

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: P543121

Luminaire Tested: **TT-D6-735-U-DL-UPL**

Issue Date: 5/10/2022

**Test Information**

Test Method: LM-79-08  
Report Number: P543121  
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-D6-735-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**

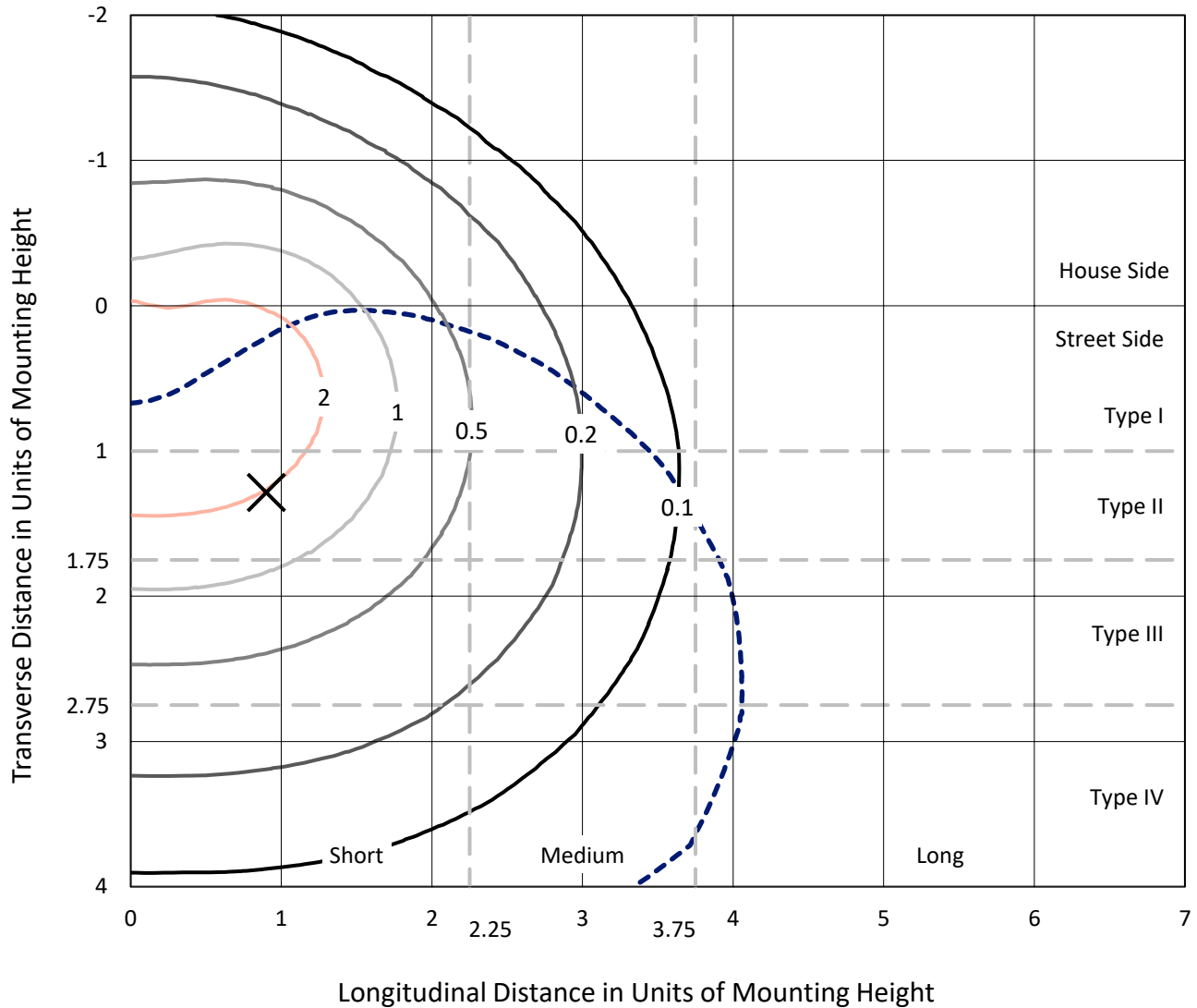
Lumens per Lamp: N/A  
Luminaire Lumens: 11485.7 lumens  
Efficiency: N/A  
Efficacy: 109.0 lumens/watt  
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U4 - G3  
  
Input Watts (W): 105.4  
Input Voltage (V): NR  
Input Current (Ain): 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

