

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: P895755

Luminaire Tested: **CLCS30S-PC-5000K-60%**

Issue Date: 11/14/2024

Test Information

Test Method: LM-79-08
Report Number: P895755
Test Lab: INNOVATION CENTER(G2)
Issue Date: 11/14/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: CLCS30S-PC-5000K-60%
Description: LUMARK LARGE LED CANOPY 16000LM, 120W, PC 80 CRI 5000K FIXTURE @
60% OUTPUT
Light Source: 5000K CCT,80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11289.5 lumens
Efficiency: N/A
Efficacy: 147.6 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 1' x H: 0.12')
IES Classification: Type V - Short
BUG Rating: B3 - U3 - G3

Input Watts (W): 76.5
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

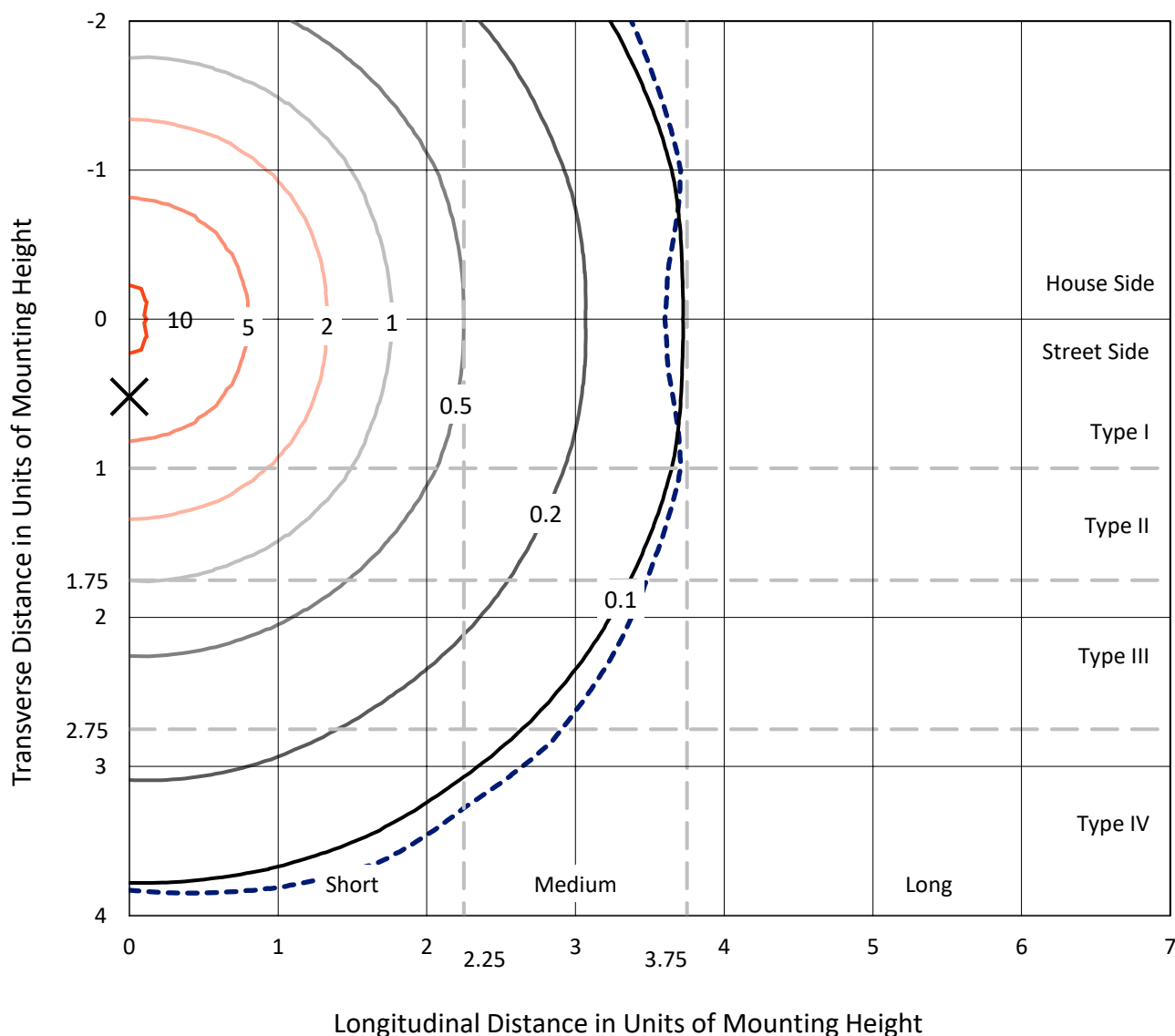
REPORT NUMBER: P895755

CATALOG NUMBER: CLCS30S-PC-5000K-60%

Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

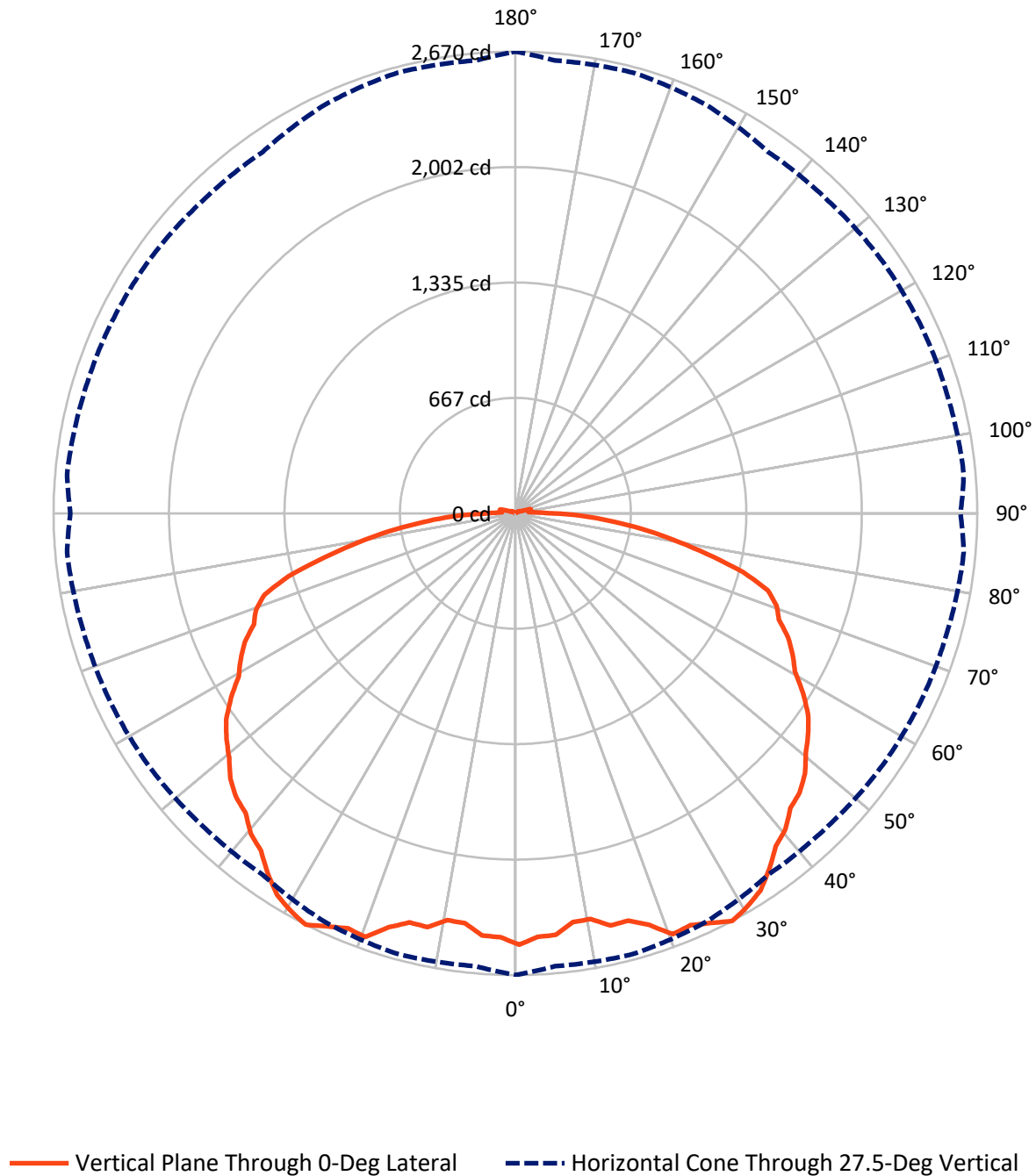


