

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: P543129

Luminaire Tested: **TT-D7-735-U-DL-UPL**

Issue Date: 5/10/2022

Test Information

Test Method: LM-79-08
Report Number: P543129
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-D7-735-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: 15205.7 lumens
Efficiency: N/A
Efficacy: 112.6 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')
IES Classification: Type IV - Short
BUG Rating: B2 - U4 - G4

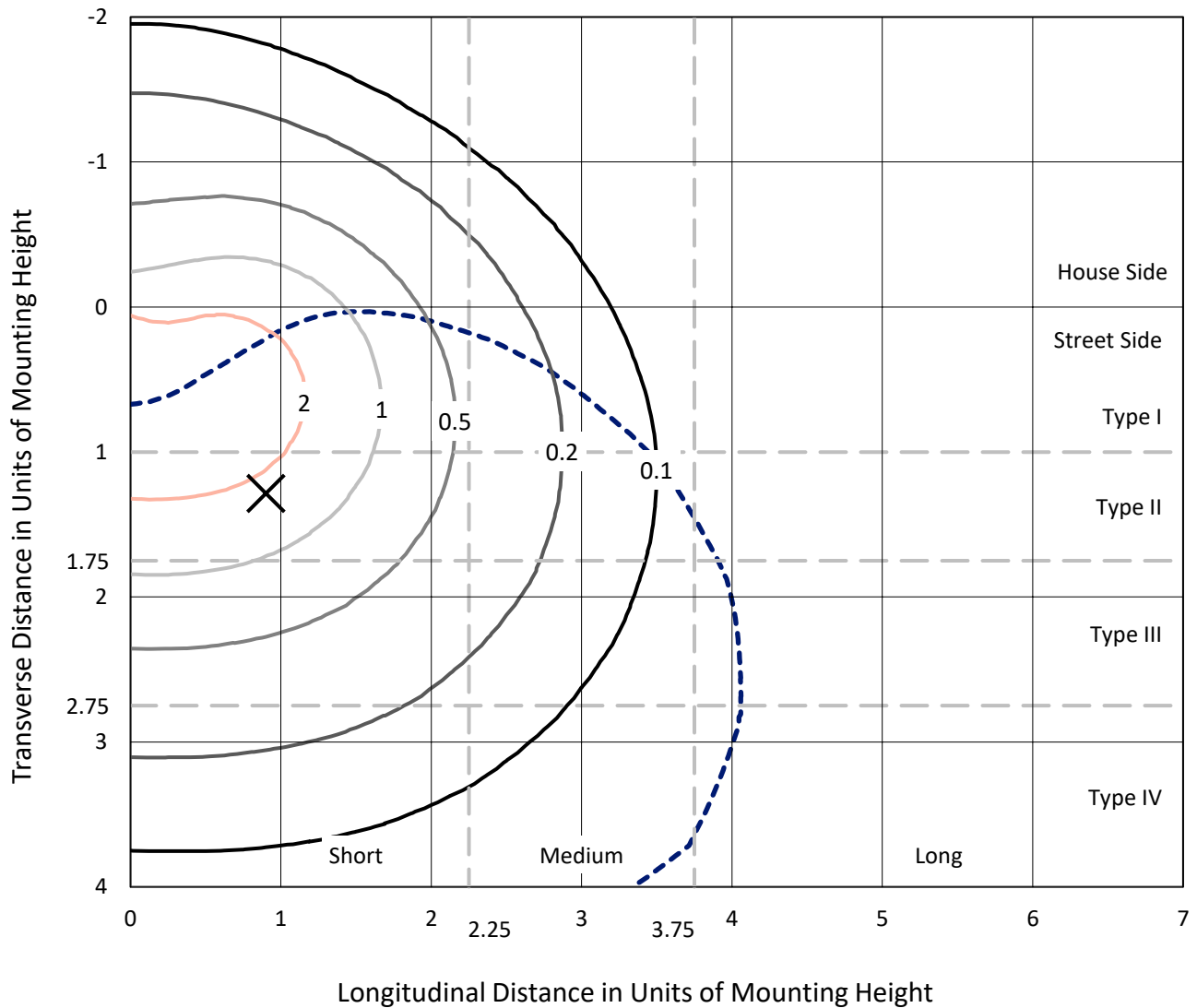
Input Watts (W): 135.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

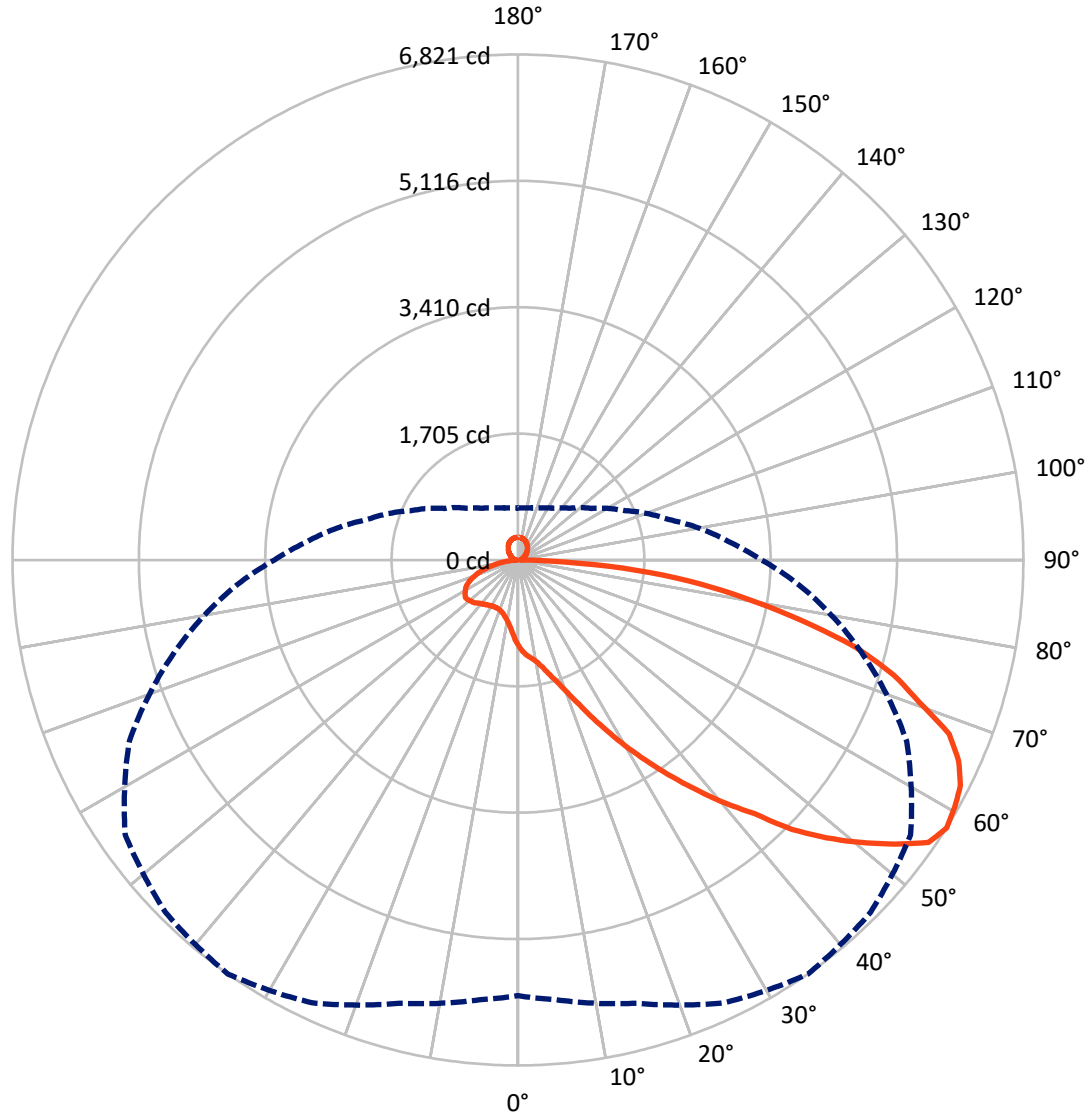
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.2 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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

