

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: P895751

Luminaire Tested: **CLCS30S-PC-4000K-60%**

Issue Date: 11/14/2024

Test Information

Test Method: LM-79-08
Report Number: P895751
Test Lab: INNOVATION CENTER(G2)
Issue Date: 11/14/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: CLCS30S-PC-4000K-60%
Description: LUMARK LARGE LED CANOPY 16000LM, 120W, PC 80 CRI 4000K FIXTURE @
60% OUTPUT
Light Source: 4000K CCT,80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

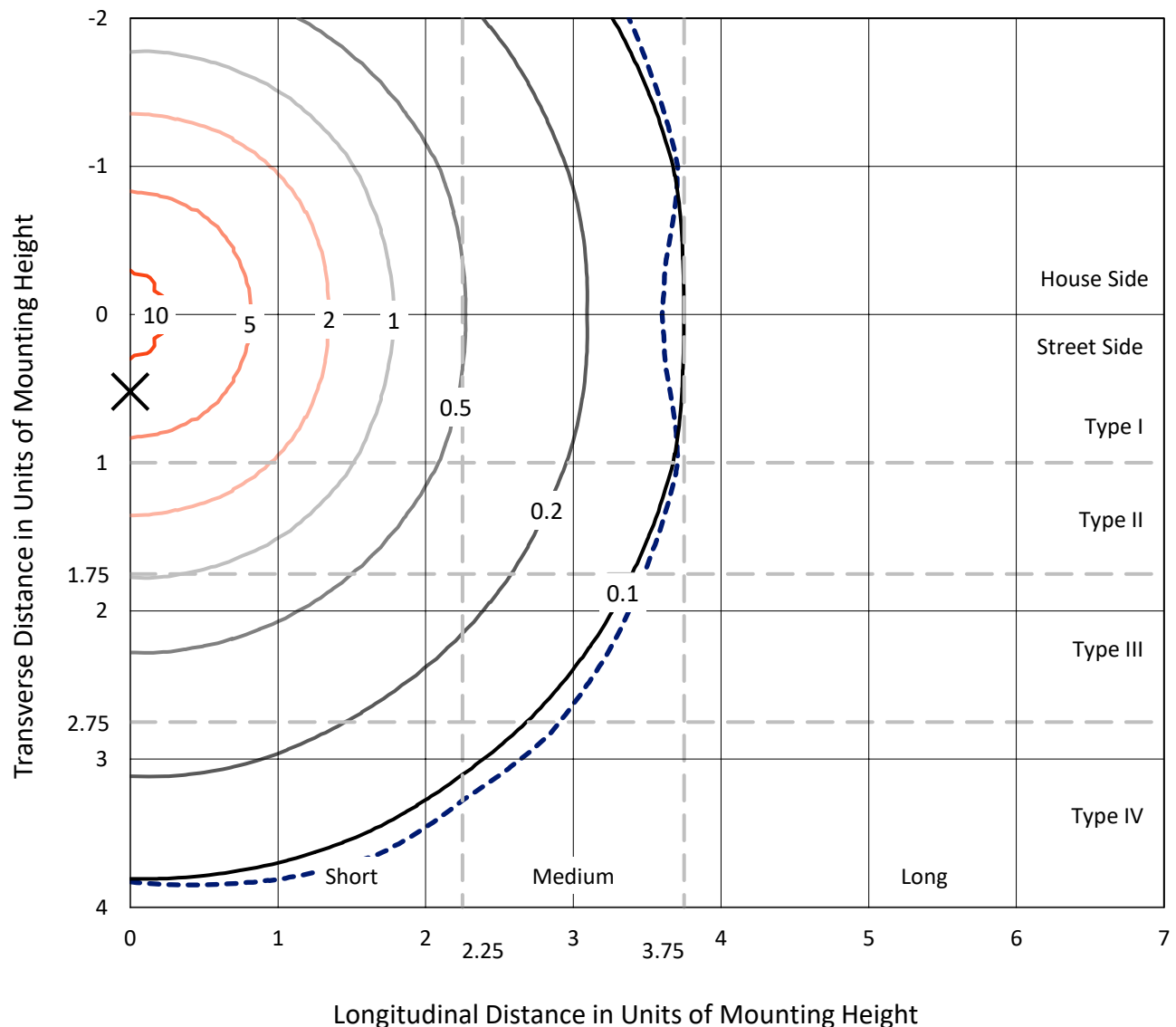
Lumens per Lamp: N/A
Luminaire Lumens: 11589.8 lumens
Efficiency: N/A
Efficacy: 151.5 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 1' x H: 0.12')
IES Classification: Type V - Short
BUG Rating: B3 - U3 - G3

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: P895751
 CATALOG NUMBER: CLCS30S-PC-4000K-60%

Iso-Footcandle Lines of Horizontal Illumination

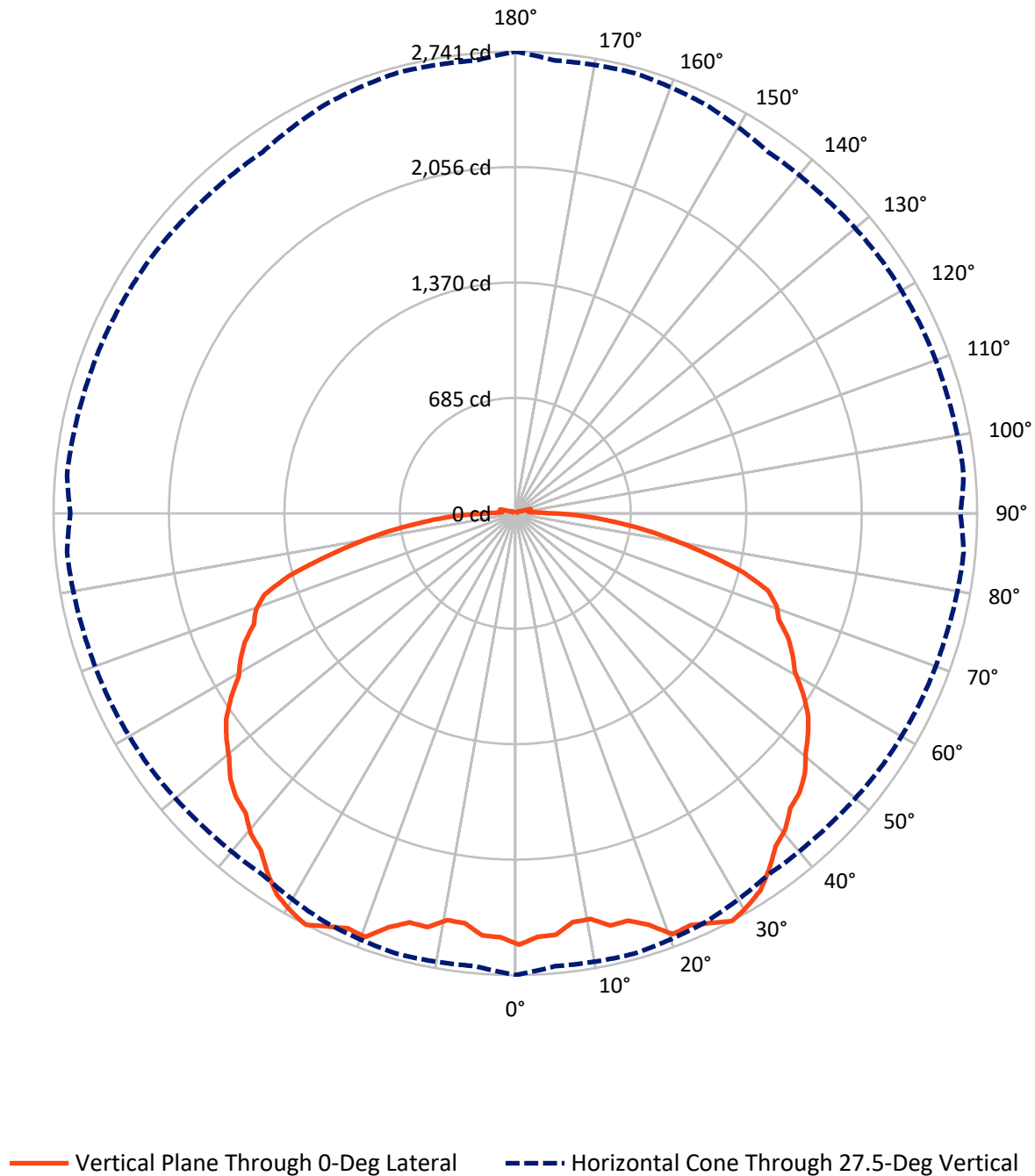
× Max cd
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 11.4 fc
 Type V - Short - N/A