Based on 15 foot mounting height. Maximum calculated value = 11.1 fc

Type V - Short - N/A

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CATALOG NUMBER: CLCS30S-PC-5000K-60%

Luminous Intensity Polar Plot



REPORT NUMBER: P895755

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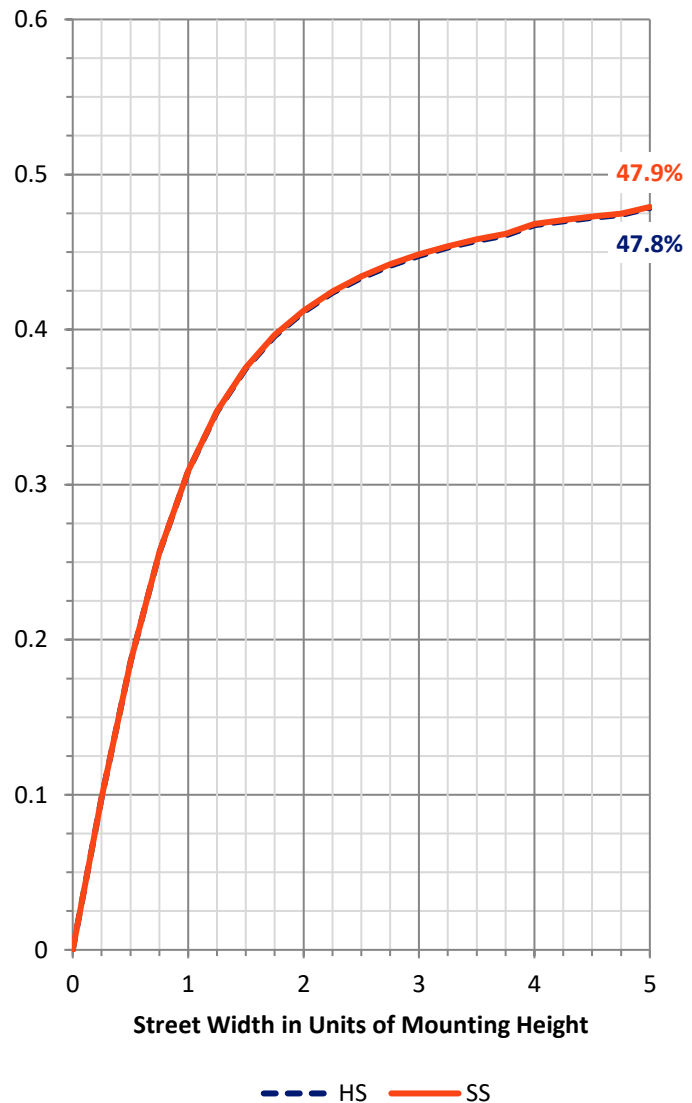
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5550.7	94.1	5644.8
	% Fixture	49.2	0.8	50.0
Street Side	Lumens	5550.7	94.1	5644.8
	% Fixture	49.2	0.8	50.0
Total	Lumens	11101.3	188.2	11289.5
	% Fixture	98.3	1.7	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	226.0	2.0
10°-20°	691.0	6.1
20°-30°	1184.9	10.5
30°-40°	1556.9	13.8
40°-50°	1781.4	15.8
50°-60°	1863.1	16.5
60°-70°	1753.0	15.5
70°-80°	1415.9	12.5
80°-90°	629.1	5.6
90°-100°	105.7	0.9
100°-110°	55.6	0.5
110°-120°	18.7	0.2
120°-130°	6.5	0.1
130°-140°	1.6	0.0
140°-150°	0.1	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	11101.3	98.3
0°-180°	11289.5	100.0



