

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: P895746

Luminaire Tested: **CLCS30S-PC-3000K-80%**

Issue Date: 11/14/2024

Test Information

Test Method: LM-79-08
Report Number: P895746
Test Lab: INNOVATION CENTER(G2)
Issue Date: 11/14/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: CLCS30S-PC-3000K-80%
Description: LUMARK LARGE LED CANOPY 16000LM, 120W, PC 80 CRI 3000K FIXTURE @
80% OUTPUT
Light Source: 3000K CCT,80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13600 lumens
Efficiency: N/A
Efficacy: 134.7 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): 101
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

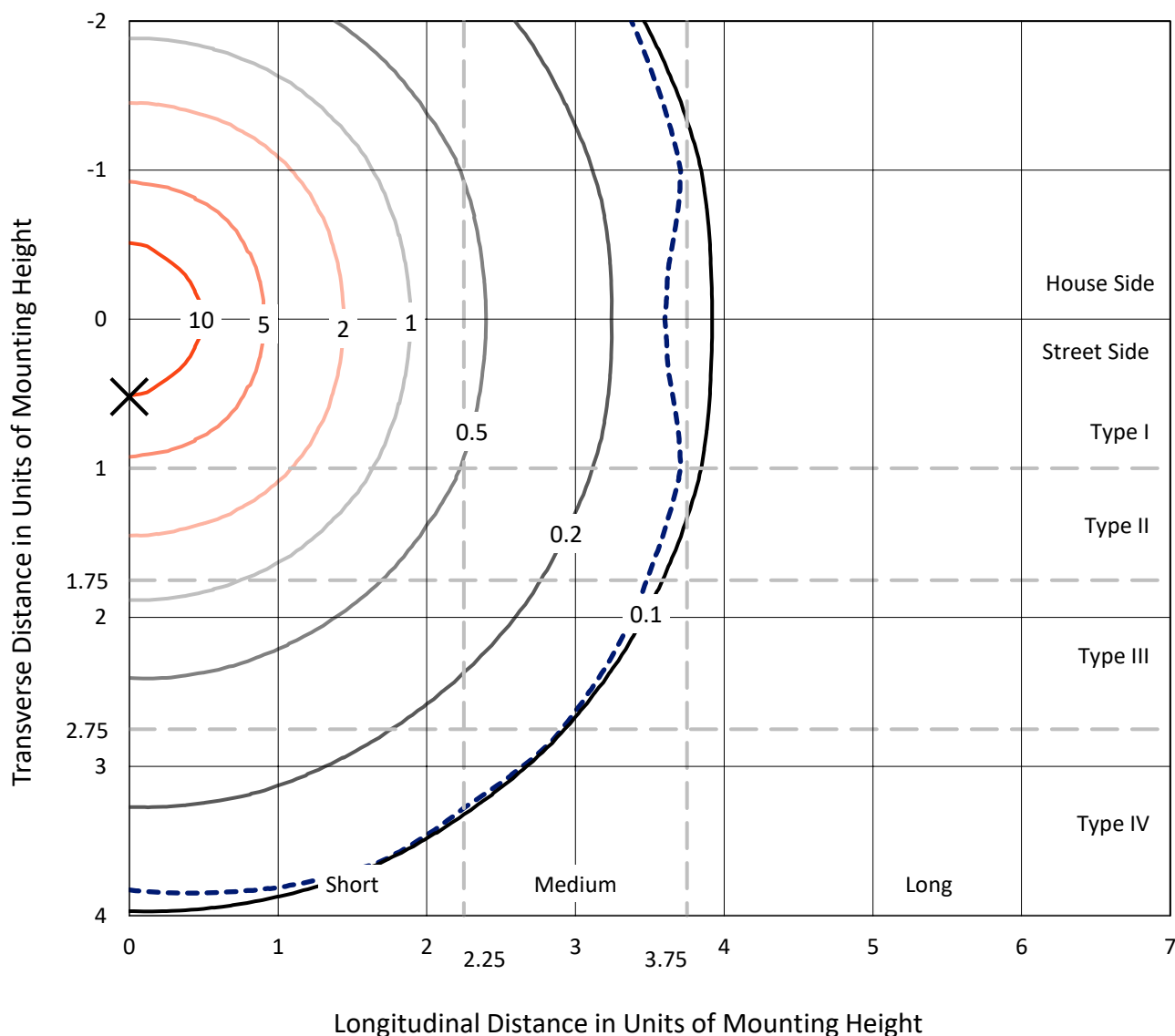
REPORT NUMBER: P895746

CATALOG NUMBER: CLCS30S-PC-3000K-80%

Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

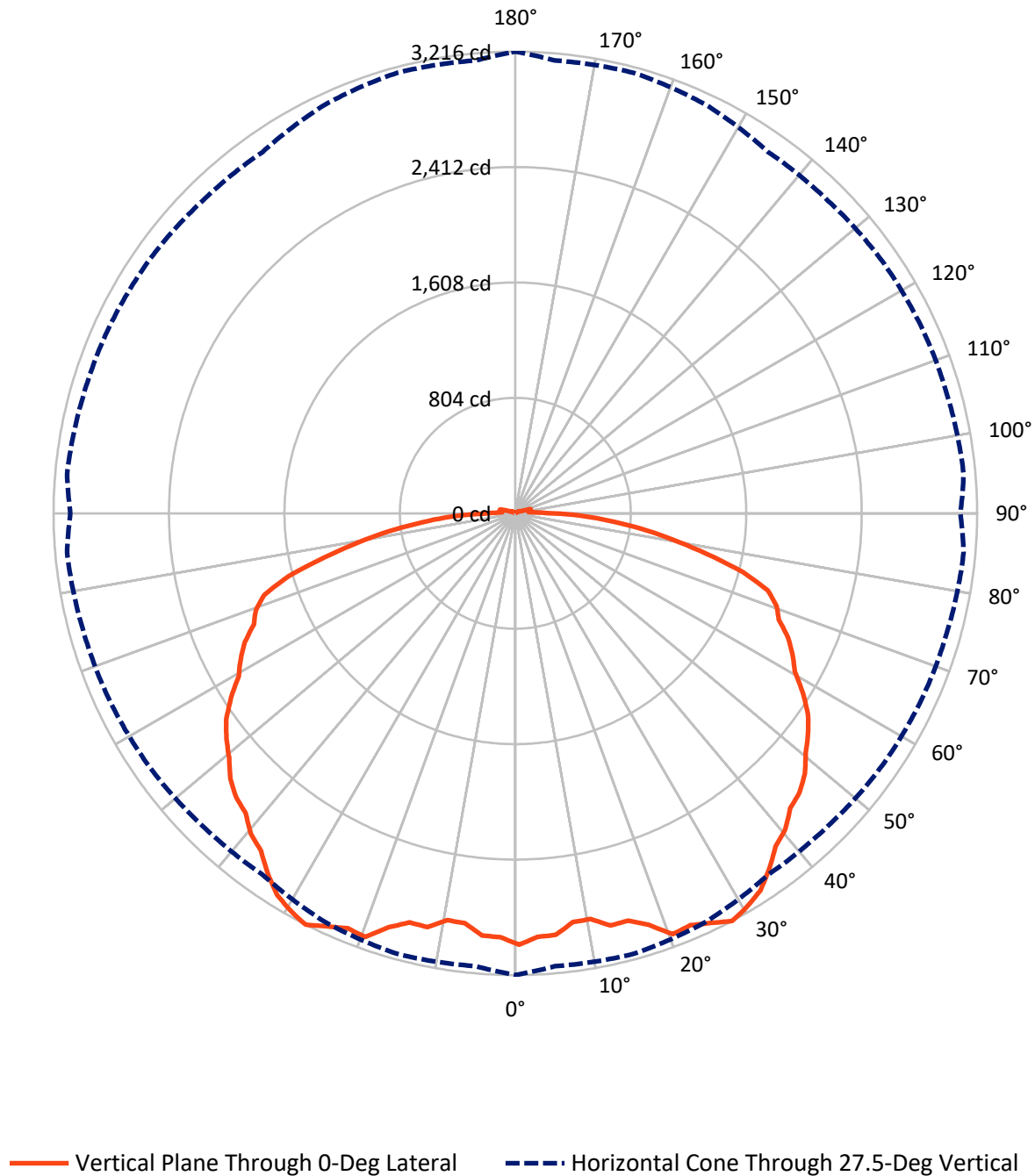


Based on 15 foot mounting height. Maximum calculated value = 13.4 fc

Type V - Short - N/A

