

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: LUMARK

Report Number: P895737

Luminaire Tested: **CLCS15S-PC-4000K-100%**

Issue Date: 11/14/2024

Test Information

Test Method: LM-79-08
Report Number: P895737
Test Lab: INNOVATION CENTER(G2)
Issue Date: 11/14/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: CLCS15S-PC-4000K-100%
Description: LUMARK SMALL LED CANOPY 8000LM, 60W, PC 80 CRI 4000K FIXTURE @ 100%
OUTPUT
Light Source: 4000K CCT,80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8249.5 lumens
Efficiency: N/A
Efficacy: 145.2 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.8' x L: 0.8' x H: 0.1')
IES Classification: Type V - Short
BUG Rating: B3 - U3 - G2

Input Watts (W): 56.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.98
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT

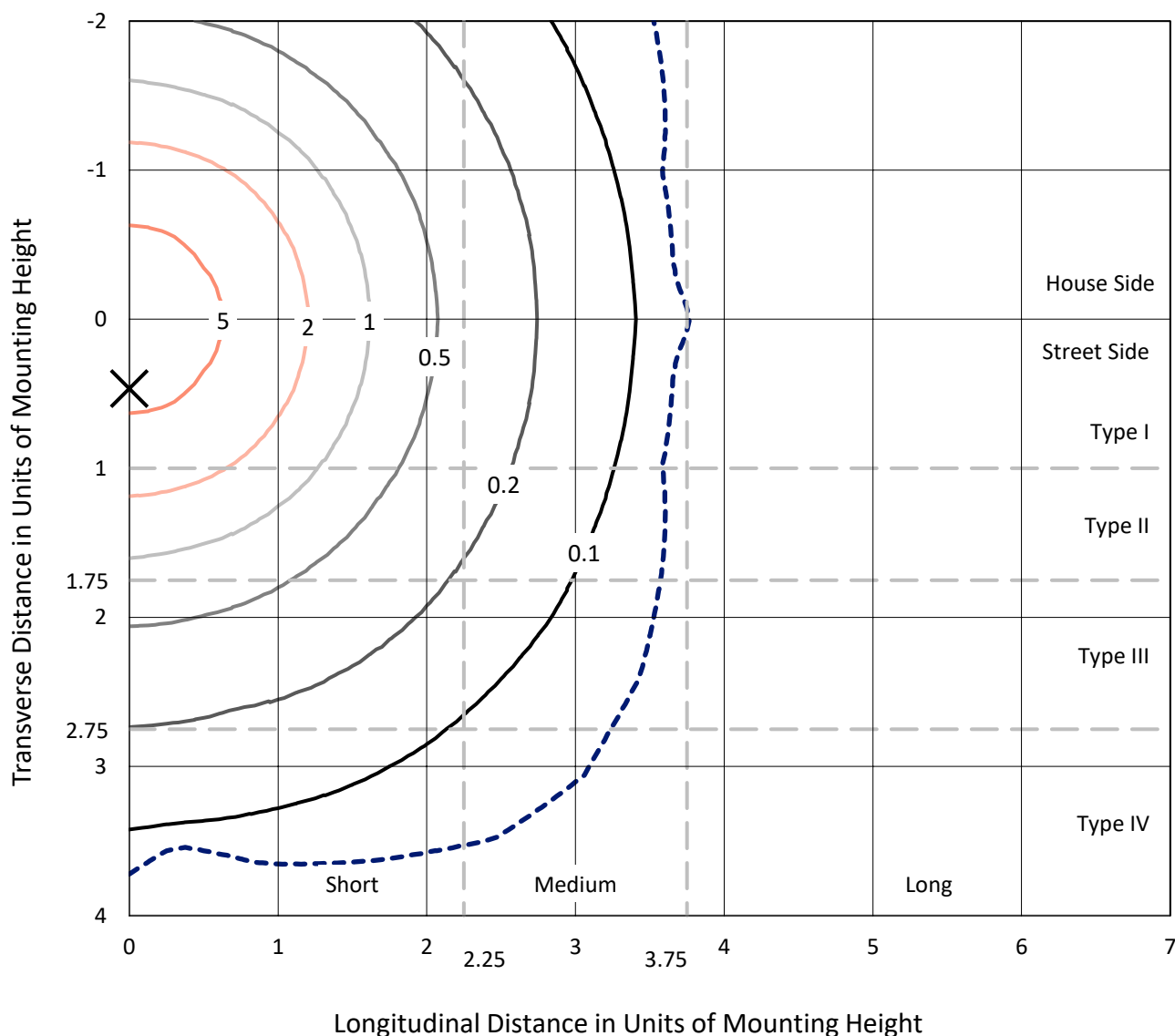
REPORT NUMBER: P895737

CATALOG NUMBER: CLCS15S-PC-4000K-100%

Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

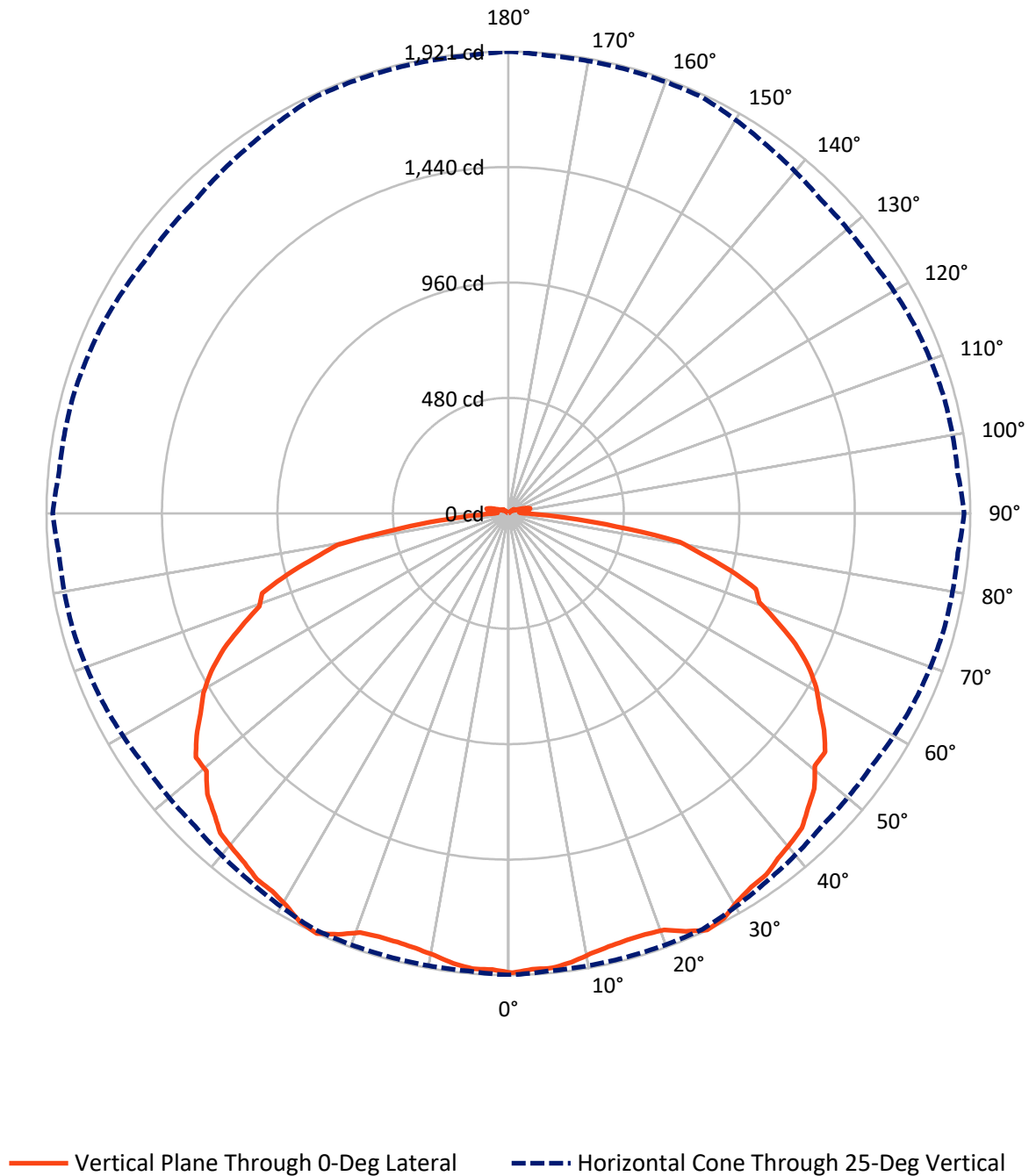


Based on 15 foot mounting height. Maximum calculated value = 8.5 fc

Type V - Short - N/A

REPORT NUMBER: P895737
CATALOG NUMBER: CLCS15S-PC-4000K-100%

Luminous Intensity Polar Plot