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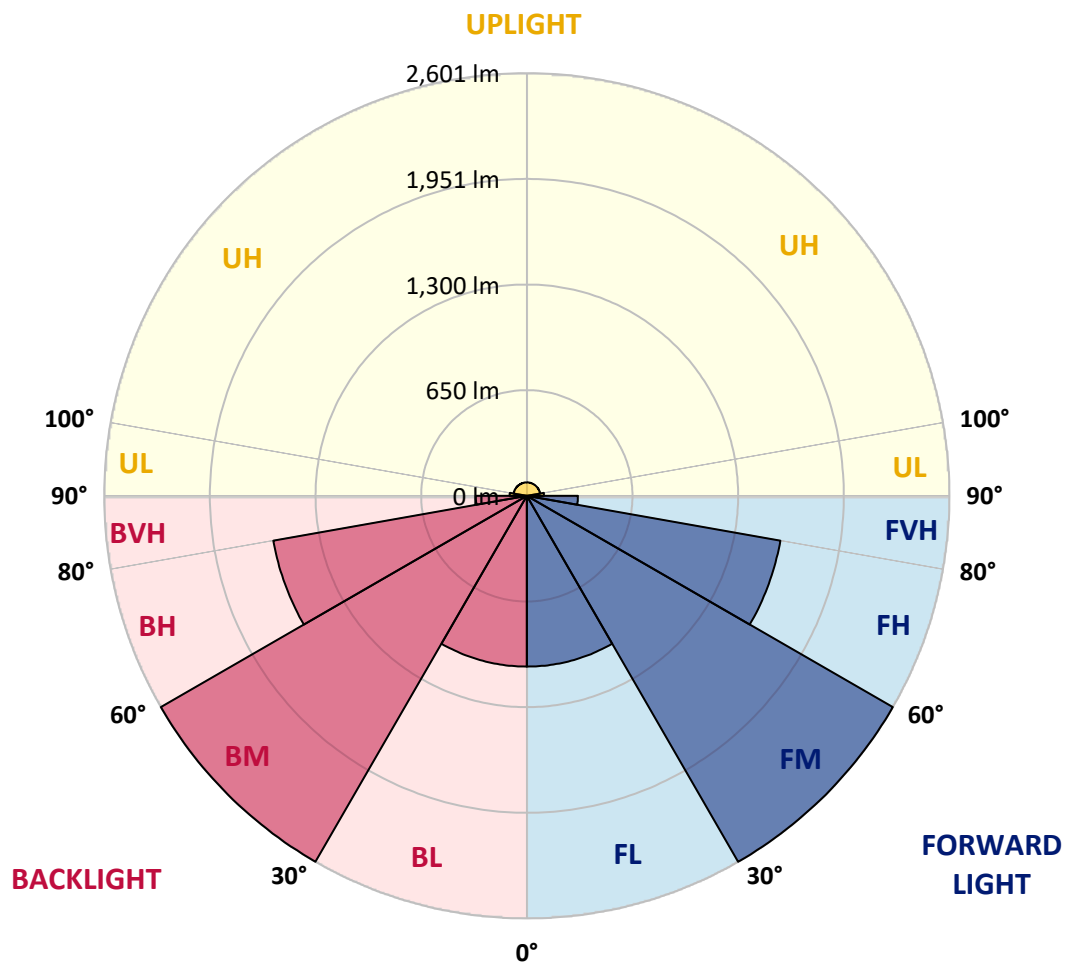
CATALOG NUMBER: CLCS30S-PC-5000K-60%

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1051.0	9.3			
FM	(30°-60°)	2600.7	23.0			
FH	(60°-80°)	1584.4	14.0			G1/1800
FVH	(80°-90°)	314.6	2.8			G3/500
BL	(0°-30°)	1051.0	9.3	B3/2500		
BM	(30°-60°)	2600.7	23.0	B3/5000		
BH	(60°-80°)	1584.4	14.0	B3/2500		G1/1800
BVH	(80°-90°)	314.6	2.8			G3/500
UL	(90°-100°)	105.7	0.9		U3/500	
UH	(100°-180°)	82.5	0.7		U3/500	

BUG Rating: B3-U3-G3

Type V Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2494.5	2494.5	2494.5	2494.5	2494.5	2494.5	2494.5	2494.5	2494.5	2494.5	2494.5
2.5°	2452.4	2457.1	2461.9	2444.9	2437.5	2440.9	2431.4	2438.8	2444.9	2441.6	2441.6
5°	2448.3	2451.7	2447.7	2412.3	2387.9	2368.2	2352.6	2358.7	2355.3	2364.8	2367.5
7.5°	2387.2	2398.8	2420.4	2391.3	2353.2	2327.4	2321.3	2312.5	2281.9	2271.0	2264.1
10°	2385.1	2392.0	2415.0	2374.9	2341.6	2339.6	2300.2	2276.4	2264.8	2251.9	2243.1
12.5°	2445.6	2438.2	2408.9	2422.5	2417.7	2364.8	2350.5	2312.5	2302.9	2298.1	2286.6
15°	2443.6	2468.8	2483.7	2451.0	2419.8	2442.9	2455.8	2423.2	2404.2	2370.9	2365.4
17.5°	2502.0	2527.2	2487.7	2508.2	2483.7	2492.5	2477.6	2465.3	2460.5	2453.8	2454.4
20°	2598.5	2572.0	2538.7	2521.7	2478.3	2490.5	2516.3	2508.2	2501.3	2514.3	2506.1
22.5°	2587.7	2576.7	2529.9	2552.3	2476.2	2495.2	2516.3	2544.1	2523.1	2501.3	2483.7
25°	2624.3	2595.8	2591.8	2578.1	2530.6	2525.1	2549.6	2545.5	2549.6	2572.7	2561.2
27.5°	2669.9	2628.5	2637.3	2606.7	2549.6	2556.4	2573.4	2582.8	2589.0	2601.2	2572.7
30°	2640.0	2612.8	2616.8	2584.2	2567.9	2619.5	2531.2	2599.2	2578.1	2574.0	2581.5
32.5°	2600.6	2573.4	2582.2	2531.9	2567.9	2569.3	2526.5	2552.3	2531.9	2553.7	2542.8
35°	2526.5	2470.8	2515.0	2464.6	2522.4	2499.3	2499.3	2474.9	2451.7	2460.5	2435.5
37.5°	2443.6	2389.9	2442.9	2399.4	2440.2	2432.1	2438.8	2393.3	2390.6	2393.3	2387.2
40°	2402.8	2353.2	2386.6	2379.7	2382.4	2394.0	2357.3	2360.7	2340.9	2347.1	2323.3
42.5°	2330.8	2293.4	2347.1	2347.8	2379.7	2382.4	2349.8	2327.4	2324.0	2279.8	2286.6
45°	2302.9	2260.1	2287.3	2310.4	2338.9	2391.3	2336.2	2319.9	2284.6	2248.6	2235.7
47.5°	2251.9	2238.4	2249.2	2286.6	2311.8	2344.3	2325.3	2262.1	2220.7	2211.2	2208.5
50°	2175.8	2172.4	2191.5	2207.1	2225.4	2285.9	2262.8	2218.6	2172.4	2156.8	2165.7
52.5°	2118.8	2110.7	2105.9	2179.2	2166.3	2179.9	2209.1	2165.7	2131.7	2076.7	2102.4
55°	2052.8	2060.3	2048.8	2111.3	2125.6	2143.2	2123.5	2097.7	2050.8	2006.6	2014.8
57.5°	1959.8	1984.2	2003.9	2006.6	2065.0	2087.5	2065.8	2013.4	1946.9	1952.3	1953.0
60°	1855.8	1893.1	1904.8	1929.2	1982.8	1976.7	1992.4	1915.6	1890.4	1893.8	1893.1
62.5°	1798.7	1809.6	1821.1	1852.4	1886.4	1883.0	1899.9	1857.8	1822.5	1815.0	1824.6
65°	1732.8	1751.9	1746.4	1770.2	1774.9	1781.0	1805.5	1808.9	1759.3	1726.7	1707.0
67.5°	1642.4	1666.9	1685.9	1690.7	1701.5	1712.4	1696.8	1723.3	1655.3	1631.6	1630.9
70°	1601.7	1615.9	1618.6	1610.5	1600.3	1632.3	1607.1	1613.2	1609.8	1592.2	1579.9
72.5°	1526.2	1542.5	1551.4	1520.8	1505.2	1512.7	1526.9	1514.7	1531.0	1503.1	1486.1
75°	1359.1	1371.3	1390.3	1406.6	1385.6	1399.2	1395.1	1372.6	1361.8	1293.1	1284.3
77.5°	1130.7	1140.2	1181.7	1207.5	1216.3	1217.0	1185.1	1164.7	1142.2	1100.1	1096.0
80°	922.1	937.7	960.9	979.2	1013.8	1017.9	1009.8	987.4	964.2	930.3	925.5
82.5°	735.9	740.0	775.3	790.3	794.4	808.6	799.1	788.3	751.6	725.0	711.5
85°	535.4	540.9	549.8	578.2	612.2	631.3	584.4	558.6	522.6	503.6	500.8
87.5°	377.8	373.7	378.5	389.4	407.0	413.1	386.0	361.5	356.1	343.9	341.9
90°	184.2	184.9	197.1	215.4	226.3	239.2	222.9	204.5	198.4	184.2	182.8
92.5°	103.3	103.3	102.7	110.8	116.2	118.9	116.9	110.1	102.0	95.8	94.4
95°	76.8	77.5	76.1	74.8	72.1	67.3	72.7	75.4	76.1	75.4	74.1
97.5°	76.8	76.1	72.7	64.6	53.6	48.2	55.7	70.0	77.5	81.5	80.2
100°	82.2	82.2	73.4	64.6	48.9	48.2	50.9	67.3	80.9	91.0	89.7
102.5°	92.4	91.7	80.2	70.7	49.6	33.3	54.3	78.2	90.4	102.0	101.3
105°	90.4	86.3	73.4	52.3	26.5	19.7	30.6	56.4	74.1	87.6	89.0
107.5°	57.7	57.0	44.2	25.9	19.7	19.0	21.1	29.2	42.8	50.9	51.6
110°	33.3	32.6	28.6	23.1	19.0	15.6	19.7	24.5	29.9	33.3	33.3