REPORT NUMBER: P895746
CATALOG NUMBER: CLCS30S-PC-3000K-80%

Luminous Intensity Polar Plot



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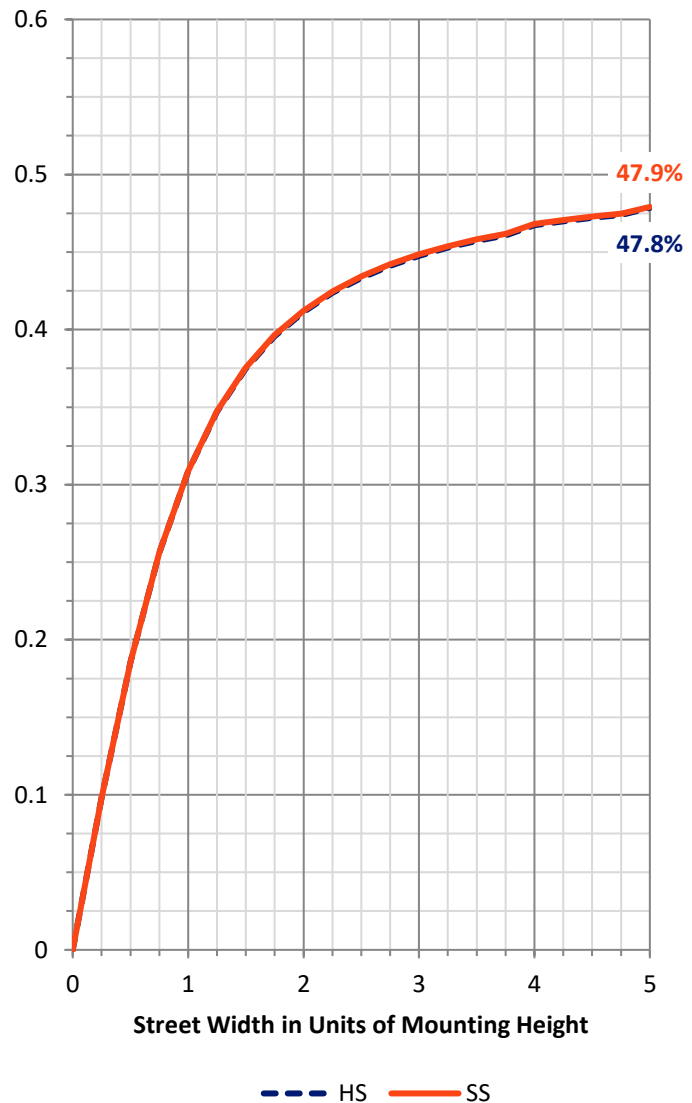
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6686.6	113.3	6800.0
	% Fixture	49.2	0.8	50.0
Street Side	Lumens	6686.6	113.3	6800.0
	% Fixture	49.2	0.8	50.0
Total	Lumens	13373.3	226.7	13600.0
	% Fixture	98.3	1.7	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	272.3	2.0
10°-20°	832.4	6.1
20°-30°	1427.4	10.5
30°-40°	1875.5	13.8
40°-50°	2146.0	15.8
50°-60°	2244.4	16.5
60°-70°	2111.8	15.5
70°-80°	1705.6	12.5
80°-90°	757.9	5.6
90°-100°	127.3	0.9
100°-110°	67.0	0.5
110°-120°	22.5	0.2
120°-130°	7.8	0.1
130°-140°	1.9	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°	13373.3	98.3
0°-180°	13600.0	100.0



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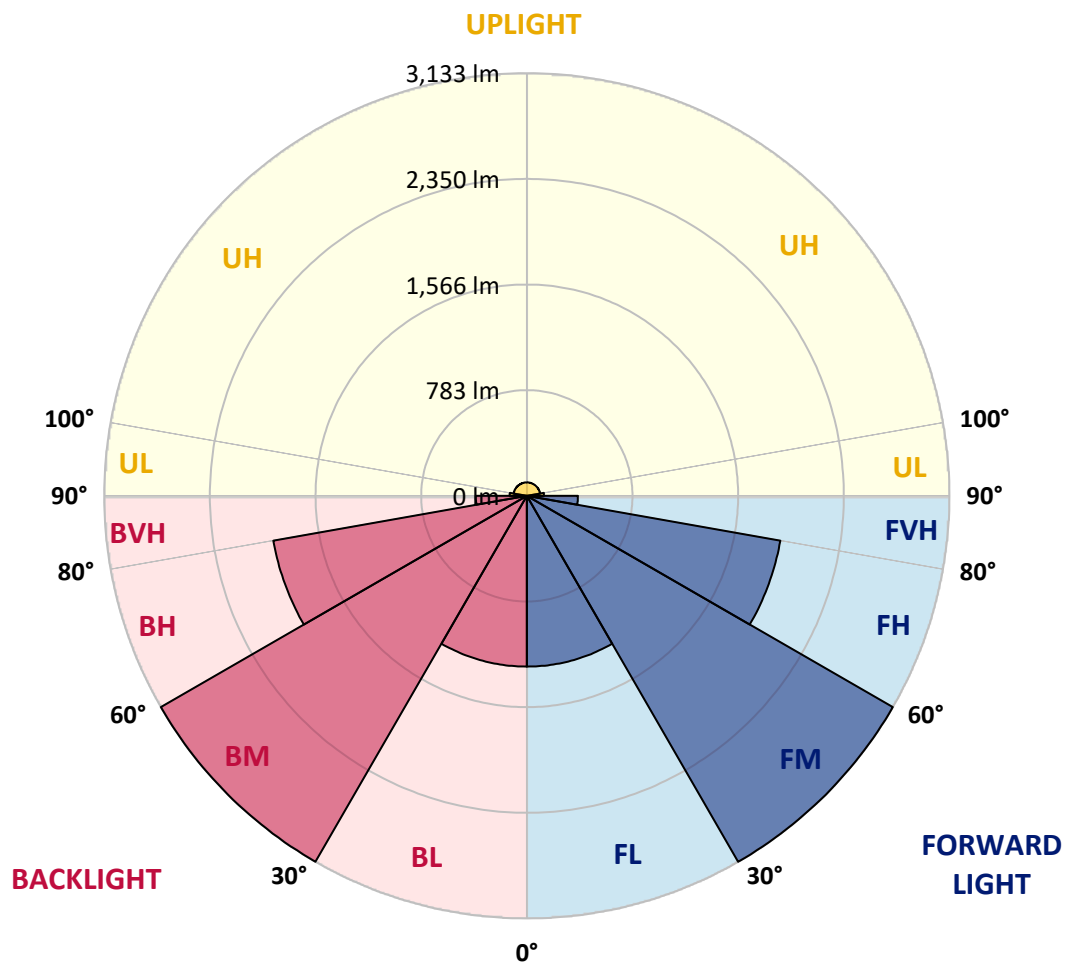
CATALOG NUMBER: CLCS30S-PC-3000K-80%