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Luminous Intensity Polar Plot



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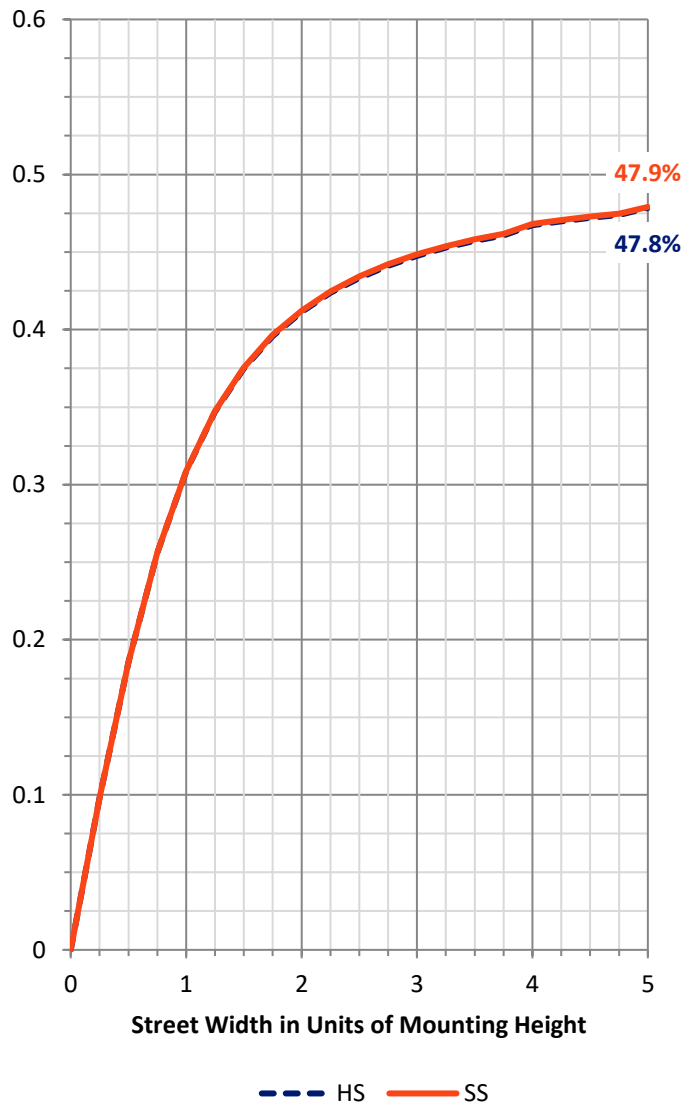
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5698.3	96.6	5794.9
	% Fixture	49.2	0.8	50.0
Street Side	Lumens	5698.3	96.6	5794.9
	% Fixture	49.2	0.8	50.0
Total	Lumens	11396.6	193.2	11589.8
	% Fixture	98.3	1.7	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	232.1	2.0
10°-20°	709.4	6.1
20°-30°	1216.4	10.5
30°-40°	1598.3	13.8
40°-50°	1828.8	15.8
50°-60°	1912.6	16.5
60°-70°	1799.6	15.5
70°-80°	1453.5	12.5
80°-90°	645.8	5.6
90°-100°	108.5	0.9
100°-110°	57.1	0.5
110°-120°	19.2	0.2
120°-130°	6.7	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°	11396.6	98.3
0°-180°	11589.8	100.0



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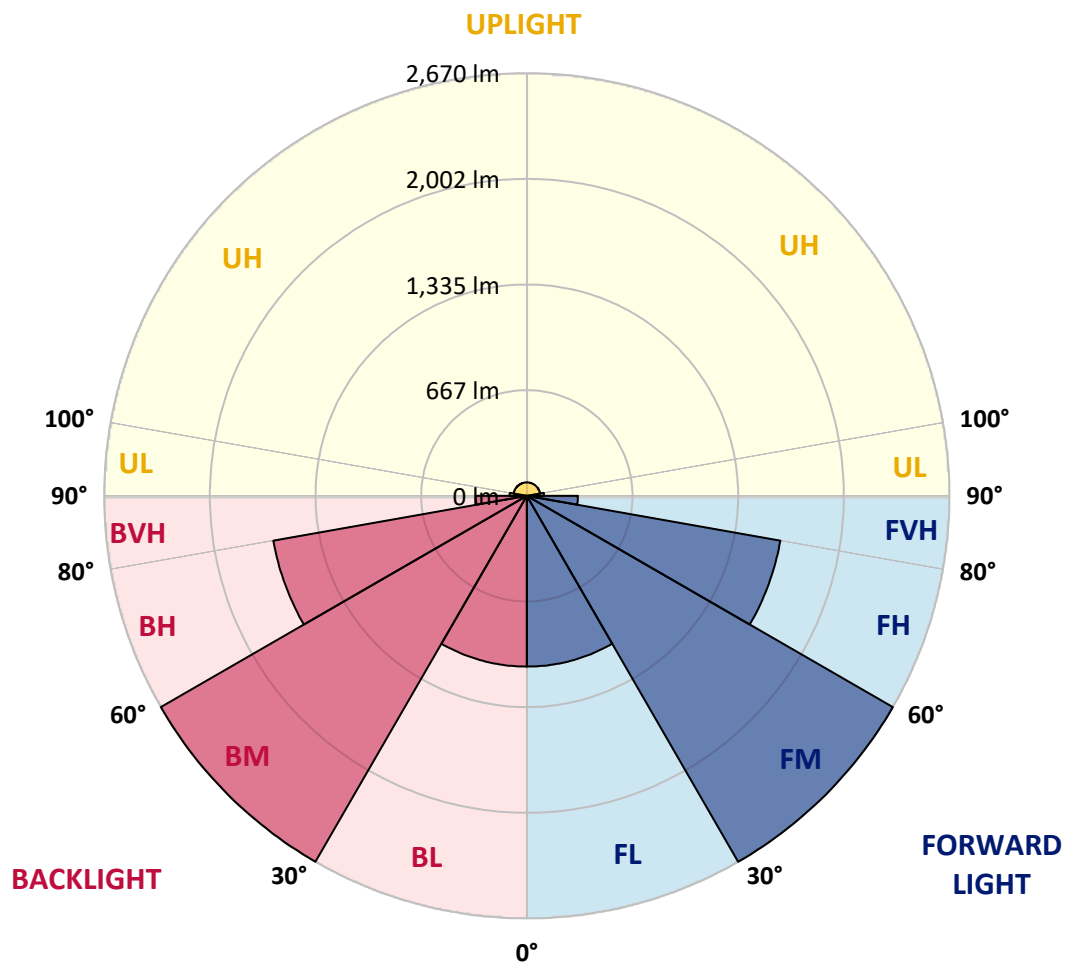
CATALOG NUMBER: CLCS30S-PC-4000K-60%