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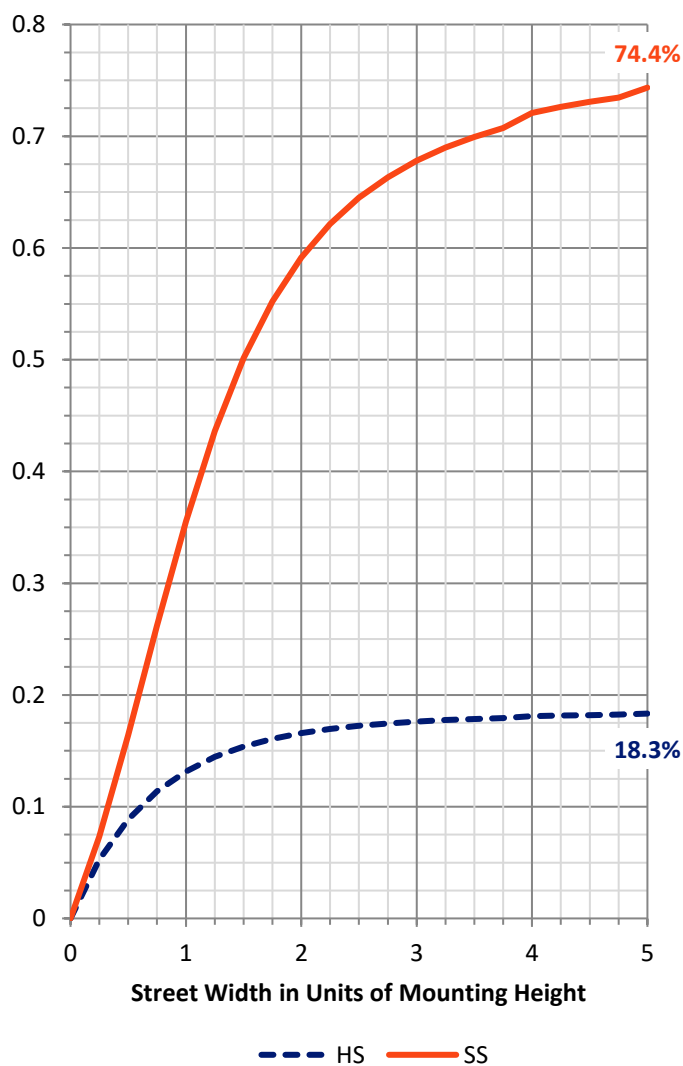
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2816.0	415.9	3231.9
	% Fixture	18.5	2.7	21.3
Street Side	Lumens	11558.0	415.9	11973.9
	% Fixture	76.0	2.7	78.7
Total	Lumens	14374.0	831.7	15205.7
	% Fixture	94.5	5.5	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.6	0.7
10°-20°	339.0	2.2
20°-30°	716.9	4.7
30°-40°	1343.2	8.8
40°-50°	2235.7	14.7
50°-60°	3155.3	20.8
60°-70°	3319.7	21.8
70°-80°	2431.9	16.0
80°-90°	724.6	4.8
90°-100°	42.6	0.3
100°-110°	66.0	0.4
110°-120°	91.9	0.6
120°-130°	119.0	0.8
130°-140°	138.7	0.9
140°-150°	140.5	0.9
150°-160°	121.9	0.8
160°-170°	82.2	0.5
170°-180°	28.9	0.2
0°-90°	14374.0	94.5
0°-180°	15205.7	100.0