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1266.0	9.3			
FM	(30°-60°)	3133.0	23.0			
FH	(60°-80°)	1908.7	14.0			G2/5000
FVH	(80°-90°)	378.9	2.8			G3/500
BL	(0°-30°)	1266.0	9.3	B3/2500		
BM	(30°-60°)	3133.0	23.0	B3/5000		
BH	(60°-80°)	1908.7	14.0	B3/2500		G2/5000
BVH	(80°-90°)	378.9	2.8			G3/500
UL	(90°-100°)	127.3	0.9		U3/500	
UH	(100°-180°)	99.4	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°	3005.1	3005.1	3005.1	3005.1	3005.1	3005.1	3005.1	3005.1	3005.1	3005.1	3005.1
2.5°	2954.3	2960.0	2965.8	2945.3	2936.3	2940.4	2928.9	2937.9	2945.3	2941.2	2941.2
5°	2949.4	2953.5	2948.6	2906.0	2876.6	2852.8	2834.0	2841.4	2837.3	2848.7	2852.0
7.5°	2875.8	2889.7	2915.8	2880.7	2834.8	2803.7	2796.3	2785.7	2748.8	2735.7	2727.5
10°	2873.3	2881.5	2909.3	2861.0	2820.9	2818.4	2770.9	2742.3	2728.4	2712.8	2702.1
12.5°	2946.1	2937.1	2901.9	2918.3	2912.5	2848.7	2831.5	2785.7	2774.2	2768.5	2754.6
15°	2943.7	2974.0	2992.0	2952.7	2915.0	2942.8	2958.4	2919.1	2896.3	2856.1	2849.6
17.5°	3014.1	3044.4	2996.9	3021.5	2992.0	3002.6	2984.6	2969.9	2964.1	2955.9	2956.8
20°	3130.3	3098.4	3058.3	3037.8	2985.4	3000.2	3031.3	3021.5	3013.3	3028.8	3019.0
22.5°	3117.2	3104.1	3047.7	3074.7	2983.0	3005.9	3031.3	3064.9	3039.5	3013.3	2992.0
25°	3161.4	3127.0	3122.1	3105.7	3048.5	3041.9	3071.4	3066.5	3071.4	3099.2	3085.3
27.5°	3216.3	3166.3	3177.0	3140.1	3071.4	3079.6	3100.0	3111.4	3118.8	3133.6	3099.2
30°	3180.2	3147.5	3152.4	3113.1	3093.5	3155.7	3049.3	3131.1	3105.7	3100.8	3109.8
32.5°	3132.7	3100.0	3110.6	3050.1	3093.5	3095.2	3043.6	3074.7	3050.1	3076.3	3063.2
35°	3043.6	2976.4	3029.6	2969.0	3038.7	3010.8	3010.8	2981.3	2953.5	2964.1	2933.8
37.5°	2943.7	2879.1	2942.8	2890.5	2939.6	2929.7	2937.9	2883.1	2879.9	2883.1	2875.8
40°	2894.6	2834.8	2875.0	2866.8	2870.0	2884.0	2839.7	2843.8	2820.1	2827.5	2798.8
42.5°	2807.8	2762.8	2827.5	2828.3	2866.8	2870.0	2830.7	2803.7	2799.6	2746.4	2754.6
45°	2774.2	2722.6	2755.4	2783.2	2817.6	2880.7	2814.3	2794.7	2752.1	2708.7	2693.2
47.5°	2712.8	2696.5	2709.5	2754.6	2784.9	2824.2	2801.2	2725.1	2675.2	2663.8	2660.5
50°	2621.2	2617.1	2640.0	2658.8	2681.0	2753.7	2725.9	2672.8	2617.1	2598.2	2608.9
52.5°	2552.4	2542.5	2536.8	2625.3	2609.7	2626.1	2661.3	2608.9	2567.9	2501.6	2532.7
55°	2473.0	2482.0	2468.1	2543.4	2560.6	2581.9	2558.1	2527.0	2470.6	2417.3	2427.2
57.5°	2360.8	2390.3	2414.1	2417.3	2487.8	2514.7	2488.6	2425.5	2345.3	2351.8	2352.6
60°	2235.6	2280.7	2294.6	2324.0	2388.7	2381.3	2400.1	2307.6	2277.4	2281.5	2280.7
62.5°	2166.8	2179.9	2193.8	2231.5	2272.5	2268.4	2288.8	2238.1	2195.5	2186.5	2197.9
65°	2087.5	2110.3	2103.8	2132.4	2138.1	2145.5	2175.0	2179.1	2119.3	2080.1	2056.3
67.5°	1978.5	2008.0	2031.0	2036.7	2049.8	2062.9	2044.1	2076.0	1994.1	1965.4	1964.6
70°	1929.4	1946.6	1949.9	1940.0	1927.8	1966.3	1936.0	1943.3	1939.2	1917.9	1903.2
72.5°	1838.6	1858.2	1868.9	1832.0	1813.2	1822.2	1839.4	1824.7	1844.3	1810.7	1790.3
75°	1637.2	1652.0	1674.9	1694.5	1669.2	1685.5	1680.6	1653.6	1640.5	1557.8	1547.1
77.5°	1362.1	1373.6	1423.6	1454.7	1465.3	1466.1	1427.7	1403.1	1376.1	1325.3	1320.4
80°	1110.8	1129.6	1157.5	1179.6	1221.4	1226.3	1216.4	1189.4	1161.6	1120.6	1114.9
82.5°	886.6	891.5	934.0	952.0	956.9	974.1	962.7	949.5	905.3	873.5	857.1
85°	645.1	651.6	662.3	696.7	737.5	760.5	703.9	672.9	629.5	606.6	603.3
87.5°	455.2	450.3	456.0	469.1	490.4	497.8	465.0	435.5	429.0	414.2	411.8
90°	221.9	222.7	237.4	259.5	272.6	288.2	268.5	246.4	239.1	221.9	220.2
92.5°	124.4	124.4	123.6	133.4	140.0	143.2	140.8	132.6	122.8	115.4	113.7
95°	92.5	93.4	91.7	90.1	86.8	81.1	87.6	90.9	91.7	90.9	89.3
97.5°	92.5	91.7	87.6	77.8	64.7	58.1	67.2	84.4	93.4	98.3	96.6
100°	99.1	99.1	88.5	77.8	59.0	58.1	61.4	81.1	97.5	109.6	108.0
102.5°	111.3	110.5	96.6	85.2	59.8	40.1	65.5	94.2	108.8	122.8	121.9
105°	108.8	103.9	88.5	63.1	31.9	23.8	36.9	68.0	89.3	105.6	107.2
107.5°	69.6	68.8	53.2	31.1	23.8	22.9	25.4	35.2	51.6	61.4	62.2
110°	40.1	39.3	34.4	27.8	22.9	18.8	23.8	29.5	36.0	40.1	40.1