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1078.9	9.3			
FM	(30°-60°)	2669.9	23.0			
FH	(60°-80°)	1626.6	14.0			G1/1800
FVH	(80°-90°)	322.9	2.8			G3/500
BL	(0°-30°)	1078.9	9.3	B3/2500		
BM	(30°-60°)	2669.9	23.0	B3/5000		
BH	(60°-80°)	1626.6	14.0	B3/2500		G1/1800
BVH	(80°-90°)	322.9	2.8			G3/500
UL	(90°-100°)	108.5	0.9		U3/500	
UH	(100°-180°)	84.7	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°	2560.9	2560.9	2560.9	2560.9	2560.9	2560.9	2560.9	2560.9	2560.9	2560.9	2560.9
2.5°	2517.6	2522.5	2527.4	2510.0	2502.3	2505.8	2496.0	2503.7	2510.0	2506.5	2506.5
5°	2513.4	2516.9	2512.7	2476.5	2451.3	2431.2	2415.1	2421.4	2417.9	2427.7	2430.5
7.5°	2450.6	2462.5	2484.8	2454.8	2415.8	2389.3	2383.0	2374.0	2342.6	2331.4	2324.4
10°	2448.5	2455.5	2479.2	2438.2	2404.0	2401.9	2361.4	2337.0	2325.1	2311.9	2302.8
12.5°	2510.7	2503.0	2473.0	2486.9	2482.0	2427.7	2413.0	2374.0	2364.2	2359.3	2347.4
15°	2508.6	2534.4	2549.7	2516.2	2484.1	2507.9	2521.1	2487.6	2468.1	2434.0	2428.4
17.5°	2568.6	2594.4	2553.9	2574.9	2549.7	2558.8	2543.5	2530.9	2526.0	2519.0	2519.7
20°	2667.7	2640.5	2606.3	2588.8	2544.2	2556.7	2583.2	2574.9	2567.9	2581.1	2572.8
22.5°	2656.5	2645.3	2597.2	2620.2	2542.1	2561.6	2583.2	2611.9	2590.2	2567.9	2549.7
25°	2694.1	2664.9	2660.7	2646.7	2597.9	2592.3	2617.4	2613.2	2617.4	2641.2	2629.3
27.5°	2740.9	2698.3	2707.4	2676.0	2617.4	2624.4	2641.9	2651.6	2657.9	2670.5	2641.2
30°	2710.2	2682.2	2686.4	2653.0	2636.3	2689.2	2598.6	2668.4	2646.7	2642.6	2650.2
32.5°	2669.8	2641.9	2650.9	2599.3	2636.3	2637.7	2593.7	2620.2	2599.3	2621.6	2610.5
35°	2593.7	2536.5	2581.8	2530.2	2589.5	2565.8	2565.8	2540.7	2516.9	2526.0	2500.2
37.5°	2508.6	2453.4	2507.9	2463.2	2505.1	2496.7	2503.7	2456.9	2454.1	2456.9	2450.6
40°	2466.7	2415.8	2449.9	2443.0	2445.7	2457.6	2420.0	2423.5	2403.3	2409.6	2385.1
42.5°	2392.8	2354.4	2409.6	2410.3	2443.0	2445.7	2412.4	2389.3	2385.8	2340.5	2347.4
45°	2364.2	2320.2	2348.1	2371.9	2401.2	2454.8	2398.4	2381.6	2345.4	2308.4	2295.1
47.5°	2311.9	2297.9	2309.1	2347.4	2373.3	2406.8	2387.2	2322.3	2279.7	2270.0	2267.2
50°	2233.7	2230.2	2249.7	2265.8	2284.6	2346.7	2323.0	2277.7	2230.2	2214.1	2223.2
52.5°	2175.2	2166.8	2161.9	2237.2	2223.9	2237.9	2267.9	2223.2	2188.4	2131.9	2158.4
55°	2107.5	2115.1	2103.3	2167.5	2182.1	2200.3	2180.0	2153.5	2105.4	2060.0	2068.4
57.5°	2011.9	2037.0	2057.2	2060.0	2120.0	2143.1	2120.7	2067.0	1998.6	2004.2	2004.9
60°	1905.2	1943.6	1955.4	1980.4	2035.6	2029.3	2045.4	1966.6	1940.8	1944.3	1943.6
62.5°	1846.6	1857.7	1869.6	1901.7	1936.6	1933.1	1950.5	1907.3	1871.0	1863.3	1873.1
65°	1778.9	1798.4	1792.8	1817.2	1822.1	1828.4	1853.5	1857.0	1806.1	1772.6	1752.3
67.5°	1686.1	1711.3	1730.8	1735.7	1746.8	1757.9	1742.0	1769.1	1699.4	1675.0	1674.3
70°	1644.3	1658.9	1661.7	1653.3	1642.9	1675.7	1649.8	1656.1	1652.6	1634.5	1621.9
72.5°	1566.8	1583.5	1592.6	1561.2	1545.2	1552.8	1567.5	1554.9	1571.7	1543.1	1525.6
75°	1395.2	1407.8	1427.3	1444.1	1422.4	1436.4	1432.2	1409.2	1398.0	1327.5	1318.4
77.5°	1160.8	1170.6	1213.2	1239.7	1248.7	1249.4	1216.6	1195.7	1172.7	1129.4	1125.2
80°	946.7	962.7	986.4	1005.3	1040.9	1045.1	1036.7	1013.7	989.9	955.0	950.1
82.5°	755.5	759.7	796.0	811.4	815.4	830.1	820.3	809.3	771.6	744.4	730.4
85°	549.7	555.3	564.4	593.6	628.5	648.1	599.9	573.5	536.5	516.9	514.2
87.5°	387.8	383.6	388.5	399.7	417.8	424.1	396.2	371.1	365.5	352.9	350.8
90°	189.0	189.7	202.3	221.1	232.3	245.6	228.8	210.0	203.7	189.0	187.6
92.5°	106.1	106.1	105.4	113.8	119.2	122.0	119.9	113.1	104.7	98.4	97.0
95°	78.9	79.6	78.2	76.8	74.0	69.1	74.7	77.5	78.2	77.5	76.1
97.5°	78.9	78.2	74.7	66.3	55.1	49.6	57.2	71.9	79.6	83.7	82.4
100°	84.4	84.4	75.4	66.3	50.2	49.6	52.3	69.1	83.1	93.5	92.1
102.5°	94.9	94.2	82.4	72.6	50.9	34.2	55.8	80.3	92.8	104.7	104.0
105°	92.8	88.6	75.4	53.7	27.2	20.2	31.4	57.9	76.1	90.0	91.4
107.5°	59.3	58.6	45.4	26.5	20.2	19.5	21.6	30.0	44.0	52.3	53.0
110°	34.2	33.5	29.3	23.7	19.5	16.1	20.2	25.1	30.7	34.2	34.2

