

Signify Classified - Internal  
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: P543164

Luminaire Tested: **TT-D8-735-U-DL-UPL**

Issue Date: 5/10/2022

**Test Information**

Test Method: LM-79-08  
Report Number: P543164  
REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (G2-2002-677-2) AND  
Test Lab: INNOVATION CENTER  
Issue Date: 5/10/2022  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: TT-D8-735-U-DL-UPL  
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT  
3500K, 70 CRI LEDS AND DRIVE LANE DISTRIBUTION  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

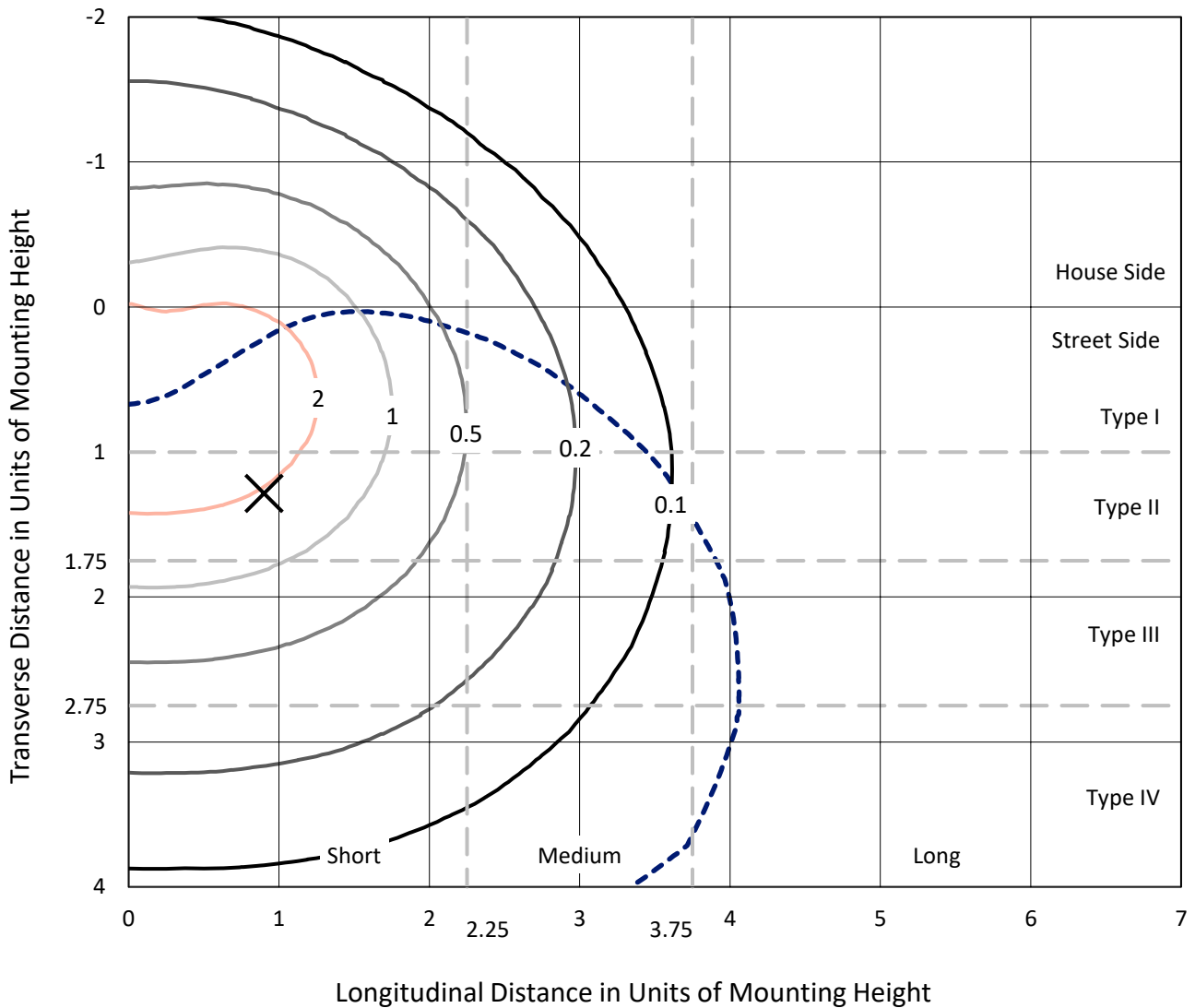
Lumens per Lamp: N/A  
Luminaire Lumens: 17030.7 lumens  
Efficiency: N/A  
Efficacy: 106.0 lumens/watt  
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')  
IES Classification: Type IV - Short  
BUG Rating: B3 - U4 - G4  
  
Input Watts (W): 160.6  
Input Voltage (V): NR  
Input Current (Ain): 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: 28.75 FT



REPORT NUMBER: P543164  
 CATALOG NUMBER: TT-D8-735-U-DL-UPL

### Iso-Footcandle Lines of Horizontal Illumination

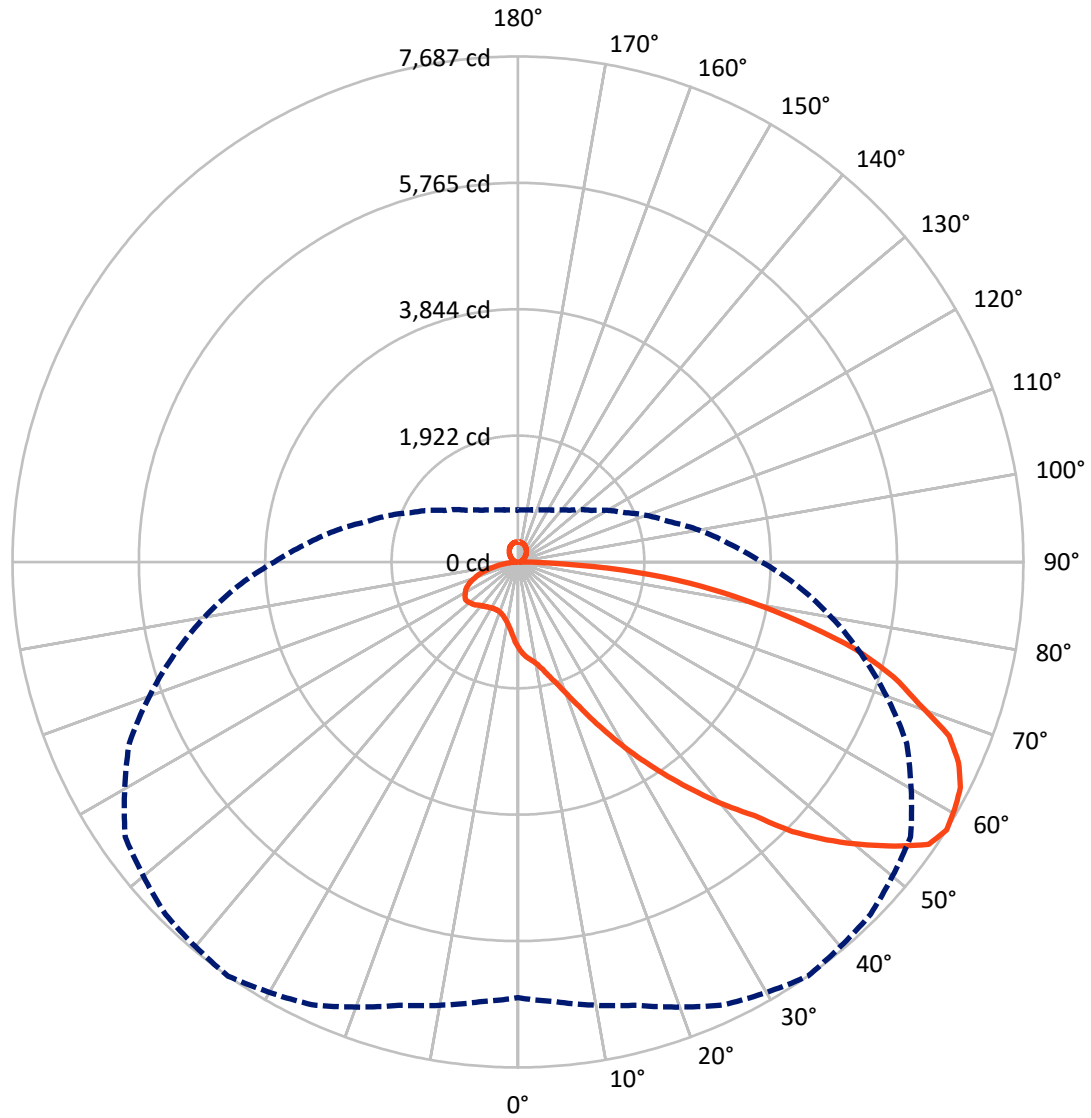
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.6 fc  
 Type IV - Short - N/A

REPORT NUMBER: P543164  
CATALOG NUMBER: TT-D8-735-U-DL-UPL

### Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral      - - - Horizontal Cone Through 57.5-Deg Vertical