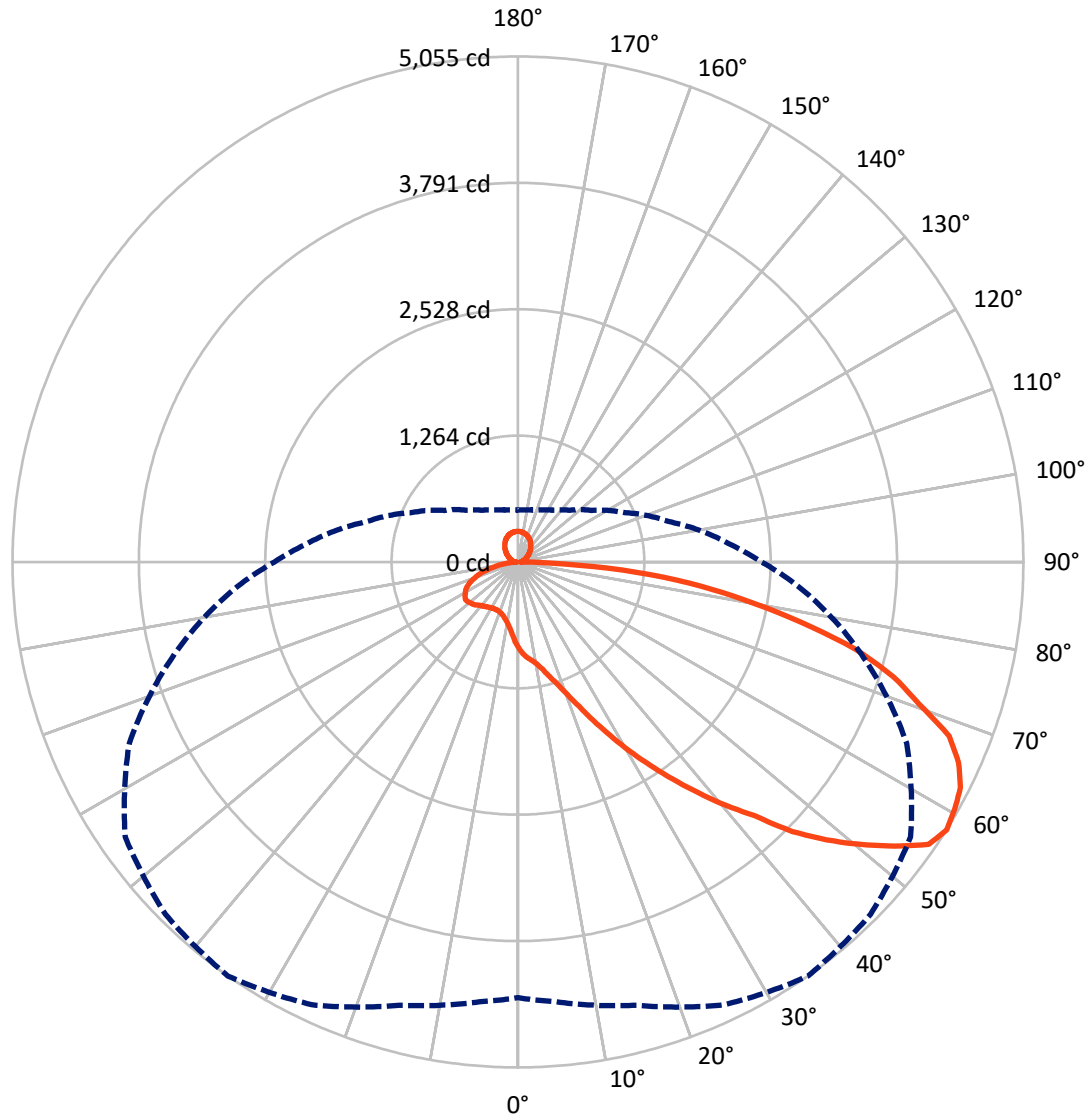
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.7 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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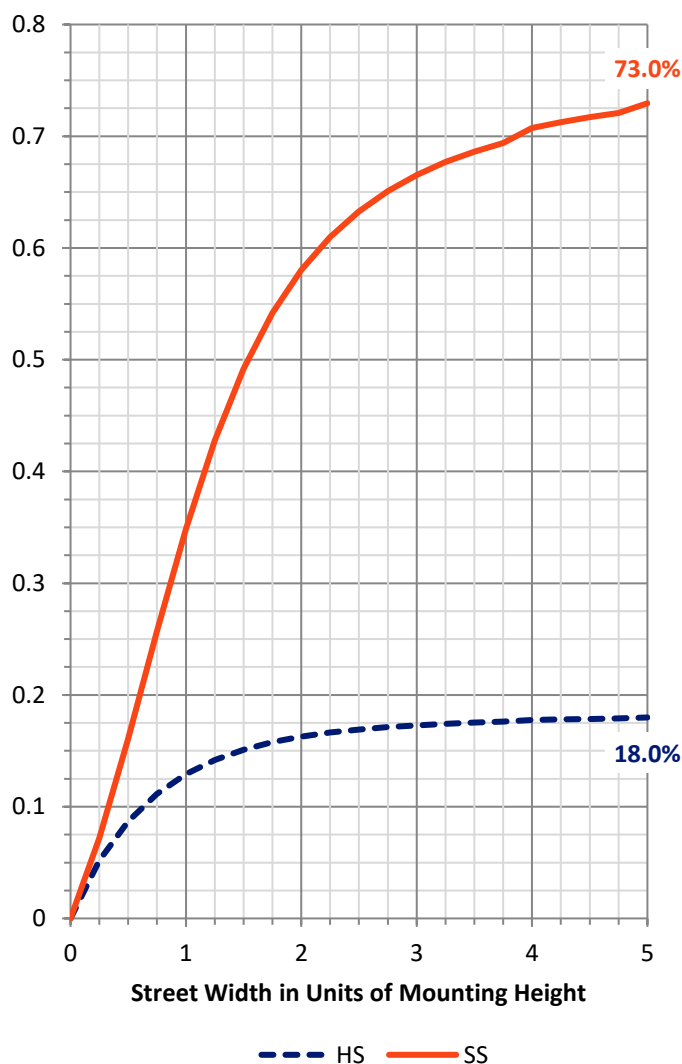
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2087.5	415.9	2503.4
	% Fixture	18.2	3.6	21.8
<b>Street Side</b>	Lumens	8566.5	415.9	8982.3
	% Fixture	74.6	3.6	78.2
<b>Total</b>	Lumens	10654.0	831.7	11485.7
	% Fixture	92.8	7.2	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	79.7	0.7
10°-20°	251.3	2.2
20°-30°	531.3	4.6
30°-40°	995.5	8.7
40°-50°	1656.9	14.4
50°-60°	2338.5	20.4
60°-70°	2460.3	21.4
70°-80°	1802.4	15.7
80°-90°	538.0	4.7
90°-100°	42.6	0.4
100°-110°	66.0	0.6
110°-120°	91.9	0.8
120°-130°	119.0	1.0
130°-140°	138.7	1.2
140°-150°	140.5	1.2
150°-160°	121.9	1.1
160°-170°	82.2	0.7
170°-180°	28.9	0.3
0°-90°	10654.0	92.8
0°-180°	11485.7	100.0