REPORT NUMBER: P895751

CATALOG NUMBER: CLCS30S-PC-4000K-60%

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	32.8	32.1	27.9	21.6	15.4	10.5	16.1	23.7	29.3	32.8	32.8
115°	28.6	27.9	24.4	17.4	11.2	7.7	11.9	19.5	25.1	30.0	30.7
117.5°	25.8	24.4	18.8	12.6	7.7	5.6	8.4	14.0	21.6	25.8	26.5
120°	18.8	18.1	14.0	9.8	5.6	4.2	6.3	10.5	16.1	21.6	21.6
122.5°	14.7	14.0	11.2	7.0	3.5	2.8	4.2	8.4	12.6	16.7	16.7
125°	11.9	11.2	8.4	5.6	2.8	1.4	3.5	6.3	10.5	14.0	14.0
127.5°	9.1	9.1	7.0	4.2	2.1	0.7	2.1	4.9	8.4	10.5	10.5
130°	7.0	7.0	5.6	3.5	1.4	0.7	1.4	3.5	5.6	7.0	7.7
132.5°	6.3	6.3	4.9	2.1	0.7	0.7	0.7	2.8	4.9	6.3	6.3
135°	4.2	3.5	1.4	0.7	0.7	0.7	0.7	0.7	2.8	4.9	4.9
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: SP1-2405-118-1

Test Date: 07/17/2024

Luminaire Tested: CLCS40S-3000K-HIGH

Data in this report applies to families of products including CLCS40S-3000K-HIGH

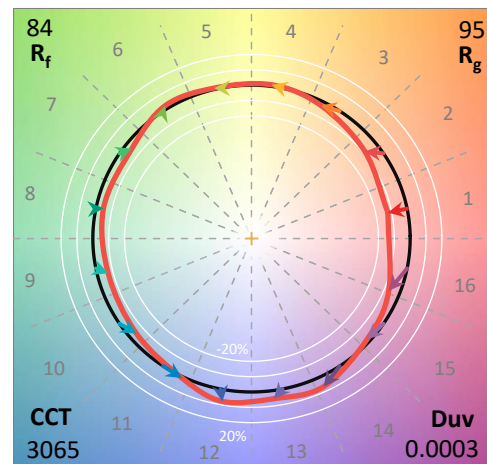
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2405-118-1
 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-3000K-HIGH**
 Description: 120W LUMARK AP CANOPY SELECTABLE FIXTURE HIGHEST OUTPUT @3000K

Spectral Parameters

CCT (K): 3065
 CIE u' : 0.2482
 CIE v' : 0.5205
 Duv: 0.0003
 CIE x: 0.4328
 CIE y: 0.4033
 CIE z: 0.1639
 Peak Wavelength (nm): 601
 Dominant Wavelength (nm): 582
 Purity: 50.97738
 R_f: 83.6
 R_g: 95.1

CRI (Ra): 80.9
 R1: 78.9
 R2: 89.8
 R3: 96.2
 R4: 78.4
 R5: 79.1
 R6: 87.3
 R7: 81.8
 R8: 56.0
 R9: -0.8
 R10: 76.7
 R11: 77.3
 R12: 67.5
 R13: 81.4
 R14: 98.5
 R15: 71.1



Test Conditions

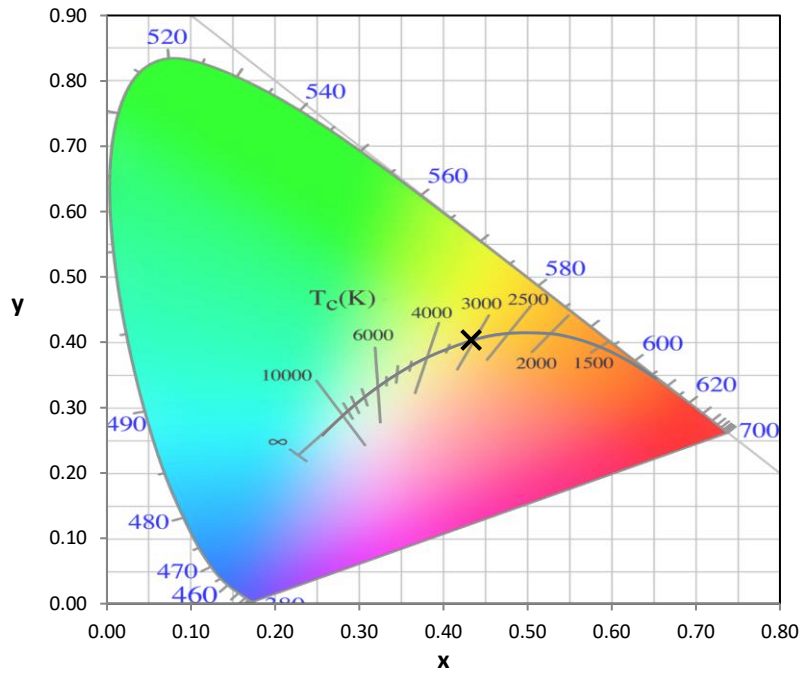
Stabilization Time: 60M
 Operation Time: 1H 60M
 Sphere Temperature (°C): 24.0

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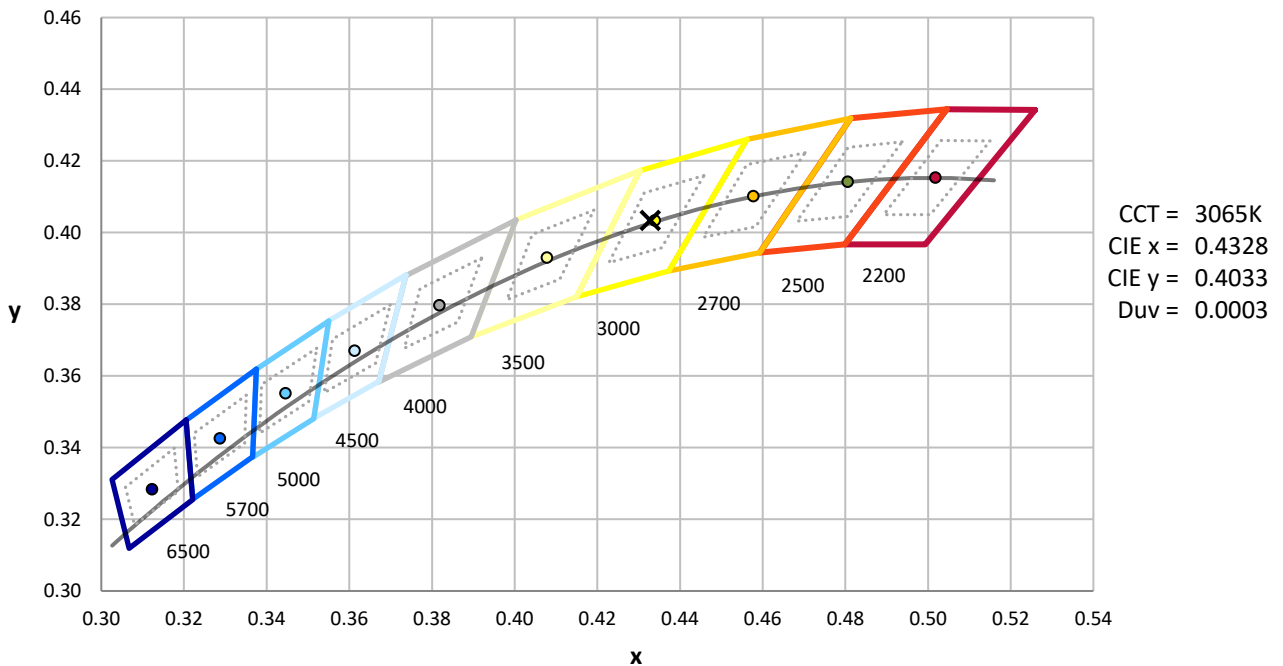
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

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CIE 1931 Chromaticity Diagram