REPORT NUMBER: P895746
 CATALOG NUMBER: CLCS30S-PC-3000K-80%

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	38.5	37.7	32.8	25.4	18.0	12.3	18.8	27.8	34.4	38.5	38.5
115°	33.6	32.8	28.7	20.5	13.1	9.0	13.9	22.9	29.5	35.2	36.0
117.5°	30.3	28.7	22.1	14.7	9.0	6.6	9.8	16.4	25.4	30.3	31.1
120°	22.1	21.3	16.4	11.5	6.6	4.9	7.4	12.3	18.8	25.4	25.4
122.5°	17.2	16.4	13.1	8.2	4.1	3.3	4.9	9.8	14.7	19.7	19.7
125°	13.9	13.1	9.8	6.6	3.3	1.6	4.1	7.4	12.3	16.4	16.4
127.5°	10.6	10.6	8.2	4.9	2.5	0.8	2.5	5.7	9.8	12.3	12.3
130°	8.2	8.2	6.6	4.1	1.6	0.8	1.6	4.1	6.6	8.2	9.0
132.5°	7.4	7.4	5.7	2.5	0.8	0.8	0.8	3.3	5.7	7.4	7.4
135°	4.9	4.1	1.6	0.8	0.8	0.8	0.8	0.8	3.3	5.7	5.7
137.5°	0.8	0.8	0.8	0.8	0.8	0.8	1.6	0.8	0.8	0.8	0.8
140°	0.8	0.8	0.8	0.8	1.6	1.6	1.6	0.8	0.8	0.8	0.8
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: SP1-2405-118-3

Test Date: 07/18/2024

Luminaire Tested: CLCS40S-5000K-HIGH

Data in this report applies to families of products including CLCS40S-5000K-HIGH

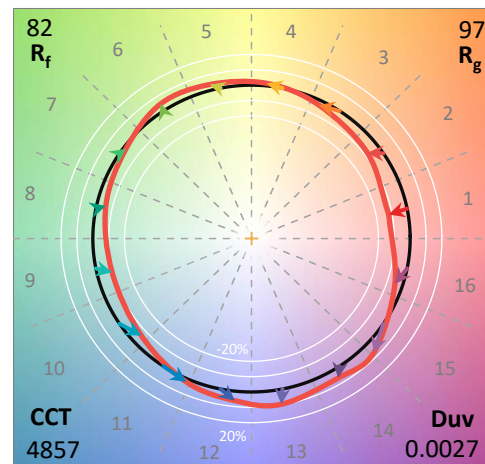
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2405-118-3
 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-5000K-HIGH**
 Description: 120W LUMARK AP CANOPY SELECTABLE FIXTURE HIGHEST OUTPUT @5000K

Spectral Parameters

CCT (K): 4857
 CIE u' : 0.2111
 CIE v' : 0.4898
 Duv: 0.0027
 CIE x: 0.3499
 CIE y: 0.3609
 CIE z: 0.2892
 Peak Wavelength (nm): 451
 Dominant Wavelength (nm): 572
 Purity: 13.28172
 R_f: 82.4
 R_g: 96.8

CRI (Ra): 81.9
 R1: 80.4
 R2: 86.0
 R3: 89.7
 R4: 82.2
 R5: 80.0
 R6: 80.1
 R7: 88.2
 R8: 68.4
 R9: 8.5
 R10: 66.0
 R11: 80.6
 R12: 52.5
 R13: 81.8
 R14: 94.3
 R15: 74.7



Test Conditions

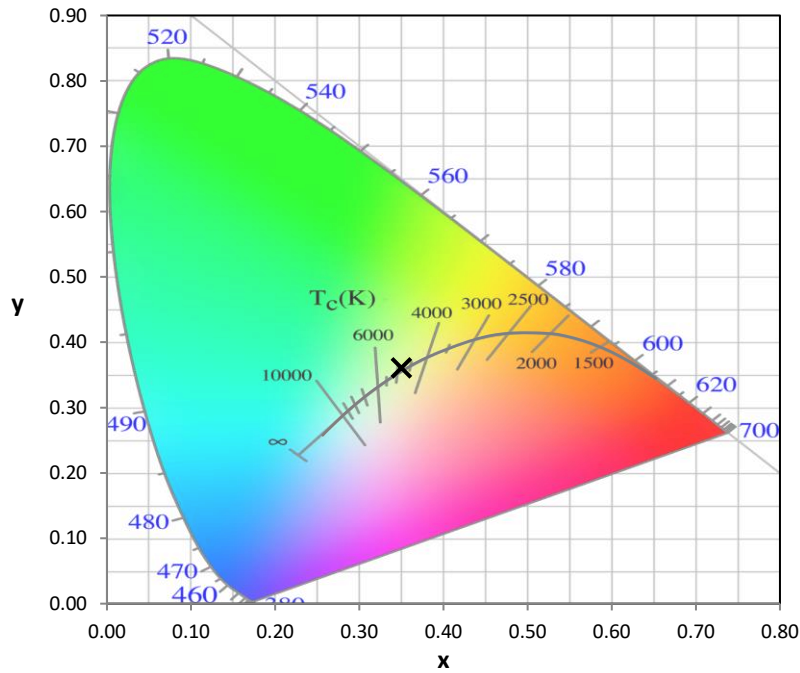
Stabilization Time: 72M
 Operation Time: 2H 12M
 Sphere Temperature (°C): 24.0

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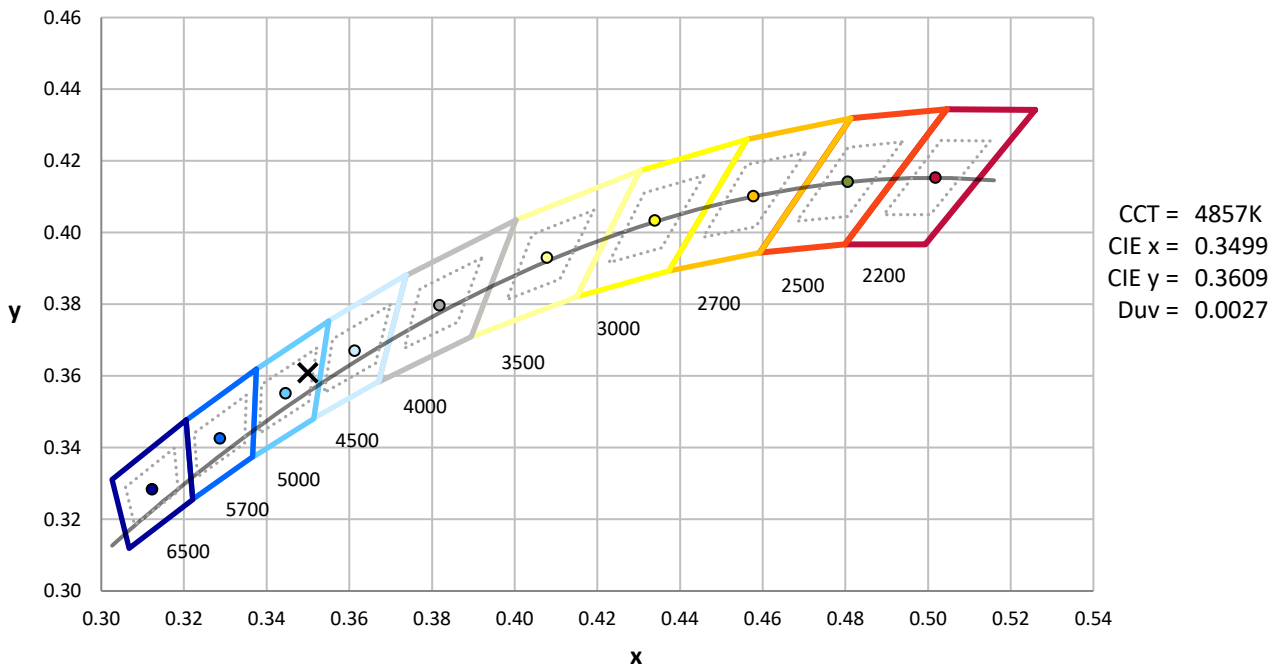
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

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CIE 1931 Chromaticity Diagram