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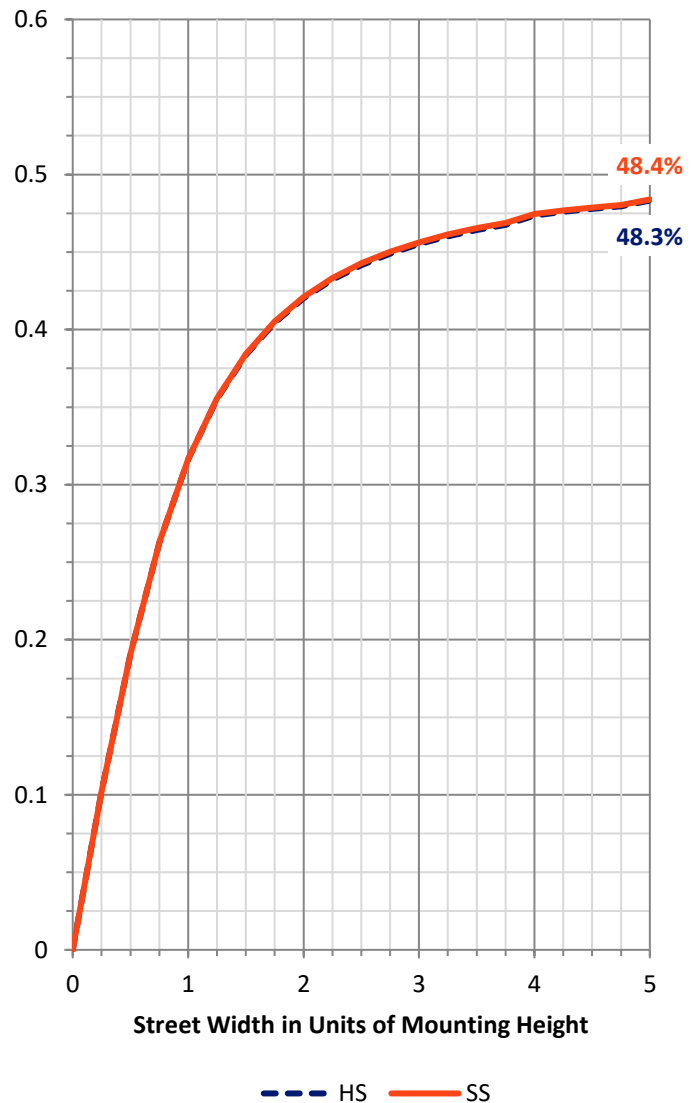
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4043.7	81.1	4124.8
	% Fixture	49.0	1.0	50.0
Street Side	Lumens	4043.7	81.1	4124.8
	% Fixture	49.0	1.0	50.0
Total	Lumens	8087.4	162.1	8249.5
	% Fixture	98.0	2.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	180.9	2.2
10°-20°	524.3	6.4
20°-30°	862.2	10.5
30°-40°	1143.1	13.9
40°-50°	1352.1	16.4
50°-60°	1422.3	17.2
60°-70°	1300.8	15.8
70°-80°	1004.4	12.2
80°-90°	297.2	3.6
90°-100°	56.6	0.7
100°-110°	62.9	0.8
110°-120°	24.5	0.3
120°-130°	13.5	0.2
130°-140°	4.0	0.0
140°-150°	0.6	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	8087.4	98.0
0°-180°	8249.5	100.0



REPORT NUMBER: P895737

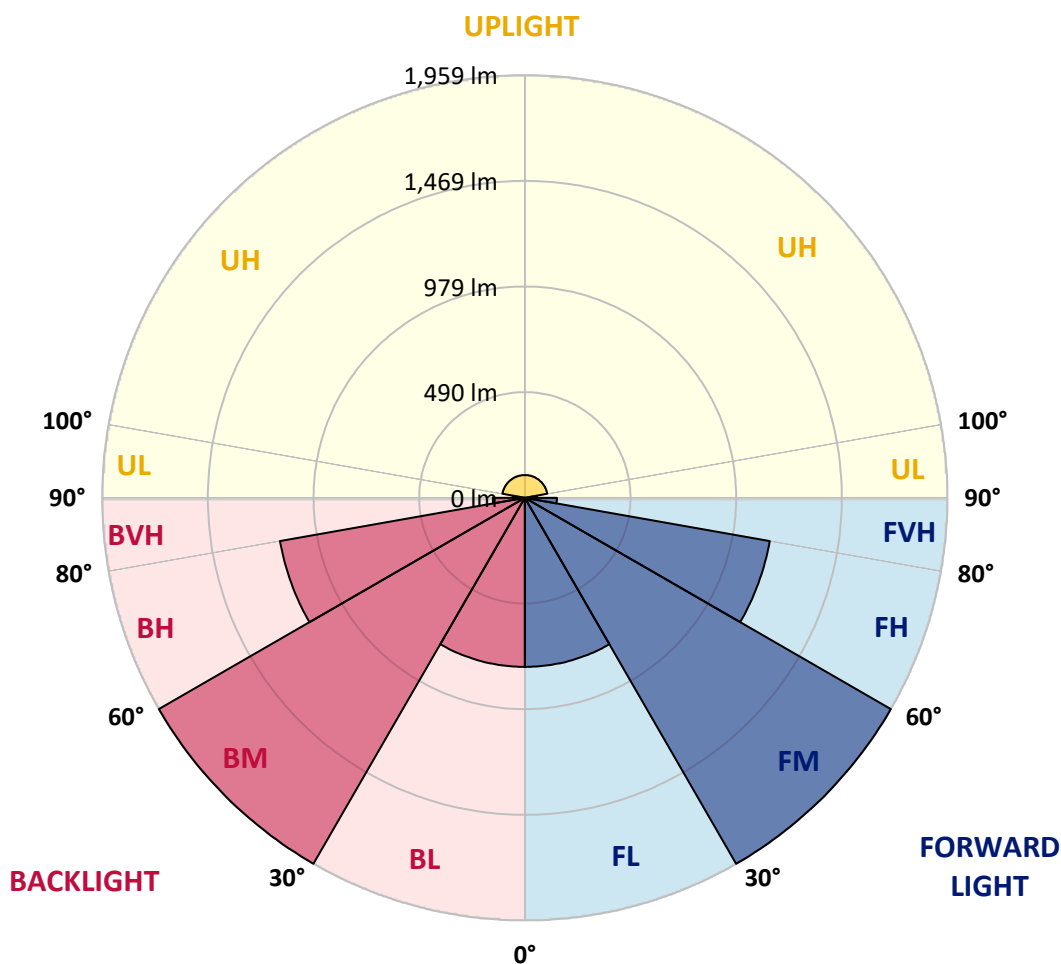
CATALOG NUMBER: CLCS15S-PC-4000K-100%

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	783.7	9.5			
FM	(30°-60°)	1958.8	23.7			
FH	(60°-80°)	1152.6	14.0			G1/1800
FVH	(80°-90°)	148.6	1.8			G2/225
BL	(0°-30°)	783.7	9.5	B2/1000		
BM	(30°-60°)	1958.8	23.7	B2/2500		
BH	(60°-80°)	1152.6	14.0	B3/2500		G1/1800
BVH	(80°-90°)	148.6	1.8			G2/225
UL	(90°-100°)	56.6	0.7		U3/500	
UH	(100°-180°)	105.5	1.3		U3/500	