**Coefficient of Utilization**



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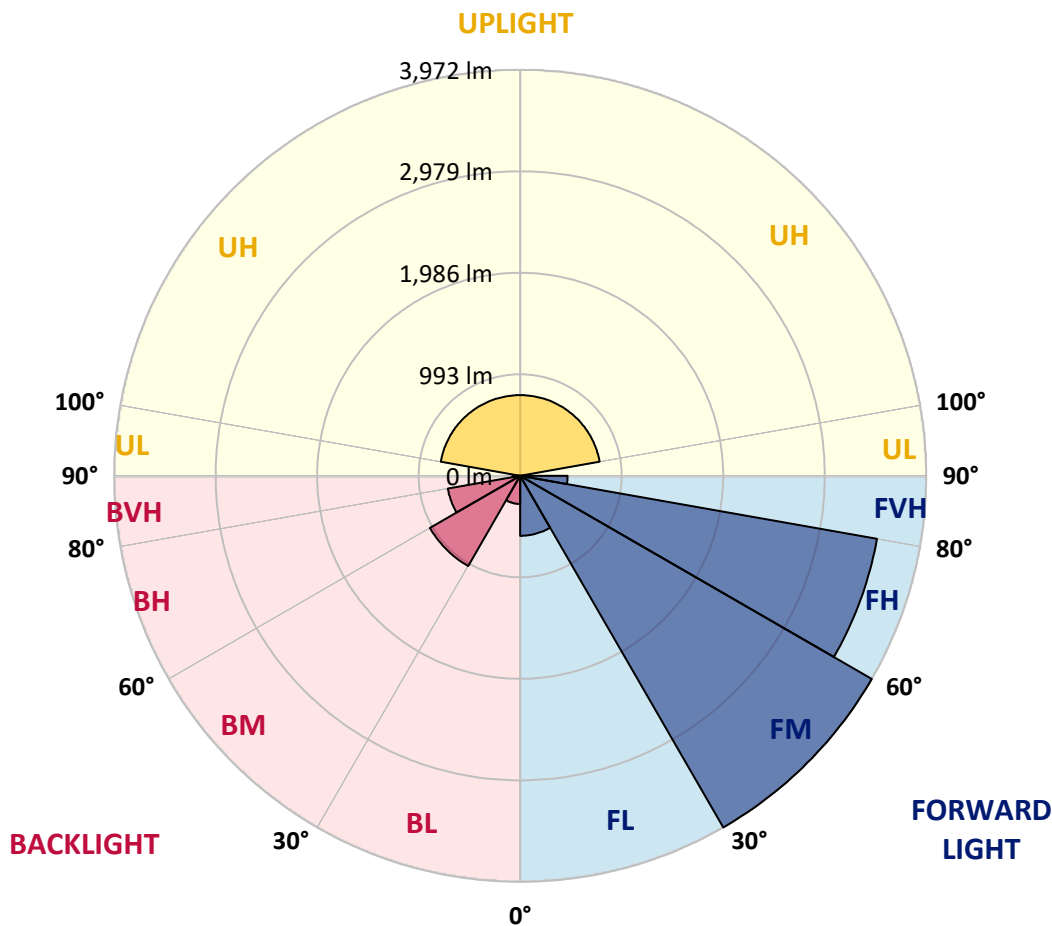
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	586.8	5.1			
FM (30°-60°)	3971.8	34.6			
FH (60°-80°)	3543.9	30.9			G2/5000
FVH (80°-90°)	464.0	4.0			G3/500
BL (0°-30°)	275.6	2.4	B1/500		
BM (30°-60°)	1019.1	8.9	B2/2500		
BH (60°-80°)	718.8	6.3	B2/1000		G2/1000
BVH (80°-90°)	74.0	0.6			G1/100
UL (90°-100°)	42.6	0.4		U2/50	
UH (100°-180°)	789.1	6.9		U4/1000	