Coefficient of Utilization



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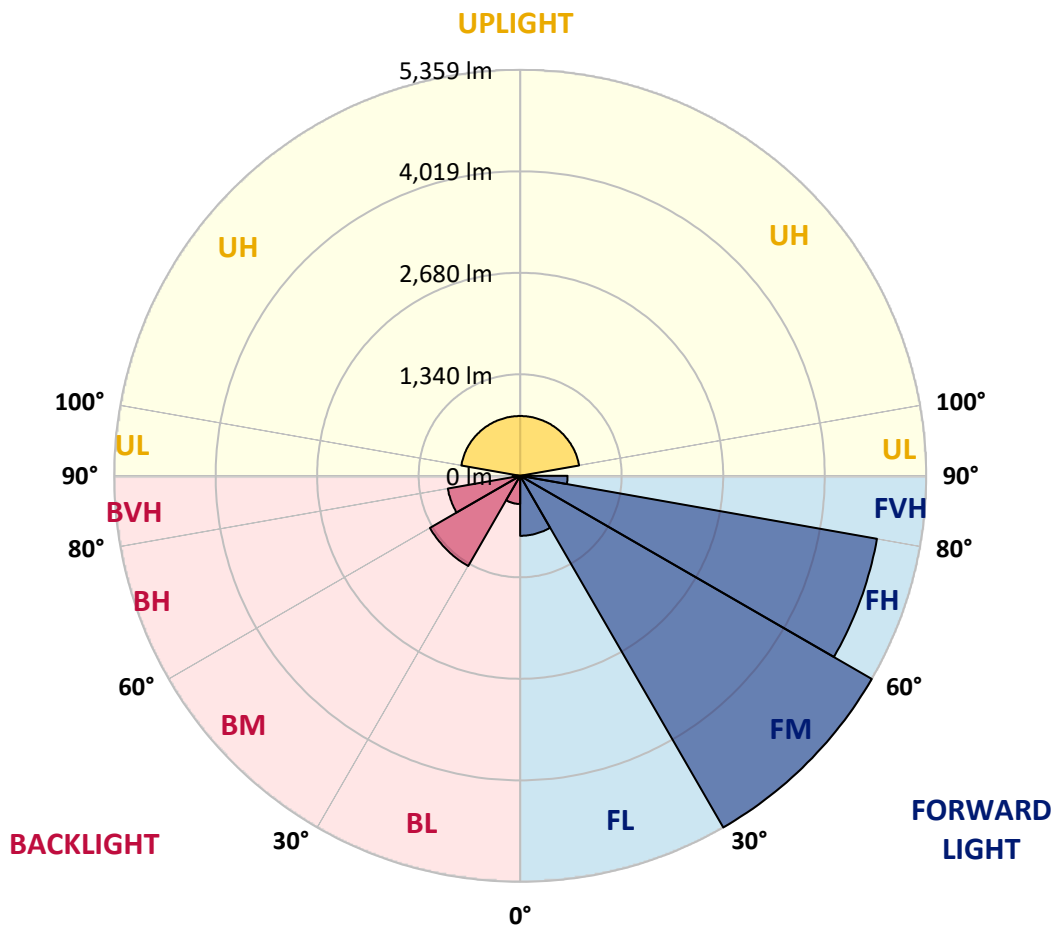
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	791.7	5.2			
FM (30°-60°)	5359.2	35.2			
FH (60°-80°)	4781.7	31.4			G2/5000
FVH (80°-90°)	625.4	4.1			G4/750
BL (0°-30°)	371.8	2.4	B1/500		
BM (30°-60°)	1375.1	9.0	B2/2500		
BH (60°-80°)	969.9	6.4	B2/1000		G2/1000
BVH (80°-90°)	99.2	0.7			G1/100
UL (90°-100°)	42.6	0.3		U2/50	
UH (100°-180°)	789.1	5.2		U4/1000	

BUG Rating: B2-U4-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1159.7	1159.7	1159.7	1159.7	1159.7	1159.7	1159.7	1159.7	1159.7	1159.7	1159.7
2.5°	1262.7	1256.5	1251.1	1242.3	1236.0	1234.3	1222.7	1208.5	1189.0	1172.2	1163.3
5°	1329.2	1328.3	1325.7	1315.0	1295.5	1268.0	1242.3	1213.0	1181.0	1149.1	1134.0
7.5°	1392.2	1386.0	1382.5	1367.4	1339.0	1308.8	1269.8	1226.3	1180.1	1134.9	1111.8
10°	1471.2	1462.3	1456.1	1426.8	1397.5	1354.9	1303.5	1247.6	1192.6	1135.8	1108.3
12.5°	1572.3	1565.2	1539.5	1525.3	1488.0	1439.2	1374.5	1307.0	1236.0	1163.3	1127.8
15°	1680.6	1682.4	1672.6	1636.2	1606.1	1547.5	1478.3	1394.0	1298.2	1210.3	1165.9
17.5°	1825.2	1822.6	1803.9	1780.0	1733.8	1674.4	1589.2	1499.6	1387.8	1272.4	1221.8
20°	1995.6	1986.7	1969.9	1937.0	1909.5	1839.4	1742.7	1630.9	1497.8	1361.2	1292.8
22.5°	2212.1	2192.6	2181.9	2152.7	2118.9	2053.3	1950.3	1802.2	1646.0	1476.5	1388.7
25°	2424.2	2434.8	2429.5	2412.6	2370.0	2289.3	2180.2	2016.9	1803.0	1605.2	1505.8
27.5°	2690.4	2694.8	2696.6	2689.5	2647.8	2574.1	2463.2	2247.6	2008.9	1763.1	1631.8
30°	2967.2	2957.5	2969.9	2973.4	2953.0	2867.8	2732.1	2496.0	2210.3	1916.6	1769.3
32.5°	3242.3	3252.9	3278.7	3262.7	3266.2	3169.5	3021.3	2743.6	2425.1	2079.0	1923.7
35°	3538.7	3552.8	3570.6	3600.8	3599.0	3521.8	3307.9	3029.3	2657.5	2266.2	2064.8
37.5°	3842.1	3838.6	3865.2	3934.4	3947.7	3874.1	3650.5	3329.2	2901.6	2455.2	2230.7
40°	4129.6	4162.4	4213.9	4260.9	4317.7	4213.0	3995.6	3631.8	3166.9	2651.3	2386.9
42.5°	4465.0	4478.3	4554.6	4660.2	4675.3	4594.6	4357.7	3980.5	3430.4	2837.7	2557.3
45°	4820.8	4838.6	4910.5	5063.1	5186.4	5134.1	4812.9	4364.8	3756.9	3091.4	2745.4
47.5°	5127.9	5180.2	5295.6	5472.1	5603.5	5575.9	5268.0	4741.9	4069.3	3304.4	2927.3
50°	5401.1	5464.1	5621.2	5875.9	5993.0	5956.6	5656.7	5114.5	4297.3	3489.0	3059.5
52.5°	5678.0	5765.8	5909.6	6188.2	6371.0	6385.2	6050.7	5399.4	4561.7	3682.4	3204.1
55°	5827.9	5891.8	6132.3	6470.4	6728.6	6735.7	6357.7	5666.5	4744.5	3767.6	3272.5
57.5°	5880.3	5957.5	6191.8	6591.9	6820.9	6725.9	6468.6	5787.1	4796.0	3798.6	3286.7
60°	5807.5	5884.7	6151.8	6578.6	6772.1	6818.2	6419.8	5786.2	4770.3	3758.7	3243.2
62.5°	5703.7	5802.2	6061.3	6477.5	6701.1	6726.8	6356.8	5720.6	4732.1	3690.4	3179.3
65°	5440.2	5499.6	5878.5	6189.1	6534.3	6503.2	6212.2	5491.7	4597.2	3513.8	3023.1
67.5°	5177.5	5239.7	5518.3	5944.2	6278.7	6245.0	5958.4	5269.8	4338.1	3349.7	2859.8
70°	4734.8	4774.7	5158.9	5489.9	5740.1	5864.3	5494.3	4899.8	4066.6	3074.6	2611.4
72.5°	4266.3	4329.3	4604.3	5019.6	5302.7	5262.7	5077.3	4444.6	3623.8	2755.1	2354.1
75°	3667.3	3727.7	4032.0	4433.1	4708.1	4676.2	4465.0	3903.3	3221.0	2384.2	2038.2
77.5°	3101.2	3082.6	3351.4	3655.8	3906.0	3979.7	3741.8	3300.8	2656.7	1959.2	1659.3
80°	2382.5	2453.5	2622.0	2905.1	3094.1	3135.8	2952.1	2612.3	2122.5	1533.3	1272.4
82.5°	1677.9	1715.2	1921.1	2099.4	2336.3	2321.2	2194.4	1897.1	1541.3	1076.3	876.7
85°	915.7	923.7	1110.0	1235.2	1417.9	1440.1	1350.5	1147.3	882.0	612.3	451.6
87.5°	160.6	157.9	228.9	335.4	425.9	457.9	380.7	298.1	120.7	71.9	37.3
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