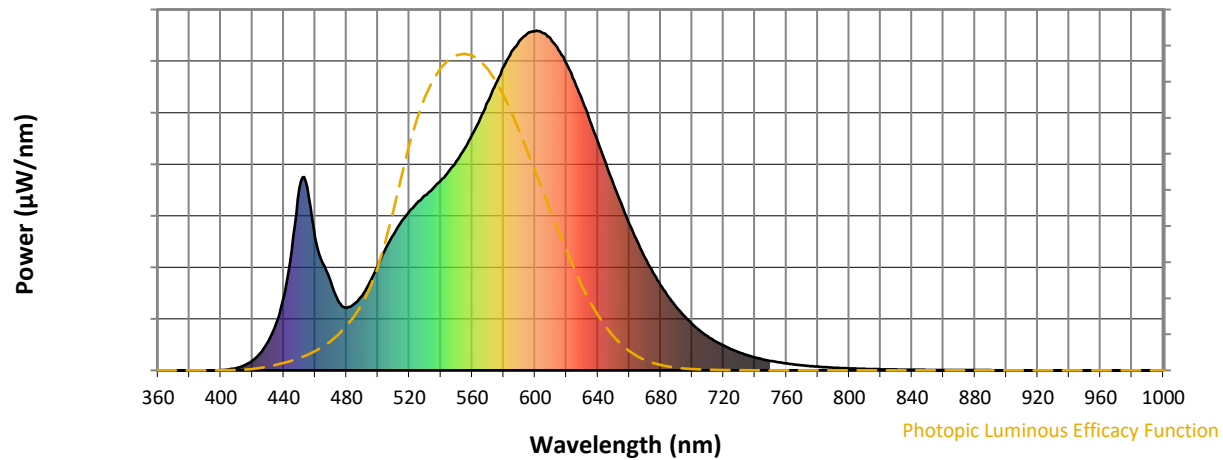
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

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Photopic Flux vs. Wavelength

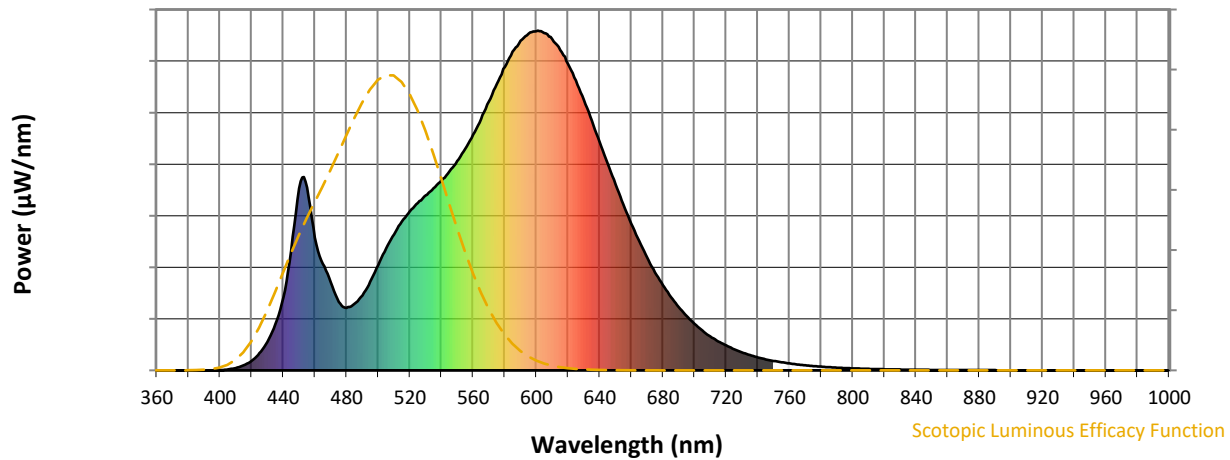


Photopic Lumens: NR

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	221	NR	620	902	NR	750	28	NR	880	1	NR
365	0	NR	495	261	NR	625	853	NR	755	24	NR	885	1	NR
370	0	NR	500	309	NR	630	796	NR	760	20	NR	890	1	NR
375	0	NR	505	359	NR	635	735	NR	765	17	NR	895	0	NR
380	0	NR	510	401	NR	640	673	NR	770	15	NR	900	0	NR
385	0	NR	515	438	NR	645	609	NR	775	13	NR	905	0	NR
390	0	NR	520	469	NR	650	547	NR	780	11	NR	910	0	NR
395	0	NR	525	493	NR	655	489	NR	785	9	NR	915	0	NR
400	1	NR	530	515	NR	660	432	NR	790	8	NR	920	0	NR
405	3	NR	535	536	NR	665	381	NR	795	7	NR	925	0	NR
410	7	NR	540	558	NR	670	331	NR	800	6	NR	930	0	NR
415	15	NR	545	586	NR	675	288	NR	805	5	NR	935	0	NR
420	28	NR	550	616	NR	680	251	NR	810	4	NR	940	0	NR
425	51	NR	555	652	NR	685	216	NR	815	4	NR	945	0	NR
430	84	NR	560	694	NR	690	187	NR	820	3	NR	950	0	NR
435	136	NR	565	740	NR	695	160	NR	825	3	NR	955	0	NR
440	215	NR	570	791	NR	700	137	NR	830	2	NR	960	0	NR
445	352	NR	575	843	NR	705	117	NR	835	2	NR	965	0	NR
450	536	NR	580	893	NR	710	100	NR	840	2	NR	970	0	NR
455	538	NR	585	938	NR	715	85	NR	845	2	NR	975	0	NR
460	391	NR	590	970	NR	720	73	NR	850	1	NR	980	0	NR
465	313	NR	595	991	NR	725	62	NR	855	1	NR	985	0	NR
470	259	NR	600	998	NR	730	53	NR	860	1	NR	990	0	NR
475	202	NR	605	993	NR	735	45	NR	865	1	NR	995	0	NR
480	184	NR	610	975	NR	740	38	NR	870	1	NR	1000	0	NR
485	196	NR	615	943	NR	745	32	NR	875	1	NR			

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Scotopic Flux vs. Wavelength