**BUG Rating: B2-U4-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	859.5	859.5	859.5	859.5	859.5	859.5	859.5	859.5	859.5	859.5	859.5
2.5°	935.8	931.2	927.2	920.7	916.1	914.8	906.2	895.7	881.2	868.7	862.1
5°	985.1	984.5	982.5	974.6	960.1	939.7	920.7	899.0	875.3	851.6	840.4
7.5°	1031.8	1027.2	1024.6	1013.4	992.3	970.0	941.1	908.8	874.6	841.1	824.0
10°	1090.3	1083.8	1079.2	1057.5	1035.8	1004.2	966.0	924.6	883.8	841.8	821.4
12.5°	1165.3	1160.0	1141.0	1130.5	1102.8	1066.7	1018.7	968.7	916.1	862.1	835.8
15°	1245.5	1246.8	1239.6	1212.7	1190.3	1146.9	1095.6	1033.1	962.1	897.0	864.1
17.5°	1352.7	1350.8	1336.9	1319.2	1285.0	1240.9	1177.8	1111.4	1028.5	943.0	905.5
20°	1479.0	1472.4	1459.9	1435.6	1415.2	1363.2	1291.6	1208.7	1110.1	1008.8	958.2
22.5°	1639.4	1625.0	1617.1	1595.4	1570.4	1521.7	1445.5	1335.6	1219.9	1094.3	1029.2
25°	1796.6	1804.5	1800.6	1788.1	1756.5	1696.7	1615.8	1494.8	1336.3	1189.6	1116.0
27.5°	1993.9	1997.2	1998.5	1993.2	1962.3	1907.8	1825.6	1665.8	1488.9	1306.7	1209.4
30°	2199.1	2191.8	2201.1	2203.7	2188.6	2125.4	2024.8	1849.9	1638.1	1420.5	1311.3
32.5°	2402.9	2410.8	2429.9	2418.1	2420.7	2349.0	2239.2	2033.4	1797.3	1540.8	1425.7
35°	2622.6	2633.1	2646.3	2668.6	2667.3	2610.1	2451.6	2245.1	1969.6	1679.6	1530.3
37.5°	2847.5	2844.9	2864.6	2915.9	2925.8	2871.2	2705.5	2467.4	2150.4	1819.6	1653.3
40°	3060.6	3084.9	3123.0	3157.9	3200.0	3122.4	2961.3	2691.6	2347.0	1965.0	1769.0
42.5°	3309.1	3319.0	3375.6	3453.8	3465.0	3405.2	3229.6	2950.1	2542.4	2103.1	1895.3
45°	3572.9	3586.0	3639.3	3752.4	3843.8	3805.0	3566.9	3234.8	2784.4	2291.2	2034.7
47.5°	3800.4	3839.2	3924.7	4055.5	4152.9	4132.5	3904.3	3514.3	3015.8	2449.0	2169.5
50°	4002.9	4049.6	4166.0	4354.8	4441.6	4414.6	4192.3	3790.5	3184.9	2585.8	2267.5
52.5°	4208.1	4273.2	4379.8	4586.2	4721.7	4732.2	4484.3	4001.6	3380.8	2729.1	2374.7
55°	4319.3	4366.6	4544.8	4795.4	4986.7	4992.0	4711.9	4199.6	3516.3	2792.3	2425.3
57.5°	4358.1	4415.3	4588.9	4885.5	5055.1	4984.8	4794.1	4289.0	3554.4	2815.3	2435.8
60°	4304.1	4361.3	4559.3	4875.6	5019.0	5053.2	4757.9	4288.3	3535.4	2785.7	2403.6
62.5°	4227.2	4300.2	4492.2	4800.6	4966.4	4985.4	4711.2	4239.7	3507.1	2735.0	2356.3
65°	4031.9	4075.9	4356.7	4586.9	4842.7	4819.7	4604.0	4070.0	3407.1	2604.2	2240.5
67.5°	3837.2	3883.3	4089.7	4405.4	4653.3	4628.3	4415.9	3905.6	3215.1	2482.5	2119.5
70°	3509.1	3538.7	3823.4	4068.7	4254.1	4346.2	4072.0	3631.4	3013.9	2278.7	1935.4
72.5°	3161.8	3208.5	3412.4	3720.2	3929.9	3900.3	3762.9	3294.0	2685.7	2041.9	1744.7
75°	2717.9	2762.7	2988.2	3285.5	3489.3	3465.7	3309.1	2892.9	2387.2	1767.0	1510.6
77.5°	2298.4	2284.6	2483.8	2709.4	2894.8	2949.4	2773.2	2446.3	1968.9	1452.0	1229.8
80°	1765.7	1818.3	1943.3	2153.1	2293.1	2324.0	2187.9	1936.0	1573.0	1136.4	943.0
82.5°	1243.6	1271.2	1423.7	1555.9	1731.5	1720.3	1626.3	1406.0	1142.3	797.7	649.7
85°	678.7	684.6	822.7	915.4	1050.9	1067.3	1000.9	850.3	653.7	453.8	334.7
