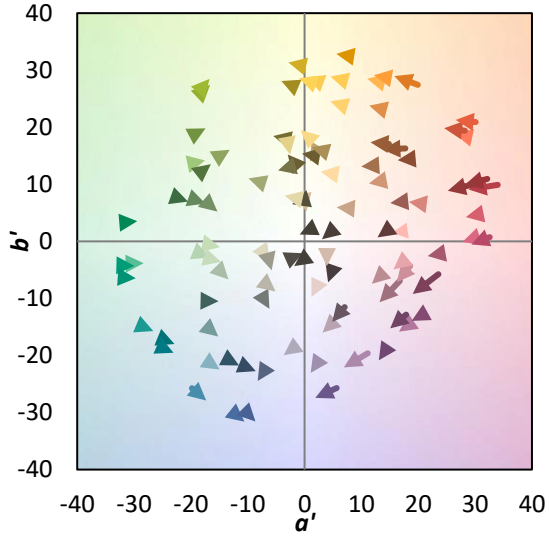


Color Vector Graphics







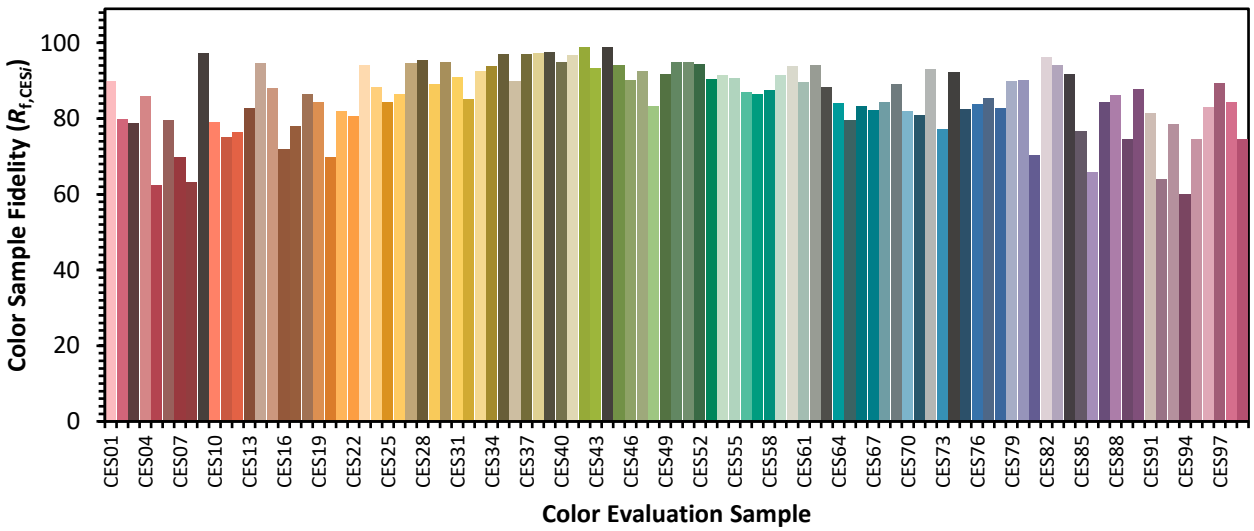


REPORT NUMBER: SP1-2407-176-7

TM-30-18

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

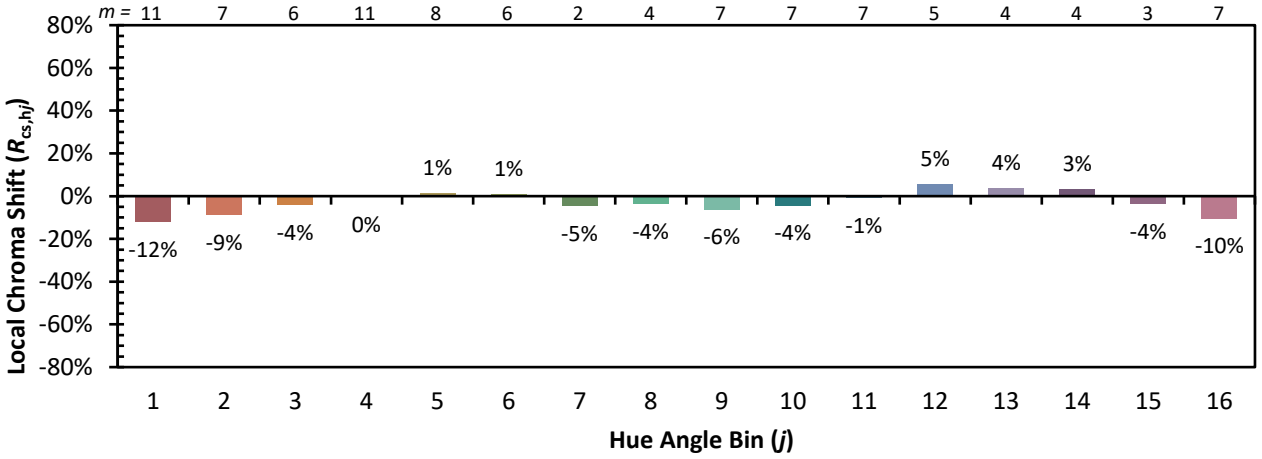
CES01 = 86	CES26 = 86	CES51 = 95	CES76 = 84
CES02 = 63	CES27 = 95	CES52 = 94	CES77 = 86
CES03 = 31	CES28 = 95	CES53 = 90	CES78 = 83
CES04 = 70	CES29 = 89	CES54 = 91	CES79 = 90
CES05 = 50	CES30 = 95	CES55 = 91	CES80 = 90
CES06 = 51	CES31 = 91	CES56 = 87	CES81 = 70
CES07 = 42	CES32 = 85	CES57 = 86	CES82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