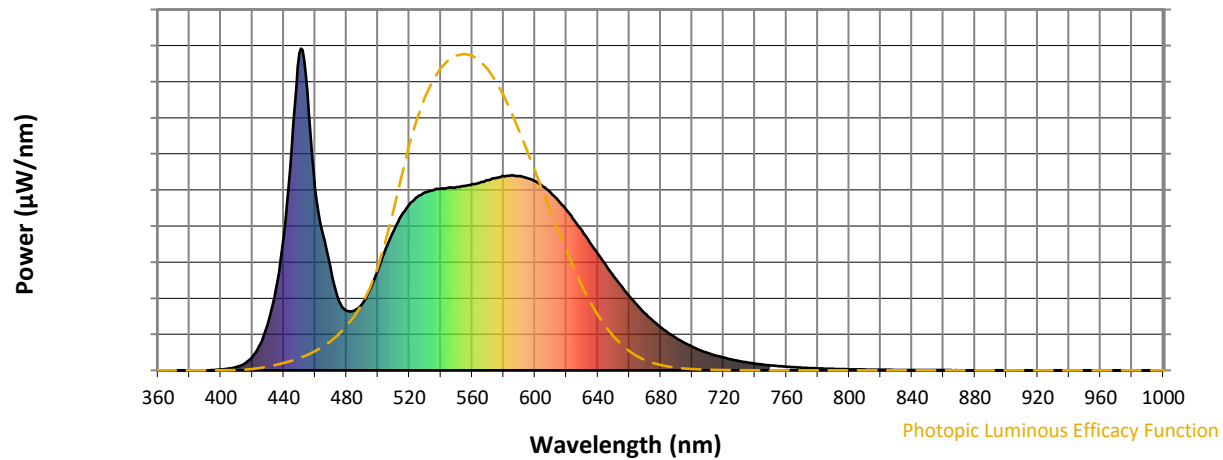
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 5000K 4-step quadrangle

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Photopic Flux vs. Wavelength

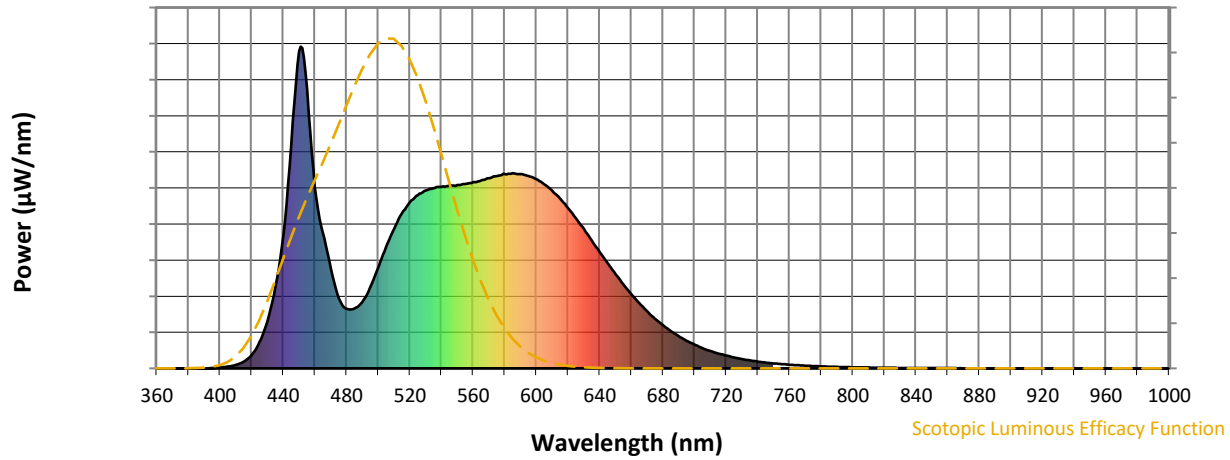


Photopic Lumens: NR

λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)
360	0	NR	490	207	NR	620	498	NR	750	15	NR	880	0	NR
365	0	NR	495	252	NR	625	467	NR	755	13	NR	885	0	NR
370	0	NR	500	313	NR	630	433	NR	760	11	NR	890	0	NR
375	0	NR	505	378	NR	635	397	NR	765	10	NR	895	0	NR
380	0	NR	510	433	NR	640	362	NR	770	8	NR	900	0	NR
385	0	NR	515	481	NR	645	327	NR	775	7	NR	905	0	NR
390	0	NR	520	516	NR	650	293	NR	780	6	NR	910	0	NR
395	1	NR	525	538	NR	655	261	NR	785	5	NR	915	0	NR
400	3	NR	530	553	NR	660	231	NR	790	5	NR	920	0	NR
405	6	NR	535	560	NR	665	203	NR	795	4	NR	925	0	NR
410	11	NR	540	564	NR	670	177	NR	800	3	NR	930	0	NR
415	21	NR	545	568	NR	675	154	NR	805	3	NR	935	0	NR
420	42	NR	550	570	NR	680	134	NR	810	3	NR	940	0	NR
425	82	NR	555	573	NR	685	116	NR	815	2	NR	945	0	NR
430	146	NR	560	579	NR	690	100	NR	820	2	NR	950	0	NR
435	253	NR	565	584	NR	695	86	NR	825	2	NR	955	0	NR
440	414	NR	570	591	NR	700	73	NR	830	1	NR	960	0	NR
445	689	NR	575	598	NR	705	63	NR	835	1	NR	965	0	NR
450	986	NR	580	604	NR	710	54	NR	840	1	NR	970	0	NR
455	868	NR	585	607	NR	715	46	NR	845	1	NR	975	0	NR
460	563	NR	590	604	NR	720	40	NR	850	1	NR	980	0	NR
465	421	NR	595	598	NR	725	34	NR	855	1	NR	985	0	NR
470	311	NR	600	588	NR	730	29	NR	860	1	NR	990	0	NR
475	218	NR	605	572	NR	735	25	NR	865	1	NR	995	0	NR
480	185	NR	610	552	NR	740	21	NR	870	0	NR	1000	0	NR
485	186	NR	615	527	NR	745	18	NR	875	0	NR			