87.5°	119.0	117.1	169.7	248.6	315.7	339.3	282.1	221.0	89.4	53.3	27.6
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°	859.5	859.5	859.5	859.5	859.5	859.5	859.5	859.5	859.5	859.5
2.5°	854.9	841.8	829.3	817.4	806.2	797.0	793.1	789.8	789.1	783.2
5°	826.6	805.6	782.6	761.5	742.5	722.1	705.6	700.4	699.7	703.0
7.5°	808.2	776.0	744.4	719.4	691.2	664.2	639.9	624.7	620.8	619.5
10°	801.6	762.2	724.0	685.9	654.3	621.5	591.9	573.4	562.9	560.3
12.5°	810.2	760.2	712.9	668.1	625.4	589.2	555.7	532.7	520.8	516.9
15°	833.2	768.8	708.9	655.0	608.3	562.9	530.0	500.4	486.6	484.7
17.5°	863.5	787.8	711.5	648.4	593.2	545.2	507.0	476.1	459.0	456.4
20°	906.9	812.2	724.0	649.1	586.6	532.7	489.9	457.0	438.6	436.7
22.5°	968.0	851.0	744.4	657.6	586.6	525.4	479.4	445.2	426.1	424.2
25°	1037.7	895.7	772.0	669.5	588.6	524.1	473.5	437.3	418.2	416.3
27.5°	1118.0	950.3	801.6	684.6	595.8	525.4	471.5	435.3	416.9	414.3
30°	1208.0	1004.2	833.9	701.0	605.0	528.1	472.2	434.7	416.9	414.3
32.5°	1298.1	1063.4	870.0	722.7	615.5	535.3	476.1	439.3	420.9	418.9
35°	1392.8	1128.5	910.1	745.1	630.7	545.2	482.7	444.6	426.1	424.2
37.5°	1490.8	1194.2	951.6	772.7	646.4	555.0	491.9	453.8	436.0	434.0
40°	1592.8	1262.0	995.6	801.0	661.6	568.2	503.1	465.6	447.2	445.2
42.5°	1680.9	1323.1	1036.4	825.3	681.3	580.7	517.5	478.1	461.0	459.0
45°	1805.2	1392.8	1078.5	855.6	705.0	603.0	534.6	497.8	482.0	478.1
47.5°	1909.1	1463.9	1121.2	884.5	724.7	618.2	551.1	513.6	497.2	494.5
50°	1993.9	1508.6	1154.8	899.6	735.2	628.0	564.2	526.1	511.6	507.0
52.5°	2083.3	1559.2	1172.5	917.4	752.3	641.8	573.4	540.6	524.8	520.2
55°	2112.3	1561.8	1185.7	920.7	749.7	645.1	579.4	541.2	528.7	524.1
57.5°	2114.3	1561.2	1167.9	898.3	731.3	630.7	573.4	537.3	522.8	518.9
60°	2077.4	1522.4	1132.4	871.3	711.5	610.3	557.0	522.2	511.0	507.0
62.5°	2031.4	1486.9	1088.4	834.5	683.3	589.9	537.9	511.0	495.8	491.2
65°	1915.0	1393.5	1021.3	784.5	642.5	559.0	507.7	481.4	469.5	466.3
67.5°	1811.7	1293.5	954.2	732.6	596.5	520.8	474.1	451.1	441.9	439.9
70°	1644.1	1185.0	850.3	651.7	537.3	464.3	429.4	412.3	401.1	397.2
72.5°	1473.7	1040.4	749.7	574.1	465.6	417.6	382.7	364.3	358.4	355.1
75°	1251.5	874.6	632.0	486.6	399.8	349.2	324.9	311.1	303.8	303.2
77.5°	1023.9	700.4	509.0	385.4	316.3	281.5	264.4	251.2	249.9	252.5
80°	784.5	528.7	378.1	288.7	234.1	212.4	203.2	194.7	193.3	191.4
82.5°	521.5	350.5	239.4	182.8	157.2	144.7	142.0	136.1	134.8	133.5
85°	254.5	168.4	115.7	90.8	83.5	77.6	76.9	79.6	78.9	76.9
87.5°	26.3	21.7	21.0	16.4	15.1	13.8	13.8	12.5	15.1	11.2
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: P543121  
 CATALOG NUMBER: TT-D6-735-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

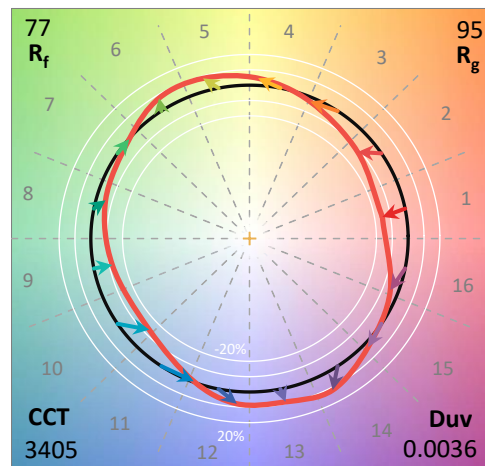
**Test Information**

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**

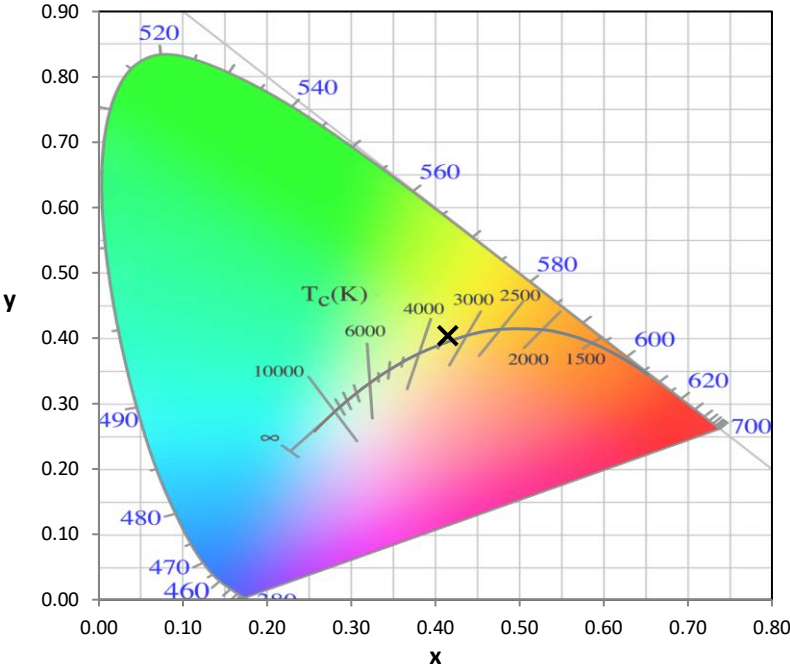
Stabilization Time: 38M  
 Operation Time: 1H 38M  
 Sphere Temperature (°C): 24.9