REPORT NUMBER: P895755
 CATALOG NUMBER: CLCS30S-PC-5000K-60%

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	32.0	31.3	27.2	21.1	14.9	10.2	15.6	23.1	28.6	32.0	32.0
115°	27.9	27.2	23.8	16.9	10.8	7.5	11.5	19.0	24.5	29.2	29.9
117.5°	25.2	23.8	18.3	12.2	7.5	5.4	8.1	13.6	21.1	25.2	25.9
120°	18.3	17.6	13.6	9.5	5.4	4.1	6.1	10.2	15.6	21.1	21.1
122.5°	14.2	13.6	10.8	6.8	3.4	2.7	4.1	8.1	12.2	16.3	16.3
125°	11.5	10.8	8.1	5.4	2.7	1.4	3.4	6.1	10.2	13.6	13.6
127.5°	8.8	8.8	6.8	4.1	2.0	0.7	2.0	4.7	8.1	10.2	10.2
130°	6.8	6.8	5.4	3.4	1.4	0.7	1.4	3.4	5.4	6.8	7.5
132.5°	6.1	6.1	4.7	2.0	0.7	0.7	0.7	2.7	4.7	6.1	6.1
135°	4.1	3.4	1.4	0.7	0.7	0.7	0.7	0.7	2.7	4.7	4.7
137.5°	0.7	0.7	0.7	0.7	0.7	0.7	1.4	0.7	0.7	0.7	0.7
140°	0.7	0.7	0.7	0.7	1.4	1.4	1.4	0.7	0.7	0.7	0.7
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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

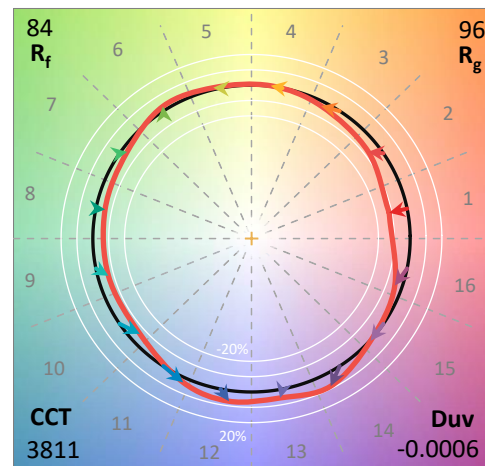
Test Information

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

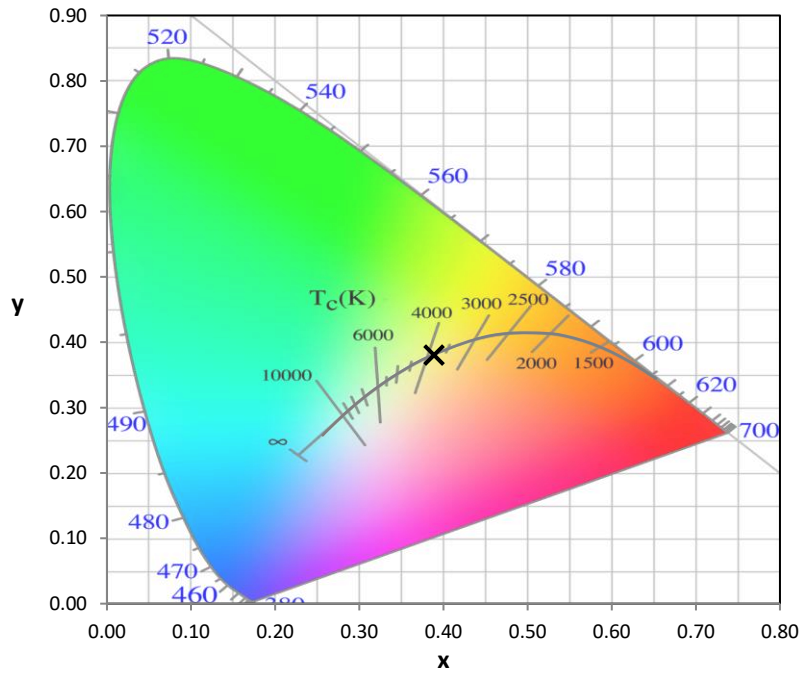
Stabilization Time: 27M
 Operation Time: 1H 27M
 Sphere Temperature (°C): 24.4