REPORT NUMBER: P543164

CATALOG NUMBER: TT-D8-735-U-DL-UPL

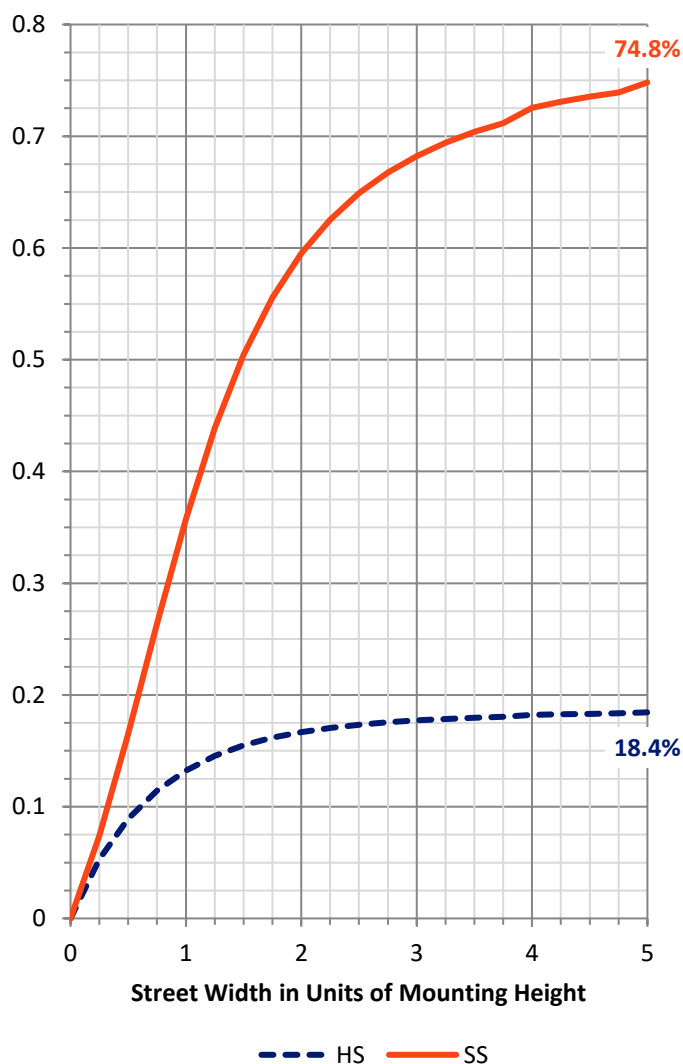
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3173.3	415.9	3589.2
	% Fixture	18.6	2.4	21.1
<b>Street Side</b>	Lumens	13025.6	415.9	13441.5
	% Fixture	76.5	2.4	78.9
<b>Total</b>	Lumens	16198.9	831.7	17030.7
	% Fixture	95.1	4.9	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	121.2	0.7
10°-20°	382.1	2.2
20°-30°	807.9	4.7
30°-40°	1513.8	8.9
40°-50°	2519.6	14.8
50°-60°	3556.1	20.9
60°-70°	3741.3	22.0
70°-80°	2740.8	16.1
80°-90°	816.1	4.8
90°-100°	42.6	0.3
100°-110°	66.0	0.4
110°-120°	91.9	0.5
120°-130°	119.0	0.7
130°-140°	138.7	0.8
140°-150°	140.5	0.8
150°-160°	121.9	0.7
160°-170°	82.2	0.5
170°-180°	28.9	0.2
0°-90°	16198.9	95.1
0°-180°	17030.7	100.0

**Coefficient of Utilization**

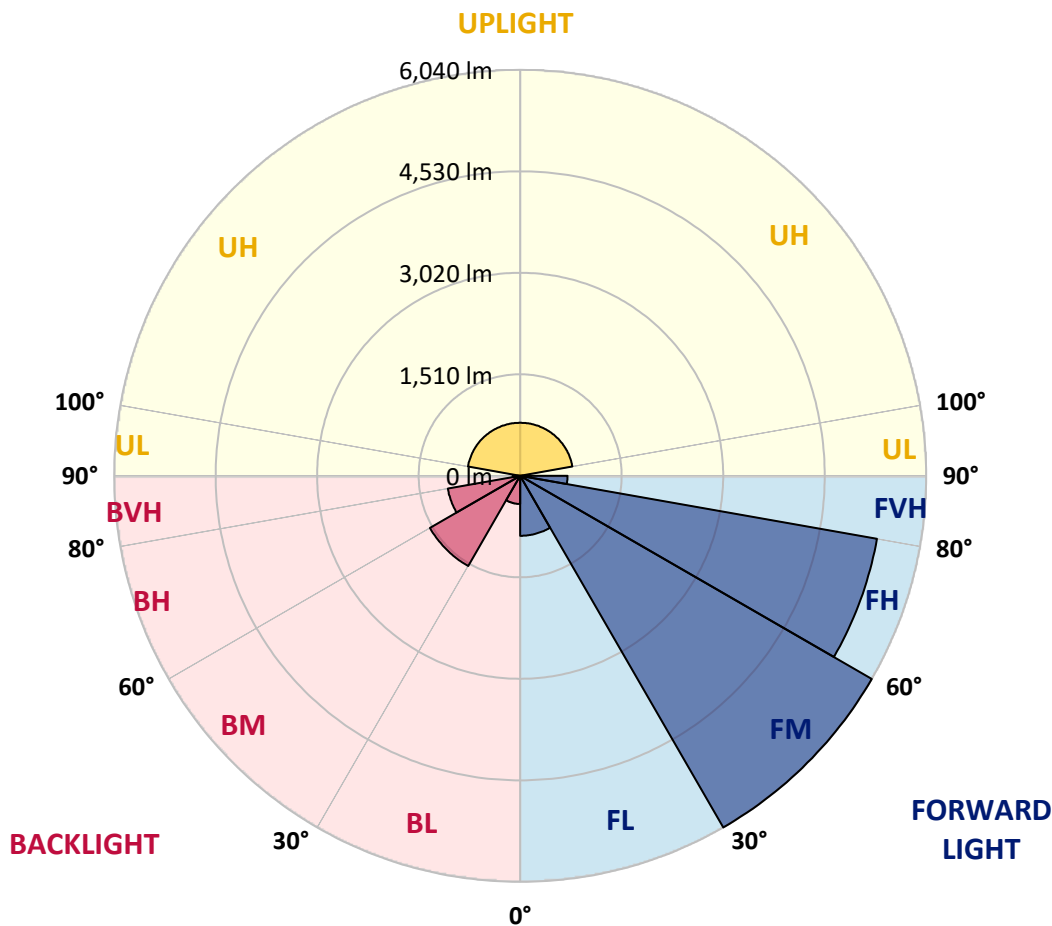


REPORT NUMBER: P543164  
 CATALOG NUMBER: TT-D8-735-U-DL-UPL

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	892.2	5.2			
FM (30°-60°)	6039.8	35.5			
FH (60°-80°)	5389.0	31.6			G3/7500
FVH (80°-90°)	704.6	4.1			G4/750
BL (0°-30°)	419.0	2.5	B1/500		
BM (30°-60°)	1549.7	9.1	B2/2500		
BH (60°-80°)	1093.1	6.4	B3/2500		G3/2500
BVH (80°-90°)	111.5	0.7			G2/225
UL (90°-100°)	42.6	0.3		U2/50	
UH (100°-180°)	789.1	4.6		U4/1000	