REPORT NUMBER: SP1-2405-118-3

Scotopic Flux vs. Wavelength



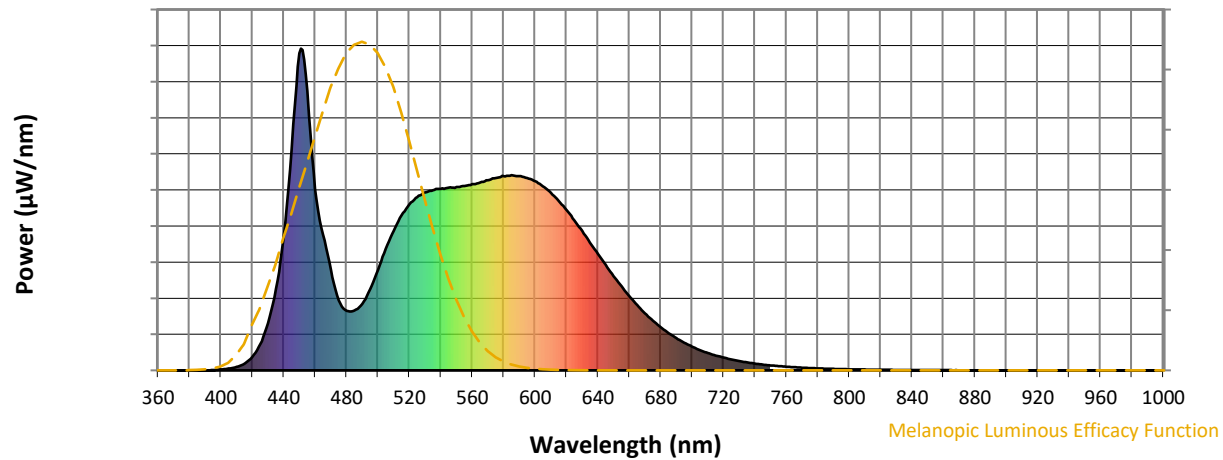
Scotopic Lumens: NR

S/P: 1.88

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	207	NR	620	498	NR	750	15	NR	880	0	NR
365	0	NR	495	252	NR	625	467	NR	755	13	NR	885	0	NR
370	0	NR	500	313	NR	630	433	NR	760	11	NR	890	0	NR
375	0	NR	505	378	NR	635	397	NR	765	10	NR	895	0	NR
380	0	NR	510	433	NR	640	362	NR	770	8	NR	900	0	NR
385	0	NR	515	481	NR	645	327	NR	775	7	NR	905	0	NR
390	0	NR	520	516	NR	650	293	NR	780	6	NR	910	0	NR
395	1	NR	525	538	NR	655	261	NR	785	5	NR	915	0	NR
400	3	NR	530	553	NR	660	231	NR	790	5	NR	920	0	NR
405	6	NR	535	560	NR	665	203	NR	795	4	NR	925	0	NR
410	11	NR	540	564	NR	670	177	NR	800	3	NR	930	0	NR
415	21	NR	545	568	NR	675	154	NR	805	3	NR	935	0	NR
420	42	NR	550	570	NR	680	134	NR	810	3	NR	940	0	NR
425	82	NR	555	573	NR	685	116	NR	815	2	NR	945	0	NR
430	146	NR	560	579	NR	690	100	NR	820	2	NR	950	0	NR
435	253	NR	565	584	NR	695	86	NR	825	2	NR	955	0	NR
440	414	NR	570	591	NR	700	73	NR	830	1	NR	960	0	NR
445	689	NR	575	598	NR	705	63	NR	835	1	NR	965	0	NR
450	986	NR	580	604	NR	710	54	NR	840	1	NR	970	0	NR
455	868	NR	585	607	NR	715	46	NR	845	1	NR	975	0	NR
460	563	NR	590	604	NR	720	40	NR	850	1	NR	980	0	NR
465	421	NR	595	598	NR	725	34	NR	855	1	NR	985	0	NR
470	311	NR	600	588	NR	730	29	NR	860	1	NR	990	0	NR
475	218	NR	605	572	NR	735	25	NR	865	1	NR	995	0	NR
480	185	NR	610	552	NR	740	21	NR	870	0	NR	1000	0	NR
485	186	NR	615	527	NR	745	18	NR	875	0	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.92

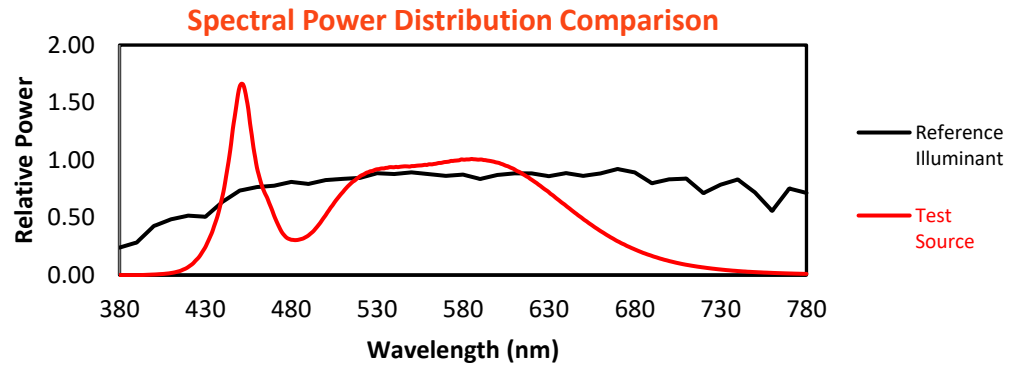
λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	207	NR	620	498	NR	750	15	NR	880	0	NR
365	0	NR	495	252	NR	625	467	NR	755	13	NR	885	0	NR
370	0	NR	500	313	NR	630	433	NR	760	11	NR	890	0	NR
375	0	NR	505	378	NR	635	397	NR	765	10	NR	895	0	NR
380	0	NR	510	433	NR	640	362	NR	770	8	NR	900	0	NR
385	0	NR	515	481	NR	645	327	NR	775	7	NR	905	0	NR
390	0	NR	520	516	NR	650	293	NR	780	6	NR	910	0	NR
395	1	NR	525	538	NR	655	261	NR	785	5	NR	915	0	NR
400	3	NR	530	553	NR	660	231	NR	790	5	NR	920	0	NR
405	6	NR	535	560	NR	665	203	NR	795	4	NR	925	0	NR
410	11	NR	540	564	NR	670	177	NR	800	3	NR	930	0	NR
415	21	NR	545	568	NR	675	154	NR	805	3	NR	935	0	NR
420	42	NR	550	570	NR	680	134	NR	810	3	NR	940	0	NR
425	82	NR	555	573	NR	685	116	NR	815	2	NR	945	0	NR
430	146	NR	560	579	NR	690	100	NR	820	2	NR	950	0	NR
435	253	NR	565	584	NR	695	86	NR	825	2	NR	955	0	NR
440	414	NR	570	591	NR	700	73	NR	830	1	NR	960	0	NR
445	689	NR	575	598	NR	705	63	NR	835	1	NR	965	0	NR
450	986	NR	580	604	NR	710	54	NR	840	1	NR	970	0	NR
455	868	NR	585	607	NR	715	46	NR	845	1	NR	975	0	NR
460	563	NR	590	604	NR	720	40	NR	850	1	NR	980	0	NR
465	421	NR	595	598	NR	725	34	NR	855	1	NR	985	0	NR
470	311	NR	600	588	NR	730	29	NR	860	1	NR	990	0	NR
475	218	NR	605	572	NR	735	25	NR	865	1	NR	995	0	NR
480	185	NR	610	552	NR	740	21	NR	870	0	NR	1000	0	NR
485	186	NR	615	527	NR	745	18	NR	875	0	NR			