REPORT NUMBER: SP1-2405-118-2

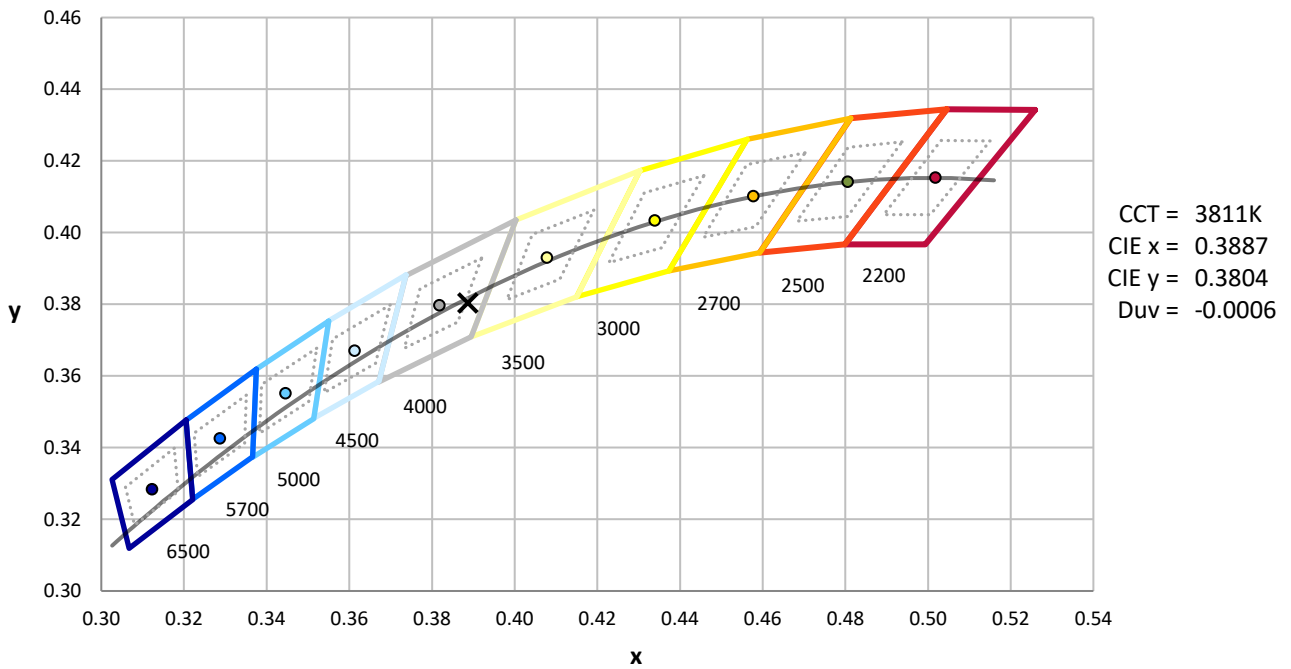
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

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CIE 1931 Chromaticity Diagram



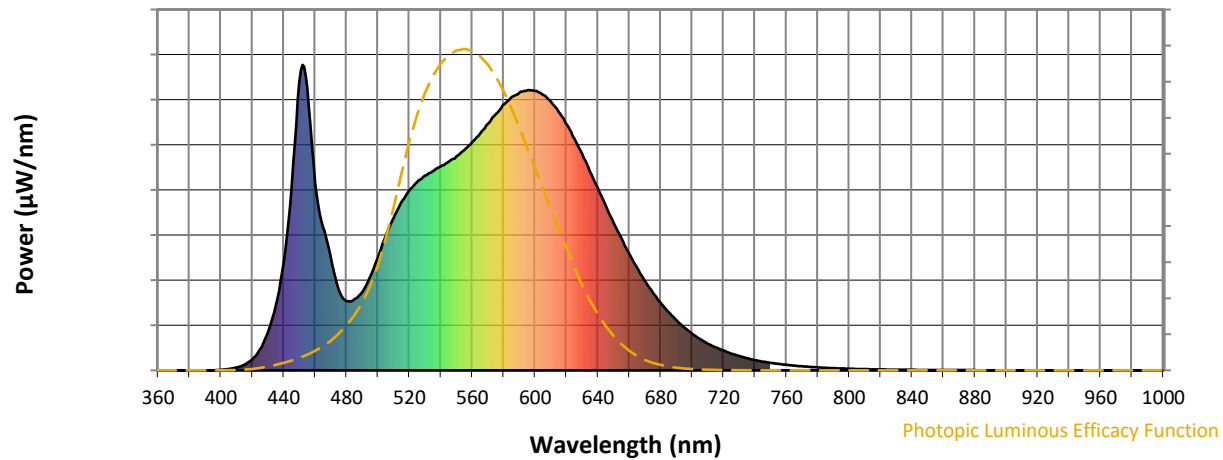
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 4000K 7-step quadrangle

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Photopic Flux vs. Wavelength