**BUG Rating: B3-U4-G4**  
 Type IV Short





REPORT NUMBER: P543164

CATALOG NUMBER: TT-D8-735-U-DL-UPL

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1307.0	1307.0	1307.0	1307.0	1307.0	1307.0	1307.0	1307.0	1307.0	1307.0	1307.0
2.5°	1423.0	1416.0	1410.0	1400.0	1393.0	1391.0	1378.0	1362.0	1340.0	1321.0	1311.0
5°	1498.0	1497.0	1494.0	1482.0	1460.0	1429.0	1400.0	1367.0	1331.0	1295.0	1278.0
7.5°	1569.0	1562.0	1558.0	1541.0	1509.0	1475.0	1431.0	1382.0	1330.0	1279.0	1253.0
10°	1658.0	1648.0	1641.0	1608.0	1575.0	1527.0	1469.0	1406.0	1344.0	1280.0	1249.0
12.5°	1772.0	1764.0	1735.0	1719.0	1677.0	1622.0	1549.0	1473.0	1393.0	1311.0	1271.0
15°	1894.0	1896.0	1885.0	1844.0	1810.0	1744.0	1666.0	1571.0	1463.0	1364.0	1314.0
17.5°	2057.0	2054.0	2033.0	2006.0	1954.0	1887.0	1791.0	1690.0	1564.0	1434.0	1377.0
20°	2249.0	2239.0	2220.0	2183.0	2152.0	2073.0	1964.0	1838.0	1688.0	1534.0	1457.0
22.5°	2493.0	2471.0	2459.0	2426.0	2388.0	2314.0	2198.0	2031.0	1855.0	1664.0	1565.0
25°	2732.0	2744.0	2738.0	2719.0	2671.0	2580.0	2457.0	2273.0	2032.0	1809.0	1697.0
27.5°	3032.0	3037.0	3039.0	3031.0	2984.0	2901.0	2776.0	2533.0	2264.0	1987.0	1839.0
30°	3344.1	3333.1	3347.1	3351.1	3328.1	3232.1	3079.0	2813.0	2491.0	2160.0	1994.0
32.5°	3654.1	3666.1	3695.1	3677.1	3681.1	3572.1	3405.1	3092.0	2733.0	2343.0	2168.0
35°	3988.1	4004.1	4024.1	4058.1	4056.1	3969.1	3728.1	3414.1	2995.0	2554.0	2327.0
37.5°	4330.1	4326.1	4356.1	4434.1	4449.1	4366.1	4114.1	3752.1	3270.1	2767.0	2514.0
40°	4654.1	4691.1	4749.1	4802.1	4866.1	4748.1	4503.1	4093.1	3569.1	2988.0	2690.0
42.5°	5032.1	5047.1	5133.1	5252.1	5269.1	5178.1	4911.1	4486.1	3866.1	3198.1	2882.0
45°	5433.1	5453.1	5534.1	5706.1	5845.1	5786.1	5424.1	4919.1	4234.1	3484.1	3094.0
47.5°	5779.1	5838.1	5968.1	6167.1	6315.1	6284.1	5937.1	5344.1	4586.1	3724.1	3299.1
50°	6087.1	6158.1	6335.1	6622.1	6754.1	6713.1	6375.1	5764.1	4843.1	3932.1	3448.1
52.5°	6399.1	6498.1	6660.1	6974.1	7180.1	7196.1	6819.1	6085.1	5141.1	4150.1	3611.1
55°	6568.1	6640.1	6911.1	7292.1	7583.1	7591.1	7165.1	6386.1	5347.1	4246.1	3688.1
57.5°	6627.1	6714.1	6978.1	7429.1	7687.1	7580.1	7290.1	6522.1	5405.1	4281.1	3704.1
60°	6545.1	6632.1	6933.1	7414.1	7632.1	7684.1	7235.1	6521.1	5376.1	4236.1	3655.1
62.5°	6428.1	6539.1	6831.1	7300.1	7552.1	7581.1	7164.1	6447.1	5333.1	4159.1	3583.1
65°	6131.1	6198.1	6625.1	6975.1	7364.1	7329.1	7001.1	6189.1	5181.1	3960.1	3407.1
67.5°	5835.1	5905.1	6219.1	6699.1	7076.1	7038.1	6715.1	5939.1	4889.1	3775.1	3223.1
70°	5336.1	5381.1	5814.1	6187.1	6469.1	6609.1	6192.1	5522.1	4583.1	3465.1	2943.0
72.5°	4808.1	4879.1	5189.1	5657.1	5976.1	5931.1	5722.1	5009.1	4084.1	3105.0	2653.0
75°	4133.1	4201.1	4544.1	4996.1	5306.1	5270.1	5032.1	4399.1	3630.1	2687.0	2297.0
77.5°	3495.1	3474.1	3777.1	4120.1	4402.1	4485.1	4217.1	3720.1	2994.0	2208.0	1870.0
80°	2685.0	2765.0	2955.0	3274.1	3487.1	3534.1	3327.1	2944.0	2392.0	1728.0	1434.0
82.5°	1891.0	1933.0	2165.0	2366.0	2633.0	2616.0	2473.0	2138.0	1737.0	1213.0	988.0
85°	1032.0	1041.0	1251.0	1392.0	1598.0	1623.0	1522.0	1293.0	994.0	690.0	509.0
87.5°	181.0	178.0	258.0	378.0	480.0	516.0	429.0	336.0	136.0	81.0	42.0
90°	30.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1
92.5°	34.8	34.2	34.2	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8
95°	39.4	39.4	39.4	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5
97.5°	44.6	44.6	44.6	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2
100°	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8
102.5°	55.9	55.9	55.9	55.9	55.9	55.9	55.9	56.4	55.9	55.9	55.9
105°	62.0	62.0	62.0	62.0	62.0	62.0	62.0	62.9	62.0	62.0	62.0
107.5°	68.6	68.6	69.0	69.0	69.0	69.0	69.0	69.5	69.0	69.0	69.0
110°	75.1	75.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1



REPORT NUMBER: P543164  
 CATALOG NUMBER: TT-D8-735-U-DL-UPL

**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	83.1	83.1	84.0	84.0	84.0	84.0	84.6	84.6	84.0	84.0	84.0
115°	91.1	91.1	92.0	92.0	92.0	92.0	93.0	93.0	92.0	92.0	92.0
117.5°	100.5	100.5	101.0	101.4	101.4	101.4	102.4	102.4	101.4	101.4	101.4
120°	109.9	109.9	109.9	110.8	110.8	110.8	111.8	111.8	110.8	110.8	110.8
122.5°	120.7	120.7	121.2	121.6	121.6	121.6	122.6	122.6	122.1	122.1	121.6
125°	131.5	131.5	132.4	132.4	132.4	132.4	133.4	133.4	133.4	133.4	132.4
127.5°	143.2	143.2	144.2	144.2	144.2	144.2	145.1	145.1	145.1	145.1	144.2
130°	155.0	155.0	155.9	155.9	155.9	155.9	156.8	156.8	156.8	156.8	155.9
132.5°	167.2	167.2	167.6	167.6	167.6	168.1	168.6	168.6	168.6	168.6	168.1
135°	179.4	179.4	179.4	179.4	179.4	180.3	180.3	180.3	180.3	180.3	180.3
137.5°	191.2	190.6	191.2	190.6	191.2	191.6	191.6	191.6	191.6	191.6	191.6
140°	202.9	201.9	202.9	201.9	202.9	202.9	202.9	202.9	202.9	202.9	202.9
142.5°	213.7	213.2	213.7	212.7	213.7	213.7	213.7	213.7	213.7	213.7	213.7
145°	224.5	224.5	224.5	223.5	224.5	224.5	224.5	224.5	224.5	224.5	224.5
147.5°	235.8	235.3	235.8	234.8	235.8	235.8	235.8	235.8	235.8	235.8	235.8
150°	247.0	246.1	247.0	246.1	247.0	247.0	247.0	247.0	247.0	247.0	247.0
152.5°	256.0	255.5	256.4	255.5	256.0	256.0	256.4	256.0	256.0	256.0	256.0
155°	264.9	264.9	265.8	264.9	264.9	264.9	265.8	264.9	264.9	264.9	264.9
157.5°	272.4	272.4	273.3	272.4	272.4	272.4	273.3	272.4	272.4	272.4	272.4
160°	279.9	279.9	280.8	279.9	279.9	279.9	280.8	279.9	279.9	279.9	279.9
162.5°	286.0	286.0	286.9	286.0	286.0	286.0	286.9	286.0	286.0	286.0	286.0
165°	292.1	292.1	293.0	292.1	292.1	292.1	293.0	292.1	292.1	292.1	292.1
167.5°	295.8	295.8	296.8	295.8	295.8	295.8	296.8	295.8	295.8	295.8	295.8
170°	299.6	299.6	300.5	299.6	299.6	299.6	300.5	299.6	299.6	299.6	299.6
172.5°	302.0	302.0	302.8	302.0	302.0	302.0	302.8	302.0	302.0	302.0	302.0
175°	304.3	304.3	305.2	304.3	305.2	304.3	305.2	304.3	304.3	304.3	304.3
177.5°	305.2	305.2	305.7	305.2	305.2	305.2	305.7	305.2	305.2	305.2	305.2
180°	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2