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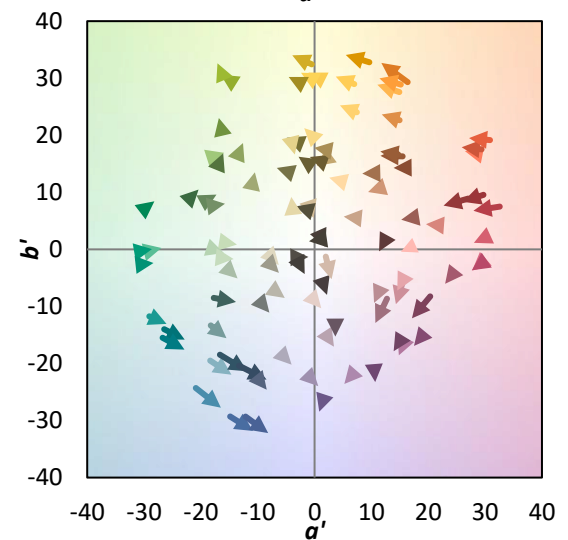
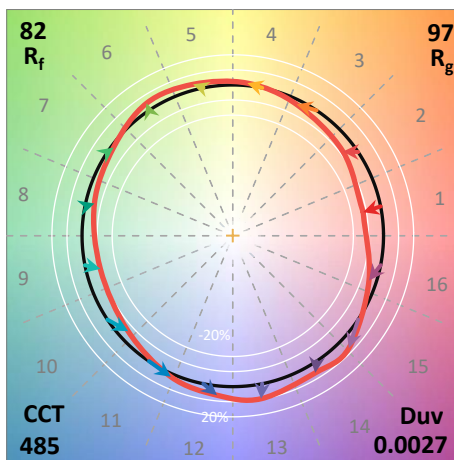
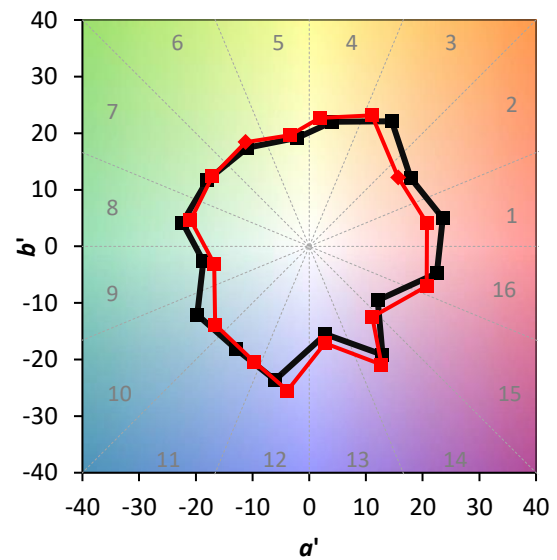
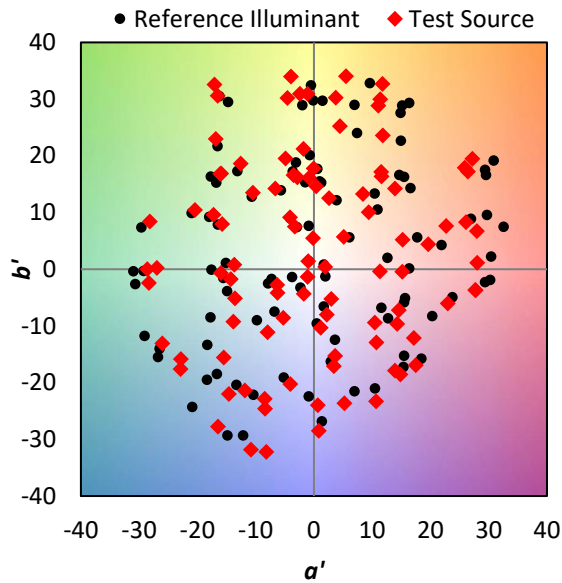
TM-30-18

Summary

$R_f = 82.4$
 $R_g = 96.8$
 $CIE R_a = 81.9$
 $R_9 = 8.5$

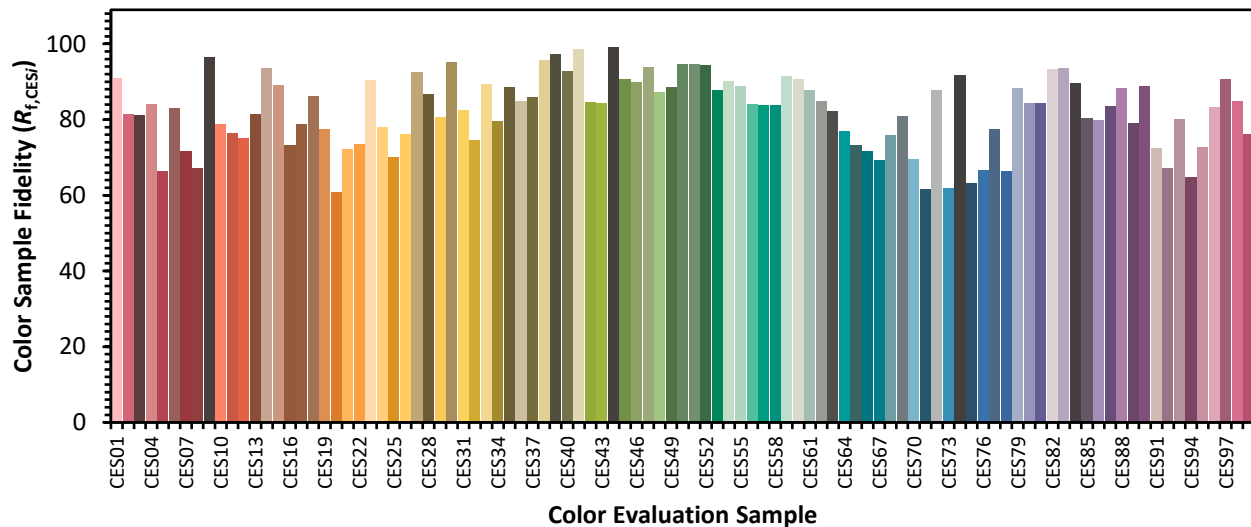


Color Vector Graphics

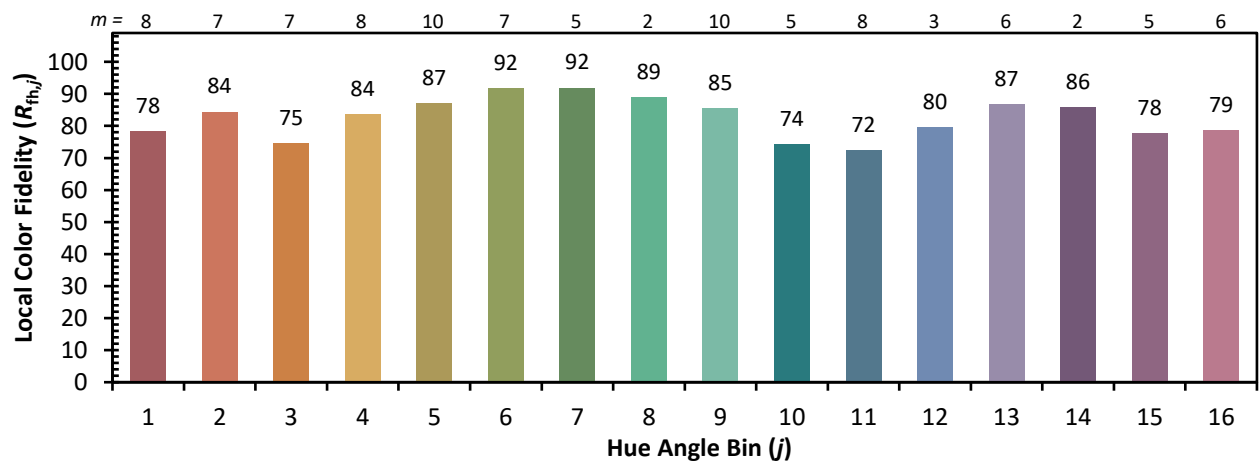
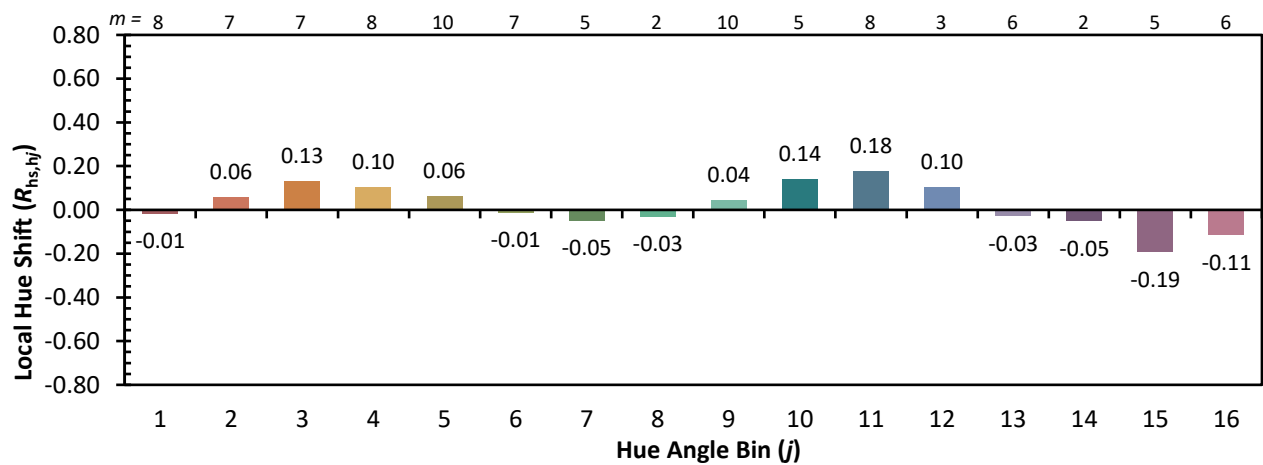
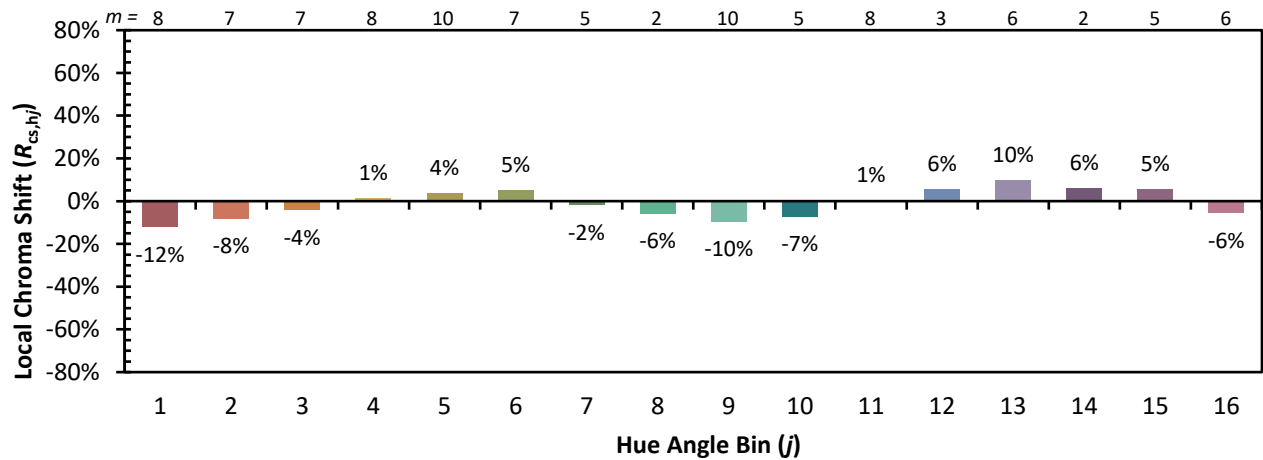