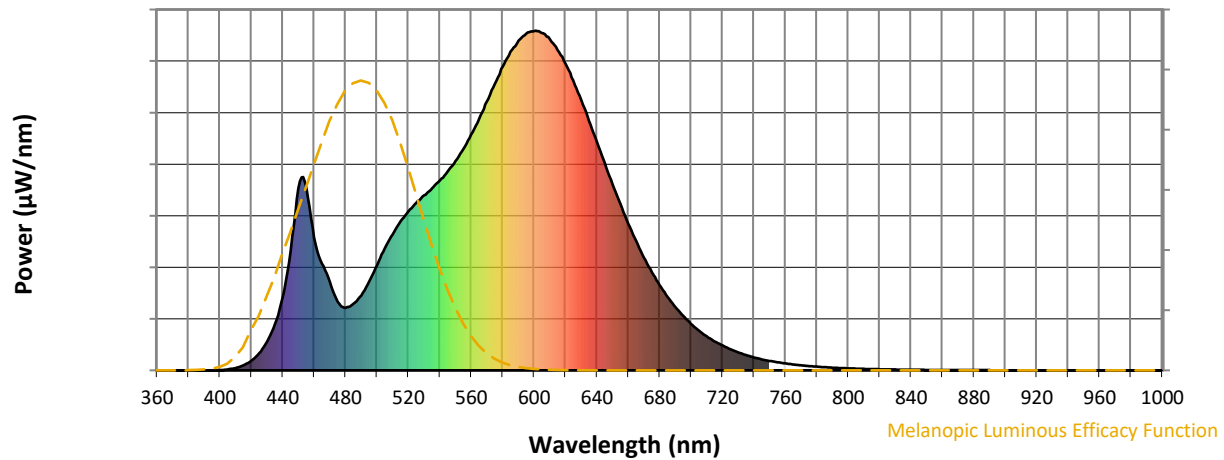
Scotopic Lumens: NR

S/P: 1.35

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	221	NR	620	902	NR	750	28	NR	880	1	NR
365	0	NR	495	261	NR	625	853	NR	755	24	NR	885	1	NR
370	0	NR	500	309	NR	630	796	NR	760	20	NR	890	1	NR
375	0	NR	505	359	NR	635	735	NR	765	17	NR	895	0	NR
380	0	NR	510	401	NR	640	673	NR	770	15	NR	900	0	NR
385	0	NR	515	438	NR	645	609	NR	775	13	NR	905	0	NR
390	0	NR	520	469	NR	650	547	NR	780	11	NR	910	0	NR
395	0	NR	525	493	NR	655	489	NR	785	9	NR	915	0	NR
400	1	NR	530	515	NR	660	432	NR	790	8	NR	920	0	NR
405	3	NR	535	536	NR	665	381	NR	795	7	NR	925	0	NR
410	7	NR	540	558	NR	670	331	NR	800	6	NR	930	0	NR
415	15	NR	545	586	NR	675	288	NR	805	5	NR	935	0	NR
420	28	NR	550	616	NR	680	251	NR	810	4	NR	940	0	NR
425	51	NR	555	652	NR	685	216	NR	815	4	NR	945	0	NR
430	84	NR	560	694	NR	690	187	NR	820	3	NR	950	0	NR
435	136	NR	565	740	NR	695	160	NR	825	3	NR	955	0	NR
440	215	NR	570	791	NR	700	137	NR	830	2	NR	960	0	NR
445	352	NR	575	843	NR	705	117	NR	835	2	NR	965	0	NR
450	536	NR	580	893	NR	710	100	NR	840	2	NR	970	0	NR
455	538	NR	585	938	NR	715	85	NR	845	2	NR	975	0	NR
460	391	NR	590	970	NR	720	73	NR	850	1	NR	980	0	NR
465	313	NR	595	991	NR	725	62	NR	855	1	NR	985	0	NR
470	259	NR	600	998	NR	730	53	NR	860	1	NR	990	0	NR
475	202	NR	605	993	NR	735	45	NR	865	1	NR	995	0	NR
480	184	NR	610	975	NR	740	38	NR	870	1	NR	1000	0	NR
485	196	NR	615	943	NR	745	32	NR	875	1	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.61

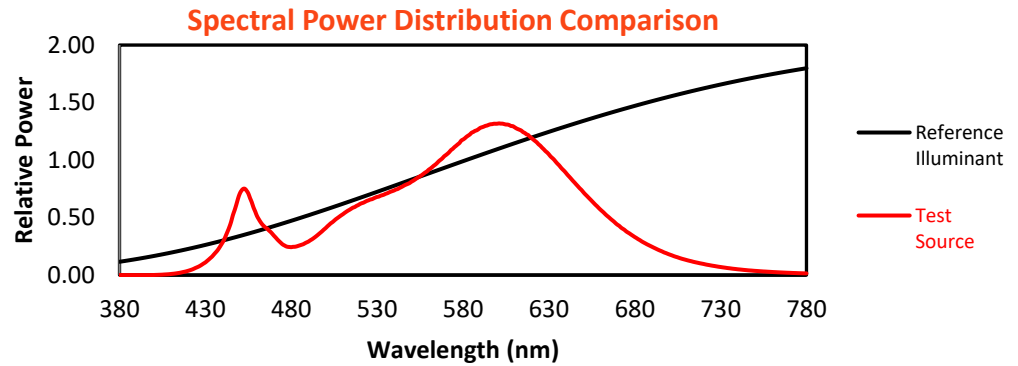
λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	221	NR	620	902	NR	750	28	NR	880	1	NR
365	0	NR	495	261	NR	625	853	NR	755	24	NR	885	1	NR
370	0	NR	500	309	NR	630	796	NR	760	20	NR	890	1	NR
375	0	NR	505	359	NR	635	735	NR	765	17	NR	895	0	NR
380	0	NR	510	401	NR	640	673	NR	770	15	NR	900	0	NR
385	0	NR	515	438	NR	645	609	NR	775	13	NR	905	0	NR
390	0	NR	520	469	NR	650	547	NR	780	11	NR	910	0	NR
395	0	NR	525	493	NR	655	489	NR	785	9	NR	915	0	NR
400	1	NR	530	515	NR	660	432	NR	790	8	NR	920	0	NR
405	3	NR	535	536	NR	665	381	NR	795	7	NR	925	0	NR
410	7	NR	540	558	NR	670	331	NR	800	6	NR	930	0	NR
415	15	NR	545	586	NR	675	288	NR	805	5	NR	935	0	NR
420	28	NR	550	616	NR	680	251	NR	810	4	NR	940	0	NR
425	51	NR	555	652	NR	685	216	NR	815	4	NR	945	0	NR
430	84	NR	560	694	NR	690	187	NR	820	3	NR	950	0	NR
435	136	NR	565	740	NR	695	160	NR	825	3	NR	955	0	NR
440	215	NR	570	791	NR	700	137	NR	830	2	NR	960	0	NR
445	352	NR	575	843	NR	705	117	NR	835	2	NR	965	0	NR
450	536	NR	580	893	NR	710	100	NR	840	2	NR	970	0	NR
455	538	NR	585	938	NR	715	85	NR	845	2	NR	975	0	NR
460	391	NR	590	970	NR	720	73	NR	850	1	NR	980	0	NR
465	313	NR	595	991	NR	725	62	NR	855	1	NR	985	0	NR
470	259	NR	600	998	NR	730	53	NR	860	1	NR	990	0	NR
475	202	NR	605	993	NR	735	45	NR	865	1	NR	995	0	NR
480	184	NR	610	975	NR	740	38	NR	870	1	NR	1000	0	NR
485	196	NR	615	943	NR	745	32	NR	875	1	NR			