BUG Rating: B3-U3-G2

Type V Short



REPORT NUMBER: P895737

CATALOG NUMBER: CLCS15S-PC-4000K-100%

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1911.3	1911.3	1911.3	1911.3	1911.3	1911.3	1911.3	1911.3	1911.3	1911.3	1911.3
2.5°	1899.0	1900.0	1902.0	1906.2	1904.1	1905.1	1905.1	1902.0	1906.2	1905.1	1911.3
5°	1900.0	1900.0	1900.0	1905.1	1905.1	1906.2	1908.2	1908.2	1910.3	1911.3	1915.4
7.5°	1885.6	1887.6	1885.6	1889.7	1890.7	1895.9	1897.9	1896.9	1901.0	1901.0	1909.2
10°	1864.0	1865.0	1865.0	1869.1	1873.3	1879.4	1879.4	1878.4	1880.4	1879.4	1885.6
12.5°	1849.6	1849.6	1848.6	1854.7	1858.9	1863.0	1864.0	1865.0	1868.1	1872.2	1878.4
15°	1842.4	1842.4	1841.4	1849.6	1848.6	1848.6	1852.7	1856.8	1856.8	1859.9	1869.1
17.5°	1841.4	1838.3	1828.0	1839.3	1836.2	1835.2	1838.3	1837.3	1845.5	1846.5	1849.6
20°	1849.6	1845.5	1844.5	1847.5	1835.2	1832.1	1835.2	1833.1	1838.3	1840.3	1850.6
22.5°	1888.7	1886.6	1876.3	1864.0	1836.2	1822.9	1819.8	1835.2	1852.7	1850.6	1854.7
25°	1920.6	1911.3	1910.3	1909.2	1870.2	1841.4	1840.3	1860.9	1874.3	1876.3	1894.8
27.5°	1908.2	1896.9	1902.0	1904.1	1872.2	1837.3	1824.9	1854.7	1873.3	1889.7	1902.0
30°	1874.3	1866.1	1871.2	1875.3	1856.8	1825.9	1807.4	1832.1	1864.0	1889.7	1884.6
32.5°	1853.7	1853.7	1853.7	1841.4	1831.1	1811.6	1783.7	1827.0	1840.3	1850.6	1858.9
35°	1846.5	1845.5	1845.5	1832.1	1809.5	1795.0	1795.0	1805.3	1817.7	1822.9	1842.4
37.5°	1821.8	1805.3	1819.8	1822.9	1800.1	1792.9	1795.0	1796.0	1812.6	1827.0	1825.9
40°	1805.3	1785.7	1779.6	1785.7	1789.9	1789.9	1782.7	1787.8	1803.2	1810.5	1801.2
42.5°	1789.9	1776.5	1775.5	1766.2	1758.0	1770.3	1762.1	1764.2	1771.3	1787.8	1791.9
45°	1746.7	1744.6	1743.6	1742.6	1721.0	1764.2	1758.0	1746.7	1763.1	1762.1	1791.9
47.5°	1711.7	1723.0	1702.5	1704.5	1726.1	1731.2	1726.1	1718.9	1747.7	1740.5	1772.4
50°	1651.0	1651.0	1662.3	1677.8	1704.5	1697.3	1698.3	1715.8	1710.7	1722.0	1755.9
52.5°	1649.0	1612.0	1599.6	1614.0	1648.0	1667.5	1648.0	1698.3	1639.7	1665.4	1675.7
55°	1592.4	1548.2	1555.4	1563.6	1588.3	1591.4	1640.8	1610.9	1591.4	1617.1	1632.5
57.5°	1525.5	1490.5	1477.2	1519.3	1513.1	1556.4	1550.3	1546.1	1560.5	1558.5	1560.5
60°	1471.0	1439.1	1407.2	1444.2	1481.3	1466.9	1492.6	1510.1	1493.6	1497.7	1489.5
62.5°	1399.0	1398.0	1373.3	1390.8	1385.6	1419.6	1410.3	1430.9	1425.7	1420.6	1432.9
65°	1311.6	1304.4	1300.3	1318.8	1322.9	1322.9	1313.7	1335.2	1331.1	1328.0	1342.4
67.5°	1206.6	1203.5	1207.6	1209.7	1231.3	1233.3	1229.2	1246.7	1244.7	1242.6	1247.7
70°	1105.8	1088.4	1066.8	1125.4	1150.0	1156.2	1140.8	1129.5	1121.3	1109.9	1116.1
72.5°	1076.0	1056.5	1059.6	1098.6	1096.6	1106.9	1082.2	1046.2	1046.2	1033.9	1039.0
75°	954.6	912.4	969.0	1015.3	1049.3	1029.7	1041.0	1002.0	953.5	949.4	963.8
77.5°	825.0	800.3	801.4	863.1	919.6	937.1	906.2	860.0	820.9	808.6	816.8
80°	723.2	696.5	642.9	621.3	634.7	664.5	639.8	614.1	627.5	642.9	658.3
82.5°	451.6	446.5	461.9	432.1	389.8	375.4	377.5	409.4	412.5	407.3	412.5
85°	245.9	237.6	233.5	224.3	214.0	209.9	204.7	208.8	213.0	202.7	205.8
87.5°	112.1	108.0	114.1	120.3	112.1	110.0	108.0	109.0	109.0	110.0	110.0
90°	59.6	60.7	61.7	60.7	60.7	59.6	58.6	57.6	57.6	59.6	59.6
92.5°	47.3	46.3	43.2	42.2	41.1	41.1	40.1	40.1	41.1	42.2	42.2
95°	45.2	45.2	42.2	40.1	39.1	37.0	38.0	40.1	42.2	44.2	44.2
97.5°	68.9	68.9	64.8	58.6	52.4	47.3	51.4	58.6	62.7	65.8	65.8
100°	88.4	88.4	82.3	71.0	59.6	54.5	58.6	69.9	79.2	83.3	84.3
102.5°	92.5	91.5	83.3	71.0	56.6	50.4	55.5	68.9	81.2	87.4	88.4
105°	81.2	80.2	74.0	60.7	46.3	38.0	46.3	59.6	72.0	78.2	79.2
107.5°	66.8	66.8	61.7	49.4	33.9	26.7	33.9	48.3	59.6	63.8	65.8
110°	50.4	49.4	45.2	36.0	24.7	18.5	23.7	36.0	44.2	48.3	49.4