REPORT NUMBER: P543164  
 CATALOG NUMBER: TT-D8-735-U-DL-UPL

**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1307.0	1307.0	1307.0	1307.0	1307.0	1307.0	1307.0	1307.0	1307.0	1307.0
2.5°	1300.0	1280.0	1261.0	1243.0	1226.0	1212.0	1206.0	1201.0	1200.0	1191.0
5°	1257.0	1225.0	1190.0	1158.0	1129.0	1098.0	1073.0	1065.0	1064.0	1069.0
7.5°	1229.0	1180.0	1132.0	1094.0	1051.0	1010.0	973.0	950.0	944.0	942.0
10°	1219.0	1159.0	1101.0	1043.0	995.0	945.0	900.0	872.0	856.0	852.0
12.5°	1232.0	1156.0	1084.0	1016.0	951.0	896.0	845.0	810.0	792.0	786.0
15°	1267.0	1169.0	1078.0	996.0	925.0	856.0	806.0	761.0	740.0	737.0
17.5°	1313.0	1198.0	1082.0	986.0	902.0	829.0	771.0	724.0	698.0	694.0
20°	1379.0	1235.0	1101.0	987.0	892.0	810.0	745.0	695.0	667.0	664.0
22.5°	1472.0	1294.0	1132.0	1000.0	892.0	799.0	729.0	677.0	648.0	645.0
25°	1578.0	1362.0	1174.0	1018.0	895.0	797.0	720.0	665.0	636.0	633.0
27.5°	1700.0	1445.0	1219.0	1041.0	906.0	799.0	717.0	662.0	634.0	630.0
30°	1837.0	1527.0	1268.0	1066.0	920.0	803.0	718.0	661.0	634.0	630.0
32.5°	1974.0	1617.0	1323.0	1099.0	936.0	814.0	724.0	668.0	640.0	637.0
35°	2118.0	1716.0	1384.0	1133.0	959.0	829.0	734.0	676.0	648.0	645.0
37.5°	2267.0	1816.0	1447.0	1175.0	983.0	844.0	748.0	690.0	663.0	660.0
40°	2422.0	1919.0	1514.0	1218.0	1006.0	864.0	765.0	708.0	680.0	677.0
42.5°	2556.0	2012.0	1576.0	1255.0	1036.0	883.0	787.0	727.0	701.0	698.0
45°	2745.0	2118.0	1640.0	1301.0	1072.0	917.0	813.0	757.0	733.0	727.0
47.5°	2903.0	2226.0	1705.0	1345.0	1102.0	940.0	838.0	781.0	756.0	752.0
50°	3032.0	2294.0	1756.0	1368.0	1118.0	955.0	858.0	800.0	778.0	771.0
52.5°	3168.1	2371.0	1783.0	1395.0	1144.0	976.0	872.0	822.0	798.0	791.0
55°	3212.1	2375.0	1803.0	1400.0	1140.0	981.0	881.0	823.0	804.0	797.0
57.5°	3215.1	2374.0	1776.0	1366.0	1112.0	959.0	872.0	817.0	795.0	789.0
60°	3159.0	2315.0	1722.0	1325.0	1082.0	928.0	847.0	794.0	777.0	771.0
62.5°	3089.0	2261.0	1655.0	1269.0	1039.0	897.0	818.0	777.0	754.0	747.0
65°	2912.0	2119.0	1553.0	1193.0	977.0	850.0	772.0	732.0	714.0	709.0
67.5°	2755.0	1967.0	1451.0	1114.0	907.0	792.0	721.0	686.0	672.0	669.0
70°	2500.0	1802.0	1293.0	991.0	817.0	706.0	653.0	627.0	610.0	604.0
72.5°	2241.0	1582.0	1140.0	873.0	708.0	635.0	582.0	554.0	545.0	540.0
75°	1903.0	1330.0	961.0	740.0	608.0	531.0	494.0	473.0	462.0	461.0
77.5°	1557.0	1065.0	774.0	586.0	481.0	428.0	402.0	382.0	380.0	384.0
80°	1193.0	804.0	575.0	439.0	356.0	323.0	309.0	296.0	294.0	291.0
82.5°	793.0	533.0	364.0	278.0	239.0	220.0	216.0	207.0	205.0	203.0
85°	387.0	256.0	176.0	138.0	127.0	118.0	117.0	121.0	120.0	117.0
87.5°	40.0	33.0	32.0	25.0	23.0	21.0	21.0	19.0	23.0	17.0
90°	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	30.1
92.5°	33.8	33.8	33.8	33.8	33.8	33.8	33.8	34.2	34.2	34.8
95°	38.5	38.5	38.5	38.5	38.5	38.5	38.5	39.4	39.4	39.4
97.5°	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.6	44.6	44.6
100°	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8
102.5°	55.9	55.9	56.4	55.9	55.9	55.9	55.9	55.9	55.9	55.9
105°	62.0	62.0	62.9	62.0	62.0	62.0	62.0	62.0	62.0	62.0
107.5°	69.0	69.0	69.5	69.0	69.0	69.0	69.0	69.0	68.6	68.6
110°	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	75.1	75.1



REPORT NUMBER: P543164  
 CATALOG NUMBER: TT-D8-735-U-DL-UPL

**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	84.0	84.0	84.6	84.6	84.0	84.0	84.0	84.0	83.1	83.1
115°	92.0	92.0	93.0	93.0	92.0	92.0	92.0	92.0	91.1	91.1
117.5°	101.4	101.4	102.4	102.4	101.4	101.4	101.4	101.0	100.5	100.5
120°	110.8	110.8	111.8	111.8	110.8	110.8	110.8	109.9	109.9	109.9
122.5°	122.1	122.1	122.6	122.6	121.6	121.6	121.6	121.2	120.7	120.7
125°	133.4	133.4	133.4	133.4	132.4	132.4	132.4	132.4	131.5	131.5
127.5°	145.1	145.1	145.1	145.1	144.2	144.2	144.2	144.2	143.2	143.2
130°	156.8	156.8	156.8	156.8	155.9	155.9	155.9	155.9	155.0	155.0
132.5°	168.6	168.6	168.6	168.6	168.1	167.6	167.6	167.6	167.2	167.2
135°	180.3	180.3	180.3	180.3	180.3	179.4	179.4	179.4	179.4	179.4
137.5°	191.6	191.6	191.6	191.6	191.6	191.2	190.6	191.2	190.6	191.2
140°	202.9	202.9	202.9	202.9	202.9	202.9	201.9	202.9	201.9	202.9
142.5°	213.7	213.7	213.7	213.7	213.7	213.7	212.7	213.7	213.2	213.7
145°	224.5	224.5	224.5	224.5	224.5	224.5	223.5	224.5	224.5	224.5
147.5°	235.8	235.8	235.8	235.8	235.8	235.8	234.8	235.8	235.3	235.8
150°	247.0	247.0	247.0	247.0	247.0	247.0	246.1	247.0	246.1	247.0
152.5°	256.0	256.0	256.0	256.4	256.0	256.0	255.5	256.4	255.5	256.0
155°	264.9	264.9	264.9	265.8	264.9	264.9	264.9	265.8	264.9	264.9
157.5°	272.4	272.4	272.4	273.3	272.4	272.4	272.4	273.3	272.4	272.4
160°	279.9	279.9	279.9	280.8	279.9	279.9	279.9	280.8	279.9	279.9
162.5°	286.0	286.0	286.0	286.9	286.0	286.0	286.0	286.9	286.0	286.0
165°	292.1	292.1	292.1	293.0	292.1	292.1	292.1	293.0	292.1	292.1
167.5°	295.8	295.8	295.8	296.8	295.8	295.8	295.8	296.8	295.8	295.8
170°	299.6	299.6	299.6	300.5	299.6	299.6	299.6	300.5	299.6	299.6
172.5°	302.0	302.0	302.0	302.8	302.0	302.4	302.0	302.8	302.0	302.0
175°	304.3	304.3	304.3	305.2	304.3	305.2	304.3	305.2	304.3	304.3
177.5°	305.2	305.2	305.2	305.7	305.2	305.7	305.2	305.7	305.2	305.2
180°	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2

LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

MCGRAW EDISON

Report Number: SP1-2411-284-1

Test Date: 11/15/2024

Luminaire Tested: TTN-D0-735-U-WQ

Data in this report applies to families of products including TT-xx-735 and TTN-xx-735

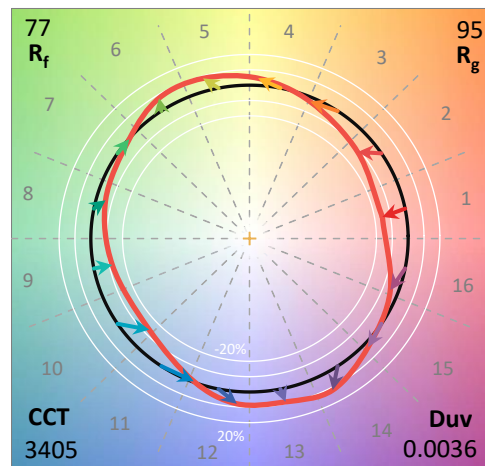
**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2411-284-1  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 11/15/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: MCGRAW EDISON  
 Catalog Number: **TTN-D0-735-U-WQ**  
 Description: TOPTIER NANO LED PARKING GARAGE LUMINAIRE. 3500K, 70 CRI LEDS AND WIDE DISTRIBUTION

**Spectral Parameters**

CCT (K): 3405  
 CIE u': 0.2365  
 CIE v': 0.5180  
 Duv: 0.0036  
 CIE x: 0.4148  
 CIE y: 0.4038  
 CIE z: 0.1814  
 Peak Wavelength (nm): 596  
 Dominant Wavelength (nm): 579  
 Purity: 45.70672  
 Rf: 76.6  
 Rg: 95.4

CRI (Ra):	73.9		
R1:	71.3	R9:	-18.0
R2:	80.3	R10:	53.1
R3:	87.8	R11:	68.6
R4:	73.2	R12:	42.6
R5:	69.8	R13:	72.5
R6:	71.8	R14:	92.7
R7:	82.8	R15:	64.3
R8:	54.1		