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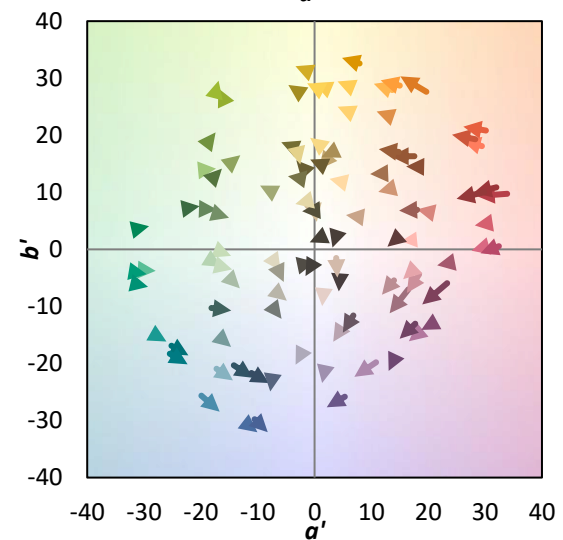
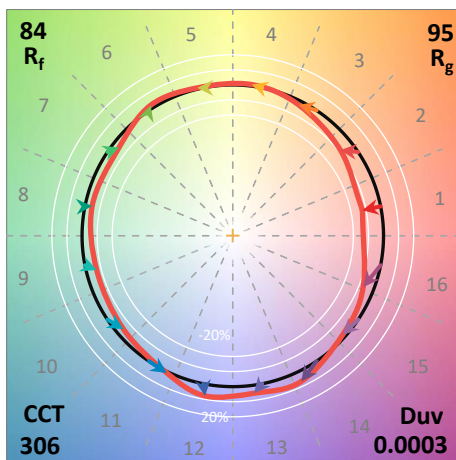
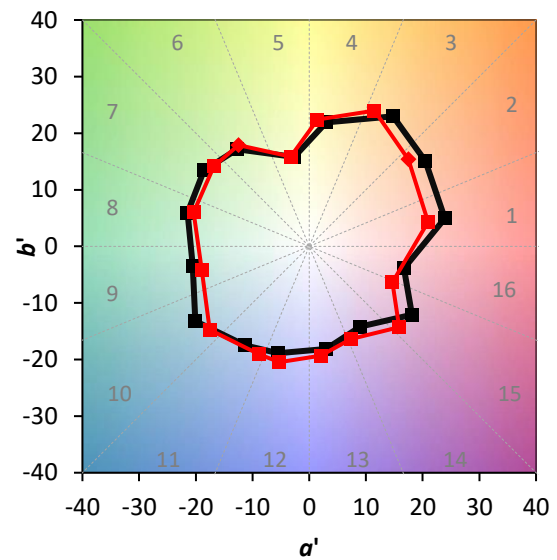
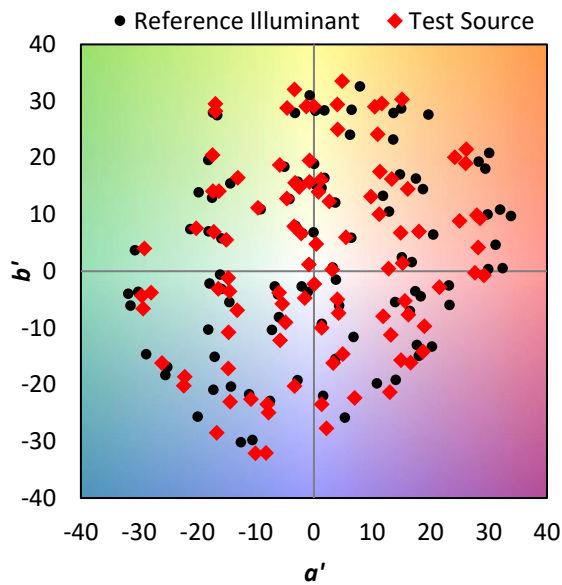
TM-30-18

Summary

$R_f = 83.6$
 $R_g = 95.1$
 $CIE R_a = 80.9$
 $R_g = -0.8$

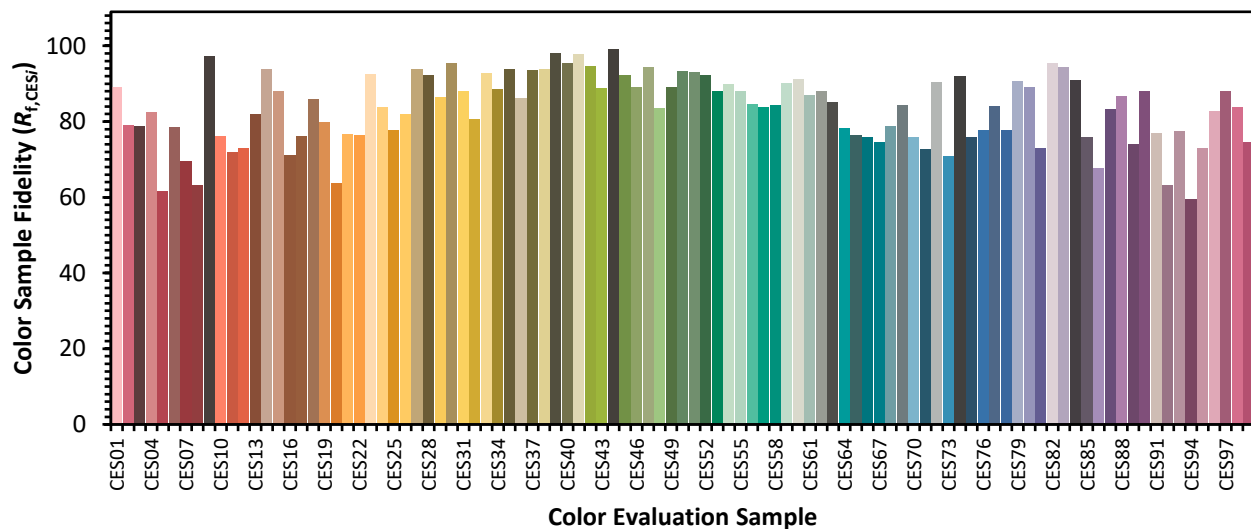


Color Vector Graphics

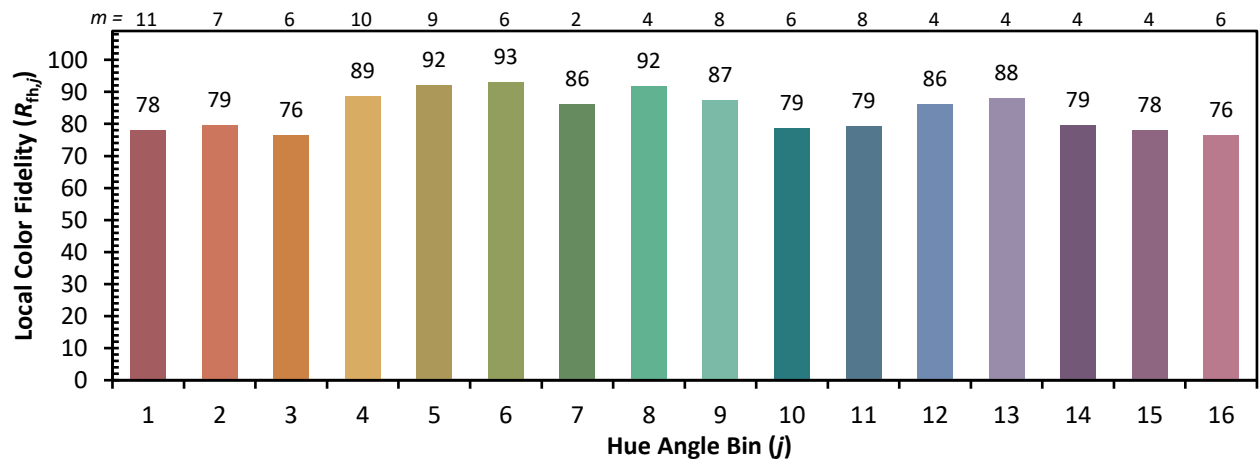
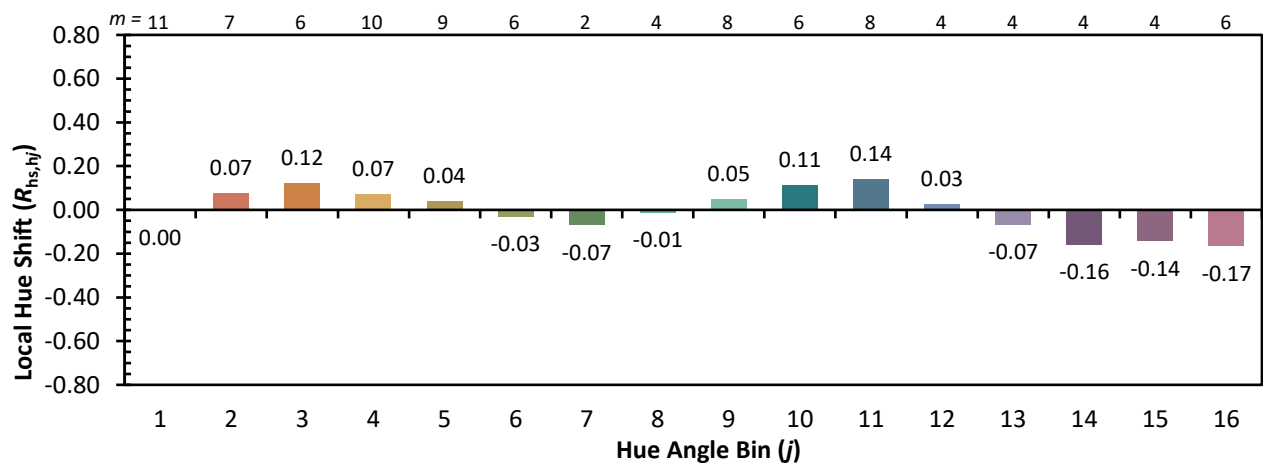
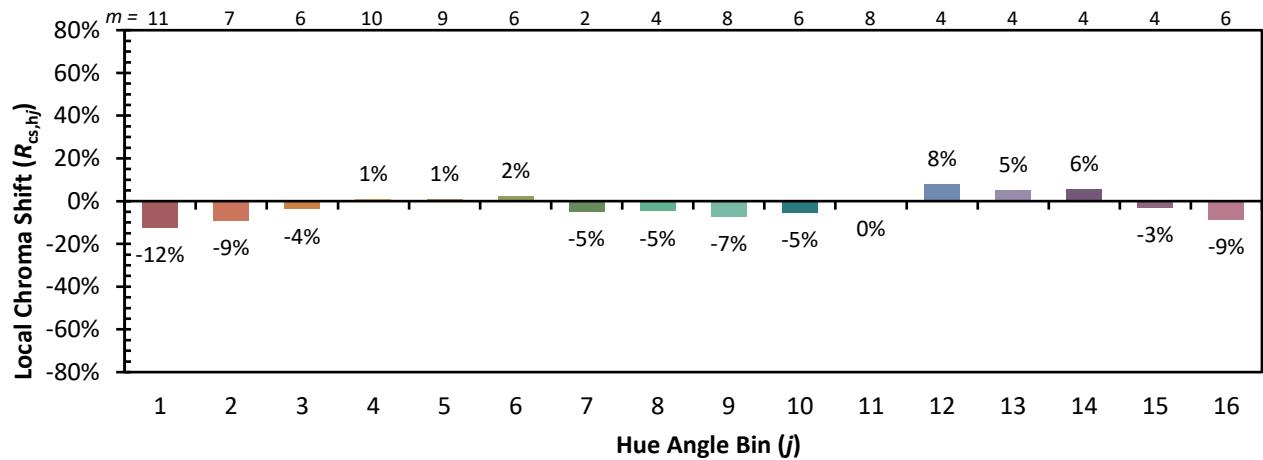