REPORT NUMBER: P895737

CATALOG NUMBER: CLCS15S-PC-4000K-100%

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	40.1	40.1	36.0	28.8	17.5	13.4	17.5	27.8	35.0	38.0	38.0
115°	33.9	33.9	30.8	22.6	14.4	11.3	14.4	22.6	29.8	31.9	31.9
117.5°	26.7	27.8	26.7	20.6	12.3	8.2	12.3	18.5	24.7	26.7	25.7
120°	21.6	22.6	24.7	19.5	11.3	7.2	11.3	18.5	22.6	21.6	21.6
122.5°	20.6	20.6	25.7	19.5	12.3	6.2	10.3	17.5	23.7	20.6	19.5
125°	28.8	28.8	24.7	15.4	7.2	5.1	6.2	13.4	22.6	25.7	25.7
127.5°	22.6	22.6	18.5	10.3	5.1	4.1	5.1	10.3	16.5	20.6	21.6
130°	17.5	16.5	12.3	7.2	4.1	3.1	4.1	7.2	10.3	13.4	14.4
132.5°	9.3	9.3	8.2	6.2	3.1	2.1	3.1	6.2	8.2	9.3	9.3
135°	7.2	7.2	6.2	5.1	3.1	1.0	3.1	5.1	6.2	7.2	7.2
137.5°	6.2	6.2	5.1	3.1	1.0	1.0	1.0	3.1	5.1	6.2	6.2
140°	4.1	4.1	4.1	2.1	1.0	1.0	1.0	2.1	3.1	4.1	4.1
142.5°	3.1	3.1	2.1	1.0	1.0	1.0	1.0	1.0	1.0	2.1	2.1
145°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

Report Prepared for

Cooper Lighting Solutions

Lumark

Report Number: SP1-2405-118-2

Test Date: 07/17/2024

Luminaire Tested: CLCS40S-4000K-HIGH

Data in this report applies to families of products including CLCS40S-4000K-HIGH

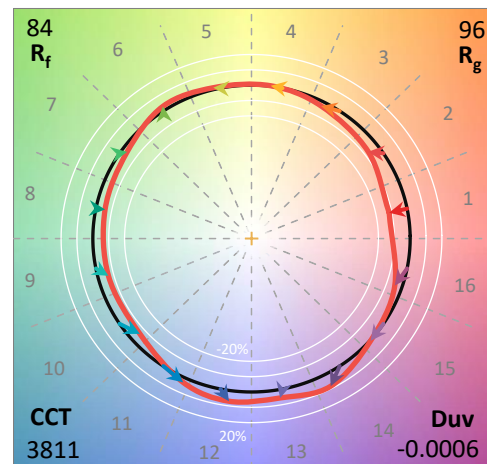
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2405-118-2
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 07/18/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: Lumark
 Catalog Number: **CLCS40S-4000K-HIGH**
 Description: 120W LUMARK AP CANOPY SELECTABLE FIXTURE HIGHEST OUTPUT @4000K

Spectral Parameters

CCT (K): 3811
 CIE u' : 0.2291
 CIE v' : 0.5044
 Duv: -0.0006
 CIE x: 0.3887
 CIE y: 0.3804
 CIE z: 0.2310
 Peak Wavelength (nm): 452
 Dominant Wavelength (nm): 580
 Purity: 30.78715
 R_f: 83.8
 R_g: 96.1

CRI (Ra): 83.3
 R1: 82.1
 R2: 89.5
 R3: 94.6
 R4: 82.3
 R5: 81.8
 R6: 85.2
 R7: 85.9
 R8: 64.7
 R9: 10.7
 R10: 74.6
 R11: 81.3
 R12: 61.2
 R13: 84.0
 R14: 97.1
 R15: 75.9



Test Conditions

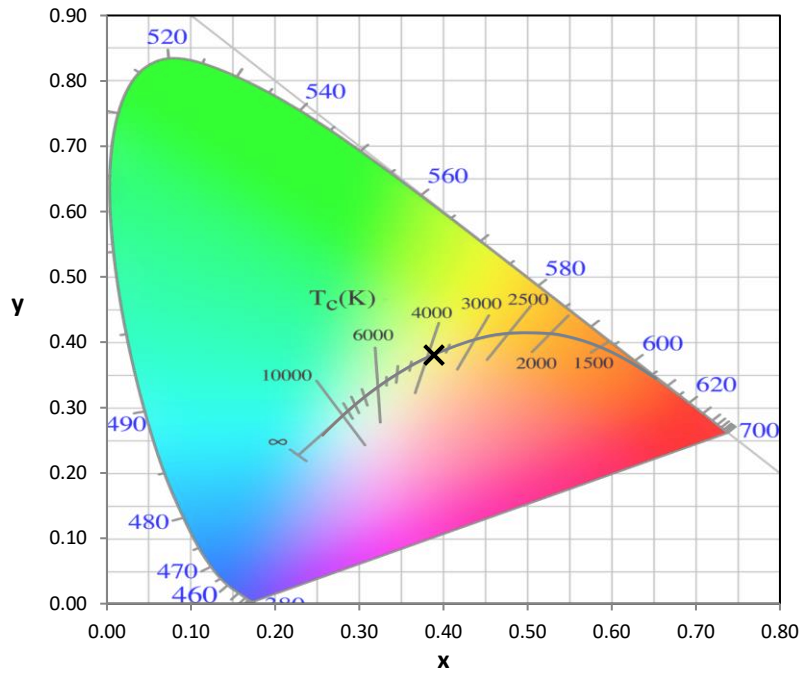
Stabilization Time: 27M
 Operation Time: 1H 27M
 Sphere Temperature (°C): 24.4

REPORT NUMBER: SP1-2405-118-2

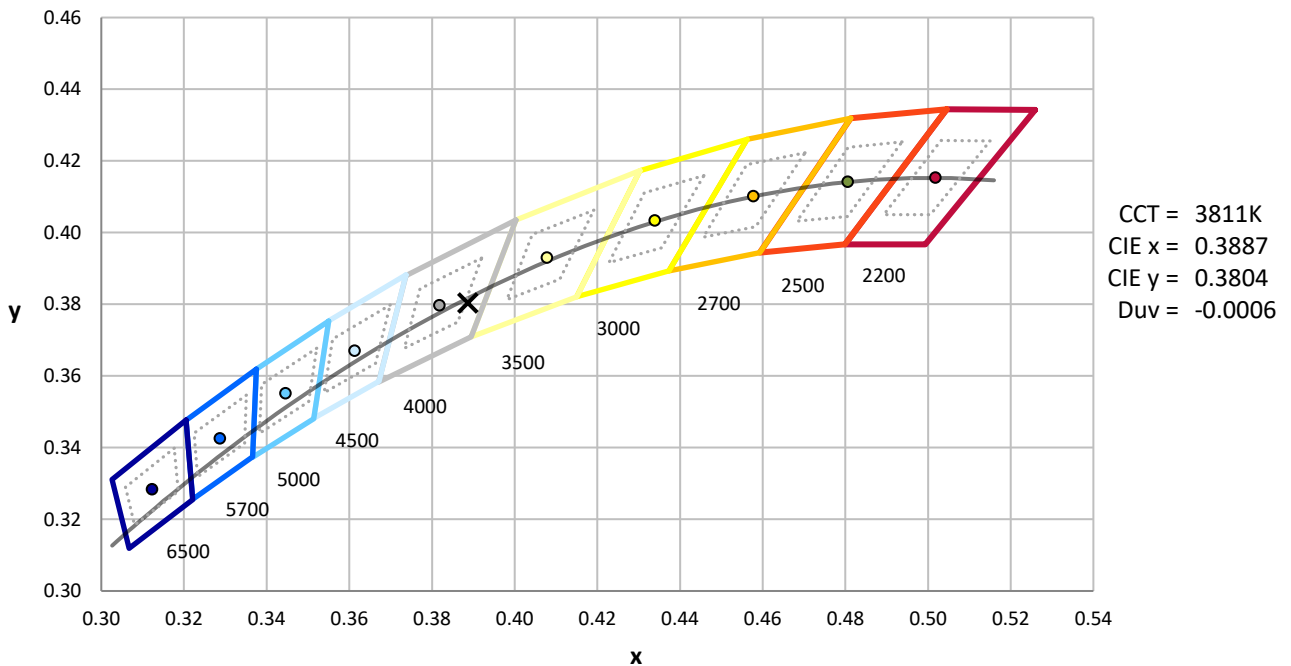
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085	10/24/2023	10/24/2024
Room Thermometer	IN0046	10/24/2023	10/24/2024