**Test Conditions**

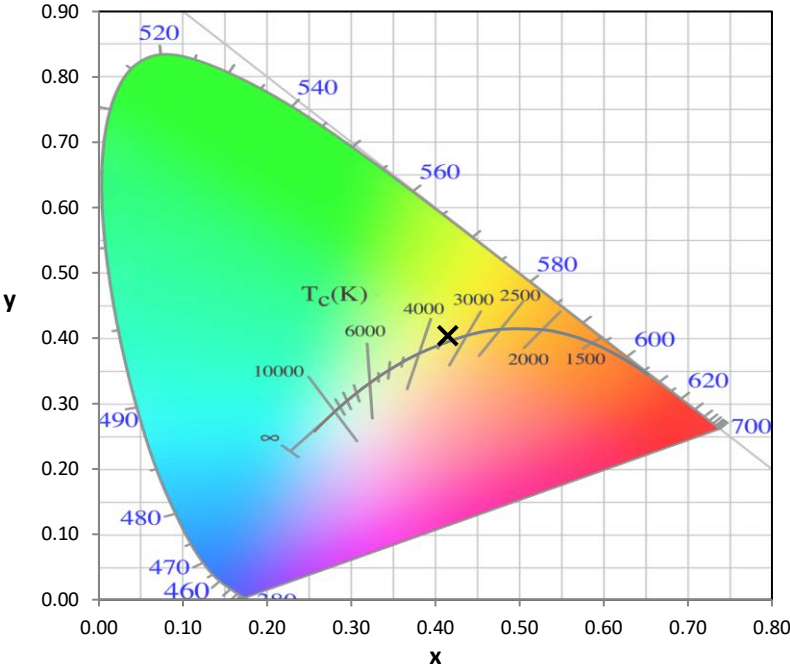
Stabilization Time: 38M  
 Operation Time: 1H 38M  
 Sphere Temperature (°C): 24.9

REPORT NUMBER: SP1-2411-284-1

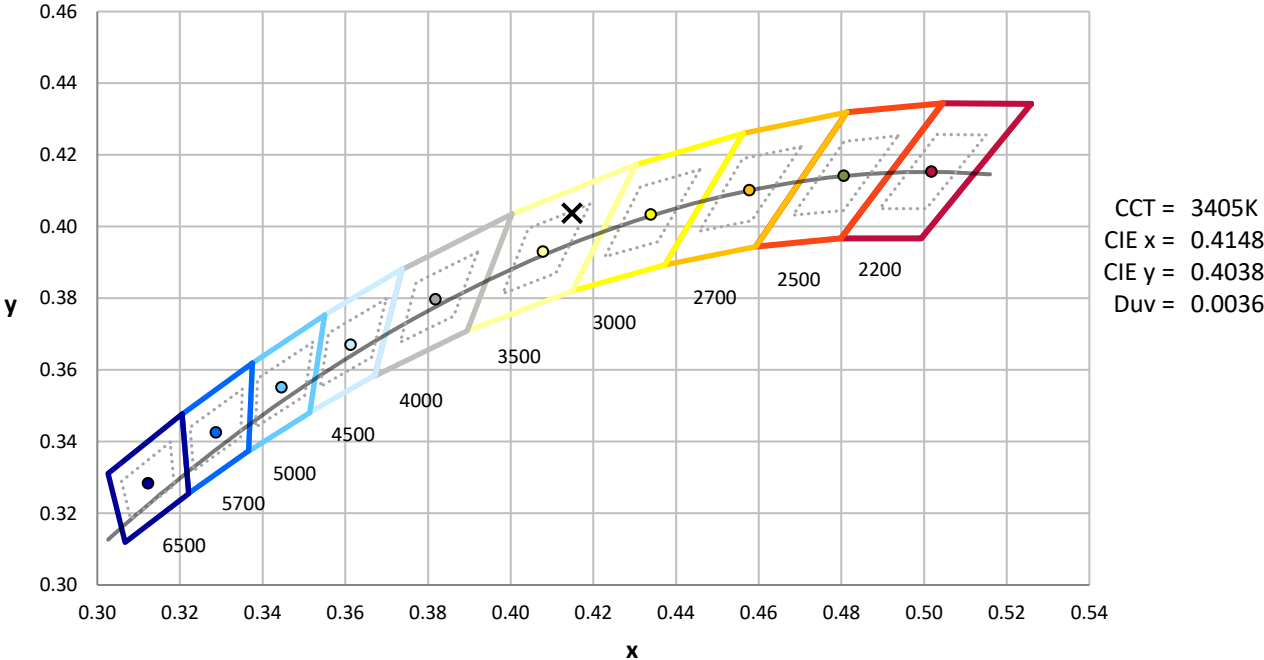
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/22/2024	10/22/2025
DC Power Source	IN0208	10/22/2024	10/22/2025
Sphere Thermometer	IN0085	10/22/2024	10/22/2025
Room Thermometer	IN0046	10/22/2024	10/22/2025

REPORT NUMBER: SP1-2411-284-1

CIE 1931 Chromaticity Diagram



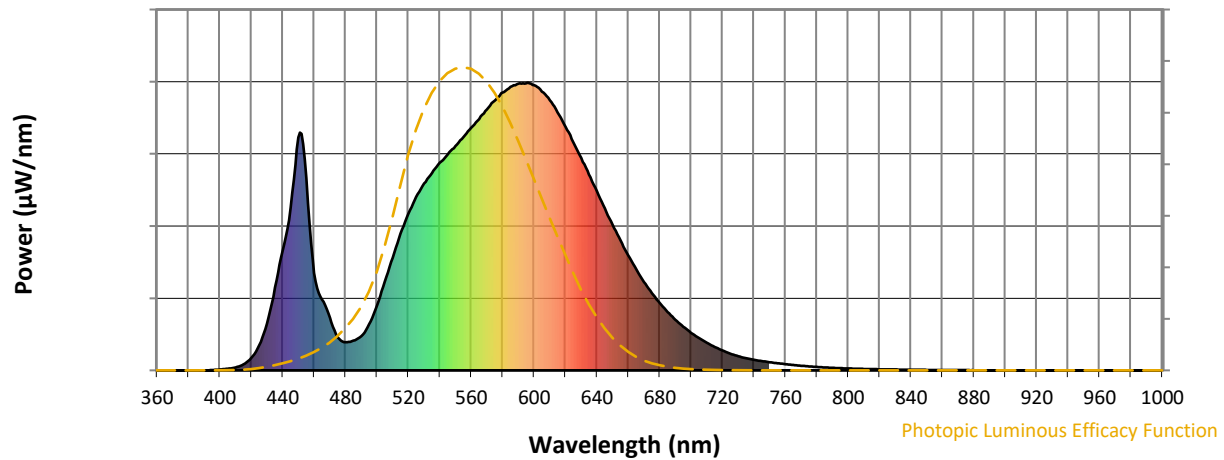
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP1-2411-284-1