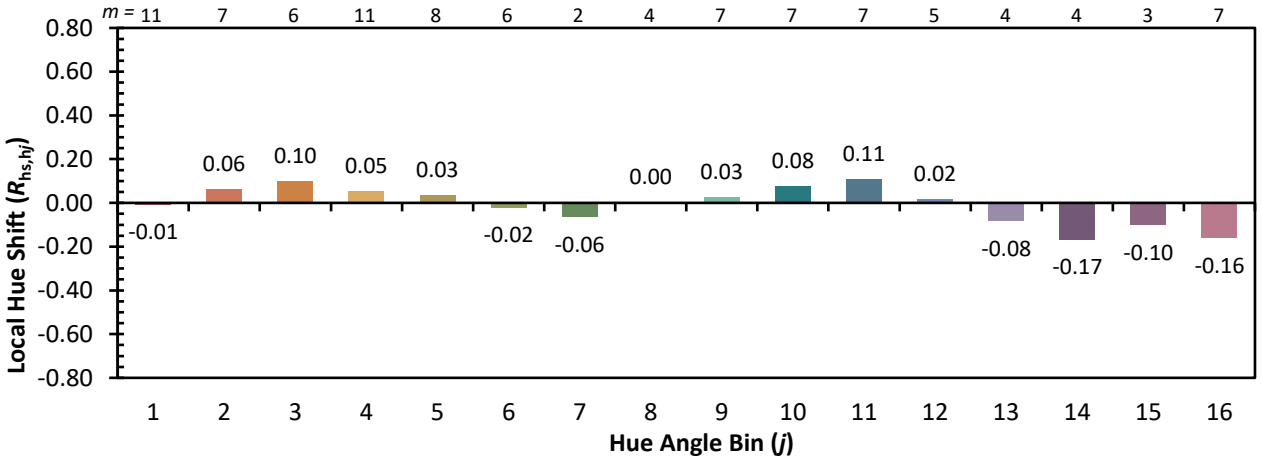


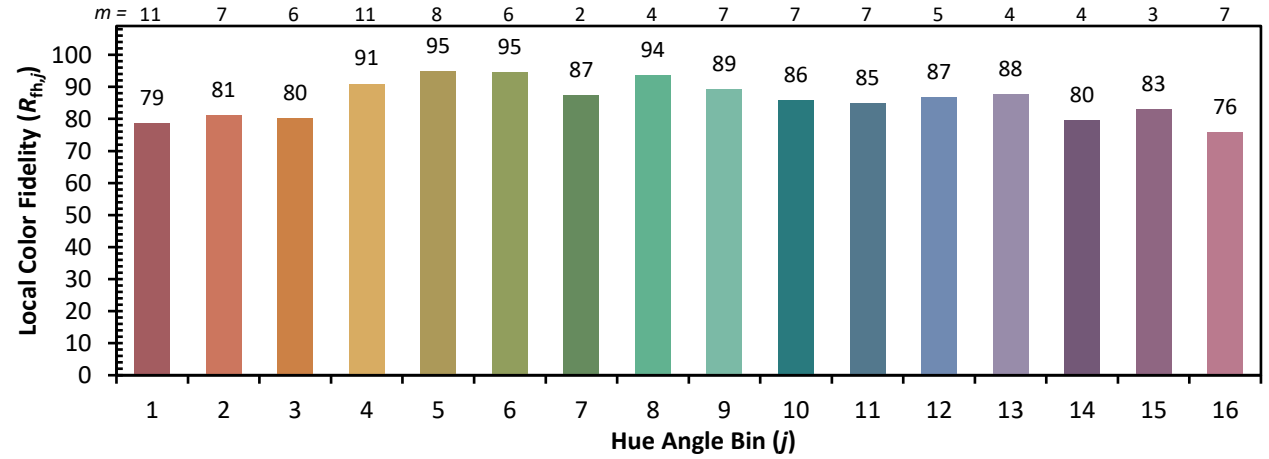
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Color Rendition by Hue-Angle Bin