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CIE 1931 Chromaticity Diagram



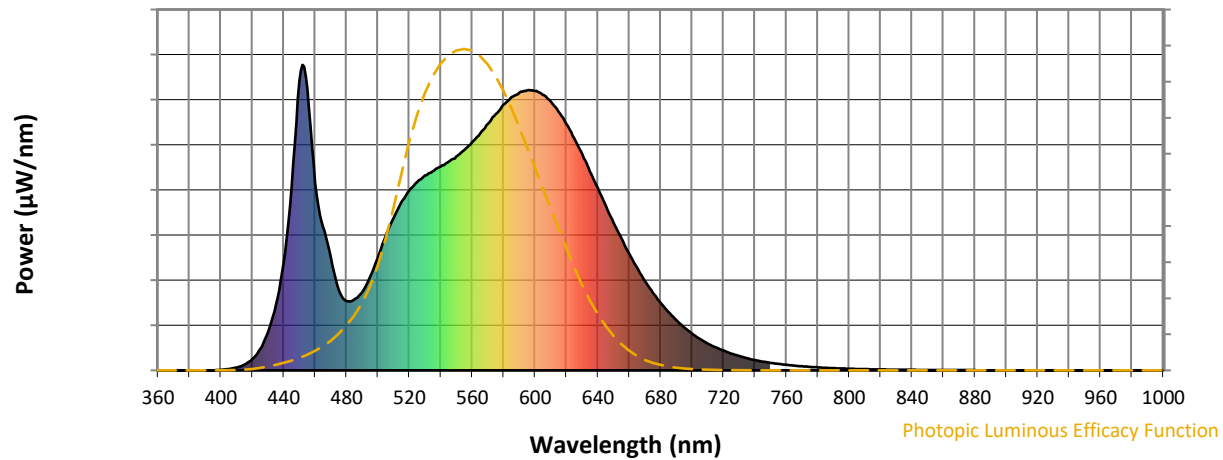
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 4000K 7-step quadrangle

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Photopic Flux vs. Wavelength

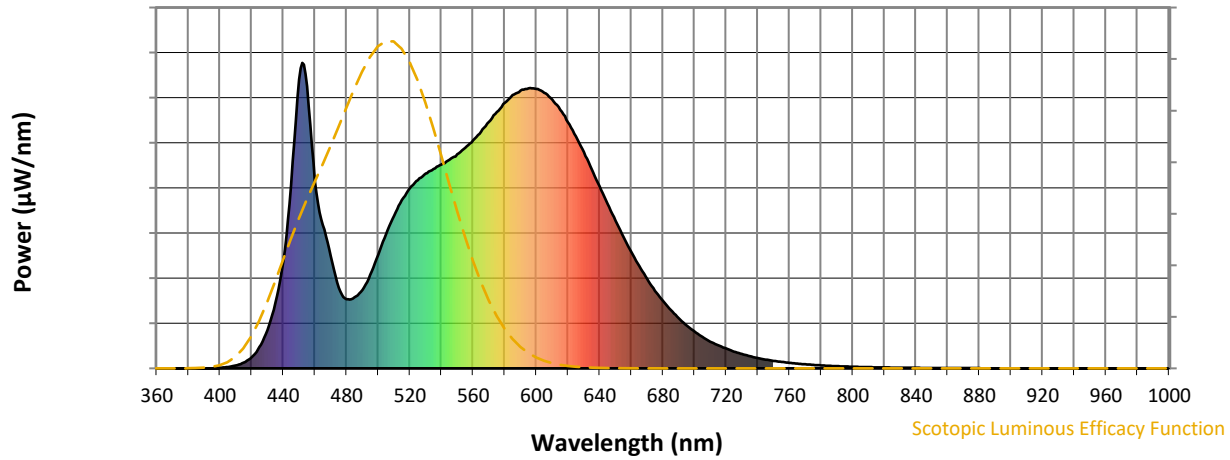


Photopic Lumens: NR

λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	257	NR	620	806	NR	750	25	NR	880	1	NR
365	0	NR	495	306	NR	625	760	NR	755	21	NR	885	1	NR
370	0	NR	500	371	NR	630	709	NR	760	18	NR	890	0	NR
375	0	NR	505	440	NR	635	651	NR	765	15	NR	895	0	NR
380	0	NR	510	499	NR	640	596	NR	770	13	NR	900	0	NR
385	0	NR	515	551	NR	645	539	NR	775	11	NR	905	0	NR
390	0	NR	520	590	NR	650	483	NR	780	10	NR	910	0	NR
395	0	NR	525	616	NR	655	431	NR	785	8	NR	915	0	NR
400	2	NR	530	638	NR	660	381	NR	790	7	NR	920	0	NR
405	5	NR	535	653	NR	665	335	NR	795	6	NR	925	0	NR
410	9	NR	540	667	NR	670	292	NR	800	5	NR	930	0	NR
415	19	NR	545	683	NR	675	254	NR	805	5	NR	935	0	NR
420	37	NR	550	700	NR	680	221	NR	810	4	NR	940	0	NR
425	70	NR	555	722	NR	685	190	NR	815	3	NR	945	0	NR
430	124	NR	560	747	NR	690	165	NR	820	3	NR	950	0	NR
435	215	NR	565	775	NR	695	141	NR	825	3	NR	955	0	NR
440	352	NR	570	807	NR	700	120	NR	830	2	NR	960	0	NR
445	602	NR	575	839	NR	705	103	NR	835	2	NR	965	0	NR
450	946	NR	580	869	NR	710	88	NR	840	2	NR	970	0	NR
455	923	NR	585	895	NR	715	75	NR	845	1	NR	975	0	NR
460	615	NR	590	910	NR	720	65	NR	850	1	NR	980	0	NR
465	469	NR	595	917	NR	725	55	NR	855	1	NR	985	0	NR
470	366	NR	600	915	NR	730	47	NR	860	1	NR	990	0	NR
475	264	NR	605	902	NR	735	40	NR	865	1	NR	995	0	NR
480	226	NR	610	880	NR	740	34	NR	870	1	NR	1000	0	NR
485	232	NR	615	847	NR	745	29	NR	875	1	NR			