**Photopic Flux vs. Wavelength**

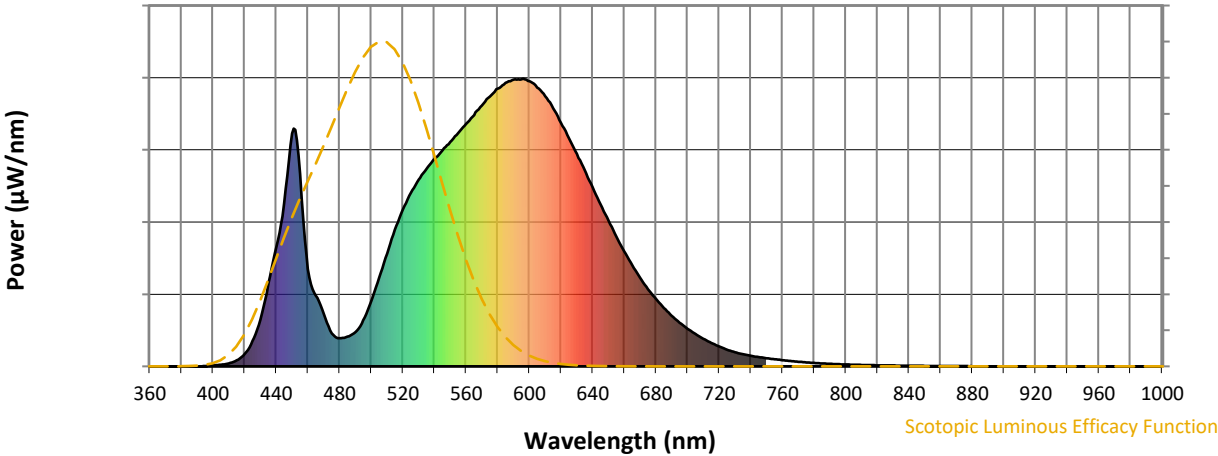


**Photopic Lumens: NR**

$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)
360	0	NR	490	119	NR	620	846	NR	750	28	NR	880	1	NR
365	0	NR	495	160	NR	625	793	NR	755	25	NR	885	0	NR
370	0	NR	500	225	NR	630	739	NR	760	22	NR	890	0	NR
375	0	NR	505	308	NR	635	681	NR	765	19	NR	895	0	NR
380	0	NR	510	392	NR	640	623	NR	770	16	NR	900	0	NR
385	0	NR	515	474	NR	645	563	NR	775	14	NR	905	0	NR
390	0	NR	520	545	NR	650	506	NR	780	12	NR	910	0	NR
395	1	NR	525	603	NR	655	451	NR	785	10	NR	915	0	NR
400	3	NR	530	649	NR	660	399	NR	790	9	NR	920	0	NR
405	5	NR	535	687	NR	665	352	NR	795	8	NR	925	0	NR
410	11	NR	540	721	NR	670	307	NR	800	6	NR	930	0	NR
415	21	NR	545	751	NR	675	268	NR	805	6	NR	935	0	NR
420	43	NR	550	779	NR	680	234	NR	810	5	NR	940	0	NR
425	88	NR	555	811	NR	685	203	NR	815	4	NR	945	0	NR
430	163	NR	560	843	NR	690	176	NR	820	4	NR	950	0	NR
435	288	NR	565	873	NR	695	152	NR	825	3	NR	955	0	NR
440	416	NR	570	907	NR	700	131	NR	830	3	NR	960	0	NR
445	566	NR	575	938	NR	705	112	NR	835	3	NR	965	0	NR
450	810	NR	580	965	NR	710	96	NR	840	2	NR	970	0	NR
455	669	NR	585	986	NR	715	81	NR	845	2	NR	975	0	NR
460	338	NR	590	997	NR	720	69	NR	850	2	NR	980	0	NR
465	246	NR	595	997	NR	725	58	NR	855	1	NR	985	0	NR
470	182	NR	600	991	NR	730	49	NR	860	1	NR	990	0	NR
475	115	NR	605	968	NR	735	42	NR	865	1	NR	995	0	NR
480	97	NR	610	939	NR	740	37	NR	870	1	NR	1000	0	NR
485	103	NR	615	896	NR	745	32	NR	875	1	NR			

REPORT NUMBER: SP1-2411-284-1

**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

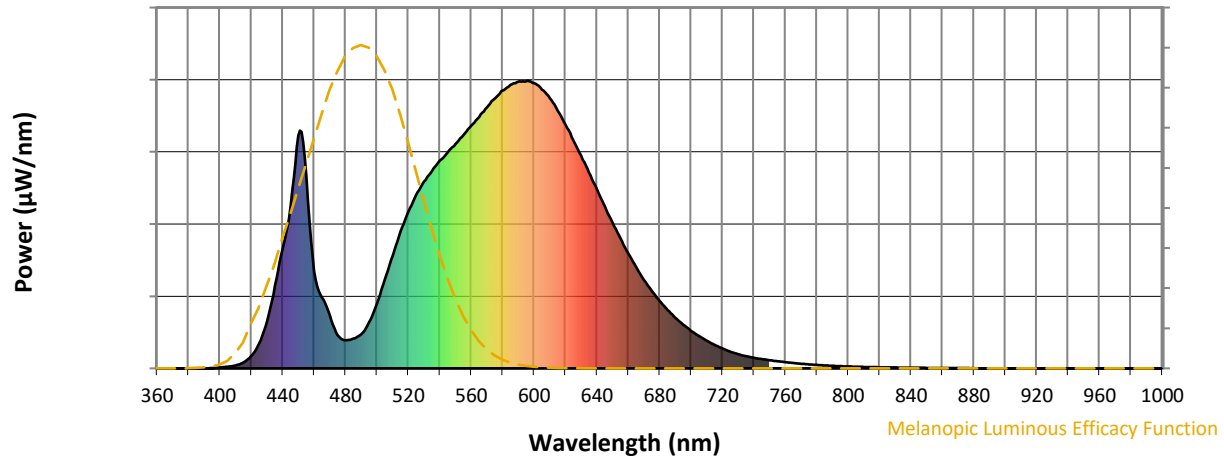
**S/P: 1.33**

λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	119	NR	620	846	NR	750	28	NR	880	1	NR
365	0	NR	495	160	NR	625	793	NR	755	25	NR	885	0	NR
370	0	NR	500	225	NR	630	739	NR	760	22	NR	890	0	NR
375	0	NR	505	308	NR	635	681	NR	765	19	NR	895	0	NR
380	0	NR	510	392	NR	640	623	NR	770	16	NR	900	0	NR
385	0	NR	515	474	NR	645	563	NR	775	14	NR	905	0	NR
390	0	NR	520	545	NR	650	506	NR	780	12	NR	910	0	NR
395	1	NR	525	603	NR	655	451	NR	785	10	NR	915	0	NR
400	3	NR	530	649	NR	660	399	NR	790	9	NR	920	0	NR
405	5	NR	535	687	NR	665	352	NR	795	8	NR	925	0	NR
410	11	NR	540	721	NR	670	307	NR	800	6	NR	930	0	NR
415	21	NR	545	751	NR	675	268	NR	805	6	NR	935	0	NR
420	43	NR	550	779	NR	680	234	NR	810	5	NR	940	0	NR
425	88	NR	555	811	NR	685	203	NR	815	4	NR	945	0	NR
430	163	NR	560	843	NR	690	176	NR	820	4	NR	950	0	NR
435	288	NR	565	873	NR	695	152	NR	825	3	NR	955	0	NR
440	416	NR	570	907	NR	700	131	NR	830	3	NR	960	0	NR
445	566	NR	575	938	NR	705	112	NR	835	3	NR	965	0	NR
450	810	NR	580	965	NR	710	96	NR	840	2	NR	970	0	NR
455	669	NR	585	986	NR	715	81	NR	845	2	NR	975	0	NR
460	338	NR	590	997	NR	720	69	NR	850	2	NR	980	0	NR
465	246	NR	595	997	NR	725	58	NR	855	1	NR	985	0	NR
470	182	NR	600	991	NR	730	49	NR	860	1	NR	990	0	NR
475	115	NR	605	968	NR	735	42	NR	865	1	NR	995	0	NR
480	97	NR	610	939	NR	740	37	NR	870	1	NR	1000	0	NR
485	103	NR	615	896	NR	745	32	NR	875	1	NR			