REPORT NUMBER: SP1-2411-284-1

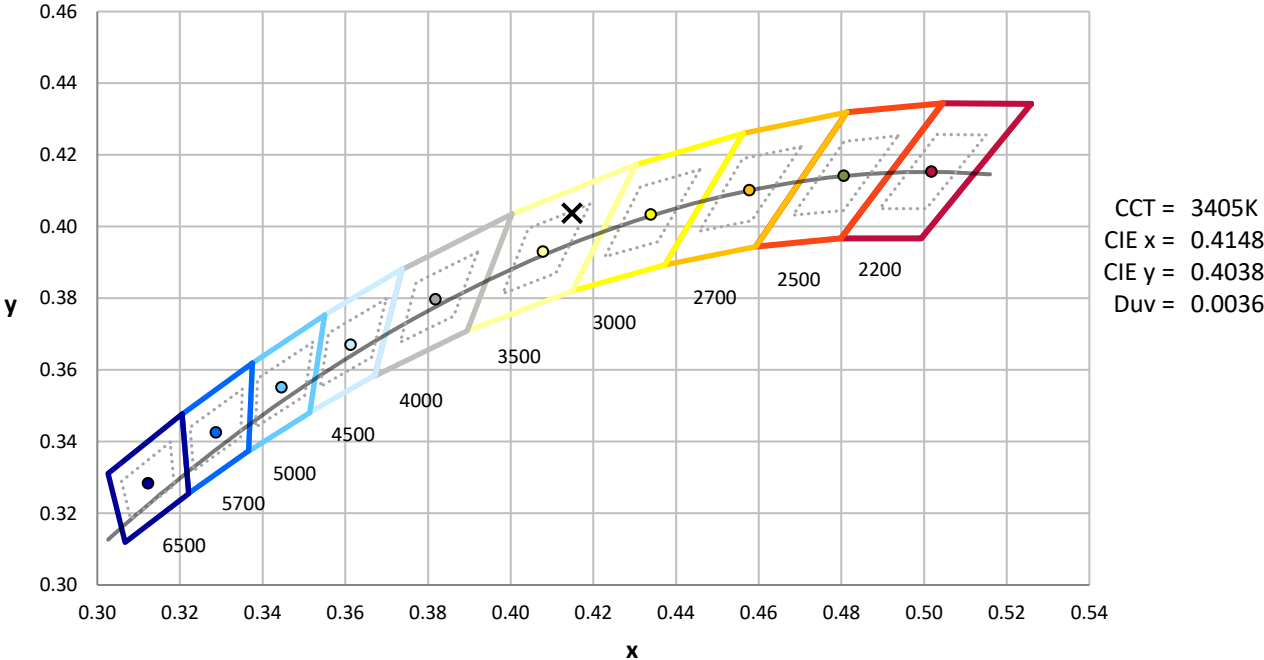
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/22/2024	10/22/2025
DC Power Source	IN0208	10/22/2024	10/22/2025
Sphere Thermometer	IN0085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

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CIE 1931 Chromaticity Diagram



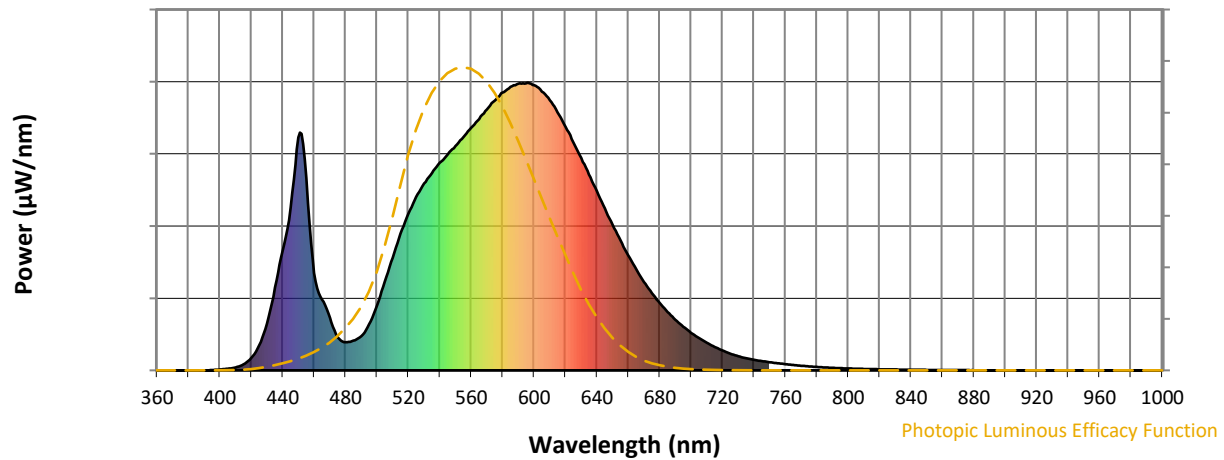
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP1-2411-284-1