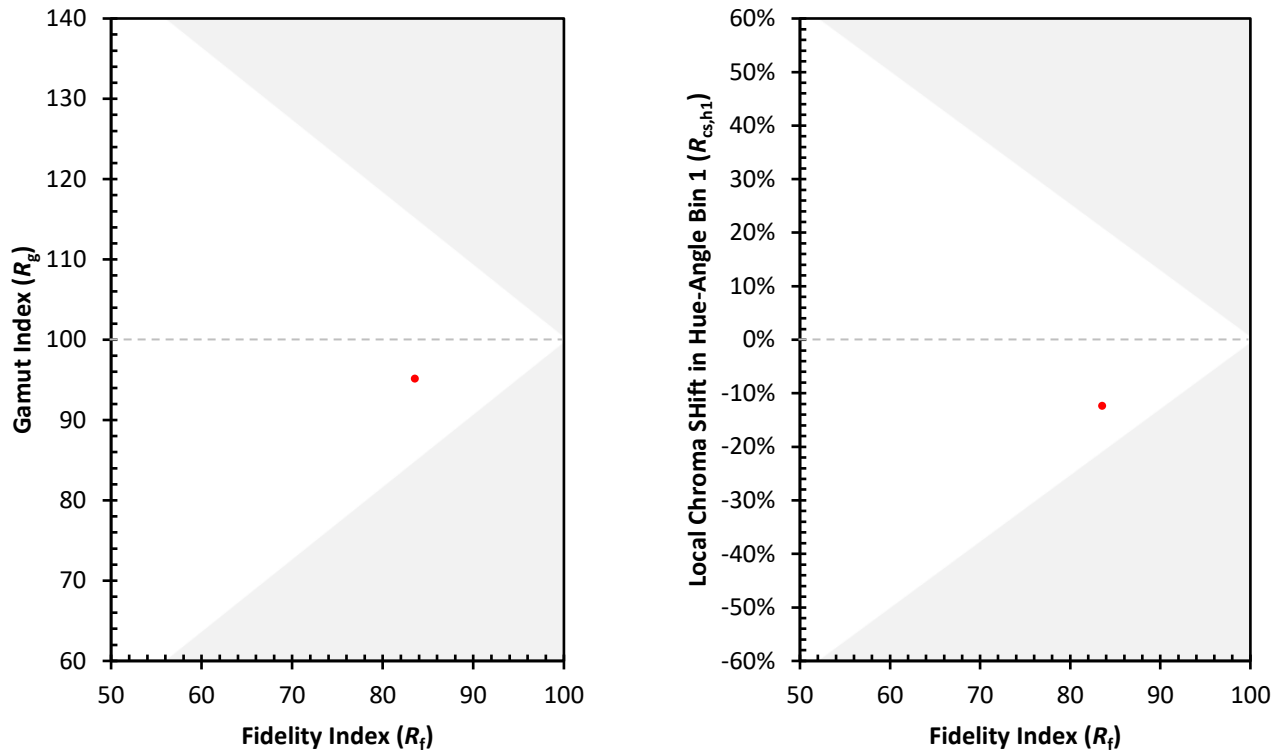
Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 86	CES26 = 82	CES51 = 93	CES76 = 78
CES02 = 63	CES27 = 94	CES52 = 92	CES77 = 84
CES03 = 31	CES28 = 92	CES53 = 88	CES78 = 78
CES04 = 70	CES29 = 86	CES54 = 90	CES79 = 91
CES05 = 49	CES30 = 96	CES55 = 88	CES80 = 89
CES06 = 51	CES31 = 88	CES56 = 85	CES81 = 73
CES07 = 42	CES32 = 81	CES57 = 84	CES82 = 95
CES08 = 41	CES33 = 93	CES58 = 84	CES83 = 94
CES09 = 29	CES34 = 89	CES59 = 90	CES84 = 91
CES10 = 76	CES35 = 94	CES60 = 91	CES85 = 76
CES11 = 59	CES36 = 86	CES61 = 87	CES86 = 68
CES12 = 65	CES37 = 94	CES62 = 88	CES87 = 83
CES13 = 43	CES38 = 94	CES63 = 85	CES88 = 87
CES14 = 74	CES39 = 98	CES64 = 78	CES89 = 74
CES15 = 71	CES40 = 96	CES65 = 76	CES90 = 88
CES16 = 47	CES41 = 98	CES66 = 76	CES91 = 77
CES17 = 50	CES42 = 95	CES67 = 74	CES92 = 63
CES18 = 56	CES43 = 89	CES68 = 79	CES93 = 77
CES19 = 72	CES44 = 99	CES69 = 84	CES94 = 60
CES20 = 66	CES45 = 92	CES70 = 76	CES95 = 73
CES21 = 87	CES46 = 89	CES71 = 73	CES96 = 83
CES22 = 79	CES47 = 94	CES72 = 90	CES97 = 88
CES23 = 92	CES48 = 84	CES73 = 71	CES98 = 84
CES24 = 91	CES49 = 89	CES74 = 92	CES99 = 75
CES25 = 72	CES50 = 93	CES75 = 76	



Color Rendition by Hue-Angle Bin



Measure Comparisons


(END OF REPORT)