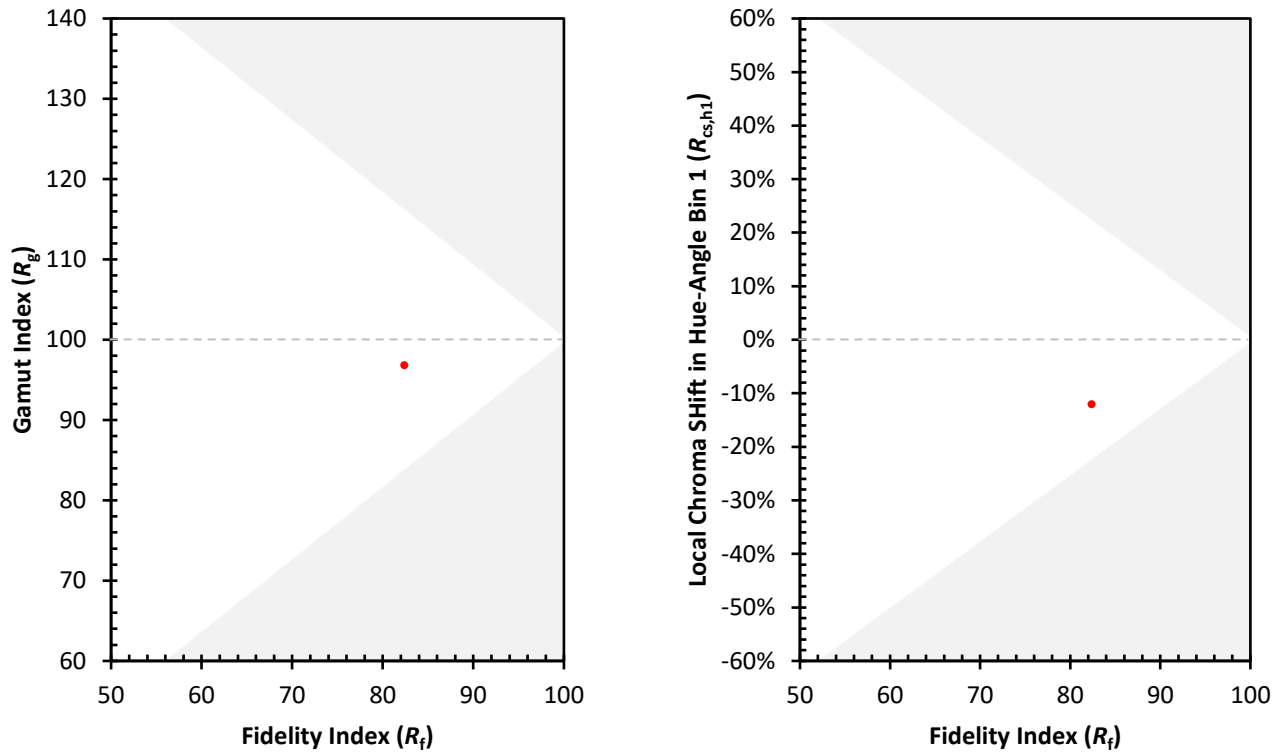
Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 85	CES26 = 76	CES51 = 95	CES76 = 67
CES02 = 60	CES27 = 92	CES52 = 94	CES77 = 77
CES03 = 30	CES28 = 87	CES53 = 88	CES78 = 66
CES04 = 69	CES29 = 81	CES54 = 90	CES79 = 88
CES05 = 47	CES30 = 95	CES55 = 89	CES80 = 84
CES06 = 50	CES31 = 82	CES56 = 84	CES81 = 84
CES07 = 40	CES32 = 74	CES57 = 84	CES82 = 93
CES08 = 39	CES33 = 89	CES58 = 84	CES83 = 94
CES09 = 29	CES34 = 80	CES59 = 91	CES84 = 90
CES10 = 73	CES35 = 88	CES60 = 91	CES85 = 80
CES11 = 56	CES36 = 85	CES61 = 88	CES86 = 80
CES12 = 62	CES37 = 86	CES62 = 85	CES87 = 83
CES13 = 42	CES38 = 96	CES63 = 82	CES88 = 88
CES14 = 74	CES39 = 97	CES64 = 77	CES89 = 79
CES15 = 71	CES40 = 93	CES65 = 73	CES90 = 89
CES16 = 46	CES41 = 99	CES66 = 72	CES91 = 73
CES17 = 49	CES42 = 85	CES67 = 69	CES92 = 67
CES18 = 56	CES43 = 84	CES68 = 76	CES93 = 80
CES19 = 71	CES44 = 99	CES69 = 81	CES94 = 65
CES20 = 64	CES45 = 91	CES70 = 70	CES95 = 73
CES21 = 85	CES46 = 90	CES71 = 62	CES96 = 83
CES22 = 77	CES47 = 94	CES72 = 88	CES97 = 91
CES23 = 91	CES48 = 87	CES73 = 62	CES98 = 85
CES24 = 90	CES49 = 88	CES74 = 92	CES99 = 76
CES25 = 71	CES50 = 95	CES75 = 63	



Color Rendition by Hue-Angle Bin



Measure Comparisons


(END OF REPORT)