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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



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1159.7	1159.7	1159.7	1159.7	1159.7	1159.7	1159.7	1159.7	1159.7	1159.7
2.5°	1153.5	1135.8	1118.9	1102.9	1087.9	1075.4	1070.1	1065.7	1064.8	1056.8
5°	1115.4	1087.0	1055.9	1027.5	1001.8	974.3	952.1	945.0	944.1	948.6
7.5°	1090.5	1047.0	1004.5	970.7	932.6	896.2	863.4	843.0	837.6	835.9
10°	1081.6	1028.4	976.9	925.5	882.9	838.5	798.6	773.7	759.6	756.0
12.5°	1093.2	1025.7	961.9	901.5	843.8	795.0	749.8	718.7	702.8	697.4
15°	1124.2	1037.3	956.5	883.8	820.8	759.6	715.2	675.3	656.6	654.0
17.5°	1165.1	1063.0	960.1	874.9	800.4	735.6	684.1	642.4	619.4	615.8
20°	1223.6	1095.8	976.9	875.8	791.5	718.7	661.1	616.7	591.8	589.2
22.5°	1306.1	1148.2	1004.5	887.3	791.5	709.0	646.9	600.7	575.0	572.3
25°	1400.2	1208.5	1041.7	903.3	794.2	707.2	638.9	590.1	564.3	561.7
27.5°	1508.5	1282.2	1081.6	923.7	803.9	709.0	636.2	587.4	562.6	559.0
30°	1630.0	1354.9	1125.1	945.9	816.3	712.5	637.1	586.5	562.6	559.0
32.5°	1751.6	1434.8	1173.9	975.2	830.5	722.3	642.4	592.7	567.9	565.2
35°	1879.4	1522.6	1228.1	1005.3	850.9	735.6	651.3	599.8	575.0	572.3
37.5°	2011.6	1611.4	1284.0	1042.6	872.2	748.9	663.7	612.3	588.3	585.6
40°	2149.1	1702.8	1343.4	1080.8	892.6	766.6	678.8	628.2	603.4	600.7
42.5°	2268.0	1785.3	1398.4	1113.6	919.3	783.5	698.3	645.1	622.0	619.4
45°	2435.7	1879.4	1455.2	1154.4	951.2	813.7	721.4	671.7	650.4	645.1
47.5°	2575.9	1975.2	1512.9	1193.5	977.8	834.1	743.6	693.0	670.8	667.3
50°	2690.4	2035.5	1558.1	1213.9	992.0	847.4	761.3	709.9	690.3	684.1
52.5°	2811.0	2103.8	1582.1	1237.8	1015.1	866.0	773.7	729.4	708.1	701.9
55°	2850.1	2107.4	1599.8	1242.3	1011.6	870.5	781.7	730.3	713.4	707.2
57.5°	2852.7	2106.5	1575.9	1212.1	986.7	850.9	773.7	724.9	705.4	700.1
60°	2803.1	2054.2	1528.0	1175.7	960.1	823.4	751.6	704.5	689.5	684.1
62.5°	2740.9	2006.2	1468.5	1126.0	921.9	795.9	725.8	689.5	669.0	662.8
65°	2583.9	1880.2	1378.0	1058.6	866.9	754.2	685.0	649.5	633.5	629.1
67.5°	2444.6	1745.4	1287.5	988.5	804.8	702.8	639.8	608.7	596.3	593.6
70°	2218.3	1599.0	1147.3	879.3	724.9	626.5	579.4	556.4	541.3	535.9
72.5°	1988.5	1403.7	1011.6	774.6	628.2	563.5	516.4	491.6	483.6	479.2
75°	1688.6	1180.1	852.7	656.6	539.5	471.2	438.3	419.7	409.9	409.1
77.5°	1381.6	945.0	686.8	520.0	426.8	379.8	356.7	339.0	337.2	340.7
80°	1058.6	713.4	510.2	389.5	315.9	286.6	274.2	262.6	260.9	258.2
82.5°	703.6	472.9	323.0	246.7	212.1	195.2	191.7	183.7	181.9	180.1
85°	343.4	227.2	156.2	122.5	112.7	104.7	103.8	107.4	106.5	103.8
87.5°	35.5	29.3	28.4	22.2	20.4	18.6	18.6	16.9	20.4	15.1
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: P543129
 CATALOG NUMBER: TT-D7-735-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