REPORT NUMBER: SP1-2405-118-2

Scotopic Flux vs. Wavelength



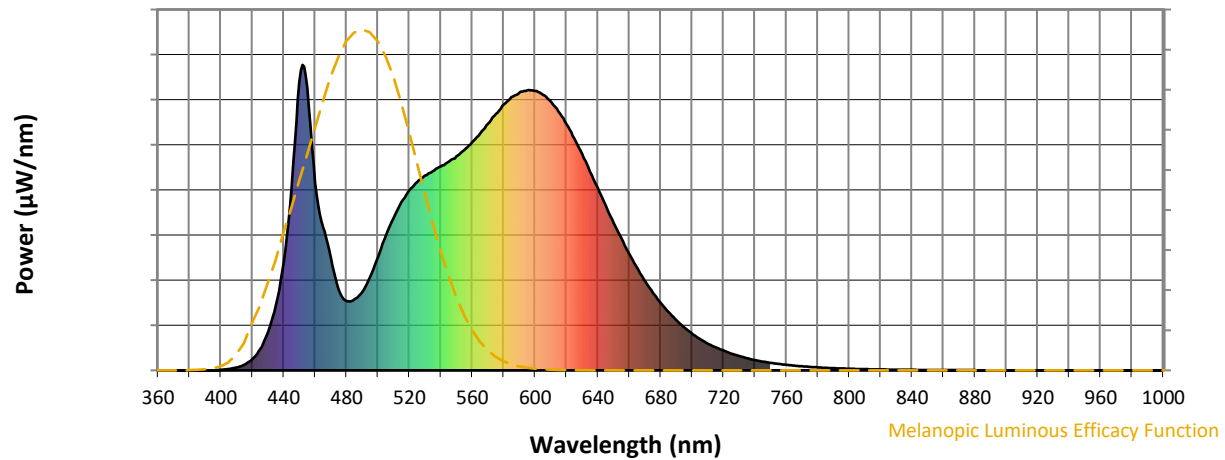
Scotopic Lumens: NR

S/P: 1.62

λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	257	NR	620	806	NR	750	25	NR	880	1	NR
365	0	NR	495	306	NR	625	760	NR	755	21	NR	885	1	NR
370	0	NR	500	371	NR	630	709	NR	760	18	NR	890	0	NR
375	0	NR	505	440	NR	635	651	NR	765	15	NR	895	0	NR
380	0	NR	510	499	NR	640	596	NR	770	13	NR	900	0	NR
385	0	NR	515	551	NR	645	539	NR	775	11	NR	905	0	NR
390	0	NR	520	590	NR	650	483	NR	780	10	NR	910	0	NR
395	0	NR	525	616	NR	655	431	NR	785	8	NR	915	0	NR
400	2	NR	530	638	NR	660	381	NR	790	7	NR	920	0	NR
405	5	NR	535	653	NR	665	335	NR	795	6	NR	925	0	NR
410	9	NR	540	667	NR	670	292	NR	800	5	NR	930	0	NR
415	19	NR	545	683	NR	675	254	NR	805	5	NR	935	0	NR
420	37	NR	550	700	NR	680	221	NR	810	4	NR	940	0	NR
425	70	NR	555	722	NR	685	190	NR	815	3	NR	945	0	NR
430	124	NR	560	747	NR	690	165	NR	820	3	NR	950	0	NR
435	215	NR	565	775	NR	695	141	NR	825	3	NR	955	0	NR
440	352	NR	570	807	NR	700	120	NR	830	2	NR	960	0	NR
445	602	NR	575	839	NR	705	103	NR	835	2	NR	965	0	NR
450	946	NR	580	869	NR	710	88	NR	840	2	NR	970	0	NR
455	923	NR	585	895	NR	715	75	NR	845	1	NR	975	0	NR
460	615	NR	590	910	NR	720	65	NR	850	1	NR	980	0	NR
465	469	NR	595	917	NR	725	55	NR	855	1	NR	985	0	NR
470	366	NR	600	915	NR	730	47	NR	860	1	NR	990	0	NR
475	264	NR	605	902	NR	735	40	NR	865	1	NR	995	0	NR
480	226	NR	610	880	NR	740	34	NR	870	1	NR	1000	0	NR
485	232	NR	615	847	NR	745	29	NR	875	1	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.3

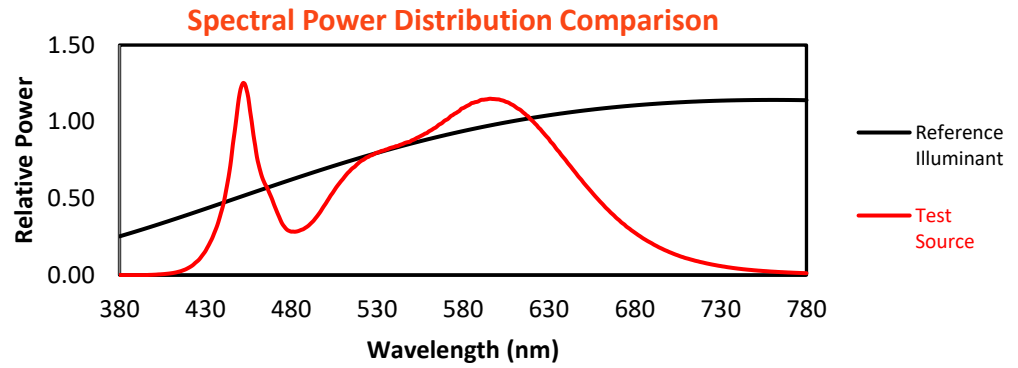
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	257	NR	620	806	NR	750	25	NR	880	1	NR
365	0	NR	495	306	NR	625	760	NR	755	21	NR	885	1	NR
370	0	NR	500	371	NR	630	709	NR	760	18	NR	890	0	NR
375	0	NR	505	440	NR	635	651	NR	765	15	NR	895	0	NR
380	0	NR	510	499	NR	640	596	NR	770	13	NR	900	0	NR
385	0	NR	515	551	NR	645	539	NR	775	11	NR	905	0	NR
390	0	NR	520	590	NR	650	483	NR	780	10	NR	910	0	NR
395	0	NR	525	616	NR	655	431	NR	785	8	NR	915	0	NR
400	2	NR	530	638	NR	660	381	NR	790	7	NR	920	0	NR
405	5	NR	535	653	NR	665	335	NR	795	6	NR	925	0	NR
410	9	NR	540	667	NR	670	292	NR	800	5	NR	930	0	NR
415	19	NR	545	683	NR	675	254	NR	805	5	NR	935	0	NR
420	37	NR	550	700	NR	680	221	NR	810	4	NR	940	0	NR
425	70	NR	555	722	NR	685	190	NR	815	3	NR	945	0	NR
430	124	NR	560	747	NR	690	165	NR	820	3	NR	950	0	NR
435	215	NR	565	775	NR	695	141	NR	825	3	NR	955	0	NR
440	352	NR	570	807	NR	700	120	NR	830	2	NR	960	0	NR
445	602	NR	575	839	NR	705	103	NR	835	2	NR	965	0	NR
450	946	NR	580	869	NR	710	88	NR	840	2	NR	970	0	NR
455	923	NR	585	895	NR	715	75	NR	845	1	NR	975	0	NR
460	615	NR	590	910	NR	720	65	NR	850	1	NR	980	0	NR
465	469	NR	595	917	NR	725	55	NR	855	1	NR	985	0	NR
470	366	NR	600	915	NR	730	47	NR	860	1	NR	990	0	NR
475	264	NR	605	902	NR	735	40	NR	865	1	NR	995	0	NR
480	226	NR	610	880	NR	740	34	NR	870	1	NR	1000	0	NR
485	232	NR	615	847	NR	745	29	NR	875	1	NR			