**Photopic Flux vs. Wavelength**

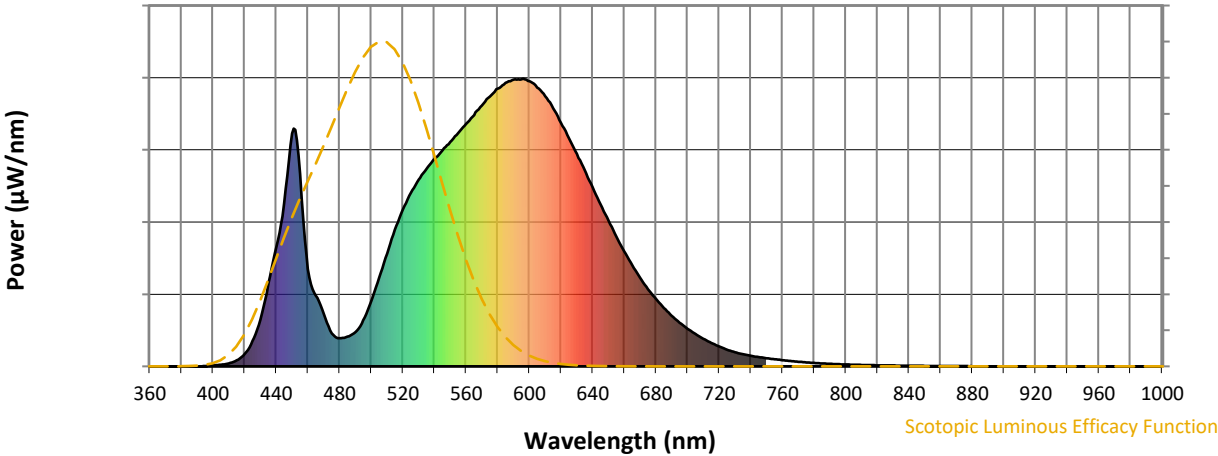


**Photopic Lumens: NR**

$\lambda$ (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**

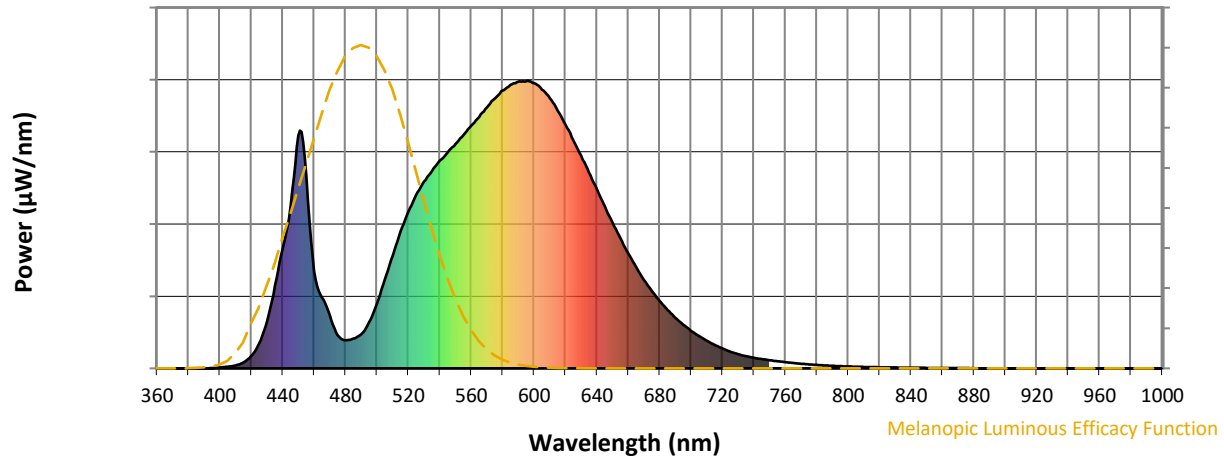
**S/P: 1.33**

$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	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

Melanopic Flux vs. Wavelength



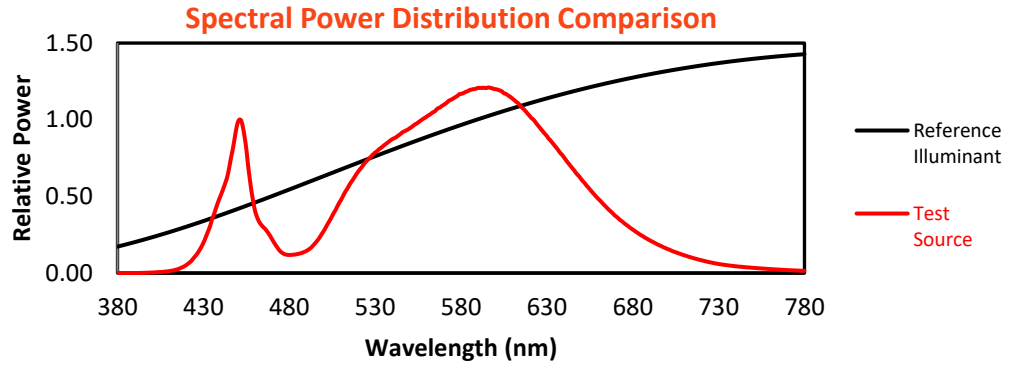
Melanopic Lumens: NR

M/P: 2.47

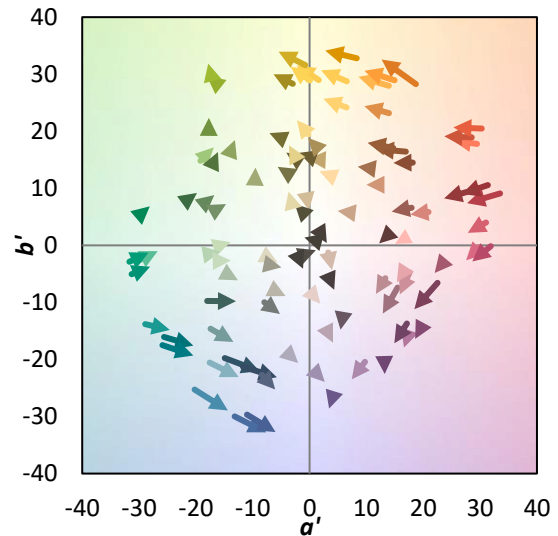
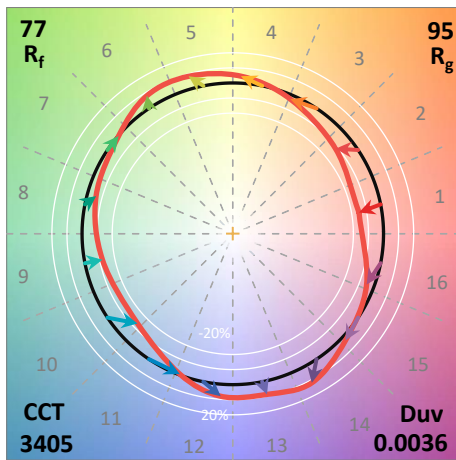
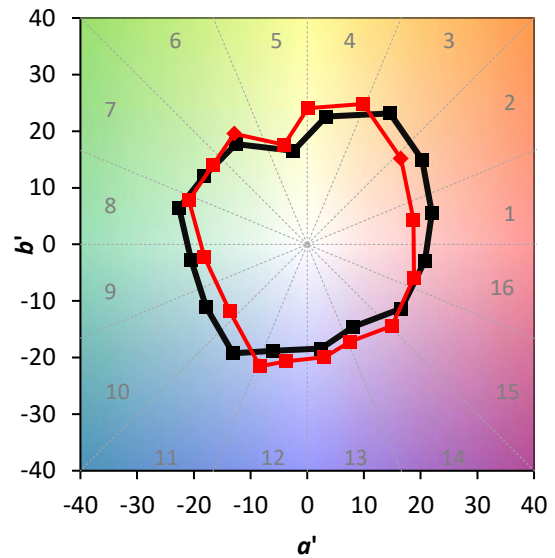
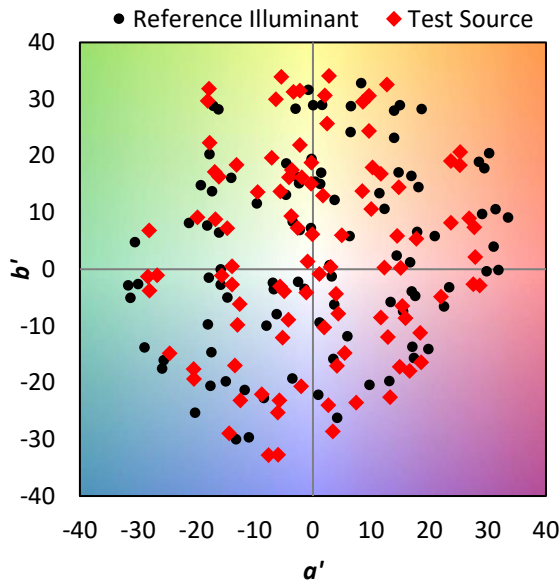
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	119	NR	620	846	NR	750	28	NR	880	1	NR
365	0	NR	495	160	NR	625	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			