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

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

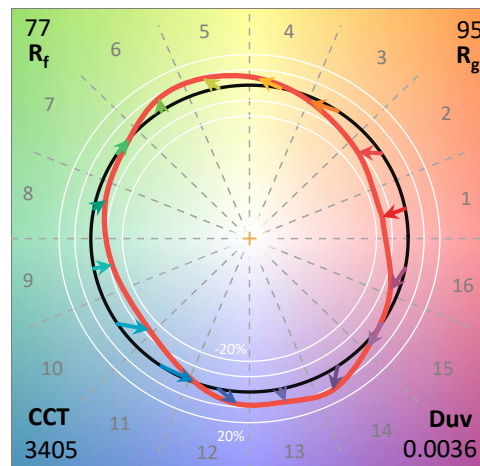
Test Information

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

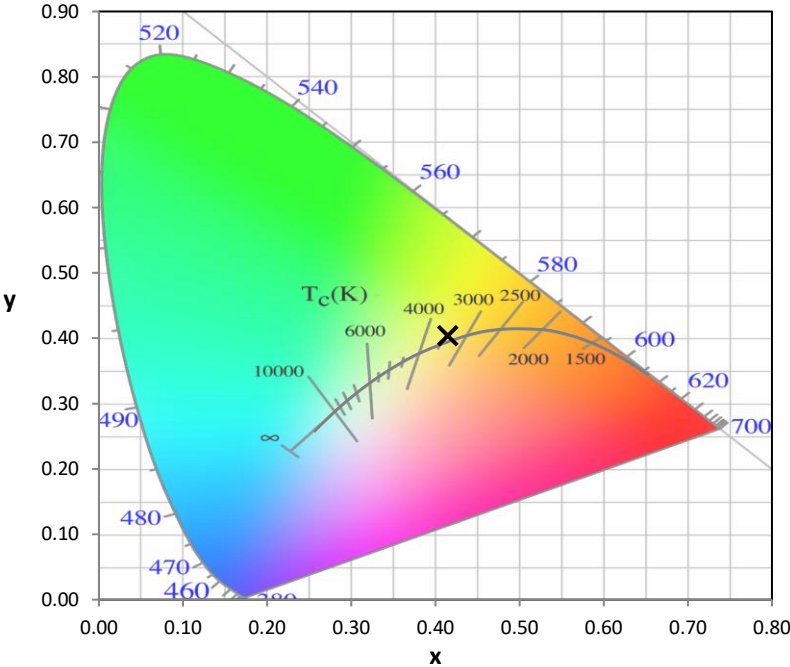
Stabilization Time: 38M
 Operation Time: 1H 38M
 Sphere Temperature (°C): 24.9

REPORT NUMBER: SP1-2411-284-1

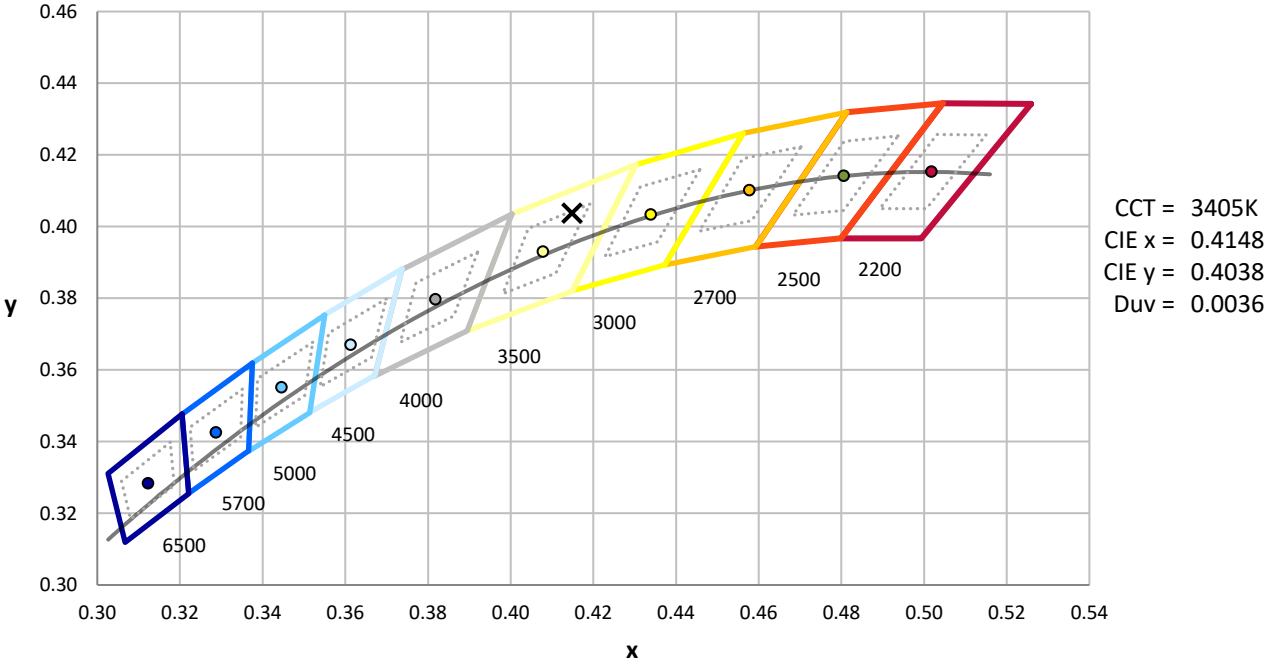
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/22/2024	10/22/2025
DC Power Source	IN0208	10/22/2024	10/22/2025
Sphere Thermometer	IN0085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



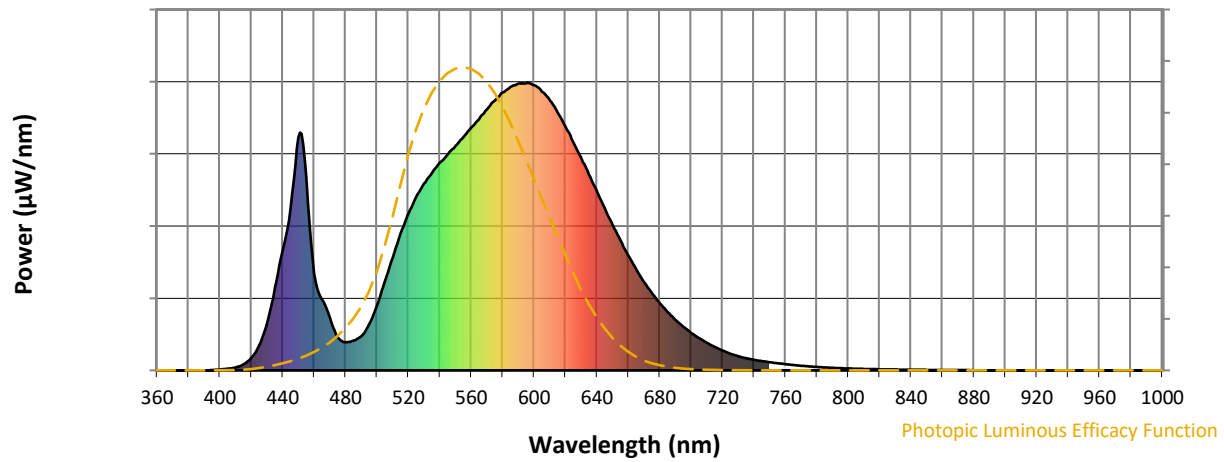
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP1-2411-284-1