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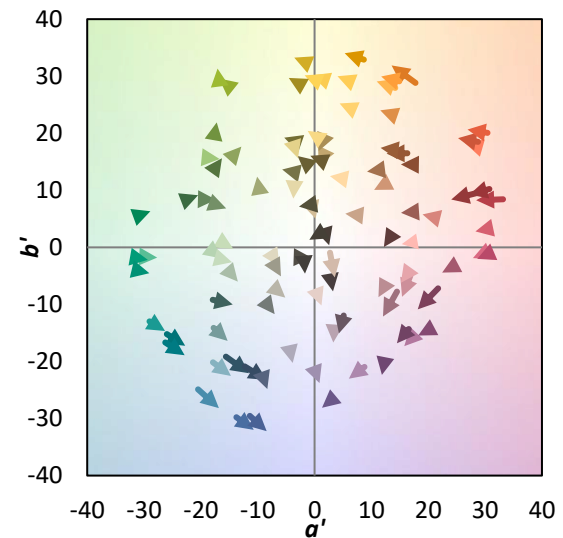
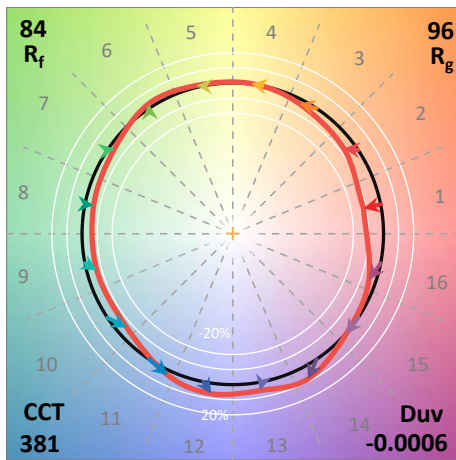
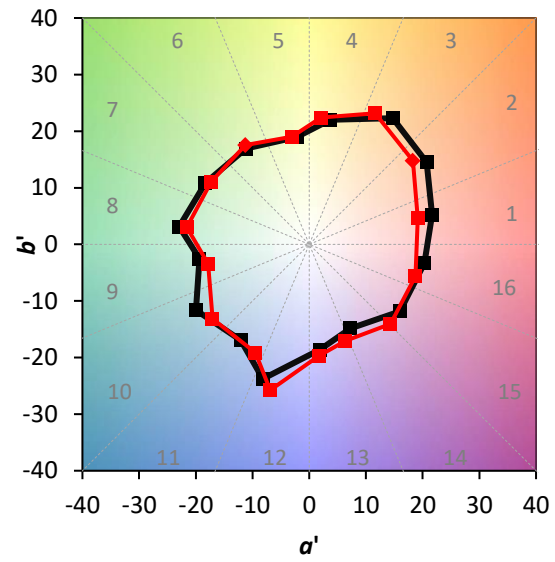
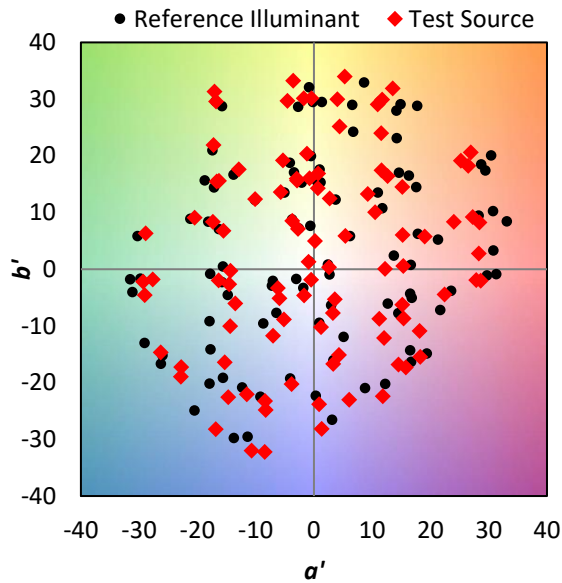
TM-30-18

Summary

$R_f = 83.8$
 $R_g = 96.1$
 $CIE R_a = 83.3$
 $R_g = 10.7$

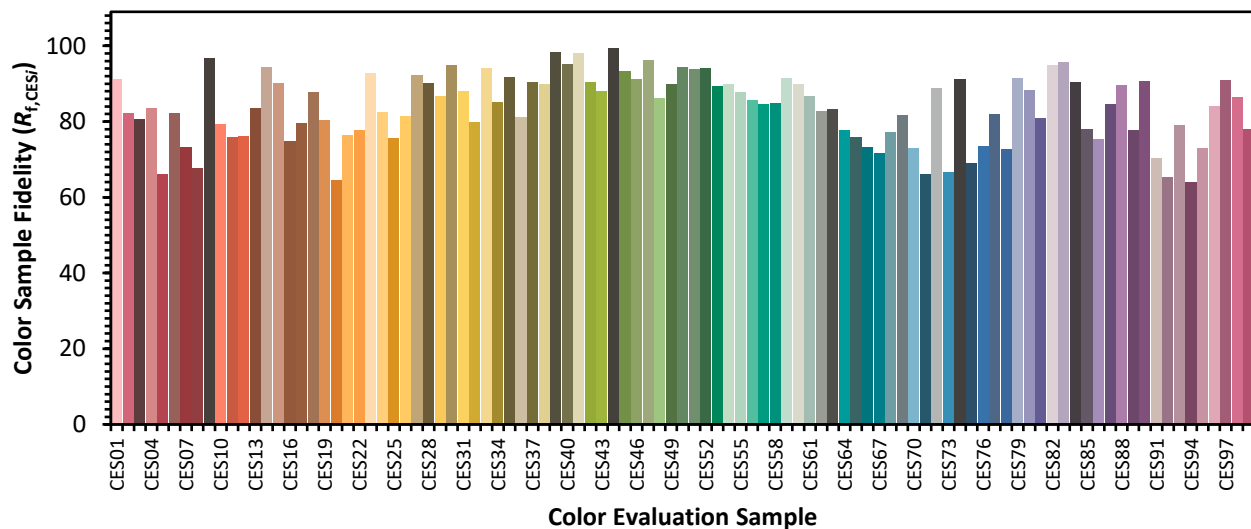


Color Vector Graphics

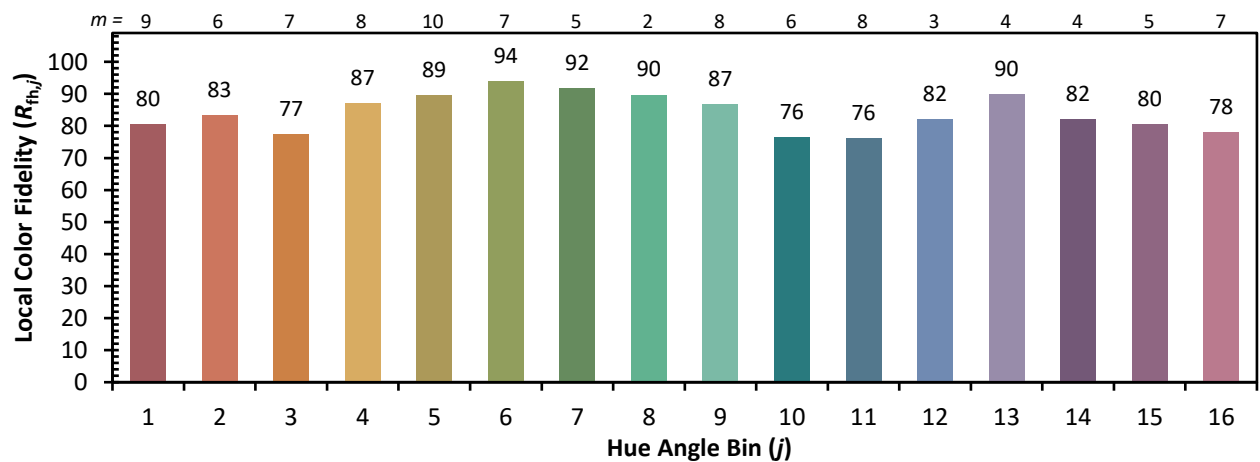
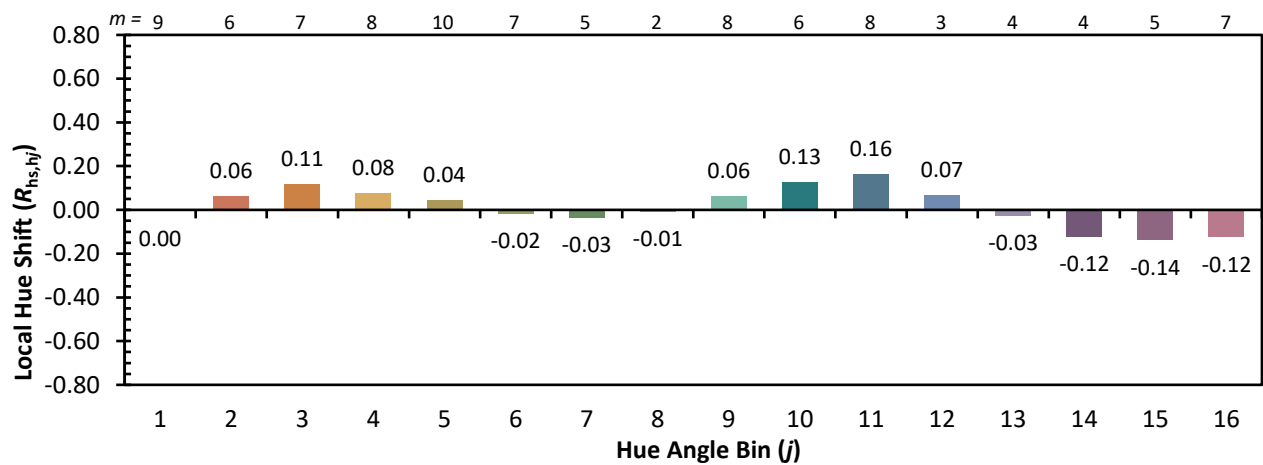
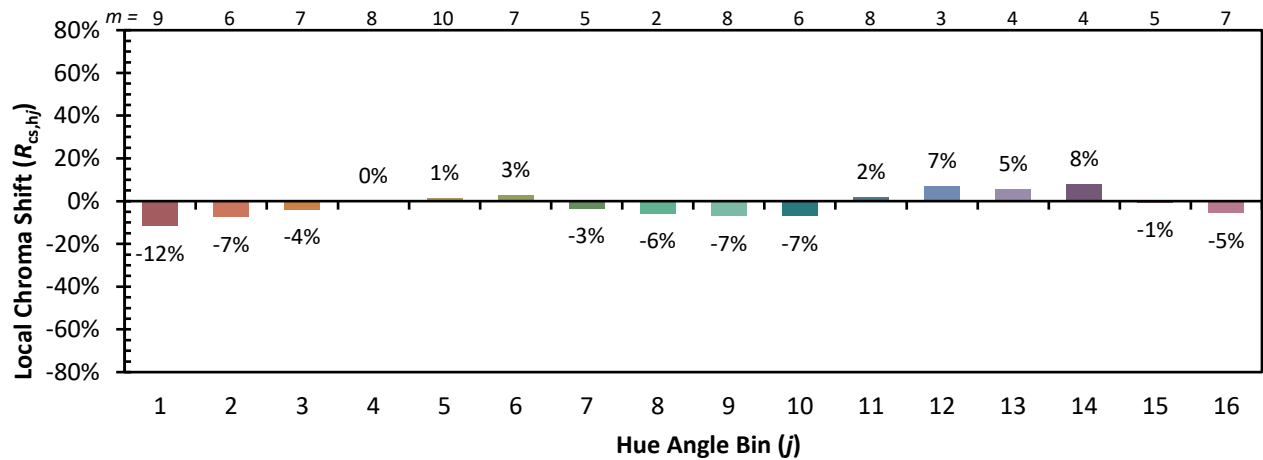