REPORT NUMBER: SP1-2411-284-1

Melanopic Flux vs. Wavelength



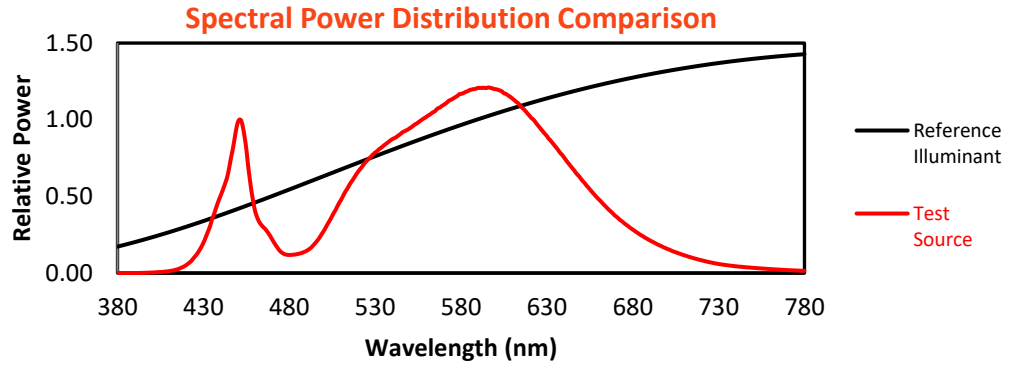
Melanopic Lumens: NR

M/P: 2.47

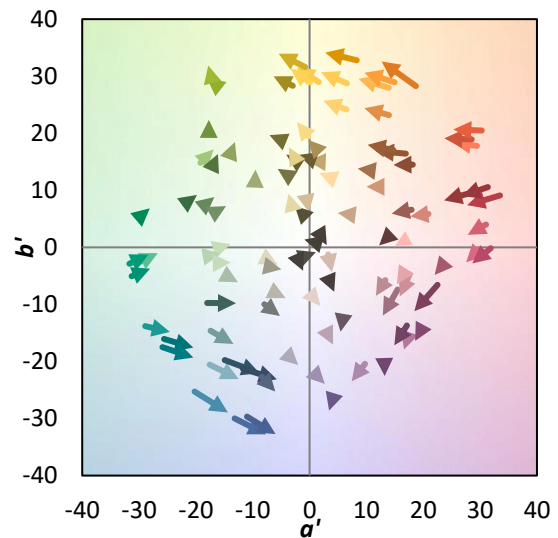
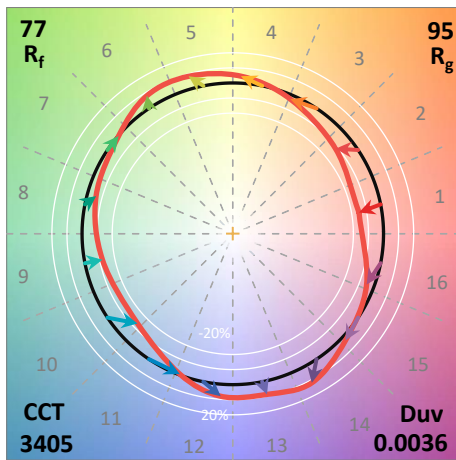
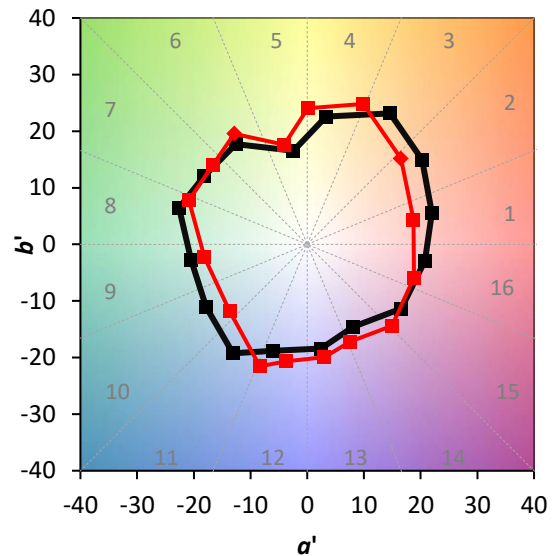
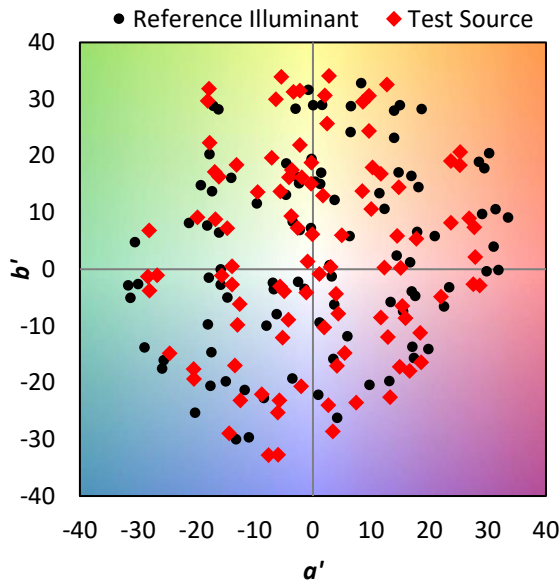
$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)
360	0	NR	490	119	NR	620	846	NR	750	28	NR	880	1	NR
365	0	NR	495	160	NR	625	793	NR	755	25	NR	885	0	NR
370	0	NR	500	225	NR	630	739	NR	760	22	NR	890	0	NR
375	0	NR	505	308	NR	635	681	NR	765	19	NR	895	0	NR
380	0	NR	510	392	NR	640	623	NR	770	16	NR	900	0	NR
385	0	NR	515	474	NR	645	563	NR	775	14	NR	905	0	NR
390	0	NR	520	545	NR	650	506	NR	780	12	NR	910	0	NR
395	1	NR	525	603	NR	655	451	NR	785	10	NR	915	0	NR
400	3	NR	530	649	NR	660	399	NR	790	9	NR	920	0	NR
405	5	NR	535	687	NR	665	352	NR	795	8	NR	925	0	NR
410	11	NR	540	721	NR	670	307	NR	800	6	NR	930	0	NR
415	21	NR	545	751	NR	675	268	NR	805	6	NR	935	0	NR
420	43	NR	550	779	NR	680	234	NR	810	5	NR	940	0	NR
425	88	NR	555	811	NR	685	203	NR	815	4	NR	945	0	NR
430	163	NR	560	843	NR	690	176	NR	820	4	NR	950	0	NR
435	288	NR	565	873	NR	695	152	NR	825	3	NR	955	0	NR
440	416	NR	570	907	NR	700	131	NR	830	3	NR	960	0	NR
445	566	NR	575	938	NR	705	112	NR	835	3	NR	965	0	NR
450	810	NR	580	965	NR	710	96	NR	840	2	NR	970	0	NR
455	669	NR	585	986	NR	715	81	NR	845	2	NR	975	0	NR
460	338	NR	590	997	NR	720	69	NR	850	2	NR	980	0	NR
465	246	NR	595	997	NR	725	58	NR	855	1	NR	985	0	NR
470	182	NR	600	991	NR	730	49	NR	860	1	NR	990	0	NR
475	115	NR	605	968	NR	735	42	NR	865	1	NR	995	0	NR
480	97	NR	610	939	NR	740	37	NR	870	1	NR	1000	0	NR
485	103	NR	615	896	NR	745	32	NR	875	1	NR			