**Summary**

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

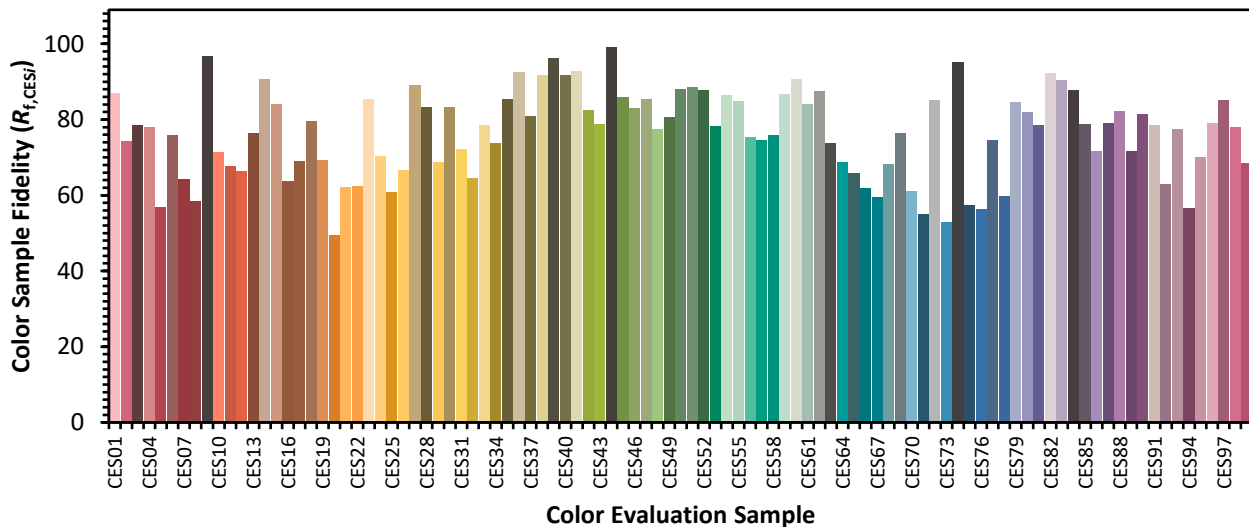


**Color Vector Graphics**

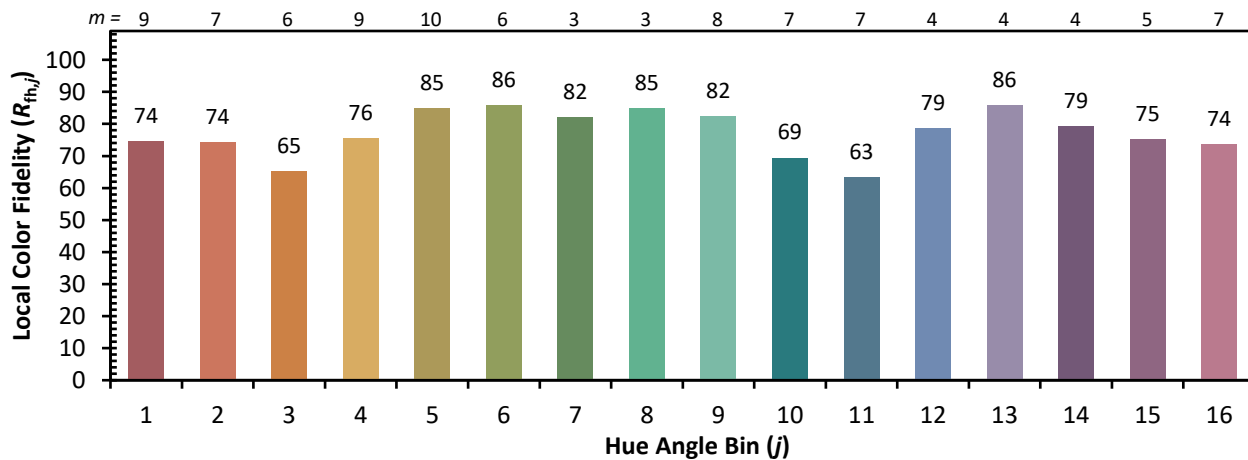
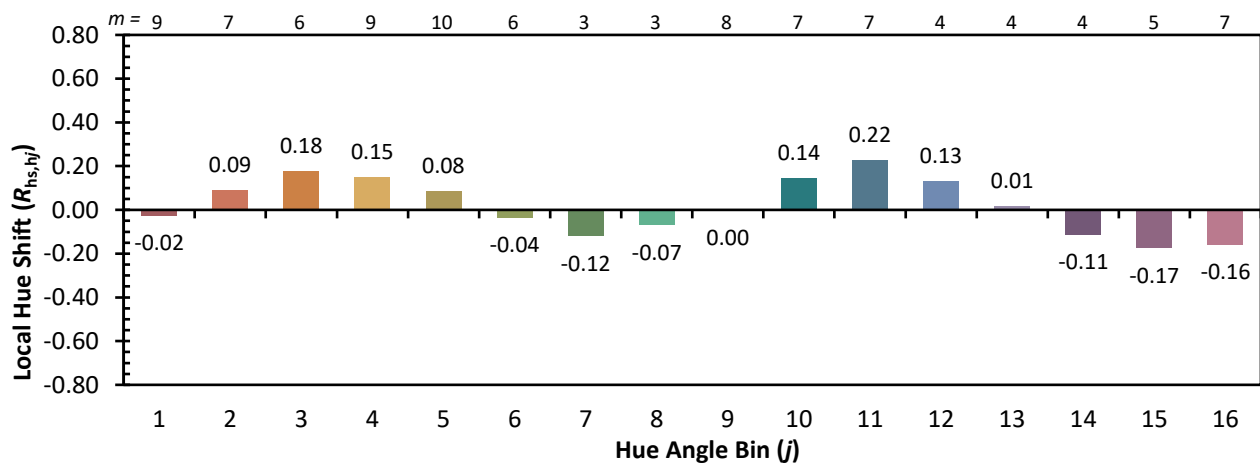
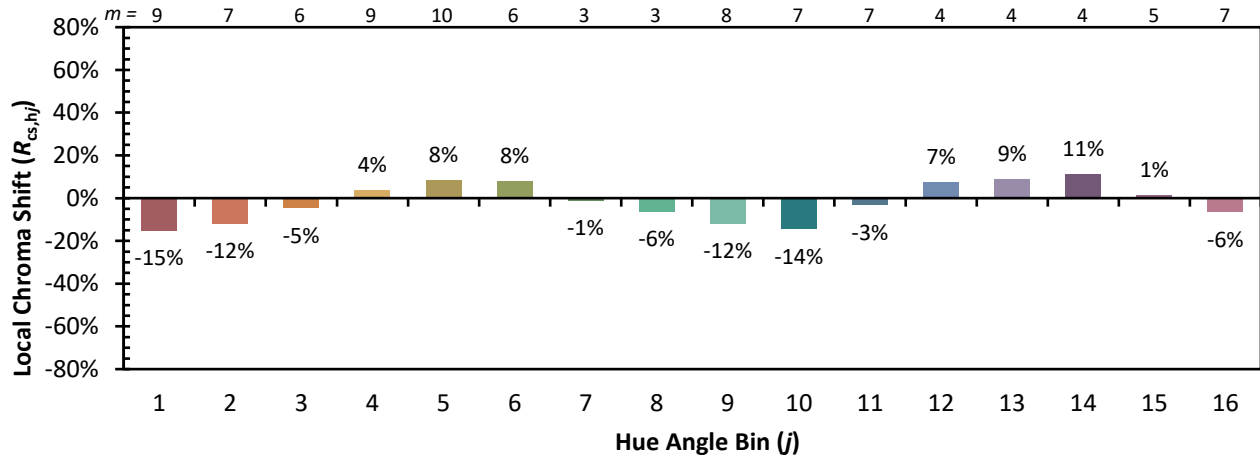


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

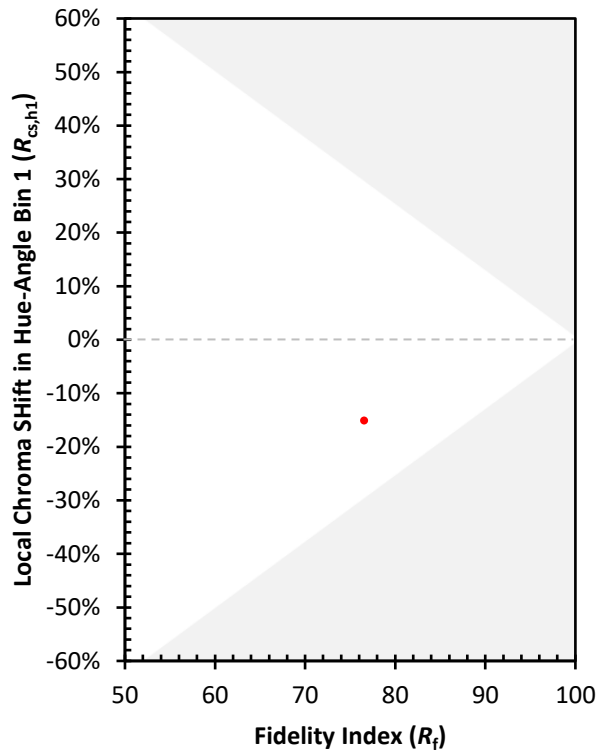
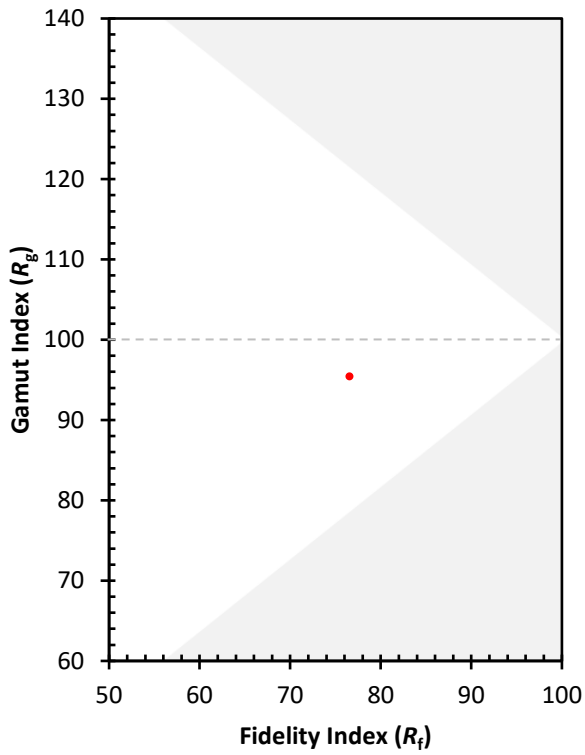
CES01 = 86	CES26 = 67	CES51 = 88	CES76 = 56
CES02 = 62	CES27 = 89	CES52 = 88	CES77 = 75
CES03 = 31	CES28 = 83	CES53 = 78	CES78 = 60
CES04 = 70	CES29 = 69	CES54 = 86	CES79 = 85
CES05 = 48	CES30 = 83	CES55 = 85	CES80 = 82
CES06 = 51	CES31 = 72	CES56 = 75	CES81 = 78
CES07 = 41	CES32 = 65	CES57 = 75	CES82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