Photopic Flux vs. Wavelength

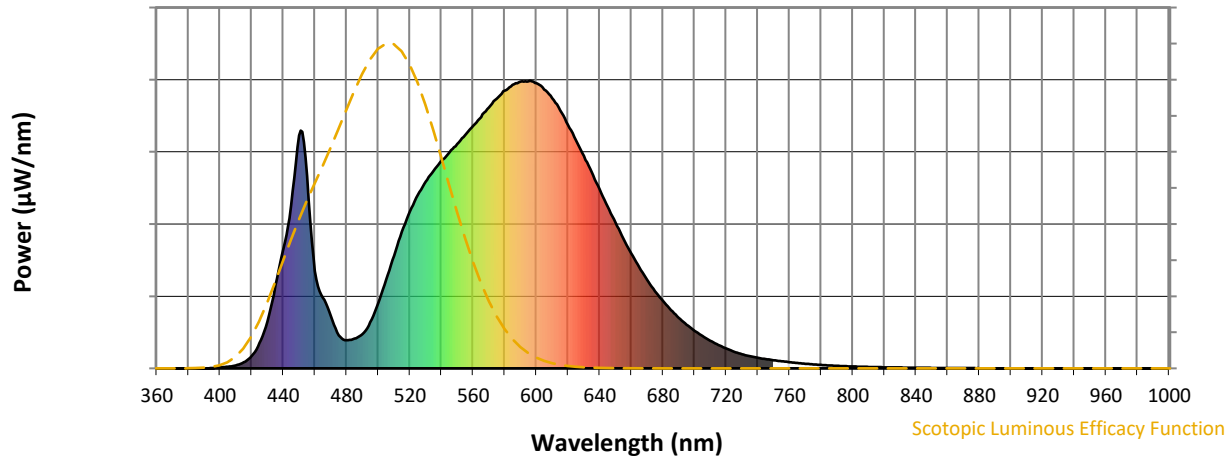


Photopic Lumens: NR

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	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



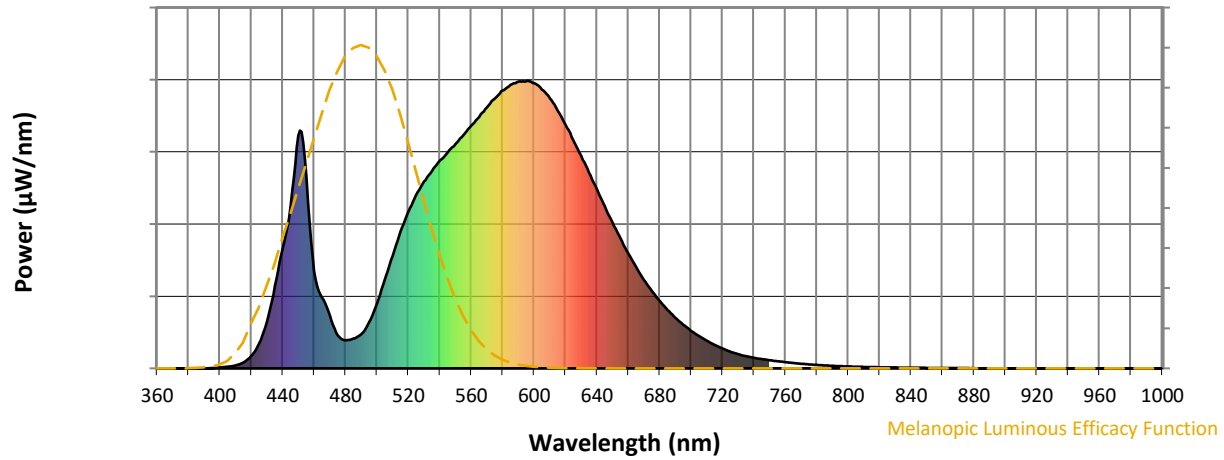
Scotopic Lumens: NR

S/P: 1.33

λ (nm)	Power W [^] /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	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



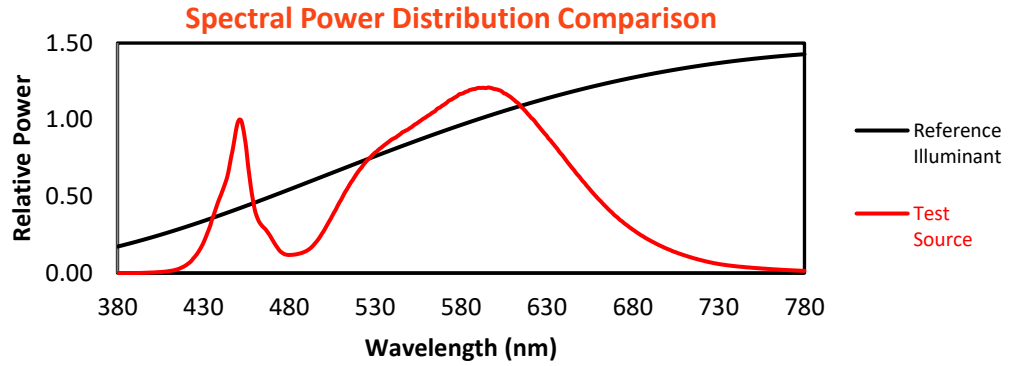
Melanopic Lumens: NR

M/P: 2.47

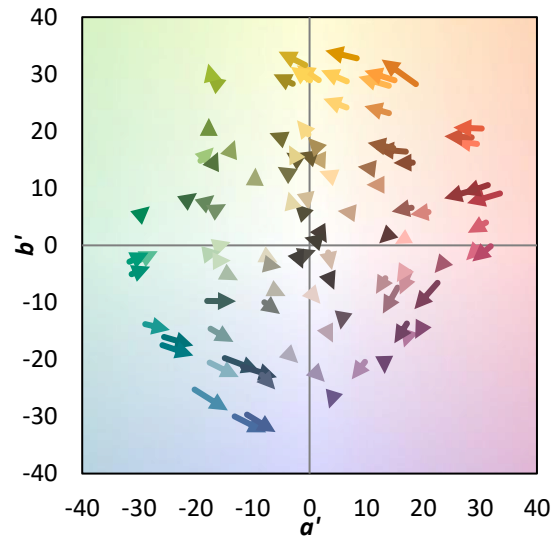
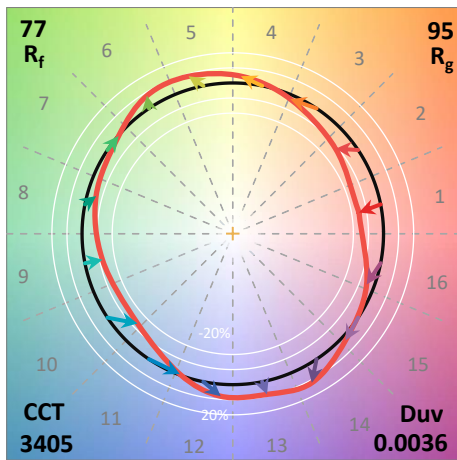
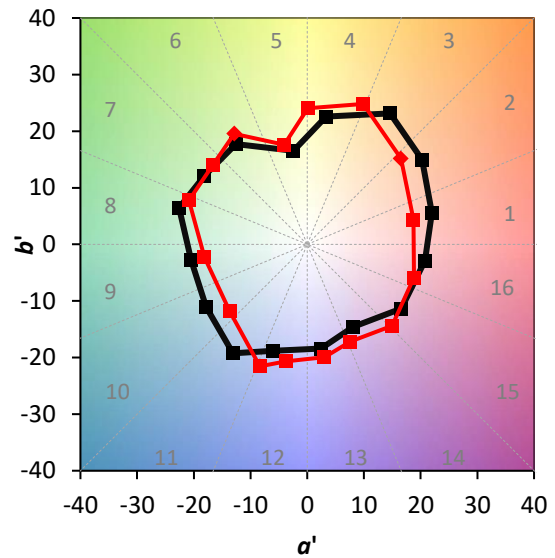
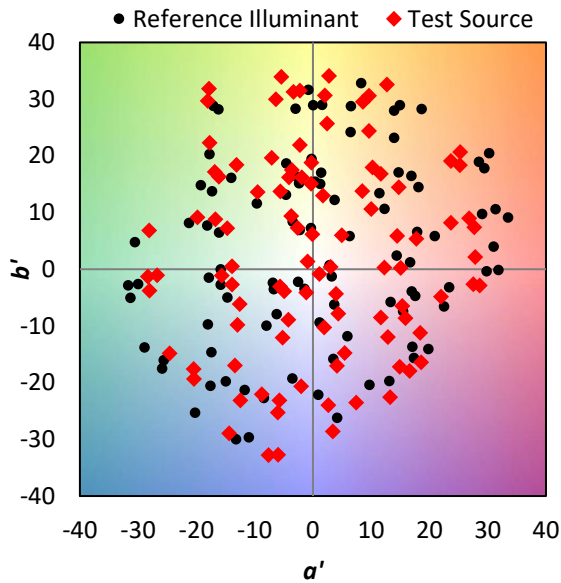
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	119	NR	620	846	NR	750	28	NR	880	1	NR
365	0	NR	495	160	NR	625	793	NR	755	25	NR	885	0	NR
370	0	NR	500	225	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