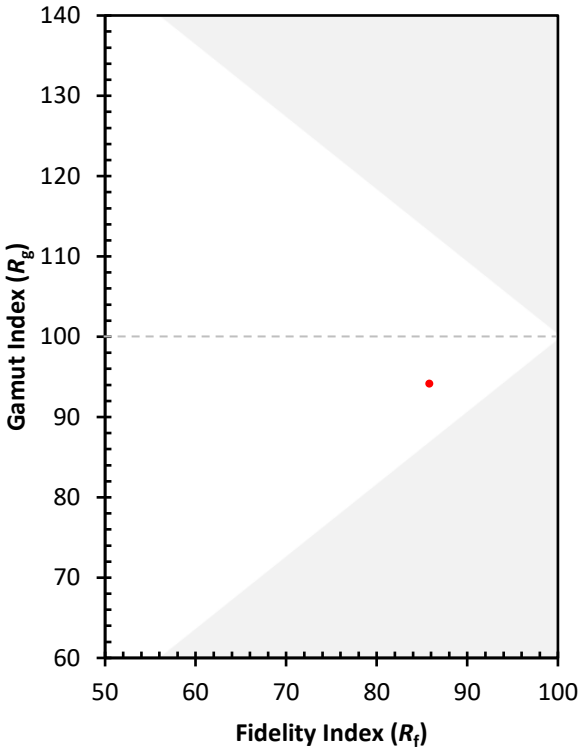


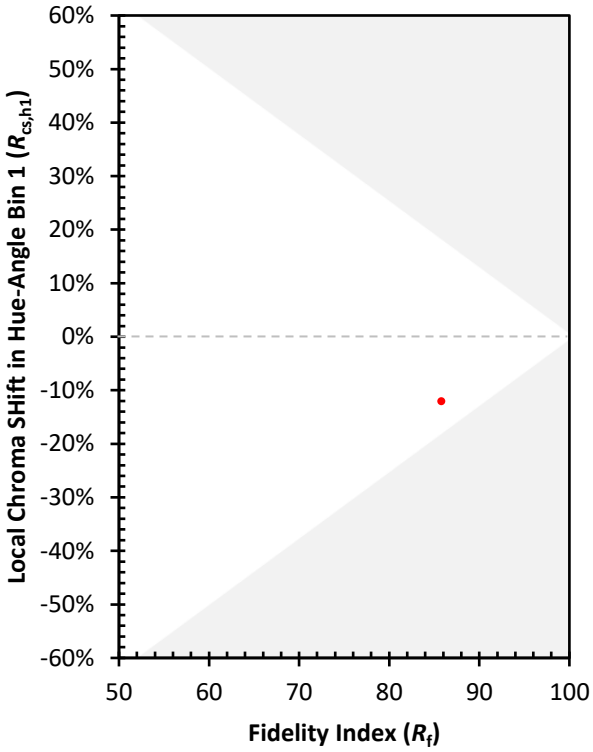


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Measure Comparisons





(END OF REPORT)