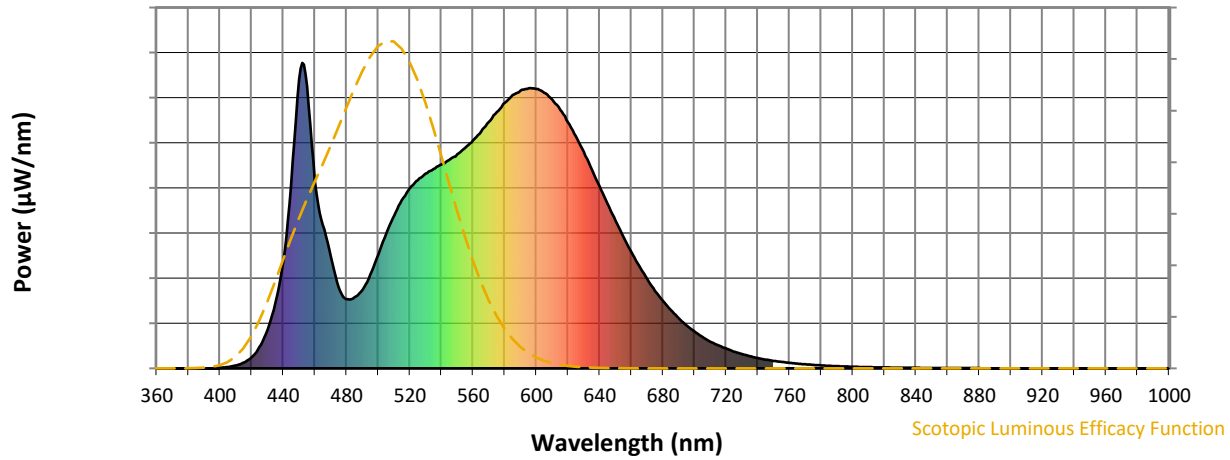


Photopic Lumens: NR

λ (nm)	Power 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			

REPORT NUMBER: SP1-2405-118-2

Scotopic Flux vs. Wavelength



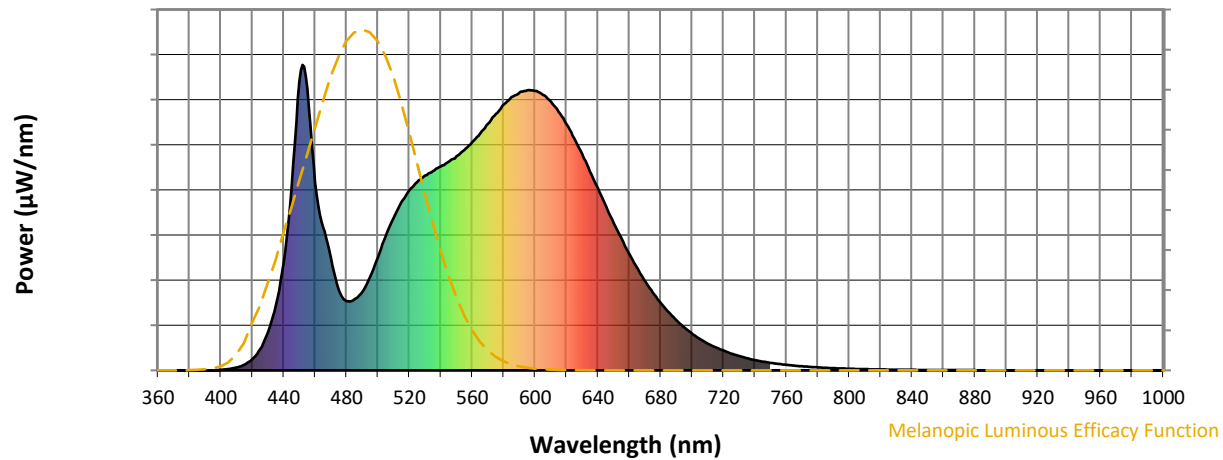
Scotopic Lumens: NR

S/P: 1.62

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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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.3

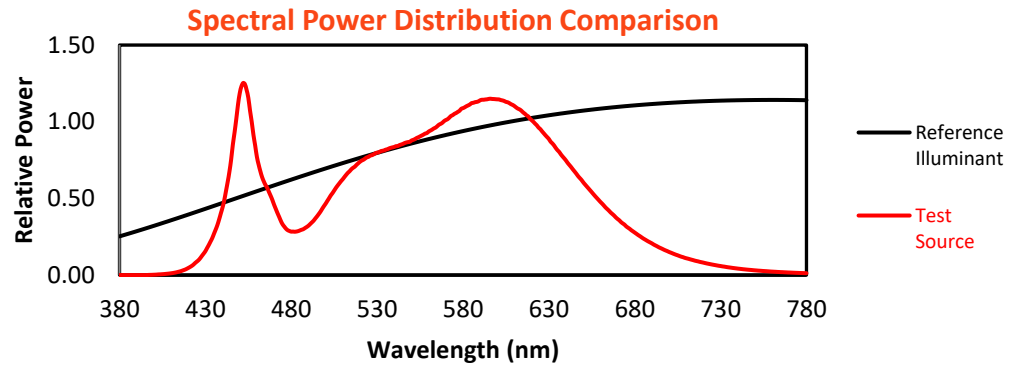
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	257	NR	620	806	NR	750	25	NR	880	1	NR
365	0	NR	495	306	NR	625	760	NR	755	21	NR	885	1	NR
370	0	NR	500	371	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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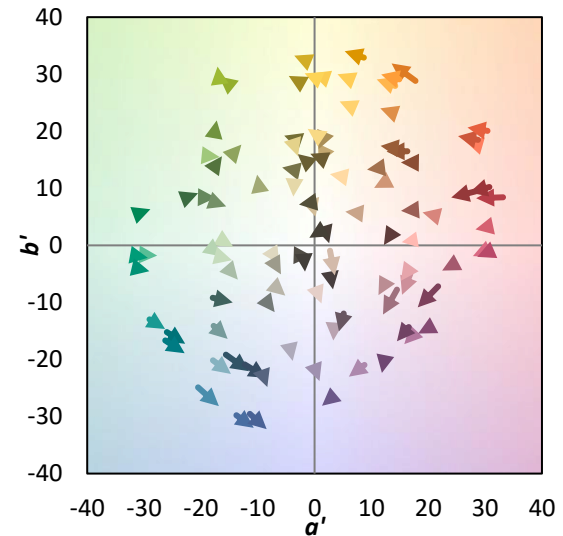
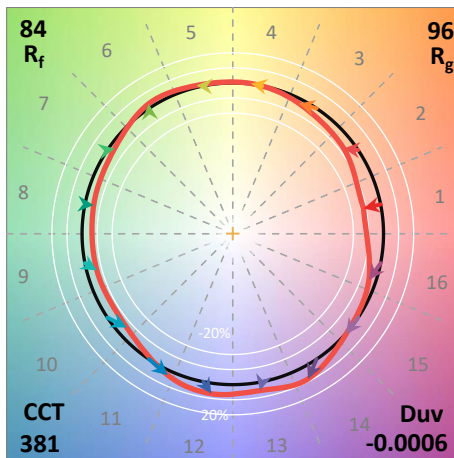
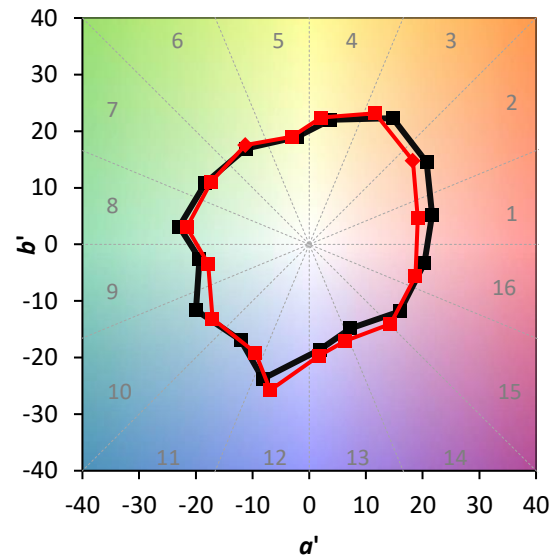
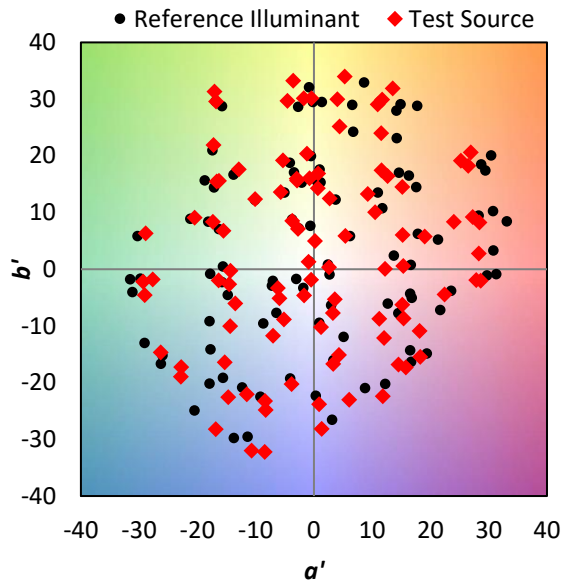
TM-30-18