Individual Sample Fidelity Index ($R_{f,i}$)

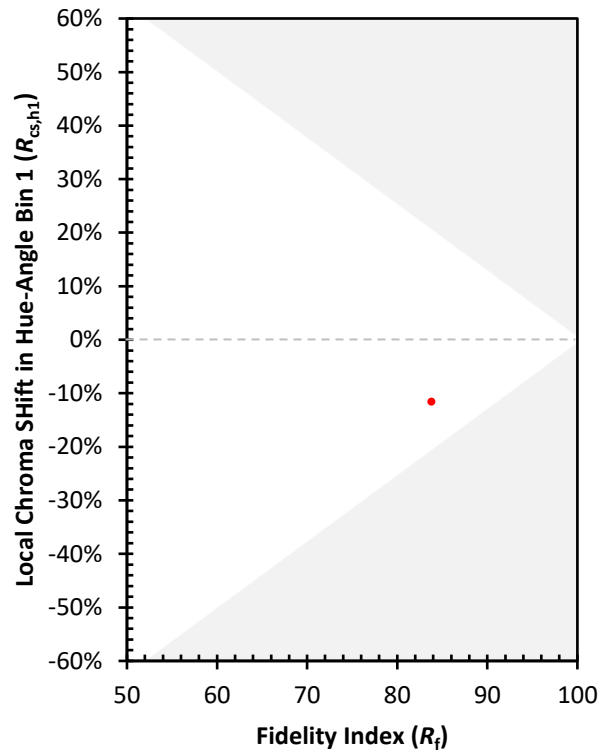
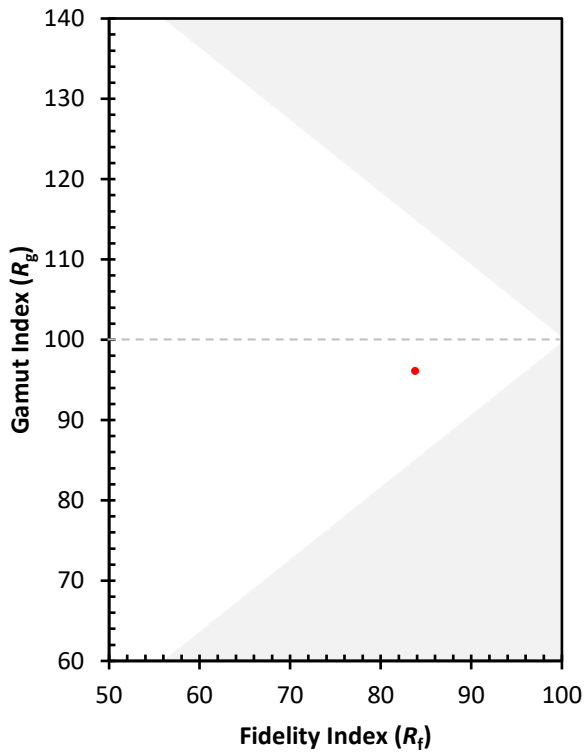
CES01 = 86	CES26 = 81	CES51 = 94	CES76 = 74
CES02 = 61	CES27 = 92	CES52 = 94	CES77 = 82
CES03 = 31	CES28 = 90	CES53 = 89	CES78 = 73
CES04 = 70	CES29 = 87	CES54 = 90	CES79 = 92
CES05 = 48	CES30 = 95	CES55 = 88	CES80 = 88
CES06 = 51	CES31 = 88	CES56 = 86	CES81 = 81
CES07 = 41	CES32 = 80	CES57 = 85	CES82 = 95
CES08 = 40	CES33 = 94	CES58 = 85	CES83 = 96
CES09 = 29	CES34 = 85	CES59 = 91	CES84 = 90
CES10 = 74	CES35 = 92	CES60 = 90	CES85 = 78
CES11 = 57	CES36 = 81	CES61 = 87	CES86 = 75
CES12 = 63	CES37 = 90	CES62 = 83	CES87 = 85
CES13 = 43	CES38 = 90	CES63 = 83	CES88 = 90
CES14 = 74	CES39 = 98	CES64 = 78	CES89 = 78
CES15 = 71	CES40 = 95	CES65 = 76	CES90 = 91
CES16 = 47	CES41 = 98	CES66 = 73	CES91 = 70
CES17 = 49	CES42 = 91	CES67 = 72	CES92 = 65
CES18 = 56	CES43 = 88	CES68 = 77	CES93 = 79
CES19 = 71	CES44 = 99	CES69 = 82	CES94 = 64
CES20 = 65	CES45 = 93	CES70 = 73	CES95 = 73
CES21 = 86	CES46 = 91	CES71 = 66	CES96 = 84
CES22 = 78	CES47 = 96	CES72 = 89	CES97 = 91
CES23 = 91	CES48 = 86	CES73 = 67	CES98 = 86
CES24 = 90	CES49 = 90	CES74 = 91	CES99 = 78
CES25 = 71	CES50 = 94	CES75 = 69	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)