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

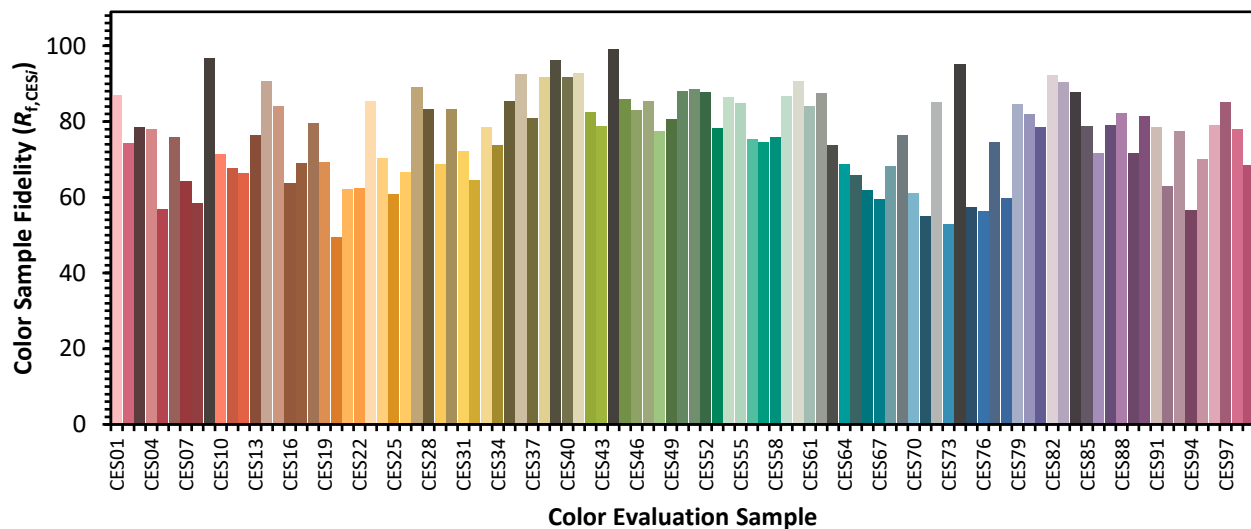


Color Vector Graphics

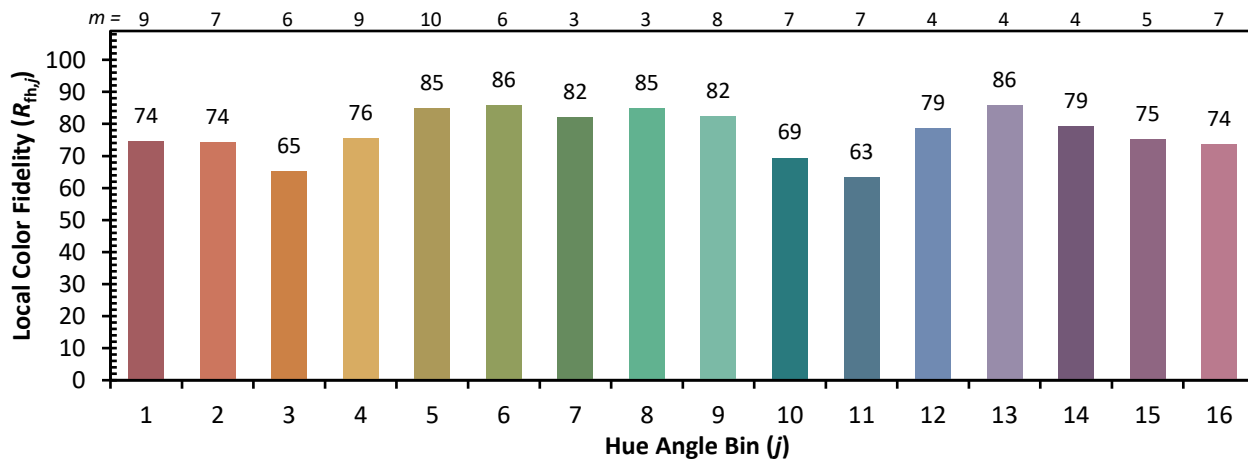
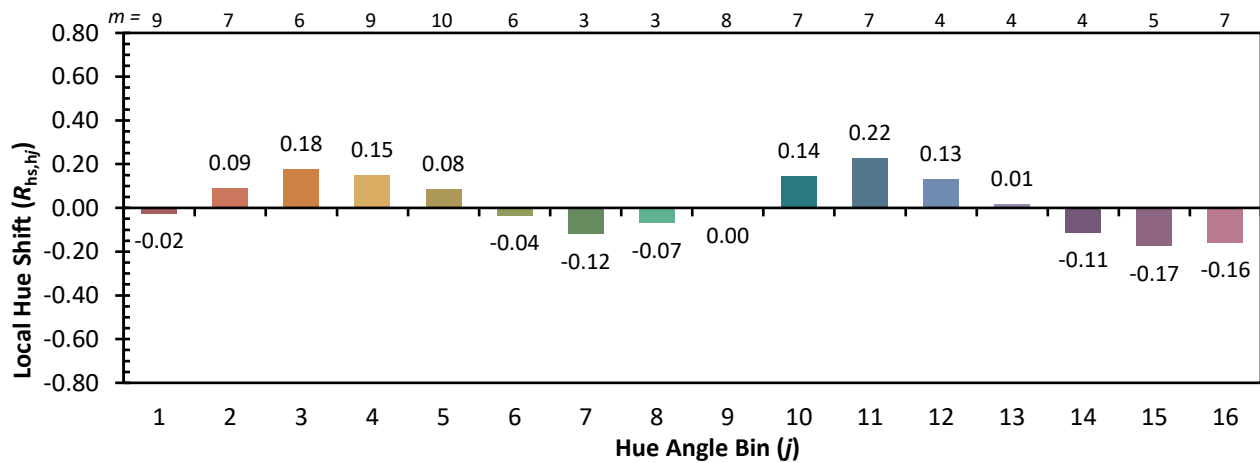
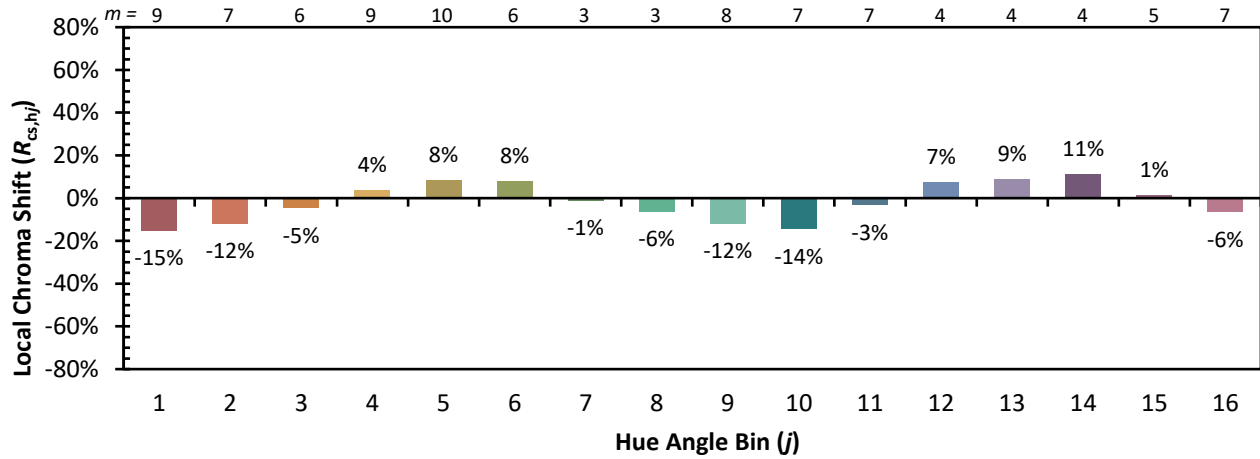


Individual Sample Fidelity Index ($R_{f,i}$)

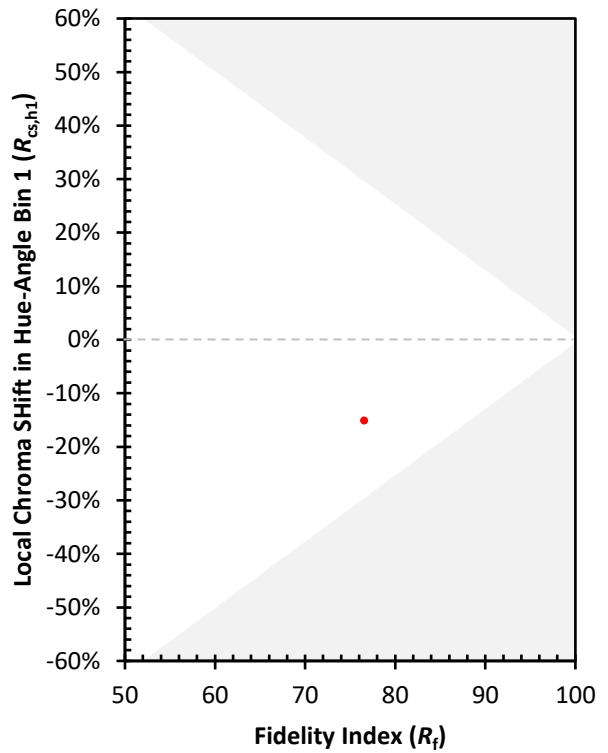
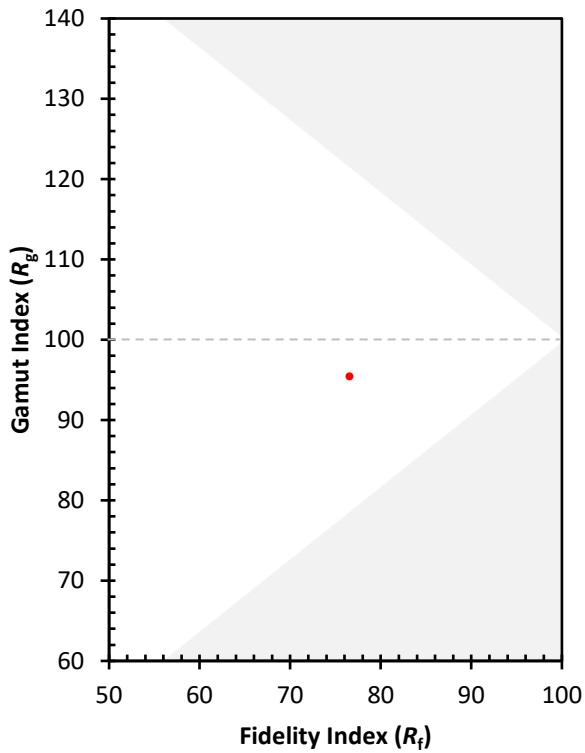
CES01 = 86	CES26 = 67	CES51 = 88	CES76 = 56
CES02 = 62	CES27 = 89	CES52 = 88	CES77 = 75
CES03 = 31	CES28 = 83	CES53 = 78	CES78 = 60
CES04 = 70	CES29 = 69	CES54 = 86	CES79 = 85
CES05 = 48	CES30 = 83	CES55 = 85	CES80 = 82
CES06 = 51	CES31 = 72	CES56 = 75	CES81 = 78
CES07 = 41	CES32 = 65	CES57 = 75	CES82 = 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)