Summary

$R_f = 83.8$
 $R_g = 96.1$
 $CIE R_a = 83.3$
 $R_9 = 10.7$

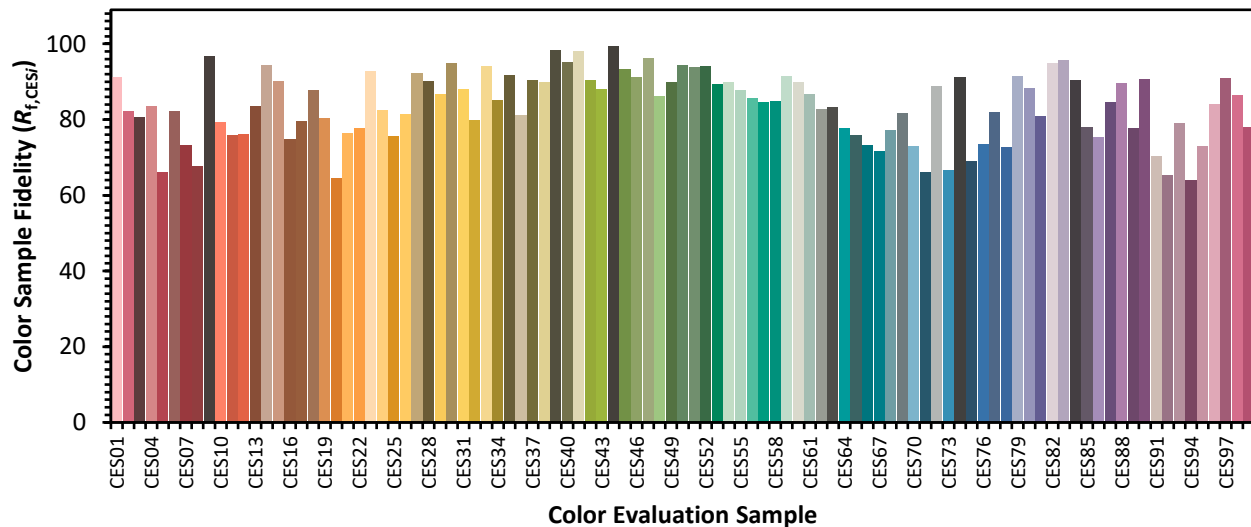


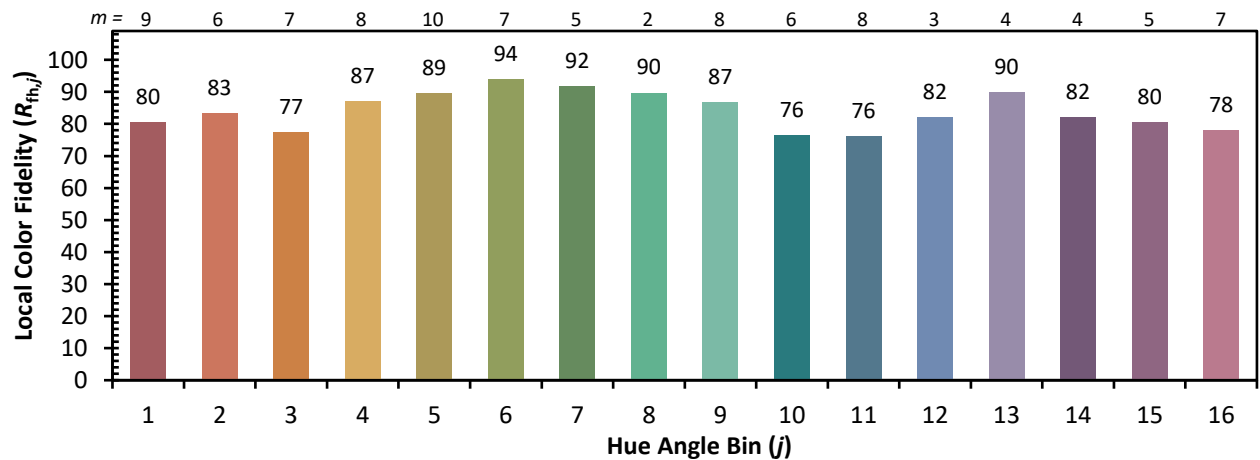
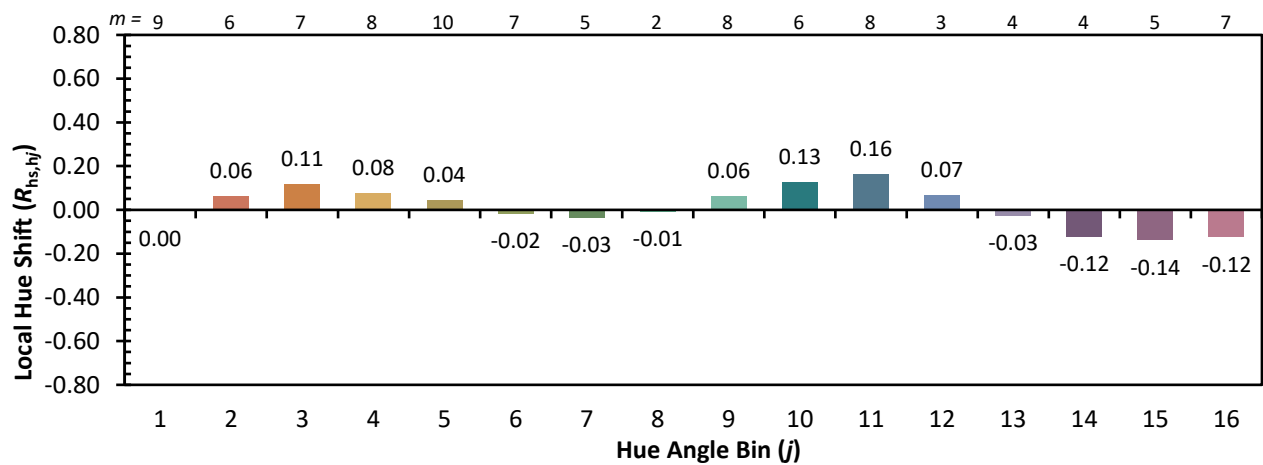
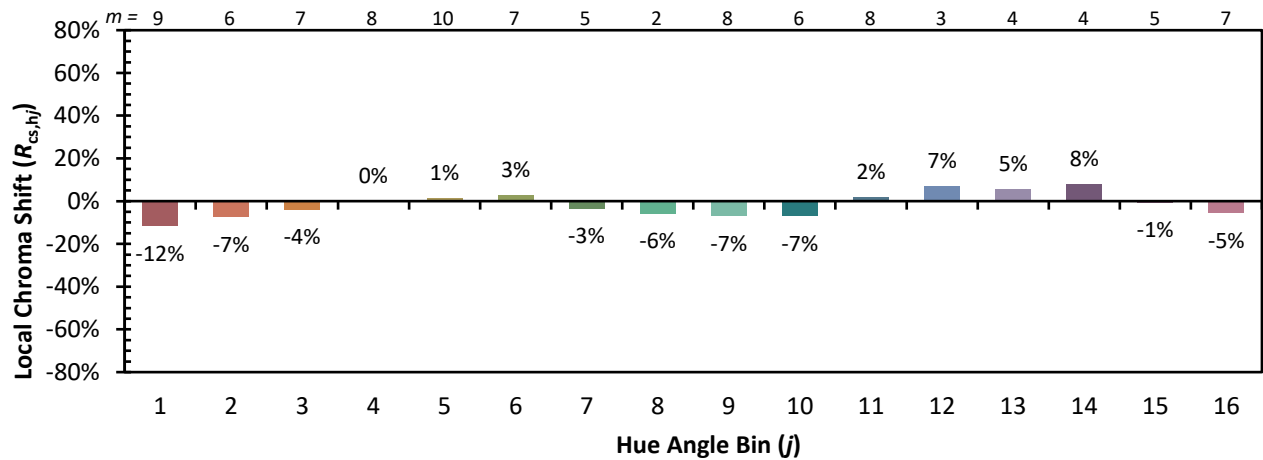