**Summary**

$R_f = 76.6$   
 $R_g = 95.4$   
 $CIE R_a = 73.9$   
 $R_9 = -18.0$

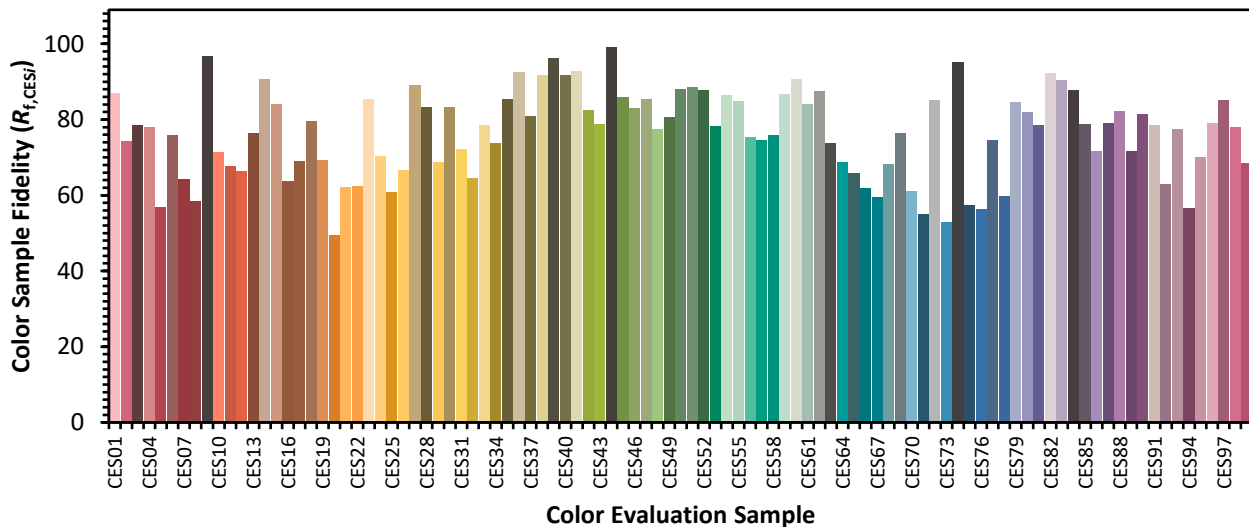


**Color Vector Graphics**

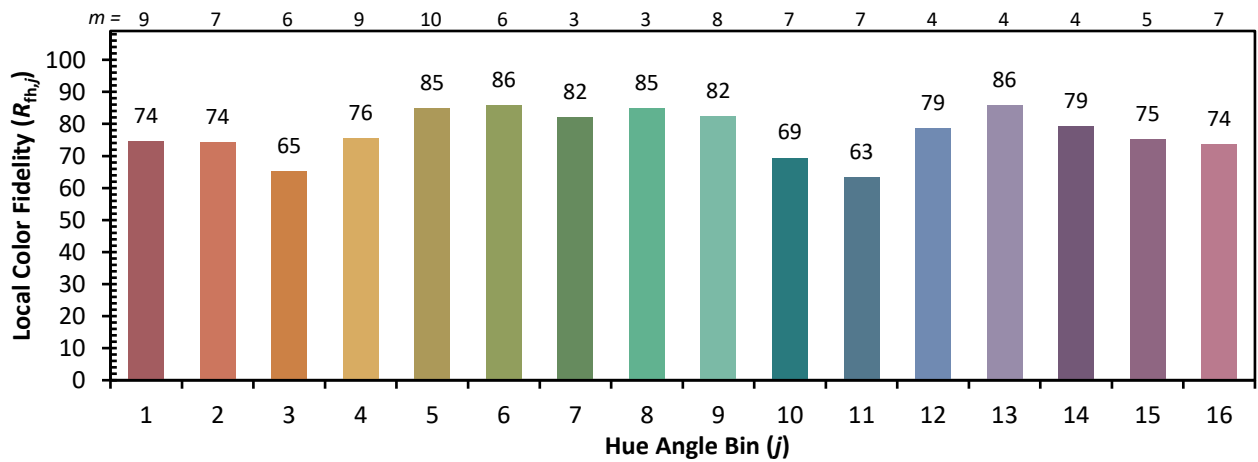
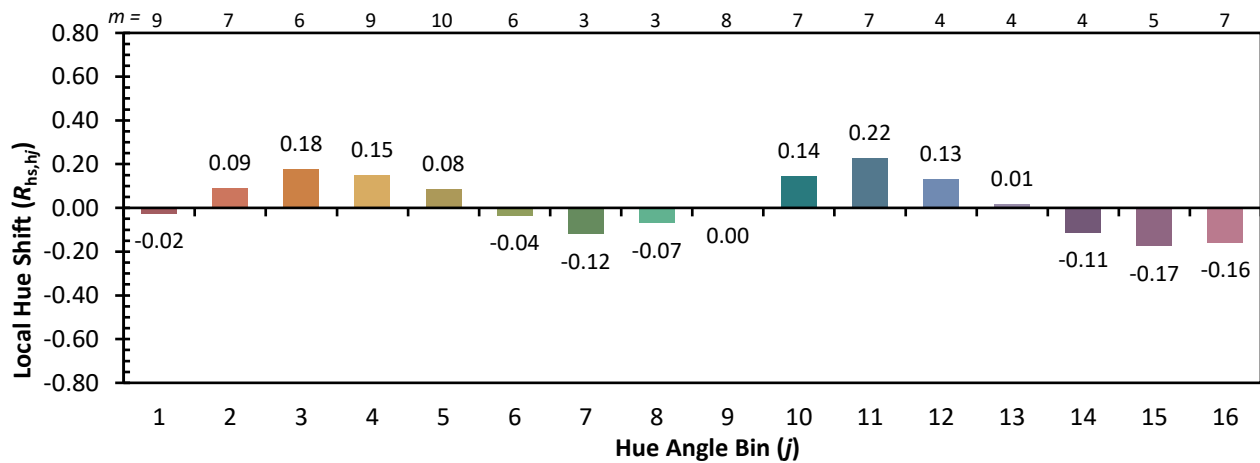
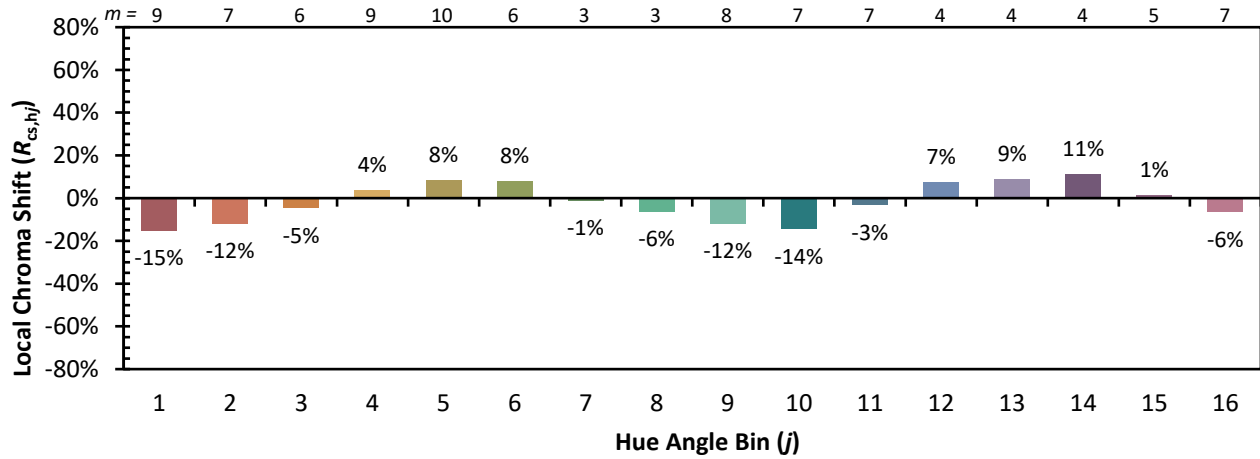


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

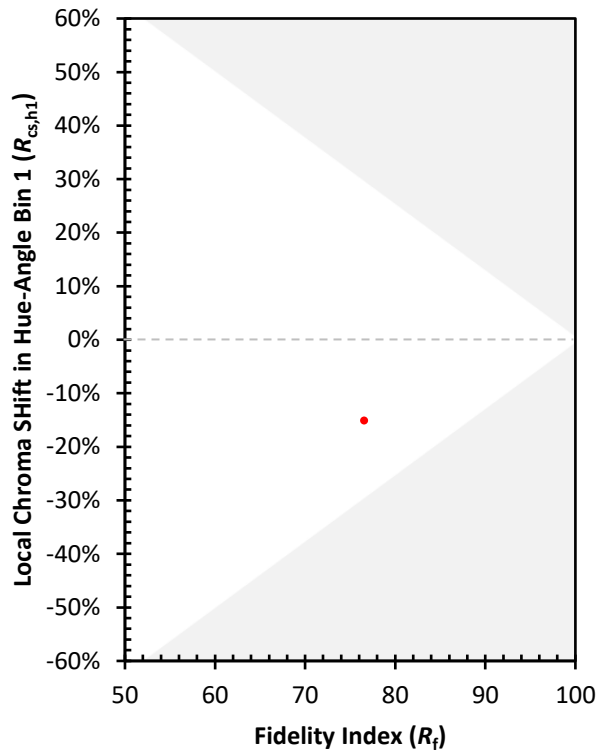
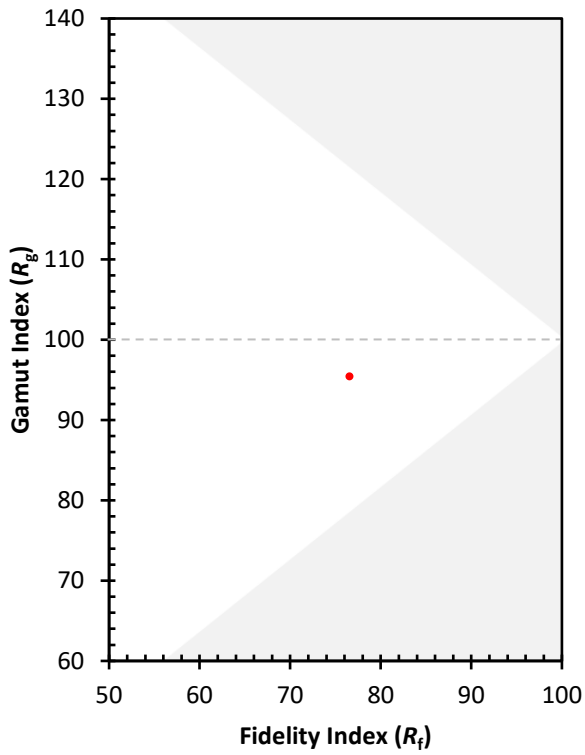
CES01 = 86	CES26 = 67	CES51 = 88	CES76 = 56
CES02 = 62	CES27 = 89	CES52 = 88	CES77 = 75
CES03 = 31	CES28 = 83	CES53 = 78	CES78 = 60
CES04 = 70	CES29 = 69	CES54 = 86	CES79 = 85
CES05 = 48	CES30 = 83	CES55 = 85	CES80 = 82
CES06 = 51	CES31 = 72	CES56 = 75	CES81 = 78
CES07 = 41	CES32 = 65	CES57 = 75	CES82 = 92
CES08 = 40	CES33 = 78	CES58 = 76	CES83 = 90
CES09 = 29	CES34 = 74	CES59 = 87	CES84 = 88
CES10 = 75	CES35 = 86	CES60 = 91	CES85 = 79
CES11 = 58	CES36 = 93	CES61 = 84	CES86 = 72
CES12 = 64	CES37 = 81	CES62 = 88	CES87 = 79
CES13 = 43	CES38 = 92	CES63 = 74	CES88 = 82
CES14 = 74	CES39 = 96	CES64 = 69	CES89 = 72
CES15 = 71	CES40 = 92	CES65 = 66	CES90 = 82
CES16 = 47	CES41 = 93	CES66 = 62	CES91 = 79
CES17 = 50	CES42 = 83	CES67 = 60	CES92 = 63
CES18 = 56	CES43 = 79	CES68 = 68	CES93 = 77
CES19 = 72	CES44 = 99	CES69 = 76	CES94 = 56
CES20 = 65	CES45 = 86	CES70 = 61	CES95 = 70
CES21 = 86	CES46 = 83	CES71 = 55	CES96 = 79
CES22 = 79	CES47 = 85	CES72 = 85	CES97 = 85
CES23 = 92	CES48 = 78	CES73 = 53	CES98 = 78
CES24 = 91	CES49 = 81	CES74 = 95	CES99 = 68
CES25 = 72	CES50 = 88	CES75 = 57	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)