Color Vector Graphics



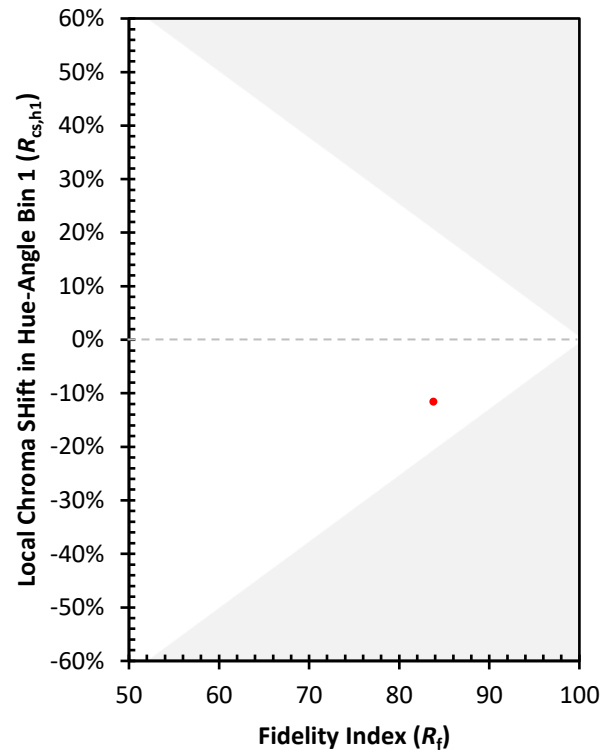
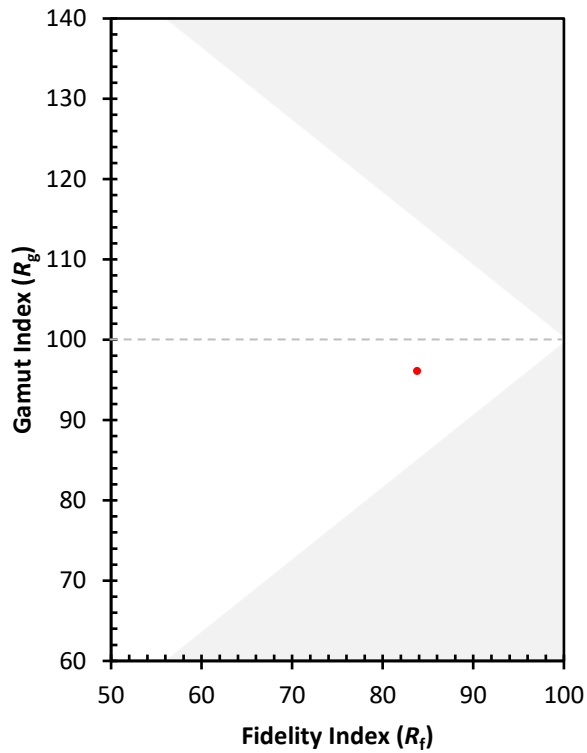
Individual Sample Fidelity Index ($R_{f,i}$)

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)